

**COST COMPARISON**

Ref	COST COMPARISON		Ref	Rate	North		South		
	North	South			L	W	L	W	
	<b>Structures</b>	<b>\$52.3</b>	<b>\$60.0</b>						
10810	Viaducts	42.9	49.4	70810	2500	643	26.7	740	26.7
10820	KVR overbridge	3.5	0		5000	67	10.5	x	x
		0	1.6	70820	2500	x	x	105	6.1
10830	Large box culverts x 2	0.4	1.5	70830	x	100	x	x	x
	Add 3 box culverts	0.9	2.3	70840	2500	x	x	35	26.7
		0.0	1.8	70850	2250	x	x	67.0	12
10840	Reinforced soil walls	2.0	2.3	70860	2500	x	x	35	26.7
	RSW Nth on-ramp	1.5	1.1	70880	800	375	5	x	x
10850	Retaining walls	1.1	0						
	Reno mattresses	0.1	0						
105	<b>Earthworks</b>	<b>\$9.5</b>	<b>\$9.5</b>	705		<b>m3</b>		<b>m3</b>	
	Cut	?	4.2		\$7.5	297		560	
	Fill	2.3	?		\$7.5	310		560	
	Import fill	0.3	0		\$25	12.7		0	
	Drill & blast	0.0	0.5		\$15	x		31.5	
	Unsuitable 10% of cut	1.0	0.5		\$35	29.7	7.5	70	
	Select material	3.4	3.1		\$21.3	5258	30	5360	30
	Other	2.4	1.2						
107	<b>Pavement</b>	<b>\$15.4</b>	<b>\$15.6</b>	707					
	Asphalt & sub-base	11.9	12.1		160	5258	28	5360	28
	Wearing course	3.4	3.6		180	5900	28	6100	28
	<b>Local Roads</b>	<b>\$4.5</b>	<b>\$1.2</b>						
10910	Woodhill Mtn Rd	0.3	0		\$150	165	12.2		
10920	North St/ Rawlings Ln	0.7	0		\$150	750	6.1		
10930	Nth Interchg on/off	0.8	0.3	70910	\$90	1500	6.1	490	6.1
10940	KVR interchg on/off	0.8	0.8	70920	\$90	1500	6.1	750	6.1
	KVR interchg provisn	0.5	0					x	x
10950	Victoria St to KVRd	0.3	0		\$150	330	10.5	x	x
10960	Mullers/Schofld	0.4	0.1	70930	\$150	230	6.1		
	Andersons/Hitchcock	0.4	0		\$150	230	6.1	x	x
10980	Crozier Rd	0.2	0	70940	\$150				
	<b>Other</b>	<b>\$22.9</b>	<b>\$12.3</b>						
701	Preliminaries	3.1	2.0	701					
702	Environmental	0.9	0.8	702					
70270	Temp works	2.2	2.1	70270					
103	Noise mitigation	3.6	0.3	703					
104	Flood mitigation	0.2	0.02	704					
106	Drainage	2.9	2.9	706					
11010	Urban design	2.0	0.1	71010					
11020	Landscaping	1.9	1.8	71020					
	Vegetation	3.8	0.5						
11100	Miscellaneous	2.4	1.8	71100					
	<b>Additions</b>	<b>5.5</b>	<b>0</b>						
	Footbridge	3.5	0						
	Town Creek Divert	1.4	0						
	Tree removal	0.6	0						
	<b>Total Direct Costs</b>	<b>\$110.1</b>	<b>\$98.6</b>						
	Property acquisition	25.0	4.0						
	<b>Total Costs</b>	<b>\$135.1</b>	<b>\$102.6</b>						

Northern Route		
Orig	Adj	Diff
<b>\$45.2</b>	<b>\$52.33</b>	<b>\$7.2</b>
10810 Viaducts	40.1	42.9
10820 KVR overbridge	1.6	3.5
10830 Large box culverts x 2 3 additional box culverts	0.4	0.4
10840 Reinforced soil walls RSW Nth on-ramp	0	0.9
10850 Retaining walls cast insitu Reno mattresses	2.0	2.0
	0	1.5
	1.1	1.1
	0	0.1

