DETAILED IMPROVEMENT PLAN

Road Name: GOTU-MERTI **County:** ISIOLO **From:** 50+000 **To:** 51+000

Chain-age		(kilometres)	50 + 0				50 + 100				50 + 200				50 + 300				50 + 400				50 + 500				50 + 600				50 + 700				50 + 800				50 + 900				51 + 0
		(metres)																																									
Road form.		Subgrade	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS
		Cross section	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	A	A	A	A	E	E	E	E	A	A	A	A	A	A	A	A	E	E	E	E
Earth-works		Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
		Volume of ETL or Fill (m3/m)																																							
Gra-vel	Total	Thickness (cm,comp.)																																							
		Source (quarry No.)																																							
		Longitudinal gradient (in %)	1				1				1				-1				1				2				-1				2				-3				1			
Mitre drains	Total 5	Number left =	1								1																														
		Number right =					1								1								1																		
Catch water	Total 0	Length of drain left =																																							
		Length of drain right =																																							
Culverts	N Ex	Chainage (m) = New line = Existing line							50+160 N				50+250 N												50+590 N								50+710 N									
	CD	= Cross drainage							CD				CD												CD								CD									
	AC/D	= Access culvert/ drift																																							
	L/R	= Left/ right																																							
	Length (m)	Ø 450mm																																							
		Ø 600mm																																							
		Ø 900mm							8				8												8								8									
	Ramp	Earth fill (m3)																																							
		H. Concrete (m3)							IV				IV												IV								IV									
Head-walls		Inlet (Material/Type)							I				I												I								I									
		Outlet (Material/Type)							I				I												I								I									
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																							
	0	Spacing right (m) = =Total No. this sheet																																							
Additional Instruction as per Reference				QS-Quartizic Gravel							300m Proposed concrete road																														

Quantity Assessment	GOTU-MERTI	#	#	County: ISIOLO	From: 50+000	To: 51+000 pg 2

Chainage:	50+000	50+200	50+400	50+600	50+800	51+000
Input Measurements:	**Free Clearance Width for Calculating areas**					
	Aver. (m) / 1 to 4 readings*)				Aver. (m) / 1 to 4 readings	
Bush Clearing	11 / 11 0 0 0 m	11 / 11 0 0 0 m	11 / 11 0 0 0 m	11 / 11 0 0 0 m	11 / 11 0 0 0 m	
Grass Cutting	/ m	/ m	/ m	/ m	/ m	
Grubbing	11 / 11 0 0 0 m	11 / 11 0 0 0 m	11 / 11 0 0 0 m	11 / 11 0 0 0 m	11 / 11 0 0 0 m	
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).						
Cross Section Sketch	-	-	-	-	-	
Measurements for small cut to fill:	**Height of Cut / Differences in Levels for calculating volumes**					
	Aver. (m) / 1 to 4 readings*)				Aver. (m) / 1 to 4 readings*)	
Height of cut < 0.25m	0 / 0 cm	0 / cm	0 / 0 0 cm	0 / 0 0 cm	0 / 0 0 cm	
Height of cut > 0.25m	0 / 0 cm	0 / cm	0 / 0 0 cm	0 / 0 0 cm	0 / 0 0 cm	
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**					
Existing Roads	0 / cm	0 / cm	0 / cm	0 / cm	0 / cm	
Sloping	/ cm	/ cm	/ cm	/ cm	/ cm	
*) Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).						

Quantities:	Quantities									Total this page
Bush Clearing	400	m2	400	m2	400	m2	400	m2	400	**2,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	0	m2	0	m2	0	m2	0	m2	0	**0**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	**1,208**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** …… **Date:** ……**Signature:** ……

