	PROPOSED CIVIL AND BUILDING WORKS AT CHAVAKALI 33/11KV SUBSTATION				
Item	**Description**	**Unit**	**Qty**	**Rate**	**Amount (Kshs)**
	ELEMENT No.1				
A	**PRELIMINARIES AND ENABLING WORKS**				
1	Allow for temporary site office with notice-board, shelves, store for materials and tools storage and changing room for operatives and able to accommodate 10 people, furniture and meeting accessories including refreshments etc. during site meetings (once in amonth).	ITEM	1		
2	Allow for all necessary statutory approvals for the works by relevant County Authorities, replication of drawings to required formats by county government, endorsement by relevant proffessional persons and submit a set of approved drawings to client before commencement of the works.	ITEM	1		
3	Allow for registration of site/project and staff (foreman, Masons, Capenters, etc) with the National Construction Authority (NCA)	ITEM	1		
4	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		
5	Allow for prompt communications and updates facilitation to client supervision team, including communication and project data storage facilities, laptops, had drives, airtime, etc (minimum 3 Nos.)	ITEM	1		
6	Allow for security and insurance for the proposed works	ITEM	1		
7	Allow for temporary sign post for the proposed works.	ITEM	1		
8	Allow for temporary hoarding for the proposed works	ITEM	1		
9	Allow for temporary metered electricity supply for the works (if Lv suppy within site) or a Generator for fabrication works.	ITEM	1		
10	Allow for a temporary sanitary facility on site preferbly a pit latrine for staff on site and make good after works completion.	ITEM	1		
11	Allow for clean water on site for the construction works.	ITEM	1		
12	Allow for the provision of ground spot heights and general site levelling.	ITEM	1		
	ELEMENT No.2				
A	**SWITCH YARD REHABILITATION**				
1	Clear site of all existing bushes, shrubs and under-growth including grubbing up roots and burning the arising	SM	2700		
2	Excavate oversite vegetable soil average depth 300mm and cart way to Municipal Council designated damping site.	CM	900		
3	Level and Compact bottom of excavation to receive approved imported murrum fill to approval including keeping it free from surface water.	SM	2700		
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Item	Description	Unit	Qty	Rate	Amount (Kshs)
4	Provide averagelly 1000mm thick selected and approved imported murram fill in switchyard, compacted in layers not exceding 150mm thick using a 10 tonne vibrating roller to gradual slope as instructed making the final substation yard level.	CM	2700		
5	Prepare and apply Gradiator 4TC or equal and and approved insecticide to surfaces of murram fill and blinding as per Manufacturer's written instructions (to be done by a specialist subcontractor and guarantee given, a certificate as a proof required by client)	SM	2700		
6	Apply suitable weed killer, herbicide to surfaces of blinding as per the Manufacture's written instructions (to be done by a specialist subcontractor and guarantee given, a certificate as a proof required by client)	SM	2700		
7	1000 gauge polythene or other equal and approved mebrane laid on compacted and treated murram with welted laps of 200mm wide.	SM	2400		
8	Supply and spread a uniform layer of 150mm thick 'one inch ' (25mm) ballast in switchyard	SM	2400		
	ELEMENT No. 3				
	TRANSFORMER PLINTHS 2Nos.				
A	***Excavations.(All Provisional)***				
1	Excavate for 2No. transformer plinth pits sizes (9400x6900)mm, depths n.e. 1.5m from final ground level.	CM	220		
2	Ditto exceeding 1.5m but n. e. 3m	CM	44		
3	Extra over excavation in rock.	CM	40		
4	Allow for keeping excavated pits water free by pumping, bailling or otherwise.	ITEM	1		
5	Allow for planking and strutting to uphold the foundations.	ITEM	1		
6	Return,fill and ram selected excavated materials around transformer plinth.	CM	95		
7	Removing excess excavated materials from Site and disposing off.	CM	125		
8	Compacting bases of the transformer plinths foundation bases and blinding with concrete mix (1:4:8 - 50 mm thick)	SM	80		
B	***High yieled steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.***				
1	Reinforcement bars T8, T10 and T12 to bases, upstand beams and top slabs for Tx. plinths all spaced @ 200 c/c.	KG	4700		
C	***Formwork***				
1	Vertical Sides of bases, 350mm	LM	55		
2	Steel/ wooden formwork to sides of plinths upstand beams and the plinths sides to produce a fairly smooth concrete surface finish (plastering concrete surfaces will	SM	1400		
	TOTAL CARRIED TO SUMMARY PAGE 2				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
D	***Reinforced Concrete***				
1	Class 25(20) concrete in the transformer foundation base 300mm thick.	CM	30		
2	Class 25(20) concrete in the plinth upstand beams.	CM	35		
3	Class 25(20) concrete in the plinths top slabs sizes (5000x2500)	CM	10		
E	***Hardcore fill***				
1	Well compacted hardcore fill in the plinths.	CM	50		
2	50mm thick concrete (1:4:8) blinding and DPM on the hardcore	SM	30		
