

**PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH
CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR,
DISTRICT RAJANPUR (CLUSTER # 06)**

BILL OF QUANTITIES

Sr. No.	Description	Amount (Rs.)
1.0	Source Point	
2.0	Water Disrtibution & Transmission Network	
3.0	Markaz-E-Aab	
4.0	Water Quality Test	
TOTAL COST (A) (Rs.)		
PRA on (A) 5%		
5.0	Electrical Resistivity Survey	
6.0	O & M Cost	
TOTAL COST (B) (Rs.)		
PRA on (B) 16%		
GRAND TOTAL (A+B)		

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SUMMARY CLUSTER-06

BILL OF QUANTITIES

Bill No.	Description	Amount (Rs.)
1.0: SOURCE POINT		
1.1	Development of Bore Hole + Boundary Wall + Entry Gate	
1.1 A+B	Additional Bore Hole	
1.2	Tubewell Room+ Guard Room+ Control Room	
1.2.1	Structural Works	
1.2.2	Plumbing Works	
1.2.3	Mechanical works	
1.3	Internal & External Electrification Works At Source Point	
1.4	Instrumentation and Control At Source Point	
1.5	Provision Of Solar System At Source Point	
2.0: WATER DISTRIBUTION AND TRANSMISSION MAIN		
2.1	Water Transmission Main	
2.2	Overhead Water Tank (30,000 Gallons)	
2.2.1	Structural	
2.2.2	Mechanical	
2.3	Water Distribution Network	
3.0: MARKAZ-E-AAB CENTRES		
3.1	Cost for One Markaz-E-Aab (12,000 Liters)	
	Total Cost for (04 No's) Markaz-E-Aab	
3.2	Cost for One Markaz-E-Aab (24,000 Liters)	
	Total Cost for (01 No's) Markaz-E-Aab	
4.0: Water Quality		
4.1	12 No. Water Quality Reports (Marakaz-e-Aab & OHR)	
TOTAL COST		

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THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL
RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)**

SUMMARY OF MARKAZ-E-AAB

BILL OF QUANTITIES

Bill No.	Description	Amount (Rs.)
3.1: Markaz-E-Aab of Capacity 12,000 Lites		
3.1.1	Pre fab Works At Markaz-E-Aab Centers	
3.1.2	Internal & External Electrification Works At Markaz-E-Aab Centers	
3.1.3	Provision Of Solar System At Markaz-E-Aab Centers	
3.1.4	Plumbing Works At Markaz-E-Aab Centers	
Total Cost for One Markaz-E-Aab (12,000 Liters)		
3.2: Markaz-E-Aab of Capacity 24,000 Lites		
3.2.1	Pre fab Works At Markaz-E-Aab Centers	
3.2.2	Internal & External Electrification Works At Markaz-E-Aab Centers	
3.2.3	Provision Of Solar System At Markaz-E-Aab Centers	
3.2.4	Plumbing Works At Markaz-E-Aab Centers	
Total Cost for One Markaz-E-Aab (24,000 Liters)		

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BILL OF QUANTITIES

Bill No. 1.1: Development of Borehole + Boundary Wall + Entry Gate

Sr. No.	2nd BI-Annual-2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
1	23/19	Testing and development of tubewell of size 6" I/d and above continuously. i) up to 1.5 cs. Discharge	Hours	40.00	2,881.10	115,244.00
2	Input Rates of Equip./Machinery Additional Items S.No.20)	Hiring charges of Diesel driven Compressor of required capacity for testing and developing of tubewell with all accessories such as air injecting pipe up to required length/depth and other accessories required for the job with cost of diesel, Motor Oil, Grease, Cotton waste, labour and operator, T&P charges. Complete in all respect to the entire satisfaction of the Engineer Incharge. in ordinary soil.	Hours	40.00	843.70	33,748.00
3	3/21/a/ii	Excavation in foundation of building, bridges and other structures, including daggelling, dressing, refilling in layers around structure with excavated earth, watering and ramming lead upto one chain (30 m) lift upto 5 ft (1.5m). in ordinary soil.	1000CFT	7.36	10,794.00	79,443.84
4	26/45	Spraying anti termite proofing by using liquid FMC Biflex 2.5%EC Mixing Ratio 1:50=137-Sft or using liquid MIRAGE Ali Akbar /RANGERS Auriga 5% SC Mixing Ability-HEXTAR Ratio 1:110=205-Sft or any other equivalent approved liquid applying with shower and certificate will be provided by the contractor for 10-years complete in all respect .as approved by the Engineer Incharge.	P.Sft	5,600	12.55	70,280.00
5	3/15/i	Filling, watering and ramming earth under floors:- i) with surplus earth from foundation, etc.	1000Cft	4.42	7,547.75	33,361.06
6	6/3/d	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth:- Ratio 1: 6: 12	100Cft	6.00	29,025.00	174,150.00
7	7/4/i	Pacca brick work in foundation and plinth in:- Cement, sand mortar:- Ratio 1:5	100Cft	29.14	34,535.20	1,006,355.73
8	6/36	Providing and laying damp proof course of cement concrete 1:2:4 (using cement, sand and shingle), including bitumen coating :- (a) with one coat bitumen and one coat polythene sheet 500gauge i) 1-1/2" thick (40 mm)	100Sft	3.70	11,560.30	42,773.11
9	6/37/a/i	Providing and laying vertical damp proof course with cement sand plaster and bitumen coating:- (a) with one coat of bitumen and one coat of polythene sheet 500 gauge: i) Ratio 1: 4 b) ¾" thick (20 mm)	100Sft	3.70	8,535.25	31,580.43
10	7/5	Pacca brick work in ground floor:- i) Cement, sand mortar:- Ratio 1:5	100Cft	18.64	37,208.20	693,560.85

Bill No. 1.1: Development of Borehole + Boundary Wall + Entry Gate						
Sr. No.	2nd BI-Annual-2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
11	6/6	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)(iii) 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) (i)&(ii) above not requiring form work (i.e. horizontal shuttering) complete in all respects:-				
		(3) Type C (nominal mix 1: 2: 4)	P.Cft	420.00	597.10	250,782.00
		(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)	P.Cft	70.00	743.95	52,076.50
		(a)(iii) 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) (i)&(ii) above not requiring form work (i.e. horizontal shuttering) complete in all respects:-				
		(2) Type B (nominal mix 1: 1½: 3)	Cft	10.00	673.20	6,732.00
12	6/12-b	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):-				
		Deformed bars (Grade-60)	100kg	14.29	35,897.35	512,973.13
13	10/3	Supplying and filling sand under floor; or plugging in wells.	100Cft	2.75	3,987.00	10,964.25
14	6/2	Dry rammed brick or stone ballast, 1½" to 2"(40 mm to 50 mm) gauge.	100Cft	2.75	12,177.00	33,486.75
15	11/9-b	Cement plaster 1:4 upto 20' (6.00 m) height:- 1/2" (13 mm) thick	100Sft	51.80	4,622.90	239,466.22
16	11/22	Priming coat of chalk under distemper.	100Sft	51.80	393.00	20,357.40
17	11/23	Distemping:- iii) three coats	100Sft	51.80	1,518.20	78,642.76
18	10/45	Providing and laying Tuff pavers, having 7000PSI, crushing strength of approved manufacturer, over 2"to3" sand cushion i/c grouting with sand in joints i/c finishing to require slope. complete in all respect. (50% Grey / 50% Coloured)				
		c) 80-mm thick	Sft	12,000	231.90	2,782,800.00

Bill No. 1.1: Development of Borehole + Boundary Wall + Entry Gate						
Sr. No.	2nd BI-Annual-2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
19	25/49	Providing and fixing barbed wire fencing on compound wall, consisting of 1½"x1½"x3/16" (40x40x5 mm), angle iron post 3¼ ft. (990 mm) long, 5 to 6 ft. (1500 to 1800 mm) centre to centre, embedded in cement concrete 1:4:8, base of size 9"x9"x12" (225x225x300 mm), and three rows of barbed wire, painting posts, etc. complete in all respects.	100Rft	3.10	31,159.45	96,594.30
20	13/5 (d)	Preparing surface and painting guard bars, gates of iron bars, gratings, railing (including standards,braces, etc.) and in similar open work:- (02-Coats)	100 Sft.	2.10	2000	4,200.00
21	13/33A	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: (02-Coats)	100 Sft.	2.00	7,379.10	14,758.20
22	25/9, 25/11	Small iron work , such as gate, gusset plates, knees,ends,stirrups, straps, rings, etc. including cutting, drilling,riveting, handling, assembling and fixing; including erection in position.	100 Kg.	6.00	53,356.45	320,138.70
	26/37	Bailing out water by pump	1000CFT	84	1,116.55	93790.2
23	3/30	Filling and compacting soil earth and bolders and retaining walls (including excavated soil and lead upto 50 ft)	1000 CFT	36	13543.2	487555.2
Total Amount MRS Items						7,285,815
MRS: (Percentage) % _____ Below / Above						

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BILL OF QUANTITIES

1.1A: Installation of Additional Boreholes (0.25) Capacity

Sr. No.	2nd BI-Annual-2024	Items of work	Unit	Qty	Rate	Amount (Pak Rs.)
1	3/2	Excavation of water storage pit (46'x19'x8'), for borehole including leveling and site clearance after completion of job.	1000Cft	7.00	8,276.40	57,934.80
2	23/5	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. below ground level ii) 20" to 26" (500 to 650 mm) i/d	P/Rft	155	1,280.90	198,539.5
3	23/7	Providing strong substantially built box of deodar wood 4'x2½'x9" (1200x750x225 mm), with compartments, lock and locking arrangement, for preserving samples of strata from bore hole.	Job	1	50,716.45	50,716.450
4	23/16	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: i) 10" i/d, ¼" (250 mm i/d 6 mm) thick	P/Rft	3	5,344.20	16,032.60
5	23/13	Providing and installing Fiberglass reinforced Polypropylene (FRP) strainer casing of specified 6.0 mm wall thickness having slot size of 0.9 mm to1.00mm in Tubewell borehole i/c the cost of male/female coupling with Nylon Strip, studs complete in all respect as approved and directed by the Engineer Incharge. vi) 10" inch dia	P/Rft	50	3,626.45	181,322.50
6	23/20	Shrouding with graded pea gravel 3/8" to 1/8" (10 to 3 mm), around tubewell in bore hole.	P/cft	206	181.60	37,421.0
7	23/43	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.	er Pound	817	11.90	9,719.8
8	23/13/6	Providing and installing 10" inch i/d Fiberglass reinforced Polypropylene (FRP) Blank of specified 6 mm wall thickness in Tubewell borehole i/c the cost of male/female coupling with Nylon Strip, studs complete in all respect as approved and directed by the Engineer Incharge	P/Rft	90	3,626	326,380.5
Total Amount MRS Items						878,067
MRS: (Percentage) % _____ Below / Above						

1.1A: Installation of Additional Boreholes (0.25) Capacity						
Sr. No.	2nd BI-Annual-2024	Items of work	Unit	Qty	Rate	Amount (Pak Rs.)
9	NS	Geophysical logging of bore (self potential resistivity Both short normal and Gama) complete in all respect.	Each	1		
10	NS	Providing and installing 10" inch i/d 10 ft long Fiberglass reinforced Polypropylene (FRP) Blank Bail plug of specified 6 mm wall thickness in Tubewell borehole i/c the cost of male/female coupling with Nylon Strip, studs complete in all respect as approved and directed by the Engineer Incharge	Each	1		
11	NS	Providing /fixing M.S. centerlizers	Each	4		
12	NS	Providing Well Cap on 10" (250 mm) i/d Tubewell Casing Pipe with MS plain sheet (20 SWG), including fixing/welding complete in all respect.	Each	1		
Total Rs.						

