DETAILED IMPROVEMENT PLAN

Road Name: SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 00+000 **To:** 01+000

Chain-age		(kilometres)	0 + 0				0 + 100				0 + 200				0 + 300				0 + 400				0 + 500				0 + 600				0 + 700				0 + 800				0 + 900			1 + 0
		(metres)																																								
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	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	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				-1				-1				-1				-1				-1				1				1				1				1			
Mitre drains	Total	Number left =						1				1								1																							
	5	Number right =						1								1																											
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N Ex	Chainage (m) = New line = Existing line																										0+650 N														
	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																																									

Quantity Assessment	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	00+000	To:	01+000	pg	1

Chainage:	0+000	0+200	0+400	0+600	0+800	1+000

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

	Aver. (m)	1 to 4 readings*)					Aver. (m)	1 to 4 readings				
Bush Clearing	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m
Grass Cutting						m						m						m						m						m
Grubbing	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m	5.5	5.5	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*)					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	0				cm	0	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	1,500	m2	1,500	m2	1,500	m2	1,500	m2	1,500	**7,500**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,100	m2	1,100	m2	1,100	m2	1,100	m2	1,100	**5,500**
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		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: SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 01+000 **To:** 2000.0+000

Chain-age	(kilometres)		1 + 0				1 + 100				1 + 200				1 + 300				1 + 400				1 + 500				1 + 600				1 + 700				1 + 800				1 + 900			2 + 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		E	E	E	E	A	A	A	A	G	G	G	G	G	G	G	G	G	G	G	G	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	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	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 %)			0				1				1				1				1				1				2				1				2				3			
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	Chainage (m) =																																							
	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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	01+000	To:	02+000	pg	2

Chainage:	1+000	1+200	1+400	1+600	1+800	2+000

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

	Aver. (m)	1 to 4 readings*)					Aver. (m)	1 to 4 readings				
Bush Clearing	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m
Grass Cutting						m						m						m						m						m
Grubbing	5.5	5.5	0	0	0	m	5.5	5.5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	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	0				cm	0	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	1,500	m2	1,500	m2	1,600	m2	1,600	m2	1,600	**7,800**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,100	m2	1,100	m2	1,200	m2	1,200	m2	1,200	**5,800**
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		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Drains full re-construction	242	m3 (insitu)	108	m3 (insitu)	175	m3 (insitu)	242	m3 (insitu)	208	**974**
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: SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 03+000 **To:** 04+000

Chain-age	(kilometres)	2 + 0				2 + 100				2 + 200				2 + 300				2 + 400				2 + 500				2 + 600				2 + 700				2 + 800				2 + 900			3 + 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
	Cross section	E	E	E	E	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	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
	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
	Volume of ETL or Fill (m3/m)																																					
Gra-vel	Total Thickness (cm,comp.)																																					
	Source (quarry No.)																																					
Longitudinal gradient (in %)		3				2				1				1				0				-1				0				1				0				0			
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										2+220 N								2+490 N																					
	N Ex = Existing line																																					
	CD = Cross drainage																		CD																				
	AC/D = Access culvert/ drift										AC																													
	L/R = Left/ right										R																													
	Length (m) Ø 450mm																																					
	Ø 600mm										10																													
	Ø 900mm																		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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	03+000	To:	04+000	pg	3

Chainage:	3+000	3+200	3+400	3+600	3+800	4+000

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

	3+000 Aver. (m)	3+000 1 to 4 readings*)	3+200	3+400	3+600	3+800 Aver. (m)	3+800 1 to 4 readings	4+000
Bush Clearing	5	5 0 0 0	5 5 0 0 0	4 4 0 0 0	4 4 0 0 0	5	5 0 0 0	5 5 0 0 0
Grass Cutting								
Grubbing	5	5 0 0 0	5 5 0 0 0	4 4 0 0 0	4 4 0 0 0	5	5 0 0 0	5 5 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**

	3+000 Aver. (m)	3+000 1 to 4 readings*)	3+200	3+400	3+600	3+800 Aver. (m)	3+800 1 to 4 readings*)	4+000
Height of cut < 0.25m	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

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

	3+000	3+000	3+200	3+400	3+600	3+800	3+800	4+000
Existing Roads	0	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:

	3+000	3+200	3+400	3+600	3+800	Total this page
Bush Clearing	1,600 m2	1,600 m2	1,800 m2	1,800 m2	1,600	**8,400**
Grass Cutting	m2	m2	m2	m2		
Grubbing	1,200 m2	1,200 m2	1,400 m2	1,400 m2	1,200	**6,400**
Tree and stump removal	0 No.	0 No.	0 No.	0 No.	0	**0**

