

KENYA RURAL ROADS AUTHORITY

TENDER NOTICE

ADDENDUM NO. 2

UPGRADING TO BITUMEN STANDARDS OF VARIOUS ROADS

Reference is made to the Tender Notice that appeared in the Authority's website and The MyGov Issue pullout of the Star Newspaper dated 13th May, 2025 and Addendum No.1 issued on 22nd May, 2025.

The Authority has received numerous requests for clarification on the above referenced procurement and interested bidders are requested to note the following clarifications;

SN	Project	Clarifi	cation, Amendment and Response					
	.		e following clauses under Special Sp	ecifications have	been amended			
		• Cla	use 101 LOCATION OF THE PRO	JECT ROAD				
			ad links, scope and respective lengths		evised as follows			
				,				
		S.No	A. Upgrading S.No Link Name Scope Length(Km)					
		5.110	Diff (valie)	Беоре	Length(Rm)			
		1.	Nyabisabo - Nyakwana – Kegati	New Construction	12.6			
		2.	Nyaguta – Gentungurumu – Gesere - Omososa	New Construction	3.0			
		3.	Birongo – Chirchiro – Irondi - Nyanturago	New Construction	6.7			
	RWC 685: Upgrading to	4.	Access to Irondi Primary & Dispensary	New Construction	0.5			
	Bitumen Standard Of Nyabisabo –	5.	Access to Irondi Secondary	New Construction	0.8			
	Nyakwana -Kegati/ Nyaguta –	6.	Keumbu – Riondonga – Nyanturbo - Ibeno	New Construction	6.7			
1.	Nyanderema -		ГОТАL		30.3			
	Amariba/ Nyaguta – Getungurumu -		Rehabilitation	1	, ,			
	Riariga & Jnct C893	S.No	Link Name	Scope	Length(Km)			
	Omosasa – Getungurumu - Gesere Roads	1.	Riariga - Getungurumu	Rehabilitation	2.4			
	Gesele Roads	SUB-	ГОТАL		2.4			
		C.	Accessibility and Motorability					
		S.No	Link Name	Scope	Length(Km)			
				T				
			Amariba – Nyanderema - Nyaguta	Improvement to	3.0			
			Nyanderema - Nyakwana	gravel wearing	1.2			
		3.	Chirchiro – Ibacho - Kiamokama	course,	10.0			
		4.	Edaraja (Nyanturago) - Chirchiro	construction of drainage structures and approach roads	2.7			
		SUB-	ΓΟΤΑL		16.9			
			use 102 EXTENT OF CONTRACT	ı				

	ue Date 12 th June, 2							
SN	Project		cation, Amendment and Response					
		A. NEV	W CONSTRUCTION					
		Has bee	en revised to read					
		"on sec	tions that require New Construction	to AC standard und	er Links 1 to 6			
		capture	d in Section A above of the project roa	ads":-				
		D DAY	B. PAVEMENT REHABILITATION AND OVERLAY					
		b. PAV						
			Has been added to the revised Extent of Contract (to replace item C.					
		ACCES	ACCESSIBILITY AND MOTORABILITY)					
		C. AC	C. ACCESSIBILITY AND MOTORABILITY					
		Has bee	en revised to read					
		"To im	prove accessibility and motorability,	Spot Improvement to	Gravel Wearing			
		Course,	and construction of major drainage	structures under Lin	ks 1 to 4 under			
		Section	C above of the project roads the fol	lowing work activities	s shall be carried			
		out:-":-						
		• Clay	use 107 TAKING OVER CERTIFIC	CATE				
			nimum portion of the works for whic		issued is for the			
		road lin	iks shown in the table below when sul	ostantially completed				
		S/No.	Link Name	Scope	Length(Km)			
			A. UPGRADING	•				
		1.	Nyabisabo - Nyakwana - Kegati	New Construction	12.6			
		2.	Nyaguta – Gentungurumu –	New Construction	3.0			
			Gesere - Omososa					
		3.	Birongo – Chirchiro – Irondi -	New Construction	6.7			
			Nyanturago					
		4.	Access to Irondi Primary &	New Construction	0.5			
			Dispensary					
		5.	Access to Irondi Secondary	New Construction	0.8			
		6.	Keumbu – Riondonga – Nyanturbo	New Construction	6.7			
			- Ibeno					
		SUB T	OTAL		30.3			
			B. REHABILITATION					
		1.	Riariga - Getungurumu	Rehabilitation	2.4			
		SUBT	TOTAL	I	2.4			
			C. ACCESSIBILITY & MOTOR	ABILITY				
		1.	Amariba – Nyanderema - Nyaguta	Improvement to	3.0			
		1.	7 mariou 1 vyanacrema 1 vyagata	gravel wearing	3.0			
				course,				
				construction of				
				drainage structures				
				and approach roads				
		2.	Nyanderema - Nyakwana	Improvement to	1.2			
				gravel wearing				
				course,				
				construction of				
				drainage structures				
				and approach roads				
		3.	Chirchiro – Ibacho - Kiamokama	Improvement to	10.0			
				gravel wearing				
				course,				

	ue Date 12 th June, 20			
SN	Project	Clarific	cation, Amendment and Response	
				construction of drainage structures and approach roads
		4.	Edaraja (Nyanturago) - Chirchiro	Improvement to gravel wearing course, construction of drainage structures and approach roads
		SURT	ΓΟΤΑL	16.9
			ND TOTAL	49.6
		2. Bill 3. The	10, 25 and 26 have been added to the	as been amended and attached as annex
2.	RWC686:	1. The	VAT component has been amended	and updated from 14% to 16%
	Upgrading to			cipated upgrading works and has hence
	Bitumen Standard		n removed from the revised BoQ	
	of Oinobmoi			nd C do not apply; the Contractor shal
	Kapkelelwa –			* * *
	Kapkayo - Tenges/		out his rates. The Quantities have not	
	Kapkayo - Kipsaos		•	as been amended and attached as <i>anne</i> :
	Roads	2 ar	nd should be used in place of the attac	hed BoQ in the tender document
	Upgrading to Bitumen Standard of Jn B66 Kianjai/ Kirindine - Miathene - Mikinduri (C356) Road	1. The	tender has no revisions	
4.	RWC688: Upgrading to Bitumen Standard of Kunene/St.			
	Anne (Jn B66) - Kimachia - Kagaene - Mulika - Miomponi Road	1. The	tender has no revisions	
5.	RWC689: Upgrading to Bitumen Standard and Maintenance Of Mweiga - Brookside - Kimathi University (D449/D450A)	BoO 2. The	e revised BoQ with revised quantities	vorks and has been removed from the has been amended and attached as he attached BoQ in the tender documen

SN	Project		eation, Amendment and Response				
6.	RWC690:		•	_			
	Upgrading To		25 and 26 have been added to the BoQ for upgrading	•			
	Bitumen Standard	2. Bill					
		sum	summary.				
	of Kagumoini –	3. The	3. The revised BoQ with revised quantities has been amended and attached as <i>annex</i>				
	Gitugi – Chui –	4 and should be used in place of the attached BoQ in the tender document					
	Karugia Road	1	`				
			er Table 1: Technical & Financial Capacity Evas have been amended	aluatio	n the follow	wing	
		Iten	a 2 Financial Situation:				
			Financial Performance				
			acity to have a cash flow amount of min. KShs. 100, 0 king capital	000,000	0.00 equivale	ent	
		3(c)	3 Experience: Value of Current Contract Commitments / Works curing Organization	in Pro	gress with t	he	
		The	value of pending works with the procuring entity SH	ALL n	ot exceed		
			ns. 30,000,000,000.00				
	RWC691:						
	Upgrading To	2. Qua	ntities under Bill items 1.15 and 1.17 have been amen	nded as	follows		
	Bitumen Standards	Item	1.15 Prime Cost Sum value is Ksh.9,000,000.00				
	of Karanjee Loop	Item	Description	Unit	Quantity]	
	Roads/ Access to		Allow a Prime Cost Sum of Kshs. 9,000,000.00				
	Limuru Girls &	1.15	for the RE's miscellaneous account to be spent in	PC	1		
	Limuru (Jnct		whole or part as directed by the RE against	Sum	1		
7.	Equity)/ Access		receipts.]	
/•	Loop to St. Paul's		1.17 Prime Cost Sum value is Ksh.16,200,000.00	T T •.		1	
	Primary School/	Item	Description		Quantity		
	Access to Kabuku	1.17	Allow a Prime Cost Sum of Kshs. 16,200,000.00 for attendance upon the Resident Engineer' staff.	PC Sum	1		
	Primary School/		for attendance upon the Resident Engineer start.	Sulli]	
	Maramba Tea	3. Qua	ntities under Bill items 26.01 and 26.02 have been a	emove	d. Specificat	tions	
	Factory -Kamwaki/	unde	er relocation of services shall be as directed by the Er	ngineer			
	Bata Loop -	4. The	revised BoQ with revised quantities has been attache	d and s	hould be use	ed in	
	Murengeti Roads	plac	e of the attached BoQ in the tender document				
		-	GCS base shall be improved with either cement or l	ime sha	all be as dire	ected	
			he Engineer. The revised quantities shall be as indicated as indicated the shall be as indicated				
		_	er Bill 14: Cement or Lime treated subbase and base	111	10 TIDOU I	~~ ~	
				. 0611	atad == 0.020	0/ -£	
			Public Procurement Capacity Building Levy shall be	caicul	ateu as 0.035	∕0 OI	
			total 2				
			revised BoQ with revised quantities has been amende			nnex	
		5 an	d should be used in place of the attached BoQ in the	tender (document		
		8. <u>Clau</u>	use 102 EXTENT OF CONTRACT				
		A.]	NEW CONSTRUCTION				
		Item	n no. 4 has been revised to read				
		Item	n no. 4 has been revised to read				

Issue Date 12th June, 2025

SN	Project	Clarification, Amendment and Response
		"Provision of Soft Stone (G30) or Gravel Sub base of minimum CBR of 60%
		(CIG60) to a finished thickness of 150mm or as instructed by the Engineer"
		9. Drawings shall not be part of the tender document
		10. Price adjustment mechanism under sub clause 13.8.1 shall be applicable for this
		tender
		11. The thresholds for advance payment amortization are as indicated under the
		Schedule of payments highlighted under the Special Conditions of Contracts
		not the General Conditions of Contract item 14.2.4

That the submission date for the tenders under the above referenced Tender Notice dated 13th May, 2025 hereby remains as on or before 25th June, 2025 at 11.00 am as revised under Addendum No. 1 dated 22nd May, 2025.

Interested bidders are required to continually check the Authority's website: www.kerra.go.ke for any tender addendums or clarifications that may arise before submission date.

Bidders with enquiries are encouraged to do so vide the email address procurementhq@kerra.go.ke.

All other information remains the same.

Deputy Director (Supply Chain Management) For. DIRECTOR GENERAL

ANNEX 1: REVISED BOQ RWC 685

Issue Date 12th June, 2025 UPGRADING TO BITUMEN STANDARD OF NYABISABO-NYAKWANA-KEGATI/NYAGUTA-NYANDEREMA-AMARIBA/NYAGUTA-GETUNGURUMU-RIARIGA & JNCT C893 OMOSASA-**GETUNGURUMU-GESERE ROADS**

Bill No. 1	: PRELIMINARIES AND GENERAL ITEMS				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
1.01 (i)	Provide or rent accommodation for Engineer's senior and junior staff (i) Type I	month	36.00	65,000.00	2,340,000.00
1.01 (ii)	Provide or rent accommodation for Engineer's senior and junior staff (ii)Type II	month	72.00	55,000.00	3,960,000.00
1.01 (iii)	Provide or rent accommodation for Engineer's senior and junior staff (iii)Type III	month	108.00	40,000.00	4,320,000.00
1.01 (iv)	Provide or rent accommodation for Engineer's senior and junior staff (iv)Type IV	month	144.00	30,000.00	4,320,000.00
1.01 (v)	Provide or rent accommodation for Engineer's senior and junior staff (v)Type V	month	216.00	21,000.00	4,536,000.00
	Total				19,476,000.00
1.02	E.O item 1.01 for contractor's overhead and profit	%	1.00		
1.03	Provide or rent and maintain Engineer's Representative's office as shown on the drawings or as instructed by the Engineer for use during the duration of the Contract.	LS	1.00		
1.04	Provide or rent and maintain Engineer's Site Laboratory for the duration of the Contract.	LS	1.00		
1.05	Provide and maintain Laboratory equipment, reagents and other items as priced in Appendix 'A' to the Bill of Quantities for use by the Engineer's representative for the duration of the contract.	LS	1.00		
1.06 (A)	Provide and maintain furniture, tools and other items for the Engineers Representative office for the duration of the Contract as priced in Appendix `B'.	LS	1.00		
1.06 (B)	Provide and maintain survey equipment as priced in Appendix C for the duration of the contract.	LS	1.00		
1.07	Provide with drivers, fuel and maintain one (1) new 4WD fully loaded Station Wagon of minimum diesel engine capacity 3000cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month.	Veh- Month	36.00		
1.08	E.O item 1.07 for total aggregated mileage in excess of 5000 km per vehicle month.	Km	90,000.00		
1.09	Provide with drivers, fuel and maintain One (1) new 4WD fully loaded double cabin pick-up of minimum diesel engine capacity 2800cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month.	Veh- Month	36.00		
1.10	E.O item 1.09 for total aggregated mileage in excess of 5000 km per vehicle month.	Km	90,000.00		
1.11	Ditto item 1.09, but two (2) new 4WD standard double cabin pick-up of minimum diesel engine capacity 2500cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month.	Veh- Month	72.00		
1.12	E.O item 1.11 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	180,000.00		
1.13	Ditto item 1.09, but two (2)new 4WD Single cabin pick-ups with fibre glass body of minimum diesel engine capacity 2500cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month.	Veh- Month	72.00		

15500	Date 12 Julie, 2023		•		
1.14	E.O item 1.13 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	180,000.00		
1.15	Allow a Prime Cost Sum of Kshs.10,800,000 for the	PC Sum	1.00		
1.13	RE's miscellaneous account to be spent in whole or	1 C Suili	1.00		
	part as directed by the RE against receipts				
1.16	E.O. item 1.15 for Contractor's overheads and profits.	%			
1.17	Allow a Prime Cost Sum of Kshs. 27,000,000.00 for	PC Sum	1.00		
1.1/	attendance upon the Resident Engineer' staff.	1 C Suili	1.00		
1.18	E.O. item 1.17 for Contractor's overheads and profits.	%			
1.19	Provide, erect and maintain publicity signs as directed	No.	22.00		
1.17	by the Engineer.	110.	22.00		
1.20	Allow for lumpsum of Kshs. 3,000,000.00 for training	LS	1.00		
1.20	of Engineer's staff	LS	1.00		
1.21	E.O. item 1.20 for Contractor's overheads and profits.	%			
1.22	Allow for Prime Cost Sum of Kshs. 5,000,000.00 for	PC Sum	1.00		
1.22	Geotechnical Investigations	1 C Suili	1.00		
1.23	E.O. item 1.20 for Contractor's overheads and profits.	%			
1.23	2.0. Rem 1.20 for Confidence 5 overheads and profits.	70			
Total Ril	l 1 Taken to Summary Page				
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Rill No. 4	4: SITE CLEARANCE AND TOP SOIL STRIPPING				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				KATE	(KES)
4.01	Clear site on road reserve including removal of trees,	На	53.00		
	hedges, bushes, other vegetation and deleterious				
	organic material, grub up roots and back fill to 100%				
	MDD (AASHTO T99) with approved material in				
	accordance with the specification.	2	10-2000		
4.02	Remove top soil not exceeding 200mm depth and	m^3	107,200.00		
	spread or stockpile for reuse as directed by the				
4.02	engineer.	D	1.00		
4.03	Allow a Provisional Sum of Kshs.1,000,000 for	Prov.	1.00		
	removal of any structures and obstructions as directed	Sum			
4.04	by the engineer. Payment to be on Dayworks basis.	0./			
4.04	E.O. item 4.03 for Contractor's overheads and profits.	%			
T 4 1 D 1					
Total Bil	l 4 Taken to Summary Page				
D'II NI /	- EADTHWODIZG				
	5: EARTHWORKS	INIT	OH ANDION	DATE	AMOUNT
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for the				
	overhaul material. The cost of such shall be				
	overhaul material. The cost of such shall be included in the rates and/or prices				
5.01	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders	m^3	237,600.00		
5.01	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD	m ³	237,600.00		
5.01	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in	m^3	237,600.00		
5.01	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by	m ³	237,600.00		
	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer		ŕ		
5.01	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer Extra over item 5.01 for compaction of top 300mm	m^3	237,600.00		
5.02	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99)	m^3	84,000.00		
5.02	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99) Ditto item 5.01 but in hard material	m^3 m^3	84,000.00 54,400.00		
5.02 5.03 5.04	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99) Ditto item 5.01 but in hard material Cut to spoil in soft material	m ³ m ³	84,000.00 54,400.00 51,000.00		
5.02 5.03 5.04 5.05	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99) Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material	m ³ m ³ m ³ m ³	84,000.00 54,400.00 51,000.00 17,000.00		
5.02 5.03 5.04	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99) Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Compaction of the top 150mm below formation level	m ³ m ³	84,000.00 54,400.00 51,000.00		
5.02 5.03 5.04 5.05 5.07	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99) Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Compaction of the top 150mm below formation level in cutting to 100% MDD (AASHTO T99)	m ³ m ³ m ³ m ³ m ³	84,000.00 54,400.00 51,000.00 17,000.00 8,400.00		
5.02 5.03 5.04 5.05	overhaul material. The cost of such shall be included in the rates and/or prices Fill in soft material including benching to shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm in accordance with the Specification or as instructed by the Engineer Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99) Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Compaction of the top 150mm below formation level	m ³ m ³ m ³ m ³	84,000.00 54,400.00 51,000.00 17,000.00		

	Date 12 th June, 2025		1	1	1
5.09	Topsoiling prior to grassing in accordance with the specifications	m ²	60,600.00		
5.10	Grassing over sideslopes in cuts and fills as directed by the engineer	m^2	60,600.00		
Total Dil	15 Taken to Summary Page				
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Dill No. 7	7: EXCAVATION AND FILLING FOR STRUCTUR	EC			
ITEM	DESCRIPTION DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for				(KES)
	gravel for blinding or hauling to spoil unsuitable				
	excavation materials and the cost of such shall be				
	included in the rates and prices				
7.01	Excavate for structures in soft material	m^3	7,000.00		
7.02	Ditto item 7.01 but in hard material	m^3	300.00		
7.03	Provide, place and compact rockfill below and around	m^3	4,000.00		
	structures.		,		
7.04	Provide and place 150mm thick stone pitching as	m^2	7,500.00		
	directed by the Engineer including cement grouting				
7.05	Excavate for gabions in soft material.	m^3	2,000.00		
7.06	Provide and place gabion boxes and matresses where directed by the Engineer.	No.	5,500.00		
7.07	Provide and place rock fill to gabion boxes	m^3	1,000.00		
7.08	Place filter fabric under and/or behind gabion boxes	m ²	5,500.00		
	and structures				
7.09	Provide and backfill approved granular material	m^2	4,000.00		
	around new structures, compact to 100% MDD				
	(AASHTO T99) in layers not exceeding 150mm.				
7.10	Allow for protection of structures pursuant to Section	LS	1.00		
7.12	708 of the specifications	T.C.	1.00		
7.13	Provide coffer dams as directed by the Engineer.	LS	1.00		
Total Bil	 7 Taken to Summary Page				
I Otal Dil	17 Taken to Summary Lage				
Rill No. 8	B: CULVERT AND DRAINAGE WORKS				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payments shall be made for				,
	gravel for blinding or hauling to spoil unsuitable				
	excavation material and the cost of such be				
	included in rates and prices				
8.01	Excavate for inlet,outfall,mitre and catch water drains in soft material	m ³	1,500.00		
8.02	Ditto item 8.01 but in hard material	m^3	380.00		
8.03	Excavation in soft material for pipe culverts,	m ³	2,300.00		
	headwalls, wing walls, apron, toe walls and drop inlets				
	and compaction of excavated ground as specified or as				
0.04	directed by the Engineer.	2	7.00.00		
8.04	Ditto item 8.03 but in hard material	m ³	560.00		
8.05	Provide, lay and joint 600mm dia. concrete pipes	m	1,200.00		
8.06	(precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes	m	2,100.00		
0.00	(precast to BS 5911 parts 1 & 3) for cross culverts	'''	2,100.00		
8.09	Provide, place and compact class 15/20 concrete to	m ³	2,900.00		
0.07	beds, surround and haunches	111	2,700.00		
8.10	Provide place and compact class 25/20 concrete for	m ³	950.00		
	headwalls, wingwalls, aprons and toewalls to pipe				
	neuronis, wingward, aprend and tee ward to pipe				
	culverts including all formwork and the provision and				

Issue	Date 12 th June, 2025				
8.11	Provide and place invert block drains with two course side slabs	m	6,000.00		
8.12	Construct in concrete class 15/20 side drains scour checks as instructed	m ³	20.00		
8.13	Provide and place precast concrete slabs 600mm x 600mm x 100mm and place over open lined drains in trade centres and markets (reinforced with A142 wire mesh reinforcement)	No.	20,000.00		
8.15	Remove existing pipe culverts of any diameter either for re-use or to be discarded as directed by the Engineer	m	350.00		
8.16	Provide and place A142 wire mesh reinforcement	m^2	6,290.00		
8.17	Provide, lay and joint ducts and sleeves including 150mm concrete (C15/20) (insert size in mm) heavy duty PVC class B with 150mm surround (precast to BS 5911 Parts 1 & 3) ducts/sleeves	m	150.00		
Total Bil	l 8 Taken to Summary Page				
Bill No. 9 ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for the overhaul material. The cost of such shall be included in the rates and/or prices				
9.01	Construct and maintain diversions in maximum lengths of 5km sections as directed by the Engineer, including 150mm gravel wearing course & all signage, lighting and barriers as directed by the Engineer	km	30		
9.02	Provide, spread, water and compact gravel as directed by the Engineer for maintenance ahead of works.	m ³	56,925		
9.03	Allow for the passage of traffic through and around the works	LS	1		
9.04	Maintenance of existing road including grading, shaping, watering and compaction as directed by the Engineer	km	30		
9.06	Reinstate deviations to original state	km	30		
Total Bil	l 9 Taken to Summary Page				
	Bill No. 10: GRADING AND GRAVELLING	ı			
	Note: No separate payment shall be made for gravel for blinding or hauling and the cost of such shall be included in the rates and prices				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
10.01	Provide gravel wearing course, spread and compact to a finished thickness of 150mm to at least 95% M.D.D (AASHTO T-180) and shape to level and tolerance.	m ³	17,800.00		
Total Bil	l 10 Taken to Summary Page				
Bill No. 1	12: NATURAL MATERIAL BASE AND SUBBASE				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)

Issue	Date 12 th June, 2025				
	Note: No separate payment shall be made for the overhaul material. The cost of such shall be included in the rates and/or prices				
12.01	Provide gravel subbase material, haul spread, compact to 95% MDD (AASHTO T180) and shape to level and tolerance	m ³	3,630.00		
12.02	Provide gravel base material, haul spread, compact to 95% MDD (AASHTO T180) and shape to level and tolerance	m ³	52,800.00		
Total Bi	ll 12 Taken to Summary Page				
D:II No	14: CEMENT AND LIME TREATED MATERIAL				
ITEM	DESCRIPTION DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for the overhaul material. The cost of such shall be included in the rates and/or prices				
14.03	Provide and spread Cement as an improvement agent for sub-base layer	Tonne	220.00		
14.04	Provide and spread cement as an improvement agent for base layers	Tonne	3,509.00		
14.05	Mix and process natural material with improvement agent for pavement layers as instructed by the Engineer or as specified	m ³	56,298.00		
14.06	Protection and curing of cement treated base and sub- base layers	m ²	312,950.00		
Total Bi	ll 14 Taken to Summary Page				
Bill No. ITEM	15: BITUMINOUS SURFACE TREATMENT AND S DESCRIPTION	1		RATE	AMOUNT
HEN		UNIT	QUANTITY	KAIL	AMOUNT (KES)
	Note: No separate payment shall be made for the overhaul of bitumen/chippings as these shall be deemed to have been included in the rates				
15.01	Prepare surface of carriageway and shoulders, provide, heat and spray MC 30 cutback bitumen prime coat	Litres	358,500.00		
15.08	Provide & spray K1-60 as tack coat on carriageway, shoulders and on rumble strips on carriageway, shoulders and on rumble strips at a rate of 0.5-0.8 l/m2	Litres	239,000.00		
Total Bi	ll 15 Taken to Summary Page				
Rill No	16: BITUMINOUS MIXES				
ITEM	DESCRIPTION DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, place and compact Asphalt Concrete Type II to a 35mm thickness on carriageway and bus bays as directed by the Engineer.	m ³	8,822.00		
16.07	Provide and erect Asphalt Concrete Type II bumps and rumble strips as directed by the Engineer.	m ³	28.00		
Total Ri	ll 16 Taken to Summary Page				
I Utal DI	II TO TAKEII TO DUIHIIIAI Y TAGE				

Bill No.	17: CONCRETE WORKS				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m ³	900.00		
17.02	Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and box culverts as shown in drawings.	m ³	5,425.00		
17.03	Provide, place and compact concrete class 30(20) to aprons, wingwalls, abutments, piers, walls and bridge deck and beams as shown in drawings.	m ³	1,233.00		
17.11	High yield reinforcement steel bars to specifications equal to or less than 16mm diameter bar size	TONNE	310.00		
17.12	High yield bond strength reinforcement steel to specifications greater than 16mm diameter bar size	TONNE	120.00		
17.24	Provide & fix in place vertical formwork to achieve Class U F1 finish	m ²	7,300.00		
17.27	Provide & fix in place vertical formwork to achieve Class U F2 finish	m ²	3,120.00		
17.30	Provide & fix in place vertical formwork to achieve Class U F3 finish	m ²	8,250.00		
Total Bi	ll 17 Taken to Summary Page				
	, ng				1
Bill No.	20: ROAD FURNITURE				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
20.01	Provide Road Reserve Boundary posts	No.	270.00		
20.02	Excavate for, provide & place 250x125mm precast concrete raised or ramped kerbs haunched in 100mm				
	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer				
	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight	m	2,000		
	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m	m m	2,000		
20.04	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows:				
20.04	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows: a) Warning signs	m m	2,000 2,000 20		
20.04	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows: a) Warning signs b) Priority, prohibitory and mandatory signs	m m No.	2,000 2,000 20 20		
20.04	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows: a) Warning signs b) Priority, prohibitory and mandatory signs c) Standard informatory signs	m m	2,000 2,000 20		
20.04	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows: a) Warning signs b) Priority, prohibitory and mandatory signs c) Standard informatory signs d) Non standard informatory signs area	m m No. No. No.	2,000 2,000 20 20 20		
20.04	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows: a) Warning signs b) Priority, prohibitory and mandatory signs c) Standard informatory signs d) Non standard informatory signs area i) Less than 1.0 m ²	m m No. No. No.	2,000 2,000 20 20 20 20		
20.04	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows: a) Warning signs b) Priority, prohibitory and mandatory signs c) Standard informatory signs d) Non standard informatory signs area	m m No. No. No.	2,000 2,000 20 20 20		
	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows: a) Warning signs b) Priority, prohibitory and mandatory signs c) Standard informatory signs d) Non standard informatory signs area i) Less than 1.0 m² ii) More than 1.0 m² but less than 5 m² Provide, deliver, paint and mark the road as specified or as directed by the Engineer, with white reflectorized thermoplastic paint from an approved supplier. As item 20.05 but for yellow reflectorized	m m No. No. No. No.	2,000 2,000 20 20 20 20 20 20		
20.05	thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer (a) Straight (b) Kerbs radius 12m - 6m (c) Ditto but radius 5m - 1m Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows: a) Warning signs b) Priority, prohibitory and mandatory signs c) Standard informatory signs c) Standard informatory signs d) Non standard informatory signs area i) Less than 1.0 m² ii) More than 1.0 m² but less than 5 m² Provide, deliver, paint and mark the road as specified or as directed by the Engineer, with white reflectorized thermoplastic paint from an approved supplier.	m m No. No. No. No. No. m²	2,000 2,000 20 20 20 20 20 7,200		

Issue	Date 12 th June, 2025				
20.08	Provide and erect flex-beam guardrails complete with connections as shown on the drawings or as directed by the Engineer	m	500		
20.09	Provide and erect edge marker posts as directed by the Engineer	No.	100		
20.10	Provide and erect Kilometer marker posts as directed by the Engineer	No.	50		
20.14	Provide and install cat-eyes as directed by the Engineer	No.	660		
20.21	Provide approved reflectorised white paint and mark 0.2 m wide for bus bays as directed by the Engineer.	m ²	30		
Total Bil	l 20 Taken to Summary Page				
D'II N	MARCELL ANEONS BRIDGE (BRIEF WORKS				
ITEM	21: MISCELLANEOUS BRIDGE/DRIFT WORKS DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
21.01	Provide 100 mm diameter drain pipes and insert heavy duty PVC 100mm diameter as instructed by the Engineer	No.	100		(KES)
21.02	Provide diameter weepholes and insert heavy duty PVC 100mm diameter on abutments or as instructed by the Engineer	No.	180		
21.03	Provide and fix hand rails 75 mm diameter on crash barriers, with hold down brackets at not more than 2.5 meter intervals	No.	780		
21.04	Provide and apply bitumen emulsion or cutback bitumen or bitumen/rubber latex emulsion to all structural concrete in contact with fill material or cut soil.	m2	240		
21.05	Provide and place into position handrails to kerbs of bridge deck & ramps as shown on the drawing and as directed by the Engineer.	m	50		
21.06	Provide and place a 0.5-1.0m wide granular material of size 14/20 mm to structural concrete in contact with fill material.	m3	500		
21.07	Provide and place as directed by the Engineer PVC pipes of diametre 75 mm and length 300 mm to form storm drain pipes of the bridge deck	No.	200		
21.08	Provide and fix bearings as directed by the Engineer.	No.	12		
Total Bil	l 21 Taken to Summary Page				
Bill No. 2	22: Schedule of Dayworks	1		1	
	The rates inserted herein are to include all				
	operational and Maintenace costs, fuel, oil, grease,				
	drivers/operators wages, supervision, overheads and profit. Only time actually employed upon the				
	work will be paid for and the rates should include				
	for idle time, travelling time and overtime,In				
	accordance with clause 2202 (a) of the				
	specifications.Note: All items of plant must be				
ITEM	priced. DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
22.01	Crawler dozers with hydraulic attachmentsto include ripper				(KES)
	a) Up to 135 kw rated flywheel power	hrs	20.00		
	b) Over 136 kw rated flywheel power	hrs	20.00		
	<u> </u>		1	1	

I I E IVI	DESCRIF HUN	UNIT	QUANTITY	RATE	AMOUNT (KES)
BILL No ITEM	. 25 : HIV/AIDS, Gender & Social Issues, Local Parti DESCRIPTION		OHANTITY	DATE	AMOUNT
TULAL DIII	1 22 Taken to Summary 1 age				1
Total Bil	 22 Taken to Summary Page				
22.32	AC Type II Ex-plant	m ³	50.00		
22.31	AC Type I Ex-plant	m^3	50.00		
22.3	6/10mm nominal size surface chips	m ³	10.00		
22.29	14/20 mm nominal size surface chips.	m^3	10.00		
22.28	Kerosene	Litre	200.00		
22.27	Straight run bitumen Grade 80/100.	Litre	200.00		
22.26	Bitumen Emulsion KI-60.	Litre	200.00		
22.25	Rough shuttering timber.	m^2	100.00		
22.24	Wrot Shuttering Timber	m^2	100.00		
22.23	Coarse Aggregate for Concrete	m^3	100.00		
22.22	Fine Aggregate for Concrete	m ³	100.00		
22.21	High Yield Steel (any diametre)	Ton	10.00		
22.19	Mild Steel(any diametre)	Ton	10.00		
22.18	Hydrated Lime	Ton	10.00		
22.18	to the site, storage, handling, overheads and profit Ordinary Portland Cement 42.5 N	Ton	10.00		
	The rates inserted herein are to include for delivery				
	All materials are to comply with the Specification.				
	MATERIALS	1110			
22.17	Watchmen (all round surveillance)	hrs	500.00		
22.16	Office attendants and chainmen	hrs	500.00		
22.15	Artisans	hrs	500.00		
22.14	Unskilled Labour	hrs	500.00		
	for.				
	the actual time engaged upon the work will be paid				
	time, over-time, use and maintenance of small tools of trade, supervision, overheads and Profit.Only				
	labour such asinsurance, accommodation, travelling				
	The rates inserted herein are to include all costs of				
	LABOUR				
22.13	Concrete poker vibrator	hrs	40.00		
22.12	Concrete Mixer of 100 - 150litres	hrs	40.00		
	pick-up pump				
22.11	Self propelled water tanker 4,500ls min. capacity with	hrs	40.00		
22.1	50mm delivery water pump and motor	hrs	40.00		
	bucket capacity				
22.09	Articulated wheel loader with 1.5-2.0m3 SAE rated	hrs	40.00		
	bucket capacity of upto 1m3.				
22.00	backhoe/loader and a rated	1113	40.00		
22.08	Dual purpose hydraulic excavator with	hrs	40.00		
22.07	Small dumpers, 750-1000kg rated payload	hrs	40.00		
22.05	Cat 950G wheel loader or equivalent 10 Tonne tipper lorry	hrs hrs	40.00		
22.04	Hand propelled vibrating roller 650 - 1300kg	hrs	40.00		
22.04	b) Over 8.91 tonne un-ballasted weight	hr	20.00		
	a) 6.5 - 8.81 tonne un-ballasted weight	hr	20.00		
22.03	Vibratory Roller				
	b) Over 100kw rated flywheel power	hrs	20.00		
	a) Up to 110kw rated flywheel power	hrs	50.00		
22.02	Motor Grader				
	Date 12 th June, 2025	1		ı	

	Date 12 th June, 2025				
25.01	All for a prime cost sum of KShs 5,000,000 (five	PC sum	1.00		
	Million) for ESIA study and report, Compliance				
	Audits and environmental monitoring.				
25.02	E.O for Item 25.01 for Contractor's Oveheads and	%			
	Profit				
25.03	Allow for engagement of a HIV/AIDS specialist	Months	36		
	subcontractor to deal with prevention, awareness				
	activities as per programme to be approved by the				
	Engineer				
25.04	Allow for the availability of male and female condoms	No.	2,000		
	to workers and staff strategically and socially				
	presented for the duration of the contract				
25.05	Allow for preparation and submmision of monthly	Months	36		
	reports on HIV/AIDS awareness and prevention				
	activities. Report to be tabled at site meetings.,				
25.06	Provide, Instal and maintain HIV/AIDS awareness bill	No.	4		
	boards with approved message and graphics with				
	maximum area 4m2 fabricated as per specifications of				
	permanent informatory sign boards				
25.07	Allow for vedio shows on HIV/AIDS related	No.	12		
	awareness and prevention matters every 3months				
25.08	Allow for production and distribution of HIV/AIDS				
	awareness material as follows:		• • • • • • • • • • • • • • • • • • • •		
	a) T-Shirt printed with approved message and	No.	200		
	graphics				
	b) Ditto (a) above but caps	No.	100		
	c) A1 size weather proved posters	No.	20		
	d) A3 size weather proved posters	No.	100		
	e) 200x150mm stickers with HIV/AIDS	No.	100		
	awareness/prevention slogan				
	f) Key rings with HIV/AIDS awareness/prevention	No.	500		
	slogan	NT.	500		
	g) Ball point pens with HIV/AIDS awareness /	No.	500		
	prevention slogan.				
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1 otal Bill	25 Taken to Summary Page				
DILI M.	26 . Land Aganisition Ayla Land Control J.D.I.	action of C	Yanna aa		
ITEM	. 26 : Land Acquisition, Axle Load Control, and Relo DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	DESCRIPTION	UNII	QUANTITY	KAIL	(KES)
26.03	Allow a Prime Cost Sum of Ksh. 10,000,000 for	PC Sum	1.00		(KES)
20.03	relocation of services as instructed or directed by the	1 C Suill	1.00		
	Engineer.				
26.04	E.O. item 26.03 for Contractor's overheads and	%			
20.07	profits.	/0			
Total Rill	26 Taken to Summary Page	!		!	
TUTAL DIII	20 Taken to Summary Lage				

CONTRACT No.: RWC685

UPGRADING TO BITUMEN STANDARD OF NYABISABO-NYAKWANA-KEGATI/NYAGUTA-NYANDEREMA-AMARIBA/NYAGUTA-GETUNGURUMU-RIARIGA & JNCT C893 OMOSASA-GETUNGURUMU-GESERE ROADS

GRAND SUMMARY OF BILL OF QUANTITIES

BILL ITEM	DESCRIPTION	AMOUNT (KShs)
1 EWI	Preliminaries and General Items	
4	Site Clearance and Top soil stripping	
5	Earthworks	
7	Excavation and Filling for Structures	
8	Culvert and Drainage Works	
9	Passage of Traffic	
10	Grading and Gravelling Works	
12	Natural Material Base and Subbase	
14	Cement and Lime Treated Material	
15	Bituminous Surface Treatment and Surface Dressing	
16	Bituminous Mixes	
17	Concrete Works	
20	Road Furniture	
21	Miscellaneous Bridge/Drift Works	
22	Schedule of Dayworks	
25	HIV/AIDS, Gender & Social Issues, Local Participation	
26	Land Acquisition, Axle Load Control, and Relocation of Services	
A.	Sub-Total (1)	
B.	Add 15% Variation of Price On Sub-Total (1)	
C.	Add 10% Contingency on Sub-Total (1)	
D.	Sub-Total $2 = A + B + C$	
E.	Add .03% For PPCBL of sub total (2)	

