

MEASUREMENT SHEET Construction of 04 Nos Rain Water harvesting recharge wells with bore along with 01 no Storage pond at Jalandhar sub-station.

Sl. No	DSR 2023 Item No.	Item Description	Unit	No of pits	No's	Length	Width	Height	Quantity	Remark
1	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.								
a	2.6.1	All types of soils								
		Stone Packing portion - Main RWH Chamber	Cum	4	1	1.334	1.334	1	7.118	
		Gravel Packing Portion - Main RWH Chamber	Cum	4	1	2.001	2.001	1	16.016	
		Boulder Packing Portion - Main RWH Chamber	Cum	4	1	2.667	2.667	1	28.452	
		Main RWH Chamber - Main RWH Chamber	Cum	4	1	5.35	5.35	4.5	515.205	
		Additional Drain required (Section C-C)	Cum	4	1	15	1.97	1.1	130.020	
		Storage Tank/Open Pond	Cum	1	1	30.25	20.25	1.1	673.819	
				Total Quantity					1370.630	
2	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and for all lift.								
		Main Chamber of RWH (Long Walls)	Cum	4	2	4.6	0.375	4.5	62.100	
		Main Chamber of RWH (Short Walls)	Cum	4	2	3.85	0.375	4.5	51.975	
		(-) Drain joining the RWH Chamber	Cum	-4	1	1.29	0.375	1.10	-2.129	
		Additional Drain (Section C-C) Step-01	Cum	4	2	15	0.15	0.075	1.350	
		Additional Drain (Section C-C) Step-02	Cum	4	2	15	0.225	0.3	8.100	
		Additional Drain (Section C-C) Step-03	Cum	4	2	15	0.34	0.3	12.240	
		Additional Drain (Section C-C) Step-04	Cum	4	2	15	0.455	0.425	23.205	
		Main Chamber of Storage Tank (Long Walls)	Cum	1	2	30.5	0.25	1.1	16.775	
		Main Chamber of Storage Tank (Short Walls)	Cum	1	2	20	0.25	1.1	11.000	
				Total Quantity					184.617	
3	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :								

a	4.1.3	1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)								
		Additional Drain (Section C-C)	cum	4	1	15	0.6	0.025	0.900	
				Total Quantity					0.900	
b	4.1.8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :								
		1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)								
		Main Chamber of RWH (Long Walls)	cum	4	2	4.75	1.45	0.075	4.133	
		Main Chamber of RWH (Short Walls)	cum	4	2	1.85	1.45	0.075	1.610	
		Additional Drain	cum	4	1	15	1.67	0.075	7.515	
		Main Chamber of Storage Tank (Long Walls)	cum	1	2	30.2	0.43	0.100	2.597	
		Main Chamber of Storage Tank (Short Walls)	cum	1	2	19.34	0.43	0.100	1.663	
				Total Quantity					17.517	
4	4.2	Providing and laying cement concrete in retaining walls,return walls (any thickness) including attached plaster , columns , piers, abutments ,pillars ,posts,struts,buttresses , string or laacing courses ,parapets, coping , bed blocks,anchor blocks , plain window sills,fillets ,sunken floor etc up to floor five level , excluding the cost of cenetering,shuttering and finshing								
a	4.2.3	1:2:4 (1 Cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)								
		Drain joining the RWH Chamber	cum	4	1	1	0.3	0.100	0.120	
				Total Quantity					0.120	
5	5.1	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering ,shuttering,finshing and reinforcement - All works up to plinth level.								
a	5.1.2	1:1.5:3 (1 Cement : 1.5 coarse sand (zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources)								
		Main Chamber of RWH (Long Wall Footing)	cum	4	2	4.6	1.3	0.250	11.960	
		Main Chamber of RWH (Short Wall Footing)	cum	4	2	2.0	1.3	0.250	5.200	
		Main Chamber of RWH (Long Wall Column)	cum	4	2	3.6	0.3	4.250	36.720	

