

PENRITH CITY COUNCIL IN ASSOCIATION WITH LIVERPOOL, BLACKTOWN ANDFAIRFIELD CITY COUNCILS UPDATED SOUTH CREEK FLOOD STUDY

UPDATED SOUTH CREEK FLOOD STUDY

VOLUME 2 – REPORT FIGURES



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Water Resources

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FIGURE 7.21	HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD (EXTENT 4 OF 17)

FIGURE 7.22 HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD (EXTENT 5 OF 17)

FIGURE 7.23	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 6 OF 17)
FIGURE 7.24	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 7 OF 17)
FIGURE 7.25	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 8 OF 17)
FIGURE 7.26	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 9 OF 17)
FIGURE 7.27	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 10 OF 17)
FIGURE 7.28	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 11 OF 17)
FIGURE 7.29	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 12 OF 17)
FIGURE 7.30	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 13 OF 17)
FIGURE 7.31	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 14 OF 17)
FIGURE 7.32	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 15 OF 17)
FIGURE 7.33	HYDRAULIC CATEGORY MAPPING FOR TH (EXTENT 16 OF 17)
FIGURE 7.34	HYDRAULIC CATEGORY MAPPING FOR TH

(EXTENT 17 OF 17)

PENRITH CITY COUNCIL

- HE 100 YEAR RECURRENCE FLOOD





LOCATION OF THE STUDY AREA





FIGURE 3.1

EXTENT OF AVAILABLE AERIAL LASER SURVEY (ALS) DATA



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 3.2-1986 & 1988 Flood Marks (Upper Catchment).doc

FIGURE 3.2

LOCATION OF HISTORICAL FLOOD MARKS IN THE UPPER SOUTH CREEK CATCHMENT



WorleyParsons

Rp6033- South Creek Flood Study fg6033rg150113-Fig 3.3-1986 & 1988 Flood Marks (Lower Catchment).doc

FIGURE 3.3

LOCATION OF HISTORICAL FLOOD MARKS IN THE LOWER SOUTH CREEK CATCHMENT



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 4.1-Hydrologic Model (XP-RAFTS).doc





LAYOUT AND EXTENT OF THE **RMA-2 HYDRAULIC MODEL**

FIGURE 5.2

NOTES:

- 1. Refer Figure 5.1 for increased RMA-2 Network detail.
- 2. Refer **Figure 4.1** for the node and link arrangement of the XP-RAFTS model

LEGEND:

RMA-2 Model Network

Catchment Boundary

Sub-Catchment Boundary

Location of upstream boundary conditions (*Inflow Locations*)

Location of local catchment inflows

INTERACTION BETWEEN HYDRAULIC AND HYDROLOGIC MODELS [BOUNDARY AND LOCAL INFLOW LOCATIONS]

MARKS ALONG SOUTH CREEK [OVERVIEW]

FIGURE 5.3

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ugust 1986 Historic Flood Marks		1	•
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COMPARISON OF THE UPDATED 100 YEAR ARI WATER SURFACE PROFILE TO PREVIOUS STUDIES AND RECORDED FLOOD MARKS ALONG SOUTH CREEK [EXTENT 1 OF 3]

rp6033 - South Creek Flood Study WS Profile Figures

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April 1	1988 Histori	ic Flood Mark	S		
Augus	st 1986 Hist I	oric Flood Ma	arks		

PROFILE TO PREVIOUS STUDIES AND RECORDED FLOOD MARKS ALONG SOUTH CREEK [EXTENT 2 OF 3]

rp6033 - South Creek Flood Study WS Profile Figures

COMPARISON OF THE UPDATED 100 YEAR ARI WATER SURFACE PROFILE TO PREVIOUS STUDIES AND RECORDED FLOOD MARKS ALONG SOUTH CREEK [EXTENT 3 OF 3]

resources & energy

FIGURE 5.7

			FIGURE	5.8
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ear ARI flood lev	vels (1990 Flo	od Study)		
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Έ PROFILE TO PREVIOUS STUDIES AND RECORDED FLOOD MARKS ALONG ROPES CREEK [OVERVIEW]

