	PROPOSED CIVIL WORKS FOR BOMANI 132/33 45MVA	ΓX & A	SSOC	IATED W	ORKS.
Item	Description	Unit	Qty	Rate	Amount
	•				(Kshs)
	ELEMENT No.1 PRELIMINARIES AND ENABLING				
	WORKS				
A	Allow for a temporary site office (approx 72sqm)with provision for	ITEM	1		
	site office meeting room, store etc complete with portable				
	seats,table ,white board,washroom for Project team,including all				
	works and fittings		_		
В	Allow for a qualified person conversant with Kenya Power safety	ITEM	1		
	regulations with capacity to receive safety electrical permits and to				
	double up as 'Safety Officer' for the entire contract period				
С	Allow for cooperty and incurance for the proposed works	ITEM	1		
<u>В</u>	Allow for security and insurance for the proposed works  Allow for clean water for the works	ITEM	1		
E	Allow for temporary sign post for the proposed works	ITEM	1		
F	Allow for temporary supply of power connection for use for the	ITEM	1		
-	works.	1112111	1		
G	Allow for all the necessary statutory approvals for the works by	ITEM	1		
	relevant county departments, replication of drawings to required	I I ZIVI	1		
	formats, Endorsement by relevant proffesional persons; and				
	submit a set of approved drawings before commencement and as				
	built drawings to client on completion, including site and project				
	regitration with NCA.				
Н	Allow attendance for Kenya power personnel to Check earthing	ITEM	1		
	prior to blinding all the excavated bases				
I	Allow for Geotechnical investigation and submit report by	ITEM	1		
	approved licenced Geotechnical firm and all concrete cubes and				
	material tests				
	TOTAL TO SUMMARY PAGE				
				<u> </u>	

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	ELEMENT No 2 132KV LILO BAYS				
	SWITCH - GEAR FOUNDATION PLINTHS( Substructure				
	Works -All provisional)132 KV SWITCHGEAR PLINTHS				
	The following in 40 No. CT/CVT/SD/PI Foundation type F1,				
	36No. Isolator Foundation Type F2, 11Nos. CB Foundation				
	Type F3 and 8No Foundation Type F4 GANTRY-Total 95Nos.				
A	Clear site of all existing ballast and set aside the ballast for re-use as shall be necessary	SM	1000		
В	Excavate foundation pits commencing from ground level and not exceeding 1.5m deep	CM	240		
С	Ditto Exceeding 1.5m but not exceeding 3.0m	CM	95		
D	Extra -Over for excavating in all classes of rock	CM	2		
Е	Allow for all necessary plunking and strutting	ITEM	1		
F	Allow for disposal of general water by pumping, bailing or otherwise	ITEM	1		
G	Return, Ram and Fill Selected Excavated materials around the foundations	CM	180		
Н	Load and Cart-Away surplus excavated materials from site to County Government Approved damping site	CM	150		
I	Level and Compact bases of pits to receive blinding.	SM	125		
	Blinding(Plain Concrete Class 15)	DIVI	123		
J	50mm thick (1:3:6) Concrete blinding to pit bottoms	SM	250		
	Vibrated Reinforced Concrete Class 25/20 mm Aggregates In:	DIVI	230		
K	200mm Thick base	CM	90		
L	Stub columns	CM	150		
	High yieled steel reinforcement bars including cutting, bending,				
	tying and fixing in place, spacer blocks and tying wires to BS 4449.				
M	D8-16mm	KG	17500		
	Fair - Face FormWork to:	110	1,000		
О	To vertical sides of bases -( 150-225mm)	LM	440		
P	To vertical sides of stub-Columns	SM	480		
G	Plinth top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	SM	200		
Н	Supply and fix all galvanized steel bolts min M24X650mm long Including poring anchoring holding in position and allowing for all	No.	492		
	bolts nuts washers and bottom plates.				
I	Supply and fix earthing material To include 400No. Earth Rods,GI strip 75x6mm GI flat -Min 1000m,connectors clamps and lugs including bolts and nuts to conect strips (welding not allowed) and	ITEM	1		
	connect to existing Grid(furnish drawing to client for approval)				
Ib	Allow 2500mm earth strip and all connectors to 4m trid or entire potion 120m x40m				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
					(IXSIIS)
J	2.4m high x10A gauge chainlink fence, complete with 4mm diameter 5 strands of galvanized plain wire pass through 3.0m high 150x150X Ycranked reinforced concrete posts placed at 3.0m centers, 12 gauge barbed wire on 450mm Y cranks, including, excavation and erection works, 1:3:6 mix mass concrete surround at 600mm deep.	LM	260		
K	Allow for 600mm masonary wall above ground including all Material,labour,builders works and plaster finishes with 2 coats of black bituminous paint	LM	260		
	ELEMENT No.3 33 KV SIDE & 'T' Bus SUPPORT &				
	TAKE OFFS				
	33KV SWITCHGEAR PLINTHS				
	The following in 50 No. Foundation Type (CT/VT/SA/PI, TAKE OFF) 7Nos. CB, 11 No. ABS Foundation , 11 Nos. Bus suport Foundation Total 80 Nos.				
В	Excavate foundation pits commencing from ground level and not exceeding 1.5m deep	СМ	300		
С	Ditto Exceeding 1.5m but not exceeding 3.0m	CM	150		
D	Extra -Over for excavating in all classes of rock	CM	50		
Е	Allow for all necessary plunking and strutting	ITEM	1		
F	Allow for disposal of general water by pumping, bailing or otherwise	ITEM	1		
G	Return, Ram and Fill Selected Excavated materials around the foundations	CM	250		
Н	Load and Cart-Away surplus excavated materials from site to County Government Approved damping site	CM	150		
I	Level and Compact bases of pits to receive blinding.	SM	150		
	Blinding(Plain Concrete Class 15)				
J	50mm thick (1:3:6) Concrete blinding to pit bottoms	SM	180		
	Vibrated Reinforced Concrete Class 25/20 mm Aggregates In:				
K	200mm Thick base	CM	40		
L	Stub columns	CM	60		
	High yieled steel reinforcement bars including cutting, bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.				
	male				
	W W				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
M	D8-16mm	KG	5000		(ILDIID)
	Fair - Face FormWork to:				
О	To vertical sides of bases -( 150-225mm)	LM	300		
P	To vertical sides of stub-Columns	SM	360		
G	Plinth top surface finish smooth trowelled including 50mm chamfer	SM	120		
	all round on all plinths.				
Н	Supply and fix all galvanized steel bolts min M24X650mm long	No.	320		
	Including poring anchoring holding in position and allowing for all				
	bolts nuts washers and bottom plates.				
