

**PROPOSED CIVIL WORKS & CONTROL BUILDING EXTENSION FOR LIKONI 33/11KV SUBSTATION 23MVA TX INSTALLATION**


ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT RATE	AMOUNT
	<b>Preliminaries</b>				
1	Allow for a temporary site office preferably portable that can be shifted to multiple site or external arrangement as per contractor convenience(Works lasting only 6 months)	ITEM	1		
2	Allow for clean water for the works	ITEM	1		
3	Allow for all the necessary statutory approvals for the works -ALL agencies	ITEM	1		
4	Allow for temporary sign post for the proposed works	ITEM	1		
5	Allow for security and insurance for the proposed works	ITEM	1		
6	Allow for a qualified personel conservant with Kenya Power safety regulations for the entire contract period	ITEM	1		
7	Allow for supply of power for the works if needed.	ITEM	1		
8	Allow for as built drawings after handover	ITEM	1		
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No.	Description	Unit	Qty	Rate	Amount
<b>BILL NO. 2: SWITCHYARD LEVELLING</b>					
A	Cut trees and uproot stumps of up to 1.0m and average diameter 300mm and cart away the wood as directed by client.-Cut,saw stockpile in firewood pieces of heaps not over 1.5m long	NO	1		
B	Excavate oversite to remove top vegetable soil average 200mm thick and cart away.	SM	1000		
C	Fill in with approved material on embakments to make up levels and compact to 95% MDD (AASHTO T99) in layers of 150mm	CM	200		
D	Apply suitable weed killer, herbicide to surfaces of blinding as per the Manufacture's written instructions	SM	1000		
E	1000 gauge polythene or other equal and approved membrane laid on compacted and treated quarry dust with welted laps of 200mm wide.	SM	1000		
F	Supply and spread uniformly 150mm thick (1"-2") ballast in switch yard- singly graded-special ballast for KPLC	SM	1000		
<b>BILL NO. 3: ACCESS ROAD, DRIVEWAY &amp; PARKING</b>					
A	Mass excavation to reduce levels not exceeding 0.750m deep commencing from stripped level average 300mm deep.	CM	300		
B	Load and cart away excavated material from site.	CM	300		
C	Ram and compact sub-grade ready to receive sub-base 150mm (2 layers boulder)	SM	400		
<b>Filling</b>					
D	Imported filling material to make up levels	CM	150		
E	300mm Thick handpacked hardcore, filling leveled, well rammed and consolidated in 150mm thick layers	SM	150		
F	50mm Thick quarry dust blinding	SM	400		
G	250 x 125mm High pre-cast concrete kerb bedded and jointed in 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.	LM	190		
H	Extra-over ditto for curved on plan to various radii	LM	24		
I	250 x 125mm High pre-cast concrete channels	LM	215		
	Extra-over ditto for curved on plan to various radii	LM	25		
J	Heavy duty industrial concrete paving blocks size (210x105x80mm) minimum strength 49N/mm square laid in herringbone pattern laid to slope on quarry dust (measured separately) and compacted	SM	400		
<b>BILL NO 4: 700x700mmsq PLINTHES-4NOS</b>					
<b><u>The following Switchgear Foundation plinthes as per the General arrangement drawing( GA) and all to structural engineers.</u></b>					
A	Allow for clearing space off ballast/and ay other embedments	ITEM	1		
B	Excavate pit foundatins commencing from ground level but not exceeding 1.50 metres deep-at existing plinth perimeter	CM	20		
C	Ditto over 1.5m but not exceeding 3.0m deep	CM	10		
D	Return fill and ram selected excavated material	CM	0		
E	Cart away from site surplus excavated materilas to designated county dumping site.	CM	30		
F	Disposal of water				
G	Keep excavations free from all water by baling, pumping or otherwise	Item	1		
<b>TOTAL TO SUMMARY PAGE</b>					