Rate	L	W
\$2,500	642.5	26.7
5000	67	10.5
	100	
3610	240	
	675	
800	375	5
	550	

Incr from 600m to 643m

105 Earthworks	\$9.5	\$9.5	\$0
Cut	?	?	
Fill	2.3	2.3	
Import fill	0.3	0.3	
Allow unsuitable 10% of cut	1.0	1.0	
Select material	3.4	3.4	
Other	2.4	2.4	

	m3	
	297	
\$7.5	310	
\$25	12.7	
\$35	29.7	
<b>\$21.3</b>	<b>5258</b>	<b>30</b>

107 Pavement	\$15.5	\$15.4	\$0
Asphalt & concrete sub-base	12.0	11.9	
Wearing course	3.4	3.4	

\$160	5258	28
\$180	5900	28

Local Roads	\$2.0	\$4.5	\$2.4
10910 Woodhill Mtn Rd	0.3	0.3	
10920 North St/ Rawlings Ln	0.1	0.7	0.6
10930 Nth Interchg on/off ramps	0.7	0.8	0.2
10940 KVR interchg on/off ramps	0.8	0.8	
KVR interchg provisn	0	0.5	0.5
10950 Victoria St	0	0.3	0.3
10960 Mullers/Schoffd	0.1	0.4	0.3
Andersons/Hitchcock Lns	0	0.4	0.4
10980 Croziers Rd	0.1	0.2	0.2

150	165	12.2
\$150	750	6.1
\$90	1500	6.1
\$90	1500	6.1
\$150	330	6.1
\$150	230	6.1
\$150	230	6.1

Add missing roads

Other	\$17.2	\$22.9	\$5.7
101 Preliminaries	1.1	3.1	2.0
102 Environmental	0.9	0.9	
10270 Temp works	1.8	2.2	0.5
103 Noise mitigation	3.6	3.6	
104 Flood mitigation	0.2	0.2	
106 Drainage	2.5	2.9	0.4
11010 Urban design	0.1	2.0	1.9
11020 Landscaping	0.9	1.9	1.0
11100 Vegetation	3.8	3.8	
11100 Miscellaneous	2.4	2.4	

Community liaison \$2m (Fiona)
3% of Direct costs
As southern option Increase for North St, KV interchg, etc Include Nth St ongoing cost.

Footbridge	0	3.5	3.5
Town Creek Diversion	0	1.4	1.4
Tree removal	0	0.6	0.6

Average of two concept estimates		
\$1,200	700	1.5
120 @ \$5k		

<b>Total Direct Costs</b>	<b>\$89.4</b>	<b>\$110.1</b>	<b>20.7</b>
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Southern Route		
Orig	Adj	Diff

**Structures**

	<b>\$115.9</b>	<b>\$60.0</b>	<b>-\$56</b>
70810 Viaduct	82.8	49.4	-33.4
70820 Nth Interchange	3.9	1.6	-2.3
70830 Wharf Rd Bebo arch	3.3	1.5	-1.9
70840 Drainage/ farm access bridge	3.3	2.3	-1.0
70850 Southern interchg overbridge	2.5	1.8	-0.6
70860 Railway overbridge	16.7	2.3	-14.4
70880 Reinforced soil walls	3.5	1.1	-2.4

Rate	L	W
\$2,500	740	26.7
2500	105	6.1
2500	35	26.7
2250	67	12.0
2500	35	26.7

from 1240m to (350m + 390m)  
Should be single lane only  
  
Change to 35m long bridge

**705 Earthworks**

	<b>\$22.2</b>	<b>\$9.5</b>	<b>-\$13</b>
70530 Cut	1.7	4.2	2.5
Fill	?	?	
Import fill	14.0	0	-14
Drill & blast	0.5	0.5	0.0
Allow unsuitable 10% of cut	0.8	0.5	-0.3
70540 Select material	2.7	3.1	0.4
70450 Batter stabilisation	1.8	0.5	-1.3
Other	0.7	0.7	-0.1

	<b>m3</b>
\$7.5	560
	560
\$25	0
\$15	31.5
\$7.5	70

Levee to WTW

**707 Pavement**

	<b>\$13.2</b>	<b>\$15.6</b>	<b>\$2.4</b>
Concrete sub-base	2.6	3.2	0.7
Asphalt	6.9	8.4	1.5
Wearing course	3.4	3.6	0.2
Other	0.3	0.4	0.1

\$160	5360	21
\$ 160	5360	28
\$ 180	6100	28

**Local Roads**

	<b>\$1.3</b>	<b>\$1.2</b>	<b>-\$0.2</b>
70910 North Interchange on ramp	0.3	0.3	
70920 Sthrn interchg on/off ramps	0.8	0.8	
70930 Mullers Ln	0.1	0.1	
70940 Croziers Rd	0.2	0.0	-0.2