DETAILED IMPROVEMENT PLAN

Page: 2

Road Name: GOTU-MERTI **County:** ISIOLO **From:** 51+000 **To:** 52+000

Chain-age	(kilometres)		51 + 0				51 + 100				51 + 200				51 + 300				51 + 400				51 + 500				51 + 600				51 + 700				51 + 800				51 + 900				52 + 0
	(metres)																																							
Road form.	Subgrade		QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	LG	LG	LG	LG	LG	LG	LG	LG	LG	LG	LG	LG	LG	LG	LG
	Cross section		E	E	E	E	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	A	A	A	A	E	E	E	E	E	E	E	E	A	A	A	A
Earth-works	Method: RES, ETL or FILL		RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
	Choice of reshaping: L, T or E		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Volume of ETL or Fill (m3/m)																																							
Gra-vel	Total	Thickness (cm,comp.)																																							
		Source (quarry No.)																																							
Longitudinal gradient (in %)			-1				0				1				1				1				1				0				-1				5				6				
Mitre drains	Total	Number left =																									1												1			
	7	Number right =	1								1								1												1						1						
Catch water	Total	Length of drain left =																																							
	0	Length of drain right =																																							
Culverts	N Ex	Chainage (m) = New line = Existing line					51+100 N																								51+750 N											
	CD	= Cross drainage					CD																								CD										
	AC/D L/R	= Access culvert/ drift = Left/ right																																							
	Length (m)	Ø 450mm																																							
		Ø 600mm																																							
		Ø 900mm					8																								8										
	Ramp	Earth fill (m3)																																							
		H. Concrete (m3)					IV																								IV										
Head-walls	Inlet (Material/Type)						I																								I										
	Outlet (Material/Type)						I																								I										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																							
	0	Spacing right (m) = =Total No. this sheet																																							
Additional Instruction as per Reference																											LG- Lateritic Gravel														

Chainage:	51+000	51+200	51+400	51+600	51+800	51+000
Input Measurements:	**Free Clearance Width for Calculating areas**					
	Aver. (m) / 1 to 4 readings*)				Aver. (m) / 1 to 4 readings	
Bush Clearing	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	
Grass Cutting	m	m	m	m	m	
Grubbing	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	
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).						
Cross Section Sketch	-	-	-	-	-	
Measurements for small cut to fill:	**Height of Cut / Differences in Levels for calculating volumes**					
	Aver. (m) / 1 to 4 readings*)				Aver. (m) / 1 to 4 readings*)	
Height of cut < 0.25m	0 (0) cm	0 cm	0 (0, 0) cm	0 (0, 0) cm	0 (0, 0) cm	
Height of cut > 0.25m	0 (0) cm	0 cm	0 (0, 0) cm	0 (0, 0) cm	0 (0, 0) cm	
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**					
Existing Roads	0 cm	0 cm	0 cm	0 cm	0 cm	
Sloping	cm	cm	cm	cm	cm	
*) Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).						

Quantities:	Quantities									Total this page
Bush Clearing	400	m2	400	m2	400	m2	400	m2	400	**2,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	0	m2	0	m2	0	m2	0	m2	0	**0**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	**1,208**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** …… **Date:** ……**Signature:** ……

DETAILED IMPROVEMENT PLAN

Road Name: GOTU-MERTI **County:** ISIOLO **From:** 52+000 **To:** 53+000

Chain-age		(kilometres)	52 +				52 +				52 +				52 +				52 +				52 +				52 +				52 +				52 +				52 +				53 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG
		Cross section	A	A	A	A	E	E	E	E	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	A	A	A	A	E	E	E	E
Earth-works		Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)																																								
		Source (quarry No.)																																								
		Longitudinal gradient (in %)	0				2				1				0				-1				2				1				1				-1				-2			
Mitre drains	Total	Number left =	1								1								1								1								1							
	10	Number right =					1								1								1								1								1			
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts		Chainage (m) = New line																																								
	N																																									
	Ex	= Existing line																																								
	CD	= Cross drainage																																								
	AC/D	= Access culvert/ drift																																								
	L/R	= Left/ right																																								
	Length (m)	Ø 450mm																																								
		Ø 600mm																																								
		Ø 900mm																																								
	Ramp	Earth fill (m3)																																								
		H. Concrete (m3)																																								
Head-walls		Inlet (Material/Type)																																								
		Outlet (Material/Type)																																								
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																								
	0	Spacing right (m) = =Total No. this sheet																																								
Additional Instruction as per Reference																																									

Quantity Assessment	GOTU-MERTI	#	#	County: ISIOLO	From: 52+000	To: 53+000 pg	4

Chainage:	52+000	52+200	52+400	52+600	52+800	52+000

Free Clearance Width for Calculating areas

Input Measurements:	Aver. (m)	1 to 4 readings*)					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings				
Bush Clearing	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m
Grass Cutting						m						m						m						m						m
Grubbing	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m
Tree and stump removal	0					m						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).

