





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

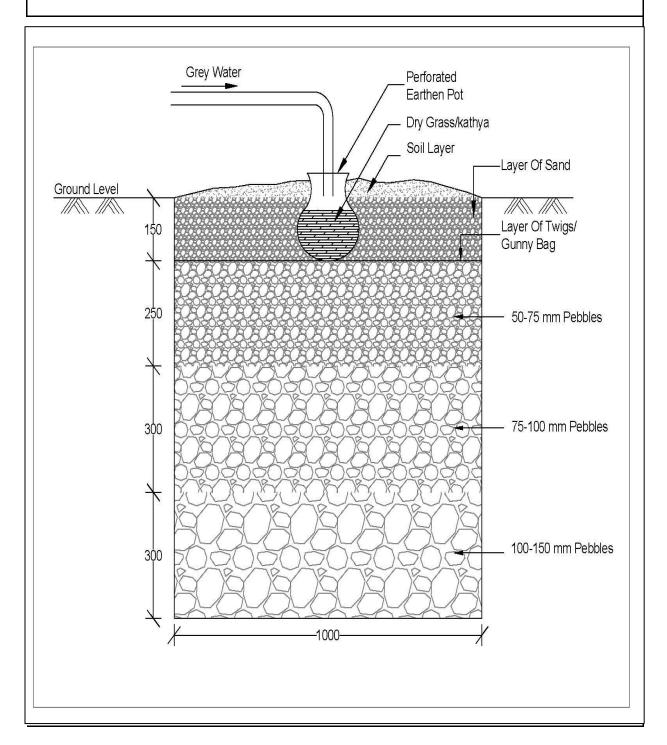
Design, Drawing and Type Estimates for Grey Water Management

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N	Name of Work:- CONSTRUCTION OF HOUSEHOLD SOAK PIT									
		ABSTRACT								
Quan	tity	Particulars	Rate	Unit	Amount					
1	2	3	4	5	6					
		<u>Item No 1. :-</u>								
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					
1.00	Cuiii	Lift 0 to 1.5 M	130.00	Cuiii	130.00					
		(MJP SSR 2021-22 P NO 42 I No 1)								
		Item No 2. :-								
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)								
		<u>Item No 3. :-</u>								
0.15	Cum	Coarse Sand	1343.00	Cum	201.45					
		(MJP SSR 2021-22 P NO 13 I No 63)								
		<u>Item No 4. :-</u>								
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)								
		<u>Item No 5. :-</u>								
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)								
		<u>Item No 6. :-</u>								
1.00	No.	Providing PVC Bend of 75 mm	100.00	No.	100.00					
		Market Rates								
		Total		Rs.:-	1776.45					

Name of Work:- CONSTRUCTION OF HOUSEHOLD SOAK PIT												
		MEA	SL	JREM	EN'	TS						
Particulars		No		L		В		D		Quantity		
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)												
Net Quantity of Excavation		1	Х	1.00	Х	1.00	Х	1.00	=	1.00	Cum	
<u>Item No 2. :-</u>												
Aggregates												
For 1st Layer (100-150 mm)		1	Х	1.00	Х	1.00	Х	0.300	=	0.300	Cum	
For 2nd Layer (75-100 mm)		1	Х	1.00	Х	1.00	Х	0.300	=	0.300	Cum	
For 3rd Layer (50-75 mm)		1	Х	1.00	Х	1.00	Х	0.250	=	0.250	Cum	
Net Quantity of filter media										0.850	Cum	
<u>Item No 3. :-</u>												
Coarse Sand		1	•	1	•	r	•		1			
For Top Layer		1	Х	1.00	Х	1.00	Х	0.15	=	0.15	Cum	
Net Quantity of sand										0.15	Cum	
<u>Item No 4. :-</u>												
Providing P.V.C. pipe 75mm dia.	4 k	g/cm	2 p	ressure	e (c	lass II)						
		1	Х	5.00						5.00	R.Mtr	
Net Quantity of PVC Pipe										5.00	R.Mtr	
<u>Item No 5. :-</u>												
Providing PVC Nahani Trap and	Ве	end o	f 75	mm								
		1							=	1.00	No.	
Quantity of PVC Nahani Trap										1.00	No.	
Item No 6. :-												
Providing PVC Bend of 75 mm												
		1							=	1.00	No.	
Quantity of PVC Nahani Trap										1.00	No.	

Household Soak Pit



	Nar	me of Work:- CONSTRUCTION OF HOUSE	HOLD LEA	CH PIT	
		ABSTRACT			
Quanti	ty	Particulars	Rate	Unit	Amount
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)			
1.74	Cum		150.00	Cum	261.42
		Lift 0 to 1.5 M			
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<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			
0.13	Cum		5185.00	Cum	664.14
		(MJP SSR 2021-22 P NO 49 No 1)			
0.39	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.	6444.00	Cum	2487.44
		(SSR PWD 2020-21 P NO 167 I No 27.03)			
		Item No 4. :-			
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)			

		Item No 5. :-			
		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)			
0.09	No.	200	6653.00	No.	583.00
		(MJP SSR 2021-22 P NO 49 I No 2)			
		Item No 6. :-			
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)			
		Total		Rs.:-	4905.20

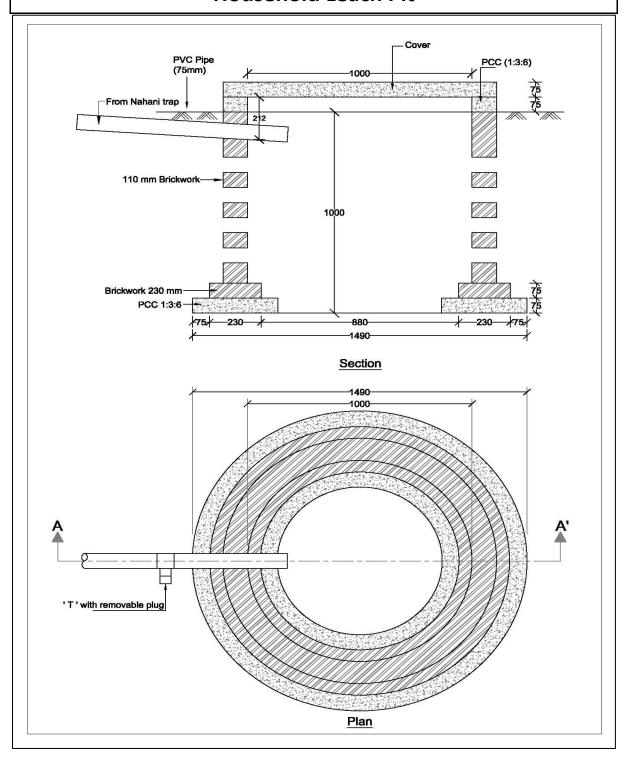
Name of Work:- 0				REMENTS		EHOLD I	.EA	01111	<u> </u>		
	IVI	IEA	3UF		•	loto vo ol	1 1		<u> </u>		
Particulars	No	0		Outer Diamet re		Internal Diamet re		Н		Quantit /	Unit
1	2	2		3		4		5		6	
Item No 1. :-					1		1		!		
Excavation for foundation / pipe treincluding removing the excavated rand spreading as directed, normal backfilling, etc. complete. (Bd-A 1/2)	material al dewa	upt	o a	distance	of 5	50 metres	an	d lifts a	as b	elow, sta	ackin
Quantity of Excavation				1.49			х	1.00	=	1.74	Cu m
Item No 2. :-											
Providing and laying in situ Ceme foundation and bedding including (Cement 5.90 bags / cum) Spec. No	bailing	out	wat	ter, form	wor	k, compa	ctio	n, curi	ng,	etc. con	nplete
Base Ring				1.49	х	0.73	х	0.07 5	=	0.10	Cı m
Top Ring				1.22	х	1.00	х	0.07 5	=	0.03	Cı m
								U			
Item No 3. :-		5 37.34	ith	oon vontio		/IC tupo	bri			0.13	m
Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete	asonry			ng bailing	out	water ma	anua	cks in ally, str	ikin	nent mori	tar 1:
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete For Base Layer	asonry			ng bailing 1.34		water ma	x	cks in cally, str		nent mori g joints,	tar 1:
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete	asonry			ng bailing	out	water ma	anua	cks in cally, str	ikin	nent mori	tar 1:
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete For Base Layer	asonry			ng bailing 1.34	out x	water ma	x	cks in cally, str	ikin =	nent mori g joints,	tar 1: rakin Cu
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete For Base Layer For Honeycombing Layers Net Quantity of Brickwork	e.	incl	udir	1.34 1.22	x x	water ma	x	cks in cally, str	ikin =	nent moring joints,	
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete For Base Layer For Honeycombing Layers Net Quantity of Brickwork Item No 4. :-	e.	incl	udir	1.34 1.22	x x	water ma	x	cks in cally, str	ikin =	nent moring joints,	tar 1: rakin Cu
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete For Base Layer For Honeycombing Layers Net Quantity of Brickwork Item No 4. :-	e.	ores	sure	1.34 1.22 e (class II)	x x	water ma	x	cks in cally, str	ikin =	nent mori g joints, 0.06 0.33 0.4	rakin Ci m
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete For Base Layer For Honeycombing Layers Net Quantity of Brickwork Item No 4. :- Providing P.V.C. pipe 75mm dia.4 k	e.	ores	sure	1.34 1.22 e (class II)	x x	water ma	x	cks in cally, str	ikin =	0.06 0.33 0.4	tar 1: rakin Ci m
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete For Base Layer For Honeycombing Layers Net Quantity of Brickwork Item No 4. :- Providing P.V.C. pipe 75mm dia.4 k Item No 5. :- Providing and laying in situ Cement in foundation like raft, grillage, striincluding normal dewatering, form batching and mix design for M25 Manikgad, Rajashree, etc. cem	g/cm2 p t Concre p found work, c	ete datic	sure x of to a coact 300	1.34 1.22 e (class II) 5.00 rap/ granite and footingion, finish only. Us	e / g of ing se (quartzite of RCC co and curing L&T, A	x x x / gn llum ig, (.C.)	eiss m ns and etc. co	etal	0.06 0.33 0.4 5.00 for RCCeel stancete. (By ja, Birla	R.I. tr
Item No 3. :- Providing second class Burnt Brick in plinth as backing in composite mout joints and watering etc Complete For Base Layer For Honeycombing Layers Net Quantity of Brickwork Item No 4. :-	g/cm2 p t Concre p found work, c	ete datic	sure x of to a coact 300	1.34 1.22 e (class II) 5.00 rap/ granite and footingion, finish only. Us	e / g of ing se (quartzite of RCC co and curing L&T, A	x x x / gn llum ig, (.C.)	eiss m ns and etc. co	etal	0.06 0.33 0.4 5.00 for RCCeel stancete. (By ja, Birla	R.I. tr

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, 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	=	0.007	Cu m
Net Quantity of Reinforcement for Leach Pit Cover						0.007	Cu m

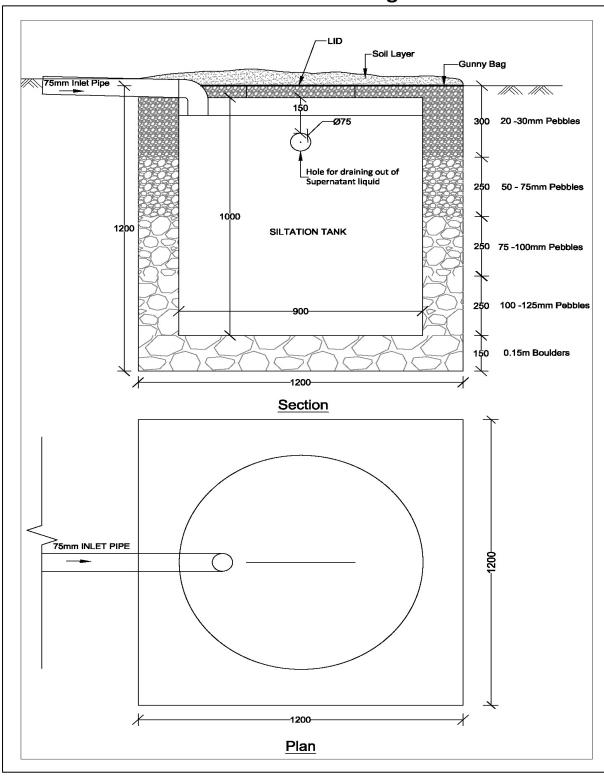
Household Leach Pit



		Name of Work:- CONSTRUCTION	OF MA	GIC PIT	
		ABSTRACT			
Quan	itity	Particulars	Rate	Unit	Amount
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,			
1.73	Cum	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)			
		<u>Item No 2. :-</u>			
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)			
		<u>Item No 3. :-</u>			
0.88	Cum	Aggregates	1343.00	Cum	1176.67
		(MJP SSR 2021-22 P NO 13 I No 63)			
		<u>Item No 4. :-</u>			
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)			
		<u>Item No 5. :-</u>			
1.00	No.	Siltation Tank of Plastic	1000.00	No.	1000.00
		Market Rates			
		<u>Item No 6. :-</u>			
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)			
		<u>Item No 7. :-</u>			
1.00	No.	Providing PVC Bend of 75 mm	100.00	No.	100.00
		Market Rates			
		Total	1	Rs.:-	3290.27