APPENDIX	A June, 2023				
	TO BILL ITEM 1.05:				
	AND MAINTAIN FURNITURE AND EQUIPME	NT FOR	THE EN	CINEED'S I AI	RODATORV
ITEM	DESCRIPTION DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	1. FURNITURE			(120110)	(11212)
A104/1.01	Desk 2.2x0.9 m with chair and lockup drawers	No	2		
A104/1.02	Desk chair (standard)	No	15		
A104/1.03	Stationery cupboard, 1.2 m³, lockable	No	2		
A104/1.04	Steel filing cabinet, 4 drawers, lockable	No	2		
A104/1.05	Steel filing cabinet, 2 drawers, lockable	No	2		
A104/1.06	Bookshelf, 3 shelves 1.2 m long (to hold box files)	No	2		
A104/1.07	Table - 6 m ²	No	2		
A104/1.08	Two Plate electric heater	No	1		
A104/1.09	Fire extinguisher, 10 litre capacity, CO ₂ type	No	4		
A104/1.10	Complete first aid kit	No	2		
1110 1/1110	EQUIPMENT	110			
	(The following equipment shall be purpose made				
	for use in the Engineer's laboratories and shall				
	comply with the relevant British (BS) or American				
	(AASHTO) Standard)				
	2. General Equipment				
A104/2.02	2.49kg. Compaction hammer, drop regulated to 304.8mm	No	2		
A104/2.03	4.535kg compaction hammer drop regulated to 457.2mm	No	2		
A104/2.04	Electric vibrating Kango Hammer fitted with steel tamper(BS 1377) with support frame	No	1		
A104/2.05	Straight edge 300 mm long with handles	No	4		
A104/2.06	Steel Tamper (BS1377) compatible with Kango hammer	No	3		
A104/2.07	Compaction mould 152.4 mm. dia x 116.43 mm complete with base plate and extension collar, 101.6 mm	No	2		
A104/2.08	Galvanized metal tray 1m x 0.5m x 75 mm deep	No	4		
A104/2.09	75mm brush	No	2		
A104/2.10	Semi-automatic balance, 25kg Capacity accurate	No	1		
A104/2.11	to 1g, including weights 20mm BS Sieve, 300mm diameter	No	1		
A104/2.11 A104/2.12	Stop Clock	No	2		
A104/2.12 A104/2.13	Thermostatically controlled electric oven 105-	No	2		
	110°C, capacity 0.225 m ³				
A104/2.14	As above but gas heated	No	1	1	
A104/2.15	Moisture content tins, 75 mm dia, Cadmium or aluminium plated	No	60		
A104/2.16	Cone penetrometer with gauge and automatically controlled test cup	No	2		
C/Forward	to next page				
B/Forward	From previous page				
	3. Density (Sand replacement method BS 1377)				
A104/3.01	Metal containers 450mm diameter	No	2		
A104/3.02	Stainless steel tray 305mm diameter	No	2		
A104/3.03	Metal tray with 150 mm diameter hole in the	No	2		
	centre, 300mmx300 mm square or equivalent area, 40mm deep				
A104/3.04	Metal tray with 200mm diameter hole in the centre, 500mm x 500 mm square, 50 mm deep	No	2		
A104/3.05	Steel pegs for fixing tray in position	No	15		
1110 113.03	Seed post for mains day in position	110	1.0		

Issue Dat	te 12 th June, 2025			
A104/3.06	Sand pouring cylinder, 150 mm diameter	No	2	
A104/3.07	Sand pouring cylinder, 215 mm diameter	No	2	
A104/3.08	Cold steel chisel 20mm x 300mmm	No	4	
A104/3.09	Cold steel chisel 10mm x 250mmm	No	4	
A104/3.10	1.5kg, 3.5kg hammers and 1kg rubber mallet	Set	1	
A104/3.11	Scoop for removing excavated material from hole,	No	6	
7110 1/3.11	250 mm long handle	110		
A104/3.12	100mm brush, soft	No	3	
A104/3.12 A104/3.13	50mm brush, soft	No	3	
A104/3.13 A104/3.14	Primus gas stove	No	1	
A104/3.14 A104/3.15	č	No	3	
	Calibrating can 150 mm diameter x 150 mm deep		3	
A104/3.16	Ditto but 200 mm diameter x 250 mm deep	No	3	
	4. Density (Nuclear Density method AASHTO T238)			
A104/4.01	Nuclear density gauge (Troxler 3411B or similar approved) complete with 3 no. hole forming device and 3 no. guide	No	1	
	5. CBR (AASHTO T193)			
A104/5.01	CBR mould, 152.4 mm dia x 178 mm high, complete with perforated base plate and extension collar 50.8 mm high that can be fitted to either side of mould	No	50	
A104/5.02	Perforated swell plate 150 mm dia with an adjustable centre post of rust proof metal provided with a lock-nut	No	40	
A104/5.03	2.25 kg split surcharge weight	No	2	
A104/5.04	Set of annular surcharge weights	No	1	
A104/5.05	Solid base plate for CBR mould	No	2	
A104/5.06	Static compaction displacer discs 1 Nox 61.4 mm,	set	1	
1110 1100	1 No x 50.8 mm and 2 Nox 38.8 mm thick with handles	500		
A104/5.07	Disk lifting handle	No	2	
A104/5.08	Central extruder, complete with 20kN hydraulic jack and accessories	No	1	
C/Forward	to next page			
	From previous page			
A104/5.09	Automatic CBR Proctor Compaction press, 50	No	1	
A104/3.07	tonnes capacity with an adjustable distance between platens of 530mm-250mm, rammer weights and automatic count selector	110		
A104/5.10	Set of guards for above press.	No	1	
A104/5.11	50 kN CBR Load frame complete with stabilising bar (electric and hand operated) including proving rings for 10KN, 28KN and 50KN, piston and bracket	No	1	
A104/5.12	Penetration gauge range 0 - 25mm	No	2	
A104/5.13	CBR piston including bracket	No	2	
A104/5.14	Swell measurement tripod complete with guage calibrated in 0.01 mm divisions	No	2	
A104/5.15	Soaking tank for CBR mould sufficient for 50 moulds	No	1	
	6. Relative Density of Aggregates (BS 812)			
A104/6.01	Wire mesh basket with apertures not greater than 6.5 mm large enough to contain 2.5 kg of aggregate	No	2	
A104/6.02	A stout watertight container in which the basket can be freely suspended	No	2	
A104/6.03	Soft absorbent cloth (tea towel)	No	10	
A104/6.04	Shallow tray of area not less than 0.065 m ²	No	2	

A104/6.05 An airight container of similar capacity to the basket A104/6.00 Pyenometer of I litre capacity No. 4	Issue Dat	te 12 th June, 2025			
A104/6.06 Semi automatic 5 kg balance accurate to 0.1g to be of size and type to permit the basket containing the sample to be suspended in water(to be supplied with weights) A104/6.08 Hot air drier (electric) No 2	A104/6.05	An airtight container of similar capacity to the	No	2	
A104/6.07 Semi automatic 5 kg balance accurate to 0.1 gt o be surplice to permit the basket containing the sample to be suspended in water(to be supplied with weights)					
A104/6.08 Hot air dire (electric) Hot air dire (electric) A104/7.01 Thickness gauge (various sizes) No 2	A104/6.06	Pycnometer of 1 litre capacity	No	4	
Sample to be suspended in water(to be supplied with weights) Sample to be suspended in water(to be supplied with weights) Sample water	A104/6.07	Semi automatic 5 kg balance accurate to 0.1g to be	No	1	
With weights		of size and type to permit the basket containing the			
With weights		sample to be suspended in water(to be supplied			
7. Flakiness (BS 12)					
7. Flakiness (BS 12)	A104/6.08	Hot air drier (electric)	No	2	
S. Sieve Analysis (BS 1377)		7. Flakiness (BS 812)			
S. Sieve Analysis (BS 1377)	A104/7.01	Thickness gauge (various sizes)	No	2	
A104/8.01 BS Sieve 300mm diameter in sizes 75, 63, 50, Set 2 37.5, 28, 20, 14, 10, 6.3, 5 and 4 mm, plus lid and receiver A104/8.02 BS Sieve 200mm diameter in sizes 2, 1, 0.6, 0.5, Set 2 3 3 3 3 3 3 3 3 3					
37.5, 28, 20, 14, 10, 6.3, 5 and 4 mm, plus lid and receiver preceiver	A104/8.01		Set	2	
Receiver					
0.425, 0.300,0.150 and 0.075 mm, plus lid and receiver No 1					
0.425, 0.300,0.150 and 0.075 mm, plus lid and receiver	A104/8.02	BS Sieve 200mm diameter in sizes 2, 1, 0.6, 0.5,	Set	2	
receiver					
A104/8.05					
A104/8.05	A104/8.03	Electric sieve shaker	No	1	
A104/8.05	A104/8.04	BS sieve 200mm diameter 0.425 and 0.075 mm	set	1	
A104/9.12 BS sieve 450mm diameter, 37.5mm No 1	A104/8.05	1 m x 1 m x 75mm deep galvanized metal tray	No	10	
Section Sect	A104/8.06		No	1	
B/Forward From previous page 9. Miscellaneous Equipment Neel barrow No 3 A104/9.02 Dustpan and brush No 3 A104/9.03 Shovel No 4 A104/9.03 Shovel No 4 A104/9.05 Metal scoop, large (150mm wide) No 3 A104/9.06 Metal scoop, large (150mm wide) No 4 A104/9.06 Metal scoop, medium (100mm wide) No 4 A104/9.07 Garden trowel No 2 A104/9.07 Steel tray 0.3m x 0.3m x 0.01m deep No 15 A104/9.09 Palette knife 200mm long blade No 3 A104/9.10 Palette knife 200mm long blade No 4 A104/9.11 BS sieve 450mm diameter, 37.5mm No 1 A104/9.12 BS sieve 450mm diameter, 20mm No 1 A104/9.13 BS sieve 450mm diameter, 20mm No 1 A104/9.15 BS sieve 450mm diameter, 0.425mm No 1 A104/9.16 BS sieve 450mm diameter, 0.075mm No 1 A104/9.16 BS sieve 450mm diameter, 0.075mm No 1 A104/9.17 Set of lid and receiver for metal scoop and steel trays A104/9.18 BS Sieve brush No 2 A104/9.19 BB Sieve brush No 1 A104/9.10 BB Sieve brush No 2 A104/9.10 BB Sieve brush No 1 A104/9.10 BB Sieve brush No 1 A104/9.10 BB Sieve brush No 2 A104/9.10 BB Sieve brush No 1 A104/9.20 BB Sieve brush No 1 A104/9.21 BB Sieve brush No 1 A104/9.22 BB Sieve brush No 1 A104/9.23 BB Sieve brush A104/9.24 BB Sieve brush A104/9.25 BB Sieve brush No 1 A104/9.25 BB Sieve brush A104/9.25 BB Sieve brush No 1 A104/9.25 BB Sieve brush A104/9.25 BB Sieve brush A104/9.25 BB Sieve brush A104/9.26 BB Sieve brush A104/9.26 BB Sieve brush A104/9.26 BB Sieve brush	C/Forward	, ,			
No Second Secon					
A104/9.01 Wheel barrow No 3 A104/9.02 Dustpan and brush No 3 A104/9.03 Shovel No 4 A104/9.03 Shovel No 4 A104/9.05 Pick axe with handle No 4 A104/9.05 Metal scoop, large (150mm wide) No 3 A104/9.06 Metal scoop, medium (100mm wide) No 2 A104/9.08 Steel tray 0.3m x 0.3m x 0.01m deep No 15 A104/9.09 Palette knife 200mm long blade No 3 A104/9.10 Palette knife 200mm long blade No 3 A104/9.11 BS sieve 450mm diameter, 37.5mm No 1 A104/9.12 BS sieve 450mm diameter, 20mm No 1 A104/9.13 BS sieve 450mm diameter, 20mm No 1 A104/9.14 BS sieve 450mm diameter, 0.425mm No 1 A104/9.15 BS sieve 450mm diameter, 0.075mm No 1 A104/9.16 BS sieve 450mm diameter, 0.075mm No 1 A104/9.17 Set of lid and receiver for metal scoop and steel No 2 A104/9.19 Measuring cylinder set, 25 ml, 100 ml, 300 ml, 2000 ml A104/9.20 Glass jar capacity 5 litres with lid No 10 A104/9.21 200mm x 200mm x 20mm cadmium plated or aluminium tin A104/9.22 Electronic balance capacity 1000 g, accurate to 0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g No 1 A104/9.24 Balance 50kg capacity accuracy to 0.1g No 1 A104/9.25 Still for producing distilled water No 1 A104/9.25 Still for producing distilled water No 1 A104/9.26 Still for producing distilled water No 1 A104/9.26 Polythene or glass 20 litres storage vessel with tap No 2 A104/9.26 A104/9.26 Still for producing distilled water No 1 A104/9.26 A104/9.26 Still for producing distilled water No 1 A104/9.26 A104/9.26 A104/9.26 Still for producing distilled water No 1 A104/9.26					
A104/9.02 Dustpan and brush No 3	A104/9.01		No	3	
A104/9.03 Shovel No 4 A104/9.04 Pick axe with handle No 4 A104/9.05 Metal scoop, large (150mm wide) No 3 A104/9.06 Metal scoop, medium (100mm wide) No 4 A104/9.07 Garden trowel No 2 A104/9.08 Steel tray 0.3m x 0.3m x 0.01m deep No 15 A104/9.09 Palette knife 200mm long blade No 3 A104/9.10 Palette knife 100mm long blade No 4 A104/9.11 BS sieve 450mm diameter, 37.5mm No 1 A104/9.12 BS sieve 450mm diameter, 20mm No 1 A104/9.13 BS sieve 450mm diameter, 20mm No 1 A104/9.15 BS sieve 450mm diameter, 0.425mm No 1 A104/9.16 BS sieve 450mm diameter, 0.075mm No 1 A104/9.17 Set of lid and receiver for metal scoop and steel No 2 A104/9.19 Measuring cylinder set, 25 ml, 100 ml, 500 ml, 2000 ml A104/9.20 Glass jar capacity 5 litres with lid No 10 A104/9.21 200mm x 200mm x 20mm cadmium plated or aluminium tin A104/9.22 Electronic balance capacity 1000 g, accurate to 0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g (manual), including weights A104/9.26 Still for producing distilled water No 1 A104/9.26 Still for producing distilled water No 1 A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap A104/9.26 Polythene or glass 20 litres storage vessel with tap A104/9.26 Polythene or glass 20 litres storage vessel with tap A104/9.26 A104/9.26 Polythene or glass 20 litres storage vessel with tap A104/9.26 A104/9.26 Polythene or glass 20 litres storage vessel with tap A104/9.26 A104/		Dustpan and brush	No		
A104/9.04 Pick axe with handle	A104/9.03		No	4	
A104/9.05 Metal scoop, large (150mm wide) No 3		Pick axe with handle		4	
A104/9.06 Metal scoop, medium (100mm wide) No 4 A104/9.07 Garden trowel No 2 A104/9.08 Steel tray 0.3m x 0.3m x 0.01m deep No 15 A104/9.09 Palette knife 200mm long blade No 3 A104/9.10 Palette knife 100mm long blade No 4 A104/9.11 BS sieve 450mm diameter, 37.5mm No 1 A104/9.12 BS sieve 450mm diameter, 20mm No 1 A104/9.13 BS sieve 450mm diameter, 5mm No 1 A104/9.14 BS sieve 450mm diameter, 0.425mm No 1 A104/9.15 BS sieve 450mm diameter, 0.425mm No 1 A104/9.16 BS sieve 450mm diameter, 0.075mm No 1 A104/9.17 Set of lid and receiver for metal scoop and steel trays A104/9.18 BS Sieve brush No 2 A104/9.19 Measuring cylinder set, 25 ml, 100 ml, 500 ml, 1000 ml, 2000 ml A104/9.20 Glass jar capacity 5 litres with lid No 10 A104/9.21 200mm x 200mm x 20mm cadmium plated or aluminium tin A104/9.22 Electronic balance capacity 1000 g, accurate to 0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g (manual), including weights A104/9.24 Balance 50kg capacity accuracy to 0.1g (manual), including weights A104/9.25 Still for producing distilled water No 1 A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 A104/9.26 A104/9.26 A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom A104/9.26 Polythene or glass 20 litres s				3	
A104/9.08 Steel tray 0.3m x 0.3m x 0.01m deep No 15	A104/9.06		No	4	
A104/9.09 Palette knife 200mm long blade No 3	A104/9.07	Garden trowel	No	2	
A104/9.09 Palette knife 200mm long blade No 3	A104/9.08	Steel tray 0.3m x 0.3m x 0.01m deep	No	15	
A104/9.10 Palette knife 100mm long blade No 4	A104/9.09		No	3	
A104/9.11 BS sieve 450mm diameter, 37.5mm No 1	A104/9.10		No	4	
A104/9.13 BS sieve 450mm diameter, 5mm No 1	A104/9.11		No	1	
A104/9.13 BS sieve 450mm diameter, 5mm No 1		·	No	1	
A104/9.14 BS sieve 450mm diameter, 0.425mm No 1	A104/9.13		No	1	
A104/9.15 BS sieve 450mm diameter, 0.3mm No 1 A104/9.16 BS sieve 450mm diameter, 0.075mm No 1 A104/9.17 Set of lid and receiver for metal scoop and steel trays A104/9.18 BS Sieve brush No 2 A104/9.19 Measuring cylinder set, 25 ml, 100 ml, 500 ml, set 2 A104/9.20 Glass jar capacity 5 litres with lid No 10 A104/9.21 200mm x 200mm x 20mm cadmium plated or aluminium tin A104/9.22 Electronic balance capacity 1000 g, accurate to 0.01g (manual), including weights A104/9.24 Balance 2000 g capacity accuracy to 0.1g (manual), including weights A104/9.25 Still for producing distilled water No 1 A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom	A104/9.14		No	1	
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A104/9.19 Measuring cylinder set, 25 ml, 100 ml, 500 ml, set 1000 ml, 2000 ml No 10 Ml, 2000 ml No 10 Ml, 2000 ml No 200 ml No		_			
A104/9.20 Glass jar capacity 5 litres with lid A104/9.21 200mm x 200mm x 20mm cadmium plated or aluminium tin A104/9.22 Electronic balance capacity 1000 g, accurate to 0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g (manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom	A104/9.18	BS Sieve brush	No	2	
A104/9.21 Glass jar capacity 5 litres with lid A104/9.21 200mm x 200mm x 20mm cadmium plated or aluminium tin A104/9.22 Electronic balance capacity 1000 g, accurate to 0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g No 1 (manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom	A104/9.19	Measuring cylinder set, 25 ml, 100 ml, 500 ml,	set	2	
A104/9.21 200mm x 200mm x 20mm cadmium plated or aluminium tin A104/9.22 Electronic balance capacity 1000 g, accurate to 0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g No (manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including No weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom					
aluminium tin A104/9.22 Electronic balance capacity 1000 g, accurate to No 1 0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g No 1 (manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including No weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap No 2 at bottom	A104/9.20	Glass jar capacity 5 litres with lid	No	10	
A104/9.22 Electronic balance capacity 1000 g, accurate to 0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g No 1 (manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including No weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap No 2 at bottom	A104/9.21	200mm x 200mm x 20mm cadmium plated or	No	20	
0.01gm. A104/9.23 Balance 2000 g capacity accuracy to 0.1g No 1 (manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including No 1 weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap No 2 at bottom					
A104/9.23 Balance 2000 g capacity accuracy to 0.1g No 1 (manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including No weights A104/9.25 Still for producing distilled water No 1 No	A104/9.22	Electronic balance capacity 1000 g, accurate to	No	1	
(manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom No 1 A104/9.26 No 2		1 .			
(manual), including weights A104/9.24 Balance 50kg capacity accurate to 10gm including weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom No 1 A104/9.26 No 2	A104/9.23	Balance 2000 g capacity accuracy to 0.1g	No	1	
weights A104/9.25 Still for producing distilled water A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom No 2 at bottom					
A104/9.25 Still for producing distilled water No 1 A104/9.26 Polythene or glass 20 litres storage vessel with tap at bottom 1	A104/9.24	Balance 50kg capacity accurate to 10gm including	No	1	
A104/9.26 Polythene or glass 20 litres storage vessel with tap No 2 at bottom					
at bottom					
	A104/9.26		No	2	
A104/9.27 Stiff broom No 2				1	
	A104/9.27	Stiff broom	No	2	

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A104/9.28	Vernier calipers, 150mm	No	2		
A104/9.29	Vernier calipers, 250mm	No	2		
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A104/9.30	Pestle and mortar	No	2		
A104/9.31	Linear shrinkage mould (BS 1377)	No	6		
A104/9.32	Liquid Limit Device	No	2		
A104/9.33	Average least dimension gauge	No	2		
A104/9.34	Lockable tool box containing: 1 pr"Molegrips", 2	No	1		
	x 150mm screwdriver, 2 x 200 mm screwdriver, 2 x 300 mm screwdriver, (1 standard and 1 Phillips head of each) adjustable spanners 200 mm and 300 mm, 1 pair round nosed pliers, 1 pair general purpose pliers,				
A104/9.35	Plastic or metal bucket including lid,10 litres capacity	No	6		
A104/9.36	Polythene wash bottle (500 ml)	No	5		
A104/9.37	A4 size clipboard	No	4		
A104/9.38	Thermometer, range -10°C to150°C, glass (BS 593)	No	2		
A104/9.39	Laboratory thermometer, range + 0°C to + 250°C (BS 593)	No	2		
A104/9.40	Maximum and minimum thermometer (BS692)	No	2		
A104/9.41	Rain gauge	No	1		
A104/9.42	Portable dial thermometer + 50°C to +250°C accurate to ± 3%	No	1		
A104/9.43	Ditto with 0.75m long stem	No	1		
A104/9.44	Pocket thermometer + 50°C to +250°C accurate to ± 3% with 0.1 m stem	No	2		
A104/9.45	5 litre capacity steel storage containers with leak and dust proof lids for storage of bitumen samples	No	50		
A104/9.46	Hotplate 200mm diameter with Simmerstat heat control unit.	No	2		
A104/9.47	450mm diameter x 150mm deep metal mason's basin	No	6		
	10. Standard Specifications (Copies of each of the latest editions of the following Standards)				
A104/10.01	BS 598	No	1		
A104/10.02	BS 812	No	1		
A104/10.03	BS 882	No	1		
A104/10.04	BS 1377	No	1		
A104/10.05	BS 1881	No	1		
A104/10.06	BS 1924	No	1		
A104/10.07	Standard Specifications for Transportation Material and Methods of Sampling and Testing (AASHTO) Parts I and II, 14th Edition	Set	1		
A104/10.08	ASTM D1559	No	1		
A104/10.09	Asphalt Institute, Superpave Manual Series No.2(SP-2)	No	1		
A104/10.10	Overseas Road Note 19	No	1		
A104/10.11	BS 5911 Part 1 &3	No	1		
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	11. Concrete: Slump and Cube Manufacture (BS 1881)				
A104/10.12	BS 4449	No	1		
A104/11.01	Slump cone, tamping rod and base	set	2		
A104/11.02	Concrete cube mould, 150mm cube	No	30		
	,			ı	

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A104/11.03	Soaking tank for cubes (capacity 50 No.)	No	1		
A104/11.04	Cube tamping bars	No	10		
	12. Concrete: Cube Compression Testing				
A104/12.01	Concrete compression machine to BS1610 Grade	No	1		
	A with 300 mm gauge, rectangular platens,				
	capacity 1560 kN with load spacer				
A104/12.02	Safety guard for above				
A104/12.03	50mm distance piece				
A104/12.04	70mm distance piece				
A104/12.05	Electro-mechanical load pacer, 100 mm or				
	equivalent distance piece				
	13. Aggregate and Chippings				
A104/13.01	Sand equivalent to AASHTO T176 including	Set	1		
	graduated plastic cylinder, rubber stopper,				
	irrigation tube weighted foot assembly, siphon				
	assembly, 85ml tin box (57mm dia.), 100 mm dia				
	wide mouth funnel, stop clock, mechanical shaker				
	and 10 litre jar				
A104/13.02	Beaker 250ml	No	2		
A104/13.03	Aggregate Crushing Value Apparatus, 150 mm	No	2		
	nominal diameter, including plunger and base				
	plate				
A104/13.04	Tamping rod and metal measure for above	Set	4		
A104/13.05	Los Angeles Abrasion to ASTM standards	No	1		
A104/13.06	Set of 12 abrasive charges	No	2		
A104/13.07	Thermometer, 0°C to +50°C	No	2		
A104/13.08	Thermometer, 0°C to +250°C	No	2		
A104/13.09	Reagent grade Silica gel, 500g container	No	50		
	14. Bitumen Spray Test (BS 1707)	- 15			
A104/14.1	Transverse distribution of spray test bitumen	Set	1		
11101/1111	distributor (depot tray test to BS 1707) or		1		
	equivalent.				
A104/14.02	Steel tray 20 mm deep x0.1m ² (for measuring	No.	4		
1110-7/17.02	bitumen spray rates) with purpose made	110.	'		
	detachable handle 1.5m long.				
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D/I UI Walu I	16. Bitumen Extraction Test				
	A) Extractor Bottle Method BS 598 Part 2				
A104/16.01	Electronic top pan balance 4kg capacity, sensitive	No	1		
A104/10.01	to 0.1gm	110	1		
A104/16.02	Flat bottomed scoop	No	3		
A104/16.02 A104/16.03	Steel garden trowel	No	2		
		No	2		
A104/16.04	Large steel spoon		_		
A104/16.05	Heat resistant gloves	pair	10		
A104/16.06	Foot pump for pressurising air water assemblies up	No	2		
	to a maximum of 700KN/m ² and fitted with				
	flexible hose approximately 1.2m long and				
A 104/16 07	connector	NI.	12		
A104/16.07	Steel bottle 600ml capacity with 49mm rubber	No	2		
A 104/15 00	stopper	NT	12		
A104/16.08	Steel bottle 2500ml capacity with 71mm rubber	No	2		
14644555	stopper				
A104/16.09	Steel bottle 7000ml capacity with 71mm rubber	No	2		
	stopper				
A104/16.10	Flask funnel for fitting to the 700ml steel bottle	No	2		
	with rim of funnel retaining sieve 200mm nominal				
	diameter				

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A104/16.11	Bottle roller compact bench mounted unit	No	1		
	designed to rotate 2 bottles simultaneously about				
	longitudinal axis				
A104/16.12	Pressure filter complete with cutting tool for	No	1		
	making hole in the filter paper				
A104/16.13	Filter funnel to take 200mm nominal diameter	No	2		
1110 11 10110	sieves	1,0			
A104/16.14	Centrifuge complying with BS 598	No	1		
A104/16.15	Binder recovery	No	1		
A104/16.16	Volumetric flask 250ml, 500ml, 1000ml and	set	2		
A104/10.10	2000ml capacity	SCI	2		
A104/16.17	Recovery still for Dichloromethane	No	1		
A104/10.17	B) Hot Extractor Method BS 598 Part 2	INO	1		
A 104/16 10	,	No	2		
A104/16.18	Hot extractor complete with wire gauze container	NO	2		
A 104/16 10	gasket, cork lid and support assembly				
A104/16.19	Dean and Stark receiver with condenser to suite				
A 104/16 20	Trichloroethylene	NT	1		
A104/16.20	Gyratory compactor ELE Servo Pac or equivalent	No	1		
	with 1 x 100mm and 1 x 150mm moulds				
A104/16.21	PRD Vibrating hammer compactor complete with	No	1		
	6 moulds, 7 base plates from ELE				
A104/16.22	Two (2) sets of Tamping foot 102mm diameter				
	and 146mm diameter and shanks to fit the supplied				
	vibratory hammer				
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B/Forward l	From previous page 17. Consumables				
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A104/17.01 A104/17.02	From previous page 17. Consumables Paraffin wax Gas	Kg	1600		
A104/17.01 A104/17.02 A104/17.03	From previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge	Kg No	1600 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04	From previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge	Kg No No	1600 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05	From previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5	Kg No No	1600 500 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	From previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100)	Kg No No	1600 500 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05	From previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5	Kg No No No	1600 500 500 500 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100)	Kg No No No	1600 500 500 500 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	From previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5	Kg No No No No	1600 500 500 500 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07	From previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100)	Kg No No No No	1600 500 500 500 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	From previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100)	Kg No No No No No	1600 500 500 500 20 20		
B/Forward I A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100)	Kg No No No No No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 270mm diameter with 33 diameter	Kg No No No No No	1600 500 500 500 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08 A104/17.09 A104/17.10	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100)	Kg No	1600 500 500 500 20 20 20 10		
B/Forward J A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10 A104/17.11	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum)	Kg No	1600 500 500 500 20 20 20 10 15		
B/Forward I A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08 A104/17.10 A104/17.11 A104/17.12	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane	Kg No	1600 500 500 500 20 20 20 10 15		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10 A104/17.11 A104/17.12 A104/17.13	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste	Kg No No No No No No No No No kg kg	1600 500 500 500 20 20 20 10 15 2 0 50		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10 A104/17.11 A104/17.12 A104/17.13 A104/17.14	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste Gas cylinders compatible with supplied stoves	Kg No kg kg No	1600 500 500 500 20 20 20 10 15 2 0 50 10		
B/Forward J A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10 A104/17.11 A104/17.12 A104/17.13 A104/17.14 A104/17.15	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste Gas cylinders compatible with supplied stoves Sodium sulphate	Kg No kg kg No kg	1600 500 500 500 20 20 20 10 15 2 0 50 10 45		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08 A104/17.10 A104/17.11 A104/17.12 A104/17.13 A104/17.14 A104/17.15 A104/17.16	Prom previous page 17. Consumables Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste Gas cylinders compatible with supplied stoves	Kg No kg kg No	1600 500 500 500 20 20 20 10 15 2 0 50 10		

AP	APPENDIX B APPENDIX TO BILL ITEM 1.06A: PROVIDE, FURNISH AND MAINTAIN THE R.E.'S OFFICE PEGGNATION AMOUNT							
AP								
DE	SCRIPTION	UNIT	QTY	(KSHS)	(KSHS)			
	1. ENGINEER'S MAIN OFFICE AND FURNITURE							
1	Executive desk 2.2x0.9 m with six lockup drawers	No	2					
2	Desk 2.2x0.9 m with chair and three lockup drawers	No	4					
3	Office tables	No	3					
4	Executive Swivel orthopeadic chair adjustable height	No	2					
5	Standard office chairs	No	8					
6	Bench 3m long with cushioned backrest (located as directed)	No	1					
7	Typist's desk	No	1					
8	Typist's chair	No	3					
9	Lockable steel stationery cupboard, 1.2 m³, lockable	No	4					
1 0	Medium size steel filing cabinet, 4 drawers lockable	No	4					
1 1	Medium size steel filing cabinet, 2 lockable drawers lockable	No	3					
1 2	Bookshelf, 1.5 m wide 3 shelves (for box files) sliding glass door	No	3					
1 3	Conference table with 12 chairs	No	1					
1 4	Waste paper basket	No.	5					
1 5	Curtains for office and laboratory -for all windows and doors	Set	2					
1 6	Ordinary 2 hole paper punch	No	2					
1 7	Heavy duty 2 hole paper punch	No	2					
1 8	Set of full divided scale (metric 1/1000, 1/2500, 1/500, 1/2000, 1/1250, 1/1500)	No	1					
1 9	Computer meeting the following specifications or equivalent: Personal computer with 20" screen full multimedia, 1000GB hard disk, 12.0GB RAM, Core i7 processor, complete with all accessories preloaded with latest versions of windows OS, MS Office, Professional and MS Project	No	2					
2 0	Autocad Civil 3D 2012 and Licences for above computers	No	2					
2	As A103/2.11 but with 15" screen	No	4					
2 2	Laptop PC with Intel Core i7-350M Processor 15.4" screen, 12GB DDR3 RAM 1000GB 8xDVD+/-RW or similar approved with Microsoft Windows professional	No	1					
2 3	Latest HP (A4) Laser Printer with accessories	No	3					
2 4	Latest HP (A3) Laser Printer with accessories	No	1					
2 5	UPS 600 VA	No	6					
2 6	wall clocks, battery powered min size 350mm x 350mm	No	2					
2 7	Safe for cash and valuables min.size approx. 0.8mx0.5mx0.4m to be concreted in place (wall/floor mounted) complete with lock and keys	No	1					
2 8	First Aid Kit	No	4					

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	Forward to next page			
B/F	orward From previous page			
2	Fire Extinguisher	No	4	
9				
3	Filing Tray - set of 3no.	set	10	
0				
3	Refrigerator minimum capacity 0.2 m ³	No	1	
1				
3	Drinking water dispenser, hot/cold	No	1	
2				
3	Table - 0.8 m ² surface area	No	1	
3				
3	Cupboard, 0.15 m ³ , lockable	No	1	
4	cupocara, viis in , isomacie	110	1	
3	Cooker 4 plate electric cooker with oven and grill	No	1	
5	Cooker i place electric cooker with oven and gim	110	1	
3	A3 Photocopier (approved make), with feeder sorting	No	1	
6	trays, scanner and print capability	110	1	
3	Reams of A4 phocopying paper	No	100	
7	Realis of 714 phocopying paper	140	100	
3	Reams of A3 phocopying paper	No	20	
8	Realis of 715 phocopying paper	140	20	
3	Electronic scientific calculator, Casio fx 992s or	No	6	
9	equivalent approved	110		
4	Stapling machine Ofrex size 50 or similar with 5000	No	6	
0	staples	110	O	
4	Heavy duty punch and spiral binder, IBICO AG or similar	No	2	
1	approved			
4	Inkjet Plain Paper Fax Machine with 4MB of memory	No	1	
2				
4	Pencil sharpener (desk mounted type)	No	6	
3				
4	Digital Camera, 20.1 Megapixel(min), 1920x1080 full HD	No	1	
4	movie recording, optical steadyShot, sweep panorama,			
	2.7" LCD screen, minimum 15x digital zoom, multimedia			
	card/SD 8GB memory, 12 scene selection modes, all			
	inclusive.			
4	PABX Telephone system including intercom connecting	item	1	
5	all offices and laboratory. rate includes headsets, wiring			
	and operational costs. including High Speed Internet			
	Access using optic fibre or HDSL (High Data Digital			
	Subscriber Line) broadband connection networked to all			
	computers, with annual subscription paid during the entire			
	contract period.			
Tot	al carried to Bill Item 1.06A			

<u> </u>	IDIX TO BILL ITEM 1.06B ENGINEERS'S SUR	<u>VE</u> Y EQ	<u>UI</u> PME	NT	
	Description	UNIT	QTY	RATE	AMOUNT (KSHS)
1.01	Digital Total Station reading to 1"accuracy (one	No.	1		
	second) with the following facilities				
	· Inbuilt data logger				
	· Uploading/downloading software				
	· Data transfer cable				
	· Battery (2No)				
	· Battery charger				
	· Tool kit				
	· Two face keyboard				
	· User manual				
	It must have the following inbuilt survey programs				
	as a minimum				
	Survey				
	Staking out				
	· Resection/intersection				
	· Traverse				
	· Cogo				
.02	The following mandatory total station accessories				
	must be included per Total station instrument				
	1No. Heavy duty telescopic tripod(preferably	No.	1		
	wooden)				
	Telescopic plumbing prism pole complete with a	No.	3		
	prism and prism holder with target and plumbing				
	bubble (length not less than 2.15m)				
	Triple prism holder set, in a casing, comprising	No.	1		
	triple prisms, prisms holder with target, tribrach				
	and a tribrach adaptor				
	1No. Survey umbrella	No.	1		
	1No.Telescopic Tripod	No.	1		
.03	Engineer's Automatic Level Wild NAK 2 or	No.	2		
.05	similar with a tripod and the following	110.	_		
	specifications:-				
	· Accuracy of 0.7 mm per 1 km double run				
	Standard magnification of: 32x				
	Shortest focusing distance of 1.6m				
	· Compensator setting accuracy of 0.3"				
.04	Hand held GPS with accuracy of 1 Metre	No.	1		
.05	Set of two way radio communication with a range	set.	1		
	of 1 kilometer				
.06	5 M Leveling staff with leveling bubble	No.	4		
.07	3 M Ranging Rods	No.	10		
.08	Scientific Calculators FX 912ms or equivalent	No.	3		
.09	30m. Linen Measuring Tape	No.	6		
.10	1 M stainless steel straight edge	No.	1		
.11	3 m tape measure	No.	6		
.12	Sledge hammer 2kg weight	No.	2		
.13	Mattock	No.	2		1
.14	Pangas (16'')	No.	4		†
.15	Roll of Tracing Paper	No.	1		
			<u> </u>		+
.16	Graph Paper A3 Size	No.	10		1
.17	Marker Pens	No.	20		1
.18	Reflector Jackets	No.	10		1
.19	Laptop	No.	1		
.2	Scale Rules	No.	2		

1.21	Drawing Pen (0.25mm)	No.	2	
1.22	Graph paper 1mm(roll)	No.	1	
Total c	arried to Bill Item 1.06B			

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ANNEX 2: REVISED BOQ RWC 686
THAT LETT Z. REVISED BOOK IV. C 000
LIDODADINO TO DITUMEN OTANDADO OF OINODMOLIZADIZELEL WALIZADIZAVO

	NO. 1. PRELIMINARIES AND GENERAL ITEMS	S			
ITE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
M			`		(KSHS)
1.01	Provide or rent accommodation for Engineer's				
	senior and junior staff				
	(i) Type I (1No)	Month	42	65,000	2,730,000.00
	(i) Type II (3No.)	Month	84	55,000	4,620,000.00
	(iii) Type III (5No.)	Month	84	40,000	3,360,000.00
	(iv) Type IV (5No.)	Month	126	30,000	3,780,000.00
	(v) Type V (10No.)	Month	210	21,000	4,410,000.00
	Total	Total Item			18,900,000.0
		1.01			0
1.02	E.O item 1.01 for contractor's overhead and profit	%			
1.03	Provide or rent and maintain Engineer's	LUMP SUM	1		
	Representative's office as shown on the drawings or				
	as instructed by the Engineer for use during the				
	duration of the Contract, ownership to revert to the				
	Contractor at the end of the Contract				
1.04	Provide or rent and maintain Engineer's Site	LUMP SUM	1		
	Laboratory for the duration of the Contract,				
	ownership to revert to the Contractor at the end of				
1.05	the Contract	TID (D GID (1		
1.05	Provide and maintain Laboratory equipment,	LUMP SUM	1		
	reagents and other items as priced in Appendix 'A'				
	to the Bill of Quantities for use by the Engineer's				
1.06	representative for the duration of the contract.	LIMP CIM	1		
1.06	Provide and maintain furniture, tools and other	LUMP SUM	1		
A	items for the Engineers office and Engineer's				
	representative houses as priced in Appendix B for the duration of the contract				
1.06	Provide and maintain survey equipment as priced in	LUMP SUM	1		
B	Appendix C for the duration of the contract	LOWIF SOM	1		
1.07	Provide with drivers, fuel and maintain One (1)	Veh Month	54		
1.07	new 4WD fully loaded station wagons of minimum	V CII IVIOIIII	J-1		
	diesel engine capacity 2400cc approved by the				
	Engineer for his exclusive use, inclusive of the first				
	5000km per vehicle month. Vehicle to revert to the				
	Contractor at the end of the project.				
1.08	EO item 1.07 for total aggregated mileage in excess	km	63,000		
	of 5000km per vehicle month.				
1.09	Provide with drivers, fuel and maintain Two (2)	Veh Month	84		
	new 4WD fully loaded double cabin pick-ups of				
	minimum diesel engine capacity 2400cc approved				
	by the Engineer for his exclusive use, inclusive of				
	the first 5000km per vehicle month. Vehicle to				
	revert to the Contractor at the end of the project.				
1.10	EO item 1.07 for total aggregated mileage in excess	km	126,00		
	of 5000km per vehicle month.		0		
1.11	Ditto item 1.09, but one (1) new 4WD standard	veh Month	42		
	double cabin pick-up of minimum diesel engine				
	capacity 2400cc approved for the exclusive use of				
	the Engineer inclusive of the first 5000km per				
	vehicle month. Vehicles to revert to the Contractor				
	at the end of the project.				

