

ESTIMATE OF ACF/RO RESIDENCE (FOREST)

(Total Area = 1460 sq. ft. + Courtyard 303 sq.ft)

1. C/C length of walls = $39.25 \times 1 + 47.00 \times 1 + 34.25 \times 1 + 12.75 \times 3 + 13.75 \times 4 + 7.75 \times 1 + 29.50 \times 1 + 14.50 \times 1 + 21.75 \times 1 + 14.75 \times 1 + 8.75 \times 1$ running feet +
= 310.75 running feet
= 94.717 running meter
2. C/C length of court yard wall = $29.50 \times 1 + 9.4 \times 2$
= 48.30 running feet
= 14.72 running meter
3. No. of columns = $24 + 4$ (courtyard)+2(Porch)
= 30
4. Size of each column = 9 inches x 9 inches
5. Plinth = 0.5 meter above ground level
6. Beam at plinth level = 9 inches x 9 inches
7. Beam at door level = 9 inches x 6 inches
8. Beam at slab level = 9 inches x 9 inches
9. Thickness of slab = 4 inches

Estimate of different works

1. Excavation:

- (i) For columns = $30 \times 1.0 \times 1.0 \times 1.2$ meter
= 36.00 cubic meter
- (ii) For walls = $(94.717 + 14.720 - 56 \times 0.5) \times 0.3 \times 0.5$
= 12.216 cubic meter
- (iii) For pavement block = $39.24 \times 0.45 = 17.65$
- (iv) Total excavation = 65.874 cubic meter

2. Filling foundation with 1:3:6 (M-10) cement concrete:

- (i) For columns = $30 \times 1.0 \times 1.0 \times 0.1$
= 3.00 cubic meter
- (ii) For walls = $(94.717 + 14.720) \times 0.3 \times 0.1$
= 3.283 cubic meter
- (iii) For flooring in rooms = 109.437×0.1
= 10.944 cubic meter

- (iv) Total CC = 17.22 cubic meter

3. R.C.C. work in 1:1.5:3 (M-20) in columns, beams, chajjas & slab:

- (i) Columns footing = $30 \times (1 \times 1 + 0.22 \times 0.22) / 2 \times 0.3$
= 4.71 cubic meter
- (ii) Columns up to plinth level = $30 \times 1.2 \times 0.22 \times 0.22$
= 1.74 cubic meter
- (iii) Column up to roof level = $26 \times 3.1 \times 0.22 \times 0.22 +$
 $4 \times 0.22 \times 0.22 \times 1.8$
= 4.24 cubic meter
- (iv) Beam at plinth level = $(94.717 + 14.720 + 9.75) \times 0.22 \times 0.22$
= 5.76 cubic meter
- (v) Beam at door level = $94.717 \times 0.22 \times 0.15$
= 3.125 cubic meter
- (vi) Beam at slab level = $94.717 + 9.75 \times 0.22 \times 0.22$
= 5.05 cubic meter
- (vii) Chajjas = $8 \times 0.6 \times 1.5 \times 0.1$
= 0.720 cubic meter
- (viii) Slab = $(135.814 + \text{Porch } 4.20 \times 3.60) \times 0.1$
= 15.09 cubic meter
- (ix) In stair case = $7.20 \times 1.20 \times 0.1$
= 0.864 cubic meter