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BILL OF QUANTITIES

Bill No. 1.2.1: Tubewell Room + Guard Room + Control Room

Sr. No.	2nd BI-Annual-2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
1	3/21/a/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 upto one chain (30 m)lift upto 5 ft (1.5m).				
		in ordinary soil.	1000Cft	0.49	10,794.00	5,289
2	26/45	Spraying anti termite proofing by using liquid FMC Biflex 2.5%EC Mixing Ratio 1:50=137-Sft or using liquid MIRAGE Ali Akbar /RANGERS Auriga 5% SC Mixing Ability-HEXTAR Ratio 1:110=205-Sft or any other equivalent approved liquid applying with shower and certificate will be provided by the contractor for 10-years complete in all respect .as approved by the Engineer Incharge.	P.Sft	746.05	12.55	9,363
3	3/15i	Filling, watering and ramming earth under floors:- i) with surplus earth from foundation, etc.	1000Cft	0.29	7,547.75	2,189
		Cement Concrete				
4	6/3/d	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth:- Ratio 1: 6: 12	100Cft	0.65	29,025.00	18,866
5	7/4/i	Pacca brick work in foundation and plinth in:- Cement, sand mortar:- Ratio 1:5	100Cft	5.20	34,535.20	179,583
6	6/36	Providing and laying damp proof course of cement concrete 1:2:4 (using cement, sand and shingle), including bitumen coating :- (a) with one coat bitumen and one coat polythene sheet 500gauge i) 1-1/2" thick (40 mm)	100Sft	0.66	11,560.30	7,630
7	6/37/a/i	Providing and laying vertical damp proof course with cement sand plaster and bitumen coating:- (a) with one coat of bitumen and one coat of polythene sheet 500 gauge: i) Ratio 1: 4 b) ¾" thick (20 mm)	100Sft	0.88	8,535.25	7,511
8	7/5	Pacca brick work in ground floor:- i) Cement, sand mortar:- Ratio 1:5	100Cft	7.87	37,208.20	292,829
9	6/6	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) (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 C (nominal mix 1: 2: 4)	P.Cft	306.19	743.95	227,790

Bill No. 1.2.1: Tubewell Room + Guard Room + Control Room						
Sr. No.	2nd BI-Annual-2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
10	6/12-b	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):-				
		Deformed bars (Grade-60)	100kg	9.85	35,897.35	353,589
		Flooring				
		Sand Filling				
11	10/3	Supplying and filling sand under floor; or plugging in wells.	100Cft	9.90	3,987.00	39,471
12	6/2	Dry rammed brick or stone ballast, 1½" to 2"(40 mm to 50 mm) gauge.	100Cft	1.09	12,177.00	13,273
13	6/5/f	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	0.86	47,347.10	40,719
14	10/16	Providing and laying topping of cement concrete 1:2:4, including surface finishing and dividing in panels:-				
		(e) 2"(50 mm) thick	100Sft	1.00	12,194.47	12,194
15	11/10	Cement plaster 3/8" (10 mm) thick under soffit of RCC. roof slabs only, upto 20' height.				
		b) 1:3	100Sft	3.30	5,274.95	17,407
16	11/9-b	Cement plaster 1:4 upto 20' (6.00 m) height:-				
		1/2" (13 mm) thick	100Sft	8.81	4,622.90	40,728
17	11/18-b	Cement pointing struck joints, on walls, upto 20' (6.00 m) hieght:-				
		b) ratio 1:3	100Sft	10.51	4,734.25	49,757
18	11/22	Priming coat of chalk under distemper.	100Sft	12.11	393.00	4,759
19	11/23	Distempering:-				
		iii) three coats	100Sft	12.11	1,518.20	18,385
20	11/31	Extra cost of labour and material for red oxide pigment in cement pointing to match with the colour of bricks.	100Sft	10.51	1,134.00	11,918
		Steel Door				
21	25-31	Making and fixing steel grated door with 1/16" thick (1.5mm) sheeting, including angle iron frame 2"x2"x 3/8" (50x50x10 mm) and ¾" (20 mm) square bars 4" (100 mm) centre to centre, with locking arrangement.	Sft	98.00	2,908.35	285,018
		Paint				
22	13/5/c	Painting new surface:- Preparing surface and painting of doors and windows any type (including edges):-				
		i) priming coat.	100Sft	1.61	1,853.35	2,984
		ii)one coat	100Sft	1.61	1,199.05	1,930
		Steel Window				

Bill No. 1.2.1: Tubewell Room + Guard Room + Control Room						
Sr. No.	2nd BI- Annual- 2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
23	25/41-b-v	Providing and fixing steel windows with openable glazed panels, using beam section for frame 1½"x1"x5/8"x1/8" (40x25x16x3 mm), Z-section for leaves ¾"x1"x¾"x1/8" (20x25x20x3 mm), T-section sashes 1"x1"x1/8" (25x25x3 mm), glass panes, wooden screed for glazing embedded over a thin layer of putty duly screwed with leaves, brass fittings, holdfast, duly painted, complete in all respects, including all cost of material and labour, etc. as per approved design and as directed by the Engineer-in-charge:-				
		b) fixed with wire gauze, 22 SWG				
		v) glass pane 5 mm thick	Sft	96.00	1,426.85	136,978
		Khurras				
24	9/15	Khuras on roof 2'x2'x6" (600 x 600 x 150 mm)	Each	3.00	1,162.05	3,486
25	9/16	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	3.00	2,328.20	6,985
26	25/10	Fabrication of heavy steel work, with angle, tees, flat iron round iron and sheet iron for making trusses, girders, tanks, etc., including cutting, drilling, reviding, handling, assembling and fixing, but excluding erection in position.	100Kg	1.07	39,225.40	41,971
27	25/11	Erection and fitting in position iron trusses, staging of water tanks, etc.	100Kg	1.07	1,862.20	1,993
Total Amount MRS Items						1,834,595
MRS: (Percentage) % _____ Below / Above						

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BILL OF QUANTITIES

Bill No. 1.2.2: PLUMBING WORKS OF GUARD ROOM

Sr. No.	2nd Bi-Annual-2024	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
A INTERNAL PLUMBING						
PLUMBING FIXTURES						
1	19/28	Providing and fixing chromium plated tee stop cock	No.	3.00	1,999.20	5,997.60
2	19/4(i)	Providing and fitting glazed earthen ware water closet,	No.	1.00	4,105.30	4,105.30
3	19/13(i)	Providing and fitting plastic made low down flushing cistern 13.63 litre (3 gallons) capacity, including bracket set, copper connection, etc. complete in all respects.	No.	1.00	5,589.70	5,590
4	19/7(i)	Providing and fitting glazed earthen ware wash hand basin 56 × 40 cm (22" × 16") including bracket set, waste pipe and waste coupling, etc.				
		i) white, with pedestal	No.	1.00	11,264.25	11,264.25
5	19/5(ii) ®	Providing and fixing chromium plated bottle trap with waste pipe, etc. complete:- 4 cm (1½").	No.	1.00	1,798.80	1,798.80
6	19/21(i)	Providing and fixing glass shelf 60x13 cm (24"x5"), with 5mm thick glass with chromium plated brackets and railing.	No.	1.00	1,651.90	1,651.90
7	19/16	Providing and fixing, chromium plated soap dish.	No.	1.00	936.1	936.10
8	19/20	Providing and fixing looking glass 55x40 cm (22"x16")	Each	1.00	1,457.70	1,457.70
9	19/7(i)	Providing and fixing 1.5 cm (1/2") dia connection, including check nuts, etc; plastic rubber connection.	No.	3.00	383.50	1,151
10	23/45	Providing and fixing CP heavy duty brass Ball valve with CP handle of specified diameter made of Faisal/Sonex / Master best quality or equivalent complete in all respect as approved and directed by the engineer incharge.				
		iii) 25 mm O.D	No.	1.00	1,855.20	1,855.20
B EXTERNAL PLUMBING						
11	3/44	Excavation of trenches in all kinds of soil except cutting rock for water supply pipelines upto 5 ft depth from ground level including trimming, dressing sides, leveling the beds of trenches to correct grade and cutting pits for joints complete in all respects.	1000Cft	0.25	11,293.90	2,823.48
12	10/3	Supplying & filling sand under floor; or plugging in walls.	100Cft	0.27	3,987.00	1,076
SEWERAGE AND DRAINAGE						
13	19/36	Providing and fitting, 4" gully trap including cement concrete ,cost of PVC grating (6" x 6") and masonry chamber (12" x 12").	No.	1.00	1,587.10	1,587.1
14	3/42 (i)	Earthwork excavation in open cutting for sewers and manholes as shown in drawings including shuttering and timbering, dressing to correct section and dimensions according to templates and levels and removing surface water in all types of soil except shingle gravel and rock upto:				
		i) 0 to 7 ft	1000Cft	0.60	17,352.30	10,411
15	3/13a	Rehandling of earthwork, lead upto a single throw of	1000Cft	0.48	3,762.00	1,805.76
16	3/24 (a)	Mixing moistening earth to optimum moisture content in layers for compaction etc., complete.	1000Cft	0.48	1,777.25	853
17	3/24 (b) (ii)	Compaction of earthwork by rolling with animal driven roller/hand rammed for ordinary soil.	1000Cft	0.48	2,633.40	1,264.03
18	10/3	Supplying & filling sand under floor; or plugging in	100Cft	0.91	3,987.00	3,628

Bill No. 1.2.2: PLUMBING WORKS OF GUARD ROOM						
Sr. No.	2nd BI-Annual-2024	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
A INTERNAL PLUMBING						
WATER SUPPLY						
19	23/46(b)	Providing, laying, testing and commissioning of POLYPROPYLENE RANDOM COPOLYMER (PPRC) water supply pipe made of (Dadex/Popular/ Beta / BBJ) 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).				
		PN-20				
		i) (1/2") 20 mm O.D	Rft	65.00	74.60	4,849
SEWERAGE AND DRAINAGE						
20	19/48	Providing, fixing, testing and commissioning of μ -PVC (Unplasticized polyvinyl Chloride) Nikasi/ waste pipe make of dadex /Popular/Beta/BBJ 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 32.5/SN-8) vi) 6" i/d	Rft	55.00	1465.3	80,592
21	19/49	Providing, fixing, testing and commissioning of μ -PVC (Unplasticized polyvinyl Chloride) Nikasi/ waste pipe Fittings make of dadex/Popular/Beta/BBJ conforming to code EN-1401 including the cost of Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		a) P-Trap				
		3" dia	No.	1.00	1,017.60	1,018
		4" dia	No.	1.00	1,354.80	1,355
		b) Multi-Trap				
		3" dia	No.	1.00	942.00	942
22	19/52	Providing and fixing Muslim Shower with double bib cock complete in all respects.	No.	1.00	2,345.70	2,345.70
23	19/47	Providing, fixing, cutting, jointing and testing uPVC drainage pipes of approved quality, including uPVC drainage fittings with solvent cement jointing "Type B" or approved equal, rates include cost of clamping to walls and ceiling, hangers, supports, cutting through walls and providing sleeves through concrete slabs for pipe lines and pipe fittings of the following diameter: SN-08				
		i) 2" i/d	Rft	19.00	114.90	2,183
		ii) 3" i/d	Rft	25.00	174.85	4,371
		iii) 4" i/d	Rft	11.00	274.05	3,015
24	9/22.	Providing and fixing angle drain for 3" or 4" dia rainwater pipe with brass top complete in all respects.	Each	1.00	699.35	699.35
Total Amount MRS items						160,917
MRS: (Percentage) % _____ Below / Above						

Bill No. 1.2.2: PLUMBING WORKS OF GUARD ROOM						
Sr. No.	2nd BI- Annual-2024	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
II	NON-MRS ITEMS					
25	NS	Providing and installing Brass check valves of approved quality of following nominal dia, including jointing, fitting, painting, testing, complete in all respects to match with PPR/PE pipes of following diameters.				
		i) 1/2" dia	No.	1.00		
26	NS	Construction of square masonry manhole 2.5 x 2.5 ft, including cover and frame.				
		i) upto 5 ft depth	No.	1.00		
		Sub total: NON MRS ITEMS (Rs.)				
		TOTAL FOR PLUMBING WORKS (Rs.)				

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

BILL NO.1.2.3: Mechanical works at source Point

Sr. No.	Ref.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
NON- MRS ITEMS						
1	NS	Providing and installing Ultrasonic Water Meter, RS485/M-bus/PulseOutput, Ductile Iron body, R160, IP67, 1.6MPa, Could water T50, 8-10 years battery life span, Positive and negative two- way metering, Single Path for all size, complete in all respect as per instructions of the Engineer Incharge.				
		125 mm	1.00	No.		
2	NS	Supplying, installation and commissioning of Submersible pump of capacity 0.25 cusec against a total head of 180 ft with accessories complete in all respect.(submersible pump) Origin: Europe / USA / German / Pakistan or Equivalent Pump Type: Submersible Pump Impeller Type: SS 304 Discharge: As per the capacity of Plant (2000 LPH) Pump Efficiency: >60%				
		0.25 Cusecs (Head 180 ft)	1.00	Each		
3	NS	Supply, installation and Testing of Chemical Dosing Pump / Liquid Dosing Pump with working pressure 5 - 7 Bar Imported, along with 80 liter capacity tank complete in all respect Origin: Europe / USA / German or Equivalent Pressure: 5 -7 bar Tank Size: Maximum 80 liter Chemical Anti Sclanet: Food Grade	1.00	Each		
Total Amount Non MRS Items						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

Bill No. 1.3: Internal & External Electrification Works at Source, (MRS)