No.	Description	Unit	Qty	Rate	Amount
	Planking and strutting				
H	Planking and strutting to sides of all excavations : keep excavation free from all fallen materials	Item	1		
	Plain concrete blinding 1:3:6				
I	50mm thick	SM	15		
	Vibrated Reinforced Concrete Class 25/20 mm Aggregate in:-				
J	Foundation bases 200mm thk	CM	4		
K	Stub columns	CM	8		
	High yied Steel Reinforcement Deformed bar BS 44461				
L	D8	KG	150		
M	D12	KG	320		
	Sawn formwork 225- 300mm high to:-				
N	Sides of bases	SM	20		
O	Vertical sides of footing and T	SM	20		
P	Allow to supply and fix galvanized bolts 25-30mm dia min 660m long in concrete	NO	16		
	FINISHES				
Q	13mm thick cement/sand steel float finish to stub column top surface to receive steel strucure base plate measured separately.	SM	10		
R	Allow fo KPLC attendance for earthing anding supervision on transformer ,plinthes and general switchyard improvement	ITEM	1		
<b>BILL NO. 5 TRANSFORMER PLINTH-MODIFICATION OF EXISTING</b>					
A	Excavate transformer pitcommencing from reduced level but not exceeding 1.5 metres deep	CM	10		
M	Ditto but over 1.5m deep but not exceeding 3.0m deep.	CM	3		
M	Return fill and ram approved material to the sides of the plinths	CM	3		
O	Cart away from site surplus excavated materials to designate County dumping site.	CM	10		
P	Plain concrete 50mmm thick blinding 1:4:8 to	SM	18		
	Vibrated Reinforced Concrete Class 25/20 mm Aggregate in:-				
Q	Base-200MM	CM	4		
R	Pedestalls	CM	20		
S	Cover slab-250MM	CM	6		
T	Sump walling	CM	5		
	High Yield deformed Reinforcement Bars, to BS 4449 including cutting, bending, tying, fixing, and spacer blocks.				
U	D 8	KG	1500		
	D 12	KG	2000		
V	Approved hardcore filling compacted to Engineer's approval	CM	5		
W	50mm thick blinding to surface of hardcore with lean concrete	SM	50		
X	1000 gauge polythene sheet	SM	20		
	Formwork				
Y	Vertical sides of base 300mm high.	LM	25		
Z	Vertical sides of pedestall walling	SM	20		
A1	Vertical sides of sump walling	SM	45		
A2	Vertical sides of top cover 300mm high.	LM	20		
A3	Supply and fix Galvanized fabricated M.S. grating , size 1.2x1.0m wide of 50x50x4mm angle iron framing and gratted with welded 50x50 x4mm angle line spaced at 20mm,Not exceeding 1.65 tonnes	NO	1		
<b>TOTAL TO SUMMARY PAGE</b>					



No.	Description	Unit	Qty	Rate	Amount
<b>BILL NO.7: CABLE TRENCHES; 30LM VARIOUS LOCATIONS</b>					
<b>600x600mm deep and 900x900mm deep</b>					
A	Excavate for trench from reduced level not exceeding 1.5 metres deep and cart away	CM	45		
	Concrete work				
B	50mm thick plain concrete(1:4:8) blinding on cable trench bed	SM	50		
	<u>Vibrated reinforced concrete class 20/20 1:2:4 as described in;</u>				
C	100mm thick trench bed	SM	5		
D	150mm thick trench walls with fair face finish	SM	12		
	<i>Wrot formwork to</i>				
E	Sides of trench wall	SM	120		
	<u>High Steel reinforcement bars including tying bending spacer blocks tying wires and fixing high tensile bars to BS 4461</u>				
F	D 8 at 150 centres in cable trench	KG	750		
	Precast concrete trench covers				
G	Provide and put in place (900x300x75mm) thick precast concrete trench covers reinforced with Y8 bars spaced at 100mm both ways with fair face finish on both side.-FOR Refurbished trench	NO	500		
H	Ditto but 1200x300x75mm	NO	100		
	Cable trays				
I	Supply and fix m.s. galvanized angle line 50x50x4mm purpose made bracket girth 1900mm fixed on the concrete cable trench wall with inserts/rowl bolts at 3 points	NO	100		
J	Ditto but girth 1300mm	NO	50		
K	Supply and fix steel galvanized perforated cable trays, 300 wide fixed on the cable trench sides with galvanized 50x50 x4mm thick supports (m.s) at 900 centres.	LM	50		
L	Ditto but 600 wide	LM	50		
	Cable Ducts				
M	Supply and lay 150mm diameter PVC Class 41 as cable ducts	LM	60		
N	Ditto but 90° and 45° bends	NO	10		
O	Ditto but Tees	NO	12		
P	100mm thick concrete (1:3:6) bed and surround to; 200mm diameter pipe, allowing for all necessary excavations and formwork.	CM	3		
TOTAL TO SUMMARY PAGE					