I	Supply and fix earthing material To include 320No. Earth Rods, GI	ITEM	1		
	strip 75x6mm GI flat -Min 1200m, connectors clamps and lugs				
	including bolts and nuts to conect strips (welding not allowed) and				
	connect to existing Grid .And all other associated accesories				
	(furnish drawing to client for approval)				
	ELEMENT NO.4 CABLE TRENCHES				
6	Trench (600-900mmx600-900mm deep) length Approx.450lM				
A	Excavate for cable trench 1.2m wide from ground level not exceeding 1.0m metres deep.	CM	540		
В	Load and cart- away excess excavated materials from site to	CM	430		
	County Government Approved damping site	Civi	150		
С	Backfill and ram selected excavated materials around trench walls.	CM	110		
D	50mm plain concrete(1:4:8) blinding on cable trench base	SM	650		
Е	Allow for all necessary plunking and stritting	ITEM	1		
F	Allow for disposal of general water by pumping. Bailing or	ITEM	1		
C	otherwise.				
G	Vibrated reinforced concrete class 20/25 1:2:4 as described in;	G) 1	<b>=</b> 0		
Н	150mm thick trench base.	CM	70		
I	150mm thick trench walls with fairly smooth face finish.	CM	135		
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		
K	Provide and put in place (1300x300x100mm) thick precast concrete trench covers reinfoced with D8 &10 bars spaced at	No.	830		
	150mm both ways with fair face finish on both sides, -TYP C DITTO 1000mm x 300 mm x 100mm-TYP B	No.	700		
L	Supply and fix galvanized perforated steel cable trays cable trays	LM	250		
L	from 30mm thick 50 mm500 mm wide i including mounting on the		230		
M	trench and all joints and bends.  Allow congrete for hadding and thikenings class 25 /20 congrete	CM	75		
	Allow concrete for bedding and thikenings class 25 /20 concrete				
N	PVC ducts HD 150mm Dia with soround haunch in all areas and road crossings, equipment linking and all bends Ts and like	LM	120		
	( My mm				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	DITTO to wide 900mm Trench	LM	200		
	High yieled 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	6500		
N.T.	Fair Face - Form work to:	~~ -	1=00		
N P	Vertical sides of trench walls.(Internally and Externally)  Vertical side of trench base-(75-150mm)	SM LM	1700 1230		
Q	Allow screeding/sloping and water drainage including all outlet pipes at cable trench ends	ITEM	1		
	ELEMENT No. 5 132 KV STEEL GALVANIZED STRUCTURES				
	Fabricate Steel Structures to conform BS4380,Grade 43A,Yield stress 250N/Sqmm,Tensile 410N/sqmm,Bolts BS4990 Class 8.8,Hot dip ISO 1461,zinc coating 610g/sm,bolts &nuts at 410gm/sm,all holes 17.5mm dia for 16mm dia bolts,all welds 16mm fillets,with erection mark BOM 132 /33-;-Adopt Boq quantities and Weights where drawings NOT legible				
A	CT Structure-220 Kgs.	PCS	9		
В	CVT Structure-220 Kgs.	PCS	9		
С	Post Insulator Structure-266 Kgs.	PCS	6		
G	Ditto but single leg pilot-150 Kgs	PCS	4		
D	Surge Diverter Structure-220Kgs.	PCS	9		
Е	Incomming Gantry (2 vertical Gantries and Horizontal Boom)-4Tor	PCS	2		
F	BUS BAR (2 vertical Gantries and Horizontal Boom)-4Tonnes	PCS	2		
F	Allow for grouting after KPLC Erection of structures	ITEM	1		
	The factor of the state of the				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount
	ELEMENT No. ( 22 EX CERT CALVANIZED				(Kshs)
	ELEMENT No.6 33 KV STEEL GALVANIZED STRUCTURES				
	Fabricate Steel Structures to conform BS4380,Grade				
	43A, Yield stress 250N/Sqmm, Tensile 410N/sqmm, Bolts				
	BS4990 Class 8.8,Hot dip ISO 1461,zinc coating 610g/sm,bolts				
	&nuts at 410gm/sm,all holes 17.5mm dia for 16mm dia bolts,all				
	welds 16mm fillets, with erection mark BOM 132 /33-;-Adopt				
	Boq quantities and Weights where drawings NOT legible				
A	CT Structure-190 Kgs150x150x6mm	PCS	15		
В	VT Structure-190 Kgs150x150x6mm	PCS	9		
D	Surge Diverter Structure-160Kgs150x150 x 6mm	PCS	3		
Е	Busbar Support 4.5m High T" -150x150x8mm-460kgs	PCS	11		
F	Lightening Arrester Tubular-16M -Cascased-450kg	PCS	4		
G	Post Insulator Structure/cable support)-250 Kgs.	PCS	7		
F	Allow for grouting after KPLC Erection of structures	ITEM	1		
G	Alow for assembly , and erection of 132KV Gantries & Busbars	ITEM	1		
	ELEMENT No. 7 45MVA TX WORKS -				
	NOTE -Bidder to adopt Rates ,drawing during execution				
		G) 1	200		
B C	General excavation 0-2m	CM	200		
<u> </u>	ALL Classes of rocks excavation	ITEM	50 75		
	Allow for soil stabilization /bottom soiling with parked boulders Allow for 'Plum' stabilization concrete -30mm aggregates-150mm-	CM CM	15		
Е	BASE concrete Class 30 to footings 300mm deep 12x6m	CM	23		
F	Concrete Class 30 to upstand beam & walls 1200x200mm40lm	CM	13		
G	Steel -Ribbed 8-25mm To base and beam and wall and Sump	Kg	7000		
Н	Allow for INSERT plates 12mm thick 300x300 Including anchors a	PC	4		
J	Allow for Fair face formwork to all concrete works	LM	80		
K	Formwork all bases sides	SM	220		
L	Allow Concrete class 25 to perimeter sump wall 150mm thick	CM	10		
M	allow HEAVYduty gratings in 1m pieces made of 75x75mm angle	SM	35		
	framing with 25mm Ribbed bars at 25mm centres along the sump				
	perimeter including fixing of Nosing edge angle to match for				
NT	grating mounting, all steel works galvaniozed to 95 microns	ITEN #	1		
N	Allow for factory inspection For all steel Structures during	ITEM	1		
	fabrication, Galvanizing and delivery including all				
	facilitation/transport and communication for 6no.( CIT members ,PE,PM )				
	,1 L,1 IVI )				
	(M. A.				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	ELEMENT No. 8 45MVA TX TRANSPORTATION				
A	Allow mobilization positioning and access to TX in Mbaraki Stores	ITEM	1		
В	Load 80 Tonne TX to Low loader with any prefered method including all safety precatutions	ITEM	1		
С	Transport 80 Tonnes TX By road from Mbaraki To Bomani ,including all permits ,escorts ,legislation	KM	40		
D	Offlload TX to Plinth at substion including positioning and aligning on Final place	ITEM	1		
