DETAILED IMPROVEMENT PLAN

Page: 6

Road Name: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 40+000 **To:** 41+000

Section	Item	40 + 0				40 + 100				40 + 200				40 + 300				40 + 400			
Chain-age	(kilometres) / (metres)	40 + 0				40 + 100				40 + 200				40 + 300				40 + 400			
Road form.	Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
Road form.	Cross section	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
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
Earth-works	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
Earth-works	Volume of ETL or Fill (m3/m)																				
Gra-vel (Total)	Thickness (cm,comp.)																				
Gra-vel	Source (quarry No.)																				
	Longitudinal gradient (in %)	1				2				1				0				1			
Mitre drains (Total 5)	Number left =		1																		
Mitre drains	Number right =										1								1		
Catch water (Total 1,000)	Length of drain left =	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Catch water	Length of drain right =																				
Culverts (N / Ex)	Chainage (m) = New line = Existing line										40+270 N										
Culverts (CD)	= Cross drainage										CD										
Culverts (AC/D)	= Access culvert/ drift																				
Culverts (L/R)	= Left/ right																				
Culverts Length (m)	Ø 450mm																				
Culverts Length (m)	Ø 600mm																				
Culverts Length (m)	Ø 900mm										8										
Culverts Ramp	Earth fill (m3)																				
Culverts Ramp	H. Concrete (m3)										IV										
Head-walls	Inlet (Material/Type)										I										
Head-walls	Outlet (Material/Type)										I										
Scour Checks (HC)	= Material this sheet/ Spacing left (m) =																				
Scour Checks (0)	Spacing right (m) = =Total No. this sheet																				
	Additional Instruction as per Reference																				

Section	Item	40 + 500				40 + 600				40 + 700				40 + 800				40 + 900			41 + 0
Chain-age	(kilometres) / (metres)	40 + 500				40 + 600				40 + 700				40 + 800				40 + 900			41 + 0
Road form.	Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
Road form.	Cross section	F	F	F	F	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Earth-works	Method: RES, ETL or FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
Earth-works	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
Earth-works	Volume of ETL or Fill (m3/m)																				
Gra-vel (Total)	Thickness (cm,comp.)																				
Gra-vel	Source (quarry No.)																				
	Longitudinal gradient (in %)	-1				0				-1				0				0			
Mitre drains (Total 5)	Number left =																				
Mitre drains	Number right =						1								1						
Catch water (Total 1,000)	Length of drain left =	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Catch water	Length of drain right =																				
Culverts (N / Ex)	Chainage (m) = New line = Existing line		40+550 N				40+680 N				40+740 N				40+860 N						
Culverts (CD)	= Cross drainage		CD				CD				CD				BC						
Culverts (AC/D)	= Access culvert/ drift																				
Culverts (L/R)	= Left/ right																				
Culverts Length (m)	Ø 450mm																				
Culverts Length (m)	Ø 600mm																				
Culverts Length (m)	Ø 900mm		8				8				8										
Culverts Ramp	Earth fill (m3)														8						
Culverts Ramp	H. Concrete (m3)		IV				IV				IV										
Head-walls	Inlet (Material/Type)		I				I				I										
Head-walls	Outlet (Material/Type)		I				I				I										
Scour Checks (HC)	= Material this sheet/ Spacing left (m) =																				
Scour Checks (0)	Spacing right (m) = =Total No. this sheet																				
	Additional Instruction as per Reference																				

Quantity Assessment ISIOLO-MLANGO-OLDONYIRO # # **County:** ISIOLO **From:** 40+000 **To:** 41+000 pg 7

Chainage:	**40+000**	**40+200**	**40+400**	**40+600**	**40+800**	**41+000**
Input Measurements:	Aver. (m) / 1 to 4 readings*) — **Free Clearance Width for Calculating areas**				Aver. (m) / 1 to 4 readings	
Bush Clearing	4 | 4 0 0 0 m	4 | 4 0 0 0 m	4 | 4 0 0 0 m	4 | 4 0 0 0 m	4 | 4 0 0 0 m	
Grass Cutting	| m	| m	| m	| m	| m	
Grubbing	4 | 4 0 0 0 m	4 | 4 0 0 0 m	4 | 4 0 0 0 m	4 | 4 0 0 0 m	4 | 4 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	1,800	m2	1,800	m2	1,800	m2	1,800	m2	1,800	**9,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	**7,000**
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)	300	m3 (insitu)	300	m3 (insitu)		m3 (insitu)	0	**600**
Embankment/Fill		m3 (insitu)		m3 (insitu)	567	m3 (insitu)	1,134	m3 (insitu)	1,134	**2,835**
Drains full re-construction	242	m3 (insitu)	208	m3 (insitu)	208	m3 (insitu)	242	m3 (insitu)	175	**1,074**
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: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 41+000 **To:** 42+000