Sr. No.	M.R.S (Item/Chap)	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
1.0		<u>WIRING AND ACCESSORIES</u>				
1.1	10(c-ii)/24, 3(iii)/24, 17(i)/24, 35(ii)/24	Wiring of light or fan point from switch to the point with 3x1.5 mm ² (P+N+E) PVC insulated single core cables in 25mm dia 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.	8	Each	5,740	45,920
1.2	10(c-iii)/24, 3(iii)/24	Circuit wiring from MCBs board to gang switches to another gang switch board with 3x 2.5 mm ² (P+N+E) PVC insulated single core cables in appropriate size dia 25mm PVC conduit.	4	Each	12,550	50,200
1.3	10(c-ii)/24, 3(iii)/24	The same as item No. 1.1 but from one light point to another light point.	5	Each	3,109	15,545
1.4	10(c-iv)/24, 17(ii)/24, 39(i)/24, 3(iii)/24	10 Amp 2/3 pin universal flush mounting switch socket/ Wall Mounted unit wired with 3x4mm ² (P+N+E) single core cable from DB circuit in dia 25mm PVC concealed conduits or trunking including all conduit accessories as required complete in all respect.	2	Each	11,888	23,776
1.5	10(c-iii)/24, 17(ii)/24, 39(i)/24, 3(iii)/24	Same as item 1.4 but unit wired with 3x2.5mm ² (P+N+E) single core cable light plug to another light plug (looping) from nearest circuit available in dia 25 mm PVC concealed conduits or trunking including all conduit accessories as required complete in all respect.	4	Each	6,960	27,840
1.6	10(c-v)/24, 3(iii)/24, 39(ii)/24, 17(ii)/24	15/20A, 3-pin flush mounting switch socket unit wired with 1-core 3x6mm ² (P+N+E) wires starting from D.B to socket in dia 25mm PVC concealed conduits and accessories as required complete in all respect.	3	Each	17,212	51,636
1.7	10(c')/24,	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:				
		vi) 10 mm sq (7/0.052")	550	Per Rft.	179.85	98,918
		vii) 16 mm sq (7/0.064")	650	Per Rft.	274	178,100
		viii) 25 mm sq (19/0.052")	600	Per Rft.	362.6	217,560
1.8	13(c')/24,	Supply and erection of copper conductor cables for service connection, in prelaid pipe/G.I. wire/trenches, etc. (rate for cable only):-				
		c) PVC insulated, PVC sheathed 4 core, 600/1000 volt non armoured cable:-				
		vi) 10 mm (7/0.052")	400	Per Rft	935.85	374,340
		vii) 16 mm (7/0.064")	350	Per Rft	825.7	288,995
		viii) 25 mm (19/0.052")	300	Per Rft	1,372.45	411,735
		ix) 35 mm sq (19/0.064")	400	Per Rft	1,968.00	787,200

Bill No. 1.3: Internal & External Electrification Works at Source, (MRS)						
Sr. No.	M.R.S (Item/Chap)	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
1.9	105(b-i)/24,	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.				
		Steel body				
		(i) 12" sweep	4	Each	6,093.40	24,374
1.10	24-96(l)	POWER FACTOR IMPROVEMENT PANEL (PFI)				
		P/FPFIPLANT(PowerFactorImprovementPlant)comprisingof componentsofrequiredratitngs,inMSboxof14SWGicthecost of3mmthickBacklitesheet(SafetySheet)Lock,thimbles,power capacitors,Magneticcontactors,HRCfuses,Powerfactorcontr ollers,Indicationlights,Coppercomb,Wiring,Netural&Earthbar ,Doorearthing,brassglands,pushbuttons,CTS,ControleMCB, SurgeSuppressors,Auto/ManualSwitches,ExhaustFan,Tem pregulatorsasperWAPDAstandardscompleteinallrespects as approved and directed by the Engineer Incharge.				
		MATERIAL	1	Each	297,644.00	297,644
		PFI - 62.5 kVAR				
Total Amount MRS Items						2,893,782
MRS: (Percentage) % _____ Below / Above						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)					
BILL OF QUANTITIES					
Bill No. 1.3: Internal & External Electrification Works at Source, (N-MRS)					
Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
IMPORTANT NOTES (Applicable to all Electrical Items)					
	All electrical items given below shall be read in conjunction with parts of the Specifications and electrical drawings except otherwise indicated.				
	The Electrical Works include design, supply, transportation, installation, testing and commissioning of the following items of works as mentioned in this BOQ (unless specifically stated otherwise) including all material, labour, tools, accessories, related civil works, etc., as required for proper completion of each item as per specifications unless otherwise mentioned. (Any necessary material not mentioned in specifications, electrical drawings and here in this BOQ required for proper installation, testing and commissioning of equipment and materials shall be included in BOQ rates.				
1.0					
<u>LIGHTING FIXTURES & FANS</u>					
	Following LED Luminaries of suitable wattage and Fans make Philips, GE & Pierlite, Royal, Pak, GFC, SK or approved equivalent suitable for the project requirements. Contractor to submit lighting design calculation to determine the adequacy of the wattage and should adjust the number of LEDs/wattage as per project lighting requirements. The fitting shall be approved by the Engineer.				
1.1	Light Fixture Type LED Batten, 10W, above mirror in toilets complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	2		
1.2	Light Fixture Type LED Batten, 20 W, complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	4		
1.3	Light Fixture Type LED surface mounted Downlighter, 18W, complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	2		
1.4	Light Fixture Type LED water tight, 30W, complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	8		
1.5	Light Fixture Type LED Wall Bracket, 12W, complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	15		
1.6	Ceiling fan 56" sweep capacitor type, copper winding complete with all required accessories etc. The fitting shall be approved by the Engineer.	Each	2		
1.7	Wall bracket fan 18" sweep capacitor type, copper winding complete with all required accessories etc. The fitting shall be approved by the Engineer.	Each	4		
2.0	<u>Road / Street Lighting Poles and Foundations</u>				
a)	10 m high single arm conical octagonal (hot dip) galvanized steel pole with extension arm luminaire arrangement, base plate, 2Amp.,(RC=10KA) circuit breaker, terminal blocks including end caps, base connection plates & end stopper etc. as shown on drawing.	Each	5		
b)	Road Lighting Pole Foundation (Bitumen Coating)	Each	5		
<u>LED Road Light Fixtures</u>					

Bill No. 1.3: Internal & External Electrification Works at Source, (N-MRS)					
Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
c)	Road Lighting LED Luminaries 90 Watt make Philips, GE, or approved equivalent, fully in compliance with the specified requirements suitable for the project requirements, fully IP 66 with corrosion resistant die cast aluminum housing, silicon gas kit, thermally hardened glass complete with LED drivers, surge protection and all accessories/ components required for the proper operation of the system. The luminaries shall be fully flexible for future upgrades and easy replacements for maintenance purposes. Contractor to submit lighting design calculation to determine the adequacy of the wattage and should adjust the number of LEDs/wattage as per project lighting requirements.	No.	5		
3.0	<u>PVC PIPES</u>				
3.1(a)	PVC pipe/conduit 50 mm dia with accessories suitable for laying multi-core cables.	Rft.	50		
3.1(b)	PVC pipe/conduit Class-B 100 mm dia with accessories suitable for laying multi-core cables	Rft.	450		
3.1(c)	PVC pipe/conduit Class-D 100 mm dia with accessories suitable for laying multi-core cables	Rft.	250		
4.0	<u>LOW VOLTAGE ELECTRICAL POWER CABLES</u>				
4.1	Supply, installation, testing, commissioning and termination of following sizes of PVC insulated 600/1000 Voltage grade unarmoured Copper cables laid direct in ground, pulled in PVC pipe already laid, on surface of wall or cable trays etc including all accessories as required complete in all respects (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing)				
a)	2 core 10 mm ²	Rft.	150		
	<i>From MPB to DB-OHWT</i>				
b)	2 core 16 mm ²	Rft.	300		
	<i>From MPB to DB-Guard Room</i>				
4.2	Supply, installation, testing, commissioning and termination of following sizes of PVC insulated single core 450/750 Voltage grade unarmoured Copper cables as circuit protective conductor/ earth continuity conductor (CPC/ECC) laid direct in ground, pulled in PVC pipe already laid, on surface of wall or cable trays etc. including all accessories as required complete in all respects (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing)				
	3 Nos. 1 core 2.5 mm ² (Red+Black+Green) Cu. PVC 450/750 Volt grade copper cable including connections at ends. The cables shall be drawn from junction box to the light fitting through hollow of the pole (for street light pole). (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing)				
	35 feet cable is required for each pole and the unit is taken as No. Price per No.	No.	5		
5.0	<u>EARTHING SYSTEM</u>				
	Supply, installation, testing and commissioning of following items for Earthing system for grounding of the electrical installation with all allied accessories as required complete in all respects.				
5.1	Providing and fixing of copper deposited steel rod earth point including all accessories and civil works complete in all respects as required and shown in drawing.	Each	10		

Bill No. 1.3: Internal & External Electrification Works at Source, (N-MRS)					
Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
6.0	<u>MAIN PANEL BORAD</u>				
6.1(a)	Main panel board designated with all installation and operational accessories as per site requirements, as per tender specifications and as directed by the Engineer. The MPB shall comprise the following:	Job	1		
	MATERIAL - (TP - 0.5 Cusecs)				
	INCOMING				
	01 No. 100 Amps (Adj.) MCCB, TP, RC= 25kA, Icu=100%Ics				
	- 01 No. VSS (RY-YB-BR-OFF-RN) 7-position				
	- 01 No. 0-600 Volts AC DIGITAL Voltmeter				
	- 03 Nos. 100/5 Amps Current Transformers				
	- 01 No. ASS (R-Y-B-OFF) 4-position				
	- 01 No. 0-100 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. 50 Amp (Adj.) MCCB, TP, RC=25kA, Icu=100%Ics (For Tubewell Room)				
	- 01 No. 63 Amp (Adj.) MCCB, TP, RC=25kA, Icu=100%Ics (For PFI)				
	- 02 Nos. 32 Amps MCB, DP, RC=10kA, (For Guard Room & OHWT)				
	01 No. 25 Amps (Adj.) MCCB TP, RC= 25 kA, Icu=Ics 100%, 01 No. 32 Amps (Adj.), Megnatic Contactor (AC-3), 2 Nos. Push Button (ON/OFF), 5 Nos. indication lights (ON, OFF) (R,Y,B), Brass cable glands/accessories, 1 Nos. Auto-Manual-OFF (3 position switches for operation in auto (with photocell) and normal (manual mode- photocell override), 3 Nos. photo-electric switches-(For External lghting)				
	- 01 No. 63 Amps (Adj.) MCCB, TP, RC=25kA, Icu=100%Ics (Spare)				
	- 01 No. 40 Amps (Adj.) MCCB, TP, RC=25kA, Icu=100%Ics (Spare)				
	- 01 No. 32 Amps MCB, TP, RC=10kA, (Spare)				
	- 02 Nos. 100 Amps. MCCB, TP, Space				
	- 01 No. Panel light with limit switch				
	01 No. Exhaust fan 6" (copper) & Louver 8" sweep with thermosttae relay and all accessories etc.				
	Electrolytic copper bus bar with electrical grade PVC mountings - 3 for each, nuts, bolts and washers, control MCB etc. (200 Amps. R+Y+B N, 50 Hz, 415 V, AC)				
	- All other accessories required for completion of the qulaity 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 alongwith warranties.				
6.2	<u>LV DISTRIBUTION BOARDS</u>				
	Supply, Installation, testing and commissioning of following Distribution Boards with 14/16 SWG sheet steel housing (14 SWG for Floor Standing & 16 SWG for Wall Mounted) with approved colour and having specified circuit breakers, CTs, VTs, selector switches, push buttons, LED indication lights, as shown on drawings and mentioned below cubicle with electrolytic copper bus bar with electrical grade PVC mountings 3 for each, nuts, bolts and washers, control MCB etc. with all allied accessories complete in all respects as required.				
(a)	DB-Tubewell Room	Each	1		
	Material				

Bill No. 1.3: Internal & External Electrification Works at Source, (N-MRS)					
Sr. No.	Description	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
	- 01 No. Incoming 50 Amp (Adj.) MCCB, TP, RC=25kA, Icu=100%Ics				
	- 01 No. Outgoing 40 Amp (Adj.) MCCB, TP, RC= 25kA, Icu=100%Ics (For Pump)				
	- 01 No. Outgoing 20 Amp MCB, SP, RC=10 kA, (For Chlorinator)				
	- 03 Nos. Outgoing 10 Amp MCB, SP, RC=10 kA				
	- 02 Nos. Outgoing 20 Amp MCB, SP, RC=10 kA				
	- 03 Nos. Outgoing 10/20 Amp (Spare) MCB, SP, RC= 10 kA				
	- 02 Nos. Outgoing 10/20 Amp (Space) MCB, SP, RC=10 kA				
	- Indication lights, 0-600 Volts AC DIGITAL Voltmeter, 0-100 Amps AC DIGITAL Ammeter, ammeter with selector switch, voltmeter with selector switch, Panel box SWG 16 powder coated RAL colour 7032, IP class 44 and with all accessories.				
(b)	DB-Guard Room & OHWT	Each	3		
	MATERIAL				
	- 01 No. Incoming 32 Amp MCB, DP, RC= 10kA				
	- 02 Nos. Outgoing 10 Amp MCB, SP, RC=10 kA				
	- 02 Nos. Outgoing 20 Amp MCB, SP, RC=10 kA				
	- 02 Nos. Outgoing 10/20 Amp (Spare) MCB, SP, RC= 10 kA				
	- 02 Nos. Outgoing 10/20 Amp (Space) MCB, SP, RC=10 kA				
	- Indication lights, ammeter with selector switch, voltmeter with selector switch, Panel box SWG 16 powder coated RAL colour 7032, IP class 44 and with all accessories.				
7.0	<u>LIGHTENING PROTECTION SYSTEM</u>				
7.1	Lightening protection system complete with 1-core 70 mm ² copper down conductor, 2 earth termination rods, 2 air termination rods and all other accessories like clamps and test terminals etc. for proper installation, testing and commissioning of equipment and materials shall be included all material, labour, tools, accessories, related civil works, etc., as required for proper completion of each item.	Job	1		
Total Cost for (N-MRS) Items					
Total Cost (MRS + N-MRS)					

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

Bill No. 1.4: Instrumentation and Control for Rajanpur (Non-MRS)

