

**PROPOSED CONSTRUCTION OF ROADS ADJOINING MERU TOWN AND 2
NO. FOOTBRIDGES (17.52 KM)**

Bill No.	Description	Unit	Quantity	Rate (Ksh.)	Amount (Ksh.)
BILL No. 1: PRELIMINARIES & GENERAL ITEMS					
1.01(i)	Provide (Build or Rent) and maintain furnished Engineer's Senior Staff Houses - Type I	No.	1.00		
1.01(ii)	Provide (Build or Rent) and maintain furnished Engineer's Senior Staff Houses - Type II	No.	8.00		
1.02(i)	Provide and maintain furnished Engineer's Support Staff Houses - Type III	No.	16.00		
1.02(ii)	Provide and maintain furnished Engineer's Support Staff Houses - Type IV	No.	14.00		
1.02(iii)	Provide and maintain furnished Engineer's Support Staff Houses - Type V (Dormitory Style Guest House)	No.	2.00		
1.03	Provide the Engineer's Office	No.	1.00		
1.04	Provide Engineer's Laboratory	No.	1.00		
1.05	Furniture and equipment for Engineer's Office as listed in the appendix to this item and special specifications	Lump Sum	1.00		
1.06	Furniture and equipment for Engineer's Laboratory as listed in the appendix to this item	Lump Sum	1.00		
1.07	Maintenance of Engineer's Site Office for the entire duration of the contract	Month	36.00		
1.08	Maintenance of Engineer's Laboratory for the entire duration of the contract	Month	36.00		

1.09(a)	Provide with driver and maintain vehicles for the Engineer - Type 1: 5 No. new 4-Wheel Drive Vehicle Station Wagons with minimum engine capacity of 3000 c.c. and turbo charged engine, inclusive of the first 6000 kilometres travelled in any month	Veh.Mth	200.00		
1.09(b)	Type 2: 15 No. new 4-Wheel Drive twin cab pick-up with engine capacity of 2500-3000 cc and turbo charged diesel engine, inclusive of the first 6000 kilometres travelled in any month	Veh.Mth	480.00		
1.09(c)	Type 3: 3 No. new 4-Wheel Drive single cab pick-up with engine capacity of 2500-3000 cc and turbo charged diesel engine with fibreglass canopy, inclusive of the first 6000 kilometres travelled in any month	Veh.Mth	84.00		
1.10(a)	Extra Over item 1.09 for kilometres travelled in any month in excess of 6000 - Type 1 Vehicle	km	220,000.00		
1.10(b)	Extra Over item 1.09 for kilometres travelled in any month in excess of 6000 - Type 2 Vehicle	km	528,000.00		
1.10(c)	Extra Over item 1.09 for kilometres travelled in any month in excess of 6000 - Type 3 Vehicle	km	92,400.00		
1.11	Provision of Internet connectivity for the Engineer's offices and laboratory	Lump Sum	1.00		-
1.12	Allow for Provisional Sum of KShs. 4,000,000 for the Engineer's staff mobile phone airtime charges	Prov Sum	1.00	4,000,000.00	4,000,000.00
1.13	Extra Over for Contractor's overheads and profits on item 1.12	%	4,000,000.00		-

1.14	Allow for Provisional Sum of KShs. 90,000,000 for removal relocation and protection of existing utility services	Prov Sum	1.00	90,000,000.00	90,000,000.00
1.15	Extra Over for Contractor's overheads and profits on item 1.14	%	90,000,000.00		-
1.16	Allow for a Provisional Sum of KShs. 10,000,000 for allowances for the Employer's Representative and facilitation for site meetings	Prov Sum	1.00	10,000,000.00	10,000,000.00
1.16	Extra Over for Contractor's overheads and profits on item 1.16	%	10,000,000.00		-
1.17	Provide Digital cameras	No.	4.00		-
1.18	Allow for Provisional Sum of KShs. 3,000,000 for video capturing as instructed by the Engineer	Prov Sum	1.00	3,000,000.00	3,000,000.00
1.19	Extra Over for Contractor's overheads and profits on item 1.18	%	3,000,000.00		-
1.20	Allow Provisional Sum of Kshs. 10,000,000 for Geotechnical Investigations as directed	Prov Sum	1.00	10,000,000.00	10,000,000.00
1.21	Contractor's overheads and profits on item 1.20	%	10,000,000.00		-
1.22	Allow Provisional Sum of Kshs. 5,000,000 for Grievance Redress Committee Logistics	Prov Sum	1.00	5,000,000.00	5,000,000.00
1.23	Extra over Item 1.22 for Contractor's overheads and profit	%	5,000,000.00		-
1.24	Allow for a Provisional Sum of Ksh. 5,000,000 for additional ESHS outcomes	Prov Sum	1.00	5,000,000.00	5,000,000.00
1.25	Extra over Item 1.24 for Contractor's overheads and profit	%	5,000,000.00		-
1.26	Allow for a Provisional Sum of Ksh. 5,000,000 for Sexual Exploitation and Abuse (SEA) / Gender-Based Violence (GBV) Awareness and Sensitization Training	Prov Sum	1.00	5,000,000.00	5,000,000.00

1.27	Extra over Item 1.26 for Contractor's overheads and profit	%	5,000,000.00		-
1.28	Allow a Provisional Sum of Ksh. 15,000,000 for payment of Dispute Board (Employers portion of Dispute Board payment)	Prov Sum	1.00	15,000,000.00	15,000,000.00
1.29	E.O. Item 1.28 for the Contractor's overheads and profit	%	15,000,000.00		-
1.30	Allow a Provisional Sum of Ksh. 5,000,000 for design of Street Lighting as required	Prov Sum	1.00	5,000,000.00	5,000,000.00
1.31	E.O. Item 1.30 for the Contractor's overheads and profit	%	5,000,000.00		-
1.32	Allow a Provisional Sum of Ksh. 150,000,000 for the provision and installation of street lighting	Prov Sum	1.00	150,000,000.00	150,000,000.00
1.33	Allow a Provisional sum of Kshs 20,000,000.00 for Resident Engineer's Miscellaneous account	Prov Sum	1.00	20,000,000.00	20,000,000.00
1.34	E.O. Item 1.33 for the Contractor's overheads and profit	%	20,000,000.00		-
1.35	Allow a Provisional Sum of Ksh. 15,000,000 for payment of allowances to the Engineer's staff on training including attachees and Interns.	Prov Sum	1.00	15,000,000.00	15,000,000.00
1.36	E.O. Item 1.35 for the Contractor's overheads and profit	%	15,000,000.00		-
1.37	Allow a Provisional Sum of Kshs 2,000,000 for independent quality control material testing by the Material Testing and Research Division (MTRD) or as directed by the Engineer	Prov Sum	1.00	2,000,000.00	2,000,000.00
1.38	E.O. Item 1.37 for the Contractor's overheads and profit	%	2,000,000.00		-
1.39	Allow a Provisional Sum of Ksh. 10,000,000 for interns Employer's	Prov Sum	1.00	10,000,000.00	10,000,000.00

1.40	E.O. Item 1.39 for the Contractor's overheads and profit	%	10,000,000.00		-
1.41	Provide, erect and maintain publicity sign board as per drawings and as directed by the Engineer	No.	24.00		-
	TOTAL				