No.	Description	Unit	Qty		
<b>BILL NO.8 : CONTROL ROOM EXTENSION</b>					
<b><u>PROPOSED CONTROL BUILDING MODIFICATION AND EXTENSION WORKS WORKS BY(4X8M)</u></b>					
8	<b><i>The items of demolitions and removal shall include shoring making good disturbed areas to match existing and loading and carting away debris unless otherwise specified.</i></b>				
1	ENABLING WORKS.				
A	Carefully demolish the existing external masonry wall portion 7m, hack the existing RC Floor slab, roof beam and the like including internal cable trenches and extend the same to connect to the new trench and cut away rubbles.	ITEM	1		
B	Provide an approved fire, water and dust proof hoarding or barrier between the wall being demolished and the control room installed panels.	ITEM	1		
C	Properly secure any damage or mishandling the existing control cables during the entire construction period and make good all demolished area	ITEM	1		
D	Supply and fix 600x600x6mm thick chequered plate trench covers reinforced with 40x40x3mm thick SHS All around, including notching and making holes and collapsible handles as directed, apply metal undercoat primer and two finishing coats of aluminium gloss paint in all missing areas and New trench extension	No.	30		
F	Prepare and apply two coats of first grade paint to internal and external walls of the existing control building including all metal surfaces to match the existing and with approved kplc cooperate colors	SM	450		
G	Allow for wall demolished wall support including all builders work lintels and /or the like	ITEM	1		
H	Remove existing temporary roof covering shed with wooden poles and sheets and securely place in a designated place within the yard 100m away	ITEM	1		
I	Replace Existing corroded Roof with IT/BOX profile aluminium sheets 26Gauge, corrosion shield/self tapping screws and allow for replacement of corroded and worn out roof structure.	SM	140		
J	Extra over for Transparent sheets for natural lighting 3m long at equally spaced array.	Nos	6		
K	Allow removal and replacement of existing wooden window and door fittings with Aluminium powder coated windows off-white grey to all openings including all accessories, sealants and joints	SM	30		
L	Allow for Panic locks, door closer, stopper, on all doors	Sets	4		
G	Rehabilitation of existing rain water goods and allow for new extension. Consisting and NOT limited to, installation of heavy duty PVC gutters complete with galvanized fasteners, brackets, elbows, ends, shoe and 6inch PVC downpipes at 6m to length not exceeding 60m	LM	60		
H	Rehabilitate and repair the entire water supply system in the control room and substation, supply and fix new valves, taps and changing all worn out and leaking accessories including liaising with the local water authority.	ITEM	1		
					
