

Summary from the Improvement Plan - Batch 2

GICHANINE MARIARA ROAD BATCH 2

Item			04-50-003	04-50-004	04-50-006	04-50-007	04-50-009	05-50-004	05-05-002	05-05-003
KM		Bush/Site Clearing M2					Grubbing	ETL	Drains m3	
		Light	Heavy	Total	200-450	>450	m ²	m ³	Soft	Hard
6		320	32	352	-	-	280	10	271	27
7		8,000	800	8,800	-	-	7,000	10	1,744	174
8		8,000	800	8,800	-	-	7,000	10	1,561	156
9		8,000	800	8,800	-	-	7,000	10	1,420	142
10		8,000	800	8,800	-	-	7,000	10	2,392	239
11		8,000	800	8,800	-	-	7,000	10	2,392	239
12		8,000	800	8,800	-	-	7,000	10	2,392	239
13		8,000	800	8,800	-	-	7,000	10	2,392	239
14		8,000	800	8,800	-	-	7,000	10	2,392	239
15		5,328	533	5,861	-	-	4,662	10	1,649	165
16		8,000	800	8,800	-	-	7,000	10	2,392	239
17		8,000	800	8,800	-	-	7,000	10	2,392	239
18		8,000	800	8,800	-	-	7,000	10	2,392	239
Total		93,648	9,365	103,013	-	-	81,942	130	25,785	2,579

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[illegible]

Quantity Assessment	Road No.	County	Meru	From: 5+960	To: 6+000	Page: 1
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Chainage:	5+000	5+200	5+400	5+600	5+800	6+000
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Measurements for Clearing:

	Aver. (m)	1 to 4 readings ^{*)}			
Bush Clearing					
Grass Cutting					
Grubbing					
0 Tree and Stump Removal					

Free Clearance Width for Calculating areas

	Aver. (m)	1 to 4 readings ^{*)}			
m	8	8	8		
m					
m	7	7	7		
m	0				

*) Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:

Height of cut < 0.25m		cm		cm		cm	19	cm
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Height of Cut for calculating volumes

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For Reshaping:

Existing Roads									
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Difference in Level between Exist. Camber and Side Drain for calculating volumes

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Quantities										Total this page
Bush Clearing		m2		m2		m2		m2	320	320
Grass Cutting		m2		m2		m2		m2		0
Grubbing		m2		m2		m2		m2	280	280
Tree and Stump Removal		No.		No.		No.		No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)	71	71
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verified and accepted by the Contractor

For the Employer

Name: _____ Date: _____ Signature: _____

Name: _____ Date: _____ Signature: _____

Road Improvement Plan				County				Meru				From: 6+000				To: 7+000				Page: 2			
Chain- age	(kilometres)			7+000																			
	(metres)			G A FILL L 200 200 150																			
	Subgrade			G A FILL L 200 200 150																			
Road form.	Cross section			G A FILL L 200 200 150																			
	Method: RES, ETL or FILL			G A FILL L 200 200 150																			
	Choice of reshaping: L, T or E			G A FILL L 200 200 150																			
Earthworks/ Reshaping	Volume of ETL or FILL (m3/m)			G A FILL L 200 200 150																			
	Gravel	Total		Thickness (cm,comp.)		200 200 150																	
		1200		Source (quarry No.)		200 200 150																	
Improved Subgrade	Total		Thickness (cm,comp.)		150 150																		
	908		Source (quarry No.)		150 150																		
Longitudinal gradient (in %)				-6.95 -2.95 -1.03 -2.89 -3.08 -8.89 -2.48 ###																			
Mitre drains	Total		Number left =		Number right =		EXISTING DRIFT L = 5.26 (m)																
	Catch water	Total		Length of drain left =		Length of drain right =		6+336.94E 6+313.03E 1 6+290.71E 6+400N 1 1 5 IV IV															
Culverts		N/Ex	Chainage (m)		New / Existing line																		
	CD		2	= Cross drainage		1																	
	AC	0	= Access culvert/drift		1																		
	AD	1	= Left/right		1																		
	Length (m)	-	Ø 450 mm		28																		
		-	Ø 600mm		33																		
Ramp	Earth fill (m3)		IV																				
	Haunch Type		IV																				
Head- walls	T4 = 6	T3=	Inlet (Material/Type)		1 1																		
	T2 = 1	T1= 1	Outlet (Material/Type)		1 1																		
Scour Checks	SM		= Material this sheet/ Spacing left (m) =		1 1																		
			Spacing right (m) = =Total No. this sheet																				
Additional Instruction as per Reference																							