\$90	490	6.1
\$90	750	6.1
\$150		

	<b>\$15.5</b>	<b>\$12.3</b>	<b>-\$3.2</b>
701 Preliminaries	1.3	2.0	0.7
702 Environmental	0.8	0.8	
70270 Temp works	4.1	2.1	-2.1
703 Noise mitigation	0.3	0.3	
704 Flood mitigation	0.1	0.0	-0.1
706 Drainage	2.2	2.9	0.7
71010 Urban design	0.1	0.1	
71020 Landscaping	1.8	1.8	
71100 Vegetation	2.9	0.5	-2.4
71100 Miscellaneous	1.9	1.8	

Com liaison \$1m & reduce traffic control reqmt  
  
3% of Direct costs

**Total Direct Costs**

<b>\$168.0</b>	<b>\$98.6</b>	<b>-69</b>
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BERRY BYPASS - SOUTHERN PROPOSAL (Revised Alignment) 29/03/12

Based on Evans & Peck Estimate of January 2012,

Page 1 of 1

ITEM N°	DESCRIPTION	UNIT	QTY.	RATE \$	AMOUNT \$
70110	Mobilisation & establishment	Item	-	500,000	500,000
70120	Community liason	Item	-	1,000,000	1,000,000
70130	Management plans (RMS)	N°	5	10,000	50,000
70140	Traffic Control	Months	27	14,815	400,000
70210	Building condition reports.	N°	20	300	6,000
70220	Site monitoring	Months	27	7,080	191,160
70230	Erosion & sedimentation control.	Item	-	13,200	13,200
70240	Treatment contaminated water, disposal	Item	-	3,200	3,200
70250	Maintenance	Item	-	530,131	530,131
70260	Permanent sediment/chem/spill, control basins	Item	-	53,400	53,400
70270	Other temporary works	Item	-	-	2,100,000
70310	Properties (Noise, access)	N°	20	15,000	300,000
70320	Noise walls - solid (Pullman St.?)	-	-	-	-
70330	Noise walls - transparent (ditto?)	-	-	-	-
70410	Properties (Rms flood mitigation) Wharf St.	N°	2	10,000	20,000
70510	Clearing & Grubbing - Light	Ha.	30.00	9,259	277,770
	- Heavy	Ha.	5.00	18,646	93,230
	- Traffic crew	hr.	230.71	85	19,610
70520	Topsoil. (346,100m <sup>2</sup> x 0.15m = 51,915m <sup>3</sup> )	m <sup>3</sup>	51,915	5	259,575
70530	General Earthworks (Balanced)	Fill Volume =	592,192		
	- Cut Volume, (Adjust Kelly K. cut)	m <sup>3</sup>	662,684	(Balanced)	
	- Fill Volume	m <sup>3</sup>	560,692	7.50	4,205,190
	- Drill + Blast Volume (10% of cut)	m <sup>3</sup>	31,500	15.00	472,500
	- Unsuitable (Levee to WTW)	m <sup>3</sup>	70,492	7.50	528,690
To collection page 6.					11,023,656

ITEM N°	DESCRIPTION	UNIT	QTY	RATE \$	AMOUNT \$
70540	Earthworks - Select Material. Total corridor length 6100 m Length of bridge structures 775 m Subgrade width 30m Subgrade depth 0.3m Select Volume 47,925 m <sup>3</sup>				
	General subgrade preparation	m <sup>2</sup>	145,247	0.80	116,198
	Supply select fill to site	tonne	108,935	18.00	1,960,830
	Spread & compact (Total rate E+Peck)	m <sup>3</sup>	43,575	24.20	1,054,527
70550	Batter stabilisation works.				
	Kelly Karpany Cut - Type 1	m <sup>2</sup>	1000	238.00	238,000
	(250m) @ 4m @ 1.0m - Type 2	m <sup>2</sup>	250	511.00	127,750
	Island embankment Reno Mattress	m <sup>2</sup>	2000	55.00	110,000
70560	Dewatering	Item	-	37,500	37,500
70610	Excavation for Drainage.				
	Drainage-excavation (E+Peck)	Item	-	172,226	172,226
70620	Drainage-Precast Pipe (E+Peck)	m	5330	335	1,785,550
70630	Drainage-R.C. Box Culverts				
	RMS, REBC 300 x 600	m	250	330	82,500
	RMS, REBC 450 x 1500	m	250	900	225,000
70640	Drainage-Pits @ 50m cts = 107	N°	107	2955	316,185
70650	Drainage - Concrete headwalls	N°	107	1418	151,726
70660	Drainage - Open drains	m	3000	60	180,000
70670	Drainage - Rock filled gabions + Reno	m <sup>2</sup>	260	55	14,300
70710	Lean-Mix concrete sub-base 175mm.				
	Sub-base - supply & place	m <sup>3</sup>	19,570	160	3,131,200
	Finish & cure	m <sup>2</sup>	114,825	0.70	78,278
	To collection page 6.			e/FWD	9,781,770