BILL No. 4: SITE CLEARANCE AND TOPSOIL STRIPPING

4.01	Clear site on road reserve including removal of trees less than 250mm girth, hedges, bushes and other vegetation or deleterious organic material, grub up roots and backfill with approved material of holes left by removal of stumps and roots in accordance with clause 401 and 404 of the specifications	Ha	10.00	-	-
4.02	Strip top soil upto 0.2m in thickness along 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 and in accordance with clause 402 and 404 of the specifications.	m ³	45,000.00	-	-
4.03	Excavate, remove, and dispose of existing pipe culverts and drainage structures of any size and number of cells including outlet and inlet structures and backfilling where necessary	m	1,430.00	-	-
4.04	Removal of the existing precast paving block (cabro) surfacing layer, dig the existing base material, transport and stockpile the material on site or where directed by the Engineer	m ²	22,320.00	-	-
4.05	Excavate and remove existing precast invert block drains including sideslabs, kerbs, channels and quadrants, transport and stockpile the material on site or where directed by the Engineer	m	4,990.00	-	-
4.06	Removal through cold milling existing asphaltic/bituminous surfacing layer to a maximum depth of 50mm dig the existing base material where material is receptable and stockpile the material on site for reuse in the subbase after testing to meet the specifications.	m ³	130.00	-	-

4.07	Dismantle all structures and obstructions including but not limited to concrete structures, fences of any type, timber structures, prefabricated steel elements and any other instructed by the Engineer, on the roadway, including sorting out the dismantled material, disposal of unserviceable material, and utilizing the serviceable material free of cost in permanent works as directed by the Engineer with all leads and lifts, etc., in accordance with section 403 of the Standard Specifications for the entire length of the roads	Prov. Sum	1.00	-	-
4.08	Cut trees, uproot stubs, grub all roots and cart away to spoil girth of trees measured 0.6m above ground level not exceeding 1.0m (Provisional)	No	490.00	-	-
4.09	As item 4.08 above but girth exceeding 1.0m (Provisional)	No	210.00	-	-
	TOTAL				

BILL No. 5: EARTHWORKS					
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 100% MDD (AASHTO T99) in layers not exceeding 150mm	m ³	72,100.00	-	-
5.02	Ditto item 5.01 but in hard material	m ³	10,815.00	-	-
5.03	Cut to spoil or reuse for easing fill slope / filling borrow pit, in soft material as directed by the Engineer	m ³	83,000.00	-	-
5.04	Ditto item 5.03 but in hard material	m ³	12,450.00	-	-
5.05	Cut to spoil deleterious/clay material as directed by the Engineer	m ³	130,060.00	-	-
5.06	Backfill in soft material and compact to 100% MDD (AASHTO T99) in layers not exceeding 150mm, to the excavated deleterious material in 5.05 above	m ³	130,060.00	-	-
5.07	Provide, place and compact, improved subgrade with a 4 days soaked CBR value of 15% material and compact to 95% MDD (AASHTO T180)	m ³	48,670.00	-	-
5.08	Scarify and compact of 300mm below improved subgrade in cuts to 100% MDD	m ³	23,270.00	-	-
5.09	Scarify exposed surface, following removal of existing surface, base and sub base layers, to a depth of 150mm, trim to correct profile, and recompact to 95% MDD (AASHTO T180)	m ³	3,490.00	-	-
5.10	Provide, place and compact rockfill as directed by the Engineer.	m ³	3,605.00	-	-
	TOTAL				

BILL No. 7: EXCAVATION AND FILLING FOR STRUCTURES					
7.01a	Excavate, backfill and compact or haul to spoil excavated material in soft materials - Common excavation 0m up to 2.0m	m ³	3,600.00	-	-
7.01b	Common excavation - 2.0m up to 4.0m	m ³	3,600.00	-	-
7.02	Ditto item 7.01 but in hard material	m ³	1,275.00	-	-
7.03	Excavate for river training in soft material	m ³	830.00	-	-
7.04	Ditto item 7.03 but in hard material	m ³	245.00	-	-
7.05	Provide granular fill material, haul, backfill, and compact, to structures as directed by the Engineer	m ³	6,670.00	-	-
7.06	Provide, place and compact rock-fill below structures.	m ³	3,160.00	-	-
7.07	Excavation in soft material to any depth, compaction of surfaces to receive gabions, backfilling with excavated materials or hauling to spoil	m ³	5,380.02	-	-
7.08	Ditto item 7.07 but in hard material	m ³	400.00	-	-
7.09	Provide and place 'Maccaferri' or other equivalent gabion boxes and mattresses as directed by the Engineer.	m ²	25,820.00	-	-
7.10	Provide, haul over any distance and place rockfill to gabion boxes and mattresses	m ³	3,740.00	-	-
7.11	Provide and place geo-textile filter fabric (as terram 280g/m ² or similar approved)	m ²	9,320.00	-	-
7.12	Excavate as instructed, provide all materials and backfill concrete class 15/20 in soft spots and voids below foundations	m ³	1,255.00	-	-
7.13	Provide 50mm thick concrete class 15/20 to exposed surfaces of the gabion boxes and mattresses	m ³	270.00	-	-
7.14	Provide all materials, select stones and construct 200mm thick dry stone pitching	m ²	13,760.00	-	-
	TOTAL				

BILL No. 8: CULVERTS AND DRAINAGE WORKS					
8.01	Excavate for Culverts and Subsoil Drains in Soft Material - Excavate for culverts and subsoil drains in soft material compaction of the invert of the excavation and backfilling	m ³	9,650.00	-	-
8.02	E.O. item 8.01 for excavation in hard material	m ³	1,855.00	-	-
8.03	Excavate for inlet, outfall, mitre and catchwater drains in soft material and disposal of excavated material to spoil	m ³	28,000.00	-	-
8.04	E.O. item 8.03 for excavation in hard material	m ³	7,370.00	-	-
8.04b	Selected Backfill Material - Providing, hauling as necessary and backfilling to any depth selected material	m ³	6,540.00	-	-
8.05	Rockfill Below Culverts - Providing, hauling as necessary and filling rock below culverts	m ³	3,640.00	-	-
8.06a	Provide, Lay and Joint Pipes - 1,200mm diameter	m	550.00	-	-
8.06b	900mm diameter	m	615.00	-	-
8.06c	600mm diameter	m	5,145.00	-	-
8.07	Concrete class 15/20 to Beds, Surrounds and Haunches	m ³	1,410.00	-	-
8.08	Concrete class 25/20 to Headwalls, Wingwalls, Aprons, Toe Beams and other Drainage Structures	m ³	11,850.00	-	-
8.09	Stone Pitching - 200mm thick dry stone pitching	m ²	25,125.00	-	-
8.10	Extra over Item 8.09 for grouting to stone pitching	m ²	25,125.00	-	-
8.12	Concrete Scour Checks & Cascades - Construct reinforced concrete class 25/20 scour checks and cascade to culvert outfall locations	m ³	2,355.00	-	-
8.13	Concrete Covered Drain Ditch - Excavate, place and compact granular material and cast in-situ Covered Concrete Drain ditch class 25/20	m	13,850.00	-	-

	complete with reinforced concrete covers				
8.14a	Cast in-situ Concrete Chutes on High Fills - Excavate, provide materials and cast in-situ covered concrete chutes concrete class 25/20	m	1,230.00	-	-
8.14b	Provide Concrete Kerb Outlet class 25/20 fully connected to 150mm diameter uPVC pipe to concrete chute outlet	No	2,790.00	-	-
8.15	Cast in-situ Concrete Open Drain - Excavate, prepare ground, compact, provide materials and cast in-situ 100mm thick concrete-lined drain in concrete class 25/20	m ³	12,900.00	-	-
8.16	Pedestrian Slab Crossing - Provide reinforced concrete class 25/20 pedestrian crossing slab over open drains	No	240.00	-	-
	TOTAL				