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	ssue Date 12 th June, 2025	1	-		1
1.12	E.O item 1.09 for total aggregated mileage in excess of 5000 km per vehicle per month.	km	63,000		
1.13	Ditto item 1.09, but two (2) new 4WD Single cabin	veh Month	84		
	pick-up with fibre glass body, with cushioned				
	benches of minimum diesel engine capacity 2200cc				
Ī	approved for the exclusive use of the Engineer				
	inclusive of the first 5000km per vehicle month.				
	Vehicle to revert to the Contractor at the end of the				
	project.				
1.14	E.O item 1.11for total aggregated mileage in excess	km	72,000		
	of 5000 km per vehicle per month.	KIII	72,000		
1.15	Allow a Prime Cost Sum of Kshs. 12,600,000 for	PC Sum	1		
1.15	the RE's miscellaneous account to be spent in	1 C Sum	1		
	whole or part as directed by the RE against receipts.				
1.16	E.O. item 1.13 for Contractor's overheads and	% of item			
1.10	profits.	70 01 Item			
1.17	Allow a Prime Cost Sum of Kshs 37,800,000.00 for	PC Sum	1		
	attendance upon the Resident Engineer' staff.				
1.18	E.O. item 1.15 for Contractor's overheads and	% of item			
	profits.				
1.19	Provide/Repair/Replace the stickers on 4No.	No	4		
	Existing project signboard as directed by the				
	Engineer				
1.20	Allow a Prime Cost Sum of Kshs 3,000,000.00 for	PC Sum	1		
	relocation of services				
1.21	E.O item 1.17 for Contractor's overheads and	% of item			
	profits				
1.22	Provide and maintain for the duration of the	No	1		
	contract a mobile weigh bridge with manufacturers				
	warranty, as specified in Appendix E in a PDF file.				
	The weigh bridge to revert to employer at				
	commencement of the project. Allowances for				
	repairs and maintenance must be included in the				
	quotation				
1.23	Allow for Prime Cost Sum of Kshs. 5,000,000.00	PC Sum	1		
10	for				
	training of Engineers				
1.24	E.O. item 1.23 for Contractor's overheads and	%			
1.2	profits	70			
1.25	Allow for Prime Cost Sum of Kshs. 4,000,000.00	PC Sum	1		
1.23	for	1 C Sum	1		
	post construction pavement investigation and				
	review				
1.26	E.O. item 1.25 for Contractor's overheads and	%			
1.20	profits.	7.0			
Rill Na	o. 1 Total Carried Forward to Grand Summary	<u> </u>			
D111 1 1 (or a rotal Carriou rot ward to Grand Summary				
BILL	NO. 4 : SITE CLEARANCE AND TOP SOIL STR	IPPING			
ITE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
M					(KSHS)
TAT		1	1.0		
4.01	Clear site on road reserve including removal of all	Ha.	13		
	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up	Ha.	13		

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	and compact to 100% MDD(AASHTO T99) with				
	approved material as directed by the Engineer.				
4.02	Strip top soil upto 0.2m in thickness along	m^3	24,200		
	alignment or material sites including removal of all				
	grass and other vegetation, transport to spoil and				
	spread or stock pile for re-use as directed by the				
	Engineer.				
4.03	Provide Kshs. 1,000,000 for the removal of	Prov. Sum	1		
	structures and obstructions as instructed by the				
	Engineer to be paid on dayworks basis				
Bill N	o. 4 Total Carried Forward to Grand Summary	1		ı	
BILL	NO. 5 : EARTHWORKS				
ITE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
M	BESCHI IION	OTVII	Q11	IMIL	(KSHS)
111	NOTE: No separate payment shall be made for				(113113)
	the overhaul of material and the cost of such				
	haulage shall be included in the rates and/or				
	prices inserted				
5.01	Fill in soft material including benching of shoulders	m^3	110,75		
0.01	and embankments and compaction to 95% MDD		0		
	(AASHTO T99) in layers not exceeding 150mm				
5.02	Extra Over Item 5.01 for compaction of the top	m^3	152,00		
3.02	300mm subgrade to 100% MDD		0		
5.03	Ditto item 5.01 but in hard material	m^3	11,100		
5.04	Cut to spoil in soft material	m^3	217,00		
3.01	Cut to spoil in soil material		0		
5.05	Ditto item 5.04 but in hard material	m^3	108,50		
			0		
5.06	Provide improved sub grade material as directed by	m^3	149,00		
	the Engineer to a compaction of 100% MDD		0		
	(AASHTO T99)				
5.07	Compaction of top 300mm below formation level	m^3	134,00		
	in cuts to 100% MDD (AASHTO T99)		0		
5.08	Compaction of 150mm original ground below fills	m^3	74,000		
	to 95% MDD.(AASHTO T99)				
5.09	Top-soiling prior to planting grass as directed by	m^2	83,000		
	the Engineer				
5.10	Grassing as directed by the Engineer	m^2	83,000		
Bill N	o. 5 Total Carried Forward to Grand Summary				
BILL	NO. 7: EXCAVATION AND FILLING OF STRU	CTURES			
ITE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
M			_		(KSHS)
	These work items covers all excavations and				
	filling operations to bridges, box culverts,				
	retaining walls and other major structures.	<u> </u>			
7.01	Excavate to spoil in soft materials.	m^3	12,000		
7.02	As item 7.01 but in hard material.	m^3	3,000		
7.03	Provide, place and compact rockfill below strucures.	m^3	1,000		
7.04	Provide and place 150mm thick stone pitching	m^2	20,000		
	including grouting as directed by the Engineer.				
7.05	Excavate for gabions in soft material.	m^3	10,000		
	· · · · · · · · · · · · · · · · · · ·	1		i	L

1	ssue Date 12 th June, 2025				
7.06	Provide and place gabion boxes and matresses where directed by the Engineer.	m^2	11,000		
7.07	Rockfill to gabions.	m ³	8,000		
7.08	Filter fabric behind gabion boxes.	m^2	6,000		
7.09	Provide and backfill approved material around new	m^3	9,000		
7.07	box culverts, compact to 100% MDD (AASHTO		7,000		
	T99) in layers not exceeding 150mm.				
7.10	Allow for protection of structures pursuant to	LS	1		
7.10	Section 708 of the specifications				
7.11	Allow for the provision and removal of cofferdams	LS	1		
, , , , ,	or other measures for the exclusion of water from				
	site and for protection of works against floods.				
Bill N	o. 7 Total Carried Forward to Grand Summary	1	1		
BILL	NO. 8. CULVERTS AND DRAINAGE WORKS				
ITE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
M					(KSHS)
	Note:				
	No separate payments shall be made for gravel for				
	blinding or hauling to spoil unsuitable excavation				
	materials and the cost of such shall be included in				
	the rates and prices.				
8.01	Excavate for inlet,outfall,mitre and catch water	m^3	12,000		
	drains in soft material				
8.02	As per item 8.01, but for hard material	m^3	3,000		
8.03	Excavation in soft material for pipe	m^3	15,000		
	culverts, headwalls, wingwalls, apron, toewalls, and				
	drop inlets and compact as directed by the engineer	2			
8.04	As per item 8.03, but for hard material	m ³	3,750		
8.05	Provide, lay and joint 600mm dia. concrete pipes	m	2,500		
0.06	(precast to BS 5911 Parts 1 & 3) for access roads		1.500		
8.06	As for item 8.05 but 900mm dia concrete pipes	m	1,500		
0.07	(precast to BS 5911 parts 1 & 3) for cross culverts		600		
8.07	As for item 8.05 but 1200mm dia concrete pipes	m	600		
8.08	(precast to BS 5911 parts 1 & 3) for cross culverts Provide and place class 15/20 concrete to beds,	m^3	7,500		
8.08	surround and haunches	111	7,300		
8.09	Provide, place and compact class 25(20) concrete	m ³	3,500		
0.07	for headwalls, wingwalls, aprons, and toewalls to		3,500		
	access and cross pipe culverts including all form				
	work and the provision and placing of				
	reinforcement as shown in the drawings				
8.10	Provide and place invert block drains with two	m	800		
	course side slabs (Provisional)				
8.11	Construct in concrete class 15(20) side drains scour	m^3	800		
	checks as instructed				
8.12	Provide and place precast concrete slabs 1000mm x	No.	500		
	600mm x 50mm and place over open lined drains				
	in trade centres and markets			<u> </u>	
8.13	Provide subsoil filter drains fabric to isolated wet	m	1,000		
	spots inclusive of artesian cloth, and 14/20mm				
	single size aggregates as directed by the Engineer				

Issue Date 12th June, 2025 8.14 Remove existing pipe culverts of any diameter 400 m either for re-use or to be discarded as directed by the Engineer Bill No. 8 Total Carried Forward to Grand Summary **BILL NO. 9: PASSAGE OF TRAFFIC** DESCRIPTION UNIT ITE **OTY** RATE **AMOUNT** M (KSHS) NOTE: Notwithstanding the provision of Section 9 of the Standard Specification, no extra payments shall be due as all costs shall be deemed to be included in the rates inserted herein 9.01 Construct and maintain diversions in maximum km lengths of 5km sections as directed by the Engineer, including including 150mm wearing course gravel all signage, lighting and barriers Provide, spread, water and compact gravel of m^3 9.02 minimum CBR 30% as directed by the Engineer for maintenance works. Allow for the passage of traffic through and around LS 9.03 Grade, water and compact existing road ahead of 9.04 km works Bill No. 9 Total Carried Forward to Grand Summary **BILL NO. 12: NATURAL MATERIAL FOR SUBBASE AND BASE** ITE **DESCRIPTION UNIT QTY RATE AMOUNT** M (KSHS) Note: No overhaul will be paid for separately under these items as it shall be deemed to have been included in the Contractor's rates Provide gravel Sub-base material, haul, spread, 12.01 m^3 150,00 compact to at least 95% M.D.D (AASHTO T-180) and shape to level and tolerance. Ditto item 12.01 but for base 12.02 m^3 140,00 0 Bill No. 12 Total Carried Forward to Grand Summary **BILL NO. 14: CEMENT OR LIME TREATED SUBBASE AND BASE** DESCRIPTION ITE **UNIT OTY RATE AMOUNT** M (KSHS) Note: No overhaul will be paid for separately under these items as it shall be deemed to have been included in the Contractor's rates Provide and spread Lime as an improvement agent 14.01 Tonne 2,900 for sub-base /base Provide and spread Cement as an improvement 14.02 Tonne 7,933 agent for sub-base /base Provide and spread Cement as an improvement 14.03 Tonne 10,633

agent for base

Is	ssue Date 12 th June, 2025				
14.04	Mix and process natural material with improvement	m^3	140,00		
	agent for pavement layers as instructed by the		0		
	Engineer or as specified(Mix-in-place method)				
14.05	Curing of cement / lime treated base and sub-base	m ²	261,50		
	layers		0		
Bill No	o. 14 Total Carried Forward to Grand Summary				
	•				
BILL	NO. 15: BITUMINOUS SURFACE TREATMENT	T & SURFAC	CE DRESSIN	G TO SH	OULDERS
ITE M	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (KSHS)
15.01	Prepare surface of road base and shoulders,	Litres	642,20		
	provide, heat and spray MC 30 cutback bitumen prime coat at 0.8-1.2 Litres/m ² .		0		
15.02	Prepare surface of road base and shoulders,	Litres	428,20		
	provide, heat and spray K1-60 bitumen emulsion		0		
	tack coat at 0.5-0.8 Litres/m2.				
Bill No	o. 15 Total Carried Forward to Grand Summary		<u> </u>		
			-		
	NO. 16: BITUMINOUS MIXES	,		_	
ITE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
M		2			(KSHS)
16.01	Provide, lay and compact 35mm Asphalt Concrete	m^3	18,600		
	Type II wearing course as directed by the Engineer				
	at Bitumen Content of 5.5 - 7.0% by weight of				
16.00	total mix.	3	550		
16.02	Provide place and compact Asphaltic concrete type	m^3	550		
	I for construction of bumps and rumblesat Bitumen				
	Content of 5.5 - 7.0% by weight of total mix.				
D;II N	o. 16 Total Carried Forward to Grand Summary				
DIII IN	o. 10 Total Carried Forward to Grand Summary				
RILL	NO. 17. CONCRETE WORKS				
ITE	110. 17. CONCRETE WORKS				
		UNIT	OTV	DATE	AMOUNT
	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (KSHS)
M	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (KSHS)
	DESCRIPTION BRIDGES AND BOX CULVERTS	UNIT	QTY	RATE	
M	DESCRIPTION BRIDGES AND BOX CULVERTS Concrete			RATE	
	DESCRIPTION BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete	UNIT m ³	QTY 2,000	RATE	
M 17.01	DESCRIPTION BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m ³	2,000	RATE	
M	DESCRIPTION BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to			RATE	
M 17.01	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs	m ³	2,000	RATE	
M 17.01	DESCRIPTION BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to	m ³	2,000	RATE	
17.01 17.02	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs for box culverts abd bridges as shown in drawings.	m ³	2,000	RATE	
17.01 17.02	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs for box culverts abd bridges as shown in drawings. Provide, place and compact concrete class 30(20) to	m ³	2,000	RATE	
17.01 17.02	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs for box culverts abd bridges as shown in drawings. Provide, place and compact concrete class 30(20) to main beams, cross-beams, deck and approach slabs	m ³	2,000	RATE	
17.01 17.02	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs for box culverts abd bridges as shown in drawings. Provide, place and compact concrete class 30(20) to main beams, cross-beams, deck and approach slabs as shown in drawings.	m ³	2,000	RATE	
17.01 17.02 17.03	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs for box culverts abd bridges as shown in drawings. Provide, place and compact concrete class 30(20) to main beams, cross-beams, deck and approach slabs as shown in drawings. Reinforcement: Provide, cut, bend & fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer	m ³	2,000	RATE	
17.01 17.02	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs for box culverts abd bridges as shown in drawings. Provide, place and compact concrete class 30(20) to main beams, cross-beams, deck and approach slabs as shown in drawings. Reinforcement: Provide, cut, bend & fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer High yield reinforcement steel bars to BS 4461	m ³	2,000	RATE	
17.01 17.02 17.03	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs for box culverts abd bridges as shown in drawings. Provide, place and compact concrete class 30(20) to main beams, cross-beams, deck and approach slabs as shown in drawings. Reinforcement: Provide, cut, bend & fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer High yield reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	m ³ m ³ Tonne	2,000 8,300 1,450 -	RATE	
17.01 17.02 17.03	BRIDGES AND BOX CULVERTS Concrete Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer Provide, place and compact concrete class 25(20) to aprons, wingwalls, abutments, piers, walls and slabs for box culverts abd bridges as shown in drawings. Provide, place and compact concrete class 30(20) to main beams, cross-beams, deck and approach slabs as shown in drawings. Reinforcement: Provide, cut, bend & fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer High yield reinforcement steel bars to BS 4461	m ³ m ³	2,000 8,300 1,450	RATE	

15	ssue Date 12 th June, 2025	1	ı	1	1
	Formwork: Provide, erect and afterwards	_	_	_	
	dismantle and remove all the formwork as				
	specified by the Engineer				
17.24	Provide & fix in place formwork to achieve class	m^2	22,000		
	F1 finish				
17.25	Vertical formwork to achieve class F3 finish	m^2	2,000		
17.25	vertical formity of the define	111	2,000		
17.33	Class 20/20 Pallon commented comments for mad	m^3	700		
17.33	Class 20/20 Roller compacted concrete for road	III	700		
	construction 100 mm, incl. A142 Steel reinforcing				
	mesh mats (6mm)				
DILL NA	1577 + 167 - 147				
Bill No	o. 17 Total Carried Forward to Grand Summary				
	NO. 20: ROAD FURNITURE	T		1	
ITE M	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (KSHS)
20.01	Provide Road Reserve Boundary posts	No.	300		
20.02	Excavate for, provide & place 250 x 125mm		-		
	precast concrete raised or ramped kerbs haunched				
	in 100mm thick class 15/20 concrete base bedding				
	and mortar joined in support to carriageway,				
	busbays and junctions as directed by the Engineer.				
	a) Straight kerbs	m	420		
	b) Kerbs radius 12m - 6m	m	100		
	c) Ditto but radius 5m - 1m		100		
20.03	As 20.02 but for flush kerbs 100 x 125mm	m	420		
		m	420		
20.04	Provide and erect permanent road signs where				
	instructed by the Resident Engineer and in				
	accordance with Special Specifications Clause 2004				
	as follows:	N	(0)		
	a) warning signs	No.	60		
	b) Priority prohibitory and mandatory signs	No.	60		
	c) Standard informatory signs	No.	60		
	d) Non standard informator signs area				
	i) Less than 1.0m ²	No.	60		
	ii) More than 1.0m ² but less than	No.	60		
	5m ²				
20.05	Provide, deliver, paint and mark the road as	m^2	20,600		
	specified or as directed by the Engineer, with white				
	reflectionized thermoplastic paint from an approved				
	supplier.				
20.06	As item 20.05 but for yellow reflectionized	m^2	10,800		
	thermoplastic paint				
20.07	Provide and erect concre posts for guardrails	No.	900		
	complete with spacers (size and interval) as per				
	specifications or as directed by the Engineer				
20.08	Provide and erect flex-beam guardrails complete	m	900		
	with connections as shown on the drawings or as				
	directed by the Engineer				
20.09	Provide Edge marker posts	No.	180		
20.10	Provide kilometre marker posts as directed by the	No.	150		
20.10	Engineer	1.0.			
L	- Linginion	l		L	l

	o. 20 Total Carried Forward to Grand Summary				
RILL	NO. 21: MISCELLANEOUS BRIDGE WORKS				
ITE M	DESCRIPTION DESCRIPTION	UNIT	QTY	RATE	AMOUNT (KSHS)
21.01	Provide 75-100mm diameter weepholes to suit abutments and structural walls to structures as instructed by the Engineer	No	750		
21.02	Provide 75-100mm diameter weepholes todeck slab and insert 100mm diamater PVC heavy duty 600mm long top sealed with perforated steel grating	No	500		
21.03	Provide and install elastomeric bearings LEB IRHD size 500 x 450 x 54mm thick	No	100		
21.04	Movement joints at abutments and piers including dowels (provisional)	m	120		
21.05	25mm thick flex cell or similar approved low compression joint filler at expansion joint	m	120		
21.06	Providing and placing bitumen emulsion or cutback bitumen or bitumen/rubber latex emulsion to all structural concrete in contact with fill material or cut soil.	m^2	2,000		
21.07	Paraseal or similar approved cold poured polysulphide joint sealant	m	120		
21.08	Provide and place into position handrails to kerbs of bridge deck & ramps as shown on the drawing and as directed by the Engineer.	m	1,250		
21.09	Provide and place into position galvanised flexibeam guardrails including end pieces, nuts and bolts along the approaches to the bridges as per drawings and as instructed by the Engineer	m	1,250		
21.10	Provide and place a 0.5m wide drainage layer of class 14/20 mm to structural concrete in contact with fill material.	m³	700		
Bill No	o. 21 Total Carried Forward to Grand Summary				
					-
BILL	NO. 22: SCHEDULE OF DAYWORKS				
ITE M	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (KSHS)
	PLANT				
	The rates inserted herein are to include all				
	operational and Maintenace costs, fuel, oil,				
	grease, drivers/operators wages, supervision, overheads and profit. Only time actually employed				
	upon the work will be paid for and the rates				
	should include for idle time, travelling time and				
	overtime, In accordance with clause 2202 (a) of the				
	specifications.Note: All items of plant must be				
	priced.				
22.01	Crawler dozers with hydraulic attachmentsto include ripper				
	a) Up to 135 kw rated flywheel power	hrs	20		

Is	ssue Date 12 th June, 2025				
	b) Over 136 kw rated flywheel power	hrs	20		
22.02	Motor Grader				
	a) Up to 110kw rated flywheel power	hrs	20		
	b) Over 100kw rated flywheel power	hrs	20		
22.03	Vibratory Roller				
	a) 6.5 - 8.81 tonne un-ballasted weight	hr	20		
	b) Over 8.91 tonne un-ballasted weight	hr	20		
22.04	Hand propelled vibrating roller 650 - 1300kg	hrs	20		
22.05	Cat 950G wheel loader or equivalent	hrs	20		
22.06	10 Tonne tipper lorry	hrs	20		
22.07	Small dumpers, 750-1000kg rated payload	hrs	20		
22.08	Dual purpose hydraulic excavator with	hrs	20		
	backhoe/loader and a rated				
	bucket capacity of upto 1m ³ .				
22.09	Articulated wheel loader with 1.5-2.0m ³ SAE rated	hrs	20		
	bucket capacity				
22.10	50mm delivery water pump and motor	hrs	20		
22.11	Self propelled water tanker 4,500ls min. capacity	hrs	20		
	with pick-up pump				
22.12	Concrete Mixer of 100 - 150litres	hrs	20		
22.13	Concrete poker vibrator	hrs	20		
	LABOUR				
	The rates inserted herein are to include all costs of				
	labour such asinsurance, accomodation, travelling				
	time, over-time, use and maintenance of small				
	tools of trade, supervision, overheads and				
	Profit.Only the actual time engaged upon the work				
	will be paid for.				
22.14	Unskilled Labour	hrs	20		
22.15	Artisans	hrs	20		
22.16	Office attendants and chainmen	hrs	20		
22.17	Watchmen (all round surveillance)	hrs	20		
Bill No	o. 22 Total Carried Forward to next page				
ITE	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
M					(KSHS)
Broug	ht forwad from previous page				
	<u>MATERIALS</u>				
	All materials are to comply with the Specification.				
	The rates inserted herein are to include for				
	delivery to the site, storage, handling, overheads				
	and profit				
22.18	Ordinary Portland Cement	Ton	2		
22.18 22.19	Ordinary Portland Cement Hydrated Lime	Ton Ton	2		
22.19 22.20	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre)		2 2		
22.19 22.20 22.21	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre)	Ton Ton Ton	2		
22.19 22.20 22.21 22.22	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre) Fine Aggregate for Concrete	Ton Ton Ton m³	2 2		
22.19 22.20 22.21	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre) Fine Aggregate for Concrete Coarse Aggregate for Concrete	Ton Ton Ton m³ m³	2 2 2 10 10		
22.19 22.20 22.21 22.22	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber	Ton Ton m³ m³ m²	2 2 2 10		
22.19 22.20 22.21 22.22 22.23 22.24 22.25	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber Rough shuttering timber.	Ton Ton m³ m³ m² m² m²	2 2 2 10 10 10 20		
22.19 22.20 22.21 22.22 22.23 22.24	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber	Ton Ton m³ m³ m²	2 2 2 10 10 10		
22.19 22.20 22.21 22.22 22.23 22.24 22.25	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber Rough shuttering timber.	Ton Ton m³ m³ m² m² m²	2 2 2 10 10 10 20		
22.19 22.20 22.21 22.22 22.23 22.24 22.25 22.26	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber Rough shuttering timber. Bitumen Emulsion KI-60. Straight run bitumen Grade 80/100. Kerosene	Ton Ton Ton m³ m³ m² cutre Litre Litre	2 2 2 10 10 10 20 200		
22.19 22.20 22.21 22.22 22.23 22.24 22.25 22.26 22.27	Ordinary Portland Cement Hydrated Lime Mild Steel(any diametre) High Yield Steel (any diametre) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber Rough shuttering timber. Bitumen Emulsion KI-60. Straight run bitumen Grade 80/100.	Ton Ton m³ m³ m² m² Litre Litre	2 2 2 10 10 10 20 20 200 200		

22.30	6/10mm nominal size surface chips	m^3	100			
22.31	AC Type II Ex-plant	m^3	100			
22.32	Class C uPVC pipe 1/4" to 2" diameter including	m	3,000			
	all fittings, connections and accessiories complete					
	with pressure testing					
22.33	Class C uPVC pipe 3" to 4" diameter including all	m	2,000			
	fittings, connections and accessiories complete with					
	pressure testing					
22.34	Class C uPVC pipe 6" to 8" diameter including all	m	1,000			
	fittings, connections and accessiories complete with					
	pressure testing					
Dill Na	Rill No. 22 Total Carried Forward to Crand Summary					

Bill No. 22 Total Carried Forward to Grand Summary

ITE	NO. 25: ENVIRONMENTAL MITIGATION MEAD DESCRIPTION	UNIT	QTY	RATE	AMOUNT
M					(KSHS)
25.01	All for a prime cost sum of KShs 5,000,000 (five	PC sum	1		
	Million) for ESIA study and report, Compliance				
	Audits and environmental monitoring.				
25.02	E.O for Item 25.01 for Contractor's Oveheads and	%			
	Profit				
25.03	Allow for engagement of a HIV/AIDS specialist	Months	42		
	subcontractor to deal with prevention, awareness				
	activities as per programme to be approved by the				
	Engineer				
25.04	Allow for the availability of male and female	No.	30,000		
	condoms to workers and staff strategically and				
	socially presented for the duration of the contract				
25.05	Allow for preparation and submmission of monthly	Months	42		
	reports on HIV/AIDS awareness and prevention				
	activities. Report to be tabled at site meetings.,				
25.06	Provide, Instal and maintain HIV/AIDS awareness	No.	4		
	bill boards with approved message and graphics				
	with maximum area 4m ² fabricated as per				
	specifications of permanent informatory sign				
	boards				
25.07	Allow for vedio shows on HIV/AIDS related	Quarterly	14		
	awareness and prevention matters every 3 months				
25.08	Allow for production and distribution of HIV/AIDS				
	awareness material as follows:				
	a) T-Shirt printed with approved message and	No.	500		
	graphics				
	b) Ditto (a) above but caps	No.	100		
	c) A1 size weather proved posters	No.	20		
	d) A3 size weather proved posters	No.	100		
	e) 200x150mm stickers with HIV/AIDS	No.	100		
	awareness/prevention slogan				
	f) Key rings with HIV/AIDS awareness/prevention	No.	500		
	slogan				
	g) Ball point pens with HIV/AIDS awareness /	No.	500		
	prevention slogan.				

CONTRACT NO.: RWC 686 UPGRADING TO BITUMEN STANDARD OF OINOBMOI KAPKELELWA-KAPKAYO-TENGES/KAPKAYO-KIPSAOS ROADS

GRAND SUMMARY OF BILL OF QUANTITIES

BILL ITEM	DESCRIPTION	AMOUNT (KSHS)
1	Preliminaries and General Items	
4	Site Clearance and Top Soil Stripping	
5	Earth Works	
7	Excavation and Filling of Structures	
8	Culverts and Drainage Works	
9	Passage to Traffic	
12	Natural Gravel Base and Subase	
14	Lime/Cement Improved gravel Subbase and Base	
15	Bituminous Surface Treatment and Surface Dressing	
16	Bituminous Mixes	
17	Concrete Works	
20	Road Furniture	
21	Miscellaneous Bridge works	
22	Schedule of Dayworks.	
25	HIV/AIDS, Gender & Social Issues, Local Participation	
(A)	SUB-TOTAL (1)	
(B)	Add 15% VARIATION OF PRICE of sub total (1)	
(C)	Add 10% CONTIGENCIES of sub total (1)	
(D)	SUB-TOTAL $(2) = (A + B + C)$	
(E)	Add 0.03% Public Procurement Capacity Building Levy of sub-total (2)	
(F)	Add16% VAT of sub-total (2)	
TOTAL	CARRIED FORWARD AS BID SUM 1: (D + E + F	

issue Date	2 12 th June, 2025				
ADDERS	APPENDIX A	<u> </u>		1	
	TO BILL ITEM 1.05:	TD3 5			
	AND MAINTAIN FURNITURE AND EQU	IPMENT	FOR THE		
ENGINEER	R'S LABORATORY	I			
TODA /	DECCRIPTION	TINITE	OTN	DATE	AMOUNT
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
				(KSHS)	(KSHS)
	4 777777777				
	1. FURNITURE				
A104/1.01	Desk 2.2x0.9 m with chair and lockup drawers	No	2		
A104/1.02	Desk chair (standard)	No	15		
A104/1.03	Stationery cupboard, 1.2 m³, lockable	No	2		
A104/1.04	Steel filing cabinet, 4 drawers, lockable	No	2		
A104/1.05	Steel filing cabinet, 2 drawers, lockable	No	2		
A104/1.06	Bookshelf, 3 shelves 1.2 m long (to hold box files)	No	2		
A104/1.07	Table - 6 m ²	No	2		
A104/1.08	Two Plate electric heater	No	72		
A104/1.09	Fire extinguisher, 10 litre capacity, CO ₂	No	4		
1110-1/11.07	type	110			
A104/1.10	Complete first aid kit	No	72		
	EQUIPMENT		36		
	(The following equipment shall be purpose		30		
	made for use in the Engineer's laboratories				
	and shall comply with the relevant British				
	(BS) or American (AASHTO) Standard)				
	(BS) or American (AASIIIO) Standard)		72		
	2. General Equipment		12		
A104/2.02	2.49kg. Compaction hammer, drop	No	2		
	regulated to 304.8mm				
A104/2.03	4.535kg compaction hammer drop regulated to 457.2mm	No	2		
A104/2.04	Electric vibrating Kango Hammer fitted	No	1		
	with steel tamper(BS 1377) with support				
	frame				
A104/2.05	Straight edge 300 mm long with handles	No	4		
A104/2.06	Steel Tamper (BS1377) compatible with	No	3		
	Kango hammer				
A104/2.07	Compaction mould 152.4 mm. dia x 116.43	No	2		
	mm complete with base plate and				
	extension collar, 101.6 mm				
A104/2.08	Galvanized metal tray 1m x 0.5m x 75 mm	No	4		
	deep				
A104/2.09	75mm brush	No	2		
A104/2.10	Semi-automatic balance, 25kg Capacity	No	1		
	accurate to 1g, including weights				
A104/2.11	20mm BS Sieve, 300mm diameter	No	1		
A104/2.12	Stop Clock	No	2		
A104/2.13	Thermostatically controlled electric oven	No	2		
A104/2.13	105-110 ⁰ C, capacity 0.225 m ³				

Issue Date	e 12 th June, 2025	•		
A104/2.15	Moisture content tins, 75 mm dia,	No	60	
	Cadmium or aluminium plated			
A104/2.16	Cone penetrometer with gauge and	No	2	
	automatically controlled test cup			
			14	
	C/Forward to next page		1.	
	B/Forward from previous page			
	b/Forward from previous page			
	3. Density (Sand replacement method BS			
	1377)			
A104/3.01	Metal containers 450mm diameter	No	2	
A104/3.02	Stainless steel tray 305mm diameter	No	2	
A104/3.03	Metal tray with 150 mm diameter hole in	No	2	
	the centre, 300mmx300 mm square or			
	equivalent area, 40mm deep			
A104/3.04	Metal tray with 200mm diameter hole in	No	2	
	the centre, 500mm x 500 mm square, 50			
	mm deep			
A104/3.05	Steel pegs for fixing tray in position	No	15	
A104/3.06	Sand pouring cylinder, 150 mm diameter	No	2	
A104/3.07	Sand pouring cylinder, 130 mm diameter	No	2	
A104/3.08	Cold steel chisel 20mm x 300mmm	No	4	
A104/3.09	Cold steel chisel 10mm x 250mmm	No	4	
A104/3.10	1.5kg, 3.5kg hammers and 1kg rubber	Set	1	
	mallet			
A104/3.11	Scoop for removing excavated material	No	6	
	from hole, 250 mm long handle			
A104/3.12	100mm brush, soft	No	3	
A104/3.13	50mm brush, soft	No	3	
A104/3.14	Primus gas stove	No	1	
A104/3.15	Calibrating can 150 mm diameter x 150	No	3	
A104/3.13	mm deep	INO	3	
A 104/2 16	*	No	2	
A104/3.16	Ditto but 200 mm diameter x 250 mm deep	NO	3	
	5. CBR (AASHTO T193)			
A104/5.01	CBR mould, 152.4 mm dia x 178 mm high,	No	50	
	complete with perforated base plate and			
	extension collar 50.8 mm high that can be			
	fitted to either side of mould			
A104/5.02	Perforated swell plate 150 mm dia with an	No	40	
	adjustable centre post of rust proof metal			
	provided with a lock-nut			
A104/5.03	2.25 kg split surcharge weight	No	2	
A104/5.04	Set of annular surcharge weights	No	1	
		1		
A104/5.05	Solid base plate for CBR mould	No	2	
A104/5.06	Static compaction displacer discs 1 Nox	set	1	
	61.4 mm, 1 No x 50.8 mm and 2 Nox 38.8			
	mm thick with handles			
A104/5.07	Disk lifting handle	No	2	
A104/5.08	Central extruder, complete with 20kN	No	1	
	hydraulic jack and accessories			
A104/5.09	Automatic CBR Proctor Compaction press,	No	1	
	50 tonnes capacity with an adjustable			
	1 30 tornies capacity with an aujustable	1		

Issue Date	e 12 th June, 2025	_		
	distance between platens of 530mm-			
	250mm, rammer weights and automatic			
	count selector			
A104/5.10	Set of guards for above press.	No	1	
A104/5.11	50 kN CBR Load frame complete with	No	1	
71101/3.11	stabilising bar (electric and hand operated)	110	1	
	including proving rings for 10KN, 28KN			
	and 50KN, piston and bracket			
	and Jokin, piston and bracket			
	C/Forward to next page			
	B/Forward From previous page			
A104/5.12	Penetration gauge range 0 - 25mm	No	2	
A104/5.13	CBR piston including bracket	No	2	
A104/5.14	Swell measurement tripod complete with	No	2	
	guage calibrated in 0.01 mm divisions			
A104/5.15	Soaking tank for CBR mould sufficient for	No	1	
	50 moulds	110		
	30 modius			
	6. Relative Density of Aggregates (BS			
	• 88 8 \			
A 104/C 01	812)	NT		
A104/6.01	Wire mesh basket with apertures not	No	2	
	greater than 6.5 mm large enough to			
	contain 2.5 kg of aggregate			
A104/6.02	A stout watertight container in which the	No	2	
	basket can be freely suspended			
A104/6.03	Soft absorbent cloth (tea towel)	No	10	
A104/6.04	Shallow tray of area not less than 0.065 m ²	No	2	
A104/6.05	An airtight container of similar capacity to	No	2	
	the basket			
A104/6.06	Pycnometer of 1 litre capacity	No	4	
A104/6.07	Semi automatic 5 kg balance accurate to	No	1	
11101/0.07	0.1g to be of size and type to permit the	110	1	
	basket containing the sample to be			
	suspended in water(to be supplied with			
	<u> </u>			
A 104/C 00	weights)	N	2	
A104/6.08	Hot air drier (electric)	No	2	
	7. Flakiness (BS 812)			
A104/7.01	Thickness gauge (various sizes)	No	2	
	8. Sieve Analysis (BS 1377)			
A104/8.01	BS Sieve 300mm diameter in sizes 75, 63,	Set	2	
	50, 37.5, 28, 20, 14, 10, 6.3, 5 and 4 mm,			
	plus lid and receiver			
A104/8.02	BS Sieve 200mm diameter in sizes 2, 1,	Set	2	
1110 1/0102	0.6, 0.5, 0.425, 0.300,0.150 and 0.075 mm,		-	
	plus lid and receiver			
A104/8.03	Electric sieve shaker	No	1	
A104/8.04	BS sieve 200mm diameter 0.425 and 0.075	set	1	
A 104/0 05	mm	NT.	10	
A104/8.05	1 m x 1 m x 75mm deep galvanized metal	No	10	
	tray			
A104/8.06	Riffle box with 50mm slots (BS 1377)	No	1	

