DETAILED IMPROVEMENT PLAN

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Road Name: A2 JCN - MANYATTA JILLO - GORORUKESA - CENTRAL CHIEF **County** MARSABIT **From:** 7+000 **To:** 8+000

Chain-age		(kilometres)	7 +				7 + 100				7 + 200				7 + 300				7 + 400				7 + 500				7 + 600				7 + 700				7 + 800				7 + 900				8 + 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
		Cross section									A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	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	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or E									L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E
		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)									15				15				15				15				15				15				15				15				
		Source (quarry No.)									1				1				1				1				1				1				1				1				
		Longitudinal gradient (in %)									-2				-2				-2				-2				-3				-3				-4		0	0	-2				
Mitre drains	Total	Number left =													1				1				1																				
	3	Number right =																																								
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N	Chainage (m) = New line									7+200N																					7+560N										
	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																																										

Quantity Assessment	#	#	#	#	MARSABIT	#	#	#	#	-

Chainage:	7.0	7.2	7.4	7.6	7.8	8.0

Input Measurements:	Aver. (m)	1 to 4 readings*)					Free Clearance Width for Calculating areas																Aver. (m)	1 to 4 readings				
Bush Clearing	0	0		0		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Grass Cutting						m						m						m						m						m
Grubbing	0	0	0	0		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Tree and stump removal	0	0		0		m	0	0		0		m	8	0	8	0		m	0		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		4.00	4.00	5.00	5.00

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		0		cm	40	40		40		cm	45	50		40		cm	80	120		40		cm	50	40		60		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

*) 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	0	m2	2,000	m2	2,000	m2	2,000	m2	2,000	8,000
Grass Cutting		m2		m2		m2		m2		
Grubbing	0	m2	1,600	m2	1,600	m2	1,600	m2	1,600	6,400
Tree and stump removal	0	No.	0	No.	8	No.	0	No.	0	8

	Quantities									Total this page
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	40	m3 (insitu)	480	m3 (insitu)	180	700
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction	0	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	812
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: A2 JCN - MANYATTA JILLO - GORORUKESA - CENTRAL CHIEF **County** MARSABIT **From:** 8+000 **To:** 9+000

Chain-age		(kilometres)	8 +				8 + 100				8 + 200				8 + 300				8 + 400				8 + 500				8 + 600				8 + 700				8 + 800				8 + 900			9 +
		(metres)	0																																									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	RS	RS
		Cross section	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	E	E	E	E	E	E	E	E	A	A	A	A
Earth-works		Method: RES, ETL or FILL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	FILL	ETL	ETL	ETL	ETL	RES	RES	RES	RES
		Choice of reshaping: L, T or E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E
		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)	15				15				15				15				15				15				15				15				15				15			
		Source (quarry No.)	1				1				1				1				1				1				1				1				1				1			
Longitudinal gradient (in %)			-11				-3				3				10				6				5				4				3				-3				2			
Mitre drains	Total	Number left =														1																										
	3	Number right =																			1			1																		
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N	Chainage (m) = New line						8+820 N				8+260 EX																						8+790N		8+870N	8+960N					
	Ex	= Existing line																																								
	CD	= Cross drainage						CD				AD																						CD		CD						
	AC/D	= Access culvert/ drift																																			AC					
	L/R	= Left/ right																																			L					
	Length (m)	Ø 450mm																																								
		Ø 600mm																																			8					
		Ø 900mm						8																										8		8						
	Ramp	Earth fill (m3)																																								
		H. Concrete (m3)						IV																										IV		IV	IV					
Head-walls		Inlet (Material/Type)						I																										I		I	IV					
		Outlet (Material/Type)						I																										I		I	IV					
Scour Checks	HC	= Material this sheet/ Spacing left (m) =	4												5				15				20																			
	28	Spacing right (m) = =Total No. this sheet	4												5				15				20																			
Additional Instruction as per Reference																																										

Quantity Assessment	#	#	#	#	MARSABIT	#	#	#	#	-

Chainage:	8.0	8.2	8.4	8.6	8.8	9.0

Input Measurements:	Aver. (m)	1 to 4 readings*)					Free Clearance Width for Calculating areas																Aver. (m)	1 to 4 readings				
Bush Clearing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Grass Cutting						m						m						m						m						m
Grubbing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Tree and stump removal	0	0		0		m	0	0		0		m	0	0		0		m	3		3			m	0					m
Cross Section Sketch	4.00						5						4																	