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100 year ARI flood levels (Updated Flood	d Study)
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COMPARISON OF THE UPDATED 100 YEAR ARI WATER SURFACE PROFILE TO PREVIOUS STUDIES AND RECORDED FLOOD MARKS ALONG ROPES CREEK [EXTENT 1 OF 2]

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COMPARISON OF THE UPDATED 100 YEAR ARI WATER PROFILE TO PREVIOUS STUDIES AND RECORDED FLOOD MARKS ALONG ROPES CREEK [EXTENT 2 OF 2]

WorleyParsons W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 5.10-30% Bridge Blockage Scenario (1 of 2).doc

PREDICTED FLOOD LEVEL INCREASES AT THE PEAK OF THE 100 YEAR REUCRRENCE FLOOD DUE TO 30% BLOCKAGE AT KEY BRIDGE STRUCTURES (1 of 2)

FIGURE 5.10

resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 5.11-30% Bridge Blockage Scenario (2 of 2).doc

PREDICTED FLOOD LEVEL INCREASES AT THE PEAK OF THE 100 YEAR REUCRRENCE FLOOD DUE TO 30% BLOCKAGE AT KEY BRIDGE STRUCTURES (2 of 2)

FIGURE 5.11

ALONG SOUTH CREEK [OVERVIEW]

rp6033 - South Creek Flood Study WS Profile Figures

ALONG SOUTH CREEK [1 of 3]

resources & energy rp6033 - South Creek Flood Study WS Profile Figures

DESIGN WATER SURFACE PROFILES ALONG SOUTH CREEK [2 of 3]

ALONG SOUTH CREEK [3 of 3]

					FIGUR	E 6.5
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- Pea	ik 500 year A	RI flood levels	(Update	d Study Leve	els)	
- Pea	ık 200 year A	RI flood levels	(Update	d Flood Stud	y)	
- Pea	ik 100 year A	RI flood levels	(Update	d Flood Stud	y)	
- Pea	k 50 year AR	I flood levels	(Updated	Flood Study)	
- Pea	ik 20 year AR	I flood levels	(Updated	Flood Study)	
180	00 190	00 2000	00 2	21000	22000	23000

DESIGN WATER SURFACE PROFILES ALONG ROPES CREEK [OVERVIEW]

	FIGURE 6.6		
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LEGEND			
<ul> <li>Peak PMF flood levels (Updated Flood Study)</li> </ul>			
- Peak 500 year ARI flood levels (Updated Flood St	udy)		
Peak 200 year ARI flood levels (Undated Flood St	udv)		
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- Feak Too year AKI 11000 levels (Updated Flood St	uuy)		
<ul> <li>Peak 50 year ARI flood levels (Updated Flood Stur</li> </ul>	dy)		
<ul> <li>Peak 20 year ARI flood levels (Updated Flood Students)</li> </ul>	dy)		
)500 21000 21500 22000	22500	23000	

## DESIGN WATER SURFACE PROFILES ALONG ROPES CREEK [1 of 2]

![](_page_28_Figure_0.jpeg)

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LEGEND				
- Peak PMF floo	d levels (Update	ed Flood Stud	ly)	
Peak 500 year	ARI flood levels	(Updated Fl	ood Study)	
- Peak 200 year	ARI flood levels	(Updated Flo	ood Study)	
Peak 100 year	ARI flood levels	(Updated Flo	ood Study)	
— — Peak 50 year A	RI flood levels	(Updated Floo	od Study)	
Peak 20 year A	KI flood levels	Updated Flo	od Study)	
9500 10000	10500	11000	11500	12000

DESIGN WATER SURFACE PROFILES ALONG ROPES CREEK [2of 2]

![](_page_29_Figure_0.jpeg)

