

**DETAIL ESTIMATE FOR THE CONSTRUCTION OF 35 CFT CAPACITY SEPTIC TANK.**

**Vide DRG no.141 Sl.no. 263 dt, 20.10.1978**

**VIDE S/R OF B.C.D.BIHAR, w.e.f.15.09.2014**

Sl.no.	SR.Item No.	Items of work	Total Quantity
1	2	3	4
1	2.8.1.	<p>Earthwork in excavation in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m: All kinds of soil</p> <p>Tank- 8'-6" x 5'-6"x 6'-3" = 292 Cft.                      Chamber- 2x4'-8"x 2'-10"x2'-6" = 66 Cft.                      Masonry Pillar- 1x 2'-1"x2'-1"x0'-6" = 2 Cft</p> <p align="right">360 Cft Or 10.20 M<sup>3</sup></p>	10.20 M <sup>3</sup>
2	11.72	<p>Providing designation 100A one brick flat soling joints filled with local sand including cost of watering, taxes, royalty all complete as per building specification and direction of E/I.</p> <p>Tank- 8'-6"x5'-6" = 47 Sft. Or 4.37 M<sup>2</sup></p>	4.37 M <sup>2</sup>
3	4.1.3	<p>Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work up to plinth level: 1:2:4 (1 Cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size)</p> <p>Tank- 1x 8'-6" x 5'-6"x 0'-6" = 23 Cft.                      Chamber- 2x4'-8"x 3'-4"x0'-6" = 16 Cft.                      Masonry Pillar- 1x 2'-1"x2'-1"x0'-6" = 2 Cft</p> <p align="right">41 Cft Or 1.16 M<sup>3</sup></p>	1.16 M <sup>3</sup>
4	6.1.12/A	<p>Brick work with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:4(1 cement : 4 coarse sand)</p> <p>Tank - 2x7'-6" = 15'-0"                      2x2'-0" = 4'-0"                      19'-0"</p> <p>Quantity- 19'-0"x 1'-3"x4'-6 " = 107 Cft.                      For 10 wall</p> <p>Tank - 2x7'-1" = 14'-2"                      2x2'-5" = 4'-10"                      19'-0"</p> <p>Quantity- 19'-0"x 0'-10"x2'-3" = 36 Cft.  <u>Chamber-</u>                      2x2x3'-½" = 12'-2"                      2x1x2'-0" = 4'-0"                      16'-2"</p> <p>Quantity- 16'-2"x0'-10"x3'-3" = 44 Cft.                      Masonry- 1x1'-8"x1'-8"x3'-0" = 8 Cft.</p> <p align="right">Total- 195 Cft. Or 5.52 M<sup>3</sup></p>	5.52 M <sup>3</sup>
5	5.1.3	<p>Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering, shuttering, finishing and reinforcement-All work up to plinth level : 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) Septic Tank Cover</p> <p><u>In Baffle wall ( 2" thick:-)</u>                      1x2'-10"x3'-3"x0"-2" = 2 Cft.</p> <p>Slab Cover ( 3" thick)                      Tank- 1x6'-3"x3'-3"x0'-3" = 5 Cft.                      In Chamber- 2x3'-½"x 2'-10"x0'-3" = 4 Cft.</p> <p align="right">11 Cft. Or 0.31 M<sup>3</sup></p>	0.31 M <sup>3</sup>

6	5.22.7A	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete: Thermo-Mechanically Treated bars(TMTC-500) 8mm dia Qty- 11 Cft @ 2.00 kg per Cft. Including weight of lifting rings needed. Qty. = 11x 2.00 = 22 kg say 22 kg	22 kg
7	19.15.1	<b>Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design</b> : With 20x20 mm square bar In Septic tank- 4 Nos.	4 Nos.
8	12.78.1	Providing and fixing on wall face unplasticised-PVC (working pressure 4 kg per sq cm) pipes conforming to IS : 4985 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion: 75mm diameter PVC pipe- 14'-0" = 14 Rft. Or 4.27 Mt	4.27 Mtr.
9	12.79.5.1	Providing and fixing on wall face unplasticised- PVC moulded fittings /accessories for unplasticised-PVC rain water pipes conforming to IS : 4985 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion: 75 mm bend	1 No.
10	N.S.I.	Providing and fixing on wall face unplasticised- PVC moulded fittings /accessories for unplasticised-PVC rain water pipes conforming to IS : 4985 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion: 75mm dia PVC Cowel.	1 No.
11	12.79.4.2	Providing & fixing on wall face unplasticised P.V.C. pipe (working pressure 4 Kg/Sq.cm) confirming to IS-4985 for sevrage including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion: 110 x 110 x 110mm dia Single Jn Tee without door	1 No.
12	PH Code 7205 Analysed	Providing & fixing on wall face unplasticised P.V.C. pipe (working pressure 4 Kg/Sq.cm) confirming to IS-4985 for sevrage including jointing with seal ring conforming to IS:5382 leaving 10mm gap for thermal expansion: 110 x 110 x 110mm single equal Y without door	1 No.
13	13.17.1	12mm cement plaster of mix: 1:3 (1 cement : 3 coarse sand) : Neat Cement Punning <u>In side Tank</u> - $2 \times (5' - 0" + 2' - 0") \times 4' - 6" = 63 \text{ Sft.}$ $2 \times (5' - 5" + 2' - 5") \times 2' - 0" = 31 \text{ Sft.}$ <u>Bottom of Tank</u> - $1 \times 5' - 0" \times 2' - 0" = 10 \text{ Sft}$ <u>Chamber</u> - $2 \times 2 \times (2' - 2\frac{1}{2}" + 2' - 0") \times 3' - 0" = 51 \text{ Sft.}$ <u>Bottom</u> - $2 \times 2' - 0" \times 2' - 0" = 08 \text{ Sft.}$ <u>Baffle wall</u> - $2 \times 2' - 0" \times 3' - 3" = 13 \text{ Sft.}$ $176 \text{ Sft.}$ Or. 16.36 M <sup>2</sup>	16.36 M <sup>2</sup>

