




CAMDEN COUNCIL PUBLIC EXHIBITION DOCUMENT 2022

NEPEAN RIVER FLOODPLAIN RISK MANAGEMENT STUDY & PLAN INCLUDING NARELLAN CREEK:

APPENDIX I – OPTION COSTINGS


(Final Draft Report)

59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.2 - Building a Levee near Lerida Avenue (380m Length)					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				626,900
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	24,472	sq. m	10	244,720
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	3670.8	cu. m	25	91,770
2.3	Dispose of excess topsoil (nominal 10% allowance)	367.08	cu. m	200	73,416
2.4	Pull up and dispose existing road surface		sq.m	150	0
	SUBTOTAL				409,906
3.0 PROVISION OF BUND					
3.1	Construct Bund - fill & regrade to suit new design levels, including provision of fill	65603.2	cu.m	50	3,280,160
3.2	Install overflow weir		lin.m	15000	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Low Flow Pipe		lin.m	1070	0
	SUBTOTAL				3,280,160
4.0 Pavements					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing		sq. m	120	0
	SUBTOTAL				0
5.0 MINOR LANDSCAPING					
5.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	24,472	sq. m	20	489,440
	SUBTOTAL				489,440
CONSTRUCTION SUB-TOTAL					4,806,406
8.0 CONTINGENCIES					
8.1	50% construction cost				2,403,203
CONSTRUCTION TOTAL, excluding GST					7,209,609
GST					720,961
CONSTRUCTION TOTAL, including GST					7,930,570
CONSTRUCTION TOTAL, rounded					7,930,600
DISCLAIMER:					

1. This estimate of cost is provided in good faith using information available at this stage. This estimate of cost is not guaranteed.
Cardno (NSW) will not accept liability in the event that actual costs exceed the estimate.

NOTES:


- 1. Estimate does not include Consultant's fees, including design or project management
- 2. Estimate / rates in 2016 dollars and does not allow for inflation

59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.6 - Building a Levee near Alpha Road (430m Length)					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				1,249,400
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	36,980	sq. m	10	369,800
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	5547	cu. m	25	138,675
2.3	Dispose of excess topsoil (nominal 10% allowance)	554.7	cu. m	200	110,940
2.4	Pull up and dispose existing road surface	1290	sq.m	150	193,500
	SUBTOTAL				812,915
3.0 PROVISION OF BUND					
3.1	Construct Bund - fill & regrade to suit new design levels, including provision of fill	132440	cu.m	50	6,622,000
3.2	Install overflow weir		lin.m	15000	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Low Flow Pipe		lin.m	1070	0
	SUBTOTAL				6,622,000
4.0 Pavements					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	1290	sq. m	120	154,800
	SUBTOTAL				154,800
5.0 MINOR LANDSCAPING					
5.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	36,980	sq. m	20	739,600
	SUBTOTAL				739,600
CONSTRUCTION SUB-TOTAL					9,578,715
8.0 CONTINGENCIES					
8.1	50% construction cost				4,789,358
CONSTRUCTION TOTAL, excluding GST					14,368,073
GST					1,436,807
CONSTRUCTION TOTAL, including GST					15,804,880
CONSTRUCTION TOTAL, rounded					15,804,900
DISCLAIMER:					


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59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.7 - Macquarie Grove Road raising					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				2,302,900
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	30,000	sq. m	10	300,000
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	4500	cu. m	25	112,500
2.3	Dispose of excess topsoil (nominal 10% allowance)	450	cu. m	200	90,000
2.4	Pull up and dispose existing road surface	10000	sq.m	150	1,500,000
	SUBTOTAL				2,002,500
3.0 EARTHWORKS					
3.1	Raise road base to new levels including compaction of fill	210000	cu.m	50	10,500,000
	SUBTOTAL				10,500,000
4.0 PAVEMENTS					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	10000	sq. m	120	1,200,000
	SUBTOTAL				1,200,000
5.0 BRIDGES					
5.1	Raise the Existing bridge height to match the proposed road	75	lin.m	60000	4,500,000
	SUBTOTAL				4,500,000
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	1050000	1,050,000
	SUBTOTAL				1,050,000
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	30,000	sq. m	20	600,000
	SUBTOTAL				600,000
CONSTRUCTION SUB-TOTAL					22,155,400
8.0 CONTINGENCIES					
8.1	50% construction cost				6,646,620
CONSTRUCTION TOTAL, excluding GST					28,802,020


