Verified RealEstate™

RE REGULATORY RECORD

RERA Document

The document as the regulator published it, reproduced in full behind this page.

Published for reference. The authority's own register is the operative record.

Verified RealEstate™
3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai 600 097, India

hello@verified.realestate
+91 9996 12 9996
verified.realestate

S.PONNUSWAMY, M.Tech (Struc.)
STRUCTURAL ENGINEER

10, First Floor, 22, P.H. Road,
Koyambedu, Chennai - 600 107.
Ph: 044 - 2479 8171
Email : swamycs01@gmail.com

STABILITY CERTIFICATE & DESIGN ANALYSIS TO THE PROPOSED RESIDENTIAL APARTMENTS AT NEW DOOR NO:36, OLD NO:24, PLOT NO 42, MASILAMANI ROAD, BALAJI NAGAR, ROYAPETTAH, CHENNAI-600014, GREATER CHENNAI CORPORATION.

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

S.PONNUSWAMY, M.Tech (Struc.)
STRUCTURAL ENGINEER

10, First Floor, 22, P.H. Road,
Koyambedu, Chennai - 600 107.
Ph: 044 - 2479 8171
Email : swamycs01@gmail.com

STABILITY CERTIFICATE

This is to certify that the proposed residential building at new Door no:36, Old no:24, Plot No:42, Masilamani road, Balaji Nagar, Royapettah, Chennai-600014, Greater Chennai Corporation is designed to resist for earthquake and wind, check has been made and found safe and I hereby certify that

1. The least dimension of the column is 300mm in car park area.
2. The grade of concrete is M25
3. Foundation is designed for Stilt floor +3 upper floors
4. The design analysis using the code of practice for loading Standards as per IS-875 part and seismic force as per the code IS-1893 & IS-456. The building is earthquake resistant as per the above codes.
5. SBC of soil is considered as 18 T/sq.m as per soil report.

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

S.PONNUSWAMY, M.Tech (Struc.)
STRUCTURAL ENGINEER

10, First Floor, 22, P.H. Road,
Koyambedu, Chennai - 600 107.
Ph: 044 - 2479 8171
Email : swamycs01@gmail.com

DESIGN ANALYSIS TO THE PROPOSED RESIDENTIAL APARTMENTS AT NEW DOOR NO:36, OLD NO:24, PLOT NO 42, MASILAMANI ROAD, BALAJI NAGAR, ROYAPETTAH, CHENNAI-600014, GREATER CHENNAI CORPORATION.

DESIGN OF SLAB

SLAB S-1

(i). Min. thickness of slab = $\frac{3160}{35}$ = 91 mm

(ii). Effective span

lx = 3.16 m
ly = 4.40 m
ly/lx = 1.39

(iii). Total load

Dead load from slab	= 288 kg/m²	
Floor finish	= 150 kg/m²	
Total dead load	= 438kg/m²	
Live load	= 200 kg/m²	
Total load	= 638 kg/m²	Say 650 kg/m²

(iv). Bending moment

$Mx = \acute{\alpha}x\ wlx^2$
$My = \acute{\alpha}y\ wlx^2$

Four edges discontinuous
Max. moment at mid span

Mx = 0.085 x 650 x 3.16² = 552 kgm
My = 0.056 x 650 x 3.16² = 364 kgm

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

(v). Effective depth

$$M = Rbd^2$$

$$\sqrt{\frac{552 \times 10^4}{0.91 \times 1000}} = 78 \text{ mm}$$

Over all depth provided is 115mm

Effective. Depth = 115-20-5 = 90

(vi). Reinforcement

Area of steel mid span along shorter direction

$$Ast = \frac{552 \times 10^4}{230 \times 0.9 \times 90} = 296 \text{ mm}^2$$

Providing 8 mmØ torsteel @ 150 mm c/c

Area of steel mid span along longer direction

$$= \frac{364 \times 10^4}{230 \times 0.9 \times 80} = 220 \text{ mm}^2$$

Providing 8 mmØ torsteel @200mm c/c

(vii). Torsional reinforcement

Provide ¾ of max. Mid span reinforcement 296x ¾ = 222 mm²

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

DESIGN OF BEAMS

Beam B-1

Breath of beam = 230mm (Assumed)

Mu = M (Working) x 1.5

Overall depth = 45 cm (Assumed)

$$d = 45 - 2.5 - \frac{2.0}{2} = 41.5 \text{ cm}$$

$$d' = 2.5 + 1.0 = 3.50 \text{ cm}$$

$$\frac{d'}{d} = \frac{3.50}{41.5} = 0.08$$

Min. Reinforcement

The min area of tension reinforcement shall not be less than the given

$$\frac{As}{bd} = \frac{0.85}{fy}$$

Where As = min area of tension reinforcement

b = Breadth of the beam or breadth of the web of T-beam

d = Effective depth

fy = Characteristic strength of reinforcement

$$As = \frac{bd \times 0.85}{fy}$$

$$= \frac{230 \times 415 \times 0.85}{415} = 196 \text{ mm}^2$$

Referring design Aids IS 456 – 1978. The reinforcement are calculated as shown in the sketch.

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

Over all depth in beam = $\frac{1}{12}$ to $\frac{1}{20}$ of the span

Provide overall depth = 450 mm

Width of rib = $\frac{2}{3}$ (depth of rib) = $\frac{2}{3}$ (450 – 115) = 223mm

Provide a width of = 230mm

Loading on the beam

From roof slab = 650 x 3.16/2 = 1027 kg/m²

D.L. of the rib = 0.23 x 0.45 x 2500 = 259 kg/m²

Brick work = 0.23 x 2.60 x 1920 = 1148 kg/m²

Total = 2434 kg/m² Say 2450 kg/m²

Provide 20mm Ø bars single layer at clean cover of 25mm

Effective cover = 25 + 10 = 35mm

Effective depth = d = 450 – 35 = 415mm
Effective span

Centre to centre bearing = 6.13 m

Effective span = 6.13 m

Max. B.M = $\frac{2450 \times 6.13^2}{10}$ = 9206 kgm

Approximate lever arm

$a = d - \frac{ds}{2} = 450 - 57.5 = 392.5$mm

App. Steel required Ast = $\frac{9206 \times 10000}{230 \times 392.5}$ = 1020 mm²