BILL No. 9: PASSAGE OF TRAFFIC					
9.01	Provide signs, barriers, traffic lights to the project roads and deviations in accordance with clause 906 and 907 of the specifications.	Km	17.50	-	-
9.02	Maintain passage of traffic through the works as per clause 906 of the specifications.	LS	12.00	-	-
	TOTAL				

BILL No. 12: NATURAL MATERIAL FOR SUBBASE AND BASE					
12.01	Provide, transport over any distance, place and compact 200mm thick approved natural gravel for subbase to the road carriageway, parking bays and bus bays and extended to road shoulders all in accordance with the specifications or as directed by the Engineer.	m ³	34,865.00	-	-
	TOTAL				

BILL No. 13: GRADED CRUSHED STONE SUBBASE AND BASE					
13.01	Provide, spread (by Paver), water and compact 150mm/175mm or 200mm (as appropriate depending on road section) thick Graded Crushed Stone to Base on carriageway, parking bays and bus bays and extended to road shoulders all in accordance with the specifications and as directed by the Engineer	m ³	30,507.00	-	-
	TOTAL				

BILL No. 14: CEMENT OR LIME TREATED SUBBASE AND BASE					
14.01	Provide, transport to site, store, haul and spread cement as a stabilizing agent for natural gravel subbase layers in accordance with the specifications (max 4%) and as directed by the Engineer	Tonnes	2,413.00	-	-
14.02	Mix, process and compact cement in gravel mix in accordance with the specifications and as directed by the Engineer	m ³	34,865.00	-	-
14.03	Allow for curing and protection of the treated material all in accordance with the specifications and as directed by the Engineer	m ²	152,535.00	-	-
	TOTAL				

BILL No. 15: BITUMINOUS SURFACE TREATMENT					
15.01	Prepare surface of road base, provide, heat and spray M.C. 30 or MC 70 cut back bitumen prime coat to the carriageway, junctions, busbays and shoulders at the instructed application rate (spray rate 1.0 - 1.2l/m ²) or as directed by the Engineer	Ltr	209,290.00	-	-
15.02	Prepare surface of road, provide, heat and spray K1-60 bitumen emulsion as binder to the carriageway, junctions, busbays and shoulders at an application rate of 0.3 - 0.8l/m ² or as directed by the Engineer	Ltr	139,560.00	-	-
	TOTAL				

BILL No. 16: BITUMINOUS MIXES					
16.01	Prepare road surfaces, provide, mix, lay and compact 50mm Superpave Asphaltic Concrete (AC) Type I as wearing course on base with penetration grade bitumen and 0/20mm aggregates on prepared surface as per the specifications and as directed by the Engineer	m ³	8,721.00	-	-
	TOTAL				

BILL No. 17: CONCRETE WORKS					
17.01	Concrete class 30/20 - Provide and haul all materials, prepare, handle and place concrete class 30/20	m ³	3,090.00	-	-
17.02	Concrete class 15/20 for Blinding to Structures	m ³	92.00	-	-
17.03	Unformed Surface Finish UF1	m ²	1,600.00	-	-
17.04	Unformed Surface Finish UF2	m ²	3,340.00	-	-
17.05	Unformed Surface Finish UF3	m ²	100.00	-	-
17.06a	Formwork - Class F1 finish for vertical surfaces	m ²	1,870.00	-	-
17.06c	Formwork - Class F2 finish for vertical surfaces	m ²	1,745.00	-	-
17.06d	Formwork - Class F2 finish for sloping surfaces	m ²	70.00	-	-
17.06e	Formwork - Class F2 finish for horizontal surfaces	m ²	1,730.00	-	-
17.06f	Formwork - Class F3 finish for vertical surfaces	m ²	2,800.00	-	-
17.06g	Formwork - Class F3 finish for sloping surfaces	m ²	1,040.00	-	-
17.06h	Formwork - Class F3 finish for horizontal surfaces	m ²	1,450.00	-	-
17.07	Formwork for Slab Edges - width not exceeding 350mm	m	140.00	-	-
17.08a	Heavy Duty PVC Pipes - 75mm diameter x 300mm long in weep holes of culverts	m	745.00	-	-
17.10a	Reinforcement - High yield steel bars diameter $\leq$ 16mm	Tn	290.00	-	-
17.10b	As Item 17.10(a) above but diameter exceeding 16mm	Tn	230.00	-	-
17.10c	Mild steel reinforcing bars diameter $\leq$ 16mm	Tn	40.00	-	-
17.10d	As Item 17.10(c) above but diameter exceeding 16mm	Tn	15.00	-	-
	TOTAL				

BILL No. 19: STRUCTURAL STEEL WORKS					
19.01	Factory welded structural steelwork in truss members, roofing members, railings, hollow sections, angles, channels, beams, stiffeners, deck and connection plates, channels and splices, as shown on the drawings or instructed by the Engineer. As a general rule, no welding of structural members will be allowed on site.	TON	960.00	-	-
19.02	Array of bolts, plate and splice connectors and necessary accessories for specified joints for site assembly, as shown on the drawings or as instructed by the Engineer	LS	2.00	-	-
	TOTAL				

BILL No. 20: ROAD FURNITURE					
20.01	Provide and apply thermoplastic white paint (reflectorized) on the road with 2 coats as directed by the Engineer.	m ²	4,620.00	-	-
20.02	As in Item 20.01 but yellow paint.	m ²	2,090.00	-	-
20.03	Provide, install reflective road studs as specified	No.	10,140.00	-	-
20.04a	Warning signs size 750mm	No.	176.00	-	-
20.04b	Warning signs size 1000mm	No.	104.00	-	-
20.04c	Priority, prohibitory and mandatory signs size 750mm	No.	235.00	-	-
20.04d	Standard informatory signs size 300mm x 400mm	No.	122.00	-	-
20.04e(i)	Non-Standard informatory signs less than 1.0 m ²	No.	47.00	-	-
20.04e(ii)	Non-Standard informatory signs 1.0m ² to <2.0m ²	No.	50.00	-	-
20.04e(iii)	Non-Standard informatory signs 2.0m ² to <5.0m ²	No.	43.00	-	-
20.04e(iv)	Non-Standard informatory signs ≥5.0 m ²	No.	24.00	-	-
20.05a	150mm x 300mm raised straight kerbs laid on 100mm thick concrete class 15(20) bed and haunch	m	33,717.00	-	-
20.05b	100mm x 125mm flush kerbs	m	37,732.00	-	-
20.05c	150mm x 300mm dropped kerbs	m	7,407.00	-	-
20.05d	Channel blocks	m	35,052.00	-	-
20.05e	Radius kerbs (radius 12m - 6m and 5m - 1m) at various locations	m	24,669.00	-	-
20.06	450mm x 250mm precast concrete quadrants jointed in 1:3 cement mortar	No.	901.00	-	-
20.07	150mm diameter bollards as specified	No.	1,810.00	-	-
20.08	Construct asphalt concrete rumble strips on the road carriageway	m	1,068.00	-	-
20.09	Construct asphalt concrete speed control humps	m	267.00	-	-
20.10	Construct flat topped zebra crossing	m	150.00	-	-
20.11	300mm ID precast concrete service ducts including	m	3,044.00	-	-

	excavation and backfilling, and concrete surround				
20.12	Armco flexbeam type guardrails including guardrail post and spacers	m	5,612.00	-	-
20.13	Polycarbonate Safety Guardrail flexbeam, accessories and guardrail end piece	m	1,802.00	-	-
20.14	Pedestrian guardrails as specified on the drawings	m	140.00	-	-
20.15	Landscape areas along verges of the road and non- motorized traffic routes	m ²	71,175.00	-	-
20.16	Kilometre posts	No.	39.00	-	-
20.17	Edge marker posts	No.	134.00	-	-
20.18	Duct marker posts	No.	623.00	-	-
20.19	Culvert marker posts	No.	48.00	-	-
20.20	Road reserve boundary posts including painting and lettering	No.	145.00	-	-
20.21	Aids campaign billboards of size >5m ² at locations directed by the Engineer	No.	56.00	-	-
	TOTAL				

