

PROPOSED BUILDING,CIVIL WORKS AND STRUCTURES FOR BUMALA 33/11KV SUBSTATION.					
BILL No.1: PRELIMINARIES AND ENABLING WORKS					
No.	Description	Unit	Qty	Rate	Amount (Kshs)
	Location of and access to the Site				
A	The site of the proposed works is located in Bumala town, Busia County - The Contractor is therefore advised to visit Site, to acquaint and familiarize himself/herself with the nature and position of the Site. No claims arising from the Contractor's failure to do site visit will be entertained.	ITEM	1		
	Prevention of Accidents, damage or loss.				
B	The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other normal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of activities being carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.	ITEM	1		
	Site Security				
C	The Contractor shall be entirely responsible for the security of all the Works, stores, materials, plant, personnel, etc, both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public.	ITEM	1		
	Water connection				
D	The Contractor shall allow for supply and connection of metered water to the substation, maintain and pay all the connection and running costs for the entire contract period and then transfer the meter particulars to Kenya Power upon project hand-over. This includes allowing for the clean water for the works.	ITEM	1		
E	Allow for facilitation of KPLC PM, PE, And Project Supervisor on communication and data provisional Sum of Ksh.1,000,000. for both electronic and print.	ITEM	1		
	TOTAL TO SUMMARY PAGE 1.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
F	Allow for temporary site office(Approx.100sqm)with provisions of site office meeting room complete with portable seats,table,white board,washrooms for project team,including all works and fittings.	ITEM	1		
G	Allow for a qualified person conversant with Kenya Power safety regulations with capacity to receive safety electrical permits and to double up as 'Safety Officer' for the entire contract period.	ITEM	1		
H	Allow for security and insurance for the proposed works.	ITEM	1		
I	Allow for clean water for the works.	ITEM	1		
J	Allow for temporary sign post for the proposed works.	ITEM	1		
K	Allow for temporary supply of power connection for use for the works.	ITEM	1		
L	Allow for all the necessary statutory approvals for the works by relevant county departments, replication of drawings to required formats, Endorsement by relevant professional persons; and submit a set of approved drawings before commencement and as built drawings to client on completion,including site and project registration with NCA.Provisional sum of 350,000KSH.	ITEM	1		
M	Allow for the Visitors book and site diary	ITEM	1		
N	Carefully demolish the existing Store,Guard house and Pit latrine and cut away rubbles as directed.	ITEM	1		
O	Allow for GeoTechnical Services Provisional Sum of Ksh 400,000	ITEM	1		
P	Allow for materials samples testing from time to time including mill Certificates for all reinforcements and structural steel works delivered for the works. Copies to be attached at every stage of inspection for payment and as may be requested by the Client	ITEM	1		
Q	Allow for attendance for Kenya power personnel to check earthing prior to blinding and backfilling all the excavated bases and earth grids including tests for resistivity to acceptable levels	ITEM	1		
R	Supply and install 6000 litres an approved plastic water tank, approved 3/4" watertap and concrete platform including all necessary required fittings and connections.	ITEM	1		
	TOTAL TO SUMMARY PAGE 2.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
S	Refurbishment of the existing transformer plinth to match the new works.	ITEM	1		
T	Allow to supply substation with water from municipal water provider.	ITEM	1		
	BILL No2: TRANSFORMER PLINTH.				
1	Excavations.				
A	Excavate for 1No. transformer plinth pit size (7000x5000)mm, depths n.e. 1.5m from original ground	CM	60		
B	Ditto exceeding 1.5m but n. e. 3m	CM	20		
C	Extra over excavation in rock.	CM	20		
D	Allow for keeping excavated pits water free by pumping, bailling or otherwise.	ITEM	1		
E	Allow for planking and strutting to uphold the foundations.	ITEM	1		
F	B5Return,fill and ram selected excavated materials around transformer plinth.	CM	40		
G	Removing excess excavated materials from Site and disposing off.	CM	50		
H	Compacting bases of the transformer plinth foundation base and blinding with concrete mix (1:4:8 - 50 mm thick)	SM	37		
	<i>High yielded steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.</i>				
I	Reinforcement bars D8, D10 and D12 to bases, upstand beams and top slabs for Tx. plinth all spaced @ 200 c/c.	KG	1750		
3	Formwork				
A	Sawn formwork to sides of plinth upstand beams and the plinths sides to produce a fairly smooth concrete surface finish (plastering concrete surfaces will not be allowed))	SM	250		
4	Concrete				
A	Class 25(20) concrete in the transformer foundation base 300mm thick.	CM	15		
B	Class 25(20) concrete in the plinth upstand beams.	CM	15		
C	Class 25(20) concrete in the plinths top slabs sizes (5000x2500)	CM	6		
5	Hardcore fill				
A	Well compacted hardcore fill in the plinth	CM	15		
	TOTAL TO SUMMARY PAGE 3.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
B	50mm thick murram blinding and DPM on the hardcore	SM	10		
6	Finishes				
A	Surfaces finish smooth trowelled in (1:3) cement/ Sand mortar including 50mm chamfer all round top edges of plinth	SM	40		
7	Transformer Ground Anchor				
A	Excavate for 1No. Ground anchors size (1500x1500)mm depth n.e. 1.5m from stripped level and dispose off the spoil	CM	1		
8	Vibrated reinforced concrete class 20/25 1:2:4 as described in;				
A	Ground anchors Concrete.	CM	5		
B	Allow for fixing ground anchors in place before concreting, client to provide the steel anchors.	ITEM	1		
C	Allow for transformer pit grating made of 50x50x6mm angle iron fixed on pedestal and wall of sump to suport grating .including grating with 20mm gaps on a mainframe of 50x50x6mm ms angles and similar size welded at 20mm centres including all painting ,steel work and fixing to client approval.Provisional Sum of 350,000KSH.	ITEM	1		