Provide 6 bars of 16mm Ø in two layers

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

Effective cover to the C.G. of steel
= 25 +20+ 10 = 55mm

Actual effective depth
d = 450 – 55 = 395 mm

$$\text{Width of flanges} = B = \frac{1}{12} + br + 3d$$

$$= \frac{6130}{12} + 230 + (3 \times 115)$$

= 1085 mm

Position of neutral axis

Assuming the neutral axis lies within the flange and taking moments about the neutral axis
1085 x 115 x n x n/2 = 13 x 1200 (415 - n)

n = 10.06 mm

Actual lever arm = d - n/3

= 395 – 10.06/3

= 392mm

$$\textbf{Actual stress in steel} = \frac{9206 \times 10000}{1200 \times 392} = 196 \text{ N/mm}^2$$

$$\text{Max. Stress in concrete} = C = \frac{n}{d-n} \times \frac{t}{m} = \frac{10.06}{392 - 10.06} \times \frac{230}{13}$$

= 0.46 N/mm²

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

Design for shear

Span = 6.13 m

$$\text{Max. Shear force } S = \frac{2450 \times 6.13 \times 10}{2} = 75093 \text{ N}$$

Nominal shear stress at support

$$Tv = \frac{s}{b.d} = \frac{75093}{230 \times 392} \text{ N/mm}^2$$

$$= 0.83 \text{ N/mm}^2$$

For M25 Concrete = Tc max = 1.9 N/mm²

= Tv < Tc max

Assuming 50 % curtailment of tensile steel

Percentage of tensile steel at support

$$= \frac{600}{230 \times 392} \times 100 = 0.66\%$$

As per code for 0.66% steel

$$Tc = 0.33 \text{N/mm}^2$$

Shear capacity of concrete = Tc br d

= 0.33 x 230 x 392

= 29753 N

Shear to be carried out by stirrups Vs = 75093 – 29753

= 45340 N

Spacing of 2 begged 8mmØ string

$$= p = \frac{Aw\ t\ d}{Vs} = \frac{(2 \times 50)\ 230 \times 392}{45340}$$

=198 mm

Provide 2 – legged 8mm Ø strongly @ 150 mm c/c

Similarly other beams are calculated as shown in the sketch.

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

DESIGN OF COLUMN

Column (C-1)

Total axial load from the loadings

Dead load & live load from one floor – 325 KN

Total axial load from 3 floors = 3 x 325 = 975 KN

Add for seismic force = 195 KN

1170 KN

Assume column dimension = 300mm x 600mm

Self weight of column = 0.60 x 0.30 x 3.0 x 4 x 25 = 54 KN

Pu = (1170 + 54) x 1.5 = 1836 KN

Mu = (60) x 1.5 = 90 KN

About XX axis

$\frac{d'}{D} = 0.1$ d' = 50mm

$$\frac{Pu}{fckbD} = \frac{1836 \times 10^3}{25 \times 300 \times 600} = 0.41$$

$$\frac{Mu}{fckbD^2} = \frac{90 \times 10^6}{25 \times 300 \times (600)^2} = 0.03$$

About YY axis

$\frac{d'}{D} = 0.167$ d' = 50mm

$$\frac{Pu}{fckbD} = \frac{1836 \times 10^3}{25 \times 300 \times 600} = 0.41$$

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

$$\frac{Mu}{fckbD^2} = \frac{90 \times 10^6}{25 \times 600 \times (300)^2} = 0.067$$

Referring to chart 46 of design aids IS 456 for values

$$\frac{Pu}{fckbD} = 0.41 \; ; \quad \frac{Mu}{fckbD^2} = 0.067$$

The value of P/fck = 0.08

P = 0.08 x 25 = 2.00

$$As = \frac{P \times d \times D}{100} = \frac{2.00 \times 300 \times 600}{100} = 3600 \text{ mm}^2$$

Provide 12 nos 20 Ø

DESIGN OF LATERALTIES

Dia of lateral ties = ¼ x 20 = 5 mm

Hence 8Ø is adopted

Pitch is minimum of the following – (IS 456 – 2000)

(i). Least lateral dimension = 300mm

(ii). 20 x dia of main reinforcement = 16 x 20 = 320mm

(iii). 48 x dia of lateral ties = 48 x 8 = 384mm

Hence provide 8Ø@250c/c.

Similarly other columns are calculated as shown in the sketch.

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

DESIGN OF FOUNDATION

Axial load on the column = 1170 KN

Self weight of footing (10%) = 117 KN

Total load (including seismic force) = 1287 KN

Column size = 300 x 600

Safe bearing capacity of soil = 180KN/m² (or) (18 T/m²)

$$\text{Area of footing required} = \frac{1287}{180} = 7.14 \text{ m}^2$$

Adopt a squire footing of size = 2.74x 2.74m =7.51 m²

$$\text{Soil pressure} = \frac{1287}{7.51} = 171.37 \text{ KN/m}^2 \text{ (or) } 17.14 \text{ T/m}^2$$

SBC = 18 T/m² Hence safe

Assume depth of foundation = 3.05 m

$$\text{B.M. at the face of the column} = \frac{171.37 \times 2.74 \times 1.22^2}{2} = 349.44 \text{ KNm}$$

$$M = Rbd^2$$

$$d = \sqrt{\frac{349.44 \times 10^6}{0.91 \times 600}} = 800 \text{ mm}$$

Provide D = 910 mm & d =910-60=850mm

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

Check for shear stress

The critical section will be at a distance of effective depth d=850mm from the face of the column.

