





## KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>SECTION 3</b>						
<b>1</b>	<b>PERIMETER WALLING</b>						
	<b>(Substructures)</b>						
<b>a</b>	clear site of existing fence and store at designated location	ITEM	1				
<b>b</b>	Excavate for foundation trench 1.0 m wide commencing at reduced level and not exceeding 1.5m deep for wall & retaining wall	CM	720				
<b>c</b>	ditto to column bases 1M X1M	CM	315				
<b>d</b>	Ditto exceeding 1.5m but n.e 3.0m	CM	75				
<b>e</b>	Extra over for excavation in all classes of rock at any depth.	CM	12				
<b>f</b>	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	213				
<b>g</b>	Fill in and ram selected imported materials around foundation and columns.	CM	173				
<b>h</b>	Allow for keeping all excavations water free by pumping, bailing or otherwise.	ITEM	1				
<b>i</b>	50mm thick (1:4:8) mass concrete blinding to retaining wall foundation base.	SM	115				
	<b>Vibrated reinforced concrete class</b>						
	<b>20/25 1:2:4/25 as described in;</b>						
<b>j</b>	Foundation strip size (200X600)mm	CM	28				
<b>k</b>	Column bases (1000x1000)mm	CM	26				
<b>l</b>	retaining wall base 1000x250mm	CM	36				
<b>m</b>	retaining wall stub to 1m above ground	CM	103				
	<b>Sawn/Steel form work to</b>						
<b>n</b>	Vertical sides of foundation strip	SM	63				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
<b>o</b>	Vertical sides of column bases	<b>SM</b>	69				
<b>p</b>	Vertical retaining walls	<b>SM</b>	750				
	<b><u>Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461</u></b>						
<b>q</b>	Y12 in retaining wall base	<b>KG</b>	1794				
<b>r</b>	Y12 in column bases	<b>KG</b>	1725				
<b>s</b>	Y10 in retaining wall upstand	<b>KG</b>	3450				
<b>t</b>	Y8 binders	<b>KG</b>	800				
<b>u</b>	25mm thick cement/sand (1:4 ) rendering on walls surfaces	<b>SM</b>	299				
<b>v</b>	Allow for and create 100mm diameter weep holes at ground level every 2.0m centers on masonry/concrete wall and prevent ingress using wire mesh grouted in cement sand mortar.	<b>No.</b>	58				
<b>2</b>	<b><u>Superstructure-Walling</u></b>						
<b>a</b>	200mm thick machine-cut or fair faced dressed natural 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)	<b>SM</b>	541				
	<b><u>Vibrated reinforced concrete class 20/25 1:2:4/25 as described in;</u></b>						
<b>b</b>	Columns (250x300)mm 40No.	<b>CM</b>	12				
	<b><u>Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461</u></b>						
<b>c</b>	Y12 bars in columns	<b>KG</b>	690				
<b>d</b>	Y8 bars in columns	<b>KG</b>	404				
<b>e</b>	15mm thick cement/sand mortar render to walling and columns internally. And externaly	<b>SM</b>	138				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
<b>f</b>	350mm wide pre-cast concrete coping twice weathered and twice throated fixed to wall.	<b>LM</b>	150				
<b>g</b>	(800x550)mm square concrete coping weathered and throated on all sides fixed to double columns.	<b>No.</b>	20				
<b>h</b>	(550x450)mm square concrete coping weathered on all columns.	<b>No.</b>	47				
<b>3</b>	<b>Expansion Joint</b>						
<b>a</b>	40mm thick construction joint in flex cell or equall and approved expansion joint and (25x25)mm expedite sealer	<b>SM</b>	7				
<b>4</b>	<b>Razor Wire</b>						
<b>a</b>	<b>Supply and fix Razor Wire at the top of boundary wall conforming to the following specifications.</b> 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.	<b>LM</b>	207				
<b>b</b>	Fabricate and fix a primary sustation gate as per the per the provided drawing SK. No. 07044/B	<b>No.</b>	2				
	<b>SECTION 4</b>						
	<b>CONTROL BUILDING</b>						
<b>1</b>	<b>ELEMENT 1-SUBSTRUCTURES</b>						
<b>a</b>	Excavate oversite vegetable soil average depth 150mm and cart away	<b>SM</b>	258				
<b>b</b>	Excavate for foundation trench 1m wide commencing at reduced level and not exceeding 1.5m deep.	<b>CM</b>	173				
<b>c</b>	Ditto exceeding 1.5m but n.e 3m.	<b>CM</b>	81				
<b>d</b>	Excavations for column base size (1.5x1.5)m	<b>CM</b>	44				
<b>e</b>	Ditto exceeding 1.5m but n.e 3m.	<b>CM</b>	10				
<b>f</b>	Extra over excavation for excavating in hard rock.	<b>CM</b>	3				
<b>h</b>	Allow for keeping all excavations water free by pumping, bailing or otherwise.	<b>ITEM</b>	1				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
i	Fill in and ram selected imported materials around foudations and column bases.	CM	150				
j	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	81				
k	1200mm thick bed of selected hard-core well-compacted in layers n.e. 150mm thick blinded with fine material 50mm thick to receive damp proof membrane (m.s)	CM	104				
l	50mm thick approved murrum blinding well compacted, watered and rolled to satisfaction	SM	258				
m	Gradiator 4TC or equal and approved insecticide treatment to hardcore blinded surface and around entire building	SM	288				
n	1000 gauge polythene or other equal and approved mebrane as damp proof laid on blinded hardcore.(m.s) with welted laps of 200mm wide.	SM	258				
o	50mm thick plain concrete(1:4:8) blinding under strip and columns foundations.	SM	138				
	<b><u>Vibrated reinforced concrete class</u></b>						
	<b><u>20/25 1:2:4/25 as described in:</u></b>						
p	Strip foundation (700x250)mm	CM	17				
q	Column bases size (1000x1000x250)mm	CM	9				
r	Columns size (250X250)mm	CM	3				
s	150mm thick concrete slab on damp proof membrane (m.s)	CM	39				
	<b><u>Steel reinforcement bars including tying bending</u></b>						
	<b><u>spacer blocks tying wires and fixing high tensile</u></b>						
	<b><u>bars to BS 4461 to strips,columns and bases</u></b>						
t	Y12mm	KG	541				
u	Y16mm	KG	915				
v	Y8 mm	KG	207				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
<b>w</b>	Steel wire fabric mesh reinforcement to B.S.4483 Ref BRC No.A142 in concrete bed (M.S) including 200mm laps, all necessary tying wire and supporting as required.	<b>SM</b>	246				
	<b>Sawn formworks to</b>						
<b>aa</b>	Sides of column size 250 x 250 mm	<b>SM</b>	86				
<b>bb</b>	Sides of floor slab 150-200mm girth.	<b>LM</b>	71				
	<b>Foundation walling</b>						
<b>cc</b>	225mm thick approved natural stone walling bedded and jointed in mortar (1:3)	<b>SM</b>	207				
<b>dd</b>	Prepare and apply 3 coats of bituminous paint on rendered surfaces.	<b>SM</b>	150				
	<b>CABLE TRENCH</b>						
<b>1</b>	<b>Trench (900x900mm deep) length approx. 130 metres</b>						
<b>a</b>	Excavate for trench 1.8m wide from reduced level not exceeding 1.5m	<b>CM</b>	153				
<b>b</b>	Load, cart away from site excavated materials and dispose at areas designated by local authority.	<b>CM</b>	153				
<b>c</b>	Fill in and ram selected imported materials around trench.	<b>CM</b>	69				
<b>2</b>	<b>walls</b>						
<b>a</b>	50mm plain concrete(1:4:8) blinding on cable trench foundation 1.5m wide	<b>SM</b>	92				
	<b>Vibrated reinforced concrete class 20/25 1:2:4/25 as described in:</b>						
<b>b</b>	In 150mm thick trench base	<b>CM</b>	14				
<b>c</b>	In 150mm thick retaining walls	<b>CM</b>	20				
	<b>Steel form work to</b>						
<b>d</b>	Sides of trench wall	<b>SM</b>	259				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461</b>						
e	Y 8mm in cable trench	KG	1944				
	<b>Trench (600x600mm deep) length approx. 931m</b>						
f	Excavate from reduced level not exceeding 1.5x0.8m wide	CM	138				
g	Load, cart away from site surplus excavated materials and dispose at areas designated by local authority.	CM	121				
h	Fill in and ram selected imported materials around trench.	CM	17				
	<b>walls</b>						
i	50mm plain concrete(1:4:8)blinding under cable trenches	SM	128				
	<b>Vibrated reinforced concrete class 20/25 1:2:4/25 as described in:</b>						
j	In 150mm thick trench base	CM	20				
k	In 150mm thick retaining walls	CM	20				
	<b>Sawn form work to</b>						
l	Sides of retaining wall	SM	259				
	<b>Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461</b>						
	<b>Total this page</b>						
m	Y8mm in cable trench	KG	2161				
n	Prepare and apply 3 coats of bituminous paint to external surfaces of all retaining walls.	SM	460				
o	50x50x4mm angle line embedded in concrete	LM	345				
	<b>Chequered plate cover</b>						
p	900x600mmx4mm thick chequered plate trench covers reinforced with 40x40mmx3mm thick SHS all round primed and apply 3 coats of first quality gloss paint.	NO	28				
q	Ditto 600x600x4mm covers	NO	85				
	<b>Total this page</b>						