BILL No. 21: MISCELLANEOUS BRIDGE WORKS					
21.01	Provide and fix polycarbonate roofing sheets (U-Lite polycarbonate, or approved equivalent) with fixing accessories	m ²	620.00	-	-
21.02	Provide and fix movement joints at supports between the deck and the ramp	m ²	12.00	-	-
21.03	Provide, fit and fix 200x200x45mm thick elastomeric bearings complete with all accessories	No	8.00	-	-
21.04	Provide and fix railings, stainless steel mesh (gauge 6 or 7) for parapet and handrails with accessories	m	550.00	-	-
21.05	Provide and fix stainless steel gutters plus all accessories	m	180.00	-	-
21.06	Provide and fix drop down drain pipes (150mm diameter) to piers or columns	m	210.00	-	-
21.07	Provide and fix permanent formwork for the deck slabs	m ²	240.00	-	-
21.08	Provide and lay interlocking paving blocks to footways (minimum 2m)	m ²	500.00	-	-
21.09	Provide all material and apply bituminous waterproofing paint to structures	m ²	1,760.00	-	-
21.10	Provide all materials and fix 75mm diameter deck drains	m	180.00	-	-
21.11	Supply and fix 25mm thick 'flex cell' or similar approved low compression joint filler at expansion joints	m	12.00	-	-
21.12	'Paraseal' or similar approved cold poured Polysulphide sealant for bridge expansion joints	m	12.00	-	-
	TOTAL				

BILL No. 22: DAYWORKS					
22.01a	Crawler dozers with hydraulic attachments - Up to 135 kw rated flywheel power	hr	17.50	-	-
22.01b	Over 136 kw rated flywheel power	hr	17.50	-	-
22.02a	Motor Grader - Up to 110kw rated flywheel power	hr	17.50	-	-
22.02b	Over 100kw rated flywheel power	hr	17.50	-	-
22.03a	Vibratory Roller - 6.5-8.81 tonne un-ballasted weight	hr	7.00	-	-
22.03b	Over 8.91 tonne un-ballasted weight	hr	7.00	-	-
22.04	Hand propelled vibrating roller 650-1300kg	hr	7.00	-	-
22.05	Cat 950G wheel loader or equivalent	hr	7.00	-	-
22.06	10 Tonne tipper lorry	hr	7.00	-	-
22.07	Small dumpers, 750-1000kg rated payload	hr	7.00	-	-
22.08	Dual purpose hydraulic excavator with backhoe/loader and rated bucket capacity up to 1m ³	hr	7.00	-	-
22.09	Articulated wheel loader with 1.5-2.0m ³ SAE rated bucket capacity	hr	0.00	-	-
22.10	50mm delivery water pump and motor	hr	7.00	-	-
22.11	Self propelled water tanker 4,500ls min. capacity with pick-up pump	hr	7.00	-	-
22.12	Concrete Mixer of 100-150litres	hr	7.00	-	-
22.13	Concrete poker vibrator	hr	7.00	-	-
22.14	Unskilled Labour	hr	7.00	-	-
22.15	Artisans	hr	84.00	-	-
22.16	Office attendants and chainmen	hr	84.00	-	-
22.17	Watchmen (all round surveillance)	hr	84.00	-	-
22.18	Ordinary Portland Cement	Tonnes	84.00	-	-
22.19	Hydrated Lime	Tonnes	1.00	-	-
22.20	Mild Steel (any diameter)	Tonnes	1.00	-	-
22.21	High Yield Steel (any diameter)	Tonnes	1.00	-	-
22.22	Fine Aggregate for Concrete	m ³	1.00	-	-

22.23	Coarse Aggregate for Concrete	m ³	17.50	-	-
22.24	Wrot Shuttering Timber	m ³	35.00	-	-
22.25	Rough shuttering timber	m ³	17.50	-	-
22.26	Bitumen Emulsion KI-60	Litres	17.50	-	-
22.27	Straight run bitumen Grade 80/100	Litres	17.50	-	-
22.28	Kerosene	Litres	17.50	-	-
22.29	14/20mm nominal size surface chips	m ³	17.50	-	-
22.30	6/10mm nominal size surface chips	m ³	17.50	-	-
22.31	AC Type II Ex-plant	m ³	17.50	-	-
22.32	Detonating Delay	No.	17.50	-	-
22.33	Welding rods of any gauge	Kgs	105.00	-	-
22.34	Oil paints for metallic surfaces	Litres	105.00	-	-
22.35	Guardrails	m	0.00	-	-
22.36	Bolt fasteners of any size	No.	105.00	-	-
	TOTAL				

BILL No. 23: PEDESTRIAN WALKWAYS					
23.01	Supply, lay and compact 60mm thick concrete coloured paving blocks class 25MPa conforming to BS 6717 Part 1 of 1986 or Kenya Bureau of Standards equivalent	m ²	19,140.00	-	-
23.02	Provide and spread 25mm thick river sand blinding	m ²	19,140.00	-	-
23.03	Provide, lay and spread 200mm thick approved natural gravel for subbase compacted to 95% MDD (AASHTO T180) at the footpaths	m ³	3,830.00	-	-
	TOTAL				

BILL No. 25: ENVIRONMENTAL MITIGATION MEASURES & HIV AIDS CAMPAIGN					
25.01	Allow a Provisional sum of Kshs. 5,500,000 for HIV/AIDS training	Prov. Sum	1.00	-	-
25.02	E.O. item 25.01 for Contractor's overheads and profits	%	1.00	-	-
25.03	Institute a HIV/AIDS awareness campaign	Month	28.00	-	-
25.04	Institute a HIV/AIDS prevention campaign	Month	28.00	-	-
25.05	Allow a Provisional Sum of Kshs. 10,000,000 for off-road environmental mitigation measures as directed by the Engineer	Prov. Sum	1.00	-	-
25.06	Contractor's overheads and profits on item 25.05	%	1.00	-	-
25.07	Provision and implementation of the Contractor's Environmental and Social Management Plan (C-ESMP), provision of environmental monitoring parameters, all in accordance with the Particular Conditions of Sub-Clause 4 that includes the agreed Management Strategies and Implementation Plans including payment of NEMA license	Lump Sum	1.00	-	-
25.08	Allow a Provisional sum of Kshs. 50,000,000 for KWS and KFS	Prov. Sum	1.00	-	-
25.09	E.O. item 25.08 for Contractor's overheads and profits	%	1.00	-	-
	TOTAL				

BILL No. 26: ROAD SAFETY AWARENESS CAMPAIGN					
26.01	Allow a Provisional sum of Kshs. 5,500,000 for Road Safety training	Prov. Sum	1.00	-	-
26.02	E.O. item 26.01 for Contractor's overheads and profits	%	1.00	-	-
26.03	Institute a Road Safety awareness campaign	Month	28.00	-	-
26.04	Institute a Road Safety prevention campaign	Month	28.00	-	-
GRAND TOTAL					-

