Enhancing Community Resilience and Local Governance Project Phase II (ECRP II)

Scope Of Work

Upgrading into water yard, Hai Dinka PHCU, Lokoloko PHCC and Lokoloko secondary school water point, Wau North Payam, Wau county (Western Bahr Ghazal state)

| Facility/Institution | Facility Type | Latitude | Longitude |
|---|---|---|---|
| Hai Dinka PHCU | Health/PHCU | 7.714608° | 27.998756° |
| Lokoloko PHCC | Health/PHCC | 7.703314° | 27.973536° |
| Lokoloko Secondary school | Education/Secondary | 7.693492° | 27.958256° |

1) Carefully dismantle existing handpump by removal of head assembly, water tank assembly, riser main pipes and connecting rods, cylinder assembly. Handover to the local authority all the removed items in the presence of IOM /ECRP Engineer.
2) conduct pumping test to check if the borehole can provide a yield of 6m3 /hr and water quality test and analysis to ascertain the physiochemical and bacteriological parameters of the water.
   a. Conduct step drawdown Pumping test for a minimum of 8 hours to characterize a system of aquifers, aquitards and flow system boundaries, well yield and recovery/recharge time of the well. This test is used to determine: 1) a pumping rate for a constant-rate test, 2) specific capacity (defined as the ratio of the production rate or yield of a well to the drawdown required to produce that yield), and 3) well efficiency.
   b. Conduct constant rate pumping test for a minimum of eight hours (8) to determine dynamic water level, yield, and recharge time of the well.
   c. Conduct field testing using portable water quality testing equipment for EC, TDS, Temperature, PH and Turbidity.
   d. Clean and disinfect the borehole as per ToR.

3). Installation of submersible pump and solar system

   a. Supply and install Grundfos or Lorentz submersible pump system comprising of submersible pump and well probe, float switch, smart PSU with wireless data connect, PV Disconnect, surge protector and lighting arrestor with a minimum of 1 piece of 8-foot copper-plated grounding rod to provide at least 36m3/day water considering 6 hours of sunshine.
   b. Supply and install 6.0 meter high metallic stand tower for tank, evenly coated with a layer of anti-oxide paint and overlayed with an additional coating of grey/silver paint and fitted with a hooped cat-ladder, top walkways of 2.1mm thickness and safety hand railings.
   c. Supply and install 10 Cubic meter steel tank with a free boat 1 cubic meter as described in detail in the TOR and Bill of quantities.
   d. Supply and install 2-1/2'' HDPE underground distribution and uPVC, PPR class 10 above ground pipeline with all the fittings inclusive of 3 in number horizontal flow meter install one at inlet network to the reservoir and one in each of the two-collection point/kiosks network.

e. Supply and install above storage tank parallel series solar Pannels certified to ISO, IEC 61215 and 61730 (TÜV Rhineland) and CE oversized by 1.2 to 1.3 times the motor size. The solar panels shall be mounted facing south and a tilt angle of 7deg, mounted onto a fabricated frame above the storage tanks.
f. Dismantle any worn-out pedestal stand and replace with new, fitted with a well head casted in a concrete platform of minimum 0.3m height and protect the well with a manhole enclosing horizontal flow meter with a cast iron trap fitted with a lockable system.

4) Water yard fence

   a) Supply and install with all structural accessories 10 x 10-meter Chain-link fence all around the water yard area - Approx. 40metres perimeter as stated in detail in the drawing, BOQ and TOR to enclose elevated tower and well connection.
   b) Supply and install for access to the fencing Single leaf gate overall size 1200x2000mm high; comprising heavy duty slide bolt assembled with 4mm thick steel hasp and padlock as described in TOR.
   c) 700mm high Razor wire mounted on top of gate using and including 40x40x3mm steel angle bars welded at 1500mm centers to coping bar over chain-link fence.

5) Water Kiosk and collection point construction.
   a) Construct within the facility /institution neighborhood at approximate distance of max 100m from elevated tower a water kiosk with 4 talbot Talflow self-closing taps each in hollow block and concrete masonry, soak way system for wastewater collection as described in detailed in the BOQ and engineering drawing.
   b) Construct within the facility /institution premises at approximate distance of max 50m from elevated tower a water collection point with 4 talbot Talflow self-closing taps each in hollow block and concrete masonry, soak way system for wastewater collection as described in detailed in the BOQ and engineering drawing.

6) System testing

   a) Upon successful connections of the system, allow storage tank to fill, track the filling time, trouble shoot for any leakage in the network and normal functionality of all Talflow taps.
   b) Submit all recorded data to IOM field/senior field engineer supervising the works.

Captions of existing water points