# ALONG KEMPS CREEK (1 of 2)

![](_page_30_Figure_0.jpeg)

# ALONG KEMPS CREEK (2 of 2)

![](_page_31_Figure_0.jpeg)

rp6033 - South Creek Flood Study WS Profile Figures

# ALONG WERRINGTON CREEK

![](_page_32_Figure_0.jpeg)

	FIGURE 6.11
	Upstream Extent of RMA-2 Model
<u>)</u>	
PMF flood levels (Updated Flood Study)	•
500 year ARI flood levels (Updated Flood Study)	
c 200 year ARI flood levels (Updated Flood Study)	
x 100 year ARI flood levels (Updated Flood Study)	• •
50 year ARI flood levels (Updated Flood Study)	
c 20 year ARI flood levels (Updated Flood Study)	
3500	4000

## DESIGN WATER SURFACE PROFILES ALONG CLAREMONT CREEK

![](_page_33_Figure_0.jpeg)

# ALONG BLAXLAND CREEK

![](_page_34_Figure_0.jpeg)

# ALONG COSGROVES CREEK

![](_page_35_Figure_0.jpeg)

## **DESIGN WATER SURFACE PROFILES** ALONG BADGERYS CREEK


	FIGURE 6.15	)
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reak PMF flood levels (updated Flood Study)		
Peak 500 year ARI flood levels (Updated Flood Stud	y)	
Peak 200 year ARI flood levels (Updated Flood Stud	y) <u>    i                                </u>	
Peak 100 year ARI flood levels (Updated Flood Stud	y)	
peak 50 year ARI flood levels (Updated Flood Study)		
Peak 20 year ARI flood levels (Updated Flood Study)	)	
3500	4000	

### DESIGN WATER SURFACE PROFILES ALONG THOMPSONS CREEK



## **DESIGN 20 YEAR SURFACE WATER PROFILES** FOR VARIED DOWNSTREAM BOUNDARY CONDITIONS

				F	GURE	6.16
Links Rd Railway			Werrington Creek Confluence	FI Dunheved Rd	GURE	6.16
LEGEND 20 year AR 20 years Al	I I I I I I I I I I I I I I I I I I I	.ocal Catchme	ent TWL) Hawkesbury-f	Nepean	TWL)	
20 year AR	I flood levels (1 ! !	00 Year ARI	Hawkesbury-I	Nepear	1 TWL)	· · · · · · · · · · · · · · · · · · ·
17000	18000	19000	20000	21	000	22000



		F	IGURE 6.17	7
Links Rd Railway				
	Merrington Creek Confluence	Dunheved Rd	N	
· ARI flood lu	evels (Local Catchment TWL)			
	evels (20 Year ARI Hawkeshury-Nepoon 7			
	evels (50 Year ARI Hawkeehury-Nepean I			
ARI 11000 l	evels (100 Year ARI Hawkeshury-Nepean			
17000	18000 19000 20000	21	000 220	00

### **DESIGN 50 YEAR SURFACE WATER PROFILES** FOR VARIED DOWNSTREAM BOUNDARY CONDITIONS



### **DESIGN 100 YEAR SURFACE WATER PROFILES** FOR VARIED DOWNSTREAM BOUNDARY CONDITIONS

		F	IGURE 6.18
Links Rd Railway			
			•
		 	•
	SOUTH CREEK		
Λ.		 	
		 ;	 ·
RI flood leve	ls (Local Catchment TWL)		
RI flood leve	ls (10 Year ARI Hawkesbury-Nepean TW	'L)	
RI flood leve	vis (20 Year ARI Hawkesbury-Nepean TW vis (100 Year ARI Hawkesbury-Nepean T\ I	NL)	
17000	18000 19000 20000	!  21	L 1000 22000