14.	13.11.4	12mm cement plaster of mix: 1:6 (1 Cement : 6 coarse sand) <u>Out side the Tank</u> - 2 x 7' - 1" x 1' - 9" = 25 Sft. <u>Out sides of chamber</u> - 2x2x3'- ½"x1'-9" = 21 Sft. 2 x 3'- 8"x 1'- 9" = 13 Sft <u>Projection of Tank</u> - 4 x 0'- 2½" x 1' - 9" = 02 Sft. <u>Top of Tank &amp; Inspection Chamber</u> - Tank - 2x 7' - 1" x 0' - 5" = 06 Sft. Chamber- 2 x 2 x 3'- ½"x 0'- 5" = 05 Sft. 2 x 2' -10" x 0' - 5" = 02 Sft. <u>Pillar</u> - 4 x 1' - 8" x 3' - 0" = 20 Sft. 1x 1' - 8" x 1' - 8" = 03 Sft. 97 Sft. Or 9.01 M <sup>2</sup>	9.01 M <sup>2</sup>
15	13.24.2	6mm cement plaster to ceiling of Mix : 1:4 (1 cement : 4 coarse sand) <u>R.C.C.Cover of tank</u> - 1x5' - 5"x 2' - 5" = 13 Sft. <u>R.C.C.Cover of Chamber</u> - 2 x 2'- 2½" x 2'- 0" = 09 Sft. 22 Sft. Or 2.04 M <sup>2</sup>	2.04 M <sup>2</sup>
16	19.9.1.1	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality:LD 2.5:Rectangular shape 600x450 mm internal dimensions	1 No.
17		<u>Extra cost :-</u> (a) Bricks - 2870 Nos. (b) Cement - 20 Bags.	- 2870 Nos 20 Bags.
18		<u>Carriage of materials :-</u> (a) Bricks - 2870 Nos. (b) Sand - 2.13 M <sup>3</sup> (C) Stone Chips - 1.31 M <sup>3</sup> .	2870 Nos 2.13 M <sup>3</sup> 1.31 M <sup>3</sup>

### **CONSUMPTION STATEMENT OF MATERIALS FOR 35 C.F.T. SEPTIC TANK.**

Sl No.	Item of work	Qty.	Cement in M <sup>3</sup>	Coarse Sand in M <sup>3</sup>	Stone Chips in <sup>3</sup>	Bricks in Nos.	Steel in Kg.
1	Brick flat soling.	4.37 M <sup>2</sup>	-	0.067	-	141	-
2	P.C.C. (1:2:4)	1.16 M <sup>3</sup>	0.258	0.516	1.032	-	-
3	Brick work (1:4)	5.52 M <sup>3</sup>	0.276	1.104	-	2727	-
4	R.C.C.(1:2:4)	0.31 M <sup>3</sup>	0.069	0.138	0.276	-	22
5	½" C.P. (1:3) with punning	16.36 M <sup>2</sup>	0.062	0.177	-	-	-
6	½" C.P. (1:6)	9.01 M <sup>2</sup>	0.019	0.111	-	-	-
7	¼" C.P. (1:4) in ceiling	2.04 M <sup>3</sup>	0.003	0.012	-	-	-
<b>Total -</b>			<b>0.687 M<sup>3</sup> = 20 bags</b>	<b>2.125 M<sup>3</sup> Say 2.13 M<sup>3</sup></b>	<b>1.308 M<sup>3</sup> Say 1.31 M<sup>3</sup></b>	<b>2868 Nos. Say 2870 Nos.</b>	<b>22 Kg.</b>

**DETAIL ESTIMATE & ABSTRACT OF COST FOR CONSTRUCTION OF 4'-0" DIA  
SOAK PIT & 10'-0" DEPTH IN-----Qrt. AT-----  
----- P..S. IN THE DISTRICT OF ----- UNDER --  
----- DIVISION VDE S/R OF B.C.D.BIHAR, w.e.f.15.09.2014**