ITEM	DESCRIPTION	UNIT	QTY	RATE \$	AMOUNT \$
70720	Asphalt.				
	Base course (150mm) supply + place	tonne	51,663	160.00	8,266,080
	Wearing course (50mm) ditto	tonne	20,591	180.00	3,706,380
	Correction courses supply + place	tonne	691	200.00	138,200
70730	Cold Milling				
	Mobilise mill (4 nights)	Nº	4	495.00	1,980
	Mill asphalt (exist Princes Hwy.)	tonne	1,771	25.00	44,275
70740					
0140	Subgrade & Sub-pavement drainage				
	Sub-soil drainage	m	10,650	30.00	319,500
	Sub-soil cleanout	Nº	213	100.00	21,300
70820	Berry North Interchange on/off.				
	RMS Super 'T' 3 spans x 35m x 6.1 wide	m <sup>2</sup>	640	2500.00	1,600,000
70830	Wharf Rd., Bebo Arch.				
	Bebo 15,500 T incl head walls.	m <sup>2</sup>	414	3500.00	1,449,000
70840	Drainage/Farm access bridge				
	RMS Super 'T' (1x 35m spans)	m <sup>2</sup>	935	2500.00	2,337,500
70850	Berry South Interchange on/off.				
	RMS Super 'T' <sup>16 35 16</sup> <del>3 spans</del> x 12m	m <sup>2</sup>	804	2,250	1,809,000
70860	2nd Rail Underpass				
	RMS Super 'T' ~ 35m span	m <sup>2</sup>	935	2500	2,337,500
70870 (a)	Viaduct - Tannery Rd/Railway.				
	350m long x 26.7m wide RMS Super 'T' - 35m spans	m <sup>2</sup>	9345	2500	23,362,500
(b)	Viaduct Is. Embank/WTW.	m <sup>2</sup>	10413	2500	26,032,500
	390m long x 26.7m wide RMS Super 'T' - 35m spans			2500	
				E/FWD	71,425,715

To collection page 6.

ITEM	DESCRIPTION	UNIT	QTY	RATE \$	AMOUNT \$
70880	Reinforced Soil Walls (RSW) (Bridge Abt R.E.W. incl in bridge rate \$)			(Av. \$792/m <sup>2</sup> )	
	Supply of components RSW	m <sup>2</sup>	1360	309.00	420,240
	Foundations RSW (preparation)	m <sup>2</sup>	800	0.80	640
	Base concrete strip ftg. RSW	m	1230	71.00	16,330
	RSW erection	m <sup>2</sup>	3360	118.55	161,228
	RSW capping	m	230	75.00	17,250
	RSW imported fill - supply & place	m <sup>3</sup>	5500	65.80	361,900
	RSW other, dish drain.	m	230	73.00	16,790
	ditto handrail.	m	230	100.00	23,000
201 → ⊗	Incl in Bridge Abts (deduct) rate.	m <sup>2</sup>	—	Av. 680.50	—
70910	Berry Nth. Interchange.				
	On Ramp 490m x 6.1m (RMS & Rate)	m <sup>2</sup>	2989	90.00	269,010
70920	Berry Sth Interchange				
	On Ramp 750m x 6.1m (RMS & Rate)	m <sup>2</sup>	4575	90.00	411,750
	Off Ramp 750m x 6.1m (ditto)	m <sup>2</sup>	4575	90.00	411,750
70930	Mullers Lane modifications				
	Modifications (RMS & Rate)	m <sup>2</sup>	500	150.00	75,000
70940	Crozier's Rd.,				
	Modifications (RMS & Rate)	m <sup>2</sup>	—	—	NIL
71010	Urban design				NIL
71020	Landscaping				
	Land turf small	m <sup>2</sup>	16000	12.00	192,000
	Land reveg.	m <sup>2</sup>	75,800	15.00	1,137,000
	Land tree	Nº	3790	120.00	454,800
71110	Demolition				
	Houses (Kelly Cut)	Nº	2	15000	30,000
71120	Minor Concrete Works	Item	—	—	173,500
71130	UPVC Ducts				
	RMS conduit 150mm Ø	m	5300	30	159,000
	To collection page 6.			C/FWD	4,331,188