F	***TX Sump Grating***				
1	Supply, fabricate and fabricated 1000 mm wide, heavy duty grating of deformed R20 @ 50mm c/c welded to 50x50x4mm mild steel angle Iron and reinforced, made in panels of approximately 1000mmx2500mm to ease handling and placing in position. The grating panels to rest on mild steel angle oron 50x50x4mm thick fastened to sump walling and transformer plinth side wall using fish tailed lugs. (All steel used for grating to be galvanized).	ITEM	1		
G	***Finishes***				
1	Surfaces finish smooth trowelled in (1:3) cement/ Sand mortar including 50mm chamfer all round top edges of plinths.	SM	35		
H	***Transformer Ground Anchors***				
1	Excavate for 2No. Ground anchors size (1500x1500)mm depth n.e. 1.5m from stripped level and dispose off the spoil	CM	8		
I	***Vibrated mass concrete class 20/25 1:2:4 as described in;***				
1	Ground anchors	CM	10		
2	Allow for fixing ground anchors in place before concreting as instructed, client to provide the steel	ITEM	1		
	ELEMENT No. 4				
	FOUNDATION PLINTHS				
	3No. typical foundation plinths for 33&11Kv bus bars				
A	***Excavations. (All Provisional)***				
1	Excavate for 6No. Bus bar structure plinths foundation pits size (3200x2800) depths not exceeding 1.5m from final ground level.	CM	45		
2	Ditto exceeding 1.5m but n.e 3.0m.	CM	14		
3	Extra over excavation in rock.	CM	5		
4	Allow for keeping excavated pits water free by pumping, bailling or otherwise.	ITEM	1		
5	Allow for planking and strutting to uphold the foundations.	ITEM	1		
6	Return,fill and ram selected excavated materials around foundations.	CM	35		
	TOTAL CARRIED TO SUMMARY PAGE 3				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
7	Removing excess excavated materials from Site and disposing off.	CM	15		
B	***Vibrated reinforced concrete class 20/25 1:2:4 as described in;***				
1	Compacting bases of pits and blinding with mass concrete mix (1:4:8 - 50 mm thick)	SM	16		
2	Stub columns and foundation bases, (1600x1200x1500 high) and (2200x1800x300 thick) respectively.	CM	16		
C	***High yieled steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.***				
1	Reinforcement bars T12 to bases and stub columns of bus bars.	KG	400		
2	Reinforcement bars T8 in rings.	KG	120		
D	***Foundation Bolts, washers & Nuts***				
1	Supply and fix 25mm dia. X 600mm long hot dipped galvanized foundation bolts with flat and & spring washers, nuts and locknuts to Engineer's details (Sample to be provided and returned after fabrication)	No.	48		
2	Grouting the foundtion bolts in stub columns by setting to precision and securing them in place when pouring concrete.The threaded portion of the bolt to protrude at least 75mm above the finished plinth level and be protected from poured concrete.	No.	48		
E	***Formwork***				
1	Steel/ wooden formwork to sides of stub columns and bases to produce a fairly smooth concrete surface finish to stub columns faces. (plastering concrete surfaces will not be allowed))	SM	40		
2	Top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	SM	6		
	ELEMENT No. 4A				
	40No. typical foundation plinths for 33 & 11Kv Air Break Switches,Post insulators,Current transformers, Voltage transformers and lightning arresters structures, as per the general arrangement drawing (GA)				
A	***Excavations.***				
1	Excavate for 40No. structure plinths foundation pits size (2000x1800) depths not exceeding 1.5m from final ground level.	CM	250		
2	Ditto exceeding 1.5m but n.e 3.0m.	CM	48		
3	Extra over excavation in rock.	CM	5		
4	Allow for keeping excavated pits water free by pumping, bailling or otherwise.	ITEM	1		
5	Allow for planking and strutting to uphold the foundations.	ITEM	1		
6	Return,fill and ram selected excavated materials around foundations.	CM	190		
7	Removing excess excavated materials from Site and disposing off.	CM	55		
	TOTAL CARRIED TO SUMMARY PAGE 4				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
B	***Vibrated reinforced concrete class 20/25 1:2:4 as described in;***				
1	Compacting bases of pits and blinding with mass concrete mix (1:4:8 - 50 mm thick)	SM	110		
2	Stub columns and foundation bases, (700x700x1500 high) and (1200x1200x300 thick) respectively.	CM	65		
C	***High yieled steel reinforcement bars including cutting,bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.***				
1	Reinforcement bars T12 to bases and stub columns of plinths.	KG	1700		
2	Reinforcement bars T8 in rings.	KG	450		
D	***Foundation Bolts, washers & Nuts***				
1	Supply and fix 25mm dia. X 600mm long hot dipped galvanized foundation bolts with flat and & spring washers, nuts and locknuts to Engineer's details (Sample to be provided and returned after fabrication)	No.	164		
2	Grouting the foundtion bolts in stub columns by setting to precision and securing them in place when pouring concrete.The threaded portion of the bolt to protrude at least 75mm above the finished plinth level and be protected from poured concrete.	No.	164		
E	***Formwork***				