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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Precast concrete trench covers</b>						
r	Provide and put in place (1200x300x75mm) thick precast concrete trench covers reinforced Y8 bars spaced at 100mm both ways with fairface finish on both sides with all edges protected with 25x25x3mm angle iron	NO	450				
	<b>Cable trays</b>						
s	Supply and fix steel fabricated cable trays 50x50x4mm thick angle iron and weld together 200mm long vertical angle stand spaced at 400mm C/C to horizontal; 50x50x4mm thick galvanised angle iron cut to 600mm long pcs and place on top of angle iron spaced at 400 C/C to form cable tray.	LM	100				
	<b>ELEMENT 2-SUPERSTRUCTURE</b>						
1	<b>Walling</b>						
a	Pluvex No.1 or other equal and approved bituminous 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)	LM	138				
b	225mm thick approved smooth hand dressed natural stone walling in cement mortar (1:4) including for hoop iron in every alternate course.	SM	518				
	<b>Vibrated reinforced concrete class</b>						
	<b>20/25 1:2:4/25 as described in:</b>						
c	In columns size 250x250mm	CM	8				
d	In ring beam and upstand size 450-600x200mm	CM	21				
e	In 150mm thick suspended slab	CM	39				
f	In 100mm thick canopies over all openings and hood	CM	10				
g	In lintols 300x200mm	CM	1				
	<b>Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461 in upstands, ring beam and slab, canopies</b>						
h	Y 8mm	KG	159				
i	Y10 mm	KG	819				
j	Y12mm	KG	3156				
k	Y16mm	KG	288				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Sawn form work to</b>						
<b>l</b>	Sides and soffits of ring beam	SM	288				
<b>m</b>	Sides of columns	SM	132				
<b>n</b>	Soffits of suspended slab	SM	258				
<b>o</b>	canopies and the like	SM	207				
	<b>ELEMENT-3 ROOF CONSTRUCTION AND COVERING</b>						
	<u>The following in 7 no trusses spanning 11.00m and hoisted 4m high above finished floor level</u>						
<b>a</b>	100x50x6mm rolled steel RHS in rafters	LM	207				
<b>b</b>	Ditto 50x50mm in struts	LM	196				
<b>c</b>	Supply and fix in concrete ring beam 28no. 16mm bolts	ITEM	1				
<b>d</b>	(200x200x6mm thick M.S plate cleats with 2no. holes welded to truss.	NO	16				
<b>e</b>	Supply and erect MS purlin cleats welded to truss at 1800 cc	NO	92				
<b>f</b>	Supply and erect 150x51x2mm Z purlins bolted to rafters primed with one coat of red oxide	LM	288				
<b>g</b>	Gauge 26 pre-painted IT 5 roof covering sheet including for 2no. side corrugations and 300mm long end laps	SM	403				
<b>h</b>	Ditto for side cladding	LM	69				
<b>i</b>	26 gauge matching ridge cap.	LM	35				
<b>j</b>	50x50x6mm RHS fascia support	LM	23				
<b>k</b>	50x50x6mm angle iron fascia support	LM	138				
<b>l</b>	Supply and fix cleats welded to fascia support	NO	32				
<b>m</b>	26 gauge 100x100mm corner edging	LM	138				
<b>n</b>	14 gauge galvanised M.s in gutters	LM	69				
<b>o</b>	Extra over for stopped ends	NO	7				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
p	Ditto for 100mm outlet	NO	9				
q	50x50mm thick timber bearers	LM	81				
r	100x50mm thick timber cornice	LM	81				
	<b>Down pipes</b>						
s	100mm down pipes 24 gauge secured to wall with brackets at 900mm c/c	LM	35				
t	E.O for swan neck	NO	9				
u	Prepare surfaces , prime and apply two coats of first quality aluminium panit to all rainwater goods	ITEM	1				
1	<b>Windows</b> <u>Composite purpose made fixed glass steel casement window frame made out of (50x25x3mm thick) RHS ,Z-sections and flats complete with fixed glass in approved putty, stays and fasteners all to client's approval.</u>						
a	Fixed glass Window size (1200 x 1000mm) high overall	NO	10				
b	Ditto size size (1200 x 1200mm)	NO	3				
c	Window size (450 x 600mm) high overall	NO	2				
d	Ditto size size (600 x 1000mm)	NO	2				
e	Fixed glass Window size (900 x 1000mm) high overall	NO	1				
f	Fixed glass window size (1200x1200mm)	NO	1				
g	6mm thick clear glass in steel putty <b>Doors</b> <u>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</u> NOTE: All external doors to be as per provided drawing SK No. 06249 Sheet 1	SM	35				
h	Door size (1800x2500mm) double leaf	NO	2				
i	Door size (1000x2500mm) single leaf leaf	NO	7				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
j	Door size (1200x2500mm) double leaf	NO	2				
k	(600x400mm) permanent louvre ventilations made from (25mmx3mm) flats	NO	23				
l	(150x50mm) prime grade cypress door frame	LM	81				
m	45mm thick solid flush door overall size (900x2100mm) with fan light above size (400x900mm)	NO	8				
n	4mm thick clear glass as fanlight (40x25mm)	SM	7				
o	(40x25mm) cypress timber beading including fixing to hold 4mm thick fanlight glass	LM	63				
p	40x25mm architrave	LM	127				
q	25mm quadrant	LM	127				
r	Three lever mortise lock	NO	8				
s	38mm rubber door stopper	NO	8				
t	100mm steel butt hinges	NO	24				
u	250mm long x 25mmx 1mm thick fixing cramps	NO	48				
v	Allow for priming all metal and flash doors surfaces and apply two coats of 1st quality paint to all doors and frames	SM	173				
	<b>ELEMENT 4-FINISHES</b>						
1	<b>Floor finishes</b>						
a	25mm thick cement sand screed prepared to receive . granolithic paving	SM	299				
b	Ditto for ceramic tiles	SM	58				
c	Granolithic paving to wood floated floor screed including all the necessary strips	SM	299				
d	100mm skirting ditto	LM	173				
	<b>Total this page</b>						











