

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Phase-I, Tehsil Liaqatpur, District Rahim Yar Khan

Multi-village Scheme-2,Multi-village Scheme-4,Tehsil Liaqatpur, District Rahim Yar Khan

Chak No 08 Abbasia,Chak No 6A Channa,Chak No 08 Abbasia Jinnah Colony ,Chak No 9 Abbasia ,Chak No 09 Abbasia Colony,Chak No 09 Abbasia Shiekhan,Chak 11 Abbsia,Chak No 12 Abbasia,Chak No 16 Abbasia Colony,Chak No 19 Abbasia,Chak No 20 Abbasia Colony,Chak No 20 Abbasia,Chak No 22 Abbasia Jinnah Colony,Chak No 22 Abbasia,Chak No 23 Abbasia,Chak No 23 Abbasia Colony_1,Chak No 23 Abbasia Colony_2,Chak No 28 Abbasia,Chak No 31 Abbasia,Chak No 31 Abbasia Colony_1,Chak No 31 Abbasia Colony_2,Chak No 46 Abbasia,Chak No 47 Abbasia,Chak No 48 Abbasia

Main Summary

Sr. No.	Description	Amount (PKR)
1	Water Supply Scheme	0
2	Sanitation (Covered Drain) Scheme	0
3	Street Soling and Tuff Pavers	0
4	ESMP Cost	0
5	Employer / Engineer's Facilities	0
	Total Cost (1+2+3+4+5)	0
	PRA 5%	0
	Total Cost	0
	Cost in Million	0.00

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)
Phase-I, Tehsil Liaqatpur, District Rahim Yar Khan
Water Supply Scheme
Multi-village Scheme-2,Multi-village Scheme-4,Tehsil Liaqatpur, District Rahim Yar Khan

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Cost Summary

Sr. No.	Description	Amount (PKR)
1	Water Supply Scheme	
1.1	Boring and Conversion into Tube-well (7-Nos)	0
1.2	Construction of Pump House (9-Nos)	0
1.3	Providing and fixing of Pumping Machinery including Hypo-Chlorinator & Allied Work	0
1.4	Electrification for Tube well Pump Room (7-Nos)	0
1.5	Boundary Wall of Solar System (4- Nos)	0
1.6	Gurad Room With Control Panel Room Toilet including Civil & Plumbing Works / Electrical Works (4-Nos)	0
1.7	Laying of Pipe Network (Rising Main, Distribution Pipe line & Water Connection) - 450,970 ft	0
1.8	Construction of Valve Chamber (361 No.)	0
1.9	Construction of Stand Post / LLR including Civil & Plumbing Works / Electrical Works (17-Nos)	0
1.10	Ground Water Tank (30,000/50,000 Gallon) (2-Nos)	0
	Total	0

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Water Supply Scheme

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1.1 Engineer's Estimate for Boring and Conversion into Tube-well 07 Nos

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-23, It-2a(i)	Direct Rotary/ Reverse Rotary drilling of bore for tubewells, in all types of soil except shingle, gravel and rock: a) from ground level to 250 ft. (75 m) below ground level: i) 15" to 18" (375 to 450 mm) i/d	Rft	1,050.00		
2	Ch-23, It-5	Furnishing sample of water from bore hole.	Set	14.00		
3	Ch-23, It-10	Providing and installing Fiber glass Reinforced Polypropylene (FRP) blank pipe of specified wall thickness having slot size of 0.9 mm to 1.10 mm in Tubewell bore hole i/c the cost of male / female coupling with Nylone Strip, studs complete in all respect as approved and directed by the Engineer Incharge.				
		vi) 10"dia (6.35mm thickness)	Rft	200.00		
4	Ch-23, It-9	Providing and installing Fiberglass Reinforced Polypropylene (FRP) strainer of specified wall thickness having slot size of 0.9 mm to 1.10 mm in Tubewell borehole i/c the cost of male/female coupling with Nylone Strip, studs complete in all respect as approved and directed by the Engineer Incharge.				
		v) 10" inch dia (6.35 mm thickness)	Rft	80.00		
5	Ch-23, It-10v	Providing and installing Fiber glass Reinforced Polypropylene (FRP) bail plug of specified wall thickness having slot size of 0.9 mm to 1.10 mm in Tubewell bore hole i/c the cost of male / female coupling with Nylone Strip, studs complete in all respect as approved and directed by the Engineer Incharge.				
		vi) 10"dia (6.35mm thickness)	Rft	20.00		
6	Ch-23, It-17	Shrouding with graded pea gravel 3/8" to 1/8" (10 to 3 mm), around tubewell in bore hole.	Cft	1,428.76		
7	Ch-23, It-13(a)	Providing and installing P.V.C. blind pipe, B.S.S. Class 'B', in tubewell bore hole, including sockets and solvents and jointing with strainer, etc. complete. 3" i/d (75 mm)	Rft	1,320.00		
8	RA - 01	Chemical, Physical and Arsenic Analysis of water from approved Water Testing Lab.	Each	14.00		
9	RA - 02	Providing / fixing M.S Centralizer.	Each	21.00		
10	Ch-23, It-31	Providing & mixing Bentonite clay / powder have swelling factor of 1200% for lining /seal and plug earthen boreholes / ponds in the specified ratio conforming to IS:6186 for stabilization of soil as specified by the designer etc complete in all respect	Per Kg	84.62		
11	RA-17	A supply well is provided to store water required for the drilling operations of the tubewell bore. This ensures continuous water availability during boring. The work includes complete drilling of the tubewell bore using rotary/reverse rotary methods, along with installation of M.S. pipes, strainers, pump, and engine. All activities are carried out completely in all respects	Each	7.00		
12	RA - 04	Geophysical logging of bore (self potential resistivity Both short normal and Gama) complete in all respect.	Job	7.00		
13	Ch-23, It-16i	Testing and developing of tubewell of size 6" (150 mm) i/d and above continuously. i) up to 1.5 cs. discharge	Hrs.	504.00		
Total - Cost 07 Nos of Tube well						0

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1.2 Engineer's Estimate for Construction of Pump House (9-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-3, It-21-1a(ii)	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead 'up to one chain (30 m) and lift up to 5 ft. (1.5 m) 1) By Manual a) Depth up to 5ft (1.5m) ii) in ordinary soil.	1000cft	3.41		
2	Ch-6, It-3(i)	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth:- (d) Ratio 1: 6: 12	100Cft	11.43		
3	Ch-7, It-4i	Pacca brick work in foundation and plinth in: i) Cement, sand mortar: Ratio 1:5	100Cft	36.86		
4	Ch-6, It-37b(ii)	Providing and laying damp proof course of cement concrete 1:2: 4(using cement, sand and shingle), including bitumen coating: (b) with 2 coats of bitumen: ii) 2" thick (50 mm)	100Sft	5.81		
5	Ch-3, It-15i	Filling, watering and ramming earth under floors: i) With surplus earth from foundation, etc.	1000Cft	8.56		
6	Ch-6, It-2	Dry rammed brick or stone ballast, 1½" to 2"(40 mm to 50 mm) gauge.	100Cft	5.39		
7	Ch-10, It-3	Supplying and filling sand under floor; or plugging in wells.	100Cft	1.08		
8	Ch-10, It-16(e)	Providing and laying topping of cement concrete 1:2:4, including surface finishing and dividing in panels for floor:- (g) 2½"(62 mm) thick	100Sft	18.16		
9	Ch-7, It-5i	Pacca brick work in ground floor: i) Cement, sand mortar: Ratio 1:5	100Cft	53.12		
10	Ch-11, It-8 (b)	Cement plaster 1:3 up to 20' (6.00 m) height: b) 1/2" (13 mm) thick	100Sft	67.66		
11	Ch-11, It-12(b)	Cement plaster 3/8" (10 mm) thick under soffit of R.C.C. roof slabs only, upto 20' height . b) 1:3	100Sft	9.54		
12	Ch-11, It-26a(iii)	White washing: a) new surface: iii) three coats	100Sft	67.66		
13	Ch-11, It-18a	Cement pointing struck joints, on walls, up to 20' (6.00 m) height:- a) ratio 1:2	100Sft	52.97		
14	Ch-6, It-6a(3)	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): (a) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	1,650.65		

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1.2 Engineer's Estimate for Construction of Pump House (9-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
15	Ch-6, It-6c(3)	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): (c) Reinforced cement concrete in Pile cap, slab of rafts / strip foundation, base slab of column and retaining walls; etc. and footing beams, other structural members other than those mentioned in 6(a-d) above not requiring form work (i.e. horizontal shuttering) complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	121.50		
16	Ch-6, It-12b(i)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): (b) Deformed bars (i) (Grade-60)	100Kg	50.82		
17	Ch-25, It-62(ii)	P/F Iron door comprising of specified leaves made of 1-1/4" x1-1/4" x3/16" MS angle iron for leaf frame, diagonal and horizontal braces duly welded with MS. sheet 18-SWG i/c the cost of sliding bolt, tower bolt and painting 3-coats but excluding the cost of Chowkat complete in all respect as approved and directed by the Engineer incharge.(ii) Double Leaf	Sft	252.00		
18	Ch-12, It-15 a	Providing and fixing mild steel chowkat of doors, windows, C.window, etc. including holdfast, making and threading holes for hinges, etc. complete:- a) M.S. angle iron 1½"x 1½"x ¼" (40x40x6 mm) welded with M.S. flat 2"x ¼" (50 mm x 6 mm)	Sft	396.00		
19	Ch-25, It-42 a	Providing and fixing steel windows using M.S. sheet (16 SWG) moulded tubular pipe 1½"x1½" (40x40mm) for frame and 1¼"x1¼" (30x30mm) for leaves including M.S. square bars ¾"x¼" (6x6 mm) welded around each panel of frame, 5 mm thick glass panes fixed with double M.S. square tubular pipe 3/8"x3/8" (10x10mm) (22 SWG) beading with U' shaped rubber lining, brass fitting, holdfast, including painting three coats complete in all respects. a) For openable panels fixed with wire gauze 24 SWG, 12x12 mesh and glass panes ¼" (6 mm) thick.	Sft	144.00		
20	NS	Providing and fixing MS cover fabricated from 3/8" thick MS plate (size 2.75' x 2.75') with stiffeners and embedded MS angle frame,Angle iron 1"-1/4" X 1"-1/4" X 1/8" including cutting, welding, grinding, red oxide primer and enamel paint, complete in all respect	Each	9.00		
21	Ch-9, It-15	Khuras on roof 2'x2'x6" (600 x 600 x 150 mm)	Each	9.00		

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1.2 Engineer's Estimate for Construction of Pump House (9-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
22	Ch-9, It-14	Khassi pernalas in cement, sand mortar 1:2, 12" (300mm) outside width finished smooth with a floating coat of neat cement.	Rft	112.50		
23	Ch-9, It-16	Bottom Khuras of brick masonry in cement mortar 1:6, 4'x2'x4½" (1200x600x113 mm) over 3" (75 mm) cement concrete 1:4:8.	Each	9.00		
24	Ch-9, It-5	Single layer of tiles 9"x4½"x1½" (225x113x40 mm) laid over 4"(100 mm) earth and 1" (25 mm) mud plaster without Bhoosa, grouted with cement sand 1:3 on top of RCC roof slab, provided with 34 lbs. Per %Sft. or 1.72 Kg/Sq.m bitumen coating sand blinded.	100Sft	9.00		
25	Ch-25, It-10	Fabrication of heavy steel work, with angle, tees, flat iron round iron and sheet iron for making trusses, girders, tanks, etc., including cutting, drilling, revitting, handling, assembling and fixing, but excluding erection in position.	100Kg	16.65		
26	Ch-1, It-1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajr used in concrete items) (Lead 230 Km)	Cft	1,977.16		
27	Ch-13, It-33	Providing and applying weather shield paint of approved quality on external surface of building including preparation of surface, application of primer complete in all respect a) New Surface i) 1st Coat & 2nd Coat	100Sft	8.40		
28	Ch-23, It-52	Providing and fixing Chain Pulley Block of 5 ton capacity with 5 meter length of chain, as per required specifications complete in all respect and as approved by the Engineer Incharge.	Each	9.00		
Total - Cost 09 Nos of Tube well Pump Room (07 Nos of Tubewell & 02 Nos of GST Pump Room)						0

