


PROPOSED CIVIL WORKS FOR FLOOD MITIGATION AT RIDGEWAYS 66/11 KV SUBSTATION

Item No.	Description	Unit	Qty	Rate	Amount (Kshs)
	<b>PRELIMINARIES</b>				
A	Location of and access to the Site The site of the proposed works is located within Ridgeways Estate at Ridgeways KPLC premises. The bidder is advised to visit Site, to familiarize himself with the nature and position of the Site. No claims arising from the Contractor's failure to do site visit will be entertained.				
B	Pricing items of preliminaries Prices SHALL BE INSERTED against items of "preliminaries" in the tenderer's priced Bills of Quantities. The Contractor is advised to read and understand all preliminary items. The Contractor shall be deemed to have included in his prices or rates for the various items in the Bills of Quantities or Specification for all cost involved in complying with all the requirements for the proper execution of the whole of the Works in the Contract				
C	Prevention of Accidents, damage or loss. The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other normal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of activities being carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.		1		
D	Existing Services Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services. The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services, and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the Client.		1		
E	Safety Personnel Contractor should allow for a qualified safety person conversant with Kenya Power contractors safety regulations for the entire contract period who will be responsible for receiving work permits in daily basis The working hours shall be those generally given by the client in accordance with the safety regulations. No work shall start in the absence of the safety person having received permit to work from the relevant authorizing officer.	ITEM	1		
F	Insurance Allow for Insurance Cover for the proposed works and workers.	ITEM	1		
	<b>TOTAL TO SUMMARY PAGE</b>				

Item No.	Description	Unit	Qty		
A	<p>Site Security</p> <p>The Contractor shall be entirely responsible for the security of all the Works, stores, materials, plant, personnel, etc, both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public.</p>	ITEM	1		
B	<p>Sign Boards</p> <p>The Contractor shall allow for providing erect publicity, project details, directional, safety, etc sign boards, maintaining and later clearing away on completion a site sign board. The positioning, the size, type of construction and lettering shall be to client's approval.</p>	ITEM	1		
C	<p>Power for the Works</p> <p>Allow for <u>adequate Capacity Generator</u> or apply for power connection on site for the supply of power for use for the works or allow for a adequate capacitor generator.</p>	ITEM	1		
D	<p>Approvals</p> <p>Allow for AS ABUILT DRAWINGS including stamped hard copies and Soft copies and submit the same to the Client after project commissioning</p>	ITEM	1		
E	<p>Allow a Provisional Sum of Kes. 300,000.00 for facilitation for Kplc PM, PE &amp; Project Supervisors on communications and data for both electronic and print</p>	ITEM	1		
F	<p>Visitor's Book and Site Diary</p> <p>The Contractor shall keep on the Site a visitors' book for recording the names of all persons who visit the site for the purpose of the project. He shall also maintain on the Site a diary in which he shall record site activities on a daily basis and particularly any occurrence which bears on the progress of the Works in any way. The visitors' book and the diary shall be surrendered to the Client at the completion of the project or at any other time that he may be directed.</p>	ITEM	1		
G	<p>Site Offices</p> <p>The Contractor shall allow for providing, maintaining and later clearing away on completion adequate (about 10m<sup>2</sup> ) site offices with standard furniture for the use of the Project Manager and site meetings.</p>	ITEM	1		
H	<p>Storage of Materials</p> <p>The Contractor shall provide at his own risk and cost where directed on the site weatherproof lockup sheds for the safe storage and custody of material for the Works and for the use of workmen engaged thereon and shall remove such sheds and make good damaged or disrupted surfaces upon completion to the satisfaction of the Project Manager.</p>	ITEM	1		
I.	<p>Water</p> <p>Allow for clean water for the works</p>	ITEM	1		
J	<p>Tests</p> <p>The Contractor shall furnish at his own cost any samples of materials or workmanship including concrete test cubes required for the works that may be called by the Client for his approval or rejection and any other samples in the case of rejection until such samples are approved by the Client and the Client may reject any materials or workmanship not in his opinion up to to the approved samples.</p>	ITEM	1		
K	<p>Drainage Levels</p> <p>Allow for entire site surveying including spot-heights and contour profiles for establishing working levels and substation drainage level system within the substaion and along the drainage route as directed by the Engineer.</p>	ITEM	1		
TOTAL TO SUMMARY PAGE					