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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>SECTION 5: PIT LATRINE</b>						
	<b>ELEMENT NO.1: SUBSTRUCTURES</b>						
	<b>Excavation</b>						
a	Site excavate to reduce levels commencing from existing ground level;150mm deep and not exceeding 1.5m deep;	SM	5				
b	Excavate from reduced levels; 1.5m deep and not exceeding 3m deep	CM	6				
c	Excavate 3m deep to 4.5m deep	CM	5				
d	Excavate from 4.5m to 6m deep	CM	5				
e	Excavate from 6m deep to 7.5 m deep	CM	5				
f	Extra over excavation in rock	CM	9				
g	Remove surplus soil from site to a place approved by local authority	CM	36				
	<b>Mass concrete mix (1:4:8) in</b>						
h	50mm thick blinding under strip foundations	SM	2				
	<b>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm at 28 days; in</b>						
i	150mm thick ground floor slab	SM	5				
j	Strip foundations	CM	1				
	<b>Supply and fix steel bar in structural concrete work including cutting, bending, hoisting, tying wire, spacer blocks and supporting all in position:</b>						
k	10mm bars	KG	77				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Mesh fabric reinforcement</b>						
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				
	<b>Sawn formwork to:</b>						
m	Edges: slabs 75 - 150mm girth	M	9				
n	Vertical sides; strip footing; 200mm high	M	9				
	<b>Walls</b>						
o	200mm thick natural coral 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				
	<b>Anti-termite treatment</b>						
p	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				
	<b>DPM</b>						
q	Guage 1000 polythene damp proof membrane	SM	5				
	<b>25mm thick cement/sand (1:4) rendering; on concrete or stonework; wood float finished to</b>						
r	Plinths ; externally	SM	5				
	<b>Prepare surfaces and apply undercoat and two finishing coats black bitumastic or other equal approved water resistant paint on rendered surfaces to:</b>						
s	Plinths: externally	SM	5				
	<b>Total this page</b>						