APPENDIX TO BILL ITEM 1.05

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
1.	ENGINEER'S FURNITURE				
A1.05/1.01	Executive desk 2.2x0.9 m with six lockup drawers	No.	2.00		-
A1.05/1.02	Desk 2.2x0.9 m with chair and three lock-up drawers	No.	4.00		-
A1.05/1.03	Office tables	No.	3.00		-
A1.05/1.04	Swivel orthopaedic chairs	No.	2.00		-
A1.05/1.05	Standard chairs	No.	8.00		-
A1.05/1.06	Bench 3m long with cushioned backrest (located as directed)	No.	1.00		-
A1.05/1.07	Typist's desk	No.	1.00		-
A1.05/1.08	Typist's chair	No.	3.00		-
A1.05/1.09	Stationery cupboard, 1.2m ³ lockable	No.	4.00		-
A1.05/1.10	Steel filing cabinet, 4 lockable drawers	No.	4.00		-
A1.05/1.11	Steel filing cabinet, 2 lockable drawers	No.	3.00		-
A1.05/1.12	Bookshelf, 3 shelves 1.2 m long (to hold box files) with a sliding glass door	No.	3.00		-
A1.05/1.13	Conference table with 12 chairs	No.	1.00		-
A1.05/1.14	Curtains for office and laboratory	Set	2.00		-
2.	ENGINEER'S OFFICE EQUIPMENT				
A1.05/2.11	Multimedia Personal Computer with a 24 " screen, 1TB Hard Disk,16GB RAM, i7, 2.5 MHZ duo processor, complete with all accessories preloaded with the latest OS, MS Office Professional and MS Projects	No.	6.00		-
A1.05/2.12	AutoCAD Civil 3D and Licences for 4 of the above computers	No.	4.00		-
A1.05/2.14	Personal Laptop that has 1TB Hard disk,16GB RAM similar approved	No.	9.00		-
A1.05/2.15	Latest HP (A4) Laser Printer with accessories	No.	5.00		-

APPENDIX TO BILL ITEM 1.05

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.05/2.16	Latest HP (A3) Laser Printer with accessories	No	1.00		-
A1.05/2.17	UPS 700 VA	No.	9.00		-
A1.05/2.18	A3 Photocopier (approved make) , with feeder sorting trays	No.	1.00		-
A1.05/2.19	Reams of A4 photocopying paper	No.	100.00		-
A1.05/2.20	Reams of A3 photocopying paper	No.	20.00		-
A1.05/2.21	Electronic scientific calculator, 12 figures	No.	6.00		-
A1.05 /2.22	Stapling machine Ofrex size 50 or similar with 5000 staples	No.	6.00		-
A1.05 /2.23	Heavy duty punch and spiral binder, IBICO AG or similar approved	No.	2.00		-
A1.05/2.25	Pencil sharpener (desk mounted type)	No.	6.00		-
A1.05/2.26	Heavy duty 2 hole paper punch	No.	2.00		-
A1.05/2.27	Ordinary 2 hole paper punch	No.	8.00		-
A1.05/2.28	First Aid Kit	No.	4.00		-
A1.05/2.29	Fire Extinguisher	No.	4.00		-
A1.05/2.30	Filing Tray	No.	10.00		-
A1.05/2.31	Waste paper basket	No.	24.00		-
A1.05/2.32	Refrigerator minimum capacity 0.2m3	No.	1.00		-
A1.05/2.33	Table - 0.8m2 surface area	No.	1.00		-
A1.05/2.34	Cupboard, 0.15m3, lockable	No.	1.00		-
A1.0 5/2.35	Cooker 4 plate electronic cooker with oven and grill	No.	1.00		-
	Total C/F to Next Page				-

APPENDIX TO BILL ITEM 1.05

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
	Total B/F from previous page				-
3.	ENGINEER'S SURVEY EQUIPMENT				
A1.05/3.01	Engineer's Electronic Level Wild, or similar (2 mm accuracy) with accessories and tripod	No.	2.00		-
A1.05/3.02(a)	Total station complete with a Field Data collector LEICA Model Leica Flexline TS06 (1"), or similar including accessories and supporting software	No.	1.00		-
A1.05/3.02(b)	Geodetic GPS - Leica GS15 GNSS Receivers set (1 base+ 1 rover), or similar including all the necessary accessories and supporting software	No.	1.00		-
A1.05/3.02(c)	Stonex S4H Handheld GPS unit with the necessary accessories or similar	No.	1.00		-
A1.05/3.03	Survey umbrella	No	3.00		-
A1.05/3.04	Levelling staff 3m with levelling bubble (Wild GNLE 3 or similar)	No.	6.00		-
A1.05/3.05	2.5m ranging rod	No.	6.00		-
A1.05/3.06	1m stainless steel straight edge	No.	2.00		-
A1.05/3.07	3m aluminium straight edge	No.	1.00		-
A1.05/3.08	30m steel white face tape	No.	2.00		-
A1.05/3.09	100m steel band tape	No.	1.00		-
A1.05/3.10	3m tape measure	No.	15.00		-
A1.05/3.11	Steel tape repair outfit	No.	1.00		-
A1.05/3.12	Pangas (16")	No	4.00		-
	TOTAL CARRIED FORWARD TO BILL 1.05				-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
1.	LABORATORY FURNITURE				
A1.06/1.01	Desk 2.2x0.9m with chair and lockup drawers	No.	2.00		-
A1.06/1.02	Desk chair (Standard)	No.	6.00		-
A1.06/1.03	Stationary cupboard, 1.2m3, lockable	No.	1.00		-
A1.06/1.04	Steel filing cabinet, 4 drawers, lockable	No.	1.00		-
A1.06/1.05	Steel filing cabinet, 2 drawers, lockable	No.	1.00		-
A1.06/1.06	Bookshelf, 3 shelves 1.2m long (to hold box files)	No.	1.00		-
A1.06/1.06	Table - 0.8m3	No.	1.00		-
A1.06/1.08	Two plate electric heater	No.	1.00		-
A1.06/1.09	Fire extinciuisher, 10 litres capacity, CO2 type	No.	4.00		-
A1.06/1.10	Complete first aid kit	No.	2.00		-
2.	LABORATORY EQUIPMENT				
	The following equipment shall be purpose made for use in the Engineer's Laboratory and shall comply with the relevant British (BS) or American (AASHTO) Standards				
(i)	General Equipment				
A1.06/2.01	Compaction mould complete with base plate and extension collar, 101.6 mm dia x 116.43 mm high	No.	5.00		-
A1.06/2.02	2.49kg Compaction hammer, drop regulated to 304 .8mm	No.	5.00		-
A1.06/2.03	4.535kg compaction hammer drop regulated lo 457.2mm	No.	5.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/2.04	Electric vibrating kango hammer fitted with steel tamper (BS 1377) with support frame	No.	1.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/2.05	Straight edge 300 mm long with handles	No	6.00		-
A1.06/2.06	Steel tamper (BS1377) compatible with kango hammer	No.	4.00		-
A1.06/2.07	Compaction mould 152.4 mm. dia. X 116.43 mm complete with base plate and extension collar, 101.6mm	No.	3.00		-
A1.06/2.08	Galvanized metal tray 1m x 0.5 m x 75 mm deep	No.	6.00		-
A1.06/2.09	75mm brush	No.	4.00		-
A1.06/2.10	Semi - automatic balance, 25kg capacity accurate to 1g, including weights	No.	3.00		-
A1.06/2.11	20mm BS sieve, 300mm diameter	No.	2.00		-
A1.06/2.12	Stop clock	No.	3.00		-
A109/2.13	Thermostatically controlled elastic oven 105 - 1100 C, capacity 0.225m3	No.	2.00		-
A109/2.14	As above but gas heated	No	1.00		-
A109/2.15	Moisture content tins, 75mm dia. Cadmium or aluminium plated	No.	50.00		-
A109/2.16	Cone penetrometer with gauge and automatically controlled test cup	No.	3.00		-
A1.06/3.01	Metal container (450mm dia.)	No.	4.00		-
A1.06/3.02	Stainless steel tray, 305mm diameter	No.	4.00		-
A1.06/3.03	Metal tray with 150mm diameter hole in the centre, 300mm x 300mm	No.	6.00		-
A1.06/3.04	Metal tray with 200mm diameter hole in the centre,	No.	3.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/3.05	500mm x 500mm square or equivalent, 40mm deep Steel pegs for fixing tray in position	No.	100.00		-
A1.06/3.06	Sand pouring cylinder, 150mm diameter	No.	3.00		-
A1.06/3.07	Sand pouring cylinder, 215mm diameter	No.	3.00		-
A1.06/3.08	Cold steel chisel 20mm x 300mm long	No.	12.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
(ii)	Density (Sand Replacement Method BS 1377)				
A1.06/3.09	Cold steel chisel 10mm x 250mm long	No.	6.00		-
A1.06/3.10	1.5kg hammer	Set	1.00		-
A1.06/3.11	Scoop for removing excavated material from hole, 250mm long handle	No.	10.00		-
A1.06/3.12	100mm brush, soft	No.	10.00		-
A1.06/3.13	50mm brush, soft	No.	6.00		-
A1.06/3.14	Primus gas stove	No.	3.00		-
A1.06/3.15	Calibration can 150mm diameter x 150mm deep	No.	4.00		-
A1.06/3.16	Ditto but 200mm diameter x 250mm deep	No.	4.00		-
(iii)	Density (Nuclear Density Method AASHTO T238)				
A1.06/4.01	Nuclear density gauge (Troxler 3411B or similar approved)	No.	1.00		-
A1.06/4.02	Hole forming Device (drill rod)	No.	3.00		-
A1.06/4.03	Guide for above	No.	3.00		-
(iv)	CBR (AASHTO T193)				