ITEM	DESCRIPTION	UNIT	QTY	RATE \$	AMOUNT \$
71140	Guide Posts	Nº	30	25.00	750
71150	Safety Barriers (Embankments 3100 m)				
	RF WBEAM	m	6200	56.00	347,200
	RF WBEAM INS	m	6200	15.00	93,000
	RF WBEAM ET	Nº	16	467.00	7,472
	RF TRIE BEAM	Nº	16	1,140.00	18,240
71160	Pavement Markings				
○	Line PTPMM E2	m	12200	4.00	48,800
	Line NTPMM C1	m	775	2.00	1,550
	Line NTPMM L1	m	775	0.55	427
	Line NTPMM EG	m	6100	1.50	9,150
	Linemarking marking	m <sup>2</sup>	775	40.00	31,000
71170	Signposting				
	RMS Sign Adirect	Nº	6	30,000	180,000
	RMS Sign Direct	Nº	6	15,000	90,000
	RMS Sign Direct small	Nº	10	1,000	10,000
	RMS Sign Warning	Nº	30	200	6,000
	RMS Sign Hazard	Nº	15	250	3,750
71180	Street lighting.				
○	RMS conduit 150	m	1400	30	42,000
	RMS cable pit	Nº	16	200	3,200
	RMS control cabinet	Nº	2	9,500	19,000
	RMS lighting plinth	Nº	50	1,000	50,000
	RMS light pole	Nº	50	1,500	75,000
71190	Fencing (Fauna)	m	8835	48	424,080
71200	⊗ Vegetation (minimal)	Item	-	-	100,000
71210	Property adjustments				In summary.
	Nº of affected properties	Item	-	-	In summary.
To collection page 6.					
				CFWD	1,506,619



ITEM	DESCRIPTION	UNIT	QTY	RATE \$	AMOUNT \$
	BROUGHT FORWARD TO COLLECTION ~	PAGE 1			11,023,656
	~ " 2				9,781,770
	~ " 3				71,425,715
	~ " 4				4,334,138
	~ " 5				1,506,619
TOTAL DIRECT COSTS (6 Lanes - Struct + Asphalt)					<u>\$ 98,068,948</u>

\* DIRECT COST REDUCTION IF 4 Lanes for }  
 - Structures + Asphalt only  
 - Earthworks allowed for 6 Lanes  
 - Substructures allowed for 6 Lanes

Structures

Deck Area reduction (separate rate)	m <sup>2</sup>	4,375	\$ 907.00	3,968,125
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Asphalt

Base course	tonnes	12,551	\$ 160.00	2,008,160
Wearing course	tonnes	5,669	\$ 180.00	1,020,420
Correction course	tonnes	166	\$ 200.00	33,200

TOTAL COST REDUCTION \$ 7,029,905

ADJUSTED DIRECT COSTS (4 Lanes) \$ 91,039,043

Budget Estimate (Delete 2 lanes from Bridges - 5m wide strip x 25 spans x 35.0m)

ITEM	DESCRIPTION	UNIT	QTY	RATE \$	AMOUNT \$
1.00	Super 'T' 35.0m - Supply + Erect	N°	50	\$60,000	3,000,000
2.00	Bearings	N°	100	\$1,750	175,000
3.00	Joints @ 200m cts.	m	25	\$600	15,000
4.00	Formwork - Slab sides + diaphragms	m <sup>2</sup>	905	\$180	190,500
5.00	Reinforcement - Supply + place	tonnes	158.9	\$1,980	304,722
6.00	Concrete ~ Supply, place	m <sup>3</sup>	950.0	\$260	247,000
	~ Biton Finish	m <sup>2</sup>	4375	\$5.00	21,875
	~ Cure	m <sup>2</sup>	4375	\$2.50	10,938
	~ Constr. Joints (Keyed)	m	500	\$25.00	12,500
7.00	Asphalt wearing surface 50mm thk.	tonne	470	\$180.00	84,600
8.00	Line marking	m	1750	\$4.00	7,000
<p>Note:- Total deck area reduction = 4375m<sup>2</sup></p> <p>∴ <b>Av. Rate = \$907/m<sup>2</sup></b></p> <p>(Other Option 565m x 5.0 = \$2,562,275)</p>					
					3,969,135

SOUTHERN BYPASS - REVISED ROUTE (vertical alignment) d/10/3/2012.