Shear force at critical section = 171.37 x 0.37x2.74x1000

Vp = 173735 N

Breadth of footing at this section = 2x850+300
= 2000 mm

Depth of footing at this section = 230+(680/1220)x370
= 436 mm

Shear Stress = $\frac{173735}{2000x436}$ v = 0.20 N/mm²

Tc (allowable) = 3.1 N/mm²

Check for punching shear

Punching shear = 0.1714 (2740x2740 - 300x600)

= 1255951 N

If dp is depth required for punching, area resisting punching
= 1800x dp

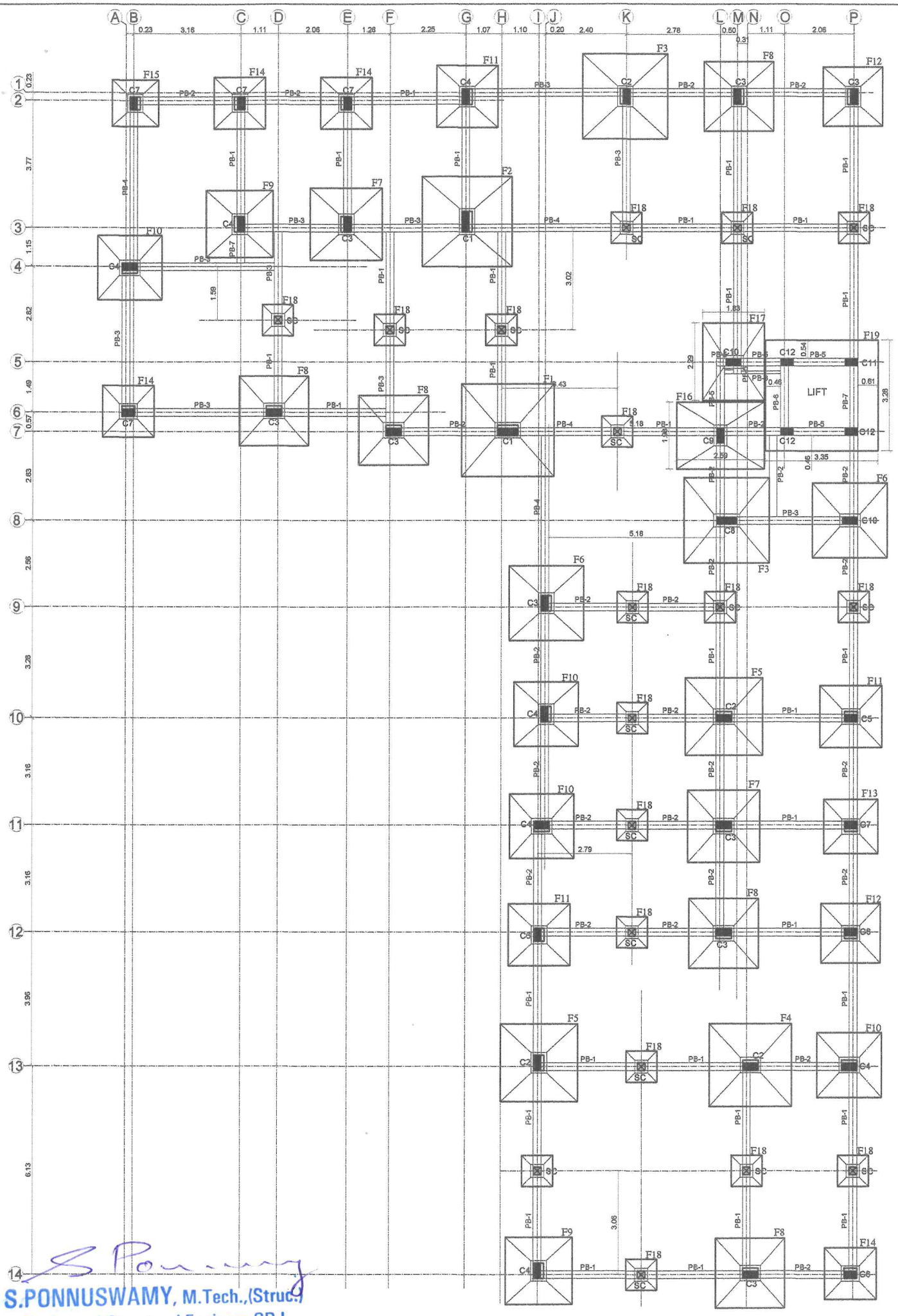
dp = 1255951 /1800 = 698 mm

The depth provided is adequate

Hence safe.

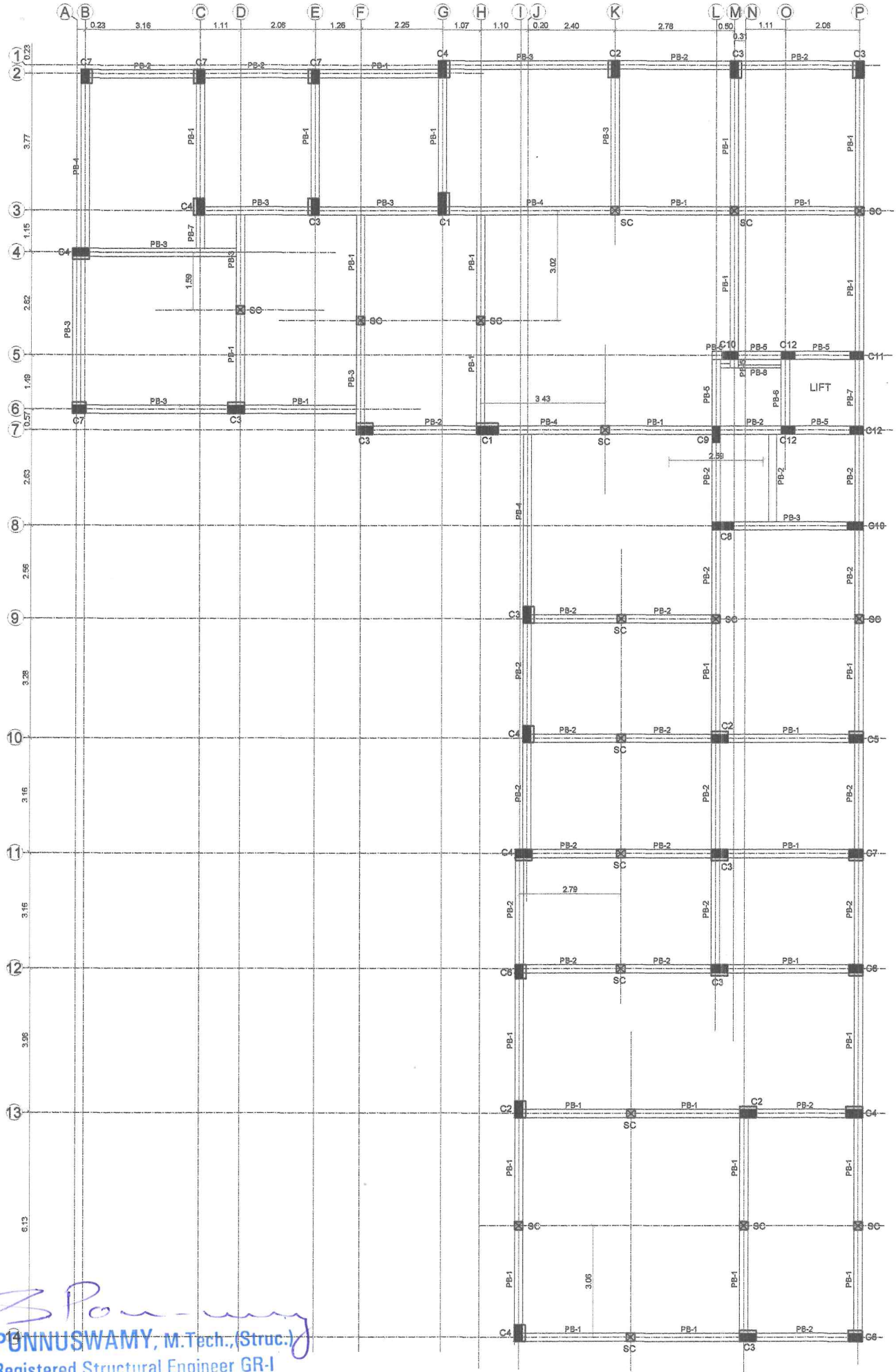
Similarly other footings are calculated as shown in the sketch