1	Steel/ wooden formwork to sides of stub columns and bases to produce a fairly smooth concrete surface finish to stub columns faces. (plastering concrete surfaces will not be allowed))	SM	270		
2	Top surface finish smooth trowelled including 50mm chamfer all round on all plinths.	SM	30		
	ELEMENT No. 5				
	CABLE TRENCHES AND DUCTS				
A	***Trench (600x600mm deep) length 200 metres at various locations***				
1	Excavate for cable trench 1.2m wide from reduced level not exceeding 0.7 metres deep.	CM	170		
2	Load, cart away excavated materials and dispose at areas designated by local authority.	CM	101		
3	Backfill and ram selected excavated materials around trench walls.	CM	72		
4	50mm plain concrete(1:4:8) blinding on cable trench base	SM	160		
B	***Vibrated reinforced concrete class 20/25 1:2:4 as described in;***				
1	In 150mm thick trench base with slope for drainage.	CM	30		
2	In 150mm thick trench walls with fairly smooth face finish.	CM	45		
	TOTAL CARRIED TO SUMMARY PAGE 5				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
3	Provide and put in place (900x300x75mm) thick precast concrete trench covers reinfoced with Y8 bars spaced at 100mm both ways with fairly smooth face finish on both sides, including angle iron size (25x25x3mm thick) galivanized protection cage all round the slab edges.	No.	667		
C	***High yieled steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.***				-
1	Y 8 in cable trench @ 200 c/c both ways	KG	2000		
D	***Form work to***				
1	To sides of trench walls.	SM	590		
E	***Cable Ducts***				
1	Provide and put in place 150mm diameter class 41 pvc cable ducts at various points surrounded 150mm mass concrete (1:2:4)	LM	300		
2	Provide and fix as necessary 150mm diameter PVC bends	No.	60		
F	***Ladder Cable Tray***				
1	Fabricate and fix in cable trench ladder cable tray 580mm wide and its rungs spaced at 200mm c/c , supported at intervals of 1000mm, and supported 150mm above trench bed.Main frame made out of (50x50x4mm thick) angle irons, Rungs made out of (50x4mm thick) and reiforced at intervals.protective under coat priming with 2 coats of zinc chromate primer and final off white grey coat.(all riming done before fabrication.	LM	200		
	ELEMENT No. 6				
A	***OIL INTERCEPTOR***				
1	Excavate starting from ground level a pit size (5mx3mx2m depth)	CM	32		
2	Return,fill and ram selected excavated materials around the intercepter walls	CM	22		
3	Removing excess excavated materials from Site and disposing off.	CM	10		
4	Compacting bases of pit and blinding with concrete mix (1:4:8 - 50 mm thick)	SM	7		
5	Concrete (1:2:4/25) reinforced with BRC A142 including 200mm laps, and all necessary tying wires and supports in slab 200mm thick.	SM	7		
6	Concrete block walling 225mm thick in cement/sand mortar (1:3) reinforced with 20SWG hoop iron at every two alternating courses.	SM	30		
7	25mm thick cement/sand water proof (1:4) rendering on wall surfaces and floor slab finished smooth and waterproofed.	SM	50		
B	***Sawn Formwork***				
1	Vertical sides of slabs and beams girth 150-300 high	LM	40		
2	Soffits of slab	SM	6		
C	***High yieled steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.***				
	TOTAL CARRIED TO SUMMARY PAGE 6				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
1	In slab and ring beams Y8 and Y10 @ 200 c/c	KG	500		
D	***Vibrated reinforced concrete class 20/25 1:2:4 as described in;***				
1	Slab and beams	CM	6		
2	Provide and fix (600x450)mm heavy duty coated cast iron manhole covers and frames, or approved equivalent in the market	No.	2		
3	Soakpit 1.8m dia n.e 25ft deep to seepage laevel includding filling with boulders and loose sand at top 1m layer with provision for inlet point for pvc pipes with cover slab 150mm with BRC layer overlying 3 masonary courses	ITEM	1		
4	Provide and lay 100mm class 41 PVC pipes with 100mm concrete surrounded, connecting the plinth sumps to the oil interceptor.	LM	60		
5	Construct on site manholes to M.O.P.W. specifications including (600x450)mm heavy duty coated cast iron manhole covers or approved equivalent	No.	2		
	ELEMENT No. 6				
A	**ACCESS ROAD (Paving Blocks)**				
1	Excavate for a 4m wide access road depth not exceeding 600mm starting from the reduced levels and cart away the spoil.	CM	270		
2	Level and compact in layers of 150mm approved imported murrum to an average thickness of 300mm as road base to receive hardcore.	SM	450		
3	Approved handpacked hardcore fill, average depth of 300mm and well compacted in layers of 150mm using a 10 tonne vibrating roller.	SM	450		
4	50mm thick approved and well compacted quarry dust blinding on hardcore surfaces	SM	450		
4	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid to slope on quarry dust and compacted.	SM	450		
5	125 x 250 mm Splayed kerb to BS 340 including 125 x 100 mm channel on and including concrete Class 'E' foundation and 100 mm haunching to back of a kerb including all necessary excavation, formwork and disposal.	LM	160		
6	Ditto curved to plan.	LM	16		
7	Extra over for junction between straight and curved kerbs.	No.	8		
