



NEPEAN RIVER FLOODPLAIN RISK MANAGEMENT STUDY & PLAN INCLUDING NARELLAN CREEK

APPENDIX J – MULTI CRITERIA ASSESSMENT

Final Report (13 November 2022)

Option ID	Description	Estimated Capital Cost (\$)	Estimated Maintenance Cost (\$)	AAD	Category	Economic			Social				Environment			Score	Overall Rank	
					Weighting	50%			30%				20%					
						Benefit Cost Ratio	Capital Cost	Operating Cost Estimate	Reduction in Risk to Life	Compatibility with Council Policies & Plans	Community & Stakeholder Support	Reduction in Social Disruption	Compatibility with Water Quality Objectives ¹	Groundwater	Heritage			Fauna/Flora Impact - Including Street Trees
					Relative Weighting	50.0%	30.0%	20.0%	30.0%	25.0%	25.0%	20.0%	25.0%	25.0%	25.0%			25.0%
					Weighting	25.0%	15.0%	10.0%	9.0%	7.5%	7.5%	6.0%	5.0%	5.0%	5.0%			5.0%
FM2.1	Construct Detention Basin near Mount Annan Dr and Narellan Road	\$1,176,432	\$11,764.32	\$5,658,344		0.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	-1.0	0.41	6
FM2.2	Drainage Augmentation from Narellan Road along Paddy Miller Avenue	\$3,538,925	\$35,389.25	\$5,685,793		0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	-1.0	0.35	7
FM2.4	Redirect flows to Kenny Creek near Farm House place via new channel	\$687,609	\$6,876.09	\$5,657,456		1.0	2.0	2.0	0.0	2.0	2.0	1.0	0.0	0.0	0.0	-1.0	1.06	3
FM2.5	Modify existing Detention Basin at Mount Anan High School	\$312,092	\$3,120.92	\$5,658,137		2.0	2.0	2.0	0.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	1.29	2
FM1.2	Building a Levee near Lerida Avenue	\$7,209,609	\$72,096.09	\$5,479,583		0.0	0.0	0.0	2.0	1.0	1.0	0.0	0.0	0.0	0.0	-1.0	0.28	10
FM1.6	Building a Levee near Alpha Road	\$14,368,073	\$143,680.73	\$5,588,822		0.0	-1.0	-1.0	-1.0	1.0	1.0	0.0	0.0	0.0	1.0	-1.0	-0.19	13
FM1.7	Macquarie Grove Road raising	\$28,802,020	\$288,020.20	\$14,614,011		-2.0	-2.0	-2.0	-2.0	1.0	-2.0	-2.0	0.0	0.0	-2.0	-1.0	-1.53	16
FM1.8	Sheathers Lane Drainage Augmentation	\$401,422	\$4,014.22	\$5,685,793		0.0	2.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.58	4
FM1.9	Building a Levee near Little Street	\$7,770,199	\$77,701.99	\$5,685,714		0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	-1.0	0.10	11
FM1.23	Werombi Road Drainage Augmentation	\$8,461,294	\$84,612.94	\$5,685,793		0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	12

FM1.26	Cut Hill Road raising at Cobbitty Creek crossing	\$28,829,580	\$288,295.80	\$5,685,793		0.0	-2.0	-2.0	0.0	1.0	0.0	-1.0	0.0	0.0	0.0	0.0	-0.49	15
FM1.32	Cut Hill Road Drainage Augmentation at Bringelly Creek	\$1,094,200	\$10,942.00	\$5,685,793		0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	8
FM1.13	Channel works at Matahill Creek near Ron Dine Memorial Reserve	\$1,751,025	\$17,510.25	\$5,654,593		0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	8
FM1.15	Building a Levee near from Saunders Road and along McCrae Drive	\$778,406	\$7,784.06	\$5,609,125		2.0	2.0	2.0	1.0	2.0	2.0	0.0	0.0	0.0	0.0	-1.0	1.34	1
FM2.6	Drainage augmentation in the vicinity of Basin at Mount Anan High School	\$738,768	\$7,387.68	\$5,658,050		0.0	2.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	-1.0	0.53	5
FM1.7a	Macquarie Grove Road raising and widening of the bridge	\$71,990,672	\$719,906.72	\$5,684,853		0.0	-2.0	-2.0	-1.0	2.0	2.0	-1.0	0.0	0.0	0.0	0.0	-0.35	14

Option ID	Description	Proposed Option Cost Estimate	B/C	Ongoing Costs Per Year	Estimated Capital Cost (\$)	Estimated Capital Cost (\$)	Estimated Maintenance Cost (\$)	AAD	Category	Economic			Social			Environment				Score	Overall Rank	
									Weighting	50%			30%			20%						
										Benefit Cost Ratio	Capital Cost	Operating Cost Estimate	Reduction in Risk to Life	Compatibility with Council Policies & Plans	Community & Stakeholder Support	Reduction in Social Disruption	Compatibility with Water Quality Objectives ¹	Groundwater	Heritage			Fauna/Flora Impact - Including Street Trees
									Relative Weighting	50.0%	30.0%	20.0%	30.0%	25.0%	25.0%	20.0%	25.0%	25.0%	25.0%			25.0%
									Weighting	25.0%	15.0%	10.0%	9.0%	7.5%	7.5%	6.0%	5.0%	5.0%	5.0%			5.0%
Non-Structural Options																						
Option PM1	LEP Update	\$50,000				\$50,000				0	2	2	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.92	1
Option PM2	Building and development controls	\$50,000				\$50,000				0	2	2	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.92	1
Option PM3	All houses that are inundated in the 10% AEP (32 houses) would be raised to the 5% AEP level	\$8,240,000	2.09	\$82,400	\$8,240,000	\$8,240,000		\$4,520,929		2	0	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.70	7
Option PM4	utilising the subsidy for house raising described above for reconstruction instead	\$8,240,000	2.09	\$82,400	\$8,240,000	\$8,240,000		\$4,520,929		2	0	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.70	7
Option PM5	Overfloor Flooding Properties in a 20% AEP Flood Event	\$72,100,000	0.33	\$721,000	\$72,100,000	\$72,100,000		\$4,088,371		0	-2	2	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	11
Option PM6	Council swaps a parcel of land in a non-flood prone area (e.g. an existing park) for the flood prone land with the appropriate transfer of park facilities to the acquired site (20% AEP)	\$20,600,000	1.15		\$20,600,000	\$20,600,000		\$4,088,371		2	-2	2	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.58	9
Option PM7	Council would still purchase the affected properties in a 20% AEP, it would redevelop these properties in a flood compatible manner and re-sell them with a break even objective	\$36,050,000	0.66		\$36,050,000	\$36,050,000		\$4,088,371		1	-2	2	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	10
Option EM1	Information transfer to NSW SES	\$5,000				\$5,000				0	2	2	0.0	2.0	2.0	1.0	0.0	0.0	0.0	0.0	0.86	4
Option EM2	Flash Flood Forecasting system for the Nepean River at Camden	\$140,000		\$1,400	\$140,000	\$140,000	\$1,400			0	2	2	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.92	1
Option EM3	Flood awareness for people residing in the floodplain.	\$25,000		\$250	\$25,000	\$25,000	\$1,000			0	2	2	0.0	2.0	2.0	1.0	0.0	0.0	0.0	0.0	0.86	4
Option EM4	Flood warning signs within the floodplain	\$25,000		\$250	\$25,000	\$25,000	\$1,000			0	2	2	0.0	2.0	2.0	1.0	0.0	0.0	0.0	0.0	0.86	4