	EELEMENT 9 SWITCHYARD LEVELLING & PLATFORM WORKS				
K	Oversite general excavation to Reduced level 200mm deep and Cart AWAy all loose soil	SM	13000		
	Cut trees and uproot stumps of up to 1.0m and average diameter 300mm and cart away the wood as directed by client.	ITEM	1		
M	Bulk excavation and Cart unsuitable soil 4M deep From reduce levels commencing from stripped level not exceeding 1.5m deep intervals. From contour 35.0 to 30.0 up to RL 31.00(4M) along the substation live area 120m long-30m width	СМ	8000		
N	Fill in with approved material on embakments to make up levels and compact to 95% MDD (AASHTO T99) in layers of 150mm In live switchyard area-4 layers	CM	3000		
	Allow for stabilizing soft ground by boulders And hardcore 450mm deep	CM	2160		
F	Apply suitable weed killer, herbicide to surfaces of blinding as per the Manufacture's written instructions	SM	5000		
G	1000 gauge polythene or other equal and approved membrane laid on compacted and treated quarry dust with welted laps of 200mm wide.	SM	5000		
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount
					(Kshs)
11	G 1 1 1 10 1 150 di 1 (10 2 50) 1 11 di	C) A	4000		
Н	Supply and spread uniformly 150mm thick (1"-2.5") ballast in	SM	4800		
I	switch yard- singly graded Allow for compaction of 150mm inert maruum spoil or other	CM	400		
1	approved coral fill to NON live area aadjacent to control building	CIVI	400		
	approved corar fill to NON five area addjacent to control building				
	FUMIGATE with approved herbicide with warranty	SM	2800		
J	Supply and spread uniformly50MM thick QUARRY CHIPS	SM	2800		
K	Allow for Shrubs removal ,clearing cart away on all other areas	SM	8000		
L	allow for 3m perimeter access around the chainlink wall including	CM	250		
	stripping ,compaction of approved coral fill 300MM for security				
	operations for non live front areas				
M	Allow for Gabion boxes 2m x1m filled with approved boulders .for	NO	200		
	ground slope protection at low areas				
	BELEMENT 10 ACCESS ROAD, DRIVEWAY &				
	PARKING				
A	Mass excavation to reduce levels not exceeding 1.50m deep	CM	1400		
	commencing				
	from stripped level average 750mm deep.				
В	Load and cart away excavated material from site.	CM	1400		
С	Ram and compact sub-grade ready to receive sub-base	SM	1300		
	Filling				
D	Imported filling material to make up levels	CM	360		
Е	300mm Thick handpacked hardcore, filling leveled, well rammed	SM	360		
	and				
F	consolidated in 150mm thick layers	C) I	1,500		1
G	50mm Thick quarry dust blinding	SM	1500		
0	250 x 125mm High pre-cast concrete kerb bedded and jointed in	LM	1000		
	cement and sand (1:4) mortar including 325x100mm thick mass				
	concrete class 20/20 in foundation and haunching at the back, all				
	necessary formwork and excavations.				
Н	Extra-over ditto for curved on plan to various radii	LM	50		
I	250 x 125mm High pre-cast concrete channels	LM	1000		
	Extra-over ditto for curved on plan to various radii	LM	50		
J	Heavy duty industrial concrete paving blocks size	SM	1500		
	(210x105x80mm) minimum strength 49N/mm square laid in				
	herringbone pattern laid to slope on quarry dust (measured				
	separately) and compacted				
	W. 4.				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount
	BILL NO. 11: CULVERTS AND DRAINAGE WORKS				(Kshs)
	BILL NO. 11: CULVERTS AND DRAINAGE WORKS				
K	Excavate in any material in trench to a depth not exceeding 1.0m.	СМ	15		
	Rate to include shaping and carting away of surplus material to spoil.	CWI			
L	Excavate into any material for headwalls and wingwalls cart away to tips excess material.	СМ	20		
M	Provide, lay and joint 450mm diameter precast concrete pipes (culverts) for service ducts as Engineer directs. The rate to include backfilling and compaction to drain formation level.	LM	8		
N	Provide, place and compact 150mm class 15 (1:3:6) concrete bed and surround to 450mm diameter pipes.	СМ	3		
O	Excavate, cut and shape in a V formation an earth drain into any material and cart away to tips excess material as directed by the Client.	СМ	350		
Р	Provide all materials and construct standard headwalls conforming to Standards Specifications as directed by the client. Use natural blue stone with a 1:3 cement mortar and key finish.	No.	2		
Q	Provide, lay and joint 450mm x 225mm PCC invert block drains with two (2) courses side slabs on both sides laid on a 100mm thick murram well	LM	350		
R	Provide all materials lay and joint shallow IBD as directed by the client to form mitre drains. Rate to include provision of 100mm well compacted murram bed and jointing with 1:3 cement mortar.	LM	350		
S	Provide all materials, prepare and construct 200mm thick grouted stone pitching laid on 100mm well compacted murram bed to inlets, outlets, slopes and drains. Rate to include 1:3 cement mortar.	SM	1500		
T	300mm wide x 200mm deep (average) open stormwater concrete class 20/20 channel including all necessary excavations, 100mm murram bed and haunch all round, reinforcement, plaster in waterproof, with 350mm wide heavy duty grating made of 20mm diameter square twisted mild steel bars welded at 50mm centres to 25 x 25 x 3mm mild steel angle frame resting on 30 x 30 x 3mm angle frame fixed in concrete channel with fish tailed lugs.	LM	30		
	a h m				
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	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount
	BILL NO. 12: WELFARE ,ABOLUTION & SECURITY				(Kshs)
J	Construct Guard House & toilet block (Non executive) within the subtsation plot entrance area including plumbing works, foul water drainage to the septic tank, all electrical works and all the necessary manholes (New Location to be shown by client)Max area 12 Sq.m- To include 2 washrooms and a urinal potion, Guard sentry)-draft proposal by contractor to client for approval-unit rate per sq meter to apply as per IQSK Handbook Rates	SM	12		
