BOQ CODE: FORAFRIKA/BH/WRAP/2026					ForAfrika
Drawing Number:- ForAfrika/South Sudan/WRAP/2026/					
Project Title :- Upgrade of 1 borehole to Solar Powered with Installation 6m height x 5cu.m solar water scheme, Kuajok					
Specification:- Upgrade of 1 borehole to Solar Powered with Installation 6m height x 4cu.m solar water scheme, Kuajok in Schools with Existing Water Supply with 5,000 liters Storage Tank Supplying 5 Tap Heads to Serve 1000 People and School Gardens.			Date		
			Location		Kaujok
			State		Warrap
S/N	DESCRIPTION OF ITEM	UNIT	QTY	RATE	AMOUNT (USD)
1	PRELIMINARIES AND DRILLING				
1.1	Mobilization and demobilization of equipment and personnel to site	Ls	1		
1.2	Conduct geophysical survey (field work, interpretation and report) for the location of borehole at a suitable site use geo-electrical sounding (VES, vertical electrical sounding), profiling (CST, constant separation traversing) are the standard (*), and electrical resistivity tomography (ERT)	LS	1		
	Sub Total 1				
2	CONSTRUCTION AND MATERIALS				
	Borehole development			-	-
2.1	Flushing and development of borehole by airlifting, jetting, and pumping to attain optimum yield and clean water for minimum of 4 hours including measurements, records and proper disposal of water and in the presence of ForAfrika Engineer	Ls	1		-
	Water Quality Analysis			-	-
2.2	A minimum of 2 litres each for chemical and bacteriological analysis shall be collected by the contractor in the presence of the Engineer or his representative. (3) Water samples should be collected in clean, sterilized properly sealed and protected plastic containers from the borehole for reference to a Water Testing Authority recognized and authorized by MWR&I for laboratory analysis, after completion of test pumping. One sample will be used for each of these tests: physical, chemical and bacteriological analyses. The samples so collected should reach the authorized Water Testing Laboratories (Ministry of Water Resources and Irrigation), within 6 hours from the time of collection from the borehole unless otherwise. Specific parameters to be measured shall include. • Physical Parameters – Colour, Odour, Taste, Turbidity, pH Value, Electrical Conductivity, Temperature • Chemical Parameters – Nitrate, Nitrite, Total Hardness, Fluoride, Chloride, Sulphate, Copper, Manganese, TDS, Total Iron, Arsenic • Biological Parameters – Faecal Coli form Counts	Ls	1		-
2.3	Carry out disinfection of well with chlorine solution. Add 10L of 1% chlorine solution per m3 of well water. Leave for at least 12hr	Ls	1		-
2.4	Construct and install tight fitted steel well cover with suitable fittings	No	1		-
	Borehole drilling works carried to summary				-
3	OVERHEAD TANK				
3.1	Supply and install water storage tank of $5m^3$ (5000 uPVC tank liters each) capacity including accessories and connection fittings, including washing and disinfection (Item 2.8) of tanks and plumbing fittings and fixtures	No	1		-
	Sub Total 3				
4	TOWER				
4.1	Casting of 500mm x 500mm x 1000mm RC plinth using RC (Mix 1:2:4) including reinforcements threaded with nuts and washers to take bolts.	No	4		
4.2	Casting of 300mm x 300mm x 1400mm RC Beam using RC (Mix 1:2:4) including reinforcements and shuttering	No	4		
4.3	Supply and installation of 6" x 3" x 6m High H-beam(vertical column) 12mm thickness mild steel welded to 40cm x 40cm x 20mm base plate with hole to collect bolts.	length	4		
4.4	Supply and installation 6" x 3" x 2.8m high H-beam (Primary beam), mild steel	length	2		
4.5	Supply and installation of 4" x 3" x 2.8m H beam (Secondary Beams),mild steel	length	6		
4.6	Supply and installation of 4" x 2" x 5.8m U-channel (horizontal support), mild steel	length	10		
4.7	Supply and installation of 3" x 3" angle X 5mm thick Iron for Cross internal support to vertical beams with hole to collect bolts.	length	14		
4.8	Supply and installation of 5mm thick plate thick grating sheets (with opening to drain any waste water) (2.8m x 2.8m) cover to catwalk area welded to top rafter to receive overhead tank.	No	1		
4.9	Supply and installation of 5mm thick 2" angle iron Handrail to catwalk area.	length	10		
