

DETAILED ESTIMATE FOR THE CONSTRUCTION OF 150 CFT CAPACITY SEPTIC TANK
AT..... IN THE DISTRICT OF UNDER DIVISION
VIDE DRAWING NO.- 173 SL NO. 295 DATED 10-03-79
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.	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 Tank- 1x13'-6" x 7'-6"x 6'-9" = 683 Cft. Chamber- 2x(3'-4"x 5'-2"x2'-9") = 95 Cft. Masonry Pillar- 1x 2'-1"x2'-1"x0'-6" = 2 Cft 780 Cft Or, 22.09 M ³	22.09 M ³
2	11.72	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/l. Tank- 1x13'-6"x 7'-6" = 101 Sft. Chamber- 2x 3'-10"x 5'-2" = 40 Sft. 141 Sft. Or 13.10 M ²	13.10 M ²
3	4.1.3	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) Tank- 1x 13'-6" x 7'-6"x 0'-9" = 76 Cft. Chamber- 2x3'- 10"x 5'-2"x 0'-6" = 20 Cft. Masonry Pillar- 1x 2'-1"x2'-1"x 0'-6" = 2 Cft 98 Cft Or 2.78 M ³	2.78 M ³
4	6.1.12A	Brick work with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:4(1 cement : 4 coarse sand) <u>15" Thick wall</u> Tank - 2 x(12'- 6") = 25'-0" 2 x 4'- 0" = 8'-0" 33'-0" 33'-0"x1'-3"x4'-9" = 196 Cft. <u>10" Thick wall</u> 2x 12'-1" = 24'-2" 2x 4'-5" = 8'- 10" 33'- 0" 33'-0" x 0'-10" x 2'-3" = 62 Cft. Chamber- 2x2x3'-6½" = 14'-2" 2x1x2'-6" = 5'-0" 19'-2" Quantity- 19'-2"x 0'-10"x3'-3" = 52 Cft. Masonry Pillar- 1x1'-8"x1'-8"x3'-0" = 8 Cft 318 Cft. Or 9.00 M ³	9.00 M ³
5	5.1.3	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 <u>In Baffle wall (3" thick:-)</u> 2x4'-10"x3'-9"x 0' -3" = 9 Cft. 1x4'- 10"x3'-0"x 0'-3" = 4 Cft. <u>Slab Cover (3" thick)</u> Tank- 1x11'-3"x 5'-3"x 0'-3" = 15 Cft. <u>In Chambers 2 Nos</u> 2x3'-6½" x 3'-4 "x 0'-3" = 6 Cft. 34 Cft. Or 0.96 M ³	0.96 M ³

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- 34 Cft @ 2.00 kg per Cft. Including weight of lifting rings needed. Qty. = 34x 2.00 = 68 kg	68 kg
7	19.15.1	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 : With 20x20 mm square bar In Septic tank- 5 Nos.	5 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) conforming to IS-4985 for sewerage 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) conforming to IS-4985 for sewerage 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>Tank- Bottom</u> - 1 x 10'- 0" x 4' -0" = 40 Sft. In side 2 x (10'-0"+4' -0")x4'-9" = 133 Sft. 2x(10' - 5"+ 4' - 5")x2'-2½" = 65 Sft. <u>Chamber- Bottom</u> - 2 x 2'- 6"x2'-6" = 13 Sft. <u>In side-</u> 2x2 x 2' - 8½"x 3' - 0" = 33 Sft In side - 2 x2x 2' - 6" x 3' - 0" = 30 Sft. 314 Sft Or. 29.18 M ²	29.18M ²
14.	13.11.4	12mm cement plaster of mix: 1:6 (1 Cement : 6 coarse sand) <u>Tank Out side</u> - 2 x 12'-1" = 24'- 2" <u>Side Projections-</u> 2x2x0'-11½" = 3'-10" 28'-0" 28'-0"x 2'-3" = 63 Sft. <u>Top of Tank</u> - 2x12' -1" = 24'-2" 24'-2" x 0'-5" = 10 Sft <u>Chamber Out sides</u> - (2x2x3'- 6½"+2x4'-2")x1'-9" = 39 Sft <u>Top of Chamber</u> (2x2x3'- 6½"+2x1x3'-4")x0'- 5"= 09sft. <u>Massonary Pillar</u> - 4 x 1' - 8" x 3' - 0" = 20 Sft. 1x 1' - 8" x 1' - 8" = 03 Sft. 144 Sft. Or 13.38 M ²	13.38 M ²

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> 1x10' - 5"x 4' -5" = 46 Sft. <u>R.C.C.Cover of Chamber -</u> 2 x 2'- 6" x 2'- 8½" = 14 Sft. 60 Sft. Or 5.58 M ²	5.58 M ²
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 Nos.
17		<u>Extra cost :-</u> (a) Bricks - 4870 Nos. (b) Cement - 44 Bags.	- 4870 Nos 44 Bags. .
18		<u>Carriage of materials :-</u> (a) Bricks - 4870 Nos. (b) Sand - 4.18 M ³ (C) Stone Chips - 3.33 M ³ .	4870 Nos 4.18 M ³ 3.33 M ³

CONSUMPTION STATEMENT OF MATERIALS FOR 150 C.F.T. SEPTIC TANK.