Quantity Assessment				County				Meru				From: 6+000				To: 7+000				Page: 2			
Chainage: 6+000				6+200				6+400				6+600				6+800				7+000			

Measurements for Clearing:																				Free Clearance Width for Calculating areas																			
										1 to 4 readings*)																				Aver. (m) 1 to 4 readings*)									
Bush Clearing		8	8		8			m	8	8		8			m	8	8		8			m	8	8		8			m	8	8		8			m			
Grass Cutting							m							m							m							m							m				
Grubbing		7	7		7		m	7	7		7			m	7	7		7			m	7	7		7			m	7	7		7			m				
0	Tree and Stump Removal		0				m	0						m	0						m	0						m	0						m				

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:																				Height of Cut for calculating volumes																			
Height of cut < 0.25m														cm	14					cm						cm	16					cm	18					cm	

For Reshaping:																				Difference in Level between Exist. Camber and Side Drain for calculating volumes																			
Existing Roads										13						36						10						20						28					cm

Quantities										Total this page	
Bush Clearing		1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting			m2		m2		m2		m2		0
Grubbing		1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal			No.	0	No.	0	No.	0	No.	0	0
										0	
Height of cut < 0.25m			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour		400	m3 (insitu)	151	m3 (insitu)	432	m3 (insitu)	324	m3 (insitu)	238	1,544
By Towed Grader / Labour			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verified and accepted by the Contractor	Name:	Date:	Signature:
For the Employer	Name:	Date:	Signature:

[illegible]

Quantity Assessment		County		Meru		From: 7+000		To: 8+000		Page: 3	
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Chainage:	7+000	7+200	7+400	7+600	7+800	8+000
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Measurements for Clearing:

	###	1 to 4 readings*							
Bush Clearing	8	8			8		m	8	8
Grass Cutting							m		
Grubbing	7	7			7		m	7	7
0 Tree and Stump Removal	0						m	0	

Free Clearance Width for Calculating areas

										Aver. (m)	1 to 4 readings*				
m	8	8			8		m	8	8		8	8			m
m							m								m
m	7	7			7		m	7	7		7	7			m
m	0						m	0			0				m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:

Height of cut < 0.25m	23					cm	21				cm	8				cm	8				cm
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Height of Cut for calculating volumes

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

For Reshaping:

Existing Roads	30						21					3					29				21		
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Difference in Level between Exist. Camber and Side Drain for calculating volumes

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Quantities										Total this page
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour		m3 (insitu)	313	m3 (insitu)	508	m3 (insitu)	227	m3 (insitu)	313	1,361
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verified and accepted by the Contractor

Name: _____ Date: _____ Signature: _____

For the Employer

Name: _____ Date: _____ Signature: _____

[illegible]