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1.3 Engineer's Estimate for Providing and fixing of Pumping Machinery including Hypo-Chlorinator & Allied Work

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	NS	Supplying, installing, testing and commissioning of submersible water supply pump set of approved make, complete in all respects as per specifications and direction of the Engineer Incharge. The pump set shall have the following specifications: Flow: 0.60 Cusec Head: 200 ft Setting Depth: 70 ft Motor Rating: 20 HP -3×400V, 50 Hz, 2 Pole, Submersible IP68 motor, Insulation class F Motor:15 KW/20HP/2 Pole Speed:2900 RPM Motor Control Unit (MCU): MCU (Motor Control Unit) consisting of MCCB, Over/Under voltage relay, Phase reversal relay, Volt meter, Ampere meter, EVR, Volt Selector Switch, Ampere Selector Switch, Current Transformer, Over load relay, indicating lights for all above relays, on/off push buttons. VFD Motor Control Unit with Dry running Protection relay, Circuit Breaker, DC SPD, AC SPD, DC Change Over Switch, Auto Start Stop with Any input, Self-diagnostic and Self Protection, Dry Run Protection, Digital Controls with Complete Protective Functions, Ground Fault Monitoring, AC Short Circuit Protection, Under/Over Voltage and Over/Current Protection, Reverse current Blocking, -10 to 40 °C, Remote Monitoring and MPPT, Water Level Detection, Pressure Level Detection, A/M Selector Switch, etc. All contained in lockable cabinet complete in all respects. Accessoires: Cable Termination Kit, MS Flanged Riser Pipes 70 ft 4", Schedule 40, Sluice Valve, Non-return Valve, MS Nipple, MS Bend, Bore cover plate, Installation clamp, Gaskets, Nut & Bolts, Drop Cable 3×10 mm² 90 ft length with cable connector & clamps, Electrode and Electrode wire 90 ft and other necessary fittings	Each	2		
2	NS	Supplying, installing, testing and commissioning of submersible water supply pump set of approved make, complete in all respects as per specifications and direction of the Engineer Incharge. The pump set shall have the following specifications: Flow: 0.50 Cusec Head: 250 ft Setting Depth: 70 ft Motor Rating: 25 HP - 3×400V, 50 Hz, 2 Pole, Submersible IP68/F motor, Insulation class F Motor:25 KW/25HP/2 Pole Speed:2900 RPM Motor Control Unit (MCU): MCU (Motor Control Unit) consisting of MCCB, Over/Under voltage relay, Phase reversal relay, Volt meter, Ampere meter, EVR, Volt Selector Switch, Ampere Selector Switch, Current Transformer, Over load relay, indicating lights for all above relays, on/off push buttons. VFD Motor Control Unit with Dry running Protection relay, Circuit Breaker, DC SPD, AC SPD, DC Change Over Switch, Auto Start Stop with Any input, Self-diagnostic and Self Protection, Dry Run Protection, Digital Controls with Complete Protective Functions, Ground Fault Monitoring, AC Short Circuit Protection, Under/Over Voltage and Over/Current Protection, Reverse current Blocking, -10 to 40 °C, Remote Monitoring and MPPT, Water Level Detection, Pressure Level Detection, A/M Selector Switch, etc. All contained in lockable cabinet complete in all respects. Accessoires: Cable Termination Kit, MS Flanged Riser Pipes 70 ft 4", Schedule 40, Sluice Valve, Non-return Valve, MS Nipple, MS Bend, Bore cover plate, Installation clamp, Gaskets, Nut & Bolts, Drop Cable 3×10 mm² 90 ft length with cable connector & clamps, Electrode and Electrode wire 90 ft and other necessary fittings	Each	5		

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1.3 Engineer's Estimate for Providing and fixing of Pumping Machinery including Hypo-Chlorinator & Allied Work

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
3	NS	Supplying, installing, testing and commissioning of centrifugal pump water supply pump set of approved make, complete in all respects as per specifications and direction of the Engineer Incharge. The pump set shall have the following specifications: Centrifugal Pump Set: Flow: 2.37 Cusec Head: 180 ft Motor:100HP/2 Pole- (IP 55/ F) Speed:2900 RPM Motor Control Unit (MCU): MCU (Motor Control Unit) consisting of MCCB,Over/Under voltage relay, Phase reversal relay, volt meter, ampere meter, EVR, Volt Selector Switch, Ampere Selector Switch, Current Transformer, indicating lights for all above relays, on/off push buttons. VFD Motor Control Unit with Dry running relay, Circuit Breaker, DC SPD, AC SPD, DC Change Over Switch, Auto Start Stop with Any input, Self diagnostic and Self Protection, Dry Run Protection, Digital Controls with Complete Protective Functions, Ground Fault Monitoring, AC Short Circuit Protection, Under / Over Voltage and Over/ Current Protection, Reverse current Blocking, -10 to 40 Degree Celcius, Remote Monitoring and MPPT, water Level Detection, Pressure Level Detection, A/M Selector Switch,etc. All contained in lockable cabinet complete in all respect	Each	1		
4	NS	Supplying, installing, testing and commissioning of centrifugal pump water supply pump set of approved make, complete in all respects as per specifications and direction of the Engineer Incharge. The pump set shall have the following specifications: Centrifugal Pump Set: Flow: 1.95 Cusec Head: 160 ft Motor:60HP/4 Pole- (IP 55/ F) Speed:1450 RPM Motor Control Unit (MCU): MCU (Motor Control Unit) consisting of MCCB,Over/Under voltage relay, Phase reversal relay, volt meter, ampere meter, EVR, Volt Selector Switch, Ampere Selector Switch, Current Transformer, indicating lights for all above relays, on/off push buttons. VFD Motor Control Unit with Dry running relay, Circuit Breaker, DC SPD, AC SPD, DC Change Over Switch, Auto Start Stop with Any input, Self diagnostic and Self Protection, Dry Run Protection, Digital Controls with Complete Protective Functions, Ground Fault Monitoring, AC Short Circuit Protection, Under / Over Voltage and Over/ Current Protection, Reverse current Blocking, -10 to 40 Degree Celcius, Remote Monitoring and MPPT, water Level Detection, Pressure Level Detection, A/M Selector Switch,etc. All contained in lockable cabinet complete in all respect	Each	1		
5	NS	Supplying, installing, testing and commissioning of centrifugal pump water supply pump set of approved make, complete in all respects as per specifications and direction of the Engineer Incharge. The pump set shall have the following specifications: Centrifugal Pump Set: Flow: 0.50 Cusec Head: 120 ft Motor:15HP/2 Pole- (IP 55/ F) Speed:2900 RPM Motor Control Unit (MCU): MCU (Motor Control Unit) consisting of MCCB,Over/Under voltage relay, Phase reversal relay, volt meter, ampere meter, EVR, Volt Selector Switch, Ampere Selector Switch, Current Transformer, indicating lights for all above relays, on/off push buttons. VFD Motor Control Unit with Dry running relay, Circuit Breaker, DC SPD, AC SPD, DC Change Over Switch, Auto Start Stop with Any input, Self diagnostic and Self Protection, Dry Run Protection, Digital Controls with Complete Protective Functions, Ground Fault Monitoring, AC Short Circuit Protection, Under / Over Voltage and Over/ Current Protection, Reverse current Blocking, -10 to 40 Degree Celcius, Remote Monitoring and MPPT, water Level Detection, Pressure Level Detection, A/M Selector Switch,etc. All contained in lockable cabinet complete in all respect	Each	1		

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1.3 Engineer's Estimate for Providing and fixing of Pumping Machinery including Hypo-Chlorinator & Allied Work

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
6	RA - 08	Supply and fixing of hypo-chlorinator Dosing Pump: Modal: AKL800NH0000 Flow: 10L/Hour Pressure 10 Bar Stroke: 300/1' Consumption 40W Power Supply: 100-240VAC Seals: FPM Head Material: PVDF Suction Discharge 4mm*6mm Tank: 70 Liter Material HDPE.	Each	11.00		
7	Ch-23, It-12c	Providing and installing M.S. blind pipe socketed/welded joint, M.S. reducer (where necessary), in tubewell bore hole, including jointing/welding with strainer, etc. complete: c) 4" i/d, 1/8" (100 mm i/d 3 mm) thick	Rft	220.00		
6	NS	Providing and fixing Electromagnetic Flow meter of specified dia as per Delivery Size in Pump House complete in all respect. Typically of Following Specification: Line Size: 6", DN150 Flanged, RF ANSI 150# Flow range: 32 ~ 320 m³/h Liner Material: PTFE Electrode Material: 316L Stainless Steel Body Material: Carbon Steel Power Supply: 220 VAC Output: 4 ~ 20mA Protection Class: IP68 Accuracy: Class –II (OIML R49/ISO4064) ISO 9001 Certified manufacturer	Each	11.00		
7	Ch-23, It-42	Providing and fixing heavy duty Gate valve of specified diameter and material for pressure rating PN-16 mde of Crane (USA), Hatersly (UK), Scon (Pakistan) or approved equivalent manufacturer, i/c the cost of all accessories flanges, nut/bolt and gasket where required complete in all respect as approved and directed by the Engineer Incharge. (b) Flange Ended Ductile Iron Valve (viii) 3" dia	Each	2.00		
8	Ch-23, It-42	Providing and fixing heavy duty Gate valve of specified diameter and material for pressure rating PN-16 mde of Crane (USA), Hatersly (UK), Scon (Pakistan) or approved equivalent manufacturer, i/c the cost of all accessories flanges, nut/bolt and gasket where required complete in all respect as approved and directed by the Engineer Incharge. (b) Flange Ended Ductile Iron Valve (viii) 4" dia	Each	2.00		
Total - Cost 07 Nos of Tube well						0

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1.4 Engineer's Estimate for Electrification for Tube well Pump Room (7-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-24, It-(9(a-ii)+3(iii)/24+16(i)/24+ 34(ii)/24)	Wiring of light or fan point from switch to the point with 3 x 1.5 sqmm PVC insulated single core cables in PVC pipes concealed in walls, columns and slabs including accessories, PVC box, 10 Amp. gang switch 1 or 2 way as required, one for each light or fan and installed as in specifications.	Each	6.00		
2	Ch-24, It-(9(a-iii)+3(iii))	Circuit wiring from MCBs board to gang switches board with 3 x 2.5 sqmm PVC insulated single core cables in appropriate size PVC conduit.	Each	2.00		
3	Ch-24, It-(9(a-iii)+3(iii))	The same as item No. 1.1 but from one light point to another light point.	Each	1.00		
4	Ch-24, It-(9(a-iv)+16(ii)+38(i)+3(iii))	5 Amp 2/3 pin universal flush mounting switch socket unit away from switch board and wired with 3 x 4 sqmm single core cable from nearest circuit available in PVC concealed conduits or trunking including all conduit accessories as required complete in all respect.	Each	2.00		
5	Ch-24, It-(9(a-iii)+3(iii))	The same as item No. 1.4 but wiring from one socket to another socket with 3 x 2.5 sqmm single core cable	Each	1.00		
6	Ch-24, It-(9(a-v)+3(iii)+38(ii)+16(ii))	The same as item No. 1.4 but wiring of 15/20A, 3-pin flush mounting switch socket unit wired with 3 x 6 sqmm single core cable wires starting from D.B.	Each	1.00		
7	Ch-24, It-(12 - C(Viii))	Supply and erection of copper conductor cables for service connection, in prelaid pipe/G.I. wire/trenches, etc. PVC insulated, PVC sheathed 4 core, 600/1000 volt non armoured cable-25 mm (19/0.052")	Rft	100.00		
8	Ch-24, It-8(c-vi)	Supply and erection of single core PVC insulated copper conductor cables, in prelaid PVC pipe/M.S. conduit/G.I pipe/wooden strip batten/wooden casing an capping/G.I. wire/trenches (rate for cables only)450/750 volts, PVC insulated: 10 mm sq (7/0.052")	Rft	100.00		
9	Ch-24, It-8(c-vii)	Supply and erection of single core PVC insulated copper conductor cables, in prelaid PVC pipe/M.S. conduit/G.I pipe/wooden strip batten/wooden casing an capping/G.I. wire/trenches (rate for cables only)450/750 volts, PVC insulated: 16 mm sq (7/0.064")	Rft	100.00		
10	Ch-24, It-97(b-iii)	Providing and fixing cable tray with straight flange fabricated with perforated G.I. Sheet of specified guage,size and depth duly supported on painted brackets of MS angle iron of 1-1/2"x1-1/2"x3/16" and MS patti of 1-1/2"x3/16" size @ 3 ft C/C, hangers i/c the cost of hardwares as approved and directed by the Engineer Incharge.(ii) 6"x3"	Rft	25.00		
11	RA -14	Light Fixture Type LED Batten Ceiling/surface mounted, 18W complete in all respect with allied accessories make Philips, GE,Pierlite or approved equivalent. The fitting shall be approved by the Engineer.	Each	4.00		
12	RA -15	Wall bracket Light Fixture Type LED 12W energy saving lamp with holder and complete in all respect with allied accessories make Philips, GE, Pierlite or approved equivalent. The fitting shall be approved by the Engineer.	Each	2.00		