Issue Date	12 th June, 2025		1	1
	9. Miscellaneous Equipment		<u> </u>	
A104/9.01	Wheel barrow	No	3	
A104/9.02	Dustpan and brush	No	3	
A104/9.03	Shovel	No	4	
A104/9.04	Pick axe with handle	No	4	
A104/9.05	Metal scoop, large (150mm wide)	No	3	
A104/9.06	Metal scoop, medium (100mm wide)	No	4	
A104/9.07	Garden trowel	No	2	
A104/9.08	Steel tray 0.3m x 0.3m x 0.01m deep	No	15	
A104/9.09	Palette knife 200mm long blade	No	3	
A104/9.10	Palette knife 100mm long blade	No	4	
A104/9.11	BS sieve 450mm diameter, 37.5mm	No	1	
A104/9.12	BS sieve 450mm diameter, 20mm	No	1	
A104/9.13	BS sieve 450mm diameter, 5mm	No	1	
A104/9.14	BS sieve 450mm diameter, 0.425mm	No	1	
A104/9.15	BS sieve 450mm diameter, 0.3mm	No	1	
1110 1/ 2.13	Page 5 C/Forward tonext page	110	1	
	B/Forward from prevoius page			
A104/9.16	BS sieve 450mm diameter, 0.075mm	No	1	
A104/9.17	Set of lid and receiver for metal scoop and	No	2	
A104/9.1/	steel trays	INO		
A104/9.18	BS Sieve brush	No	2	
			2	
A104/9.19	Measuring cylinder set, 25 ml, 100 ml, 500	set	2	
1104/020	ml, 1000 ml, 2000 ml	> T	10	
A104/9.20	Glass jar capacity 5 litres with lid	No	10	
A104/9.21	200mm x 200mm x 20mm cadmium plated	No	20	
	or aluminium tin			
A104/9.22	Electronic balance capacity 1000 g,	No	1	
	accurate to 0.01gm.			
A104/9.23	Balance 2000 g capacity accuracy to 0.1g	No	1	
	(manual), including weights			
A104/9.24	Balance 50kg capacity accurate to 10gm	No	1	
	including weights			
A104/9.25	Still for producing distilled water	No	1	
A104/9.26	Polythene or glass 20 litres storage vessel	No	2	
	with tap at bottom			
A104/9.27	Stiff broom	No	2	
A104/9.28	Vernier calipers, 150mm	No	2	
A104/9.29	Vernier calipers, 250mm	No	2	
A104/9.30	Pestle and mortar	No	2	
A104/9.31	Linear shrinkage mould (BS 1377)	No	6	
A104/9.32	Liquid Limit Device	No	2	
A104/9.33	Average least dimension gauge	No	2	
A104/9.34	Lockable tool box containing: 1	No	1	
	pr"Molegrips", 2 x 150mm screwdriver, 2			
	x 200 mm screwdriver, 2 x 300 mm			
	screwdriver,(1 standard and 1 Phillips head			
	of each) adjustable spanners 200 mm and			
	300 mm, 1 pair round nosed pliers, 1 pair			
	general purpose pliers,			
A104/9.35	Plastic or metal bucket including lid,10	No	6	
1110 117.33	litres capacity	110		
A104/9.36	Polythene wash bottle (500 ml)	No	5	
11107/7.30	1 organone wash bottle (500 mil)	110	5	<u> </u>

Issue Date	12 th June, 2025			
A104/9.37	A4 size clipboard	No	4	
A104/9.38	Thermometer, range -10°C to150°C, glass (BS 593)	No	2	
A104/9.39	Laboratory thermometer, range + 0°C to + 250°C (BS 593)	No	2	
A104/9.40	Maximum and minimum thermometer (BS692)	No	2	
A104/9.41	Rain gauge	No	1	
A104/9.42	Portable dial thermometer + 50°C to +250°C accurate to ± 3%	No	1	
A104/9.43	Ditto with 0.75m long stem	No	1	
A104/9.44	Pocket thermometer $+50$ °C to $+250$ °C accurate to $\pm 3\%$ with 0.1 m stem	No	2	
A104/9.45	5 litre capacity steel storage containers with leak and dust proof lids for storage of bitumen samples	No	50	
A104/9.46	Hotplate 200mm diameter with Simmerstat heat control unit.	No	2	
A104/9.47	450mm diameter x 150mm deep metal mason's basin	No	6	
	C/Forward to next page			
	B/Forward from previous page			
	11. Concrete: Slump and Cube Manufacture (BS 1881)			
A104/11.01	Slump cone, tamping rod and base	set	2	
A104/11.02	Concrete cube mould, 150mm cube	No	30	
A104/11.03	Soaking tank for cubes (capacity 50 No.)	No	1	
A104/11.04	Cube tamping bars	No	10	
	12. Concrete: Cube Compression Testing			
A104/12.01	Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer	No	1	
A104/12.02	Safety guard for above			
A104/12.03	50mm distance piece			
A104/12.04	70mm distance piece			
A104/12.05	Electro-mechanical load pacer, 100 mm or equivalent distance piece			
	12 Aggregate and Chimina			
A104/13.01	13. Aggregate and Chippings	Set	1	
A104/13.01	Sand equivalent to AASHTO T176 including graduated plastic cylinder, rubber stopper, irrigation tube weighted foot assembly, siphon assembly, 85ml tin box (57mm dia.), 100 mm dia wide mouth	Set	1	
	funnel, stop clock,mechanical shaker and 10 litre jar			
A104/13.02	Beaker 250ml	No	2	
A104/13.02 A104/13.03	Aggregate Crushing Value Apparatus, 150 mm nominal diameter, including plunger	No	2	
	and base plate			
A104/13.04	Tamping rod and metal measure for above	Set	4	

Issue Date	12 th June, 2025			
A104/13.05	Los Angeles Abrasion to ASTM standards	No	1	
A104/13.06		No	2	
A104/13.07	Thermometer, 0°C to +50°C	No	2	
A104/13.08	Thermometer, 0°C to +250°C	No	2	
	,	+		
A104/13.09	Reagent grade Silica gel, 500g container	No	50	
	14. Bitumen Spray Test (BS 1707)			
A104/14.1	Transverse distribution of spray test	Set	1	
	bitumen distributor (depot tray test to BS			
	1707) or equivalent.			
A104/14.02	Steel tray 20 mm deep x0.1m ² (for	No.	4	
A104/14.02	measuring bitumen spray rates) with	110.	"	
	purpose made detachable handle 1.5m			
	long.			
	16. Bitumen Extraction Test			
	A) Extractor Bottle Method BS 598 Part			
	2			
A104/16.01	Electronic top pan balance 4kg capacity,	No	1	
71104/10.01	sensitive to 0.1gm	110	1	
A104/16.02		No	3	
	Flat bottomed scoop			
A104/16.03	Steel garden trowel	No	2	
A104/16.04	Large steel spoon	No	2	
A104/16.05		pair	10	
A104/16.06	Foot pump for pressurising air water	No	2	
	assemblies up to a maximum of 700KN/m ²			
	and fitted with flexible hose approximately			
	1.2m long and connector			
	1.2m long and connector			
C/Eowward	to novit nogo			
C/Forward	to next page		1	
	C/Forward from previous page			
A104/16.07	Steel bottle 600ml capacity with 49mm	No	2	
	rubber stopper			
A104/16.08	Steel bottle 2500ml capacity with 71mm	No	2	
	rubber stopper			
A104/16.09	Steel bottle 7000ml capacity with 71mm	No	2	
1110 1/10:09	rubber stopper	110		
A104/16.10	Flask funnel for fitting to the 700ml steel	No	2	
A104/10.10		NO	2	
	bottle with rim of funnel retaining sieve			
1101/15:	200mm nominal diameter	N.T.		
A104/16.11	Bottle roller compact bench mounted unit	No	1	
	designed to rotate 2 bottles simultaneously			
	about longitudinal axis			
A104/16.12	Pressure filter complete with cutting tool	No	1	
	for making hole in the filter paper			
A104/16.13	Filter funnel to take 200mm nominal	No	2	
	diameter sieves		-	
A104/16.14	Centrifuge complying with BS 598	No	1	
A104/10.14	Condituge complying with D3 336	INU	1	
1101/1515	D: 1	N.T.		
A104/16.15	Binder recovery	No	1	
A104/16.16	Volumetric flask 250ml, 500ml, 1000ml	set	2	
	and 2000ml capacity			
A104/16.17	Recovery still for Dichloromethane	No	1	
		•	i	i

188uc Daic	12" June, 2025	1			
	B) Hot Extractor Method BS 598 Part 2				
A104/16.18	Hot extractor complete with wire gauze	No	2		
	container gasket, cork lid and support				
	assembly				
A104/16.19	Dean and Stark receiver with condenser to	No	2		
	suite Trichloroethylene				
A104/16.20	Gyratory compactor ELE Servo Pac or	No	2		
	equivalent with 1 x 100mm and 1 x				
	150mm moulds				
A104/16.21	PRD Vibrating hammer compactor	SET	1		
	complete with 6 moulds, 7 base plates from				
	ELE				
A104/16.22	Two (2) sets of Tamping foot 102mm	SET	2		
	diameter and 146mm diameter and shanks				
	to fit the supplied vibratory hammer				
	17. Consumables				
A104/17.01	Paraffin wax	Kg	50		
A104/17.02	Gunny sack	No	500		
A104/17.03	Plastic bag 900x450x1000 gauge	No	500		
A104/17.04	Plastic bag 450x300x1000 gauge	No	500		
A104/17.05	Filter paper 150mm diameter Whatman	No	20		
	No. 5 (Boxes of 100)				
A104/17.06	Filter paper 400mm diameter Whatman	No	20		
	No. 5 (Boxes of 100)				
A104/17.07	Filter paper 100mm diameter Whatman	No	20		
	No. 5 (Boxes of 100)				
A104/17.08	Filter paper 400mm diameter Whatman	No	10		
	No. 54 (Boxes of 100)				
A104/17.09	Filter paper 270mm diameter with 33	No	15		
	diameter hole at centre Whatman No. 5				
	(Boxes of 100)				
A104/17.10		No	5		
A104/17.11	Dichloromethane	kg	200		
A104/17.12	Cotton waste	kg	50		
A104/17.13	13kg Gas cylinders filled with gas and with	No	5		
	compatible gas burners				
A104/17.14	Sodium sulphate	kg	45		
A104/17.15	Sand for density test	kg	250		
	-				
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APPENDIX B				
APPENDIX TO BILL ITEM 1.06A: PROVID	E. FURNI	SH AND		
MAINTAIN THE R.E.'S OFFICE	2,1014			
DESCRIPTION	UNIT	36	RATE	AMOUNT
		108	(KSHS)	(KSHS)
		180		
1. ENGINEER'S MAIN OFFICE AND		180		
FURNITURE				
Executive desk 2.2x0.9 m with six lockup	No	360		
drawers				
Desk 2.2x0.9 m with chair and three lockup	No	4		
drawers				
Office tables 2.2x0.9 m	No	5		
Executive Swivel orthopeadic chair adjustable	No	6		
height				
Standard office chairs	No	10		
Typist's desk	No	1		
Typist's chair	No.	1		
Lockable steel stationery cupboard, 1.2 m ³ ,	No.	2		
lockable	NT.	72		
Medium size steel filing cabinet, 4 drawers	No.	72		
lockable	NT.			
Medium size steel filing cabinet, 2 lockable	No.	2		
drawers	NT	72		
Bookshelf, 1.5 m wide 3 shelves (for box files)	No.	72		
sliding glass door	NI.	1		
Conference table with 15 chairs	No.	1		
Waste paper basket	No.	36		
Curtains for office and laboratory -for all windows and doors	Set	2		
	No	72		
Ordinary 2 hole paper punch	No	72		
Heavy duty 2 hole paper punch Computer meeting the following specifications		5		
or equivalent: Personal computer with 17"	No	3		
screen full multimedia, 500GB hard disk, 4.0GB				
RAM, Core i7 processor, complete with all				
accessories preloaded with latest versions of				
windows OS, MS Office, Professional and MS				
Project				
Autocad Civil 3D 2016 and Licences for above	No	1		
computers	110	1		
Laptop PC with Intel Core i7-45IOU Processor	No	4		
15.4" screen, CPU @ 2.6GHz 8GB RAM 1TB	140	'		
8xDVD+/-RW approved with Microsoft				
Windows professional				
Latest HP (A4) Laser Printer with accessories	No	5		
Latest HP (A3) Laser Colour Printer with	No	1		
accessories	_			
UPS 600 VA	No	6		
wall clocks, battery powered min size 350mm x	No	6		
350mm				
First Aid Kit	No	4		
Fire Extinguisher	No	4		
		0		

Issue Date 12 th June, 2025		-		
Filing Tray - set of 3no.	set	10		
Refrigerator minimum capacity 0.2 m ³	No	1		
Drinking water dispenser, hot/cold	No	3		
Table - 0.8 m ² surface area	No	1		
Cupboard, 0.15 m ³ , lockable	No	1		
13 Kg Gas cylinder with three gas burners	No	2		
C/Forward		14		
DESCRIPTION	UNIT	QUANTITY		
B/Forward				
A3 Photocopier (approved make), with feeder	No	1		
sorting trays, scanner and print capability				
Reams of A4 phocopying paper	No	120		
Reams of A3 phocopying paper	No	24		
Electronic scientific calculator, Casio fx 991ES	No	6		
PLUS or equivalent approved				
Stapling machine Ofrex size 50 or similar with	No	6		
5000 staples				
Heavy duty punch and spiral binder, IBICO AG	No	2		
or similar approved				
Digital Camera, 16.1 Megapixel(min),	No	2		
1920x1080 full HD movie recording, optical				
steadyShot, sweep panorama, 2.7" LCD screen,				
minimum 5x digital zoom, multimedia card/SD				
8GB memory, 12 scene selection modes, all inclusive.				
	item	8		
Provision of mobile phones for supervision team	пеш	8		
with the latest android version to the approval of the Engineer.				
the Engineer.				
Total carried to Bill Item 1.06A				
	I	1	l	

15540	APPENDIX C				
APPEN	NDIX TO BILL ITEM 1.06B ENGINEERS'S	SURVE	V EUIIIPN	MENT	
ITEM	Description	UNIT	QTY	RATE	
11 Livi	Description	OIVII	Q11	KATE	AMOUNT(Kshs)
1.01	Digital Total Station <u>reading to</u>	No.	36		Tana Or (Tables)
1.01	1"accuracy (one second) with the	110.			
	following facilities:				
	· Inbuilt data logger				
	· Uploading/downloading software				
	Data transfer cable				
	· Battery (2No)				
	· Battery charger				
	· Tool kit				
	· Two face keyboard				
	· User manual				
	It must have the following inbuilt survey				
	programs as a minimum				
	· Survey				
	· Staking out				
	· Resection/intersection				
	· Traverse				
	· Cogo				
1.02	The following mandatory total station				
1.02	accessories must be included per Total				
	station instrument				
a)	1No. Heavy duty telescopic	No.	36		
<i>a)</i>	tripod(preferably wooden)	110.			
b)	Telescopic plumbing prism pole complete	No.	0		
,	with a prism and prism holder with target				
	and plumbing bubble (length not less than				
	2.15m)				
c)	Triple prism holder set, in a casing,	No.	72		
	comprising triple prisms, prisms holder with				
	target, tribrach and a tribrach adaptor				
d)	· Survey umbrella	No.	1		
e)	· 1No.Telescopic Tripod	No.	0		
1.03	Engineer's Automatic Level Wild NAK 2 or	No.	2		
	similar with a tripod and the following				
	specifications				
	· Accuracy of 0.7 mm per 1 km double				
	run				
	· Standard magnification of: 32x				
	· Shortest focusing distance of 1.6m				
	· Compensator setting accuracy of 0.3"				
	Total carried forward to next page				
ITEM	Description	UNIT	QTY		
	Brought Forward				
1.04	Hand held GPS with accuracy of 1 Metre	UNIT	1		
1.05	Set of two way radio communication with a	set.	1		
	range of 1 kilometer				
1.06	5 M Leveling staff with leveling bubble	No.	4		
1.07	3 M Ranging Rods	No.	10		

	C Date 12 Julie, 2025			
1.08	Scientific Calculators FX 912ms or	No.	3	
	equivalent			
1.09	50m. Linen Measuring Tape	No.	14	
1.10	1m stainless steel straight edge	No.	1	
1.11	3 m tape measure	No.	10	
1.12	Sledge hammer 2kg weight	No.	2	
1.13	Mattock	No.	2	
1.14	Pangas (16'')	No.	10	
1.15	Marker Pens	No.	20	
1.16	Reflector Jackets	No.	30	
1.17	Levelling Survey books	No.	100	
1.18	Provision of Geodetic GNSS receivers	No.	1	
	comprising of one base and two rovers as			
	per the specifications in Appendix D			
	Total carried to Bill Item 1.06B			

ANNEX 3: REVISED BOQ RWC 689

UPGI	RADING TO BITUMEN STANDARD AND MAIN KIMATHI UNIVERSITY			WEIGA - BR	OOKSIDE -
BILL N	NO. 1. PRELIMINARIES AND GENERAL ITEM				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1.01	Provide or rent accommodation for Engineer's senior and junior staff				
	(i)Type I - 1 No.	Month	24	65,000.00	1,560,000.00
					-
	(i)Type II - 1 No.	Month	24	55,000.00	1,320,000.00
					-
	(iii) Type III - 1 No.	Month	24	40,000.00	960,000.00
	(iv) Type IV - 1 No.	Month	24		-
	(IV) Type IV - I No.	Wionth	24	30,000.00	720,000.00
	(v) Type V - 1 No.	Month	24		-
	Total			21,000.00	504,000.00
					5,064,000.00
1.02	E.O item 1.01 for contractor's overhead and profit	%			
1.03	Provide or rent and maintain Engineer's Representative's office as shown on the drawings or as instructed by the Engineer for use during the duration of the Contract, ownership to revert to the Contractor at the end of the Contract	LS	1		
1.04	Provide or rent and maintain Engineer's Site Laboratory for the duration of the Contract, ownership to revert to the Contractor at the end of the Contract	LS	1		
1.05	Provide and maintain Laboratory equipment, reagents and other items as priced in Appendix 'A' to the Bill of Quantities for use by the Engineer's representative for the duration of the contract, ownership to revert to the Employer at the end of the Contract.	LS	1		
1.06A	Provide and maintain furniture, tools and other items for the Engineers Representative office for the duration of the Contract as priced in Appendix 'B', ownership to revert to the Employer at the end of Contract.	LS	1		
1.06B	Provide and maintain survey equipment as priced in Appendix C for the duration of the contract, ownership to revert to the Employer at the end of Contract.	LS	1		
1.09	Provide with drivers, fuel and maintain one (1) new 4WD fully loaded double cabin pick-up of minimum diesel engine capacity 2500 CC	Veh Month	60		

Issue I	Date 12 th June, 2025	T			T
	approved by the Engineer for his exclusive use,				
	inclusive of the first 5000km per vehicle month.				
	Vehicle to revert to the Contractor at the end of				
	the project.				
1.10	E.O item 1.09 for total aggregated mileage in	Km	60,000		
	excess of 5000 km per vehicle month.				
1.13	Ditto item 1.09, but one(1) new 4WD Single cabin	Veh	24		
	pick-ups with fibre glass body of minimum diesel	Month			
	engine capacity 2500cc approved by the Engineer				
	for his exclusive use, inclusive of the first 5000km				
	per vehicle month. Vehicle to revert to the				
	Contractor at the end of the project.				
1.14	E.O item 1.13 for total aggregated mileage in	Km	2,400		
1.1.	excess of 5000 km per vehicle per month.	1111	2,.00		
1.15	Allow a Prime Cost Sum of Kshs. 3,000,000 for	PC Sum	1		
1.13	the RE's miscellaneous account to be spent in	1 C Sum	1		
	whole or part as directed by the RE against				
	receipts.				
1.16	E.O. item 1.15 for Contractor's overheads and	%			
1.10	profits.	/ 0			
1.17	Allow a Prime Cost Sum of Kshs. 7,200,000 for	PC Sum	1		
1.17	attendance upon the Resident Engineer' staff.	1 C Suili	1		
1.18	E.O. item 1.17 for Contractor's overheads and	%			
1.10	profits.	70			
1.19	Provide, erect and maintain publicity signs as	No	6		
1.17	directed by the Engineer.	110			
1.20	Allow for Prime Cost Sum of Kshs. 2,000,000.00	PC Sum	1		
1.20	for training of Engineers	1 C Suili	1		
1.21	E.O. item 1.20 for Contractor's overheads and	%			
1.21	profits.	/0			
1.24	Provide and maintain for the duration of the	No	1		
1.24	contract a mobile weigh bridge with	INO	1		
	manufacturers warranty, as specified in Appendix				
	E in a PDF file. The weigh bridge to revert to				
	employer at commencement of the project.				
	Allowances for repairs and maintenance must be				
	included in the quotation				
	Bill No. 1 Total Carried Forward to Grand Sumi	narv	<u> </u>		
	Din 110, 1 Total Callicu Fol walu to Gland Sulli	mai y			
RIII N	O. 4 : SITE CLEARANCE AND TOP SOIL STR	 IPPINC	1		
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1 1 12/1/1	Note: No separate payments shall be made for	01111	VII	MALE	AMOUNI
	gravel for blinding or hauling to spoil unsuitable				
	excavation materials and the cost of such shall be				
	· · · · · · · · · · · · · · · · · · ·				
4.01	clear site on read reserve including removal of all	На.	20		
4.01	Clear site on road reserve including removal of all	па.	20		
	growths, bushes, hedges, trees, stumps, grub up				
	roots, and other deleterious materials and back-fill				
	and compact to 100% MDD(AASHTO T99) with				
4.02	approved material as directed by the Engineer.	m^3	48,000		
4.02		122 -	1 /1 % [] [] []	i .	i
1	Strip top soil upto 0.2m in thickness along	111	40,000		
	alignment or material sites including removal of all grass and other vegetation,transport to spoil	111	40,000		

Issue]	Date 12 th June, 2025	1	T		
	and spread or stock pile for re-use as directed by				
	the Engineer.				
4.03	Provide KShs.2,000,000 for the removal of	Prov.	1		
	structures and obstructions as instructed by the	Sum			
	Engineer to be paid on dayworks basis				
4.04	E.O. item 4.03 for Contractor's overheads and	%			
т.от	profits.	/0			
4.04	Demolish reinforced or mass concrete structures	m^3	200		
4.04		111	200		
	and cart to spoil or stockpile for re-use as directed				
	by the Engineer				
	Dill No. 4 Total Counied Forward to Cward Sum				
	Bill No. 4 Total Carried Forward to Grand Sum	mary			
BILL N	NO. 5 : EARTHWORKS				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Note: No separate payments shall be made for				
	gravel for blinding or hauling to spoil unsuitable				
	excavation materials and the cost of such shall be				
	included in the rates and prices				
5.01	Fill in soft material including benching of	m^3	28,200		
	shoulders and embankments and compaction to				
	95% MDD (AASHTO T99) in layers not				
	exceeding 150mm				
5.02	Extra Over Item 5.01 for compaction of the top	m^3	4,050		
0.02	300 subgrade to 100% MDD.	111	1,020		
5.03	Ditto item 5.01 but in hard material	m^3	4,230		
5.04	Cut to spoil in soft material	m^3	18,450		
5.05	Ditto item 5.04 but in hard material	m^3	1,845		
5.06	Provide improved subgrade material as instructed	m^3	7,050		
	by the Engineer and compaction to 100% MDD				
5.05	(AASHTO T99)	3	2 000		
5.07	Compaction of top 300mm below formation level	m^3	3,900		
	in cuts to 100% MDD.(AASHTO T99)	2			
5.08	Compaction of 150mm original ground below fills	m^3	2,250		
	to 95% MDD.(AASHTO T99)				
5.09	Top-soiling prior to planting grass as directed by	m^2	2,550		
	the Engineer				
5.10	Grassing as directed by the Engineer	m^2	2,550		
5.11	Provide Rock Fill to swampy areas as directed by	m ³	300		
	Engineer				
5.12	Provide Filter fabric to swamp under, over and	m^2	60		
	around rock fill				
5.14	Scarify existing bituminous pavement material and	m^3	5,000		
·	store for re-use or cart away to spoil		-,000		
	y spon				
	Bill No. 5 Total Carried Forward to Grand Sum	mary			
DIII *	IO 7 . EVOLULATION AND ELLI DIO OF CEPT		7		
BILL N	O. 7: EXCAVATION AND FILLING OF STRU	UCTURES	<u>S</u>	<u> </u>	
				RATE	AMOUNT
BILL N	DESCRIPTION Note: No separate payments shall be made for	UNIT	QTY	RATE	AMOUNT

Issue	Date 12" June, 2025				
	excavation materials and the cost of such shall be				
7 01	included in the rates and prices	2	61.7		
7.01	Excavate to spoil in soft materials.	m^3	615		
7.02	As item 7.01 but in hard material.	m^3	45		
7.03	Provide, place and compact rockfill below and around structures.	m^3	350		
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement	m ²	15,500		
	grouting				
	DUN TTALC ! IE IA C IS				
	Bill No. 7 Total Carried Forward to Grand Sum	mary 		1	
BILL	I NO. 8. CULVERTS AND DRAINAGE WORKS				
DILL	O. O. COLVERTS MAD BIGMANGE WORKS				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Note: No separate payments shall be made for				
	gravel for blinding or hauling to spoil unsuitable				
	excavation materials and the cost of such shall be				
	included in the rates and prices				
8.01	Excavate for inlet,outfall,mitre and catch water	m^3	2,400		
	drains in soft material				
8.02	As per item 8.01, but for hard material	m^3	100		
8.03	Excavation in soft material for pipe	m^3	2,300		
	culverts, headwalls, wingwalls, apron, to ewalls, and				
	drop inlets and compact as directed by the				
	Engineer				
8.04	As per item 8.03, but for hard material	m^3	100		
8.05	Provide, lay and joint 600mm dia. concrete pipes	m	800		
	(precast to BS 5911 Parts 1 & 3) for access roads				
8.06	As for item 8.05 but 900mm dia concrete pipes	m	850		
	(precast to BS 5911 parts 1 & 3) for cross culverts	2	100		
8.08	Provide and place class 15/20 concrete to beds,	m^3	400		
0.00	surround and haunches	2			
8.09	Provide, place and compact class 25(20) concrete	m^3	575		
	for headwalls, wingwalls, aprons, and toewalls to				
	access and cross pipe culverts including all form				
	work and the provision and placing of				
8.10	reinforcement as shown in the drawings		900		
8.10	Provide and place invert block drains with two course side slabs	m	900		
8.11	Construct in concrete class 15(20) side drains	m^3	320		
0.11	scour checks as instructed	111	320		
8.13	Provide subsoil filter drains fabric to isolated wet	m	100		
	spots inclusive of artesian cloth, and 14/20mm				
	single size aggregates as directed by the Engineer				
8.14	Remove existing pipe culverts of any diameter	m	380		
	either for re-use or to be discarded as directed by				
	the Engineer				
8.15	Remove existing invert block drains with two	m	1,400		
	course side slabs or stone pitching and discard as				
	directed by the Engineer				
8.16	Clean existing drainage structures of any	m	960		
	description and size				

	Date 12 th June, 2025	1		_	_
8.17	Clean and shape existing outfall and mitre drains to free flow conditions	m	600		
8.19	Provide, lay and joint ducts and sleeves including 150mm concrete (C15/20) 300mm heavy duty PVC class B with 150mm surround (precast	m	250		
	to BS 5911 Parts 1 & 3) ducts/sleeves				
	Bill No. 8 Total Carried Forward to Grand Sumi	mary			
BILL N	NO. 9: PASSAGE OF TRAFFIC	<u> </u>		<u> </u>	
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
112.11	Note: Notwithstanding the provision of Section 9 of the Standard Specification, no extra payments shall be due as all costs shall be deemed to be included in the rates inserted herein	CTVII	· ·	112	
0.00		2	2.025		
9.02	Grade, water and compact existing road; provide, spread, water and compact gravel as directed by the Engineer for maintenance ahead of works.	m ³	2,925		
9.03	Allow for the passage of traffic through and around the works	LS	1		
	Bill No. 9 Total Carried Forward to Grand Sumi	mary		T	
DILL	YO 10 CDANING AND CDANELLING				
	NO. 10: GRADING AND GRAVELLING	TINITE	OTEN	D. A. (E.E.	AMOUNT
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
10.01	Provide gravel wearing course, spread and compact to a finished thickness of 150mm to at least 95% M.D.D (AASHTO T-180) and shape to level and tolerance.	m ³	15,225		
10.02	Heavy grading with watering & compaction as instructed by the engineer	m ²	101,500		
	Bill No. 10 Total Carried Forward to Grand Sun	ımary		Т	
	NO. 12 : NATURAL MATERIAL FOR ASE AND BASE				
			0.557		
ITEM	DESCRIPTION Note: Note: A least of the project of	UNIT	QTY	RATE	AMOUNT
	Note: No overhaul will be paid for separately under these items as it shall be deemed to have been included in the Contractor's rates	-	-	-	-
12.01	Provide gravel sub-base material, spread, compact to at least 100% M.D.D (AASHTO T-180) and shape to level and tolerance.	m ³	9,000		
12.02	Ditto item 12.01 but for base	m^3	8,000	1	
			-,000		
	Bill No. 12 Total Carried Forward to Grand Sun	ımary		1	
BILL N	 NO. 14 : CEMENT OR LIME TREATED SUBBA	SE AND	BASE		
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT

Issue	Date 12 th June, 2025	1	1	.	T
	Note: No overhaul will be paid for separately				
	under these items as it shall be deemed to have				
	been included in the Contractor's rates				
14.01	Provide and spread Lime as an improvement agent for subbase and base layers	Tonne	500		
14.02	Provide and spread Cement as an improvement agent for sub-base and base layers	Tonne	1,300		
14.03	Mix and process natural material with improvement agent for pavement layers as instructed by the Engineer or as specified	m ³	17,000		
14.04	Protection and curing of cement / lime treated base and sub-base layers	m ²	76,500		
	Bill No. 14 Total Carried Forward to Grand Sun	nmary			
BILL N SHOUL	NO. 15: BITUMINOUS SURFACE TREATMEN' LDERS	 Γ & SURI	FACE DRES	SSING TO	
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
15.01	Prepare surface of carriageway and shoulders, provide, heat and spray MC 30 cutback bitumen prime coat at 0.8-1.2 Litres/m2.	Litres	131,000	KIIL	THIOCHT
15.08	Provide & spray K1-60 as tack coat on carriageway, shoulders and on rumble strips at a rate of 0.5-0.8 1/m ²	Litres	77,000		
15.10	Repair cracks as directed by the Engineer	m	500		
BILL N	Bill No. 15 Total Carried Forward to Grand Sun NO. 16: BITUMINOUS MIXES				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
16.01	Provide, place and compact Asphalt Concrete Type II to a thickness of 50 mm on carriageway Shoulders and bus bays as directed by the Engineer at Bitumen Content of 5.5 - 7.0% by weight of total mix.	m ³	2,430	KATE	AMOUNT
16.06	Provide, place and compact Asphalt Concrete Type I (0/14) for bumps and rumble strips as directed by the Engineer at Bitumen Content of 5.5 - 7.0% by weight of total mix.	m ³	200		
	Bill No. 16 Total Carried Forward to Grand Sun	nmary		l	
BILL N	NO. 20: ROAD FURNITURE				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
20.01	Provide Road Reserve Boundary posts	No.	80		
20.01	Excavate for, provide & place 250 x 125mm precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base bedding and mortar joined in support to	INO.	OU		

Issue	Date 12 th June, 2025				
	carriageway, busbays and junctions as directed by				
	the Engineer.		2.000		
	a) Straight kerbs	m	3,000		
	b) Kerbs radius 12m - 6m	m	1,000		
	c) Ditto but radius 5m - 1m	m	1,000		
20.03	As 20.02 but for flush kerbs 100 x 125mm		3,000		
20.03	Provide and erect permanent road signs where	m	3,000		
20.04	instructed by the Resident Engineer and in				
	accordance with Special Specifications Clause				
	2004 as follows:				
	a) warning signs	No.	10		
	b) Priority prohibitory and mandatory signs	No.	10		
	c) Standard informatory signs	No.	10		
	d) Non standard informatory signs area	110.	10		
	i) Less than 1.0m ²	No.	10		
	ii) More than 1.0m ² but less than	No.	5		
	5m ²		=		
20.05	Provide, deliver, paint and mark the road as	m^2	8,000		
	specified or as directed by the Engineer, with				
	white reflectorized thermoplastic paint from an				
	approved supplier.				
20.06	As item 20.05 but for yellow reflectorized	m^2	3,000		
	thermoplastic paint				
20.07	Provide and erect concrete posts for guardrails	No.	250		
	complete with spacers (size and interval) as per				
	specifications or as directed by the Engineer				
20.08	Provide and erect flex-beam guardrails complete	m	1,000		
	with connections as shown on the drawings or as				
20.00	directed by the Engineer) T	7.0		
20.09	Provide Edge marker posts	No.	50		
20.14	Provide and install cat-eyes as directed by the Engineer	No.	1,000		
20.15	Provide, plant, and nurture tree seedlings for a	No.	1,000		
	period not less than half the construction period of				
	the project or as directed by the Engineer.				
	D21 N - 20 T-4-1 C	<u> </u>			
	Bill No. 20 Total Carried Forward to Grand Sun	ımary			
BILL N	NO. 22: SCHEDULE OF DAYWORKS				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1112111	PLANT	01111	VII	KAIL	AMOUNI
	The rates inserted herein are to include all				
	operational and Maintenace costs, fuel, oil,				
	grease, drivers/operators wages, supervision,				
	overheads and profit. Only time actually				
	employed upon the work will be paid for and the				
	rates should include for idle time, travelling time				
	and overtime, In accordance with clause 2202 (a)				
	of the specifications. Note: All items of plant				
	must be priced.				