Quantities

	3+000	3+200	3+400	3+600	3+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	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0	**0**
Embankment	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 SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 03+000 **To:** 04+000

Chain-age	(kilometres)	3 + 0				3 + 100				3 + 200				3 + 300				3 + 400				3 + 500				3 + 600				3 + 700				3 + 800				3 + 900				4 + 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	A	A	A	A	A	A	A	A	G	G	G	G	A	A	A	A	F	F	F	F	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 %)		-1				-1				-1				1				1				-2				-1				1				3				2			
Mitre drains	Total 6 Number left =		1								1								1																						
	Number right =						1								1								1																			
Catch water	Total Length of drain left =																																							
	0 Length of drain right =																																							
Culverts	Chainage (m) = New line						3+160			3+190	3+190															3+630	3+630														
	N = New line						N			Ex	N															Ex	N														
	Ex = Existing line																																							
	CD = Cross drainage						CD				CD																CD													
	AC/D = Access culvert/ drift																																							
	L/R = Left/ right																																							
	Length (m) Ø 450mm																																							
	Ø 600mm																																							
	Ø 900mm						8				16																24													
	Ramp Earth fill (m3)																																							
	H. Concrete (m3)						IV				IV																IV													
Head-walls	Inlet (Material/Type)						I				I																I													
	Outlet (Material/Type)						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										REPLACE																REPLACE													

Quantity Assessment	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	03+000	To:	04+000	pg	4

Chainage:	3+000	3+200	3+400	3+600	3+800	4+000

Input Measurements: — Free Clearance Width for Calculating areas

	3+000 Aver. (m)	3+000 1 to 4 readings*)	3+200 Aver. (m)	3+200 1 to 4 readings	3+400 Aver. (m)	3+400 1 to 4 readings	3+600 Aver. (m)	3+600 1 to 4 readings	3+800 Aver. (m)	3+800 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: — Height of Cut / Differences in Levels for calculating volumes

	3+000 Aver. (m)	3+000 1 to 4 readings*)	3+200 Aver. (m)	3+200 1 to 4 readings	3+400 Aver. (m)	3+400 1 to 4 readings	3+600 Aver. (m)	3+600 1 to 4 readings	3+800 Aver. (m)	3+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	0 cm	0	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:

	3+000	3+200	3+400	3+600	3+800	Total this page
Bush Clearing	1,800 m2	1,800 m2	1,800 m2	1,800 m2	1,800 m2	**9,000**
Grass Cutting	m2	m2	m2	m2	m2	
Grubbing	1,400 m2	1,400 m2	1,400 m2	1,400 m2	1,400 m2	**7,000**
Tree and stump removal	0 No.	0 No.	0 No.	0 No.	0 No.	**0**

Quantities

	3+000	3+200	3+400	3+600	3+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	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	m3 (insitu)	
Drains full re-construction	242 m3 (insitu)	242 m3 (insitu)	175 m3 (insitu)	208 m3 (insitu)	242 m3 (insitu)	**1,107**
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: SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 04+000 **To:** 05+000

Chain-age		(kilometres)	4 + 0				4 + 100				4 + 200				4 + 300				4 + 400				4 + 500				4 + 600				4 + 700				4 + 800				4 + 900			5 + 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
		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
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
		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
		Volume of ETL or Fill (m3/m)																																						
Gra-vel	Total	Thickness (cm,comp.)																																						
		Source (quarry No.)																																						
		Longitudinal gradient (in %)	2				1				0				-1				-1				1				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	N Ex	Chainage (m) = New line = Existing line																	4+400 N																					
	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																																								

Quantity Assessment	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	04+000	To:	05+000	pg	5

Chainage:	4+000	4+200	4+400	4+600	4+800	5+000

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

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

	4+000 Aver. (m)	4+000 1 to 4 readings*)	4+200	4+400	4+600	4+800 Aver. (m)	4+800 1 to 4 readings*)	5+000
Height of cut < 0.25m	0	0 cm	0 cm	0 cm	0 cm	0	0 0 cm	
Height of cut > 0.25m	0	0 cm	0 cm	0 cm	0 cm	0	0 0 cm	

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

	4+000	4+000	4+200	4+400	4+600	4+800	4+800	5+000
Existing Roads	0	0 cm	0 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**