### **DESIGN 200 YEAR SURFACE WATER PROFILES** FOR VARIED DOWNSTREAM BOUNDARY CONDITIONS

				FIGU	RE 6.19
Links Rd Railway					
				·         	
			Werrington Creek Confluence		N
$\wedge$	s کر	OUTH CR	EEK		
RI flood leve	els (Local Cat	chment TWL)			
RI flood leve	els (20 Year A	RI Hawkesbury	-Nepean TWL	)	
RI flood leve	els (100 Year els (200 Year	ARI Hawkesbu	ry-Nepean TW ry-Nepean TW ∎	L))	
17000	I 18000	19000	20000	· · 21000	22000



### **DESIGN 500 YEAR SURFACE WATER PROFILES** FOR VARIED DOWNSTREAM BOUNDARY CONDITIONS

		FIGURE 6.20
Links Rd Railway		
	Creek Confluence	
	W errington	
Λ	SOUTH CREEK	
a nood leve	IS (LOCAL CATCHMENT I WL)	
RI flood leve	ls (100 Year ARI Hawkesbury-Nepean TV	L))
RI flood leve	ls (500 Year ARI Hawkesbury-Nepean TV	VL)
17000	18000 19000 20000	 L



### DESIGN PMF SURFACE WATER PROFILES FOR VARIED DOWNSTREAM BOUNDARY CONDITIONS

					F	IGURE	6.21
	Claremont Creek Confluence	Great Western Highway		M4 Motorway	F	Blaxland Creek Confluence	6.21
evels evels	 	ARI Hawk	VL) esbury-Nep lepean TWL 25000	ean TWL);	)		29000



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.22-Peak 20yr ARI Levels (1 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 1 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval







**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.23-Peak 20yr ARI Levels (2 of 17).doc



LEGEND:

Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 2 OF 17]



# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 3 OF 17]

Flood Level Contour at <u>1 metre</u> Interval

**FIGURE 6.24** 

<Peak>



Flood Level Contour at <u>0.2 metre</u> Interval









# **FIGURE 6.25**

LEGEND:



Flood Level Contour at <u>0.2 metre</u> Interval

## PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 4 OF 17]



# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 5 OF 17]



Flood Level Contour at 0.2 metre Interval

Flood Level Contour at <u>1 metre</u> Interval

LEGEND:



ALC: NOT THE OWNER.

<Peak>

# **FIGURE 6.26**







LEGEND:

Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 6 OF 17]



**Worley Parsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.28-Peak 20yr ARI Levels (7 of 17).doc

# **FIGURE 6.28**

LEGEND:

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Flood Level Contour at <u>0.2 metre</u> Interval

Flood Level Contour at <u>1 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 7 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.29-Peak 20yr ARI Levels (8 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 8 OF 17]

کہ

Flood Level Contour at <u>1 metre</u> Interval Flood Level Contour at <u>0.2 metre</u> Interval

LEGEND:





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.30-Peak 20yr ARI Levels (9 of 17).doc

# **FIGURE 6.30**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 9 OF 17]







# **FIGURE 6.31**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at 0.2 metre Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 10 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.32-Peak 20yr ARI Levels (11 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 11 OF 17]



Flood Level Contour at <u>0.2 metre</u> Interval



LEGEND:











# **FIGURE 6.33**

LEGEND:

Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 12 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.34-Peak 20yr ARI Levels (13 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 13 OF 17]





Flood Level Contour at <u>1 metre</u> Interval



Flood Level Contour at <u>0.2 metre</u> Interval



<Peak>



W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.35-Peak 20yr ARI Levels (14 of 17).doc





LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 14 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.36-Peak 20yr ARI Levels (15 of 17).doc





LEGEND:

Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 15 OF 17]



# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 16 OF 17]



Flood Level Contour at <u>0.2 metre</u> Interval

Flood Level Contour at <u>1 metre</u> Interval

LEGEND:



<Peak>

# **FIGURE 6.37**



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.38-Peak 20yr ARI Levels (17 of 17)_.doc