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1.4 Engineer's Estimate for Electrification for Tube well Pump Room (7-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
13	Ch-24, It-103	Providing and fixing Pakistan Energy Label NEECA approved Copper winded wall bracket Fan i/c the cost of necessary cable and hardware for connection as approved and directed by Engineer Incharge.(ii) 18 " dia	Each	2.00		
14	Ch-24, It-102(a-ii)	Providing and fixing Copper winded Exhaust fan with louver and shutter made of Pak/Younas/G.F.C. i/c the cost of necessary cable and hardware for connection from ceiling rose complete as approved and directed by Engineer Incharge. (a) Plastic body (ii) 12 " dia	Each	1.00		
15	Ch-24, It-3(a-vii)	Supply and erection PVC pipe for recessed wiring (main and sub-main) purpose, including bends, specials, etc. in floor, wall or trenches: 100 mm dia (Class-B)	Rft.	100.00		
16	Ch-24, It-90(a-i)	P/F wall mounted DB (Distribution Board) made with 16SWG Sheet (Recessded/Surf ace mounted Type), Powder coated Paint, i/c the cost of Lock, Indication lights,Thimble, Copper Comb, Wiring, Netural & Earth Bar, Door Earthing, Digital Voltmeter,Digital Ammeter,Volt Selector Swi tch,Ammeter selector switch,Current Transformers and Controles Complete in all respect as approved and directed by the Engineer Incharge (Breakers wi l l be Pai d Separatel y). 1 No. 30 Amps (Adj.) MCCB TP, RC=25kA, Icu=100%lcs 2 Nos. outgoing 20A, MCB, SP, RC=10 kA 4 Nos. outgoing 10A, MCB, SP, RC=10 kA 3 Nos. Spare 10/20A, MCB, SP, RC=10 kA Indication lights, push buttons, digital ammeter with selector switch, digital voltmeter with selector switch, Panel box SWG 16 powder coated RAL colour 7032, IP class 44 and with all accessories.	Each	1.00		

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1.4 Engineer's Estimate for Electrification for Tube well Pump Room (7-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
17	Ch-24, It-92(a)	P/F floor mounted ATS (Auto Transfer Switch) panel board, fabricated with 14S WG M.S sheet (Indoor Type) duly painted with 100 microns powder coated paint in approved colour, front access, extendable, insulation class of 600 volts IP-44, incoming & outgoing connections from bottom with flexible copper cable suitable for 415 VAC, 3-phase 4 wire, 50 HZ TPN&E system having rated service, short circuit breaking capacity at 400VAC conforming to IEC-947-2 to accommodate given no of circuit components, instruments & accessories, assembled & wired with Electrolytic Copper bus bars at 50 deg and cables duly cleaned down to bare shining metal phosphate, manual change Over i/c the cost of Lock, Indication lights, Brass glands, Netural & Earth bar, thimbles, Digital volt meter/ Amp meter, Selector switch, Current transformers, Controles, Channels, Copper bus bars of specified capacity, Relays, Door Earthing, complete in all respects as approved and directed by the Engineer Incharge. (Breakers will be paid additionally) LV Switchgear Panel/Main Panel Board of 14 SWG, IP class 54/44 & RAL 7032 including I/C and O/G following electrical items, foundation/base frame with all installation and operational accessories as per site requirements, as per tender specifications and drawings and as directed by the Engineer.MPB 01 No. 50 Amps TP (adj.) MCCB, RC= 25 kA, Icu=100%Ics 01 No. VSS (07 position) 01 No. 0-600 Volts AC DIGITAL Voltmeter 03 Nos. 50/5 Amps Current Transformers 01 No. ASS (R-Y-B-OFF) 01 No. 0-50 Amps AC DIGITAL Ammeter 06 Nos. RYB and ON OFF TRIP LED indication lights 14 SWG steel sheet Panel RAL 7032, IP= 54/44 and all other accessories, OUTGOING 01 No. 25 Amp MCCB TP, RC=25kA, Icu=100%Ics (For 10 HP Motor) "01 No. 25 Amp MCCB TP, (Adj.) RC=25kA, Icu=100%Ics (For Staff Building)" 01 No. 32 Amp MCB DP, RC=10kA (For DB-OHWT) 01 No. 32 Amp MCCB TP, RC=25kA, Icu=100%Ics (For PFI) 01 No. (Spare) 32 Amp MCCB TP, (Adj.) RC=25kA, Icu=100%Ics 01 No. (Spare) 25 Amp MCCB TP, (Adj.) RC=25kA, Icu=100%Ics 01 No. (Space) 63 Amp., MCCB TP, (Adj.) RC=25kA, Icu=100%Ics 01 No. Panel light with limit switch 02 Nos. Exhaust fan 6" (copper) & Louver 8" sweep with thermostat relay and all accessories etc. Electrolytic copper bus bar with electrical grade PVC mountings 3 for each, nuts, bolts and washers, control MCB etc. (100 Amps. R+Y+B N, 50 Hz, 415 V, AC) All other accessories required for completion of the quality works including Cable gland and lugs etc. Contractor shall submit the genuine certificate from the manufacturer/authorized agent clear by indicating the project name make/model/rating of MCCB, MCB, magnetic contactors, terminal blocks and voltmeters/ ammeter along with warranties.	No.	1		
18	Ch-24, It-111	Earth point comprising of 10 ft. 5/8" dia. (16 mm dia) copper coated M.S. rods driven in ground near each lighting control panel. The earthing rods shall be completed with fixing clamps etc.	No.	1.00		
19	Ch-24, It-93(ii)	14 SWG steel sheet clad IP 54 colour RAL 7032 powder coated power factor improvement panel (PFI) including Cu busbar, heavy duty incoming and outgoing circuit breaker to capacitor, magnetic contactors, continuous digital p.f controller, on & off pushbuttons etc. complete with all components/ accessories as per specifications and drawings. PFI - 100 kVAR	No.	1.00		
Total Amount for one (01) Tube Well						0
Total Amount for Seven (07) Tube Well						0

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1.5 Engineering Estimate for Boundary Wall of Solar System (4- Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-3, It-21-1a(ii)	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead 'up to one chain (30 m) and lift up to 5 ft. (1.5 m) 1) By Manual a) Depth up to 5ft (1.5m) ii) in ordinary soil.	1000cft	22.24		
2	Ch-6, It-3(i)	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth:- (d) Ratio 1: 6: 12	100Cft	116.23		
3	Ch-7, It-4i	Pacca brick work in foundation and plinth in: i) Cement, sand mortar: Ratio 1:5	100Cft	108.42		
4	Ch-7, It-7i	Pacca brick work other than building upto 10ft. (3 m) height. i) cement, sand mortar: Ratio 1:5	100Cft	72.88		
5	Ch-11, It-8 (b)	Cement plaster 1:3 up to 20' (6.00 m) height: b) 1/2" (13 mm) thick	100Sft	113.73		
6	Ch-11, It-23	Priming coat of chalk under distemper	100Sft	231.78		
7	Ch-11, It-18a	Cement pointing struck joints, on walls, up to 20' (6.00 m) height:- a) ratio 1:2	100Sft	115.17		
8	Ch-13, It-33	Providing and applying weather shield paint of approved quality on external surface of building including preparation of surface, application of primer complete in all respect a) New Surface i) 1st Coat & ii) 2nd Coat	100Sft	231.78		
9	Ch-6, It-6a(3)	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): (a) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	3,006.39		
10	Ch-6, It-6c(3)	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): (c) Reinforced cement concrete in Pile cap, slab of rafts / strip foundation, base slab of column and retaining walls; etc. and footing beams, other structural members other than those mentioned in 6(a-d) above not requiring form work (i.e. horizontal shuttering) complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	1,748.00		

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1.5 Engineering Estimate for Boundary Wall of Solar System (4- Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
11	Ch-6, It-12b(i)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): (b) Deformed bars (i) (Grade-60)	100Kg	139.31		
12	Ch-13, It-9 (ii)	Bitumen coating to plastered or cement concrete surface; -l 14lbs. Per 100 Sft. (6.35 Kg per Sq.m)	100Sft	44.00		
13	Ch-25, It-30	Making and fixing steel grated door with 1/16" thick (1.5mm) sheeting, including angle iron frame 2"x2"x3/8"(50x50x10 mm) and 3/4" (20 mm) square bars 4" (100 mm) centre to centre, with locking arrangement.	Sft	288.00		
14	Ch-13, It-5c	Painting new surface: c) Preparing surface and painting of doors and windows any type (including edges): i) priming coat. ii) each subsequent coat of paint.	100Sft	5.76		
15	RA - 06	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Lead 198 Km)	Cft	4,183.86		
16	Ch-3, It-15ii	Filling, watering and ramming earth under floors: ii) With new earth excavated from outside,	1000Cft	74.48		
17	Ch-03, It -17(a,b)	Transportation of earth all types when the total distance, including the lead covered in the item of work, is more than 1000 ft. (300 m) a) upto 1/4 mile (400 m). b) for every 330 ft. (100 m) additional lead or part thereof, beyond 1/4 mile (400 m) upto one mile. (1.6 Km.)	1000 Cft	74.48		
18	Ch-10, It-4	Providing, laying, watering and ramming brick or stone ballast 1 1/2" to 2"(40 mm to 50 mm) gauge mixed with 25% sand, for floor foundation, complete in all respects.	100 Cft.	163.86		
19	Ch-10, It-43 b	Providing and laying Tuff Pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured) b) 60-mm thick	Per Sft	49,653.54		
20	Ch-25, It-75	Providing and fixing anti climb high security galvanized razor cut wire fencing having double sharp four U-shaped pointed 0.5 mm thick (22mmx15 mm barbs) spaced @ 33 mm c/c clad over 2.5 mm dia high tensile Core wire making coil fencing of specified diameter @ 4" c/c fixed on 2'-3" high M/S angle iron post 1 1/2"x1 1/2"x3/16" embedded in base of PCC (1:2:4) (4"x4"x9") @ 4' apart i/c the cost of 2 No. bars 3/8" dia welded horizontally with angle iron posts, binding wire, painting of posts, etc. complete in all respects as approved and directed by the Engineer incharge. (ii) 18 " diameter	Rft	1,907.50		

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1.5 Engineering Estimate for Boundary Wall of Solar System (4- Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
21	Ch-3, It-9 (i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed-off and dressed within 100 ft. (30 m) lead: (Drain-Type-I) i) Ordinary	1000 Cft	5.49		
22	Ch-6, It-3 (d)	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth: (d) Ratio 1: 6:12	100 Cft	5.42		
23	Ch-7, It-4 (i)	Pacca brick work in foundation and plinth in: Cement, sand mortar: Ratio 1:3	100 Cft	21.81		
24	Ch -20 It - 3b(ii).	Pacca brick on edge, laid in reimbursement, in cement, sand mortar, on sides of drains and on other works where required. All joints to be completely filled and struck flush: b) Ratio 1:5	100Sft	21.67		
25	Ch-.20 It - 6 (a)	Constructing Punjab Standard Drains. of cement concrete 1:2 ½ :5, with cement concrete bedding ratio 1:6:12, complete, laid to lines, grades, slopes and shapes, rendering exposed surface of concrete with 1:1 cement, sand mortar, ¼" (6 mm) thick, as per Engineer's drawing (excluding excavation): a) Type I	Per Rft	1,444.75		
Total - 1.5 Each						0