GST	2,880,202
CONSTRUCTION TOTAL, including GST	31,682,222
CONSTRUCTION TOTAL, rounded	31,682,300
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59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.7a - Macquarie Grove Road raising and Bridge widening and raising					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				257,900
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	8,880	sq. m	10	88,800
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	1332	cu. m	25	33,300
2.3	Dispose of excess topsoil (nominal 10% allowance)	133.2	cu. m	200	26,640
2.4	Pull up and dispose existing road surface	2960	sq.m	150	444,000
	SUBTOTAL				592,740
3.0 EARTHWORKS					
3.1	Raise road base to new 20%AEP levels including compaction of fill	10800	cu.m	50	540,000
	SUBTOTAL				540,000
4.0 PAVEMENTS					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	2960	sq. m	120	355,200
	SUBTOTAL				355,200
5.0 BRIDGES					
5.1	Widen the Existing bridge	890	lin.m	60000	53,400,000
	SUBTOTAL				53,400,000
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	54000	54,000
	SUBTOTAL				54,000
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	8,880	sq. m	20	177,600
	SUBTOTAL				177,600
CONSTRUCTION SUB-TOTAL					55,377,440
8.0 CONTINGENCIES					
8.1	50% construction cost				16,613,232
CONSTRUCTION TOTAL, excluding GST					71,990,672

GST	7,199,067
CONSTRUCTION TOTAL, including GST	79,189,739
CONSTRUCTION TOTAL, rounded	79,189,800
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59916092 Nepean River FRMSP					
Cost Estimate					
Option:					
FM1.8 - Sheathers Lane Drainage Augmentation - 1.2 m (w) x 0.45 m (H) culvert		v1			
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				40,300
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	72	sq. m	10	720
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	10.8	cu. m	25	270
2.3	Dispose of excess topsoil (nominal 10% allowance)	1.08	cu. m	200	216
2.4	Pull up and dispose existing road surface	160	sq.m	150	24,000
	SUBTOTAL				25,206
3.0 DRAINAGE					
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m dia. Pipe		lin.m	1041.3	0
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	1128.075	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	1301.625	0
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1648.725	0
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1909.05	0
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	2256.15	0
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	3818.1	0
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.25m dia. Pipe		lin.m	4963.53	0
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1388.4	0
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1735.5	0
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 0.45m culvert	40	lin.m	3200	128,000
3.90	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 1.2m culvert		lin.m	3680	0
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4859.4	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	1	each	6000	6,000
3.17	Supply, excavate, bed, lay, backfill surcharge pit		each	30000	0
3.18	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	30,000	30,000
3.14	Allowance for nightworks (assume for works on all regional/state roads)	1	item	38,400	38,400
	SUBTOTAL				202,400
4.0 PAVEMENTS					