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/5.01	CBR mould, 152.4mm dia. X 178mm high, complete with perforated base plate and extension collar 50.8mm high that can be fitted to either end of the mould	No.	50.00		-
A1.06/5.02	Perforated swell plate 150mm dia. With an adjustable centre post of rustproof metal provided with a lock nut	No.	60.00		-
A1.06/5.03	2.25kg split surcharge weight	No.	4.00		-
A1.06/5.04	set of annular surcharge weight	No.	50.00		-
A1.06/5.05	Solid base plate for CBR mould	No.	2.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/5.06	Static compression displacer discs 1 No. x 61.4mm, 1 No x 50.8mm and 2No. X 38.8mm thick	Set	1.00		-
A1.06/5.07	Disk lifting handle	No.	2.00		-
A1.06/5.08	Central extruder, complete with 20KN hydraulic jack and accessories	No.	1.00		-
A1.06/5.09	Automatic CBR proctor compaction press, 50 tonne capacity with an adjustable distanc between platens of 530mm - 250mm, rammer weights and automatic count selector	No.	1.00		-
A1.06/5.10	Set of guards for above press	No.	1.00		-
A1.06/5.11	CBR load frame (electric and hand operated)	No.	1.00		-
A1.06/5.12	Stabilising bar for the above	No.	1.00		-
A1.06/5.13	Proving ring for the above	No.	2.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/5.14	Proving ring for above, 10KN and 28KN capacity	Set	2.00		-
A1.06/5.15	Penetration gauge range 0-25mm	No.	2.00		-
A1.06/5.16	CBR penetration piston including bracket	No.	2.00		-
A1.06/5.17	Swell measurement tripod complete with gauge callibrated in 0.01mm divisions	No.	3.00		-
A1.06/5.18	Soaking tank for CBR mould sufficient to hold at least 100 moulds	No.	1.00		-
(v)	Relative Density for Aggregates (BS 812)				
A1.06/6.01	Wire mesh basket with apertures not greater than 6.5mm large enough to contain 2.5kg of aggregates	No.	2.00		-
A1.06/6.02	A stout watertight container in which the basket can be freely suspended	No.	2.00		-
A1.06/6.03	Soft absorbent cloth (tea towel)	No.	20.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/6.04	Shallow tray of area not less than 0.065m ²	No.	2.00		-
A1.06/6.05	An airtight container of similar capacity to the basket	No.	2.00		-
A1.06/6.06	Pycnometer of 1 litre capacity	No.	4.00		-
A1.06/6.07	Semi automatic 5kg 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)	No.	1.00		-
A1.06/6.08	Hair dryer (electric)	No.	2.00		-
A1.06/6.09	Specific Gravity Frame	No.	1.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/6.10	Cone and Tamper set for SSD determination of fine aggregate, metal cone mold (40 mm top dia., 90 mm bottom dia., 75 mm height), metal tamper (25 mm dia., 100 mm length, flat face) and nonabsorbent base plate (glass or metal)	No.	2.00		-
(vi)	Flakiness (BS 812)				
A1.06/7.01	Thickness gauge (various sizes)	No.	2.00		-
(vii)	Sieve Analysis (BS 1377)				
A1.06/8.01	BS Sieve 300mm diameter in sizes 75mm, 63mm, 50mm, 37.5mm, 28mm, 20mm, 14mm, 10mm, 6.3mm, 5.0mm and 4.0mm plus lid and receiver	Set	2.00		-
A1.06/8.02	BS Sieve 200mm diameter in sizes 2mm, 1mm, 600mic, 500mic, 425mic, 300mic, 150mic and 75mic, plus lid and receiver	Set	2.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/8.03	ASTM Sieve stainless steel mesh 300mm diameter in sizes 63mm, 50mm, 37.5mm and 25mm, plus lid and receiver	Set	2.00		-
A1.06/8.04	ASTM Sieve stainless steel mesh 200mm diameter in sizes 19mm, 12.5mm, 9.5mm, 4.75mm, 2.36mm, 2.0mm and 1.18mm, plus lid and receiver	Set	2.00		-
A1.06/8.05	Electric sieve shaker	No.	1.00		-
A1.06/8.06	1 m x 1 m x 75mm deep galvanized metal tray	No.	10.00		-
A1.06/8.07	Riffle box with 50mm slots (BS 1377)	No.	2.00		-
(viii)	Miscellaneous Equipment				