8	Prepare surfaces and apply three coats of approved road marking paint: to Kerb stones and parking 75-150mm girth with kenya power branded colours.	LM	160		
9	Supply and install as shall be directed by client, 150mm diameter heavy gauge PVC pipes as ducts for cables crossing the access road including all necessry excavations, concrete surround 200mm ,to ducts .	LM	100		
10	Allow for kplc access off the exicting highway under expansion and provision of neccesary culverts,drainage,decceleration lanes etc as required by roads authority	ITEM	1		
	TOTAL CARRIED TO SUMMARY PAGE 7				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
	ELEMENT No. 7				
1	**CONTROL BUILDING (13 PANEL)**				
	ELEMENT 1-SUBSTRUCTURES				
a	Excavate oversite vegetable soil average depth 150mm and cart away	SM	258		
b	Excavate for foundation trench 1m wide commencing at reduced level depth n.e. 1.5m	CM	173		
c	Ditto exceeding 1.5m but n.e 3m.	CM	81		
d	Excavations for column base size (1.5x1.5)m depth n.e. 1.5m	CM	44		
e	Ditto exceeding 1.5m but n.e 3m.	CM	10		
f	Extra over excavation for excavating in hard rock.	CM	3		
g	Allow for keeping all excavations water free by pumping, bailing or otherwise.	ITEM	1		
i	Fill in and ram selected imported materials around foundations and column bases	CM	150		
j	Load, cart away from site surplus excavated materials and dispose at areas designated by county authority.	CM	81		
k	1200mm thick bed of selected hard-core fill well-compacted in layers n.e. 150mm thick blinded by fine murram, 50mm thick to receive damp proof membrane (m.s)	CM	104		
l	50mm thick approved murram blinding well compacted, watered and rolled to client satisfaction.	SM	258		
m	Gradiator 4TC or equal and approved insecticide	SM	288		
	treatment to hardcore blinded surface and around entire				
	building				
n	1000 gauge polythene or other equal and approved	SM	258		
	mebrane as damp proof laid on blinded hardcore.(m.s)				
	with welted laps of 200mm wide.				
p	50mm thick plain concrete(1:4:8) blinding under strip	SM	138		
	and columns foundations.				
2	**Vibrated reinforced concrete class**				
	20/25 1:2:4/25 as described in;				
a	Strip foundation (700x250)mm	CM	17		
b	Column bases size (1000x1000x250)mm	CM	9		
	TOTAL CARRIED TO SUMMARY PAGE 8				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
c	Columns size (250X250)mm	CM	4		
d	150mm thick concrete slab on damp proof	CM	39		
	membrane (m.s)				
3	**Steel reinforcement bars including tying bending**				
	spacer blocks tying wires and fixing high tensile				
	bars to BS 4461 to strips.columns and bases				
a	Y12mm	KG	541		
b	Y16mm	KG	915		
c	Y8 mm	KG	207		
d	Steel wire fabric mesh reinforcement to B.S.4483 Ref	SM	246		
	BRC No.A142 in concrete bed (M.S) including 200mm				
	laps, all necessary tying wire and supporting as				
	required.				
	Sawn formworks to				
e	Sides of column size 250 x 250 mm	SM	86		
f	Sides of floor slab 150-200mm girth.	LM	71		
	Foundation walling				
g	225mm thick approved natural stone walling bedded	SM	207		
	and jointed in mortar (1:3)				
h	Prepare and apply 3 coats of bituminous paint on	SM	150		
	rendered surfaces.				
4	**CABLE TRENCH**				
	Trench (1200 widex1200mm deep) length approx.				
	85 metres				
a	Excavate for trench 1.8m wide from reduced level not	CM	155		
	exceeding 1.5m				
b	Load, cart away from site excavated materials and	CM	155		
	dispose at areas designated by county authority.				
	TOTAL CARRIED TO SUMMARY PAGE 9				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
c	Fill in and ram selected imported materials around	CM	69		
	trench.				
	walls				
d	50mm plain concrete(1:4:8) blinding on cable trench	SM	92		
	foundation 1.5m wide				
	Vibrated reinforced concrete class				
	20/25 1:2:4/25 as described in;				
e	In 150mm thick trench base	CM	14		
f	In 150mm thick retaining walls	CM	25		
	Steel form work to				
g	Sides of trench wall	SM	260		
	Steel reinforcement bars including tying bending				
	spacer blocks tying wires and fixing high tensile				
	bars to BS 4461				
h	Y 8mm in cable trench	KG	2000		
	Trench (600x600mm deep) length approx. 85m.				
i	Excavate from reduced level not exceeding 1.5x0.8m wide	CM	120		
j	Load, cart away from site surplus excavated materials and	CM	110		
	dispose at areas designated by local authority.				
k	Fill in and ram selected imported materials around trench.	CM	17		
	walls				
	50mm plain concrete(1:4:8)blinding under cable trenches	SM	128		
	Vibrated reinforced concrete class				
	20/25 1:2:4/25 as described in;				
m	In 150mm thick trench base	CM	20		
n	In 150mm thick retaining walls	CM	20		
	Sawn form work to				
o	Sides of retaining wall	SM	260		
	TOTAL CARRIED TO SUMMARY PAGE 10				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
	Steel reinforcement bars including tying bending				
	spacer blocks tying wires and fixing high tensile				
	bars to BS 4461				
p	Y8mm in cable trench	KG	2161		
q	Prepare and apply 3 coats of bituminous paint to	SM	460		
	external surfaces of all retaining walls.				