Chain-age (kilometres) / (metres)	41 + 0				41 + 100				41 + 200				41 + 300				41 + 400			
Road form. – Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC
Road form. – Cross section	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Earth-works – Method: RES, ETL or FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL
Earth-works – 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
Earth-works – Volume of ETL or Fill (m3/m)																				
Gra-vel – Total – Thickness (cm,comp.)																				
Gra-vel – Source (quarry No.)																				
Longitudinal gradient (in %)	-2				-1				-1				0				-4			
Mitre drains – Total – Number left =																				
Mitre drains – 5 – Number right =																				
Catch water – Total – Length of drain left =																				
Catch water – 0 – Length of drain right =																				
Culverts – Chainage (m) N = New line, Ex = Existing line					41+100 N			41+180 N		41+200 N	41+250 N			41+310 N				41+440 N		
CD = Cross drainage					CD			CD		CD	Dr			CD				CD		
AC/D = Access culvert/ drift																				
L/R = Left/ right																				
Length (m) Ø 450mm																				
Length (m) Ø 600mm																				
Length (m) Ø 900mm					8			16		8				8				8		
Ramp – Earth fill (m3)																				
Ramp – H. Concrete (m3)					IV			IV		IV				IV				IV		
Head-walls – Inlet (Material/Type)					I			I		I				I				I		
Head-walls – Outlet (Material/Type)					I			I		I				I				I		
Scour Checks – HC = Material this sheet/ Spacing left (m) =																				
Scour Checks – 7 =Total No. this sheet – Spacing right (m) =																				
Additional Instruction as per Reference																				

Chain-age (kilometres) / (metres)	41 + 500				41 + 600				41 + 700				41 + 800				41 + 900			42 + 0
Road form. – Subgrade	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	BC	CG	CG	CG	CG	CG	CG	CG	CG
Road form. – Cross section	B	B	B	B	B	B	B	B	B	B	B	B	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
Earth-works – 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
Earth-works – Volume of ETL or Fill (m3/m)																				
Gra-vel – Total – Thickness (cm,comp.)																				
Gra-vel – Source (quarry No.)																				
Longitudinal gradient (in %)	-4				-3				8				2				3			
Mitre drains – Total – Number left =						1								1						
Mitre drains – 5 – Number right =						1				1								1		
Catch water – Total – Length of drain left =																				
Catch water – 0 – Length of drain right =																				
Culverts – Chainage (m) N = New line, Ex = Existing line		41+550 Ex																		
CD = Cross drainage		Br																		
AC/D = Access culvert/ drift																				
L/R = Left/ right																				
Length (m) Ø 450mm																				
Length (m) Ø 600mm																				
Length (m) Ø 900mm																				
Ramp – Earth fill (m3)																				
Ramp – H. Concrete (m3)																				
Head-walls – Inlet (Material/Type)																				
Head-walls – Outlet (Material/Type)																				
Scour Checks – HC = Material this sheet/ Spacing left (m) =									7.5											
Scour Checks – 7 =Total No. this sheet – Spacing right (m) =									7.5											
Additional Instruction as per Reference		Retain																		

Chainage:	41+000	41+200	41+400	41+600	41+800	42+000

Input Measurements: — **Free Clearance Width for Calculating areas**

	41+000 Aver. (m)	41+000 1 to 4 readings*)					41+200 Aver. (m)	41+200 1 to 4 readings					41+400 Aver. (m)	41+400 1 to 4 readings					41+600 Aver. (m)	41+600 1 to 4 readings					41+800 Aver. (m)	41+800 1 to 4 readings				
Bush Clearing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	4	4	0	0	0	m	4	4	0	0	0	m
Grass Cutting						m						m						m						m						m
Grubbing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	4	4	0	0	0	m	4	4	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	41+000	41+200	41+400	41+600	41+800
	-	-	-	-	-

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

	41+000 Aver. (m)	41+000 1 to 4 readings*)					41+200 Aver. (m)	41+200 1 to 4 readings					41+400 Aver. (m)	41+400 1 to 4 readings					41+600 Aver. (m)	41+600 1 to 4 readings					41+800 Aver. (m)	41+800 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**

	41+000		41+200		41+400		41+600		41+800	Total this page
Bush Clearing	1,600	m2	1,600	m2	1,600	m2	1,800	m2	1,800	**8,400**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,400	m2	1,400	**6,400**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