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/9.01	Wheel barrow	No.	4.00		-
A1.06/9.02	Dustpan and brush	No.	4.00		-
A1.06/9.03	Shovel	No.	6.00		-
A1.06/9.04	Pick axe with handle	No.	6.00		-
A1.06/9.05	Metal scoop, large (150mm wide)	No.	4.00		-
A1.06/9.06	Metal scoop, medium (100mm wide)	No.	6.00		-
A1.06/9.07	Garden trowel	No.	6.00		-
A1.06/9.08	Steel tray 0.3m x 0.3m x 0.01m deep	No.	20.00		-
A1.06/9.09	3.5 kg hammer	No.	2.00		-
A1.06/9.10	7kg hammer	No.	2.00		-
A1.06/9.11	Rubber mallet (1kg)	No.	4.00		-
A1.06/9.12	Cold chisel	No.	12.00		-
A1.06/9.13	Oven, electric thermostatically controlled to any temperature between 100 OC and 1500 OC, 0.225 cu.m. minimum capacity Including dial thermometer range 0-1600 OC (BS 1377)	No.	1.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/9.14	3 metre straight-edge including calibrated wedges	No.	2.00		-
A1.06/9.15	500mm x 500mm x 10mm plate glass (BS 1377)	No.	4.00		-
A1.06/9.16	Steel rod 75mm long x 3.2mm diameter	No.	4.00		-
A1.06/9.17	Palette knife 200mm long blade	No.	3.00		-
A1.06/9.18	Palette knife 100mm long blade	No.	4.00		-
A1.06/9.19	BS sieve 450mm diameter, 37.5mm	No.	1.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/9.20	BS sieve 450mm diameter, 20mm	No.	1.00		-
A1.06/9.21	BS sieve 450mm diameter, 5mm	No.	1.00		-
A1.06/9.22	BS sieve 450mm diameter, 0.425mm	No.	2.00		-
A1.06/9.23	BS sieve 450mm diameter, 0.3mm	No.	2.00		-
A1.06/9.24	BS sieve 450mm diameter, 0.075mm	No.	2.00		-
A1.06/9.25	Set of lid and receiver for metal scoop and steel trays	No.	2.00		-
A1.06/9.26	BS Sieve brush	No.	10.00		-
A1.06/9.27	Measuring cylinder set, 25ml, 100ml, 500ml, 1000ml, 2000ml	Set	3.00		-
A1.06/9.28	Glass Jar capacity 5 litres with lid	No.	10.00		-
A1.06/9.29	200mm x 200mm x 20mm cadmium plated or aluminium tin	No.	30.00		-
A1.06/9.30	Electronic balance capacity 1000 g, accurate to 0.01gm	No.	1.00		-
A1.06/9.31	Balance 2000 g capacity accuracy to 0.1g (manual), including weights	No.	1.00		-
A1.06/9.32	Balance 50kg capacity accurate to 10gm including weights	No.	1.00		-
A1.06/9.33	Still for producing distilled water	No.	1.00		-
A1.06/9.34	Polythene or glass 20 litres storage vessel with tap at bottom	No.	3.00		-
A1.06/9.35	Stiff broom	No.	5.00		-
A1.06/9.36	Vernier calipers, 150mm	No.	2.00		-
Total C/F to Next Page					-
Total B/F from previous page					-
A1.06/9.37	Vernier calipers, 250mm	No.	2.00		-
A1.06/9.38	Pestle and mortar	No.	2.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/9.39	Linear shrinkage mould (BS 1377)	No.	8.00		-
A1.06/9.40	Liquid Limit Device (Casagrande Apparatus)	No.	2.00		-
A1.06/9.41	Average least dimension gauge	No.	2.00		-
A1.06/9.42	Lockable tool box containing: 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 300mm, 1 pair round nosed pliers, 1 pair general purpose pliers	No.	1.00		-
A1.06/9.43	Plastic or metal bucket including lid, 10 litres capacity	No.	10.00		-
A1.06/9.44	Polythene wash bottle (500 ml)	No.	6.00		-
A1.06/9.45	A4 size clipboard	No.	6.00		-
A1.06/9.46	Thermometer, range -10°C to 1500C, glass (BS 593)	No.	4.00		-
A1.06/9.47	Laboratory thermometer, range +00C to +250°C (BS 593)	No.	2.00		-
A1.06/9.48	Maximum and minimum thermometer (BS692)	No.	2.00		-
A1.06/9.49	Rain gauge	No.	5.00		-
A1.06/9.50	Portable dial thermometer+ 50' C to +250'C accurate to $\pm 3\%$	No.	3.00		-
A1.06/9.51	Ditto with 0.75m long stem	No.	1.00		-
A1.06/9.52	Pocket thermometer+ 50' C to +250°C accurate to $\pm 3\%$ with 0.1m stem	No.	2.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/9.53	5 litre capacity steel storage containers with leak and dust proof lids for storage of bitumen samples	No.	100.00		-
A1.06/9.54	Hotplate 200mm diameter with Simmerstat heat control unit	No.	2.00		-
A1.06/9.55	450mm diameter x 150mm deep metal mason's basin	No.	10.00		-
(ix)	Standard Specification (Copies of each of the Latest Editions of the Following Standards)				
A1.06/10.01	BS 598	No.	1.00		-
A1.06/10.02	BS 812	No.	1.00		-
A1.06/10.03	BS 882	No.	1.00		-
A1.06/10.04	BS 1377	No.	1.00		-
A1.06/10.05	BS 1881	No.	1.00		-
A1.06/10.06	BS 1924	No.	1.00		-
A1.06/10.07	Standard Specifications for Transportation Material and Methods of sampling and Testing (AASHTO) Parts I and II, 14th Edition	Set	1.00		-
A1.06/10.08	ASTM D1559	No.	1.00		-
(x)	Concrete: Slump and Cube Manufacture (BS 1881)				
A1.06/11.01	Slump cone, tamping rod and base	Set	3.00		-
A1.06/11.02	Concrete cast iron cube mould, 150mm cube	No.	30.00		-
A1.06/11.03	Soaking tank for cubes (capacity 50No.)	No.	1.00		-
A1.06/11.04	Cube tamping bars	No.	3.00		-
	Total C/F to Next Page				-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
	Total B/F from previous page				-
(xi)	Concrete: Cube Compression Testing				
A1.06/12.01	Concrete compression machine, to BS 1610 Grade A with 300mm gauge, rectangular platens, capacity 1560kN with load pacer	No.	1.00		-
A1.06/12.02	Safety guards for above	No.	1.00		-
A1.06/12.03	50mm distance piece	No.	1.00		-
A1.06/12.04	70mm distance piece	No.	1.00		-
A1.06/12.05	Electro-mechanical load pacer, 100mm or equivalent distance piece	No.	1.00		-
(xii)	Aggregate and Chippings				
A1.06/13.01	Sand equivalent equipment to AASHTO T176 including a graduated plastic measuring cylinder, rubber stopper, irrigator tube weighed foot assembly, siphon assembly, 85ml tinned box(57mm dia), wide mouth funnel(100mm dia.), stop clock, mechanical shaker and 10 litre jar	Set	1.00		-
A1.06/13.02	Beaker 250ml	No	2.00		-
A1.06/13.03	Aggregate Crushing Value Apparatus, 130 mm nominal diameter, Including plunger and base plate	No	1.00		-
A1.06/13.04	Tamping rod and metal measure for above	Set	2.00		-
A1.06/13.05	Los Angeles Abrasion to ASTM standards	No.	1.00		-
A1.06/13.06	Set of 12 abrasive charges	No.	1.00		-
A1.06/13.07	Thermometer, 0•c to +50•c	No.	2.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/13.08	Thermometer, o•c to +250'C	No.	2.00		-
A1.06/13.09	Reagent grade Silica gel, 500g container	No.	100.00		-
A1.06/13.10	Aggregate Crushing Value apparatus,150mm nominal diameter, including plunger and base plate	No.	1.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/13.11	Tamping rod and metal measure for above (BS 812)	Set	1.00		-
A1.06/13.12	Transverse distribution of spray test for bitumen distributor (tray test to BS 1707) equipment	Set	1.00		-
A1.06/13.13	Steel tray 20 mm deep x 0.1 m2 (for measuring bitumen spray quantity)	No.	6.00		-
A1.06/13.14	Purpose-made detachable handle 1.5m long to pick above trays	No.	4.00		-
A1.06/13.15	Stock solution for Sand Equivalent Test	Lt.	20.00		-
(xiii)	Marshall Test (ASTM D1559)				
A1.06/14.01	Petrol driven 100mm dia core cutter with all accessories	No.	1.00		-
A1.06/14.02	Specimen mould + base plate + extension collar	No.	10.00		-
A1.06/14.03	Specimen extractor	No.	2.00		-
A1.06/14.04	Automatic Marshall Compactor with full accessories	No.	2.00		-
A1.06/14.05	Compaction pedestal + specimen mould holder	No.	2.00		-
A1.06/14.06	Breaking head mould	No.	1.00		-
A1.06/14.07	Electrical 30 kN Marshall compression testing machine	No.	1.00		-
A1.06/14.08	Suitable electrically operated laboratory mixer, 10 litre capacity	No.	1.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/14.09	Proving ring 28kN capacity graduated in 0.0025mm	No.	1.00		-
A1.06/14.10	Flow-meter	No.	2.00		-
A1.06/14.11	Suitable mechanical mixer	No.	1.00		-
A1.06/14.12	Water bath at least 150mm deep thermostatically controlled to maintain water at 60oC $\pm$ 1oC with a perforated false bottom or equipped with a shelf to support specimen 50mm above the bottom of the bath, with cover	No.	1.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/14.13	Isometric electric heater for mixing bowl of laboratory mixer	No.	2.00		-
A1.06/14.14	Thermometer (50oC to 25oC) 50mm dia with 180mm stainless steel stem	No.	2.00		-
A1.06/14.15	Automatic bitumen penetrometer with accessories with IP 38oC thermometer	No.	1.00		-
A1.06/14.16	Penetration test cup	No.	6.00		-
A1.06/14.17	Certified bitumen penetration needle	No.	6.00		-
(xiv)	Bitumen Extraction Test				
	(a) Extraction Bottle Method, BS 598, Part 2				
A1.06/15.01	Electronic top pan balance 4kg capacity	No.	1.00		-
A1.06/15.02	Flat bottomed scoop	No.	3.00		-
A1.06/15.03	Steel garden trowel	No.	2.00		-
A1.06/15.04	Large steel spoon	No.	2.00		-
A1.06/15.05	Heat resistant gloves	Pair	10.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/15.06	Foot pump for pressurizing air –water assemblies upto a maximum of 700kN/m ² and fitted with flexible hose approximately 1.2m long and connector	No.	2.00		-
A1.06/15.07	Steel bottle 600ml capacity with 50mm dia rubber stopper	No.	2.00		-
A1.06/15.08	Steel bottle 2500ml capacity with 70mm dia rubber stopper	No.	2.00		-
A1.06/15.09	Steel bottle 7000ml capacity with 70mm dia rubber stopper	No.	2.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/15.10	Flask funnel for fitting to the 700ml steel bottle with the rim of the funnel retaining sieve 200mm nominal diameter	No.	2.00		-
A1.06/15.11	Bottle roller compact bench mounted unit designed to rotate two bottles simultaneously about the longitudinal axis	No.	1.00		-
A1.06/15.12	Pressure filter complete with cutting tool for making a hole in the filter paper	No.	1.00		-
A1.06/15.13	Filter funnel to take 200mm nominal diameter sieves	No.	2.00		-
A1.06/15.14	Centrifuge complying with BS 598	No.	1.00		-
A1.06/15.15	Binder recovery	No.	1.00		-
A1.06/15.16	Volumetric flask 250ml, 500ml, 100ml and 2000ml capacity each	No.	2.00		-
A1.06/15.17	Recovery still for Dichloromethane	No.	1.00		-
A1.06/15.18	Hot extractor complete with wire gauze container, gasket, cork lid and support assembly	No.	2.00		-
A1.06/15.19	Dean and Stark Receiver with condenser to suit Trichloroethylene	No.	2.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A1.06/15.20	PRD Vibrating hammer compactor complete with shanks, tampers, 6 moulds, 7 base plates from ELE	No.	1.00		-
A1.06/15.21	Gyratory compactor GYROCOMP or equivalent with 1 x 100mm and 1 x 150mm mould	No.	1.00		-
A1.06/15.22	ILS calibration equipment 76-B0255 ILS for Gyro compactor or equivalent	No.	1.00		-
A1.06/15.23	Tamping foot 102mm diameter and 146mm diameter and shanks to fit the supplied vibratory hammer	set	2.00		-
	Total C/F to Next Page				-
	Total B/F from previous page				-
A1.06/15.24	Aphaslt binder analysis (ignition Method) EN 12697 AASHTO TP53	No.	1.00		-
A1.06/15.25	BITUMAX : Asphalt binder analyser (ignition method) 220V/50Hz complete with accessories (metal stand/ face stand/ safety cover)	No.	1.00		-
A1.06/15.26	Laboratory air compressor 220-240V/50HZ//1Ph	No.	1.00		-
(xv)	Consumables				
A105/18.01	Paraffin wax	kg	50.00		-
A105/18.02	Gas	kg	1,000.00		-
A105/18.03	Gunny sack	No.	400.00		-
A105/18.04	Plastic bag 900 x 450mm x 1000 gauge	No.	2,000.00		-
A105/18.05	Plastic bag 450 x 300mm x 1000 gauge	No.	2,000.00		-
A105/18.06	Filter paper 150mm dia., Whatman No. 5 (Boxes of 100)	No.	40.00		-
A105/18.07	Filter paper 400mm dia., Whatman No. 5 (Boxes of 100)	No.	20.00		-