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1.6 Engineering Estimate Gurad Room With Control Panel Room Toilet including Civil & Plumbing Works / Electrical Works (4-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-3, It-21-1a(ii)	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead 'up to one chain (30 m) and lift up to 5 ft. (1.5 m) 1) By Manual a) Depth up to 5ft (1.5m) ii) in ordinary soil.	1000cft	2.10		
2	Ch-6, It-3(i)	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth:- (d) Ratio 1: 6: 12	100Cft	3.23		
3	Ch-7, It-4i	Pacca brick work in foundation and plinth in: i) Cement, sand mortar: Ratio 1:5	100Cft	12.57		
4	Ch-6, It-37b(ii)	Providing and laying damp proof course of cement concrete 1:2: 4(using cement, sand and shingle), including bitumen coating: (b) with 2 coats of bitumen: ii) 2" thick (50 mm)	100Sft	1.92		
5	Ch-6, It-39	Providing and laying vertical damp proof course with cement sand plaster and bitumen coating:- (b) with 2 coats of bitumen:- ii) Ratio 1:3 b) ¾ " thick (20mm)	100Sft	1.68		
6	Ch-7, It-5i	Pacca brick work in ground floor: i) Cement, sand mortar: Ratio 1:5	100Cft	21.39		
7	Ch-6, It-2	Dry rammed brick or stone ballast, 1½" to 2"(40 mm to 50 mm) gauge.	100Cft	2.11		
8	Ch-10, It-16(e)	Providing and laying topping of cement concrete 1:2:4, including surface finishing and dividing in panels for floor:- (g) 2½"(62 mm) thick	100Sft	6.20		
9	Ch-11, It-8 (b)	Cement plaster 1:3 up to 20' (6.00 m) height: b) 1/2" (13 mm) thick	100Sft	29.82		
10	Ch-11, It-12(b)	Cement plaster 3/8" (10 mm) thick under soffit of R.C.C. roof slabs only, upto 20' height . b) 1:3	100Sft	12.10		
11	Ch-11, It-26a(iii)	White washing: a) new surface: iii) three coats	100Sft	53.32		
12	Ch-11, It-18a	Cement pointing struck joints, on walls, up to 20' (6.00 m) height:- a) ratio 1:2	100Sft	19.38		
13	Ch-6, It-6a(3)	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): (a) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	697.51		
14	Ch-6, It-12b(i)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): (b) Deformed bars (i) (Grade-60)	100Kg	25.02		

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaquatpur & Rojhan)
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1.6 Engineering Estimate Gurad Room With Control Panel Room Toilet including Civil & Plumbing Works / Electrical Works (4-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
15	Ch-25, It-62(ii)	P/F Iron door comprising of specified leaves made of 1-1/4" x1-1/4" x3/16" MS angle iron for leaf frame, diagonal and horizontal braces duly welded with MS. sheet 18-SWG i/c the cost of sliding bolt, tower bolt and painting 3-coats but excluding the cost of Chowkat complete in all respect as approved and directed by the Engineer incharge. (ii) Double Leaf	Sft	252.00		
16	Ch-12, It-15 a	Providing and fixing mild steel chowkat of doors, windows, C.window, etc. including holdfast, making and threading holes for hinges, etc. complete:- a) M.S. angle iron 1 1/2"x 1 1/2"x 1/4" (40x40x6 mm) welded with M.S. flat 2"x 1/4" (50 mm x 6 mm)	Sft	444.00		
17	Ch-25, It-42 a	Providing and fixing steel windows using M.S. sheet (16 SWG) moulded tubular pipe 1 1/2"x1 1/2" (40x40mm) for frame and 1/4"x1 1/4" (30x30mm) for leaves including M.S. square bars 1/4"x1/4" (6x6 mm) welded around each panel of frame, 5 mm thick glass panes fixed with double M.S. square tubular pipe 3/8"x3/8" (10x10mm) (22 SWG) beading with U' shaped rubber lining, brass fitting, holdfast, including painting three coats complete in all respects. a) For openable panels fixed with wire gauze 24 SWG, 12x12 mesh and glass panes 1/4" (6 mm) thick.	Sft	96.00		
18	Ch-9, It-15	Khuras on roof 2'x2'x6" (600 x 600 x 150 mm)	Each	3.00		
19	Ch-9, It-14	Khassi pernalas in cement, sand mortar 1:2, 12" (300mm) outside width finished smooth with a floating coat of neat cement.	Rft	37.50		
20	Ch-9, It-16	Bottom Khuras of brick masonry in cement mortar 1:6, 4'x2'x4 1/2" (1200x600x113 mm) over 3" (75 mm) cement concrete 1:4:8.	Each	3.00		
21	Ch-9, It-5	Single layer of tiles 9"x4 1/2"x1 1/2" (225x113x40 mm) laid over 4" (100 mm) earth and 1" (25 mm) mud plaster without Bhoosa, grouted with cement sand 1:3 on top of RCC roof slab, provided with 34 lbs. Per %Sft. or 1.72 Kg/Sq.m bitumen coating sand blinded.	100Sft	9.08		
22	RA - 06	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajr used in concrete items) (Lead 230 Km)	Cft	755.51		
23	Ch-13, It-33	Providing and applying weather shield paint of approved quality on external surface of building including preparation of surface, application of primer complete in all respect a) New Surface i) 1st Coat & 2nd Coat	100Sft	34.77		
26	Ch-10, It-45(i) - 17.60 deduction for matt finishes	Porcelain Tile Providing and laying superb quality Porcelain glazed tiles flooring of MASTER brand of specified size in approved design, Color and Shade with adhesive/ bond over 3/4" thick (1:3) cement plaster i/c the cost of sealer for finishing the joints i/c cutting grinding complete in all respect as approved and directed by the Engineer Incharge. a) Full body Glazed tiles (i) 300 mm x 600 mm	Per Sft.	111.000		

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1.6 Engineering Estimate Gurad Room With Control Panel Room Toilet including Civil & Plumbing Works / Electrical Works (4-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
27	Ch-10, It-36(i) - 18.90 deduction for matt finishes	Providing and laying superb quality Porcelain glazed tiles of Master/ Stile brand or approved equivalent manufacturer, skirting/ dado of specified size, Color and Shade with adhesive/ bond over 1/2" thick (1:2) cement plaster i/c the cost of matching sealer for finishing the joints, cutting grinding complete in all respect as approved and directed by the Engineer Incharge. a) Full body Matt tiles	Per Sft.	400.00		
28	RA -20	Construction of House Connection Chamber (2' x 2'), complete in all respects as per drawings, specifications & instructions of the Engineer. The unit rate includes but not limited to excavation, required compaction, crushed stone, PCC (1:6:12), PCC (1:2:4), brick masonry in 1:3 C/S mortar, 1/2" thick 1:4 C/S plaster on inner & Outer sides, RCC Slab 4" Thick, uPVC 6" Pipe, finishing in the internal and external surface of brick masonry etc.	Each	3.00		
		Plumbing Works				
29	Ch-19, It-37	Providing and fixing cas tiron soil pipe with cement caulked joint: :ii) 4" i.d	Per ft.	40.00		
30	Ch-19, It-36	Providing and fitting, 4" Gully Trap ,including cement concrete, cost of PVC grating (6"x6") and masonary chamber (12" x 12")	Each	4.00		
31	Ch-19, It-27	Providing and fixing chromium plated bib cock:- ii) 1.5 cm (½")	Each	8.00		
32	Ch-19, It-4	Providing and fitting glazed earthen ware water closet, squatter type (Orisa pattern), combined with foot rest. ii) Coloured	Each	4.00		
33	Ch-19, It-13	Providing and fitting plastic made low down flushing cistern 13.63 litre (3 gallons) capacity, including bracket set, copper connection, etc. complete. ii) coloured	Each	4.00		
34	Ch-19, It-7	Providing and fixing 1.5cm (½") dia connection, including check nuts, etc.: -i) plastic rubber connection	No	8.00		
35	Ch-19, It-47	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized Polyvinyl Chloride) Nikasi/ SWV pipe, Dadex / Popular / Beta or approved equivalent manufacturer, plain / Bell Ended / Z-Joints conforming to BS4514/BS5255-EN1329 including the cost of specials and Solvents complete in all respects, as per drawings & specifications and or as approved and directed by the Engineer Incharge. (vi) 160 mm	Rft	600.00		
36	Ch-19, It-49	Providing, fixing ,testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi/ waste pipe Fittings make of Dadex/ Popular/ Beta or equivalent, conforming to code EN-1329 including the cost of Solvents complete in all respect as approved and directed by the Engineer Incharge a) P-Trap (i) 4" dia	No	8.00		
37	Ch-19, It-51	Providing and hoisting vertical/ horizontal type storage tank of required capacity made of rotationally molded from (HDPE), double ply polyethelene of approved manufacturer i/c cost of making connection for inlet/outlet pipe, float valve i/c all cost of specials & labour complete in all respect as approved and directed by the Engineer Incharge.	Per Gallon	2000.000		
38	Ch-23, It-33	Providing, laying, testing and commissioning of POLYPROPYLENE RANDOM COPOLYMER (PPRC) water supply pipe (Dadex /Popular/Beta or approved equivalent manufacturer, with specified pressure rating PN (PRESSURE NOMINAL) and conforming to DIN 8077-8078 code i/c cost of solvent, specials, making jharries complete in all respect as approved and directed by Engineer Incharge. (Internal/External Diameters mentioned).				
		b) PN-20 pipe				
		ii) 25 mm	Rft	500.0		
		iv) 40 mm	Rft	240.0		

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1.6 Engineering Estimate Gurad Room With Control Panel Room Toilet including Civil & Plumbing Works / Electrical Works (4-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
39	Ch-23, It-42	Providing and fixing heavy duty Gate valve of specified diameter and material for pressure rating PN-16 mde of Crane (USA), Hatersly (UK), Scon (Pakistan) or approved equivalent manufacturer, i/c the cost of all accessories flanges, nut/bolt and gasket where required complete in all respect as approved and directed by the Engineer Incharge.				
		(a) Brass Threaded Valves				
		(iii) 1" dia	Each	4.0		
		(iv) 1-1/2" dia	Each	4.0		
40	Ch-23, It-45	Supply & installation of heavy duty Brass PN-16 air Vents of specified size provided at the highest points (Pipe Risers) to expel air as approved and directed by the Engineer Incharge				
		(a) Automatic				
		(iii) 1" Dia	Each	8.0		
41	Ch-23, It-32	P/F Ejector Pump of specified Suction and Delivery heads, coupled with Single Phase Seimen Electric Motor of required rating for water supply i/c the cost of connection charges, necessary wire, PVC pipes etc complete in all respect as approved and directed by the Engineer Incharge. G-II (1-1/4"x3/4") with 1 HP Electric Motor, 21-Mtr Suction and 21 M delivery head	Each	4.000		
42	Ch-23, It-1	Boring for tubewell in all types of soil except shingle and rock, from ground level to 100 ft. (30 m) depth, including sinking and withdrawing of casing pipe, complete:- d) 6" (150 mm) i/d	Per Rft of Bore	260.0		
43	Ch-23, It-13	Providing and installing P.V.C. blind pipe, B.S.S. Class 'D', in tubewell bore hole, including sockets and solvents and jointing with strainer, etc. complete. b) 4" i/d (100 mm)	Per Rft	120.0		
44	Ch-23, It-8	Providing and installing, P.V.C. strainer B.S.S. Class 'D', in tubewell bore hole, including sockets and solvents, etc. complete:- b) 4" i/d (100 mm)	Per Rft	120.0		
45	Ch-23, It-9	Providing and installing P.V.C. Bail /End plug in tube well borehole b) B.S.S. Class 'D' (v) 4" i/d (100mm)	Each	4.0		
46	Ch-23, It-17	Shrouding with graded pea gravel 3/8" to 1/8" (10 to 3 mm), around tubewell in bore hole.	Cft	175.89		