Sl.no.	SR.Item No.	Items of work	Total Quantity
1	2	3	4
1	2.8.1.	<p>Earthwork in excavation in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m: All kinds of soil</p> <p>(A) <math>\frac{22}{7} \times (5'-8'')^2 \times 3'-0'' = 75.51 \text{ Cft.}</math> Or 2.85 M<sup>3</sup></p> <p><math>\frac{22}{7} \times (4'-0'')^2 \times 2'-0'' = 25.14 \text{ Cft.}</math> 100.65 Cft.</p> <p>(B) Do- -Do- below 5' - 0" upto 8' - 0" depth.</p> <p><math>\frac{22}{7} \times (4'-0'')^2 \times 3'-0'' = 37.71 \text{ Cft.}</math> Or 1.068 M<sup>3</sup></p> <p>(C) Do- -Do- below 8' - 0" upto 10' - 0" depth.</p> <p><math>\frac{22}{7} \times (4'-0'')^2 \times 2'-0'' = 25.14 \text{ Cft.}</math> Or 0.719 M<sup>3</sup> 4.63 M<sup>3</sup></p>	4.63 M <sup>3</sup>
2	5.1.3	<p>Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement-All work upto plinth level : 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size)</p> <p><u>In Baffle wall ( 2" thick:-)</u></p> <p><math>\frac{22}{7} \times (5'-8'')^2 \times 0'-3'' = 6.29 \text{ Cft.}</math> Or 0.178 M<sup>3</sup></p>	0.178 M <sup>3</sup>
3	5.22.7A	<p>Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete: Thermo-Mechanically Treated bars(TMTC-500) 8mm dia. R.C.C. same as item 5.1.3 Qty- 6.29 Cft 2.00 kg per Cft. Including from lifting rings needed.</p> <p>Qty. = 12.58 kg say 13 kg</p>	13 kg
4	6.1.14A	<p>Brick work with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:6(1 cement : 6 coarse sand)</p> <p><math>\frac{22}{7} \times \{ (5'-8'')^2 - (4'-0'')^2 \} \times 3'-9'' = 47.44 \text{ Cft.}</math> Or 1.343 M<sup>3</sup></p>	1.343 M <sup>3</sup>
5	13.11.4	<p>12mm cement plaster of mix: 1:6 (1 Cement : 6 coarse sand)</p> <p>Ground Floor -</p> <p><math>\frac{22}{7} \times 5'-8'' \times 1'-0'' = 17.80 \text{ Sft.}</math> Or 1.654 M<sup>2</sup></p>	1.654 M <sup>2</sup>

6	13.24.2	6mm cement plaster to ceiling of Mix : 1:4 (1 cement : 4 coarse sand) $\frac{22}{7 \times 4} \times (5' - 8'')^2 = 25.17 \text{ Sft.}$ $\frac{22}{7 \times 5' - 8'' \times 0' - 3''} = 4.45 \text{ Sft.}$ 29.62 Sft. Or 2.753 M <sup>2</sup>	2.753 M <sup>2</sup>
7	Br.	Providing brick bats and filling the same in soak pit as per specification and direction of engineer in charge. $\frac{22}{7 \times 4} \times (4' - 0'')^2 \times 8' - 6'' = 106.85 \text{ Cft.}$ Say 107 Cft. Or 3.03 M <sup>3</sup>	3.03 M <sup>3</sup>
8		<u>Extra cost :-</u> (a) Bricks - 663 Nos. (b) Cement - 3 Bags.	- 663 Nos 3 Bags.
9		<u>Carriage of materials :-</u> (a) Bricks - 1573 Nos. (b) Sand - 0.40 M <sup>3</sup> (C) Stone Chips - 0.16 M <sup>3</sup> .	1573Nos 0.40 M <sup>3</sup> 0.16 M <sup>3</sup>

**CONSUMPTION STATEMENT OF MATERIALS FOR 4'-0" DIA SOAK PIT.**

Sl No.	Item of work	Qty.	Cement in M <sup>3</sup>	Coarse Sand in M <sup>3</sup>	Stone Chips in <sup>3</sup>	Bricks in Nos.	Steel in Kg.
1	Brick work in c.m. (1:6)	1.343 M <sup>2</sup>	0.048-	0.288	-	663	-
2	R.C.C. (1:2:4)	0.178 M <sup>3</sup>	0.040	0.079	0.158	-	-
3	Reinforcement	0.013 M./T.	-	-	-	-	13
4	Brick bats	3.03 M <sup>3</sup>	-	-	-	910	-
5	½" C.P. (1:6)	1.654M <sup>2</sup>	0.003	0.020	-	-	-
6	¼" C.P. (1:4)	2.753 M <sup>2</sup>	0.004	0.016	-	-	-
<b>Total -</b>			<b>0.095 M<sup>3</sup> = 3 bags</b>	<b>0.403 M<sup>3</sup> Say 0.40 M<sup>3</sup></b>	<b>0.158 M<sup>3</sup> Say 0.16 M<sup>3</sup></b>	<b>1573 Nos. Say 1570 Nos.</b>	<b>13 Kg.</b>

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