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.



S.PONNUSWAMY, M.Tech.,(Struct.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Kovambedu, Chennai - 600 107.

LAYOUT OF FOOTINGS, COLUMNS AND PLINTH BEAMS

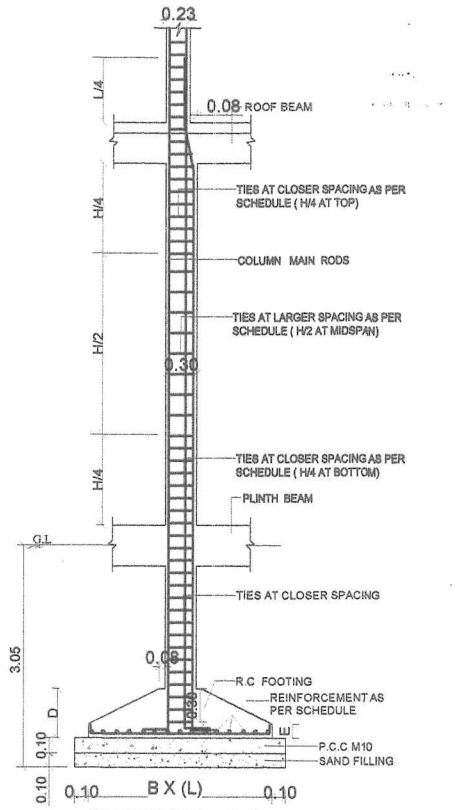


S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

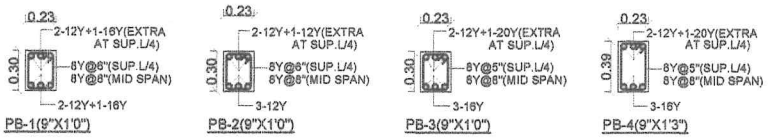
LAYOUT OF COLUMNS AND PLINTH BEAMS

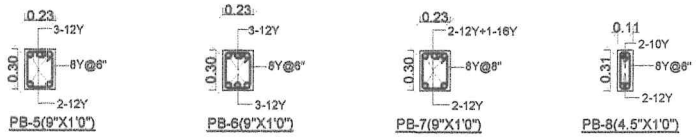
SCHEDULE OF FOOTINGS :

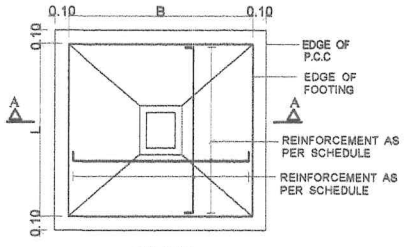
FOOTING No	FOOTING SIZE LXB	DEPTH D	EDGE THICKNESS E	REINFORCEMENTS
F1	2.74 x 2.74	0.91	0.23	12Y@0.125C/C bothways
F2	2.67 x 2.67	0.89	0.23	12Y@0.125C/C bothways
F3	2.52 x 2.52	0.84	0.23	12Y@0.125C/C bothways
F4	2.44 x 2.44	0.80	0.23	12Y@0.125C/C bothways
F5	2.29 x 2 .29	0.76	0.20	12Y@0.125C/C bothways
F6	2.21 x 2.21	0.74	0.20	12Y@0.125C/C bothways
F7	2.13 x 2.13	0.71	0.20	12Y@0.125C/C bothways
F8	2.06 x 2.06	0.69	0.20	12Y@0.125C/C bothways
F9	1.98 x 1.98	0.66	0.20	12Y@0.125C/C bothways
F10	1.91 x 1.91	0.63	0.20	12Y@0.125C/C bothways
F11	1.83 x 1.83	0.61	0.20	10Y@0.10 C/C bothways
F12	1.75 x 1.75	0.57	0.15	10Y@0.10 C/C bothways
F13	1.60 x 1.60	0.50	0.15	10Y@0.125 C/C bothways
F14	1.52 x 1.52	0.46	0.15	10Y@0.125 C/C bothways
F15	1.37 x 1.37	0.41	0.15	10Y@0.125 C/C bothways
F16	2.59 x 1.98	0.76	0.15	10Y@0.125 C/C bothways
F17	2.29 x 1.98	0.71	0.15	10Y@0.125 C/C bothways
F18	0.91 x 0.91	0.30	0.15	10Y@0.125 C/C bothways
F19	3.35 x 3.28	COMBINED FOOTING		