		Main Chamber of RWH (Short Wall Column)	cum	4	2	3.3	0.3	4.250	33.660	
		(-) Drain joining the RWH Chamber	Cum	-4	1	1.29	0.300	1.20	-1.858	
				Total Quantity					85.682	
6	MDSR 5.12	Providing, hoisting and fixing at or near ground level precast reinforced cement concrete work in string courses, bands, copings, bed plates, anchor blocks, plain window sills, trench cover slabs etc and the like, including the cost of required centering, shuttering but , excluding cost of reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).	cum							
		Slab Size 1275 x 300 mm of thickness 75 mm	cum	8	11	1.275	0.30	0.075	2.525	
		Slab Size 1050 x 300 mm of thickness 75 mm	cum	4	11	1.05	0.30	0.075	1.040	
				Total Quantity					3.564	
7	5.9	Centering and shuttering including strutting ,propping etc and removal of form for								
a	5.9.1	Foundations,footings,bases of columns etc for mass concrete								
		Footing sides	Sqm	4	1	26.4		0.25	26.400	
				Total Quantity					26.400	
b	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and stringing courses etc.								
		Walls	Sqm	4	1	26.4		4.25	448.800	
		(-) Drain joining the RWH Chamber	Cum	-4	1	1.29		1.20	-6.192	
				Total Quantity					442.608	
8	5.22	Steel reinforcement for RCC Work including straghtening,cutting,bending,placing in position and binding all complete upto plinth level.								
a	5.22.6	Thermo-mechanically treated bars of grade Fe-500D or more	Kgs							
		Rain Water harvesting as per BBS	Kgs	4	1646.15				6584.600	
		Slab Size 1275 x 300 mm of thickness 75 mm	Kgs	8	11	3.795	0.617	Kg/M	206.053	
			Kgs	8	12	3.480	0.617	Kg/M	206.127	
		Slab Size 1050 x 300 mm of thickness 75 mm	Kgs	4	11	3.090	0.617	Kg/M	83.887	
			Kgs	4	11	3.190	0.617	Kg/M	86.602	
				Total Quantity					7167.270	
9	6.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:								
a	6.1.2	Cement mortar 1:6 (1 cement : 6 coarse sand)								
		Additional Drain (Section C-C) Step-01	cum	4	2	15	0.46	0.300	16.560	

		Additional Drain (Section C-C) Step-02	cum	4	2	15	0.345	0.300	12.420	
		Additional Drain (Section C-C) Step-03	cum	4	2	15	0.23	0.600	16.560	
		Main Chamber of Storage Tank (Long Walls)	cum	1	2	30	0.23	1.300	17.940	
		Main Chamber of Storage Tank (Short Walls)	cum	1	2	19.54	0.23	1.300	11.685	
				Total Quantity					75.165	
10	10.1	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting ,fixing in position and applying a priming coat of approved steel primer all complete.								
		ISMB 200 - RWH Chamber	Kgs	4	2	3.6		25.4	731.520	
		ISA 75 X 75 X 6 - RWH Chamber	Kgs	4	2	1.05		6.8	57.120	
		MS Angle 50 x 50 x 5 - Grating	Kgs	4	2	5.16		3.93	162.230	
		MS Square 20 MM - Grating	Kgs	4	10	1.58		3.14	198.448	
		MS Square 20 MM - Grating	Kgs	4	16	1		3.14	200.960	
		MS Rings 12 Dia -Ladder	Kgs	4	60	1.2		0.888	255.744	
		MS Plate 12 mm thick - For IP of ISMB	Kgs	4	4	0.09		94.2	135.648	
		Angle for Slab Size 1275 x 300	cum	8	11	3.13		4.5	1239.480	
		Angle for Slab Size 1050 x 300	cum	4	11	2.68		4.5	530.640	
				Total Quantity					3511.790	
11	12.41	Providing and fixing on wall face unplasticised rigid PVC Rain water pipes confirming to IS : 13592 Type A , including jointing with seal ring confirming to IS :5382 , leaving 10 mm gap for thermal expansion , (i) Single socketed Pipes								
a	12.41.2	110 mm diameter	metre	4	51	0.4			81.600	
				Total Quantity					81.600	
12	13.7	12 mm cement plaster finished with a floating coat of neat cement of mix :								
a	13.7.2	1:4 (1 cement : 4 fine sand)								
		Additional Drain (Section C-C) Step-01	Sqm	4	2	15	1.605		192.600	
				Total Quantity					192.600	
13	13.65	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade								
a	13.65.1	Two or more coats on new work.								
		ISMB 200 - RWH Chamber	Sqm	4	2	3.6		0.8	23.040	
		ISA 75 X 75 X 6 - RWH Chamber	Sqm	4	2	1.05		0.3	2.520	
		MS Angle 50 x 50 x 5 - Grating	Sqm	4	1	5.16		0.2	4.128	
		MS Square 20 MM - Grating	Sqm	4	10	1.58		0.08	5.056	
		MS Square 20 MM - Grating	Sqm	4	16	1		0.08	5.120	

