



# **ATTACHMENTS**

**UNDER SEPARATE COVER**

**Ordinary Council Meeting**

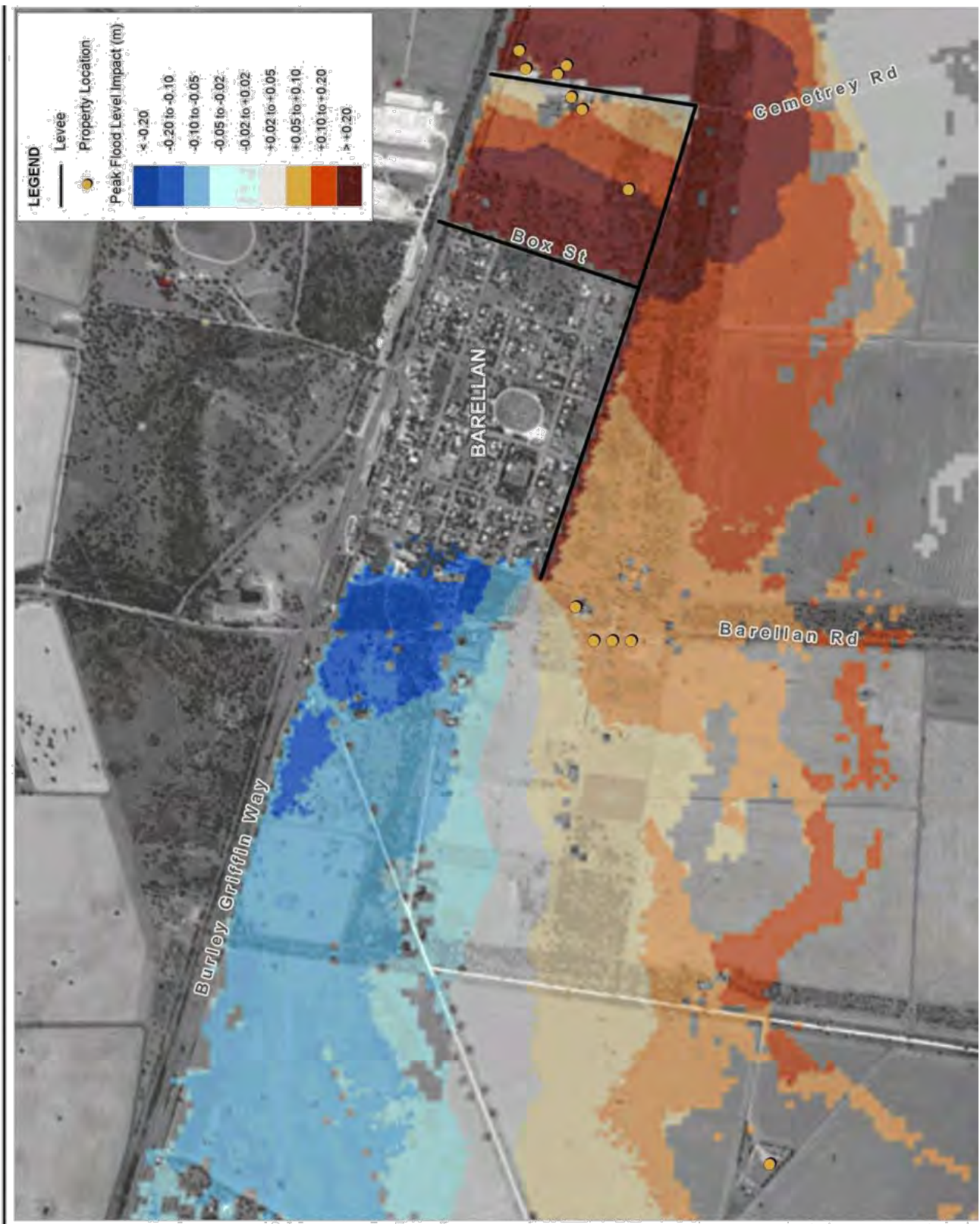
**13 December 2017**

Barellan Floodplain Risk Management Study and Draft Plan  
Capital Construction Cost Estimates