D	Oil sump chamber3.6m x 1.9m x1.5m deep,perimeter 200mm thick natural stone walling,internal plaster complete with Niru finnish,with ring beam size 250x200mm with 4Nos.12mm bars and 8mm shear links at 200mm spacing, 150mm thick cover slab reinforced with 150mm bars bothways at 150mm spacing,heavy duty man hole covers 450x600mm; including pvc pipe 4" connecting with the main transfoimer pit not exceeding 6m away in two components.	ITEM	1		
E	150 x 100mm U-Channels or any othe approved size welded to triangular shape (1.8x1.2x.2.2mm) placed in D12 reinforced cage of size 2x1.5x1.0mm concrete stub; icluding excavation, backfilling, carting away, formwork and finishes.	NO	1		
	SUMP RCC WALLING				
	Vibrated reinforced concrete class 25/20mm aggregate in:-				
A	Fare faced finish walling	CM	5		
B	Formwork.				
	Vertical sides of base.	SM	49		
	TOTAL TO SUMMARY PAGE 4.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
	High yield deformrd reinforcement bars to BS4449 including cutting,bending,tying ,fixing and spacers blocks.				
A	D8 and D10	KG	170		
	BILL No3:ACCESS ROAD WORKS				
2	<u>Paving blocks (Access road)</u>				
A	Excavate for 5m wide access road depth not exceeding 750mm and cart away the spoil	CM	262		
B	Average 300mm thick selected well compacted hardcore fill, compacted in layers of 150mm thick using 10 tonne vibrating roller to receive paving blocks	CM	130		
C	300mm approved compacted murram fill in 150mm layers	CM	130		
D	Provide ,lay and joint 450mm diameter precast concrete pipes(culverts) for service ducts as directed by Engineer.The rate to include backfilling and compaction to drain formation level.	LM	20		
E	Provide place and compact 150mm class 15(1:3:6) concrete bed and sarround to 450mm diameter pipes.	CM	3		
F	Supply and install as shall be directed by client, 150mm diameter medium gauge PVC pipes as ducts for cables crossing the access road including all necessary excavations, concrete bedding , haunching and surround to ducts including self-soaking access manholes minimum size 900x900x1000mm deep in masonry wall plastered internally and externally, and pcc covers.	LOT	1		
G	50mm thick approved and well compacted quarry dust blinding on hardcore	SM	350		
H	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid to slope on quarry dust and compacted	SM	350		
I	125 x 250mm splayed kerb to BS 340 including 125 x 100mm channel : on and including concrete Class "E" foundation and 100mm haunching to back of kerb including all necessary excavation, formwork and disposal	LM	145		
J	Ditto but curved	M	50		
3	<u>Painting</u>				
A	Prepare and apply approved gloss paint to kerblines; 125mm girth; colour to engineer's approval	LM	145		
	TOTAL TO SUMMARY PAGE 5.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
	<u>GATE</u>				
A	Fabricate and fix a primary substation gate as per DRAWING the consisting of 75x50x8mm mainframes and 50x50x3m intermediate members and bracings with small wicket openable door 1m wide with closing latches 14 gauge plate; ;including gate columns ,fastening,assembly and all works 6mx2.0m	NO	1		
B	Extra over for painting with cooperate colours and logo	ITEM	1		
1	<u>BILL No.4:SWITCH YARD EARHTWORKS AND BALLASTING.</u>				
A	Clear the site of shrubs,grasses,bushes etc,grab up all their roots and burn the arising.	SM	2025		
B	Scoop loose top soil by cutting average 150mm deep to recieve imported fill	SM	2025		
C	Backfill to make up level with approved borrowed murrum/gravel and compact to 95% MDD(AASHTO T99) in layers of 150mm thick.	CM	485		
D	Prepare and apply Gradiator 4TC or equal and approved insecticide and Herbicide to surfaces of blinding as per Manufacturer's written instructions and issue warranty	SM	2025		
F	1000 gauge polythene or other equal and approved membrane laid on compacted and treated quarry dust with welted laps of 200mm wide.	SM	2025		
G	Supply and spread uniformly 150mm thick; 30-40mm singly graded and approved ballast in switch yard.	SM	2025		
H	precast concrete chanel 200mm high at the ballast perimeter to prevent ballast spill over as restraint.	LM	183		
I	Supply and install 150mm diameter medium gauge PVC pipes as ducts. with and including 150mm thick concrete class 20 surround and murrum compaction underlying pipe bases as per as per engineer's instruction to all marked locations to recieve control cables and direct them to cable tranche include and NOT limited to PVC bend,Tee,straight pece not exceeding 3m to each equipment	LM	75		
	TOTAL TO SUMMARY PAGE 6.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
	BILL No5:DRAINAGE WORKS				
A	Excavate, cut and shape in a V formation an earth drain into any material and cart away to County Government designated damping site.	CM	228		
B	Supply and lay 300mm diameter 600x450x 225mm Precast concrete invert drain blocks, including with two (2) courses side slabs 600mmx225mmx80mm PCC side slabs on both sides laid on a 100mm thick murram well compacted. All jointed in 1:3 cement/sand mortar.	LM	160		
C	Ditto but side slabs size; 600x270x75mm thick	LM	456		
D	Construct 8.0m long open drain channel size; 450mm wide and 450mm deep, 150mm thick reinforced concrete walling and base; including 63x63x4mm thick MS angle line embedded in concrete with fish-tailed 12mm diameter x 125mm long MS inserts, in drain walling to receive steel grating (ms);	ITEM	2		
E	D10 at 150mm centres both ways	KG	105		
F	Provide fabricated 8.0m long heavy duty grating; 450mm wide with 20mm ribbed bars welded in MS angle 63x63x4mm thick frame at 50mm centres . Prepare and apply gloss primer and two coats of 1st grade aluminium gloos paint.	ITEM	2		
J	2.4m high x10A gauge chainlink fence, complete with 4mm diameter5 strands of galvanized plain wire pass through 3.0m high 50x50X 6mm galvanised steel sections posts placed at 3.0m centers, 12 gauge barbed wire including, excavation and erection works, 1:3:6 mix mass concrete surround at 600mm deep.	LM	40		
	<u>Drop Manholes</u>				
H	Drop Manholes 600 x 600 x 450mm average deep (Internal) comprising :1000 x1000 x 150 mm thick mass concrete Class 20 base : 150mm Solid concrete block walls : 150mm Thick VRC Class 20 top slab/or cover; with heavy duty meshed/grilled manhole cover : 12mm internal render to base and walls : including step irons : all necessary excavation, disposal and formwork. with outlet PVC pipes as per type A or B across the sitchyard terminating to the open drain max 10 no chambers;	ITEM	1		
	TOTAL TO SUMMARY PAGE 7.				