	Date 12 th June, 2025	1	ı	1	ı
22.01	Crawler dozers with hydraulic attachments to				
	include ripper				
	a) Up to 135 kw rated flywheel power	hrs	10		
	b) Over 135 kw rated flywheel power	hrs	10		
	b) over 133 kw rated fly wheel power	IIIS	10		
22.02	Motor Grader				
22.02		1	1.0		
	a) Up to 110kw rated flywheel power	hrs	10		
	b) Over 110kw rated flywheel power	hrs	10		
22.03	Vibratory Roller				
	a) 6.5 - 8.81 tonne un-ballasted weight	hr	10		
	b) Over 8.91 tonne un-ballasted weight	hr	10		
	,				
22.04	Hand propelled vibrating roller 650 - 1300kg	hrs	10		
22.05	Cat 950G wheel loader or equivalent	hrs	10		
22.06	10 Tonne tipper lorry	hrs	10		
22.07			10		
	Small dumpers, 750-1000kg rated payload	hrs			
22.08	Dual purpose hydraulic excavator with	hrs	10		
	backhoe/loader and a rated bucket capacity of upto				
	1m3.				
22.09	Articulated wheel loader with 1.5-2.0m ³ SAE	hrs	10		
	rated bucket capacity				
22.10	50mm delivery water pump and motor	hrs	10		
22.11	Self propelled water tanker 4,500ls min. capacity	hrs	10		
	with pick-up pump				
22.12	Concrete Mixer of 100 - 150litres	hrs	10		
22.13	Concrete poker vibrator	hrs	10		
22.13	LABOUR	IIIS	10		
	The rates inserted herein are to include all costs				
	of labour such as insurance, accomodation,				
	=				
	travelling time, over-time, use and maintenance				
	of small tools of trade. Only the actual time				
	engaged upon the work will be paid				
	for.supervision, overheads and Profit.		1.0		
22.14	Unskilled Labour	hrs	10		
22.15	Artisans	hrs	10		
22.16	Office attendants and chainmen	hrs	10		
22.17	Watchmen (all round surveillance)	hrs	10		
	TOTAL CARRIED FORWARD TO THE NEXT	T PAGE			
					-
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
	MATERIALS				
	All materials are to comply with the				
	Specification. The rates				
	inserted herein are to include for delivery to the				+
	site, storage,				
22.10	handling, overheads and profit	T	-		1
22.18	Ordinary Portland Cement 42.5 N	Ton	5		
22.19	Hydrated Lime	Ton	5		
22.20	Mild Steel(any diametre)	Ton	5		
22.21	High Yield Steel (any diameter)	Ton	5		
22.22	Fine Aggregate for Concrete	m^3	50		
			•	•	

Issue	Date 12 th June, 2025				
22.23	Coarse Aggregate for Concrete	m^3	50		
22.24	Wrot Shuttering Timber	m^2	50		
22.25	Rough shuttering timber.	m^2	50		
22.26	Bitumen Emulsion KI-60.	Litre	100		
22.27	Straight run bitumen Grade 80/100.	Litre	100		
22.28	Kerosene	Litre	100		
22.29	14/20 mm nominal size surface precoated	m^3	50		
	chippings				
22.30	6/10mm nominal size surface precoated chippings	m^3	50		
22.31	AC Type I Ex-plant	m^3	25		
22.32	AC Type II Ex-plant	m^3	25		
22.33	Dense Bitumen Macadam	m^3	25		
22.33	Delise Bromen Hawadani	111	20		
	Bill No. 22 Total Carried Forward to Grand Sun	ımarv			
BILL N	NO. 25: ENVIRONMENTAL, HIV/AIDS, AND C	OVID-19 1	MITIGAT	TON MEAS	SURES
ITEM	DESCRIPTION	UNIT	OTV	RATE	AMOUNT
25.01	Allow for a prime cost sum for of KShs 5,000,000	PC sum	QTY	KAIL	AMOUNI
23.01	1	PC sum	1		
	(five Million) for ESIA study, report, and environmental monitoring.				
25.02	E.O for Item 25.01 for Contractor's Oveheads and	Item			
23.02	Profit	Item			
25.03	Allow for engagement of a HIV/AIDS and	Months	24		
25.03	COVID-19 specialist sub contractor to deal with	Monus	Z 4		
	prevention and awareness activities as per				
	programme to be approved by the Engineer				
25.04	Provide male and female condoms to workers and	No.	12,000		
23.04	staff for the duration of the contract	INO.	12,000		
25.05	Allow for preparation and submmission of monthly	Months	24		
25.05	reports on HIV/AIDS and COVID-19 awareness	Wionins	24		
	and prevention activities. Report to be tabled at				
	site meetings.				
25.06	Provide, Install and maintain HIV/AIDS and	No.	4		
23.00	COVID-19 awareness bill boards with approved	INO.			
	message and graphics with maximum area 4m ²				
	fabricated as per specifications of permanent				
	informatory sign boards				
25.07	Allow for video shows on HIV/AIDS and	Quartely	6		
23.07	COVID-19 related awareness and prevention	Quartery			
	matters every 3 months				
25.08	Provide HIV/AIDS and COVID-19 awareness				
	material as follows:				
	a) T-Shirt printed with approved message and	No.	500		
	graphics				
	b) Ditto (a) above but caps	No.	100		
	c) A1 size weather proved posters	No.	20		
	d) A3 size weather proved posters	No.	100		
	e) 200x150mm stickers with HIV/AIDS and	No.	100		
	COVID-19 awareness/prevention slogan				
	f) Key rings with HIV/AIDS and COVID-19	No.	500		
	awareness/prevention slogan	1.5.			
	g) Ball point pens with HIV/AIDS and COVID-19	No.	500		
	awareness prevention slogan.	1.5.			
L	1 5	ı	ı	1	ı

25.09	Provide and maintain handwashing points at	No.	3		
	strategic locations as directed by the Engineer				
	throughout the construction period.				
25.10	Provide and maintain hand sanitizing points at	No.	3		
	strategic locations as directed by the Engineer				
	throughout the construction period.				
25.11	Provide face masks as specified or as shall be	No.	20,000		
	directed by the Engineer.				
D:II N.	o. 25 Total Carried Forward to Grand Summary				
BIII NO	. 23 Total Callicu Pol ward to Grand Summary				
BIII NO	2. 25 Total Carricu Forward to Grand Summary		<u> </u>		
	No. 26: LAND ACQUISITION, AXLE LOAD CO	NTROL, A	ND RELO	CATION	
BILL I		NTROL, A	ND RELO	CATION	
BILL I	No. 26: LAND ACQUISITION, AXLE LOAD CO	NTROL, A	ND RELO	CATION Rate	Amount
BILL I OF SE Item	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES	<u>, </u>	1		Amount
BILL I OF SE Item	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description	Unit	1		Amount
BILL I	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description Allow a Prime Cost Sum of KShs. 5,000,000.00	Unit	1		Amount
BILL I OF SE Item	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description Allow a Prime Cost Sum of KShs. 5,000,000.00 for relocation of services as instructed or directed	Unit	1		Amount
BILL NOF SE Item 26.03	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description Allow a Prime Cost Sum of KShs. 5,000,000.00 for relocation of services as instructed or directed by the Engineer	Unit PC Sum	1		Amount
BILL NOF SE Item 26.03	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description Allow a Prime Cost Sum of KShs. 5,000,000.00 for relocation of services as instructed or directed by the Engineer E.O. item 26.03 for Contractor's overheads and	Unit PC Sum	1		Amount

CONTRACT NO.: RWC 689

UPGRADING TO BITUMEN STANDARD AND MAINTENANCE OF MWEIGA - BROOKSIDE - KIMATHI UNIVERSITY (D449/D450A)

GRAND SUMMARY OF BILL OF QUANTITIES

BILL ITEM	DESCRIPTION	AMOUNT(KShs)
1	Preliminaries and General Items	
4	Site Clearance and Top Soil Stripping	
5	Earth Works	
7	Excavation and Filling of Structures	
8	Culverts and Drainage Works	
9	Passage to Traffic	
10	Grading and Graveling	
12	Natural Gravel Base and Subase	
14	Lime/Cement Improved gravel Subbase and Base	
15	Bituminous Surface Treatment and Surface Dressing	
16	Bituminous Mixes	
20	Road Furniture	
22	Schedule of Dayworks.	
25	HIV/AIDS, Gender & Social Issues, Local Participation	
26	Relocation of Services and Land Aquisition	
(A)	Sub-Total (1)	
(B)	Add 15% Variation of Price On Sub-Total 1	
(C)	Add 10% Contingency on Sub-Total 1	
(D)	Sub-Total $2 = A + B + C + D$	
(E)	Add .03% For PPCBLof sub total (1)	
(F)	Add16% VAT of sub-total (2)	
TOTAL	CARRIED FORWARD AS BID SUM 1: (D + E + F)	

Issue Date	12 th June, 2025				
	APPENDIX A			_	
APPENDIX	K TO BILL ITEM 1.05:				
PROVIDE	AND MAINTAIN FURNITURE AND				
EQUIPME	NT FOR THE ENGINEER'S LABORA	TORY			
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				(KSHS)	(KSHS)
	1. FURNITURE				
A104/1.01	Desk 2.2x0.9 m with chair and	No	2		
	lockup drawers				
A104/1.02	Desk chair (standard)	No	15		
A104/1.03	Stationery cupboard, 1.2 m³, lockable	No	2		
A104/1.04	Steel filing cabinet, 4 drawers,	No	2		
	lockable				
A104/1.05	Steel filing cabinet, 2 drawers,	No	2		
	lockable				
A104/1.06	Bookshelf, 3 shelves 1.2 m long (to	No	2		
	hold box files)				
A104/1.07	Table - 6 m ²	No	2		
A104/1.08	Two Plate electric heater	No	1		
A104/1.09	Fire extinguisher, 10 litre capacity,	No	4		
1110 1/1103	CO ₂ type				
A104/1.10	Complete first aid kit	No	2		
1110 1/1110		110			
	EQUIPMENT				
	(The following equipment shall be				
	purpose made for use in the				
	Engineer's laboratories and shall				
	comply with the relevant British (BS)				
	or American (AASHTO) Standard)				
	2. General Equipment				
A104/2.02	2.49kg. Compaction hammer, drop	No	2		
1110 1/2102	regulated to 304.8mm	110			
A104/2.03	4.535kg compaction hammer drop	No	2		
1110 1/2100	regulated to 457.2mm	110			
A104/2.04	Electric vibrating Kango Hammer	No	1		
1110 1/2101	fitted with steel tamper(BS 1377) with	110			
	support frame				
A104/2.05	Straight edge 300 mm long with	No	4		
	handles				
A104/2.06	Steel Tamper (BS1377) compatible	No	3		
2.00	with Kango hammer				
A104/2.07	Compaction mould 152.4 mm. dia x	No	2		
	116.43 mm complete with base plate		_		
	and extension collar, 101.6 mm				
A104/2.08	Galvanized metal tray 1m x 0.5m x 75	No	4		
	mm deep				
A104/2.09	75mm brush	No	2		
A104/2.10	Semi-automatic balance, 25kg	No	1		
	Capacity accurate to 1g, including		_		
	weights				
A104/2.11	20mm BS Sieve, 300mm diameter	No	1		
	, - • •	1	1	ı	i .

	12 th June, 2025			
A104/2.12	Stop Clock	No	2	
A104/2.13	Thermostatically controlled electric	No	2	
	oven 105-110°C, capacity 0.225 m ³			
A104/2.14	As above but gas heated	No	1	
A104/2.15	Moisture content tins, 75 mm dia,	No	60	
1110 1/2.13	Cadmium or aluminium plated	110		
A104/2.16	Cone penetrometer with gauge and	No	2	
A104/2.10		INU	2	
	automatically controlled test cup			
	CAE			
	C/Forward to next page			
	B/Forward from previous page			
	3. Density (Sand replacement			
	method BS 1377)			
A104/3.01	Metal containers 450mm diameter	No	2	
A104/3.02	Stainless steel tray 305mm diameter	No	2	
A104/3.03	Metal tray with 150 mm diameter hole	No	2	
	in the centre, 300mmx300 mm square			
	or equivalent area, 40mm deep			
A104/3.04	Metal tray with 200mm diameter hole	No	2	
1110 1/3.01	in the centre, 500mm x 500 mm	110	2	
	square, 50 mm deep			
A104/3.05	Steel pegs for fixing tray in position	No	15	
A104/3.06	Sand pouring cylinder, 150 mm	No	2	
	diameter	3.7		
A104/3.07	Sand pouring cylinder, 215 mm	No	2	
	diameter			
A104/3.08	Cold steel chisel 20mm x 300mmm	No	4	
A104/3.09	Cold steel chisel 10mm x 250mmm	No	4	
A104/3.10	1.5kg, 3.5kg hammers and 1kg rubber	Set	1	
	mallet			
A104/3.11	Scoop for removing excavated	No	6	
	material from hole, 250 mm long			
	handle			
A104/3.12	100mm brush, soft	No	3	
A104/3.13	50mm brush, soft	No	3	
1110 1/3.13	Somm orasii, sort	110	3	
A104/3.14	Primus gas stove	No	1	
A104/3.14 A104/3.15	Primus gas stove	No	3	
A104/3.13	Calibrating can 150 mm diameter x	INO	3	
A 104/2 16	150 mm deep	N	2	
A104/3.16	Ditto but 200 mm diameter x 250 mm	No	3	
	deep			
	5. CBR (AASHTO T193)			
A104/5.01	CBR mould, 152.4 mm dia x 178 mm	No	50	
	high, complete with perforated base			
	plate and extension collar 50.8 mm			
	high that can be fitted to either side of			
	mould			
A104/5.02	Perforated swell plate 150 mm dia	No	40	
	with an adjustable centre post of rust			
	proof metal provided with a lock-nut			
A104/5.03	2.25 kg split surcharge weight	No	2	
A104/5.04	Set of annular surcharge weights	No	1	
A104/J.04	Set of allifular sufcharge weights	INU	1	

	12 th June, 2025			
A104/5.05	Solid base plate for CBR mould	No	2	
A104/5.06	Static compaction displacer discs 1	set	1	
	Nox 61.4 mm, 1 No x 50.8 mm and 2			
	Nox 38.8 mm thick with handles			
A104/5.07	Disk lifting handle	No	2	
A104/5.08	Central extruder, complete with 20kN	No	1	
A104/3.00	hydraulic jack and accessories	110	1	
A104/5.09		No	1	
A104/3.09	Automatic CBR Proctor Compaction	INO	1	
	press, 50 tonnes capacity with an			
	adjustable distance between platens of			
	530mm-250mm, rammer weights and			
	automatic count selector			
A104/5.10	Set of guards for above press.	No	1	
A104/5.11	50 kN CBR Load frame complete	No	1	
	with stabilising bar (electric and hand			
	operated) including proving rings for			
	10KN, 28KN and 50KN, piston and			
	bracket			
	C/Forward to next page			
	B/Forward From previous page			
A104/5.12	Penetration gauge range 0 - 25mm	No	2	
A104/5.12 A104/5.13		No	2	
	CBR piston including bracket			
A104/5.14	Swell measurement tripod complete	No	2	
	with guage calibrated in 0.01 mm			
	divisions			
A104/5.15	Soaking tank for CBR mould	No	1	
	sufficient for 50 moulds			
	6. Relative Density of Aggregates			
	(BS 812)			
A104/6.01	Wire mesh basket with apertures not	No	2	
	greater than 6.5 mm large enough to			
	contain 2.5 kg of aggregate			
A104/6.02	A stout watertight container in which	No	2	
1110 11 0102	the basket can be freely suspended	1.0		
A104/6.03	Soft absorbent cloth (tea towel)	No	10	
A104/6.04	Shallow tray of area not less than	No	2	
A107/0.04	0.065 m^2	110		
A 104/6 05		Na	12	
A104/6.05	An airtight container of similar	No	2	
A 104/6 06	capacity to the basket	NT.	4	
A104/6.06	Pycnometer of 1 litre capacity	No	4	
A104/6.07	Semi automatic 5 kg balance accurate	No	1	
	to 0.1g to be of size and type to permit			
	the basket containing the sample to be			
	suspended in water(to be supplied			
	with weights)			
A104/6.08	Hot air drier (electric)	No	2	
	7. Flakiness (BS 812)			
A104/7.01	Thickness gauge (various sizes)	No	2	
3	<i>B</i> -8- ()	-		
	8. Sieve Analysis (BS 1377)			
1	0. Sicve Analysis (DS 13/1)			

Issue Date	12 th June, 2025				
A104/8.01	BS Sieve 300mm diameter in sizes 75,	Set	2		
	63, 50, 37.5, 28, 20, 14, 10, 6.3, 5 and				
	4 mm, plus lid and receiver				
A104/8.02	BS Sieve 200mm diameter in sizes 2,	Set	2		
	1, 0.6, 0.5, 0.425, 0.300,0.150 and		_		
	0.075 mm, plus lid and receiver				
A104/8.03	Electric sieve shaker	No	1		
A104/8.04	BS sieve 200mm diameter 0.425 and	set	1		
A104/0.04	0.075 mm	SCI	1		
A104/8.05		No	10		
A104/6.03	1 m x 1 m x 75mm deep galvanized metal tray	NO	10		
A104/8.06	, and the second	No	1		
A104/8.00	Riffle box with 50mm slots (BS 1377)	NO	1		
A 10 4 /0 01	9. Miscellaneous Equipment	NT.	2		
A104/9.01	Wheel barrow	No	3		
A104/9.02	Dustpan and brush	No	3		
A104/9.03	Shovel	No	4		
A104/9.04	Pick axe with handle	No	4		
A104/9.05	Metal scoop, large (150mm wide)	No	3		
A104/9.06	Metal scoop, medium (100mm wide)	No	4		
A104/9.07	Garden trowel	No	2		
A104/9.08	Steel tray 0.3m x 0.3m x 0.01m deep	No	15		
A104/9.09	Palette knife 200mm long blade	No	3		
A104/9.10	Palette knife 100mm long blade	No	4		
A104/9.11	BS sieve 450mm diameter, 37.5mm	No	1		
A104/9.12	BS sieve 450mm diameter, 20mm	No	1		
A104/9.13	BS sieve 450mm diameter, 5mm	No	1		
A104/9.14	BS sieve 450mm diameter, 0.425mm	No	1		
A104/9.15	BS sieve 450mm diameter, 0.3mm	No	1		
	Page 5 C/Forward tonext page				
	B/Forward from prevoius page				
A104/9.16	BS sieve 450mm diameter, 0.075mm	No	1		
A104/9.17	Set of lid and receiver for metal scoop	No	2		
1110 113117	and steel trays	110	_		
A104/9.18	BS Sieve brush	No	2		
A104/9.19	Measuring cylinder set, 25 ml, 100	set	2		
1110 1/ 5.15	ml, 500 ml, 1000 ml, 2000 ml	501	2		
A104/9.20	Glass jar capacity 5 litres with lid	No	10		
A104/9.21	200mm x 200mm x 20mm cadmium	No	20		
11104/9.21	plated or aluminium tin	140	20		
A104/9.22	Electronic balance capacity 1000 g,	No	1		
11107/7.22	accurate to 0.01gm.	110	1		
A104/9.23	Balance 2000 g capacity accuracy to	No	1		
A107/3.43	0.1g (manual), including weights	110	1		
A104/9.24	Balance 50kg capacity accurate to	No	1		
A107/7.24	10gm including weights	110	1		
A104/9.25	Still for producing distilled water	No	1		
A104/9.25 A104/9.26	Polythene or glass 20 litres storage	No	2		
A104/7.20	vessel with tap at bottom	INU			
A 104/0 27	Stiff broom	No	2	+	1
A104/9.27					
A104/9.28	Vernier calipers, 150mm	No	2 2	-	
A104/9.29	Vernier calipers, 250mm	No		<u> </u>	
A104/9.30	Pestle and mortar	No	2		
A104/9.31	Linear shrinkage mould (BS 1377)	No	6		

	12 th June, 2025	r		 ,
A104/9.32	Liquid Limit Device	No	2	
A104/9.33	Average least dimension gauge	No	2	
A104/9.34	Lockable tool box containing: 1	No	1	
	pr"Molegrips", 2 x 150mm			
	screwdriver, 2 x 200 mm screwdriver,			
	2 x 300 mm screwdriver, (1 standard			
	and 1 Phillips head of each) adjustable			
	spanners 200 mm and 300 mm, 1 pair			
	round nosed pliers, 1 pair general			
	purpose pliers,			
A104/9.35	Plastic or metal bucket including	No	6	
	lid,10 litres capacity			
A104/9.36	Polythene wash bottle (500 ml)	No	5	
A104/9.37	A4 size clipboard	No	4	
A104/9.38	Thermometer, range -10°C to150°C,	No	2	
	glass (BS 593)			
A104/9.39	Laboratory thermometer, range + 0°C	No	2	
	to + 250°C (BS 593)			
A104/9.40	Maximum and minimum thermometer	No	2	
	(BS692)			
A104/9.41	Rain gauge	No	1	
A104/9.42	Portable dial thermometer + 50°C to	No	1	
	$+250$ °C accurate to $\pm 3\%$			
A104/9.43	Ditto with 0.75m long stem	No	1	
A104/9.44	Pocket thermometer + 50°C to	No	2	
	$+250$ °C accurate to $\pm 3\%$ with 0.1 m			
	stem			
A104/9.45	5 litre capacity steel storage	No	50	
	containers with leak and dust proof			
	lids for storage of bitumen samples			
A104/9.46	Hotplate 200mm diameter with	No	2	
	Simmerstat heat control unit.			
A104/9.47	450mm diameter x 150mm deep metal	No	6	
	mason's basin			
	C/Forward to next page			
	B/Forward from previous page			
	11. Concrete: Slump and Cube			
	Manufacture (BS 1881)			
A104/11.01	Slump cone, tamping rod and base	set	2	
A104/11.02	Concrete cube mould, 150mm cube	No	30	
A104/11.03	Soaking tank for cubes (capacity 50	No	1	
	No.)			
A104/11.04	Cube tamping bars	No	10	
	12. Concrete: Cube Compression			
	Testing			
A104/12.01	Concrete compression machine to	No	1	
	BS1610 Grade A with 300 mm gauge,			
	rectangular platens, capacity 1560 kN			
	with load spacer			
A104/12.02	Safety guard for above			
A104/12.03 A104/12.04	50mm distance piece 70mm distance piece			

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A104/12.05	Electro-mechanical load pacer, 100			
	mm or equivalent distance piece			
	13. Aggregate and Chippings			
A104/13.01	Sand equivalent to AASHTO T176	Set	1	
A104/13.01	1	Set	1	
	including graduated plastic cylinder,			
	rubber stopper, irrigation tube			
	weighted foot assembly, siphon			
	assembly, 85ml tin box (57mm dia.),			
	100 mm dia wide mouth funnel, stop			
	clock,mechanical shaker and 10 litre			
	jar			
A104/13.02	Beaker 250ml	No	2	
A104/13.03	Aggregate Crushing Value Apparatus,	No	2	
A104/13.03	150 mm nominal diameter, including	110	2	
	,			
A 104/12 04	plunger and base plate	G .	4	
A104/13.04	Tamping rod and metal measure for	Set	4	
	above			
A104/13.05	Los Angeles Abrasion to ASTM	No	1	
	standards			
A104/13.06	Set of 12 abrasive charges	No	2	
A104/13.07	Thermometer, 0°C to +50°C	No	2	
A104/13.08	Thermometer, 0°C to +250°C	No	2	
A104/13.09	Reagent grade Silica gel, 500g	No	50	
1110 1/15.05	container	110		
	Container			
	14 Ditumor Covery Tost (DC 1707)			
4 1 0 4 /1 4 1	14. Bitumen Spray Test (BS 1707)	G .	1	
A104/14.1	Transverse distribution of spray test	Set	1	
	bitumen distributor (depot tray test to			
	BS 1707) or equivalent.			
A104/14.02	Steel tray 20 mm deep x0.1m ² (for	No.	4	
	measuring bitumen spray rates) with			
	purpose made detachable handle 1.5m			
	long.			
	8			
	16. Bitumen Extraction Test			
	A) Extractor Bottle Method BS 598			
	Part 2			
A 104/16 01		NI	1	-
A104/16.01	Electronic top pan balance 4kg	No	1	
	capacity, sensitive to 0.1gm			
A104/16.02	Flat bottomed scoop	No	3	
A104/16.03	Steel garden trowel	No	2	
A104/16.04	Large steel spoon	No	2	
A104/16.05	Heat resistant gloves	pair	10	
A104/16.06	Foot pump for pressurising air water	No	2	
	assemblies up to a maximum of			
	700KN/m ² and fitted with flexible			
	hose approximately 1.2m long and			
	connector			
	Connector			
C/Forward	to next page			
C/Forward				
A 104/1605	C/Forward from previous page	NT	2	1
A104/16.07	Steel bottle 600ml capacity with	No	2	
1	49mm rubber stopper	1	1	1

Issue Date	12 th June, 2025		T.	
A104/16.08	Steel bottle 2500ml capacity with	No	2	
	71mm rubber stopper			
A104/16.09	Steel bottle 7000ml capacity with	No	2	
	71mm rubber stopper			
A104/16.10	Flask funnel for fitting to the 700ml	No	2	
	steel bottle with rim of funnel			
	retaining sieve 200mm nominal			
	diameter			
A104/16.11	Bottle roller compact bench mounted	No	1	
7110-1/10.11	unit designed to rotate 2 bottles	110	1	
	simultaneously about longitudinal axis			
A104/16.12	Pressure filter complete with cutting	No	1	
A104/10.12	1	INO	1	
A104/16.13	tool for making hole in the filter paper Filter funnel to take 200mm nominal	NI.	12	
A104/10.13		No	2	
104/1614	diameter sieves	NT.	1	
A104/16.14	Centrifuge complying with BS 598	No	1	
1.40.11.	D: 1	3.7		
A104/16.15	Binder recovery	No	1	
A104/16.16	Volumetric flask 250ml, 500ml,	set	2	
	1000ml and 2000ml capacity			
A104/16.17	Recovery still for Dichloromethane	No	1	
	B) Hot Extractor Method BS 598			
	Part 2			
A104/16.18	Hot extractor complete with wire	No	2	
	gauze container gasket, cork lid and	1,0		
	support assembly			
A104/16.19	Dean and Stark receiver with	No	2	
1110 1/10.17	condenser to suite Trichloroethylene	110		
A104/16.20	Gyratory compactor ELE Servo Pac	No	2	
A104/10.20	or equivalent with 1 x 100mm and 1 x	110	2	
	150mm moulds			
A104/16.21	PRD Vibrating hammer compactor	SET	1	
A104/10.21		SEI	1	
	complete with 6 moulds, 7 base plates			
A 10 4/1 C 22	from ELE	ara.		
A104/16.22	Two (2) sets of Tamping foot 102mm	SET	2	
	diameter and 146mm diameter and			
	shanks to fit the supplied vibratory			
	hammer			
	17. Consumables			
A104/17.01	Paraffin wax	Kg	50	
A104/17.02	Gunny sack	No	500	
A104/17.03	Plastic bag 900x450x1000 gauge	No	500	
A104/17.04	Plastic bag 450x300x1000 gauge	No	500	
A104/17.05	Filter paper 150mm diameter	No	20	
	Whatman No. 5 (Boxes of 100)			
A104/17.06	Filter paper 400mm diameter	No	20	
	Whatman No. 5 (Boxes of 100)			
A104/17.07	Filter paper 100mm diameter	No	20	
11101/11/10/	Whatman No. 5 (Boxes of 100)	110		
A104/17.08	Filter paper 400mm diameter	No	10	
A107/1/.00	Whatman No. 54 (Boxes of 100)	110	10	
	vv nauman ivo. 34 (Doxes of 100)			

A104/17.09	Filter paper 270mm diameter with 33	No	15	
	diameter hole at centre Whatman No.			
	5 (Boxes of 100)			
A104/17.10	Trichloroethylene (205 Litre Drum)	No	5	
A104/17.11	Dichloromethane	kg	200	
A104/17.12	Cotton waste	kg	50	
A104/17.13	13kg Gas cylinders filled with gas and	No	5	
	with compatible gas burners			
A104/17.14	Sodium sulphate	kg	45	
A104/17.15	Sand for density test	kg	250	
	C/Forward to item 1.05			

APPENDIX B				
APPENDIX TO BILL ITEM 1.06A: PROVI	DE, FURI	NISH AND		
MAINTAIN THE R.E.'S OFFICE				
DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
			(KSHS)	(KSHS)
1. ENGINEER'S MAIN OFFICE AND				
FURNITURE				
Executive desk 2.2x0.9 m with six lockup	No	2		
drawers				
Desk 2.2x0.9 m with chair and three lockup	No	4		
drawers				
Office tables 2.2x0.9 m	No	5		
Executive Swivel orthopeadic chair adjustable	No	6		
height				
Standard office chairs	No	10		
Typist's desk	No	1		
Typist's chair	No.	1		
Lockable steel stationery cupboard, 1.2 m ³ ,	No.	2		
lockable				
Medium size steel filing cabinet, 4 drawers	No.	2		
lockable				
Medium size steel filing cabinet, 2 lockable	No.	2		
drawers	3.7			
Bookshelf, 1.5 m wide 3 shelves (for box files)	No.	2		
sliding glass door	N.T.			
Conference table with 15 chairs	No.	1		
Waste paper basket	No.	10		
Curtains for office and laboratory -for all	Set	2		
windows and doors	N.	5		
Ordinary 2 hole paper punch	No	5		
Heavy duty 2 hole paper punch	No	2		
Computer meeting the following specifications	No	5		
or equivalent: Personal computer with 17"				
screen full multimedia, 500GB hard disk,				
4.0GB RAM, Core i7 processor, complete				
with all accessories preloaded with latest				
versions of windows OS, MS Office,				
Professional and MS Project Autocad Civil 3D 2016 and Licences for above	No	1		
	INO	1		
Computers Laptop PC with Intel Core i7-45IOU	No	4		
Processor 15.4" screen, CPU @ 2.6GHz 8GB	INU	7		
RAM 1TB 8xDVD+/-RW approved with				
Microsoft Windows professional				
Latest HP (A4) Laser Printer with accessories	No	5		
Latest HP (A3) Laser Colour Printer with	No	1		
accessories	110	1		
UPS 600 VA	No	6		
wall clocks, battery powered min size 350mm	No	6		
x 350mm	1,0			
First Aid Kit	No	4		
Fire Extinguisher	No	4		
I II TUMINGUIOI	1 10	1 •	L	1

issue Date 12 Julie, 2025				
Filing Tray - set of 3no.	set	10		
Refrigerator minimum capacity 0.2 m ³	No	1		
Drinking water dispenser, hot/cold	No	3		
Table - 0.8 m ² surface area	No	1		
Cupboard, 0.15 m ³ , lockable	No	1		
13 Kg Gas cylinder with three gas burners	No	2		
C/Forward				
DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
B/Forward				
A3 Photocopier (approved make), with feeder	No	1		
sorting trays, scanner and print capability				
Reams of A4 phocopying paper	No	120		
Reams of A3 phocopying paper	No	24		
Electronic scientific calculator, Casio fx	No	6		
991ES PLUS or equivalent approved				
Stapling machine Ofrex size 50 or similar with	No	6		
5000 staples				
Heavy duty punch and spiral binder, IBICO	No	2		
AG or similar approved				
Digital Camera, 16.1 Megapixel(min),	No	2		
1920x1080 full HD movie recording, optical				
steadyShot, sweep panorama, 2.7" LCD				
screen, minimum 5x digital zoom, multimedia				
card/SD 8GB memory, 12 scene selection				
modes, all inclusive.	•4	0		
Provision of mobile phones for supervision team with the latest android version to the	item	8		
approval of the Engineer.				
Total counied to Dill Item 1 06 A				
Total carried to Bill Item 1.06A	1		1	1

Issue	Date 12 th June, 2025				
	APPENDIX C				
	NDIX TO BILL ITEM 1.06B ENGINEERS'S S				
ITEM	Description	UNIT	QTY	RATE	AMOUNT(Kshs)
1.01	Digital Total Station reading to 1"accuracy	No. 0	0		
	(one second) with the following facilities:				
	· Inbuilt data logger				
	· Uploading/downloading software				
	· Data transfer cable				
	· Battery (2No)				
	· Battery charger				
	· Tool kit	1			
	· Two face keyboard	1			
	· User manual	1			
	It must have the following inbuilt survey				
	programs as a minimum				
	· Survey	1			
	· Staking out	1			
	· Resection/intersection	_			
	· Traverse	1			
	· Cogo	_			
1.02					
1.02	The following mandatory total station				
	accessories must be included per Total station				
-)	instrument	Nia	0		
a)	1No. Heavy duty telescopic tripod(<i>preferably</i>	No.	0		
1.	wooden)	> T			
b)	Telescopic plumbing prism pole complete	No.	0		
	with a prism and prism holder with target and				
`	plumbing bubble (length not less than 2.15m)				
c)	Triple prism holder set, in a casing,	No.	0		
	comprising triple prisms, prisms holder with				
2.	target, tribrach and a tribrach adaptor				
d)	· Survey umbrella	No.	1		
e)	· 1No.Telescopic Tripod	No.	0		
1.03	Engineer's Automatic Level Wild NAK 2 or	No.	2		
	similar with a tripod and the following				
	specifications				
	· Accuracy of 0.7 mm per 1 km double				
	run				
	· Standard magnification of: 32x				
	· Shortest focusing distance of 1.6m				
	· Compensator setting accuracy of 0.3"				
	Total carried forward to next page				
ITEM	Description	UNIT	QTY	RATE	AMOUNT(Kshs)
	Brought Forward				
1.04	Hand held GPS with accuracy of 1 Metre	No.	1		
1.05	Set of two way radio communication with a	set.	1		
	range of 1 kilometer				
1.06	5 M Leveling staff with leveling bubble	No.	4		
1.07	3 M Ranging Rods	No.	10		
1.07	Scientific Calculators FX 912ms or equivalent	No.	3		
1.08	50m. Linen Measuring Tape	No.	5		
1.07	John. Emen Measuring Tape	INU.	ر ا		

	Date 12 Valle, 2023			1	
1.10	1m stainless steel straight edge	No.	1		
1.11	3 m tape measure	No.	10		
1.12	Sledge hammer 2kg weight	No.	2		
1.13	Mattock	No.	2		
1.14	Pangas (16'')	No.	10		
1.15	Marker Pens	No.	20		
1.16	Reflector Jackets	No.	30		
1.17	Levelling Survey books	No.	100		
1.18	Provision of Geodetic GNSS receivers	No.	1.00		
	comprising of one base and two rovers as per				
	the specifications in Appendix D				
1.19	Provide with license and install the latest	L.S			
	version of (insert software)				
	Total carried to Bill Item 1.06B				

	NDIX D		DELLABA
S/No.	Item Description	GEODETIC GLOBAL NAVIGATION SATELLITE SYSTEM SPECIFICATIONS (GNSS)	REMARKS
1	Geodetic	General Characteristics	
1	GNSS	General Characteristics	
	Receivers		
		Geodetic Set enabled for both Static and RTK functions with respective	
		supporting software and accessories	
		Specific Specifications	
		1. Channels: At least 120 enabled for simulteneous signal tracking	
		2. Reception	
		Must be enabled for Multi - Constellation / Frequency i.e current	
		systems e.g. GPS (L1, L2, L2C, L5)	
		GLONASS (L1C/A, L1P, L2C/A); SBAS (EGNOS, WAAS, MSAS,	
		GAGAN, QZSS)	
		Galileo ready: E1, E5A, E5B	
		BeiDou ready (Compass): B1, B2 Must have some multipath mitigation technology embeded	
		Note: Should be configured to recieve new and upcoming	
		constellations (if any)	
		2. Accuracy:	
		Real Time Kinematics (RTK)	
		Horizontal: 8 mm + 1 ppm RMS	
		Vertical: 15 mm + 1 ppm RMS	
		Initialization time: typically < 5 s	
		- Initialisation reliability >99.9%	
		Post Processing Static	
		Horizontal: 3 mm + 0.5 ppm RMS	
		Vertical: 5 mm + 0.5 ppm RMS	
		Baseline Length: ≤ 80 km	
		3. Special functionalties	
		Extended RTK range - base setup	
		- the base receiver to be able to stream RTK data via integrated GSM	
		modem and to support upto 10 rovers simultaniosly	
		- the base to provide WiFi hotspot functionality for better control/setup	1
		of the receiver	
		- the base to provide web interface functionality via any smart phone,	
		tablet or computer	
		- the base to provide NTRIP caster and dyndns functions	
		Increased reliability - rover setup	
		- the rover to provide a mode for better performance under difficult	
		condtions (close to buildings, trees and urban areas) - the rover to be able to connect to any CORS GNSS networks or Single	+
		1 - the rover to be able to confident to any CORS GINSS lictworks of Single	1

Issue Date 12 th .	June, 2025	
	4. Communications	
	a) I/O	
	· 2x TNC connector (1 for UMTS antenna and 1 for UHF antenna)	
	· 2x LEMO	
	· 1x high speed USB	
	· Integrated GSM/GPRS modem	
	· Integrated Bluetooth class 2	
	· Optional radio modem (2):	
	Internal Rx/Tx: 403473 MHz	
	External Radio: 1W 35W adjustable (at least 12Km range)	
	. Should be configured to log into any upcoming CORS protocol	
	. Should be enabled to use SIM card	
	b) Radio Transmission Protocols (RTK)	
	RTCM2.1, RTCM2.3, RTCM3.0, CMR, CMR+ input and output	
	NMEA0183 output	
	5. Data Storage:	
	. Must be able to store raw data	
	. Must have at least 4 GB internal storage	
	. Optional external microSD storage	
	. Device should mount as a USB external hard drive	
	V DOVING SHOULD INCOME US DE CHARLES AND ULTIC	
	6. Power Supply	
	Battery life: at least 5 hours in RTK mode	
	· Must have External power input option	
	· Each set should be supplied with two internal battery packs	
	Zati but sie die supplied with two interior carrely partie	
	7. Software	
	Two types of software	
	1 Wo types of software	
	a) for Static	
	u) 101 State	
	Permanent licence to be included (protected by USB dongle)	
	Must be able to process raw data (GPS L1&L2, Glonas L1&L2)	
	from leading brands	
	. Must be able to define datums and compute varios trasformations	
	. Must be able to do 3D adjustment	
	Must be able to do 3D adjustment Must be able to export/inport raw data to RINEX format and process	
	the same. This feature must be inclusive of the total cost	
	the same. This reduce must be inclusive of the total cost	
	b) for RTK	
	Supplier should provide licence free field data collection software that	
	- **	
	has the following key survey operational features:-	
	•must provide functions for topo survey	
	•must provide functions for stakeout	
	Operating platform - Windows Mobile 6.5 or equivalent	
	8. Sourcing	

)	
The equipment must be sourced from manufacturer's authorized dealers	
in Kenya who must be capable of training users and commissioning the	
equipment for full use.	
9. Warranty	
Minimum of One year	



	1: PRELIMINARIES AND GENERAL ITEMS				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
1.01 (i)	Provide or rent accomodation for Engineer's senior and junior staff (i) Type I	month	24.00	65,000.00	1,560,000.00
1.01	Provide or rent accomodation for Engineer's senior and junior staff (ii) Type II	month	24.00	55,000.00	1,320,000.00
(ii) 1.01	Provide or rent accomodation for Engineer's senior	month	24.00		
(iii) 1.01	and junior staff (iii)Type III Provide or rent accomodation for Engineer's senior	month	24.00	40,000.00	960,000.00
(iv) 1.01	and junior staff (iv)Type IV Provide or rent accomodation for Engineer's senior	month	24.00	30,000.00	720,000.00
(v)	and junior staff (v)Type V Total			21,000.00	504,000.00
1.02		0/			5,064,000.00
1.02	E.O item 1.01 for contractor's overhead and profit	%	1.00		
1.03	Provide or rent and maintain Engineer's Representative's office as shown on the drawings or as instructed by the Engineer for use during the duration of the Contract.	LS	1.00		
1.04	Provide or rent and maintain Engineer's Site Laboratory for the duration of the Contract.	LS	1.00		
1.05	Provide and maintain Laboratory equipment, reagents and other items as priced in Appendix 'A' to the Bill of Quantities for use by the Engineer's representative for the duration of the contract.	LS	1.00		
1.06 (A)	Provide and maintain furniture, tools and other items for the Engineers Representative office for the duration of the Contract as priced in Appendix 'B'.	LS	1.00		
1.06 (B)	Provide and maintain survey equipment as priced in Appendix C for the duration of the contract.	LS	1.00		
1.07	Provide with drivers, fuel and maintain one (1)	Veh-	24.00		
1.07	new 4WD fully loaded Station Wagon of minimum diesel engine capacity 3000cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month.	Month	24.00		
1.08	E.O item 1.07 for total aggregated mileage in excess of 5000 km per vehicle month.	Km	60,000.00		
1.11	Ditto item 1.09, but one (1) new 4WD standard double cabin pick-up of minimum diesel engine capacity 2500cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month.	Veh- Month	24.00		
1.12	E.O item 1.11 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	60,000.00		
1.13	Ditto item 1.09, but one (1) new 4WD Single cabin pick-ups with fibre glass body of minimum diesel engine capacity 2500cc approved by the Engineer for his exclusive use, inclusive of the first 5000km per vehicle month. engine capacity approved by	Veh- Month	24.00		
1.14	E.O item 1.13 for total aggregated mileage in excess of 5000 km per vehicle per month.	Km	120,000.00		

	ue Date 12 th June, 2025				
1.15	Allow a Prime Cost Sum of Kshs.7,200,000 for the	PC Sum	1.00		
	RE's miscellaneous account to be spent in whole or				
	part as directed by the RE against receipts				
1.16	E.O. item 1.15 for Contractor's overheads and	%			
	profits.				
1.17	Allow a Prime Cost Sum of Kshs. 18,000,000.00	PC Sum	1.00		
	for attendance upon the Resident Engineer' staff.				
1.18	E.O. item 1.17 for Contractor's overheads and	%			
	profits.				
1.19	Provide, erect and maintain publicity signs as	No.	4.00		
	directed by the Engineer.				
1.20	Allow for lumpsum of Kshs. 3,000,000.00 for	LS	1.00		
	training of Engineer's staff				
1.21	E.O. item 1.20 for Contractor's overheads and	%			
	profits.				
1.22	Allow for Prime Cost Sum of Kshs. 3,000,000.00	PC Sum	1.00		
	for Geotechnical Investigations				
1.23	E.O. item 1.20 for Contractor's overheads and	%			
	profits.				
Total B	ill 1 Taken to Summary Page	1			
100012					
Bill No.	4: SITE CLEARANCE AND TOP SOIL STRIPP	ING			
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
112111		01,11	QUIII	IUIL	(KES)
4.01	Clear site on road reserve including removal of	На	11.00		(ILLS)
1.01	trees, hedges, bushes, other vegetation and	114	11.00		
	deleterious organic material, grub up roots and				
	back fill to 100% MDD (AASHTO T99) with				
	approved material in accordance with the				
	specification.				
4.02	Remove top soil not exceeding 200mm depth and	m^3	23,100.00		
	spread or stockpile for reuse as directed by the				
	engineer.				
4.03	Allow a Provisional Sum of Kshs.1,000,000 for	Prov.	1.00		
	removal of any structures and obstructions as	Sum			
	directed by the engineer. Payment to be on				
	Dayworks basis.				
4.04	E.O. item 4.03 for Contractor's overheads and	%			
	profits.				
Total B	ill 4 Taken to Summary Page	l			
	v &				_
Bill No.	. 5: EARTHWORKS				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for				
	the overhaul material. The cost of such shall be				
	included in the rates and/or prices				
5.01	Fill in soft material including benching to	m^3	13,900.00		+
	shoulders and embankments and compaction to		,		
		i	i		
	95% MDD (AASHTO T99) in layers not				

	ill 7 Taken to Summary Page				
7.13	Provide coffer dams as directed by the Engineer.	LS	1.00		
7.12	Extra over Item 7.11 for river training in hard material	m2	3,600.00		
7.11	Allow for river training in soft material	m ³	18,000.00		
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1.00		
7.09	Provide and backfill approved granular material around new structures, compact to 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m ²	2,160.00		
7.08	Place filter fabric under and/or behind gabion boxes and structures	m ²	363.64		
7.07	Provide and place rock fill to gabion boxes	m^3	727.27		
7.06	Provide and place gabion boxes and matresses where directed by the Engineer.	m^2	4,000.00		
7.05	Excavate for gabions in soft material.	m^3	242.42		
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m ²	11,211.28		
7.03	Provide, place and compact rockfill below and around structures.	m^3	124.80		
7.02	Ditto item 7.01 but in hard material	m^3	156.00		
7.01	Excavate for structures in soft material	m^3	1,456.00		
	gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices				
	Note: No separate payment shall be made for				(KES)
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUN'
Rill No.	7: EXCAVATION AND FILLING FOR STRUCT	TURES			
Total B	ill 5 Taken to Summary Page				-
5.10	Grassing over sideslopes in cuts and fills as directed by the engineer	m ²	14,000.00		
5.09	Topsoiling prior to grassing in accordance with the specifications	m^2	19,740.00		
5.08	Compaction of 150mm original ground below fills to 95% MDD (AASHTO T99)	m ³	6,800.00		
5.07	Compaction of the top 150mm below formation level in cutting to 100% MDD (AASHTO T99)	m^3	11,400.00		
5.05	Ditto item 5.04 but in hard material	m^3	10,100.00		
5.04	Cut to spoil in soft material	m^3	37,000.00		
5.03	Ditto item 5.01 but in hard material	m^3	3,500.00		
5.02	Extra over item 5.01 for compaction of top 300mm Subgrade to 100% MDD (AASHTO T99)	m^3	31,800.00		
5.00	Specification or as instructed by the Engineer	3	21 000 00		

