

Annexure-A+3

Rehabilitation of Govt Primary School Pakha Ghulam, UC Pakha Ghulam, Tehsil Chamkani, District Peshawar.

Water Supply System Rehabilitation including New Bore Well digging and Installation of solar PV system

S.No	Description	Unit	Qty	Brand Offered	Rate	Total Amount
1	Excavation					
a.	Excavation in open cut for sewers, pipe & manhole except shingle, gravel & rock : Upto 2m	Cft	4644.00			
2	HDPE pipe PN-12.5					
	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE) (32 mm dia PN-12.5) conforming to Din-8074/Din-8075/ISO-4427 standards in trenches, including road cutting where required, complete in all respects as per directions of the Engineer Incharge.	Rft	1500.00			
3	HDPE Socket 32 mm					
	Providing and installing HDPE Socket 32mm dia	Each	4.00			
4	HDPE Saddle Clamp					
	Providing and installing HDPE 4-bolt Saddle Clamp (4" x 32mm dia).Complete in all respect	Each	1.00			
5	HDPE Ball Valve					
	Supply and fixing of HDPE Ball Valve 32mm complete with HDPE unions / brass tail pieces for connection to HDPE pipe line, including testing and commissioning as per directions of the Engineer incharge	Each	1.00			
6	Water Tank 500 Gallons					
	Supplying and Fixing Polyethylene Water Tank made from food grade FDA Certified raw material, 3 layers UV stablized, inert with water, anti-fungus and anti-bacterial and have a service life of more than 10 years : 500 gallons (Vertical)	Each	1.00			
	Recharge Well					
7	Excavation					
	Excavate well in dry & dispose of soil within 50m in ordinary soil or sand : From 15.1' to 20' (4.530 m to 6.000 m) depth and backfilling. Complete in all respect as per direction Engineer Incharge.	Cft	349.94			
8	Pre cast RCC ring dia 4ft					
	Supply and delivery and installation of pre-cast RCC rings for recharge well, 4 feet internal diameter, wall thickness 1.5 inches, height 1.5/3 foot per ring, made of cement concrete 1:2:4, complete in all respects.	No's	13.00			
9	Filter layer of Granular Material					
	Providing and place Filter Layer of Granular Material such as graded gravel, boulders, shingle up to 6 to 8 feet depth complete in all respect as per direction of the Engineer Incharge.	Cft	143.16			
10	Making slots, perforations, cuts in the existing UPVC bore pipe 6" dia at specified locations and spacing e.g, 2 ft to 6 ft depth to convert it into a strainer / filter pipe. The work shall include marking, cutting , drilling , slotting the pipe walls using appropriate tools to avoid cracking. Complete in all respects as per directions of the Engineer incharge.	Job	1.00			
11	PCC 1:4:8					
	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:4:8)	Cft	9.00			
12	PCC 1:2:4					
	Plain Cement Concrete including placing, compacting, finishing & curing (Ratio 1:2:4) complete in all respect	Cft	26.01			
13	Brick work Ratio 1:5					

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	Providing and laying 1st class brick work in foundation and plinth in Cement, sand mortar 1:5 complete in respect	Cft	90.00			
14	Plaster Ratio 1:4					
	Cement Plaster 1:4, upto 20' height 1/2" thick including curing, good finishing, scaffolding complete in all respect.	Sft	96.00			
15	RCC Concrete 1:2:4					
	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:2:4). including shuttering, scaffolding, placing, finishing, competing, and curing complete in all respect.	Cft	37.94			
16	Steel grade 40					
	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 40). including cutting, binding and laying complete in all respect.	Kg	42.00			
17	Mosaic dado					
	Mosaic dado or skirting complete as per specs Using grey cement : 3/8" thick. including curing and finishing, as directed by the Engineer In Charge.	Sft	132.00			
18	Providing, laying, cutting, jointing, testing and disinfecting UPVC pressure pipeline in trenches (conforming to BS 3505 manufactured) jointed with socket, elbow, tee, bend and plug bend etc.manufactured by the respective manufacturer complete as per specifications UPVC Pressure Pipes Class B (6 Bar) i/n excavation. 4" Nominal Pipe Size (NPS)	Rft	100.00			
19	uPVC floor Cleanout including 2 No. 45o elbows, transition pipe, SS screwed plug/cover assembly jointed air-tight with pipe, breaking concrete or masonry work & then making it good, etc. complete in all respects. (ii) 4" dia	Each	5.00			
20	Solar Panel Installation					
	Supply and Erection of Solar PV Module Solar Panel Mono-crystalline A-Grade (per Watt) (As per KP Govt Approved Specifications)	Watt	12000.00			
21	Inverter (12 kW Of-grid Three phase) without battery back up					
	Type: Off-Grid Solar Inverter Operation Mode: Solar PV Direct Operation without Battery Backup, Configuration: Single Unit or Parallel Compatible, Phase: Single Phase or Three Phase (as required), Technology: Pure Sine Wave Mounting: Wall Mounted, Outdoor Rating: IP65 Minimum. Minimum 3 years repair/replacement warrenty and 5 year service warrenty Electrical Specifications: Rated Output Power: Minimum 12 kW, Recommended PV Capacity: 12–16 kWp, Maximum PV Input Power: ≥ 15 kW, AC Output Voltage 230V AC (Single Phase) / 400V AC (Three Phase) Frequency: 50/60 Hz, Output Waveform: Pure Sine Wave, Inverter Efficiency: ≥ 96% min, Peak Efficiency ≥ 98%, Total					