# **FIGURE 6.38**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

## PREDICTED FLOOD LEVELS AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 17 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.39-Peak 100yr ARI Levels (1 of 17).doc



LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 1 OF 17]



# **FIGURE 6.40**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 2 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.41-Peak 100yr ARI Levels (3 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 3 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

LEGEND:





# **FIGURE 6.41**

<Peak>





# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 4 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

**FIGURE 6.42** 



Flood Level Contour at <u>0.2 metre</u> Interval



<Peak>

Kemps Creek Dam



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.43-Peak 100yr ARI Levels (5 of 17).doc

# **FIGURE 6.43**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 5 OF 17]







# **FIGURE 6.44**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 6 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.45-Peak 100yr ARI Levels (7 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 7 OF 17]









Flood Level Contour at <u>0.2 metre</u> Interval

# **FIGURE 6.45**



W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.46-Peak 100yr ARI Levels (8 of 17).doc



# **FIGURE 6.46**

LEGEND:



Flood Level Contour at <u>0.2 metre</u> Interval

PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 8 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.47-Peak 100yr ARI Levels (9 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 9 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

**FIGURE 6.47** 

Flood Level Contour at <u>0.2 metre</u> Interval





<Peak>





# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 10 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

LEGEND:







resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.49-Peak 100yr ARI Levels (11 of 17).doc

# **FIGURE 6.49**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval



Flood Level Contour at <u>0.2 metre</u> Interval

PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 11 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.50-Peak 100yr ARI Levels (12 of 17).doc



# **FIGURE 6.50**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 12 OF 17]


W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.51-Peak 100yr ARI Levels (13 of 17).doc

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 13 OF 17]



Flood Level Contour at <u>0.2 metre</u> Interval

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.52-Peak 100yr ARI Levels (14 of 17).doc



# **FIGURE 6.52**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 14 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.53-Peak 100yr ARI Levels (15 of 17).doc



# **FIGURE 6.53**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 15 OF 17]





# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 16 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

LEGEND:



Flood Level Contour at <u>0.2 metre</u> Interval





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.55-Peak 100yr ARI Levels (17 of 17)_.doc

### **FIGURE 6.55**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 17 OF 17]



Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.56-Peak 200yr ARI Levels (1 of 17).doc



LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 1 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.57-Peak 200yr ARI Levels (2 of 17).doc



LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 2 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.58-Peak 200yr ARI Levels (3 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 3 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

LEGEND:





<Peak>



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.59-Peak 200yr ARI Levels (4 of 17).doc

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 4 OF 17]



Flood Level Contour at <u>1 metre</u> Interval





Flood Level Contour at <u>0.2 metre</u> Interval





<Peak>



# **FIGURE 6.60**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 5 OF 17]







# **FIGURE 6.61**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 6 OF 17]



W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.62-Peak 200yr ARI Levels (7 of 17).doc

**WorleyParsons** 

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 7 OF 17]



Flood Level Contour at <u>1 metre</u> Interval







W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.63-Peak 200yr ARI Levels (8 of 17).doc





LEGEND:



Flood Level Contour at <u>0.2 metre</u> Interval

PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 8 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.64-Peak 200yr ARI Levels (9 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 9 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval







<Peak>





#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 10 OF 17]



Flood Level Contour at <u>1 metre</u> Interval



Flood Level Contour at <u>0.2 metre</u> Interval





resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.66-Peak 200yr ARI Levels (11 of 17).doc

# **FIGURE 6.66**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval



Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 11 OF 17]





# **FIGURE 6.67**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 12 OF 17]



W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.68-Peak 200yr ARI Levels (13 of 17).doc

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 13 OF 17]



Flood Level Contour at <u>0.2 metre</u> Interval



Flood Level Contour at <u>1 metre</u> Interval

**FIGURE 6.68** 

LEGEND:





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.69-Peak 200yr ARI Levels (14 of 17).doc