ISS	Sue Date 12 th June, 2025			1	1
	Note: No separate payments shall be made for				
	gravel for blinding or hauling to spoil				
	unsuitable excavation material and the cost of				
0.01	such be included in rates and prices	3	500.00		
8.01	Excavate for inlet, outfall, mitre and catch water	m^3	500.00		
0.02	drains in soft material	3	110.00		
8.02	Ditto item 8.01 but in hard material	$\frac{m^3}{3}$	110.00		
8.03	Excavation in soft material for pipe culverts,	m^3	1,200.00		
	headwalls, wing walls, apron, toe walls and drop				
	inlets and compaction of excavated ground as				
8.04	specified or as directed by the Engineer. Ditto item 8.03 but in hard material	m^3	290.00		
8.04			1,800.00		
8.03	Provide, lay and joint 600mm dia. concrete pipes	m	1,800.00		
8.06	(precast to BS 5911 Parts 1 & 3) for access roads		200.00		
8.00	As for item 8.05 but 900mm dia concrete pipes	m	300.00		
8.07	(precast to BS 5911 parts 1 & 3) for cross culverts As for item 8.05 but 1200mm dia concrete pipes	122	100.00		
8.07	(precast to BS 5911 parts 1 & 3) for cross culverts	m	100.00		
8.08	As for item 8.05 but 450mm dia concrete pipes	m	0.00		
0.00	(precast to BS 5911 parts 1 & 3) for access culverts	111	0.00		
	and sleeves				
8.09	Provide, place and compact class 15/20 concrete to	m^3	1,600.00		
0.07	beds, surround and haunches	111	1,000.00		
8.10	Provide place and compact class 25/20 concrete for	m^3	650.00		
0.10	headwalls, wingwalls, aprons and toewalls to pipe	111	020.00		
	culverts including all formwork and the provision				
	and placing of reinforcement as shown in the				
	drawings				
8.11	Provide and place invert block drains with two	m	1,000.00		
	course side slabs				
8.12	Construct in concrete class 15/20 side drains scour	m^3	30.00		
	checks as instructed				
8.13	Provide and place precast concrete slabs 600mm x	No.	670.00		
	600mm x 100mm and place over open lined drains				
	in trade centres and markets (reinforced with A142				
	wire mesh reinforcement)				
8.14	Provide subsoil filter drains fabric to isolated wet	m	50.00		
	spots inclusive of artesian cloth, and 14/20mm				
0.4.5	single size aggregates as directed by the Engineer		00.00		
8.15	Remove existing pipe culverts of any diameter	m	80.00		
	either for re-use or to be discarded as directed by				
0.16	the Engineer	2	4 110 00		
8.16	Provide and place A142 wire mesh reinforcement	m ²	4,110.00		
8.17	Provide, lay and joint ducts and sleeves including	m	150.00		
	150mm concrete (C15/20) (insert size in mm)				
	heavy duty PVC class B with 150mm surround				
8.20	(precast to BS 5911 Parts 1 & 3) ducts/sleeves Excavate for and construct subsoil drains, backfill	m^3	40.00		
0.20	with approved material where instructed by	1111	40.00		
	Engineer				
	Englice				
Total I	Bill 8 Taken to Summary Page	1			
1 Juli 1	om o runou to ounimary rage				1
Rill No	o. 9: PASSAGE OF TRAFFIC				
12111 1 TU	77, I INDUITED OF TRAFFIC				

	te Date 12 th June, 2025	1		Т	
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for				
	the overhaul material. The cost of such shall be				
	included in the rates and/or prices				
9.01	Construct and maintain diversions in maximum	km	14		
	lengths of 5km sections as directed by the				
	Engineer, including including 150mm wearing				
	course gravel all signage, lighting and barriers				
9.02	Provide, spread, water and compact gravel as	m^3	16,200		
	directed by the Engineer for maintenance ahead of				
	works.				
9.03	Allow for the passage of traffic through and around	LS	1		
	the works				
9.04	Grade, water and compact existing road ahead of	km	14		
	works				
Total R	ill 9 Taken to Summary Page	<u>I</u>	1	<u> </u>	
I Juli D					1
	BILL NO. 10: GRADING AND GRAVELLING	WORKS	<u> </u>		
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
		UNII	QUANTITI	KATE	(KES)
	Note: No separate payments shall be made for				
	gravel for blinding or hauling and the cost of such				
	shall be included in the rates and prices				
10.01	Provide gravel wearing course, spread and compact	m^3	1350		
	to a finished thickness of 150mm to at least 95%				
	M.D.D (AASHTO T-180) and shape to level and				
	tolerance.				
Total B	 ill 10 Taken to Summary Page				
	12: NATURAL MATERIAL BASE AND SUBBAS	1		T	T
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for				
	the overhaul material. The cost of such shall be				
	included in the rates and/or prices				
12.01	Provide gravel subbase material, haul spread,	m^3	17,700		
	compact to 95% MDD (AASHTO T180) and shape				
	to level and tolerance				
Total B	ill 12 Taken to Summary Page			I	
					-
	14: CEMENT AND LIME TREATED MATERIA	1	1	1	
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No separate payment shall be made for				
	the overhaul material. The cost of such shall be				
	included in the rates and/or prices				
14.01	Provide and spread Lime as an improvement agent	Tonne	280		
	for Sub-Base				
	1	1	1	l	_1

Issue Date 12th June, 2025 Provide and spread Lime as an improvement agent 14.02 Tonne 238 for Sub-Base and Base Provide and spread Cement as an improvement 14.03 Tonne 280 agent for sub-base layer Mix and process natural material with m^3 14.05 17,630.00 improvement agent for pavement layers as instructed by the Engineer or as specified Protection and curing of cement / lime treated base m^2 14.06 96,000.00 and sub-base layers **Total Bill 14 Taken to Summary Page** Bill No. 15: BITUMINOUS SURFACE TREATMENT AND SURFACE DRESSING ITEM DESCRIPTION UNIT **OUANTITY** RATE **AMOUNT** (KES) Note: No separate payment shall be made for the overhaul of bitumen/chippings as these shall be deemed to have been included in the rates Prepare surface of carriageway and shoulders, 15.01 Litres 117,600.00 provide, heat and spray MC 30 cutback bitumen prime coat Provide & spray K1-60 as tack coat on 15.02 Litres 117,600.00 carriageway, shoulders and on rumble strips **Total Bill 15 Taken to Summary Page**

Dill No	16. DITHMINOUS MIVES	1

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	NOTE: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
16.01	Provide, place and compact Asphalt Concrete Type II to a 35mm thickness on carriageway and bus bays as directed by the Engineer.	m ³	3,430.00		
16.06	Provide and erect Asphalt Concrete Type I bumps and rumble strips as directed by the Engineer at Bitumen Content of 5.5 - 7.0% by weight of total mix.	m ³	56.00		
Total R	ill 16 Taken to Summary Page				

Bill No. 17: CONCRETE WORKS

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
	Note: No haulage will be paid for aggregates, bitumen or the premix. The cost for haulage shall be included in the rates. Rates to be inclusive of fines				
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m^3	93.00		

	Date 12 Julie, 2023	1 2		1
17.02	Provide, place and compact concrete class 25(20)	m^3	900.00	
	to aprons, wingwalls, abutments, piers, walls and			
	box culverts as shown in drawings.			
17.03	Provide, place and compact concrete class 30(20)	m^3	933.00	
	to aprons, wingwalls, abutments, piers, walls and			
	bridge deck and beams as shown in drawings.			
17.11	High yield reinforcement steel bars to	TONNE	160.00	
	specifications equal to or less than 16mm diameter			
	bar size			
17.12	High yield bond strength reinforcement steel to	TONNE	160.00	
	specifications greater than 16mm diameter bar size			
17.13	Supply and install wire mesh grade 460 to BS 4461	Tonne	5.00	
	size B1131 (10.9Kg/m2)to top and bottom of			
	approach slabs			
17.24	Provide & fix in place vertical formwork to	m^2	3,600.00	
	achieve Class U F1 finish			
17.25	As item 17.16 but horizontal	m^2	1,650.00	
17.26	As item 17.16 but sloped.	m^2	900.00	
17.28	As item 17.09 but horizontal	m^2	70.00	
17.30	Provide & fix in place vertical formwork to	m^2	900.00	
	achieve Class U F3 finish			
Total B	ill 17 Taken to Summary Page		•	

Total Bill 17 Taken to Summary Page

Bill No.	20: ROAD FURNITURE				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
20.01	Provide Road Reserve Boundary posts	No.	68		
20.02	Excavate for, provide & place 250x125mm precast concrete raised or ramped kerbs haunched in 100mm thick class 15/20 concrete base bedding and mortar joined in support to carriageway, busbays and junctions as directed by the Engineer				
	(a) Straight	m	1,000		
	(b) Kerbs radius 12m - 6m	m	30		
	(c) Ditto but radius 5m - 1m	m	30		
20.03	As 20.02 but for flush kerbs 100 x 125mm	m	1,000		
20.04	Provide and erect permanent road signs as instructed by the Engineer in accordance with Special Specifications Clause 2004 as follows:				
	a) Warning signs	No.	50		
	b) Priority, prohibitory and mandatory signs	No.	30		
	c) Standard informatory signs	No.	10		
	d) Non standard informatory signs area				
	i) Less than 1.0 m ²	No.	5		
	ii) More than 1.0 m ² but less than 5 m ²	No.	5		
20.05	Provide, deliver, paint and mark the road as specified or as directed by the Engineer, with white reflectorized thermoplastic paint from an approved supplier.	m ²	3,400		
20.06	As item 20.05 but for yellow reflectorized thermoplastic paint	m ²	1,700		

Issu	ue Date 12 th June, 2025				
20.07	Provide and erect concre posts for guardrails complete with spacers (size and interval) as per specifications or as directed by the Engineer	No.	413		
20.08	Provide and erect flex-beam guardrails complete with connections as shown on the drawings or as directed by the Engineer	m	1,500		
20.09	Provide and erect edge marker posts as directed by the Engineer	No.	60		
Total B	lll 20 Taken to Summary Page				
Bill No.	22: Schedule of Dayworks				
	The rates inserted herein are to include all operational and Maintenace costs, fuel, oil, grease, drivers/operators wages, supervision, overheads and profit. Only time actually employed upon the work will be paid for and the rates should include for idle time, travelling time and overtime, In accordance with clause 2202 (a) of the specifications. Note: All items of				
ITEM	plant must be priced. DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
22.01	Crawler dozers with hydraulic attachmentsto include ripper				(ILLS)
	a) Up to 135 kw rated flywheel power b) Over 136 kw rated flywheel power	hrs hrs	10		
22.02	Motor Grader	IIIS	10		
22.02	a) Up to 110kw rated flywheel power	hrs	10		
	b) Over 100kw rated flywheel power	hrs	10		
22.03	Vibratory Roller				
	a) 6.5 - 8.81 tonne un-ballasted weight	hr	10		
	b) Over 8.91 tonne un-ballasted weight	hr	10		
22.04	Hand propelled vibrating roller 650 - 1300kg	hrs	10		
22.05	Cat 950G wheel loader or equivalent	hrs	10		
22.06	10 Tonne tipper lorry	hrs	10		
22.07	Small dumpers, 750-1000kg rated payload	hrs	10		
22.08	Dual purpose hydraulic excavator with backhoe/loader and a rated	hrs	10		
22.09	bucket capacity of upto 1m3. Articulated wheel loader with 1.5-2.0m3 SAE rated bucket capacity	hrs	10		
22.1	50mm delivery water pump and motor	hrs	10		
22.11	Self propelled water tanker 4,500ls min. capacity with pick-up pump	hrs	10		
22.12	Concrete Mixer of 100 - 150litres	hrs	10		
22.13	Concrete poker vibrator LABOUR	hrs	10		
	The rates inserted herein are to include all costs				
	of labour such asinsurance, accomodation,				
	travelling time, over-time, use and maintenance				
	of small tools of trade, supervision, overheads				
	and Profit.Only the actual time engaged upon				
	the work will be paid for.				

1880	de Date 12 Julie, 2025		
22.14	Unskilled Labour	hrs	10
22.15	Artisans	hrs	10
22.16	Office attendants and chainmen	hrs	10
22.17	Watchmen (all round surveillance)	hrs	500.00
	MATERIALS		
	All materials are to comply with the	T	
	Specification. The rates inserted herein are to		
	include for delivery to the site, storage,		
	handling, overheads and profit		
22.18	Ordinary Portland Cement 42.5 N	Ton	1
22.19	Hydrated Lime	Ton	1
22.2	Mild Steel(any diametre)	Ton	1
22.21	High Yield Steel (any diametre)	Ton	1
22.22	Fine Aggregate for Concrete	m ³	5
22.23	Coarse Aggregate for Concrete	m^3	5
22.24	Wrot Shuttering Timber	m^2	5
22.25	Rough shuttering timber.	m^2	10
22.26	Bitumen Emulsion KI-60.	Litre	10
22.27	Straight run bitumen Grade 80/100.	Litre	10
22.28	Kerosene	Litre	10
22.29	14/20 mm nominal size surface chips.	m ³	10
22.3	6/10mm nominal size surface chips	m ³	10
22.31	AC Type I Ex-plant	m ³	10
22.32	AC Type II Ex-plant	m ³	10.00
			· · · · · · · · · · · · · · · · · · ·

Total Bill 22 Taken to Summary Page

25.06

25.07

25.08

boards

activities. Report to be tabled at site meetings.,

bill boards with approved message and graphics with maximum area 4m2 fabricated as per specifications of permanent informatory sign

Allow for vedio shows on HIV/AIDS related

Allow for production and distribution of

HIV/AIDS awareness material as follows:

awareness and prevention matters every 3months

Provide, Instal and maintain HIV/AIDS awareness

BILL N	No. 25 : HIV/AIDS, Gender & Social Issues, Local I	Participati	on		
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
25.01	All for a prime cost sum of KShs 5,000,000 (five Million) for ESIA study and report, Compliance Audits and environmental monitoring.	PC sum	1		
25.02	E.O for Item 25.01 for Contractor's Oveheads and Profit	%			
25.03	Allow for engagement of a HIV/AIDS specialist subcontractor to deal with prevention, awareness activities as per programme to be approved by the Engineer	Months	24		
25.04	Allow for the availability of male and female condoms to workers and staff strategically and socially presented for the duration of the contract	No.	800		
25.05	Allow for preparation and submmission of monthly reports on HIV/AIDS awareness and prevention	Months	30		

No.

No.

2

8

	a) T-Shirt printed with approved message and	No.	200		
	graphics b) Ditto (a) above but caps	No.	200		
	c) A1 size weather proved posters	No.	200		
	d) A3 size weather proved posters	No.	200		
	e) 200x150mm stickers with HIV/AIDS awareness/prevention slogan	No.	200		
	f) Key rings with HIV/AIDS awareness/prevention slogan	No.	200		
	g) Ball point pens with HIV/AIDS awareness /	No.	200		
	prevention slogan.				
Total B	ill 25 Taken to Summary Page				
BILL N	o. 26: Land Acquisition, Axle Load Control, and	Relocation	of Services		
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT (KES)
26.03	Allow a Prime Cost Sum of Kshs. 6,000,000.00 for relocation of services as directed or instructed by the Engineer	PC Sum	1.00		
26.04	E.O. item 26.01 for allowance for Contractor's profit and overheads	%			
Total R	 ill 26 Taken to Summary Page				

CONTRACT No. RWC690 UPGRADING TO BITUMEN STANDARD OF KAGUMOINI – GITUGI – CHUI – KARUGIA ROAD

BILL ITEM	GRAND SUMMARY OF BILL OF QUANTITIES DESCRIPTION	AMOUNT (KShs)
1	Preliminaries and General Items	
4	Site Clearance and Top soil stripping	
5	Earthworks	
7	Excavation and Filling for Structures	
8	Culvert and Drainage Works	
9	Passage of Traffic	
10	Grading and Gravelling Works	
12	Natural Material Base and Subbase	
14	Cement and Lime Treated Material	
15	Bituminous Surface Treatment and Surface Dressing	
16	Bituminous Mixes	
17	Concrete Works	
20	Road Furniture	
22	Schedule of Dayworks	
25	HIV/AIDS, Gender & Social Issues, Local Participation	
26	Land Acquisition, Axle Load Control, and Relocation of Services	
Α.	Sub-Total (1)	
B.	Add 15% Variation of Price On Sub-Total 1	
C.	Add 10% Contingency on Sub-Total 1	
D.	Sub-Total 2 = A + B + C	
Е	Add .03% For PPCBLof sub total (2)	
F.	Add 16% VAT on Sub-Total 2	
TOTAL CAR	RRIED FORWARD AS BID SUM 1: (D + E + F)	

APPENDIX A

APPENDIX TO BILL ITEM 1.05:

PROVIDE AND MAINTAIN FURNITURE AND EQUIPMENT FOR THE ENGINEER'S LABORATORY

LABORAT	LABORATORY							
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)			
	1. FURNITURE							
A104/1.01	Desk 2.2x0.9 m with chair and lockup drawers	No	2					
A104/1.02	Desk chair (standard)	No	15					
A104/1.03	Stationery cupboard, 1.2 m³, lockable	No	2					
A104/1.04	Steel filing cabinet, 4 drawers, lockable	No	2					
A104/1.05	Steel filing cabinet, 2 drawers, lockable	No	2					
A104/1.06	Bookshelf, 3 shelves 1.2 m long (to hold box files)	No	2					
A104/1.07	Table - 6 m ²	No	2					
A104/1.08	Two Plate electric heater	No	1					
A104/1.09	Fire extinguisher, 10 litre capacity, CO ₂ type	No	4					
A104/1.10	Complete first aid kit	No	2					
	EQUIPMENT							
	(The following equipment shall be purpose made for use in the Engineer's laboratories and shall comply with the relevant British (BS) or American (AASHTO) Standard)							
	2. General Equipment							
A104/2.02	2.49kg. Compaction hammer, drop regulated to 304.8mm	No	2					
A104/2.03	4.535kg compaction hammer drop regulated to 457.2mm	No	2					
A104/2.04	Electric vibrating Kango Hammer fitted with steel tamper(BS 1377) with support frame	No	1					
A104/2.05	Straight edge 300 mm long with handles	No	4					
A104/2.06	Steel Tamper (BS1377) compatible with Kango hammer	No	3					
A104/2.07	Compaction mould 152.4 mm. dia x 116.43 mm complete with base plate and extension collar, 101.6 mm	No	2					
A104/2.08	Galvanized metal tray 1m x 0.5m x 75 mm deep	No	4					
A104/2.09	75mm brush	No	2					
A104/2.10	Semi-automatic balance, 25kg Capacity accurate to 1g, including weights	No	1					
A104/2.11	20mm BS Sieve, 300mm diameter	No	1					
A104/2.12	Stop Clock	No	2					
A104/2.13	Thermostatically controlled electric oven 105-110°C, capacity 0.225 m ³	No	2					
A104/2.14	As above but gas heated	No	1					
A104/2.15	Moisture content tins, 75 mm dia, Cadmium or aluminium plated	No	60					
A104/2.16	Cone penetrometer with gauge and automatically controlled test cup	No	2					

1334C Date 12	^h June, 2025			
C/Forward	to next page			
	From previous page			
	3. Density (Sand replacement method			
	BS 1377)			
A104/3.01	Metal containers 450mm diameter	No	2	
A104/3.02	Stainless steel tray 305mm diameter	No	2	
A104/3.03	Metal tray with 150 mm diameter hole in	No	2	
	the centre, 300mmx300 mm square or			
	equivalent area, 40mm deep			
A104/3.04	Metal tray with 200mm diameter hole in	No	2	
	the centre, 500mm x 500 mm square, 50			
	mm deep			
A104/3.05	Steel pegs for fixing tray in position	No	15	
A104/3.06	Sand pouring cylinder, 150 mm diameter	No	2	
A104/3.07	Sand pouring cylinder, 215 mm diameter	No	2	
A104/3.08	Cold steel chisel 20mm x 300mmm	No	4	
A104/3.09	Cold steel chisel 10mm x 250mmm	No	4	
A104/3.10	1.5kg, 3.5kg hammers and 1kg rubber	Set	1	
2110 1/3.10	mallet		•	
A104/3.11	Scoop for removing excavated material	No	6	
71104/3.11	from hole, 250 mm long handle	110		
A104/3.12	100mm brush, soft	No	3	
A104/3.12 A104/3.13	50mm brush, soft	No	3	
A104/3.13 A104/3.14	Primus gas stove	No	1	
A104/3.14 A104/3.15	Calibrating can 150 mm diameter x 150	No	3	
A104/3.13	mm deep	INO	3	
A104/3.16	Ditto but 200 mm diameter x 250 mm	No	3	
A104/3.10		INO	3	
	deep			
	4. Density (Nuclear Density method AASHTO T238)			
A104/4.01	,	No	1	
A104/4.01	Nuclear density gauge (Troxler 3411B or	INO	1	
	similar approved) complete with 3 no.			
	hole forming device and 3 no. guide			
A 104/5 01	5. CBR (AASHTO T193)	NT	50	
A104/5.01	CBR mould, 152.4 mm dia x 178 mm	No	50	
	high, complete with perforated base			
	plate and extension collar 50.8 mm high			
A 104/5 02	that can be fitted to either side of mould	NT.	40	
A104/5.02	Perforated swell plate 150 mm dia with	No	40	
	an adjustable centre post of rust proof			
A 104/5 02	metal provided with a lock-nut	NI.	1	
A104/5.03	2.25 kg split surcharge weight	No	2	
A104/5.04	Set of annular surcharge weights	No	1	
A104/5.05	Solid base plate for CBR mould	No	2	
A104/5.06	Static compaction displacer discs 1 Nox	set	1	
	61.4 mm, 1 No x 50.8 mm and 2 Nox			
1104/7.0=	38.8 mm thick with handles	3.7		
A104/5.07	Disk lifting handle	No	2	
A104/5.08	Central extruder, complete with 20kN	No	1	
	hydraulic jack and accessories			
	to next page			
	From previous page	T		
A104/5.09	Automatic CBR Proctor Compaction	No	1	
	press, 50 tonnes capacity with an			

Issue Date 12	th June, 2025				
	adjustable distance between platens of				
	530mm-250mm, rammer weights and				
	automatic count selector				
A104/5.10	Set of guards for above press.	No	1		
A104/5.11	50 kN CBR Load frame complete with	No	1		
	stabilising bar (electric and hand				
	operated) including proving rings for				
	10KN, 28KN and 50KN, piston and				
	bracket				
A104/5.12	Penetration gauge range 0 - 25mm	No	2		
A104/5.13	CBR piston including bracket	No	2		
A104/5.14	Swell measurement tripod complete with	No	2		
	guage calibrated in 0.01 mm divisions				
A104/5.15	Soaking tank for CBR mould sufficient	No	1		
	for 50 moulds				
	6. Relative Density of Aggregates (BS				
	812)				
A104/6.01	Wire mesh basket with apertures not	No	2		
	greater than 6.5 mm large enough to				
	contain 2.5 kg of aggregate				
A104/6.02	A stout watertight container in which the	No	2		
	basket can be freely suspended				
A104/6.03	Soft absorbent cloth (tea towel)	No	10		
A104/6.04	Shallow tray of area not less than 0.065	No	2		
	m^2				
A104/6.05	An airtight container of similar capacity	No	2		
	to the basket				
A104/6.06	Pycnometer of 1 litre capacity	No	4		
A104/6.07	Semi automatic 5 kg balance accurate to	No	1		
	0.1g to be of size and type to permit the				
	basket containing the sample to be				
	suspended in water(to be supplied with				
	weights)				
A104/6.08	Hot air drier (electric)	No	2		
	7. Flakiness (BS 812)				
A104/7.01	Thickness gauge (various sizes)	No	2		
	8. Sieve Analysis (BS 1377)				
A104/8.01	BS Sieve 300mm diameter in sizes 75,	Set	2		
	63, 50, 37.5, 28, 20, 14, 10, 6.3, 5 and 4				
	mm, plus lid and receiver				
A104/8.02	BS Sieve 200mm diameter in sizes 2, 1,	Set	2		
	0.6, 0.5, 0.425, 0.300,0.150 and 0.075				
	mm, plus lid and receiver				
A104/8.03	Electric sieve shaker	No	1		
A104/8.04	BS sieve 200mm diameter 0.425 and	set	1		
	0.075 mm				
A104/8.05	1 m x 1 m x 75mm deep galvanized	No	10		
	metal tray				
A104/8.06	Riffle box with 50mm slots (BS 1377)	No	1		
	to next page	•		•	
	From previous page				
	9. Miscellaneous Equipment				
A104/9.01	Wheel barrow	No	3		
A104/9.02	Dustpan and brush	No	3		

Issue Date 12	th June, 2025				
A104/9.03	Shovel	No	4		
A104/9.04	Pick axe with handle	No	4		
A104/9.05	Metal scoop, large (150mm wide)	No	3		
A104/9.06	Metal scoop, medium (100mm wide)	No	4		
A104/9.07	Garden trowel	No	2		
A104/9.08	Steel tray 0.3m x 0.3m x 0.01m deep	No	15		
A104/9.09	Palette knife 200mm long blade	No	3		
A104/9.10	Palette knife 100mm long blade	No	4		
A104/9.11	BS sieve 450mm diameter, 37.5mm	No	1		
A104/9.12	BS sieve 450mm diameter, 20mm	No	1		
A104/9.13	BS sieve 450mm diameter, 5mm	No	1		
A104/9.14	BS sieve 450mm diameter, 0.425mm	No	1		
A104/9.15	BS sieve 450mm diameter, 0.3mm	No	1		
A104/9.16	BS sieve 450mm diameter, 0.075mm	No	1		
A104/9.17	Set of lid and receiver for metal scoop	No	2		
1110 1/7:17	and steel trays	110	1		
A104/9.18	BS Sieve brush	No	2		
A104/9.19	Measuring cylinder set, 25 ml, 100 ml,	set	2		
7110-7/7.17	500 ml, 1000 ml, 2000 ml	301	2		
A104/9.20	Glass jar capacity 5 litres with lid	No	10		
A104/9.21	200mm x 200mm x 20mm cadmium	No	20		
71104/7.21	plated or aluminium tin	110	20		
A104/9.22	Electronic balance capacity 1000 g,	No	1		
11104/7.22	accurate to 0.01gm.	110	1		
A104/9.23	Balance 2000 g capacity accuracy to	No	1		
A104/7.23	0.1g (manual), including weights	110	1		
A104/9.24	Balance 50kg capacity accurate to 10gm	No	1	1	
7110-77.2-4	including weights	110	1		
A104/9.25	Still for producing distilled water	No	1		
A104/9.26	Polythene or glass 20 litres storage	No	2		
1110 1/7.20	vessel with tap at bottom	110	1		
A104/9.27	Stiff broom	No	2		
A104/9.28	Vernier calipers, 150mm	No	2	1	
A104/9.29	Vernier calipers, 250mm	No	2	1	
	to next page	110			
	From previous page				
A104/9.30	Pestle and mortar	No	2		
A104/9.31	Linear shrinkage mould (BS 1377)	No	6		
A104/9.32	Liquid Limit Device	No	2		
A104/9.33	Average least dimension gauge	No	2		
A104/9.34	Lockable tool box containing: 1	No	1		
A104/3.34	pr"Molegrips", 2 x 150mm screwdriver,	INO	1		
	2 x 200 mm screwdriver, 2 x 300 mm				
	screwdriver, (1 standard and 1 Phillips				
	head of each) adjustable spanners 200				
	mm and 300 mm, 1 pair round nosed				
	pliers, 1 pair general purpose pliers,				
A104/9.35	Plastic or metal bucket including lid,10	No	6		
11107/7.55	litres capacity	110			
A104/9.36	Polythene wash bottle (500 ml)	No	5		
A104/9.37	A4 size clipboard	No	4	+	
A104/9.37 A104/9.38	Thermometer, range -10°C to150°C,	No	2	+	
A107/J.30	glass (BS 593)	110			
	S1000 (D0 373)	1		1	1

A104/9.39 Laboratory thermometer, range + 0°C to + 250°C (Bs 593)	Issue Date 12 ^t	h June, 2025		_		
(BS692)	A104/9.39	+ 250°C (BS 593)	No	2		
A104/9.41 Rain gauge	A104/9.40	Maximum and minimum thermometer	No	2		
A104/9.42 Portable dial thermometer + 50°C to + 250°C accurate to + 3%	A104/9.41	, , ,	No	1		
A104/9.43 Ditto with 0.75m long stem	A104/9.42	Portable dial thermometer + 50°C to	No	1		
A104/9.44 Pocket thermometer + 50°C to +250°C accurate to = 3% with 0.1 m stem No 2	A 104/0 42		Nia	1		
accurate to ± 3% with 0.1 m stem				_		
with leak and dust proof lids for storage of bitumen samples			NO			
A104/9.46	A104/9.45	with leak and dust proof lids for storage	No	50		
A104/9.47	A104/9.46	Hotplate 200mm diameter with	No	2		
Mason's basin 10. Standard Specifications (Copies of each of the latest editions of the following Standards) No	A 104/0 47		No	6		
10. Standard Specifications (Copies of each of the latest editions of the following Standards)	A104/J.4/	_	INU	0		
each of the latest editions of the following Standards) A104/10.01 BS 598 No 1						
Solution Standards Solution Standards Solution Solutio						
A104/10.01 BS 598		, ,				
A104/10.02 BS 812	A 104/10 01		No	1		
A104/10.03 BS 882				+		
A104/10.04 BS 1377				_		
A104/10.05 BS 1881				+		
A104/10.06 BS 1924				_		
A104/10.07 Standard Specifications for Transportation Material and Methods of Sampling and Testing (AASHTO) Parts I and II, 14th Edition				_		
Transportation Material and Methods of Sampling and Testing (AASHTO) Parts I and II, 14th Edition A104/10.08 ASTM D1559 No 1 A104/10.09 Asphalt Institute, Superpave Manual Series No.2(SP-2) A104/10.10 Overseas Road Note 19 No 1 A104/10.11 BS 5911 Part 1 &3 No 1 C/Forward to next page B/Forward From previous page 11. Concrete: Slump and Cube Manufacture (BS 1881) A104/10.12 BS 4449 No 1 A104/11.01 Slump cone, tamping rod and base set 2 A104/11.02 Concrete cube mould, 150mm cube No 30 A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece	-			_		
Sampling and Testing (AASHTO) Parts I and II, 14th Edition	A104/10.07		Set	1		
I and II, 14th Edition		1 *				
A104/10.08 ASTM D1559 No 1						
A104/10.09 Asphalt Institute, Superpave Manual No 1 Series No.2(SP-2)	A 104/10 08		No	1		
Series No.2(SP-2)				+		
A104/10.11 BS 5911 Part 1 &3 No 1		Series No.2(SP-2)				
C/Forward to next page B/Forward From previous page 11. Concrete: Slump and Cube Manufacture (BS 1881) A104/10.12 BS 4449 No 1 A104/11.01 Slump cone, tamping rod and base set 2 A104/11.02 Concrete cube mould, 150mm cube No 30 A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing No 10 A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer No 1 A104/12.02 Safety guard for above A104/12.03 50mm distance piece				_		
No			No	1		
11. Concrete: Slump and Cube Manufacture (BS 1881) No 1		•				
Manufacture (BS 1881)	B/Forward		T	Т	T	
A104/10.12 BS 4449 No 1 A104/11.01 Slump cone, tamping rod and base set 2 A104/11.02 Concrete cube mould, 150mm cube No 30 A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer No 1 A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/11.01 Slump cone, tamping rod and base set 2 A104/11.02 Concrete cube mould, 150mm cube No 30 A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece	1101/101		3.7	1		
A104/11.02 Concrete cube mould, 150mm cube A104/11.03 Soaking tank for cubes (capacity 50 No.) A104/11.04 Cube tamping bars No 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/11.04 Cube tamping bars 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece		\ 1 \ \ /		-		
Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece	A104/11.04		No	10		
BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece		Testing				
rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece	A104/12.01		No	1		
with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/12.03 50mm distance piece]			
	A104/12.02					
A104/12.04 70mm distance piece]			
	A104/12.04	70mm distance piece				

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A104/12.05	Electro-mechanical load pacer, 100 mm				
	or equivalent distance piece				
	13. Aggregate and Chippings				
A104/13.01	Sand equivalent to AASHTO T176	Set	1		
	including graduated plastic cylinder,				
	rubber stopper, irrigation tube weighted				
	foot assembly, siphon assembly, 85ml				
	tin box (57mm dia.), 100 mm dia wide				
	mouth funnel, stop clock,mechanical				
	shaker and 10 litre jar				
A104/13.02	Beaker 250ml	No	2		
A104/13.03	Aggregate Crushing Value Apparatus,	No	2		
	150 mm nominal diameter, including				
	plunger and base plate				
A104/13.04	Tamping rod and metal measure for	Set	4		
	above				
A104/13.05	Los Angeles Abrasion to ASTM	No	1		
	standards				
A104/13.06	Set of 12 abrasive charges	No	2		
A104/13.07	Thermometer, 0°C to +50°C	No	2		
A104/13.08	Thermometer, 0°C to +250°C	No	2		
A104/13.09	Reagent grade Silica gel, 500g container	No	50		
	14. Bitumen Spray Test (BS 1707)				
A104/14.1	Transverse distribution of spray test	Set	1		
	bitumen distributor (depot tray test to BS				
	1707) or equivalent.				
A104/14.02	Steel tray 20 mm deep x0.1m ² (for	No.	4		
	measuring bitumen spray rates) with				
	purpose made detachable handle 1.5m				
	long.				
C/Forward	to next page	L	L	1	
	From previous page				
	16. Bitumen Extraction Test				
	A) Extractor Bottle Method BS 598				
	Part 2				
A104/16.01	Electronic top pan balance 4kg capacity,	No	1		
	sensitive to 0.1gm	1,0			
A104/16.02	Flat bottomed scoop	No	3		
A104/16.03	Steel garden trowel	No	2		
A104/16.04	Large steel spoon	No	2		
A104/16.05	Heat resistant gloves	pair	10		
A104/16.06	Foot pump for pressurising air water	No	2		
7104/10.00	assemblies up to a maximum of	110	2		
	700KN/m ² and fitted with flexible hose				
	approximately 1.2m long and connector				
A104/16.07	Steel bottle 600ml capacity with 49mm	No	2		
A104/10.07	rubber stopper	110	2		
A104/16.08	Steel bottle 2500ml capacity with 71mm	No	2		
A107/10.00	rubber stopper	110			
A104/16.09	Steel bottle 7000ml capacity with 71mm	No	2	+	
A107/10.03	rubber stopper	110			
A104/16.10	Flask funnel for fitting to the 700ml steel	No	2	+	
71107/10.10	bottle with rim of funnel retaining sieve	110			
	200mm nominal diameter				
1	20011111 Hollinal alallictor	1		<u>i</u>	1

issue Date 12°	h June, 2025		11		
A104/16.11	Bottle roller compact bench mounted	No	1		
	unit designed to rotate 2 bottles				
	simultaneously about longitudinal axis				
A104/16.12	Pressure filter complete with cutting tool	No	1		
	for making hole in the filter paper				
A104/16.13	Filter funnel to take 200mm nominal	No	2		
	diameter sieves				
A104/16.14	Centrifuge complying with BS 598	No	1		
A104/16.15	Binder recovery	No	1		
A104/16.16	Volumetric flask 250ml, 500ml, 1000ml	set	2		
	and 2000ml capacity				
A104/16.17	Recovery still for Dichloromethane	No	1		
	B) Hot Extractor Method BS 598 Part				
	2				
A104/16.18	Hot extractor complete with wire gauze	No	2		
	container gasket, cork lid and support				
	assembly				
A104/16.19	Dean and Stark receiver with condenser				
1110 11 10119	to suite Trichloroethylene				
A104/16.20	Gyratory compactor ELE Servo Pac or	No	1		
1110 10.20	equivalent with 1 x 100mm and 1 x		1		
	150mm moulds				
A104/16.21	PRD Vibrating hammer compactor	No	1		
	complete with 6 moulds, 7 base plates				
	from ELE				
A104/16.22	Two (2) sets of Tamping foot 102mm				
	diameter and 146mm diameter and				
	shanks to fit the supplied vibratory				
	hammer				
C/Forward	to next page	1	•	•	
B/rorward	From previous page				
B/Forward	From previous page 17. Consumables				
	17. Consumables	Kg	50		
A104/17.01		Kg Kg			
A104/17.01 A104/17.02	17. Consumables Paraffin wax Gas	Kg	1600		
A104/17.01 A104/17.02 A104/17.03	Paraffin wax Gas Gunny sack	Kg No	1600 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge	Kg No No	1600 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge	Kg No No	1600 500 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman	Kg No No	1600 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100)	No No No No	1600 500 500 500 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman	Kg No No	1600 500 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100)	Kg No No No No	1600 500 500 500 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman	No No No No	1600 500 500 500 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100)	Kg No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman	Kg No No No No	1600 500 500 500 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100)	Kg No No No No No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33	Kg No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5	Kg No No No No No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08 A104/17.09	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100)	Kg No	1600 500 500 500 20 20 20 10		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum)	No	1600 500 500 500 20 20 20 10 15		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane	Kg No	1600 500 500 500 20 20 20 10 15		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10 A104/17.11 A104/17.12 A104/17.13	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste	No kg kg	1600 500 500 500 20 20 20 10 15 2 0 50		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste Gas cylinders compatible with supplied	Kg No	1600 500 500 500 20 20 20 10 15		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10 A104/17.11 A104/17.12 A104/17.13	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste	No kg kg	1600 500 500 500 20 20 20 10 15 2 0 50		