Sr No	Description	Unit	QTY	Unit Price	Total Price
1	Automatic Programmable Logic Controller (PLC) including accessories and Programming software complete in all respect Origin: Europe / USA / German or Equivalent Programming: Fully automatic with breaker, timer and relays complete in all respects HMI display: For PLC - 10" minimum size with touch screen (Fully automatic control of plant) SCADA enable	No	1		
2	Level indicator Transmitter (Ultrasonic) - Origin: Europe / USA / German or Equivalent - Ultrasonic working principle - Display of measured value in level, distance (cm, m, inch or feet) or volume (liters, m3 , imp, gallons) - 4-20 mA, 0-20 mA or 0-10V analog output options - Single line 5 digit LCD display and 4 sealed keypads for configuration - 100 mA max. @24 VDC / 150 mA max. @16 VDC - 500 Ω	No	1		
3	Data Collection and Reporting Machines Manufacturer : Apple / HP / Dell or equivalent Intel / AMD ,RAM: 16GB, Screen: 15 - 16 Inches OS: Windows 11 / Mac OS, Storage: 512GB SSD, 1TB HDD, Speed: up to 4.7GHz, Extrenal Storage 1TB SDD, with Bag	No	2		
4	Cable trays, ducts, cable tagging etc. complete in all respect	Lot	1		
Total Cost					

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

Bill No. 1.5: Solar PV Solution For Source and Building (Non-MRS)

Sr. No.	Item	Description	Unit	Qty.	Rate (Rs.)	Total Cost (Rs.)
1	Solar PV Modules	<ul style="list-style-type: none"> · IEC 61215 Certified · Application/ Safety Class II · A Grade, Half Cut Cell Mono-PERC · Tier 1 Manufacturer for Q3/Q4 of 2021 · 500W or higher with positive tolerance only · 20% or higher module efficiency · 25 Year Linear Performance Warranty · 12 Year Material and Workmanship Warranty · Power Output after 25 Years \geq 85% · PID Resistant · Power Loss Coefficient of $-0.39\%/^{\circ}\text{C}$ or lesser · Barcode Identification · Efficiency at $200 \text{ W/m}^2 \geq 96\%$ of STC - IP 65 Rated Junction Boxes, dust and vermin proof with Copper Bus Bar Terminals, EPDM rubber gasket, MOVs and Reverse Blocking Diodes · Compliance with S.R.O 604 	Per Watt STC	38,000		
2	Mounting Structure, Civil Works and Foundations etc.	<ul style="list-style-type: none"> - UV resistant, Galvanized Steel Frame of Gauge 12 with atleast 85 micron or thicker zinc coating - Tilt: 25° or As per site requirement - Anodized Aluminum Frames if proposed shall be preferred - Spacing between rows should be more than 1.5 times the height of mounting structure - Shall Withstand Wind speed of 150 km/h - Galvanic Isolation - Site Specific Design - For Rooftops, Civil Works without Roof Penetrations - Complete Civil Works 	Per Watt Solar Panel	38,000		
3	VFD and Associated Sensors	<ul style="list-style-type: none"> - Power Options for Grid, Generator and Solar PV - Auto Start Stop with Any Input Power - Self Diagnostic and Self Protection · Dry Run Protection · Digital Controls with Complete Protective Functions · IP65 · Ground Fault Monitoring · AC Short Circuit Protection · Under/Over Voltage and Over Current Protection · Reversecurrent Blocking · -10 to $+40$ Degree Celcius · Remote Monitoring and MPPT · Water Level Detection · Pressure Level Detection · AC and DC Rated Voltage matching with the motor 	Per Watt VFD	40,000		
		DC and AC Cables: <ul style="list-style-type: none"> - 99.99% Copper Cables - Shall be sized such that 30% spare capacity remains at operating temperatures of 90°C 				

Bill No. 1.5: Solar PV Solution For Source and Building (Non-MRS)

Sr. No.	Item	Description	Unit	Qty.	Rate (Rs.)	Total Cost (Rs.)
4	DC Cables, AC Cables, Earthing Wires, Conduits, Connectors, Cable Ties etc.	- UL 4703 compliant Low Smoke Halogen Free	Job			
		- BS 6004 and BS 7644 Compliant				
		- Conduits shall have 30% or higher spare capacity				
		- Trenching and all Civil Works				
		- Seamless Terminations				
		- Perforated Cable Trays				
		- Avoid Direct Sunlight and Direct Clamping of Cables				
		- Should not be physically accessible for routine works				
		- Earthing and Lightning Protection as per Electricity Act of Pakistan				
		- Labeling of all strings/ equipment shall be mandatory				
- UPVC/Corrugated PVC Pipes and Cable Trays						
5	Breakers, Surge Arrester, Combiner Boxes etc.	- Circuit Breakers	Lot			
		- Protection Devices				
		- Separate DC and AC earthing each with 3 Ohms or lesser resistance				
		- Non-Isolated Lightning Arrestors				
		- Protection against lightning currents				
- IP 65 Rated Cabinets						
6	Transportation, Installation, Lab Testing and Commissioning Costs	- Delivery, Installation and Testing of all equipment delivered against the P.O	Job, 15% of 1 to 5			
		- Complete Works in all respects				
Total						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

BILL NO. 2.1: RISING MAIN AT SOURCE POINT

MRS ITEMS

Sr. No.	MRS 2nd Bi-Annual 2024 Chap#/Item #	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
1	4/19(c)	Dismantling cement concrete 1:2:4 plain	1.00	100 Cft	16,552.80	16,553
2	4/46	Dismantling and removing road pavement, etc., including screening and stacking of byproducts upto one chain lead (30 metre).	3.00	100 Cft	4,017.80	12,053
3	3/44	Excavation of trenches in all kinds of soil, except cutting rock, for watersupply pipelines upto 5 ft. (1.5 m) depth from ground level,including trimming, dressing sides, levelling the beds of trenches to correct grade and cutting pits for joints, etc. complete in all respects.	2.00	1000 Cft	11,293.90	22,588
4	10/3	Supplying and filling sand under floor or plugging in wells	3.00	100 Cft	3,987.00	11,961
5	23/42	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE-100 working presure pipe, Beta/ Dadex/ Popular/ IIL or equivalent including the cost of specials, intrenches, as approved & directed by the engineer incharge, complete in all respects.				
		c) PN-10 (SDR-17)				
		iX) 125mm	320.00	Rft	638.35	204,272
6	6/5	Cement concrete plain including placing,compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Nominal Ratio 1: 2: 4	6.00	100 Cft	47,347.10	284,083
7	3/13	Rehandling of earthwork: a) Lead upto a single throw of Kassi, phaorah or shovel.	2.00	1000 Cft	3,762.00	7,524
8	3/25	Compaction of earthwork with power road roller (or any approved mechanical means), including ploughing, mixing, moistening earth to optimum moisture content in layers, etc. complete:				
		i) 95% to 100% maximum modified AASHO dry density.	1.00	1000 Cft	1,816.00	1,816
		ii) 90% maximum modified AASHO dry density.	1.00	1000 Cft	1,533.45	1,533
9	3/17	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) (Transportation will be paid as per actual lead chart to be approved by the Engineer)				
		a) upto ¼ mile (400 m).	1.00	1000 Cft	6,678.00	6,678

BILL NO. 2.1: RISING MAIN AT SOURCE POINT**MRS ITEMS**

Sr. No.	MRS 2nd Bi Annual 2024 Chap#/Item #	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		b) for every 330 ft. (100 m) additional lead or part thereof, beyond ¼ mile (400 m) upto one mile. (1.6 Km.)	1.00	1000 Cft	69.85	70
		c) for every ¼ mile (400 m) additional lead or part thereof, beyond one mile (1.6 Km.) upto 5 mile (8 Km). (for 5 Km)	1.00	1000 Cft	385.75	386
		RESTORATION				
10	18/3(a)	Providing and laying sub-base course of stone product ditto 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. (only labour)	5.00	100 Cft	8,055.75	40,279
11	18/4(a)	Providing and laying base course of crushed stone aggregate of approved quality and grade, and supply and to spreading of stone screening, including placing, mixing, 501-6 spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and aggregate	5.00	100 Cft	13,361.80	66,809
12	18/10	a(v) Providing and laying plant premixed bituminous carpet including compaction and finishing to required camber, grade and density	5.00	100 Sft	8,186.85	40,934
13	1/1	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 From Sargodah quarry	15.00	100 Cft	14,407.35	216,110
Total Amount MRS Items						933,649
MRS: (Percentage) % _____ Below / Above						

**PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH
CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT
RAJANPUR (CLUSTER # 06)**

BILL OF QUANTITIES

BILL NO. 2.1: RISING MAIN AT SOURCE POINT

NON- MRS ITEMS

Sr. No.	Ref.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
1	NS	Providing and laying detectable underground warning tape for water supply pipes to give warning of the presence of pipes with highly visible message printed in black on blue complete in all respect as per instructions of the Engineer and including the following features. i) Color = Blue ii) Material = Polyethylene tape iii) Tape Width = 150mm iv) Roll Length= 365m v) Weight per roll= atleast 2.5kg vi) Tape Thickness= atleast 100 µm vii) Sealing material between sensor and housing	320.00	Rft		
2	NS	Canal Crossing (Manual boring) for laying of HDPE Pipe under roads complete in all respects. (Provisional Qty)				
		6 "(160mm) o/d	100	Rft.		
Total Amount Non MRS Items						
TOTAL MRS + NON-MRS						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

Bill No. 2.2.1: OVER HEAD WATER TANK (30,000 gallons)

Sr. No.	MRS 2nd Bi-Annual 2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
1	3/21/a/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 upto one chain (30 m)lift upto 5 ft (1.5m).				
		in ordinary soil.	1000Cft	22.22	10,794.00	239,843
2	3/23	Extra for excavation requiring shoring.	1000Cft	5.92	2,512.20	14,872
3	3/43	Earthwork excavation of trenches in open cutting for sewers and manhole chambers, etc. below sub soil water level to correct section and dimensions according to templates and levels, including shoring, timbering and shuttering of M.S. sheets on both sides of the trenches:				
		i) 0 ft. to 4.0 ft. (0 to 1.20 m) depth below SSWL.	1000Cft	4.74	24,685.95	117,011
		ii) 4.01 ft. to 8.0 ft. (1.22 to 2.4 m) depth below SSWL.	1000Cft	4.74	31,676.05	150,144
		iii) Exceeding 8 ft. (2.4 m) depth below SSWL.	1000Cft	2.37	43,589.65	103,307
4	26/45	Spraying anti termite proofing by using liquid FMC Biflex 2.5%EC Mixing Ratio 1:50=137-Sft or using liquid MIRAGE Ali Akbar /RANGERS Auriga 5% SC Mixing Ability-HEXTAR Ratio 1:110=205-Sft or any other equivalent approved liquid applying with shower and certificate will be provided by the contractor for 10-years complete in all respect .as approved by the Engineer Incharge.	P.Sft	2,464.00	12.55	30,923
5	3/15	Filling, watering and ramming earth under floors:-				
		i) with surplus earth from foundation, etc.	1000Cft	16.88	7,547.75	127,406
6	6/5/i	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone				
		(i) Ratio 1: 4: 8	100Cft	10.45	34,809.50	363,759
7	7/4/i	Pacca brick work in foundation and plinth in:-				
		Cement, sand mortar:- Ratio 1:5	100Cft	9.16	34,535.20	316,342
8	7/5/i	Pacca brick work in ground floor:-				
		i) cement, sand mortar:- Ratio 1:5	100Cft	8.94	37,208.20	332,641
9	6/36/a/i	Providing and laying damp proof course of cement concrete 1:2: 4(using cement, sand and shingle), including bitumen coating :-				
		(a) with one coat bitumen and one coat polythene sheet 500gauge				
		i) 1½" thick (40 mm)	100Sft	0.15	11,560.30	1,734

Bill No. 2.2.1: OVER HEAD WATER TANK (30,000 gallons)

Sr. No.	MRS 2nd Bi-Annual 2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
10	11/10	Cement plaster 3/8" (10 mm) thick under soffit of R.C.C. roof slabs only, upto 20' height. Ratio 1:3	100Sft	6.61	5,274.95	34,891
11	11/8	Cement plaster 1:3 upto 20' (6.00 m) height:- b) 1/2" (13 mm) thick (For Walls)	100 Sft.	20.78	4,860.95	100,991
12	11/23	Distempering:-(new surface) iii) three coats	100 Sft.	20.78	1,518.20	31,542
13	10/24	Providing and laying superb quality Ceramic tile floors of Master brand of specified size, Glossy/ Matt/ Texture of approved Color and Shade as per approved design with adhesive bond, over 3/4" thick (1:2) cement sand plaster the cost of sealer for finishing the joints /cutting grinding complete in all respects and as approved and directed by the Engineer Incharge. iii) 6"x6"	Sft	661.46	261.10	172,706
14	10/25	Providing and laying superb quality Ceramic tiles dado of Master brand of specified size, Glossy/ Matt/ Texture skirting/ dado of approved Color and Shade with adhesive bond over 1/2" thick (1:2) cement plaster i/c the cost of sealer for finishing the joints i/c cutting grinding complete in all respects as approved and directed by the Engineer Incharge. iii) 6"x6"	Sft	1,166.80	338.25	394,670
15	25-31	Making and fixing steel grated door with 1/16" thick (1.5mm) sheeting, including angle iron frame 2"x2"x 3/8" (50x50x10 mm) and 3/4" (20 mm) square bars 4" (100 mm) centre to centre, with locking arrangement.	Sft	56.00	2,908.35	162,868
16	25/41-b-v	Providing and fixing steel windows with openable glazed panels, using beam section for frame 1 1/2"x1"x5/8"x1/8" (40x25x16x3 mm), Z-section for leaves 3/4"x1"x3/4"x1/8" (20x25x20x3 mm), T-section sashes 1"x1"x1/8" (25x25x3 mm), glass panes, wooden screed for glazing embedded over a thin layer of putty duly screwed with leaves, brass fittings, holdfast, duly painted, complete in all respects, including all cost of material and labour, etc. as per approved design and as directed by the Engineer-in-charge:- b) fixed with wire gauze, 22 SWG v) glass pane 5 mm thick	Sft	72.00	1,426.85	102,733