Item	Description	Unit	Qty	Rate	Amount(ksh)
	BILL No.6: CONTROL ROOM BUILDING				
A	Excavate 1.5m deep for strip foundation commencing from stripped level but not exceeding 1.5m deep.	CM	32		
B	Ditto but over 1.5m deep but not exceeding 3.0m deep.	CM	4		
C	Ditto but for column bases.	CM	10		
D	Ditto but over 1.5m deep but not exceeding 3.0m deep.	CM	3		
E	Ditto but cable trenches	CM	5		
F	Extra over excavation for excavation in rock for all classes at any depth.	CM	12		
G	Bacfill around foundations	CM	23		
H	Load and cart away the surplus excavated materials	CM	29		
I	Allow for all necessary planking and strutting.	ITEM	1		
J	Allow for keeping excavation free from general water.	ITEM	1		
	<u>Fair face formwork to: -</u>				
K	Cable trench.	SM	18		
L	Column footing .	SM	11		
	<u>Concrete.</u>				
	Mass Concrete Class P as described.				
M	Plain concrete (1:4:8-20mm aggregates) in 50mm thick blinding for strip foundation	SM	16		
N	Ditto but to column bases	SM	9		
O	Ditto but to cable trenches	SM	8		
	<u>Vibrated reinforced concrete class 25/20 (1:2:4) as described in</u>				
P	Strip foundation	CM	7		
Q	100mm thick Cable trench bed	SM	5		
R	Column bases	CM	1		
S	Columns footings/stubs	CM	1		
T	Ramp in door	CM	2		
U	Allow for a Schedit hammer (Concrete re-bound hammer),provisional sum of Ksh 300,000.	ITEM	1		
	TOTAL TO SUMMARY PAGE 8.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
	<u>High yield mild steel reinforcement bars including cutting, bending, spacers, tying wire and fixing to BS 4449 in, strip foundation, column base, footing and cable trenches.</u>				
	Stip foundation				
V	D8	KG	86		
W	D10	KG	97		
	Column bases				
X	D12	KG	66		
	Column Footings				
Y	D12	KG	70		
Z1	D8	KG	39		
	<u>Cable Trenches</u>				
Z2	D8	KG	65		
A1	225mm thick quarry natural stone bedded and jointed in cement and sand (1:3) mortar:20 gauge x25mm hoop iron in every alternate course.	SM	52		
	<u>FILLING:</u>				
B1	Selected hardcore filling,compacted in layers of 150mm thick to make up levels to satisfaction of client.	CM	30		
C1	50MM thick approved murrum blinding on hardcore fill.	SM	88		
	<u>Insecticide.</u>				
A	Prepare and apply "Premise 200 SC " or equal and approved insecticide to surfaces of blinding as per manufacturer"s written instructions.	SM	50		
	<u>Damp Proofing.</u>				
B	1000 gauge polythene DPM laid on top of blinding including 200mm side and end lap	SM	50		
	<u>Mild steel bar to BS 4449;</u>				
C	BRC mesh reference No. A142 weighing 2.22kg per square meter including 150mm minimum end and side lap,bends, tying wires and spacer blocks.	SM	50		
	<u>Vibrated reinforced concrete class 25/20 (1:2:4) as described in</u>				
D	150mm thick ground floor slab.	SM	50		
	TOTAL TO SUMMARY PAGE 9.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
	<u>Sawn formwork to;</u>				
E	Sides of ground floor slab 75-150mm high	LM	30		
	<u>Superstructures</u>				
	<u>Damp Proof Course.</u>				
F	200mm wide damp proof course (DPC) laid with 1:3mix cement sand mortar.	LM	32		
	<u>Walling</u>				
	<u>Approved natural dressed/ machine cut stone walling in cement sand mortar (1:3) including and reinforced with 20 SWG hoop iron in every two alternating course.</u>				
G	200mm thick smooth dressed natural stone wall/approved concrete blocks/Machine cut including making horizontal keys on external wall surface.	SM	140		
H	Allow to make 200mm diameter holes on superstructure walling to receiv PVC cable ducts(ms)	NO	12		
	<u>Fair face formwork to;</u>				
I	Vertical sides of columns.	SM	15		
J	Vertical sides of ring beam.	SM	42		
K	Ditto but lintols	SM	4		
L	Ditto but lintel soffits	SM	2		
M	Ditto but soffit of suspended roof slab	SM	45		
N	Sides of roof slab 100-150mm high	LM	28		
	<u>Vibrated reinforced concrete class 20/20 (1:2:4/25) with fairly smooth face finish as described in:</u>				
O	Columns	CM	1		
P	Ring beam & Lintels.	CM	2		
Q	150mm thick roof slab.	SM	32		
	<u>Steel reinforcement bars including cutting,bending,sacer blocks,tying wires and fixing.High tensile bars to BS 4461:8mm to 12mm bars</u>				
	<u>Ground beam</u>				
R	D12	KG	135		
S	D8	KG	87		
	<u>Columns</u>				
T	D8	KG	63		
U	D12	KG	115		
	<u>Beams & Lintels</u>				
V	D8	KG	125		
W	D12	KG	183		
	TOTAL TO SUMMARY PAGE 10.				



