## DETAILED ESTIMATE FOR THE CONSTRUCTION OF 200 CFT CAPACITY SEPTIC TANK
## AT...............................IN THE DISTRICT OF ---------------------- UNDER ----------------------- DIVISION
## VIDE DRAWING NO.- 181 SL NO. 303 DATED 25-04-79
## 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 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<br>Tank- 1x16'-0" x 7'-6"x 7'-0"          = 840 Cft.<br>Chamber- 2x(3'-4"x 5'-2"x2'-9")    =   95 Cft.<br>Masonry Pillar- 1x 2'-1"x2'-1"x0'-6"    =    2 Cft<br>937 Cft     Or  26.54 M$^3$ | 26.54 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/I.<br>Tank- 1x16'-0"x 7'-6"        = 120 Sft.<br>Chamber- 2x 3'-10"x 5' -2"  =   40 Sft.<br>160 Sft.    Or  14.87 M$^2$ | 14.87 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)<br>Tank-   1x 16'-0" x 7'-6"x 0'-9"          =  90 Cft.<br>Chamber- 2x3'- 10"x 5'-2"x 0'-6"        = 20 Cft.<br>Masonry Pillar- 1x 2'-1"x2'-1"x 0'-6"    =    2 Cft<br>112 Cft     Or  3.17 M$^3$ | 3.17 M$^3$ |
| 4 | 6.1.12/A | Brick work with bricks of class designation 100A in foundation and plinth in : Cement mortar 1:4(1 cement : 4 coarse sand)<br>15" Thick wall<br>Tank -    2 x 15'-0"          = 30'-0"<br>          2 x 4'- 0"        =  8'-0"<br>                                  38'-0"<br>          38'-0"x1'-3"x5'-0"  = 237 Cft.<br>10" Thick wall<br>        2x 14'-7"        =    29'-2"<br>        2x 4'-5"      =    8'- 10"<br>                          38'- 0"<br>        38'-0" x 0'-10" x 2'-3" =  71 Cft.<br>Chamber-<br>      2x2x3'-6½" =      14'-2"<br>      2x1x2'-6"   =      5'-0"<br>                      19'-2"<br>Quantity- 19'-2"x 0'-10"x3'-3"          =  52 Cft.<br>Masonry Pillar- 1x1'-8"x1'-8"x3'-0"      =    8 Cft<br>368 Cft. Or.  10.42 M$^3$ | 10.42 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<br>In Baffle  wall ( 3" thick:-)<br>        2x4'-10"x4'-0"x 0' -3"    =  10  Cft.<br>        1x4'- 10"x3'-3"x 0'-3"    =   4  Cft.<br>Slab Cover ( 3" thick)<br>Tank-      1x13'-9"x 5'-3"x 0'-3"      =  18  Cft.<br>In Chambers 2 Nos<br>        2x3'-6½" x 3'-4 "x 0'-3"    =   6  Cft.<br>                                  38  Cft.<br>                Or   1.08 M$^3$ | 1.08 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<br>Qty- 38 Cft @ 2.00 kg per Cft. Including weight of lifting rings needed.<br>Qty. = 38x 2.00 = 76 kg | 76 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<br> In Septic tank-  6  Nos. | 6 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:<br>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 unplastisised  P.V.C. pipe (working pressure 4 Kg/Sq.cm) confirming to IS-4985 for sewerage including jointing with seal ring confirming 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 unplastisised  P.V.C. pipe (working pressure 4 Kg/Sq.cm) confirming to IS-4985 for sewerage including jointing with seal ring confirming to IS:5382 leaving 10mm gap for thermal expansion:<br>110 x 110 x110mm single equal Y without door | 1 No. |
| 13 | 13.17.1 | 12mm cement plaster of mix:<br>1:3 (1 cement : 3 coarse sand) : Neat Cement Punning<br>Tank- Bottom -  1 x 12'- 6" x 4' -0"        =   50   Sft.<br>   In side  2 x (12'-6"+4' -0")x5'-0"      =  165   Sft.<br>        2x(12' -11"+ 4' - 5")x2'-2½"      =   77   Sft.<br>Chamber- Bottom - 2 x 2'- 6"x2'-6"      =   13   Sft.<br>In side-   2x2 x 2' - 8½"x 3' - 0"        =   33   Sft<br><br>In side -   2 x2x 2' - 6" x 3' - 0"         =  30   Sft.<br>                                                 368  Sft<br>                                    Or.     34.20  M$^2$ | 34.20M$^2$ |
| 14. | 13.11.4 | 12mm cement plaster of mix:  1:6 (1 Cement : 6 coarse sand)<br>Tank Out side  -            2 x 14'-7"   = 29'- 2"<br>Side Projections-    2x2x0'-11½"       =  3'-10"<br>                                                33'-0"<br>                            33'-0"x 2'-3"         = 74 Sft.<br> Top of Tank -     2x14' -7"       =  29'-2"<br>                            29'-2" x 0'-5"        = 12 Sft<br>Chamber Out sides -<br>            (2x2x3'- 6½"+2x4'-2")x1'-9"   = 39 Sft  Top of Chamber (2x2x3'-6½"+2x1x3'-4")x0'- 5"= 09sft.<br>Massonary Pillar -   4 x 1' - 8" x 3' - 0"      =   20  Sft.<br>            1x 1' - 8" x 1' - 8"      =  03  Sft.<br>                                                157 Sft.<br>                            Or  14.59 M$^2$ | 14.59 M$^2$ |