r	50x50x4mm angle line embedded in concrete	LM	345		
	Chequered plate cover				
s	900x600mmx4mm thick chequered plate trench covers	NO	28		
	reinforced with 40x40mmx3mm thick SHS all round				
	primed and apply 3 coats of first quality gloss paint.				
t	Ditto 600x600x4mm covers	NO	85		
5	**11KV INDOOR BOARD PANELSUPPORT STEEL STRUCT.**				
	TO B.S 4461.				
a	18Nos.50x50x6mm thick mild steel square hollow section SHS each	ITEM	1		
	average length850mm long width 2Nosx12mm diameter holes				
	with 50mm long pipe sleeves at each end bolted to 4Nos.				
	50x50x6mm thick mild steelangle cleats, welded to 19Nos.150x50x6				
	mm thick mild steel channel average length 1500mm long				
	spanning across the 1200x1200mm internal cable trench.The				
	channels must be casted together with the RC floor to give				
	adequate allowance so that the finished floor level is flush with its top portion.				
	Precast concrete trench covers				
b	Provide and put in place (1200x300x75mm) thick	NO	145		
	precast concrete trench covers reinfoced Y8 bars				
	spaced at 100mm both ways				
	Cable trays				
c	Supply galvanised and fix galvanised cable trays made out	LM	400		
	of (38x8mm ftat bars with 3No. drilled 12mm diameter holes				
	for raw bolts size (10x100)mm as guided in drawing SK No. 08280/B sheet 1B				
	TOTAL CARRIED TO SUMMARY PAGE 11				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
	ELEMENT No. 8-SUPERSTRUCTURE				
1	**Walling**				
a	Pluvex No.1 or other equal and approved bituminous	LM	138		
	damp proof course to B.S.743. 225mm wide under				
	walling (m.s) including for 200mm long laps				
	(measured net no allowance included for the laps)				
b	225mm thick approved smooth hand dressed natural	SM	550		
	stone walling in cement mortar (1:4) including for				
	hoop iron in every alternate course.				
	Vibrated reinforced concrete class				
	20/25 1:2:4/25 as described in:				
c	In columns size 250x250mm	CM	10		
d	In ring beam and upstand size 450-600x200mm	CM	26		
e	In 150mm thick suspended slab	CM	40		
f	In 100mm thick canopies over all openings and hood	CM	10		
g	In lintols 300x200mm	CM	1		
	Steel reinforcement bars including tying bending				
	spacer blocks tying wires and fixing high tensile				
	bars to BS 4461 in upstands,ringbeam and slab,canopies				
h	Y 8mm	KG	180		
i	Y10 mm	KG	900		
j	Y12mm	KG	3300		
k	Y16mm	KG	288		
	Sawn form work to				
l	Sides and soffits of ring beam	SM	288		
	TOTAL CARRIED TO SUMMARY PAGE 12				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
m	Sides of columns	SM	132		
n	Soffits of suspended slab	SM	258		
p	canopies and the like	SM	207		
	ELEMENT-No. 9, ROOF CONSTRUCTION AND COVERING				
1	**The following in 7 no trusses spanning 11.00m and**				
	hoisted 4m high above finished floor level				
a	100x50x6mm rolled steel RHS in rafters	LM	207		
b	Ditto 50x50mm in struts	LM	196		
c	Supply and fix in concrete ring beam 28no.	ITEM	1		
	16mm bolts				
d	(200x200x6mm thick M.S plate cleats with 2no. holes	NO	16		
	welded to truss.				
e	Supply and erect MS purlin cleats welded to truss at	NO	92		
	1800 cc				
f	Supply and erect 150x51x2mm Z purlins bolted to	LM	288		
	rafters primed with one coat of red oxide				
g	Gauge 26 pre-painted IT 5 roof covering sheet including	SM	403		
	for 2no. side corrugations and 300mm long end laps				
h	Ditto for side cladding	lm	69		
i	26 gauge matching ridge cap.	LM	35		
j	50x50x6mm RHS fascia support	LM	23		
k	50x50x6mm angle iron fascia support	LM	138		
l	Supply and fix cleats welded to fascia support	NO	32		
m	26 gauge 100x100mm corner edging	LM	138		
	TOTAL CARRIED TO SUMMARY PAGE 13				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
n	Provide and fix and secure in place heavy duty PVC gutter to client's approval.	lm	69		
p	Extra over for stopped ends	NO	7		
q	Ditto for 100mm outlet	NO	9		
r	50x50mm thick timber bearers	LM	81		
s	100x50mm thick timber cornice	LM	81		
	Down pipes				
t	100mm diameter pvc down pipes secured to wall with	LM	35		
	brackets at 900mm c/c				
u	E.O for swan neck	NO	9		
v	Prepare surfaces , prime and apply two coats of first	ITEM	1		
	quality aluminium panit to all rainwater goods				
	Windows				
	Provide and fix standard alluminium casement sliding windows of various sizes, complete with 6mm thick glazing.Also fabricate a grill and fix at each window made out of SHS (25mmx25mm and 3mm thick).(pattern to be decided by client) and paint to client's approval.				