SECTION - A A

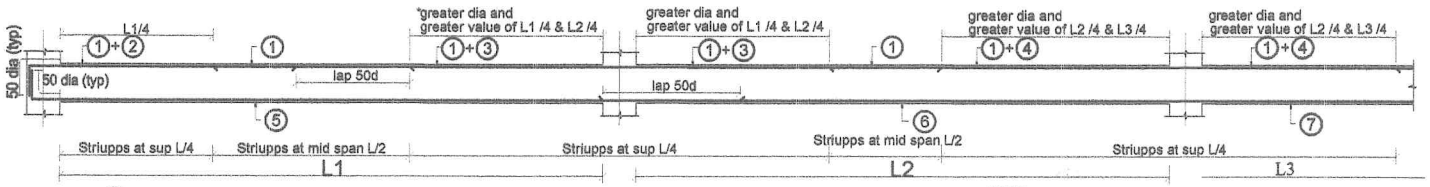






PLAN

TYP. FOOTING AND COLUMN DETAIL



① — Top bar thro'

②, ③, ④ — extra bar at top ⑤, ⑥, ⑦ — Bottom bar

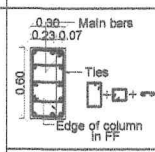
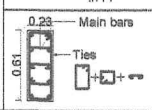
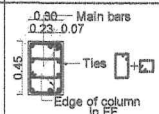
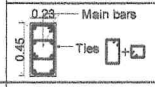
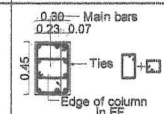
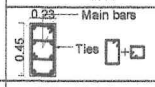
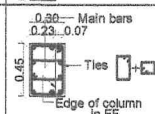
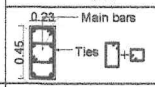
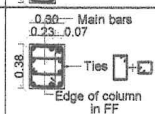
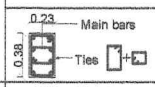
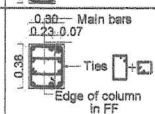
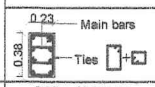
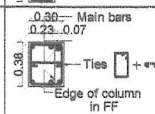
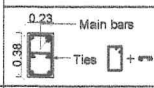
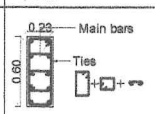
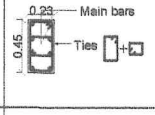
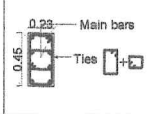
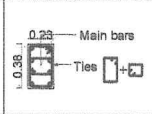
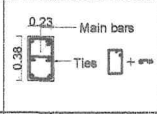
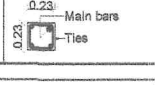
TYPICAL DETAIL OF PLINTH BEAM

NOTE:

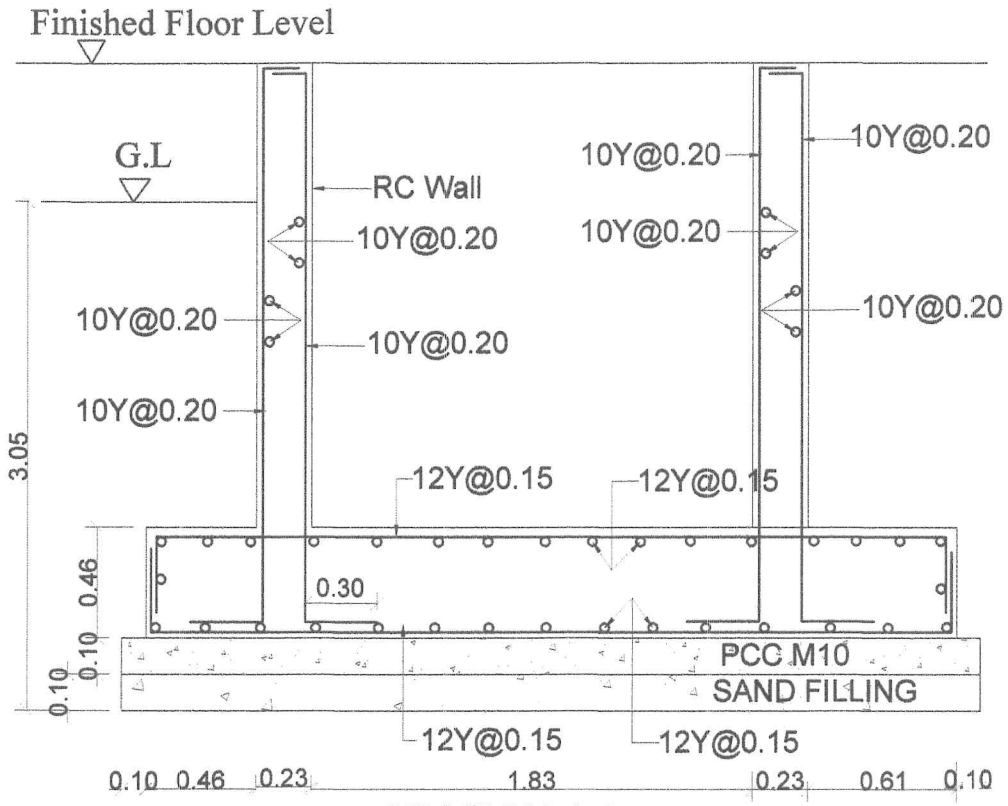
1. * Extra rod at support L/4 shall be not less than 50d.