Name of Worl	k:						OF	MAG	IC	PIT	
		ME	AS	JREM	EN	TS					
Particulars		No		L		В		D		Quantity	
1		2		3		4		5		6	
<u>Item No 1. :-</u>											
Excavation for foundation / pipe murum, including removing the e below, stacking and spreading foundation and excluding backfilli	xc a	avat s di	ed i rect	materia ed, no	al up orma	oto a di al dew	ista ate	nce of ring, p	50	metres and	l lifts as
Net Quantity of Excavation		1	Х	1.20	Х	1.20	Х	1.20	=	1.73	Cum
Item No 2. :-			l	<u> </u>	l	<u> </u>	l	<u>l</u>	l		
Boulders											
				1.20	Х	1.20	Х	0.15	=	0.22	Cum
Item No 3. :-			<u> </u>	L	<u> </u>	<u>. </u>	<u> </u>	1	<u> </u>	1	<u>. </u>
Aggregates											
Aggregates of size 100-150 mm (excluding the volume for siltation tank)				1.20	х	1.20	х	0.25	=	0.20	Cum
Aggregates of size 75-100 mm (excluding the volume for siltation tank)				1.20	x	1.20	х	0.25	=	0.20	Cum
Aggregates of size 50-75 mm (excluding the volume for siltation tank)				1.20	х	1.20	х	0.25	=	0.20	Cum
Aggregates of size 20-30mm (excluding the volume for siltation tank)				1.20	х	1.20	х	0.30	=	0.27	Cum
Net Quantity of Aggregates										0.88	Cum
<u>Item No 4. :-</u>											
Providing P.V.C. pipe 75mm dia.4	4 k	kg/cm	12 p	ressur	e (c	lass II)					
		5							=	5	RMtr
Item No 5. :-											
Siltation Tank											
		1								1.00	No.
Item No 6. :-										•	
Providing PVC Nahani Trap of 79	5 r	nm									
		1							=	1.00	No.
Item No 7. :-			ı	1	ı	1	ı	ı	ı	ı	
Providing PVC Bend of 75 mm											
		1							=	1.00	No.

Household Magic Pit



Design of Community Leach Pit									
Population Serve Calculation	Sheet of Comm	unity Level L	each Pit						
No. of HH	5	10	15	20					
Population	25	50	75	100					
Grey water generated (I/d)	893.75	1787.5	2681.25	3575					
Grey water generated (m3/d)	0.9	1.8	2.7	3.6					
Required volume of leach pit (m3)	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					
Silt chmber	Standard s	size for work effec	ability (0.9 x0).6 x0.6)					
Incoming volume (m3/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 COMMUNI	ITY LEACH F	PIT	
		ABSTRACT			
Qua	ntity	Particulars	Rate	Unit	Amount
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)			
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)			
		<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 /			
0.50	CON	cum) Spec. No Bd E /1 Page No. 287 and B-	F10F 00	CN.4	2615 42
0.50	CuM	7, Page No. 38 a) In PCC M-100	5185.00	CuM	2615.43
		(MJP SSR 2021-22 P NO 49 I No 1) 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			
2.19	CuM	watering etc Complete.	6444.00	CuM	14140.85
		((SSR PWD 2020-21 P NO 167 I No 27.03)			
		<u>Item No 4. :-</u>			
		Providing cement plaster 12 mm thick in			
		single coat in cement mortar 1:4 without			
		neeru finish to concrete or brick surfaces, in			
5.00	SqM	all positions including scaffolding and curing etc. complete.	264.00	SqM	1319.83
5.00	Jylvi	(SSR PWD 2020-21 P NO 177 I No 32.04)	204.00	JYIVI	1313.03
		Item No 5. :-			
		Providing P.V.C. pipe 110 mm dia.4 kg/cm2		R.	
5.00	R. Mtr	pressure	169.00	Mtr	845.00
3.00		p. 55541.5	_55.50		3 13.00

		Total Rs:-			22054.64
		(MJP SSR 2021-22 P NO 52 Sr No 08)			
		ToR Steel			
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
		<u>Item No 8. :-</u>			
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 (MJP SSR 2021-22 P NO 49 I No 2)	6653.00	Nos.	622.78
		Market Rates			
2.00	Nos.	PVC Tee 110 mm	500.00	Nos.	1000.00
		(MJP SSR 2021-22 P NO 76) Item No 6. :-			

MEASUREMENT	S FOR	CO	NSTR	UC	TION (OF (OMMU	JNI.	ΓΥ	LEAC	H PI	Т	
Particulars	Nos	S.	L		В		D					Qua	ntity
1	2		3		4		5						6
Item No:-1	I.				l .								
Excavation for foundation / murum, including removing below, stacking and spread foundation and excluding ba	the ex	cav s c	ated r lirecte	nat d,	erial u	ptc al c	a dista lewate	nce ring	9 0	f 50 n	netr	es and	lifts a
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 (01.5 metre)			1.27	х	0.97	х	0.68				=	0.83	CuM
Net Quantity of Exacavation 0- 1.5 metre												4.91	CuM
Net Quantity of Exacavation 1.5-												1.49	CuM
3.0 metre													
3.0 metre Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 hag	includ	ing	bailin	g oı	ut wat	er,	form w	ork	, c	ompa	ctio	n, curi	ng, et
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100	includ	ing	bailin	g oı	ut wat	er,	form w	ork	, c	ompa	ctio	n, curi	ng, et
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit	includ	ing	bailin _{ Spec.	g oı	ut wat - Bd E	er,	form w Page N	ork	, c	ompa	ctio	n, curi	ng, et No. 3
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring	includ	ing	bailing Spec.	g oı	ut wat - Bd E	er,	form w Page N	ork	, c	ompa	ctio	n, curii 7, Page	ng, et No. 3
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit	includ	ing	Dailing Spec. O.D. 1.86 1.36	g oı	I.D. 1.00 0.90	er,	Ht. 0.15 0.15	ork	, c	ompa	ctio B- 7	n, curii 7, Page 0.29	ng, et
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber	includ	ing	Spec. O.D. 1.86	y ou	I.D. 1.00	er, E /1	form w Page N Ht. 0.15	ork	, c	ompa	ctio B- 7	n, curio 7, Page 0.29 0.12	No. : CuM
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber Net Quantity of PCC	includ	ing	Dailing Spec. O.D. 1.86 1.36	y ou	I.D. 1.00 0.90	er, E /1	Ht. 0.15 0.15	ork	, c	ompa	ctio B- 7	0.29 0.12	No. Culv
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber	includ s / cur t Brick ng in	m)	O.D. 1.86 1.36 1.27 asonry	y we m	I.D. 1.00 0.90 0.97	er, E /1	Ht. 0.15 0.08 entional acluding	lo. 2	, c 28	ompa 7 and type	ctio B- 77	0.29 0.12 0.50	CuM CuM CuM
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber Net Quantity of PCC Item No:-3 Providing second class Burn mortar 1:6 in plinth as backi striking joints, raking out joir	includ s / cur t Brick ng in	m)	O.D. 1.86 1.36 1.27 asonry	y we m	I.D. 1.00 0.90 0.97	er, E /1	Ht. 0.15 0.08 entional acluding	lo. 2	, c 28	ompa 7 and type	ctio B- 77	0.29 0.12 0.50	CuM CuM CuM
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber Net Quantity of PCC Item No:-3 Providing second class Burn mortar 1:6 in plinth as backi	includ s / cur t Brick ng in	m)	O.D. 1.86 1.36 1.27 asonry	y we m	I.D. 1.00 0.90 0.97 ith conasonr c Com	er, E /1	Ht. 0.15 0.15 0.08 entional acluding te.	lo. 2	, c 28	ompa 7 and type	ctio B- 77	0.29 0.12 0.50	CuM CuM CuM
Item No:-2 Providing and laying in situ Confor foundation and bedding complete. (Cement 5.90 bages) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber Net Quantity of PCC Item No:-3 Providing second class Burn mortar 1:6 in plinth as backing striking joints, raking out join For Community Leach Pit Brickwork	includ s / cur t Brick ng in	m)	O.D. 1.86 1.36 1.27 asonry posite atering O.D.	y we m	I.D. 1.00 0.90 0.97 ith conasonr c Com	er, E /1	Ht. 0.15 0.08 entional acluding te. Ht.	lo. 2	, c 28	ompa 7 and type	ctio B- 77	0.29 0.12 0.50 cks in outer ma	CuM CuM CuM CuM
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber Net Quantity of PCC Item No:-3 Providing second class Burn mortar 1:6 in plinth as backi striking joints, raking out joir For Community Leach Pit Brickwork For Silt Chamber	t Bricking in	m)	O.D. 1.86 1.36 1.27 asonry posite atering O.D. 1.66	y we m	I.D. 1.00 0.90 0.97 ith conasonr c Com I.D. 1.20	er, = /1 x nve	Ht. 0.15 0.15 0.08 entional acluding te. Ht. 1.905	lo. 2	, c 28	ompa 7 and type	ctio B- 77	0.29 0.12 0.50 cks in outer ma	CuM CuM CuM CuM
Item No:-2 Providing and laying in situ Cofor foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber Net Quantity of PCC Item No:-3 Providing second class Burn mortar 1:6 in plinth as backi striking joints, raking out join For Community Leach Pit Brickwork For Silt Chamber Long Wall	t Brickng in ots and	m) c m con d wa x	O.D. 1.86 1.36 1.27 asonry nposite atering O.D. 1.66 L	y we may et	I.D. 1.00 0.90 0.97 ith conasonr c Com I.D. 1.20 B	er, E /1 x nve y ir ple	Ht. 0.15 0.15 0.08 entional ecluding te. Ht. 1.905 H	lo. 2	, c 28	ompa 7 and type	ctio B- 77	0.29 0.12 0.50 cks in other ma	CuM CuM CuM CuM CuM CuM CuM
Item No:-2 Providing and laying in situ C for foundation and bedding complete. (Cement 5.90 bag a) In PCC M-100 For Community Leach Pit Base Ring Top Ring for Cover For Silt Chamber Net Quantity of PCC Item No:-3 Providing second class Burn mortar 1:6 in plinth as backi striking joints, raking out joir For Community Leach Pit	t Bricking in hts and	ing m) c m con d wa x	O.D. 1.86 1.36 1.27 asonry posite atering O.D. 1.66 L 1.12	x x y we e m	I.D. 1.00 0.90 0.97 ith conasonr c Com I.D. 1.20 B 0.11	er, E /1 x nve y ir ple	Ht. 0.15 0.08 entional acluding te. Ht. 1.905 H 0.60	lo. 2	, c 28	ompa 7 and type	ctio B- 77	0.29 0.12 0.1 0.50 cks in other man	CuM CuM CuM CuM

I.D.

В

Х

O.D.

1.20

L

Х

Nos.

Х

Ht.

0.925

Н

complete.