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1.6 Engineering Estimate Guard Room With Control Panel Room Toilet including Civil & Plumbing Works / Electrical Works (4-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
		Electrical Works				
47	Ch-24, It-3 (a)	Supply and erection of PVC pipe for wiring including inspection boxes, pull boxes, hooks, and repairing surface, etc., complete with all specials. Recessed in walls i/c making jharries iii) 25 mm i/d	Rft	528.000		
48	Ch-24, It-8 (a)	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 250/440 volts grade cable (BSS-2004), in prelaidd PVC pipes/M.S. conduit/G.I. pipe/ wooden strip batten/wooden casing and capping/ trenches, etc. (rate for cable only):-				
		i) 3/0.74 mm (3/0.029") (P+N+E) for Point Wiring	Rft	440.000		
		iii) 7/0.74 mm (7/0.029") (P+N+E) for Circuit Wiring	Rft	80.000		
49	Ch-24, It-103	Providing and fixing Pakistan Energy Label NEECA approved Copper winded wall bracket Fan i/c the cost of necessary cable and hardware for connection as approved and directed by Engineer Incharge.i) 18" Sweep dia	Each	4.000		
50	Ch-24, It-105	P/F PVC double layer Switch kit Face plate with specified switch holes i/c the cost of switches / sockets / dimmer made of Hi-Life / Bush / Schenider, screws complete as approved and directed by the Engineer Incharge.a) One Way Gang Switch (Small) (ii) 02 Gang	Each	8.000		
51	Ch-24, It-106 (i)	Supply, installation, testing & commissioning of 16 SWG Sheet steel powder coated back boxes with earth terminal, recessed in wall, including accessories, complete in all respect as per specifications and as approved by Engineer Small 3"x3"	Each	32.000		
Total Amount for four (04) Guard Room						0

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1.7 Engineer's Estimate for Laying of Pipe Network (Rising Main, Distribution Pipe line & Water Connection) - 450,970 ft

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-4, It -19 (c)	Dismantling cement concrete 1:2:4 plain.	100Cft	18.75		
2	Ch-4, It -29	Dismantling brick or flagged flooring without concrete foundation.	100 Sft	200.00		
3	Ch-4, It -45	Dismantling and removing road metalling	100Cft	58.35		
4	Ch-21, It -8	Restoration of brick pavement on edge, over laid service line, with 2" (50 mm) sand cushion under soling	100 Sft	200.00		
5	Ch-6, It-5-(f)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate) (f) Ratio 1: 2: 4	100 Cft	18.75		
6	Ch-21, It -10 (a)	Restoration of metalled road, on laid service line, including compaction a) Carpetted road, with 2" (50 mm) carpet and 10" depth of stone metal for sub-base and base	100 Sft	50.00		
7	Ch-3, It-46	Excavation of trenches in all kinds of soil, except cutting 1000 Cft. rock, for watersupply pipelines/electric cables upto 5 ft. (1.5 m) depth from ground level, including backfilling, trimming, dressing sides, leveling the beds of trenches to correct grade and cutting pits for joints, etc. complete in all respects.	1000Cft	3,699.75		
8	Ch-3, It-24(a)	Compaction of earthwork (soft, ordinary or hard soil) :-	1000 Cft	3,312.51		
9	Ch-23, It-30	Providing ,laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE-100) working presure pipe conforming to standard ISO4427, PS3580, Beta /Dadex /Popular/ IIL or approved equivalent manufacturer,including the cost of specials ,in trenches, as approved & directed by the engineer incharge, complete in all respects a) PN-6 (SDR-26)				
		(3 1/2" -90 mm dia)	Per Rft	127,878.30		
		(4" -110 mm dia)	Per Rft	34,729.20		
		(6" -150 mm dia)	Per Rft	11,732.60		
10	Ch-23, It-30	Providing ,laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE-100) working presure pipe conforming to standard ISO4427, PS3580, Beta /Dadex /Popular/ IIL or approved equivalent manufacturer,including the cost of specials ,in trenches, as approved & directed by the engineer incharge, complete in all respects PN-8 (SDR-21)-				
		(3 1/2" -90 mm dia)	Per Rft	62,207.20		
		(4" - 110 mm dia)	Per Rft	2,202.20		
		(6" -160 mm dia)	Per Rft	42,372.00		
		(8"-200 mm dia)	Per Rft	40,186.30		
		(10" - 250 mm dia)	Per Rft	10,447.80		
		(12.5" - 315 mm dia)	Per Rft	70,452.80		

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1.9 Engineer's Estimate for Construction of Stand Post / LLR including Civil & Plumbing Works / Electrical Works (17-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-3, It-21	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead up to one chain (30 m) and lift up to 5 ft. (1.5 m) 1) By Manual a) Depth up to 5ft (1.5m) ii) in ordinary soil.	1000 Cft	13.708		
2	Ch-3, It-15(ii)	Earth Filling in ordinary soil lead up 30m with compaction upto required 90% modified AATSHO dry density complete in all respects as approved by the Engineer Incharge.	1000Cft	11.407		
3	Ch-6, It-3	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth:- (d) Ratio 1: 4: 8	100Cft	61.940		
4	Ch-6, It-5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate)				
		(l) Ratio 1: 4: 8	100 Cft	9.784		
		(f) Ratio 1: 2: 4	100 Cft	20.335		
5	Ch-7, It-4	Brick work in Foundation Pacca brick work in foundation and plinth in:- Cement, sand mortar:- Ratio 1:5	100Cft	119.979		
6	Ch-7, It-5	Brick work in Super Structure Pacca brick work in ground floor :- i) Cement, sand mortar :- Ratio 1:4	100Cft	173.908		
7	Ch-6, It-37	Providing and laying damp proof course of cement concrete 1:2:4 (using cement, sand and shingle), including bitumen coating: b) with 2 coats of bitumen: ii) 2" thick	100Sft	29.045		
8	Ch-6, It-39	Providing and laying vertical damp proof course with cement sand plaster and bitumen coating:- (b) with 2 coats of bitumen:-ii) Ratio 1:3 b) ¾ " thick (20mm)	100Sft	14.018		
9	Ch-11, It-9	Cement Plaster Cement plaster 1:4 upto 20' (6.00 m) height:- c) 1/2" (13 mm) thick	100Sft	120.445		
10	Ch-11, It-18	Cement pointing struck joint, on walls upto 20' height. b) ratio 1:3	100Sft	246.711		
11	Ch-11, It-12	Cement plaster 3/8" (10 mm) thick under soffit of R.C.C. roof slabs only, upto 20' height . b) 1:3	100Sft	33.320		
12	Ch-9, It-5	Single layer of tiles 9"x4½"x1½" (225x113x40 mm) laid over 4"(100 mm) earth and 1" (25 mm) mud plaster without Bhoosa, grouted with cement sand 1:3 on top of RCC roof slab, provided with 34 lbs. Per %Sft. or 1.72 Kg/Sq.m bitumen coating sand blinded.	100Sft	40.843		
13	Ch-6, It- 6	(a) (i) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- (3) Type C (nominal mix 1: 2: 4)	Per Cft	3036.434		
14	Ch-6, It-12	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars):- (c) Deformed bars (Grade-60)	100 Kg	103.737		

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1.9 Engineer's Estimate for Construction of Stand Post / LLR including Civil & Plumbing Works / Electrical Works (17-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
16	Ch-10, It-45(i) - 17.60 deduction for matt finishes	Porcelain Tile Providing and laying superb quality Porcelain glazed tiles flooring of MASTER brand of specified size in approved design, Color and Shade with adhesive/ bond over 3/4"thick (1:3) cement plaster i/c the cost of sealer for finishing the joints i/c cutting grinding complete in all respect as approved and directed by the Engineer Incharge. a) Full body Glazed tiles (i) 300 mm x 600 mm	Per Sft.	4462.500		
17	Ch-10, It-36(i) - 18.90 deduction for matt finishes	Providing and laying superb quality Porcelain glazed tiles of Master/ Stile brand or approved equivalent manufacturer, skirting/ dado of specified size, Color and Shade with adhesive/ bond over 1/2" thick (1:2) cement plaster i/c the cost of matching sealer for finishing the joints, cutting grinding complete in all respect as approved and directed by the Engineer Incharge. a) Full body Matt tiles	Per Sft.	2584.000		
18	Ch-10, It-43	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with and in joints i/c finishing to require slope. Complete in all respect. (50% Grey / 50% Colored) b)50-mm thick	Per Sft.	1797.750		
19	Ch-11, It-23+24	Preparing surface and painting with Distemper 3coats	100Sft	144.55		
20	Ch-25, It-31	Making and fixing steel grated door with 1/16" thick (1.5mm) sheeting, including angle iron frame 2"x2"x3/8" (50x50x10 mm) and 3/4" (20 mm) square bars 4" (100 mm) centre to centre, with locking arrangement.	Per Sft	833.00		
21	Ch-25, It-42	Providing and fixing steel windows using M.S. sheet (16 SWG) moulded tubular pipe 1 1/2"x1 1/2" (40x40mm) for frame and 1 1/4"x1 1/4" (30x30mm) for leaves including M.S. square bars 3/4"x1/4" (6x6 mm) welded around each panel of frame, 5 mm thick glass panes fixed with double M.S. square tubular pipe 3/8"x3/8" (10x10mm) (22 SWG) beading with U' shaped rubber lining, brass fitting, holdfast, including painting three coats complete in all respects. a) For openable panels fixed with wire gauze 24 SWG, 12x12 mesh and glass panes 3/4" (6 mm) thick.	Sft	178.50		
22	Ch-12, It-15 a	Providing and fixing mild steel chowkat of doors, windows, C.window, etc. including holdfast, making and threading holes for hinges, etc. complete:- a) M.S. angle iron 1 1/2"x 1 1/2"x 1/4" (40x40x6 mm) welded with M.S. flat 2"x 1/4" (50 mm x 6 mm)	Per Sft	1,011.50		
23	Ch-9, It-15	Khuras on roof 2'x2'x6" (600 x 600 x 150 mm)	Each	17.00		
24	Ch-1, It-1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Lead 230 Km)	Cft	3704.548		
25	Ch-25, It-32	Making and fixing grating in opening, including fixing at site with flat iron 2"x3/8" (50x10 mm) and 3/4" (19 mm) square bars, at 4" (100 mm) centre to centre.	Per Sft	408.000		
26	Ch-13, It-5	Painting new surface:-Preparing surface and painting guard bars, gates of iron bars, gratings, railing (including standards braces, etc.) and in similar open work Three Coats including priming coat.	100 Sft	24.874		
27	Ch-26, It-44	Supply and Erection of Car Parking Shed consisting of 3 mm thick fiber glass sheet roof (3-layers) fixed / riveted on moulded curved frame of M.S box pipe 1-1/2"x1-1/2"x16-SWG supported on trusses of MS angle iron 1-1/2"x1-1/2"x3/16" all around duly supported on M.S sheet 6"x6"x1/4" welded on GI pipe post (Medium Quality) of specified diameter embeded in P:C:C (1:2:4) i/c the cost of excavation,cutting straightening assembling, bending as per design, welding / grinding of joints and painting three coats complete in all respect as approved and directed by the Engineer Incharge. (ii) 3" dia GI pipe Supports	Per Sft	3332.000		
28	N.S	MS ladder including painting as per drawings.	Rft	238.00		

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Water Supply Scheme

Multi-village Scheme-2,Multi-village Scheme-4,Tehsil Liaqatpur, District Rahim Yar Khan