a	Windows size (1200 x 1000mm) high	NO	10		
	overall				
b	Ditto size size (1200 x 1200mm)	NO	3		
c	Window size (450 x 600mm) high	NO	2		
	overall				
d	Ditto size size (600 x 1000mm)	NO	2		
e	Window size (900 x 1000mm) high	NO	1		
	overall				
f	Fixed glass window size (1200x1200mm)	NO	1		
3	**Doors**				
	Purpose made steel casement double leaf door divided				
	into equal leafs made out of 75x50mm frame with four				
	permanent louvred ventillation made from (25x3mm)				
	flat bars whole door hinged to and including				
	(100x100x6mm) angle line built to wall				
	with bracketsin sizes				
	NOTE: All external doors to be as per provided				
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Item	Description	Unit	Qty	Rate	Amount (Kshs)
	drawing SK No. 06249 Sheet 1				
a	Door size (1800x2500mm) double leaf	NO	2		
b	Door size (1000x2500mm) single leaf leaf	NO	7		
c	Door size (1200x2500mm) double leaf	NO	2		
d	(600x400mm) permanent louvre ventillations made	NO	23		
	from (25mmx3mm) flats				
e	(150x50mm) prime grade cypress door frame	LM	81		
f	45mm thick solid flush door overall size (900x2100mm)	NO	8		
	with fan light above size (400x900mm)				
g	4mm thick clear glass as fanlight	SM	7		
	(40x25mm)				
h	(40x25mm) cypress timber beading including	LM	63		
	fixing to hold 4mm thick fanlight glass				
j	40x25mm architrave	LM	127		
k	25mm quadrant	LM	127		
l	Three lever mortise lock	NO	8		
m	38mm rubber door stopper	NO	8		
n	100mm steel butt hinges	NO	24		
p	250mm long x 25mmx 1mm thick fixing cramps	NO	48		
q	Allow for priming all metal and flash doors surfaces and	SM	173		
	apply two coats of 1st quality paint to all doors				
	and frames				
	ELEMENT No. 10-FINISHES				
1	**Floor finishes**				
a	25mm thick cement sand screed prepared to receive .	SM	305		
	granolithic paving				
b	Ditto for ceramic tiles	SM	60		
c	Granolithic paving to wood floated floor screed including	SM	305		
	TOTAL CARRIED TO SUMMARY PAGE 15				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
d	100mm skirting ditto	LM	180		
e	12mm thick internal quality lime plaster finished smooth	SM	748		
	with steel trowel to all walls and suspended slab				
f	Jointing to external walls using mortar (1:3)	SM	460		
g	Prepare surface and apply undercoat and 2 coats of 1st	SM	1783		
	quality silk vinyl emulsion paint to plastered walls internally				
	and externally.				
h	12mm plaster to window and door head, cill and jambs	LM	115		
	200-300mm girth				
i	Prepare surface, apply undercoat and 2 coats of 1st	LM	115		
	quality silk vinyl emulsion paint to plastered surfaces				
	200-300mm girth				
	200X250mm wall tiles bedded in cement grout pointed in	SM	58		
	colour cement to match colour of tiles				
	Ditto 300x300mm floor tiles	SM	69		
	Kitchen				
k	100mm thick 1:2:4 concrete in kitchen work top	SM	6		
l	Y 10 reinforcement bars at 200 C/C	KG	230		
	150mm block wall	SM	23		
m	12mm 1:3 cement sand plaster	SM	69		
n	Single drain single bowl stainless sink	NO	1		
o	Bricon or approved kitchen mixer	NO	1		
p	400mm wide 25mm thick block board shelves fixed	LM	35		
	with brackets to wall				
q	Ditto in locable cupboards including hinges, fasteners	LM	35		
	and locks.				
	ELEMENT No. 11- DRAINAGE AND PLUMBING WORKS				
1	**Plumbing works**				
a	Twyfords Hindustan vitreous china wash hand basin size	NO	2		
	500x400mm fixed on semi-concealed brackets				
b	Ref. No. 1200 complete with 2No. Approved 12mm.	NO	2		
	chrome plated taps				
c	150x150mm semi- recessed "Twyfords" white toilet roll holder.	NO	2		
	TOTAL CARRIED TO SUMMARY PAGE 16				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
d	White Twyfords classic WC suite comprising	NO	2		
	pan, heavy duty plastic seat and cover, ceramic cistern,flush pipe and trap.				
e	Supplly and fix compact auto dryer satin chrome 2.2W	NO	2		
f	12mm gate valve as per peglar	NO	9		
g	Ditto 15mm	NO	5		
h	15mm class B pipes including all necessary fittings	LM	173		
	including all the necessaary excavations and				
	chasing in wall				
i	12mm class B pipes including all necessary fittings	LM	230		
	including all the necessaary excavations and chasing in wall.				