Item	Description	Unit	Qty	Rate	Amount(ksh)
	Suspended concrete roof slab.				
A	D10	KG	464		
B	D8	KG	188		
	<u>Roofing</u>				
	<u>Supply and fix fabricated steel 5 No.Trusses spanning 4500mm and hoisted height not exceeding 4.00m high above finished suspended floor slab as described;</u>				
C	Trusses consisting of 50x50x4mm tie beam,rafters 50x50x4mm, struts and ties 50x50x3mm; all comprising of appropriate angle line cleats for purlin anchoring, to heights not exceeding 4m spanning 5.0m with weight not exceeding 100kg	NO	5		
D	Zed purlins made to Kenya Bureau of Standards specification KS EAS 134:2019 - size; 100x50mm deep	LM	90		
E	Allow for supply of 150x150x6mm thick plates, anchored on column ends with 4No. MS bolts, 200mm long to receive trusses.	NO	10		
F	Prepare and apply 2 coats of metal primer on roof metal structure/surfaces.	ITEM	1		
G	Supply and fix BP760 box profile factory pre-painted gauge 28 full length roofing sheets to an approved colour laid with 94mm side laps fixed to steel 'Z' purlin (m/s) including self driving screws, washers, nuts and rubber caps at 330mm centers.	SM	110		
H	Ditto but 28Gx480mm with stiffened ridge caps	LM	11		
I	Fabricate 1.0m high, SHS 40x40x4mm thick vertical parapet MS steel framework structure, RHS 40x25x3mm struts, including fixing into the wall with adequate wall passes as described to Engineer's approval to receive vertical box profile sheets (ms)	LM	27		
J	Ditto but eave framework (girth)	LM	25		
K	Supply and fix BP760 box profile factory pre-painted gauge 28 cladding sheets to an approved colour laid with 94mm side laps fixed to steel 40x40x4mm fascia cladding frame(ms) including self -tapping screws & washers and rubber caps.including underside of cladding	SM	45		
L	Ditto but horizontal eave covering.	SM	13		
	TOTAL TO SUMMARY PAGE 11.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
M	Ditto but in roof cable sides covering Rainwater Goods	SM	5		
N	Purpose made 14 gauge box water gutter 900mm girth, screwed/welded to gutter stool on 50x25x3mm thick M.S fixed to rafters at 600mm centres; internally painted with two coats of black bituminous paint, externally with one coats of red oxide primer and two coats of finishing silver alluminium paint	LM	27		
O	Extra over for stopped ends.	NO	4		
P	Ditto for 110mm diameter holes in gutter.	NO	2		
Q	Extra over down pipe for swan neck	NO	2		
R	Supply and fix 110mm diameter PVC pipe connecting swan necks down pipe	LM	9		
	Painting generally.				
S	Prepare and apply 2 coats of red oxide primer and apply 2 coats of silver alluminium finish on rainwater goods	SM	7		
	Windows				
	Mediam duty anodized aluminium windows complete with all				
A	Window overall size 1500 x 1500 mm high; 2No. Sliding leaves	NO	4		
	Burglar proofing				
B	12mm Diameter round mild steel bars burglar grill welded to the windows	NO	4		
	Window Cills				
C	200 x 150 x 30 mm thick concrete window cill, throated one	LM	6		
D	Prepare and apply two coats of brick red paint	SM	2		
	Doors				
E	Double leaves steel doors 2000x3000mm high in two panels 600mm wide consisting of 1.6mm thick plate welded into 50x25x3mm frames; 75x50x6mm main frame with wall anchors; louvre lades into 500mm and bottom 1m depth all 1.6mm thick; -main entrance as per the drawing provided.	NO	1		
F	Ditto but one leave size; 1200x3000mm high.	NO	1		
G	Prepare and apply 2 coats of red oxide primer and apply 2 coats of matt finish paint on steel doors internall and externally.	SM	21		
	TOTAL TO SUMMARY PAGE 12.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
	Finishes				
	<u>Internal Finishes (Walling)</u>				
H	13mm thick cement sand plaster (1:4) to walling mixed with lime smooth finish to receive paint (ms)	SM	114		
I	Prepare and apply three coats of emulsion 1st silk vily matt on wall plastered surfaces	SM	114		
	Flooring				
J	20mm thick cement sand (1:3) screed for floor to receive terazzo finish (ms)	SM	45		
K	30mm thick well polished terrazzo floor finish	SM	45		
L	Ditto but 150x20mm thick skirting	LM	35		
M	32x3mm thick plastic dividing strips.	LM	108		
	Internal Cable Finishes				
N	Provide 50x50x3mm angle iron embeded on the edges of cable trench with 10mm long insertion to receive chequer plate covers(ms)	LM	34		
O	Supply and fix 700x600x6mm thick chequer plate covers to cable trench including provision of adequate handles to ease lifting to client approval.	NO	24		
P	Prepare and apply 2 coats of red oxide primer and apply 2 coats of matt finish paint on steel doors internall and externally.	SM	13		
Q	Supply and fix 14 Gauge galvanized perforated steel cable trays; 300mm wide and 50mm deep including mounting on the trench on well secured hangers/support structure (ms) and all jointed by welds and bended as appropriate to client satisfactory.	LM	15		
	Ceilling				
R	12mm thick cement/sand plaster finish to suspended concretete	SM	48		
S	Prepare and apply three coats of emulsion 1st grade emulsion	SM	48		
	Finishes Externally				
T	Prepare and apply three coats of external emulsion 1st grade paint	SM	41		
	Plinth Area				
U	15mm thick cement sand mortar(1:4) render to plinth.	SM	14		
	TOTAL TO SUMMARY PAGE 13.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
V	Prepare and apply three coats of bituminous paint to plinth.	SM	14		
W	600x600x50mm thick precast paving blocks embeded on wellcompacted 50mm murrum, jointed with cement/sand mortar (1:4)	SM	57		
	ELECTRICAL INSTALLATIONS WORKS				
A	Allow for Electrical builders work to power supply points, consumer unit and distribution board lighting ponts;sockets; incuding chasing and making good all works as described	ITEM	1		
B	Allow for installations of all elctrical work to be carried out by a nominated sub-contractor as per electrical drawing-lumpsum and to comprise of the following, 1No.6 way 3-phase 415V distribution board rated 100Amps complete with 3 phase MCBS, 32Amps -2set and six 1Phase way MCBS 16Amps, all wires, fitings and LED lights to client approval. a provisional sum of Ksh.750,000.	ITEM	1		
	SMOKE DETECTORS				
C	Allow for Hardwired smoke detactors installations;including a battery back up;to be carried out by a nominated sub-contractor.	ITEM	1		
D	Allow for general attendance on specialist contractor	ITEM	1		
E	Builder's work in connection with Smoke detector installations;cut away for and attend in all trades on the sub-contractor installing the following points in a mainly concealed system; including chases, holes and recess notching in timber etc; and making good all finishes for cut in boxes, electrical wiring, mounting brackets, smoke detector feeds, fire alarm points etc	ITEM	1		
	FIRE EXTINGUISHERS				
	Supply and fix controlled fire extinguisher manufactured to BS EN 3-9:2006, Bs 7863:2009, BS 5306-4:2001and the cylinder manufactured to BS 5045 complete with the following: Charge and fixing bracket, Pictorial instructions, Colour code, Servicable on site, Brass hot stamping and Operating valve as described				
F	9 litre carbon dioxide fire extinguisher complete with re-fills, discharge horn and fittings to wall bracket, as manufactured by Angus or equal and approved.	No.	4		
	TOTAL TO SUMMARY PAGE 14.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
G	9Kg dry powder multi-purposed fire class A'B and C as manufactured by Angus Fire Armour ABC multi-purpose model AP 9 K or equal and approved.	No.	4		
H	1200x1200mm woven glass fire blanket with 0.025 wmk thermal conductivity.	No.	2		
I	4.5Kg Co2 Powder Fire Extinguisher as Angus Fire	No.	4		
J	Ditto but powder fire extinguishers	NO	2		
K	Ditto fire blanket 6' x 4' container	NO	2		
L	Supply and fix 450mm diameter extractor fan in the battery room	NO	1		
	BILL No.7:CABLE TRENCHES				
	Trench (600x600mm deep) length approx. 190M				
A	Excavate for cable trench 1.2m wide from ground level not exceeding 1.0m metres deep.	CM	198		
B	Load and cart- away excess excavated materials from site to County Government Approved dumping site	CM	120		
C	Backfill and ram selected excavated materials around trench walls.	CM	30		
D	50mm plain concrete(1:4:8) blinding on cable trench base	SM	171		
E	Allow for all necessary plunking and strutting	ITEM	1		
F	Allow for disposal of general water by pumping. Bailing or otherwise.	ITEM	1		
G	Vibrated reinforced concrete class 20/25 1:2:4 as described in;				
H	150mm thick trench base.	CM	30		
I	150mm thick trench walls with fairly smooth face finish.	CM	68		
J	Allow for connecting the new cable trenches to the old trenches including hacking and cutting old reinforced concrete works to merge with the new ones.	ITEM	1		
	TOTAL TO SUMMARY PAGE 15.				