For Silt Chamber

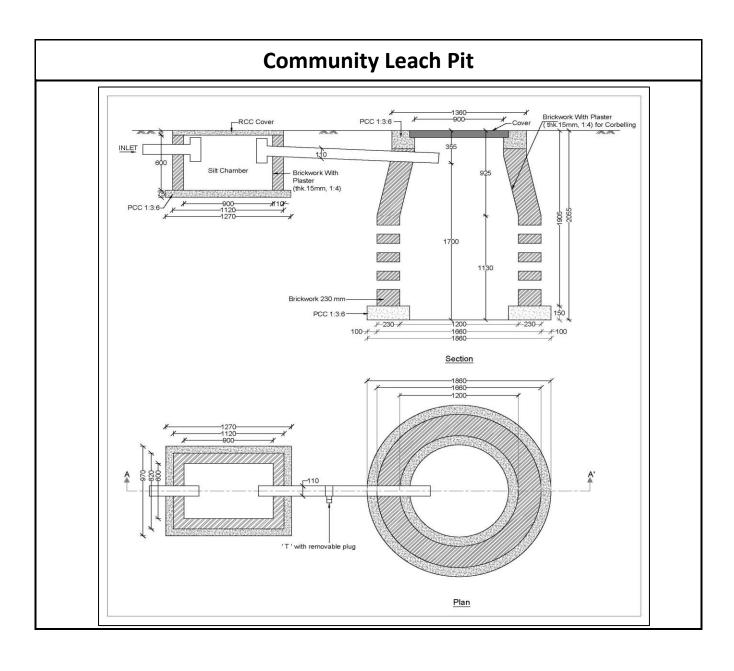
For Community Leach Pit

Plaster for Corbelling Inner Wall

CuM

0.87

Outer Wall	2	х	1.12	Х	0.82	Х	0.60				=	2.33	CuM
Inner Wall	2	х	0.90	х	0.60	х	0.60					1.80	CuM
Net Quantity of Plaster Work												5.00	SqM
Item No:-5													
Providing P.V.C. pipe 110 m	ım dia.	4 kg	/cm2	pre	ssure								
Total PVC Pipe	5											5.00	R. Mtr
Item No:-6													
PVC Tee													
Total PVC Tee	2										=	2.00	Nos.
Item No:-7													
	_						4050	1	ь л				C . O =
etc. complete. (By weigh I A.C.C., Ambuja, Birla Gold, or Tor reinforcement) steel)		_			_						.) (E	•	ng M.S.
A.C.C., Ambuja, Birla Gold, or Tor reinforcement)		_			_						.) (E	Excludir	ng M.S.
A.C.C., Ambuja, Birla Gold, or Tor reinforcement) steel)		_	, Rajas		_		ement i				.) (E	Excludir	ng M.S.
A.C.C., Ambuja, Birla Gold, or Tor reinforcement) steel)		_	, Rajas O.D.		-		ment i				.) (E	Excludir RCC	ng M.S. M-200
A.C.C., Ambuja, Birla Gold, or Tor reinforcement) steel) For Leach Pit Cover		_	O.D. 0.90	shre	ee, etc	. c∈	Ht. 0.075				.) (E	Excludir RCC	ng M.S. M-200
A.C.C., Ambuja, Birla Gold, or Tor reinforcement) steel) For Leach Pit Cover		_	O.D. 0.90	shre x	ee, etc	x	Ht. 0.075				.) (E	RCC 0.05	M-200 CuM
A.C.C., Ambuja, Birla Gold, or Tor reinforcement) steel) For Leach Pit Cover For Silt Chamber Cover		_	O.D. 0.90	shre x	ee, etc	x	Ht. 0.075				.) (E	Excludir RCC 0.05	M-200 CuM
A.C.C., Ambuja, Birla Gold, or Tor reinforcement) steel) For Leach Pit Cover For Silt Chamber Cover Net Quantity of RCC Work	ition st s,slabs ns, arch	eel, benes,	O.D. O.90 L 1.12 bar recams, etc. a the li	x x column s per son s per son s s per s p	B 0.82 orcemumns, er det	x x ent ca	Ht. 0.075 H 0.05 of varinopies, ed desig with	s pe	ern G d dires	iamet cases, rawing	ers negs a	0.05 0.05 0.09 for RCc	CuM CuM CuM Cum Chajjas,
A.C.C., Ambuja, Birla Gold, or Tor reinforcement) steel) For Leach Pit Cover For Silt Chamber Cover Net Quantity of RCC Work Item No:-8 Providing and fixing in post caps, footings, foundation lintels, pardies, copings, finincluding cutting, bending	ition st s,slabs ns, arch	eel, benes,	O.D. O.90 L 1.12 bar recams, etc. a the li	x x column s per son s per son s s per s p	B 0.82 orcemumns, er det	x x ent ca	Ht. 0.075 H 0.05 of varinopies, ed desig with	s pe	ern G d dires	iamet cases, rawing	ers negs a	0.05 0.05 0.09 for RCc	CuM CuM CuM Cum Chajjas,



Name of Work:- CONSTRUCTION OF MODIFIED COMMUNITY LEACH PIT **ABSTRACT Particulars** Unit Amount Quantity Rate 5 1 3 4 6 2 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, complete. (Bd-A 1/259) 7.96 Lift 0 to 1.5 M 150 CuM CuM 1194 Lift 1.5 to 3.0 M 164 428 2.61 CuM CuM (MJP SSR 2021-22 P NO 42 I No 1) 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 0.54 CuM PCC M-100 5185 CuM 2783.94 (MJP SSR 2021-22 P NO 49 I No 1) 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 2.19 14140.85 CuM Complete. 6444 CuM ((SSR PWD 2020-21 P NO 167 I No 27.03) <u>Item No 4. :-</u> 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 5.00 including scaffolding and curing etc. complete. 264 SqM 1319.83 SqM (SSR PWD 2020-21 P NO 177 I No 32.04) Item No 5. :-

F 00	D 841 -	Providing P.V.C. pipe 110 mm dia.4 kg/cm2	460	R.	0.45.00
5.00	R. Mtr	pressure	169	Mtr	845.00
		(MJP SSR 2021-22 P NO 76)			
2.00	Nas	Item No 6. :-	F00	Niss	1000.00
2.00	Nos.	PVC Tee 110 mm	500	Nos.	1000.00
		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			
0.09	Nos.	reinforcement) In RCC M-200	6653	Nos.	622.78
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<u>Item No 8. :-</u>			
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)			
		<u>Item No 9. :-</u>			
2.122	CuM	Sand Envelope	1689	CuM	3584.55
		(MJP SSR 2021-22 P NO 13 Sr No 46)			
		Total Rs:-			26448.70

MEASUREMENTS FOR CONSTRUCTION OF MODIFIED COMMUNITY LEACH PIT											
Particulars	Nos.	L	В	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 (01.5 metre)	1.27	х	0.97	х	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		П	0.29	CuM	
Top Ring for Cover	1.66		1.20		0.15		=	0.15	CuM	
For Silt Chamber	1.27	х	0.97	х	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.

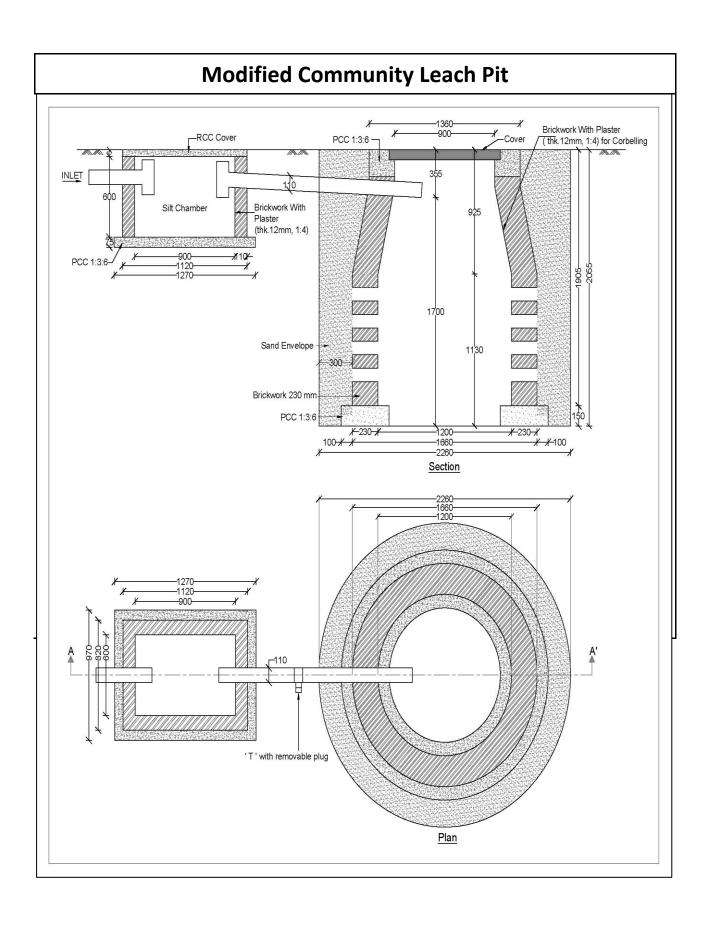
For Community Leach Pit			O.D.		I.D.		Ht.					
Brickwork			1.66		1.20		1.905		=	1.97	CuM	
For Silt Chamber	Nos.	Х	L	х	В	х	Н					
Long Wall	2	Х	1.12	х	0.11	Х	0.60		П	0.15	CuM	
Short Wall	2	х	0.60	х	0.11	х	0.60			0.08	CuM	
Net Quantity of Brickwork										2.19	CuM	

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.	Х	L	Х	В	Х	H					
Outer Wall	2	Х	1.12	Х	0.82	Х	0.60		11	2.33	CuM	

Inner Wall	2	х	0.90	х	0.60	х	0.60					1.80	CuM	
Net Quantity of Plaster Work												5.00	SqM	
Item No:-5														
Providing P.V.C. pipe 110 mm di	a.4 kg/c	m2	pressur	·e										
Total PVC Pipe	5											5.00	R. Mtr	
Item No:-6														
PVC Tee														
Total PVC Tee	2										=	2.00	Nos.	
Item No:-7														
normal dewatering, form work, design for M250 and M-300 onl permitted.) (Excluding M.S. or steel)	y. Use o	of L8	kΤ, A.C.	.C.,								nree, etc		is
For Leach Pit Cover			O.D.				Ht.							
			0.90				0.075					0.05	CuM	
For Silt Chamber Cover			L	х	В	х	Н							
			1.12	х	0.82	х	0.05					0.05	CuM	
Net Quantity of RCC Work												0.09	CuM	
Item No:-8														
Providing and fixing in position foundations, slabs, beams, colun etc. as per detailed designs, draw wires or tack welding and suppo	nns, can wings ar	opie nd se	es, stair chedule	case es; ir	es, new ncluding	els, g cu	chajjas, tting, be	lint ndii	els, าg,	pardie hookin	s, co	opings, f e bars, b	ins, arche inding wi	es, th
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	



	Waste Stabilization Ponds										
Sr No	Item Description	Quantity	Unit								
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								
	Volume Required (m3)	211	KLD								

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

Name of Work:- CONSTRUCTION OF WASTE STABILIZATION PONDS										
		ABSTRACT								
Quan	tity	Particulars	Rate	Unit	Amount					
1	2	3	4	5	6					
		<u>Item No 1. :-</u>								
		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)								
		<u>Item No 2. :-</u>								
4371.60	CuM	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.	59	CuM	257924.28					
		(PWD SSR 2020-21 P NO 28 I No 2.24								
		<u>Item No 3. :-</u>								
785.26	SqM	Providing dry rubble stone pitching 23 cm (about 9) thick including all material, quarry spalls, labour etc. complete. (PWD SSR 2020-21 P NO 29 I No 2.34)	334	SqM	262276.84					
		Item No 4. :-								
4.00	Nos.	TEE for oulet of each pond (110 mm)	500	Nos.	2000.00					
		Market Rates								
		Item No 5. :-								
4.00	Nos.	Bell mouth opening at inlet (110 mm)	200	Nos.	800.00					
		Market Rates		1.55.	220.30					
		Item No 6. :-								
4.00	Nos.	Elbow at inlet of each pond (110mm) Market Rates	500	Nos.	2000.00					
		Item No 7. :-								
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)			
					1388018
		<u>Item No 8. :-</u>			
1.00	No	Screen Chamber	36532	No	36532
Т	otal Co	onstruction Cost of Waste Stabilization	Pond :-		1424550

