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

Scope Of Work

Rehabilitation of handpump in Freedom Primary School, Guengalath Boma, Pariang Payam (Ruweng Administrative area).

Facility/Institution	Facility Type	Latitude	Longitude
Freedom Primary school	Education/Primary	9° 54' 21.524"	29° 58' 58.033"

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) Carefully demolish the existing platform masonry works by breaking the apron and/or drainage alignment.
3) Carefully Excavate around the pedestal stand without damaging the casing pipe to expose pedestal anchoring. Uninstall the worn-out pedestal stand and handover to the county water department.
4) Conduct for at least 6 hours of well development until the turbidity is at acceptable range for human consumption as stated in TOR and specifications document.
   a. Conduct pump testing to check if the borehole can provide a yield of 3m3 /hr.
   b. Conduct step drawdown test for a minimum of 6 hours to determine well yield and recovery/recharge time of the well.
   c. Conduct constant rate test for a minimum of six hours (6) to determine dynamic water level, yield, and recharge time of the well.
   d. Conduct field testing using portable water quality testing equipment for EC, TDS, Temperature, PH and Turbidity.
   e. Clean and disinfect the borehole as per TOR.

5) Platform construction and site leveling

Borehole platform construction

a. The contractor shall supply materials and construct a borehole platform raised 800mm above the ground level with an access ramp having 10% slope and soak pit in accordance with ToR and ECRP platform design. The soak pit shall be reamed 600mm with burnt bricks or laterite boulders 150mm projected above ground level and shall be covered with 1000-gauge polythene sheeting before finally covering with the excavated soil from the soak away pit. The contractor shall also Level the site and lay a 300mm thick murram in layers not exceeding 100mm thick, well compacted of 60% minimum aggregate approved by the IOM Supervisor prior to installation.
b. Install by use of Insitu concrete class C20/25 a brand-new pedestal stands on to casing pipe. Allow for proper sealing around the pedestal stand as well as standard height of handpump.
c. Earthwork for platform constructions namely apron, drainage, and animal trough trench, prepare bedding to receive hardcore stabilization.
d. Hardcore placement into foundation trench to stabilize the foundation trench.
e. C10 insitu concrete blinding on to hardcore to blind and level foundation base.
f. Apron, drainage and animal trough work cast insitu reinforced concrete as stated in TOR into steel mold and strip off the formwork upon attainment of initial strength by concrete.
g. Allow for seven (7) days of curing to ensure proper setting of concrete.
h. Backfill by placement into two layers of 100mm well graded marram around the apron, drainage, and animal trough area of the platform., allow for proper compaction to ensure stabilization of surrounding area.

6) Handpump installation.

a. Indian mark II or III Handpump installation.
b. Check static water level and total depth of the well as per day of the installation, estimate from the water level data the positioning of the cylinder.
c. Carefully descend the cylinder assembly upon testing for leakages into the well, Install connecting rods and raiser main pipes ensuring firm joints until the cylinder is at estimated depth.

d. Supply and install a brand-new water tank assembly on the rods and raiser main pipe, allow to seat firmly on to the pedestal stand by proper tying of bolts and nuts.
e. Supply and install brand-new well assembled head assembly on to water tank with the third plate, ensure all the bolts, nuts and bearings are tied properly.
f. Conduct a yield test by tracking time taken to fill up 20-liter jerry can.

Figure 1 Current status of handpump at Freedom Primary School

Figure 2 Current handpump condition

Figure 3 A section of broken pedestal.