Quantity Assessment		County		Meru		From: 8+000		To: 9+000		Page: 4																																																																																																																																					
Chainage:		8+000		8+200		8+400		8+600		8+800 9+000																																																																																																																																					
Measurements for Clearing: ### 1 to 4 readings*) Free Clearance Width for Calculating areas Aver. (m) 1 to 4 readings*) <table border="1"> <tr> <td>Bush Clearing</td> <td>8</td> <td>8</td> <td>8</td> <td></td> <td></td> <td>m</td> <td>8</td> <td>8</td> <td>8</td> <td></td> <td></td> <td>m</td> <td>8</td> <td>8</td> <td>8</td> <td></td> <td></td> <td>m</td> <td>8</td> <td>8</td> <td>8</td> <td></td> <td></td> <td>m</td> </tr> <tr> <td>Grass Cutting</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>m</td> </tr> <tr> <td>Grubbing</td> <td>7</td> <td>7</td> <td>7</td> <td></td> <td></td> <td>m</td> <td>7</td> <td>7</td> <td>7</td> <td></td> <td></td> <td>m</td> <td>7</td> <td>7</td> <td>7</td> <td></td> <td></td> <td>m</td> <td>7</td> <td>7</td> <td>7</td> <td></td> <td></td> <td>m</td> </tr> <tr> <td>0 Tree and Stump Removal</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>m</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>m</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>m</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>m</td> </tr> </table>												Bush Clearing	8	8	8			m	8	8	8			m	8	8	8			m	8	8	8			m	Grass Cutting						m						m						m						m	Grubbing	7	7	7			m	7	7	7			m	7	7	7			m	7	7	7			m	0 Tree and Stump Removal	0					m	0					m	0					m	0					m																																
Bush Clearing	8	8	8			m	8	8	8			m	8	8	8			m	8	8	8			m																																																																																																																							
Grass Cutting						m						m						m						m																																																																																																																							
Grubbing	7	7	7			m	7	7	7			m	7	7	7			m	7	7	7			m																																																																																																																							
0 Tree and Stump Removal	0					m	0					m	0					m	0					m																																																																																																																							
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Estimated measurements for small cut to fill: Height of Cut for calculating volumes <table border="1"> <tr> <td>Height of cut < 0.25m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>cm</td> <td>22</td> <td></td> <td></td> <td></td> <td></td> <td>cm</td> <td>7</td> <td></td> <td></td> <td></td> <td></td> <td>cm</td> <td>18</td> <td></td> <td></td> <td></td> <td></td> <td>cm</td> </tr> </table>												Height of cut < 0.25m						cm	22					cm	7					cm	18					cm																																																																																																											
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For Reshaping: Difference in Level between Exist. Camber and Side Drain for calculating volumes <table border="1"> <tr> <td>Existing Roads</td> <td>16</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>36</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>44</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>18</td> <td></td> <td></td> <td></td> <td></td> <td>cm</td> <td>23</td> <td></td> <td></td> <td></td> <td>cm</td> </tr> </table>												Existing Roads	16						36						44						18					cm	23				cm																																																																																																						
Existing Roads	16						36						44						18					cm	23				cm																																																																																																																		
Quantities <table border="1"> <tr> <td>Bush Clearing</td> <td>1600</td> <td>m2</td> <td>1,600</td> <td>m2</td> <td>1,600</td> <td>m2</td> <td>1,600</td> <td>m2</td> <td>1,600</td> <td>Total this page</td> </tr> <tr> <td>Grass Cutting</td> <td></td> <td>m2</td> <td></td> <td>m2</td> <td></td> <td>m2</td> <td></td> <td>m2</td> <td></td> <td>8,000</td> </tr> <tr> <td>Grubbing</td> <td>1400</td> <td>m2</td> <td>1,400</td> <td>m2</td> <td>1,400</td> <td>m2</td> <td>1,400</td> <td>m2</td> <td>1,400</td> <td>0</td> </tr> <tr> <td>Tree and Stump Removal</td> <td></td> <td>No.</td> <td>0</td> <td>No.</td> <td>0</td> <td>No.</td> <td>0</td> <td>No.</td> <td>0</td> <td>7,000</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td>Height of cut < 0.25m</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>Height of cut > 0.25m</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td>9</td> <td>m3 (insitu)</td> <td>4</td> <td>13</td> </tr> <tr> <td>Embankment</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>Drains full re-construction</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>Reshaping by Labour</td> <td>367.2</td> <td>m3 (insitu)</td> <td>151</td> <td>m3 (insitu)</td> <td>65</td> <td>m3 (insitu)</td> <td>346</td> <td>m3 (insitu)</td> <td>292</td> <td>1,220</td> </tr> <tr> <td>By Towed Grader / Labour</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>By Equipment Based Meth.</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> </table>												Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	Total this page	Grass Cutting		m2		m2		m2		m2		8,000	Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	0	Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	7,000											0	Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)	9	m3 (insitu)	4	13	Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	Reshaping by Labour	367.2	m3 (insitu)	151	m3 (insitu)	65	m3 (insitu)	346	m3 (insitu)	292	1,220	By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	Total this page																																																																																																																																					
Grass Cutting		m2		m2		m2		m2		8,000																																																																																																																																					
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	0																																																																																																																																					
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	7,000																																																																																																																																					
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Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)	9	m3 (insitu)	4	13																																																																																																																																					
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0																																																																																																																																					
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0																																																																																																																																					
Reshaping by Labour	367.2	m3 (insitu)	151	m3 (insitu)	65	m3 (insitu)	346	m3 (insitu)	292	1,220																																																																																																																																					
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0																																																																																																																																					
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0																																																																																																																																					
Quantities verified and accepted by the Contractor						Name:		Date:		Signature:																																																																																																																																					
For the Employer						Name:		Date:		Signature:																																																																																																																																					