M. J. O. O.

Item	Description	Unit	Qty	Rate	Amount(ksh)
K	Provide and put in place (900x400x50mm) thick precast concrete trench covers reinforced with Y8 bars spaced at 100mm both ways with fair face finish on both sides, inside a 50x50 angle framing including priming and corrosion protective coat	NO.	530		
L	Supply and fix galvanized perforated steel cable trays from 30mm thick 50 mm400mm wide in two layer including mounting on the trench and all joints and bends.	M	190		
	High yielded steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.				
M	D 8 in cable trench @ 200mm C/C Both ways	KG	1885		
	Fair Face - Form work to:				
N	Vertical sides of trench walls.(Internally and Externally)	SM	480		
P	Vertical side of trench base-(75-150mm)	LM	380		
Q	Allow screeding/sloping and water drainage including all outlet pipes at cable trench ends	ITEM	1		
R	Supply and fix earthing material To include 150No. Earth Rods, 120mm sq Copper (Soft drawwn) -Min 750m,connectors clamps and lugs including bolts and nuts to conect mat connect to existing Grid .Allow for earth pits and measurements on innitial and final resistivity less than 0.05ohms,.And all other associated accesories .(furnish drawing to client for approval)	ITEM	1		
4	BILL No.8:BUSBAR FOUNDATION PLINTHS STRUCTURE (Substructure Works -All provisional)				
	33 And 11kv Busbar structure Fdn. Works				
A	Excavate for 6No. foundation pits size (2000X18000)mm depth n.e 1.5m from ground level.	CM	8		
B	Allow for keeping excavated pit water free by pumping, bailling or otherwise.	ITEM	1		
C	Allow for planking and strutting to uphold the foundations.	ITEM	1		
D	Removal of excess excavated materials from site and cutaway.	CM	4		
E	Compacting foundation base of the gantry plinth pit and blinding it with concrete mix (1:4:8 - 50 mm thick)	SM	7		
	TOTAL TO SUMMARY PAGE 16.				

M. M. M.

Item	Description	Unit	Qty	Rate	Amount(ksh)
F	Class 25(20) concrete in foundation bases and stub columns sizes respectively	CM	23		
G	Plinth top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	SM	12		
	High yielded steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.				
H	Reinforcement bars D12 bars and D10 rings to bases and stub columns of Bus structure @ 200 c/c	KG	1213		
I	Supply and fix all galvanized steel bolts M28x1000mm long Including poring anchoring holding in position and allowing for all bolts nuts washers and bottom cleats.	NO	96		
j	Allow for entire site surveying including spot-heights and contour profiles for establishing working levels and substation drainage level system a provisional sum of Ksh.300,000.	ITEM	1		
	<u>BILL No.9:GUARD HOUSE</u>				
	<u>SUBSTRUCTURES</u>				
	<u>Excavation</u>				
A	Site excavate to reduce levels commencing from existing ground level;150mm deep and not exceeding 1.5m deep;	SM	7		
B	Excavate for strip foundation trench, commencing reduced level ; not exceeding 1.5m deep	CM	6		
C	Remove surplus soil from site to a place approved by local authority	CM	7		
	<u>Mass concrete mix (1:4:8) in</u>				
D	50mm thick blinding under strip foundations	SM	5		
	<u>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm2 at 28 days; in</u>				
E	150mm thick ground floor slab	CM	1		
F	Strip foundations	CM	1		
	<u>Supply and fix steel bar in structural concrete work including cutting, bending, hoisting, tying wire, spacer blocks and supporting all in position:</u>				
G	D8	KG	17		
H	D12	KG	29		
	TOTAL TO SUMMARY PAGE 17.				

Mint

Item	Description	Unit	Qty	Rate	Amount(ksh)
	<u>Mesh fabric reinforcement</u>				
I	Mesh reinforcement No. A142 size 200 x 200mm weighing 2.22 kg per square meter; in floor slab; including all necessary supports	SM	5		
	<u>Sawn formwork to:</u>				
J	Edges: slabs 75 - 150mm girth	LM	9		
K	Vertical sides; strip footing; 200mm high	SM	5		
	<u>Walls</u>				
L	200mm thick natural stone foundation walls; machine dressed square; bedded and jointed in cement and sand (1:4) mortar; reinforced with 20SWG Hoop Iron in every	SM	8		
	<u>Hardcore</u>				
M	300mm thick hardcore of approved inert material; well compacted in 150mm thick (maximum) layers	CM	2		
	<u>Blinding</u>				
N	50mm thick approved quality murram blinding to surfaces of hardcore	SM	5		
	<u>Anti-termite treatment</u>				
O	Approved anti-termite chemical treatment; applied by approved professional pest control specialist; applied strictly in accordance with the manufacturers' instructions; ten(10) year guarantee	SM	5		
	<u>DPM</u>				
P	Guage 1000 polythene damp proof membrane	SM	5		
	<u>25mm thick cement/sand (1:4) rendering; on concrete or stonework; wood float finished to</u>				
Q	Plinths ; externally	SM	5		
	<u>Prepare surfaces and apply undercoat and two finishing coats black bitumastic or other equal approved water resistant paint on rendered surfaces to:</u>				
R	Plinths: externally	SM	5		
	<u>R.C SUPERSTRUCTURE</u>				
	<u>Sawn formwork to</u>				
S	Sides and soffits beams	SM	5		
	TOTAL TO SUMMARY PAGE 18.				