L	Oil sump chamber 3.6m 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 transfomer pit not exceeding 6m away in 3 components.AS PER Drawing	ITEM	1		
M	Supply and fix polysynthetic manhole cover and frame size 600 x 450mm and: frame set into cement and sand ((1:4) mortar: cover set in grease	NO	3		
N	Excavate, construct in the new location as directed and dispose surplus excavated material, septic tank size 4000x2000mm; including inlet and outlet manholes as per drawing Allow for all builders work,plumbing and like for above works-Bidder quote lumpsum as PER Drwawing	ITEM	1		
R	Allow to supply subststion with water from municipal water provider, AND provide traditional well min 15m deep 1.8m dia with masonary protection at 2m from top cover slab and a provision for sump pump for salty water as standby PROVISIONAL 400,000	ITEM	1		
	ann				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	DILL NO 14 CONTROL BUILDING				
	BILL NO.12: CONTROL BUILDING				
	ELEMENT NO 1: SUBSTRUCTURES				
	<u>Excavations</u>				
	General excavations to include excavating in loam, clay. Black cotton soil, red soil or any soil which does not require ripping or use of compressor tools				
A	Excavate average 200mm deep to remove top soil and dispose.	SM	262		
В	Excavate trenches for wall foundations: commencing from reduced level and not exceeding 1.5 metres deep.	CM	55		
С	Ditto over 1.5m deep but not exceeding 3.0m deep	CM	13		
D	Excavate pits for column bases	CM	38		
Е	Ditto over 1.5m deep but not exceeding 3.0m deep	CM	15		
F	Ditto but cable trenches	CM	77		
G	Extra over excavation for excavating in hardrock all classes.	CM	5		
Н	Backfilling around Foundations  Backfill around foundation: selected excavated material: placed 'n 200mm thick layers: well watered and compacted to 98% MDD	СМ	59		
	Disposal of Excavated Material				
I	Surplus excavated material: remove and deposit in spoil heaps on	CM	203		
	Disposal of water				
J	Keep excavations free from all water by baling, pumping or	ITEM	1		
	Planking and strutting				
K	Planking and strutting to sides of all excavations : keep excavation free from all fallen materials	ITEM	1		
	Imported Hardcore				
L	Approved quarry stone hardcore: 450mm thick (overall): hand packed and well compacted in 150mm thick layers	CM	93		
	Murram Blinding				
M	50mm Murram blinding to surface of hardcore	SM	185		
	Antitermite Treatment				
N	Chemical antitermite treatment to murram filling; Dragnet 30% EC or equal and approved: provide 10 year guarantee	SM	185		
	Insitu Concrete : Class 15/25mm				
О	50 mm Blinding layer: under wall foundations.	SM	40		
P	Ditto: under column bases.	SM	25		
Q	Ditto: under cable trenches/channel;	SM	62		
	Insitu concrete : class 25/20 : vibrated : reinforced				
R	Strip foundations trenches .	CM	8		
S	Column bases.	CM	8		
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
Т	Column stubs.	CM	3		
U	Cable trenches	CM	15		
V	Bed to cable channel/trenches; laid to falls	CM	7		
W	150mm thick floor bed	CM	40		
X	Ramp	CM	2		
Y	11kv switchboard panel pad supports	CM	2		
	Mesh fabric reinforcement to BS 4483 : 200mm laps				
Z	Fabric mesh reference A142 weighing 2.22kg per square metre : in floor beds	M2	185		
	High yield steel bar reinforcement to BS 44461				
A1	D 8	KG	1198		
B1	D 10	KG	202		
C1	D 12	KG	261		
D1	D 16	KG	1207		
	Wrot formwork : to				
Α	Vertical sides : column bases	M2	40		
В	Vertical sides : column stubs	M2	65		
С	Ditto: strip foundations	M2	21		
D	Ditto: sides of channel/trench walls	M2	191		
Е	Vertical edge of floor bed	LM	65		
F	Extra-over for boxing size 400 x 400x600mm deep to form	No	8		
	control panel grooves on 150mm thick concrete slab.				
G	Vertical sides of ground beam	M2	40		
	Quarry natural stone bedded and iointed in cement and sand (1:3)mortar : 20 gauge x 25mm hoop iron in every alternate course				
Н	200mm Walling	M2	120		
I	One layer 1000 gauge polythene sheet damp proof membrane : under beds : 300mm laps.	M2	185		
J	Makes 200mm diameter holes on walling	No	30		
K	Ditto but concrete 200mm cable trench	No	30		
L	Supply and lay 200mm diameter heavy duty PVC ducts as cable sleeves	LM	90		
M	100mm Thick concrete (1:3:6) bed and surround to; 200mm diameter pipe, allowing for all necessary formwork.	LM	90		
N	6mm Chequer plate trench cover to 600x600mm trench of average size 700x800mm: comprising 25 x 25 x 3mm RHS cross members: welded to and including 25 x 25 x 3mm RHS as edge frame: in 750mm lengths.	SM	40		
О	Ditto but 1000x1200mm trench of average size, 700x500mm	SM	9		
P	Ditto but 1000x1200mm trench of wage size,400x800mm	SM	5		
	TOTAL TO SUMMARY PAGE				
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Item	Description	Unit	Qty	Rate	Amount (Kshs)
Q	Ditto but 400x400mm control panel groove of average size,450x400mm	SM	2		
R	40x40x 3mm Angle frame set in fillet in concrete sides of open	LM	144		
	channel: 50x3mm lugs at 1000mm centres with fish tail ends cast	171/1	177		
	into concrete				
S	Prepare and apply undercoat of zinc chromate primer to all general	SM	160		
	metal surfaces.	5111	100		
T	Ditto but two coats of gloss aluminium paint.	SM	160		
	Cable trays	21.1	100		
U	Fabricate and fix steel cable trays frame for 900 x900mm cable	LM	15		
	trench, comprising of 50x50x4mm thick SHS frame, weld together	21,1	10		
	with 900mm wide 50x50x4mm struts, spaced at 400mm C/C to				
	horizontal; to form cable tray and rised 200mm above the trench				
T 7	<u>-</u>				
	Ditto but for 600 x 600mm cable trench.	LM	53		
W	Supply and fix 150x50x6mm thick RHS anchored on concrete	LM	15		
	pads (measured separately) to client satifactory				
	ELEMENT NO.2: CONCRETE SUPERSTRUCTURE				
	7 1 25/20 11 1 1 6 11				
37	Insitu concrete: class 25/20 : vibrated reinforced in;	G) 1			
X	Columns	CM	6		
Y	Ring beams	CM	5		
Z	Ditto : intermediate beams	CM	8		
A1	Ditto: Lintels	CM	1		
B1	Ditto but 150 mm thick suspended slab	SM	229		
	Hieh yield deformed bar reinforcement in beams and				