		MS Rings 12 Dia - Ladder	Sqm	4	60	1.2		0.038	10.852	
		MS Plate 12 mm thick - For IP of ISMB	Sqm	4	4	0.09		1	1.440	
				Total Quantity					52.156	
14	23.1.1	Boring/drilling bore well of required for casing/strainer pipe by suitable method prescribed in IS:2800 (part I0, including collecting samples from different strata, preparing and submitting strata chart/bore log, including hire & running charges of all equipment,tools,plants & machineries required for the job,all complete as per direction of Engineer-in-charge,upto 90 metre depth below ground level								
a	23.1.1.1	All types of soils								
		300 mm dia - Main RWH Chamber	metre	4	15				60.000	
		Storage Pond	metre	1	15				15.000	
				Total Quantity					75.000	
15	23.6	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.								
		Gravel Packing Portion in Main chamber of RWH	Cum	4	1	2.001	2.001	1	16.016	
				Total Quantity					16.016	
16	23.8	Gravel Packing in tubewell construction in accordance with IS:4097 including providing gravel fine/medium/Coarse , in required grading & sizes as per actual requirement, all complete as per directions of Engineer-in-charge.								
		Gravel Packing in bore well - Main RWH Chamber	Cum	4	1	3.14	0.0225	20.5	5.793	
		(-) Area occupied by 150 mm Pipe	Cum	-4	1	3.14	0.006	20.5	-1.448	
		Gravel Packing in bore well - Storage Tank	Cum	1	1	3.14	0.0225	28	1.978	
		(-) Area occupied by 150 mm Pipe	Cum	-1	1	3.14	0.006	28	-0.495	
				Total Quantity					5.829	
17	23.13	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of borewell housing/casing pipe, removable as per requirement, all complete for borewell of								
a	23.13.2	150 mm dia-Main RWH Chamber	each	4					2.000	
		150 mm dia-Storage Tank	each	1					1.000	
				Total Quantity					3.000	
18	23.15	Providing and fixing Bail plug/Bottom plug of required dia to the bottom of pipe assembly of tube well as per IS:2800 (Part-1)								

a	23.15.2	150 mm dia-Main RWH Chamber	each	4					4.000	
		150 mm dia-Storage Tank	each	1					1.000	
				Total Quantity					5.000	
19	NS-1	Supplying, filling, spreading & leveling stone boulders of size 200 mm, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.								
		Stone boulder Packing Portion in Main chamber of RWH	Cum	4	1	2.667	2.667	1	28.452	
		Vertical walls around RWH Main chamber (Long Walls)	Cum	4	2	4.6	0.5	4.25	78.200	
		Vertical walls around RWH Main chamber (Short Walls)	Cum	4	2	3.6	0.5	4.25	61.200	
		(-) Drain joining the RWH Chamber	Cum	-4	1	1.29	1.175	0.5	-3.032	
				Total Quantity					164.820	
20	NS-2	Supplying, filling, spreading & leveling stone boulders of size 90-45 mm, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.								
		Stone Packing Portion in Main chamber of RWH	Cum	4	1	1.334	1.334	1	7.118	
				Total Quantity					7.118	
21	NS-3	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC Pipe (ISI Make , 6 kg/m ²) with 25 mm hole at random spacing of 200 c/c , conforming to IS: 12818, including hire & labour charges, fittings & accessories etc all complete, for all depth as per direction of Engineer in charge. 150 mm nominal size dia								
		Main RWH Chamber	metre	4	1	15.6			62.400	
		Storage Tank/Open Pond	metre	1	1	15.6			15.600	
				Total Quantity					78.000	
22	NS-4	Providing & fixing of geosynthetic fibre secured against PVC Pipe								
		Storage tank	sqm	1	0.571		1.1	0.6281	0.628	
				Total Quantity					0.628	