M. M. M.

Item	Description	Unit	Qty	Rate	Amount(ksh)
T	Bench slab	SM	1		
	<u>Supply and fix square twisted steel bars in structural concrete work including cutting, bending, hoisting, tie wire, spacer blocks and supporting all in position</u>				
A	D8	KG	18		
B	D12	KG	38		
	<u>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm2 at 28 days; in</u>				
C	Ring beam	CM	1		
D	Bench slab	CM	1		
	<u>WALLS</u>				
	<u>External Walls</u>				
	<u>Machine dressed natural stone walling bedded in cement/sand mortar(1:4) with minimum stone crushing strength of 7N/mm2; reinforced with 20SWG Hoop Iron in every alternate course</u>				
E	200mm thick walls	SM	21		
F	Extra over external walling for horizontal pointing	SM	21		
	<u>Bituminous felt or other equal approved damp proof course; in cement/sand (1:3) mortar</u>				
G	200mm wide	SM	2		
	<u>ROOF</u>				
	<u>The following in 4 No. purlins; steel structural roof; spanning 3.2m; hoisted to a height of approximately 2.4m from ground level</u>				
H	150 x 50 x 2mm Z purlins bedded in masonry wall with cement sand mortar	LM	15		
I	Drill holes in steel members for 12mm bolts in Z purlins	NO	23		
J	12mm bolts	NO	23		
	TOTAL TO SUMMARY PAGE 19.				

Mair

Item	Description	Unit	Qty	Rate	Amount(ksh)
K	Supply and fix 24g mild steel trough roofing sheets type IT5; factory prepainted to approved standard colour; laid with 150mm end lap and 94mm side laps; fixed to metal purlins including hook bolts, washers and nuts at 1000mm centres	SM	12		
L	Ditto for side cladding-ALL 4 sides, fixed to 100 high steel fascia cladding frame including J-bolts, washers, nuts and rubber cups, including underside of cladding 500mm wide, including 14 gauge galvanised gutters and 100mm downpipes 24gauge secured to wall with brackets 900mm c/c	SM	14		
	<u>OPENINGS</u>				
	<u>Windows</u>				
	<u>Mild steel casement windows ; fixed panes; custom made; sections to drawings and with approved ironmongery; sections divided with 25 x25 x 3mm thick RHS welded onto main frame 40 x 25 x 3mm RHS.</u>				
N	Ditto but 900 x 1200mm high	NO	5		
	<u>Mild steel door size 965 x 2100 mm complete with all iron mongery as per drawing SK. No. 06249</u>				
O	Supply and fix clay window cills; bedded and jointed in cement/sand (1:3) mortar; pointed in matching coloured cement to windows	LM	6		
	<u>DOORS</u>				
P	Mild steel door size 965 x 2100 mm complete with all iron mongery as per drawing SK. No. 06249	NO	1		
	<u>Iron mongery</u>				
	<u>Supply and fix "Assa Abloy" or equal approved iron mongery; matching screws; locks to include a set of 3 keys; available from their authorised local dealers to approval</u>				
Q	100mm mild steel butt hinges	NO	3		
R	3 lever steel casement rebated door lock with handles	NO	1		
	<u>Prepare surfaces, three coats gloss oil paint to metal surfaces</u>				
S	Doors internally	SM	2		
T	Doors externally	SM	2		
	<u>FINISHES</u>				
	TOTAL TO SUMMARY PAGE 20.				



Item	Description	Unit	Qty	Rate	Amount(ksh)
	<u>FLOOR FINISHES</u>				
	<u>Screed; cement/sand (1:3) on concrete</u>				
U	30mm thick to receive floor tiles	SM	5		
	<u>Supply and fix coloured ceramic floor tiles on screed; joints pointed in matching cement grout to approval</u>				
V	300 x300 x 10mm thick tiles	SM	5		
	<u>WALLING</u>				
	<u>Backing: 10mm cement/sand (1:4); on masonry or concrete ; wood float finished to</u>				
A	Walls to receive ceramic tiles	SM	18		
	<u>Supply and fix coloured glazed ceramic wall tiles; on backing; joints pointed in matching cement grout</u>				
	300 x 300 x 10mm thick tiles	SM	18		
	300 x 50 x10mm thick border tile	LM	9		
B	Supply and fix matching pvc tile strip to tile edges	LM	36		
	<u>Plaster; 13mm cement/lime putty/sand; wood float; on masonry and concrete to</u>				
	Walls and concrete surfaces; externally	SM	6		
C	<u>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on wood float plaster to:</u>				
	Walls and concrete surfaces	SM	6		
	<u>BILL NO.10:PIT LATRINE</u>				
	<u>Excavation</u>				
A	Oversite excavation to reduce levels commencing from existing ground level;150mm deep	SM	5		
B	Excavate from reduced level strip foundation and not exceeding 1.5m deep.	CM	4		
C	Excavate from reduced level strip foundation and not exceeding 3.0m deep.	CM	3		
D	Excavate from reduced level strip foundation and not exceeding 4.5m deep.	CM	3		
	TOTAL TO SUMMARY PAGE 21.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
E	Excavate from reduced level strip foundation and not exceeding 6.50m deep.	CM	3		
F	Extra over excavation in rock	CM	2		
G	Remove surplus soil from site to a place approved by local authority	CM	12		
	<u>Mass concrete mix (1:4:8) in</u>				
H	50mm thick blinding in strip foundations	SM	5		
	<u>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm at 28</u>				
I	150mm thick ground floor slab	SM	5		
J	Strip foundations	CM	1		
	<u>Supply and fix steel bar in structural concrete work including cutting, bending, hoisting, tying wire, spacer blocks and supporting all in position:</u>				
K	10mm bars	KG	77		
	<u>Mesh fabric reinforcement</u>				
L	Mesh reinforcement No. A142 size 200 x 200mm weighing 2.22 kg per square meter; in floor slab; including all necessary supports	SM	5		
	<u>Sawn formwork to:</u>				
M	Edges: slabs 75 - 150mm girth	SM	9		
N	Vertical sides; strip footing; 200mm high	SM	9		
	<u>Walls</u>				
A	200mm thick natural stone foundation walls; machine dressed square; bedded and jointed in cement and sand (1:4) mortar; reinforced with 20SWG Hoop Iron in every alternate course	SM	14		
	<u>Anti-termite treatment</u>				
B	Approved anti-termite chemical treatment; applied by approved professional pest control specialist; applied strictly in accordance with the manufacturers' instructions; ten(10) year guarantee	SM	3		
	<u>DPM</u>				
C	Guage 1000 polythene damp proof membrane	SM	5		
	<u>25mm thick cement/sand (1:4) rendering; on concrete or stonework; wood float finished to</u>				
	TOTAL TO SUMMARY PAGE 22.				