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1.9 Engineer's Estimate for Construction of Stand Post / LLR including Civil & Plumbing Works / Electrical Works (17-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
		Electrical Works				
29	Ch-24, It-3	Supply and erection of PVC pipe for wiring including inspection boxes, pull boxes, hooks, and repairing surface, etc., complete with all specials.Recessed in walls i/c making jharries iii) 25 mm i/d	Rft	748.000		
30	Ch-24, It-8	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 250/440 volts grade cable (BSS-2004), in prelaidd PVC pipes/M.S. conduit/G.I. pipe/ wooden strip batten/wooden casing and capping/ trenches, etc. (rate for cable only):-				
		i) 3/0.74 mm (3/0.029") (P+N+E) for Point Wiring	Rft	2244.000		
		iii) 7/0.74 mm (7/0.029") (P+N+E) for Circuit Wiring	Rft	1870.000		
31	Ch-24, It-105	P/F PVC double layer Switch kit Face plate with specified switch holes i/c the cost of switches / sockets / dimmer made of Hi-Life / Bush / Schenider, screws complete as approved and directed by the Engineer Incharge.a) One Way Gang Switch (Small) (ii) 02 Gang	Each	34.000		
32	Ch-24, It-106	Supply, installation, testing & commissioning of 16 SWG Sheet steel powder coated back boxes with earth terminal, recessed in wall, includingaccessories, complete in all respect as per specifications and as approved by Engineer Small 3"x3"	Each	34.000		
33	Ch-24, It-65	Supply and erection of pole mounted street light, holders,shade and glass, etc., for fitting 125/250 watts mercury vapour lamp (excluding cost of lamps):Philips design	Each	34.000		
34	Ch-24, It-66	Supply and fitting of mercury vapour lamp, complete with choke set. 125 watt lamp	Each	34.000		
35	N.S	Light Fixture Type LED Batten Ceiling/surface mounted, 18W complete in all respect with allied accessories make Philips, GE,Pierlite or approved equivalent. The fitting shall be approved by the Engineer.	Each	68.00		
36	N.S	Wall bracket Light Fixture Type LED 12W energy saving lamp with holder and complete in all respect with allied accessories make Philips, GE, Pierlite or approved equivalent. The fitting shall be approved by the Engineer.	Each	34.00		

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Water Supply Scheme

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1.1 Engineer's Estimate for Ground Water Tank (30,000/50,000 Gallon) (2-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-3, It-21	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead 'up to one chain (30 m) and lift up to 5 ft. (1.5 m) 2)b) By Excavator a) Depth up to 5ft (1.5m) ii) in ordinary soil.	1000Cft	15.13		
2	Ch-8, It-4+RA-06	Providing and laying sub-base course of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100% maximum modified AASHO dry density, including carriage of all material to site of work except gravel and aggregate. i) Pit run or bed run gravel. Granular filling Note: *The quoted rate for granular material shall be deemed to include the cost of transportation from the approved quarry to the site of work.	100Cft	151.25		
3	Ch-6, It-5(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):inth:- (h) Ratio 1: 3: 6 Lean Concrete	100Cft	14.30		
		Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.):				
4	Ch-6, It-6a	(a) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: (2) Type B (nominal mix 1: 1½: 3)	Cft	1,367.59		
5	Ch-6, It-6b	(b) Reinforced cement concrete in retaining/ Shear walls laid in situ or precast laid in position, or prestressed members cast in situ (Formwork on both sides) , complete in all respects: (i) Upto 9" thick (Avg) (2) Type B (nominal mix 1:1-1/2:3)	Cft	2,926.00		
6	Ch-6, It-6c	c) Reinforced cement concrete in slab of rafts / strip foundation, base slab of column and retaining walls; etc and footing beams, other structural members other than those mentioned in 6(a-d) above not requiring form work (i.e. horizontal shuttering) complete in all respects:- (2) Type B (nominal mix 1:1-1/2:3)	Cft	4,047.00		
7	Ch-6, It-12b(i)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): (b) Deformed bars (i) (Grade-60)	100Kg	235.49		
8	RA - 06	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajr used in concrete items) (Lead 230 Km)	Cft	8,326.96		
9	Ch-6, It-12b(i)	Providing and embedding 10" (250mm) wide PVC water stopper in expansion joints of RCC structures (Retaining walls, water tanks, Slabs) complete in all respec:ii) 10 mm thick	Rft	288.00		

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1.1 Engineer's Estimate for Ground Water Tank (30,000/50,000 Gallon) (2-Nos)

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
10	Ch-13, It-9	Bitumen coating to plastered or cement concrete surface:- i) 20 lbs. per 100 Sft. (9.07 Kg per Sq.m)	100Sft	32.56		
11	RA - 05	Providing and fixing MS cover fabricated from 3/8" thick MS plate (size 2.75' x 2.75') with stiffeners and embedded MS angle frame, including cutting, welding, grinding, red oxide primer and enamel paint, complete in all respect	Each	4.00		
12	Ch-21, It-11	Providing and fixing 1 1/4"x1 1/4"x3/16" (31x31x5 mm) angle iron step, in manhole chambers, including carriage and setting the same in work to correct lines and levels.	Each	14.00		
13	Ch-10, It-35 (b)	Mosaic dado or skirting with one part of cement and marble powder in the ratio of 3:1 and two parts of marble chips, laid over 1/2"(13 mm) thick cement plaster 1:3, including rubbing and polishing, complete with finishing: (b) using white cement : ii) 1/2"(13 mm) thick Tank internal mosaic dado	100 Sft	30.80		
14	Ch-10, It-22 (a)	13/8"(35 mm) thick mosaic flooring, consisting of 3/8"(10 mm) mosaic topping of one part of cement and marble powder in the ratio of 3:1 and two parts of marble chips, laid over 1"(25 mm) thick flooring of 1:2:4 cement concrete including rubbing and polishing complete :- (a) using grey cement Tank internal mosaic Flooring	100 Sft	24.50		
15	Ch-23, It-18	Providing, laying, cutting, jointing, testing and disinfecting cast iron pipe line (BS-2035/4622) in trenches, including cost of materials, such as lead, yarn, etc.complete in all respects:- a) With Spigot and Socket Caulked Lead Joint 4" Dia (Vent Pipe)	Per Rft	12.00		
Total						0

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Phase-I, Tehsil Liaqatpur, District Rahim Yar Khan

Sanitation Scheme

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Cost Summary

Sr. No.	Description	Amount (PKR)
2	Sanitation Scheme	
2.1	Covered Drain	0
2.2	SepticTank- (57-Nos) & Sokage Pit- (11-Nos)	0
	Total	0

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaquatpur & Rojhan)
Phase-I, Tehsil Liaquatpur, District Rahim Yar Khan
Sanitation Scheme

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2.1 Engineer's Estimate for Covered Drain

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-4, It -19 (c)	Dismantling cement concrete 1:2:4 plain.	100Cft	103.72		
2	Ch-6, It-5-(f)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate) (f) Ratio 1: 2: 4	100 Cft	141.97		
3	Ch-4, It -45	Dismantling and removing road metaling	100Cft	133.04		
4	Ch-21, It -10 (a)	Restoration of metaled road, on laid service line, including compaction				
		Carpeted Road, with 2" (50 mm) carpet and 10" depth of stone metal for sub-base and base	100 Sft	57.00		
		Black Topped Road with two coats of surfacing & 10"(250 mm) depth of stone metal, for sub base & base.	100 Sft	57.00		
5	Ch-4, It -8	Dismantling storm watre drain including base concrete	100Cft	644.43		
6	Ch-3, It-46	Excavation of trenches in all kinds of soil, except cutting 1000 Cft.rock, for Sewer pipelines/electric cables upto 5 ft. (1.5 m) depth from ground level, including backfilling, trimming, dressing sides, leveling the beds of trenches to correct grade and cuttingpits for joints, etc. complete in all respects.	1000Cft	204.99		
7	Ch-3, It-9 (i)	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed-off and dressed within 100 ft. (30 m) lead: i) Ordinary	1000 Cft	1,685.68		
8	Ch-6, It-3 (d)	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth: (d) Ratio 1: 6:12	100 Cft	1,114.98		
9	Ch-7, It-4 (i)	Pacca brick work in foundation and plinth in: Cement, sand mortar: Ratio 1:3	100 Cft	8,166.13		
10	Ch -20 It - 3b(ii).	Pacca brick on edge, laid in reimbursement, in cement, sand mortar, on sides of drains and on other works where required. All joints to be completely filled and struck flush: b) Ratio 1:5	100Sft	4,288.93		
11	Ch -11 It - 8	Cement plaster 1:3 upto 20' (6.00 m) height: b) ½" (13 mm) thick	100Sft	17,294.57		
12	Ch-20 It - 6 (a)	Constructing Punjab Standard Drains. of cement concrete 1:2 ½ :5, with cement concrete bedding ratio 1:6:12, complete, laid to lines, grades, slopes and shapes, rendering exposed surface of concrete with 1:1 cement, sand mortar, ¼" (6 mm) thick, as per Engineer's drawing (excluding excavation): a) Type I	Per Rft	285,653		
13	Ch-20 It- 6(b)	Constructing Punjab Standard Drains. of cement concrete 1:2 ½ :5, with cement concrete bedding ratio 1:6:12, complete, laid to lines, grades, slopes and shapes, rendering exposed surface of concrete with 1:1 cement, sand mortar, ¼" (6 mm) thick,(excluding excavation) as per engineer in charge. b) Type II	Per Rft	9,348		

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2.1 Engineer's Estimate for Covered Drain

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
14	Ch-6, It-12	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars):				
		(a) Plain bars * For Drain Slab	100Kg	485.07		
		(c) Deformed bars (Grade-60) *For Road Crossing	100Kg	1,992.99		
15	Ch-6, It-6a(3)	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.):				
		(a) Reinforced cement concrete in roof slab, beams, columns, lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: (2) Type B (nominal mix 1: 1.5: 3)	Cft	82,272.73		
16	Ch-24, It-3	Supply and erection of PVC pipe for Drain Slab Conduit complete with all respect: iii) 25 mm i/d	Per Rft	33,425.05		
17	NS	RPC Drain Cover Manufactured with 100% Recycled Plastic Composite Material, 50 mm (2") thick with clear opening size 450mm x 900mm and RPC Drain frame having with average breaking load capacity of 4 Ton . Type-I	Each	23,804.00		
18	NS	RPC Drain Cover Manufactured with 100% Recycled Plastic Composite Material, 50 mm (2") thick with clear opening size 762mm x 900mm and RPC Drain frame having with average breaking load capacity of 4 Ton. Type-II	Each	779.00		
19	NS	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Form Sahkhi Sarwar Quarry)	Cft	69,109.10		
20	NS	Construction of House Connection Chamber (2' x 2'), complete in all respects as per drawings, specifications & instructions of the Engineer. The unit rate includes but not limited to excavation, required compaction, crushed stone, PCC (1:6:12), PCC (1:2:4), brick masonry in 1:3 C/S mortar, 1/2" thick 1:4 C/S plaster on inner & Outer sides, RCC Slab 4" Thick, finishing in the internal and external surface of brick masonry etc.	Each	4,847.00		
21	Ch-19, It-47	Providing, fixing, testing and commissioning of μ -PVC (Unplasticized Polyvinyl Chloride) Nikasi/ SWV pipe, Dadex / Popular / Betaor approved equivalent manufacturer, plain / Bell Ended / Z-Joints conforming to BS4514/BS5255-EN1329 including the cost of specials and Solvents complete in all respects, as per drawings & specifications and or as approved and directed by the Engineer in charge. (v) 110 mm	Rft	72,705.00		
22	Ch-21, It-22	Providing and laying sand under and around the Water Supply pipe, including leveling, manual compaction, complete in all respect.	100Cft	81.00		
Total						0

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2.2 Engineer's Estimate for SepticTank- (57-Nos) & Sokage Pit- (11-Nos)

	MRS-Ref	Description	Unit	Qty	Unit Rate	Amount Rs.
A		Screen Chamber				
1	Ch-3, It-21-1a(ii)	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead 'up to one chain (30 m) and lift up to 5 ft. (1.5 m) 1) By Manual a) Depth up to 5ft (1.5m) ii) in ordinary soil.	1000cft	18.93		
2	Ch-6 it-5(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):Ratio 1:4:8	100 Cft	7.18		
3	Ch-6, It-6c(3)	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): (c) Reinforced cement concrete in Pile cap, slab of rafts / strip foundation, base slab of column and retaining walls; etc. and footing beams, other structural members other than those mentioned in 6(a-d) above not requiring form work (i.e. horizontal shuttering) complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	1,763.44		
4	Ch-6, It-6b(3)	(b) Reinforced cement concrete in retaining / Shearwalls laid in situ or precast laid in position, or prestressed members cast in situ (Form work on both sides) , complete in all respects: (3) Type C (nominal mix 1:2:4) (i) Upto 9" thick (Avg)	Cft	2,436.75		
5	Ch-6, It-6a(3)	(a) Reinforced cement concrete in roof slab, beams,columns lintels, girders and other structural members laid I in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	106.88		
6	Ch-6, It-12b(i)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): (c) Deformed bars (Grade-60)	100Kg	206.73		