Quantities

	41+000		41+200		41+400		41+600		41+800	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	300	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**300**
Embankment/Fill	1,134	m3 (insitu)	1,134	m3 (insitu)	567	m3 (insitu)		m3 (insitu)		**2,835**
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: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 42+000 **To:** 43+000

Chain-age (kilometres) / (metres)	42 + 0				42 + 100				42 + 200				42 + 300				42 + 400				42 + 500				42 + 600				42 + 700				42 + 800				42 + 900				43 + 0
Road form. – Subgrade	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG	SG
Road form. – Cross section	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	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
Earth-works – 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
Earth-works – Volume of ETL or Fill (m3/m)																																									
Gravel – Total – Thickness (cm,comp.)																																									
Gravel – Source (quarry No.)																																									
Longitudinal gradient (in %)	0				1				0				1				1				0				-1				5				1				2				
Mitre drains – Total – Number left =	1								1								1									1								1							
Mitre drains – 10 – Number right =					1								1									1								1								1			
Catch water – Total – Length of drain left =																																									
Catch water – 0 – Length of drain right =																																									
Culverts – Chainage (m); N = New line; Ex = Existing line														42+300 Ex				42+450 N																							
Culverts – CD = Cross drainage																		Dr																							
Culverts – AC/D = Access culvert/ drift																																									
Culverts – L/R = Left/ right																																									
Culverts – Length (m) – Ø 450mm																																									
Culverts – Length (m) – Ø 600mm																																									
Culverts – Length (m) – Ø 900mm																																									
Culverts – Ramp – Earth fill (m3)																																									
Culverts – Ramp – H. Concrete (m3)																																									
Head-walls – Inlet (Material/Type)																																									
Head-walls – Outlet (Material/Type)																																									
Scour Checks – HC = Material this sheet/ Spacing left (m) =																													20												
Scour Checks – Spacing right (m) = / 3 =Total No. this sheet																													20												
Additional Instruction as per Reference														Retain																											

Chainage:	42+000	42+200	42+400	42+600	42+800	43+000
Input Measurements:	Aver. (m) / 1 to 4 readings*) — **Free Clearance Width for Calculating areas**				Aver. (m) / 1 to 4 readings	
Bush Clearing	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	
Grass Cutting	| m	| m	| m	| m	| m	
Grubbing	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 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 0 cm	0 | 0 0 0 cm	0 | 0 0 0 cm	
Height of cut > 0.25m	0 | 0 cm	0 | cm	0 | 0 0 0 cm	0 | 0 0 0 cm	0 | 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	1,400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	**7,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,000	m2	1,000	m2	1,000	m2	1,000	m2	1,000	**5,000**
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	187	m3 (insitu)	133	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	**1,045**
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: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 43+000 **To:** 44+000

Chain-age		(kilometres)	43 +				43 +				43 +				43 +				43 +				43 +				43 +				43 +				43 +				43 +				44 +
		(metres)	0				100				200				300				400				500				600				700				800				900				0
Road form.		Subgrade	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG
		Cross section	A	A	A	A	A	A	A	A	A	A	A	A	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	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				1				1				1				1				1				1				1				0				1				
Mitre drains	Total	Number left =																																							
	0	Number right =																																							
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:	**43+000**	**43+200**	**43+400**	**43+600**	**43+800**	**44+000**
Input Measurements:	Aver. (m) / 1 to 4 readings*) — **Free Clearance Width for Calculating areas**				Aver. (m) / 1 to 4 readings	
Bush Clearing	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	
Grass Cutting	| m	| m	| m	| m	| m	
Grubbing	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	6 | 6 0 0 0 m	
Tree and stump removal	0 | m	0 | m	0 | 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	1,400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	**7,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,000	m2	1,000	m2	1,000	m2	1,000	m2	1,000	**5,000**
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)	440	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**440**
Embankment/Fill		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		**0**
Drains full re-construction	242	m3 (insitu)	133	m3 (insitu)	242	m3 (insitu)	242	m3 (insitu)	242	**1,099**
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: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 44+000 **To:** 45+000

Chain-age		(kilometres)	44 + 0				44 + 100				44 + 200				44 + 300				44 + 400				44 + 500				44 + 600				44 + 700				44 + 800				44 + 900				45 + 0
		(metres)																																								
Road form.		Subgrade	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG	RG
		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	A	A	A	A	A	A	A	A	E	E	E	E	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
		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				2				2				2				1				2				1				1				1				1				
Mitre drains	Total	Number left =	1								1								1									1								1							
	8	Number right =					1								1									1																			
Catch water	Total	Length of drain left =									25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	800	Length of drain right =																																							
Culverts		Chainage (m) = New line		44+000 N																																44+810 N							
	N	Ex = Existing line																																								
	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																																									