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	65	60		70		cm	75	90		60		cm	45	40		50		cm	0					cm	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

*) 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	2,000	m2	2,000	m2	2,000	m2	2,000	m2	2,000	10,000
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Tree and stump removal	0	No.	0	No.	0	No.	3	No.	0	3

	Quantities									Total this page
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	200	m3 (insitu)	430	m3 (insitu)	40	m3 (insitu)	0	m3 (insitu)	0	670
Embankment		m3 (insitu)		m3 (insitu)	162	m3 (insitu)	162	m3 (insitu)		324
Drains full re-construction	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	1,015
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: A2 JCN - MANYATTA JILLO - GORORUKESA - CENTRAL CHIEF **County** MARSABIT **From:** 9+000 **To:** 10+000

Chain-age		(kilometres)	9 + 0				9 + 100				9 + 200				9 + 300				9 + 400				9 + 500				9 + 600				9 + 700				9 + 800				9 + 900			10 + 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	RS	RS	RS
		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	A	A	A	A	A	A	A	A	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	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	RES	RES	RES	RES
		Choice of reshaping: L, T or E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)	15				15				15				15				15				15				15				15				15				15			
		Source (quarry No.)	1				1				1				1				1				1				1				1				1				1			
		Longitudinal gradient (in %)	7				4				5				2					2			2				2				3				3				3			
Mitre drains	Total	Number left =																										1														
	1	Number right =																																								
Catch water	Total	Length of drain left =																																								
	0	Length of drain right =																																								
Culverts	N	Chainage (m) = New line						9+120 N					9+160 N					9+380N			9+450 N		9+500 N	9+520 N												9+860 N						
	Ex	= Existing line																																								
	CD	= Cross drainage																CD					CD																			
	AC/D	= Access culvert/ drift						AC					AC								AC			AC												AC						
	L/R	= Left/ right						R					R								R			R												L						
	Length (m)	Ø 450mm																																								
		Ø 600mm						8					4								6			4												5						
		Ø 900mm																8					8																			
	Ramp	Earth fill (m3)																																								
		H. Concrete (m3)						IV					IV					IV			IV		IV	IV												IV						
Head-walls		Inlet (Material/Type)						IV					IV					I			I		I	IV												IV						
		Outlet (Material/Type)						IV					IV					I			I		I	IV												IV						
Scour Checks	HC	= Material this sheet/ Spacing left (m) =	10								20																															
	8	Spacing right (m) = =Total No. this sheet	10								20																															
Additional Instruction as per Reference																																										

Quantity Assessment	#	#	#	#	MARSABIT	#	#	#	#	-

Chainage:	9.0	9.2	9.4	9.6	9.8	10.0

Input Measurements:	Aver. (m)	1 to 4 readings*)					Free Clearance Width for Calculating areas																Aver. (m)	1 to 4 readings				
Bush Clearing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Grass Cutting						m						m						m						m						m
Grubbing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Tree and stump removal	1	0	1	0		m	1	1		0		m	0	0		0		m	1		1			m	1	1	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		3.00	3.00		

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					cm	45	50		40		cm	40	40		40		cm	0					cm	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

*) 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	2,000	m2	2,000	m2	2,000	m2	2,000	m2	2,000	10,000
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Tree and stump removal	1	No.	1	No.	0	No.	1	No.	1	4

	Quantities									Total this page
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	0	m3 (insitu)	-50	m3 (insitu)	-80	m3 (insitu)	0	m3 (insitu)	0	-130
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	1,015
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: A2 JCN - MANYATTA JILLO - GORORUKESA - CENTRAL CHIEF **County** MARSABIT **From:** 10+000 **To:** 11+000

Chain-age		(kilometres)	10 +				10 +				10 +				10 +				10 +				10 +				10 +				10 +				10 +				10 +				10 +			11 +
		(metres)	0				100				200				300				400				500				600				700				800				900				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	RS	RS	RS
		Cross section	E	E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	A	A	A	A	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	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL
		Choice of reshaping: L, T or E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)	15				15				15				15				15				15				15				15				15				15						
		Source (quarry No.)	1				1				1				1				1				1				1				1				1				1						
		Longitudinal gradient (in %)	3				3				5				5				6				5				4				4				3				3						
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									10+200 N	10+200 N							10+400 N				10+500 N	10+500 N											10+800 N				10+900 N						
	Ex	= Existing line																																										
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift									AC	AC							AC				AC	AC											AC				AC						
	L/R	= Left/ right									L	R							L				L	R											L				R						
	Length (m)	Ø 450mm																																										
		Ø 600mm									4	4							7				4	6											4				6						
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)									IV	IV							IV				IV	IV											IV				IV						
Head-walls		Inlet (Material/Type)									IV	IV							IV				IV	IV											IV				IV						
		Outlet (Material/Type)									IV	IV							IV				IV	IV											IV				IV						
Scour Checks	HC	= Material this sheet/ Spacing left (m) =									20				20				15				20																						
	11	Spacing right (m) = =Total No. this sheet									20				20				15				20																						
Additional Instruction as per Reference																																												