4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	160	sq. m	120	19,200
	SUBTOTAL				19,200
5.0 PROPERTY BY-BACK					
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	20240	20,240
	SUBTOTAL				20,240
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	72	sq. m	20	1,440
	SUBTOTAL				1,440
CONSTRUCTION SUB-TOTAL					308,786
8.0 CONTINGENCIES					
8.1	50% construction cost				92,636
CONSTRUCTION TOTAL, excluding GST					401,422
GST					40,142
CONSTRUCTION TOTAL, including GST					441,564
CONSTRUCTION TOTAL, rounded					441,600
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59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.9 - Building a Levee near Little Street (1070m Length)					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				675,700
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	39,590	sq. m	10	395,900
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	5938.5	cu. m	25	148,463
2.3	Dispose of excess topsoil (nominal 10% allowance)	593.85	cu. m	200	118,770
2.4	Pull up and dispose existing road surface		sq.m	150	0
	SUBTOTAL				663,133
3.0 PROVISION OF BUND					
3.1	Construct Bund - fill & regrade to suit new design levels, including provision of fill	60990	cu.m	50	3,049,500
3.2	Install overflow weir		lin.m	15000	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Low Flow Pipe		lin.m	1070	0
	SUBTOTAL				3,049,500
4.0 Pavements					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing		sq. m	120	0
	SUBTOTAL				0
5.0 MINOR LANDSCAPING					
5.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	39,590	sq. m	20	791,800
	SUBTOTAL				791,800
CONSTRUCTION SUB-TOTAL					5,180,133
8.0 CONTINGENCIES					
8.1	50% construction cost				2,590,066
CONSTRUCTION TOTAL, excluding GST					7,770,199
GST					777,020
CONSTRUCTION TOTAL, including GST					8,547,219
CONSTRUCTION TOTAL, rounded					8,547,300
DISCLAIMER:					

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59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.13 - Channel Formalisation at Matahill Creek near Ron Dine Memorial Reserve (deepeening the channel)					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				152,300
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	12,600	sq. m	10	126,000
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	1890	cu. m	25	47,250
2.3	Dispose of excess topsoil (nominal 10% allowance)	189	cu. m	200	37,800
2.4	Pull up and dispose existing road surface	100	sq.m	150	15,000
	SUBTOTAL				226,050
3.0 EARTHWORKS					
3.1	Formalise, shape and regrade channel, including disposal / provision of cut / fill	10500	cu. m	50	525,000
	SUBTOTAL				525,000
4.0 PAVEMENTS					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	100	sq. m	120	12,000
	SUBTOTAL				12,000
5.0 MINOR LANDSCAPING					
5.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	12,600	sq. m	20	252,000
	SUBTOTAL				252,000
CONSTRUCTION SUB-TOTAL					1,167,350
8.0 CONTINGENCIES					
8.1	50% construction cost				583,675
CONSTRUCTION TOTAL, excluding GST					1,751,025
GST					175,103
CONSTRUCTION TOTAL, including GST					1,926,128
CONSTRUCTION TOTAL, rounded					1,926,200
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59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.15 - Building a Levee near McCrae Drive (450m Length)					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				67,700
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	5,850	sq. m	10	58,500
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	877.5	cu. m	25	21,938
2.3	Dispose of excess topsoil (nominal 10% allowance)	87.75	cu. m	200	17,550
2.4	Pull up and dispose existing road surface		sq.m	150	0
	SUBTOTAL				97,988
3.0 PROVISION OF BUND					
3.1	Construct Bund - fill & regrade to suit new design levels, including provision of fill	4725	cu.m	50	236,250
3.2	Install overflow weir		lin.m	15000	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Low Flow Pipe		lin.m	1070	0
	SUBTOTAL				236,250
4.0 Pavements					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing		sq. m	120	0
	SUBTOTAL				0
5.0 MINOR LANDSCAPING					
5.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	5,850	sq. m	20	117,000
	SUBTOTAL				117,000
CONSTRUCTION SUB-TOTAL					518,938
8.0 CONTINGENCIES					
8.1	50% construction cost				259,469
CONSTRUCTION TOTAL, excluding GST					778,406
GST					77,841
CONSTRUCTION TOTAL, including GST					856,247
CONSTRUCTION TOTAL, rounded					856,300
DISCLAIMER:					


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59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.23- Werombi Road Drainage Augmentation (widening the bridge from 10 m to 78m)					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				849,000
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	170	sq. m	10	1,700
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	25.5	cu. m	25	638
2.3	Dispose of excess topsoil (nominal 10% allowance)	2.55	cu. m	200	510
2.4	Pull up and dispose existing road surface	1872	sq.m	150	280,800
	SUBTOTAL				283,648
3.0 BRIDGES					
3.1	Construct new dual carriage bridge at Werombi Road	78	lin.m	60000	4,680,000
	SUBTOTAL				4,680,000
4.0 PAVEMENTS					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	1872	sq. m	120	224,640
	SUBTOTAL				224,640
5.0 PROPERTY BY-BACK					
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	468000	468,000
	SUBTOTAL				468,000
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	170	sq. m	20	3,400
	SUBTOTAL				3,400
CONSTRUCTION SUB-TOTAL					6,508,688
8.0 CONTINGENCIES					
8.1	50% construction cost				1,952,606