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	Х	15	Х	14	Х	1.5		=	630	CuM	
1.5-3 M	2	х	15	Х	14	Х	1.5		=	630	CuM	
For Facultative Pond												
0 -1.5 M	1	Х	47	Х	23	Х	1.5		=	1653.14	CuM	
1.5-3 M	1	Х	47	Х	23	Х	0.60		=	661.254	CuM	
For Aerobic Pond												
0 -1.5 M	1	Х	40	Х	19	Х	1.5		=	1148.87	CuM	
1.5-3 M	1	Х	40	Х	19	Х	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		х	15			=	514.75	CuM		
Outer short edge		36		х	15			=	522	CuM		
Inner long edge		36		х	12			=	432	CuM		
Inner short edge		35		х	12			=	422.4	CuM		
For Facultative Pond												
Outer long edge		50		х	9.7			=	487.91	CuM		
Outer short edge		26		х	9.7			=	255.11	CuM		
Inner long edge		50		х	7.2			=	362.16	CuM		
Inner short edge		26		х	7.2			=	189.36	CuM		
For Aerobic Pond												
Outer long edge		44		х	5.5			=	240.68	CuM		
Outer short edge		44		х	8			=	352.274	CuM		
Inner long edge		44		х	5.5			=	240.68	CuM		
Inner short edge		44		х	8			=	352.274	CuM		

Total Embankment Work												4371.60	CuM
Item No:-3				<u> </u>		<u> </u>				ı			1
Stone Pitching													
For Anaerobic Pond													
Area of long wall	2	Х	18	Х	6	Х	4				=	96	SqM
Area of short wall	2	Х	17	Х	5	Х	4				=	88	SqM
For Facultative Pond													
Area of long wall	2	Х	50	Х	41	Х	3.1				=	283.03	SqM
Area of short wall	2	Х	26	х	17	х	3.1				=	134.23	SqM
Total Stone Pitching Work												785.26	SqM
Item No:-4													_
TEE for oulet of each pond (11	l0mm	1)											
Total TEE	4											4.00	Nos.
Item No:-5													
Bell mouth opening at inlet (1	10mr	n)											
Total Bell Mouth Opening	4											4.00	Nos.
Item No:-6													
Elbow at inlet of each pond (3	L10m	m)											
Total Elbow	4											4.00	Nos.
Item No:-7													_
Providing & Supplying HDPE P	ipe o	f 11	0 mr	n di	iame	tre	(Pressi	ıre	6 I	رg /	′ Sq	. cm)	
	50										=	50.00	RMtr
Item No:-8													
Providing & Supplying Screen Chamber													
	1										=	1.00	No.

	Name of Work:- CONSTRUCTION OF SCREEN CHAMBER FOR WSP											
	ABSTRACT for Screen Chamber											
Quar	ntity	Particulars	Rate Unit									
1	2	3	4	5	6							
		<u>Item No 1. :-</u>										
		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. MJP SSR 2021-22 P No 222 Sr. No 3 E Item No 2.:-	21532	No.	21532							
1.00	No.	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	15000	No.	15000							
		Market Rates										
		Total Cost of Screen Chamber in F	Rs:-		36532							

MEASUREMENTS FOR CONSTRUCTION OF SCREEN CHAMBER FOR WSP												
Particulars Nos. L B D Quantity												
1	2	3	4	5			6					

Item No:-1

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.

Item No:-2

Bar Screen

Supply of bar screen with following specifications

• Length: 1 m with handle

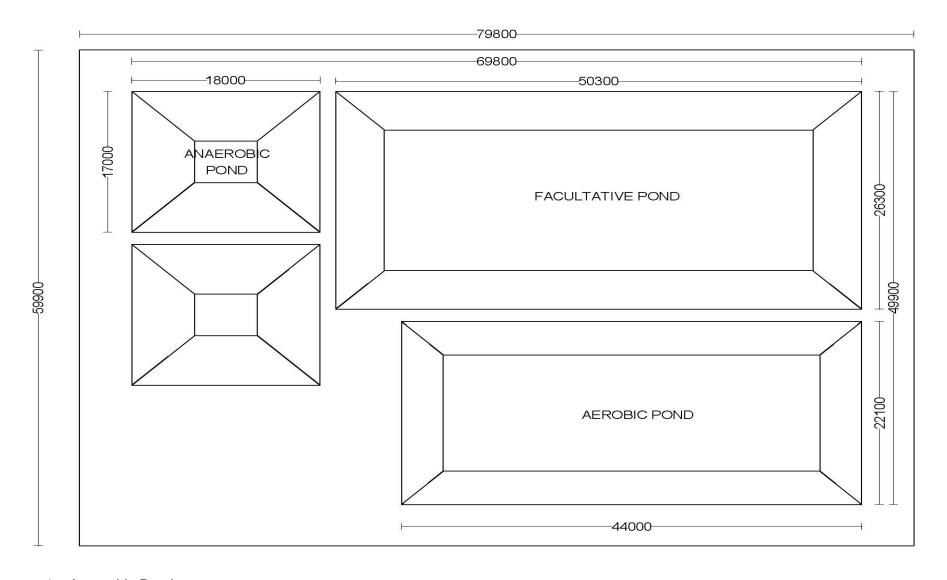
• Width: 450 mm

• SS flat size: 25 mm x 3 mm thick

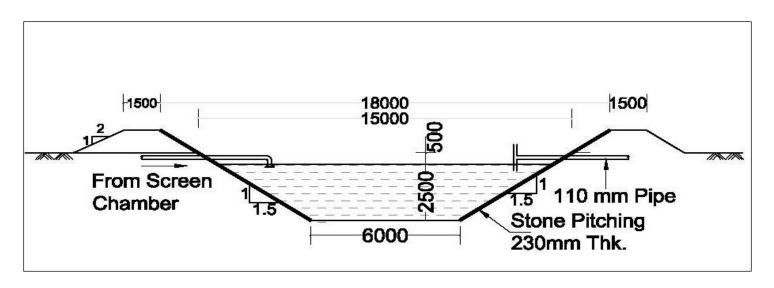
• Opening: 10 mm

• SS angle frame: 25 mm x 25 mm x 3 mm thick

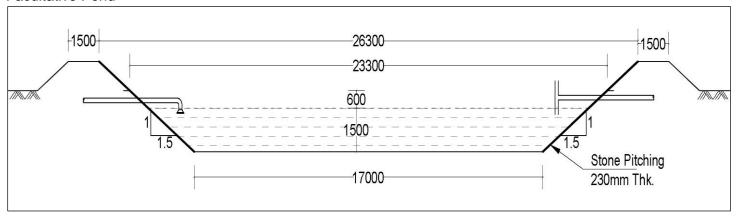
1 1.00 No.



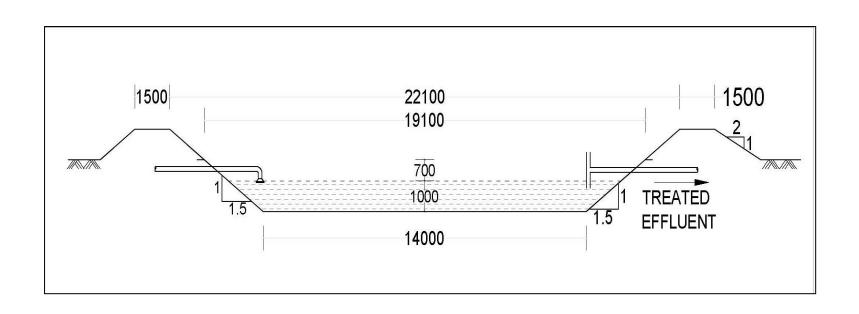
1. Anaerobic Pond



2. Facultative Pond



3. Aerobic Pond



	DEWATS											
Sr No	Item Description	Quantity	Unit									
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												
Quar	ntity	Particulars	Rate	Unit	Amount								
1	2	3	4	5	6								
		<u>Item No 1. :-</u>											
1.00	No.	Screen Chamber	36532	No.	36532								
		<u>Item No 2. :-</u>											
2.00	No.	Settler	384061.70	No.	768123.40								
		<u>Item No 3. :-</u>											
2.00	No.	ABR_AF	1170886.816	No.	2341773.632								
		<u>Item No 3. :-</u>											
2.00	No.	HFPG	1170162.30	No.	2340324.597								
		<u>Item No 4. :-</u>											
2.00	No.	Polishing Ponds	89346.71	No.	178693.42								
		Total Cost of Screen	n Chamber in R	\s:-	5665447.05								

Name of Work:- CONSTRUCTION OF SCREEN CHAMBER FOR DEWATS ABSTRACT for SCREEN CHAMBER

Quar	ntity	Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<u>Item No 1. :-</u>			
		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			
		<u>Item No 2. :-</u>			
1.00	No.	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	15000.00	No.	15000.00
		Market Rates	Dec		20520
		Total Cost of Screen Chamber in	KS:-		36532

MEASUREMENTS FOR	R CONST	RUCTIO	ON OF S	CREEN C	CHAM	BER	FOR DEWATS	
Particulars	Nos.	L	В	D			Quantity	
1	2	3	4	5			6	

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.

Item No:-2

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 1.00 No.

	Naı	me of Work:- CONSTRUCTION OF SETTLER	FOR DI	EWATS	;
		ABSTRACT for SETTLER			
Quar	ntity	Particulars	Rate	Unit	Amount
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)			
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)			
		<u>Item No 2. :-</u>			
4.12	CuM	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
		In PCC M-100			
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<u>Item No 3. :-</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.)			
7.29	CuM	(Excluding M.S. or Tor reinforcement)	7206	CuM	52531.74
		In RCC M-250			
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<u>Item No 4. :-</u>			

		T	ı		
		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-incharge 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			
3.73	Nos.	reinforcement)	8046	Nos.	30011.58
		In RCC M-150			
		(MJP SSR 2021-22 P NO 49 I No 5)			
		<u>Item No 5. :-</u>			
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
		ToR Steel			
		(MJP SSR 2021-22 P NO 52 Sr No 08 b)			
		<u>Item No 6. :-</u>			
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. (PWD SSR 2021-22 P NO 167 Sr No 888)	7407	CuM	111993.84
		Item No 7. :-			
	L				

		Total Cost of 1 Settler in Rs:-			376967.70
		Market Rates			
2.00	Nos.	& outlet	600	Nos.	1200
		Providing & Supplying TEE of 160 mm at inlet			
		<u>Item No 9. :-</u>			
		(SSR PWD 2020-21 P NO 113 Sr No 1.A. vii)			
10.00	RMtr	Providing & Supplying HDPE Pipe of 160 mm diametre (Pressure 6 kg / Sq. cm)	615	RMtr	6150
		<u>Item No 8. :-</u>			
		(SSR PWD 2020-21 P NO 177 I No 32.04)			
133.98	SqM	fourteen days scaffolding etc.complete.	599	SqM	80252.82
		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			
		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			

MEASUREMEN	MEASUREMENTS FOR CONSTRUCTION OF SETTLER FOR DEWATS												
Particulars	Nos.	L	В	D			Quantity						
1	2	3	4	5			6						

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	Х	7.89	Х	4.06	Х	1.5		=	48.05	CuM
1.5-3 M	1	х	7.89	Х	4.06	х	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

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

In PCC M-100

Total PCC Work	1	Х	7.29	х	3.76	х	0.15				=	4.12	CuM
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Item No:-3

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	Х	4.38	Х	3.38	Х	0.27		=	3.93	CuM
RCC Raft for Chamber 2	1	Х	2.61	Х	3.38	Х	0.38		=	3.36	CuM
Total RCC Work										7.29	CuM