Bill No. 2.2.1: OVER HEAD WATER TANK (30,000 gallons)						
Sr. No.	MRS 2nd Bi-Annual 2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
17	6/6	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)(iii) 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) (i)&(ii) above not requiring form work (i.e. horizontal shuttering) complete in all respects:-				
		(2) Type B (nominal mix 1: 1½: 3)	P.Cft	2,368.00	673.20	1,594,138
		(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:-				
		(2) Type B (nominal mix 1: 1½: 3)	P.Cft	7,059.12	820.25	5,790,244
18	6/16	Extra labour for laying concrete plain or reinforced:				
		(a) above 30' (6 m) upto 40'(12 m) height	100Cft	6.94	6,019.20	41,779
		b) Above 40' upto 50' height	100Cft	4.11	9,781.20	40,163
		c) Above 50' upto 60' height	100Cft	4.11	13,543.20	55,610
		d) Above 60' upto 70' height	100Cft	4.11	17,305.20	71,057
		e) Above 70' height	100Cft	39.90	21,067.20	840,512
19	6/55	Providing and mixing super plasticizer (water reducing admixture) as defined in ASTM C-94 in order to achieve the required consistency / workability measured by the slump or to achieve specified strength in the ratio as proposed by the designer in the concrete mix design etc.complete in all respect as approved and directed by Engineer incharge.	litre	1,055.84	202.25	213,543
20	6/12-c	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):-				
		Deformed bars (Grade-60)	100kg	552.89	35,897.35	19,847,286
21	10/3	Supplying and filling sand under floor; or plugging in wells.	100Cft	61.28	3,987.00	244,323
22	6/2	Dry rammed brick or stone ballast, 1½" to 2"(40 mm to 50 mm) gauge.	100Cft	9.67	12,177.00	117,752

Bill No. 2.2.1: OVER HEAD WATER TANK (30,000 gallons)

Sr. No.	MRS 2nd Bi-Annual 2024	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
23	10/16/c	Providing and laying topping of cement concrete 1:2:4, including surface finishing and dividing in panels:- (c) 1½"(40 mm) thick	100Sft	14.97	9,587.50	143,525
24	9/15	Khuras on roof 2'x2'x6" (600 x 600 x 150 mm)	Each	2.00	1,162.05	2,324
25	25/35	Providing and fixing terrace railing of 2" (50 mm) i/d conduit pipe 16 SWG, welded with 5/8"x5/8" (16x16 mm) square 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.	Rft	225.00	1,954.85	439,841
26	10/22	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 laid over 1"(25 mm) thick flooring of 1:2:4 cement including rubbing and polishing complete (a) using grey cement	100 Sft	14.00	29,134.60	407,884
27	10/4	Providing, laying, watering and ramming brick ballast 1½" to 2"(40 mm to 50 mm) gauge mixed with 25% sand, for floor foundation, (including compaction) complete in all respects.	100 Cft	71.04	12,801.20	909,397
28	26/37b	Bailling out water by Pump	1000Cft	1,037.95	1,116.55	1,158,923
Total Amount MRS Items						34,716,689
MRS: (Percentage) % _____ Below / Above						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

Bill No. 2.2.2: OVERHEAD WATER TANK MECHANICAL WORKS

Item No.	2nd Bi Annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
I		SCHEDULE ITEMS:				
		GENERAL				
1		Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, accessories, etc. required for proper completion of each item as per specification and drawings and as directed by the Engineer.				
		Sluice valve of B.S.S. quality and weight, Class `B', for cast iron pipe line, and Asbestos cement pipe line (including cost of jointing material):-				
	23/30 (d)	i) 6" dia	No.	1.00	38,720.90	38,721
Total Amount (MRS Items)						38,721
MRS: (Percentage) % _____ Below / Above						
II		NON SCHEDULE ITEMS				
2	NS	Supplying, laying, cutting, jointing, testing and disinfecting flanged/socketed MS pipe , water quality (heavy), with all fittings i.e. sockets, bends, tees, bell mouths etc. where required, in accordance with API-5L (Grade-B)/ ASTM A53 Sch 40 including applying two coats of bitumen paint complete in all respect.				
		i) 4" M.S pipe (Rain water down pipe)	Rft	10.00		
		ii) 4" M.S pipe (Washout pipe and over flow pipe)	Rft	115.00		
		iii) 6" M.S pipe (Inlet pipe)	Rft	110.00		
		iv) 6" M.S pipe (Outlet pipe)	Rft	85.00		
3	NS	Cleaning, testing and disinfecting overhead water tank.	No.	1.00		
4	NS	3 " dia GI air vent on roof of overhead water tank.	No.	1.00		
5	NS	MS ladder including painting as per drawings.	Rft	1.00		
6	NS	M.S rungs (weight not less than 7.5 kg each) of approved shape, size and section treated with DTS epoxy coating where ever specified, including carriage, embedded in concrete according to correct lines and levels.	No.	28.00		
7	NS	Air tight MS cover over tank as per drawings.	No.	2.00		
8	NS	Supplying and Installing M.S Flange				
		i) 6" (160mm) dia	No.	1.00		
		ii) 4" (110mm) dia	No.	1.00		
Sub-total: Non Schedule Items (II)						
Sub total: Schedule & Non-Schedule Items (I+II)						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

BILL NO. 2.3: WATER DISTRIBUTION NETWORK

MRS ITEMS

Sr. No.	MRS 2nd Bi-Annual 2024 Chap#/Item#	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Pipe Line				
1	4/19(c)	Dismantling cement concrete 1:2:4 plain	22.00	100 Cft	16,552.80	364,162
2	4/45	Dismantling and removing road metalling.	15.00	100 Cft	3,009.60	45,144
3	4/46	Dismantling and removing road pavement, etc., including screening and stacking of byproducts upto one chain lead (30 metre).	55.00	100 Cft	4,017.80	220,979
4	3/44	Excavation of trenches in all kinds of soil, except cutting rock, for watersupply pipelines upto 5 ft. (1.5 m) depth from ground level,including trimming, dressing sides, levelling the beds of trenches to correct grade and cutting pits for joints, etc. complete in all respects.	510.00	1000 Cft	11,293.90	5,759,889
5	10/3	Supplying and filling sand under floor or plugging in wells	930.00	100 Cft	3,987.00	3,707,910
6	23/43	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE-100) working presure pipe, Beta/ Dadex/ Popular/ IIL or equivalent including the cost of specials, intrenches, as approved & directed by the engineer incharge, complete in all respects				
		a) PN-8 (SDR-21)				
		i) 90mm	37,375.00	Rft	299.70	11,201,288
		ii) 125mm	35,250.00	Rft	572.00	20,163,000
7	6/5	Cement concrete plain including placing,compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Nominal Ratio 1: 4: 8	107.00	100 Cft	34,809.50	3,724,617
8	3/13	Rehandling of earthwork: a) Lead upto a single throw of Kassi, phaorah or shovel.	410.00	1000 Cft	3,762.00	1,542,420
9	3/25	Compaction of earthwork with power road roller (or any approved mechanical means), including ploughing, mixing, moistening earth to optimum moisture content in layers, etc. complete:				
		i) 95% to 100% maximum modified AASHO dry density.	30.00	1000 Cft	1,816.00	54,480
		ii) 90% maximum modified AASHO dry density.	380.00	1000 Cft	1,533.45	582,711

BILL NO. 2.3: WATER DISTRIBUTION NETWORK**MRS ITEMS**

Sr. No.	MRS 2nd Bi-Annual 2024 Chap#/Item#	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
10	3/17	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) (Transportation will be paid as per actual lead chart to be approved by the Engineer)				
		a) upto ¼ mile (400 m).	100.00	1000 Cft	6,678.00	667,800
		b) for every 330 ft. (100 m) additional lead or part thereof, beyond ¼ mile (400 m) upto one mile. (1.6 Km.)	100.00	1000 Cft	69.85	6,985
		c) for every ¼ mile (400 m) additional lead or part thereof, beyond one mile (1.6 Km.) upto 5 mile (8 Km). (for 5 Km)	100.00	1000 Cft	385.75	38,575
		RESTORATION				
11	18/3(a)	Providing and laying sub-base course of stone product ditto 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. (only labour)	110.00	100 Cft	8,055.75	886,133
12	18/4(a)	Providing and laying base course of crushed stone aggregate of approved quality and grade, and supply and to spreading of stone screening, including placing, mixing, 501-6 spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and aggregate	110.00	100 Cft	13,361.80	1,469,798
13	18/10	a(v) Providing and laying plant premixed bituminous carpet including compaction and finishing to required camber, grade and density	135.00	100 Sft	8,186.85	1,105,225
		Valve Chambers				
14	3/44	Excavation of trenches in all kinds of soil, except cutting rock, for watersupply pipelines upto 5 ft. (1.5 m) depth from ground level, including trimming, dressing sides, levelling the beds of trenches to correct grade and cutting pits for joints, etc. complete in all respects.	34.00	1000 Cft	11,293.90	383,993
15	3/13	Rehandling of earthwork: a) Lead upto a single throw of Kassi, phaorah or shovel	15.00	1000 Cft	3,762.00	56,430

BILL NO. 2.3: WATER DISTRIBUTION NETWORK**MRS ITEMS**

Sr. No.	MRS 2nd Bi-Annual 2024 Chap#/Item#	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
16	3/24	Compaction of earthwork (soft, ordinary or hard soil) :- c) Ramming earthwork (all types of soil).	15.00	1000 Cft	2,257.20	33,858
17	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate).				
		(h) Nominal Ratio 1: 3: 6	15.00	100 Cft	40,099.10	601,487
		(f) Nominal Ratio 1: 2: 4	5.00	100 Cft	47,347.10	236,736
18	7 /7	Pacca brick work other than building upto 10ft. (3 m) height. i) cement, sand mortar:- Ratio 1:3	110.00	100 Cft	39,030.60	4,293,366
19	11 /8	Cement plaster 1:3 upto 20' (6.00 m) height:- b) ½" (13 mm) thick	75.00	100 Sft	4,860.95	364,571
20	6/6	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) (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:- (2) Type B (nominal mix 1: 1½: 3)	2,115.00	Cft	820.25 P	2,115
21	6/12	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)				
		(c) Deformed bars (Grade-60)	85.00	100 kg	35,897.35	3,051,275
22	10/3	Supplying and filling sand under floor; or plugging in wells	5.00	100 Cft	3,987.00	19,935
23	10/10	Brick on edge flooring, laid in 1:6 cement mortar, over a bed of ¾" (20 mm) thick cement mortar 1:6.	15.00	100 Sft	16,270.40	244,056
24	21/16	Providing and fixing 6" thick R.C.C. manhole cover with tee shaped C.I. frame of 22" I/d (frame weighing 37.324 Kg. or one maund as per Standard Drawing STD/PD No. 6, of 1977, complete in all respect.	94.00	Each	25,247.65	2,373,279

BILL NO. 2.3: WATER DISTRIBUTION NETWORK**MRS ITEMS**

Sr. No.	MRS 2nd Bi-Annual 2024 Chap#/Item#	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
25	23/31	Providing and fixing sluice valve of B.S.S. quality and weight, Class `B', for cast iron pipe line, and Asbestos cement pipe line (including cost of jointing material):-				
		i) 90mm	47.00	Each	22,833	1,073,167
		ii) 125mm	12.00	Each	29,227	350,727
26	23/32	Supply, installation, testing, and commissioning of Garden / fire Hydrants made by Haseen Habib / Teepu Engineering or equivalent, according to B.S.S. 750 standard double delivery type having 4"dia barrel with 2 Nos. 2-1/2" valve including the cost of jointing material with all fittings and accessories complete in all respect as approved by the Engineer Incharge	19.00	Each	68,700.60	1,305,311
27	23/33	Providing and fixing, air valve 2½" (65mm) dia of B.S.S. quality and weight (complete with jointing material). b) double	19.00	Each	14,392.65	273,460
28	13/22	c) Painting and lettering Sign posts:- ii) two coats	110.00	Each	761.40	83,754
29	23/30. (a)	Providing and fixing sluice valve of B.S.S. quality and weight, Class `B', for cast iron pipe line, and Asbestos cement pipe line (including cost of jointing material):- 75mm (3") dia	15.00	Each	18,935.30	284,030
30	3/17	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) (Transportation will be paid as per actual lead chart to be approved by the Engineer)				
		a) upto ¼ mile (400 m).	35.00	1000 Cft	6,678.00	233,730
		b) for every 330 ft. (100 m) additional lead or part thereof, beyond ¼ mile (400 m) upto one mile. (1.6 Km.)	35.00	1000 Cft	69.85	2,445
		c) for every ¼ mile (400 m) additional lead or part thereof, beyond one mile (1.6 Km.) upto 5 mile (8 Km). (for 5 Km)	35.00	1000 Cft	385.75	13,501
31	1/1	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 From Sargodah quarry	260.00	100 Cft	14,407.35	3,745,911