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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>SUNDRIES</b>						
<b>d</b>	Make holes on 100mm thick concrete slab for 150mm diameter PVC pipe	NO.	1				
<b>e</b>	Provide and fix 100mm thick PVC vent with cap average length 3m	M	3				
	<b>ELEMENT NO. 4: ROOF</b>						
	<b>The following in 4 No. purlins; steel structural roof; spanning 3.2m; hoisted to a height of approximately 2.4m from ground level</b>						
<b>a</b>	150 x 50 x 2mm Z purlins bedded in masonry wall with cement sand mortar	M	15				
<b>b</b>	Drill holes in steel members for 12mm bolts in Z purlins	NO.	23				
<b>c</b>	12mm bolts	NO.	23				
<b>d</b>	Supply and fix 24g mild steel trough roofing sheets type LT5; factory pre-painted 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				
	<b>Wrot Cypress; Prime grade</b>						
<b>e</b>	200 x 25mm fascia board; chamfered one edge	M	15				
	<b>Prepare surfaces; apply three coats first grade gloss paint to approval; on timber surfaces to</b>						
<b>f</b>	200mm girth; on fascia board	SM	3				
	<b>ELEMENT NO. 5: OPENINGS</b>						
	<b>Concrete Louvres</b>						
<b>a</b>	150 x150 x 150mm concrete louvre blocks fixed with cement sand mortar (1:3)	SM	2				
	<b>Total this page</b>						