CHAINAGE	EXISTING P.L. (AECOM)	DESIGN P.L. (B.R.)	DEPTH M		CROSS-SECTION 1:1.5 x 1:2.0		VOLUME m <sup>3</sup>		REMARKS
			FILL	CUT	FILL	CUT	FILL	CUT	
14500	37.949	35.160	0.121						
600	35.819	33.200		2.619				9379.0	
700	38.091	31.250		6.844				19146.5	
800	39.547	29.290		10.257				37641.0	
900	41.594	27.330		14.064				49800.0	
15000	34.645	25.370		9.275				46996.5	
100	27.567	23.410		4.157				27587.65	
200	28.772	21.460		7.312				20941.15	
300	32.417	19.50		12.917				37475.25	
400	28.793	17.54		11.253				39902.75	
500	32.302	15.58		16.722				58621.50	
600	33.653	13.623		20.03				97511.00	
700	18.682	11.670		7.012				75361.00	
800	5.924	9.71	3.786					18044.60	
900	5.173	7.751	2.577						
16000	4.000	8.192	4.192					6823.40	
100 (15.60m)	3.917	10.442	6.525					11893.50	
200	3.729	14.418						18912.60 (60m)	
300	3.310	14.640							
400	3.360	12.140							
500 (15.60m)	3.780	9.640	5.860					16853.4	(60m)
600	4.001	7.140	3.139					17018.0	
700 Sag Pt.	4.125	6.70	2.575					9648.1	
800	4.000	7.14	3.140					9649.6	
900	4.001	7.64	3.640					11827.5	
17000 (15.60m)	3.295	8.14	4.845					8678.7	(60m)
100	3.113	8.64							
200	3.190	9.14							
300	2.902	9.64							
400 (15.60m)	3.158	10.14	6.982					14477.8	(50m)
500	4.625	9.64	5.015					24181.5	
600	4.538	10.28	5.742					20868.0	
700	2.750	10.918	8.168					29439.0	
800	3.900	11.558	7.658					34642.5	
900	4.500	12.00	7.500					27210.5	
18000	3.800	11.558	7.758					33905.0	
a/PWD								295179.10	538412.4

Refer attached drawings.

Refer attached drawings.

(Bebo Ard)educt 5600 m<sup>3</sup>

SOUTHERN BYPASS REVISED ROUTE 27.03.2012 (Page 2)

CHAINAGE	EXIST. R.L.	DESIGN R.L.	DEPTH m.		CROSS-SECTION 2:1 = m <sup>2</sup>		VOLUME m <sup>3</sup>		REMARKS
			FILL	CUT	FILL	CUT	FILL	CUT	
18 100	3.00	9.058	6.058				295,179.1	538,412.90	
200	2.50	6.558	4.058				22,979.1		
300	1.908	9.00	0.292				19,458.6		
400	1.690	6.50	0.810				18,768.3		
500	1.508	7.00	1.092				19,765.1		
600	1.309	6.50	1.509				19,669.5		
700	1.438	7.00	1.00				20,313.4		
800	1.528	6.50	1.00				13,961.2		
900	1.543	6.942	1.00				28,284.0		
19 000	1.651	9.721	1.00				33,524.5		
100	2.024	12.500	1.00				119,291.0		
200	3.558	12.867	1.00				23,600.8		
300	5.310	10.367	1.00				8,859.7		
400	7.332	7.867	1.00						
500	10.145	8.378	1.00						
600	11.293	8.889	1.00						
700	10.420	9.400	1.00						
800	10.462	9.911	1.00						
900	11.145	10.422	1.00						
20,000	10.478	10.933	1.00						
100	9.016	11.444	1.00						
200	9.617	11.955	1.00						
300	13.483	12.466	1.00						
400	17.716	12.977	1.00						
500	22.080	13.488	1.00						
600	24.781	14.000	1.00						

Refer attached drawings

Refer attached drawings

Farm Access culvert.

Farm Access/Drainage Bridge  
35 m Span with wing walls.  
R.E. Walls  
Rail Bridge 35 m Span  
+ R.E. Walls

592,191.8 m<sup>3</sup> 662,683.5 m<sup>3</sup>

EXCESS OF CUT MATERIAL (12%) 70,491.7 m<sup>3</sup>  
 Allow 10% unsuitable - net 66,268.35 excess = (4,223 m<sup>3</sup>)