

<b>DRILLING AND EQUIPING OF NALAMACHA BOREHOLE IN LOGKICHOGIO WARD-TURKANA COUNTY(PROPOSED DEPTH 200M)</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>UNIT PRICE (KSH)</b>	<b>VALUE (KSHS)</b>
	<b>BILL NO. 1: PRELIMINARY AND GENERAL ITEMS</b>				
	<b>PROVISIONAL SUMS</b>				
	<b>Site clearance and sign board</b>				
1.1	Provide for site clearing, boulder removal and levelling to allow access to site ( as directed by site engineer)	Sum	1	200,000.00	200,000.00
1.2	Allow for provisional sum for fabrication,instalation and branding of sign board as provided in the drawing	Item	1	25,000.00	25,000.00
	<b>Supervision ,EIA and conservation activities</b>				
1.3	Allow provisional sum of Ksh.300,000.00 to cover supervision costs of engineers assigned on the project from the employer's head office to cover for communication and other supervision expenses to be spend as directed by the project manager.	Item	1	300,000.00	300,000.00
<b>1.4</b>	Provisional sum for tree planting and general environmental conservation works over an area of 1/4 of an acre and EIA	Sum	1	300,000	300,000.00
	<b>CONTRACTOR'S MOBILIZATION</b>				
1.5	Mobilization and demolition of contractor's plant and equipment including but not limited to drilling units, tank erection equipment, test pumping equipment, borehole development equipment, materials, personnel and other required supplies.	Sum	1	300,000.00	300,000.00
	<b>CONTRACTOR'S CAMP AND PLANT</b>				
1.6	Establish, maintain and remove Contractor's camps, facilities, etc at the end of the contract.	Sum	1	200,000.00	200,000.00

1.7	Erecting and dismantling of contractor's borehole plant and equipment including but not limited to drilling unit, test pumping and borehole development units.	Sum	1	200,000.00	200,000.00
	<b>TOTAL FOR BILL NO.1 CARRIED TO SUMMARY PAGE</b>				<b>1,525,000.00</b>
2.1	Provide for drilling additives and water for all requirements	Sum	1		
2.2	Drilling of borehole minimum diameter 215mm from ground level until stable formation is encountered	Lm	25		
2.3	Ditto item 2.2 but between 25 - 100m	Lm	100		
2.4	Extra for borehole drilling below 100	Lm	75		
	<b>CASING AND SCREENS</b>				
2.5	Supply and Install 8" surface casing and retrieve on completion	Lm	6		
2.6	Supply and Install 6" diameter borehole carbonized Steel Plain Casings class - B	Lm	50		
2.7	Supply and Install 6" diameter borehole carbonized Steel Slotted Casings class B	Lm	100		
2.8	Extra over for casing 6" diameter carbonized steel pipe class B	Lm	50		
2.9	Supply and install well graded gravel pack (size 2-4mm entire borehole)	Ton	12		
	<b>BOREHOLE DEVELOPMENT</b>				
2.10	Physical and chemical development of the borehole	Hr	6		
2.11	Grout between the casing and borehole for top 8m	Item	1		
	<b>AQUIFER TESTING</b>				
2.12	Undertake constant discharge test for 24 hrs to determine borehole parameters	Hr	24		
2.13	Undertake water level observation and record recovery measurements of completed well	Hr	6		
2.14	Physical and chemical analysis of water(approved LAB Report required )	Item	1		
2.15	Install well head, well cap serial number and well apron of of dimmensions 1.0mx1.0mx1.0m	Sum	1		
2.16	Logging of samples at 2m intervals and preparation of Borehole Completion Report to WRA standards.	Sum	1		

	<b>TOTAL FOR BILL NO.2 CARRIED TO SUMMARY PAGE</b>				
	<b>BILL NO.3: EQUIPPING OF BOREHOLE</b>				
3.1	<b>Submersible pump:</b> Supply deliver to site and install a suitable submersible pump 4 kw set complete with compatible motor, cables and compatible electrical control panel comprising of well low level, overhead tank level control, overload, and power failure relays, main circuit breakers ammeter and voltmeter, Star/Delta starter, auto/manual switch start/stop button, run/trip lights, tank float switch fully protected system. <b>Note:</b> Pump rating and head may change depending on maximum flow rate determined after aquifer yield testing result.	Item	1		
3.2	<b>Solar Power Supply:</b> Supply, deliver and install complete compatible solar array of 6kw and all its accessories including but not limited to, hybrid inverter; preferably hybrid sunverter or hober or other to be approved by engineer for automatic control, cables, earthing, control panel and heavy duty metallic panel steel support stand- see attached drawing, <b>(With 2 years warranty for the electricall items)</b>	Item	1		
	<b>TOTAL FOR BILL NO.4 CARRIED TO SUMMARY PAGE</b>				
	<b>BILL NO.4: AUXILLIARY WORKS</b>				
4.1	Supply, deliver materials & construct a communal water point. Rate to include four GI 3/4 " dia taps, GI pipes, fittings and connections, 1.2 m high, 200mm thick masonry wall support <b>see the attached drawing.</b>	No.	1		
4.2	Construction of perimeter fence around the borehole site rates to include supply and installation of 150x125mm cranked precast concrete posts mortised in concrete at 2.5m center to centre complete with 14 gauge triple twist chainlink net fence, top three strand	Lm	80		

	barbed wire , 4 stands galvanized wire and grilled steel gate <b>as detailed in the attached drawing</b>				
4.3	Supply delivery to site all materials and construct standard cattle trough. Rate to include BRC A142 floor setting,8m long,1.2m wide and1m high RC wall 200mm thick all round, water proofing material and GI 3/4"piping,float valve control gates and all fittings connections <b>as detailed in the drawing</b>	Item	1		
4.4	Provide for thick stone pitching protection to <b>cattle ramp</b> 15m wide 25m long and 300mm thickness with natural hard stones material as shall be directed by engineer.	m3	115		
4.5	Ditto 4.3 and 4.4 but for goats and sheep	Item	1		
4.6	Supply, deliver and hoist 1 No. 10,000 litres plastic tank.	item	1		
4.7	Supply, deliver all materials & construct a 2.5m long x 2.5m width x 2.7m height masonry pump power house <b>with</b> ; 200mm thick reinforced concrete roof slab , standard reinforced concrete pilars to support the 10,000 litre water tank, steel structured top roof cover using 28 G iron sheets to shade the tank,well ventilated burglar proof steel door , windows and top access ladder. Rates to include plastering ,wiring , painting to complete finishing. For design and structure of tank roof shade; use similar materials and design specified for solar panels support and as directd by the engineer.	item	1		
	<b>TOTAL FOR BILL NO.4 CARRIED TO SUMMARY PAGE</b>				
	<b>SUMMARY PAGE</b>				
<b>BILL NO</b>	<b>ITEM</b>				

1	<b>PRELIMINARY AND GENERAL ITEMS(provisional)</b>				<b>1,525,000.00</b>
2	<b>BORE HOLE DRILLING,DEVELOPMENT &amp;TESTING</b>				
3	<b>EQUIPPING OF BORE HOLE</b>				
4	<b>AUXILLARY WORKS</b>				
<b>SUB- TOTAL ( KSHS)</b>					
Add 2.5% Contingency ;to be expended with instructions of the client					
<b>TOTAL</b>					