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ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Window Cill</b>						
<b>b</b>	Supply and fix clay window cills; bedded and jointed in cement/sand (1:3) mortar; pointed in matching coloured cement to windows	M	6				
	<b>DOORS</b>						
<b>c</b>	Mild steel door size 965 x 2100 mm complete with all iron mongery as per drawing SK. No. 06249	NO.	2				
	<b>Iron mongery</b>						
	<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>						
<b>d</b>	100mm mild steel butt hinges	NO.	7				
<b>e</b>	3 lever steel casement rebated door lock with handles	NO.	2				
	<u>Prepare surfaces,three coats gloss oil paint to metal surfaces</u>						
<b>f</b>	Doors internally	SM	2				
<b>g</b>	Doors externally	SM	2				
	<b>ELEMENT NO. 6; FINISHES</b>						
	<b>FLOOR FINISHES</b>						
	<u>Screed; cement/sand (1:3) on concrete</u>						
<b>a</b>	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>						
<b>b</b>	300 x300 x 10mm thick tiles	SM	5				
	<b>Total this page</b>						

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	<b>WALLING</b>						
	<u>Plaster; 13mm cement/lime putty/sand; steel trowelled; on masonry and concrete to</u>						
c	Walls and concrete surfaces	SM	6				
	<u>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on steel trowelled plaster to:</u>						
d	Walls and concrete surfaces	SM	6				
	<u>Backing: 10mm cement/sand (1:4); on masonry or concrete ; wood float finished to</u>						
e	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>						
f	300 x 300 x 10mm thick tiles	SM	23				
g	300 x 50 x 10mm thick border tile	M	14				
h	Supply and fix matching pvc tile strip to tile edges	M	56				
	<u>Plaster; 13mm cement/lime putty/sand; wood float; on masonry and concrete to</u>						
i	Walls and concrete surfaces; externally	SM	5				
	<u>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on wood float plaster to:</u>						
j	Walls and concrete surfaces	SM	5				
	<b>SECTION 6: GUARD HOUSE</b>						
	<b>ELEMENT NO.1: SUBSTRUCTURES</b>						
	<b>Excavation</b>						
a	Site excavate to reduce levels commencing from existing ground level; 150mm deep and not exceeding 1.5m deep;	SM	7				
	<b>Total this page</b>						

## KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
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				
	<b>Mass concrete mix (1:4:8) in</b>						
d	50mm thick blinding under strip foundations	SM	5				
	<b>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm2 at 28 days; in</b>						
e	150mm thick ground floor slab	CM	1				
f	Strip foundations	CM	1				
	<b>Supply and fix steel bar in structural concrete work including cutting, bending, hoisting, tying wire, spacer blocks and supporting all in position:</b>						
g	8mm bars	KG	17				
h	12mm bars	KG	29				
	<b>Mesh fabric reinforcement</b>						
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				
	<b>Sawn formwork to:</b>						
j	Edges: slabs 75 - 150mm girth	M	9				
k	Vertical sides; strip footing; 200mm high	SM	5				
	<b>Walls</b>						
l	200mm thick natural coral 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	8				
<b>Total this page</b>							

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Hardcore</b>						
<b>m</b>	300mm thick hardcore of approved inert material; well watered and compacted in 150mm thick (maximum) layers	CM	2				
	<b>Blinding</b>						
<b>n</b>	50mm thick approved quality murrum blinding to surfaces of hardcore	SM	5				
	<b>Anti-termite treatment</b>						
<b>o</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	5				
	<b>DPM</b>						
<b>p</b>	Guage 1000 polythene damp proof membrane	SM	5				
	<b>25mm thick cement/sand (1:4) rendering; on concrete or stonework; wood float finished to</b>						
<b>q</b>	Plinths ; externally	SM	5				
	<b>Prepare surfaces and apply undercoat and two finishing coats black bitumastic or other equal approved water resistant paint on rendered surfaces to:</b>						
<b>r</b>	Plinths: externally	SM	5				
	<b>ELEMENT NO. 2: R.C SUPERSTRUCTURE</b>						
	<b>Sawn formwork to</b>						
<b>a</b>	Sides and soffits beams	SM	5				
<b>b</b>	Bench slab	SM	1				
	<b>Supply and fix square twisted steel bars in structural concrete work including cutting, bending, hoisting, tie wire, spacer blocks and supporting all in position</b>						
	<b>Total this page</b>						



KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
c	8mm bars	KG	18				
d	12mm bars	KG	38				
	<u>Vibrated reinforced insitu concrete class 20/20; with minimum cube crushing strength of 20N/mm<sup>2</sup> at 28 days: in</u>						
e	Ring beam	CM	1				
f	Bench slab	CM	1				
	<u>ELEMENT NO. 3: 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/mm<sup>2</sup>; reinforced with 20SWG Hoop Iron in every alternate course</u>						
a	200mm thick walls	SM	21				
b	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>						
c	200mm wide	SM	2				
	<u>ELEMENT NO. 4: 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	M	15				
b	Drill holes in steel members for 12mm bolts in Z purlins	NO.	23				
c	12mm bolts	NO.	23				
	<b>Total this page</b>						



## KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Iron mongery</b>						
	<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>						
d	100mm mild steel butt hinges	NO.	3				
e	3 lever steel casement rebated door lock with handles	NO.	1				
	<u>Prepare surfaces, three coats gloss oil paint to metal surfaces</u>						
f	Doors internally	SM	2				
g	Doors externally	SM	2				
	<b>ELEMENT NO. 6; FINISHES</b>						
	<b>FLOOR FINISHES</b>						
	<u>Screed; cement/sand (1:3) on concrete</u>						
a	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>						
b	300 x300 x 10mm thick tiles	SM	5				
	<b>WALLING</b>						
	<u>Plaster; 13mm cement/lime putty/sand; steel trowelled; on masonry and concrete to</u>						
c	Walls and concrete surfaces	SM	5				
	<u>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on steel trowelled plaster to:</u>						
d	Walls and concrete surfaces	SM	5				
	<b>Total this page</b>						

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b><u>Backing: 10mm cement/sand (1:4); on masonry or concrete ; wood float finished to</u></b>						
e	Walls to receive ceramic tiles	SM	18				
	<b><u>Supply and fix coloured glazed ceramic wall tiles; on backing; joints pointed in matching cement grout</u></b>						
f	300 x 300 x 10mm thick tiles	SM	18				
g	300 x 50 x 10mm thick border tile	M	9				
h	Supply and fix matching pvc tile strip to tile edges	M	36				
	<b><u>Plaster: 13mm cement/lime putty/sand; wood float; on masonry and concrete to</u></b>						
i	Walls and concrete surfaces; externally	SM	6				
	<b><u>Prepare surfaces; apply three coats First grade vinyl emulsion paint or other equal approved; on wood float plaster to:</u></b>						
j	Walls and concrete surfaces	SM	6				
	<b>SECTION 7: EXTERNAL WORKS</b>						
	<b>ELEMENT NO.1; STORM WATER DRAINAGE</b>						
	<b><u>Excavation of trenches starting from ground level including maintaining sides and keeping bottoms free from water, mud and falling materials; grading bottoms, backfilling and carting away surplus excavated materials</u></b>						
a	For drains; 1100mm wide x 600mm average depth	CM	35				
	<b><u>Pre-cast concrete units; pipes to BS 5911 and all fittings; jointed in cement sand (1:3) mortar</u></b>						
b	300mm diameter half round inverted block drains(IBDs) including 100mm thick murrum bed and surround to approval	M	86				
c	stone pitching on sides with slates to 60 deg both sides 750mm each side	SM	140				
	<b>Total this page</b>						
d	culvert 600mm dia to cross road with 250mm haunch with headwall on both sides	LM	9				
e	twin culverts 900mm dia to existing road drainage with 250mm haunch with headwall on both sides on road crossing including all rehabilitation work on the existing drainage	LM	58				
	<b>ELEMENT NO.2; FOUL WATER DRAINAGE</b>						
	<b><u>Excavation</u></b>						

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
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				
	<u>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</u>						
	<b>MuPVC Waste System Heavy guage Pipework Class 41</b>						
b	100mm waste pipe	M	46				
	<b>Inspection Chambers/Manholes</b>						
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 flor 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				
d	Gully traps						
e	Allow for masonry gully trap in chamber complete with golden brown uPVC P-trap with seal drain pipe and concrete cover	NO.	2				
	<b>Total this page</b>						

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
f	Allow for setting, testing and commissioning of the whole drainage works and connection to existing sewer system	ITEM	1				
g	2.4m high x12.5A gauge chainlink fence, complete with 4mm diameter 4 strands of galvanized plain wire pass through 2.4m high 100x125mm cranked precast concrete posts placed at 3.0m centers, 12 gauge barbed wire on cranks, and 1:3:6 mix mass concrete surround at 600mm deep.	LM	69				
<b>SECTION 8</b>							
<b>1</b>	<b>WATER STORAGE TANK STEEL TOWER</b>						
a	Excavate for column bases (1.5X1.5)m n.e 1.5m	CM	21				
b	Level and compact bottom of the excavated bases	SM	12				
c	50mm thick 1:4:8 blinding to column bases	SM	12				
d	12 mm diameter high yied steel bars to bases and stubs	KG	230				
e	8mm ditto	KG	58				
f	concrete (1:2:4, class 20) in column bases	CM	3				
g	Allow for accurately setting 16 No. 20mm diameter galvanised steel foundation bolts at 250mm centres on foundation column plinths.	ITEM	1				
h	V. r. concrete (1:2:4, class 25) in tank foundation stub columns plinths size (400mmx400mm)	CM	2				
i	Sawn formwork to sides of columns	SM	15				
j	Backfill and ram excavated material around foundation	CM	16				
k	Load and cart away the surplus	CM	5				
	<b>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</b>						
l	300x300x10mm thick base plate with 4no. 18mm diameter holes spaced at 250mm centres and welded to the bottom of tower column	NO	5				
	<b>Total this page</b>						