Quantity Assessment	#	#	#	#	MARSABIT	#	#	#	#	-

Chainage:	10.0	10.2	10.4	10.6	10.8	11.0

Input Measurements: — Free Clearance Width for Calculating areas

	Aver. (m)	1 to 4 readings*)																										
Bush Clearing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Grass Cutting						m						m						m						m						m
Grubbing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Tree and stump removal	0	0		0		m	0	0		0		m	0	0		0		m	1		1			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				2.00	3.00

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

	Aver. (m)	1 to 4 readings*)																										
Height of cut < 0.25m	0	0		0		cm	0	0		0		cm	0	0		0		cm	35	40		30		cm	70	70				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

*) 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	2,000	m2	2,000	m2	2,000	m2	2,000	m2	2,000	10,000
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Tree and stump removal	0	No.	0	No.	0	No.	1	No.	0	1

	Quantities									Total this page
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	100	100
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	1,015
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: JCN A2 MANYATTA JILLO- GORORUKESA **Count** MARSABIT **From:** 11+000 **To:** 12+000

Chain-age		(kilometres)	11 +				11 +				11 +				11 +				11 +				11 +				11 +				11 +				11 +				11 +				12 +
		(metres)	0				100				200				300				400				500				600				700				800				900				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	RS
		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	E	E	E	E	E
Earth-works		Method: RES, ETL or FILL	ETL	ETL	ETL	ETL	RES	RES	RES	RES	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL
		Choice of reshaping: L, T or E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E
		Volume of ETL or Fill (m3/m)																																									
Gra-vel	Total	Thickness (cm,comp.)	15				15				15				15				15				15				15				15				15				15				
		Source (quarry No.)	1				1				1				1				1				1				1				1				1				1				
		Longitudinal gradient (in %)	-3			0	-2				7				3				3				5	5	7	7	3	3	3	3	3				4				4	4	4	6
Mitre drains	Total	Number left =																																									
	3	Number right =																		1				1					1														
Catch water	Total	Length of drain left =																																									
	0	Length of drain right =																																									
Culverts		Chainage (m) = New line																					11+500 N			11+580 N				11+690 N							11+880 N		11+910 N				
	N																																										
	Ex	= Existing line																																									
	CD	= Cross drainage																																									
	AC/D	= Access culvert/ drift																					AC			AC				AC							AC		AC				
	L/R	= Left/ right																					R			R				R							R		R				
	Length (m)	Ø 450mm																																									
		Ø 600mm																					4			4				4							4		4				
		Ø 900mm																																									
	Ramp	Earth fill (m3)																																									
		H. Concrete (m3)																					IV			IV				IV							IV		IV				
Head-walls		Inlet (Material/Type)																					IV			IV				IV							IV		IV				
		Outlet (Material/Type)																					IV			IV				IV							IV		IV				
Scour Checks	HC	= Material this sheet/ Spacing left (m) =									10												20																				
	8	Spacing right (m) = =Total No. this sheet									10												20																				
Additional Instruction as per Reference																																											

Quantity Assessment	#	#	#	#	MARSABIT	#	#	#	#	-

Chainage:	11.0	11.2	11.4	11.6	11.8	12.0

Input Measurements:	Aver. (m)	1 to 4 readings*)					Free Clearance Width for Calculating areas																Aver. (m)	1 to 4 readings				
Bush Clearing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Grass Cutting						m						m						m						m						m
Grubbing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Tree and stump removal	1	1		0		m	1	1		0		m	1	1				m	1	1				m	1	1				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			3.00	3.00	3.00

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		0		cm	0	0		0		cm	65	70		60		cm	55	60		50		cm	75	90		60		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

*) 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	2,000	m2	2,000	m2	2,000	m2	2,000	m2	2,000	10,000
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Tree and stump removal	1	No.	1	No.	1	No.	1	No.	1	5