	suspended slab to BS 44461, including, cutting, bending,tying				
C1	wire and spacer blocks;	TI C	420		
	D 8	KG	429		
D1	D 10	KG	2451		
E1	D 12	KG	270		
F1	D 16	KG	501		
	Wrot formwork : to				
		1.40	100		
	Vertical sides of columns	M2	100		
A	Sides and soffits of Ring beams	M2	93		
В	Ditto : intermediate beams	M2	71		
С	Ditto: lintels	M2	14		
D	Ditto: soffits suspended slab	M2	204		
Е	Ditto: sides of suspended slab	M	65		
	- In a				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	ELEMENT NO.3: WALLING				(110110)
	Machine cut natural stone blocks or other equal and approved				
	building blocks: minimum compressive strength 7N/mM2:				
	regular coursed walling of uniform colour : bedded and jointed				
	in cement and sand (1:3) mortar : 20 gauge x 25mm hoop iron				
	in every alternate course				
F	200mm Walling - external	M2	171		
G	200mm Walling - internal	M2	315		
	Damp proof courses; bituminous felt: bedded in cement				
	mortar (1:4) : 300mm laps				
Н	Horizontal: 200mm wide	m	73		
	Precast concrete units: Class 20/20; reinforced as necessary				
	for handling ; fair face finished on all exposed faces				
I	250 x 75mm Cill : once weathered and throated : bedded in cement	m	25		
	mortar 1:4)				
	,				
	ELEMENT NO 4: WINDOWS				
	Aluminium				
	Mediam duty anodized aluminium windows complete				
	with all necessary framing, million, transome, mosquito				
	proofed hooded permanent vents, all necessary pegs,				
	prime, quality handle, pointing with approved mastic				
	sealant all round, 6mm thick laminated glass				
J	Window overall size 1800 x 1500 mm high; 2No. Sliding leaves	NO	14		
K					
L	Ditto but size 1.0 x 1.5m high	NO	2		
M	Ditto but size, 1.0 x 1.0m high	No	1		
IVI	Ditto but size, 0.5 x1.0.m high	NO	2		
NT.	Burglar proofing	C) I	20		
N	12mm Diameter round mild bars welded to each other at 150mm	SM	30		
	centres both ways with every alternate bars welded to window				
	frames (m.s)				
0	Window Cills	1.) (	25		
О	200 x 150 x 30 mm thick concrete window cill with one curved	LM	25		
P	edge including bedding and pointing in cement and sand mortar	C) A			
r	Prepare and apply two coats of brick red paint	SM	6		
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
					(KSHS)
	ELEMENT NO.5: DOORS				
	Steel Doors				
	Supply and fix the following purpose -made steel doors,				
	including fixing lugs, once shop primed with one coat red oxide				
	primer before delivery to site, complete with frames and				
	including all ironmongery to Client approval and as per Door				
	drawing: SK NO. 06449				
	BAT AND INSECT PROOFING				
	Mild steel Bat and insect proofing screens panels in lourver				
	opening, including 13 x13 x 3mm flat frame in panels; welded				
	one face with and including coffee tray gauge wire mesh: one				
	shop coat red oxide primer : to				
Q	Double leaf door overall size 2000 x 3000mm high	NO	2		
R	Ditto but Single leaf door overall size, 1500 x 2500mm high	NO	6		
	,				
	TOTAL CARRIED TO SUMMARY PAGE				
	Aluminium Door				
A	Medium duty aluminium door overall size 1000 x 2500mm high	No	7		
	complete with locking devices and housing on top all to Client's	1,0	,		
	approval.				
В	Supply and fix first grade emergency panic lock on the 1500mm	NO	3		
	wide doors to client approval.	110	3		
С	Prepare and apply gloss paint to general surfaces; steel doors;	M2	66		
	both sides measured	1412	00		
	both sides measured				
	ELEMENT NO C. ELOOD EINICHEC				
	ELEMENT NO.6: FLOOR FINISHES				
	Cement and sand (1:4) trowelled screeds : on concrete : to				
D	25mm Floor screed to receive terazzo including plastic diving	M2	185		
	Polished Terrazzo Floor Finishes on concrete				
Е	30mm thick terrazzo floor finish	SM	185		
F	Ditto 25mm thick Skirting 150mm high:		115		
	Non-Slip Ceramic Tiles	m	113		
G	300 x 300 x 6mm Thick ceramic floor tiles approved bedded and	M2	8		
J	jointed in cement and sand (1:4) mortar and pointed with neat	1 <b>V1</b> ∠	0		
Н	coloured cement.	m	12		
11	100 x 6mm High ceramic tiles skirting bedded and jointed in	m	12		
	cement and sand mortar (1:4) and pointed with neat coloured				
	Skirting				
I	20 x 100mm High cement and sand skirting with rounded top and	m	12		
	curved junction with floor finish				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount
	•				(Kshs)
	ELEMENT NO.7: WALL FINISHES				
	12mm lime plaster in two coats : steel trowelled finish : on				
	concrete or blockwork : to				
J	Walls and columns	SM	510		
	Ditto but soffit of suspended slab	SM	220		
	Prepare and apply three coats PVA matt vinyl emulsion paint :				
	<u>on</u>				
K	Plastered walls, columns and beams.	M2	650		
L	Ditto but soffit of suspended slab	M2	220		
M	200 x 300 x 4mm Thick glazed ceramic wall tiles : fixed with	SM	15		
	approved quality adhesive in accordance with the manufacturers				
	instructions : on and including 12mm thick cement and sand screed				
	backing: jointed, pointed and grouted in matching colour coloured				
	cement grout and Plastic corner strips to edges of tiled surfaces				
N	Key pointing in cement sand (1:3) in horizontal joints.	M2	171		
0	Plinth walls and edges of floor bed	M2	26		
	Prepare and apply three coats first grade external quality	1112	20		
	paint: to				
P	Columns and beams	M2	128		
	Prepare and apply three coats bituminous paint : to	1112	120		
Q	Plinth area and edges of floor bed	M2	26		
	ELEMENT NO.8: KITCHEN				
R	100mm thick 1:2:4 concrete in kitchen work top	SM	2		
S	Y 10 reinforcement bars at 150 centres	KG	17		
Т	150mm block wall	SM	2		
U	12mm thick mix 1:3 cement sand plaster	SM	5		
V	Single drain single bowl stainless approved kitchen sink	NO	1		
W	Bricon or approved kitchen mixer tap	NO	1		
X	900x600mm wide 20mm thick MDF board bottom cabinets	ITEM	1		
	comprising of 2No. Cabinents, 4No. Drawers including fixing,				
	mouver hinges, rails, handles and approved finishes.				