Chainage:	44+000	44+200	44+400	44+600	44+800	45+000

Input Measurements: — **Free Clearance Width for Calculating areas**

	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	6	6	0	0	0	m	6	6	0	0	0	m	6	6	0	0	0	m	6	6	0	0	0	m	6	6	0	0	0	m
Grass Cutting						m						m						m						m						m
Grubbing	6	6	0	0	0	m	6	6	0	0	0	m	6	6	0	0	0	m	6	6	0	0	0	m	6	6	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*)					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	1,400	m2	1,400	m2	1,400	m2	1,400	m2	1,400	**7,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,000	m2	1,000	m2	1,000	m2	1,000	m2	1,000	**5,000**
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: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 45+000 **To:** 46+000

Chain-age	(kilometres)		45 + 0				45 + 100				45 + 200				45 + 300				45 + 400				45 + 500				45 + 600				45 + 700				45 + 800				45 + 900				46 + 0
	(metres)																																									
Road form.	Subgrade		RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
	Cross section		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E	E	E	E	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	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
	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 %)			-3				0				1				1				2				0				3				2				3				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	N = New line Ex = Existing line	Chainage (m)													45+390 N																										
	CD	= Cross drainage																																							
	AC/D	= Access culvert/ drift													AC																										
	L/R	= Left/ right																																							
	Length (m)	Ø 450mm																																							
		Ø 600mm													6																										
		Ø 900mm																																							
	Ramp	Earth fill (m3)																																							
		H. Concrete (m3)													IV																										
Head-walls	Inlet (Material/Type)														I																										
	Outlet (Material/Type)														I																										
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																							
	0	Spacing right (m) = =Total No. this sheet																																							
Additional Instruction as per Reference																																								

Chainage:	45+000	45+200	45+400	45+600	45+800	46+000

Input Measurements: — **Free Clearance Width for Calculating areas**

	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	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					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: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 46+000 **To:** 47+000

			(kilometres)	46 + 0				46 + 100				46 + 200				46 + 300				46 + 400				46 + 500				46 + 600				46 + 700				46 + 800				46 + 900				47 + 0
			(metres)																																								
Road form.			Subgrade	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
			Cross section	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	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
			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 %)	3				3				3				2				1				1				2				1				2				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		46+050 Ex																																						
	N		= Existing line																																							
	CD		= Cross drainage		CD																																					
	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					Retain																																					

Chainage:	46+000						46+200						46+400						46+600						46+800						47+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:** .....

DETAILED IMPROVEMENT PLAN

Road Name: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 47+000 **To:** 48+000

Chain-age		(kilometres)	47 +				47 + 100				47 + 200				47 + 300				47 + 400				47 + 500				47 + 600				47 + 700				47 + 800				47 + 900				48 + 0
		(metres)	0																																						
Road form.		Subgrade	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
		Cross section	A	A	A	A	E	E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	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 %)			3				1				2				1				2				0				-1				0				2				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																													47+760											
	N Ex	= Existing line																													Ex										
	CD	= Cross drainage																																							
	AC/D	= Access culvert/ drift																													CD										
	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																															Retain										

Chainage:	47+000	47+200	47+400	47+600	47+800	48+000

Input Measurements: — Free Clearance Width for Calculating areas

	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	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					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: ISIOLO-MLANGO-OLDONYIRO **County:** ISIOLO **From:** 48+000 **To:** 49+000

Chain-age		(kilometres) (metres)	48 + 0				48 + 100				48 + 200				48 + 300				48 + 400				48 + 500				48 + 600				48 + 700				48 + 800				48 + 900			49 + 0
Road form.		Subgrade	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
Road form.		Cross section	A	A	A	A	E	E	E	E	A	A	A	A	A	A	A	A	E	E	E	E	A	A	A	A	A	A	A	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
Earth-works		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
Earth-works		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)																																								
Gra-vel		Source (quarry No.)																																								
Longitudinal gradient (in %)			1				0				1				2				-2				-3				-3				-2				-1				-1			
Mitre drains	Total	Number left =	1								1									1				1				1				1				1				1		
Mitre drains	10	Number right =					1								1																											
Catch water	Total	Length of drain left =																																								
Catch water	0	Length of drain right =																																								
Culverts	N Ex	Chainage (m) = New line = Existing line																																								
Culverts	CD	= Cross drainage																																								
Culverts	AC/D	= Access culvert/ drift																																								
Culverts	L/R	= Left/ right																																								
Culverts	Length (m)	Ø 450mm																																								
Culverts	Length (m)	Ø 600mm																																								
Culverts	Length (m)	Ø 900mm																																								
Culverts	Ramp	Earth fill (m3)																																								
Culverts	Ramp	H. Concrete (m3)																																								
Head-walls		Inlet (Material/Type)																																								
Head-walls		Outlet (Material/Type)																																								
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																								
Scour Checks	0	Spacing right (m) = =Total No. this sheet																																								
Additional Instruction as per Reference																																										

