

WORLD VISION INTERNATIONAL
DAWAM WASH Project
BoQ for RO Water Supply Project Rehabilitation

Village/CDC: Hotamchi

District: Shirin Tagab

Province: Faryab

S/N	Activity/Item/Description	Unit	Quantity	Unit Cost AFN	Total Cost AFN	Remarks
A	BoQ Well Boring and Development.					
A1	Site Preparation: Including leveling+Trimming and installation of Well drilling machine.	M ²	20			
A2	Well Drilling by Rotary Machine: Diameter=(12") inches, Depends on soil texture, The sampling should be recorded from each geological formations in proper sample box and Recording sheet.	M	120			Its Proping depth, The actual depth will be depend to soil texture and geological strata.
A3	Gravel Packing: the Size of Gravel Packing (3-6) mm, the exact size will be declared after boring and Well Hydrallogical calculations, the Gravel should be clean and technical acceptable.	M ³	8.3			Depend on soil texture and geological starta
A4	Soil/Clay : Supply and applying Clay soil for Blocking the Casing side of water well, special precausion should be considered.	M ³	6.3			Depend on soil texture and geological starta
A5	Supply and Installation of PVC Casing and Filter Pipe: Diameter=(8") inches, Class D, Min Wall Thickness (10.3) mm, Min weight (10.3 kg/m) According to ASTM D1785 Sch.80, DIN 8061, DIN 8062, ASTM F480 Standards. (the length of filter and casing should be declared after drill analysis and ground strata)	M	120			the Extact Pipes Will be declared after well design
A6	R.C.C for Well Protection Box Construction, M(1:1.5:3): RCC (M:250) for Well protection box including Varnished steel form working, bar bending and other requirements according to drawing and technical specification.	M ³	1.43			
A7	Installation of Iron Gate: Installation of iron gate for well protection box, including anti-rust painting and be lockable (4 mm Steel sheet) With its relevant features/fittings according to drawing.	M ²	1.96			
A8	Supply and Installation of PVC fittings: Cable, Screw, Glue and other require materials.	L.s	1			
A9	Well Cleaning : Cleaning should be carried out by compressor Machine.	Job	1			
A10	Pump Test: Proper pump data should be recorded, the test should be min for 8 hours.	Job	1			
Sub-Total Cost for Well Construction						

B BoQ for Pipe networks						
B1	Excavation of Trench: Excavation of trench (defferent groud type) According attached Drawing and Specification.	M ³	134.4			
B2	Back Filling with Soft Soil: Back Filling of trench with proper compaction, curring and caution,	M ³	33.6			
B3	Back Filling of Trench with Excavated Materilas: Back Filling of trench with proper compaction, curring and caution according to attached drawing.	M ³	100.8			
B4	PE Fittings 16 Bars: (Flanged adapter, GI-Flanged Valve in pipe network, Sockets, Elbows, TEEs, Saddle Clamps, Reducers, M/F Adapter and etc.) with Supplying and installation according to drawing and its specifications.	L.s	1			
B5	Pipe Works (Plumbing): Supply, Installation, Laying and fitting of HDPE+GI pipes according to attached Drawing and its specification.	L.s	1			
Sub Total cost of Pipe network						
Selection of pipe alignment should be with close consultation of World Vision Afghanistan Technical engineer and attached drawing, The HDPE pipe should be tested in labartory according to MRRD requirment and the report should be submitted and varified by technical engineeer.						
C BoQ of Reservior and RO System Repairing						
C1	Repairing of RO System: Technical Check, supply, installation and repairing of the whole system (Inverter, R.O System plus Ultera Filtration unit and US memberan having Output of purifing 3000 Lilter/hr), with all technical necessary accessories/equipments, including testing and ready for operation as per technical requirements and engineering considerations with connection to elevated water tank & ground water tank (Complete Work).	Lum Sum	1			Please visit the site and check the whole RO system plus Ultra Filtration unit and US memberan having output of purifing 3000l/hr, and its components/spare parts and provide and install all damaged, missing accessories/equipment/spareparts, after testing the system must be operating properly according to tehcnical requirements and engineering considerations.
C2	Water Tanks Repairing: Technical Check, supply, installation and repairing of the Water Tanks, including testing and ready for operation as per technical requirements and engineering considerations with connection to the whole water system (Complete Work). - Repairing of 03 No. of water Tanks leakage and plumbing required work with fittings and accesories, (complete work). - Repairing of 04 No. of taps plus all required fittings and accessories, (completework).	Lum Sum	1			Please visit the site and check the 03 No. of water tanks plus plumbing systems, and provide and install all damaged, missing accessories/equipment/spareparts, after the testing must be operating properly according to tehcnical requirements and engineering considerations.
Sub Total cost of RO System Repairing						
1- Site visit must be carried out and the whole R.O System plus Ultera Filtration unit and US memberan must be technically checked and the items cost be as per site needed. 2- Elevated and ground water tanks must be completely checked and repaired must be done based on site need(plumbing works, leakages, clean up, with connection to the RO system and water tanks).						