W	Ditto in locable overhed cabinets but with 3No. open shelves	ITEM	1		
A	10mm thick granito tiles finishes on the kitchen work top fixed	SM	2		
	with approved quality adhesive in accordance with the				
	manufacturers instructions : on and including 12mm thick cement				
	and sand screed backing: jointed, pointed and grouted in matching				
	colour coloured cement grout and alluminium corner strips to edges				
	of tiled surfaces				
	(Mr M)				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	ELEMENT NO.9: DRAINAGE AND PLUMBING WORKS				
	To supply and install the following Sanitary fittings including all the necessary joints to service overflow and waste pipes, jointings and motices, plugs, screws bolts and making good. Sanitary Fittings will be to Client's approval of the relevant samples				
В	Approved Standard white countertop wash hand basin size:	NO	2		
	585x430mm on with one center tap hole and a 2 <sup>nd</sup> RHS tap hole for Basin top mounted under counter soap dispenser .Cobra single lever mixer tap with pop up waste: and plastic bottle trap 32mm dia with seal.				
С	Approved standard WC white wall concealed cistern white seat & cover unit to have short siphon internal overflow and wide mouth WC P-trap waste outlet.	NO	2		
D	Stainless steel toilet roll holder with top flap cover.	NO	2		
Е	Stainless Steel basket soap dish size 200x150mm.	NO	1		
F	Approved standard hand drier with infrared sensor and DP Switch with wiring	NO	1		
G	Aluminium coat/towel hook complete with screw to wall fixtures and rubber door stopper	NO	2		
Н	Approved standard basin mounted push action stainless steel liquid soap dispenser with 0.5 litre under counter soap holder.	NO	2		
I	"Bevelled" Mirror to Client's approval fixed on wall with chrome plated dome headed screws. Mirror size 600 x 800mm high	NO	1		
	Internal Plumbing Water SuddIv				
J	To supply & install PP-R (PN 20) stable tubing (pipes) of various size a necessary and tenderer must allow for jointing, clipping reducers' couplina, bends, reducers, tees, sockets, approved gate valves, flexible connectors floor traps, angle valves etc. necessary for the proper and satisfactory functioning of the installation when pricing.	ITEM	1		
	ELEMENT NO.8: PAVING	$\vdash$			
K	150mm thick Hardcore bed : deposited, spread, levelled and compacted : to receive sand bed	M2	82		
L	50mm Sand bed : levelled and compacted to receive paving	M2	82		
M	50x 600 x 600mm precast concrete (class 20) paving slabs : laid	M2	82		
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount
					(Kshs)
	ELEMENT NO. 9: FIRE FIGHTING EQUIPMENT				
	Supply and fix controlled fire extinguisher manufactured to BS				
	EN 3-9:2006, Bs 7863:2009, BS 5306-4:2001 and 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				
N	9 litre carbon dioxide fire extinguisher complete with re-fills,	No.	4		
	discharge horn and fittings to wall bracket, as manufactured by				
	Angus or equal and approved.				
O	9Kg dry powder multi-purposed fire class A'B and C as	No.	4		
	manufactured by Angus Fire Armour ABC multi-purpose model				
	AP 9 K or equal and approved.				
P	1200x1200mm woven glass fire blanket with 0.025 wink thermal	No.	2		
	conductivity.				
Q	4.5Kg Co2 Powder Fire Extinguisher as Angus Fire Armour.	No.	4		
	ELEMENT NO. 10: SMOKE DETECTORS				
A	Allow for Hardwired Smoke detectors installations; including a	ITEM	1		
	battery back up; to be carried out by a nominated sub-contractor				
В	Allow for general attendance on specialist contractor	ITEM	1		
C	Builder's work in connection with Smoke detector installations; cut	ITEM	1		
	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				
	ELEMENT NO.11: ELECTRICAL INSTALLATIONS				
	WORKS				
D	Allow for electrical installations to be carried out by a nominated	ITEM	1		
	sub-contractor as per electrical Drawing No SK No. 08280/B				
	Sheet 1C - lumpsum and to comprising the following ,1No. 12 way				
	3-phase 415V distribution board rated 100Amps complete with 3				
	phase MCBS, 32Amps -2set and six 1Phase way MCBS 16Amps.				
Е	Ditto 1No. Consumer unit rated 60Amps, 6 ways each MCBS	ITEM	1		
	rated 32 and 16Amps.				
	M. W.				
	TOTAL TO SUMMARY PAGE				0
tem	Description	Unit	Qty	Rate	Amount
					(Kshs)

				1	ı
	ELEMENT NO.12: SUBSTATION LIGHTING	_			
F	Supply 6 No. approved standard street light steel posts,100W,	Item	1		
	LED Floodlights fittings complete with control gear and lamps				
	complete with wiring in twin with earth 1.5mM2 wiring to each				
	lamp including post foundations, 1No. 6 ways consumer unit, 1No.				
	1No. 40A doublr pole contactor, 3No.15A miniature circuit				
	breakers, 1No, 40A current operated earth leakage circuit breaker				
	with rated leakage current of 0.5A, 2No. dawn to dusk timer				
	switch with manual overriding switch for the street lights				
G	Earthing comprising of 6.0mM2 earth lead and 1800mm long by	No.	2		
	15mm diameter copper earth electrode with driving tip and clamp				
	in a 300mm by 300mm concrete manhole with removable cover,				
	1No. 63A MCB with enclosure,				
Н	10.0mM2 x 2core PVC/SWA/PVC copper cable to connect power	LM	150		
	from the gate house to the respective lighting posts including cable				
	glands to terminate the underground cable				
I	Trenching, cable laying, ducting and back filling	LM	150		
J	Ditto but at the gate pillars approved standard.	NO	2		
K	Supply and fix emergency chargeable lights in the control room to	NO	2		
	client approval.				
	Fumes Extractor Fan				
M	Supply and fix 450x450mm extractor fan in the battery room	NO	1		
	including the wiring accessories.				
	Door Bell				
N	Supply, install, test and commission door bell between the	ITEM	1		
	controller room and gate house including all the necessary wiring				
	accessories.				
	, n				
	/x 4				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	ELEMENT NO 13				
	ROOFING & RAINWATER DISPOSAL				
	Cturretured Cteel week				
	Structural Steel work The following in framed structural steel work a complete with				
	The following in framed structural steelwork: complete with				
	and including all welded and bolted connections : delivery to site and erection with and including one shop coat of zinc				
	plumbate primer				
A	7 No. structural steel roof trusses spanning 10750 mm girth:				
	hoisting and fixing approximate 4.5 M above ground level:				
В	100 x 50 x 4 mm thick RHS rafters	LM	85		
С	50 x 50 x 3 mm SHS struts and ties	LM	145		
D	50 x 50 x 3 mm SHS tie beam	LM	55		
Е	100 x 100 x 6 mm thick base plate welded to truss: drilled with	No	14		
	4No. holes for 12 mm diameter bolts				
F	Supply and fix 150x50x2mm 'Z' - purlins with welded cleats and	LM	224		
	bolted to rafters primed				
G	Fabricate steel framework comprising of SHS 40x40x4mm thick	LM	70		
	to form vertical facsia cladding, comprising of vertical and				
	horicontal members, bracings, struts runners all adequately and				
	including fixing into position in to client satisfaction.				