Chainage:	48+000	48+200	48+400	48+600	48+800	48+000

Input Measurements: — Free Clearance Width for Calculating areas

	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	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)						Aver. (m)						Aver. (m)						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: **15**

Road Name: **ISIOLO-MLANGO-OLDONYIRO** **County:** **ISIOLO** **From:** **49+000** **To:** **50+000**

Chain-age		**(kilometres)** **(metres)**	49 + 0				49 + 100				49 + 200				49 + 300				49 + 400				49 + 500				49 + 600				49 + 700				49 + 800				49 + 900			50 + 0
Road form.		Subgrade	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
		Cross section	A	A	A	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	A	A	A	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	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 %)			-1				1				1				1				1				2				2				0				4				3			
Mitre drains	**Total**	Number left =										1																1				1				1				1		
	12	Number right =					1					1			1				1					1				1												1		
Catch water	**Total**	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N	Chainage (m) = New line																						49+500 N																		
	Ex	= Existing line																																								
	CD	= Cross drainage																						CD																		
	AC/D	= Access culvert/ drift																																								
	L/R	= Left/ right																																								
	Length (m)	Ø 450mm																																								
		Ø 600mm																																								
		Ø 900mm																						8																		
	Ramp	Earth fill (m3)																																								
		H. Concrete (m3)																						IV																		
Head-walls		Inlet (Material/Type)																						I																		
		Outlet (Material/Type)																						I																		
Scour Checks	**HC**	= Material this sheet/ Spacing left (m) =																																								
	0	Spacing right (m) = =Total No. this sheet																																								
Additional Instruction as per Reference																																										

Chainage:	49+000	49+200	49+400	49+600	49+800	50+000

Input Measurements: — Free Clearance Width for Calculating areas

	49+000 Aver. (m)	49+000 1 to 4 readings*)	49+200 Aver. (m)	49+200 1 to 4 readings	49+400 Aver. (m)	49+400 1 to 4 readings	49+600 Aver. (m)	49+600 1 to 4 readings	49+800 Aver. (m)	49+800 1 to 4 readings
Bush Clearing	10	10, 0, 0, 0	11	11, 0, 0, 0	11	11, 0, 0, 0	11	11, 0, 0, 0	11	11, 0, 0, 0
Grass Cutting										
Grubbing	10	10, 0, 0, 0	11	11, 0, 0, 0	11	11, 0, 0, 0	11	11, 0, 0, 0	11	11, 0, 0, 0
Tree and stump removal	0		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).

Cross Section Sketch	.	.	-	-	-

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

	49+000 Aver. (m)	49+000 1 to 4 readings*)	49+200 Aver. (m)	49+200 1 to 4 readings	49+400 Aver. (m)	49+400 1 to 4 readings	49+600 Aver. (m)	49+600 1 to 4 readings	49+800 Aver. (m)	49+800 1 to 4 readings
Height of cut < 0.25m	0	0	0		0	0, 0, 0	0	0, 0, 0	0	0, 0, 0
Height of cut > 0.25m	0	0	0		0	0, 0, 0	0	0, 0, 0	0	0, 0, 0

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

	49+000 Aver. (m)	49+000 1 to 4 readings*)	49+200 Aver. (m)	49+200 1 to 4 readings	49+400 Aver. (m)	49+400 1 to 4 readings	49+600 Aver. (m)	49+600 1 to 4 readings	49+800 Aver. (m)	49+800 1 to 4 readings
Existing Roads	0		0		0		0		0	
Sloping										

*) 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:

	49+000	49+200	49+400	49+600	49+800	Total this page
Bush Clearing	600 m2	400 m2	400 m2	400 m2	400 m2	**2,200**
Grass Cutting	m2	m2	m2	m2	m2	
Grubbing	200 m2	0 m2	0 m2	0 m2	0 m2	**200**
Tree and stump removal	0 No.	0 No.	0 No.	0 No.	0 No.	**0**

Quantities

	49+000	49+200	49+400	49+600	49+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)	278 m3 (insitu)	256 m3 (insitu)	270 m3 (insitu)	315 m3 (insitu)	**1,360**
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:** .....