BILL NO. 2.3: WATER DISTRIBUTION NETWORK**MRS ITEMS**

Sr. No.	MRS 2nd Bi-Annual 2024 Chap#/Item#	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
32	18/25	Providing,fabrication and fixing pole mounted Direction Board/road delineator of any shape and size,with specified Sheet and thickness,supported with G.I Channel,(excluding the cost of vertical post and painting) etc complete in all respect. (a) GI sheet 14 SWG RECTANGULAR SHAPE (l) 12 -48 sft (provisional)	192.00	Sft	999.35	191,875
33	18/27	Providing,fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC 1:2:4 etc complete in all respect. (b) 3 inch diameter (provisional)	15.00	Rft	1,975.10	29,627
34	3/44	Excavation of trenches in all kinds of soil, except cutting rock, for watersupply pipelines above 5 ft. (1.5 m) depth, including trimming, dressing sides, levelling the beds of trenches to correct grade and cutting pits for joints, etc. complete in all respects.	4	1000 Cft	11,293.00	45,172
Total Amount MRS Items						70,834,927
MRS: (Percentage) % _____ Below / Above						

**PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER
BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER
06)**

BILL OF QUANTITIES

BILL NO. 2.3: WATER DISTRIBUTION NETWORK			NON- MRS ITEMS			
Sr. No.	Ref.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
1	NS	Providing, transportation, fixing and Jointing of MS flanges to joint the valves (sluice valve, air valve and fire hydrant) with HDPE pipe line complete in all respect and as per approval of The Engineer.				
		90mm o/d	94.00	Each		
		125mm o/d	24.00	Each		
2	NS	Providing, transportation, fixing and Jointing of Flexible Coupling to joint the valves (sluice valve, air valve and fire hydrant) with HDPE pipe line complete in all respect and as per approval of The Engineer.				
		90mm o/d	47.00	Each		
		125mm o/d	12.00	Each		
3	NS	Providing and laying detectable underground warning tape for water supply pipes to give warning of the presence of pipes with highly visible message printed in black on blue complete in all respect as per instructions of the Engineer and including the following features. i) Color = Blue ii) Material = Polyethylene tape iii) Tape Width = 150mm iv) Roll Length= 365m v) Weight per roll= atleast 2.5kg vi) Tape Thickness= atleast 100 µm vii) Sealing material between sensor and housing	72,625.0	Rft		
4	NS	Providing and fixing malleable iron step with outer dimensions 300 X 200 mm and weight not less than 6kg, in manhole chambers, including carriage and setting the same in work, to correct lines and levels as per drawing and specification.	376.00	Each		
Total Amount Non MRS Items						
TOTAL MRS + NON-MRS						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

MARKAZ-E-AAB (12,000 Litres Capacity)

Bill No. 3.1.1: Foundation Pad + Pre Fab Building

<i>Item No.</i>	<i>Ref. Chap. / Item No</i>	<i>Description</i>	<i>Unit</i>	<i>Qty</i>	<i>Rate (Rs.)</i>	<i>Amount (Rs.)</i>
I		MRS ITEMS				
1.0	3/21a(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 upto one chain (30 m)lift upto 5 ft (1.5m).	%cft	0.47	10,794.00	5,100
2.0	10/4.	Providing, laying, watering and ramming brick ballast 1½" to 2"(40 mm to 50 mm) gauge mixed with 25% sand, for floor foundation, complete in all respects.	100 Cft	1.89	12,801.20	24,194
3.0	6/5.	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): 1:2:4	100 Cft	3.78	47,347.10	178,972
4.0	13/9.	Bitumen coating to plastered or cement concrete surface:- i) 20 lbs. per 100 Sft. (9.07 Kg per Sq.m)	100 Sft	0.82	2,641.60	2,166
5.0	3/13.	Rehandling of earthwork a) Lead upto a single throw of Kassi, phaorah or shovel	100 Cft	0.09	3,762.00	356
6.0	7/4 (i)	Pacca brick work in foundation and plinth in:- (1:4)	100 Cft	0.62	35,807.20	22,021
Total Amount MRS Items						232,809
MRS: (Percentage) % _____ Below / Above						
7.0	NS	Supply and Installation of pre fab building including structure, columns and trusses & purlins excluding floor	Per Unit	1.00		
Total For Foundation Pad+Pre Fab						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)						
BILL OF QUANTITIES						
Bill No. 3.1.2: ELECTRICAL WORKS - MARKAZ-E-AAB (12,000 LTR)						
Sr. No.	M.R.S (Item/Chap)	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
1.0		<u>WIRING AND ACCESSORIES</u>				
1.1	10(c-ii)/24, 3(iii)/24, 17(i)/24, 35(ii)/24	Wiring of light or fan point from switch to the point with 3x1.5 mm ² (P+N+E) PVC insulated single core cables in 25mmdia 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.	5	Each	5,740	28,700
1.2	10(c-iii)/24, 3(iii)/24	Circuit wiring from MCBs board to gang switches to another gang switch board with 3x 2.5 mm ² (P+N+E) PVC insulated single core cables in appropriate size dia 25mm PVC conduit.	2	Each	12,550	25,100
1.3	10(c-ii)/24, 3(iii)/24	The same as item No. 1.1 but from one light point to another light point.	7	Each	3,109	21,763
1.4	10(c-iv)/24, 17(ii)/24, 39(i)/24, 3(iii)/24	10 Amp 2/3 pin universal flush mounting switch socket/ Wall Mounted unit wired with 3x4mm ² (P+N+E) single core cable from DB circuit in dia 25mm PVC concealed conduits or trunking including all conduit accessories as required complete in all respect.	1	Each	11,888	11,888
1.5	10(c-v)/24, 3(iii)/24, 39(ii)/24, 17(ii)/24	15/20A, 3-pin flush mounting switch socket unit wired with 1-core 3x6mm ² (P+N+E) wires starting from D.B to socket in dia 25mm PVC concealed conduits and accessories as required complete in all respect.	1	Each	17,212	17,212
1.6	10/24	Supply and erection of single core PVC insulated copper conductor cables, in pre-laid PVC pipe/M.S. conduit/G.I pipe/wooden strip batten/wooden casing an capping/G.I. wire/trenches (rate for cables only):-				
		c) 450/750 volts, PVC insulated				
		vii) 16 mm sq (7/0.064")	250	Rft	265.50	66,375
Total Amount MRS Items						171,038
MRS: (Percentage) % _____ Below / Above						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)					
BILL OF QUANTITIES					
Bill No. 3.1.2: ELECTRICAL WORKS - MARKAZ-E-AAB (12,000 LTR) (Non-MRS Items)					
Sr. No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	IMPORTANT NOTES (Applicable to all Electrical Items)				
	All electrical items given below shall be read in conjunction with parts of the Specifications and electrical drawings except otherwise indicated.				
	The Electrical Works include design, supply, transportation, installation, testing and commissioning of the following items of works as mentioned in this BOQ (unless specifically stated otherwise) including all material, labour, tools, accessories, related civil works, etc., as required for proper completion of each item as per specifications unless otherwise mentioned. (Any necessary material not mentioned in specifications, electrical drawings and here in this BOQ required for proper installation, testing and commissioning of equipment and materials shall be included in BOQ rates.				
1.0	LIGHTING FIXTURES & FANS				
	Following LED Luminaries of suitable wattage and Fans make Philips, GE & Pierlite, Royal, Pak, GFC, SK or approved equivalent suitable for the project requirements. Contractor to submit lighting design calculation to determine the adequacy of the wattage and should adjust the number of LEDs/wattage as per project lighting requirements. The fitting shall be approved by the Engineer.				
1.1	Light Fixture Type LED Downlighter, 18W, complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	7		
1.2	Light Fixture Type LED Wall Bracket, 12W, complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	5		
1.3	Wall bracket fan 18" sweep capacitor type, copper winding complete with all required accessories etc. The fitting shall be approved by the Engineer.	Each	1.0		
2.0	PVC PIPES				
2.1(a)	PVC pipe/conduit Class-B 100 mm dia with accessories suitable for laying multi-core cables	Rft.	170		
2.1(b)	PVC pipe/conduit Class-D 100 mm dia with accessories suitable for laying multi-core cables	Rft.	40		
3.0	LOW VOLTAGE ELECTRICAL POWER CABLES				
3.1	Supply, installation, testing, commissioning and termination of following sizes of PVC insulated 600/1000 Voltage grade unarmoured Copper cables laid direct in ground, pulled in PVC pipe already laid, on surface of wall or cable trays etc including all accessories as required complete in all respects (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing)				
a)	2 core 16 mm ²	Rft.	250		
4.0	EARTHING SYSTEM				
	Supply, installation, testing and commissioning of following items for Earthing system for grounding of the electrical installation with all allied accessories as required complete in all respects.				
4.1	Providing and fixing of copper deposited steel rod earth point including all accessories and civil works complete in all respects as required and shown in drawing.	Each	2		

Bill No. 3.1.2: ELECTRICAL WORKS - MARKAZ-E-AAB (12,000 LTR) (Non-MRS Items)					
Sr. No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
5.0	LV DISTRIBUTION BOARDS				
5.1	Supply, Installation, testing and commissioning of following Distribution Boards with 14/16 SWG sheet steel housing (14 SWG for Floor Standing & 16 SWG for Wall Mounted) with approved colour and having specified circuit breakers, CTs, VTs, selector switches, push buttons, LED indication lights, as shown on drawings and mentioned below cubicle with electrolytic copper bus bar with electrical grade PVC mountings 3 for each, nuts, bolts and washers, control MCB etc. with all allied accessories complete in all respects as required.				
	DB - Markaz AAB (12000 ltr)	Each	1		
	MATERIAL				
	- 01 No. Incoming 32 Amp MCB, DP, RC= 10kA				
	- 02 Nos. Outgoing 10 Amp MCB, SP, RC=10 kA				
	- 01 No. Outgoing 20 Amp MCB, SP, RC=10 kA				
	- 02 Nos. Outgoing 10/20 Amp (Spare) MCB, SP, RC= 10 kA				
	Indication lights, ammeter with selector switch, voltmeter with selector switch, Panel box SWG 16 powder coated RAL colour 7032, IP class 44 and with all accessories.				
	Total Cost for N-MRS				
TOTAL MRS + NON-MRS					

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

Bill No. 3.1.3: Solar PV Solution for Markaz-E-Aab(12,000 Litres)

Sr. No.	Item	Description	Unit	Qty.	Rate (Rs.)	Total Cost (Rs.)
1	Solar PV Modules	· IEC 61215 Certified	Per Watt STC	2,000		
		· Application/ Safety Class II				
		· A Grade, Half Cut Cell Mono-PERC				
		· Tier 1 Manufacturer for Q3/Q4 of 2021				
		· 500W or higher with positive tolerance only				
		· 20% or higher module efficiency				
		· 25 Year Linear Performance Warranty				
		· 12 Year Material and Workmanship Warranty				
		· Power Output after 25 Years \geq 85%				
		· PID Resistant				
		· Power Loss Coefficient of $-0.39\%/^{\circ}\text{C}$ or lesser				
		· Barcode Identification				
		· Efficiency at $200 \text{ W/m}^2 \geq 96\%$ of STC				
		- IP 65 Rated Junction Boxes, dust and vermin proof with Copper Bus Bar Terminals, EPDM rubber gasket, MOVs and Reverse Blocking Diodes				
· Compliance with S.R.O 604						
2	Mounting Structure, Civil Works and Foundations etc.	- UV resistant, Galvanized Steel Frame of Gauge 12 with atleast 85 micron or thicker zinc coating	Per Watt Solar Panel	2,000		
		- Tilt: 25° or As per site requirement				
		- Anodized Aluminum Frames if proposed shall be preferred				
		- Spacing between rows should be more than 1.5 times the height of mounting structure				
		- Shall Withstand Wind speed of 150 km/h				
		- Galvanic Isolation				
		- Site Specific Design				
		- For Rooftops, Civil Works without Roof Penetrations				
- Complete Civil Works						
3	VFD and Associated Sensors	- Power Options for Grid, Generator and Solar PV	Per Watt VFD	2500		
		- Auto Start Stop with Any Input Power				
		- Self Diagnostic and Self Protection				
		· Dry Run Protection				
		· Digital Controls with Complete Protective Functions				
		· IP65				
		· Ground Fault Monitoring				
		· AC Short Circuit Protection				
		· Under/Over Voltage and Over Current Protection				
		· Reversecurrent Blocking				
		· -10 to $+40$ Degree Celcius				
		· Remote Monitoring and MPPT				
		· Water Level Detection				
- Pressure Level Detection						
· AC and DC Rated Voltage matching with the motor						

Bill No. 3.1.3: Solar PV Solution for Markaz-E-Aab(12,000 Litres)