# **FIGURE 6.69**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 14 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.70-Peak 200yr ARI Levels (15 of 17).doc



# **FIGURE 6.70**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 15 OF 17]



# PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 16 OF 17]



Flood Level Contour at <u>1 metre</u> Interval



Flood Level Contour at <u>0.2 metre</u> Interval





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.72-Peak 200yr ARI Levels (17 of 17)_.doc

# Flood Level Contour at <u>0.2 metre</u> Interval PREDICTED FLOOD LEVELS AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 17 OF 17]



Flood Level Contour at <u>1 metre</u> Interval



# **FIGURE 6.72**

Peak>





LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 1 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.74-Peak PMF Levels (2 of 17).doc

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 2 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval







# **FIGURE 6.75**

LEGEND:



Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 3 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.76-Peak PMF Levels (4 of 17).doc

# PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 4 OF 17]





Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval







### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 5 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval





<Peak>





# PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 6 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

LEGEND:





<Peak>



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.79-Peak PMF Levels (7 of 17).doc

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 7 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

LEGEND:



Flood Level Contour at <u>0.2 metre</u> Interval



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.80-Peak PMF Levels (8 of 17).doc

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 8 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

LEGEND:







**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.81-Peak PMF Levels (9 of 17).doc

# <Peak> Palmyra Avenue

#### **FIGURE 6.81**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 9 OF 17]





#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 10 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

LEGEND:







resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.83-Peak PMF Levels (11 of 17).doc

# **FIGURE 6.83**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 11 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.84-Peak PMF Levels (12 of 17).doc



### **FIGURE 6.84**

LEGEND:

Flood Level Contour at <u>1 metre</u> Interval



Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 12 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.85-Peak PMF Levels (13 of 17).doc

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 13 OF 17]



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

LEGEND:







**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.86-Peak PMF Levels (14 of 17).doc

# Flood Level Contour at <u>0.2 metre</u> Interval PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 14 OF 17]

# **FIGURE 6.86**

LEGEND:





Flood Level Contour at <u>1 metre</u> Interval



<Peak>


resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.87-Peak PMF Levels (15 of 17).doc



### **FIGURE 6.87**

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval

Flood Level Contour at <u>0.2 metre</u> Interval

#### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 15 OF 17]





## PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 16 OF 17]



Flood Level Contour at <u>1 metre</u> Interval



Flood Level Contour at <u>0.2 metre</u> Interval







**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.89-Peak PMF Levels (17 of 17)_.doc

### PREDICTED FLOOD LEVELS AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 17 OF 17]

LEGEND:



Flood Level Contour at <u>1 metre</u> Interval









Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.90-Peak 20yr ARI Depth (1 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 1 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.91-Peak 20yr ARI Depth (2 of 17).doc



#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 2 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.92-Peak 20yr ARI Depth (3 of 17).doc



#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 3 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.93-Peak 20yr ARI Depth (4 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 4 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.94-Peak 20yr ARI Depth (5 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 5 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.95-Peak 20yr ARI Depth (6 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 6 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.96-Peak 20yr ARI Depth (7 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 7 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.97-Peak 20yr ARI Depth (8 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 8 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.98-Peak 20yr ARI Depth (9 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 9 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.99-Peak 20yr ARI Depth (10 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 10 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.100-Peak 20yr ARI Depth (11 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 11 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.101-Peak 20yr ARI Depth (12 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 12 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.102-Peak 20yr ARI Depth (13 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 13 OF 17]



Peak>



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.103-Peak 20yr ARI Depth (14 of 17).doc



## **FIGURE 6.103**

PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 14 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.104-Peak 20yr ARI Depth (15 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 15 OF 17]



<Peak>



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.105-Peak 20yr ARI Depth (16 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 16 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.106-Peak 20yr ARI Depth (17 of 17)_.doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 20 YEAR RECURRENCE FLOOD [EXTENT 17 OF 17]



### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 1 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.108-Peak 100yr ARI Depth (2 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 2 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.109-Peak 100yr ARI Depth (3 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 3 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.110-Peak 100yr ARI Depth (4 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 4 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.111-Peak 100yr ARI Depth (5 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 5 OF 17]



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**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.112-Peak 100yr ARI Depth (6 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 6 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.113-Peak 100yr ARI Depth (7 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 7 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.114-Peak 100yr ARI Depth (8 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 8 OF 17]



<Peak>



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.115-Peak 100yr ARI Depth (9 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 9 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.116-Peak 100yr ARI Depth (10 of 17).doc



### **FIGURE 6.116**

PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 10 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.117-Peak 100yr ARI Depth (11 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 11 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.118-Peak 100yr ARI Depth (12 of 17).doc



#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 12 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.119-Peak 100yr ARI Depth (13 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 13 OF 17]



Peak>



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.120-Peak 100yr ARI Depth (14 of 17).doc



### **FIGURE 6.120**

PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 14 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.121-Peak 100yr ARI Depth (15 of 17).doc



#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 15 OF 17]



W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.122-Peak 100yr ARI Depth (16 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 16 OF 17]


**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.123-Peak 100yr ARI Depth (17 of 17)_.doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 100 YEAR RECURRENCE FLOOD [EXTENT 17 OF 17]



### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 1 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.125-Peak 200yr ARI Depth (2 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 2 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.126-Peak 200yr ARI Depth (3 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 3 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.127-Peak 200yr ARI Depth (4 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 4 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.128-Peak 200yr ARI Depth (5 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 5 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.129-Peak 200yr ARI Depth (6 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 6 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.130-Peak 200yr ARI Depth (7 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 7 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.131-Peak 200yr ARI Depth (8 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 8 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.132-Peak 200yr ARI Depth (9 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 9 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.133-Peak 200yr ARI Depth (10 of 17).doc



### **FIGURE 6.133**

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 10 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.134-Peak 200yr ARI Depth (11 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 11 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.135-Peak 200yr ARI Depth (12 of 17).doc



#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 12 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.136-Peak 200yr ARI Depth (13 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 13 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.137-Peak 200yr ARI Depth (14 of 17).doc



### **FIGURE 6.137**

PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 14 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.138-Peak 200yr ARI Depth (15 of 17).doc



# **FIGURE 6.138**

PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 15 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.139-Peak 200yr ARI Depth (16 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 16 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.140-Peak 200yr ARI Depth (17 of 17)_.doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE 200 YEAR RECURRENCE FLOOD [EXTENT 17 OF 17]



#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 1 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.142-Peak PMF Depth (2 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 2 OF 17]





W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.143-Peak PMF Depth (3 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 3 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.144-Peak PMF Depth (4 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 4 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.145-Peak PMF Depth (5 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 5 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.146-Peak PMF Depth (6 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 6 OF 17]



<Peak>



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.147-Peak PMF Depth (7 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 7 OF 17]



W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.148-Peak PMF Depth (8 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 8 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.149-Peak PMF Depth (9 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 9 OF 17]







#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 10 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.151-Peak PMF Depth (11 of 17).doc

### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 11 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.152-Peak PMF Depth (12 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 12 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.153-Peak PMF Depth (13 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 13 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.154-Peak PMF Depth (14 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 14 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.155-Peak PMF Depth (15 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 15 OF 17]



<Peak>



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.156-Peak PMF Depth (16 of 17).doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 16 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 6.157-Peak PMF Depth (17 of 17)_.doc

#### PREDICTED FLOOD DEPTHS AND VELOCITIES AT THE PEAK OF THE PROBABLE MAXIMUM FLOOD [EXTENT 17 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.1-100yr ARI Hazard (1 of 17).doc

#### PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 1 OF 17]

### FIGURE 7.1


W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.2-100yr ARI Hazard (2 of 17).doc



### **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 2 OF 17]



W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.3-100yr ARI Hazard (3 of 17).doc