Sl No.	Item of work	Qty.	Cement in M ³	Coarse Sand in M ³	Stone Chips in ³	Bricks in Nos.	Steel in Kg.
1	Brick flat soling.	13.10 M ²	-	0.200	-	423	-
2	P.C.C. (1:2:4)	2.78 M ³	0.619	1.237	2.474	-	-
3	Brick work (1:4)	9.00 M ³	0.450	1.80	-	4446	-
4	R.C.C.(1:2:4)	0.96 M ³	0.214	0.427	0.854	-	68.00
5	½" C.P. (1:3) with punning	29.18 M ²	0.111	0.315	-	-	-
6	½" C.P. (1:6)	13.38M ²	0.028	0.165	-	-	-
7	¼" C.P. (1:4) in ceiling	5.58 M ³	0.078	0.032	-	-	-
Total -			1.50 M³ = 44 bags	4.176 M³ Say 4.18 M³	3.328 M³ Say 3.33 M³	4869 Nos Say 4870 Nos.	68 Kg.

(S.N. Verma)
Assistant Tech. Secy.

DETAILED ESTIMATE FOR CONSTRUCTION OF 5'-0" DIA & 12'-0" DEEP SEPTIC TANK IN-----Qrt. AT----- P..S. IN THE DISTRICT OF ----- UNDER ----- DIVISION VDE S/R OF B.C.D.BIHAR, WEF 16-01-2009 (TO BE TAKEN 1 NOS FOR 150 CFT CAPACITY SEPTIC TANK)

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) $\frac{22}{7} \times (6'-8'')^2 \times 3'-0'' = 104.74$ Cft.</p> <p>$\frac{22}{7} \times (5'-0'')^2 \times 2'-0'' = 39.28$ Cft.</p> <p>(B) Do- -Do- below 5' - 0" upto 12' - 0" depth.</p> <p>$\frac{22}{7} \times (5'-0'')^2 \times 7'-0'' = 137.50$ Cft. 281.52 Cft. or 7.97 M³</p>	7.97 M ³
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>In Baffle wall (2" thick:-)</p> <p>$\frac{22}{7} \times (6'-8'')^2 \times 0'-3'' = 8.72$ Cft. Or 0.247 M³</p>	0.247 M ³
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</p> <p>Qty- 8.72 Cft 2.00 kg per Cft. Including from lifting rings needed.</p> <p>Qty. = 17.44 kg say 17 kg</p>	17kg
.4	13.11.4	<p>12mm cement plaster of mix: 1:6 (1 Cement : 6 coarse sand)</p> <p>Ground Floor -</p> <p>$\frac{22}{7} \times (6'-8'') \times 1'-0'' = 20.95$ Sft.</p> <p>Or 1.948 M²</p>	1.948 M ²
5	13.24.2	<p>6mm cement plaster to ceiling of Mix : 1:4 (1 cement : 4 coarse sand)</p> <p>$\frac{22}{7} \times (6'-8'')^2 = 34.91$ Sft.</p> <p>$\frac{22}{7} \times (6'-8'') \times 0'-3'' = 5.23$ Sft 40.14 Sft. Or 3.73 M²</p>	3.73 M ²
6		<p>Extra cost :-</p> <p>(a) Bricks - 800 Nos.</p> <p>(b) Cement - 4 Bags.</p>	800 Nos 4 Bags.

7		<u>Carriage of materials :-</u> (a) Bricks - 2550 Nos. (b) Sand - 0.50 M ³ (C) Stone Chips - 0.22 M ³ .	2550 Nos 0.50 M ³ 0.22 M ³
8	Br.	<u>Providing brick bats and filling the same in soak pit as per specificarion and direction of engineer in charge.</u> $\frac{22}{7} \times (5'-0")^2 \times 10'-6" = 206.25 \text{ Cft.}$ Or 5.84 M ³	5.84 M ³
9	6.1.14A	Brick work with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:6(1 cement : 6 coarse sand) $\frac{22}{7} \times (5'-10") \times 10" \times 3'-9" = 57.26 \text{ Cft.}$ Or 1.62 M ³	1.62 M ³

CONSUMPTION STATEMENT OF MATERIALS FOR 5'-0" DIA SOAK PIT.

Sl No.	Item of work	Qty.	Cement in M ³	Coarse Sand in M ³	Stone Chips in ³	Bricks in Nos.	Steel in Kg.
1	Brick work in c.m. (1:6)	1.62 M ²	0.058	0.347	-	800	-
2	R.C.C. (1:2:4)	0.247 M ³	0.055	0.110	0.22	-	-
3	Reinforcement	0.017 M./T.	-	-	-	-	17
4	Brick bats	5.84 M ³	-	-	-	1753	-
5	½" C.P. (1:6)	1.948M ²	0.004	0.024	-	-	-
6	¼" C.P. (1:4)	3.73 M ²	0.005	0.022	-	-	-
Total -			0.122 M³ or 4 bags	0.503 M³ Say 0.50 M³	0.22 M³	2553 Nos. Say 2550 Nos.	17 Kg.

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