Item No.	Description	Unit	Qty		
	PUMPHOUSE				
A	Construct pump house approximate 6.0m <sup>2</sup> floor area, comprising of 225mm thick natural stone substructure walling; BRC A142 fabric mesh reinforcement in 150mm thick floor slab, 2No. concrete platform (in situ concrete - 0.5m <sup>2</sup> ) with 200mm thick machine cut wallings, internally plastered, painted and key finish externally with 2m <sup>2</sup> concrete louver blocks vents, 150mm thick reinforced suspended roof slab D10 both ways; 15° fall well finished, provide 1000x2000mm high 16 gauge M.S purpose made steel door and including excavation, cart away spoil, formwork etc. (Contractor provide drawings for Engineers approval).	ITEM	1		
	WATER COLLECTION SUMP/PIT				
B	Construct underground water suction sump/pit size 2.0x2.0m floor area with 200mm thick A142 BRC reinforced water proof concrete floor, wallings, the 150mm thick suspended slab with manhole covers and suction pipe holes; including excavation, cart away spoil, formwork etc. (Provide drawings for Engineers approval).	ITEM	1		
C	Supply and install 1No. 3" - 24HP high pressure diesel powered water pump, with 75mmØ inlet and outlet complete with all necessary inlet and outlet pipes fully connected and fixed to Engineers satisfactory.	No	1		
D	Ditto but 1No. electric powered water pump	No	1		
E	Supply and installation of 2No. 12 HP Submissable electric powered water pump including cost of labour and materials for completion of work; including supply and installation of electrical control panel for submersible pump/pumpset containing relay condenser for 12HP pumpset single phase and all the cables required to complete the work to Engineer's approval	No	2		
F	Supply and fix all inlet and outlet pipings to client satisfactory. [Contractor to submit pumps and piping drawing for approval by the Engineer]	ITEM	1		
G	Ditto with spare pumps inlet and outlet saddle connectors	ITEM	1		
	DRAINAGE WORKS [Internally]				
H	Excavate trenches in normal soil : commencing at existing ground level : not exceeding 1500mm deep	CM	65		
I	Supply and lay 300mm diameter 600x450x 225mm Precast concrete invert drain blocks, including bedding, backfilling with selected materials and all jointed in 1:3 cement/sand mortar.	LM	170		
J	Supply and lay 600mm diameter 600x750x 350mm Precast concrete invert drain blocks, including bedding, backfilling with selected materials and all jointed in 1:3 cement/sand mortar.	LM	50		
K	Ditto but Precast concrete side slab in a well V-shaped formed for storm water drain sides.	LM	390		
L	Cut/chase out in the boundary wall to create 2No. bell-mouth drainage outlets; 500x1000mm wide, in 200mm thick stone walling/ground beam including carting away the debris; base and side concrete approximate 1.5m wide and 1.0 m high	ITEM	1		
M	Supply and fix fabricated R12 weld-meshed mild steel grating to the bell-mouth opening/outlets in wall opened for drainage outlets.	ITEM	1		
	Drainage Walling				
N	Excavate 1.5 m deep trench foundation commencing from ground level and cart away.	CM	75		
O	Extra -Over for excavating in all classes of rock	CM	5		
P	Return, Ram and Fill Selected Excavated materials around the foundations	CM	79		
Q	Load and Cart-Away surplus excavated materials from site to County Government Approved dumping site	CM	25		
	Blinding ( Plain Concrete Class 15 )				
R	50mm thick (1:3:6) Concrete blinding to pit bottoms and strip foundation.	SM	69		
	<u>Vibrated Reinforced Concrete Class 25/20 mm Aggregates In:</u>				
S	200mm thick for bases.	CM	14		
T	150mm thick for pedestal walling	CM	23		
	<u>High yielded steel reinforcement bars including cutting, bending, tying and fixing in place, spacer blocks and tying wires to BS 4449.</u>				
U	D10	KG	1304		
	<u>Fair - Face Formwork to:</u>				
V	Vertical sides of pedestal wall	SM	184		
W	Apply two coats of black bituminous water-proof paint on the concrete surface internally and externally prior to backfilling to the plinth area.	SM	184		
X	Block and seal existing UPVC drain pipes. draining from cable trench to the external open storm water drainage.	ITEM	1		
Y	Provide, lay and joint 110mm diameter UPVC drain duct from the cable trenches to the external storm water drainage.	LM	75		
Z	Provide, place and compact 150mm class 15 (1:3:6) concrete bed and surround to UPVC drain pipes	CM	7		
	TOTAL TO SUMMARY PAGE				