Н	Supply and fix BP760 box profile factory pre-painted gauge 28	SM	270		
	full length roofing sheets to an approved colour laid with 94mm				
	side laps and fixed to steel 'Z' purlin (m/s) including self tapping				
	screws/bolts as necessary.				
I	Ditto but vertical sides of fascia cladding framework and gable	SM	85		
	sides				
	Ditto but eave covering	SM	40		
K	Supply and fix 28Gx320mm with stiffed ridge caps	LM	23		
т .	Rainwater Goods	7.7.4	1.6		1
L	Supply and fix 14 gauge Mild steel sheet purpose made box water	LM	46		
	gutter, 1200mm girth; to sit and fixed on eave cover framework as				
М	described (ms) and to rafters	NO	4		
M N	Extra over for stopped ends.  Ditto 110mm diameter holes in gutter	NO NO	2		
O	Ditto 110mm diameter holes in gutter 110mm diameter down pipe	N0 LM	12		
P	Extra-over down pipe for 900mm girth swaneck including, tightly	NO	2		
1	secured with sandle clips at 750mm cenetres.	INO			
Q	Extra over downpipe for 300m shoe	NO	2		
	Painting generally.	140			
R	Prepare and apply 2 coats of red oxide primer and apply 2 coats of	SM	1		
	alluminium finish on rainwater goods	5141	1		
	Prepare and apply two coats black bituminous paintin rainwater	SM	55		
	gutters internally.	5111	55		
	Barres mornay.				
	TOTAL TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	EVTEDNAL WODIE				
	EXTERNAL WORKS				
	BILL NO.13 GROUND MOUNTED TANK PLINTH				
S	Excavate Pit for water tank not exceeding 1.50 metresdeep	8	CM		
T	Remove surplus excavated material from site	7	CM		
U	Return fill and well ram selected excavated materials around	1	CM		
	foundations				
	Concrete work:-				
	50mm thick plain blinding concrete mix (1:4:8) class 10-15mm				
	aggregates in:-				
V	Foundations	10	SM		
	Guaranteed strength vibrated reinforced concrete mix				
	(1:11/2:3) class 25-20mm aggregate in:-				
	Base.	3	CM		
W	Ditto but curved 250mm thick walling	2	CM		
X	Ditto but curved 300mm thick top cover	2	CM		
	<u>Reinforcements</u>				
	High yield deformed bars to B.S. 4461				
	D 8	31	KG.		
	D 12	635	KG.		
	Wrot Formwork to:-				
A	Curved base 225-300mm high	11	SM		
В	Curved edges of walling	18	SM		
C	Fillings	1	C) I		
С	Approved hardcore of 100-200mm diameter fillings	4	CM		
	BILL NO.14 ELEVATED WATER STORAGE TANK				
D	STEEL TOWER	G) I			
D	Excavate for column pits 1.5m deep commencing from stripped	CM	6		
Е	level but not exceeding 1.5 m deep.  Extra over excavation in rock of all classes.	CM	2		
F	Remove surplus excavated material from site	CM	4		
G	Return fill and well ram selected excavated materials	CM	2		
9	around foundations	CIVI			
Н	50mm thick 1:4:8 blinding to column bases	SM	4		
	Vibrated reinforced concrete class 20/20 1:2:4 as described in;	Sivi			
I	Colomn bases	CM	1		
J	Stubs	CM	1		
	a Amm				
	Que m				
	TOTAL TO SUMMARY PAGE	-			

Item	Description	Unit	Qty	Rate	Amount
	Description		29		(Kshs)
					(IIIII)
	High Steel reinforcement bars including tying bending spacer				
	blocks tying wires and fixing high tensile bars to BS 44461				
K	D 12	KG	104		
L	D 8	KG	18		
M	Allow for accurately setting 16 No. 20mm diameter galvanised	ITEM	1		
	steel foundation bolts at 250mm centres on foundation column	112111	•		
	plinths.				
N	Wrot formwork to sides of columns	SM	2		
О	Bases	SM	5		
P	Vertical sides of stub	SM	7		
Q	10mm thick top finish of cement/sand screed	SM	4		
-	The following in steel work tower 2000x2000mm wide x6000m		-		
	high fixed 1500mm deep in ground including cutting and				
	welding or bolting as necessary finished, with 3 coats of red				
	oxide primer				
R	300 x 300 x 10mm thick base plate with 4no. 18mm diameter holes	NO	4		
	spaced at 250mm centres and welded to the bottom of tower				
	column				
S	100x100x6mm mild steel SHS in main framework, welded to base	LM	24		
	plates and reinforced with 32No. Cleats				
Т	Ditto decking 100x50x6mm RHS	LM	11		
U	Ditto decking 100x50x4mm RHS	LM	22		
V	Ditto (50x50x4mm) in bracing and struts	LM	68		
W	Class A 42mm diameter x1.5mm thick balustradings	LM	12		
X	Ditto but handrail and cross member	LM	22		
Y	4mm thick galvanised chequered plate welded on decking	SM	8		
Z	Allow for water storage tank 6.0m high access ladder with	ITEM	1		
	50x50x4mm main frame with 16mm rods spaced at 300mm c/c				
A1	Apply two coats of gloss paint to tower	Item	1		
B1	Supply and install 3500 litres capacity APPROVED PLASTIC	NO	1		
	TANK including hoisting to position and applying two coats of				
	brilliant white gloss paint on its outer surface				
C1	Ditto but 6000 litres placed on concrete water tank plinth	NO	1		
	(separately measured)				
D1	Allow for connecting piped water to both elevated storage and	ITEM	1		
	ground mounted water tanks using 25mm PN20 pipes including				
	accessories, gate valves, foot valves, non-return valves				
E1	Supply and connect water control fittings including fully installed	ITEM	1		
F.1	0.5hp booster pump.				
F1	Prepare apply two coats of zinc chromate paint to general sufaces	ITEM	1		
	of metal				
	TOTAL CARRIED TO SUMMARY PAGE				

Item	Description	Qty	Unit	Rate	Amount (Kshs)
	BILL NO.16: BOUNDARY WALLS AND GATES				, a a,
	Excavations and Earthworks:-				
A	Excavate trench for strip foundations not exceeding 1.50 metres	360	CM		
	deep commencing from reduced level.				