A104/17.16	Sand for density test	kg	250	
C/Forward	to item 1.05			

APP	ENDIX B				
APP	ENDIX TO BILL ITEM 1.06A: PROVIDE, FURNISH	AND M	AINTA	IN THE R	.E.'S OFFICE
DES	CRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	1. ENGINEER'S MAIN OFFICE AND FURNITURE				
1	Executive desk 2.2x0.9 m with six lockup drawers	No	2		
2	Desk 2.2x0.9 m with chair and three lockup drawers	No	4		
3	Office tables	No	3		
4	Executive Swivel orthopeadic chair adjustable height	No	2		
5	Standard office chairs	No	8		
6	Bench 3m long with cushioned backrest (located as directed)	No	1		
7	Typist's desk	No	1		
8	Typist's chair	No	3		
9	Lockable steel stationery cupboard, 1.2 m³, lockable	No	4		
10	Medium size steel filing cabinet, 4 drawers lockable	No	4		
11	Medium size steel filing cabinet, 2 lockable drawers lockable	No	3		
12	Bookshelf, 1.5 m wide 3 shelves (for box files) sliding glass door	No	3		
13	Conference table with 12 chairs	No	1		
14	Waste paper basket	No.	5		
15	Curtains for office and laboratory -for all windows and doors	Set	2		
16	Ordinary 2 hole paper punch	No	2		
17	Heavy duty 2 hole paper punch	No	2		
18	Set of full divided scale (metric 1/1000, 1/2500, 1/500, 1/2000, 1/1250, 1/1500)	No	1		
19	Computer meeting the following specifications or equivalent: Personal computer with 20" screen full multimedia, 1000GB hard disk, 12.0GB RAM, Core i7 processor, complete with all accessories preloaded with latest versions of windows OS, MS Office, Professional and MS Project	No	2		
20	Autocad Civil 3D 2012 and Licences for above computers	No	2		
21	As A103/2.11 but with 15" screen	No	4		
22	Laptop PC with Intel Core i7-350M Processor 15.4" screen, 12GB DDR3 RAM 1000GB 8xDVD+/-RW or simillar approved with Microsoft Windows professional	No	1		
23	Latest HP (A4) Laser Printer with accessories	No	3		
24	Latest HP (A3) Laser Printer with accessories	No	1		
25	UPS 600 VA	No	6		
26	wall clocks, battery powered min size 350mm x 350mm	No	2		
27	Safe for cash and valuables min.size approx. 0.8mx0.5mx0.4m to be concreted in place (wall/floor mounted) complete with lock and keys	No	1		
28	First Aid Kit	No	4		
C/F	orward to next page				
B/Fo	rward From previous page				
29	Fire Extinguisher	No	4		

199	sue Date 12 Julie, 2025			
30	Filing Tray - set of 3no.	set	10	
31	Refrigerator minimum capacity 0.2 m ³	No	1	
32	Drinking water dispenser, hot/cold	No	1	
33	Table - 0.8 m ² surface area	No	1	
34	Cupboard, 0.15 m ³ , lockable	No	1	
35	Cooker 4 plate electric cooker with oven and grill	No	1	
36	A3 Photocopier (approved make), with feeder sorting	No	1	
	trays, scanner and print capability			
37	Reams of A4 phocopying paper	No	100	
38	Reams of A3 phocopying paper	No	20	
39	Electronic scientific calculator, Casio fx 992s or	No	6	
	equivalent approved			
40	Stapling machine Ofrex size 50 or similar with 5000	No	6	
	staples			
41	Heavy duty punch and spiral binder, IBICO AG or	No	2	
	similar approved			
42	Inkjet Plain Paper Fax Machine with 4MB of memory	No	1	
43	Pencil sharpener (desk mounted type)	No	6	
44	Digital Camera, 20.1 Megapixel(min), 1920x1080 full	No	1	
	HD movie recording, optical steadyShot, sweep			
	panorama, 2.7" LCD screen, minimum 15x digital			
	zoom, multimedia card/SD 8GB memory, 12 scene			
	selection modes, all inclusive.			
45	PABX Telephone system including intercom	item	1	
	connecting all offices and laboratory. rate includes			
	headsets, wiring and operational costs. including High			
	Speed Internet Access using optic fibre or HDSL (High			
	Data Digital Subscriber Line) broadband connection			
	networked to all computers, with annual subscription			
	paid during the entire contract period.			
Total	carried to Bill Item 1.06A			

A DDI	ENDIX C ENDIY TO DILL ITEM 1 06D ENCINEEDS?	CHDV	TV FAI	IIDMENIT	1
<u>appi</u> ITE	ENDIX TO BILL ITEM 1.06B ENGINEERS'S	UNIT			
M	Description	UNII	QTY	RATE	AMOUNT (KSHS)
1.01	Digital Total Station reading to 1"accuracy	No.	1		(RSHS)
.01	(one second) with the following facilities	110.	-		
	· Inbuilt data logger				
	· Uploading/downloading software				
	Data transfer cable				
	Battery (2No)				
	• • •				
	Battery chargerTool kit				
	· Two face keyboard				
	· User manual				
	It must have the following inbuilt survey				
	programs as a minimum				
	· Survey				
	· Staking out				
	· Resection/intersection				
	· Traverse				
	· Cogo				
.02	The following mandatory total station				
	accessories must be included per Total station				
	instrument				
	1No. Heavy duty telescopic tripod(<i>preferably</i>	No.	1		
	wooden)				
	Telescopic plumbing prism pole complete	No.	3		
	with a prism and prism holder with target and	1,00			
	plumbing bubble (length not less than				
	2.15m)				
	Triple prism holder set, in a casing,	No.	1		
	comprising triple prisms, prisms holder with	110.	1		
	target, tribrach and a tribrach adaptor				
	1No. Survey umbrella	No.	1		
		No.	1		
02	1No.Telescopic Tripod Engineer's Automatic Level Wild NAK 2 or		2		
.03	Engineer's Automatic Level Wild NAK 2 or	No.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
	similar with a tripod and the following				
	specifications:-				
	· Accuracy of 0.7 mm per 1 km double				
	run				
	· Standard magnification of: 32x				
	· Shortest focusing distance of 1.6m				
	· Compensator setting accuracy of 0.3"				
.04	Hand held GPS with accuracy of 1 Metre	No.	1		
.05	Set of two way radio communication with a	set.	1		
	range of 1 kilometer				
.06	5 M Leveling staff with leveling bubble	No.	4		
.07	3 M Ranging Rods	No.	10		
.08	Scientific Calculators FX 912ms or equivalent	No.	3		
.09	30m. Linen Measuring Tape	No.	6		
.10	1 M stainless steel straight edge	No.	1		
.11	3 m tape measure	No.	6		
.12	Sledge hammer 2kg weight	No.	2		

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1.13	Mattock	No.	2	
1.14	Pangas (16'')	No.	4	
1.15	Roll of Tracing Paper	No.	1	
1.16	Graph Paper A3 Size	No.	10	
1.17	Marker Pens	No.	20	
1.18	Reflector Jackets	No.	10	
1.19	Laptop	No.	1	
1.2	Scale Rules	No.	2	
1.21	Drawing Pen (0.25mm)	No.	2	
1.22	Graph paper 1mm(roll)	No.	1	
Total	carried to Bill Item 1.06B			

ANNEX 5: REVISED BOQ RWC 691

BILL OF QUANTITIES FOR UPGRADING TO BITUMEN STANDARDS OF KARANJEE LOOP ROADS, ACCESS TO LIMURU GIRLS & LIMURU (JNCT EQUITY), ACCESS LOOP TO ST. PAUL'S PRIMARY SCHOOL / MARAMBA TEA FACTORY - KAMWAKI/BATA LOOP - MURENGETI & ACCESS ROADS

BILL N	BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS						
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT		
1.01	Provide or rent accommodation for Engineer's						
	senior and junior staff						
	(i)Type I - 1 No.	Month	36				
				65,000.00	2,340,000.00		
					-		
	(i)Type II - 1 No.	Month	36				
				55,000.00	1,980,000.00		
					-		
	(iii) Type III - 1 No.	Month	36	40.000.00			
				40,000.00	1,440,000.00		
	() T	3.51			-		
	(iv) Type IV - 2 No.	Month	72	20,000,00	2 1 60 000 00		
				30,000.00	2,160,000.00		
	(a) Tama V 2 No	Month	108		-		
	(v) Type V - 3 No.	MOHH	108	21 000 00	2 268 000 00		
	Total			21,000.00	2,268,000.00		
	Total				10,188,000.00		
1.02	E.O item 1.01 for contractor's overhead and profit	%			10,100,000.00		
1.03	Provide or rent and maintain Engineer's	LS	1				
1.05	Representative's office as shown on the drawings	LS	1				
	or as instructed by the Engineer for use during						
	the duration of the Contract, ownership to revert						
	to the Contractor at the end of the Contract						
1.04	Provide or rent and maintain Engineer's Site	LS	1				
	Laboratory for the duration of the Contract,						
	ownership to revert to the Contractor at the end of						
	the Contract						
1.05	Provide and maintain Laboratory equipment,	LS	1				
	reagents and other items as priced in Appendix						
	'A' to the Bill of Quantities for use by the						
	Engineer's representative for the duration of the						
	contract, ownership to revert to the Employer at						
	the end of the Contract.						
1.06A	Provide and maintain furniture, tools and other	LS	1				
	items for the Engineers Representative office for						
	the duration of the Contract as priced in						
	Appendix 'B', ownership to revert to the						
1.060	Employer at the end of Contract.	IC	1				
1.06B	Provide and maintain survey equipment as priced	LS	1				
	in Appendix C for the duration of the contract,						
	ownership to revert to the Employer at the end of						
	Contract.						

	Date 12 th June, 2025	T		
1.07	Provide with drivers, fuel and maintain Two (2)	Veh	36	
	new 4WD fully loaded Station Wagon of	Month		
	minimum diesel engine capacity 2800 CC			
	approved by the Engineer for his exclusive use,			
	inclusive of the first 5000km per vehicle month.			
	Vehicle to revert to the Contractor at the end of			
	the project.			
1.08	E.O item 1.07 for total aggregated mileage in	Km	50,000	
	excess of 5000 km per vehicle month.			
1.09	Provide with drivers, fuel and maintain one (1)	Veh	36	
	new 4WD fully loaded double cabin pick-up of	Month		
	minimum diesel engine capacity 2500 CC			
	approved by the Engineer for his exclusive use,			
	inclusive of the first 5000km per vehicle month.			
	Vehicle to revert to the Contractor at the end of			
	the project.			
1.10	E.O item 1.09 for total aggregated mileage in	Km	50,000	
	excess of 5000 km per vehicle month.			
1.11	Ditto item 1.09, but one (1) new 4WD standard	Veh	72	
	double cabin pick-up of minimum diesel engine	Month		
	capacity 2500 CC approved by the Engineer for			
	his exclusive use, inclusive of the first 5000km			
	per vehicle month. Vehicle to revert to the			
	Contractor at the end of the project.			
1.12	E.O item 1.11 for total aggregated mileage in	Km	50,000	
	excess of 5000 km per vehicle per month.			
1.13	Ditto item 1.09, but one (1) new 4WD Single	Veh	36	
1110	cabin pick-ups with fibre glass body of minimum	Month		
	diesel engine capacity 2500cc approved by the	1,1011011		
	Engineer for his exclusive use, inclusive of the			
	first 5000km per vehicle month. Vehicle to revert			
	to the Contractor at the end of the project.			
1.14	E.O item 1.13 for total aggregated mileage in	Km	50,000	
	excess of 5000 km per vehicle per month.			
1.15	Allow a Prime Cost Sum of Kshs. 9,000,000.00	PC Sum	1	
1110	for the RE's miscellaneous account to be spent in	1 0 0 0 0 111		
	whole or part as directed by the RE against			
	receipts.			
1.16	E.O. item 1.15 for Contractor's overheads and	%		
1.10	profits.	70		
1.17	Allow a Prime Cost Sum of Kshs. 16,200,000.00	PC Sum	1	
1.1/	for attendance upon the Resident Engineer' staff.	1 C Suiii	•	
1.18	E.O. item 1.17 for Contractor's overheads and	%		
1.10	profits.	/0		
1.19	Provide, erect and maintain publicity signs as	No	24	
1.17		110		
1.20	directed by the Engineer. Allow for Prime Cost Sum of Kshs. 1,000,000	PC Sum	1	
1.20	for Engineer's training	1 C Suili	1	
1.21	E.O. item 1.20 for Contractor's overheads and	%		
1.41	profits.	70		
	proms.			
	Dill No. 1 Total Comind From 14 C 15			
	Bill No. 1 Total Carried Forward to Grand Sum	ımary		

E E 14/E	Date 12 th June, 2025 DESCRIPTION	UNIT	QTY	RATE	AMOUNT
ITEM	Note: No separate payments shall be made for	UNII	119	NAIE	AWIOUNI
	gravel for blinding or hauling to spoil unsuitable				
	excavation materials and the cost of such shall				
	be included in the rates and prices				
4.01	Clear site on road reserve including removal of	На.	33		
7.01	all growths, bushes,hedges, trees, stumps, grub up	11a.			
	roots, and other deleterious materials and back-				
	fill and compact to 100% MDD(AASHTO T99)				
	with approved material as directed by the				
	Engineer.				
4.02	Strip top soil upto 0.2m in thickness along	m^3	64,800		
2	alignment or material sites including removal of	111	01,000		
	all grass and other vegetation, transport to spoil				
	and spread or stock pile for re-use as directed by				
	the Engineer.				
4.03	Provide KShs. 1,000,000.00 for the removal of	Prov.	1		
	structures and obstructions as instructed by the	Sum			
	Engineer to be paid on dayworks basis				
	<u> </u>				
	Bill No. 4 Total Carried Forward to Grand Sum	mary			
DILL	IO 5 . EADTHWODES				
BILL N	NO. 5 : EARTHWORKS				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Note: No separate payments shall be made for				
	gravel for blinding or hauling to spoil unsuitable				
	excavation materials and the cost of such shall				
	be included in the rates and prices				
	Till: 0 :1: 1 :1: 1 :1: 0	m^3	94.000		
5.01	Fill in soft material including benching of	111	84,000		
5.01	Fill in soft material including benching of shoulders and embankments and compaction to	111	84,000		
5.01		111	84,000		
5.01	shoulders and embankments and compaction to		84,000		
	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not	m^3	50,400		
	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m ³			
5.02	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top	m ³			
5.02 5.03	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD.	m ³	50,400		
5.02 5.03 5.04 5.05	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material	m ³ m ³ m ³	50,400 48,000 84,000 10,000		
5.02 5.03 5.04 5.05	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed	m ³ m ³	50,400 48,000 84,000		
5.02 5.03 5.04 5.05	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD	m ³ m ³ m ³	50,400 48,000 84,000 10,000		
5.02 5.03 5.04 5.05 5.06	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99)	m ³ m ³ m ³ m ³ m ³	50,400 48,000 84,000 10,000 44,100		
5.02 5.03 5.04 5.05 5.06	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level	m ³ m ³ m ³	50,400 48,000 84,000 10,000		
5.02 5.03 5.04 5.05 5.06	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99)	m ³ m ³ m ³ m ³ m ³	50,400 48,000 84,000 10,000 44,100 25,000		
5.02 5.03 5.04 5.05 5.06 5.07	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99) Compaction of 150mm original ground below	m ³ m ³ m ³ m ³ m ³	50,400 48,000 84,000 10,000 44,100		
5.02 5.03 5.04 5.05 5.06 5.07 5.08	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99) Compaction of 150mm original ground below fills to 95% MDD.(AASHTO T99)	m ³ m ³ m ³ m ³ m ³ m ³	50,400 48,000 84,000 10,000 44,100 25,000 13,000		
5.02 5.03 5.04 5.05 5.06 5.07	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99) Compaction of 150mm original ground below fills to 95% MDD.(AASHTO T99) Top-soiling prior to planting grass as directed by	m ³ m ³ m ³ m ³ m ³	50,400 48,000 84,000 10,000 44,100 25,000		
5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99) Compaction of 150mm original ground below fills to 95% MDD.(AASHTO T99) Top-soiling prior to planting grass as directed by the Engineer	m ³	50,400 48,000 84,000 10,000 44,100 25,000 13,000 47,000		
5.02 5.03 5.04 5.05 5.06 5.07 5.08	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99) Compaction of 150mm original ground below fills to 95% MDD.(AASHTO T99) Top-soiling prior to planting grass as directed by	m ³ m ³ m ³ m ³ m ³ m ³	50,400 48,000 84,000 10,000 44,100 25,000 13,000		
5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99) Compaction of 150mm original ground below fills to 95% MDD.(AASHTO T99) Top-soiling prior to planting grass as directed by the Engineer	m ³	50,400 48,000 84,000 10,000 44,100 25,000 13,000 47,000		
5.02 5.03 5.04 5.05 5.06 5.07 5.08 5.09	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99) Compaction of 150mm original ground below fills to 95% MDD.(AASHTO T99) Top-soiling prior to planting grass as directed by the Engineer Grassing as directed by the Engineer	m ³ m ³ m ³ m ³ m ³ m ³ m ²	50,400 48,000 84,000 10,000 44,100 25,000 13,000 47,000		
5.02 5.03 5.04 5.05 5.06 5.07 5.08	shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm Extra Over Item 5.01 for compaction of the top 300 subgrade to 100% MDD. Ditto item 5.01 but in hard material Cut to spoil in soft material Ditto item 5.04 but in hard material Provide improved subgrade material as instructed by the Engineer and compaction to 100% MDD (AASHTO T99) Compaction of top 300mm below formation level in cuts to 100% MDD.(AASHTO T99) Compaction of 150mm original ground below fills to 95% MDD.(AASHTO T99) Top-soiling prior to planting grass as directed by the Engineer	m ³ m ³ m ³ m ³ m ³ m ³ m ²	50,400 48,000 84,000 10,000 44,100 25,000 13,000 47,000		

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Note: No separate payments shall be made for				
	gravel for blinding or hauling to spoil unsuitable				
	excavation materials and the cost of such shall				
	be included in the rates and prices				
7.01	Excavate to spoil in soft materials.	m^3	9,900		
7.02	As item 7.01 but in hard material.	m ³	990		
7.03	Provide, place and compact rockfill below and	m^3	10,000		
	around structures.				
7.04	Provide and place 150mm thick stone pitching as	m ²	17,000		
	directed by the Engineer including cement				
	grouting				
7.05	Excavate for gabions in soft material.	m ³	240		
7.06	Provide and place gabion boxes and matresses	m^2	1,100		
	where directed by the Engineer.				
7.07	Rockfill to gabions	m^3	200		
7.08	Filter fabric behind gabion boxes and structures	m^2	200		
7.09	Provide and backfill approved material around	m^3	2,000		
	new structures, compact 100% MDD (AASHTO		_,,,,,		
	T99) in layers not exceeding 150mm.				
7.10	Allow for protection of structures pursuant to	LS	1		
, , , ,	Section 708 of the specifications				
	Section 700 of the specifications				
	Bill No. 7 Total Carried Forward to Grand Sun	ımarv			
DITT N	TO O CHILLIANDE AND DE LESS CONTROL OF THE CONTROL	1			
KILL !	NO X CHLVERTS AND DRAINAGE WORKS				
BILL I	NO. 8. CULVERTS AND DRAINAGE WORKS				
ITEM	O. 8. CULVERTS AND DRAINAGE WORKS DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DESCRIPTION Note: No separate payments shall be made for	UNIT	QTY	RATE	AMOUNT
	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall	UNIT	QTY	RATE	AMOUNT
	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices	UNIT m ³	QTY 3,000	RATE	AMOUNT
ITEM	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall			RATE	AMOUNT
ITEM 8.01	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material	m ³		RATE	AMOUNT
8.01 8.02	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material	m^3	3,000	RATE	AMOUNT
ITEM 8.01	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe	m ³	3,000	RATE	AMOUNT
8.01 8.02	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls,	m^3	3,000	RATE	AMOUNT
8.01 8.02	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as	m^3	3,000	RATE	AMOUNT
8.01 8.02 8.03	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer	m^3	3,000	RATE	AMOUNT
8.01 8.02 8.03	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material	m ³ m ³ m ³	3,000 300 500	RATE	AMOUNT
8.01 8.02 8.03	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes	m ³ m ³ m ³	3,000 300 500	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads	m ³ m ³ m ³ m	3,000 300 500 50 2,300	RATE	AMOUNT
8.01 8.02 8.03	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes	m ³ m ³ m ³	3,000 300 500	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross	m ³ m ³ m ³ m	3,000 300 500 50 2,300	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05 8.06	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts	m ³ m ³ m ³ m m	3,000 300 500 50 2,300 180	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts As for item 8.05 but 1200mm dia concrete pipes	m ³ m ³ m ³ m	3,000 300 500 50 2,300	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05 8.06	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts As for item 8.05 but 1200mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts	m ³ m ³ m ³ m m	3,000 300 500 50 2,300 180	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05 8.06	DESCRIPTION Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts As for item 8.05 but 1200mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts Provide and place class 15/20 concrete to beds,	m ³ m ³ m ³ m m	3,000 300 500 50 2,300 180	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05 8.06 8.07	Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts As for item 8.05 but 1200mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts Provide and place class 15/20 concrete to beds, surround and haunches	m ³ m ³ m ³ m m m	3,000 300 500 50 2,300 180 20 1,480	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05 8.06	Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts As for item 8.05 but 1200mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts Provide and place class 15/20 concrete to beds, surround and haunches Provide, place and compact class 25(20) concrete	m ³ m ³ m ³ m m	3,000 300 500 50 2,300 180	RATE	AMOUNT
8.01 8.02 8.03 8.04 8.05 8.06 8.07	Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices Excavate for inlet,outfall,mitre and catch water drains in soft material As per item 8.01, but for hard material Excavation in soft material for pipe culverts,headwalls, wingwalls, apron,toewalls,and drop inlets and compact as directed by the Engineer As per item 8.03, but for hard material Provide,lay and joint 600mm dia. concrete pipes (precast to BS 5911 Parts 1 & 3) for access roads As for item 8.05 but 900mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts As for item 8.05 but 1200mm dia concrete pipes (precast to BS 5911 parts 1 & 3) for cross culverts Provide and place class 15/20 concrete to beds, surround and haunches	m ³ m ³ m ³ m m m	3,000 300 500 50 2,300 180 20 1,480	RATE	AMOUNT

Remove estimates a payabe deemed herein 8.10 Provide an course side and cours	ks as instructed kisting pipe culverts of any diameter e-use or to be discarded as directed by er Total Carried Forward to Grand Sun SSAGE OF TRAFFIC	m m³ m	1,850 50 500 QTY	RATE	AMOUNT
8.10 Provide an course side 8.11 Construct scour check 8.14 Remove existence of the Engine Bill No. 8 BILL NO. 9: PAS ITEM DESCRIF NOTE: Note of Section 9 extra pays be deemed herein 9.01 Construct lengths of	d place invert block drains with two e slabs in concrete class 15(20) side drains in concrete class 15(20) side drains in concrete class 15(20) side drains is as instructed is sting pipe culverts of any diameter e-use or to be discarded as directed by er Total Carried Forward to Grand Sun is SAGE OF TRAFFIC TION TOTON Totwithstanding the provision of the Standard Specification, no ments shall be due as all costs shall	m ³ m	50	RATE	AMOUNT
8.10 Provide an course side 8.11 Construct scour check 8.14 Remove existence of the Engine Bill No. 8 BILL NO. 9: PAS ITEM DESCRIF NOTE: Note of Section 9 extra pays be deemed herein 9.01 Construct lengths of	d place invert block drains with two e slabs in concrete class 15(20) side drains in concrete class 15(20) side drains in concrete class 15(20) side drains is as instructed is sting pipe culverts of any diameter e-use or to be discarded as directed by er Total Carried Forward to Grand Sun is SAGE OF TRAFFIC TION TOTON Totwithstanding the provision of the Standard Specification, no ments shall be due as all costs shall	m ³ m	50	RATE	AMOUNT
8.11 Construct scour check sco	e slabs in concrete class 15(20) side drains ks as instructed kisting pipe culverts of any diameter e-use or to be discarded as directed by er Total Carried Forward to Grand Sun SSAGE OF TRAFFIC TION Totwithstanding the provision of of the Standard Specification, no ments shall be due as all costs shall	m ³ m	50	RATE	AMOUNT
8.11 Construct scour check scour check scour check scour check section 1 the Engine section 9 extra pays be deemed herein section 9.01 Construct lengths of	In concrete class 15(20) side drains ks as instructed disting pipe culverts of any diameter e-use or to be discarded as directed by er Total Carried Forward to Grand Sun SSAGE OF TRAFFIC TION Totwithstanding the provision of the Standard Specification, no ments shall be due as all costs shall	m	500	RATE	AMOUNT
8.14 Remove et either for a the Engine Bill No. 8 BILL NO. 9: PAS ITEM DESCRIF NOTE: No	ks as instructed kisting pipe culverts of any diameter e-use or to be discarded as directed by er Total Carried Forward to Grand Sun SSAGE OF TRAFFIC TION otwithstanding the provision of of the Standard Specification, no ments shall be due as all costs shall	m	500	RATE	AMOUNT
8.14 Remove exeither for a the Engine Bill No. 8 BILL NO. 9: PAS ITEM DESCRIF NOTE: Not	risting pipe culverts of any diameter e-use or to be discarded as directed by er Total Carried Forward to Grand Sun SSAGE OF TRAFFIC TION Totwithstanding the provision of of the Standard Specification, no ments shall be due as all costs shall	nmary		RATE	AMOUNT
BILL NO. 9: PAS BILL NO. 9: PAS ITEM DESCRIE NOTE: N Section 9 extra pays be deemed herein 9.01 Construct lengths of	e-use or to be discarded as directed by er Total Carried Forward to Grand Sun SSAGE OF TRAFFIC TION otwithstanding the provision of of the Standard Specification, no nents shall be due as all costs shall	nmary		RATE	AMOUNT
BILL NO. 9: PAS BILL NO. 9: PAS ITEM DESCRIE NOTE: N Section 9 extra pays be deemed herein 9.01 Construct lengths of	e-use or to be discarded as directed by er Total Carried Forward to Grand Sun SSAGE OF TRAFFIC TION otwithstanding the provision of of the Standard Specification, no nents shall be due as all costs shall		QTY	RATE	AMOUNT
BILL NO. 9: PAS BILL NO. 9: PAS ITEM DESCRIF NOTE: N Section 9 extra pays be deemed herein 9.01 Construct lengths of	Total Carried Forward to Grand Sun SSAGE OF TRAFFIC TION Totwithstanding the provision of of the Standard Specification, no nents shall be due as all costs shall		QTY	RATE	AMOUNT
BILL NO. 9: PAS ITEM DESCRIF NOTE: N Section 9 extra pay be deemed herein 9.01 Construct lengths of	Total Carried Forward to Grand Sun SSAGE OF TRAFFIC TION otwithstanding the provision of of the Standard Specification, no nents shall be due as all costs shall		QTY	RATE	AMOUNT
BILL NO. 9: PAS ITEM DESCRIF NOTE: N Section 9 extra pay be deemed herein 9.01 Construct lengths of	SSAGE OF TRAFFIC TION Totwithstanding the provision of of the Standard Specification, no ments shall be due as all costs shall		QTY	RATE	AMOUNT
BILL NO. 9: PAS ITEM DESCRIF NOTE: N Section 9 extra pays be deemed herein 9.01 Construct lengths of	SSAGE OF TRAFFIC TION Totwithstanding the provision of of the Standard Specification, no ments shall be due as all costs shall		QTY	RATE	AMOUNT
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ITEM DESCRIE NOTE: N Section 9 extra pays be deemed herein 9.01 Construct lengths of	TION otwithstanding the provision of of the Standard Specification, no nents shall be due as all costs shall	UNIT	QTY	RATE	AMOUNT
NOTE: N Section 9 extra pays be deemed herein 9.01 Construct lengths of	otwithstanding the provision of of the Standard Specification, no nents shall be due as all costs shall	UNIT	QTY	RATE	AMOUNT
NOTE: N Section 9 extra pays be deemed herein 9.01 Construct lengths of	otwithstanding the provision of of the Standard Specification, no nents shall be due as all costs shall	UNIT	QTY	RATE	AMOUNT
NOTE: N Section 9 extra pays be deemed herein 9.01 Construct lengths of	otwithstanding the provision of of the Standard Specification, no nents shall be due as all costs shall	01111	- Q11	Turre	111/13/61/1
Section 9 extra pays be deemen herein 9.01 Construct lengths of	of the Standard Specification, no nents shall be due as all costs shall				ı
9.01 Construct lengths of	nents shall be due as all costs shall				
9.01 Construct lengths of					
9.01 Construct lengths of	I to be included in the rates inserted				
9.01 Construct lengths of					
lengths of					
lengths of					
lengths of	and maintain diversions in maximum	Km	27		
	5km sections as directed by the				
Engineer,					
	including 150mm wearing course				
	ignage, lighting and barriers				
	er and compact existing road; provide,	Km	81		
spread, wa	ter and compact gravel as directed by				
	er for maintenance ahead of works.				
	the passage of traffic through and	LS	1		
around the		Lo	1		
around the	WOLKS				+
DUI M					
Bill No. 9	Total Carried Forward to Grand Sun	nmary	1	1	
BILL NO. 10: G	RADING AND GRAVELLING WOR	KS			
ITEM DESCRIE	TION	UNIT	QTY	RATE	AMOUNT
	eparate payments shall be made for	01,11	¥	1011	1211200112
	blinding or hauling and the cost of				
U v					
	be included in the rates and prices	2			
	avel wearing course, spread and	m^3	23,400		
compact to	a finished thickness of 150mm to at				
least 95%	M.D.D (AASHTO T-180) and shape to				
level and t					
10.0101101					
					-
DOM NO.	AT AIC SIE BY CONTRACTOR				_
Bill No. 10	Total Carried Forward to Grand Su	mmary	T	1	
BILL NO. 12: \overline{N}	ATURAL MATERIAL BASE AND SI	UBBASE	_		
ITEM DESCRIE	TION	UNIT	QTY	RATE	AMOUNT
		+	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	IVALE	AMOUNI
/ V/)10	separate payment shall be made for the			1	
	1 701		1		Ì
overhaul	material. The cost of such shall be a the rates and/or prices				

	Date 12 th June, 2025				
12.01	Provide, Lay, spread and compact Soft Stone or				
	Gravel for Sub-base as per Drawings and	m^3	24,150		
	Specifications				
BILL N	NO. 13: GRADED CRUSHED STONES AND HA	ND PAC	KED STON	IES FOR S	URBASE AND
BASE	vo. 10. Granded Choshed STOTYES IN 12 In	II (D III)	TILD STOP	LSTORS	CDDIIOE III (D
DIAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		m^3		KAIL	AMOUNT
13.02	Provide, Lay, spread and compact Graded Crushed	m	21,735		
12.02	Stone for base as per Drawings and Specifications	3	0	1	
13.03	Provide, hand pack stones, apply granular material	m^3	0		
	and compact the layer to refusal as directed by the				
	Engineer. The excess granular material shall be				
	throughly swept.				
	Bill No. 13 Total Carried Forward to Grand Sur	mmary			
BILL N	NO. 14 : CEMENT OR LIME TREATED SUBBA	SE AND	BASE		
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
14.02	Provide and spread Cement as an improvement	Tonne	2,500		1200111
11.02	agent for sub-base and base layers	Tomic	2,500		
14.03	Mix and process GCS, natural material with	m ³	57,000	1	
14.03	improvement agent for pavement layers as	111	37,000		
	, ,				
1404	instructed by the Engineer or as specified	2	400.500	1	
14.04	Protection and curing of cement treated base and	m^2	409,500		
	sub-base layers			1	
	Bill No. 14 Total Carried Forward to Grand Sur	mmary			
BILL N	NO. 15: BITUMINOUS SURFACE TREATMEN	T & SUR	FACE DRE	SSING TO	SHOULDERS
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
15.01	Prepare surface of carriageway and shoulders,	Litres	148,000		
	provide, heat and spray MC 30 cutback bitumen				
	prime coat at 0.8-1.2 Litres/m2.				
15.08	Provide & spray K1-60 as tack coat on	Litres	89,600		
15.00	carriageway, shoulders and on rumble strips at a	Littes	05,000		
	rate of 0.5-0.8 1/m ²				
	1410 01 0.5 0.0 1/111				
	Bill No. 15 Total Carried Forward to Grand Sur	mmany			
	DIII NO. 13 TOTAL CALLIEU FOLWARU TO GRANG SUI	шшаг <u>у</u>			
DIII Y	NO 16. DITUMINOUS MUVES				1
RILL I	NO. 16: BITUMINOUS MIXES	1		T	<u> </u>
TIPE -	PEGGDYPTION	****	0.577	D : ===	1340****
ITEM		UNIT	QTY	RATE	AMOUNT
16.01	Provide, place and compact Asphalt Concrete	m^3	4,508		
	Type II to a thickness of 35 mm on carriageway				
	and bus bays as directed by the Engineer at				
	Bitumen Content of 5.5 - 7.0% by weight of total				
	mix.				
	Bill No. 16 Total Carried Forward to Grand Sur	mmary			
		<u> </u>			•
BILL	NO. 20: ROAD FURNITURE				

155UC	Date 12 th June, 2025							
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT			
20.01	Provide Road Reserve Boundary posts	No.	216					
20.02	Excavate for, provide & place 250 x 125mm							
	precast concrete raised or ramped kerbs haunched							
	in 100mm thick class 15/20 concrete base							
	bedding and mortar joined in support to							
	carriageway, busbays and junctions as directed by the Engineer.							
	a) Straight kerbs	m	3,000					
	b) Kerbs radius 12m - 6m	m	500					
	c) Ditto but radius 5m - 1m	m	300					
	-) =							
20.03	As 20.02 but for flush kerbs 100 x 125mm	m	3,000					
20.04	Provide and erect permanent road signs where							
	instructed by the Resident Engineer and in							
	accordance with Special Specifications Clause							
	2004 as follows:							
	a) warning signs	No.	20					
	b) Priority prohibitory and mandatory signs	No.	20					
	c) Standard informatory signs	No.	20					
	d) Non standard informatory signs area							
	i) Less than 1.0m ²	No.	5					
	ii) More than 1.0m ² but less than 5m ²	No.	5					
20.05	Provide, deliver, paint and mark the road as	m^2	3,080					
	specified or as directed by the Engineer, with		3,000					
	white reflectorized thermoplastic paint from an							
	approved supplier.							
20.06	As item 20.05 but for yellow reflectorized	m^2	1,540					
	thermoplastic paint		1,0 .0					
20.07	Provide and erect concrete posts for guardrails	No.	100					
	complete with spacers (size and interval) as per							
	specifications or as directed by the Engineer							
20.08	Provide and erect flex-beam guardrails complete	m	100					
	with connections as shown on the drawings or as		100					
	directed by the Engineer							
20.09	Provide Edge marker posts	No.	20					
20.10	Provide kilometre marker posts as directed by the	No.	54					
20.10	Engineer	1.0.						
	Bill No. 20 Total Carried Forward to Grand Summary							
BILL N	O. 22: SCHEDULE OF DAYWORKS							
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT			
	PLANT							
	The rates inserted herein are to include all							
	operational and Maintenace costs, fuel, oil,							
	grease, drivers/operators wages, supervision,							
	overheads and profit. Only time actually							
	employed upon the work will be paid for and the							
	rates should include for idle time, travelling time							