| 15 | 13.24.2 | 6mm cement plaster to ceilling of Mix : <br> 1:4 (1 cement : 4 coarse sand) <br> <u>R.C.C.Cover of tank</u>- 1x12' -11"x 4' -5" = 57 Sft. <br> <u>R.C.C.Cover of</u> <br> <u>Chamber -</u>      2 x 2'- 6" x 2'- 8½" = <u>14 Sft.</u> <br>           71 Sft.    Or     6.60 $M^2$ | 6.60 $M^2$ |
|----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 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> :- <br> (a)  Bricks -           5630 Nos. <br> (b)  Cement -          48 Bags. | - <br> 5630 Nos <br> 48 Bags. <br> . |
| 18 | | <u>Carriage of materials</u> :- <br> <u>(a)  Bricks  -</u>        5630 Nos. <br> <u>(b)  Sand  -</u>        4.79 $M^3$ <br> (C) Stone Chips -     3.78 $M^3$ . | 5630 Nos <br> 4.79 $M^3$ <br> 3.78$M^3$ |

## CONSUMPTION STATEMENT OF MATERIALS FOR 200 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. | 14.87 $M^2$ | - | 0.227 | - | 480 | - |
| 2 | P.C.C. (1:2:4) | 3.17 $M^3$ | 0.705 | 1.411 | 2.821 | - | - |
| 3 | Brick work (1:4) | 10.42 $M^3$ | 0.521 | 2.084 | - | 5147 | - |
| 4 | R.C.C.(1:2:4) | 1.08 $M^3$ | 0.240 | 0.481 | 0.961 | - | 76.00 |
| 5 | ½" C.P. (1:3) with punning | 34.20 $M^2$ | 0.130 | 0.369 | - | - | - |
| 6 | ½" C.P. (1:6) | 14.59 $M^2$ | 0.030 | 0.180 | - | - | - |
| 7 | ¼" C.P. (1:4) in ceiling | 6.60 $M^3$ | 0.009 | 0.038 | - | - | - |
| **Total -** | | | **1.635 $M^3$** <br><br> **= 48 bags** | **4.79 $M^3$** | **3.782 $M^3$** <br><br> **Say 3.78 $M^3$** | **5627 Nos** <br> **Say 5630 Nos.** | **76 Kg.** |

         ( S.N. Verma ) <br>
        Assistant Tech. Secy.

# DETAILED ESTIMATE FOR CONSTRUCTION OF 4'-0" DIA & 10'-0" DEEP SEPTIC TANK IN-------------------------------Qrt. AT--------------------------------------- P..S. IN THE DISTRICT OF ----------------------------- UNDER -------------------------------------- DIVISION
## VIDE S/R OF B.C.D.BIHAR, w.e.f. 15-09-2014
## ( TO BE TAKEN 2 NOS FOR 200 CFT.CAPACITY TANK)