M. J. M.

Item	Description	Unit	Qty	Rate	Amount(ksh)
D	Plinths ; externally	SM	5		
	<u>Prepare surfaces and apply undercoat and two finishing coats black bitumastic or other equal approved water resistant paint on rendered surfaces</u>				
E	Plinths: externally	SM	5		
	<u>Sawn formwork to</u>				
F	Sides and soffits beams	SM	6		
	<u>Supply and fix square twisted steel bars in structural concrete work including cutting, bending, hoisting, tie wire, spacer blocks and supporting all in position</u>				
G	D8	KG	24		
H	D12	KG	47		
	<u>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm at 28 days; in</u>				
T	Ring beams	CM	1		
	<u>External Walls</u>				
	<u>Machine dressed natural stone walling bedded in cement/sand mortar(1:4) with minimum stone crushing strength of 7N/mm²; reinforced with 20SWG Hoop Iron in every alternate course</u>				
U	200mm thick walls	SM	21		
V	Extra over external walling for horizontal key pointing	SM	21		
	<u>Bituminous felt or other equal approved damp proof course; in cement/sand (1:3) mortar</u>				
W	200mm wide	SM	2		
	<u>SUNDRIES</u>				
X	Make holes on 100mm thick concrete slab for 150mm diameter PVC pipe	NO	1		
Y	Provide and fix 100mm thick PVC vent with cap average length 3m	LM	3		
	-				
	TOTAL TO SUMMARY PAGE 23.				

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Item	Description	Unit	Qty	Rate	Amount(ksh)
	<u>ROOF</u>				
	<u>The following in 4 No. purlins; steel structural roof; spanning 3.2m; hoisted to a height of approximately 2.4m from ground level</u>				
A	150 x 50 x 2mm Z purlins bedded in masonry wall with cement sand mortar	LM	15		
B	Drill holes in steel members for 12mm bolts in Z purlins	NO	23		
C	12mm bolts	NO	23		
D	Supply and fix 26g mild steel trough roofing sheets type LT5; factory prepainted to approved standard colour; laid with 150mm end lap and 94mm side laps; fixed to metal purlins including hook bolts, washers and nuts at 1000mm	SM	12		
E	Ditto for side cladding-ALL 4 sides, fixed to 100 high steel fascia cladding frame including J-bolts, washers, nuts and rubber cups, including underside of cladding 500mm wide, including 14 gauge galvanised gutters and 100mm downpipes 24gauge secured to wall with brackets 900mm c/c.	SM	14		
	<u>OPENINGS</u>				
	<u>Concrete Louvres</u>				
F	150 x 150 x 150mm concrete louvre blocks fixed with cement sand mortar (1:3)	SM	2		
	<u>Window Cill</u>				
G	Supply and fix 200mm clay window cills; bedded and jointed in cement/sand (1:3) mortar; pointed in matching coloured cement to windows	LM	6		
	<u>DOORS</u>				
H	Mild steel light door size 965 x 2100 mm complete with all iron mongery as per drawing SK. No. 06249	NO	2		
	<u>Iron mongery</u>				
	<u>Supply and fix "Assa Abloy" or equal approved iron mongery; matching screws; locks to include a set of 3 keys; available from their authorised local dealers to approval</u>				
I	100mm mild steel butt hinges	NO	2		
J	3 lever steel casement rebated door lock with handles	NO	2		
	TOTAL TO SUMMARY PAGE 24.				

M. J. J.


Item	Description	Unit	Qty	Rate	Amount(ksh)
	<u>Prepare surfaces,three coats gloss oil paint to metal surfaces</u>				
K	Doors internally and externally	SM	4		
	<u>FINISHES</u>				
	<u>FLOOR FINISHES</u>				
	<u>Screed; cement/sand (1:3) on concrete</u>				
L	30mm thick to receive floor tiles	SM	5		
	<u>Supply and fix approved ceramic floor tiles on screed; joints pointed in matching cement grout to approval</u>				
M	300 x300 x 10mm thick approved ceramic tiles	SM	5		
	<u>WALLING</u>				
	<u>Backing: 10mm cement/sand (1:4); on masonry or concrete ; wood float finished to</u>				
N	Walls to receive ceramic tiles	SM	23		
	<u>Supply and fix coloured glazed ceramic wall tiles; on backing; joints pointed in matching cement grout</u>				
O	300 x 300 x 10mm thick tiles	SM	23		
P	300 x 50 x10mm thick border tile	LM	14		
Q	Supply and fix matching pvc tile strip to tile edges	LM	56		
	<u>Plaster; 13mm cement/lime putty/sand; wood float; on masonry and concrete to</u>				
R	Walls and concrete surfaces; externally	SM	21		
	<u>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on wood float plaster to:</u>				
S	Walls and concrete surfaces	SM	21		
	<u>BILL No.11: PERIMETER WALLING-BOUNDARY WALL 2.4M HIGH</u>				
	<u>(Substructures)</u>				
L	Excavate for foundation trench 600mm wide commencing at reduced level and not exceeding 1.5m deep.	CM	168		
M	Extra Excavations for widening column bases size	CM	95		
N	Ditto exceeding 1.5m but n.e 3.0m	CM	189		
O	Extra over for excavation in all classes of rock at any depth.	CM	30		
P	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	123		
	TOTAL TO SUMMARY PAGE 25.				

Mark 2

Item	Description	Unit	Qty	Rate	Amount(ksh)
Q	Fill in and ram selected imported materials around foundation and columns.	CM	78		
R	Provide all the necessary planking and strutting to uphold sides of trenches.	ITEM	1		
S	Allow for keeping all excavations water free by pumping,bailing or otherwise.	ITEM	1		
T	50mm thick (1:4:8) mass concrete blinding to walling and column bases	SM	174		
	<u>Vibrated reinforced concrete class</u>				
	<u>20/25 1:2:4/25 as described in;</u>				
U	Foundation strip size (200x600)mm	CM	23		
V	Column bases (1000x1000x300)mm	CM	19		
W	Columns (200x300)mm	CM	15		
X	Plinth beam 300x200mm	CM	8		
	<u>Sawn/Steel form work to</u>				
A	Vertical sides of column	SM	106		
B	Vertical sides of ground beam	SM	110		
	<u>Steel reinforcement bars including tying bending</u>				
	<u>spacer blocks tying wires and fixing high tensile</u>				
	<u>bars to BS 4461</u>				
C	D8-D16	KG	3850		
	225mm thick natural stone substructure walling in cement sand mortar (1:3) including and reinforced with 20 SWG hoop iron in every two alternating				
F	225mm thick natural stone wall	SM	278		
G	25mm thick cement/sand (1:4) rendering on plinth area finished smooth to receive bituminous paint-400mm high	SM	76		
H	Allow for and create 100mm diameter weep holes at ground level every 3.0m centers on masonry/concrete wall sand mortar.	NO.	68		
	TOTAL TO SUMMARY PAGE 26.				