	ELEMENT No. 12 FIRE EXTINGUISHERS, ELECTRICAL INSTALLATIONS AND SMOKE DETECTORS				
1a	**FIRE EXTINGUISHERS**	NO	12		
	Supply and fix controlled discharge 9 litre water carbon dioxide gas 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				
	discharge horn and hose				
	Brass hot stamping				
	Operating valve				
	Local Fire Brigade approval				
b	Ditto fire blanket 6' x 4' container	NO	4		
2	**ELECTRICAL INSTALLATIONS**				
a	Allow for electrical installations to be carried out by a nominated sub-contractor as per electrical drawing	ITEM	1		
b	Builder's work in connection with electrical 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 sockets, lighting points, consumer units etc	ITEM	1		
c	Supply and install a 420V AC Autochangeover distribution panel as per attached specifications **[kplc document number KP1/6C/1/13/TSP/09/092.]**	ITEM	1		
	TOTAL CARRIED TO SUMMARY PAGE 17				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
d	Allow for eathing to control room and its electrical works	ITEM	1		
	AIR CONDITIONING				
3	**Supply and fix air conditioners complete with all fixing accessories including related power supply, to controll room temperartures from approved suppliers (LG)**				
a	12000 BTU split type	No.	12		
b	Provide and install for battery room fumes extractor motor.	ITEM	1		
3	**SMOKE DETECTORS**				
a	Allow for Hardwired Smoke detectors installations; including a battery back up; to be carried out by a nominated sub-contractor	ITEM	1		
b	Allow for general attendance on specialist contractor	ITEM	1		
c	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		
	ELEMENT No.13: FOUL WATER DRAINAGE				
1	**Excavation**				
a	Excavate trench for buried drainage pipes not exceeding 150mm and average 500mm deep; part return, fill in, ram and cart away surplus	LM	46		
	Allow in pipework prices for all the couplings, connectors, joints,bends etc as required in the running lengths of pipework and also where necessary for pipe fixing clips, holder bats plugged and screwed; Installation must comply with BS EN 12056 - 2:2000				
	with BS EN 12056 - 2:2000MuPVC Waste System Heavy guage Pipework Class 41				
b	100mm waste pipe	LM	50		
	Inspection Chambers/Manholes				
c	Allow excavation, concreteing to class 1:3:6 floor slab; walling 150mm thick solid concrete block walls with 1:3 mortar and plastering to 1:2; benching to floor slab; including heavy duty rectangular cover and frame for manhole not exceeding 1500mm depth; as per drawing No. (50) 5314, MH Type A.	NO	9		
	TOTAL CARRIED TO SUMMARY PAGE 18				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
	Gully traps				
d	Allow for masonry gully trap in chamber complete with golden brown uPVC P-trap with seal drain pipe and concrete cover	NO	2		
e	Allow for setting, testing and commissioning of the whole drainage works and connection to existing sewer system	ITEM	1		
	ELEMENT No. 14				
1	**WATER STORAGE TANK STEEL TOWER**				
a	Excavate for column bases (1.5X1.5)m n.e 1.5m	CM	18		
b	Level and compact bottom of the excavated bases	SM	10		
c	50mm thick 1:4:8 blinding to column bases	SM	10		
d	12 mm diameter high yield steel bars to bases and stubs	KG	200		
f	8mm ditto	KG	50		
g	Concrete (class 25) in column bases	CM	3		
h	Allow for accurately setting 16 No. 20mm diameter galvanised steel foundation bolts at 250mm centres on foundation column stubs.	ITEM	1		
i	Concrete (class 25) in tank foundation stub columns plinths size (400x400)mm	CM	2		
j	Sawn formwork to sides of columns	SM	13		
k	Backfill and ram excavated material around foundation	CM	13		
l	Load and cart away the surplus	CM	4		
	The following in steel work tower 2000x2000mm widex6000mm high fixed 1500mm deep in ground including cutting and welding or bolting as necessary finished with 3 coats of red oxide primer.				