	Quantities									Total this page
Height of cut < 0.25m	0	m3 (insitu)	0	m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	70	m3 (insitu)	10	m3 (insitu)	130	210
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	1,015
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 Nam JCN A2 MANYATTA JILLO- GORORUKESA **Count** MARSABIT **From:** 12+000 **To:** 13+000

Chain-age		(kilometres)	12 +				12 +				12 +				12 +				12 +				12 +				12 +				12 +				12 +				12 +				13 +
		(metres)	0				100				200				300				400				500				600				700				800				900				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	RS	RS
		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	E	E	E	E	A	A	A	A	A	A
Earth-works		Method: RES, ETL or FILL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL
		Choice of reshaping: L, T or E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)																																										
		Source (quarry No.)																																										
		Longitudinal gradient (in %)	3				2				2				2				2				3				3				3				5				2				3
Mitre drains	Total	Number left =																						1					1														
	2	Number right =																																										
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts	N	Chainage (m) = New line					12+100 N												12+400 N	12+400 N					12+550 N						12+700 N	12+730 N											
	Ex	= Existing line																																										
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift					AC												AC	AC					AC						AC	AC											
	L/R	= Left/ right					L												R	L					L						L	R											
	Length (m)	Ø 450mm																																										
		Ø 600mm					6												7	6					4						6	4											
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)					IV												IV	IV					IV						IV	IV											
Head-walls		Inlet (Material/Type)					IV												IV	IV					IV						IV	IV											
		Outlet (Material/Type)					IV												IV	IV					IV						IV	IV											
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																	20									
	3	Spacing right (m) = =Total No. this sheet																																	20									
		Additional Instruction as per Reference																																										

Quantity Assessment | **MARSABIT**

Chainage:	12.0					12.2					12.4					12.6					12.8					13.0
Input Measurements:	Aver. (m)	1 to 4 readings*)				**Free Clearance Width for Calculating areas**															Aver. (m)	1 to 4 readings				
Bush Clearing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Grass Cutting						m						m						m						m						m
Grubbing	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m	3	3		3		m
Tree and stump removal	1	1				m	1	1		0		m	1	1		0		m	1		1			m	1	1				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	3.00	3.00	3.00	3.00

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	50	60		40		cm	50	60		40		cm	65	70		60		cm	75	70		80		cm	50	50		50		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

*) 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	2,000	m2	2,000	m2	2,000	m2	2,000	m2	2,000	10,000
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,600	m2	1,600	m2	1,600	m2	1,600	m2	1,600	8,000
Tree and stump removal	1	No.	1	No.	1	No.	1	No.	1	5

	Quantities									**Total this page**
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	-20	m3 (insitu)	-20	m3 (insitu)	70	m3 (insitu)	130	m3 (insitu)	0	160
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	1,015
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: JCN A2 MANYATTA JILLO- GORORUKESA **County** MARSABIT **From:** 13+000 **To:** 14+000

Chain-age		(kilometres)	13 +				13 +				13 +				13 +				13 +				13 +				13 +				13 +				13 +				13 +				13 +				14 +
		(metres)	0				100				200				300				400				500				600				700				800				900				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	RS	RS	RS
		Cross section	A	A	A	A	E	E	E	E	A	A	A	A	A	A	A	A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Earth-works		Method: RES, ETL or FILL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL
		Choice of reshaping: L, T or E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)	15				15				15				15				15				15				15				15				15				15						
		Source (quarry No.)	1				1				1				1				1				1				1				1				1				1						
Longitudinal gradient (in %)			3				3				3				3				3				3				3				3				3				3						
Mitre drains	Total	Number left =									1					1					1			1				1			1				1										
	7	Number right =																																										
Catch water	Total	Length of drain left =																																										
	0	Length of drain right =																																										
Culverts		Chainage (m) =New line	13+000 N								13+200 N								13+400 N				13+500 N																13+900 N						
	N																																											
	Ex	= Existing line																																										
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift	AC								AC								AC				AC																AC						
	L/R	= Left/ right	L								R								R				R																R						
	Length (m)	Ø 450mm																																										
		Ø 600mm	6								4								4				6																6						
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)	IV								IV								IV				IV																IV						
Head-walls		Inlet (Material/Type)	IV								IV								IV				IV																IV						
		Outlet (Material/Type)	IV								IV								IV				IV																IV						
Scour Checks	HC	= Material this sheet/ Spacing left (m) =																																										
	0	Spacing right (m) = =Total No. this sheet																																										
Additional Instruction as per Reference																																												

