

**ANNEX -B-BILL OF QUANTITIES**

**Drilling of New Bore Hole, Solar System & Pumping Machinery**

S. No	Description	NO	L (ft)	B (ft)	H/D (ft)	Qty	Unit
<b>1</b>	<b>Development of water Source</b>						
	Development of bore 18" dia depth 900 RFT for hard and semi-hard formation including provision and installation of 12" Casing pipe PVC (Blind and filter) 6" on side to be filled with aggregate complete in all respects including supplying of casing pipe.					900	RFT
<b>1.01</b>	Pump Testing of the newly developed tube well and creating Borelog every 20 feet which will be submitted to UNHCR upon completion.						
	Providing & fixing solar panel 580/600 watt A Grade including 16mm wire connector jointer and berth bars complete in all respect. <b>Make:</b>					60	No
<b>1.02</b>	Canadian/JinKo/Longi or equivalent brand approved by the Engineer.						
	Providing & fixing of solar submersible pump 30 Hp & 30/18 SP Pump of approved make complete in all respect.					1	No
<b>1.03</b>	<b>Make:</b> Indian/Turkey or Equivalent						
	Providing & fixing Variable Frequency Device (VFD)37 /45 Hybrid Inverter of approved make & best quality for Pump including all wiring & connection works complete in all respect.					1	No
<b>1.04</b>	<b>Make:</b> Invid Brand or Equivalent						
<b>1.05</b>	Providing & fixing of cable splice kit for motor complete in all respect.					1	No
	Providing & installation of copper cable submersible for solar water pump 3 core 10 mm.					700	Rft
<b>1.06</b>	<b>Make:</b> Pakistan Cables/Copper GAT Cables/Universal Cables or Equivalent brand						
<b>1.07</b>	Safety rope for operation and maintenance stainless steel wire with rope connector					580	Rft
	GI Column Pipe for water outlet 3" inch with all accessories & fitting complete in all respect					650	Rft
<b>1.08</b>							
	Supplying & fixing of Mounting structure (MS frame with pipes & girders) 12 Gauge at 30 degree for solar panel (6 Panel in each) with concrete foundation (4 feet deep 2 length and 2 width) including 12" poles G.I etc complete in all respect					6	No
<b>1.09</b>							
	Providing & fixing of flexible pipe or PVC pipe of approved make for outdoor electrification as required complete in all respect.					250	Rft
<b>1.1</b>							
	Providing & fixing of DB Box bar of best quality and of approved make complete in all respect					10	No
<b>1.11</b>							
	Providing & fixing of 12mm 2 core copper wire of approved make from solar panels to VFD controller complete in all respect.					350	Rft
<b>1.12</b>	<b>Make:</b> Pakistan Cables/Copper GAT Cables/Universal Cables or Equivalent brand						
<b>2</b>	<b>Pipe Networking</b>						
<b>2.01</b>	Excavation in ordinary soil in trenches to design section, grades, lines and profiles and disposal of excavated material within 30 m lead and dressed in specified manners as per drawings , and in accordance with the specifications.	1	3,800	2	3	<b>22,800</b>	CFT
<b>2.02</b>	Providing and fixing of 3" Dia (75 mm Ø) Class "C" uPVC Pipeline from source to Villige (Including the repair of existing pipeline network)	1	3,800			<b>3,800</b>	RFT
<b>2.03</b>	Supply & fixing of Sluice Valve of 3" Dia (75 mm Ø) A-Grade and approved make with complete rubber packing complete in all respect.	10				<b>10</b>	No
<b>2.04</b>	Providing and fixing Water Tank (Plastic/Fibre) 500 Gln including all necessary fittings (2 inches GI Pipe 8 RFT with each tank & elbows) complete in all respects.	16				<b>16</b>	Nos
<b>2.05</b>	Providing and fixing of 3" Dia (75 mm Ø) Class "B" Z Joint PVC pressure Pipe of approved make for sluice valves fixing. For tanks	1	70			<b>70</b>	RFT
<b>2.06</b>	Supply & fixing of Sluice Valve of 3" Dia (75 mm Ø) A-Grade and approved make with complete rubber packing, Tee, Nut Bolt complete in all respect. For tanks	7				<b>7</b>	Nos