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
m	100x100x8mm mild steel angles in main framework welded to base plates and reinforced with 12No. Cleats	LM	28				
n	Ditto decking	LM	23				
o	Ditto (50x50x6mm) in bracing and struts	LM	85				
p	black pipes (40mm ) in ballustrades	LM	35				
q	(50x100x6mm) RHS in decking	LM	23				
r	4mm thick galvanised checkered plate secured on decking	SM	10				
s	40mm GMS pipe handrail verical and horizontal	LM	46				
t	Allow for water storage tank access ladder with 50x50x4mm main frame with 16mm rods spaced at 300mm c/c	ITEM	1				
u	Apply two coats of gloss paint to tower	ITEM	1				
v	Supply and install 3500 litres capacity ROTO-TANK including hoisting to position and applying two coats of brilliant white gloss paint on its outer surface	ITEM	1				
w	Allow for connecting piped water to elevated storage tank using 12mm class B pipes including all the necessary water control fittings	ITEM	1				
x	Allow for suply for substation with water including all local authorities chares,submain pipes and all connections,testing and commissioning of all the plumbing works. Not exceeding 40m away	ITEM	1				
y	Earthing with earthing nest consisting supply and fixing of 150mm square bare copper wire, meshed to grids, square with earthing rods 5/8"x7', all under KPLC supervision to underline blinding in: foundation strip trenches	LM	600				
z	column bases	LM	400				
aa	control room trenches	LM	250				
bb	external trenches.	LM	250				
	<b>Total this page</b>						

## KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Fencing</b>						
a	Create the insulated chainlink fence around the guard/ wc house to the client satisfaction.	SM	20				
b	Create pedestrian gate for the guard.	ITEM	1				
	<b>GRAVELLING [Access road]-entry</b>						
c	Rehabilitate the existing gravel access road from the main road to substation gate.	SM	120				
d	Excavate commencing from ground level 8.0metres wide access road and not exceeding 300mm deep and cart way the spoil	CM	36				
e	Hand pack and compact hardcore 300mm layer to external road section to main road.	CM	36				
f	Approved murrum fill 300mm well compacted with vibratory rollers in 150mm thick layers to above road to engineers approval	SM	120				
g	50mm surfacing of entry road with APPROVED gravell	SM	120				
	<b>ROAD MARKING</b>						
	<b>Prepare surfaces and apply three coats of approved road marking paint: to</b>						
h	Kerb stones and parking 75 to 150mm girth with Kenya Power branded colours.	KG	29				
	<b>Cable ducts</b>						
i	Supply and install 150mm diameter heavy gauge PVC pipes as ducts for cables crossing the access road and control room cable trench entrance location.	LM	150				
j	Vibrated mass concrete class 20/25 (1:2:4) in pvc cable ducts surrounding.	CM	5				
	<b>Total this page</b>						



## KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>SWITCH YARD PLINTHS [2NO.TX. PLINTHS</b>						
a	Excavate pit foundations not exceeding 1.5m deep from reduced levels.	CM	50				
b	Return fill and ram suitable excavated material to the sides of the plinths	CM	30				
c	Cart away from site surplus excavated materials	CM	76				
d	Plain concrete 50mm thick blinding 1:4:8 to footing	SM	102				
	<b>Vibrated Reinforced Concrete Class 25/20 mm Aggregate in:-</b>						
e	Base	CM	21				
f	PEDESTALS	CM	16				
g	COVER SLAB-300mm thick	CM	18				
	<b>High Tensile Steel Reinforcement Bars; Cold Worked to BS 4461 (Provisional)</b>						
h	8 mm diameter	KG	340				
i	12 mm diameter	KG	2500				
	<b>Fairface Formwork to:-</b>						
j	Sides of base 225-300mm wide	LM	96				
k	Ditto slab	LM	36				
l	Vertical sides of footing	SM	48				
	<b>Total this page and Carried to Summary Page</b>						