Quantity Assessment	#	#	#	#	MARSABIT	#	#	#	#	-

Chainage:	13.0	13.2	13.4	13.6	13.8	14.0

Input Measurements:	Aver. (m)	1 to 4 readings*)					Free Clearance Width for Calculating areas																Aver. (m)	1 to 4 readings				
Bush Clearing	4	4		4		m	4	4		4		m	4	4		4		m	4	4		4		m	4	4		4		m
Grass Cutting						m						m						m						m						m
Grubbing	4	4		4		m	4	4		4		m	4	4		4		m	4	4		4		m	4	4		4		m
Tree and stump removal	0	0				m	2	1		1		m	2	1		1		m	1		1			m	1	1				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	5.00	4.00	3.00	3.00	3.00

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	40	40		40		cm	45	30		60		cm	50	60		40		cm	65	60		70		cm	80	70		90		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

*) 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.	2	No.	2	No.	1	No.	1	6

	Quantities									Total this page
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	120	m3 (insitu)	80	m3 (insitu)	20	m3 (insitu)	110	m3 (insitu)	200	530
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	1,015
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: JCN A2 MANYATTA JILLO- GORORUKESA **County** MARSABIT **From:** 14+000 **To:** 15+000

Chain-age		(kilometres)	14 +				14 + 100				14 + 200				14 + 300				14 + 400				14 + 500				14 + 600				14 + 700				14 + 800				14 + 900			15 +
		(metres)	0																																									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	RS	RS
		Cross section	E	E	E	E	A	A	A	A	E	E	E	E	E	E	E	E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E	E	E	E	A	A	A	A	A	A
Earth-works		Method: RES, ETL or FILL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	ETL	RES	RES	RES	ETL
		Choice of reshaping: L, T or E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E	L/E
		Volume of ETL or Fill (m3/m)																																								
Gra-vel	Total	Thickness (cm,comp.)	15				15				15				15				15				15				15				15				15				15			
		Source (quarry No.)	1				1				1				1				1				1				1				1				1				1			
		Longitudinal gradient (in %)	3				4				5				4				5				6								8				6				6			
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	14+100 N	14+150 N														14+380 N	14+400 N	14+410 N	14+420 N		14+500 N				14+600 N	14+620 N	14+630 N	14+640 N	14+700 N	14+720 N	14+750 N		14+800 N	14+820 N	14+850 N		14+900 N	14+930 N	14+950 N	
	Ex	= Existing line																																								
	CD	= Cross drainage																																								
	AC/D	= Access culvert/ drift	AC	AC														AC	AC	AC	AC		AC				AC	AC	AC	AC	AC	AC	AC		AC	AC	AC		AC	AC	AC	
	L/R	= Left/ right	L	L														L	L	R	L		L				L	R	R	L	L&R	R	L&R		L	L	L		R	R	R	
	Length (m)	Ø 450mm																																								
		Ø 600mm	4	4														4	4	4	4		4				4	4	4	4	4	4	8		4	8	8		4	4	6	
		Ø 900mm																																								
	Ramp	Earth fill (m3)																																								
		H. Concrete (m3)	IV	IV														IV	IV	IV	IV		IV				IV	IV	IV	IV	IV	IV	IV		IV	IV	IV		IV	IV	IV	
Head-walls		Inlet (Material/Type)	IV	IV														IV	IV	IV	IV		IV				IV	IV	IV	IV	IV	IV	IV		IV	IV	IV		IV	IV	IV	
		Outlet (Material/Type)	IV	IV														IV	IV	IV	IV		IV				IV	IV	IV	IV	IV	IV	IV		IV	IV	IV					
Scour Checks	HC	= Material this sheet/ Spacing left (m) =									20								20				15								8				15				15			
	22	Spacing right (m) = =Total No. this sheet									20								20				15								8				15				15			
		Additional Instruction as per Reference																																								

Quantity Assessment	#	#	#	#	MARSABIT	#	#	#	#	-

Chainage:	14.0	14.2	14.4	14.6	14.8	15.0

Input Measurements:	Aver. (m)	1 to 4 readings*)					Free Clearance Width for Calculating areas																Aver. (m)	1 to 4 readings				
Bush Clearing	4	4		4		m	4	4		4		m	4	4		4		m	4	4		4		m	4	4		4		m
Grass Cutting						m						m						m						m						m
Grubbing	4	4		4		m	4	4		4		m	4	4		4		m	4	4		4		m	4	4		4		m
Tree and stump removal	0	0		0		m	0	0		0		m	0	0		0		m	3		3			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	3.00	3.00	3.00	3.00	3.50