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## **Appendix G. Capital Construction Cost Estimates**

				OPTION 1A		OPTION 1B		OPTION 1C		OPTION 2B	
Item No.	Item Description	Unit	Rate	Quantity	Cost (\$)	Quantity	Cost (\$)	Quantity	Cost (\$)	Quantity	Cost (\$)
<b>Parallel road alignment levee</b>											
1	<b>Site Clearing</b>										
	Excavation over Levee Footprint	m <sup>3</sup>	25,000	0.7	18,200	1.7	44,200	2.2	57,200	2.2	57,200
	Geotechnical Testing along levee route	(item)	70,000	1	5,000	1	19,000	1	28,000	1	78,000
	Preliminaries (Site Establishment, Sediment Control, etc)	(item)	150,000	1	24,000	1	29,000	1	32,000	1	155,000
	Clear and Grub along Route of Levee	m <sup>2</sup>	-	7,219	7,219	17,204	17,204	22,462	22,462	21,688	21,688
	Strip and Store Topsoil (300 mm) for later spreading over levee batters	m <sup>2</sup>	-	7,219	14,438	17,204	34,408	22,462	44,924	21,688	43,376
2	<b>Reinstating Surfaces (including levee construction)</b>										
	Roll and Compact Levee Foundation	m <sup>2</sup>	5	7,805	39,025	18,557	92,785	24,181	120,905	23,290	116,451
	Supply and compact suitable impervious fill to form levee embankment	m <sup>2</sup>	42	7,817	328,316	17,244	724,268	21,135	888,506	18,795	789,385
	Excavate from stockpile and spread topsoil over face of levee	m <sup>2</sup>	1	7,805	7,805	18,557	18,557	24,181	24,181	23,290	23,290
	Grass seed levee batters	m <sup>2</sup>	5	7,805	39,025	18,557	92,785	24,181	120,905	23,290	116,451
3	<b>Burley Griffin Way Tie-in</b>										
	Demolish, remove and dispose existing road	m <sup>2</sup>	30	1,300	39,000	1,300	39,000	1,300	39,000	-	-
	Roll and Compact Levee Foundation	m <sup>2</sup>	5	1,300	6,500	1,300	6,500	1,300	6,500	-	-
	Supply and compact suitable impervious fill to form levee embankment	m <sup>2</sup>	42	1,148	48,195	1,148	48,195	1,148	48,195	-	-
	New 2 lane flexible pavement rural road (includes contingency)	m	2500	55	137,500	55	137,500	55	137,500	-	-
4	<b>External Mitigation Works</b>										
	House raising / property protection	property	50,000	3	150,000	9	450,000	7	350,000	2	100,000
	<b>Sub-total</b>				854,000		1,758,000		1,920,000		1,502,000
	Contingencies (30%)				218,000		495,000		535,000		451,000
	<b>Sub-total</b>				<b>1,072,000</b>		<b>2,253,000</b>		<b>2,455,000</b>		<b>1,953,000</b>
	Investigation and Design Costs (10%)				108,200		223,800		245,500		195,300
	Project Management (5%)				97,380		201,420		220,590		175,770
	Construction Management Costs (12%)				129,840		268,560		294,600		234,360
	<b>Total</b>				<b>1,417,000</b>		<b>2,932,000</b>		<b>3,216,000</b>		<b>2,558,000</b>
<b>Road vantaged levee</b>											
1	<b>Site Clearing</b>										
	Excavation over Road Embankment	m <sup>3</sup>	45,000	1.8	26,000	3.8	78,000	4.4	114,400	4.7	122,200
	Geotechnical Testing along embankment route	(item)	20,000	1	13,000	1	38,000	1	54,000	1	26,000
	Preliminaries (Site Establishment, Sediment Control, etc)	(item)	10,400	1	27,000	1	36,000	1	42,000	1	10,400