m	300x300x10mm thick base plate with 4no. 18mm diameter holes spaced at 250mm centers and welded to the bottom of tower column.	NO	4		
n	100x100x8mm mild steel angles in main framework welded to base plates and reinforced with 12No. Cleats.	LM	24		
o	Ditto decking	LM	20		
p	Ditto (50x50x6mm) in bracing and struts	LM	74		
q	Black pipes (40mm) in balustrades	LM	30		
r	(50x100x6mm) RHS in decking	LM	20		
s	4mm thick galvanised chequered plate secured on decking	SM	9		
t	40mm GMS pipe handrail vertical and horizontal	LM	40		
u	Allow for water storage tank access ladder with 50x50x4mm main frame with 16mm rods spaced at 300mm c/c	ITEM	1		
v	Allow for treatment and cold galvanizing of the water tower to clients satisfaction.	ITEM	1		
w	Supply and install 3500 litres capacity ROTO-TANK including hoisting to position and applying two coats of briliant white gloss paint on its outer surface.	ITEM	1		
x	Allow for connecting piped water to elevated storage tank using 12mm class B or approved equivalent including all the necessary water control fittings and valves.	ITEM	1		
	TOTAL CARRIED TO SUMMARY PAGE 19				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
y	Allow for supply for substation with water including all local authorities charges,submain pipes and all connections, water meter, testing and commissioning of all the plumbing works.	ITEM	1		
	ELEMENT No. 15				
1	**GUARD HOUSE**				
a	Construct using standard materials a guard house as per provided drawing SK No.09847/A, Sheet 3B including plastering, painting, ceramic tiles floor and paving slabs all round, electrical wiring-1No.socket outlet-lamps etc to client's satisfaction.	ITEM	1		
2	**PIT LATRINE**				
a	Construct using standard materials a guard house as per provided drawing SK No.09847/A, Sheet 3C including plastering, painting, ceramic tiles floor and paving slabs all round, electrical wiring-lamps etc to client's satisfaction. (pit sizze 700mmx1200mmx11000mm)	ITEM	1		
3	**SUBSTATION GATE**				
a	Fabricate using standard materials a substation gate as per attached drawing SK No. 07044/B Sheet 3, including all the necessary painting to client's approval.	ITEM	1		
	ELEMENT No.16				
	PPERIMETER WALLING(220M LONG X 2.5M HIGH)				
A	***Walling Excavations***				
1	Excavate for foundation trench 1000mm wide commencing from ground level depth not exceeding 1.5m	CM	350		
2	Excavations for widening 75No. column bases size (1.0x1.0)m spaced at 3.0m c/c (75 pillars)	CM	10		
3	Extra over for excavation in all classes of rock at any depth.	CM	10		
4	Fill in and ram selected excavated materials around the substructural walling and columns.	CM	300		
5	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	50		
6	Provide all the necessary planking and strutting to uphold sides of trenches.	ITEM	1		
7	Allow for keeping all excavations water free by pumping, bailing or otherwise.	ITEM	1		
8	50mm thick (1:4:8) mass concrete blinding to walling and column bases	SM	220		
B	***Vibrated reinforced concrete class 20/25 1:2:4 as described in;***				
1	Foundation strip size (700x250)mm and columns size (1000x1000)mm.	CM	50		
2	Substructure and superstructure columns (200x200)mm	CM	15		
3	(300x200)mm ground beam and ring beam size (200x200)mm respectively.	CM	30		
	TOTAL CARRIED TO SUMMARY PAGE 20				

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Item	Description	Unit	Qty	Rate	Amount (Kshs)
C	***High yield steel reinforcement bars including cutting, tying, bending and fixing in place, spacer blocks and tying wires to BS 4449.***				
1	T10 in foundation strip spaced @ 200mm both ways, ground beam and ring beams.	KG	2500		
2	T12 in column bases @ 200mm c/c both ways, and in columns.	KG	2300		
3	T8 in rings to columns, ground beam and ring beam @ 200mm c/c.		1000		
D	***Sawn/Steel form work to***				
1	Vertical sides of substructure and superstructure columns, foundation strip, ground beam and ring beam.	SM	460		
E	***225mm thick natural stone/machine dressed stones/approved concrete blocks in substructure and superstructure walling in cement sand mortar (1:3) including and reinforcing with 20 SWG hoop iron in every two alternating course.***				
1	225mm thick in substructure walling	SM	365		
	25mm thick cement/sand (1:4) rendering on plinth area finished smooth to receive bituminous paint-600mm high	SM	140		
2	225mm thick and 2400mm high machine-cut or fair faced dressed natural or approved concrete blocks stone walling in cement/sand (1:3) mortar including 20SWG hoop-iron in every alternate courses.Internally plastered (1:4) cement/sand and trowelled smooth to receive paint. Externally horizontal joints keyed in cement /sand mortar 1:3 and moulds to columns and ring beams externally.	SM	580		
3	Prepare surface and apply three coats of greyish Crown permaplast or any other approved external paint to the boundary wall plastered surfaces.	SM	580		
4	300mm wide pre-cast concrete coping twice weathered and throated fixed on walling.	LM	220		
F	***Expansion Joints 4No.***				
1	40mm thick construction joints in flex cell or equally approved expansion jointis including (25x25)mm expedite sealer.	No.	4		
G	***Razor Wire***				
	Supply and fix Razor Wire at the top of boundary wall conforming to the following specifications:				
1	Coil size-450mm diameter, Blade profile-ripper razor wire,Stretch factor-maximum of 10m per coil and secured to wall with galvanised steel plates @ 1m centres and 20mm thick and 600mm high galvanised rods embedded on each concrete column to secure the razor wire also.	LM	220		
H	**SEPTIC TANK MODEL**				
1	Construct using standard materials a septic tankk complete with soak pit as per provided drawing for septic tank model to client's satisfaction.	ITEM	1		
	TOTAL CARRIED TO SAMMARY PAGE 21				

	TOTAL FROM PAGE 1				
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	TOTAL FROM PAGE 20				
	TOTAL FROM PAGE 21				
	SUB TOTAL				
	NCA Fees 0.5% 0f Contract sum				
	Total				
	16%VAT				
	GRAND TOTAL				
	AMOUNT IN WORDS				
	COMPANY STAMP				
	SIGN:				
	NAME & ADDRESS:				
	CONTRACT PERIOD:				

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