Cross Section Sketch	-	-	-	-	-

Height of Cut / Differences in Levels for calculating volumes

Measurements for small cut to fill:	Aver. (m)	1 to 4 readings*)					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings					Aver. (m)	1 to 4 readings*)					Aver. (m)	1 to 4 readings*)				
Height of cut < 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm
Height of cut > 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																													
Existing Roads	0					cm	0					cm	0					cm	0					cm	0					cm
Sloping						cm						cm						cm						cm						cm

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

Quantities

Quantities:										Total this page
Bush Clearing	400	m2	400	m2	400	m2	400	m2	400	**2,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	0	m2	0	m2	0	m2	0	m2	0	**0**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

Quantities

										Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	**1,208**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** …… **Date:** ……**Signature:** ……

DETAILED IMPROVEMENT PLAN

Road Name: GOTU-MERTI **County:** ISIOLO **From:** 53+000 **To:** 54+000

Chain-age		(kilometres)	53 +				53 +				53 +				53 +				53 +				53 +				53 +				53 +				53 +				53 +				54 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
		Cross section	E	E	E	E	E	E	E	E	E	E	E	E	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	B	B	B	B
Earth-works		Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)																																								
		Source (quarry No.)																																								
		Longitudinal gradient (in %)	0				-1				-2				2				1				1				1				-1				-1				-1			
Mitre drains	Total	Number left =	1								1								1								1								1							
	10	Number right =					1								1								1								1								1			
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts		Chainage (m) = New line																																								
	N																																									
	Ex	= Existing line																																								
	CD	= Cross drainage																																								
	AC/D	= Access culvert/ drift																																								
	L/R	= Left/ right																																								
	Length (m)	Ø 450mm																																								
		Ø 600mm																																								
		Ø 900mm																																								
	Ramp	Earth fill (m3)																																								
		H. Concrete (m3)																																								
Head-walls		Inlet (Material/Type)																																								
		Outlet (Material/Type)																																								
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																								
	0	Spacing right (m) = =Total No. this sheet																																								
Additional Instruction as per Reference																																									

BC - Black cotton Soil

Quantity Assessment GOTU-MERTI # # **County:** ISIOLO **From:** 53+000 **To:** 54+000 pg 5

Chainage:	53+000	53+200	53+400	53+600	53+800	54+000
Input Measurements:	Aver. (m) / 1 to 4 readings*) — **Free Clearance Width for Calculating areas**				Aver. (m) / 1 to 4 readings	
Bush Clearing	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	
Grass Cutting	m	m	m	m	m	
Grubbing	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	11 (11, 0, 0, 0) m	
Tree and stump removal	0 m	0 m	0 m	0 m	0 m	
Cross Section Sketch	-	-	-	-	-	
Measurements for small cut to fill:	Aver. (m) / 1 to 4 readings*) — **Height of Cut / Differences in Levels for calculating volumes**				Aver. (m) / 1 to 4 readings*)	
Height of cut < 0.25m	0 (0) cm	0 cm	0 (0, 0) cm	0 (0, 0) cm	0 (0, 0) cm	
Height of cut > 0.25m	0 (0) cm	0 cm	0 (0, 0) cm	0 (0, 0) cm	0 (0, 0) cm	
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**					
Existing Roads	0 cm	0 cm	0 cm	0 cm	0 cm	
Sloping	cm	cm	cm	cm	cm	

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

Quantities:	Quantities									Total this page
Bush Clearing	400	m2	400	m2	400	m2	400	m2	400	**2,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	0	m2	0	m2	0	m2	0	m2	0	**0**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	256	**1,222**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** …… **Date:** ……**Signature:** ……

DETAILED IMPROVEMENT PLAN

Page: 5

Road Name: GOTU-MERTI **County:** ISIOLO **From:** 54+000 **To:** 55+000

Chain-age	(kilometres)		54 +				54 +				54 +				54 +				54 +				54 +				54 +				54 +				54 +				54 +				55 +
	(metres)		0				100				200				300				400				500				600				700				800				900				0
Road form.	Subgrade		QC	QC	QC	QC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG
	Cross section		A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	E	E	E	E	E	E	E	E	A	A	A	A	E	E	E	E	E
Earth-works	Method: RES, ETL or FILL		RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
	Choice of reshaping: L, T or E		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)																																							
		Source (quarry No.)																																							
Longitudinal gradient (in %)			2				1				1				1				-1				-1				-1				0				-1				-1			
Mitre drains	Total	Number left =					1																																		
	5	Number right =									1								1								1								1								
Catch water	Total	Length of drain left =																																							
	0	Length of drain right =																																							
Culverts	N = New line Ex = Existing line	Chainage (m)									54+200 N																54+600 N															
	CD	= Cross drainage									CD																CD															
	AC/D	= Access culvert/ drift																																							
	L/R	= Left/ right																																							
	Length (m)	Ø 450mm																																							
		Ø 600mm																																							
		Ø 900mm									8																8															
	Ramp	Earth fill (m3)																																							
		H. Concrete (m3)									IV																IV															
Head-walls	Inlet (Material/Type)										I																I															
	Outlet (Material/Type)										I																I															
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																							
	0	Spacing right (m) = =Total No. this sheet																																							
Additional Instruction as per Reference																																								