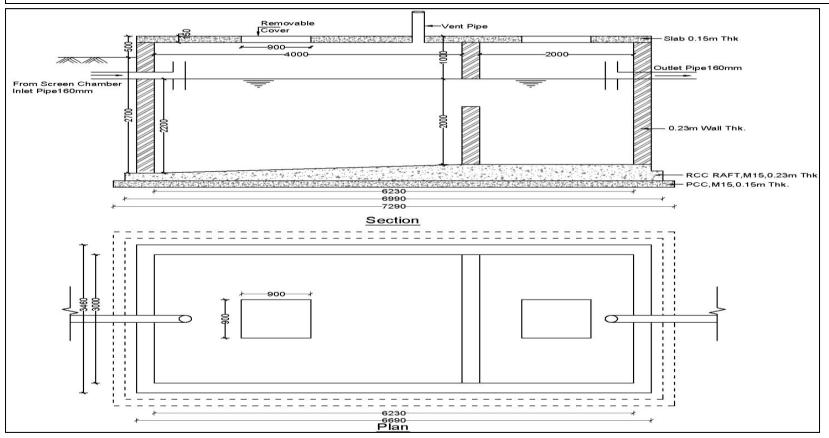
Item No:-4

Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works in Slabs / Landings / Vertical Walls / Waist Slabs / Steps 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	х	6.69	х	3.46	Х	0.15		=	3.48	CuM
RCC Cover	2	Х	0.9	Х	0.9	Х	0.15		=	0.25	CuM

Total RCC Work											3.73	CuM
Item No:-5						ļ						J Guill
Providing and fixing in positions, footings, foundations lintels, pardies, copings, fin including cutting, bending, supporting as required, etc. Steel	s, sla s, ar , ho	bs, che okir	beams s, etc. ng the	s, c as ba	olumn: per de rs, bir	s, c tail idin	anopie ed des g with	s, s ign: n w	sta s, c vire	ircas draw es or	es, newels ings and so tack wel	chajjas, chedules; ding and
Reinforcement @80kg/m3											0.88	MT
Item No:-6								•				
Providing first class Burnt mortar 1:4 including scaffd pillars of rectangular or squa	oldin	g, r	acking	ou	t joint	s po	ointing	in	C.	M. 1	:3 and wa	itering in
Long Wall	2	Х	6.69	Х	0.23	Х	3.05			-	9.39	
Short Wall	2	Х	3	Х	0.23	Х	3.05			=	4.21	
Wall with cavity	1	Х	3	Х	0.23	Х	3.05			=	2.11	
Cavity	1	Х	2.54	Х	0.23	х	1			=	0.59	
Total Brick Masonry Work											15.12	CuM
Providing sand faced plaste all positions including base compound at 1Kilogrampe keeping the surface of the thick in cement mortar 1:4 days scaffolding etc.comple	coat r cei base finish	of mer	15 mn nt bag at roug	n th cu h to	nick in ring th o recei	cen ie s ve t	nent m same f the sar	ort or id f	ar no ace	1:4 ι t les ed tr	using wate s than 2 eatment 6	rproofing days and to 8 mm
Lng Wall	4	Х	6.69			Х	3.05			=	81.62	SqM
Short Wall	4	Х	3			Х	3.05			=	26.60	SqM
Wall with cavity	2	х	3			Х	3.05			=	: 18.30	SqM
Deduction of cavity	2	Х	2.54			Х	0.5			=	2.54	SqM
Total Plastering Work											133.98	SqM
Item No:-8	1		1			1						
Providing & Supplying HDPE	Pipe	e of	160 m	m c	liameti	re (I	Pressui	e 6	i ke	g / Sq	. cm)	
	10								Ī	=	10.00	RMtr
					ı.	•	·				•	
Item No:-9												
Item No:-9 TEE at inlet and outlets (160)mm))										

DEWATS SETTLER FOR DEWATS



		Name of Work:- CONSTRUCTION OF	ABR-AF		
		ABSTRACT for ABR-AF			
Quan	tity	Particulars	Rate	Unit	Amount
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)			
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)			
		<u>Item No 2. :-</u> Providing and laying in situ Cement			
11.35	CuM	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	58849.75
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<u>Item No 3. :-</u>			
10.58	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)	7206.00	CuM	76239.48
		In RCC M-250			
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<u>Item No 4. :-</u>			

		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	2046.00		672.45 02
8.37	Nos.	reinforcement) In RCC M-150	8046.00	Nos.	67345.02
		(MJP SSR 2021-22 P NO 49 I No 5)			
		<u> </u>			
		Item No 5. :-			
		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			
1.52	MT	wire). (Bd-F 17/306)	66218.00	MT	100386.49
		ToR Steel (MJP SSR 2021-22 P NO 52 Sr No 08 b)			
		Item No 6. :-			
		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			
41.88	CuM	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)	1 107 100	20	
		Item No 7. :-			
<u> </u>					

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)			
		<u>Item No 8. :-</u>			
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)			
		<u>Item No 9. :-</u>			
14.00	Nos.	Providing & Supplying TEE of 160 mm	600.00	Nos.	8400
		Market Rates			
		<u>Item No 10. :-</u>			
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)			
		<u>Item No 11. :-</u>			
34.32	SqM	Filter Media Support	2500.00	SqM	85807.5
		Market Rates			
		<u>Item No 12. :-</u>			
33.60	CuM	Filter media	900.00	CuM	30240
		MJP SSR 2021-22 P No 13 Sr No 50			
		Total Cost of One ABR-AF in F	Rs:-		1170886.82

MEASUREMENTS FOR CONSTRUCTION OF ABR-AF												
Particulars	Nos.	L	В	D			Quantity					
1 2 3 4 5 6												

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	Х	10	Х	8.09	Х	1.5		=	121.47	CuM	
1.5-3 M	1	Х	10	х	8.09	Х	1.5		II	121.47	CuM	
Total Excavation Quantity 0-1.5 M										121.47	CuM	
Total Excavation Quantity 1.5-3 M										121.47	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

Total PCC Work	1	х	9.71	х	7.79	х	0.15				=	11.35	CuM	
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Item No:-3

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	Х	9.41	Х	7.49	Х	0.15		=	10.58	CuM
Total RCC Work										10.58	CuM

Item No:-4

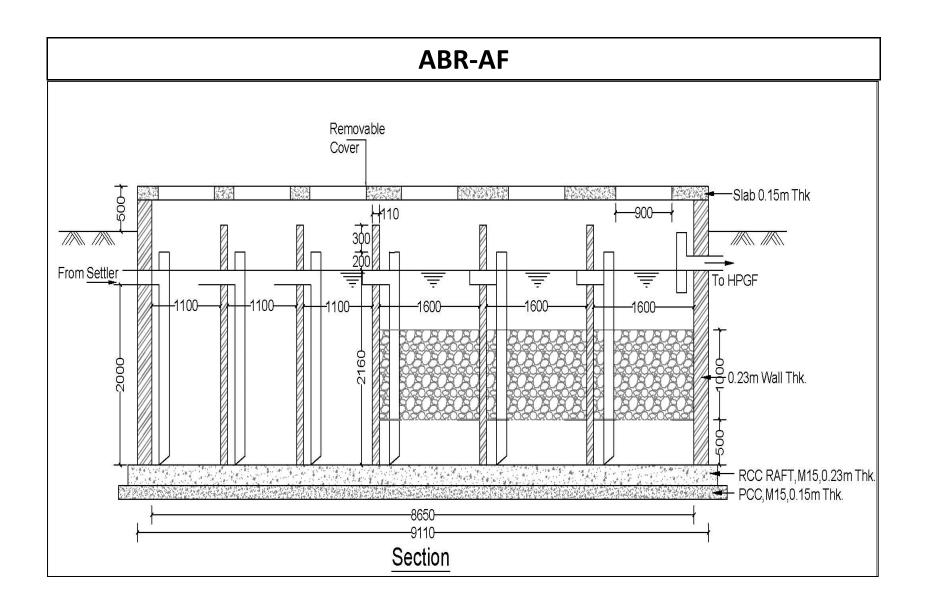
Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works in Slabs / Landings / Vertical Walls / Waist Slabs / Steps for Staircase as per detailed drawings and designs or as directed by Engineer-in-charge including normal dewatering, centering, form 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	Х	9.11	Х	7.19	Х	0.15		=	9.83	CuM
Deduction of RCC Cover	12	х	0.9	Х	0.9	х	0.15		=	1.46	CuM

											8.37	CuM
Total RCC Work Item No:-5										1	0.57	Culvi
	ition	c+/	aal har	· rc	inforce	m	nt of	vari	0110	diar	notors fo	or PCC
Providing and fixing in pospiles, caps, footings, found												
chajjas, lintels, pardies, cop								•				-
schedules; including cuttin	_					-				_		_
welding and supporting as r	_		_		_				_			
17/306) Mild Steel	cqui	·cu	, etc. c	.011	ipicte (iaaiiig	COSC	01 1)II IG	mg wiic)	. (Ба і
Reinforcement @80kg/m3											1.52	MT
Item No:-6	<u> </u>		J		J		<u>I</u>	II_		<u>1</u>	l	<u>. </u>
Providing first class Burnt E	Brick	ma	sonry	wit	h conv	ent	ional /	′ I.S.	tvn	e bi	ricks in c	ement
mortar 1:4 including scaffol			•									
pillars of rectangular or			_		-	•	_					_
etc.complete.	•		•							Ü		
Long Wall	2	Х	9.11	х	0.23	Х	2.85			=	11.95	
Short Wall	2	Х	6.73	Х	0.23	Х	2.85			=	8.83	
Baffle walls	10	Х	6.73	Х	0.11	Х	2.85			=	21.10	
Total Brick Masonry Work											41.88	CuM
Item No:-7												
			_		_							=
compound at 1Kilogramper keeping the surface of the k thick in cement mortar 1:4 f days scaffolding etc.complet	oase finish	coa	at roug	h t	o recei	ve t	he san	d fa	ced	trea	atment 6	to 8 mm
keeping the surface of the behick in cement mortar 1:4 days scaffolding etc.complete	oase finish	coa	at roug	h t	o recei	ve t	he san	d fa	ced	trea	atment 6	to 8 mm fourteer
keeping the surface of the bethick in cement mortar 1:4 f	oase finish te.	coa	t roug	h t	o recei	ve t akii	the san	d fa	ced	trea	atment 6 uring for	to 8 mm
keeping the surface of the behick in cement mortar 1:4 days scaffolding etc.completed	oase finish te. 4	coa ning	the su	h t	o recei	ve takii	the san	d fa	ced	treand c	atment 6 uring for 103.85	to 8 mm fourteer
keeping the surface of the behick in cement mortar 1:4 days scaffolding etc.complete Long Wall Short Wall	oase finish te. 4 4	coaning x x	9.11 6.73	h t	o recei	ve takii	the sand out 2.85 2.85	d fa	ced	treand c	atment 6 curing for 103.85 76.72	to 8 mm fourteer SqM SqM
keeping the surface of the behick in cement mortar 1:4 days scaffolding etc.complete Long Wall Short Wall	oase finish te. 4 4	coaning x x	9.11 6.73	h t	o recei	ve takii	the sand out 2.85 2.85	d fa	ced	treand c	103.85 76.72 383.61	to 8 mm fourteer SqM SqM SqM
keeping the surface of the bethick in cement mortar 1:4 feature days scaffolding etc.complete Long Wall Short Wall Baffle walls	oase finish te. 4 4 20	x x x	9.11 6.73 6.73	h te	o recei	ve takii	2.85 2.85 2.85 2.85	nd fa	ns a	trea nd c	103.85 76.72 383.61 564.19	sqM SqM SqM SqM
keeping the surface of the bethick in cement mortar 1:4 fe days scaffolding etc.complete Long Wall Short Wall Baffle walls Item No:-8	oase finish te. 4 4 20	x x x	9.11 6.73 6.73	h te	o recei	ve takii	2.85 2.85 2.85 2.85	nd fa	ns a	trea nd c	103.85 76.72 383.61 564.19	sqM SqM SqM SqM
keeping the surface of the keeping the surface of the keeping the surface of the keeping to the keeping the surface of the keeping to the kee	oase finish te. 4 4 20	x x x	9.11 6.73 6.73	h te	o recei	ve takii	2.85 2.85 2.85 2.85	nd fa	ns a	trea nd c	103.85 76.72 383.61 564.19	sqM SqM SqM SqM
keeping the surface of the keeping the surface of the keeping the surface of the keeping to the keeping the surface of the keeping to the kee	pase finish te. 4 4 20	x x x e of	9.11 6.73 6.73	h te	o recei	ve takii	2.85 2.85 2.85 2.85	nd fa	ns a	treand c	103.85 76.72 383.61 564.19	sqM SqM SqM SqM r interna
keeping the surface of the keeping the surface of the keeping the complete days scaffolding etc.complete Long Wall Short Wall Baffle walls Item No:-8 Providing & Supplying HDPE flow	oase finish te. 4 4 20	x x x x x	9.11 6.73 6.73	h te	o recei	ve takii	2.85 2.85 2.85 2.85	nd fa	ns a	treand c	103.85 76.72 383.61 564.19	sqM SqM SqM SqM r interna
keeping the surface of the keeping the surface of the keeping the complete days scaffolding etc.complete Long Wall Short Wall Baffle walls Item No:-8 Providing & Supplying HDPE flow Item No:-9	oase finish te. 4 4 20	x x x x x	9.11 6.73 6.73	h te	o recei	ve takii	2.85 2.85 2.85 2.85	nd fa	ns a	treand c	103.85 76.72 383.61 564.19	sqM SqM SqM SqM r interna
keeping the surface of the bethick in cement mortar 1:4 fedays scaffolding etc.complete Long Wall Short Wall Baffle walls Item No:-8 Providing & Supplying HDPE flow Item No:-9 TEE at inlet and outlets (160)	oase finish te. 4 4 20 Pipe	x x x x x	9.11 6.73 6.73	h te	o recei	ve takii	2.85 2.85 2.85 2.85	nd fa	ns a	treand c	103.85 76.72 383.61 564.19 q. cm) fo	sqM SqM SqM SqM SqM RMtr
keeping the surface of the keeping the surface of the keeping thick in cement mortar 1:4 feep days scaffolding etc.complete Long Wall Short Wall Baffle walls Item No:-8 Providing & Supplying HDPE flow Item No:-9 TEE at inlet and outlets (160) Total Elbow Item No:-10 Providing and fixing reinforce	Pipe 12 Dmm 14	x x x x	9.11 6.73 6.73 f 160 n	nm	diame	x x x tre	2.85 2.85 2.85 (Pressi	ure	aced ns a	=	103.85 76.72 383.61 564.19 q. cm) fo	sqM SqM SqM SqM SqM SqM Nos.
keeping the surface of the keeping the surface of the keeping thick in cement mortar 1:4 feep days scaffolding etc.complete Long Wall Short Wall Baffle walls Item No:-8 Providing & Supplying HDPE flow Item No:-9 TEE at inlet and outlets (160 Total Elbow Item No:-10	Pipe 12	x x x x	9.11 6.73 6.73 f 160 n	nm	diame	x x x tre	2.85 2.85 2.85 (Pressi	ure	aced ns a	=	103.85 76.72 383.61 564.19 q. cm) fo 24.00	SqM SqM SqM SqM SqM SqM Nos.
keeping the surface of the keeping the surface of the keeping thick in cement mortar 1:4 feep days scaffolding etc.complete Long Wall Short Wall Baffle walls Item No:-8 Providing & Supplying HDPE flow Item No:-9 TEE at inlet and outlets (160) Total Elbow Item No:-10 Providing and fixing reinforce	Pipe 12 Dmm 14	x x x x	9.11 6.73 6.73 f 160 n	nm	diame	x x x tre	2.85 2.85 2.85 (Pressi	ure	aced ns a	=	103.85 76.72 383.61 564.19 q. cm) fo	sqM SqM SqM SqM SqM SqM Nos.