| 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<br>(A) $\frac{22}{7 \times 4}$ x ( 5'-8")$^2$ X 3'-0" = 75.51 Cft.<br>$\frac{22}{7 \times 4}$ x ( 4'- 0")$^2$ X 2'-0" = 25.14 Cft.<br>100.65 Cft.<br>Or 2.85 M$^3$<br>(B) Do- -Do- below 5' - 0" upto 8' - 0" depth.<br>$\frac{22}{7 \times 4}$ x ( 4 '- 0")$^2$ X 3'-0" = 37.71 Cft.<br>Or 1.068 M$^3$<br>(C) ) Do- -Do- below 8' - 0" upto 10' - 0" depth.<br>$\frac{22}{7 \times 4}$ x ( 4 '- 0")$^2$ X 2'-0" = 25.14 Cft.<br>Or 0.719 M$^3$<br>4.63 M$^3$ | 4.63 M$^3$ |
| 2 | 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)<br>In Baffle wall ( 2" thick:-)<br>$\frac{22}{7 \times 4}$ x ( 5 '-8")$^2$ X 0'-3" = 6.29 Cft.<br>Or 0.178 M$^3$ | 0.178 M$^3$ |
| 3 | 5.29.7A | Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete: Thermo-Mechanically Treated bars(TMTC-415) 8mm dia. R.C.C. same as item 5.1.3<br>Qty- 6.29 Cft 2.00 kg per Cft. Including from lifting rings needed.<br>Qty. = 12.58 kg say 13 kg | 13 kg |
| .4 | 13.11.4 | 12mm cement plaster of mix: 1:6 (1 Cement : 6 coarse sand)<br>Ground Floor -<br>$\frac{22}{7}$ x 5 '- 8" X 1'-0" = 17.80 Sft.<br>Or 1.654 M$^2$ | 1.654 M$^2$ |

| 5 | 13.24.2 | 6mm cement plaster to ceiling of Mix :<br>1:4 (1 cement : 4 coarse sand)<br>$\frac{22}{7 \times 4}$ x $(5' - 8'')^2$ = 25.17 Sft.<br><br>$\frac{22}{7 \times 5' - 8'' \times 0' - 3''}$ = 4.45 Sft<br>29.62 Sft.<br>Or 2.753 M$^2$ | 2.753 M$^2$ |
|---|---|---|---|
| 6 | | Extra cost :-<br>(a) Bricks - 663 Nos.<br>(b) Cement - 3 Bags. | -<br>663 Nos<br>3 Bags.<br>. |
| 7 | | Carriage of materials :-<br>(a) Bricks - 1573 Nos.<br>(b) Sand - 0.40 M$^3$<br>(C) Stone Chips - 0.16 M$^3$ . | 1573Nos<br>0.40 M$^3$<br>0.16 M$^3$ |
| 8 | Br. | Providing brick bats and filling the same in soak pit as per specification and direction of engineer in charge.<br><br>$\frac{22}{7 \times 4}$ x $(4' - 0'')^2$ X 8'-6" = 106.85 Cft.<br>Say 107 Cft.<br>Or 3.03 M$^3$ | 3.03 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)<br>$\frac{22}{28}$ x { $(5' - 8'')^2$ - $(4' - 0'')^2$ }x 3'-9" = 47.44 Cft.<br>.<br>Or 1.343 M$^3$ | 1.343 M$^3$ |

## ONSUMPTION STATEMENT OF MATERIALS FOR 4'-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) | 1.343 M$^2$ | 0.048- | 0.288 | - | 663 | - |
| 2 | R.C.C. (1:2:4) | 0.178 M$^3$ | 0.040 | 0.079 | 0.158 | - | - |
| 3 | Reinforcement | 0.013 M./T. | - | - | - | - | 13 |
| 4 | Brick bats | 3.03 M$^3$ | - | - | - | 910 | - |
| 5 | ½" C.P. (1:6) | 1.654M$^2$ | 0.003 | 0.020 | - | - | - |
| 6 | ¼" C.P. (1:4) | 2.753 M$^2$ | 0.004 | 0.016 | - | - | - |
| | **Total -** | | **0.095 M$^3$**<br><br>**= 3 bags** | **0.403 M$^3$**<br><br>**Say 0.40 M$^3$** | **0.158 M$^3$**<br><br>**Say 0.16 M$^3$** | **1573 Nos.** | **13 Kg.** |

( S.N. Verma )

Assistant Tech. Secy.