Quantity Assessment GOTU-MERTI # # **County:** ISIOLO **From:** 54+000 **To:** 55+000 pg 6

Chainage:	54+000	54+200	54+400	54+600	54+800	55+000
Input Measurements:	Aver. (m) / 1 to 4 readings*) — **Free Clearance Width for Calculating areas**				Aver. (m) / 1 to 4 readings	
Bush Clearing	11 | 11 0 0 0 m	11 | 11 0 0 0 m	11 | 11 0 0 0 m	11 | 11 0 0 0 m	11 | 11 0 0 0 m	
Grass Cutting	m	m	m	m	m	
Grubbing	11 | 11 0 0 0 m	11 | 11 0 0 0 m	11 | 11 0 0 0 m	11 | 11 0 0 0 m	11 | 11 0 0 0 m	
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).						
Cross Section Sketch	-	-	-	-	-	
Measurements for small cut to fill:	Aver. (m) / 1 to 4 readings*) — **Height of Cut / Differences in Levels for calculating volumes**				Aver. (m) / 1 to 4 readings*)	
Height of cut < 0.25m	0 | 0 cm	0 | cm	0 | 0 0 cm	0 | 0 0 cm	0 | 0 0 cm	
Height of cut > 0.25m	0 | 0 cm	0 | cm	0 | 0 0 cm	0 | 0 0 cm	0 | 0 0 cm	
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**					
Existing Roads	0 | cm	0 | cm	0 | cm	0 | cm	0 | cm	
Sloping	| cm	| cm	| cm	| cm	| cm	
*) Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).						

Quantities:	Quantities									Total this page
Bush Clearing	400	m2	400	m2	400	m2	400	m2	400	**2,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	0	m2	0	m2	0	m2	0	m2	0	**0**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities									Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)	189	m3 (insitu)	378	m3 (insitu)	378	**945**
Drains full re-construction	256	m3 (insitu)	270	m3 (insitu)	256	m3 (insitu)	242	m3 (insitu)	242	**1,264**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** …… **Date:** ……**Signature:** ……

DETAILED IMPROVEMENT PLAN

Road Name: GOTU-MERTI **County:** ISIOLO **From:** 55+000 **To:** 56+000

Chain-age	(kilometres)		55 + 0				55 + 100				55 + 200				55 + 300				55 + 400				55 + 500				55 + 600				55 + 700				55 + 800				55 + 900				56 + 0
	(metres)		0				100				200				300				400				500				600				700				800				900				0
Road form.	Subgrade		QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG	QG
	Cross section		A	A	A	A	E	E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	A
Earth-works	Method: RES, ETL or FILL		RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
	Choice of reshaping: L, T or E		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)																																									
		Source (quarry No.)																																									
Longitudinal gradient (in %)			0				-1				-1				-1				0				-2				0				1				0				0				
Mitre drains	Total	Number left =					1								1												1												1				
	8	Number right =	1								1												1												1								
Catch water	Total	Length of drain left =																																									
	0	Length of drain right =																																									
Culverts	N	Chainage (m) = New line																																									
	Ex	= Existing line																																									
	CD	= Cross drainage																																									
	AC/D	= Access culvert/ drift																																									
	L/R	= Left/ right																																									
	Length (m)	Ø 450mm																																									
		Ø 600mm																																									
		Ø 900mm																																									
	Ramp	Earth fill (m3)																																									
		H. Concrete (m3)																																									
Head-walls	Inlet (Material/Type)																																										
	Outlet (Material/Type)																																										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																									
	0	Spacing right (m) = =Total No. this sheet																																									
Additional Instruction as per Reference																																											

Chainage:	55+000	55+200	55+400	55+600	55+800	56+000

Input Measurements: — Free Clearance Width for Calculating areas

	55+000 Aver. (m)	55+000 1 to 4 readings*)	55+200	55+400	55+600	55+800 Aver. (m)	55+800 1 to 4 readings	56+000
Bush Clearing	11	11 0 0 0	11 11 0 0 0	11 11 0 0 0	11 11 0 0 0	11	11 0 0 0	m
Grass Cutting								m
Grubbing	11	11 0 0 0	11 11 0 0 0	11 11 0 0 0	11 11 0 0 0	11	11 0 0 0	m
Tree and stump removal	0		0	0	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).