CONSTRUCTION TOTAL, excluding GST	8,461,294
GST	846,129
CONSTRUCTION TOTAL, including GST	9,307,423
CONSTRUCTION TOTAL, rounded	9,307,500
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NOTES: 1. Estimate does not include Consultant's fees, including design or project management 2. Estimate / rates in 2016 dollars and does not allow for inflation	

59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
Option: FM1.26 - Cut Hill Road raising at Cobbitty Creek crossing					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				2,892,600
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	48,000	sq. m	10	480,000
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	7200	cu. m	25	180,000
2.3	Dispose of excess topsoil (nominal 10% allowance)	720	cu. m	200	144,000
2.4	Pull up and dispose existing road surface	16000	sq.m	150	2,400,000
	SUBTOTAL				3,204,000
3.0 EARTHWORKS					
3.1	Raise road base to new levels including compaction of fill	240000	cu.m	50	12,000,000
	SUBTOTAL				12,000,000
4.0 PAVEMENTS					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	16000	sq. m	120	1,920,000
	SUBTOTAL				1,920,000
5.0 PROPERTY BY-BACK					
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	1200000	1,200,000
	SUBTOTAL				1,200,000
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	48,000	sq. m	20	960,000
	SUBTOTAL				960,000
CONSTRUCTION SUB-TOTAL					22,176,600
8.0 CONTINGENCIES					
8.1	50% construction cost				6,652,980
CONSTRUCTION TOTAL, excluding GST					28,829,580


GST	2,882,958
CONSTRUCTION TOTAL, including GST	31,712,538
CONSTRUCTION TOTAL, rounded	31,712,600
DISCLAIMER: 1. This estimate of cost is provided in good faith using information available at this stage. This estimate of cost is not guaranteed. Cardno (NSW) will not accept liability in the event that actual costs exceed the estimate. NOTES: 1. Estimate does not include Consultant's fees, including design or project management 2. Estimate / rates in 2010 dollars and does not allow for inflation	

59916092 Nepean River FRMSP					
Cost Estimate					
Option: FM1.32 - Cut Hill Road Drainage Augmentation at Bringelly Creek - 4.2 m (w) x 1.2 m (H) culvert		v1			
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				109,800
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	144	sq. m	10	1,440
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	21.6	cu. m	25	540
2.3	Dispose of excess topsoil (nominal 10% allowance)	2.16	cu. m	200	432
2.4	Pull up and dispose existing road surface	210	sq.m	150	31,500
	SUBTOTAL				33,912
3.0 DRAINAGE					
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m dia. Pipe		lin.m	1041.3	0
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	1128.075	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	1301.625	0
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1648.725	0
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1909.05	0
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	2256.15	0
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	3818.1	0
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.25m dia. Pipe		lin.m	4963.53	0
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1388.4	0
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1735.5	0
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2776.8	0
3.90	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 1.2m culvert		lin.m	3680	0
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 4.2m x 1.2m culvert	30	lin.m	14500	435,000
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	0	each	6000	0
3.17	Supply, excavate, bed, lay, backfill surcharge pit		each	30000	0
3.18	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	43,500	43,500
3.14	Allowance for nightworks (assume for works on all regional/state roads)	1	item	130,500	130,500
	SUBTOTAL				609,000
4.0 PAVEMENTS					