Quantity Assessment				County				Meru				From: 9+000				To: 10+000				Page: 5			
Chainage: 9+000				9+200				9+400				9+600				9+800				10+000			

Measurements for Clearing:																				Free Clearance Width for Calculating areas																			
										1 to 4 readings*)																				Aver. (m) 1 to 4 readings*)									
Bush Clearing		8	8		8			m	8	8		8			m	m		8	8		8			m	8	8		8			m	m							
Grass Cutting								m							m	m								m							m	m							
Grubbing		7	7		7			m	7	7		7			m	m		7	7		7			m	7	7		7			m	m							
0	Tree and Stump Removal		0					m	0						m	m		0						m	0						m	m							

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:										Height of Cut for calculating volumes																					
Height of cut < 0.25m		7					cm	9					cm						cm	1					cm	16					cm

For Reshaping:										Difference in Level between Exist. Camber and Side Drain for calculating volumes																			
Existing Roads		12						10					7					10					cm	8					cm

Quantities										Total this page	
Bush Clearing		1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting			m2		m2		m2		m2		0
Grubbing		1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal			No.	0	No.	0	No.	0	No.	0	0
										0	
Height of cut < 0.25m			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour		410	m3 (insitu)	432	m3 (insitu)	464	m3 (insitu)	432	m3 (insitu)	454	2,192
By Towed Grader / Labour			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.			m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verified and accepted by the Contractor				Name:				Date:				Signature:			
For the Employer				Name:				Date:				Signature:			

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Quantity Assessment				County				Meru				From: 10+000				To: 11+000				Page: 6			
Chainage: 10+000				10+200				10+400				10+600				10+800				11+000			

Measurements for Clearing:																				Free Clearance Width for Calculating areas																			
										1 to 4 readings*)																				Aver. (m) 1 to 4 readings*)									
Bush Clearing		8	8		8			m	8	8		8			m	8	8		8			m	8	8		8			m										
Grass Cutting																																							
Grubbing		7	7		7				7	7		7				7	7		7				7	7		7													
0	Tree and Stump Removal		0						0							0							0																

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:																				Height of Cut for calculating volumes																			
Height of cut < 0.25m										7					cm	9					cm	1					cm	16					cm						

For Reshaping:																				Difference in Level between Exist. Camber and Side Drain for calculating volumes																			
Existing Roads										12						10						7						10						8					

Quantities										Total this page	
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000	
Grass Cutting										0	
Grubbing	1400		1,400		1,400		1,400		1,400	7,000	
Tree and Stump Removal			No.		0		No.		0	No.	0
										0	
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	
Height of cut > 0.25m										0	
Embankment										0	
Drains full re-construction										0	
Reshaping by Labour	410		432		464		432		454	2,192	
By Towed Grader / Labour										0	
By Equipment Based Meth.										0	

Quantities verified and accepted by the Contractor					Name:		Date:		Signature:	
For the Employer					Name:		Date:		Signature:	

Quantity Assessment		County		Meru		From: 11+000		To: 12+000		Page: 7	
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Chainage:	11+000	11+200	11+400	11+600	11+800	12+000
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Measurements for Clearing:

	1 to 4 readings*										
Bush Clearing	8	8		8		m	8	8		8	
Grass Cutting											
Grubbing	7	7		7			7	7		7	
0 Tree and Stump Removal	0						0				

Free Clearance Width for Calculating areas

	Aver. (m)					1 to 4 readings*						
m	8	8		8		m	8	8		8		m
m												
m	7	7		7			7	7		7		
m	0						0					