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2.2 Engineer's Estimate for SepticTank- (57-Nos) & Sokage Pit- (11-Nos)

	MRS-Ref	Description	Unit	Qty	Unit Rate	Amount Rs.
7	Ch-25, It-10	Fabrication of heavy steel work, with angle, tees, flat iron round iron and sheet iron for making trusses, girders, tanks, etc., including cutting, drilling, revitting, handling, assembling and fixing, but excluding erection in position.	100Kg	89.49		
8	Ch-25, It-11	Erecting and fitting in position iron trusses at a gaining of water tanks .	100Kg	89.49		
9	Ch-13, It-9 (ii)	Bitumen coating to plastered or cement concrete surface;-I 14lbs. Per 100 Sft. (6.35 Kg per Sq.m)	100Sft	43.89		
10	Ch-25, It-35	Providing and fixing terrace railing of 2" (50 mm) i/d docon pipe 16 SWG, welded with 5/8"x5/8" (16x16 mm)s quare bar 2.75 ft. (838 mm) high fixed at 5" (125 mm) centre to centre, in reinforced cement concrete slab with suitable arrangement, complete in all respects,as per design and drawing.	Per Rft	1,083.00		
11	Ch-1,it-1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Form Sahkhi Sarwar Quarry)	Cft	4,470		
12	Ch-6, It-31	Providing embedding 10" (250 mm) wide ¼" (6 mm) thick rubber water stopper in expansion joints of R.C.C. roof slab complete in all respects	Rft	1,083.00		
Sub-Total (A)						0

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Sanitation Scheme

Chak No 08 Abbasia,Chak No 6A Channa,Chak No 08 Abbasia Jinnah Colony ,Chak No 9 Abbasia ,Chak No 09 Abbasia Colony,Chak No 09 Abbasia Shiekhan,Chak 11 Abbsia,Chak No 12 Abbasia,Chak No 16 Abbasia Colony,Chak No 19 Abbasia,Chak No 20 Abbasia Colony,Chak No 20 Abbasia,Chak No 22 Abbasia Jinnah Colony,Chak No 22 Abbasia,Chak No 23 Abbasia,Chak No 23 Abbasia Colony_1,Chak No 23 Abbasia Colony_2,Chak No 28 Abbasia,Chak No 31 Abbasia,Chak No 31 Abbasia Colony_1,Chak No 31 Abbasia Colony_2,Chak No 46 Abbasia,Chak No 47 Abbasia,Chak No 48 Abbasia

2.2 Engineer's Estimate for SepticTank- (57-Nos) & Sokage Pit- (11-Nos)

	MRS-Ref	Description	Unit	Qty	Unit Rate	Amount Rs.
B		SepticTank				
1	Ch-3, It-21	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead upto one chain (30 m)lift upto 5 ft (1.5m). 2) a) By Excavator ii) Ordinary soil a) Lift up to 5 ft (1.5 m)				
		b) Lift from 5ft (1.5m) to 15 ft (4.5 m):-	1000 Cft	128.4		
			1000 Cft	107.4		
2	Ch-21, It-4	Lowering of sub-soil water table, by installation of tubewells along sewer line and pumping out water, for excavation in open cutting below sub-soil water level, concreting, curing,laying and jointing pipes, filling haunches, etc. till the completion of sewer line, including disposal of pumped out water:-) 0-5 ft. (0 to 1520 mm) below SSWL * This rate is applicable only if the water table is encountered at 5 ft during excavation; otherwise, it shall not apply	Rft	107.4		
3	Ch-6, It-5(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):Ratio 1:4:8	100 Cft	69.16		
		Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.):-				
4	Ch-6, It-6	(c) Reinforced cement concrete in Pile cap, slab of rafts / strip foundation, base slab of column and retaining walls; etc and footing beams, other structural members other than those mentioned in 6(a-d) above not requiring form work (i.e. horizontal shuttering) complete in all respects:-Type B (nominal mix 1: 1.5: 3)	Per Cft	19494.4		
5		(a)(ii) Reinforced cement concrete in retaining/ Shear walls laid in situ or precast laid in position, or prestressed members castin situ (Formwork on both sides), complete in all respects:(b) Type B (nominal mix 1:1-1/2:3)(ii) More Than 9" thick (Avg)	Per Cft	31180.2		

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Sanitation Scheme

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2.2 Engineer's Estimate for SepticTank- (57-Nos) & Sokage Pit- (11-Nos)

	MRS-Ref	Description	Unit	Qty	Unit Rate	Amount Rs.
6		(a) (i) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- Type B (nominal mix 1:1.5: 3)	Per Cft	12996.3		
7	Ch-6, It-12b(i)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): (c) Deformed bars (Grade-60)	100 Kg	2293.8		
8	Ch-1, It-1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Form Sahkhi Sarwar Quarry)	Per Cft	60037.5		
9	Ch-19, It-47	Providing,fixing,testing and commissioning of µPVC (Unplasticized PolyvinylChloride) sewerage pipe make of Dadex/Popular/Betaor approved equivalent manufacturer,plain/socket ended conforming to code EN-1401 of specified SDR(Standard Dimension Ratio)including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge. Type (SDR 34/SN-8) 6" dia 150mm	Rft	2,950.00		
10	Ch-23, It-14	Providing, laying, cutting, jointing, testing and disinfecting PVC/ uPVC pipe line with working pressure pipe, in trenches, including specials (PS-3051=BS-3505), complete in all 'respects:- a) Class-B (6 bar)				
		e) 8" i/d (200 mm)	Rft	1770.0		
11	Ch-13, It-9 (ii)	Bitumen coating to plastered or cement concrete surface;-l 14lbs. Per 100 Sft. (6.35 Kg per Sq.m)	100Sft	337.05		
12	Ch-21, It-11	Providing and fixing 1¼"x1¼"x3/16" (31x31x5 mm) angle iron step, in manhole chambers, including carriage and setting the same in work to correct lines and levels.	each	778.0		
13	Ch-6, It-32	Providing and embedding 10" (250mm) wide PVC water stopper in expansion joints of RCC structures (Retaining walls, water tanks, Slabs) complete in all respect. Chargeii) 10" wide 10 mm thick	Rft	5575		

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Sanitation Scheme

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2.2 Engineer's Estimate for SepticTank- (57-Nos) & Sokage Pit- (11-Nos)

	MRS-Ref	Description	Unit	Qty	Unit Rate	Amount Rs.
14	Ch-23, It-18	Providing, laying, cutting, jointing, testing and disinfecting cast iron pipe line (BS-2035/4622) in trenches, including cost of materials, such as lead, yarn, etc.complete in all respects:- b) With Flanged and Flanged Joints 4" Dia (Vent Pipe)	Rft	354.0		
15	NS	RPC Manhole Cover Manufactured with 100% Recycled Plastic Composite Material, 650 mm (26"dia) with clear opening size 600 mm (24" Dia) and RPC manhole frame having Dia meter 790 mm (31.1") with average breaking load capacity of 10 Ton and weight including frame of 50 kg (Minimum).	Each	118.0		
16	NS	submersible waste water pump set of approved make, complete in all respects as per specifications and direction of the Engineer Incharge. The pump set shall have the following specifications: Flow: 0.15 Cusec Head: 25-30 ft Motor Rating: 2 HP 3×420V, 50 Hz, 2 Pole, Submersible IP68 motor, Insulation class F Motor:1.5 KW/2HP/2 Pole Speed:2900 RPM Motor Control Unit (MCU): MCU (Motor Control Unit) consisting of MCCB, Over/Under voltage relay, Phase reversal relay, Volt meter, Ampere meter, EVR, Volt Selector Switch, Ampere Selector Switch, Current Transformer,Over load relay, indicating lights for all above relays, on/off push buttons. VFD Motor Control Unit with Dry running Protection relay , Circuit Breaker, DC SPD, AC SPD, DC Change Over Switch, Auto Start Stop with Any input, Self-diagnostic and Self Protection, Dry Run Protection, Digital Controls with Complete Protective Functions, Ground Fault Monitoring, AC Short Circuit Protection, Under/Over Voltage and Over/Current Protection, Reverse current Blocking, –10 to 40 °C, Remote Monitoring and MPPT, Water Level Detection, Pressure Level Detection, A/M Selector Switch, etc. All contained in lockable cabinet complete in all respects. Accessoires: Submersible Tail Cable ,G.I Lifting Chain,Duck Foot Bend, and other necessary fittings	Each	46.0		
17	NS	Construction of Chamber (2' x 2'), complete in all respects as per drawings, specifications & instructions of the Engineer. The unit rate includes but not limited to excavation, required compaction, crushed stone, PCC (1:6:12), PCC (1:2:4), brick masonry in 1:3 C/S mortar, 1/2" thick 1:4 C/S plaster on inner & Outer sides, finishing in the internal and external surface of brick masonry etc.	Each	46.0		

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Sanitation Scheme

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2.2 Engineer's Estimate for SepticTank- (57-Nos) & Sokage Pit- (11-Nos)

	MRS-Ref	Description	Unit	Qty	Unit Rate	Amount Rs.
18	Ch-3, It-9	Earthwork excavation in irrigation channels, drains, etc. to designed section, grades and profiles, excavated material disposed dressed within 100 ft. (30 m) lead	1000 Cft	35.4		
19	Ch-23, It-30	Providing ,laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE-100) working pressure pipe conforming to standard ISO4427, PS3580, Beta /Dadex /Popular/ IIL or approved equivalent manufacturer,including the cost of specials ,in trenches, as approved & directed by the engineer incharge, complete in all respects a) PN-8 (SDR-21)-63 mm	Per ft	9200.0		
20	Ch-26, It-46	Providing and fixing hot dipped Galvanized Iron chainlink mesh/fence of 2"x2"mesh made of wire of specified guage, with the help of 1"x1/8" GI patti, GI.clamps and screws, i/c the cost of 3 nos 8 SWG GI tie wires penetrated through mesh at top,middle and bottom, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embeded in PCC(1:2:4) etc.complete in all respect as approved and directed by the Engineer Incharge. ii) 10 SWG	Per Sft	20320.0		
Sub-Total (B)						0

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Sanitation Scheme

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2.2 Engineer's Estimate for SepticTank- (57-Nos) & Sokage Pit- (11-Nos)

	MRS-Ref	Description	Unit	Qty	Unit Rate	Amount Rs.
C		Soakage Well-11 Nos				
1	Ch-22, It-1	Excavation of well in dry upto 20'(6 metre) below ground level, and disposal of soil within one chain (30 metre) a) in ordinary soil or sand : i) from 0' to 5' (o to 1.5 m) depth	1000 Cft	85.83		
2		ii) from 5.1' to 10' (1.5 to 3.0 metre) depth	1000 Cft	85.83		
3		iii) from 10.1' to 15' (3.0 to 4.5 metre) dept	1000 Cft	70.11		
4		iv) from 15.1' to 20' (4.5 metre to 6.0 metre) depth	1000 Cft	67.69		
5	Ch-6, It-5(i)	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):Ratio 1:4:8	100 Cft	24.52		
6	Ch-6, It-6c(3)	Providing and laying reinforced cement concrete (including prestressed concrete), using Ordinary Portland Cement / Sulphate resisting cement / Slag cement as may be required; coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): (c) Reinforced cement concrete in Pile cap, slab of rafts / strip foundation, base slab of column and retaining walls; etc. and footing beams, other structural members other than those mentioned in 6(a-d) above not requiring form work (i.e. horizontal shuttering) complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	1,681.44		
7	Ch-6, It-6a(3)	(a) Reinforced cement concrete in roof slab, beams,columns lintels, girders and other structural members laid I in situ or precast laid in position, or prestressed members cast in situ, complete in all respects: (3) Type C (nominal mix 1: 2: 4)	Cft	6,664.69		
8	Ch-7, It-5i	Pacca brick work in ground floor: i) Cement, sand mortar: Ratio 1:3	100Cft	241.90		
9	Ch-7, It-7 10	Extra for pacca brick work in steining of wells or any other circular masonry.	100Cft	241.90		
10	Ch-6, It-2	Dry rammed brick or stone ballast, 1½" to 2"(40 mm to 50 mm) gauge.	100Cft	427.73		