Sr. No.	Item	Description	Unit	Qty.	Rate (Rs.)	Total Cost (Rs.)
4	DC Cables, AC Cables, Earthing Wires, Conduits, Connectors, Cable Ties etc.	DC and AC Cables:	Job			
		- 99.99% Copper Cables				
		- Shall be sized such that 30% spare capacity remains at operating temperatures of 90 °C				
		- UL 4703 compliant Low Smoke Halogen Free				
		- BS 6004 and BS 7644 Compliant				
		- Conduits shall have 30% or higher spare capacity				
		- Trenching and all Civil Works				
		- Seamless Terminations				
		- Perforated Cable Trays				
		- Avoid Direct Sunlight and Direct Clamping of Cables				
		- Should not be physically accessible for routine works				
		- Earthing and Lightning Protection as per Electricity Act of Pakistan				
		- Labeling of all strings/ equipment shall be mandatory				
- UPVC/Corrugated PVC Pipes and Cable Trays						
5	Breakers, Surge Arrester, Combiner Boxes etc.	· Circuit Breakers	Lot			
		- Protection Devices				
		· Separate DC and AC earthing each with 3 Ohms or lesser resistance				
		· Non-Isolated Lightning Arrestors				
		· Protection against lightning currents				
- IP 65 Rated Cabinets						
6	Transportation, Installation, Lab Testing and Commissioning Costs	· Delivery, Installation and Testing of all equipment delivered against the P.O complete works in all respects	Job, 15% of 1 to 5			
Total						

**PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER
BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR
(CLUSTER # 06)**

BILL OF QUANTITIES

MARKAZ-E-AAB (12,000 Litres Capacity)

Bill No. 3.1.4: Water Supply & Drainage (Internal Plumbing)

Item No.	Ref. MRS, 2nd Bi-annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
	Chap. / Item No					
I		MRS ITEMS				
1.0		PLUMBING FIXTURES				
1.1	19/27(ii)	Providing and fixing chromium plated bib cock :1.5 cm (½")	No.	15.00	1,639.20	24,588
1.2	19-47.	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi / waste pipe make of dadex / Popular / Beta / BBJ plain / socket ended conforming to code EN 1401 of specified SDR (StandardDimensionRatio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		i) 3" i/d (82mm)	Rft.	20.00	174.85	3,497
1.3	19-49 b (i)	Providing and fixing uPVC Floor Trap of approved quality including PVC grating and cover & P Trap.	No.	4.00	1,302.00	5,208
1.4	23-45	Providing and fixing CP heavy duty brass Ball valve with CP handle of specified diameter made of Faisal / Sonex / Master best quality or equivalent complete in all respect as approved and directed by the Engineer Incharge.				
		i) 50 mm O.D	No.	5.00	2,395.20	11,976
1.5	23-42	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE-100)working presure pipe, Beta/ Dadex/ Popular/ IIL or equivalent including the cost of specials, intrenches, as approved & directed by the engineer incharge, complete in all respects. PN-8 (SDR-21)				
		50 mm Dia	P.Rft	55.00	98.15	5,398
Total Amount (MRS Items)						50,667
MRS: (Percentage) % _____ Below / Above						
II		NON MRS ITEMS				
2.1	NS	Providing, fixing and testing horizontal centrifugal pump of capacity 35 US gpm and head 25 ft material SS 304 GRUNDFOS HUNGARY, with accessories complete in all respect.	No.	1.00		
2.2	NS	Providing, transportation and fixing of super tuff water tank size 1500 gallons (vertical) in black colour (LLDPR) complete in all respect.	Each	2.00		
Sub total Non-MRS:						

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BILL OF QUANTITIES

MARKAZ-E-AAB (12,000 Litres Capacity)

Bill No. 3.1.4: Water Supply & Drainage (Internal Plumbing)

Item No.	Ref. MRS, 2nd Bi-annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
	Chap. / Item No					
III		DRAINAGE				
3.1	NS	Providing and fixing <i>angle drain for 3" dia</i> rainwater pipe with brass top complete in all respects.	No.	1.00		
3.2	NS	Providing and installation of UV Disinfection (0.25 cusec)	No.	1.00		
3.3	NS	Providing and installing Ultrasonic Water Meter, RS485/M-bus/PulseOutput, Ductile Iron body, R160, IP67, 1.6MPa, Could water T50, 8-10 years battery life span, Positive and negative two- way metering, Single Path for all size, complete in all respect as per instructions of the Engineer Incharge.				
		(90mm) o/d	No	1.00		
		Sub total Drainage:				
		Total Cost of Internal Plumbing				

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(CLUSTER # 06)**

BILL OF QUANTITIES

MARKAZ-E-AAB (12,000 Litres Capacity)

Bill No. 3.1.4: Water Supply & Drainage (External Plumbing)

Item No.	Ref. MRS, 2nd Bi-annual 2024 Chap. / Item No	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
I		MRS ITEMS				
1.0		WATER SUPPLY				
1.1	3/44	Excavation of trenches in all kinds of soil except cutting rock for Water Supply pipelines upto 5 ft depth from ground level including trimming, dressing sides, leveling the beds of trenches to correct grade and cutting pits for joints complete in all respect.	1000 Cft.	0.19	11,293.90	2,118
1.2	10/3	Supplying & filling sand under floor ; or plugging in walls.	1000 Cft.	0.21	3,987.00	822
		Sub total: Water Supply				2,940
2.0		DRAINAGE				
2.1	19/36	Providing and fitting, 4" gully trap including cement concrete ,cost of PVC grating (6" x 6") and masonry chamber (12" x 12").	No.	2.00	1,587.10	3,174
2.2		Earthwork excavation in open cutting for sewers and manholes as shown in drawings including shuttering and timbering, dressing to correct section and dimensions according to templates and levels and removing surface water in all types of soil except shingle gravel and rock upto:				
	3/42 (i)	i) 0 to 7 ft	1000 Cft.	0.09	17,352.30	1,562
2.3	3/13 (a)	Rehandling of earthwork , lead upto a single throw of kassi, phaorah or shovel.	1000 Cft.	0.07	3,762.00	271
2.4	3/24 (a)	Mixing moistening earth to optimum moisture content in layers for compaction etc., complete	1000 Cft.	0.07	1,777.25	128
2.5	3/24 (b-ii)	Compaction of earthwork by rolling with animal driven roller/hand rammed for ordinary soil.	1000 Cft.	0.07	2,633.40	190
2.6	10/3	Supplying and filling sand under or plugging in wells.	100 Cft	0.10	3,987.00	395

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BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR
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BILL OF QUANTITIES

MARKAZ-E-AAB (12,000 Litres Capacity)

Bill No. 3.1.4: Water Supply & Drainage (External Plumbing)

Item No.	Ref. MRS, 2nd Bi-annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
	Chap. / Item No					
2.7	19-47	Providing, fixing, testing and commissioning of μ -PVC (Unplasticized polyvinyl Chloride) Nikasi / waste pipe make of dadex / Popular / Beta / BBJ plain / socket ended conforming to code EN 1401 of specified SDR (StandardDimensionRatio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		i) 4" i/d (110mm)	Rft.	60.00	274.05	16,443
2.8	19-49 a (i)	Providing and fixing uPVC P-Trap of approved quality.	No.	2.00	1,354.80	2,710
	23/42	Providing, laying, cutting, jointing, testing and disinfecting High Density Polyethylene Pipe (HDPE-100)working presure pipe, Beta/ Dadex/ Popular/ IIL or equivalent including the cost of specials, intrenches, as approved & directed by the engineer incharge, complete in all respects. PN-8 (SDR-21)				
		i) 50 mm	Rft.	25.00	98.15	2,454
Sub total: Drainage						27,326
Total Amount MRS Items						30,266
MRS: (Percentage) % _____ Below / Above						
Total Cost (Internal + External) Plumbing						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)						
BILL OF QUANTITIES						
MARKAZ-E-AAB (24000 Litres Capacity)						
Bill No. 3.2.1: Foundation Pad+Pre Fab Building						
Item No.	2nd Bi Annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
I		MRS ITEMS				
1.0	3/21a(ii)	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m)	%CFT	0.74	10,794.00	8,015
2.0	10/4.	Providing, laying, watering and ramming brick ballast 1½" to 2"(40 mm to 50 mm) gauge mixed with 25% sand, for floor foundation, complete in all respects.	100 Cft	2.97	12,801.20	38,020
3.0	6/5.f	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): 1:2:4	100 Cft	5.94	47,347.10	281242
4.0	13/9.	Bitumen coating to plastered or cement concrete surface:- i) 20 lbs. per 100 Sft. (9.07 Kg per Sq.m)	100 Sft	0.98	2,641.60	2,589
5.0	3/13.	Rehandling of earthwork a) Lead upto a single throw of Kassi, phaorah or shovel	100 Cft	0.15	3,762.00	559
6.0	7/4 (i)	Pacca brick work in foundation and plinth in:- (1:4)	100 Cft	0.74	35,807.20	26,318
Total Amount MRS Items						
MRS: (Percentage) %			Below / Above			
7.0	NS	Supply and Installation of pre fab building including structure, columns and trusses & purlins excluding floor	Per Unit	1.00		
Grand Total For Foundation Pad + Pre fab						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

Bill No. 3.2.2: ELECTRICAL WORKS - MARKAZ-E-AAB (24000 LTR)

Sr. No.	M.R.S (Item/Chap)	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
1.0		WIRING AND ACCESSORIES				
1.1	10(c-ii)/24, 3(iii)/24, 17(i)/24, 35(ii)/24	Wiring of light or fan point from switch to the point with 3x1.5 mm ² (P+N+E) PVC insulated single core cables in 25mm dia 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.	6	Each	5,740	34,440
1.2	10(c-iii)/24, 3(iii)/24	Circuit wiring from MCBs board to gang switches to another gang switch board with 3x 2.5 mm ² (P+N+E) PVC insulated single core cables in appropriate size dia 25mm PVC conduit.	3	Each	12,550	37,650
1.3	10(c-ii)/24, 3(iii)/24	The same as item No. 1.1 but from one light point to another light point.	7	Each	3,109	21,763
1.4	10(c-iv)/24, 17(ii)/24, 39(i)/24, 3(iii)/24	10 Amp 2/3 pin universal flush mounting switch socket/ Wall Mounted unit wired with 3x4mm ² (P+N+E) single core cable from DB circuit in dia 25mm PVC concealed conduits or trunking including all conduit accessories as required complete in all respect.	1	Each	11,888	11,888
1.5	10(c-iii)/24, 17(ii)/24, 39(i)/24, 3(iii)/24	Same as item 1.4 but unit wired with 3x2.5mm ² (P+N+E) single core cable light plug to another light plug (looping) from nearest circuit available in dia 25 mm PVC concealed conduits or trunking including all conduit accessories as required complete in all respect.	1	Each	6,960	6,960
1.6	10(c-v)/24, 3(iii)/24, 39(ii)/24, 17(ii)/24	15/20A, 3-pin flush mounting switch socket unit wired with 1-core 3x6mm ² (P+N+E) wires starting from D.B to socket in dia 25mm PVC concealed conduits and accessories as required complete in all respect.	1	Each	17,212	17,212
1.7	10/24	Supply and erection of single core PVC insulated copper conductor cables, in pre-laid PVC pipe/M.S. conduit/G.I pipe/wooden strip batten/wooden casing and capping/G.I. wire/trenches (rate for cables only):-				
		c) 450/750 volts, PVC insulated:				
		vii) 16 mm sq (7/0.064")	250	Rft	266	66,375
Total Amount MRS Items						196,288
MRS: (Percentage) % _____ Below / Above						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)					
BILL OF QUANTITIES (N-MRS)					
Bill No. 3.2.2: ELECTRICAL WORKS - MARKAZ-E-AAB (24000 LTR)					
Sr. No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	IMPORTANT NOTES (Applicable to all Electrical Items)				
	All electrical items given below shall be read in conjunction with parts of the Specifications and electrical drawings except otherwise indicated.				
	The Electrical Works include design, supply, transportation, installation, testing and commissioning of the following items of works as mentioned in this BOQ (unless specifically stated otherwise) including all material, labour, tools, accessories, related civil works, etc., as required for proper completion of each item as per specifications unless otherwise mentioned. (Any necessary material not mentioned in specifications, electrical drawings and here in this BOQ required for proper installation, testing and commissioning of equipment and materials shall be included in BOQ rates.				
1.0	<u>LIGHTING FIXTURES & FANS</u>				
	Following LED Luminaries of suitable wattage and Fans make Philips, GE & Pierlite, Royal, Pak, GFC, SK or approved equivalent suitable for the project requirements. Contractor to submit lighting design calculation to determine the adequacy of the wattage and should adjust the number of LEDs/wattage as per project lighting requirements. The fitting shall be approved by the Engineer.				
1.1	Light Fixture Type LED Downlighter, 24W, complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	7		
1.2	Light Fixture Type LED Wall Bracket, 10W, complete in all respect with allied accessories. The fitting shall be approved by the Engineer.	Each	5		
1.3	Wall bracket fan 18" sweep capacitor type, copper winding complete with all required accessories etc. The fitting shall be approved by the Engineer.	Each	2		
2.0	<u>PVC PIPES</u>				
2.1(a)	PVC pipe/conduit Class-B 100 mm dia with accessories suitable for laying multi-core cables	Rft.	170		
2.1(b)	PVC pipe/conduit Class-D 100 mm dia with accessories suitable for laying multi-core cables	Rft.	40		
3.0	<u>LOW VOLTAGE ELECTRICAL POWER CABLES</u>				
3.1	Supply, installation, testing, commissioning and termination of following sizes of PVC insulated 600/1000 Voltage grade unarmoured Copper cables laid direct in ground, pulled in PVC pipe already laid, on surface of wall or cable trays etc including all accessories as required complete in all respects (Imported copper shall be used. Verified documentary evidence for source of copper & PVC shall be furnished prior to manufacturing)				
a)	2 core 16 mm ²	Rft.	250		