<b>3</b>	<b>Pump Room 10 x 12 &amp; Boundaray wall 480 RFT</b>						
<b>3.01</b>	<b>Excavation</b> Excavation in ordinary soil in trenches to design section, grades, lines and profiles and disposal of excavated material within 30 m lead and dressed in specified manners as per drawings , and in accordance with the specifications.						
	Short walls room	2	11	1.5	2	66	CFT
	Long walls room	2	13	1.5	2	78	CFT
	For Boundary Long wall	2	120	1.5	2	720	CFT
	For Boundary Short wall	2	120	1.5	2	720	CFT
		<b>Total Quantity</b>				<b>1584</b>	<b>CFT</b>
<b>3.02</b>	<b>Lean Concrete</b> Providing and laying 1:4:8 plain cement concrete of nominal mix ratio as under, using aggregates of required properties including mixing, transporting, placing, compacting, finishing and curing etc., complete in all respects as specified but excluding the cost of form work - Horizontal members - Below ground level up to 3m depth.						
	Short walls	2	11	1.5	0.25	8.25	CFT
	Long walls	2	13	1.5	0.25	9.75	CFT
	Hard core for boundary long wall	2	120	1.5	0.25	90	CFT
	Hard core for boundary short wall	2	120	1.5	0.25	90	CFT
		<b>Total Quantity</b>				<b>198.00</b>	<b>CFT</b>
<b>3.03</b>	<b>P.C.C 1:2:4</b> Providing and laying PCC 1:2:4 cement concrete of nominal mix ratio as under, using aggregates of required properties including mixing, transporting, placing, compacting, finishing and curing etc.,						
	Boundary wall copping	4	120	0.75	0.25	90	CFT
		<b>Total Quantity</b>				<b>90.00</b>	<b>CFT</b>
<b>3.04</b>	Providing and laying Reinforced cement concrete of nominal mix ratio as under, using aggregates of required properties including mixing, transporting, placing, compacting, finishing and curing etc., complete in all respects as specified but excluding the cost of Steel Reinforcement and form work. Horizontal members - Below Ground Level up to 3m depth.						
	Foundation						
	Short walls	2	11	1.5	0.75	24.75	CFT
	Long walls	2	13	1.5	0.75	29.25	CFT
		<b>Total Quantity</b>				<b>54</b>	<b>CFT</b>
<b>3.05</b>	Providing and laying Reinforced cement concrete of nominal mix ratio 1:2:4, using aggregates of required properties including mixing, transporting, placing, compacting, finishing and curing etc., complete in all respects as specified but excluding the cost of Steel Reinforcement and form work. Vertical members - Below Ground Level up to 3m depth.						
	Columns up to NSL	4	0.75	0.75	2	4.5	CFT
		<b>Total Quantity</b>				<b>4.5</b>	<b>CFT</b>
<b>3.06</b>	Providing and laying Reinforced cement concrete 1:2:4, using aggregates of required properties including mixing, transporting, placing, compacting, finishing and curing etc., complete in all respects as specified but excluding the cost of Steel Reinforcement and form work. Horizontal members - On Ground up to 6 m height.						
	Plinth beam Short walls	2	10	0.75	0.75	11.25	CFT
	Plinth beam Long walls	2	12.5	0.75	0.75	14.06	CFT
	Door beam Short walls	2	10	0.75	0.75	11.25	CFT
	Door beam Long walls	2	12.5	0.75	0.75	14.06	CFT
	Roof slab with projection	1	13.5	12.25	0.5	82.69	CFT
					Total	133.31	
	Deductions						
	Columns in door beam	4	0.75	0.75	0.75	1.6875	CFT
		<b>Total Quantity</b>				<b>131.63</b>	<b>CFT</b>
<b>3.07</b>	Providing and laying Reinforced cement concrete of nominal mix ratio 1:2:4, using aggregates of required properties including mixing, transporting, placing, compacting, finishing and curing etc., complete in all respects as specified but excluding the cost of Steel Reinforcement and form work. Vertical members - On Ground up to 6 m heigh						
	Columns (plinth to roof)	4	0.75	0.75	11	24.75	CFT
		<b>Total Quantity</b>				<b>24.75</b>	<b>CFT</b>