18800	Date 12 th June, 2025	1		1	<u> </u>
	and overtime, In accordance with clause 2202				
	(a) of the specifications. Note: All items of plant				
	must be priced.				
	•				
22.01	Crawler dozers with hydraulic attachments to				
22.01	include ripper				
	a) Up to 135 kw rated flywheel power	hrs	10	+	
		+			
	b) Over 135 kw rated flywheel power	hrs	4		
22.02					
22.02	Motor Grader				
	a) Up to 110kw rated flywheel power	hrs	5		
	b) Over 110kw rated flywheel power	hrs	5		
22.03	Vibratory Roller				
	a) 6.5 - 8.81 tonne un-ballasted weight	hr	5		
	b) Over 8.91 tonne un-ballasted weight	hr	5		
	of over 0.51 tollie all ballasted weight	111			
22.04	Hand propelled vibrating rollar 650 12001ra	hrs	5		
	Hand propelled vibrating roller 650 - 1300kg		_		
22.05	Cat 950G wheel loader or equivalent	hrs	5		
22.06	10 Tonne tipper lorry	hrs	5		
22.07	Small dumpers, 750-1000kg rated payload	hrs	5		
22.08	Dual purpose hydraulic excavator with	hrs	5		
	backhoe/loader and a rated bucket capacity of				
	upto 1m3.				
22.09	Articulated wheel loader with 1.5-2.0m ³ SAE	hrs	5		
	rated bucket capacity				
22.10	50mm delivery water pump and motor	hrs	5		
22.10	Self propelled water tanker 4,500ls min. capacity	hrs	5		
44.11		III S)		
22.12	with pick-up pump	1	5	+	
22.12	Concrete Mixer of 100 - 150litres	hrs	5		
22.13	Concrete poker vibrator	hrs	5		
	<u>LABOUR</u>				
	The rates inserted herein are to include all costs				
	of labour such as insurance, accomodation,				
	travelling time, over-time, use and maintenance				
	of small tools of trade. Only the actual time				
	engaged upon the work will be paid				
	for.supervision, overheads and Profit.				
22.14	Unskilled Labour	hrs	10		
22.15	Artisans	hrs	10		
22.13	Office attendants and chainmen	hrs	10		
-		1		+	
22.17	Watchmen (all round surveillance)	hrs	10		
	TOTAL CARRIED FORWARD TO THE NEX	T PAGE			
		1		.	-
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	TOTAL BROUGHT FORWARD				
	MATERIALS				
	All materials are to comply with the				
	Specification. The rates				
	inserted herein are to include for delivery to the				
	site, storage,			+	
22.10	handling, overheads and profit		1		
22.18	Ordinary Portland Cement 42.5 N	Ton	1		

M:11 (41/1:				1
Mild Steel(any diametre)	Ton	1		
High Yield Steel (any diameter)	Ton	1		
Fine Aggregate for Concrete	m^3	1		
Coarse Aggregate for Concrete	m^3	5		
Wrot Shuttering Timber	m^2	5		
Rough shuttering timber.	m^2	5		
Bitumen Emulsion KI-60.	Litre	5		
Straight run bitumen Grade 80/100.	Litre	5		
Kerosene	Litre	5		
14/20 mm nominal size surface precoated	m^3	5		
chippings				
6/10mm nominal size surface precoated	m^3	5		
chippings				
AC Type I Ex-plant		5		
AC Type II Ex-plant	m^3	5		
Dense Bitumen Macadam	m^3	5		
Bill No. 22 Total Carried Forward to Grand Sur	nmary	· · · · · · · · · · · · · · · · · · ·		
	High Yield Steel (any diameter) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber Rough shuttering timber. Bitumen Emulsion KI-60. Straight run bitumen Grade 80/100. Kerosene 14/20 mm nominal size surface precoated chippings 6/10mm nominal size surface precoated chippings AC Type I Ex-plant AC Type II Ex-plant Dense Bitumen Macadam	High Yield Steel (any diameter) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber Rough shuttering timber. Bitumen Emulsion KI-60. Straight run bitumen Grade 80/100. Litre Kerosene 14/20 mm nominal size surface precoated chippings 6/10mm nominal size surface precoated chippings AC Type I Ex-plant AC Type II Ex-plant m³ Ton m³ m³ Ton m³ m³ Ton m³ m³ Ton Ton m³ Ton Ton m³ Ton Ton Ton Ton Ton Ton Ton To	High Yield Steel (any diameter) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber Rough shuttering timber. Bitumen Emulsion KI-60. Straight run bitumen Grade 80/100. Kerosene Litre 5 14/20 mm nominal size surface precoated chippings 6/10mm nominal size surface precoated chippings AC Type I Ex-plant AC Type II Ex-plant Dense Bitumen Macadam Ton 1 m³ 5 Litre 5 Litre 5 m³ 5 chippings 6/10mm nominal size surface precoated m³ 5 Chippings AC Type II Ex-plant M³ 5 Dense Bitumen Macadam m³ 5 Dense Bitumen Macadam	High Yield Steel (any diameter) Fine Aggregate for Concrete Coarse Aggregate for Concrete Wrot Shuttering Timber Rough shuttering timber. Bitumen Emulsion KI-60. Straight run bitumen Grade 80/100. Kerosene Litre 14/20 mm nominal size surface precoated chippings 6/10mm nominal size surface precoated chippings AC Type I Ex-plant Dense Bitumen Macadam Ton 1 m³ 5 Litre 5 Litre 5 M³ 5 Chippings AC Type II Ex-plant Dense Bitumen Macadam Ton 1 m³ 5 Ton 1 Ton 1 M³ 5 Ton 1 Ton 1 M³ 5 Ton 1 Ton

BILL NO. 25: ENVIRONMENTAL, HIV/AIDS, AND COVID-19 MITIGATION MEASURES

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
25.01	Allow for a prime cost sum for of KShs 2,000,000 (Two Million) for ESIA study, report, and environmental monitoring.	PC sum	1		
25.02	E.O for Item 25.01 for Contractor's Oveheads and Profit	Item			
25.03	Allow for engagement of a HIV/AIDS and COVID-19 specialist sub contractor to deal with prevention and awareness activities as per programme to be approved by the Engineer	Months	36		
25.04	Provide male and female condoms to workers and staff for the duration of the contract	No.	10,000		
25.05	Allow for preparation and submmission of monthly reports on HIV/AIDS and COVID-19 awareness and prevention activities. Report to be tabled at site meetings.	Months	36		
25.06	Provide, Install and maintain HIV/AIDS and COVID-19 awareness bill boards with approved message and graphics with maximum area 4m ² fabricated as per specifications of permanent informatory sign boards	No.	4		
25.07	Allow for video shows on HIV/AIDS and COVID-19 related awareness and prevention matters every 3 months	Quartely	12		
25.08	Provide HIV/AIDS and COVID-19 awareness material as follows:				
	a) T-Shirt printed with approved message and graphics	No.	90		
	b) Ditto (a) above but caps	No.	90		
	c) A1 size weather proved posters	No.	90		
	d) A3 size weather proved posters	No.	90		

	e) 200x150mm stickers with HIV/AIDS and	No.	90		
	COVID-19 awareness/prevention slogan	110.			
	f) Key rings with HIV/AIDS and COVID-19	No.	90		
	awareness/prevention slogan				
	g) Ball point pens with HIV/AIDS and COVID-	No.	90		
	19 awareness prevention slogan.				
25.09	Provide and maintain handwashing points at	No.	20		
	strategic locations as directed by the Engineer				
	throughout the construction period.				
25.10	Provide and maintain hand sanitizing points at	No.	20		
	strategic locations as directed by the Engineer				
	throughout the construction period.				
25.11	Provide face masks as specified or as shall be	No.	5,000		
	directed by the Engineer.				
Bill No	o. 25 Total Carried Forward to Grand Summary				
Bill No	o. 25 Total Carried Forward to Grand Summary				
		NTROL, A	AND RELO	CATION	
BILL N	o. 25 Total Carried Forward to Grand Summary No. 26: LAND ACQUISITION, AXLE LOAD CORVICES	NTROL, A	AND RELO	CATION	
BILL N	No. 26: LAND ACQUISITION, AXLE LOAD CO	ONTROL, A	1	CATION	Amount
BILL N	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description		AND RELO Quantity 1		Amount
BILL N OF SE	No. 26: LAND ACQUISITION, AXLE LOAD CO	Unit	1		Amount
BILL N OF SE	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description Allow a Prime Cost Sum of KShs. 5,000,000.00 for relocation of services as instructed or directed	Unit	1		Amount
BILL N OF SE	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description Allow a Prime Cost Sum of KShs. 5,000,000.00	Unit	1		Amount
BILL N OF SEI Item 26.03	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description Allow a Prime Cost Sum of KShs. 5,000,000.00 for relocation of services as instructed or directed by the Engineer.	Unit PC Sum	1		Amount
BILL N OF SEI Item 26.03	No. 26: LAND ACQUISITION, AXLE LOAD CORVICES Description Allow a Prime Cost Sum of KShs. 5,000,000.00 for relocation of services as instructed or directed by the Engineer. E.O. item 26.03 for Contractor's overheads and	Unit PC Sum	1		Amount

GRAND SUMMARY OF BILL OF QUANTITIES UPGRADING TO BITUMEN STANDARDS OF KARANJEE LOOP ROADS, ACCESS TO LIMURU GIRLS & LIMURU (JNCT EQUITY), ACCESS LOOP TO ST. PAUL'S PRIMARY SCHOOL / MARAMBA TEA FACTORY - KAMWAKI/BATA LOOP - MURENGETI & ACCESS ROADS

BILL	DESCRIPTION	AMOUNT(KShs)
ITEM	Dutining in an I Company I to	
1	Preliminaries and General Items	
4	Site Clearance and Top Soil Stripping	
5	Earth Works	
7	Excavation and Filling of Structures	
8	Culverts and Drainage Works	
9	Passage to Traffic	
10	Grading and Gravelling Works	
13	Graded Crushed Stone and Handpacked Stone for Subbase and Base	
14	Cement or Lime Treated Subbase and Base	
15	Bituminous Surface Treatment and Surface Dressing	
16	Bituminous Mixes	
20	Road Furniture	
22	Schedule of Dayworks.	
25	HIV/AIDS, Gender & Social Issues, Local Participation	
26	Relocation of Services and Land Aquisition	
(A)	SUB-TOTAL (1)	
(B)	Add 15% VARIATION OF PRICE of sub total (1)	
(C)	Add 5% CONTIGENCIES of sub total (1)	
(D)	SUB-TOTAL $(2) = (A + B + C)$	
(E)	Add 0.03% For PPCBL of sub total (2)	
(F)	Add16% VAT of sub-total (2)	
TOTAL CA	RRIED FORWARD AS BID SUM 1: (D + E + F)	

APPENDIX A

APPENDIX TO BILL ITEM 1.05:

PROVIDE AND MAINTAIN FURNITURE AND EQUIPMENT FOR THE ENGINEER'S LABORATORY

LABORAT	ORY				
ITEM	DESCRIPTION	UNIT	QTY	RATE (KSHS)	AMOUNT (KSHS)
	1. FURNITURE				
A104/1.01	Desk 2.2x0.9 m with chair and lockup drawers	No	2		
A104/1.02	Desk chair (standard)	No	15		
A104/1.03	Stationery cupboard, 1.2 m³, lockable	No	2		
A104/1.04	Steel filing cabinet, 4 drawers, lockable	No	2		
A104/1.05	Steel filing cabinet, 2 drawers, lockable	No	2		
A104/1.06	Bookshelf, 3 shelves 1.2 m long (to hold box files)	No	2		
A104/1.07	Table - 6 m ²	No	2		
A104/1.08	Two Plate electric heater	No	1		
A104/1.09	Fire extinguisher, 10 litre capacity, CO ₂ type	No	4		
A104/1.10	Complete first aid kit	No	2		
	EQUIPMENT				
	(The following equipment shall be purpose made for use in the Engineer's laboratories and shall comply with the relevant British (BS) or American (AASHTO) Standard)				
	2. General Equipment				
A104/2.02	2.49kg. Compaction hammer, drop regulated to 304.8mm	No	2		
A104/2.03	4.535kg compaction hammer drop regulated to 457.2mm	No	2		
A104/2.04	Electric vibrating Kango Hammer fitted with steel tamper(BS 1377) with support frame	No	1		
A104/2.05	Straight edge 300 mm long with handles	No	4		
A104/2.06	Steel Tamper (BS1377) compatible with Kango hammer	No	3		
A104/2.07	Compaction mould 152.4 mm. dia x 116.43 mm complete with base plate and extension collar, 101.6 mm	No	2		
A104/2.08	Galvanized metal tray 1m x 0.5m x 75 mm deep	No	4		
A104/2.09	75mm brush	No	2		
A104/2.10	Semi-automatic balance, 25kg Capacity accurate to 1g, including weights	No	1		
A104/2.11	20mm BS Sieve, 300mm diameter	No	1		
A104/2.12	Stop Clock	No	2		
A104/2.13	Thermostatically controlled electric oven 105-110°C, capacity 0.225 m ³	No	2		
A104/2.14	As above but gas heated	No	1		
A104/2.15	Moisture content tins, 75 mm dia, Cadmium or aluminium plated	No	60		
A104/2.16	Cone penetrometer with gauge and automatically controlled test cup	No	2		

Issue Date 12th June, 2025

1334C Date 12	^h June, 2025			
C/Forward	to next page			
	From previous page			
	3. Density (Sand replacement method			
	BS 1377)			
A104/3.01	Metal containers 450mm diameter	No	2	
A104/3.02	Stainless steel tray 305mm diameter	No	2	
A104/3.03	Metal tray with 150 mm diameter hole in	No	2	
	the centre, 300mmx300 mm square or			
	equivalent area, 40mm deep			
A104/3.04	Metal tray with 200mm diameter hole in	No	2	
	the centre, 500mm x 500 mm square, 50			
	mm deep			
A104/3.05	Steel pegs for fixing tray in position	No	15	
A104/3.06	Sand pouring cylinder, 150 mm diameter	No	2	
A104/3.07	Sand pouring cylinder, 215 mm diameter	No	2	
A104/3.08	Cold steel chisel 20mm x 300mmm	No	4	
A104/3.09	Cold steel chisel 10mm x 250mmm	No	4	
A104/3.10	1.5kg, 3.5kg hammers and 1kg rubber	Set	1	
2110 1/3.10	mallet		•	
A104/3.11	Scoop for removing excavated material	No	6	
71104/3.11	from hole, 250 mm long handle	110		
A104/3.12	100mm brush, soft	No	3	
A104/3.12 A104/3.13	50mm brush, soft	No	3	
A104/3.13 A104/3.14	Primus gas stove	No	1	
A104/3.14 A104/3.15	Calibrating can 150 mm diameter x 150	No	3	
A104/3.13	mm deep	INO	3	
A104/3.16	Ditto but 200 mm diameter x 250 mm	No	3	
A104/3.10		INO	3	
	deep			
	4. Density (Nuclear Density method AASHTO T238)			
A104/4.01	,	No	1	
A104/4.01	Nuclear density gauge (Troxler 3411B or	INO	1	
	similar approved) complete with 3 no.			
	hole forming device and 3 no. guide			
A 104/5 01	5. CBR (AASHTO T193)	NT	50	
A104/5.01	CBR mould, 152.4 mm dia x 178 mm	No	50	
	high, complete with perforated base			
	plate and extension collar 50.8 mm high			
A 104/5 02	that can be fitted to either side of mould	NT.	40	
A104/5.02	Perforated swell plate 150 mm dia with	No	40	
	an adjustable centre post of rust proof			
A 104/5 02	metal provided with a lock-nut	NI.	1	
A104/5.03	2.25 kg split surcharge weight	No	2	
A104/5.04	Set of annular surcharge weights	No	1	
A104/5.05	Solid base plate for CBR mould	No	2	
A104/5.06	Static compaction displacer discs 1 Nox	set	1	
	61.4 mm, 1 No x 50.8 mm and 2 Nox			
1104/7.0=	38.8 mm thick with handles	3.7		
A104/5.07	Disk lifting handle	No	2	
A104/5.08	Central extruder, complete with 20kN	No	1	
	hydraulic jack and accessories			
	to next page			
	From previous page	T		
A104/5.09	Automatic CBR Proctor Compaction	No	1	
	press, 50 tonnes capacity with an			

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	adjustable distance between platens of				
	530mm-250mm, rammer weights and				
	automatic count selector				
A104/5.10	Set of guards for above press.	No	1		
A104/5.11	50 kN CBR Load frame complete with	No	1		
	stabilising bar (electric and hand				
	operated) including proving rings for				
	10KN, 28KN and 50KN, piston and				
	bracket				
A104/5.12	Penetration gauge range 0 - 25mm	No	2		
A104/5.13	CBR piston including bracket	No	2		
A104/5.14	Swell measurement tripod complete with	No	2		
	guage calibrated in 0.01 mm divisions				
A104/5.15	Soaking tank for CBR mould sufficient	No	1		
	for 50 moulds				
	6. Relative Density of Aggregates (BS				
	812)				
A104/6.01	Wire mesh basket with apertures not	No	2		
	greater than 6.5 mm large enough to				
	contain 2.5 kg of aggregate				
A104/6.02	A stout watertight container in which the	No	2		
	basket can be freely suspended				
A104/6.03	Soft absorbent cloth (tea towel)	No	10		
A104/6.04	Shallow tray of area not less than 0.065	No	2		
	m^2				
A104/6.05	An airtight container of similar capacity	No	2		
	to the basket				
A104/6.06	Pycnometer of 1 litre capacity	No	4		
A104/6.07	Semi automatic 5 kg balance accurate to	No	1		
	0.1g to be of size and type to permit the				
	basket containing the sample to be				
	suspended in water(to be supplied with				
	weights)				
A104/6.08	Hot air drier (electric)	No	2		
	7. Flakiness (BS 812)				
A104/7.01	Thickness gauge (various sizes)	No	2		
	8. Sieve Analysis (BS 1377)				
A104/8.01	BS Sieve 300mm diameter in sizes 75,	Set	2		
	63, 50, 37.5, 28, 20, 14, 10, 6.3, 5 and 4				
	mm, plus lid and receiver				
A104/8.02	BS Sieve 200mm diameter in sizes 2, 1,	Set	2		
	0.6, 0.5, 0.425, 0.300,0.150 and 0.075				
	mm, plus lid and receiver				
A104/8.03	Electric sieve shaker	No	1		
A104/8.04	BS sieve 200mm diameter 0.425 and	set	1		
	0.075 mm				
A104/8.05	1 m x 1 m x 75mm deep galvanized	No	10		
	metal tray				
A104/8.06	Riffle box with 50mm slots (BS 1377)	No	1		
	to next page	•		•	
	From previous page				
	9. Miscellaneous Equipment				
A104/9.01	Wheel barrow	No	3		
A104/9.02	Dustpan and brush	No	3		

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A104/9.03	Shovel	No	4		
A104/9.04	Pick axe with handle	No	4		
A104/9.05	Metal scoop, large (150mm wide)	No	3		
A104/9.06	Metal scoop, medium (100mm wide)	No	4		
A104/9.07	Garden trowel	No	2		
A104/9.08	Steel tray 0.3m x 0.3m x 0.01m deep	No	15		
A104/9.09	Palette knife 200mm long blade	No	3		
A104/9.10	Palette knife 100mm long blade	No	4		
A104/9.11	BS sieve 450mm diameter, 37.5mm	No	1		
A104/9.12	BS sieve 450mm diameter, 20mm	No	1		
A104/9.13	BS sieve 450mm diameter, 5mm	No	1		
A104/9.14	BS sieve 450mm diameter, 0.425mm	No	1		
A104/9.15	BS sieve 450mm diameter, 0.3mm	No	1		
A104/9.16	BS sieve 450mm diameter, 0.075mm	No	1		
A104/9.17	Set of lid and receiver for metal scoop	No	2		
1110 1/7.17	and steel trays	110	1		
A104/9.18	BS Sieve brush	No	2		
A104/9.19	Measuring cylinder set, 25 ml, 100 ml,	set	2		
7110-7/7.17	500 ml, 1000 ml, 2000 ml	301	2		
A104/9.20	Glass jar capacity 5 litres with lid	No	10		
A104/9.21	200mm x 200mm x 20mm cadmium	No	20		
7110-77.21	plated or aluminium tin	110	20		
A104/9.22	Electronic balance capacity 1000 g,	No	1		
11104/7.22	accurate to 0.01gm.	110	1		
A104/9.23	Balance 2000 g capacity accuracy to	No	1		
A104/7.23	0.1g (manual), including weights	110	1		
A104/9.24	Balance 50kg capacity accurate to 10gm	No	1		
7110-77.2-4	including weights	110	1		
A104/9.25	Still for producing distilled water	No	1		
A104/9.26	Polythene or glass 20 litres storage	No	2		
1110 1/7.20	vessel with tap at bottom	110	1		
A104/9.27	Stiff broom	No	2		
A104/9.28	Vernier calipers, 150mm	No	2		
A104/9.29	Vernier calipers, 250mm	No	2		
	to next page	110			
	From previous page				
A104/9.30	Pestle and mortar	No	2		
A104/9.31	Linear shrinkage mould (BS 1377)	No	6		
A104/9.32	Liquid Limit Device	No	2		
A104/9.33	Average least dimension gauge	No	2		
A104/9.34	Lockable tool box containing: 1	No	1		
A104/3.34	pr"Molegrips", 2 x 150mm screwdriver,	INO	1		
	2 x 200 mm screwdriver, 2 x 300 mm				
	screwdriver, (1 standard and 1 Phillips				
	head of each) adjustable spanners 200				
	mm and 300 mm, 1 pair round nosed				
	pliers, 1 pair general purpose pliers,				
A104/9.35	Plastic or metal bucket including lid,10	No	6		
11107/7.55	litres capacity	110			
A104/9.36	Polythene wash bottle (500 ml)	No	5		
A104/9.37	A4 size clipboard	No	4	+	
A104/9.37 A104/9.38	Thermometer, range -10°C to150°C,	No	2	+	
A107/J.30	glass (BS 593)	110			
	S1000 (D0 373)	1		1	1

A104/9.39 Laboratory thermometer, range + 0°C to + 250°C (Bs 593)	Issue Date 12 ^t	h June, 2025		_		
(BS692)	A104/9.39	+ 250°C (BS 593)	No	2		
A104/9.41 Rain gauge	A104/9.40	Maximum and minimum thermometer	No	2		
A104/9.42 Portable dial thermometer + 50°C to + 250°C accurate to + 3%	A104/9.41	, , ,	No	1		
A104/9.43 Ditto with 0.75m long stem	A104/9.42	Portable dial thermometer + 50°C to	No	1		
A104/9.44 Pocket thermometer + 50°C to +250°C accurate to = 3% with 0.1 m stem No 2	A 104/0 42		Nia	1		
accurate to ± 3% with 0.1 m stem				_		
with leak and dust proof lids for storage of bitumen samples			NO			
A104/9.46	A104/9.45	with leak and dust proof lids for storage	No	50		
A104/9.47	A104/9.46	Hotplate 200mm diameter with	No	2		
Mason's basin 10. Standard Specifications (Copies of each of the latest editions of the following Standards) No	A 104/0 47		No	6		
10. Standard Specifications (Copies of each of the latest editions of the following Standards)	A104/J.4/	_	INU	0		
each of the latest editions of the following Standards) A104/10.01 BS 598 No 1						
Solution Standards Solution Standards Solution Solutio						
A104/10.01 BS 598		, ,				
A104/10.02 BS 812	A 104/10 01		No	1		
A104/10.03 BS 882				+		
A104/10.04 BS 1377				_		
A104/10.05 BS 1881				+		
A104/10.06 BS 1924				_		
A104/10.07 Standard Specifications for Transportation Material and Methods of Sampling and Testing (AASHTO) Parts I and II, 14th Edition				_		
Transportation Material and Methods of Sampling and Testing (AASHTO) Parts I and II, 14th Edition A104/10.08 ASTM D1559 No 1 A104/10.09 Asphalt Institute, Superpave Manual Series No.2(SP-2) A104/10.10 Overseas Road Note 19 No 1 A104/10.11 BS 5911 Part 1 &3 No 1 C/Forward to next page B/Forward From previous page 11. Concrete: Slump and Cube Manufacture (BS 1881) A104/10.12 BS 4449 No 1 A104/11.01 Slump cone, tamping rod and base set 2 A104/11.02 Concrete cube mould, 150mm cube No 30 A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece	-			_		
Sampling and Testing (AASHTO) Parts I and II, 14th Edition	A104/10.07		Set	1		
I and II, 14th Edition		1 *				
A104/10.08 ASTM D1559 No 1						
A104/10.09 Asphalt Institute, Superpave Manual No 1 Series No.2(SP-2)	A 104/10 08		No	1		
Series No.2(SP-2)				+		
A104/10.11 BS 5911 Part 1 &3 No 1		Series No.2(SP-2)				
C/Forward to next page B/Forward From previous page 11. Concrete: Slump and Cube Manufacture (BS 1881) A104/10.12 BS 4449 No 1 A104/11.01 Slump cone, tamping rod and base set 2 A104/11.02 Concrete cube mould, 150mm cube No 30 A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing No 10 A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer No 1 A104/12.02 Safety guard for above A104/12.03 50mm distance piece				_		
No			No	1		
11. Concrete: Slump and Cube Manufacture (BS 1881) No 1		•				
Manufacture (BS 1881)	B/Forward		T	Т	T	
A104/10.12 BS 4449 No 1 A104/11.01 Slump cone, tamping rod and base set 2 A104/11.02 Concrete cube mould, 150mm cube No 30 A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer No 1 A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/11.01 Slump cone, tamping rod and base set 2 A104/11.02 Concrete cube mould, 150mm cube No 30 A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece	1101/101		3.7	1		
A104/11.02 Concrete cube mould, 150mm cube A104/11.03 Soaking tank for cubes (capacity 50 No.) A104/11.04 Cube tamping bars No 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/11.03 Soaking tank for cubes (capacity 50 No.) No 1 A104/11.04 Cube tamping bars No 10 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/11.04 Cube tamping bars 12. Concrete: Cube Compression Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece		\ 1 \ \ /		-		
Testing A104/12.01 Concrete compression machine to BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece	A104/11.04		No	10		
BS1610 Grade A with 300 mm gauge, rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece		Testing				
rectangular platens, capacity 1560 kN with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece	A104/12.01		No	1		
with load spacer A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/12.02 Safety guard for above A104/12.03 50mm distance piece						
A104/12.03 50mm distance piece]			
	A104/12.02					
A104/12.04 70mm distance piece]			
	A104/12.04	70mm distance piece				

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A104/12.05	Electro-mechanical load pacer, 100 mm				
	or equivalent distance piece				
	13. Aggregate and Chippings				
A104/13.01	Sand equivalent to AASHTO T176	Set	1		
	including graduated plastic cylinder,				
	rubber stopper, irrigation tube weighted				
	foot assembly, siphon assembly, 85ml				
	tin box (57mm dia.), 100 mm dia wide				
	mouth funnel, stop clock,mechanical				
	shaker and 10 litre jar				
A104/13.02	Beaker 250ml	No	2		
A104/13.03	Aggregate Crushing Value Apparatus,	No	2		
	150 mm nominal diameter, including				
	plunger and base plate				
A104/13.04	Tamping rod and metal measure for	Set	4		
	above				
A104/13.05	Los Angeles Abrasion to ASTM	No	1		
	standards				
A104/13.06	Set of 12 abrasive charges	No	2		
A104/13.07	Thermometer, 0°C to +50°C	No	2		
A104/13.08	Thermometer, 0°C to +250°C	No	2		
A104/13.09	Reagent grade Silica gel, 500g container	No	50		
	14. Bitumen Spray Test (BS 1707)				
A104/14.1	Transverse distribution of spray test	Set	1		
	bitumen distributor (depot tray test to BS				
	1707) or equivalent.				
A104/14.02	Steel tray 20 mm deep x0.1m ² (for	No.	4		
	measuring bitumen spray rates) with				
	purpose made detachable handle 1.5m				
	long.				
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	16. Bitumen Extraction Test				
	A) Extractor Bottle Method BS 598				
	Part 2				
A104/16.01	Electronic top pan balance 4kg capacity,	No	1		
	sensitive to 0.1gm	1,0			
A104/16.02	Flat bottomed scoop	No	3		
A104/16.03	Steel garden trowel	No	2		
A104/16.04	Large steel spoon	No	2		
A104/16.05	Heat resistant gloves	pair	10		
A104/16.06	Foot pump for pressurising air water	No	2		
7104/10.00	assemblies up to a maximum of	110	2		
	700KN/m ² and fitted with flexible hose				
	approximately 1.2m long and connector				
A104/16.07	Steel bottle 600ml capacity with 49mm	No	2		
A104/10.07	rubber stopper	110	2		
A104/16.08	Steel bottle 2500ml capacity with 71mm	No	2		
A107/10.00	rubber stopper	110			
A104/16.09	Steel bottle 7000ml capacity with 71mm	No	2	+	
A107/10.03	rubber stopper	110			
A104/16.10	Flask funnel for fitting to the 700ml steel	No	2	+	
71107/10.10	bottle with rim of funnel retaining sieve	110			
	200mm nominal diameter				
1	20011111 Hollinal alallictor	1		<u>i</u>	1

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A104/16.11	Bottle roller compact bench mounted	No	1		
	unit designed to rotate 2 bottles				
	simultaneously about longitudinal axis				
A104/16.12	Pressure filter complete with cutting tool	No	1		
	for making hole in the filter paper				
A104/16.13	Filter funnel to take 200mm nominal	No	2		
	diameter sieves				
A104/16.14	Centrifuge complying with BS 598	No	1		
A104/16.15	Binder recovery	No	1		
A104/16.16	Volumetric flask 250ml, 500ml, 1000ml	set	2		
	and 2000ml capacity				
A104/16.17	Recovery still for Dichloromethane	No	1		
	B) Hot Extractor Method BS 598 Part				
	2				
A104/16.18	Hot extractor complete with wire gauze	No	2		
	container gasket, cork lid and support				
	assembly				
A104/16.19	Dean and Stark receiver with condenser				
1110 1/10119	to suite Trichloroethylene				
A104/16.20	Gyratory compactor ELE Servo Pac or	No	1		
1110 10.20	equivalent with 1 x 100mm and 1 x		1		
	150mm moulds				
A104/16.21	PRD Vibrating hammer compactor	No	1		
	complete with 6 moulds, 7 base plates				
	from ELE				
A104/16.22	Two (2) sets of Tamping foot 102mm				
	diameter and 146mm diameter and				
	shanks to fit the supplied vibratory				
	hammer				
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B/Forward	From previous page 17. Consumables				
	17. Consumables	Kg	50		
A104/17.01		Kg Kg			
A104/17.01 A104/17.02	17. Consumables Paraffin wax Gas	Kg	1600		
A104/17.01 A104/17.02 A104/17.03	Paraffin wax Gas Gunny sack	Kg No	1600 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge	Kg No No	1600 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge	Kg No No	1600 500 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman	Kg No No	1600 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100)	No No No No	1600 500 500 500 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman	Kg No No	1600 500 500 500		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100)	Kg No No No No	1600 500 500 500 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman	No No No No	1600 500 500 500 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100)	Kg No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman	Kg No No No No	1600 500 500 500 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100)	Kg No No No No No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33	Kg No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5	Kg No No No No No No No No No	1600 500 500 500 20 20 20		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.08 A104/17.09	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100)	Kg No	1600 500 500 500 20 20 20 10		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum)	No	1600 500 500 500 20 20 20 10 15		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane	Kg No	1600 500 500 500 20 20 20 10 15		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10 A104/17.11 A104/17.12 A104/17.13	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste	No N	1600 500 500 500 20 20 20 10 15 2 0 50		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste Gas cylinders compatible with supplied	Kg No	1600 500 500 500 20 20 20 10 15		
A104/17.01 A104/17.02 A104/17.03 A104/17.04 A104/17.05 A104/17.06 A104/17.07 A104/17.09 A104/17.10 A104/17.11 A104/17.12 A104/17.13	Paraffin wax Gas Gunny sack Plastic bag 900x450x1000 gauge Plastic bag 450x300x1000 gauge Filter paper 150mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 100mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 5 (Boxes of 100) Filter paper 400mm diameter Whatman No. 54 (Boxes of 100) Filter paper 270mm diameter with 33 diameter hole at centre Whatman No. 5 (Boxes of 100) Trichloroethylene (205 Litre Drum) Dichloromethane Cotton waste	No N	1600 500 500 500 20 20 20 10 15 2 0 50		

A104/17.16	Sand for density test	kg	250		
C/Forward to item 1.05					

PPENDIX TO BILL ITEM 1.06A: PROVIDE, FURNISI	H AND M	IAINTA	IN THE R	LE.'S OFFICE
DESCRIPTION		QTY	RATE (KSHS)	AMOUNT (KSHS)
1. ENGINEER'S MAIN OFFICE AND FURNITURE	UNIT			
Executive desk 2.2x0.9 m with six lockup drawers	No	2		
Desk 2.2x0.9 m with chair and three lockup drawers	No	4		
Office tables	No	3		
Executive Swivel orthopeadic chair adjustable height	No	2		
Standard office chairs	No	8		
Bench 3m long with cushioned backrest (located as directed)	No	1		
Typist's desk	No	1		
Typist's chair	No	3		
Lockable steel stationery cupboard, 1.2 m³, lockable	No	4		
0 Medium size steel filing cabinet, 4 drawers lockable	No	4		
Medium size steel filing cabinet, 2 lockable drawers lockable	No	3		
Bookshelf, 1.5 m wide 3 shelves (for box files) sliding glass door	No	3		
3 Conference table with 12 chairs	No	1		
Waste paper basket	No.	5		
Curtains for office and laboratory -for all windows and doors	_	2		
6 Ordinary 2 hole paper punch	No	2		
7 Heavy duty 2 hole paper punch	No	2		
8 Set of full divided scale (metric 1/1000, 1/2500, 1/500, 1/2000, 1/1250, 1/1500)	No	1		
Computer meeting the following specifications or equivalent: Personal computer with 20" screen full multimedia, 1000GB hard disk, 12.0GB RAM, Core i7 processor, complete with all accessories preloaded with latest versions of windows OS, MS Office, Professiona and MS Project	1	2		
O Autocad Civil 3D 2012 and Licences for above computers	No	2		
1 As A103/2.11 but with 15" screen	No	4		
Laptop PC with Intel Core i7-350M Processor 15.4" screen, 12GB DDR3 RAM 1000GB 8xDVD+/-RW or simillar approved with Microsoft Windows professional	No	1		
3 Latest HP (A4) Laser Printer with accessories	No	3		
4 Latest HP (A3) Laser Printer with accessories	No	1		
5 UPS 600 VA	No	6		
6 wall clocks, battery powered min size 350mm x 350mm	No	2		
Safe for cash and valuables min.size approx. 0.8mx0.5mx0.4m to be concreted in place (wall/floor mounted) complete with lock and keys	No	1		
8 First Aid Kit	No	4		
C/Forward to next page		<u> </u>	• 	
/Forward From previous page				
9 Fire Extinguisher	No	4		

199	sue Date 12 Julie, 2025			
30	Filing Tray - set of 3no.	set	10	
31	Refrigerator minimum capacity 0.2 m ³	No	1	
32	Drinking water dispenser, hot/cold	No	1	
33	Table - 0.8 m ² surface area	No	1	
34	Cupboard, 0.15 m ³ , lockable	No	1	
35	Cooker 4 plate electric cooker with oven and grill	No	1	
36	A3 Photocopier (approved make), with feeder sorting	No	1	
	trays, scanner and print capability			
37	Reams of A4 phocopying paper	No	100	
38	Reams of A3 phocopying paper	No	20	
39	Electronic scientific calculator, Casio fx 992s or	No	6	
	equivalent approved			
40	Stapling machine Ofrex size 50 or similar with 5000	No	6	
	staples			
41	Heavy duty punch and spiral binder, IBICO AG or	No	2	
	similar approved			
42	Inkjet Plain Paper Fax Machine with 4MB of memory	No	1	
43	Pencil sharpener (desk mounted type)	No	6	
44	Digital Camera, 20.1 Megapixel(min), 1920x1080 full	No	1	
	HD movie recording, optical steadyShot, sweep			
	panorama, 2.7" LCD screen, minimum 15x digital			
	zoom, multimedia card/SD 8GB memory, 12 scene			
	selection modes, all inclusive.			
45	PABX Telephone system including intercom	item	1	
	connecting all offices and laboratory. rate includes			
	headsets, wiring and operational costs. including High			
	Speed Internet Access using optic fibre or HDSL (High			
	Data Digital Subscriber Line) broadband connection			
	networked to all computers, with annual subscription			
	paid during the entire contract period.			
Total	carried to Bill Item 1.06A			

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<u>appi</u> ITE	ENDIX TO BILL ITEM 1.06B ENGINEERS'S	UNIT			
M	Description	UNII	QTY	RATE	AMOUNT (KSHS)
1.01	Digital Total Station reading to 1"accuracy	No.	1		(RSHS)
.01	(one second) with the following facilities	110.	-		
	· Inbuilt data logger				
	· Uploading/downloading software				
	Data transfer cable				
	Battery (2No)				
	• • •				
	Battery chargerTool kit				
	· Two face keyboard				
	· User manual				
	It must have the following inbuilt survey				
	programs as a minimum				
	· Survey				
	· Staking out				
	· Resection/intersection				
	· Traverse				
	· Cogo				
.02	The following mandatory total station				
	accessories must be included per Total station				
	instrument				
	1No. Heavy duty telescopic tripod(<i>preferably</i>	No.	1		
	wooden)				
	Telescopic plumbing prism pole complete	No.	3		
	with a prism and prism holder with target and	1,00			
	plumbing bubble (length not less than				
	2.15m)				
	Triple prism holder set, in a casing,	No.	1		
	comprising triple prisms, prisms holder with	110.	1		
	target, tribrach and a tribrach adaptor				
	1No. Survey umbrella	No.	1		
	1No.Telescopic Tripod	No.	1		
02			2		
.03	Engineer's Automatic Level Wild NAK 2 or	No.	2		
	similar with a tripod and the following				
	specifications:-				
	· Accuracy of 0.7 mm per 1 km double				
	run				
	Standard magnification of: 32x				
	Shortest focusing distance of 1.6m				
	· Compensator setting accuracy of 0.3"				
.04	Hand held GPS with accuracy of 1 Metre	No.	1		
.05	Set of two way radio communication with a	set.	1		
	range of 1 kilometer				
.06	5 M Leveling staff with leveling bubble	No.	4		
.07	3 M Ranging Rods	No.	10		
.08	Scientific Calculators FX 912ms or equivalent	No.	3		
.09	30m. Linen Measuring Tape	No.	6		
.10	1 M stainless steel straight edge	No.	1		
.11	3 m tape measure	No.	6		
.12	Sledge hammer 2kg weight	No.	2		

100000	15540 Date 12 Valle, 2025					
1.13	Mattock	No.	2			
1.14	Pangas (16'')	No.	4			
1.15	Roll of Tracing Paper	No.	1			
1.16	Graph Paper A3 Size	No.	10			
1.17	Marker Pens	No.	20			
1.18	Reflector Jackets	No.	10			
1.19	Laptop	No.	1			
1.2	Scale Rules	No.	2			
1.21	Drawing Pen (0.25mm)	No.	2			
1.22	Graph paper 1mm(roll)	No.	1			
Total	carried to Bill Item 1.06B					