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Sanitation Scheme

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2.2 Engineer's Estimate for SepticTank- (57-Nos) & Sokage Pit- (11-Nos)

	MRS-Ref	Description	Unit	Qty	Unit Rate	Amount Rs.
11	Ch-21, It-21	Providing and laying crushed stone aggregate of 1/4"to1-1/2" guage under and around the sewer pipe, including leveling, manual compaction, complete in all respects.	100Cft	427.73		
12	Ch-10, It-3	Supplying and filling sand under floor; or plugging in wells.	100Cft	208.34		
13	Ch-21, It-11	Providing and fixing 1¼x1¼"x3/16" angle iron steps in manhole chamber i/c carriage and setting the same to correct line and level.	Each	152.00		
14	Ch-6, It-12b(i)	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): (c) Deformed bars (Grade-60)	100Kg	190.61		
15	NS	RPC Manhole Cover Manufactured with 100% Recycled Plastic Composite Material, 650 mm (26"dia) with clear opening size 600 mm (24" Dia) and RPC manhole frame having Dia meter 790 mm (31.1") with average breaking load capacity of 10 Ton and weight including frame of 50 kg (Minimum).	Each	49.00		
16	Ch-19, It-47	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized Polyvinyl Chloride) Nikasi/ SWV pipe, Dadex / Popular / Betaor approved equivalent manufacturer, plain / Bell Ended / Z-Joints conforming to BS4514/BS5255-EN1329 including the cost of specials and Solvents complete in all respects, as per drawings & specifications and or as approved and directed by the Engineer Incharge. (v) 6" i/d 160 mm	Rft	551.25		
17	Ch-1, it-1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Form Sahkhi Sarwar Quarry)	Cft	9,668.47		
Sub-Total (C)						0
Total (A+B+C)						0

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Phase-I, Tehsil Liaqatpur, District Rahim Yar Khan

Multi-village Scheme-2, Multi-village Scheme-4, Tehsil Liaqatpur, District Rahim Yar Khan

Chak No 08 Abbasia, Chak No 6A Channa, Chak No 08 Abbasia Jinnah Colony, Chak No 9 Abbasia, Chak No 09 Abbasia Colony, Chak No 09 Abbasia Shiekhan, Chak 11 Abbsia, Chak No 12 Abbasia, Chak No 16 Abbasia Colony, Chak No 19 Abbasia, Chak No 20 Abbasia Colony, Chak No 20 Abbasia, Chak No 22 Abbasia Jinnah Colony, Chak No 22 Abbasia, Chak No 23 Abbasia, Chak No 23 Abbasia Colony_1, Chak No 23 Abbasia Colony_2, Chak No 28 Abbasia, Chak No 31 Abbasia, Chak No 31 Abbasia Colony_1, Chak No 31 Abbasia Colony_2, Chak No 46 Abbasia, Chak No 47 Abbasia, Chak No 48 Abbasia

3 Engineer's Estimate for Street Soling and Tuff Pavers

Sr. No.	MRS Ref.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
1	Ch-4, It -29	Dismantling brick or flagged flooring without concrete foundation.	100 Sft	5,100.00		
2	Ch-21, It -9	Restoration of flat brick pavement sand grouted, over 2"(50 mm) thick dry sand cushion, under soling on laid service line.	100 Sft	5,100.00		
3	Ch-03 , It -5(i)	Earthwork in ordinary soil for embankments lead upto 100 ft. (30 m), including ploughing, mixing and compaction by mechanical means at optimum moisture content and dressing to designed section, complete in all respects ii) 90% maximum modified AASHTO dry density.	1000 Cft	2,646.00		
4	Ch-03 , It -17(a,b)	Transportation of earth all types when the total distance, including the lead covered in the item of work, is more than 1000 ft. (300 m) a) upto ¼ mile (400 m). b) for every 330 ft. (100 m) additional lead or part thereof, beyond ¼ mile (400 m) upto one mile. (1.6 Km.)	1000 Cft	2,646.00		
5	Ch- 18 It -3 (a-ii) + Carriage	a) Providing and laying sub-base course of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work except gravel and aggregate. ii) Crushed stone aggregate	100 Cft	1,200.00		
6	Ch- 18 It - 20	Providing and laying dry brick pavement /soling in streets or sand grouted, laid in proper camber, including watering, compaction of bed to proper camber, for the purpose of measurement and sand cushion.	100 Cft	7,650.00		
7	Ch-10, It-43 b	Providing and laying Tuff Pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope . complete in all respect.(50% Grey / 50% Coloured) b) 60-mm thick	Per Sft	480,000.00		
8	Ch-10, It-43 b	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): (f) Ratio 1: 2: 4	100 Cft	300.00		
9	RA -O6	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (crushed stone aggregate and bajri used in concrete items) (Form Sahkhi Sarwar Quarry)	Cft	26,400.00		
Total						0

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Phase-I, Tehsil Liaqatpur, District Rahim Yar Khan

Multi-village Scheme-2,Multi-village Scheme-4,Tehsil Liaqatpur, District Rahim Yar Khan

Chak No 08 Abbasia,Chak No 6A Channa,Chak No 08 Abbasia Jinnah Colony ,Chak No 9 Abbasia ,Chak No 09 Abbasia Colony,Chak No 09 Abbasia Shiekhan,Chak 11 Abbsia,Chak No 12 Abbasia,Chak No 16 Abbasia Colony,Chak No 19 Abbasia,Chak No 20 Abbasia Colony,Chak No 20 Abbasia,Chak No 22 Abbasia Jinnah Colony,Chak No 22 Abbasia,Chak No 23 Abbasia,Chak No 23 Abbasia Colony_1,Chak No 23 Abbasia Colony_2,Chak No 28 Abbasia,Chak No 31 Abbasia,Chak No 31 Abbasia Colony_1,Chak No 31 Abbasia Colony_2,Chak No 46 Abbasia,Chak No 47 Abbasia,Chak No 48 Abbasia

Bill No. 04: EPM

Sr. No.	Ref	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
1	NS	Medical screening for workers (HIV screening, CBC, Hep. BsAg, HCV antibodies, LFTs, RFTs, e.t.c.	Persons	390		
2	NS	Tarpaulins (High Quality water proof PVC)	Sft	234		
3	NS	Water sprinkling through tank mounted on tractor	Per Trip	390		
4	NS	First Aid Kit (pain killers, eyewash solution, antibiotic ointment, thermometer, plasters, sterile gauze dressings, sterile eye dressings, triangular bandages, crepe rolled bandages, safety pins, disposable sterile gloves and tweezers)	Each	13		
5	NS	Fire alarm (Signal Transmission: Wired Alarm, Working Principle: Manual Alarm Button)	No	26		
6	NS	DCP Fire extinguishers (6 kg) in case of fire (The material of the cylinder is steel. The extinguishing agent is mono ammonium phosphate and ammonium sulfate powder and the discharge time of the agent is 13 seconds)	No	13		
7	NS	CO2 Fire extinguishers (6 kg discharge time of the agent is 13 seconds).	No	13		
8	NS	Warning/Safety Signs (Weatherproof Pvc or Plastic or aluminum sign:reflective print:standardized colors and pictograms (danger,caution,mandatory)	No	325		
9	NS	Green Mesh (Green safety netting for site periphery: 50% shading:UV-stabilized HDPE Material.	Sft	2600		
10	NS	Safety Cones (UV-resistant PVC or rubber material:at least 28 to 36 inches in height : orange Color with reflective collars minimum 4 inch reflective band for day and night	Each	156		
11	NS	Safety jackets (Fluorescent yellow/orange :retro-reflective strips:breathable mesh fabric:secure velcro or zipper cloosure,provided in approrit size are required by staff	Each	390		
12	NS	Safety Harness Belt(Renowned brand)	Each	39		

Multi-village Scheme-2,Multi-village Scheme-4,Tehsil Liqatpur, District Rahim Yar Khan

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Sr. No.	Ref	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
13	NS	Ear plugs (corded Reusable silicon Earplugs)	Each	260		
14	NS	Helmets (PE shell with vents Lining; material: Plastic Chin strap included; Adjust head size by ratchet knob)	Each	390		
15	NS	Safety shoes (Renowned brand)	Each	455		
16	NS	Protective goggles (Anti-fog, Anti scratch, Poly-carbonate Scratch and impact resistant, side protection sheet)	Each	130		
17	NS	Gloves (made up of nylon, polyurethane with ironclad)	Each	650		
18	NS	Dust Mask (N-95)	Each	1300		
19	NS	Handling of hazardous material (Store all hazardous materials properly, separate incompatibles, and store in ventilated, dry, cool areas)	3 time Per Villages	39		
20	NS	Handling of solid waste (storage, collection, transportation, treatment, utilization, processing, and final disposal of solid wastes)	4 time Per Villages	39		
21	NS	Air Quality Monitoring, As per the paramters and methodology defined by Punjab EPA (Quarterly in every village)	Each	39		
22	NS	Groundwater Quality Testing as per all the parameters and methodology defined by Punjab EPA (Quarterly in every village)	Each	39		
23	NS	Surface Water Quality Testing as per all the parameters and methodology defined by Punjab EPA (Quarterly in every Revenue village)	Each	39		
24	NS	Waste Water Quality Testing as per all the parameters and methodology defined by Punjab EPA (Quarterly in every Revenue village)	Each	39		
25	NS	Noise level monitoring as per the methodology defined by Punjab EPA (Quarterly in every village)	Each	39		
TOTAL AMOUNT						-

Punjab Rural Sustainable Water Supply & Sanitation Project, Cluster South-I (Liaqatpur & Rojhan)

Phase-I, Tehsil Liaqatpur, District Rahim Yar Khan

Multi-village Scheme-2, Multi-village Scheme-4, Tehsil Liaqatpur, District Rahim Yar Khan

Chak No 08 Abbasia, Chak No 6A Channa, Chak No 08 Abbasia Jinnah Colony, Chak No 9 Abbasia, Chak No 09 Abbasia Colony, Chak No 09 Abbasia Shiekhan, Chak 11 Abbsia, Chak No 12 Abbasia, Chak No 16 Abbasia Colony, Chak No 19 Abbasia, Chak No 20 Abbasia Colony, Chak No 20 Abbasia, Chak No 22 Abbasia Jinnah Colony, Chak No 22 Abbasia, Chak No 23 Abbasia, Chak No 23 Abbasia Colony_1, Chak No 23 Abbasia Colony_2, Chak No 28 Abbasia, Chak No 31 Abbasia, Chak No 31 Abbasia Colony_1, Chak No 31 Abbasia Colony_2, Chak No 46 Abbasia, Chak No 47 Abbasia, Chak No 48 Abbasia

BILL NO. 5: EMPLOYER/ENGINEER'S FACILITIES

Sr. No.	Description	Unit	Quantity	Rate (PKR)	Amount (PKR)
<i>The following items shall be provided complete in all respects and in accordance with the special provision of the bidding document and up to the satisfaction of The Engineer / The Employer. Rates for below given items are to be filled-in by the Contractor however, payment will be made as per actual bills in accordance with special provisions.</i>					
1	Providing and maintaining site offices (portable air condition (1,5 ton AC) cabin containers lined with win board size 20'x8'x8.5' with toilet & kitchen, all-time availability of water and electricity) for the entire duration of the project to the Employer and the Engineer. It includes office tables, chairs, water dispenser, electric heater, steel almirah for document storage, etc complete with all respect. After completion of the project these containers and all accessories will be the property of PRMSC	Nos	1		
2	Providing 01 Nos office boy in accordance with the special provisions of the bidding document and up to the satisfaction of the Employer/Engineer.	Per month	20		
3	Providing and maintaining the Cost of Utility Services (Electricity, Water, Gas, etc.) for the 01 Nos offices for the entire duration of the Project.	Per month	20		
4	Complete Surveying instruments including Total Station (02Nos) with tribach (5 seconds), automatic level complete, aluminum telescopic tripod, prism with rod, leveling staff and steel measuring tapes (02 No's each) for the use of Employer and the Engineer.	Per month	20		
Total Amount					0