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S.No	Description	Unit	Qty	Brand Offered	Rate	Total Amount
	Harmonic Distortion (THD) < 3% MPPT Quantity: Minimum 2 Independent MPPTs, MPPT Voltage Range: 200–850 V DC, Maximum DC Input :Voltage 1000 V DC, Maximum Input Current: ≥ 25 A per MPPT Capacity: Minimum 2x rated load Protection Features The inverter shall include but not limited to:, Over-voltage protection, Under-voltage protection, Over-current protection, Short circuit protection, Reverse polarity protection, Over- temperature protection Earth fault protection, Surge protection, Anti-islanding protection, Arc Fault Circuit Interruption (AFCI), DC isolation switch Communication & Monitoring Communication Ports: RS485 / CAN / Ethernet / Wi-Fi, Monitoring Mobile App & Web Portal Data Logging Minimum 1 Year, Monitoring Parameters Voltage, Current, Power, Frequency, Energy, Faults, Remote Monitoring Mandatory Environmental Conditions Operating Temperature -25°C to +60°C, Humidity 0–95% Non- Condensing, Cooling Method Smart Forced Air Cooling, Noise Level < 55 dB, Protection Class IP65 Minimum Certifications & Standards IEC 62109-1 / IEC 62109-2, IEC 61727, IEC 61683, IEC 62116, CE Certification, RoHS Compliance, EMC Compliance, UL 1741 (if applicable)	No	1			
22	Supply and Erection 1x16 sq.mm Copper cable Green and Blue	Rft	165.00			
22	Supply and Erection 1x10 sq.mm flexible copper cable Green and Blue	Rft	200.00			
23	Supply and Erection 1x6 sq.mm single core (XPLE/XPLO insulated/PCV sheathed) flexible copper cable Green and Blue.	Rft	200.00			
24	Supply and Erection 1x4 sq.mm double insulated flexible copper cable Green and Blue	Rft	25.00			
25	Supply and Erection PVC flexible pipe : 1" i/d	Rft	300.00			
26	Supply and Erection MC4 connector (TUV Approved)	Pair	4.00			
27	Supply and Erection MC4 Branch connector	Pair	3.00			
28	Supply and Installation of 20 to 63A DC Circuit 2breaker 2P - MCB Type	No	1.00			
29	Supply and Installation of AC surge protection device 2P, 385V, In = 20kA & Imax = 40kA	No	1.00			
30	Supply and installation of distribution board (for DC & AC system)	No	1.00			
31	Supply and Installation of 70 to 80A DC Circuit breaker 2P - MCB Type	No	1.00			

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S.No	Description	Unit	Qty	Brand Offered	Rate	Total Amount
32	Supply and Erection of hot dipped galvanized steel of minimum thickness of 14 SWG Channel or 16 SWG rectangle Pipe size 3"x1.5" for solar plates (Purlin) support and Support beam/ Cross beam/ Runner holding purlin size 3"x 1.5" x 16SWG at 6-7 ft, Column / Post 4"x4"x 16SWG at 6-7 ft . Structure shall include all necessary clamps, nuts, bolts, washers, base plates and anchoring arrangement. Complete in all respects as per direction of the Engineer incharge.	No	21.00			
33	Supply and Erection of Copper Conductor of 10 AWG	Meter	6.00			
34	Supply and erection of 10 ft long, 16mm (5/8") diameter, Copper Bonded Earth Rod complete with Bentonite/ Chemical Backfill compound, 25x3mm Copper Tape, Brass Clamps, and installation by digging, driving rod to required depth, backfilling, and connecting to main earthing busbar. complete in all respects.	Each	1.00			
Grand Total (Inclusive of All Govt. Applicable Taxes, labour, material supply, loading/unloading, Transportation and Installation, if any)						