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:

Height of cut < 0.25m	7					cm	9					cm	1					cm	16					cm
-----------------------	---	--	--	--	--	----	---	--	--	--	--	----	---	--	--	--	--	----	----	--	--	--	--	----

Height of Cut for calculating volumes

For Reshaping:

Existing Roads	12						10					7						10					cm	8					cm
----------------	----	--	--	--	--	--	----	--	--	--	--	---	--	--	--	--	--	----	--	--	--	--	----	---	--	--	--	--	----

Difference in Level between Exist. Camber and Side Drain for calculating volumes

Quantities										Total this page
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting										0
Grubbing	1400		1,400		1,400		1,400		1,400	7,000
Tree and Stump Removal			No.		0		No.		0	No.
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m										0
Embankment										0
Drains full re-construction										0
Reshaping by Labour	410		432		464		432		454	2,192
By Towed Grader / Labour										0
By Equipment Based Meth.										0

Quantities verified and accepted by the Contractor

For the Employer

Name: _____ Date: _____ Signature: _____

Name: _____ Date: _____ Signature: _____

Quantity Assessment		County		Meru		From: 12+000		To: 13+000		Page: 8	
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Chainage:	12+000	12+200	12+400	12+600	12+800	13+000
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Measurements for Clearing:

	1 to 4 readings*)								
Bush Clearing	8	8		8		m	8	8	8
Grass Cutting						m			
Grubbing	7	7		7		m	7	7	7
0 Tree and Stump Removal	0					m	0		

Free Clearance Width for Calculating areas

	Aver. (m)					1 to 4 readings*)							
m	8	8		8		m	8	8	8	m	8	8	8
m						m				m			
m	7	7		7		m	7	7	7	m	7	7	7
m	0					m	0			m	0		

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:

Height of cut < 0.25m	7					cm	9				cm	1				cm	16				cm
-----------------------	---	--	--	--	--	----	---	--	--	--	----	---	--	--	--	----	----	--	--	--	----

Height of Cut for calculating volumes

For Reshaping:

Existing Roads	12						10					7					10				cm	8				cm
----------------	----	--	--	--	--	--	----	--	--	--	--	---	--	--	--	--	----	--	--	--	----	---	--	--	--	----

Difference in Level between Exist. Camber and Side Drain for calculating volumes

Quantities										Total this page
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	410	m3 (insitu)	432	m3 (insitu)	464	m3 (insitu)	432	m3 (insitu)	454	2,192
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verified and accepted by the Contractor