- Total RCC = 41.29 cubic meter

4. **Steel required in RCC** = 1.35 % of volume of RCC
= 4040 kg
5. **Masonry in foundation/plinth** = $(94.717 + 14.720 - 28 \times 0.22) \times 0.22 \times 0.9$
= 20.449 cubic meter
6. **Masonry in superstructure:**
- (i) In main building/courtyard = $94.717 \times 0.22 \times 2.80 + 14.720 \times 0.22 \times 1.8$
= 64.174 cubic meter
- (ii) Deduction for doors/windows = $(4 \times 1.07 \times 2.1 + 7 \times 0.838 \times 2.1 + 3 \times 1.5 \times 1.35 + 7 \times 1.2 \times 1.35 + 5 \times 0.6 \times 0.45) \times 0.22$
= 8.815 cubic meter
- (iii) Masonry in staircase tower = $2 \times (3.6 + 2.10) \times 2.1 \times 0.22$
= 5.267
- (iv) Masonry in parapet = $49.98 \times 0.75 \times 0.22$
= 8.246 cubic meter
- (v) Total Masonary = 68.872 cubic meter
7. **Plaster in 1:6 cement mortar**
- (i) In main building/courtyard = $2 \times 94.717 \times 3.3 + 2 \times 14.72 \times 1.8$
= 678.124 square meter
- (ii) In parapet wall = $2 \times 49.98 \times 0.75$
= 74.97 sq meter
- (iii) In roof = $135.814 \text{ sq. m} + 15.12$
= 150.93 sq meter
- (iii) Deduction for doors/windows = $2 \times (4 \times 1.07 \times 2.1 + 7 \times 0.838 \times 2.1 + 3 \times 1.5 \times 1.35 + 7 \times 1.2 \times 1.35 + 5 \times 0.6 \times 0.45)$
= 80.142 square meter

(iv) Total plaster = 823.88 square meter

8. Centering and shuttering:

(i) For Columns = $24 \times 0.88 \times 4.6 + 4 \times 4 \times 0.22 \times 3.3$

= 108.768 square meter

(ii) For beam at plinth level = $(94.717 + 14.720) \times 0.3$

= 32.831 square meter

(iii) For beam at door level = 94.717×0.525

= 49.726 square meter

(iv) For beam at roof level = 94.717×0.82

= 77.667 square meter

(v) For chajjas = $8 \times 0.6 \times 1.5$

= 7.200 square meter

(vi) For slab = 150.93 sq. m

(vii) Total shuttering = 427.12 square meter

9. Filling foundation with moorum/Stone dust = $150.93 \times 0.5 + 39.24 \times 0.30$

= 87.232 cubic meter

10. Wood required for frames

= $0.0635 \times 0.127 \times (4 \times 5.334 + 7 \times 5.105)$

= 0.46 cubic meter

11. Frame work for doors/window

= $(4 \times 1.07 \times 2.1 + 7 \times 0.838 \times 2.1 +$

= 21.30 square meter

12 Flooring

= 135.814 square meter

13. Paver Block in Porch & front

= $8 \times 2.7 + 3.6 \times 3.6 + 3.9 \times 1.20$

= 39.24 square meter

Estimate of expenditure for ACF/Range Officer Residence (FOREST)

Sr.	CSR item no.	Description of the work	Quantity	Rate in Rs.		Amount
				Amount	Unit	
1	2.2	Clearing jungle including uprooting of rank vegetation, grass, brush wood etc	250	4.14	Sqm	1035
2	2.6.	Earth work in excavation in all kinds of soil	65.874	129.00	Cum	8498
3	4.1.1.4	Filling foundation- Providing and laying in position cement concrete of M-10 grade with 20 mm nominal size graded stone aggregate	17.227	3890.00	Cum	67013
4	5.1.1	Providing and laying in position M-20 grade of reinforced cement concrete with 20 mm nominal size graded stone aggregate excluding cost of centering/shuttering/steel	41.29	6153.00	Cum	254057
5	5.16.6	Reinforcement for RCC work including straightening, cutting, bending etc with TMT bars	4040	80.00	Kg	323200
6	6.5.2	Brick work with well burnt open bhatta bricks with crushing strength no less than 25 kg/sq.cm and absorption not more than 20% in 1:6 cement mortar	20.44	4155.00	Cum	84928
7	6.6.2	Brick work with well burnt chimney bricks with crushing strength no less than 25 kg/sq.cm and absorption not more than 20% in 1:6 cement mortar	68.872	4350.00	Cum	299593
8	13.2.2	15 mm thick plaster in 1:6 cement mortar	823.88	128.00	Sqm	105457
9	5.9.1	Centering and shuttering including removal in beams, columns, slab etc	427.12	190.60	Sqm	81409
10	2.26	Supplying and filling in plinth with Stone dust including ramming, watering etc	87.232	672.00	Cum	58620
11	9.1.2	Providing wood work in frames of doors and fixed in position with sal wood	0.46	71309.00	Cum	32802
12	9.5.2.2	Providing and fixing panelled shutters for doors with prelaminate board with decorative lamination on one side and balancing lamination on other side	21.3	1956.00	Sqm	41663