4.0	<u>EARTHING SYSTEM</u>				
	Supply, installation, testing and commissioning of following items for Earthing system for grounding of the electrical installation with all allied accessories as required complete in all respects.				
4.1	Providing and fixing of copper deposited steel rod earth point including all accessories and civil works complete in all respects as required and shown in drawing.	Each	2		
5.0	<u>LV DISTRIBUTION BOARDS</u>				
5.1	Supply, Installation, testing and commissioning of following Distribution Boards with 14/16 SWG sheet steel housing (14 SWG for Floor Standing & 16 SWG for Wall Mounted) with approved colour and having specified circuit breakers, CTs, VTs, selector switches, push buttons, LED indication lights, as shown on drawings and mentioned below cubicle with electrolytic copper bus bar with electrical grade PVC mountings 3 for each, nuts, bolts and washers, control MCB etc. with all allied accessories complete in all respects as required.				
	DB - Markaz AAB (24000 ltr)	Each	1		
	MATERIAL				
	- 01 No. Incoming 40 Amp MCB, DP, RC= 10kA				
	- 03 Nos. Outgoing 10 Amp MCB, SP, RC=10 kA				
	- 01 No. Outgoing 20 Amp MCB, SP, RC=10 kA				
	- 02 No. Outgoing 10/20 Amp (Spare) MCB, SP, RC= 10 kA				
	- Indication lights, ammeter with selector switch, voltmeter with selector switch, Panel box SWG 16 powder coated RAL colour 7032, IP class 44 and with all accessories.				
	Total Cost for N-MRS				
	TOTAL MRS + NON-MRS				

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

Bill No. 3.2.3: Solar PV Solution for Markaz-E-Aab(24,000 Litres)

Sr. No.	Item	Description	Unit	Qty.	Rate (Rs.)	Total Cost (Rs.)
1	Solar PV Modules	<ul style="list-style-type: none"> · IEC 61215 Certified · Application/ Safety Class II · A Grade, Half Cut Cell Mono-PERC · Tier 1 Manufacturer for Q3/Q4 of 2021 · 500W or higher with positive tolerance only · 20% or higher module efficiency · 25 Year Linear Performance Warranty · 12 Year Material and Workmanship Warranty · Power Output after 25 Years \geq 85% · PID Resistant · Power Loss Coefficient of $-0.39\%/^{\circ}\text{C}$ or lesser · Barcode Identification · Efficiency at $200 \text{ W/m}^2 > 96\%$ of STC - IP 65 Rated Junction Boxes, dust and vermin proof with Copper Bus Bar Terminals, EPDM rubber gasket, MOVs and Reverse Blocking Diodes · Compliance with S.R.O 604 	Per Watt STC	2,000		
2	Mounting Structure, Civil Works and Foundations etc.	<ul style="list-style-type: none"> - UV resistant, Galvanized Steel Frame of Gauge 12 with atleast 85 micron or thicker zinc coating - Tilt: 25° or As per site requirement - Anodized Aluminum Frames if proposed shall be preferred - Spacing between rows should be more than 1.5 times the height of mounting structure - Shall Withstand Wind speed of 150 km/h - Galvanic Isolation - Site Specific Design - For Rooftops, Civil Works without Roof Penetrations - Complete Civil Works 	Per Watt Solar Panel	2,000		
3	VFD and Associated Sensors	<ul style="list-style-type: none"> - Power Options for Grid, Generator and Solar PV - Auto Start Stop with Any Input Power - Self Diagnostic and Self Protection · Dry Run Protection · Digital Controls with Complete Protective Functions · IP65 · Ground Fault Monitoring · AC Short Circuit Protection · Under/Over Voltage and Over Current Protection · Reversecurrent Blocking · -10 to +40 Degree Celcius · Remote Monitoring and MPPT · Water Level Detection - Pressure Level Detection · AC and DC Rated Voltage matching with the motor 	Per Watt VFD	2500		
4	DC Cables, AC Cables, Earthing Wires, Conduits, Connectors, Cable Ties etc.	<p>DC and AC Cables:</p> <ul style="list-style-type: none"> - 99.99% Copper Cables - Shall be sized such that 30% spare capacity remains at operating temperatures of 90 °C - UL 4703 compliant Low Smoke Halogen Free - BS 6004 and BS 7644 Compliant - Conduits shall have 30% or higher spare capacity - Trenching and all Civil Works - Seamless Terminations - Perforated Cable Trays - Avoid Direct Sunlight and Direct Clamping of Cables 	Job			

Bill No. 3.2.3: Solar PV Solution for Markaz-E-Aab(24,000 Litres)

Sr. No.	Item	Description	Unit	Qty.	Rate (Rs.)	Total Cost (Rs.)
		- Should not be physically accessible for routine works				
		- Earthing and Lightning Protection as per Electricity Act of Pakistan				
		- Labeling of all strings/ equipment shall be mandatory				
		- UPVC/Corrugated PVC Pipes and Cable Trays				
5	Breakers, Surge Arrester, Combiner Boxes etc.	- Circuit Breakers				
		- Protection Devices				
		- Separate DC and AC earthing each with 3 Ohms or lesser resistance				
		- Non-Isolated Lightning Arrestors				
		- Protection against lightning currents				
		- IP 65 Rated Cabinets				
6	Transportation, Installation, Lab Testing and Commissioning Costs	- Delivery, Installation and Testing of all equipment delivered against the P.O complete works in all respects				
			Job, 15% of 1 to 5			
Total						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

MARKAZ-E-AAB (24,000 Litres Capacity)

Bill No. 3.2.4: Water Supply & Drainage (Internal Plumbing)

Item No.	Ref. MRS, 2nd Bi-Annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
	Chap. / Item No					
I		MRS ITEMS				
		PLUMBING FIXTURES				
1.0	19/27(ii)	Providing and fixing chromium plated bib cock : 1.5 cm (½")	No.	15.00	1,639.20	24,588
2.0	19-47	Providing, fixing, testing and commissioning of μ-PVC (Unplasticized polyvinyl Chloride) Nikasi / waste pipe make of dadex / Popular / Beta / BBJ 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.				
		i) 3" i/d (85mm)	Rft.	20.00	174.85	3,497
3.0	19-49 a (i)	Providing and fixing uPVC Floor Trap of approved quality including PVC grating and cover & P Trap.	No.	4.00	1,354.80	5,419
4.0	23-46	Providing and fixing CP heavy duty brass Ball valve with CP handle of specified diameter made of Faisal / Sonex / Master best quality or equivalent complete in all respect as approved and directed by the Engineer Incharge.				
		i) 50 mm O.D	No.	5.00	2,395.20	11,976
Total Amount MRS Items						45,480
MRS: (Percentage) % _____ Below / Above						
II		NON MRS ITEMS				
5.0	NS	Providing, fixing, jointing and testing Polypropylene Pipes (PE 100) of class PN-8 of approved manufacturer for cold water including fittings and specials, complete in all respect.				
		i) 50 mm O.D	Rft.	66.00		

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

BILL OF QUANTITIES

MARKAZ-E-AAB (24,000 Litres Capacity)

Bill No. 3.2.4: Water Supply & Drainage (Internal Plumbing)

Item No.	Ref. MRS, 2nd Bi-Annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
	Chap. / Item No					
6.0	NS	Providing, fixing and testing horizontal centrifugal pump of capacity 35 US gpm and head 25 ft coupled with electric motor, with accessories complete in all respect.	No.	1.00		
7.0	NS	Providing, transportation and fixing of super tuff water tank size 1500 gallons (vertical) in black colour (LLDPR) complete in all respect.	Each	4.00		
Sub total Non-MRS:						
III		DRAINAGE				
8.0	NS	Providing and fixing angle drain for 3" dia rainwater pipe with brass top complete in all respects.	No.	1.00		
9.0	NS	Providing and installation of UV Disinfection (0.25 cusec)	No.	1.00		
10	NS	Providing and installing Ultrasonic Water Meter, RS485/M-bus/PulseOutput, Ductile Iron body, R160, IP67, 1.6MPa, Could water T50, 8-10 years battery life span, Positive and negative two- way metering, Single Path for all size, complete in all respect as per instructions of the Engineer Incharge.				
		(90mm) o/d	No	1.00		
Sub total Drainage:						
Total Cost of Internal Plumbing						

PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR (CLUSTER # 06)

ENGINEERING COST ESTIMATE

MARKAZ-E-AAB (24,000 Litres Capacity)

Bill No. 3.2.4: Water Supply & Drainage (External Plumbing)

Item No.	MRS 2nd Bi Annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
	Chap. / Item					
I		MRS ITEMS				
1.0		WATER SUPPLY				
1.1	3/44	Excavation of trenches in all kinds of soil except cutting rock for Water Supply pipelines upto 5 ft depth from ground level including trimming, dressing sides, leveling the beds of trenches to correct grade and cutting pits for joints complete in all respect.	1000 Cft.	0.19	11,293.90	2,118
1.2	10/3	Supplying & filling sand under floor ; or plugging in walls.	1000 Cft.	0.21	3,987.00	822
		Sub total: Water Supply				2,940
2.0		DRAINAGE				
2.1	19/36	Providing and fitting, 4" gully trap including cement concrete ,cost of PVC grating (6" x 6") and masonry chamber (12" x 12").	No.	2.00	1,587.10	3,174
2.2		Earthwork excavation in open cutting for sewers and manholes as shown in drawings including shuttering and timbering, dressing to correct section and dimensions according to templates and levels and removing surface water in all types of soil except shingle gravel and rock upto:				
	3/42 (i)	i) 0 to 7 ft	1000 Cft.	0.09	17,352.30	1,562
2.3	3/13 (a)	Rehandling of earthwork , lead upto a single throw of kassi, phaorah or	1000 Cft.	0.07	3,762.00	271
2.4	3/24 (a)	Mixing moistening earth to optimum moisture content in layers for compaction etc., complete	1000 Cft.	0.07	1,777.25	128
2.5	3/24 (b-ii)	Compaction of earthwork by rolling with animal driven roller/hand rammed for ordinary soil.	1000 Cft.	0.07	2,633.40	190
2.6	10/3	Supplying and filling sand under or pluggin	100 Cft	0.10	3987	395

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ENGINEERING COST ESTIMATE

MARKAZ-E-AAB (24,000 Litres Capacity)

Bill No. 3.2.4: Water Supply & Drainage (External Plumbing)

Item No.	MRS 2nd Bi Annual 2024	Description	Unit	Qty	Rate (Rs.)	Amount (Rs.)
	Chap. / Item					
2.7	19-47	Providing, fixing, testing and commissioning of μ -PVC (Unplasticized polyvinyl Chloride) Nikasi / waste pipe make of dadex / Popular / Beta / BBJ plain / socket ended conforming to code EN 1401 of specified SDR (StandardDimensionRatio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		i) 4" i/d (110mm)	Rft.	60.00	274.05	16,443
2.8	19-49 a(i)	Providing and fixing uPVC P-Trap of approved quality.	No.	2.00	1,354.80	2,710
Sub total: Drainage						24,873
Total Amount MRS Items						27,813
MRS: (Percentage) % _____ Below / Above						
II		NON MRS ITEMS				
1.0		WATER SUPPLY				
1.1	NS	Providing, fixing, jointing and testing Polypropylene Pipes (PE 100) of class PN-8 of approved manufacturer for cold water including fittings and specials, complete in all respect.				
		i) 50 mm	Rft.	25.00		
Sub total: Water Supply Non-MRS						
Total Cost of External Plumbing						
TOTAL INTERNAL + EXTERNAL						

**PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH
CLUSTER BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT
RAJANPUR (CLUSTER # 06)**

BILL OF QUANTITIES

Bill No. 4.1 : Electrical Resistivity Survey

Sr.No	Discription	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
1	Electrical Resistivity Survey (VES) by Schlumberger electrode configuration according to the ASTM Standard D 6431-99, interpretation by inverse modeling techniques.Compilation and submission of report (2 sets)	Job	3		
Total					

**PROVISION OF SAFE DRINKING WATER TO 39,550 FLOOD AFFECTED PEOPLE THROUGH CLUSTER
BASED COMMUNITY WATER SUPPLY SYSTEM IN TEHSIL RAJANPUR, DISTRICT RAJANPUR
(CLUSTER # 06)**

BILL OF QUANTITIES

Bill No. 4:- O&M for 3 Month

Sr.No	Discription	Unit	No.	Per Month	3 Months
1	Test Reports from approved laboratories	No	14		
2	Sub Engineer (Mech/Civil/Chemical)	Man Months	3		
3	Operator	Man Months	6		
4	Mechanic / Electrician / Pipe Fitter	Month	6		
5	Chowkidar	Man Months	3		
6	Sodium hypochlorite (NaClO)	ltr	454		
				Total	

* Based on 8 hrs Operation