For the Employer

Name: _____ Date: _____ Signature: _____

Name: _____ Date: _____ Signature: _____

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Quantity Assessment				County				Meru				From: 13+000				To: 14+000				Page: 9																																																																																																																																																																																																																	
Chainage:		13+000				13+200				13+400				13+600				13+800				14+000																																																																																																																																																																																																															
Measurements for Clearing: <table border="1"> <tr> <td></td><td colspan="4">1 to 4 readings*)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>Bush Clearing</td><td>8</td><td>8</td><td>8</td><td></td><td>m</td><td>8</td><td>8</td><td>8</td><td></td><td>m</td><td>8</td><td>8</td><td>8</td><td></td><td>m</td><td>8</td><td>8</td><td>8</td><td></td><td>m</td></tr> <tr> <td>Grass Cutting</td><td></td><td></td><td></td><td></td><td>m</td><td></td><td></td><td></td><td></td><td>m</td><td></td><td></td><td></td><td></td><td>m</td><td></td><td></td><td></td><td></td><td>m</td></tr> <tr> <td>Grubbing</td><td>7</td><td>7</td><td>7</td><td></td><td>m</td><td>7</td><td>7</td><td>7</td><td></td><td>m</td><td>7</td><td>7</td><td>7</td><td></td><td>m</td><td>7</td><td>7</td><td>7</td><td></td><td>m</td></tr> <tr> <td>0 Tree and Stump Removal</td><td>0</td><td></td><td></td><td></td><td>m</td><td>0</td><td></td><td></td><td></td><td>m</td><td>0</td><td></td><td></td><td></td><td>m</td><td>0</td><td></td><td></td><td></td><td>m</td></tr> </table> Free Clearance Width for Calculating areas <table border="1"> <tr> <td></td><td colspan="4">Aver. (m)</td><td colspan="4">1 to 4 readings*)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td>m</td><td>8</td><td>8</td><td>8</td><td></td><td>m</td><td>8</td><td>8</td><td>8</td><td></td><td>m</td><td>8</td><td>8</td><td>8</td><td></td><td>m</td><td>8</td><td>8</td><td>8</td><td></td><td>m</td></tr> <tr> <td>m</td><td></td><td></td><td></td><td></td><td>m</td><td></td><td></td><td></td><td></td><td>m</td><td></td><td></td><td></td><td></td><td>m</td><td></td><td></td><td></td><td></td><td>m</td></tr> <tr> <td>m</td><td>7</td><td>7</td><td>7</td><td></td><td>m</td><td>7</td><td>7</td><td>7</td><td></td><td>m</td><td>7</td><td>7</td><td>7</td><td></td><td>m</td><td>7</td><td>7</td><td>7</td><td></td><td>m</td></tr> <tr> <td>m</td><td>0</td><td></td><td></td><td></td><td>m</td><td>0</td><td></td><td></td><td></td><td>m</td><td>0</td><td></td><td></td><td></td><td>m</td><td>0</td><td></td><td></td><td></td><td>m</td></tr> </table>																					1 to 4 readings*)																				Bush Clearing	8	8	8		m	8	8	8		m	8	8	8		m	8	8	8		m	Grass Cutting					m					m					m					m	Grubbing	7	7	7		m	7	7	7		m	7	7	7		m	7	7	7		m	0 Tree and Stump Removal	0				m	0				m	0				m	0				m		Aver. (m)				1 to 4 readings*)																m	8	8	8		m	8	8	8		m	8	8	8		m	8	8	8		m	m					m					m					m					m	m	7	7	7		m	7	7	7		m	7	7	7		m	7	7	7		m	m	0				m	0				m	0				m	0				m
	1 to 4 readings*)																																																																																																																																																																																																																																				
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Estimated measurements for small cut to fill: <table border="1"> <tr> <td colspan="10">Height of Cut for calculating volumes</td> </tr> <tr> <td>Height of cut < 0.25m</td> <td>7</td><td></td><td></td><td></td><td></td><td>cm</td> <td>9</td><td></td><td></td><td></td><td>cm</td> <td></td><td></td><td></td><td></td><td>cm</td> <td>1</td><td></td><td></td><td></td><td>cm</td> <td>16</td><td></td><td></td><td></td><td>cm</td> </tr> </table>																				Height of Cut for calculating volumes										Height of cut < 0.25m	7					cm	9				cm					cm	1				cm	16				cm																																																																																																																																																																													
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For Reshaping: <table border="1"> <tr> <td colspan="10">Difference in Level between Exist. Camber and Side Drain for calculating volumes</td> </tr> <tr> <td>Existing Roads</td> <td>12</td><td></td><td></td><td></td><td></td><td></td> <td>10</td><td></td><td></td><td></td> <td>7</td><td></td><td></td><td></td><td></td> <td>10</td><td></td><td></td><td></td><td></td> <td>cm</td> <td>8</td><td></td><td></td><td></td><td>cm</td> </tr> </table>																				Difference in Level between Exist. Camber and Side Drain for calculating volumes										Existing Roads	12						10				7					10					cm	8				cm																																																																																																																																																																													
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Quantities <table border="1"> <tr> <td colspan="10"></td> <td>Total this page</td> </tr> <tr> <td>Bush Clearing</td> <td>1600</td> <td>m2</td> <td>1,600</td> <td>m2</td> <td>1,600</td> <td>m2</td> <td>1,600</td> <td>m2</td> <td>1,600</td> <td>8,000</td> </tr> <tr> <td>Grass Cutting</td> <td></td> <td>m2</td> <td></td> <td>m2</td> <td></td> <td>m2</td> <td></td> <td>m2</td> <td></td> <td>0</td> </tr> <tr> <td>Grubbing</td> <td>1400</td> <td>m2</td> <td>1,400</td> <td>m2</td> <td>1,400</td> <td>m2</td> <td>1,400</td> <td>m2</td> <td>1,400</td> <td>7,000</td> </tr> <tr> <td>Tree and Stump Removal</td> <td></td> <td>No.</td> <td>0</td> <td>No.</td> <td>0</td> <td>No.</td> <td>0</td> <td>No.</td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="10"></td> <td>0</td> </tr> <tr> <td>Height of cut < 0.25m</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>Height of cut > 0.25m</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>Embankment</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>Drains full re-construction</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>Reshaping by Labour</td> <td>410</td> <td>m3 (insitu)</td> <td>432</td> <td>m3 (insitu)</td> <td>464</td> <td>m3 (insitu)</td> <td>432</td> <td>m3 (insitu)</td> <td>454</td> <td>2,192</td> </tr> <tr> <td>By Towed Grader / Labour</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> <tr> <td>By Equipment Based Meth.</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>m3 (insitu)</td> <td></td> <td>0</td> </tr> </table>																														Total this page	Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000	Grass Cutting		m2		m2		m2		m2		0	Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000	Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0											0	Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	Reshaping by Labour	410	m3 (insitu)	432	m3 (insitu)	464	m3 (insitu)	432	m3 (insitu)	454	2,192	By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0	By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0																																																																			
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Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000																																																																																																																																																																																																																											
Grass Cutting		m2		m2		m2		m2		0																																																																																																																																																																																																																											
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000																																																																																																																																																																																																																											
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Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0																																																																																																																																																																																																																											
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Reshaping by Labour	410	m3 (insitu)	432	m3 (insitu)	464	m3 (insitu)	432	m3 (insitu)	454	2,192																																																																																																																																																																																																																											
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0																																																																																																																																																																																																																											
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0																																																																																																																																																																																																																											
Quantities verified and accepted by the Contractor										Name: _____ Date: _____ Signature: _____																																																																																																																																																																																																																											
For the Employer										Name: _____ Date: _____ Signature: _____																																																																																																																																																																																																																											