Sr.	CSR item no.	Description of the work	Quantity	Rate in Rs.		Amount
				Amount	Unit	
13	11.78.1.1	Providing and laying vitrified floor tiles laid on 20 mm thick cement mortar in 1:4 with 600 mm x 600 mm x 9 mm size tiles (additional 10% for skirting)	149.314	1104.00	Sqm	164843
14	11.66	Concrete interlocking paver block. Infront of building (i/c porch)	39.24	586.00	Sqm	22995
15		Cost of window grills (As per market rate)	340	80.00	Kg	27200
16		Aluminium window frame 3 track sliding (2 Glass+ 1 Mosquito mesh shutter) and fly proof outer doors	LS			50000
17		Cost of septic tank of size 6 feet x 6 feet x 6 feet; 1 no.	LS			40000
		Miscellaneous Exp- granite platform in kitchen etc.	LS			20000
18		Total				1683312
19		Add 5% for electrification				84166
20		Add 5% for sanitary fittings including 1500 liter tank				84166
21		Add for tile work in bath/toilets	LS			40000
22		Add 5% for white washing (with 2 coats of cement based putty and emulsion)				84166
23		Add for covered shade in court yard with flagstone flooring	LS			40000
24		Add for the cost of 03 kota stone covered almirah of size 7 feet high, 4 feet wide and 20 inches deep in each room				45000
25		Total				2060809
26		Add for GST	18.00%			370946
27		Total				2431755
28		Add 1% for labour welfare tax				24318
		Total				2456072
29		Provision for Garage (300 sqft)				350000
30		Provision for Boundarywall (100 rmt)				400000
		Grand total		or 32,00,000		3206072