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Hardcore filling</b>						
m	Approved hardcore filling compacted to Engineer's approval	CM	25				
n	Blind surface of hardcore with lean concrete	SM	30				
o	1000 gauge polythene sheet laid over hardcore	SM	30				
	<b>Total this page and Carried to Summary Page</b>						
	<b>SUMP RCC WALLING</b>						
	<b>Mass insitu concrete (1:4:8) in:-</b>						
p	Strip footing	SM	28				
	<b>Vibrated Reinforced Concrete Class 25/20 mm Aggregate in:-</b>						
q	Base	CM	9				
r	Walling finished fair face	CM	10				
	<b>Formwork</b>						
s	Vertical sides of base	SM	50				
t	Vertical sides of walling	LM	56				
	<b>High Tensile Steel Reinforcement Bars; Cold Worked to BS 4461 (Provisional)</b>						
u	8 mm diameter	KG	529				
v	10 mm diameter	KG	798				
w	Supply and fix fabricated heavy duty grating 25x4mm thick flats fastened on 50x50x4mm angle iron fastened to concrete with 6mm plate with full welds; painted with zinc red oxide primer base coat and final aluminium leafing paint to cover the transformer oil spillage sump.	ITEM	1				
x	OIL sump chamber 2m x 5m x 2m deep; perimeter 200mm thick block walling; internal plaster complete with niru finish; with ring beam at every 2m interval 250x200mm with 4 nos.12mm bars and 8mm shear links at 200mm spacing; cover slab with manhole opening 150mm reinforced with 8mm steel bothways at 150mm spacing; heavy duty steel cover; including pvc pipe 4" connecting with the main transformer pit not exceeding 6m away.-in two compartments	ITEM	1				
y	Provide galvanized 125 x 75mm U Channels welded to triangular shape (1.5x1.2x1.9metres); placed in reinforced concrete size, 1.0x1.0metres), with approx. of the tip exposed above the concrete, including 50mm diameter hole drilled on exposed section.	NO.	2				
	<b>Total this page and Carried to Summary Page</b>						

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Re-arrangement for all existing structures to new foundations plinths of 33kv steel structures to +150mm on new 2x33kv bays consisting of 40nos of 33kv plinths &amp; 3nos of 33kv bus bars plinths.</b>						
a	Excavate foundation pits commencing from reduced level but not exceeding 1.5 m deep	CM	172				
	Ditto but not exceeding 3.0metres	CM	3				
b	Cart away surplus excavated materials from Site to municipal council designatated damping site.	CM	145				
c	Disposal of water and Strutting	ITEM	1				
d	Blinding mix (1:4:8 - 50 mm)	SM	70				
e	Class 25(20) in bases and stub column bases with face finishes	CM	60				
f	steel 8 to12mm to bases and column	KG	1785				
g	Shuttering in all plinths	SM	250				
h	Edges; 75 to 250 mm to plinths	LM	160				
i	grouting bolts /inserts and the like by holding in position when pouring concrete not exceeding 600mm long-bolts supplied by client	NO.	175				
j	13mm thick plaster (1:3mix) to top surface of foundations with smooth finish trowelled	SM	30				
k	Attendance for KPLC staff to do earthing before all blinding including security for all copper strip edges	ITEM	1				
l	supply and install 32mm heavy duty PVC flexible conduit fastened on switchgear plinth reinforcement to lengths not exceeding 5.0metres in every plinth and to flush with finished plith level for earthing conductor.	ITEM	1				
	<b>CABLE TRENCH</b>						
	<b>Trench (600x600mm deep) length approx.150metres at various locations</b>						
m	Excavate for trench from reduced level not exceeding 1.5 metres deep and cart away	CM	80				
n	Load, cart away from site excavated materials and dispose at areas designated by local authority.	CM	80				
o	Fill in and ram selected excavated materials around trench walls	CM	15				
	<b>Trench bed</b>						
p	50mm plain concrete(1:4:8) blinding on cable trench	SM	120				
	<b>Vibrated reinforced concrete class 20/20 1:2:4 as described in:</b>						
q	150mm thick trench base and walls with fair face finish	CM	30				
r	150mm thick plain concrete haunching on laid 100mm diameter PVC cable ducts	CM	3				
s	Supply and lay 150mm diameter heavy gauge PVC ducts	LM	80				

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>Smooth formwork to</b>						
t	Sides of trench wall	SM	300				
	<b>Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461</b>						
u	Y 8mm at 150 centres in cable trench	KG	1000				
	<b>Precast concrete trench covers</b>						
v	Provide and put in place (1000x300x75mm) thick precast concrete trench covers reinforced with Y8 bars spaced at 100mm both ways with fair face finish on both side; with all edges protected with 25x25x3mm angle iron.	NO.	315				
	<b>Cable trays</b>						
w	Supply and fix steel fabricated cable trays 50x50x4mm thick angle iron and weld together 200mm long vertical angle stand spaced at 400mm C/C to horizontal; 50x50x4mm thick galvanised angle iron cut to 600mm long pcs and place on top of angle iron spaced at 400mm C/C to form cable tray.	LM	90				
	<b>Total this page</b>						

KANYAKINE 33/11KV SUBSTATION

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	VALUE OF WORK DONE	% OF WORK DONE
	<b>SUMMARY PAGE</b>						
1	Total from page1						
2	Total from page2						
3	Total from page3						
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33	Total from page 34						
34	Total from page 35						
	<b>TOTAL CONTRACT PRICE VAT EXCLUSIVE</b>						