Cross Section Sketch	-	-	-	-	-

Measurements for small cut to fill: — Height of Cut / Differences in Levels for calculating volumes

	55+000 Aver. (m)	55+000 1 to 4 readings*)	55+200	55+400	55+600	55+800 Aver. (m)	55+800 1 to 4 readings*)	56+000
Height of cut < 0.25m	0	0	0	0 0 0	0 0 0	0	0 0	cm
Height of cut > 0.25m	0	0	0	0 0 0	0 0 0	0	0 0	cm

For Reshaping : — Difference in Level between Exist. Camber and Side Drain for calculating volumes

Existing Roads	0	0			0	0	0	cm
Sloping								cm

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

Quantities:

	55+000	55+200	55+400	55+600	55+800	Total this page
Bush Clearing	400 m2	400 m2	400 m2	400 m2	400 m2	**2,000**
Grass Cutting	m2	m2	m2	m2	m2	
Grubbing	0 m2	0 m2	0 m2	0 m2	0 m2	**0**
Tree and stump removal	0 No.	0 No.	0 No.	0 No.	0 No.	**0**

Quantities

	55+000	55+200	55+400	55+600	55+800	Total this page
Height of cut < 0.25m	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	**0**
Height of cut > 0.25m	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	**0**
Embankment/Fill	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	**0**
Drains full re-construction	242 m3 (insitu)	242 m3 (insitu)	242 m3 (insitu)	242 m3 (insitu)	242 m3 (insitu)	**1,208**
Reshaping by Labour	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	
By Towed Grader/Labour	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	
By Equipment Based Method	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	

Data Collected by: **Name:** …… **Date:** ……**Signature:** ……

DETAILED IMPROVEMENT PLAN

Road Name: GOTU-MERTI **County:** ISIOLO **From:** 56+000 **To:** 57+000

			(kilometres)	56 + 0				56 + 100				56 + 200				56 + 300				56 + 400				56 + 500				56 + 600				56 + 700				56 + 800				56 + 900				57 + 0
			(metres)																																								
Road form.			Subgrade	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS	QS
			Cross section	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Earth-works			Method: RES, ETL or FILL	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
			Choice of reshaping: L, T or E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
			Volume of ETL or Fill (m3/m)																																							
Gra-vel	Total		Thickness (cm,comp.)																																							
			Source (quarry No.)																																							
			Longitudinal gradient (in %)	1				0				0				1				1				-1				2				1				1				2				
Mitre drains	Total		Number left =	1												1								1								1								1				
	9		Number right =									1								1								1								1								
Catch water	Total		Length of drain left =																																							
	0		Length of drain right =																																							
Culverts			Chainage (m) = New line																																							
	N																																									
	Ex		= Existing line																																							
	CD		= Cross drainage																																							
	AC/D		= Access culvert/ drift																																							
	L/R		= Left/ right																																							
	Length (m)		Ø 450mm																																							
			Ø 600mm																																							
			Ø 900mm																																							
	Ramp		Earth fill (m3)																																							
			H. Concrete (m3)																																							
Head-walls			Inlet (Material/Type)																																							
			Outlet (Material/Type)																																							
Scour Checks	HC		= Material this sheet/ Spacing left (m) =																																							
	0		Spacing right (m) = =Total No. this sheet																																							
Additional Instruction as per Reference																																									

Chainage:	56+000						56+200						56+400						56+600						56+800						56+000
Input Measurements:	Aver. (m)	1 to 4 readings*)											**Free Clearance Width for Calculating areas**												Aver. (m)	1 to 4 readings					
Bush Clearing	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	
Grass Cutting						m						m						m						m						m	
Grubbing	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	11	11	0	0	0	m	
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).																															
Cross Section Sketch	-						-						-						-						-						
Measurements for small cut to fill:	Aver. (m)	1 to 4 readings*)											**Height of Cut / Differences in Levels for calculating volumes**												Aver. (m)	1 to 4 readings*)					
Height of cut < 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm	
Height of cut > 0.25m	0	0				cm	0					cm	0		0		0	cm	0		0		0	cm	0		0		0	cm	
For Reshaping :	**Difference in Level between Exist. Camber and Side Drain for calculating volumes**																														
Existing Roads	0					cm	0					cm	0					cm	0					cm	0					cm	
Sloping						cm						cm						cm						cm						cm	
*) Note: The user is free to select the number of reading required according to the site conditions. (min. 1 max. 4 for each section).																															

Quantities:	Quantities								Total this page
Bush Clearing	400	m2	400	m2	400	m2	400	m2	400	**2,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	0	m2	0	m2	0	m2	0	m2	0	**0**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

	Quantities								Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	**1,208**
Reshaping by Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Towed Grader/Labour		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
By Equipment Based Method		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		

Data Collected by: **Name:** …… **Date:** ……**Signature:** ……