<b>3.08</b>	<b>Brick Masonry</b> Providing and laying 1st class solid Burnt brickwork in wall over 115 mm thick laid and jointed in cement mortar 1:4 in foundation and Plinth (up to 3 m depth) straight or curve, including scaffolding raking out joints & curing complete as per specifications.						
	Short walls(1st step)	2	10.25	1.125	1.5	34.59375	CFT
	Long walls(1st step)	2	12.25	1.125	1.5	41.34375	CFT
	Short walls(2nd step)	2	10.00	0.75	0.5	7.5	CFT
	Long walls(2nd step)	2	11.5	0.75	0.5	8.625	CFT
	Boundary long wall 1st step	2	120	1.125	2	540	CFT
	Boundary short wall 1st step	2	120	1.125	2	540	CFT
		<b>Total Quantity</b>				<b>1172.0625</b>	<b>CFT</b>
<b>3.09</b>	Providing and laying 1st class solid Burnt brickwork in wall over 115 mm thick laid and jointed in cement mortar 1:4 in Ground floor straight or curve, including scaffolding raking out joints & curing complete as per specifications.						
	Short walls (Super structure)	2	10	0.75	10	150	CFT
	Long walls (Super structure)	2	12.5	0.75	10	187.5	CFT
	Boundary long wall(Super structure)	2	120	0.75	8	1440	CFT
	Boundary short wall(Super structure)	2	120	0.75	8	1440	CFT
	For gate Columns	2	1.5	1.5	9	40.5	CFT
					Total	3258	
	Deductions						
	Doors	1	3.5	0.75	7	18.375	CFT
	Ventilators	2	3	0.75	2	9	CFT
	Columns	4	0.75	0.75	10	22.5	CFT
	Boundary wall main gate	1	10	0.75	3	22.5	CFT
					Total	72.375	CFT
		<b>Total Quantity</b>				<b>3185.625</b>	<b>CFT</b>
<b>3.10</b>	<b>Lean Concrete in Flooring</b> Providing and laying cement concrete (1:4:8) in floor bed using graded crushed stones 37mm (1-1/2") and down gauge including mixing, transporting, placing, levelling and curing etc. Complete in all respects as per drawings and in accordance with the specifications.						
	Pump Room	1	12	10	0.25	30	CFT
		<b>Total Quantity</b>				<b>30</b>	<b>CFT</b>
<b>3.11</b>	<b>PCC Flooring</b> Providing and laying 75mm (3") thick cement concrete(1:2:4 ) in floor using crushed aggregates 19mm (3/4") and down gauge at ground floor laid in panels including form work, mixing, transporting, placing, compacting, finishing and curing etc. complete in all respect.						
	Flooring	1	12	10	0.25	30	SFT
		<b>Total Quantity</b>				<b>30</b>	<b>SFT</b>
<b>3.12</b>	Providing and applying 19 mm (3/4") thick cement sand plaster on walls and columns etc. in ground floor up to 3M height, including making edges, corners, and curing etc., complete in all respects as per drawings and in accordance with the specifications.						
	Long walls room inside	2	12		10	240	SFT
	Short walls room inside	2	10		10	200	SFT
	Roof rooms	1	12	10		120	SFT
	Projection both side	2	12.75	1.5		38.25	SFT
	External walls	4	11.5		10	460	SFT
	Boundary wall inside	4	120		8	3840	SFT
					Total	4898.25	

	Deduction						
	Deduction of Door	1	3.5		7	24.5	SFT
	Ventilators	2	3		2	12	SFT
	Boundary wall main gate	1	8		7	56	SFT
		Total				92.5	
			<b>Total Quantity</b>			<b>4805.75</b>	<b>SFT</b>
<b>3.13</b>	<b>MS window &amp; Ventilator</b> Providing / fixing of windows and ventilators with new MS windows						
	Door	1	4	7		28	SFT
	Ventilators	2	3	2		12	SFT
	Window	1	5	6		30	SFT
	Total		<b>Total Quantity</b>			<b>70</b>	<b>SFT</b>
<b>3.14</b>	<b>Paint Works</b> Providing and applying first and 2nd coat of Met emulsion paint on prepared and primed surface of walls, ceiling, chip board, hard board or as and where required, complete in all respect, as per drawing, manufacturer instruction and in accordance with specification.						
	Total (Quantity as per plaster)					<b>4805.75</b>	<b>SFT</b>
<b>3.15</b>	Providing and applying first and second coat of Gloss Enamel paint on prepared and primed surface of woods, metals, plaster, hard board and cement sheets or as and where required, complete in all respect as per drawing, manufacturer instruction and in accordance with specification						
	Total (Door)	<b>2</b>	<b>3</b>		<b>7</b>	<b>42</b>	<b>SFT</b>
<b>3.16</b>	<b>Steel Reinforcement</b> Providing and laying deformed (Grade - 60 ) reinforcement bars including the cost of straightening, cutting, bending, binding, wastage, and such overlaps as are not shown in the drawings, placing in position on cement Concrete 1:2:4 precast spacer or M.s. chairs and tying with binding wire etc. complete in all respects as per drawings and in accordance with the specifications. :- (Horizontal and Vertical members).  For boundary wall foundation & columns and pump room (including foundation, column, beams & slab)					<b>4160.00</b>	<b>KG</b>
<b>3.17</b>	Providing a 4 layer barbed wire fixed in L-iron 3mm thick on every 10 feet space fixed in concrete of 1'x'9" as per instuction.	4	120			<b>470</b>	<b>Rft</b>
<b>3.18</b>	Provision and fixing of Main gate 10'x8' (frame of L-iron 1.5"x1.5" with G.I sheet 18 Gauge supported by frame and inside door including the two coat of red oxide & two coat of oil paint	1	10.00		8	<b>80.00</b>	<b>SFT</b>