D BoQ for Solar Panels						
D1	Excavation of Foundation: Site preparation and excavation in foundation for solar frame:	M ³	2.0			
D2	Solar Panel: Removing and transporting (distance < 1.5 km) the Existing Solar Pannels from its frames and Reinstallation to the new location (Solar Frames) including all required accessories with all technical requirements and engineering considerations (Solar array rated power = 8.1 KW). Water proof PV junction boxes IP68 for each array including DC Fuses, DC switch disconnectors, bus bars ,terminals, ducts or trays, supports & labels suitable to the PV arrays loads.	Solar Pannels	30			There are 30 No of Existing solar Pannels in the site
D3	Submersible pump with its Compatible inverter, control box and Fuse box in stainless steel. Eupean Made Technology Comply EN 1.4301 (AISI 304).EN 1.4301 (AISI 304). EN 1.4539 (AISI 904L). EN 1.4401 (AISI 316).. Rated power - P1- 5.48 Kw , P2-5.5KW Rated voltage: 3*220-230V Main frequency: 50 Hz Compatible inverter: 3*208-240V-IP66, 18A, Pure sine wave, VFD and soft starter Avg. water production per day: (60 m ³ /day), Total Dynamic Head is considered = 133.4 m. it is inital Assumed head the final will be declare after bore well and pump test. distance between tank and well =420 M. Solar pump P2- 5.5 KW according to the technical specification and requirement, Contractor must submit manufacturer warranty for solar Pump for a period not less than 2 years. Contractor must submit all the required certificates for solar pump Serial number of Solar pump should be certified by manufacturing company.	set	1			the Pump Model Depend to Redesign of the system.
D4	Well Probe Sensor: Dry running sensor including Electrical Wire and other fittings , According to Attached Electrical parameters	set	1			
D5	Motor (Sumbersible drop Cable) 10 mm ² 3-phase cable for power and 1-phase cable for ground according to drawing and technical requirements(Turkish made)	M	170			
D6	PV System-Inverter Cable (1x10mm ²), Cable from PV-combiner Box to Inverter (Turkish made)	M	20			
D7	Grounding/Earthing. All system Should be proper Grounded by ground Rod and Copper Cable (PV, PV-Frame, Inverter, Sumersible and other electrical installed features)	LS	1			
D8	Pump Holding Rope : Plastic made, diameter=16 mm Double line with its relevant accessoires and features.	M	220			
D9	Electrical Conduite: Electrical Conduite for External Wire:	L.s	1			
D10	Circuite Breaker and Auto Fueses: Circuite Breaker and Auto fueses should be installed to prevent system during electrical issues.	Set	1			
D11	HDPE/Pipe/PN16/Dia=75mm: (SDR11)- (W.T-6.8mm)- Weigth(1.47Kg/m)ISO4427, DIN8074, ASTM D2239, ASTM D2737, ASTM D3035, ASTM D2531 All relevant marks should be attached in pipe (16 Bar, mesurment length, Standards).	M	530			

D12	PE and GI Fittings: PE and GI 16 Bars fittings for Sumbersible-Tank (PE Flanged Adapter, Flanged Elbow, Flanged Sockets and etc.) according ot technical requirment and site conditions.	L.s	1			
D13	Boulder Stone Pitching: Bolder Stone pitching in foundation of Solar system frame according to drawing and technical requirements	M ³	0.1			
D14	P.C.C (Plain Concrete and Cement)M(1:2:4) according to attached Drawing and technical specification	M ³	0.1			
D15	RCC (Reinforced Concrete and Cement)-(M:250) for Solar Stand: including Varnished steel form working, bar bending and other requirements according to drawing and technical specification.	M ³	3			
D16	PV-Solar Frame for Solar Panels: Supply and installation of Stand and frame for solar panels, able to be rotated manually (Steel pipe dia 6", th=4mm, Profile box 40 x 80, th=2mm)	Frame	3			
D17	Back Filling and Compaction: Back Filling, Draining out, and Site Cleaning of Solar system plant.	M ³	2			
D18	Sign Board: Supply and istallation of metallic sign board.	No	1			
Sub Total cost of Pipe network						
Attached is the solar system Design, The Solar pump PV system has designed based on technical survey, the actual design well be determined after boring well to show well discharge, dynamic water table, draw down and etc. the contractor will be paid based on actual works.						
Grand Total for All BoQ (A+B+C+D)						

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