[illegible]

Quantity Assessment		County		Meru		From: 14+000		To: 14+666		Page: 10	
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Chainage:	14+000	14+200	14+400	14+600	14+800	15+000
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Measurements for Clearing:

	1 to 4 readings*										
Bush Clearing	8	8		8		m	8	8		8	
Grass Cutting						m					
Grubbing	7	7		7		m	7	7		7	
0 Tree and Stump Removal	0					m	0				

Free Clearance Width for Calculating areas

	Aver. (m)					1 to 4 readings*						
m	8	8		8		m	8	8		8		m
m						m						m
m	7	7		7		m	7	7		7		m
m	0					m	0					m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:

Height of cut < 0.25m	7					cm	9				cm	1				cm
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Height of Cut for calculating volumes

Height of cut < 0.25m	7					cm	9				cm	1				cm
-----------------------	---	--	--	--	--	----	---	--	--	--	----	---	--	--	--	----

For Reshaping:

Existing Roads	12						10					7					10				cm
----------------	----	--	--	--	--	--	----	--	--	--	--	---	--	--	--	--	----	--	--	--	----

Difference in Level between Exist. Camber and Side Drain for calculating volumes

Existing Roads	12						10					7					10				cm
----------------	----	--	--	--	--	--	----	--	--	--	--	---	--	--	--	--	----	--	--	--	----

Quantities										Total this page
Bush Clearing	1600	m2	1,600	m2	1,600	m2	528	m2		5,328
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	462	m2		4,662
Tree and Stump Removal		No.	0	No.	0	No.	0	No.		0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	410	m3 (insitu)	432	m3 (insitu)	464	m3 (insitu)	143	m3 (insitu)		1,449
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verified and accepted by the Contractor

For the Employer

Name: _____ Date: _____ Signature: _____

Name: _____ Date: _____ Signature: _____

[illegible]

Quantity Assessment		County		Meru		From: 10+000		To: 11+000		Page: 11	
Chainage:		10+000		10+200		10+400		10+600		11+000	