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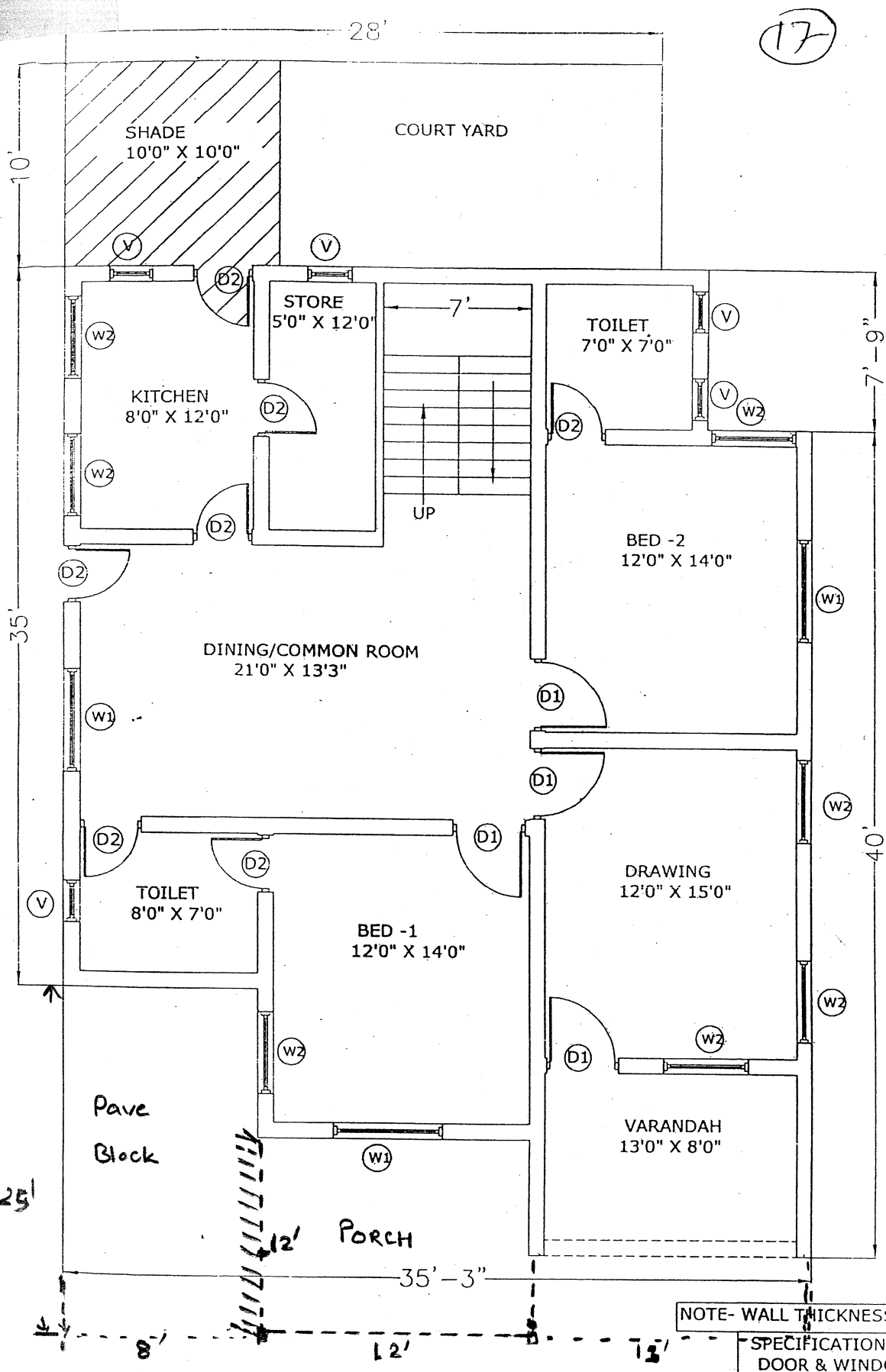
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Estimate of Quantities of RO/ACF Residence

Sr.	Description of the work	Quantity	Cement (Bag)	Sand (cu m)	Aggregate (cu m)	Brick	Steel in kg	Stone Dust (cu m)
1	M-10 grade CC	17.227cu.m	77	7.764	15.528	0	0	0
2	M-20 CC	41.29 cu.m	337	16.92	35.09	0	0	0
3	Steel	4040 kg	0	0	0	0	4040	0
4	Brick work (22.33 cum mortar)	89.321 cu.m	103	22.33	0	49126	0	0
5	Plaster (14.82 cum mortar)	823.88 sq.m	68	14.82	0	0	0	0
6	Stone Dust	87.232 cu.m	0	0	0	0	0	87.232
	Tiles Flooring	149.314 sqm	64	6.42	0	0	0	0
	Total		649	68.254	50.618	49126	4040	87.232

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PLAN OF RO QUARTER / ACF QUARTER
 SIZE = 1460.0 SQFT. + COURT YARD

NOTE- WALL THICKNESS 9" & 4.5"
 SPECIFICATION OF DOOR & WINDOW
 D1- 3'6" X 7'0" = 4NOS.
 D2- 2'9" X 7'0" = 7NOS.
 W1- 5'0" X 4'6" = 3NOS.
 W2- 4'0" X 4'6" = 7NOS.
 V- 2'0" X 1'6" = 5NOS.