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

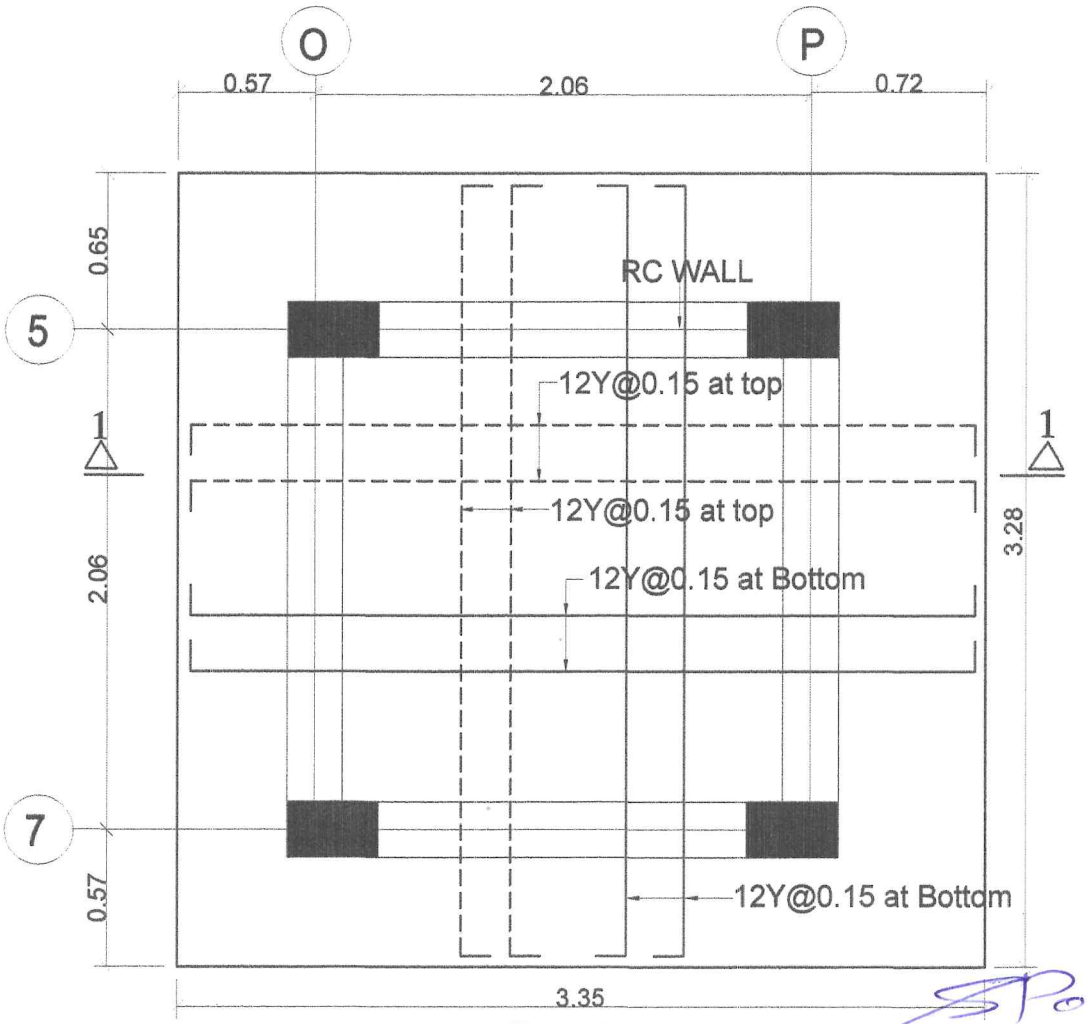
SCHEDULE OF COLUMNS:

COLUMN NO	COLUMN TYPE	SIZE	FLOORS	MAIN RODS	TIES		CONCRETE GRADE
					Top & bottom H/4	Mid span H/2	
C1		0.30 x 0.60	STILT	12-20Y	5 LEGGED 8Y@125	5 LEGGED 8Y@200	M25
		0.23 x 0.60	I	10-20Y	5 LEGGED 8Y@125	5 LEGGED 8Y@200	M20
			II	4-20Y+6-16Y	5 LEGGED 8Y@125	5 LEGGED 8Y@200	
			III	10-16Y	5 LEGGED 8Y@125	5 LEGGED 8Y@200	
C2		0.30 x 0.45	STILT FLOOR	10-20Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M25
		0.23 x 0.45	I	8-20Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M20
			II	4-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
			III	8-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
C3		0.30 x 0.45	STILT FLOOR	6-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M25
		0.23 x 0.45	I	4-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M20
			II	8-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
			III	4-16Y+4-12Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
C4		0.30 x 0.45	STILT FLOOR	10-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M25
		0.23 x 0.45	I	8-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M20
			II	4-16Y+4-12Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
			III	8-12Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
C5		0.30 x 0.38	STILT FLOOR	6-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M25
		0.23 x 0.38	I	4-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M20
			II	8-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
			III	4-16Y+4-12Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
C6		0.30 x 0.38	STILT FLOOR	10-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M25
		0.23 x 0.38	I	8-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M20
			II	4-16Y+4-12Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
			III	8-12Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
C7		0.30 x 0.38	STILT FLOOR	8-16Y	3 LEGGED 8Y@125	3 LEGGED 8Y@200	M25
		0.23 x 0.38	I	6-16Y	3 LEGGED 8Y@125	3 LEGGED 8Y@200	M20
			II	4-16Y+2-12Y	3 LEGGED 8Y@125	3 LEGGED 8Y@200	
			III	6-12Y	3 LEGGED 8Y@125	3 LEGGED 8Y@200	
C8		0.23 x 0.60	STILT	10-20Y	5 LEGGED 8Y@125	5 LEGGED 8Y@200	M25
			I	10-20Y	5 LEGGED 8Y@125	5 LEGGED 8Y@200	M20
			II	4-20Y+6-16Y	5 LEGGED 8Y@125	5 LEGGED 8Y@200	
			III	10-16Y	5 LEGGED 8Y@125	5 LEGGED 8Y@200	
C9		0.23 x 0.45	STILT	8-20Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M25
			I	8-20Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M20
			II	4-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
			III	8-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
C10		0.23 x 0.45	STILT	4-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M25
			I	4-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M20
			II	8-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
			III	4-16Y+4-12Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
C11		0.23 x 0.38	STILT FLOOR	4-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M25
			I	4-20Y+4-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	M20
			II	8-16Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
			III	4-16Y+4-12Y	4 LEGGED 8Y@125	4 LEGGED 8Y@200	
C12		0.23 x 0.38	STILT FLOOR	6-16Y	3 LEGGED 8Y@125	3 LEGGED 8Y@200	M25
			I	6-16Y	3 LEGGED 8Y@125	3 LEGGED 8Y@200	M20
			II	4-16Y+2-12Y	3 LEGGED 8Y@125	3 LEGGED 8Y@200	
			III	6-12Y	3 LEGGED 8Y@125	3 LEGGED 8Y@200	
SC		0.23 x 0.23	STUB COLUMN UP TO PB	4-12Y	2 LEGGED 8Y@200		M25

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.