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	75	80		70		cm	65	70		60		cm	75	60		90		cm	60	60		60		cm	35	30		40		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

*) 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.	3	No.	0	3

	Quantities									Total this page
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	170	m3 (insitu)	110	m3 (insitu)	170	m3 (insitu)	80	m3 (insitu)	-35	495
Embankment		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		0
Drains full re-construction	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	1,015
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: JCN A2 MANYATTA JILLO- GORORUKESA **County** MARSABIT **From:** 15+000 **To:** 16+000

Chain-age		(kilometres)	15 +				15 +				15 +				15 +				15 +				15 +				15 +				15 +				15 +				15 +				15 +			16 +
		(metres)	0				100				200				300				400				500				600				700				800				900				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														
		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														
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	FILL	FILL	FILL	FILL	RES	RES	RES	RES														
		Choice of reshaping: L, T or E	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L														
		Volume of ETL or Fill (m3/m)																																										
Gra-vel	Total	Thickness (cm,comp.)	15				15				15				15				15				15				15																	
		Source (quarry No.)	1				1				1				1				1				1				1																	
Longitudinal gradient (in %)			0	0	0	2	7				5				3				2				2				2																	
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	15+000 N	15+020 N	15+060N	15+070N	15+100 N	15+120 N		15+200N	15+210 N	15+260 N	15+280 N		15+300 N	15+310 N		15+380 N	15+400 N	15+420 N	15+440 N		15+510 N	15+560 N	15+580 N		TARMAC																
	Ex	= Existing line																																										
	CD	= Cross drainage																																										
	AC/D	= Access culvert/ drift	AC	AC	AC	AC	AC	AC		AC	AC	AC	AC		AC	AC		AC	AC	AC	AC		AC	AC	AC																		
	L/R	= Left/ right	L	R	L&R	R	L	R		L&R	R	R	L&R		R	R		L	R	L	R		L	R	L																		
	Length (m)	Ø 450mm																																										
		Ø 600mm	4	4	8	6	4	4		8	4	4	8		4	6		6	4	6	6		4	6	4																			
		Ø 900mm																																										
	Ramp	Earth fill (m3)																																										
		H. Concrete (m3)	IV	IV	IV	IV	IV	IV		IV					IV	IV		IV	IV	IV	IV		IV	IV	IV																			
Head-walls		Inlet (Material/Type)	IV	IV	IV	IV	IV	IV		IV					IV	IV		IV	IV	IV	IV		IV	IV	IV																			
		Outlet (Material/Type)	IV	IV	IV	IV	IV	IV		IV					IV	IV		IV	IV	IV	IV		IV	IV	IV																			
Scour Checks	HC	= Material this sheet/ Spacing left (m) =					10				20																																	
	8	Spacing right (m) = =Total No. this sheet					10				20																																	
Additional Instruction as per Reference																																												

Quantity Assessment	#	#	#	#	MARSABIT	#	#	#	#	-

Chainage:	15.0	15.2	15.4	15.6	15.8	16.0

Input Measurements:	Aver. (m)	1 to 4 readings*)					Free Clearance Width for Calculating areas																	Aver. (m)	1 to 4 readings				
Bush Clearing	4	4		4		m	4	4		4		m	5	5		5		m	6	6		6		m	0					m
Grass Cutting						m						m						m						m						m
Grubbing	4	4		4		m	4	4		4		m	5	5		5		m	6	6		6		m	0					m
Tree and stump removal	1	0	1	0		m	1	0	1	0		m	1	1		0		m	3		3			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		0		cm	0	0		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

*) 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	1,600	m2	1,400	m2		6,600
Grass Cutting		m2		m2		m2		m2		
Grubbing	1,400	m2	1,400	m2	1,200	m2	1,000	m2		5,000
Tree and stump removal	1	No.	1	No.	1	No.	3	No.	0	6

	Quantities									Total this page
Height of cut < 0.25m		m3 (insitu)		m3 (insitu)		m3 (insitu)		m3 (insitu)		
Height of cut > 0.25m	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	m3 (insitu)	0	0
Fill/Embankment	162	m3 (insitu)	162	m3 (insitu)	162	m3 (insitu)		m3 (insitu)		486
Drains full re-construction	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)	203	m3 (insitu)		812
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:** .....