Measurements for Clearing:		Free Clearance Width for Calculating areas																			
		1 to 4 readings*) Aver. (m) 1 to 4 readings*)																			
Bush Clearing	8	8		8			m	8	8		8			m	8	8		8			m
Grass Cutting							m							m							m
Grubbing	7	7		7			m	7	7		7			m	7	7		7			m
0 Tree and Stump Removal	0						m	0						m	0						m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:		Height of Cut for calculating volumes																						
Height of cut < 0.25m	7					cm	9					cm	1					cm	16					cm

For Reshaping:		Difference in Level between Exist. Camber and Side Drain for calculating volumes																												
Existing Roads	12						10						7						10						8					cm

Quantities										Total this page
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	410	m3 (insitu)	432	m3 (insitu)	464	m3 (insitu)	432	m3 (insitu)	454	2,192
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verified and accepted by the Contractor		Name:	Date:	Signature:
For the Employer		Name:	Date:	Signature:

Road Improvement Plan			County	Meru	From:	17+000	To:	18+000	Page:	13	
Chain- age	(kilometres)										
	(metres)										
Road form.	Subgrade										
	Cross section										
Earthworks/ Reshaping	Method: RES, ETL or Fill										
	Choice of reshaping: L, T or E										
	Volume of ETL or Fill (m3/m)										
Gravel	Total	Thickness (cm,comp.)									
	#####	Source (quarry No.)									
Improved Subgrade	Total	Thickness (cm,comp.)									
	#####	Source (quarry No.)									
Longitudinal gradient (in %)											
Mitre drains	Total	Number left =									
		Number right =									
Catch water	Total	Length of drain left =									
		Length of drain right =									
Culverts	N/Ex	Chainage (m) New / Existing line								18+000N	
	CD	1 = Cross drainage								CD	
	AC	0 = Access culvert/drift									
	AD	0 = Left/right									
	Length (m)		Ø 450 mm								
		-	Ø 600mm								
		-	Ø 900 mm								
		21	Ø 1200 mm								21
	Ramp		Earth fill (m3)								
			Haunch Type								IV
Head- walls	T4=8 T3=	Inlet (Material/Type)								1	
	T2=1 T1=1	Outlet (Material/Type)								1	
Scour Checks	SM	= Material this sheet/ Spacing left (m) =									
	0	Spacing right (m) = =Total No. this sheet									
Additional Instruction as per Reference											

Quantity Assessment		County		The Meru		From:		11+000		To:		12+000		Page:		13	
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Chainage:		12+000		12+200		12+400		12+600		12+800		13+000	
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Measurements for Clearing:

	1 to 4 readings*)										
Bush Clearing	8	8		8		m	8	8		8	
Grass Cutting						m					
Grubbing	7	7		7		m	7	7		7	
0 Tree and Stump Removal	0					m	0				

Free Clearance Width for Calculating areas

	Aver. (m)					1 to 4 readings*)						
m	8	8		8		m	8	8		8		m
m						m						m
m	7	7		7		m	7	7		7		m
m	0					m	0					m

Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).

Estimated measurements for small cut to fill:

Height of cut < 0.25m	7					cm	9					cm	1					cm	16					cm
-----------------------	---	--	--	--	--	----	---	--	--	--	--	----	---	--	--	--	--	----	----	--	--	--	--	----

Height of Cut for calculating volumes

For Reshaping:

Existing Roads	12						10					7					10				cm	8				cm
----------------	----	--	--	--	--	--	----	--	--	--	--	---	--	--	--	--	----	--	--	--	----	---	--	--	--	----

Difference in Level between Exist. Camber and Side Drain for calculating volumes

Quantities										Total this page
Bush Clearing	1600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Grass Cutting		m2		m2		m2		m2		0
Grubbing	1400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	7,000
Tree and Stump Removal		No.	0	No.	0	No.	0	No.	0	0
										0
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Height of cut > 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Reshaping by Labour	410	m3 (insitu)	432	m3 (insitu)	464	m3 (insitu)	432	m3 (insitu)	454	2,192
By Towed Grader / Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
By Equipment Based Meth.		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0

Quantities verified and accepted by the Contractor

For the Employer

Name: _____ Date: _____ Signature: _____

Name: _____ Date: _____ Signature: _____