Item	Description	Unit	Qty	Rate	Amount(ksh)
2	<u>Superstructure-Walling</u>				
I	200mm thick machine-cut or fair faced dressed natural or approved concrete blocks stone walling in cement/sand (1:4) mortar including 20G hoop-iron in every alternate courses. Internally plastered and external horizontal joints keyed in cement/sand mortar (1:3)	SM	454		
J	350mm wide pre-cast concrete coping twice weathered and twice throated fixed to wall.	LM	150		
K	(800x550)mm square concrete coping weathered and throated on all sides fixed to double columns.	NO.	9		
L	(550x450)mm square concrete coping weathered on all columns.	NO.	59		
M	extra over for key pointing externally	SM	454		
N	allow for internal plaster whole wall	SM	454		
3	<u>Expansion Joint</u>				
N	40mm thick construction joint in flex cell or equal and approved expansion joint and (25x25)mm expedite sealer	SM	15		
4	<u>Razor Wire</u>				
	<i>Supply and fix Razor Wire at the top of boundary wall conforming to the following specifications.</i>				
O	Coil size-450mm diameter, Blade profile-ripper razor wire, Stretch factor-maximum of 10m per coil and secured to wall with galvanised steel plates at 1m centers.	LM	185		
P	2.4m high x10A gauge chainlink fence, complete with 4mm diameter 5 strands of galvanized plain wire passing through 3.0m high 150x150 - cranked reinforced concrete posts placed at 2.5m centers, 12 gauge barbed wire on 450mm cranks, including 600mm deep grouting on to R.C retaining wall(m.s), erection works. Allow for double concrete struts at all corners and gates and as shall be directed by the Engineer	LM	64		
	BILL No.12:CIRCUIT BRAKER FOUNDATION.				
A	Excavate foundation pits commencing from ground level and not exceeding 1.5m deep	CM	10		
B	Ditto Exceeding 1.5m but not exceeding 3.0m	CM	6		
C	Extra -Over for excavating in all classes of rock	CM	2		
D	Allow for all necessary plunking and strutting	ITEM	1		
	TOTAL TO SUMMARY PAGE 27.				



Item	Description	Unit	Qty	Rate	Amount(ksh)
E	Allow for disposal of general water by pumping, bailing or otherwise	ITEM	1		
F	Return, Ram and Fill Selected Excavated materials around the foundations	CM	3		
G	Load and Cart-Away surplus excavated materials from site to County Government Approved dumping site	CM	8		
H	Level and Compact bases of pits to receive blinding.	SM	7		
	<u>Blinding(Plain Concrete Class 15)</u>				
I	75mm thick (1:4:8) Concrete blinding to pit bottoms	SM	7		
	<u>Vibrated Reinforced Concrete Class 25/20 mm Aggregates In:</u>				
J	200mm Thick base	CM	3		
K	Stub columns	CM	4		
L	Allow for supply and placement of concrete for bedding and thickening ,including filling and making good.Concrete to be class25(25MPa) using 20mm nominal maximum aggregate size,including all necessary formwork,compaction,curingandfinishing to required levelsand profiles.	CM	30		
	<u>High yielded steel reinforcement bars including cutting,bending, tying and fixing in place,spacer blocks and tying wires to BS 4449.</u>				
M	D8-12mm	KG	230		
	<u>Fair - Face FormWork to:</u>				
N	To vertical sides of bases -(150-225mm)	LM	24		
O	To vertical sides of stub-Columns	SM	17		
P	Plinth top surface finish smooth trowelled including 50mm chamfer all round on all plinths	SM	6		
Q	Supply and fix all galvanized steel bolts min M24X650mm long Including poring anchoring holding in position and allowing for all bolts nuts washers and bottom plates.	No.	16		
	TOTAL TO SUMMARY PAGE 28.				



Item	Description	Unit	Qty	Rate	Amount(ksh)
	BILL No.13: STEEL GALVANIZED STRUCTURES				
	Supply Fabricated Steel Structures Bus Bars, The steel structures shall be manufactured from hot-rolled structural steel sections of tensile strength of 430-460N/mm ² , yield strength of 255N/mm ² , density of 7860kg/mm ² galvanizing thickness of >110 microns as per drawings attached including all welding and nuts and bolts connections, stiffener plates/cleats, washers, etc, including transporting to site and delivery to site in a well coded manner, fully assembled to ascertain completeness and handed over to client ready for erection. Notes: 1) All Holes To Be 18mm diameter where applicable for M16 Bolts unless otherwise stated. 2) All Steelwork to Be Free From Rust, Rust, Dust Burrs E.T.C Then Galvanised By Hot Dip. Process, Thickness and Quality of Zinc Coating to Withstand Test of 729. 3) Assembly Bolts, Nuts and washers to Conform TO BSS 916 and the Quantity Supplied to Include 10% Spare Allowance. 4). Fabricators Are To Designate All Steelwork Items and Provide Erection Mark Plans. 5) All Individual Steel Parts to Be Marked - KPLC				
A	BUS BAR Structure 33 And 11 kv -1.8Tonnes	No.	6		
B	Allow for concrete grouting finishes and making good at switch gear foundations after KPLC erects Concrete poles, Provisional su of 350,000 Ksh.	ITEM	1		
C	Allow factory visit Provisional sum of Ksh. 350,000 for inspection and tests before, during and after, in workshop/factory fabrication and galvanization. All required tests shall be carried out by client Inspection Team/Engineers to Accept/Reject every process, Quality, Workmanship etc before delivery to site as specified in Technical Specifications for steel structures, including all facilitation/transport and communication for Project implementation team.	ITEM	1		
D	Allow for assembly and Erection of GANTRE lattices structure upon the delivery on site,	ITEM	1		
	TOTAL TO SUMMARY PAGE 29.				



	SUMMARY				
	TOTALS CARRIED FROM SUMMERY PAGE 1				
	TOTALS CARRIED FROM SUMMERY PAGE 2				
	TOTALS CARRIED FROM SUMMERY PAGE 3				
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	TOTALS CARRIED FROM SUMMERY PAGE 28				
	TOTALS CARRIED FROM SUMMERY PAGE 29				
	SUB TOTAL INCLUSIVE OF PPCBL TO FORM OF TENDER				
	ALLOW FOR 16% VAT				
	TOTAL TO FORM OF TENDER AND QS CERTIFIED SUMMERY PAGE.				



	AMOUNT IN			
	WORDS.....			
			
			
	COMPANY			
	NAME.....SIGN.....STAMP.....			
			
	PROPOSED WORK DURATION IN WEEKS(Please indicate) 52			
	WEEKS.....ACCEPTED.....NOT			

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