4.1	Supply and installation of 6 meters ladder 5mm thick 2" angle iron with thread at 600mm intervals covered with circular steel back rest protection	Sum	1		
4.11	Supply and application Anti rust red oxide coating to completed water tower.	Coat	1		
4.12	Supply and application of Oil paint coating to completed water tower.	Coat	1		
	Sub Total 4				

5	**PUMP INSTALLATIONS**				
5.1	Supply and installation of Grundfos SQFlex pump specifications is to be agreed with SCI Engineer based on pumping test data(2.5-5hp).	No	1		
5.2	Supply and installation of Grundfos CU 200 control box complete including cables, connections and accessories to pump and to float switch . (Converting DC to AC)	No	1		
5.3	Supply and installation of automatic Water level switch to water tank with cables and connections	No	1		
5.4	Supply and Installation 1x1/4" HDPE riser mains from the pump to the well head(HDPE full length 100m)	length	1		
5.5	Construction of 5" flange to well head reduced to take 2" UPVC pipe connection to the Supply Mains including fittings and accessories for connection.	No	1		
5.6	Construction of manhole to wellhead complete with RC slab cover to protect the well head including rendering and finishing.	No	1		
	Sub Total 5				
6	**SOLAR POWER**				
6.1	Supply and installation of sunshine solar panels watts to be determined by pump rating including connections and cables to control unit (To be determined with SCI Engineer Approx 320watts 1000V each **Including a thunder arrestor over the solar installations**	Panels	6		
6.2	Supply and installation of Metal frame to hold solar panels above or below that water tanks.	No	1		
	Sub Total 6				
7	**PIPE CONNECTIONS AND RETICULATIONS**				
7.1	Supply and Installation of 1x1/2" UPVC mains(Full length) from well head flange to Overhead tank including non-return Valve and other accessories	length	10		
7.2	Supply and Installation of 2" UPVC mains from Overhead tank to distribution pipes including non-return Valve and other accessories	length	10		
7.3	Supply and installation of 1" UPVC mains for distribution taps (HDPE Pipes 100m)	length	2		
7.3	Supply and installation of 2" UPVC mains for distribution taps (HDPE Pipes 100m)	length	1		
7.4	Construct a 5mx5mx1m tap stand and install 5 heavy duty pressure release 3/4" taps on concrete platform in a space provided in the community including soak pit; location	No	2		
7.5	Supply and Install high pressure water spray nozzle of minimum 1" diameter	No	1		
	Report				
7.6	Prepare and Submit all reports duly signed by the Geologist and company seal and signatures, Report format should have : • Full name of and address of the Provider company • Description of the project and location (Village, LGA, State, GPS Coordinates) • Site Access sketch map • Pumping test report with pictures • Pump installation report with pictures • Bacteriological and chemical analyses test Pictures of pumping test and construction stages etc. must be attached	No	1		
	Sub Total 7				
8	**FENCING AND VISIBILITY**				
8.1	Allow for provision of branding and visibility of the water facility, including preparing surface with 2 coats of paints, engraving of words and logos as shown on the branding template (1 mounted on ground, 4 mounted on the handrail at the four sides)	No	2		
8.2	Procure and Install BRC mesh wire coated fence with gate which is 6x6m perimeter on 3'' galvanized steel post silver color painted, using two course 6" block and buried 150mm depth to hold the concrete. Including pedestrian gate (1m wide) around the tower stand the area to be cover with concrete including drainage and razor spiral wire installed at the top. GI pipes will carry two sides welded 2" angle iron to allow fitting of mesh - refer the attached design	Ls	1		
	Bill No 8 Carried to Summary				

	SUMMARY LIST		
Item No.	**Description**	**Amount (NGN)**	
Bill 1	Preliminaries		
Bill 2	CONSTRUCTION AND MATERIALS		
Bill 3	OVERHEAD TANK		
Bill 4	TOWER		
Bill 5	PUMP INSTALLATIONS		
Bill 6	SOLAR POWER		
Bill 7	PIPE CONNECTIONS AND RETICULATIONS		
Bill 8	FENCING AND VISIBILITY		
	TOTAL for 1 Borehole Upgrade		**-**
	Cost for 2 Boreholes upgrade	Boreholes 2	-
	GRAND TOTAL:		