	Clear and Grub along Route of Embankment	m <sup>2</sup>	1	9,701	9,701	22,599	22,599	25,518	25,518	47,410	47,410
	Strip and Store Topsoil (300 mm) for later spreading over levee batters	m <sup>2</sup>	1	9,701	19,402	22,599	45,198	25,518	51,035	47,410	94,820
	Demolish, remove and dispose existing road	m <sup>2</sup>	30	-	-	6,900	207,000	18,180	545,400	-	-
2	<b>Reinstating Surfaces (including levee construction)</b>										
	Roll and Compact Levee Foundation	m <sup>2</sup>	5	9,352	46,758	21,953	109,767	28,295	141,473	26,871	134,356
	Supply and compact suitable impervious fill to form levee embankment	m <sup>2</sup>	42	18,550	779,098	41,631	1,748,467	51,760	2,173,935	48,855	1,967,990
	Excavate from stockpile and spread topsoil over face of levee	m <sup>2</sup>	1	9,352	9,352	21,953	21,953	28,295	28,295	26,871	26,871
	Grass seed levee batters	m <sup>2</sup>	5	9,352	46,758	21,953	109,767	28,295	141,473	26,871	134,356
3	<b>Road works</b>										
	350 thick D6540 sub-base or crushed sandstone compacted in max 200mm layers m	m <sup>2</sup>	26	6,024	156,624	15,312	399,112	21,048	547,248	21,640	562,640
	350 thick D6820 basecourse m	m <sup>2</sup>	15	6,024	90,360	15,312	229,680	21,048	315,720	21,640	324,600
	Hot bituminous flash seal m	m <sup>2</sup>	7	6,024	42,168	15,312	107,184	21,048	147,336	21,640	151,480
	40 thick AC10 overlay asphalt m	m <sup>2</sup>	21	6,024	126,504	15,312	321,552	21,048	442,008	21,640	454,400
4	<b>Burley Griffin Way Tie-in</b>										
	Demolish, remove and dispose existing road	m <sup>2</sup>	30	1,300	39,000	1,300	39,000	1,300	39,000	-	-
	Roll and Compact Levee Foundation	m <sup>2</sup>	5	1,300	6,500	1,300	6,500	1,300	6,500	-	-
	Supply and compact suitable impervious fill to form levee embankment	m <sup>2</sup>	42	1,148	48,195	1,148	48,195	1,148	48,195	-	-
	New 2 lane flexible pavement rural road (includes contingency)	m	2500	55	137,500	55	137,500	55	137,500	-	-
5	<b>External Mitigation Works</b>										
	House raising	property	50,000	3	150,000	9	450,000	7	350,000	2	100,000
	<b>Sub-total</b>				1,774,000		4,154,000		5,351,000		4,358,000
	Contingencies (30%)				491,000		1,205,000		1,564,000		1,247,000
	<b>Sub-total</b>				<b>2,265,000</b>		<b>5,359,000</b>		<b>6,915,000</b>		<b>5,605,000</b>
	Investigation and Design Costs (10%)				226,500		535,900		691,500		540,500
	Project Management (5%)				209,850		482,310		622,350		485,450
	Construction Management Costs (12%)				271,800		643,080		829,800		648,600
	<b>Total</b>				<b>2,967,000</b>		<b>7,020,000</b>		<b>9,059,000</b>		<b>7,081,000</b>
<i>Caution: This information is provided as a guide only and costs may not be limited to those shown. All rates are estimates and are subject to inflation and general industry fluctuations.</i>											

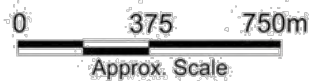


Title: **Maximum Enveloped 1% AEP Impact - Levee Opt 1b and 1c Adversely Affected Properties**

Figure: **G-1**

Rev: **A**

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



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