APPENDIX TO BILL ITEM 1.06

Bill No.	Description	Unit	Quantity	Rate [Ksh.]	Amount [Ksh.]
A105/18.08	Filter paper 100mm dia., Whatman No. 5 (Boxes of 100)	No.	20.00		-
A105/18.09	Filter paper 400mm dia., Whatman No. 54 (Boxes of 100)	No.	5.00		-
A105/18.10	Filter paper 270mm dia., 33mm with dia. Hole in centre, Whatman No 5 (Box of 100)	No.	15.00		-
A105/18.11	Trichloroethylene	kg	4,000.00		-
A105/18.12	Dichloromethane	kg	2,000.00		-
A105/18.13	Cotton waste (or drying cloths)	kg	400.00		-
A105/18.14	Gas cylinders compatible with supplied stoves	No.	30.00		-
A105/18.15	Sodium Sulphate 3kg pack	No.	15.00		-
	TOTAL CARRIED FORWARD TO BILL 1.05				-

GRAND SUMMARY OF BILLS			
BILL	DESCRIPTION		TOTAL AMOUNT
1	Preliminary and General Items		
4	Site Clearance and Topsoil Stripping		-
5	Earthworks		-
7	Excavation and Filling of Structures		-
8	Culverts and Drainage Works		-
9	Passage of Traffic		-
12	Natural Material for Sub-base and Base		-
13	Graded Crushed Stone Subbase and Base		-
14	Cement and Lime Treated Material		-
15	Bituminous Surface Treatments and Surface Dressing		-
16	Bituminous Mix Bases, Binder Courses and Wearing Courses		-
17	Concrete Works		-
19	Structural Steel works		-
20	Road Furniture		-
21	Miscellaneous Bridge Works		-
22	Dayworks		
23	Non-motorised transport paths		-
25	Environmental Mitigation Measures & HIV / AIDS Campaign		
26	Road safety awareness campaign		
			-
A	Sub-total 1		-
A	Sub-total 1		-
B	Provisional Sums		444,000,000
	Sub-total less Provisional Sums		
C	Contingencies to be expended in whole or in part or deleted as directed by the Engineer.	10.0%	-
D	Variation of Prices in accordance with Clause 70 of the Conditions of Contract.	25.0%	-
E	Sub-total 2		-
G	Total		-
H	Cost per Km	17.52	-
I	Cost of FootBridges		
J	Sub-total 1 less FootBridges		
K	Less Provisional Sums		
L	Less Contingencies	10%	-
M	Less Variation of Price	25%	-
N	Sub-total 2 less FootBridges		-
I	Cost per Km less FootBridges	17.52	-