<b>TOTAL TO SUMMARY PAGE</b>					

No.	Description	Unit	Qty	Rate	Amount
I	Excavate strips and column bases commencing from stripped level and not exceeding 1.5m deep and cart away the spoil including all necessary form work,plunking,struting,leveling and blinding trench bottom and water disasal.	CM	40		
J	Extra over for excavation in all classes of rocks	CM	4		
K	Average 150mm thick layers of selected and well compacted imported murrum fill , compact using approx. 2 ton vibrating roller to receive hardcore filling.	CM	10		
L	Selected imported hardcore fill, compacted in layers of 150mm thick to make up levels to satisfaction of client	CM	7		
M	Return, fill and ram selected excavated materials around foundations and trenches.	CM	3		
N	Load cart away surplus excavated materials and dispose in areas designated by local authority.	CM	42		
O	50mm thick approved murrum blinding on hardcore fill.	SM	35		
	<i>Insecticide.</i>				
P	Prepare and apply "Premise 200 CC " or equal and approved insectcide to surfaces of blinding as per manufacturer"s written instructions.	SM	35		
	<i>Damp Proofing.</i>				
Q	1000 gauge polythene DPM laid on top of blinding including 200mm side and end laps.	SM	35		
	<i>BRC Mesh A142</i>				
R	BRC mesh reference No. A142 weighing 2.22kg per square meter including 150mm minimum end and side laps,bends, tying wires and spacer blocks.	SM	35		
	<i>Concrete</i>				
	Vibrated reinforced concrete class 25 (1:2:4/25) as described in				
S	150mm thick ground floor slab.	SM	35		
S2	Column footings /plinth beams /thickenings/strips	CM	10		
	<i>Superstructures</i>				
	<i>Damp Proof Course.</i>				
T	200mm wide dump proof course (DPC) laid with 1:3 mix cement sand mortar.	LM	25		
	<i>Walling( both sub structure and super structure)</i>				
	Walling in cement sand mortar (1:3) including and reinforced with 20 SWG hoop iron in every two alternate courses.				
U	200mm thick medium dressed natural stone wall/approved concrete blocks/Machine cut stones as control room walling.	SM	90		
	<i>Sawn formwork to;</i>				
V	Vertical sides of floor slab/ beams /intel	LM	55		
Y	Sides of columns	SM	48		
	Vibrated reinforced concrete class				
	25 (1:2:4/25) as described in:				
Z	Ring beam/Columns,Lintels	CM	10		
	Steel reinforcement bars including cutting, bending, spacer blocks, tying wires and fixing. High tensile bars to BS 4469: 8mm to 12mm bars in strip foundation,column bases,footing and cable trenches.				
A	D 8 -12	KG	1200		
B	Allow for fitting of 2Nos. PVC Sliding windows with4mm glazing.Window and 1 door to match the existing.	ITEM	1		
C	Allow provisional sum for small accessories,lugs,connectors fittings and the like to facilitate builders work completeness during transformer ,panel and cable instsllations ksh. 300,000	ITEM	1		
	<b>TOTAL TO SUMMARY PAGE</b>				

No.	Description	Unit	Qty	Rate	Amount
	ROOF WORKS				
C	Allow for new Lean to roof consisting of 5 no light weight trusses not exceeding 170kgs , 26 G alluminium sheets with fireproof ceiling at 3.7m headroom, hoisting and fixing into position steel trusses spanning 5m, Roofing sheet rain water goods and any other related fittings.	SM	40		
	<i>Finishes</i>				
D	13mm thick cement sand plaster (1:4) to walling and soffits of floor slab mixed with lime smooth finish to receive paint both internally and externally.	SM	360		
E	13mm cement sand mortar(1:4) on walling and the gable surfaces externally with steel foat finish.	SM	40		
F	Prepare and apply undercoat, 1 coat of vinyl matt and 3 coats of premium grade silk vinyl emulsion paint on all plastered surfaces internally and externally. (Colour scheme to be provided by client)	SM	360		
	<i>Flooring</i>				
G	20mm thick cement sand (1:3) screed for floor to receive hardener	SM	40		
H	30mm thick well polished floor finish OR hardened industrial floor	SM	40		
	ELECTRICAL INSTALLATION WORKS				
J	Electrical builders work to power supply points for 4No. double socket outlets, 3No. lighting points and all the necessary fittings, earthing the control room including chasing and making good all works as described- INCLUDING Supply and fix of all fittings and commisioning electrical works to approval of client	ITEM	1		
K	Ground mounted standalone AC 24,000BTU	NO	3		
L	Repair existing fixtures,repaint checker plates,electrical fittings ,sockets and the like	LOT	1		
M	Make good all splash aprons and make good all adjacent areas	ITEM	1		
N	Allow for fume extracxtor fqan on battery area with extrusion vanes,minimum 600mm dia complete with fittings gauze anti dust protection and guard	ITEM	1		
O	Allow suply fix ,calibration and mounting of Fire extinguishers as follows ;13kg/ltr Co2,dry powder 2 sets .	Sets	2		
<b>BILL NO 9: 23 MVA TRANSFORMER TRANSPORTATION</b>					
B	Load 40 Tonne TX to Low loader with any prefered method including all safety precatutions/LIFTING/hoists,cranes,jacks etc(Transport weight without oil) to Low loader	Ton	40		
C	Allow for loading 10 tonne TX Accessories 10 Tonnes with any prefered method including all safety precatutions/LIFTING/hoists,cranes,jacks etc To Truck,Loader or prefered method	Ton	10		
D	Allow for oil Transportation to site 10 Tonnes	KM	25		
D	Transport TX By road from Diani 33/11 kv subststion To Likoni subststion,including all permits ,Safety,holding in position -NO DAMAGE-(Overal cumilative hauliage weight 50 Tonnes	KM	25		
E	Offload TX to Plinth at substation including positioning and aligning on Final place on well cured plinth	ITEM	1		
<b>TOTAL TO SUMMARY PAGE</b>					