# **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 3 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.4-100yr ARI Hazard (4 of 17).doc

### **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 4 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.5-100yr ARI Hazard (5 of 17).doc

### PROVISIONAL FLOOD HAZARD MAPPING FOR THE **100 YEAR RECURRENCE FLOOD** [EXTENT 5 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.6-100yr ARI Hazard (6 of 17).doc

# **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 6 OF 17]





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.7-100yr ARI Hazard (7 of 17).doc

# PROVISIONAL FLOOD HAZARD MAPPING FOR THE **100 YEAR RECURRENCE FLOOD** [EXTENT 7 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.8-100yr ARI Hazard (8 of 17).doc

# <Peak>

### **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 8 OF 17]



WorleyParsons resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.9-100yr ARI Hazard (9 of 17).doc PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 9 OF 17]









### **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 10 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.11-100yr ARI Hazard (11 of 17).doc

### **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 11 OF 17]



resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.12-100yr ARI Hazard (12 of 17).doc



### **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 12 OF 17]



**WorleyParsons** W resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.13-100yr ARI Hazard (13 of 17).doc

### **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 13 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.14-100yr ARI Hazard (14 of 17).doc



### **PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 14 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.15-100yr ARI Hazard (15 of 17).doc

### PROVISIONAL FLOOD HAZARD MAPPING FOR THE **100 YEAR RECURRENCE FLOOD** [EXTENT 15 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.16-100yr ARI Hazard (16 of 17).doc

**PROVISIONAL FLOOD HAZARD MAPPING FOR THE 100 YEAR RECURRENCE FLOOD** [EXTENT 16 OF 17]



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.17-100yr ARI Hazard (17 of 17)_.doc

### PROVISIONAL FLOOD HAZARD MAPPING FOR THE **100 YEAR RECURRENCE FLOOD** [EXTENT 17 OF 17]



Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.18-Peak 100yr ARI Hydraulic (1 of 17).doc

## HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 1 OF 17]



- Floodway

### LEGEND:





# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 2 OF 17]



- Floodway







# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 3 OF 17]



- Floodway







# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 4 OF 17]



- Flood Storage

# LEGEND:

- Floodway





W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.22-Peak 100yr ARI Hydraulic (5 of 17).doc

# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 5 OF 17]



- Flood Storage
- Floodway

### LEGEND:





### HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 6 OF 17]



- Floodway

### LEGEND:





W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.24-Peak 100yr ARI Hydraulic (7 of 17).doc

# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 7 OF 17]



- Floodway

# LEGEND:



**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.25-Peak 100yr ARI Hydraulic (8 of 17).doc

# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 8 OF 17]



<Peak>



- Floodway





**WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.26-Peak 100yr ARI Hydraulic (9 of 17).doc

# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 9 OF 17]



- Flood Storage
- Floodway

### LEGEND:





## HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 10 OF 17]

-	Flood Storage
-	Flood Fringe

- Floodway

LEGEND:





Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.28-Peak 100yr ARI Hydraulic (11 of 17).doc

## HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 11 OF 17]









# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 12 OF 17]



- Flood Storage
- Floodway

### LEGEND:



## HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 13 OF 17]



- Floodway





W **WorleyParsons** resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.31-Peak 100yr ARI Hydraulic (14 of 17).doc

# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 14 OF 17]



- Floodway







# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 15 OF 17]



- Flood Storage
- Floodway







resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.33-Peak 100yr ARI Hydraulic (16 of 17).doc

# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 16 OF 17]





### LEGEND:





### W **WorleyParsons**

resources & energy Rp6033- South Creek Flood Study fg6033rg150113-Fig 7.34-Peak 100yr ARI Hydraulic (17 of 17)_.doc

# HYDRAULIC CATEGORY MAPPING FOR THE 100 YEAR RECURRENCE FLOOD [EXTENT 17 OF 17]



- Floodway

### LEGEND:

