



# Government of Maharashtra

## Solid & Liquid Waste Management (SLWM)

### Design, Drawing and Type Estimates

#### Grey Water Management

**Water Supply and Sanitation Department**

**State Water & Sanitation Mission**

**Swachh Bharat Mission (Gramin)**



## Grey Water Management

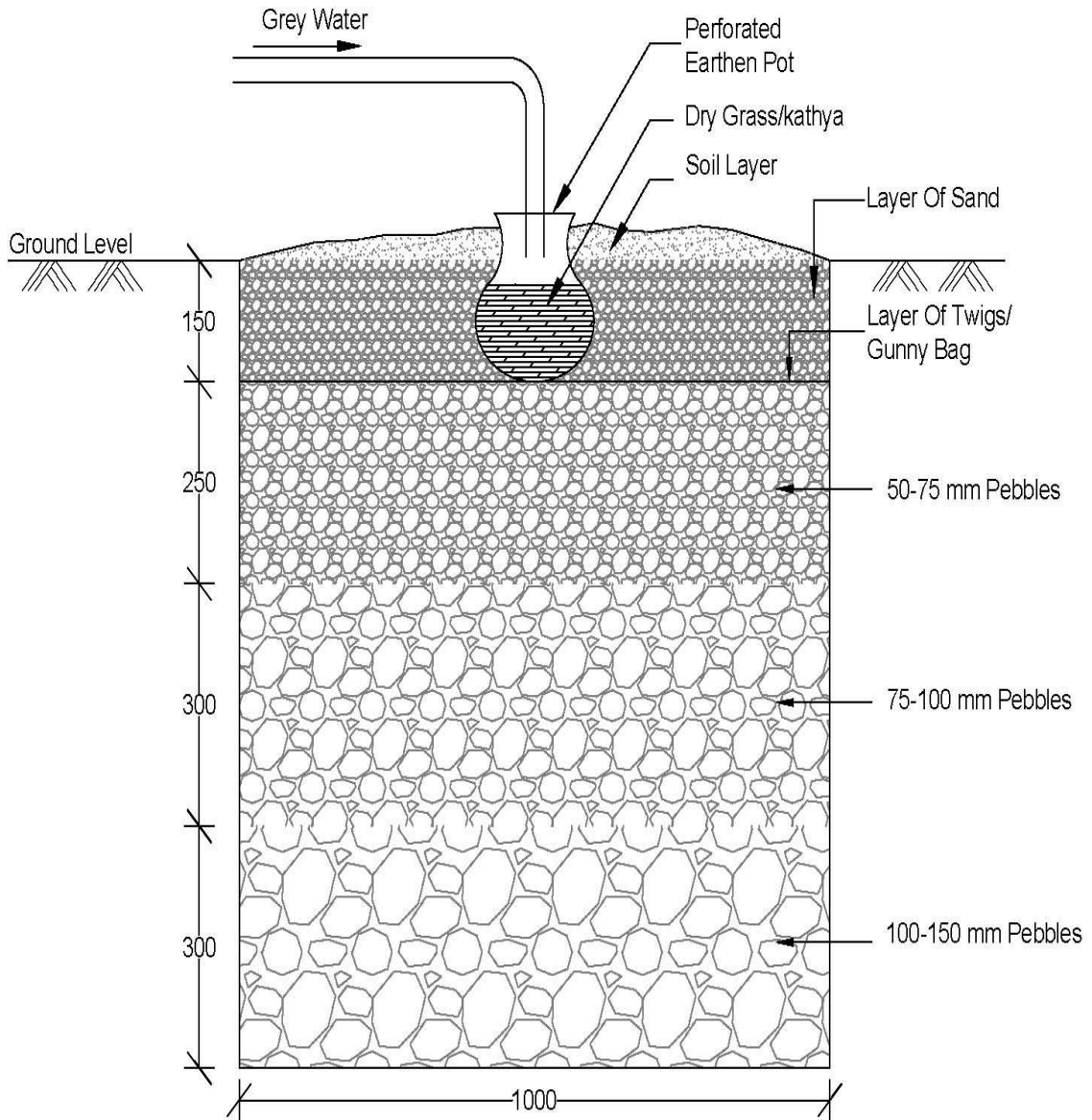
### Design, Drawing and Type Estimates for Grey Water Management

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Name of Work:- CONSTRUCTION OF HOUSEHOLD SOAK PIT					
ABSTRACT					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b>Item No 1. :-</b>			
1.00	Cum	Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)	150.00	Cum	150.00
		Lift 0 to 1.5 M			
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b>Item No 2. :-</b>			
0.85	Cum	Aggregates	900.00	Cum	765.00
		(MJP SSR 2021-22 P NO 13 I No 52 & PWD SSR 2020-21 P NO 415)			
		<b>Item No 3. :-</b>			
0.15	Cum	Coarse Sand	1343.00	Cum	201.45
		(MJP SSR 2021-22 P NO 13 I No 63)			
		<b>Item No 4. :-</b>			
5.00	R. Mtr	Providing P.V.C. pipe 75mm dia.4 kg/cm2 pressure	89.00	R. Mtr	445.00
		(MJP SSR 2021-22 P NO 76)			
		<b>Item No 5. :-</b>			
1.00	No.	Providing PVC Nahani Trap of 75 mm	115.00	No.	115.00
		(PWD SSR 2020-21 P NO 404 I No 19)			
		<b>Item No 6. :-</b>			
1.00	No.	Providing PVC Bend of 75 mm	100.00	No.	100.00
		Market Rates			
		<b>Total</b>		<b>Rs.:-</b>	<b>1776.45</b>

Name of Work:- CONSTRUCTION OF HOUSEHOLD SOAK PIT											
MEASUREMENTS											
Particulars	No	L	B	D	Quantity						
1	2	3	4	5	6						
<b>Item No 1. :-</b>											
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)											
<b>Net Quantity of Excavation</b>	1	x	1.00	x	1.00	x	1.00	=	<b>1.00</b>	<b>Cum</b>	
<b>Item No 2. :-</b>											
Aggregates											
For 1st Layer (100-150 mm)	1	x	1.00	x	1.00	x	0.300	=	0.300	Cum	
For 2nd Layer (75-100 mm)	1	x	1.00	x	1.00	x	0.300	=	0.300	Cum	
For 3rd Layer (50-75 mm)	1	x	1.00	x	1.00	x	0.250	=	0.250	Cum	
<b>Net Quantity of filter media</b>									<b>0.850</b>	<b>Cum</b>	
<b>Item No 3. :-</b>											
Coarse Sand											
For Top Layer	1	x	1.00	x	1.00	x	0.15	=	0.15	Cum	
<b>Net Quantity of sand</b>									<b>0.15</b>	<b>Cum</b>	
<b>Item No 4. :-</b>											
Providing P.V.C. pipe 75mm dia.4 kg/cm <sup>2</sup> pressure (class II)											
	1	x	5.00						5.00	R.Mtr	
<b>Net Quantity of PVC Pipe</b>									<b>5.00</b>	<b>R.Mtr</b>	
<b>Item No 5. :-</b>											
Providing PVC Nahani Trap and Bend of 75 mm											
	1							=	1.00	No.	
<b>Quantity of PVC Nahani Trap</b>									<b>1.00</b>	<b>No.</b>	
<b>Item No 6. :-</b>											
Providing PVC Bend of 75 mm											
	1							=	1.00	No.	
<b>Quantity of PVC Nahani Trap</b>									<b>1.00</b>	<b>No.</b>	

# Household Soak Pit



Name of Work:- CONSTRUCTION OF HOUSEHOLD LEACH PIT					
ABSTRACT					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
1.74	Cum	Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)	150.00	Cum	261.42
		Lift 0 to 1.5 M			
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b><u>Item No 2. :-</u></b>			
0.13	Cum	Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100	5185.00	Cum	664.14
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<b><u>Item No 3. :-</u></b>			
0.39	Cum	Providing second class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:6 in plinth as backing in composite masonry including bailing out water manually, striking joints, raking out joints and watering etc Complete.	6444.00	Cum	2487.44
		(SSR PWD 2020-21 P NO 167 I No 27.03)			
		<b><u>Item No 4. :-</u></b>			
5.00	R. Mtr	Providing P.V.C. pipe 75mm dia.4 kg/cm2 pressure	89.00	R. Mtr	445.00
		(MJP SSR 2021-22 P NO 13 I No 63)			

		<b><u>Item No 5. :-</u></b>			
0.09	No.	For Leach Pit Cover - Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement) In RCC M-200	6653.00	No.	583.00
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<b><u>Item No 6. :-</u></b>			
0.007	No.	For Leach Pit Cover - Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306) ToR Steel	66218.00	MT	464.21
		(MJP SSR 2021-22 P NO 52 Sr No 08)			
<b>Total</b>				<b>Rs.:-</b>	<b>4905.20</b>

Name of Work:- CONSTRUCTION OF HOUSEHOLD LEACH PIT										
MEASUREMENTS										
Particulars	No	Outer Diameter	Internal Diameter	H	Quantity	Unit				
1	2	3	4	5	6					
<u>Item No 1. :-</u>										
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)										
Quantity of Excavation		1.49		x	1.00	=	1.74	Cu	m	
<u>Item No 2. :-</u>										
Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100										
Base Ring		1.49	x	0.73	x	$\frac{0.07}{5}$	=	0.10	Cu	m
Top Ring		1.22	x	1.00	x	$\frac{0.07}{5}$	=	0.03	Cu	m
Net Quantity of PCC Work								0.13	Cu	m
<u>Item No 3. :-</u>										
Providing second class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:6 in plinth as backing in composite masonry including bailing out water manually, striking joints, raking out joints and watering etc Complete.										
For Base Layer		1.34	x	0.88	x	$\frac{0.07}{5}$	=	0.06	Cu	m
For Honeycombing Layers		1.22	x	1.00	x	0.85	=	0.33		
Net Quantity of Brickwork								0.4	Cu	m
<u>Item No 4. :-</u>										
Providing P.V.C. pipe 75mm dia.4 kg/cm2 pressure (class II)										
	1	x	5.00					5.00	R.M	tr
								5.00	R.M	tr
<u>Item No 5. :-</u>										
Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement) In RCC M-200										
For Leach Pit Cover		1.22				$\frac{0.07}{5}$	=	0.09	Cu	m
Net Quantity of RCC								0.09	Cum	

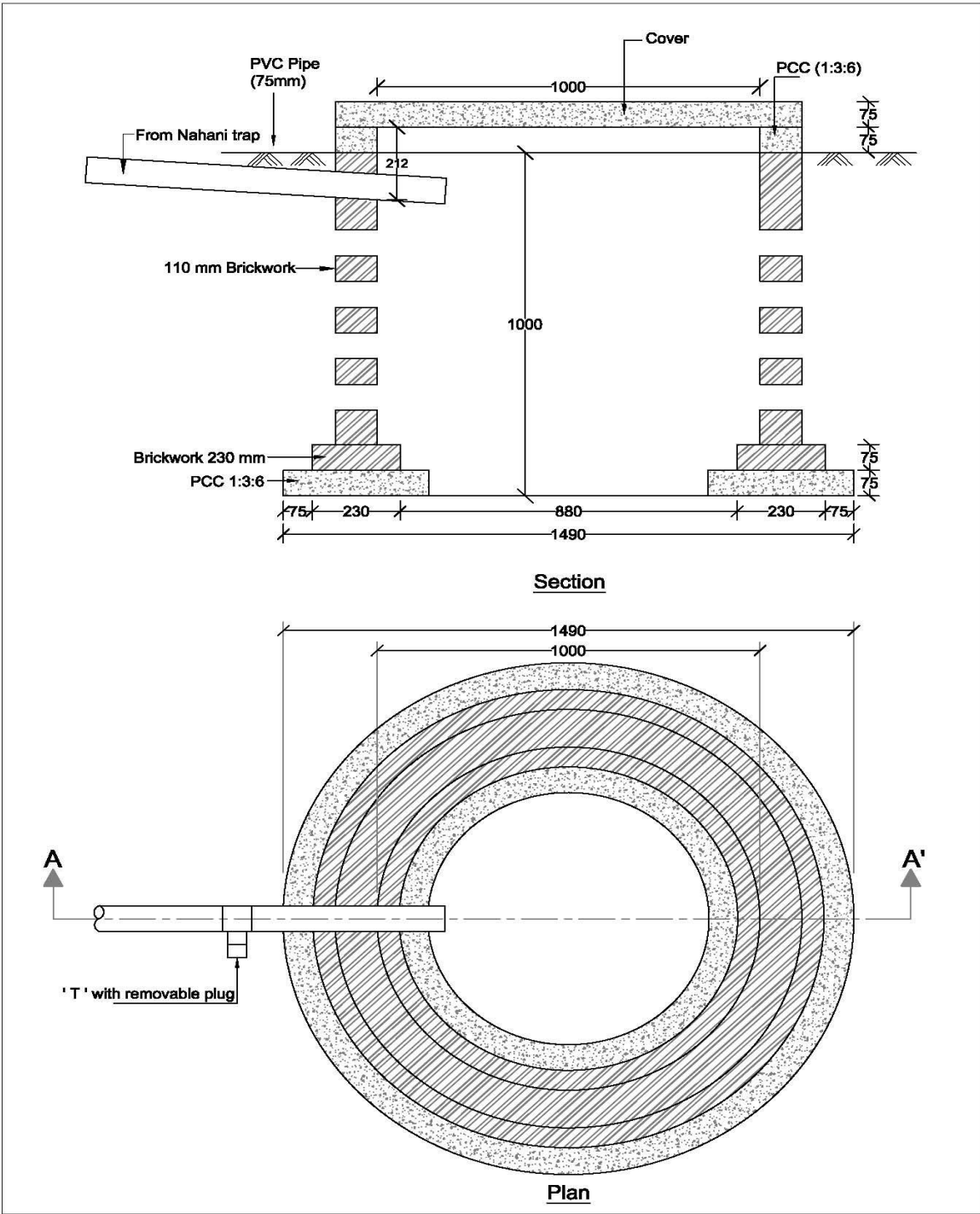


**Item No 6. :-**

Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardiess, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)

80 kg / CuM of RCC Quantity		80					0.09	=	0.007	Cu m
Net Quantity of Reinforcement for Leach Pit Cover									0.007	Cu m

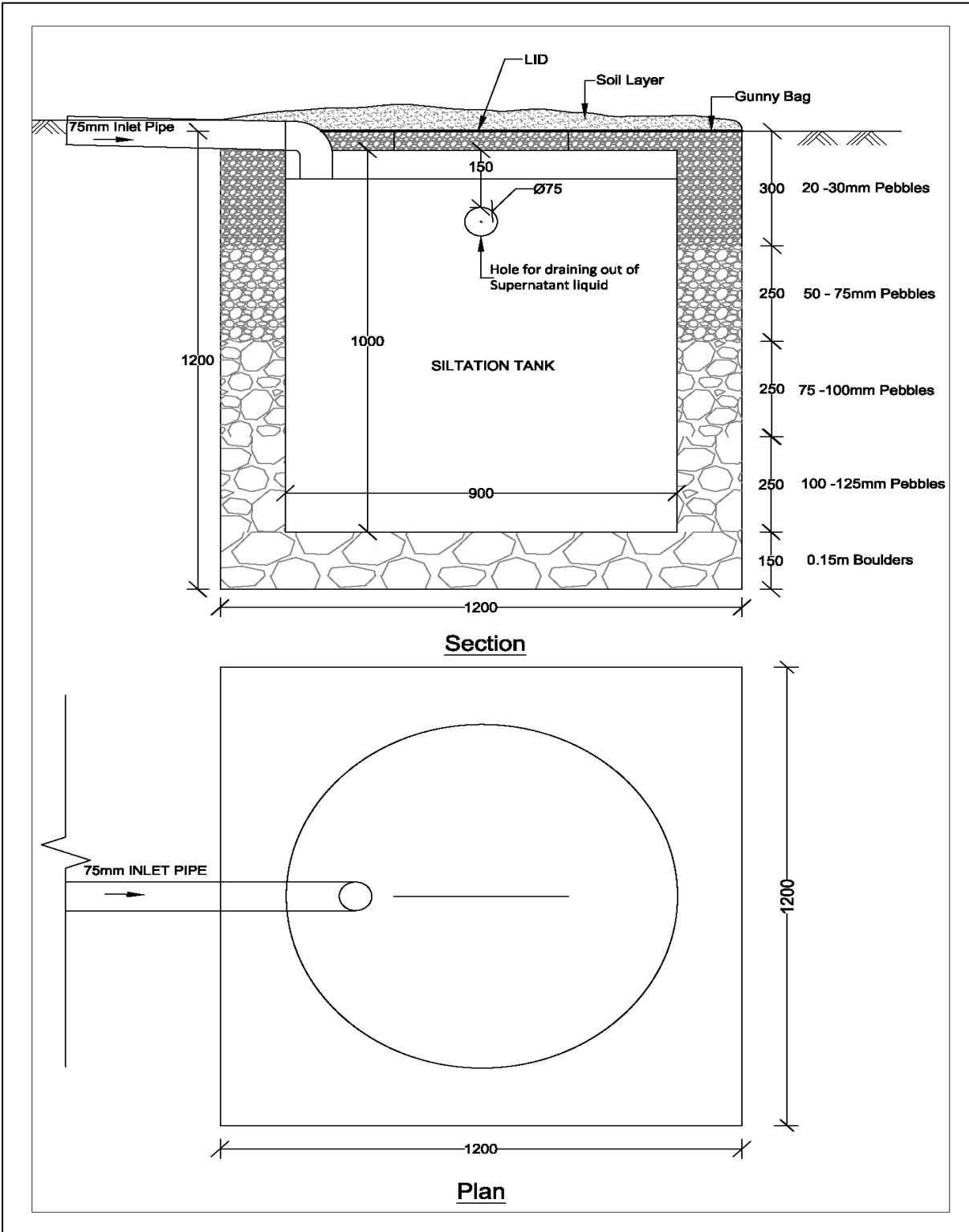
# Household Leach Pit



Name of Work:- CONSTRUCTION OF MAGIC PIT					
ABSTRACT					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
1.73	Cum	Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)	150.00	Cum	259.20
		Lift 0 to 1.5 M			
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b><u>Item No 2. :-</u></b>			
0.22	Cum	Boulders	900.00	Cum	194.40
		(MJP SSR 2021-22 P NO 13 I No 52 & PWD SSR 2020-21 P NO 415)			
		<b><u>Item No 3. :-</u></b>			
0.88	Cum	Aggregates	1343.00	Cum	1176.67
		(MJP SSR 2021-22 P NO 13 I No 63)			
		<b><u>Item No 4. :-</u></b>			
5.00	R. Mtr	Providing P.V.C. pipe 75mm dia.4 kg/cm2 pressure	89.00	R. Mtr	445.00
		(MJP SSR 2021-22 P NO 76)			
		<b><u>Item No 5. :-</u></b>			
1.00	No.	Siltation Tank of Plastic	1000.00	No.	1000.00
		Market Rates			
		<b><u>Item No 6. :-</u></b>			
1.00	No.	Providing PVC Nahani Trap of 75 mm	115.00	No.	115.00
		(PWD SSR 2020-21 P NO 404 I No 19)			
		<b><u>Item No 7. :-</u></b>			
1.00	No.	Providing PVC Bend of 75 mm	100.00	No.	100.00
		Market Rates			
		<b>Total</b>		<b>Rs.:-</b>	<b>3290.27</b>

Name of Work:- CONSTRUCTION OF MAGIC PIT										
MEASUREMENTS										
Particulars	No	L	B	D	Quantity					
1	2	3	4	5	6					
<b>Item No 1. :-</b>										
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)										
<b>Net Quantity of Excavation</b>	1	x	1.20	x	1.20	x	1.20	=	<b>1.73</b>	<b>Cum</b>
<b>Item No 2. :-</b>										
Boulders										
			1.20	x	1.20	x	0.15	=	<b>0.22</b>	<b>Cum</b>
<b>Item No 3. :-</b>										
Aggregates										
Aggregates of size 100-150 mm (excluding the volume for siltation tank)			1.20	x	1.20	x	0.25	=	<b>0.20</b>	Cum
Aggregates of size 75-100 mm (excluding the volume for siltation tank)			1.20	x	1.20	x	0.25	=	<b>0.20</b>	Cum
Aggregates of size 50-75 mm (excluding the volume for siltation tank)			1.20	x	1.20	x	0.25	=	<b>0.20</b>	Cum
Aggregates of size 20-30mm (excluding the volume for siltation tank)			1.20	x	1.20	x	0.30	=	<b>0.27</b>	Cum
<b>Net Quantity of Aggregates</b>									<b>0.88</b>	<b>Cum</b>
<b>Item No 4. :-</b>										
Providing P.V.C. pipe 75mm dia.4 kg/cm2 pressure (class II)										
	<b>5</b>							=	<b>5</b>	<b>RMtr</b>
<b>Item No 5. :-</b>										
Siltation Tank										
	1								1.00	No.
<b>Item No 6. :-</b>										
Providing PVC Nahani Trap of 75 mm										
	1							=	1.00	No.
<b>Item No 7. :-</b>										
Providing PVC Bend of 75 mm										
	1							=	1.00	No.

# Household Magic Pit



<b>Design of Community Leach Pit</b>				
<b>Population Serve Calculation Sheet of Community Level Leach Pit</b>				
No. of HH	5	10	15	20
Population	25	50	75	100
Grey water generated (l/d)	893.75	1787.5	2681.25	3575
Grey water generated (m <sup>3</sup> /d)	0.9	1.8	2.7	3.6
Required volume of leach pit (m <sup>3</sup> )	1.80	3.60	5.40	7.20
effective depth of leach pit	1.7	1.8	1.8	1.8
Area required	1.1	2	3	4
internal Diameter of leach pit	1.2	1.6	2	2.3
external diameter	1.86	2.26	2.66	2.96
Actual depth (effective depth +FB)	2	2.1	2.1	2.1
<b>Silt chamber</b>	<b>Standard size for workability (0.9 x0.6 x0.6) effective</b>			
Incoming volume (m <sup>3</sup> /hr)	0.001	0.002	0.002	0.003
Retention time 0.5hrs	0.03	0.06	0.06	0.09
Height of chamber	0.6	0.6	0.6	0.6
Area required	0.05	0.1	0.1	0.15
widht of chamber	0.6	0.6	0.6	0.6
length of the chamber	0.1	0.2	0.2	0.3

### **Assumptions**

- There are 5 members per household
- The rate of water supply is 55 lpcd
- The rate of greywater generation is 65% of water supply
- The capacity of the leach pit should be twice the incoming daily volume

Name of Work:- CONSTRUCTION OF COMMUNITY LEACH PIT					
ABSTRACT					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b>Item No 1. :-</b>			
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)			
4.91	CuM	Lift 0 to 1.5 M	150	CuM	736
1.49	CuM	Lift 1.5 to 3.0 M	164	CuM	245
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b>Item No 2. :-</b>			
		Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B-7, Page No. 38 a) In PCC M-100			
0.50	CuM		5185.00	CuM	2615.43
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<b>Item No 3. :-</b>			
		Providing second class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:6 in plinth as backing in composite masonry including bailing out water manually, striking joints, raking out joints and watering etc Complete.			
2.19	CuM		6444.00	CuM	14140.85
		((SSR PWD 2020-21 P NO 167 I No 27.03)			
		<b>Item No 4. :-</b>			
		Providing cement plaster 12 mm thick in single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces, in all positions including scaffolding and curing etc. complete.			
5.00	SqM		264.00	SqM	1319.83
		(SSR PWD 2020-21 P NO 177 I No 32.04)			
		<b>Item No 5. :-</b>			
5.00	R. Mtr	Providing P.V.C. pipe 110 mm dia.4 kg/cm2 pressure	169.00	R. Mtr	845.00

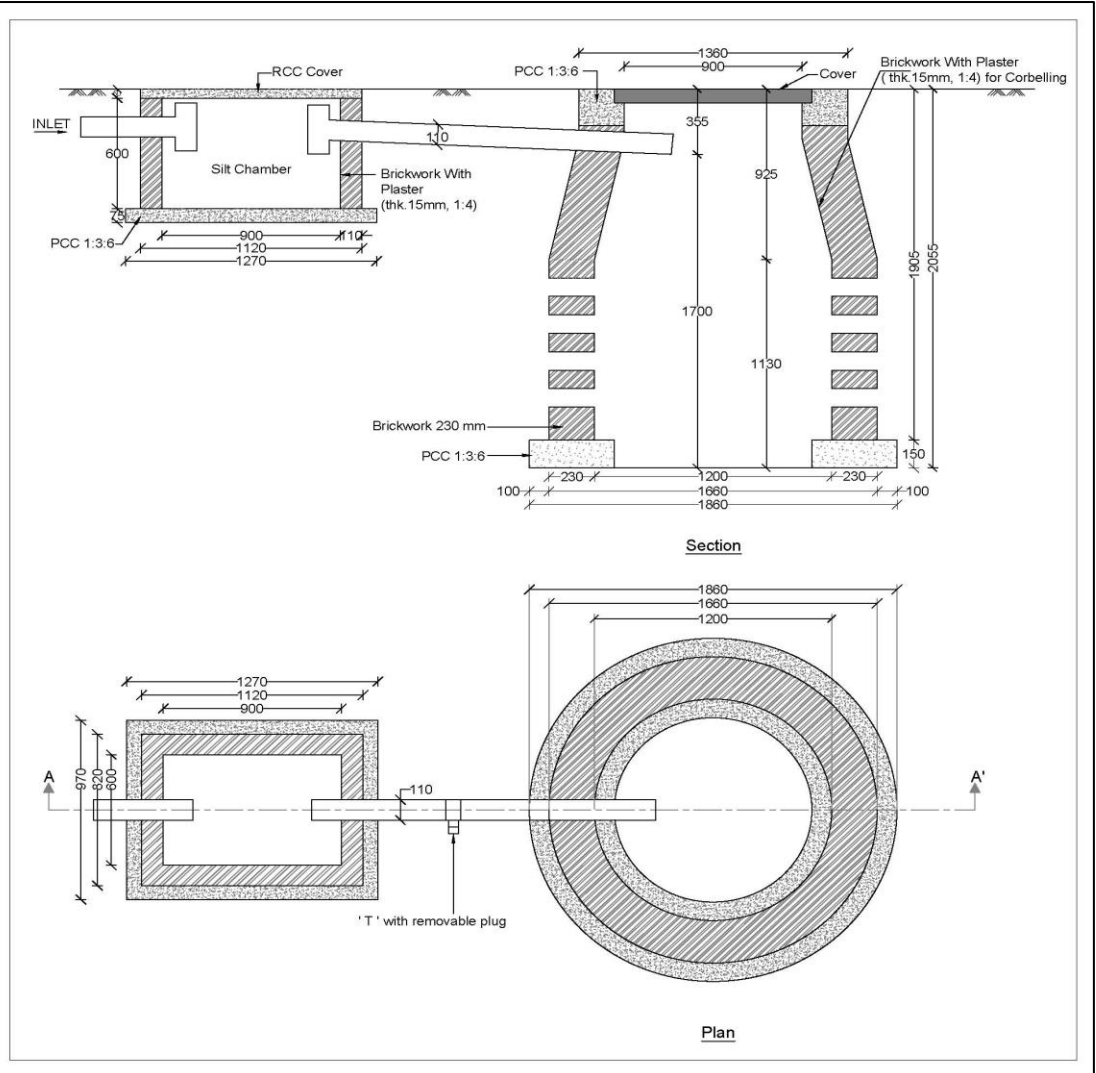
		(MJP SSR 2021-22 P NO 76)			
		<b><u>Item No 6. :-</u></b>			
2.00	Nos.	PVC Tee 110 mm	500.00	Nos.	1000.00
		Market Rates			
		<b><u>Item No 7. :-</u></b>			
0.09	Nos.	Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement) In RCC M-200	6653.00	Nos.	622.78
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<b><u>Item No 8. :-</u></b>			
0.008	MT	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)	66218.00	MT	529.74
		ToR Steel			
		(MJP SSR 2021-22 P NO 52 Sr No 08)			
		<b>Total Rs:-</b>			<b>22054.64</b>



MEASUREMENTS FOR CONSTRUCTION OF COMMUNITY LEACH PIT											
Particulars	Nos.	L	B	D						Quantity	
1	2	3	4	5						6	
<b>Item No:-1</b>											
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)											
For Community Leach Pit			O.D.		I.D.		Ht.				
0-1.5 metre			1.86				1.5			=	4.07 CuM
1.5 - 3 metre			1.86				0.55			=	1.49 CuM
For Silt Chamber (0.-1.5 metre)			1.27	x	0.97	x	0.68			=	0.83 CuM
Net Quantity of Excavation 0-1.5 metre											4.91 CuM
Net Quantity of Excavation 1.5-3.0 metre											1.49 CuM
<b>Item No:-2</b>											
Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100											
For Community Leach Pit			O.D.		I.D.		Ht.				
Base Ring			1.86		1.00		0.15			=	0.29 CuM
Top Ring for Cover			1.36		0.90		0.15			=	0.12 CuM
For Silt Chamber			1.27	x	0.97	x	0.08			=	0.1 CuM
Net Quantity of PCC											0.50 CuM
<b>Item No:-3</b>											
Providing second class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:6 in plinth as backing in composite masonry including bailing out water manually, striking joints, raking out joints and watering etc Complete.											
For Community Leach Pit			O.D.		I.D.		Ht.				
Brickwork			1.66		1.20		1.905			=	1.97 CuM
For Silt Chamber	Nos.	x	L	x	B	x	H				
Long Wall	2	x	1.12	x	0.11	x	0.60			=	0.15 CuM
Short Wall	2	x	0.60	x	0.11	x	0.60				0.08 CuM
Net Quantity of Brickwork											2.19 CuM
<b>Item No:-4</b>											
Providing cement plaster 12 mm thick in single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces, in all positions including scaffolding and curing etc. complete.											
For Community Leach Pit			O.D.		I.D.		Ht.				
Plaster for Corbelling Inner Wall			1.20				0.925				0.87 CuM
For Silt Chamber	Nos.	x	L	x	B	x	H				

Outer Wall	2	x	1.12	x	0.82	x	0.60				=	2.33	CuM
Inner Wall	2	x	0.90	x	0.60	x	0.60					1.80	CuM
Net Quantity of Plaster Work												5.00	SqM
Item No:-5													
Providing P.V.C. pipe 110 mm dia.4 kg/cm2 pressure													
Total PVC Pipe	5											5.00	R. Mtr
Item No:-6													
PVC Tee													
Total PVC Tee	2										=	2.00	Nos.
Item No:-7													
Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement) In RCC M-200 steel)													
For Leach Pit Cover			O.D.				Ht.						
			0.90				0.075					0.05	CuM
For Silt Chamber Cover			L	x	B	x	H						
			1.12	x	0.82	x	0.05					0.05	CuM
Net Quantity of RCC Work												0.09	CuM
Item No:-8													
Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations,slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)													
80 kg / CuM of RCC Quantity			80								0.09	0.008	MT
Net Quantity of Reinforcement												0.008	MT

# Community Leach Pit



**Name of Work:- CONSTRUCTION OF MODIFIED COMMUNITY LEACH PIT**

**ABSTRACT**

Quantity		Particulars	Rate	Unit	Amount
1	2				
		3	4	5	6
		<b><u>Item No 1. :-</u></b>			
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)			
7.96	CuM	Lift 0 to 1.5 M	150	CuM	1194
2.61	CuM	Lift 1.5 to 3.0 M	164	CuM	428
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b><u>Item No 2. :-</u></b>			
0.54	CuM	Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100	5185	CuM	2783.94
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<b><u>Item No 3. :-</u></b>			
2.19	CuM	Providing second class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:6 in plinth as backing in composite masonry including bailing out water manually, striking joints, raking out joints and watering etc Complete.	6444	CuM	14140.85
		((SSR PWD 2020-21 P NO 167 I No 27.03)			
		<b><u>Item No 4. :-</u></b>			
5.00	SqM	Providing cement plaster 12 mm thick in single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces, in all positions including scaffolding and curing etc. complete.	264	SqM	1319.83
		(SSR PWD 2020-21 P NO 177 I No 32.04)			
		<b><u>Item No 5. :-</u></b>			

5.00	R. Mtr	Providing P.V.C. pipe 110 mm dia.4 kg/cm2 pressure (MJP SSR 2021-22 P NO 76)	169	R. Mtr	845.00
		<b>Item No 6. :-</b>			
2.00	Nos.	PVC Tee 110 mm	500	Nos.	1000.00
		<b>Item No 7. :-</b>			
0.09	Nos.	Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement) In RCC M-200	6653	Nos.	622.78
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<b>Item No 8. :-</b>			
0.008	MT	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)	66218	MT	529.74
		ToR Steel			
		(MJP SSR 2021-22 P NO 52 Sr No 08)			
		<b>Item No 9. :-</b>			
2.122	CuM	Sand Envelope	1689	CuM	3584.55
		(MJP SSR 2021-22 P NO 13 Sr No 46)			
<b>Total Rs:-</b>					<b>26448.70</b>

MEASUREMENTS FOR CONSTRUCTION OF MODIFIED COMMUNITY LEACH PIT											
Particulars	Nos.	L	B	D						Quantity	
1	2	3	4	5						6	
Item No:-1											
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)											
For Community Leach Pit			O.D.		I.D.			Ht.			
0-1.5 metre			2.46					1.5		=	7.13 CuM
1.5 - 3 metre			2.46					0.55		=	2.61 CuM
For Silt Chamber (0.-1.5 metre)			1.27	x	0.97	x		0.68		=	0.83 CuM
Net Quantity of Exacavation 0-1.5 metre											7.96 CuM
Net Quantity of Exacavation 1.5-3.0 metre											2.61 CuM
Item No:-2											
Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100											
For Community Leach Pit			O.D.		I.D.			Ht.			
Base Ring			1.86		1.00			0.15		=	0.29 CuM
Top Ring for Cover			1.66		1.20			0.15		=	0.15 CuM
For Silt Chamber			1.27	x	0.97	x		0.075		=	0.1 CuM
Net Quantity of PCC											0.54 CuM
Item No:-3											
Providing second class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:6 in plinth as backing in composite masonry including bailing out water manually, striking joints, raking out joints and watering etc Complete.											
For Community Leach Pit			O.D.		I.D.			Ht.			
Brickwork			1.66		1.20			1.905		=	1.97 CuM
For Silt Chamber	Nos.	x	L	x	B	x		H			
Long Wall	2	x	1.12	x	0.11	x		0.60		=	0.15 CuM
Short Wall	2	x	0.60	x	0.11	x		0.60			0.08 CuM
Net Quantity of Brickwork											2.19 CuM
Item No:-4											
Providing cement plaster 12 mm thick in single coat in cement mortar 1:4 without neeru finish to concrete or brick surfaces, in all positions including scaffolding and curing etc. complete.											
For Community Leach Pit			O.D.		I.D.			Ht.			
Plaster for Corbelling Inner Wall			1.20					0.925			0.87 CuM
For Silt Chamber	Nos.	x	L	x	B	x		H			
Outer Wall	2	x	1.12	x	0.82	x		0.60		=	2.33 CuM

Inner Wall	2	x	0.90	x	0.60	x	0.60					1.80	CuM	
Net Quantity of Plaster Work												5.00	SqM	
Item No:-5														
Providing P.V.C. pipe 110 mm dia.4 kg/cm2 pressure														
Total PVC Pipe	5											5.00	R. Mtr	
Item No:-6														
PVC Tee														
Total PVC Tee	2											=	2.00	Nos.
Item No:-7														
Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement) In RCC M-200 steel)														
For Leach Pit Cover			O.D.				Ht.							
			0.90				0.075						0.05	CuM
For Silt Chamber Cover			L	x	B	x	H							
			1.12	x	0.82	x	0.05						0.05	CuM
Net Quantity of RCC Work													0.09	CuM
Item No:-8														
Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations,slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)														
80 kg / CuM of RCC Quantity			80									0.09	0.008	MT
Net Quantity of Reinforcement													0.008	MT
Item No:-9														
Sand Envelope														
Sand Volume			1.66		1.20		2.055					=	2.12	CuM
Total Quantity Sand Envelope													2.122	CuM





<b>Waste Stabilization Ponds</b>			
<b>Sr No</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>
1	Present Population of the village	5000	Persons
2	Projected Population (18% of current population)	5900	Persons
3	Quantity of Water Supplied per capita	55	LPCD
4	Per Capita Grey water generation (65% of water supply)	35.75	LPCD
5	Total Daily Grey Water Generation in the village	210925	Litres / Day
		211000	Litres / Day
	<b>Volume Required (m3)</b>	<b>211</b>	<b>KLD</b>

<b>Sr No</b>		<b>Anaerobic</b>	<b>Facultative</b>	<b>Aerobic</b>
1	<b>Number of pond</b>	2	1	1
2	<b>HRT (days)</b>	2	6	3
3	<b>Volume required (m3)</b>	422	1266	633
4	<b>Bottom Length</b>	6	41	35
5	<b>Top Length</b>	15	47.3	40.1
6	<b>Bottom Width</b>	5	17	14
7	<b>Top Width</b>	14	23.3	19.1
8	<b>Total Height</b>	3	2.1	1.7
9	<b>Effective Height</b>	2.5	1.5	1
10	<b>Free board</b>	0.5	0.6	0.7
11	<b>Actual Volume</b>	532.29	1337.77	622.8
12	<b>Organic Loading (kg of BOD/m2.day)</b>	1318.75	317.86	90.4
<b>13</b>	<b>Total Area Required for WSP (m2)</b>	<b>47.082</b>		

Name of Work:- CONSTRUCTION OF WASTE STABILIZATION PONDS					
ABSTRACT					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
		Excavation for foundation / pipe trenches in hard murum including removing the excavated material upto a distance of 50 M and lifts as below, stacking and spreading as directed by Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd A-2/259)			
3432.00	CuM	Lift 0 to 1.5 M	170	CuM	583440.00
1444.44	CuM	Lift 1.5 to 3.0 M	184	CuM	265776.22
		(MJP SSR 2021-22 P NO 42 I No 2)			
		<b><u>Item No 2. :-</u></b>			
		Watering and compacting of embankment formed of materials obtained from the road cutting within a lead of 50 m, not less than 97% of standard Proctor density after laying them in layers of 20 cm. to 30 cm. with Power roller.			
4371.60	CuM		59	CuM	257924.28
		(PWD SSR 2020-21 P NO 28 I No 2.24)			
		<b><u>Item No 3. :-</u></b>			
		Providing dry rubble stone pitching 23 cm (about 9 ) thick including all material, quarry spalls, labour etc. complete.			
785.26	SqM		334	SqM	262276.84
		(PWD SSR 2020-21 P NO 29 I No 2.34)			
		<b><u>Item No 4. :-</u></b>			
4.00	Nos.	TEE for outlet of each pond (110 mm)	500	Nos.	2000.00
		Market Rates			
		<b><u>Item No 5. :-</u></b>			
4.00	Nos.	Bell mouth opening at inlet (110 mm)	200	Nos.	800.00
		Market Rates			
		<b><u>Item No 6. :-</u></b>			
4.00	Nos.	Elbow at inlet of each pond (110mm)	500	Nos.	2000.00
		Market Rates			
		<b><u>Item No 7. :-</u></b>			
50.00	RMtr	Providing & Supplying HDPE Pipe of 110 mm diametre (Pressure 6 kg / Sq. cm)	276	RMtr	13800.00

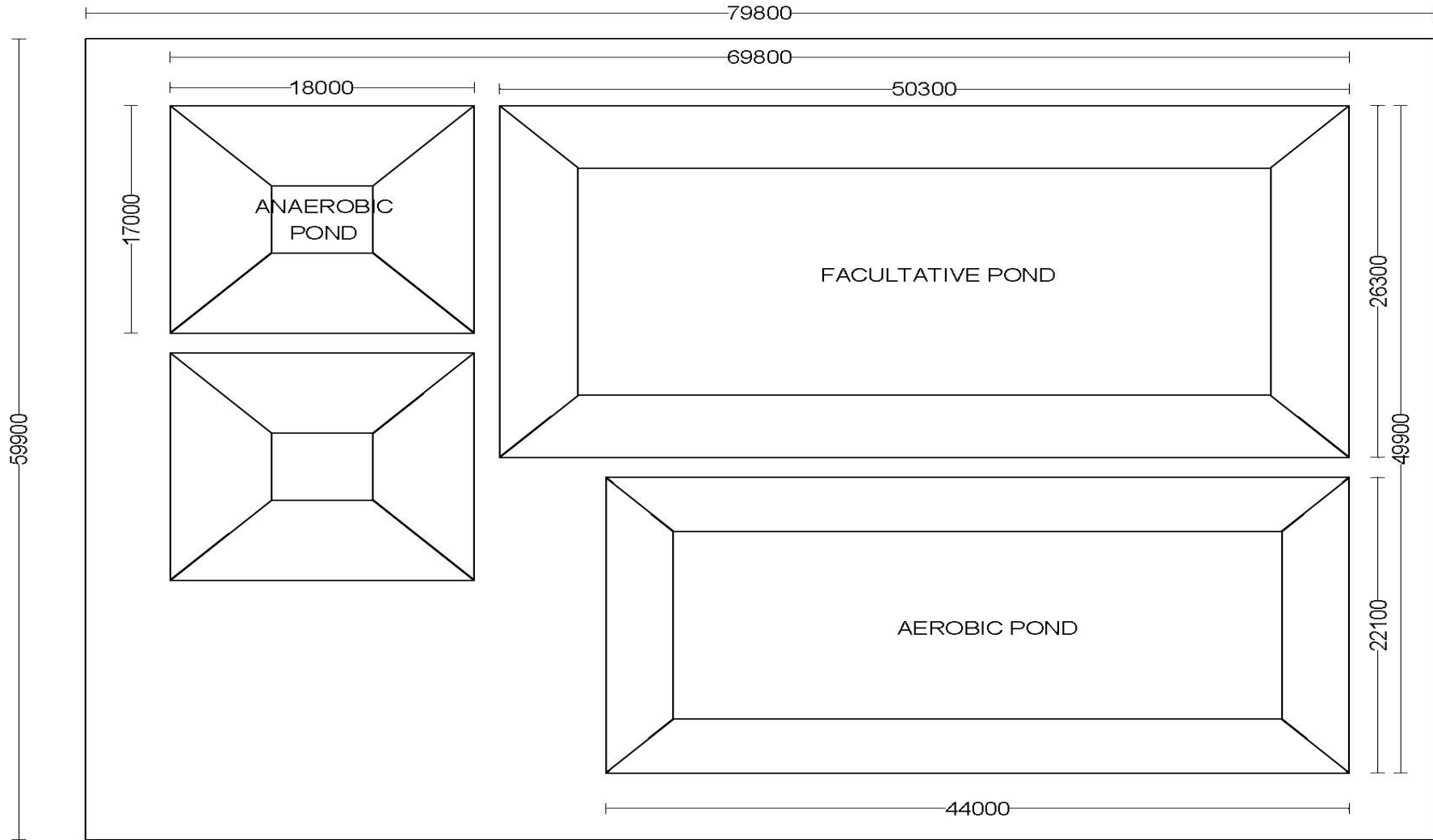
		(SSR PWD 2020-21 P NO 401 Sr No 15)			
					<b>1388018</b>
		<b><u>Item No 8. :-</u></b>			
1.00	No	Screen Chamber	36532	No	36532
<b>Total Construction Cost of Waste Stabilization Pond :-</b>					<b>1424550</b>

MEASUREMENTS FOR CONSTRUCTION OF WASTE STABILIZATION PONDS													
Particulars	Nos.	L	B	D							Quantity		
1	2	3	4	5							6		
Item No:-1													
Excavation for foundation / pipe trenches in hard murum including removing the excavated material upto a distance of 50 M and lifts as below, stacking and spreading as directed by Engineer-in-charge, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd A-2/259)													
For Anaerobic Pond													
0 -1.5 M	2	x	15	x	14	x	1.5				=	630	CuM
1.5-3 M	2	x	15	x	14	x	1.5				=	630	CuM
For Facultative Pond													
0 -1.5 M	1	x	47	x	23	x	1.5				=	1653.14	CuM
1.5-3 M	1	x	47	x	23	x	0.60				=	661.254	CuM
For Aerobic Pond													
0 -1.5 M	1	x	40	x	19	x	1.5				=	1148.87	CuM
1.5-3 M	1	x	40	x	19	x	0.2				=	153.182	CuM
Total Excavation Quantity 0-1.5 M												3432	CuM
Total Excavation Quantity 1.5-3 M												1444.44	CuM
Item No:-2													
Watering and compacting of embankment formed of materials obtained from the road cutting within a lead of 50 m, not less than 97% of standard Proctor density after laying them in layers of 20 cm. to 30 cm. with Power roller.													
For Anaerobic Pond													
Outer long edge			36			x	15				=	514.75	CuM
Outer short edge			36			x	15				=	522	CuM
Inner long edge			36			x	12				=	432	CuM
Inner short edge			35			x	12				=	422.4	CuM
For Facultative Pond													
Outer long edge			50			x	9.7				=	487.91	CuM
Outer short edge			26			x	9.7				=	255.11	CuM
Inner long edge			50			x	7.2				=	362.16	CuM
Inner short edge			26			x	7.2				=	189.36	CuM
For Aerobic Pond													
Outer long edge			44			x	5.5				=	240.68	CuM
Outer short edge			44			x	8				=	352.274	CuM
Inner long edge			44			x	5.5				=	240.68	CuM
Inner short edge			44			x	8				=	352.274	CuM



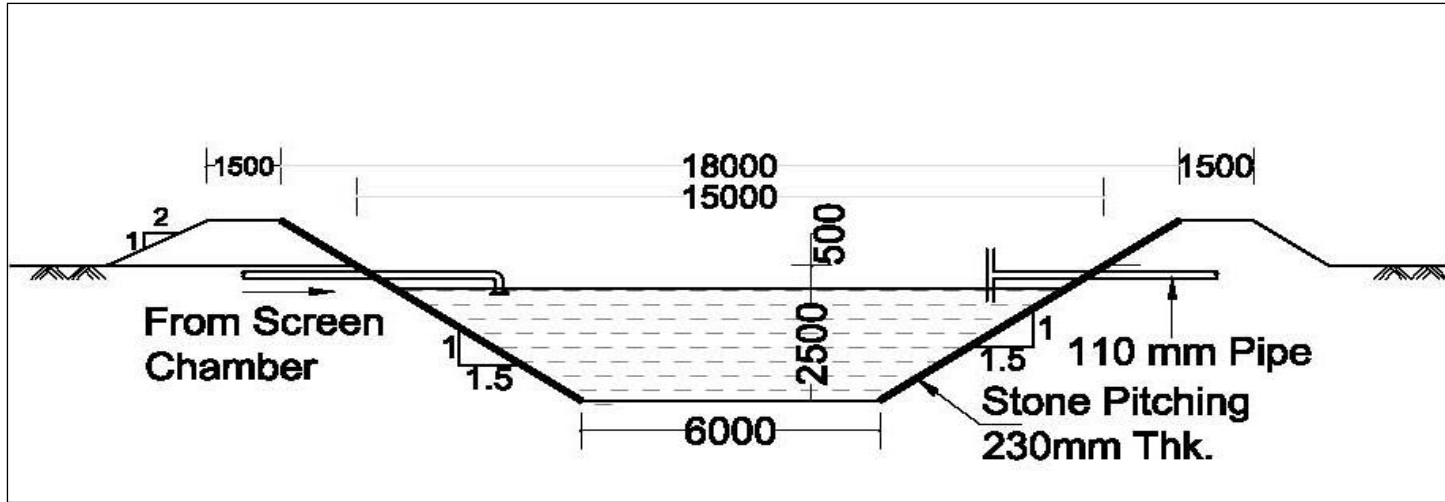
Name of Work:- CONSTRUCTION OF SCREEN CHAMBER FOR WSP					
ABSTRACT for Screen Chamber					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
		Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C. frame and cover, etc. complete			
1.00	No.	As above of 1.2 x 1.2 M internal size and depth upto 1.2 M with S.F.R.C. frame and cover of size 540 mm dia. fixed in RCC slab.	21532	No.	21532
		MJP SSR 2021-22 P No 222 Sr. No 3 E			
		<b><u>Item No 2. :-</u></b>			
		Bar Screen Supply of bar screen with following specifications • Length: 1 m with handle • Width: 450 mm • SS fl at size: 25 mm x 3 mm thick • Opening: 10 mm • SS angle frame: 25 mm x 25 mm x 3 mm thick			
1.00	No.		15000	No.	15000
		Market Rates			
<b>Total Cost of Screen Chamber in Rs:-</b>					<b>36532</b>

MEASUREMENTS FOR CONSTRUCTION OF SCREEN CHAMBER FOR WSP												
Particulars	Nos.	L	B	D							Quantity	
1	2	3	4	5							6	
<b>Item No:-1</b>												
Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C. frame and cover, etc. complete												
As above of 1.2 x 1.2 M internal size and depth upto 1.2 M with S.F.R.C. frame and cover of size 540 mm dia. fixed in RCC slab.												
	1										1	No.
<b>Item No:-2</b>												
Bar Screen Supply of bar screen with following specifications <ul style="list-style-type: none"> <li>• Length: 1 m with handle</li> <li>• Width: 450 mm</li> <li>• SS flat size: 25 mm x 3 mm thick</li> <li>• Opening: 10 mm</li> <li>• SS angle frame: 25 mm x 25 mm x 3 mm thick</li> </ul>												
	1										1.00	No.

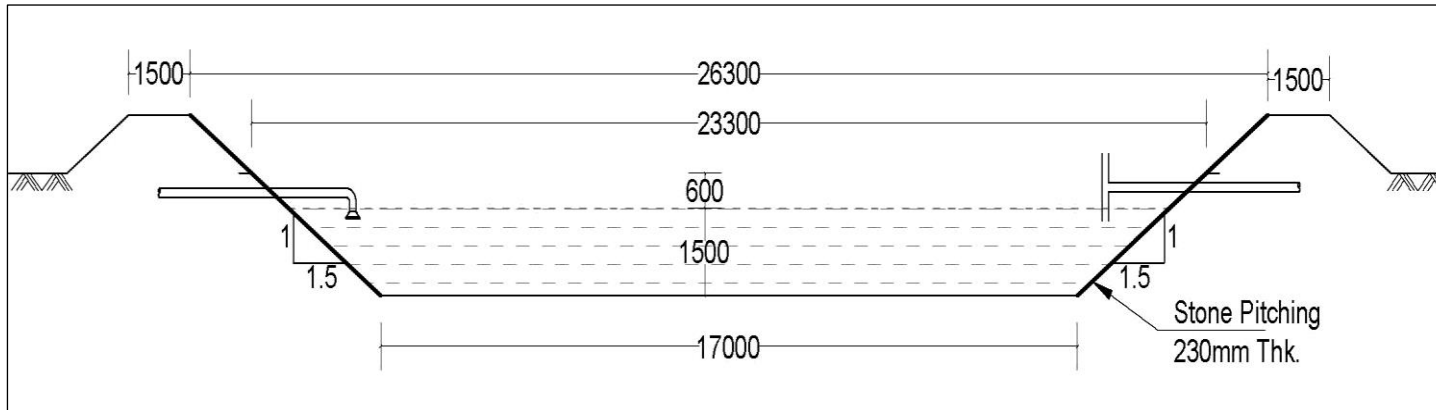


1. Anaerobic Pond

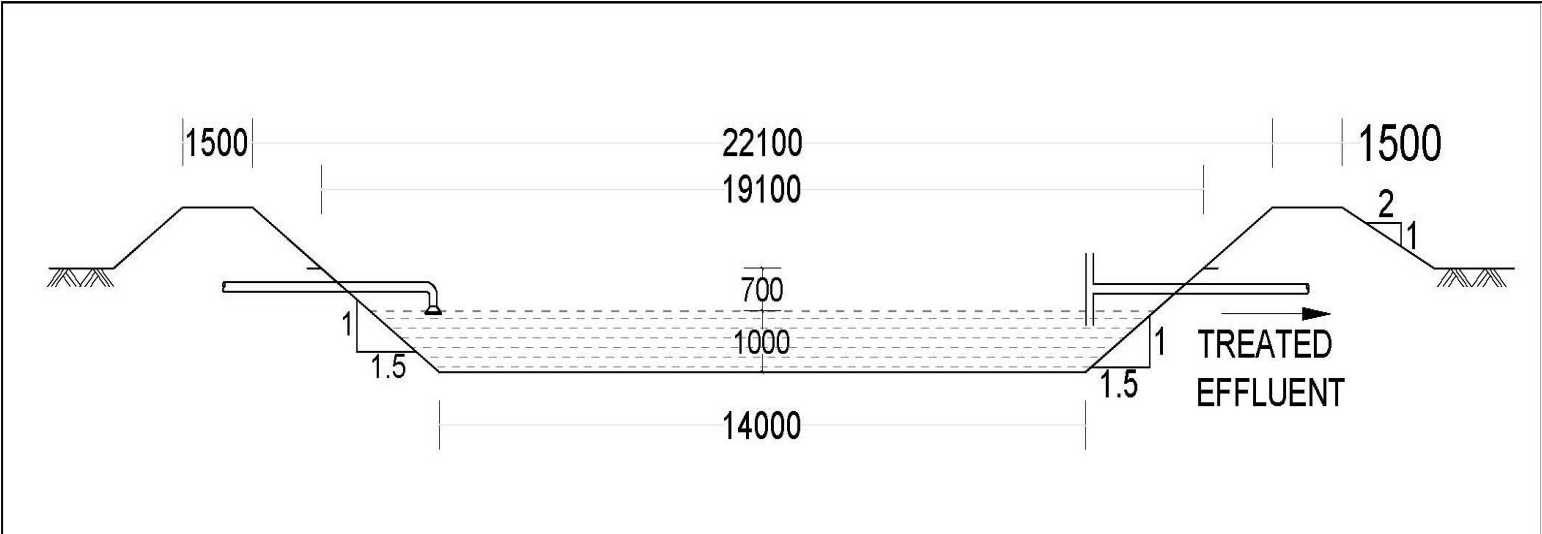




2. Facultative Pond



3. Aerobic Pond



<b>DEWATS</b>			
<b>Sr No</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>
1	Present Population of the village	5000	Persons
2	Projected Population (18% of current population)	5900	Persons
3	Quantity of Water Supplied per capita	55	LPCD
4	Per Capita Grey water generation (65% of water supply)	35.75	LPCD
5	Total Daily Grey Water Generation in the village	210925	Litres / Day
		211000	Litres / Day
6	Volume Required (m3)	211	KLD
7	Total Area Required for DEWATS (m2)	4448	m2

Note: The area requirement will vary depending on the shape of the plot available as well as with the placement of units.

Name of Work:- CONSTRUCTION OF DEWATS					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
1.00	No.	Screen Chamber	36532	No.	36532
		<b><u>Item No 2. :-</u></b>			
2.00	No.	Settler	384061.70	No.	768123.40
		<b><u>Item No 3. :-</u></b>			
2.00	No.	ABR_AF	1170886.816	No.	2341773.632
		<b><u>Item No 3. :-</u></b>			
2.00	No.	HFGP	1170162.30	No.	2340324.597
		<b><u>Item No 4. :-</u></b>			
2.00	No.	Polishing Ponds	89346.71	No.	178693.42
		<b>Total Cost of Screen Chamber in Rs:-</b>			<b>5665447.05</b>

Name of Work:- CONSTRUCTION OF SCREEN CHAMBER FOR DEWATS					
ABSTRACT for SCREEN CHAMBER					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
		Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C. frame and cover, etc. complete			
1.00	No.	As above of 1.2 x 1.2 M internal size and depth upto 1.2 M with S.F.R.C. frame and cover of size 540 mm dia. fixed in RCC slab.	21532	No.	21532
		MJP SSR 2021-22 P No 222 Sr. No 3 E			
		<b><u>Item No 2. :-</u></b>			
		Bar Screen Supply of bar screen with following specifications • Length: 1 m with handle • Width: 450 mm • SS fl at size: 25 mm x 3 mm thick • Opening: 10 mm • SS angle frame: 25 mm x 25 mm x 3 mm thick			
1.00	No.		15000.00	No.	15000.00
		<b>Market Rates</b>			
		<b>Total Cost of Screen Chamber in Rs:-</b>			<b>36532</b>

MEASUREMENTS FOR CONSTRUCTION OF SCREEN CHAMBER FOR DEWATS												
Particulars	Nos.	L	B	D							Quantity	
1	2	3	4	5							6	
<b>Item No:-1</b>												
Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C. frame and cover, etc. complete												
As above of 1.2 x 1.2 M internal size and depth upto 1.2 M with S.F.R.C. frame and cover of size 540 mm dia. fixed in RCC slab.												
	1										1	No.
<b>Item No:-2</b>												
Bar Screen Supply of bar screen with following specifications <ul style="list-style-type: none"> <li>• Length: 1 m with handle</li> <li>• Width: 450 mm</li> <li>• SS fl at size: 25 mm x 3 mm thick</li> <li>• Opening: 10 mm</li> <li>• SS angle frame: 25 mm x 25 mm x 3 mm thick</li> </ul>												
	1										1.00	No.

Name of Work:- CONSTRUCTION OF SETTLER FOR DEWATS					
ABSTRACT for SETTLER					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)			
48.05	CuM	Lift 0 to 1.5 M	150	CuM	7207.52
48.05	CuM	Lift 1.5 to 3.0 M	164	CuM	7880.22
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b><u>Item No 2. :-</u></b>			
4.12	CuM	Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38	5185	CuM	21362.20
		<b>In PCC M-100</b>			
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<b><u>Item No 3. :-</u></b>			
7.29	CuM	Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)	7206	CuM	52531.74
		In RCC M-250			
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<b><u>Item No 4. :-</u></b>			

3.73	Nos.	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)	8046	Nos.	30011.58
		In RCC M-150			
		(MJP SSR 2021-22 P NO 49 I No 5)			
		<b>Item No 5. :-</b>			
0.88	MT	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)	66218	MT	58377.79
		<b>ToR Steel</b>			
		(MJP SSR 2021-22 P NO 52 Sr No 08 b)			
		<b>Item No 6. :-</b>			
15.12	CuM	Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out joints pointing in C.M. 1:3 and watering in pillars of rectangular or square shape as shown on the drawing or as directed etc. complete.	7407	CuM	111993.84
		(PWD SSR 2021-22 P NO 167 Sr No 888)			
		<b>Item No 7. :-</b>			



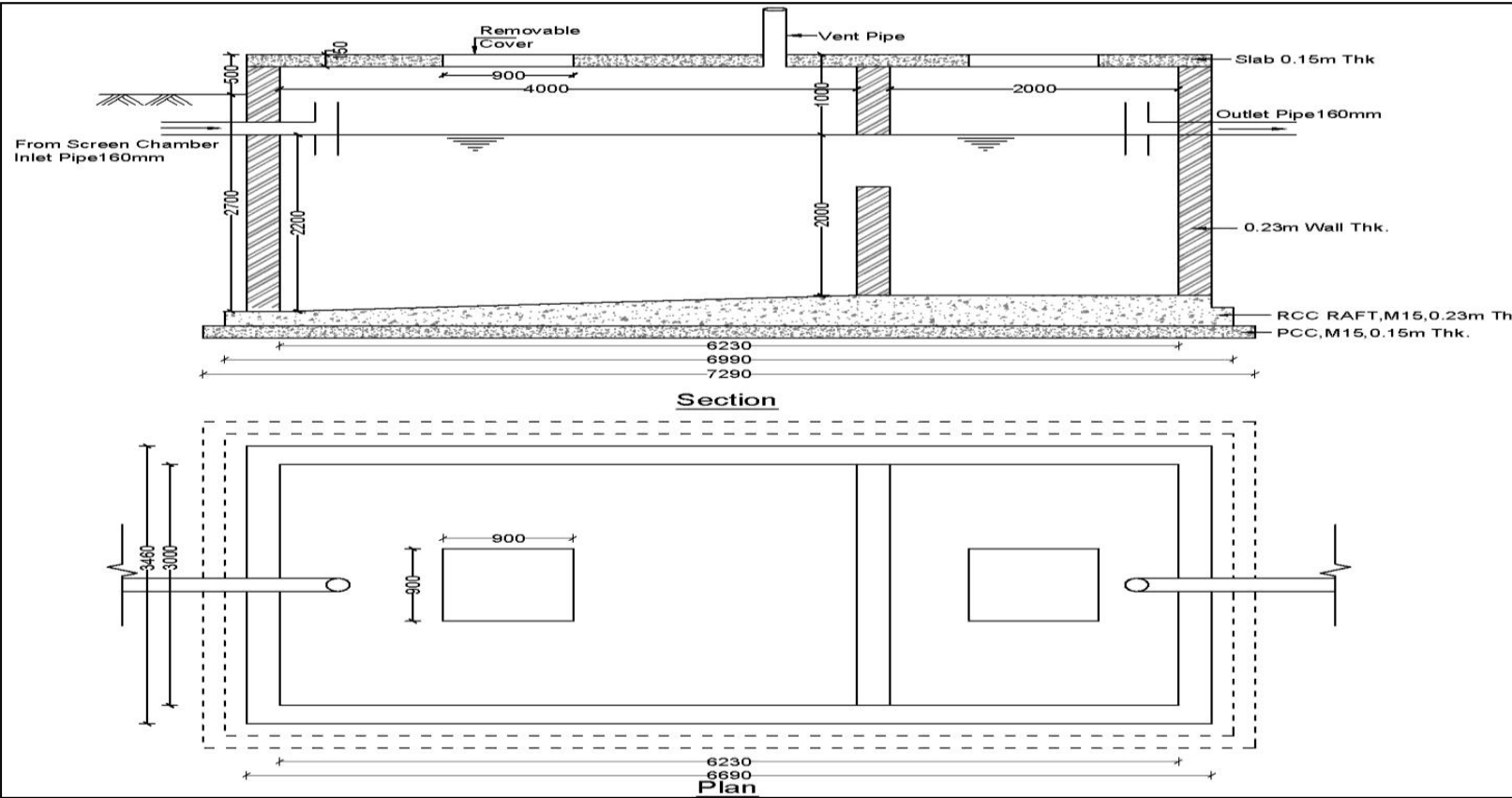
133.98	SqM	Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1Kilogramper cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc.complete.	599	SqM	80252.82
		(SSR PWD 2020-21 P NO 177 I No 32.04)			
		<b><u>Item No 8. :-</u></b>			
10.00	RMtr	Providing & Supplying HDPE Pipe of 160 mm diametre (Pressure 6 kg / Sq. cm)	615	RMtr	6150
		(SSR PWD 2020-21 P NO 113 Sr No 1.A. vii)			
		<b><u>Item No 9. :-</u></b>			
2.00	Nos.	Providing & Supplying TEE of 160 mm at inlet & outlet	600	Nos.	1200
		Market Rates			
<b>Total Cost of 1 Settler in Rs:-</b>					<b>376967.70</b>

MEASUREMENTS FOR CONSTRUCTION OF SETTLER FOR DEWATS												
Particulars	Nos.		L		B		D				Quantity	
1	2		3		4		5				6	
<b>Item No:-1</b>												
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)												
0 -1.5 M	1	x	7.89	x	4.06	x	1.5			=	48.05	CuM
1.5-3 M	1	x	7.89	x	4.06	x	1.5			=	48.05	CuM
Total Excavation Quantity 0-1.5 M											48.05	CuM
Total Excavation Quantity 1.5-3 M											48.05	CuM
<b>Item No:-2</b>												
Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38												
<b>In PCC M-100</b>												
Total PCC Work	1	x	7.29	x	3.76	x	0.15			=	4.12	CuM
<b>Item No:-3</b>												
Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)												
<b>In RCC M-250</b>												
RCC Raft for Chamber 1	1	x	4.38	x	3.38	x	0.27			=	3.93	CuM
RCC Raft for Chamber 2	1	x	2.61	x	3.38	x	0.38			=	3.36	CuM
Total RCC Work											7.29	CuM
<b>Item No:-4</b>												
Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works in <b>Slabs / Landings / Vertical Walls / Waist Slabs / Steps</b> for Staircase as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)												
<b>In RCC M-150</b>												
Top Slab RCC	1	x	6.69	x	3.46	x	0.15			=	3.48	CuM
RCC Cover	2	x	0.9	x	0.9	x	0.15			=	0.25	CuM



# DEWATS

## SETTLER FOR DEWATS



Name of Work:- CONSTRUCTION OF ABR-AF					
ABSTRACT for ABR-AF					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b>Item No 1. :-</b>			
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)			
121.47	CuM	Lift 0 to 1.5 M	150	CuM	18220.70
121.47	CuM	Lift 1.5 to 3.0 M	164	CuM	19921.30
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b>Item No 2. :-</b>			
		Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100			
11.35	CuM		5185.00	CuM	58849.75
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<b>Item No 3. :-</b>			
		Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)			
10.58	CuM		7206.00	CuM	76239.48
		In RCC M-250			
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<b>Item No 4. :-</b>			

		Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)			
8.37	Nos.		8046.00	Nos.	67345.02
		In RCC M-150			
		(MJP SSR 2021-22 P NO 49 I No 5)			
		<b><u>Item No 5. :-</u></b>			
1.52	MT	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)	66218.00	MT	100386.49
		ToR Steel			
		(MJP SSR 2021-22 P NO 52 Sr No 08 b)			
		<b><u>Item No 6. :-</u></b>			
41.88	CuM	Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out joints pointing in C.M. 1:3 and watering in pillars of rectangular or square shape as shown on the drawing or as directed etc. complete.	7407.00	CuM	310205.16
		(MJP SSR 2021-22 P NO 167 Sr No 888)			
		<b><u>Item No 7. :-</u></b>			

564.19	SqM	Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1Kilogramper cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc.complete.	599.00	SqM	337947.41
		(SSR PWD 2020-21 P NO 177 I No 32.11)			
		<b><u>Item No 8. :-</u></b>			
24.00	RMtr	Providing & Supplying HDPE Pipe of 110 mm diametre (Pressure 6 kg / Sq. cm)	615.00	RMtr	14760
		(SSR MJP 2021-22 P NO 113 Sr No 1.A. vii)			
		<b><u>Item No 9. :-</u></b>			
14.00	Nos.	Providing & Supplying TEE of 160 mm	600.00	Nos.	8400
		Market Rates			
		<b><u>Item No 10. :-</u></b>			
12.00	Nos.	Providing and fixing reinforced cement concrete cover of size 90 cm x 45 cm with frame over inspection chamber etc. complete. Medium duty (140 Kilogram)	3547.00	Nos.	42564
		(SSR PWD 2020-21 P NO 235 I No 42.69 )			
		<b><u>Item No 11. :-</u></b>			
34.32	SqM	Filter Media Support	2500.00	SqM	85807.5
		Market Rates			
		<b><u>Item No 12. :-</u></b>			
33.60	CuM	Filter media	900.00	CuM	30240
		MJP SSR 2021-22 P No 13 Sr No 50			
		<b>Total Cost of One ABR-AF in Rs:-</b>			<b>1170886.82</b>

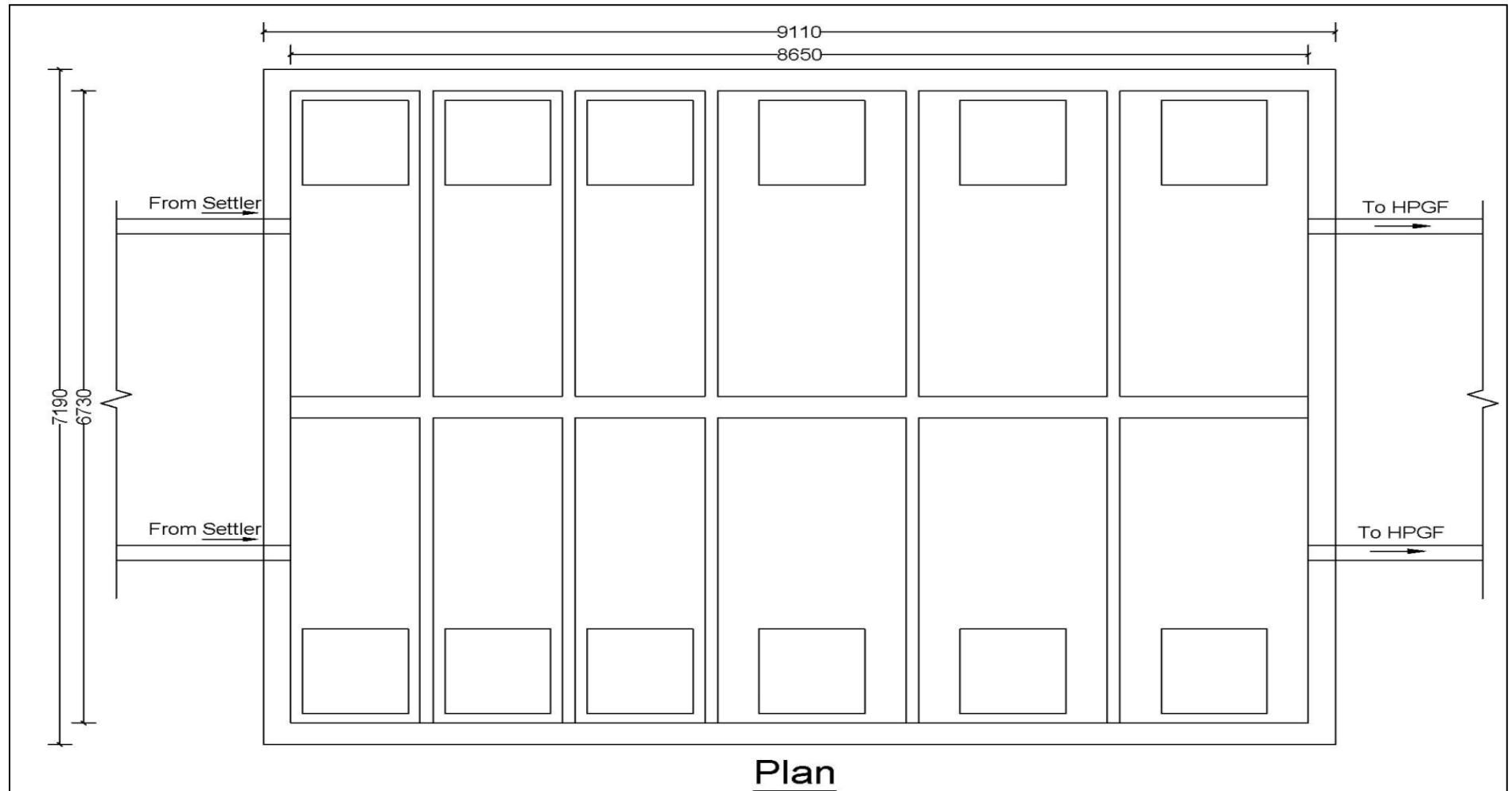
MEASUREMENTS FOR CONSTRUCTION OF ABR-AF												
Particulars	Nos.		L		B		D				Quantity	
1	2		3		4		5				6	
<b>Item No:-1</b>												
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)												
0 -1.5 M	1	x	10	x	8.09	x	1.5			=	121.47	CuM
1.5-3 M	1	x	10	x	8.09	x	1.5			=	121.47	CuM
Total Excavation Quantity 0-1.5 M											121.47	CuM
Total Excavation Quantity 1.5-3 M											121.47	CuM
<b>Item No:-2</b>												
Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100												
Total PCC Work	1	x	9.71	x	7.79	x	0.15			=	11.35	CuM
<b>Item No:-3</b>												
Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)												
In RCC M-250												
Raft RCC	1	x	9.41	x	7.49	x	0.15			=	10.58	CuM
Total RCC Work											10.58	CuM
<b>Item No:-4</b>												
Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works in <b>Slabs / Landings / Vertical Walls / Waist Slabs / Steps</b> for Staircase as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)												
In RCC M-150												
Top Slab RCC	1	x	9.11	x	7.19	x	0.15			=	9.83	CuM
Deduction of RCC Cover	12	x	0.9	x	0.9	x	0.15			=	1.46	CuM



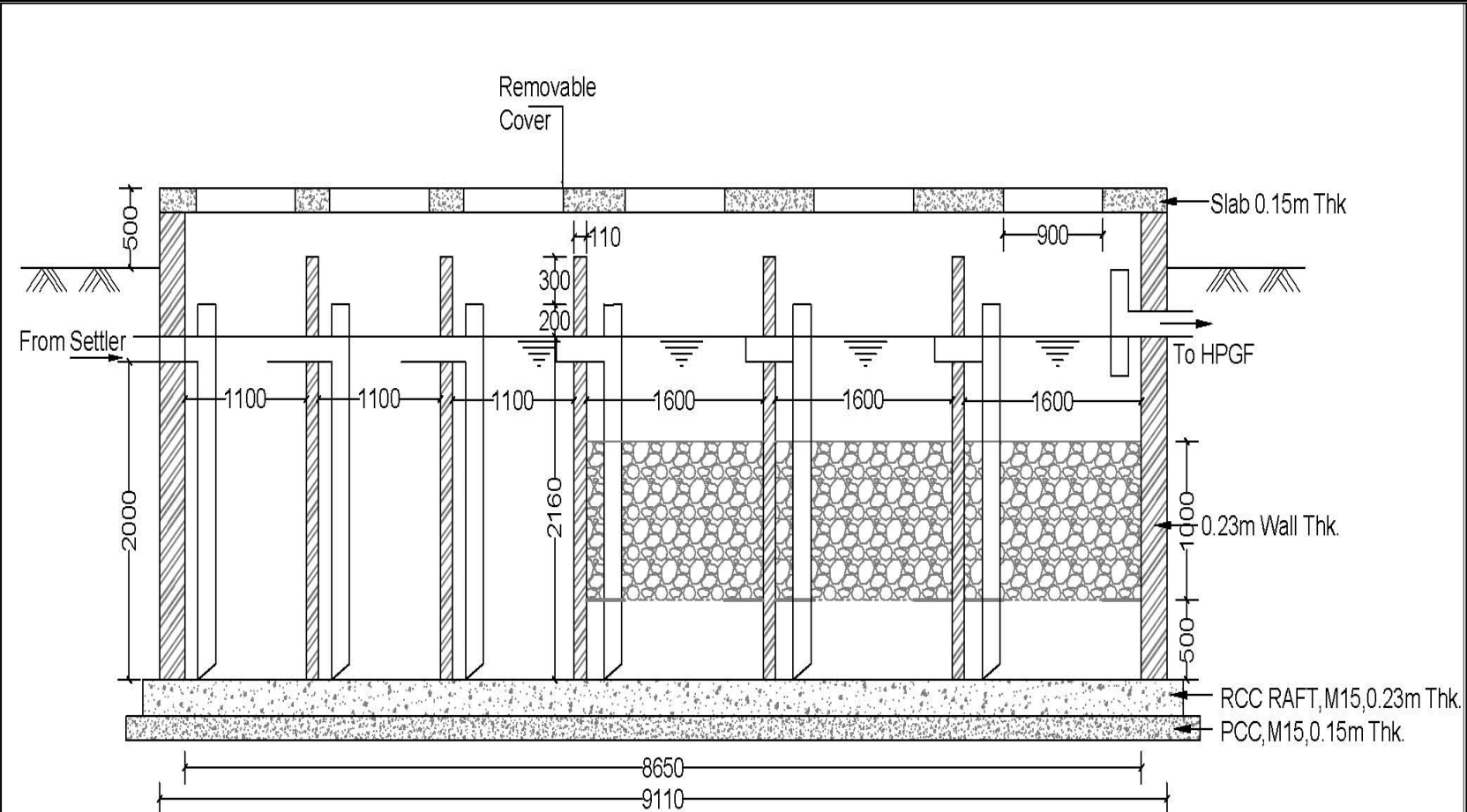


	1	x	5.10	x	6.73					=	34.32	SqM		
<b>Item No:-12</b>														
Filter media														
	6	x	1.60	x	3.50	x	1.00				=	33.60	CuM	

# ABR-AF



# ABR-AF



Section

Name of Work:- CONSTRUCTION OF HPGF					
ABSTRACT for HPGF					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)			
249.28	CuM	Lift 0 to 1.5 M	150	CuM	37392.04
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b><u>Item No 2. :-</u></b>			
		Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100			
37.01	CuM		5185.00	CuM	191896.85
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<b><u>Item No 3. :-</u></b>			
		Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)			
44.27	CuM		7206.00	CuM	319009.62
		In RCC M-250			
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<b><u>Item No 4. :-</u></b>			

3.54	MT	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)	66218.00	MT	234517.67
		ToR Steel			
		(MJP SSR 2021-22 P NO 52 Sr No 08 b)			
		<b><u>Item No 5. :-</u></b>			
14.17	CuM	Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out joints pointing in C.M. 1:3 and watering in pillars of rectangular or square shape as shown on the drawing or as directed etc. complete.	7407.00	CuM	104957.19
		(MJP SSR 2021-22 P NO 167 Sr No 888)			
		<b><u>Item No 6. :-</u></b>			
158.25	SqM	Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1 Kilogram per cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc. complete.	599.00	SqM	94791.75
		(SSR PWD 2020-21 P NO 177 I No 32.11)			
		<b><u>Item No 7. :-</u></b>			
10.00	RMtr	Providing & Supplying HDPE Pipe of 110 mm diameter (Pressure 6 kg / Sq. cm)	615.00	RMtr	6150
		(SSR MJP 2021-22 P NO 113 Sr No 1.A. vii)			
		<b><u>Item No 8. :-</u></b>			
13.20	CuM	Filter media at inlet and outlet zone	900.00	CuM	11880

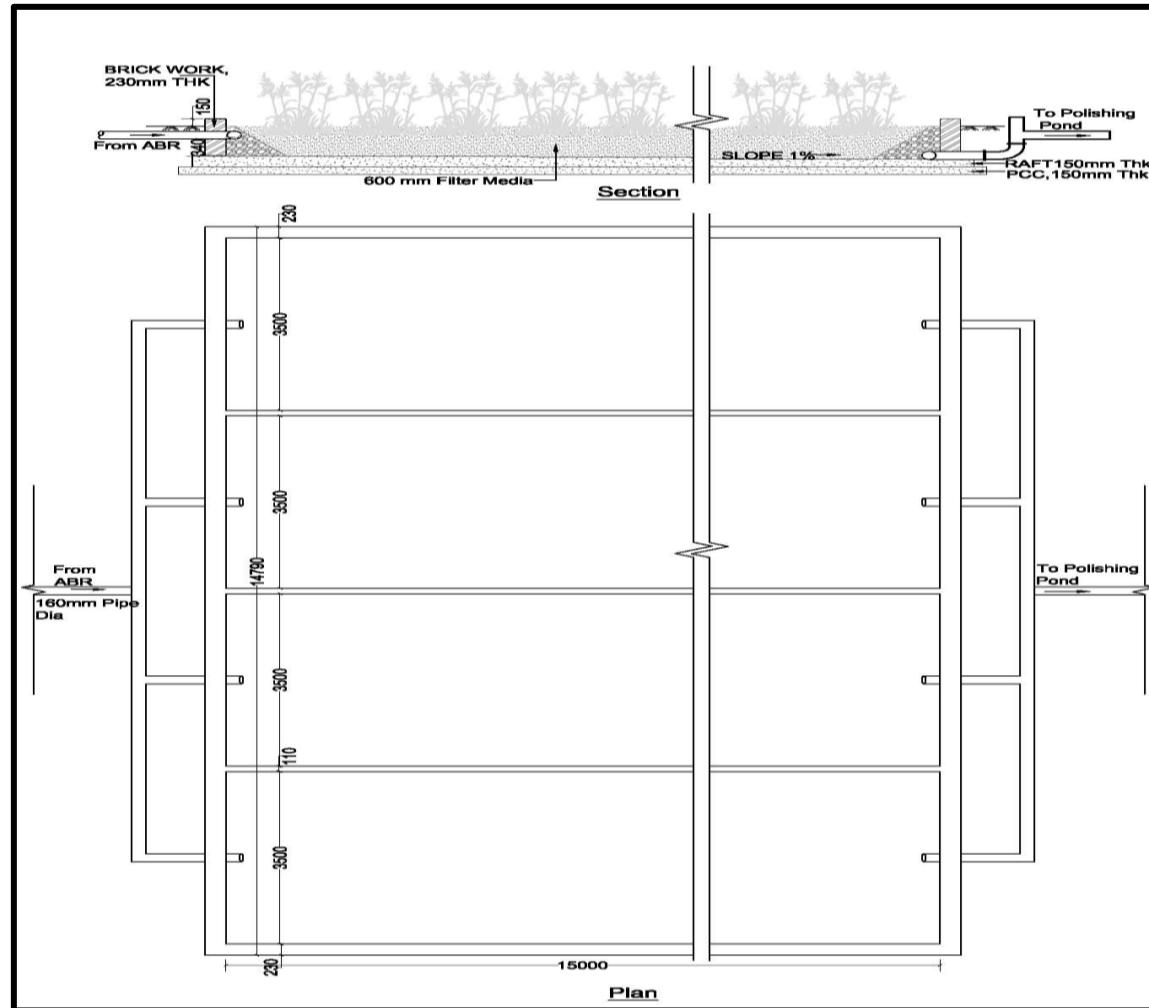
		MJP SSR 2021-22 P No 13 Sr No 49			
		<b><u>Item No 9. :-</u></b>			
126.26	CuM	Sand media	1343.00	CuM	169567.18
		MJP SSR 2021-22 P No 13 Sr No 63			
		<b>Total Cost of One ABR-AF in Rs:-</b>			<b>1170162.30</b>

MEASUREMENTS FOR CONSTRUCTION OF HPGF													
Particulars	Nos.	L	B	D							Quantity		
1	2	3	4	5							6		
<b>Item No:-1</b>													
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)													
0-1.5 M	1	x	16.36	x	15.7	x	0.973				=	249.28	CuM
Total Excavation Quantity 0-1.5 M												249.28	CuM
<b>Item No:-2</b>													
Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38 a) In PCC M-100													
Total PCC Work	1	x	16.06	x	15.4	x	0.15				=	37.01	CuM
<b>Item No:-3</b>													
Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)													
In RCC M-250													
Raft RCC	1	x	15.76	x	15.1	x	0.187				=	44.27	CuM
Total RCC Work												44.27	CuM
<b>Item No:-4</b>													
Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306) Mild Steel													
Reinforcement @80kg/m <sup>3</sup>												3.54	MT
<b>Item No:-5</b>													
Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out joints pointing in C.M. 1:3 and watering in pillars of rectangular or square shape as shown on the drawing or as directed etc. complete.													
Long Wall	2	x	14.79	x	0.23	x	0.75				=	5.11	
Short Wall	2	x	15.46	x	0.23	x	0.75				=	5.34	
Partition Wall	3	x	15	x	0.11	x	0.75				=	3.72	



Total Brick Masonry Work												14.17	CuM
<b>Item No:-6</b>													
Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1Kilogramper cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc.complete.													
Long Wall	4	x	14.79			x	0.75				=	44.37	SqM
Short Wall	4	x	15.46			x	0.75				=	46.38	SqM
Baffle walls	6	x	15			x	0.75				=	67.50	SqM
												158.25	SqM
<b>Item No:-7</b>													
Providing & Supplying HDPE Pipe of 160 mm diametre (Pressure 6 kg / Sq. cm) for internal flow													
	10										=	10.00	RMtr
<b>Item No:-8</b>													
Filter media at inelt and outlet zone													
	8										=	13.20	CuM
<b>Item No:-9</b>													
Sand media													
	4										=	126.26	CuM

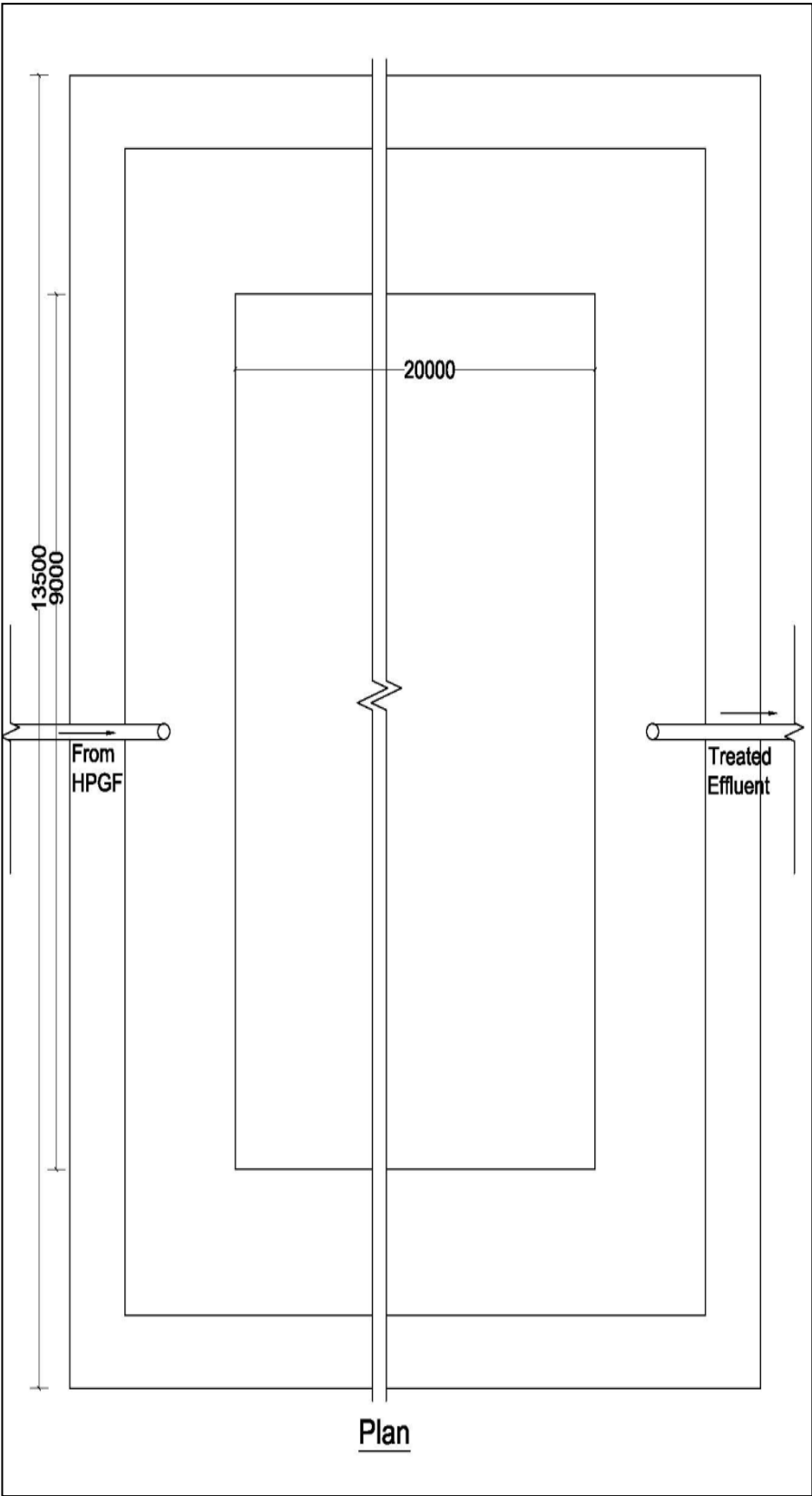
# HPGF



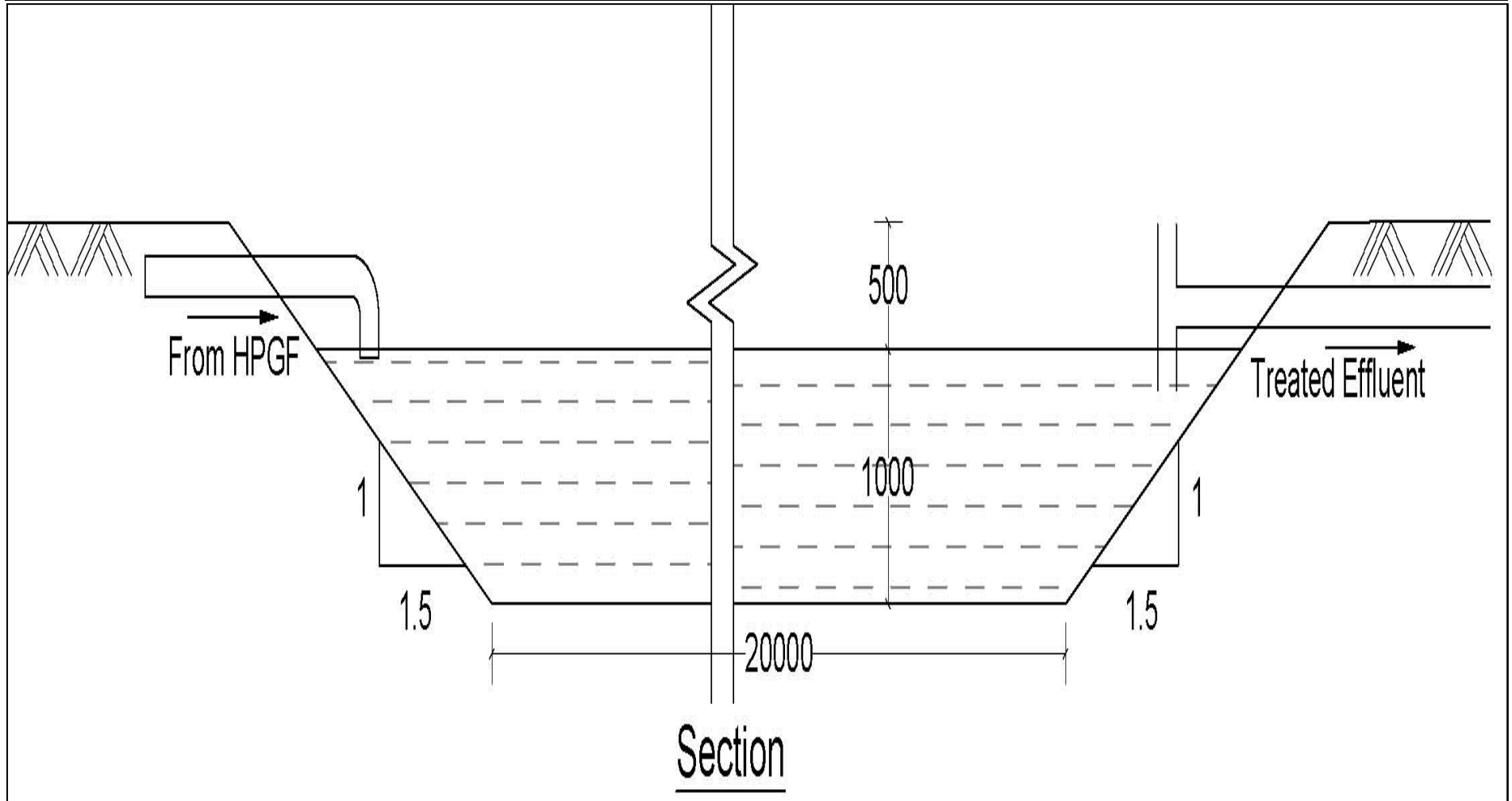
Name of Work:- CONSTRUCTION OF POLISHING POND					
ABSTRACT for POLISHING POND					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b>Item No 1. :-</b>			
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)			
496.13	CuM	Lift 0 to 1.5 M	150	CuM	74418.75
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b>Item No 2. :-</b>			
		Watering and compacting of embankment formed of materials obtained from the road cutting within a lead of 50 m, not less than 97% of standard Proctor density after laying them in layers of 20 cm. to 30 cm. with Power roller.			
128.44	CuM		59.00	CuM	7577.96
		(PWD SSR 2020-21 P NO 28 I No 2.24)			
		<b>Item No 3. :-</b>			
		Providing & Supplying HDPE Pipe of 160 mm diametre (Pressure 6 kg / Sq. cm)			
10.00	RMtr		615.00	RMtr	6150
		(SSR MJP 2021-22 P NO 113 Sr No 1)			
		<b>Item No 4. :-</b>			
		Providing & Supplying TEE of 160 mm			
2.00	Nos.		600.00	Nos.	1200
		Market Rates			
		<b>Total Rs:-</b>			<b>89346.71</b>

MEASUREMENTS FOR CONSTRUCTION OF POLISHING POND													
Particulars	Nos.	L	B	D							Quantity		
1	2	3	4	5							6		
<b>Item No:-1</b>													
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)													
0 -1.5 M	1	x	24.5	x	13.5	x	1.5				=	496.13	CuM
Total Excavation Quantity 0-1.5 M												496.13	CuM
<b>Item No:-2</b>													
Watering and compacting of embankment formed of materials obtained from the road cutting within a lead of 50 m, not less than 97% of standard Proctor density after laying them in layers of 20 cm. to 30 cm. with Power roller.													
Volume Along short edge			13.5	x			1.7					22.82	
Volume Along long edge			24.5	x			1.7					41.41	
Total Embankment Work												128.44	CuM
<b>Item No:-3</b>													
Providing & Supplying HDPE Pipe of 110 mm diametre (Pressure 6 kg / Sq. cm) for internal flow													
	10										=	10.00	RMtr
<b>Item No:-4</b>													
TEE at inlet and outlets (160mm)													
Total Elbow	2											2.00	Nos.

# Polishing Ponds



# Polishing Ponds



<b>Constructed Wetlands</b>			
<b>Sr No</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>
1	Present Population of the village	5000	Persons
2	Projected Population (18% of current population)	5900	Persons
3	Quantity of Water Supplied per capita	55	LPCD
4	Per Capita Grey water generation (65% of water supply)	35.75	LPCD
5	Total Daily Grey Water Generation in the village	210925	Litres / Day
		211000	Litres / Day
6	Volume Required (m3)	211	KLD
7	Total Area Required for Constructed Wetland (m2)	2250	m2

Note: The area requirement will vary depending on the shape of the plot available as well as with the placement of units.

Name of Work:- CONSTRUCTION OF CONSTRUCTED WETLAND					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
1.00	No.	Screen Chamber	36532	No.	36532
		<b><u>Item No 2. :-</u></b>			
2.00	No.	Construction of Settler	384061.70	No.	768123.40
		<b><u>Item No 3. :-</u></b>			
3.00	No.	Vertical Flow Constructed Wetland	1137328.20	No.	3411984.60
		<b>Total Cost of Screen Chamber in Rs:-</b>			<b>4216640</b>



Name of Work:- CONSTRUCTION OF SCREEN CHAMBER FOR CW					
ABSTRACT					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b>Item No 1. :-</b>			
		Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C. frame and cover, etc. complete			
1.00	No.	As above of 1.2 x 1.2 M internal size and depth upto 1.2 M with S.F.R.C. frame and cover of size 540 mm dia. fixed in RCC slab.	21532	No.	21532
		MJP SSR 2021-22 P No 222 Sr. No 3 E			
		<b>Item No 2. :-</b>			
1.00	No.	Bar Screen Supply of bar screen with following specifications <ul style="list-style-type: none"> <li>• Length: 1 m with handle</li> <li>• Width: 450 mm</li> <li>• SS fl at size: 25 mm x 3 mm thick</li> <li>• Opening: 10 mm</li> <li>• SS angle frame: 25 mm x 25 mm x 3 mm thick</li> </ul>	15000.00	No.	15000.00
		Market Rates			
<b>Total Cost of Screen Chamber in Rs:-</b>					<b>36532</b>

MEASUREMENTS FOR CONSTRUCTION OF SCREEN CHAMBER FOR CW										
Particulars	Nos.	L	B	D						Quantity
1	2	3	4	5						6
<b>Item No:-1</b>										
Providing and constructing B.B. masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, B.B. masonry in CM 1:5 proportion precast S.F.R.C. frame and cover, etc. complete										
As above of 1.2 x 1.2 M internal size and depth upto 1.2 M with S.F.R.C. frame and cover of size 540 mm dia. fixed in RCC slab.										
	1									1 No.
<b>Item No:-2</b>										
Bar Screen Supply of bar screen with following specifications <ul style="list-style-type: none"> <li>• Length: 1 m with handle</li> <li>• Width: 450 mm</li> <li>• SS fl at size: 25 mm x 3 mm thick</li> <li>• Opening: 10 mm</li> <li>• SS angle frame: 25 mm x 25 mm x 3 mm thick</li> </ul>										
	1									1.00 No.

<b>Constructed Wetland</b>		
<b>Design Calculations for Settler</b>		
<b>Inflow</b>	<b>211</b>	<b>m3/day</b>
<b>say</b>	<b>211</b>	<b>m3/day</b>
	8.8	m3/hr
HRT	1.5-2	hrs
Say	2	hrs
SRT (assumed)	21	Months
BOD	150	
COD	270	
COD/BOD	1.8	
TSS	150	
Factor removal to HRT	0.35	
ss/COD ratio	0.25	
Surface Load factor	0.6	
COD removal rate	0.15	
COD out	229.5	
Factor of Efficiency ratio of BOD removal to COD removal	1.06	
BOD removal rate	0.159	
BOD out	127	
Water depth at outlet	2	m
Sludge and storage volume		
Reduction of sludge volume during storage	0.706	
Sludge volume (l/g BOD removed)	0.005	
Sludge volume per BOD removal	0.00353	
Reduction in BOD	23	
Sludge volume from BOD reduction	0.000115	
Sludge volume	15.29	
Settler volume		
Water volume	17.6	
Water volume + sludge volume	32.89	
Settler surface area	16.445	
Ht of scum	0.2	m
Scum volume	3.289	
Total volume of settler	36.179	
Size of chamber		
<b>Width of chamber assumed</b>	<b>3</b>	<b>m</b>
<b>Length of 1st chamber</b>	<b>4.02</b>	
say	<b>4</b>	<b>m</b>
Length of 2nd chamber	2	
Say	<b>2</b>	<b>m</b>

Surface area of the settler	18	
Volume of settler	36	

Name of Work:- CONSTRUCTION OF SETTLER FOR CW					
ABSTRACT					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b><u>Item No 1. :-</u></b>			
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)			
48.05	CuM	Lift 0 to 1.5 M	150	CuM	7207.52
48.05	CuM	Lift 1.5 to 3.0 M	164	CuM	7880.22
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b><u>Item No 2. :-</u></b>			
4.12	CuM	Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B-7, Page No. 38	5185	CuM	21362.20
		<b>In PCC M-100</b>			
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<b><u>Item No 3. :-</u></b>			
7.29	CuM	Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)	7206	CuM	52531.74
		<b>In RCC M-250</b>			
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<b><u>Item No 4. :-</u></b>			

3.73	CuM	Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)	8046	CuM	30011.58
		<b>In RCC M-150</b>			
		(MJP SSR 2021-22 P NO 49 I No 5)			
		<b><u>Item No 5. :-</u></b>			
0.88	MT	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)	66218	MT	58377.79
		<b>ToR Steel</b>			
		(MJP SSR 2021-22 P NO 52 Sr No 08 b)			
		<b><u>Item No 6. :-</u></b>			
15.12	CuM	Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out joints pointing in C.M. 1:3 and watering in pillars of rectangular or square shape as shown on the drawing or as directed etc.complete.	7407	CuM	111993.84
		(PWD SSR 2021-22 P NO 167 Sr No 888)			
		<b><u>Item No 7. :-</u></b>			

133.98	SqM	Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1Kilogramper cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc.complete.	599	SqM	80252.82
		(SSR PWD 2020-21 P NO 177 I No 32.04)			
		<b><u>Item No 8. :-</u></b>			
10.00	RMtr	Providing & Supplying HDPE Pipe of 160 mm diametre (Pressure 6 kg / Sq. cm)	615	RMtr	6150
		(SSR PWD 2020-21 P NO 113 Sr No 1.A. vii)			
		<b><u>Item No 9. :-</u></b>			
2.00	Nos.	Providing & Supplying TEE of 160 mm at inlet & outlet	600	Nos.	1200
		Market Rates			
		<b><u>Item No 10. :-</u></b>			
2.00	Nos.	Providing and fixing reinforced cement concrete cover of size 90 cm x 45 cm with frame over inspection chamber etc. complete. Medium duty (140 Kilogram)	3547	Nos.	7094
		(SSR PWD 2020-21 P NO 235 I No 42.69 )			
<b>Total Cost of 1 Settler in Rs:-</b>					<b>384061.70</b>

MEASUREMENTS FOR CONSTRUCTION OF SETTLER FOR CW							
Particulars	Nos.	L	B	D			Quantity
1	2	3	4	5			6

<b>Item No:-1</b>												
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)												
0 -1.5 M	1	x	7.89	x	4.06	x	1.5			=	48.05	CuM
1.5-3 M	1	x	7.89	x	4.06	x	1.5			=	48.05	CuM
Total Excavation Quantity 0-1.5 M											48.05	CuM
Total Excavation Quantity 1.5-3 M											48.05	CuM
<b>Item No:-2</b>												
Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38												
In PCC M-100												
Total PCC Work	1	x	7.29	x	3.76	x	0.15			=	4.12	CuM
<b>Item No:-3</b>												
Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)												
In RCC M-250												
RCC Raft for Chamber 1	1	x	4.38	x	3.38	x	0.265			=	3.93	CuM
RCC Raft for Chamber 2	1	x	2.61	x	3.38	x	0.38			=	3.36	CuM
Total RCC Work											7.29	CuM
<b>Item No:-4</b>												
Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works in <b>Slabs / Landings / Vertical Walls / Waist Slabs / Steps</b> for Staircase as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form work, compaction, finishing the formed surfaces with C.M. 1:3 of sufficient minimum thickness to give a smooth and even surface wherever necessary or roughening if special finish is to be provided and curing, etc. complete. (By weigh batching and mix design for M-250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)												
In RCC M-150												
Top Slab RCC	1	x	6.69	x	3.46	x	0.15			=	3.48	CuM
RCC Cover	2	x	0.9	x	0.9	x	0.15			=	0.25	CuM
Total RCC Work											3.73	CuM

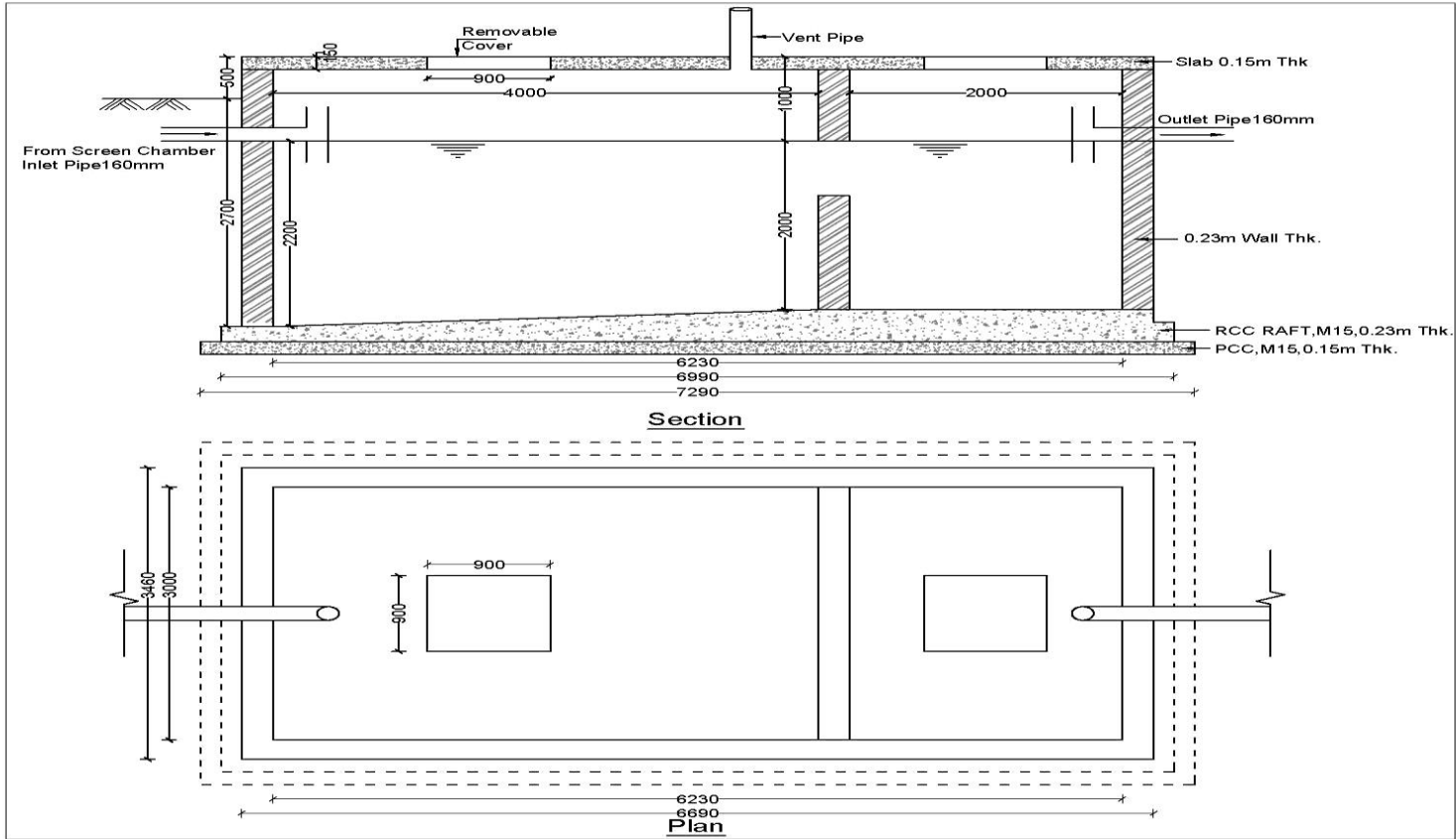


<b>Item No:-5</b>												
Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306) ToR Steel												
Reinforcement @80kg/m3											0.88	MT
<b>Item No:-6</b>												
Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out joints pointing in C.M. 1:3 and watering in pillars of rectangular or square shape as shown on the drawing or as directed etc. complete.												
Long Wall	2	x	6.69	x	0.23	x	3.05			=	9.39	
Short Wall	2	x	3	x	0.23	x	3.05			=	4.21	
Wall with cavity	1	x	3	x	0.23	x	3.05			=	2.11	
Cavity	1	x	2.54	x	0.23	x	1			=	0.59	
Total Brick Masonry Work											15.12	CuM
<b>Item No:-7</b>												
Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1 Kilogram per cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc. complete.												
Lng Wall	4	x	6.69			x	3.05			=	81.62	SqM
Short Wall	4	x	3			x	3.05			=	36.60	SqM
Wall with cavity	2	x	3			x	3.05			=	18.30	SqM
Deduction of cavity	2	x	2.54			x	0.5			=	2.54	SqM
Total Plastering Work											133.98	SqM
<b>Item No:-8</b>												
Providing & Supplying HDPE Pipe of 160 mm diameter (Pressure 6 kg / Sq. cm)												
	10									=	10.00	RMtr
<b>Item No:-9</b>												
TEE at inlet and outlets (160mm)												
Total TEE	2										2.00	Nos.
<b>Item No:-10</b>												
Providing and fixing reinforced cement concrete cover of size 90 cm x 45 cm with frame over inspection chamber etc. complete. Medium duty (140 Kilogram)												
	2									=	2.00	Nos.

<b>Constructed Wetland</b>		
<b>Design Calculations for Vertical Flow Constructed Wetland</b>		
Inflow	211	m <sup>3</sup> /day
Inlet BOD	127	mg/l
Inlet COD	230	
No. of basins to be provided	3	
Flow per basin	71	
Organic loading	16330	gm/day
Filter layer	Coarse Sand	
Maximum areal organic loading rate (g COD/m <sup>2</sup> .d)	80	
Area Required	204.125	
say W/L	2	m
length	10.2	m
Say L	<b>10</b>	m
Width	20.5	m
Width	<b>20.5</b>	m
The depth of filter		
Sand filter	0.5	m
Gravel to cover bottom	0.2	m
Top layer	0.1	m
Free board	0.15	m

# Constructed Wetlands (CW)

## SETTLER FOR CW



Name of Work:- CONSTRUCTION OF VFCW					
ABSTRACT					
Quantity		Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<b>Item No 1. :-</b>			
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)			
223.50	CuM	Lift 0 to 1.5 M	150	CuM	33524.50
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<b>Item No 2. :-</b>			
35.77	CuM	Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38	5185	CuM	185467.45
		<b>In PCC M-100</b>			
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<b>Item No 3. :-</b>			
46.44	Nos.	Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)	6604	Nos.	306689.76
		In RCC M-150			
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<b>Item No 4. :-</b>			

3.72	MT	Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306)	66218	MT	246013.11
		ToR Steel			
		(MJP SSR 2021-22 P NO 52 Sr No 8 b)			
		<b><u>Item No 5. :-</u></b>			
13.53	CuM	Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out joints pointing in C.M. 1:3 and watering in pillars of rectangular or square shape as shown on the drawing or as directed etc. complete.	7407	CuM	100216.71
		(PWD SSR 2021-22 P NO 167 Sr No 888)			
		<b><u>Item No 6. :-</u></b>			
58.83	SqM	Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1Kilogramper cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc. complete.	599	SqM	35239.17
		(SSR PWD 2020-21 P NO 177 I No 32.11)			
		<b><u>Item No 7. :-</u></b>			
20.00	RMtr	Providing & Supplying HDPE Pipe of 160 mm diameter (Pressure 6 kg / Sq. cm)	615	RMtr	12300
21.00	RMtr	Providing & Supplying Air Pipe (Perforated Pipe) HDPE Pipe of 160 mm diameter (Pressure 6 kg / Sq. cm)	1090	RMtr	22890
		(SSR PWD 2020-21 P NO 175 I No 31.14)			
5.00	RMtr	Providing & Supplying HDPE Pipe of 110 mm diameter (Pressure 6 kg / Sq. cm)	276	RMtr	1380
		(MJP SSR 2021-22 P NO 153 Sr No 1.A.			

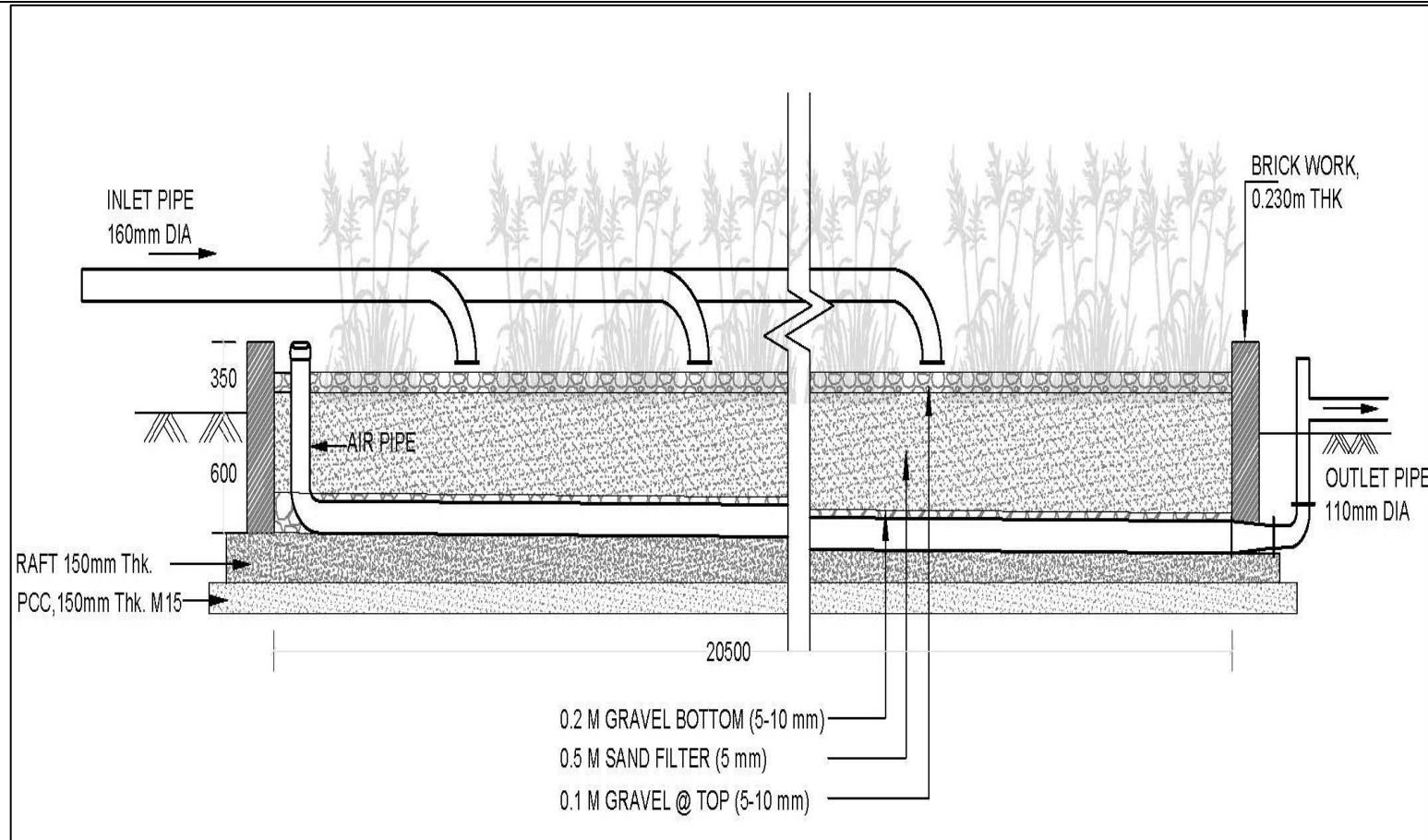
		<b>Item No 8. :-</b>			
1.00	Nos.	Providing & Supplying Reducer of 160 to 110 mm	600	Nos.	600
		Market Rates			
		<b>Item No 9. :-</b>			
		Filter media			
102.50	CuM	Course Sand	1343	CuM	137657.5
		MJP SSR 2021-22 P No 13 Sr No 63			
61.50	CuM	Aggregate	900	CuM	55350
		MJP SSR 2021-22 P No 13 Sr No 50			
		<b>Total Cost of VFCW in Rs:-</b>			<b>1137328.2</b>

MEASUREMENTS FOR CONSTRUCTION OF VFCW												
Particulars	Nos.		L		B		D				Quantity	
1	2		3		4		5				6	
<b>Item No:-1</b>												
Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including removing the excavated material upto a distance of 50 metres and lifts as below, stacking and spreading as directed, normal dewatering, preparing the bed for foundation and excluding backfilling, etc. complete. (Bd-A 1/259)												
0 -1.5 M	1	x	21.86	x	11.4	x	0.9			=	223.50	CuM
Total Excavation Quantity 0-1.5 M											223.50	CuM
<b>Item No:-2</b>												
Providing and laying in situ Cement Concrete M-15 of trap/ granite / quartzite / gneiss metal for foundation and bedding including bailing out water, form work, compaction, curing, etc. complete. (Cement 5.90 bags / cum) Spec. No. - Bd E /1 Page No. 287 and B- 7, Page No. 38												
In PCC M-100												
Total PCC Work	1	x	21.56	x	11.1	x	0.15			=	35.77	CuM
<b>Item No:-3</b>												
Providing and laying in situ Cement Concrete of trap/ granite / quartzite / gneiss metal for RCC work in foundation like raft, grillage, strip foundation and footing of RCC columns and steel stanchions including normal dewatering, form work, compaction, finishing and curing, etc. complete. (By weigh batching and mix design for M250 and M-300 only. Use of L&T, A.C.C., Ambuja, Birla Gold, Manikgad, Rajashree, etc. cement is permitted.) (Excluding M.S. or Tor reinforcement)												
In RCC M-150												
Raft RCC	1	x	21.26	x	10.8	x	0.2			=	46.44	CuM
Total RCC Work											46.44	CuM
<b>Item No:-4</b>												
Providing and fixing in position steel bar reinforcement of various diameters for RCC piles, caps, footings, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies, copings, fins, arches, etc. as per detailed designs, drawings and schedules; including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required, etc. complete (including cost of binding wire). (Bd-F 17/306) ToR Steel												
Reinforcement @80kg/m3											3.72	MT
<b>Item No:-5</b>												
Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out joints pointing in C.M. 1:3 and watering in pillars of rectangular or square shape as shown on the drawing or as directed etc. complete.												
Long Wall	2	x	20.96	x	0.23	x	0.95			=	9.16	

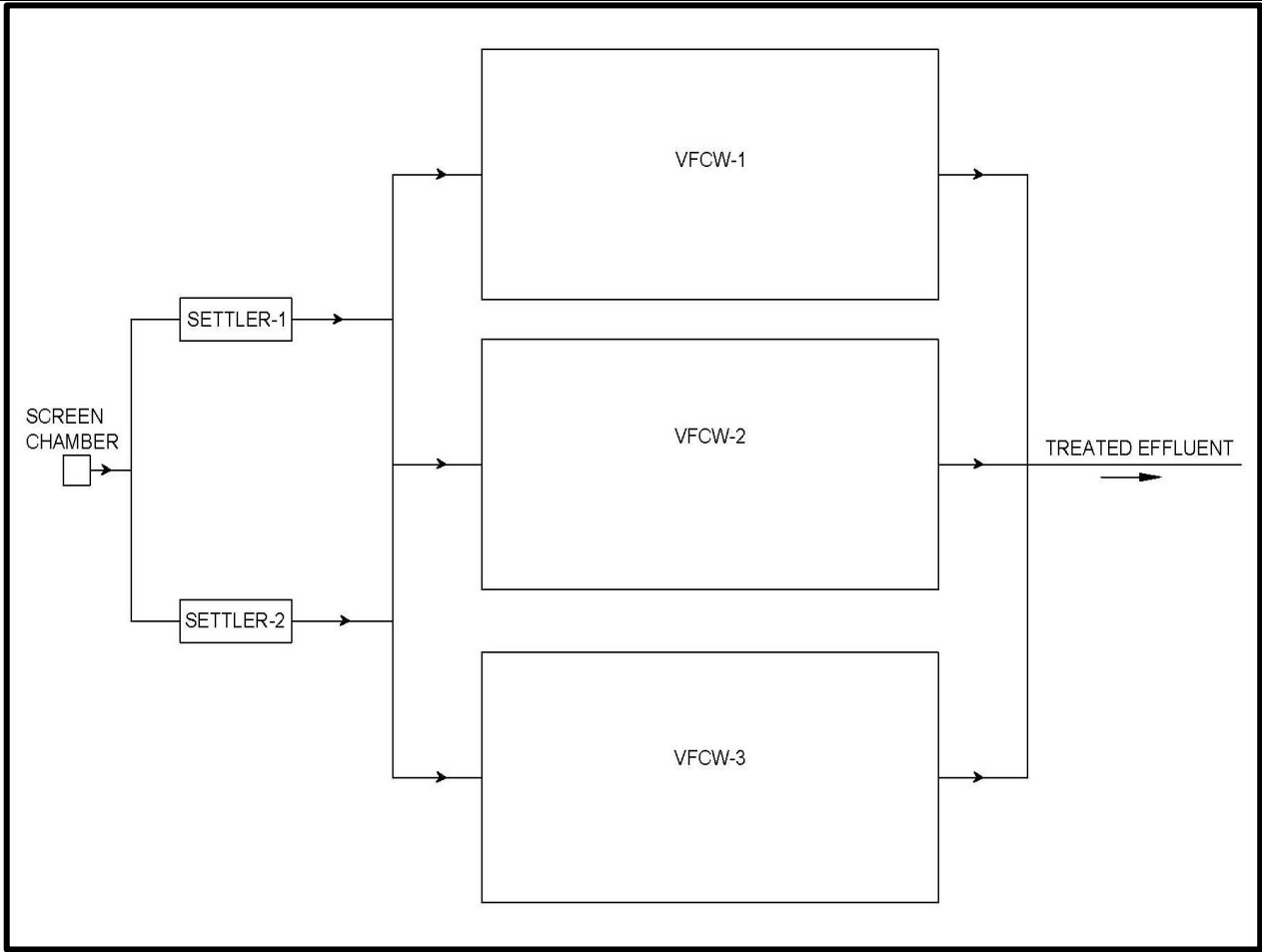
Short Wall	2	x	10	x	0.23	x	0.95			=	4.37	
Total Brick Masonry Work											13.53	CuM
<b>Item No:-6</b>												
Providing sand faced plaster externally in cement mortar using approved screened sand, in all positions including base coat of 15 mm thick in cement mortar 1:4 using waterproofing compound at 1Kilogramper cement bag curing the same for not less than 2 days and keeping the surface of the base coat rough to receive the sand faced treatment 6 to 8 mm thick in cement mortar 1:4 finishing the surface by taking out grains and curing for fourteen days scaffolding etc.complete.												
Long Wall	2	x	20.96			x	0.95			=	39.83	
Short Wall	2	x	10			x	0.95			=	19.00	
Total Plaster Work											58.83	SqM
<b>Item No:-7</b>												
Providing & Supplying HDPE Pipe of 160 mm diametre (Pressure 6 kg / Sq. cm)												
Inlet Pipe of 160 mm diametre	20									=	20.00	RMtr
Air Pipe (Perforated Pipe) of 160 mm diametre	21									=	21.00	RMtr
Outlet Pipe of 110 mm diametre	5									=	5.00	RMtr
<b>Item No:-8</b>												
Providing and supplying Reducer of 160 to 110 mm												
	1										1.00	Nos.
<b>Item No:-9</b>												
Filter media												
Course Sand	1	x	20.50	x	10.00	x	0.50			=	102.50	Cum
Gravel	1	x	20.50	x	10.00	x	0.30			=	61.50	Cum



# VFCW



VFCW



### Integrated Wetland Technology (IWT) Based Sewage Treatment Plant

Designing, providing, constructing, hydraulic testing, commissioning and giving satisfactory trials of Integrated Wetland Technology (IWT) based Sewage Treatment Plant (STP) consisting of Screen chamber, Oil and Grease trap, RCC Primary treatment tank (including manholes, vent pipes and graded gravel media) and RCC Secondary treatment tank (SBBR) (including gravel media, PVC sheets, wetland plants, plastic mesh, etc. as required.), RCC intermediate and treated water tank, sludge recirculation pump and pipe network, room for tertiary treatment unit, Electrical and Mechanical works for tertiary treatment including associated piping work, internal pathways, wire fencing, etc. complete as turnkey job with all involved civil, electrical and mechanical works inclusive of following items, units as per detailed specifications for civil, electrical and mechanical components with all duties and taxes excluding GST Allied structure shall be constructed as per the provision in appropriate and relevant standards and design guidelines of respective authorities. RCC and civil works will be as directed by Engineer-in-charge.

Other Technological details are given in

[https://mjp.maharashtra.gov.in/sites/default/files/mjp\\_state\\_tarriff\\_oct.pdf](https://mjp.maharashtra.gov.in/sites/default/files/mjp_state_tarriff_oct.pdf)

Sr No	Capacity of the plant in MLD	Area Requirement in Sqm	Unit	Amount in (Rs.)
1	0.10 MLD	250	Job	42,76,060.00
	Add capacity above 0.10 MLD to 0.25 MLD		Litre	29.32
2	0.25 MLD	630	Job	86,74,590.00
	Add capacity above 0.25 MLD to 0.50 MLD		Litre	25.71
3	0.50 MLD	1100	Job	1,51,01,220.00
	Add capacity above 0.50 MLD to 1.00 MLD		Litre	25.03
4	1.00 MLD	2090	Job	2,76,14,730.00
	Add capacity above 1 MLD to 2 MLD		Litre	24.56
5	2.00 MLD	4040	Job	5,21,77,500.00
	Add capacity above 0.10 MLD to 0.25 MLD		Litre	24.10
6	3.00 MLD	5990	Job	7,62,77,430.00
	Add capacity above 0.10 MLD to 0.25 MLD		Litre	23.91
7	5.00 MLD	9950	Job	124104440.00

### Tiger Bio Filter (TBF) Technology Based Sewage Treatment Plant

Designing, providing, constructing, installation, commissioning and giving satisfactory trials of Sewage Treatment Plant based on Tiger Bio Filter Technology consisting of RCC Screen Chamber (including manual screen), Grit Chamber (Including grit pump), Raw Sewage Sump (including manholes, raw sewage pumps), RCC subbase and IInd class BBM Masonry/Zinc Aluminum Tiger Bio Filter Bed/ Tank with shed (including specially designed crates/containers for TBF bio media and culture, filter media consisting gravel of suitable size) with Tertiary Treatment Units such as RCC Filter Feed tank (including manhole, filter feed pumps), Pressure Sand Filter, Activated Carbon Filter, Filter Platform, Sodium Hypochlorite dosing (including pump and tank) etc complete as turnkey job with all involved civil, electrical (including control panel, cabling), mechanical works, necessary plumbing and fittings with required accessories such as valves, tools, spare parts etc complete.

Other Technological details are given in		Booklet 2 (677 pages)		
Sr. No.	Capacity of plant in KLD	Area Requirement in Sqm	Unit	Amount in (Rs)
1	10	35	Job	9,84,455.00
	Add capacity above 10 KLD to 50 KLD		Liter	21.77
2	50	140	Job	18,55,603.00
	Add capacity above 50 KLD to 100 KLD		Liter	21.54
3	100	240	Job	29,32,803.00
	Add capacity above 100 KLD to 200 KLD		Liter	24.55
4	200	450	Job	53,88,211.00
	Add capacity above 200 KLD to 300 KLD		Liter	23.81
5	300	640	Job	77,69,804.00
	Add capacity above 300 KLD to 400 KLD		Liter	23.60
6	400	765	Job	1,01,30,205.00
	Add capacity above 400 KLD to 500 KLD		Liter	23.72
7	500	960	Job	1,25,02,929.00
	Add capacity above 500 KLD to 750 KLD		Liter	21.77
8	750	1370	Job	1,79,47,408.00
	Add capacity above 750 KLD to 1000 KLD		Liter	23.61
9	1000	1810	Job	2,38,51,137.00
	Add capacity above 1000 KLD to 1250 KLD		Liter	20.92
10	1250	2200	Job	2,90,81,777.00
	Add capacity above 1250 KLD to 1500 KLD		Liter	24.71
11	1500	2650	Job	3,52,61,626.00
	Add capacity above 1500 KLD to 1750 KLD		Liter	24.95
12	1750	3050	Job	4,15,00,972.00
	Add capacity above 1750 KLD to 2000 KLD		Liter	19.05
13	2000	3460	Job	4,62,63,956.00