В	Ditto pits for column basesextra over	80	CM		
C	Ditto pits for column bases over 1.5m deep but n.e. 3.0m dp.	10	CM		
D	Extra-over excavations for excavating in soft rock	37	CM		
E	Return, fill and well ram selected excavated materials around	340	CM		
	foundations.				
F	Load and cart away surplus excavated materials.	186	CM		
G	Allow for keeping all excavations free from general water.	1	ITEM		
Н	Allow for all necessary strutting and planking.	1	ITEM		
	Concrete Work:-				
	Mass concrete class 10 -15mm aggregate mix (1:3:6) in:-				
I	50mm Thick blinding under strip foundations	236	SM		
J	Ditto under column bases-extra over	62	SM		
	Reinforced Vibrated concrete Class				
	25-20mm aggregate mix (1:2:4) in:-				
K	Strip foundations	34	CM		
L	Column bases	28	CM		
M	Columns	38	CM		
N	Ground beam	25	CM		
	Formwork	0			
	Sawn formwork to:-	0			
O	Vertical sides of strip foundations.150MM	790	LM		
P	Ditto column bases. 150MM	540	LM		
Q	Ditto columns	630	SM		
R	Ditto ground beam	235	SM		
M	Allow concrete for bedding and thikenings class 25 /20 concrete	CM	30		
	TOTAL CARRIED TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	Reinforcement				(113110)
	High yield square twisted bars to B.S. 4461:				
S	D 8	2108	KG.		
Т	D 10	1209	KG.		
U	D 12	4650	KG.		
V	D 16	196	KG.		
	Quarry natural stone bedded and iointed in cement and sand				
	(1:3)mortar : 20 gauge x 25mm hoop iron in every alternate				
	course				
W	200mm. Thick substructure walls	547	SM		
	Machine cut natural stone blocks or other equal and approved				
	building blocks: minimum compressive strength 7N/mM2:				
	regular coursed walling of uniform colour : bedded and jointed				
	in cement and sand (1:3) mortar : 20 gauge x 25mm hoop iron				
	in every alternate course				
X	200mm thick wall	962	SM		
	12mm lime plaster in two coats : steel trowelled finish on walls	702	DIVI		
	and columns				
Y	Walls and columns internally.	690	SM		
	Prepare and apply three coats PVA matt vinyl emulsion paint:	070	DIVI		
	on				
Z	Plastered walls, columns and beams.	1190	SM		
	Fair face:-	1170	SIVI		
A1	Extra over stone walling for wire brushing and key				
7.11	pointing to form recessed horizontal and vertical	961	SM		
	joints on both sides.	901	SIVI		
	Prepare and apply three coats bituminous paint : to				
B1		260	SM		
ы	Plinth area above ground and ground beam externally.	200	SIVI		
	D W/				
Α.	Razor Wire	450	134		
A	Supply and fix Razor Wire at the top of boundary wall, Coil size;	450	LM		
	450mm diameter, Blade profile-ripper razor wire, Stretch factor-				
	maximum of 10m per coil and secured to wall with galvanised steel				
	25x25x4mm square tube bar 600mm long anchored on the wall at				
	1.5m centers.				
Ъ	Precast concrete class 20/20 in:-	107	NO		
В	450 x 450 x 50mm. Thick coping weathered and throated all round	135	NO.		
	bedded on top of columns with cement and sand (1:4) mortar.				
	Div. 1	_	<b>N</b> C		
С	Ditto but 800x 450 x50mm	7	NO		
D	350 x 50mm Thick ditto bedded on top of 200mm. thick walling	450	LM		
	ditto.				
Г	Expansion Joint	20	G3.5		
Е	20mm thick construction joint in flex cell or equal and approved	30	SM		
	expansion joint and (25x25)mm expedite sealer				
	TOTAL GARDIED TO GUAGA AND CARREST OF				
	TOTAL CARRIED TO SUMMARY PAGE				

Item	Description	Unit	Qty	Rate	Amount (Kshs)
	GATES				
F	Fabricate and fix standard primary substation gate with 16 gauge	1	NO		
	black sheet panels welded on 50x50x4mm square tubes and				
	75x75x4mm frame with 50mm diameter 6No. bushess as per the				
	drawing . including excavation for the gate columns, concrete				
	works, erection and 3 coats of 1st grade gloss paint				
G	Ditto but 1500x2400mm high pedestrian gates	1	NO		
Н	Ditto Grill see through gate	1	NO		
	RETAINING WALL 900MM -175LM				
	Note -Bidder to adopt quantities (drawings during execution)				
A	oversite clearance	SM	600		
В	Excavate foundation pits commencing from ground level and not	CM	210		
	exceeding 1.5m deep				
С	Ditto Exceeding 1.5m but not exceeding 3.0m	CM	6		
D	Extra -Over for excavating in all classes of rock	CM	21		
Е	Allow for all necessary plunking and strutting	ITEM	1		
F	Allow for disposal of general water by pumping, bailing or	ITEM	1		
	otherwise				
G	Return, Ram and Fill Selected Excavated materials around the	CM	150		
	foundations				
Н	Load and Cart-Away surplus excavated materials from site to	CM	60		
	County Government Approved damping site	Civi	00		
I	Level and Compact bases of pits to receive blinding.	SM	173		
	Level and Compact bases of pits to receive binding.	DIVI	0		
	Blinding(Plain Concrete Class 15)		0		
J	50mm thick (1:3:6) Concrete blinding to pit bottoms	SM	176		
3	Somm thick (1.5.0) Concrete binding to pit bottoms	SIVI	0		
	Withwated Dainformed Congrete Class 25/20 www Agamenates Inc.		0		
K	Vibrated Reinforced Concrete Class 25/20 mm Aggregates In:	CM			
L	200mm Thick base	CM	36		
ь	Stub columns	CM	60		
	High yieled steel reinforcement bars including cutting, bending,		0		
	tying and fixing in place, spacer blocks and tying wires to BS				
3.7	4449.	*** **	2 500		
M	D8-16mm	KG	3600		
	Fair - Face FormWork to:		0		
N	To vertical sides of bases -( 150-225mm)	LM	300		
O	To vertical sides of retaining	SM	540		
P	Plinth top surface finish smooth trowelled including 50mm chamfer	SM	360		
	all round on all concrete works				
Q	Allow for water proof cements on all concrete works	ITEM	1		
R	Allow concrete for bedding and thikenings class 25 /20 concrete	CM	60		
S	Allow facilitation for Kplc PM,PE & Project Supervisor on communications and data-provisional Sum1,200,000 for both electronic and Print	ITEM	1		

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SUBTOTALS			
Allow 16% VAT			
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TOTAL TO FORM OF TENDER			
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PROPOSED WORK DURATION IN WEEKS			