	1	х	5.10	х	6.73				=	34.32	SqM	
Item No:-12												
Filter media												
	6	х	1.60	Х	3.50	Х	1.00		=	33.60	CuM	

ABR-AF 9110--8650-From Settler To HPGF From Settler To HPGF Plan



		Name of Work:- CONSTRUCTION	OF HPGF		
		ABSTRACT for HPGF			
Quan	tity	Particulars	Rate	Unit	Amount
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)			
249.28	CuM	Lift 0 to 1.5 M	150	CuM	37392.04
		(MJP SSR 2021-22 P NO 42 I No 1)			
		<u>Item No 2. :-</u>			
37.01	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	191896.85
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<u>Item No 3. :-</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			
44.27	CuM	reinforcement)	7206.00	CuM	319009.62
		In RCC M-250			
		(MJP SSR 2021-22 P NO 49 I No 2)			
		<u>Item No 4. :-</u>			

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
		(MJP SSR 2021-22 P NO 52 Sr No 08 b)			
		Item No 5. :-			
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)			
		<u>Item No 6. :-</u>			
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 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	94791.75
		(SSR PWD 2020-21 P NO 177 I No 32.11)			
		<u>Item No 7. :-</u>			
10.00	RMtr	Providing & Supplying HDPE Pipe of 110 mm diametre (Pressure 6 kg / Sq. cm) (SSR MJP 2021-22 P NO 113 Sr No 1.A. vii)	615.00	RMtr	6150
		Item No 8. :-			
13.20	CuM	Filter media at inelt and outlet zone	900.00	CuM	11880

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

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

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	х	16.36	х	15.7	х	0.973		=	249.28	CuM
Total Excavation Quantity 0-1.5 M										249.28	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

Item No:-3

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

Item No:-4

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						2 5/1	MT
@80kg/m3						3.54	IVII

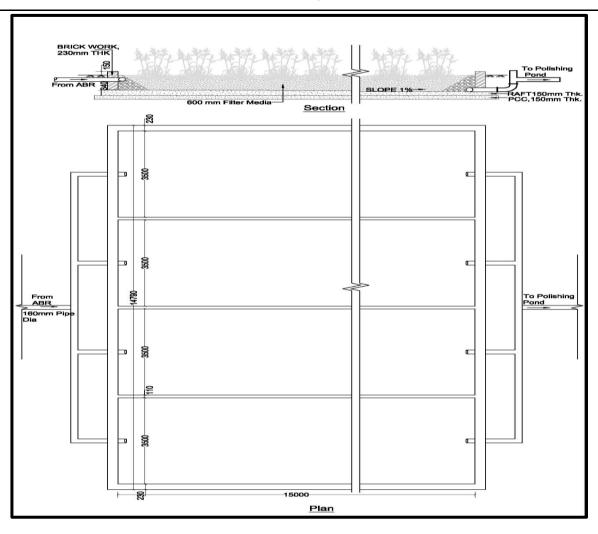
Item No:-5

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	х	14.79	х	0.23	х	0.75		=	5.11	
Short Wall	2	х	15.46	х	0.23	х	0.75		11	5.34	
Partition Wall	3	х	15	х	0.11	х	0.75		=	3.72	

Total Brick Masonry Work												14.17	CuM
Item No:-6													
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	х	14.79			х	0.75				=	44.37	SqM
Short Wall	4	х	15.46			х	0.75				=	46.38	SqM
Baffle walls	6	х	15			х	0.75				=	67.50	SqM
												158.25	SqM
Item No:-7													
Providing & Supplying I flow	HDPE	Pip	e of 16	0 m	m diar	netr	e (Pres	sure	6 kg	/ Sc	q. cn	n) for in	ternal
	10										=	10.00	RMtr
Item No:-8													
Filter media at inelt and	outl	et z	one										
	8 = 13.20 CuM												
Item No:-9													
Sand media													
	4										=	126.26	CuM

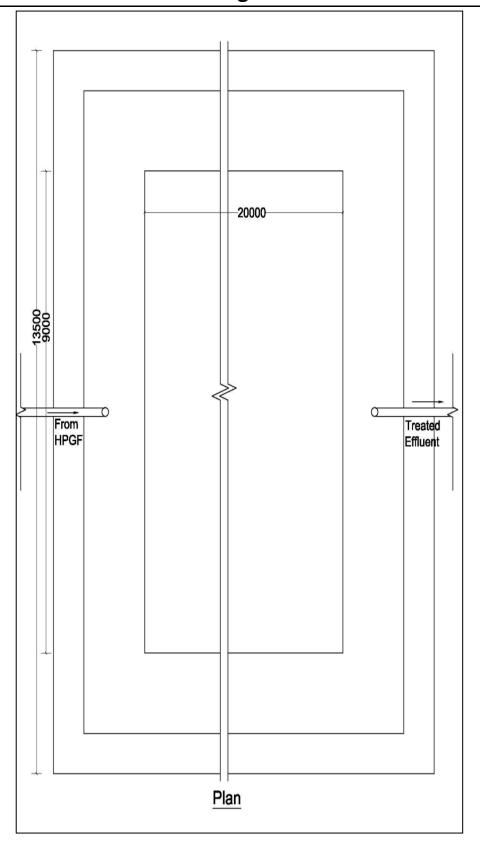
HPGF

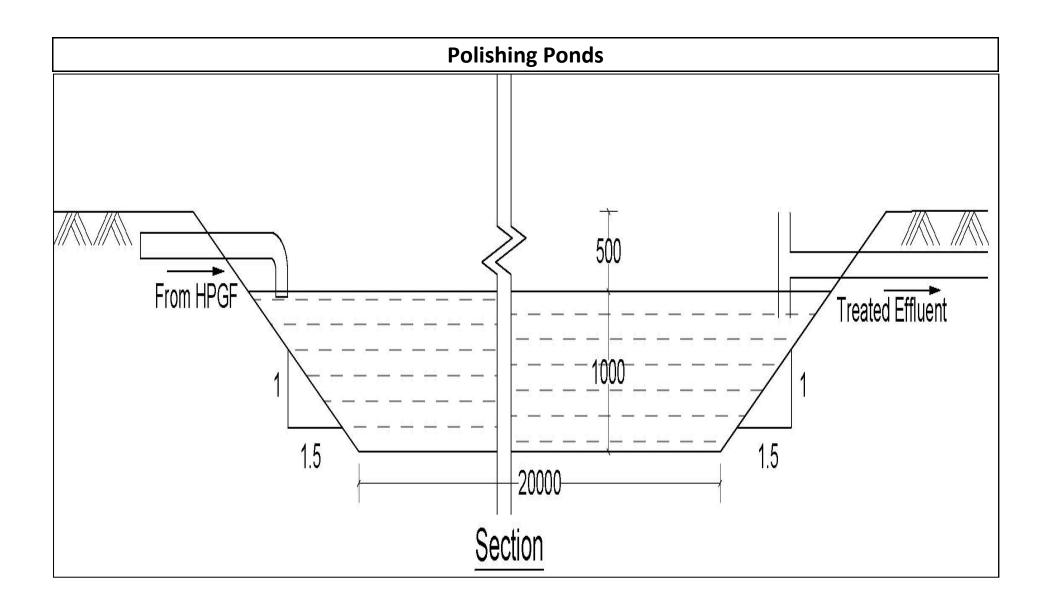


	Name of Work:- CONSTRUCTION OF POLISHING POND											
		ABSTRACT for POLISHING POND										
Quan	itity	Particulars	Rate	Unit	Amount							
1	2	3	4	5	6							
		<u>Item No 1. :-</u>										
		Excavation for foundation / pipe trenches in earth, soils of all types, sand, gravel and soft murum, including 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)	Is of all types, sand, gravel and soft including removing the excavated upto a distance of 50 metres and lifts stacking and spreading as directed, lewatering, preparing the bed for n and excluding backfilling, etc.									
496.13	CuM	Lift 0 to 1.5 M	150	CuM	74418.75							
		(MJP SSR 2021-22 P NO 42 I No 1)										
		Item No 2. :-										
128.44	CuM	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.	59.00	CuM	7577.96							
		(PWD SSR 2020-21 P NO 28 I No 2.24)										
		Item No 3. :-										
10.00	RMtr	Providing & Supplying HDPE Pipe of 160 mm diametre (Pressure 6 kg / Sq. cm) (SSR MJP 2021-22 P NO 113 Sr No 1)	615.00	RMtr	6150							
		Item No 4. :-										
2.00	Nos.	Providing & Supplying TEE of 160 mm	600.00	Nos.	1200							
		Market Rates										
		Total Rs:-			89346.71							

MEASURE	MEN	TS	FOR CO	ONS	TRUCTIO	ON	OF PO	DLI	SHIN	IG	POI	ND		
Particulars	No	s.	L		В		D					Quan	tity	
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)														
0 -1.5 M	1	Х	24.5	Х	13.5	Х	1.5				=	496.13	CuM	
Total Excavation Quantity 0-1.5 M 496.13 CuM														
Item No:-2			•		•		•				•	•		
Watering and compacting cutting within a lead of 5 them in layers of 20 cm. to	0 m	, no	ot less	tha	ın 97% d	of s								
Volume Along short edge			13.5	х			1.7					22.82		
Volume Along long edge			24.5	Х			1.7					41.41		
Total Embankment Work												128.44	CuM	
Item No:-3														
Providing & Supplying HDPE Pipe of 110 mm diametre (Pressure 6 kg / Sq. cm) for internal flow														
	10 = 10.00 RMtr													
Item No:-4														
TEE at inlet and outlets (16	50mr	n)												
Total Elbow	2											2.00	Nos.	