4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	210	sq. m	120	25,200
	SUBTOTAL				25,200
5.0 PROPERTY BY-BACK					
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	60900	60,900
	SUBTOTAL				60,900
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	144	sq. m	20	2,880
	SUBTOTAL				2,880
CONSTRUCTION SUB-TOTAL					841,692
8.0 CONTINGENCIES					
8.1	50% construction cost				252,508
CONSTRUCTION TOTAL, excluding GST					1,094,200
GST					109,420
CONSTRUCTION TOTAL, including GST					1,203,620
CONSTRUCTION TOTAL, rounded					1,203,700
DISCLAIMER: 1. This estimate of cost is provided in good faith using information available at this stage. This estimate of cost is not guaranteed. Cardno (NSW) will not accept liability in the event that actual costs exceed the estimate.					
NOTES: 1. Estimate does not include Consultant's fees, including design or project management 2. Estimate / rates in 2017 dollars and does not allow for inflation					

59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate					
FM2.1 - Construct Detention Basin near Mount Annan Dr and					
Option: Narellan Road					
					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				118,000
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	1,515	sq. m	10	15,150
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	227.25	cu. m	25	5,681
2.3	Dispose of excess topsoil (nominal 10% allowance)	22.725	cu. m	200	4,545
2.4	Pull up and dispose existing road surface		sq.m	35	0
	SUBTOTAL				25,376
3.0 DRAINAGE					
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m dia. Pipe	50	lin.m	1041.3	52,065
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	1128.075	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	1301.625	0
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1648.725	0
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1909.05	0
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	2256.15	0
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	3818.1	0
3.10	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe		lin.m	4512.3	0
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1388.4	0
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1735.5	0
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2776.8	0
3.14	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 0.4m culvert		lin.m	3239.6	0
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4859.4	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	2	each	5000	10,000
3.17	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	30,000	30,000
	SUBTOTAL				92,065
4.0 EARTHWORKS					

4.1	Import, prepare and compact fill material		cu. m	120	0
4.2	Excavate material , including disposal / provision of cut	3150	cu. m	200	630,000
	SUBTOTAL				630,000
5.0 PROPERTY BY-BACK					
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	9207	9,207
	SUBTOTAL				9,207
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	1,515	sq. m	20	30,300
	SUBTOTAL				30,300
CONSTRUCTION SUB-TOTAL					904,948
8.0 CONTINGENCIES					
8.1	50% construction cost				271,484
CONSTRUCTION TOTAL, excluding GST					1,176,432
GST					117,643
CONSTRUCTION TOTAL, including GST					1,294,075
CONSTRUCTION TOTAL, rounded					1,294,100
DISCLAIMER: 1. This estimate of cost is provided in good faith using information available at this stage. This estimate of cost is not guaranteed. Cardno (NSW) will not accept liability in the event that actual costs exceed the estimate. NOTES: 1. Estimate does not include Consultant's fees, including design or project management 2. Estimate / rates in 2010 dollars and does not allow for inflation					


59916092 Nepean River FRMSP		 Cardno Shaping the Future			
Cost Estimate					
Option: FM2.2 - Drainage Augmentation from Narellan Road along Paddy Miller Avenue (changing the pipe size to 2.25 m dia)					
v1					
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				355,100
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	855	sq. m	10	8,550
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	128.25	cu. m	25	3,206
2.3	Dispose of excess topsoil (nominal 10% allowance)	12.825	cu. m	200	2,565
2.4	Pull up and dispose existing road surface	1200	sq.m	150	180,000
	SUBTOTAL				194,321
3.0 DRAINAGE					
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m dia. Pipe		lin.m	1041.3	0
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	1128.075	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	1301.625	0
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1648.725	0
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1909.05	0
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	2256.15	0
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe		lin.m	3818.1	0
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.25m dia. Pipe	300	lin.m	4963.53	1,489,059
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1388.4	0
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1735.5	0
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2776.8	0
3.90	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 1.2m culvert		lin.m	3680	0
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4859.4	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	12	each	6000	72,000
3.17	Supply, excavate, bed, lay, backfill surcharge pit		each	30000	0
3.18	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	156,106	156,106
3.14	Allowance for nightworks (assume for works on all regional/state roads)	1	item	111,679	111,679
	SUBTOTAL				1,828,844
4.0 PAVEMENTS					