	4+000	4+200	4+400	4+600	4+800	Total this page
Bush Clearing	1,600 m2	1,600 m2	1,600 m2	1,600 m2	1,600	**8,000**
Grass Cutting	m2	m2	m2	m2		
Grubbing	1,200 m2	1,200 m2	1,200 m2	1,200 m2	1,200	**6,000**
Tree and stump removal	0 No.	0 No.	0 No.	0 No.	0	**0**

Quantities

	4+000	4+200	4+400	4+600	4+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	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0	**0**
Embankment	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: SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 05+000 **To:** 06+000

Chain-age	(kilometres)	5 + 0				5 + 100				5 + 200				5 + 300				5 + 400				5 + 500				5 + 600				5 + 700				5 + 800				5 + 900			6 + 0
	(metres)	0																																						
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	A	A	A	A	A	A	A	A	A	A	A	A	E	E	E	E	A	A	A	A	E	E	E	E	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 %)		-1				-1				-1				-1				0				0				-2				-1				-1				1			
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																																								

Quantity Assessment	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	05+000	To:	06+000	pg	6

Chainage:	5+000	5+200	5+400	5+600	5+800	6+000

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

	Aver. (m)	1 to 4 readings*)					Aver. (m)	1 to 4 readings				
Bush Clearing	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	0	0	0	m	5	5	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	5	5	0	0	0	m	5	5	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*)					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	0				cm	0	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	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	**8,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
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		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: SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 06+000 **To:** 07+000

Chain-age		(kilometres)	6 + 0				6 + 100				6 + 200				6 + 300				6 + 400				6 + 500				6 + 600				6 + 700				6 + 800				6 + 900			7 + 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
		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	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
		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
		Volume of ETL or Fill (m3/m)																																						
Gra-vel	Total	Thickness (cm,comp.)																																						
		Source (quarry No.)																																						
		Longitudinal gradient (in %)	1				1				0				-2				0				1				1				2				0				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																	6+450																						
	N	= Existing line																	N																						
	CD	= Cross drainage																	CD																						
	AC/D	= Access culvert/ drift																																						
	L/R	= Left/ right																																						
	Length (m)	Ø 450mm																																						
		Ø 600mm																																						
		Ø 900mm																	10																						
	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:	6+000	6+200	6+400	6+600	6+800	7+000

Free Clearance Width for Calculating areas

Input Measurements:	Aver. (m)	1 to 4 readings*)	6+000	6+200	6+400	6+600	6+800 (Aver. (m))	6+800 (1 to 4 readings)
Bush Clearing	5	5, 0, 0, 0	5 m	5 m	5 m	5 m	5 m	5, 0, 0, 0 m
Grass Cutting			m	m	m	m	m	m
Grubbing	5	5, 0, 0, 0	5 m	5 m	5 m	5 m	5 m	5, 0, 0, 0 m
Tree and stump removal	0		0 m	0 m	0 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).

Cross Section Sketch	6+000	6+200	6+400	6+600	6+800
	-	-	-	-	-

Height of Cut / Differences in Levels for calculating volumes

Measurements for small cut to fill:	Aver. (m)	1 to 4 readings*)	6+000	6+200	6+400	6+600	6+800 (Aver. (m))	6+800 (1 to 4 readings*))
Height of cut < 0.25m	0	0	0 cm	0 cm	0 cm	0 cm	0 cm	0 cm
Height of cut > 0.25m	0	0	0 cm	0 cm	0 cm	0 cm	0 cm	0 cm

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

For Reshaping :								
Existing Roads	0	0	0 cm	0 cm	0 cm	0 cm	0 cm	cm
Sloping			cm	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:	6+000		6+200		6+400		6+600		6+800	Total this page
Bush Clearing	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	**8,000**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,200	m2	1,200	m2	1,200	m2	1,200	m2	1,200	**6,000**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

Quantities

	6+000		6+200		6+400		6+600		6+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	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment		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: SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 07+000 **To:** 08+000

Chain-age	(kilometres)		7 + 0				7 + 100				7 + 200				7 + 300				7 + 400				7 + 500				7 + 600				7 + 700				7 + 800				7 + 900			8 + 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
	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	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
	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
	Volume of ETL or Fill (m3/m)																																							
Gra-vel	Total	Thickness (cm,comp.)																																						
		Source (quarry No.)																																						
Longitudinal gradient (in %)			1				1				1				0				0				0				0				0				0				0			
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	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																																								

Quantity Assessment	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	07+000	To:	08+000	pg	8