Item No.	Description	Unit	Qty		
A	Excavation in swamp Excavate in swamps area average depth of 200mm and cart away the spoil material to designated dumping site by the county government.	CM	170		
B	Rockfill Provide, place and compact evenly rockfill (non-porous boulders /hardcore at swampy areas to drain and raise the area to Engineer's direction.	CM	215		
C	Supply and lay perforated 200mm diameter UPVC in the swampy area to drain surface water to Invert block drains (ms).	LM	120		
D	Supply and lay 1000 gauge polythene or other equal and approved membrane laid on compacted and treated quarry dust with weltd laps of 200mm wide.	SM	700		
E	Supply and spread uniformly 150mm thick, 1" - 2.5", singly graded and approved ballast in the swampy improved areas and other disturbed areas.	SM	700		
F	<u>600mm Diameter - Culverts</u> Remove existing 80mm thick concrete paving blocks in access road and secure for re-use; to create space for 600mm diameter and 120m long drainage and 6No. 1.2x2m manholes (ms).	ITEM	1		
G	Excavate drainage trench in normal soil : commencing from stripped level and not exceeding 1500mm deep	CM	180		
H	Culverts Provide, lay and joint 600mm diameter precast concrete pipes (culverts) on 50mm thick concrete bedding to correct fall.	LM	120		
I	Provide, mix and place 100mm thick concrete grade C20 (Mix Ratio 1:2:4) as concrete haunch and surround around pipes. Cement to BS 12,20mm aggregate to BS 882. Including all the necessary formwork.	CM	80		
J	Backfill and compact after laying, jointing and surrounding of the pipes with well compacted to 95% MDD with an approved murrum in layers of 150mm thick.	CM	120		
K	Restore the stored 80mm thick paving slab in access road, road kerb, concrete channel to Engineer's approval	ITEM	1		
L	Drainage Inspection Chambers Manhole/inspection chambers overall size 1000x1000mm to depth not exceeding 1.50m deep, comprising of plain concrete (1:3:6) in 150mm thick slab, 250mm thick benching, reinforced concrete class 20 in 100mm thick cover slab, 200mm thick machine cutstones walling, waterproof screeds to sides and bottoms, with recessed top to receive 150mm thick reinforced pre-cast concrete cover reinforced with D12 at 100mm centres bothways, 2No. R20 fall-down handles including all necessary excavations, formwork and reinforcement	NO	7		
M	Gabbion Box Provide 1.0x1.0x2.0m gabion baskets manufactured from heavy-duty galvanized (zinc coated) steel wire of double twist hexagon weave, having a nominal mesh opening of 60mm x 80mm, mesh wire size min 2.5mm dia and selvedge wire min 3.2mm	NO	6		
N	Provide rock fill to gabions. Shall be of minimum rock size of 100 mm and the maximum rock size of 250 mm. and be dense, hard, clean and durable stone as quarried or naturally occurring rounded stone to BS 5628-3:2001. as specified and approved by the Eng	CM	15		
O	<u>900mm Diameter - Twin-Culverts and Inspection Chambers</u> Allow Prime cost sum of Ksh. 3,500, 000 to provide, lay and join Twin 900mm diameter precast concrete pipes (culverts) on 50mm thick concrete bedding to correct fall; including excavations of drainage trench in normal soil : commencing from ground level and not exceeding 1500mm deep, Provide, mix and place 150mm thick concrete grade C20 (Mix Ratio 1:2:4) as concrete haunch and surround around pipes. Cement to BS 12,20mm aggregate to BS 882. Including all the necessary formwork. backfilling and compacting and surrounding with well compacted to 95% MDD with an approved murrum in layers of 150mm thick. Also to construct manhole overall size 3000x1000x1000mm to depth not exceeding 1.50m deep, comprising of plain concrete (1:3:6) in 150mm thick slab, 250mm thick benching, reinforced concrete class 20 in 100mm thick cover slab, 200mm thick machine cutstones walling, waterproof screeds to sides and bottoms, with recessed top to receive 150mm thick reinforced pre-cast concrete cover reinforced with D12 at 100mm centres bothways, 2No. R16 fall-down handles including all necessary excavations, formwork and reinforcement	ITEM	1		
	TOTAL TO SUMMARY PAGE				

Item No.	Description	Unit	Qty		
A	Drainage -Externally Rehabilitate existing external drainage by widening/expand the base and cart away approx.150m long. Including cutting the drainage shoulders of heaped materials to make up/to receive stone pitching (ms) surface	ITEM	1		
B	Provide all materials, prepare and construct average 150-200mm thick grouted stone pitching laid to slanting surfaces of storm water drainage embankments, including outlets weep holes on slopes to drains. Rate to include 1:3 cement mortar.	SM	300		
C	GATE Remove and secure the exsisting substation gate to prepare for raising the ground.	ITEM	1		
D	Remove the existing 80mm thick paving blocks and secure for re-use.	SM	60		
E	Excavate 250mm thick to form base for concrete ramp	CM	15		
F	Supply and hand-pack approved hardcore average 300mm thick and compacted in 150mm layers	CM	15		
G	50mm thick approved murram blinding	SM	60		
H	Vibrated reinforced concrete class 20/20 (1:2:4) for gate ramp.	CM	10		
I	Fair face formwork to sides of gate ramps	SM	5		
J	Supply fabric mesh BRC gauge A142 2.22 kg/m	SM	60		
K	Supply and fix 75×50×3mm RHS to extend the gate frame to receive the reserved gate.	ITEM	1		
L	Re-fix the gate	ITEM	1		
M	Prepare and apply paint on gate surface to client satisfactory	ITEM	1		
					
	TOTAL TO SUMMARY PAGE				

**SUMMARY PAGE**

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BOQ

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**SUB-TOTALS****ADD 0.03% LEVY****AIDD 16% VAT****TOTAL TO FORM OF TENDER & QS CERTIFIED SUMMARY PAGE**AMOUNT IN  
WORDS.....

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COMPANY NAME.....SIGN.....STAMP.....

PROPOSED WORK DURATION IN WEEKS (*Please indicate*) ...30 WEEKS.....ACCEPT  
ACCEPTED.....

NOT