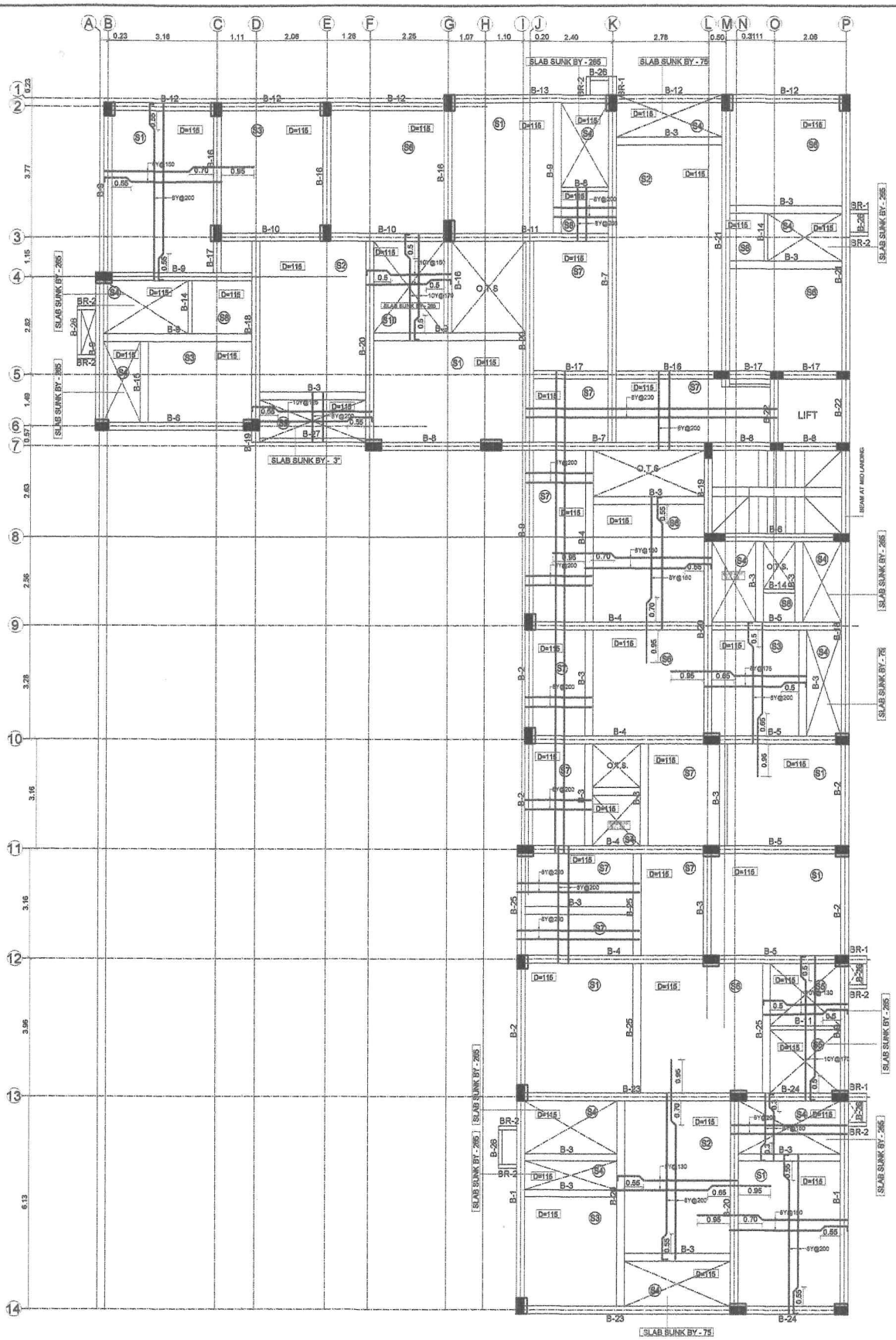
SECTION 1-1

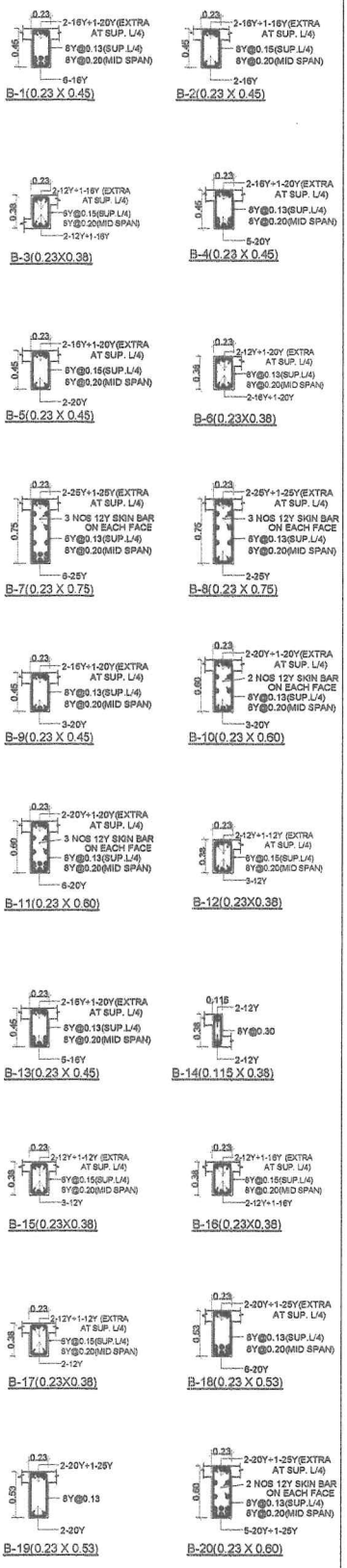


PLAN

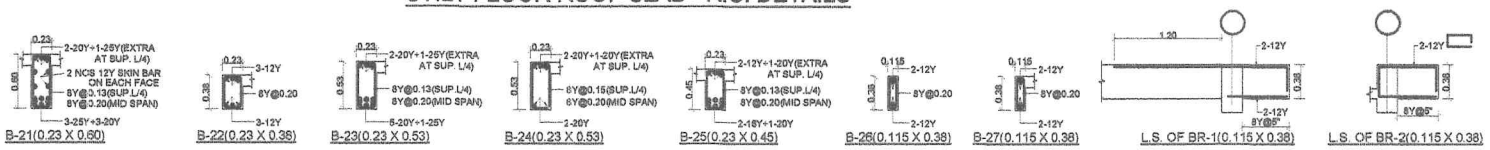
COMBINED FOOTING (F-19)

S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.