Polishing Ponds





	Constructed Wetlands		
Sr No	Item Description	Quantity	Unit
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.

	Na	me of Work:- CONSTRUCTION OF C	CONSTRUCTED	WETL	AND
Quar	ntity	Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<u>Item No 1. :-</u>			
1.00	No.	Screen Chamber	36532	No.	36532
		<u>Item No 2. :-</u>			
2.00	No.	Construction of Settler	384061.70	No.	768123.40
		<u>Item No 3. :-</u>			
		Vertical Flow Constructed			
3.00	No.	Wetland	1137328.20	No.	3411984.60
		Total Cost of Screen Cha	mber in Rs:-		4216640

	Na	me of Work:- CONSTRUCTION OF SCREEN	CHAMBER	FOR C	W
		ABSTRACT			
Quar	ntity	Particulars	Rate	Unit	Amount
1	2	3	4	5	6
		<u>Item No 1. :-</u>			
		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			
		Bar Screen			
1.00	No.	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	15000.00	No.	15000.00
		Total Cost of Screen Chamber in F	<u> </u> 		36532
		Total Cost of Screen Chamber in F	15		30332

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

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 $1.2 \times 1.2 \text{ M}$ 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.

	No.
--	-----

Item No:-2

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						1.00	No.

Constructed Wetland		
Design Calculations for Sett	1	
Inflow	211	m3/day
say	211	m3/day
	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 (I/g BOD removed)	0.005	
Sludge volume per BOD removal	0.00353	
	1.0000	
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	
Scum volume	3.289	111
Total volume of settler	36.179	
Size of chamber	30.179	
	3	m
Width of chamber assumed	4.02	m
Length of 1st chamber	+	
Say	4	m
Length of 2nd chamber Say	2 2	m

Surface area of the settler	18	
Volume of settler	36	

	ľ	Name of Work:- CONSTRUCTION OF SETTL	ER FOR	CW	
		ABSTRACT			
Quar	ntity	Particulars	Rate	Unit	Amount
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)			
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)			
		<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-			
4.12	CuM	7, Page No. 38	5185	CuM	21362.20
		In PCC M-100			
		(MJP SSR 2021-22 P NO 49 I No 1)			
		<u>Item No 3. :-</u>			
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)			
		Item No 4. :-			

15.12	CuM	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 (MJP SSR 2021-22 P NO 52 Sr No 08 b) Item No 6.:- 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. (PWD SSR 2021-22 P NO 167 Sr No 888)	7407	MT	111993.84
		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 (MJP SSR 2021-22 P NO 52 Sr No 08 b) Item No 6.:- 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.			
		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 (MJP SSR 2021-22 P NO 52 Sr No 08 b) Item No 6.:- 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			
0.88	MT	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 (MJP SSR 2021-22 P NO 52 Sr No 08 b) Item No 6.:- 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	66218	MT	58377.79
0.88	MT	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 (MJP SSR 2021-22 P NO 52 Sr No 08 b) Item No 6.:- Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement mortar 1:4 including scaffolding, racking out	66218	MT	58377.79
0.88	MT	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 (MJP SSR 2021-22 P NO 52 Sr No 08 b) Item No 6.:- Providing first class Burnt Brick masonry with conventional / I.S. type bricks in cement	66218	MT	58377.79
0.88	MT	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 (MJP SSR 2021-22 P NO 52 Sr No 08 b) Item No 6.:- Providing first class Burnt Brick masonry with	66218	MT	58377.79
0.88	MT	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 (MJP SSR 2021-22 P NO 52 Sr No 08 b) Item No 6.:-	66218	MT	58377.79
0.88	MT	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 (MJP SSR 2021-22 P NO 52 Sr No 08 b)	66218	MT	58377.79
0.88	MT	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	MT	58377.79
0.88	MT	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
0.88	МТ	the bars, binding with wires or tack welding and supporting as required, etc. complete	66218	МТ	58377.79
		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			
		<u>Item No 5. :-</u>			
		(MJP SSR 2021-22 P NO 49 I No 5)			
		In RCC M-150			
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-incharge 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

		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			
133.98	SqM	etc.complete.	599	SqM	80252.82
		(SSR PWD 2020-21 P NO 177 I No 32.04)			
		<u>Item No 8. :-</u>			
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)			
		<u>Item No 9. :-</u>			
2.00	Nos.	Providing & Supplying TEE of 160 mm at inlet & outlet	600	Nos.	1200
		Market Rates			
		<u>Item No 10. :-</u>			
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)			
		Total Cost of 1 Settler in Rs:-			384061.70

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

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	х	7.89	Х	4.06	Х	1.5		=	48.05	CuM
1.5-3 M	1	Х	7.89	Х	4.06	Х	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

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

Itom No. 2											
Total PCC Work	1	х	7.29	х	3.76	х	0.15		=	4.12	CuM
In PCC M-100											

Item No:-3

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	х	4.38	Х	3.38	Х	0.265		=	3.93	CuM
RCC Raft for Chamber 2	1	х	2.61	Х	3.38	х	0.38		=	3.36	CuM
Total RCC Work										7.29	CuM
Item No:-4											

Providing and casting in situ C.C. of trap / granite/ quartzite / gneiss metal of approved quality for RCC works in **Slabs / Landings / Vertical Walls / Waist Slabs / Steps** 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)

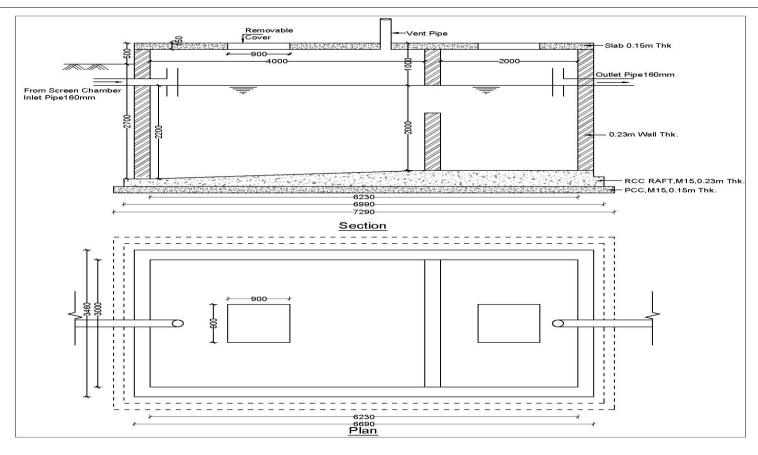
In RCC M-150											
Top Slab RCC	1	х	6.69	Х	3.46	х	0.15			3.48	CuM
RCC Cover	2	Х	0.9	Х	0.9	Х	0.15		=	0.25	CuM
Total RCC Work										3.73	CuM

Item No:-5													
Providing and fixing in positi	on st	eel	bar re	info	rceme	nt	of vario	us	dia	me	eter	s for RCC	piles,
caps, footings, foundations,	slabs	, be	eams,	colu	umns,	can	opies,	sta	irca	se	s, n	ewels, c	hajjas,
lintels, pardies, copings, fins	arch	ies,	etc. as	s pe	er deta	iled	d design	s,	dra	wii	ngs	and sche	dules;
including cutting, bending,													
supporting as required, etc.	com	plet	te (incl	udi	ng cos	t of	f bindin	g v	vire	≘).	(Bd	-F 17/30	6) ToR
Steel	1	1	1		I		ı	I	1		1		I
Reinforcement @80kg/m3												0.88	MT
Item No:-6													
Providing first class Burnt E	rick	mas	sonry	with	n conv	ent	ional /	I.S	. ty	ype	br	icks in c	ement
mortar 1:4 including scaffol	ding,	rac	king o	ut	joints	poi	nting in	C.	Μ.	1:	3 a	nd wate	ring in
pillars of rectangular or square	e sha	ре	as sho	wn	on the	dra	awing or	as	di	rec	ted	etc.com _l	olete.
Long Wall	2	Х	6.69	х	0.23	х	3.05				=	9.39	
Short Wall	2	Х	3	Х	0.23	Х	3.05				=	4.21	
Wall with cavity	1	Х	3	Х	0.23	Х	3.05				=	2.11	
Cavity	1	Х	2.54	Х	0.23	Х	1				=	0.59	
Total Brick Masonry Work												15.12	CuM
Item No:-7													
Providing sand faced plaster	exte	rnal	ly in ce	eme	ent mo	rta	r using a	app	ro	vec	sci	eened sa	and, in
			-				_						
Providing sand faced plaster all positions including base compound at 1Kilogramper	oat c	of 1. ent	5 mm bag c	thic uri	ck in ce	eme sa	nt mort me for	ar no	1:4 t l	1 u: ess	sing th	waterpr an 2 day	oofing /s and
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the b	oat c cem ase c	of 1. ent oat	5 mm bag c rough	thic urii to	ck in ce ng the receive	eme sa e th	ent mort me for e sand	ar no fac	1:4 ot l ed	l us ess tre	sing the atm	waterpr an 2 day ent 6 to	oofing /s and 8 mm
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the b thick in cement mortar 1:4 fi	oat c cem ase c nishir	of 1. ent oat	5 mm bag c rough	thic urii to	ck in ce ng the receive	eme sa e th	ent mort me for e sand	ar no fac	1:4 ot l ed	l us ess tre	sing the atm	waterpr an 2 day ent 6 to	oofing /s and 8 mm
Providing sand faced plaster all positions including base compound at 1Kilogramper keeping the surface of the bethick in cement mortar 1:4 fi days scaffolding etc.complete	oat c cem ase c nishir	of 1. ent oat	5 mm bag c rough he surf	thic urii to	ck in ce ng the receive	eme sa e th	ent mort me for e sand t g out gra	ar no fac	1:4 ot l ed	l us ess tre	sing the atm	waterpr an 2 day nent 6 to ng for fo	oofing /s and 8 mm urteen
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bothick in cement mortar 1:4 fidays scaffolding etc.complete Lng Wall	oat c cem ase c nishir	of 1. ent oat	5 mm bag c rough he surf	thic urii to	ck in ce ng the receive	eme sa e th	ent mort me for e sand t g out gra 3.05	ar no fac	1:4 ot l ed	l us ess tre	sing the atm	waterpr an 2 day nent 6 to ng for for 81.62	oofing /s and 8 mm urteen
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bethick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall	oat compasse consisting.	of 1. ent oat ng t	5 mm bag c rough he surf	thic urii to	ck in ce ng the receive	sa sa e th king	ent mort me for e sand t g out gra 3.05 3.05	ar no fac	1:4 ot l ed	l us ess tre	sing the atm curi	waterpr an 2 day nent 6 to ng for for 81.62 36.60	oofing /s and 8 mm urteen SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bothick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity	oat concernishing	of 1. ent oat ng t	5 mm bag corough he surf	thic urii to	ck in ce ng the receive	sa e th king	ent mort me for e sand t g out gra 3.05 3.05 3.05	ar no fac	1:4 ot l ed	l us ess tre	sing the atm curi	waterpr an 2 day nent 6 to ng for for 81.62 36.60 18.30	oofing /s and 8 mm urteen SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bothick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity	oat compasse consisting.	of 1 ent oat ng t x	5 mm bag c rough he surf	thic urii to	ck in ce ng the receive	sa e th king	ent mort me for e sand t g out gra 3.05 3.05	ar no fac	1:4 ot l ed	l us ess tre	sing the atm curi	waterpr an 2 day nent 6 to ng for for 81.62 36.60 18.30 2.54	oofing /s and 8 mm urteen SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bithick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity Total Plastering Work	oat concernishing	of 1 ent oat ng t x x	5 mm bag corough he surf	thic urii to	ck in ce ng the receive	sa e th king x	ent mort me for e sand t g out gra 3.05 3.05 3.05	ar no fac	1:4 ot l ed	l us ess tre	sing the atm curi	waterpr an 2 day nent 6 to ng for for 81.62 36.60 18.30	oofing /s and 8 mm urteen SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bothick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity Total Plastering Work Item No:-8	oat concernishing.	of 1. ent oat ng t	5 mm bag c rough he surf 6.69 3 3 2.54	thic urii to face	ck in cenng the receive by tal	sa e th king	ent mort me for e sand to g out grad 3.05 3.05 3.05 0.5	ar nc fac nins	1:4 ed s ar	tre	sing thatm curi	waterpr an 2 day nent 6 to ng for for 81.62 36.60 18.30 2.54 133.98	oofing /s and 8 mm urteen SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bithick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity Total Plastering Work	oat concernishing.	of 1. ent oat ng t	5 mm bag c rough he surf 6.69 3 3 2.54	thic urii to face	ck in cenng the receive by tal	sa e th king	ent mort me for e sand to g out grad 3.05 3.05 3.05 0.5	ar nc fac nins	1:4 ed s ar	tre	sing thatm curi	waterpr an 2 day nent 6 to ng for for 81.62 36.60 18.30 2.54 133.98	oofing /s and 8 mm urteen SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bothick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity Total Plastering Work Item No:-8	oat concernishing.	of 1. ent oat ng t	5 mm bag c rough he surf 6.69 3 3 2.54	thic urii to face	ck in cenng the receive by tal	sa e th king	ent mort me for e sand to g out grad 3.05 3.05 3.05 0.5	ar nc fac nins	1:4 ed s ar	tre	sing thatm curi	waterpr an 2 day nent 6 to ng for for 81.62 36.60 18.30 2.54 133.98	oofing /s and 8 mm urteen SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bothick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity Total Plastering Work Item No:-8	oat concernishing.	of 1. ent oat ng t	5 mm bag c rough he surf 6.69 3 3 2.54	thic urii to face	ck in cenng the receive by tal	sa e th king	ent mort me for e sand to g out grad 3.05 3.05 3.05 0.5	ar nc fac nins	1:4 ed s ar	tre	sing the atm curi	waterpran 2 day nent 6 to ng for for 81.62 36.60 18.30 2.54 133.98	oofing /s and 8 mm urteen SqM SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bithick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity Total Plastering Work Item No:-8 Providing & Supplying HDPE I	oat concernishing. 4 4 2 2 1 10	of 1. ent oat ng t	5 mm bag c rough he surf 6.69 3 3 2.54	thic urii to face	ck in cenng the receive by tal	sa e th king	ent mort me for e sand to g out grad 3.05 3.05 3.05 0.5	ar nc fac nins	1:4 ed s ar	tre	sing the atm curi	waterpran 2 day nent 6 to ng for for 81.62 36.60 18.30 2.54 133.98	oofing /s and 8 mm urteen SqM SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bithick in cement mortar 1:4 fithick in cement m	oat concernishing. 4 4 2 2 1 10	of 1. ent oat ng t	5 mm bag c rough he surf 6.69 3 3 2.54	thic urii to face	ck in cenng the receive by tal	sa e th king	ent mort me for e sand to g out grad 3.05 3.05 3.05 0.5	ar nc fac nins	1:4 ed s ar	tre	sing the atm curi	waterpran 2 day nent 6 to ng for for 81.62 36.60 18.30 2.54 133.98	oofing /s and 8 mm urteen SqM SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bothick in cement mortar 1:4 fidays scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity Total Plastering Work Item No:-8 Providing & Supplying HDPE I	oat concentration of the content of	of 1. ent oat ng t	5 mm bag c rough he surf 6.69 3 3 2.54	thic urii to face	ck in cenng the receive by tal	sa e th king	ent mort me for e sand to g out grad 3.05 3.05 3.05 0.5	ar nc fac nins	1:4 ed s ar	tre	sing the atm curi	waterpran 2 day nent 6 to ng for for 81.62 36.60 18.30 2.54 133.98	oofing /s and 8 mm urteen SqM SqM SqM SqM
Providing sand faced plaster all positions including base of compound at 1Kilogramper keeping the surface of the bothick in cement mortar 1:4 fit days scaffolding etc.complete Lng Wall Short Wall Wall with cavity Deduction of cavity Total Plastering Work Item No:-8 Providing & Supplying HDPE International TEE	oat concentration of the content of	of 1. ent oat ng t	bag corough he surf	thic urin to face dia	e cover	sa e th king x x x x x	ent mort me for e sand to g out grad 3.05 3.05 0.5 essure 6	fac fac ains	1:4 ot I ed s ar	treess	sing thatm curi	waterpran 2 daynent 6 to ng for for 81.62 36.60 18.30 2.54 133.98	oofing /s and 8 mm urteen SqM SqM SqM SqM RMtr Nos.