Chainage:	7+000	7+200	7+400	7+600	7+800	8+000

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

	7+000 Aver. (m)	7+000 1 to 4 readings*)	7+200	7+400	7+600	7+800 Aver. (m)	7+800 1 to 4 readings	
Bush Clearing	4	4 0 0 0	4 4 0 0 0	4 4 0 0 0	5 5 0 0 0	5	5 0 0 0	m
Grass Cutting								m
Grubbing	4	4 0 0 0	4 4 0 0 0	4 4 0 0 0	5 5 0 0 0	5	5 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**

	7+000 Aver. (m)	7+000 1 to 4 readings*)	7+200	7+400	7+600	7+800 Aver. (m)	7+800 1 to 4 readings*)	
Height of cut < 0.25m	0	0	0	0	0	0	0	cm
Height of cut > 0.25m	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				cm	0	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**

	7+000		7+200		7+400		7+600		7+800	Total this page
Bush Clearing	1,800	m2	1,800	m2	1,800	m2	1,600	m2	1,600	**8,600**
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,400	m2	1,400	m2	1,400	m2	1,200	m2	1,200	**6,600**
Tree and stump removal	0	No.	0	No.	0	No.	0	No.	0	**0**

Quantities

	7+000		7+200		7+400		7+600		7+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	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment		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: SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 08+000 **To:** 09+000

Chain-age	(kilometres)		8 + 0				8 + 100				8 + 200				8 + 300				8 + 400				8 + 500				8 + 600				8 + 700				8 + 800				8 + 900			9 + 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
	Cross section		A	A	A	A	A	A	A	A	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
	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
	Volume of ETL or Fill (m3/m)																																							
Gra-vel	Total	Thickness (cm,comp.)																																						
		Source (quarry No.)																																						
Longitudinal gradient (in %)			1				0				1				1				-1				-2				-1				-1				-1				-2			
Mitre drains	Total	Number left =		1								1								1								1								1				1		
	13	Number right =		1				1				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	SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County:	SAMBURU	From:	08+000	To:	09+000	pg	9

Chainage:	8+000	8+200	8+400	8+600	8+800	9+000

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

	8+000 Aver. (m)	8+000 1 to 4 readings*)	8+200	8+400	8+600	8+800 Aver. (m)	8+800 1 to 4 readings
Bush Clearing	4	4 0 0 0	4 4 0 0 0	4 4 0 0 0	4 4 0 0 0	4	4 0 0 0
Grass Cutting							
Grubbing	4	4 0 0 0	4 4 0 0 0	4 4 0 0 0	4 4 0 0 0	4	4 0 0 0
Tree and stump removal	0		0	0	0	0	

All entries in 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**

	8+000 Aver. (m)	8+000 1 to 4 readings*)	8+200	8+400	8+600	8+800 Aver. (m)	8+800 1 to 4 readings*)
Height of cut < 0.25m	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

All entries in cm.

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

	8+000 Aver. (m)	8+000 1 to 4 readings*)	8+200	8+400	8+600	8+800 Aver. (m)	8+800 1 to 4 readings*)
Existing Roads	0	0	0	0	0	0	
Sloping							

All entries in 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**

	8+000	8+200	8+400	8+600	8+800	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

	8+000	8+200	8+400	8+600	8+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	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0 m3 (insitu)	0	**0**
Embankment	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			Page: 10
Road Name: SEREOLIPI-NDONYOWASIN-MILGIS RIVER	County: SAMBURU	From: 09+000	To: 10+000

Group	Sub	Item	9 + 0				9 + 100				9 + 200				9 + 300				9 + 400				9 + 500				9 + 600				9 + 700				9 + 800				9 + 900				10 + 0
Chain-age		(kilometres) / (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	RG	RG
Road form.		Cross section	A	A	A	A	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	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)																																									
Gra-vel	Total	Thickness (cm,comp.)																																									
Gra-vel		Source (quarry No.)																																									
Longitudinal gradient (in %)			0				1				1				-3				-3				-3				-4				-3				-2				-3				
Mitre drains	Total	Number left =		1								1								1								1								1				1			
Mitre drains	11	Number right =						1								1								1								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																						9+550 Ex																			
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																																											

Quantity Assessment SEREOLIPI-NDONYOWASIN-MILGIS RIVER **County:** SAMBURU **From:** 09+000 **To:** 10+000

Chainage:	**9+000**						**9+200**						**9+400**						**9+600**						**9+800**						**10+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	0				cm	0	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)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	**0**
Embankment		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:** ……