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	1200	sq. m	120	144,000
	SUBTOTAL				144,000
5.0 PROPERTY BY-BACK					
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	182884	182,884
	SUBTOTAL				182,884
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	855	sq. m	20	17,100
	SUBTOTAL				17,100
CONSTRUCTION SUB-TOTAL					2,722,250
8.0 CONTINGENCIES					
8.1	50% construction cost				816,675
CONSTRUCTION TOTAL, excluding GST					3,538,925
GST					353,893
CONSTRUCTION TOTAL, including GST					3,892,818
CONSTRUCTION TOTAL, rounded					3,892,900
DISCLAIMER: 1. This estimate of cost is provided in good faith using information available at this stage. This estimate of cost is not guaranteed. Cardno (NSW) will not accept liability in the event that actual costs exceed the estimate. NOTES: 1. Estimate does not include Consultant's fees, including design or project management 2. Estimate / rates in 2017 dollars and does not allow for inflation					

59916092 Nepean River FRMSP					 Cardno Shaping the Future
Cost Estimate Option: FM2.4 - Redirect flows to Kenny Creek near Farm House place via new channel (5m wide channel)					v1
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				59,800
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	2,275	sq. m	10	22,750
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	341.25	cu. m	25	8,531
2.3	Dispose of excess topsoil (nominal 10% allowance)	34.125	cu. m	200	6,825
2.4	Pull up and dispose existing road surface		sq.m	150	0
	SUBTOTAL				38,106
3.0 EARTHWORKS					
3.1	Construct Channel - Excavate material , including disposal / provision of cut	1575	cu. m	200	315,000
	SUBTOTAL				315,000
4.0 Pavements					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing		sq. m	120	0
	SUBTOTAL				0
5.0 MINOR LANDSCAPING					
5.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	2,275	sq. m	20	45,500
	SUBTOTAL				45,500
CONSTRUCTION SUB-TOTAL					458,406
8.0 CONTINGENCIES					
8.1	50% construction cost				229,203
CONSTRUCTION TOTAL, excluding GST					687,609
GST					68,761
CONSTRUCTION TOTAL, including GST					756,370
CONSTRUCTION TOTAL, rounded					756,400
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NOTES:


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- 2. Estimate / rates in 2016 dollars and does not allow for inflation

59916092 Nepean River FRMSP				 Cardno Shaping the Future	
Cost Estimate Option: FM2.5 - Modify existing Detention Basin at Mount Anan High School (increase bund height)				v1	
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				27,100
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	1,495	sq. m	10	14,950
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	224.25	cu. m	25	5,606
2.3	Dispose of excess topsoil (nominal 10% allowance)	22.425	cu. m	200	4,485
2.4	Pull up and dispose existing road surface	120	sq.m	150	18,000
	SUBTOTAL				43,041
3.0 PROVISION OF BUND					
3.1	Construct Bund - fill & regrade to suit new design levels, including provision of fill	1315.6	cu.m	50	65,780
3.2	Install overflow weir	1	lin.m	15000	15,000
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m dia. Low Flow Pipe	12	lin.m	1070	12,840
	SUBTOTAL				93,620
4.0 Pavements					
4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	120	sq. m	120	14,400
	SUBTOTAL				14,400
5.0 MINOR LANDSCAPING					
5.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	1,495	sq. m	20	29,900
	SUBTOTAL				29,900
CONSTRUCTION SUB-TOTAL					208,061
8.0 CONTINGENCIES					
8.1	50% construction cost				104,031
CONSTRUCTION TOTAL, excluding GST					312,092
GST					31,209
CONSTRUCTION TOTAL, including GST					343,301
CONSTRUCTION TOTAL, rounded					343,400
DISCLAIMER:					

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Cardno (NSW) will not accept liability in the event that actual costs exceed the estimate.