Constructed Wetland										
Design Calculations for Vertical Flow Constructed Wetland										
Inflow	211	m3/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/m2 .d)	80									
Area Required	204.125									
say W/L	2	m								
length	10.2	m								
Say L	10	m								
Width	20.5	m								
Width	20.5	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										
Quan	itity	Particulars	Rate	Unit	Amount						
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)									
223.50	CuM	Lift 0 to 1.5 M	150	CuM	33524.50						
		(MJP SSR 2021-22 P NO 42 I No 1)									
		<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.									
35.77	CuM	- Bd E /1 Page No. 287 and B- 7, Page No. 38	5185	CuM	185467.45						
		In PCC M-100									
		(MJP SSR 2021-22 P NO 49 I No 1)									
		<u>Item No 3. :-</u>									
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)									
		Item No 4. :-									

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) Tor Steel (MJP SSR 2021-22 P NO 52 Sr No 8 b)	66218	MT	246013.11
		Item No 5. :-			
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)			
		<u>Item No 6. :-</u>			
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)			
		<u>Item No 7. :-</u>			
20.00	RMtr	Providing & Supplying HDPE Pipe of 160 mm diametre (Pressure 6 kg / Sq. cm) Providing & Supplying Air Pipe (Perforated Pipe) HDPE Pipe of 160 mm diametre (Pressure	615	RMtr	12300
21.00	RMtr	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 diametre (Pressure 6 kg / Sq. cm) (MJP SSR 2021-22 P NO 153 Sr No 1.A.	276	RMtr	1380

		<u>Item No 8. :-</u>			
1.00	Nes	Providing & Supplying Reducer of 160 to 110	600	Nee	600
1.00	Nos.	mm	600	Nos.	600
		Market Rates			
		<u>Item No 9. :-</u>			
		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			
		Total Cost of VFCW in Rs:-			1137328.2

Particulars	No											
1		S.	L		В		D				Quar	ntity
1	2)	3		4		5				6	
em No:-1												
scavation for foundation nurum, including removing elow, stacking and spreadundation and excluding b	the e	exca as	avated r directe	nato d,	erial upt normal	to a dev	distan waterir	ce of	50	me	tres and	lifts a
-1.5 M	1	Х	21.86	Х	11.4	Х	0.9			=	223.50	CuN
otal Excavation Quantity -1.5 M											223.50	CuN
tem No:-2			•		•					•	•	•
or foundation and bedding omplete. (Cement 5.90 ba	•		•	-		•		•	•		•	٠.
PCC M-100	T .		24.56		44.4		0.45				25.77	
otal PCC Work tem No:-3	1	Х	21.56	Х	11.1	Х	0.15			=	35.77	CuN
CC work in foundation lik teel stanchions including of tc. complete. (By weigh b .C.C., Ambuja, Birla Gold, r	norma atchi	al d	ewaterii and mix	ng,f de	orm wo	rk, M2	compa 250 an	ctior d M-	n, fi 300	nish) on d.)	ing and o	curing of L& ⁻ g M.S
RCC M-150												
aft RCC	1	х	21.26	х	10.8	х	0.2			=	46.44	CuN
otal RCC Work			22.20	^	20.0		0.2				46.44	CuN
em No:-4		1	1		I	<u> </u>	<u>I</u>		<u> </u>	1		<u>. </u>
roviding and fixing in posaps, footings, foundation ntels, pardies, copings, fixed in cluding cutting, bending upporting as required, etteel	s,slab is, ard , hoc	s, k ches okin	peams, s, etc. a: g the k	colu s pe pars	umns, c er detail s, bindir	and led	pies, s design with w	stairo s, dra vires	ase awi or	s, r ngs tac	newels, c and sche k weldin	hajja dule g an

pillars of rectangular or square shape as shown on the drawing or as directed etc.complete.

0.23

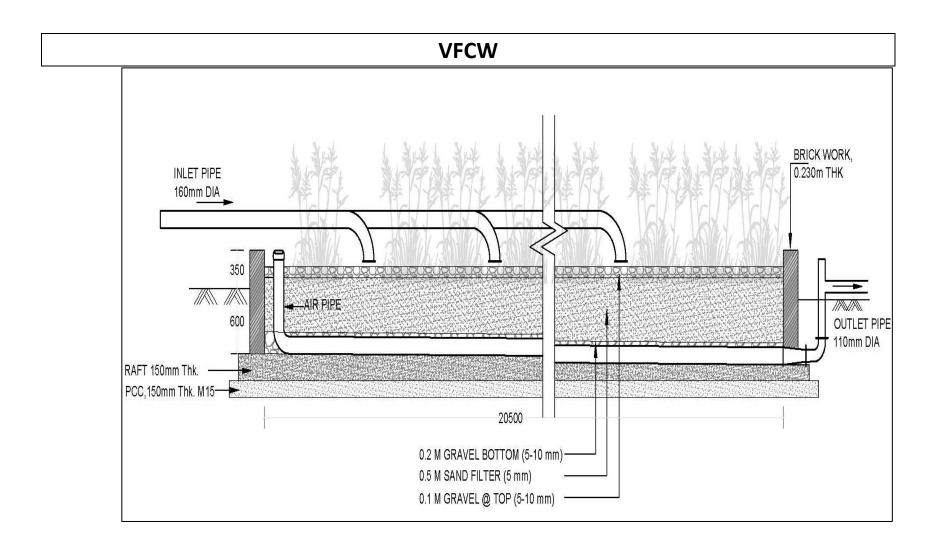
x 0.95

20.96 x

Long Wall

9.16

Short Wall	2	х	10	х	0.23	х	0.95				=	4.37	
Total Brick Masonry Work												13.53	CuM
Item No:-6													
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													
		ıng	the surf	ace	by taki	ng	out gra	ıns	ar	nd (curi	ng for fol	ırteen
days scaffolding etc.complet		l	20.00	1		l	0.05					20.02	
Long Wall	2	Х	20.96			Х	0.95				=	39.83	
Short Wall	2	Х	10			Х	0.95				=	19.00	
Total Plaster Work												58.83	SqM
Item No:-7													
Providing & Supplying HDPE	Pipe	of :	160 mm	dia	metre (Pre	ssure 6	i kg	g / :	Sq.	cm)	
Inlet Pipe of 160 mm	20										=	20.00	RMtr
diametre	20											20.00	KIVILI
Air Pipe (Perforated Pipe)	21										=	21.00	RMtr
of 160 mm diametre	21											21.00	IXIVICI
Outlet Pipe of 110 mm	5										=	5.00	RMtr
diametre												3.00	IXIVICI
Item No:-8													
Providing and supplying Red	ucer	of 1	160 to 1	10 ı	mm								
	1											1.00	Nos.
Item No:-9													
Filter media													
Course Sand	1	х	20.50	х	10.00	х	0.50				=	102.50	Cum
Gravel	1	Х	20.50	х	10.00	х	0.30				=	61.50	Cum



VFCW VFCW-1 SETTLER-1 SCREEN CHAMBER VFCW-2 TREATED EFFLUENT SETTLER-2 VFCW-3

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_t riff_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.

	Technological details are given in	Booklet 2 (677 pages)						
Sr.	Capacity of plant in KLD	Area Requirement	Unit	Amount in (Rs)				
No.		in Sqm						
1	10	35	Job	9,84,455.00				
	Add capacity above		Liter	21.77				
	10 KLD to 50 KLD							
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				