No.	Description	Unit	Qty	Rate	Amount
<b>BILL NO10 INHOUSE UTILITIES</b>					
B	Construct toilet block (Non executive)within the substation extension room 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 10 Sq.m- To include 2 washrooms and a urinal potion)-draft proposal by contractor to client for approval	SM	10		
J	2.4m high x10A gauge chainlink fence, complete with 4mm diameter5 strands of galvanized plain wire pass through 3.0m high 150x150X cranked 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	40		
K	Allow for 600mm masonry wall above ground including all builders works and plaster finishes with 2 coats of black bituminous paint	LM	40		
	Allow repair to existing chainlink ,to include any tightening,pole replacement or replace corroded potion	ITEM	1		
D	allow for new gate 5m wide grill type to match existing complete with all fixtures ,steel works,concrete pillars and wicket gate .	ITEM	1		
<b>REHABILITATION WORKS</b>					
A	Bag wash the exisiting perimeter walling internally including painting to approval	SM	250		
B	Supply and fix to existing perimeter walling 350mm wide pre-cast concrete coping twice throated and weathered.	LM	100		
C	<b>RAZOR WIRE.</b>				
	<b>Supply and fix Razor wire at the top of existing boundary wall conforming to the folloing specifications</b>				
D1	Coil size 450mm diameter,blade profile-ripper razor wire,Stretch factor -minimum of 10mper coil and properly secure to wall with galavanised steel plates @ 1m centres and (1"x1"x3mm thick and 600mm high galvanised SHS fixed on each column to secure the razor wire.	LM	100		
D2	Paint the existing substation double leaf gate with kplc cooperate colors to approvals making good the disturbed areas and including support columns.	ITEM	1		
	Ditto substation Grill gate	ITEM	1		
A	<b>SEPTIC TANK &amp; SOAKPIT</b>				
A1	Excavate, construct in the new location as directed and dispose surplus excavated material, septic tank size 3500x2000mm; including inlet and outlet manholes as per drawing Allow for all builders work,plumbing and like for above works	ITEM	1		
A2		ITEM			
B	<b>SOAKPIT</b>				
B1	Excavation and cart away 0-3m	LM	3		
B2	Excavation and cart away 3-6m	LM	3		
B3	Excavation and cart away 6-9m	LM	3		
B4	Excavation and cart away 9-12m	LM	3		
B5	Excavation and cart away 12-17m	LM	5		
B6	Connection and termination of all incomming storm water with ogees and drain pipes. NOTE:the soapit should be self soaking.	ITEM	1		
B7	Construct all masonry builders work 1.8m dia RC cover slab with D12 double layer .including all connections and finishes	ITEM	2		
I	Allow facilitation for Kplc PM/PE & Project Supervisor on communications and data provisional Sum Ksh.500,000 for both electronic andn Print	ITEM	1		
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	<b>SUBTOTALS</b>				-
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	<b>Allow 16% VAT</b>				
	<b>TOTAL TO FORM OF TENDER</b>				
	<b>AMOUNT IN WORDS</b> .....				
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	<b>BIDDER COMPANY NAME</b> .....				<b>DATE &amp; STAMP</b> .....
	<b>REGISTERED Q.S NAME</b> .....				<b>REG NO</b> ..... <b>STAMP</b> .....
	<b>PROPOSED WORK DURATION 6 MONTHS</b> .....				<b>ACCEPT</b> ..... <b>DECLINE</b> .....(Indicate)