NOTES:

- 1. Estimate does not include Consultant's fees, including design or project management
- 2. Estimate / rates in 2016 dollars and does not allow for inflation

59916092 Nepean River FRMSP					
Cost Estimate					
Option:					
FM2.6 - Drainage Augmentation along James Way upstream of Rigelsford Street		v1			
ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	RATE	COST
1.0 GENERAL AND PRELIMINARIES					
1.1	Site establishment, security fencing, facilities & disestablishment	1	item		
1.2	Provision of sediment & erosion control	1	item		
1.3	Construction setout & survey	1	item		
1.4	Work as executed survey & documentation	1	item		
1.5	Geotechnical supervision, testing & certification	1	item		
	SUBTOTAL (Assumed as 15% of works cost, excluding property purchase)				74,100
2.0 DEMOLITION, CLEARING AND GRUBBING					
2.1	Clearing & grubbing of vegetated areas (nominal allowance)	194	sq. m	10	1,935
2.2	Strip topsoil & stockpile for re-use (assuming 150mm depth)	29.025	cu. m	25	726
2.3	Dispose of excess topsoil (nominal 10% allowance)	2.9025	cu. m	200	581
2.4	Pull up and dispose existing road surface	300	sq.m	150	45,000
	SUBTOTAL				48,241
3.0 DRAINAGE					
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.375m dia. Pipe		lin.m	1041.3	0
3.2	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m dia. Pipe		lin.m	1128.075	0
3.3	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.825m dia. Pipe		lin.m	1301.625	0
3.4	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.5	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.05m dia. Pipe		lin.m	1648.725	0
3.6	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m dia. Pipe		lin.m	1909.05	0
3.7	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.35m dia. Pipe		lin.m	2256.15	0
3.8	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.9m dia. Pipe		lin.m	1388.4	0
3.9	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m dia. Pipe	30	lin.m	3818.1	114,543
3.1	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.1m dia. Pipe	45	lin.m	4512.3	203,054
3.11	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.45m x 0.45m culvert		lin.m	1388.4	0
3.12	Supply, excavate, bed, lay, joint, backfill and provide connections for 0.6m x 0.6m culvert		lin.m	1735.5	0
3.13	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.2m x 1.2m culvert		lin.m	2776.8	0
3.90	Supply, excavate, bed, lay, joint, backfill and provide connections for 1.8m x 1.2m culvert		lin.m	3680	0
3.15	Supply, excavate, bed, lay, joint, backfill and provide connections for 2.4m x 2.4m culvert		lin.m	4859.4	0
3.16	Install new drainage / junction pit (assumed 1 pit per 25m of pipe)	3	each	6000	18,000
3.17	Supply, excavate, bed, lay, backfill surcharge pit		each	30000	0
3.18	Adjustment of exsiting services (nominal allowance) (assumed 10% of drainage installation cost, with minimum cost of \$30,000)	1	item	33,560	33,560
3.14	Allowance for nightworks (assume for works on all regional/state roads)		item	15,229	0
	SUBTOTAL				369,156
4.0 PAVEMENTS					

4.1	Reinstate disturbed road pavement, including demolition and disposal of additional material to provide good jointing	300	sq. m	120	36,000
	SUBTOTAL				36,000
5.0 PROPERTY BY-BACK					
5.1	Purchase of properties in order to create drainage easements	0	each	1300000	0
	SUBTOTAL				0
6.0 TRAFFIC CONTROL					
6.1	Control of traffic during works, incl allowance for night works (assumed 10% of pipe install cost)	1	item	36916	36,916
	SUBTOTAL				36,916
7.0 MINOR LANDSCAPING					
7.1	Repair disturbed areas in accordance with landscape architects requirements (nominal allowance)	194	sq. m	20	3,870
	SUBTOTAL				3,870
CONSTRUCTION SUB-TOTAL					568,283
8.0 CONTINGENCIES					
8.1	50% construction cost				170,485
CONSTRUCTION TOTAL, excluding GST					738,768
GST					73,877
CONSTRUCTION TOTAL, including GST					812,645
CONSTRUCTION TOTAL, rounded					812,700
DISCLAIMER: 1. This estimate of cost is provided in good faith using information available at this stage. This estimate of cost is not guaranteed. Cardno (NSW) will not accept liability in the event that actual costs exceed the estimate. NOTES: 1. Estimate does not include Consultant's fees, including design or project management 2. Estimate / rates in 2017 dollars and does not allow for inflation					