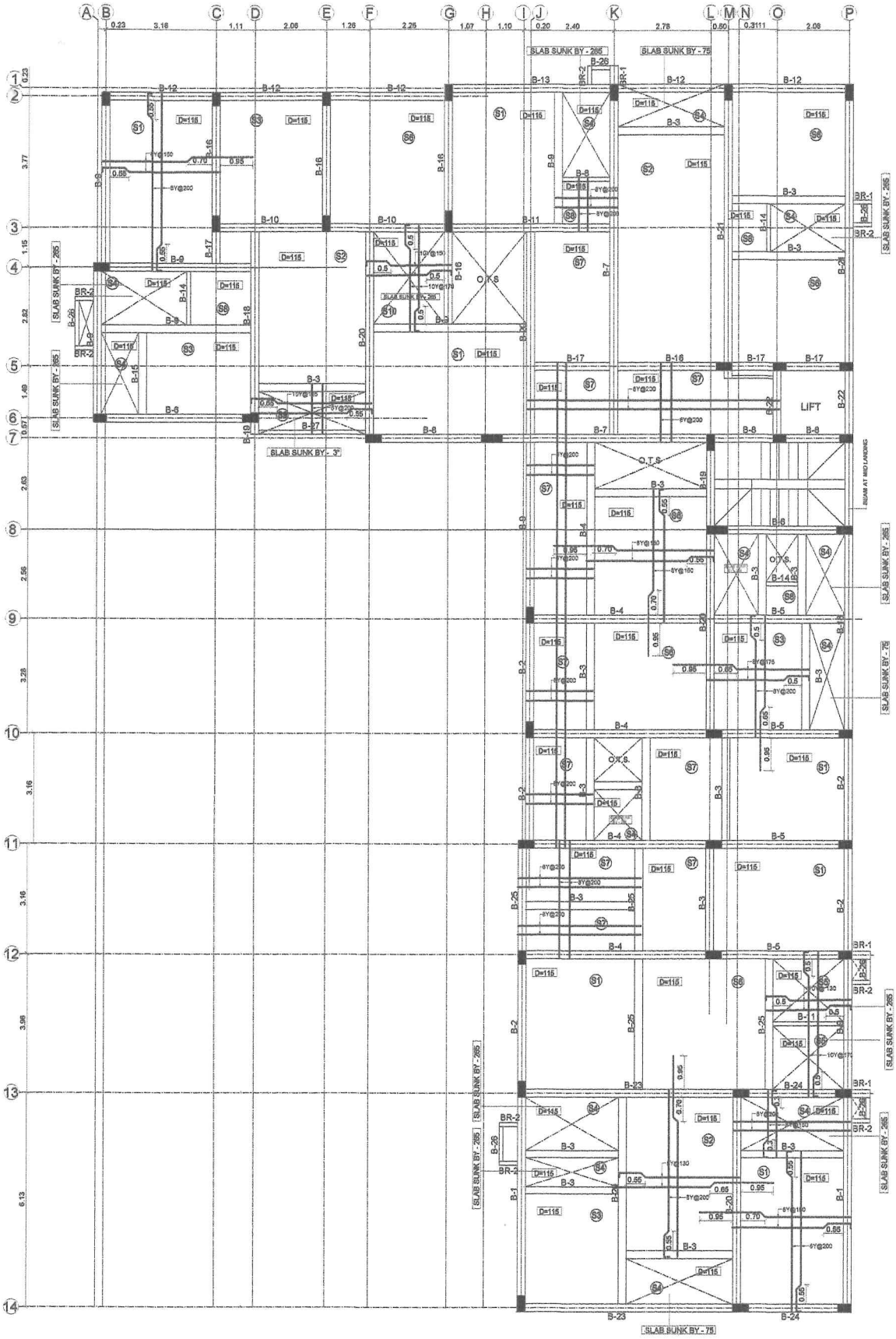


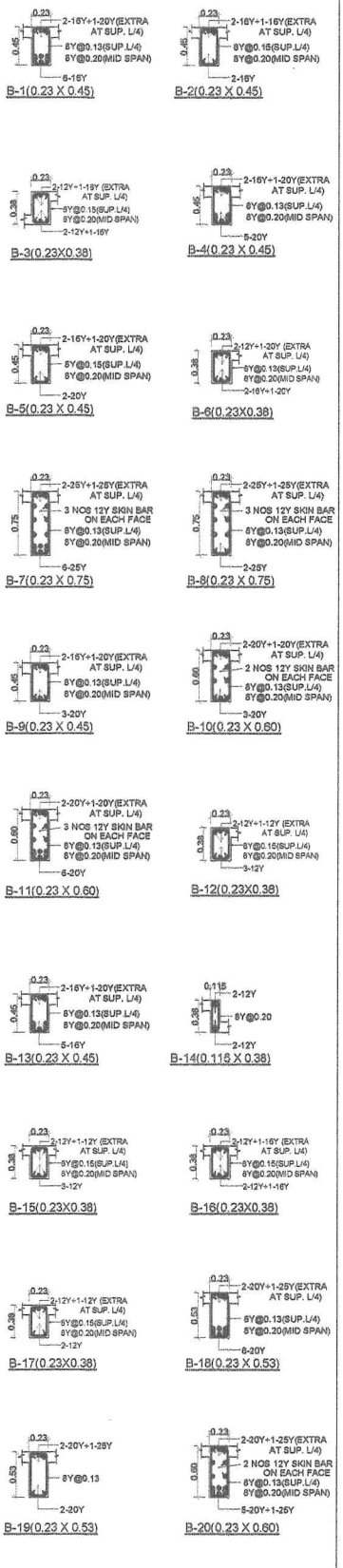


STILT FLOOR ROOF SLAB - R.C. DETAILS

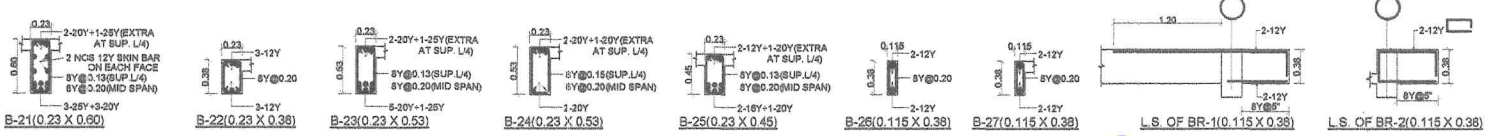


S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Kovambedu, Chennai - 600 107

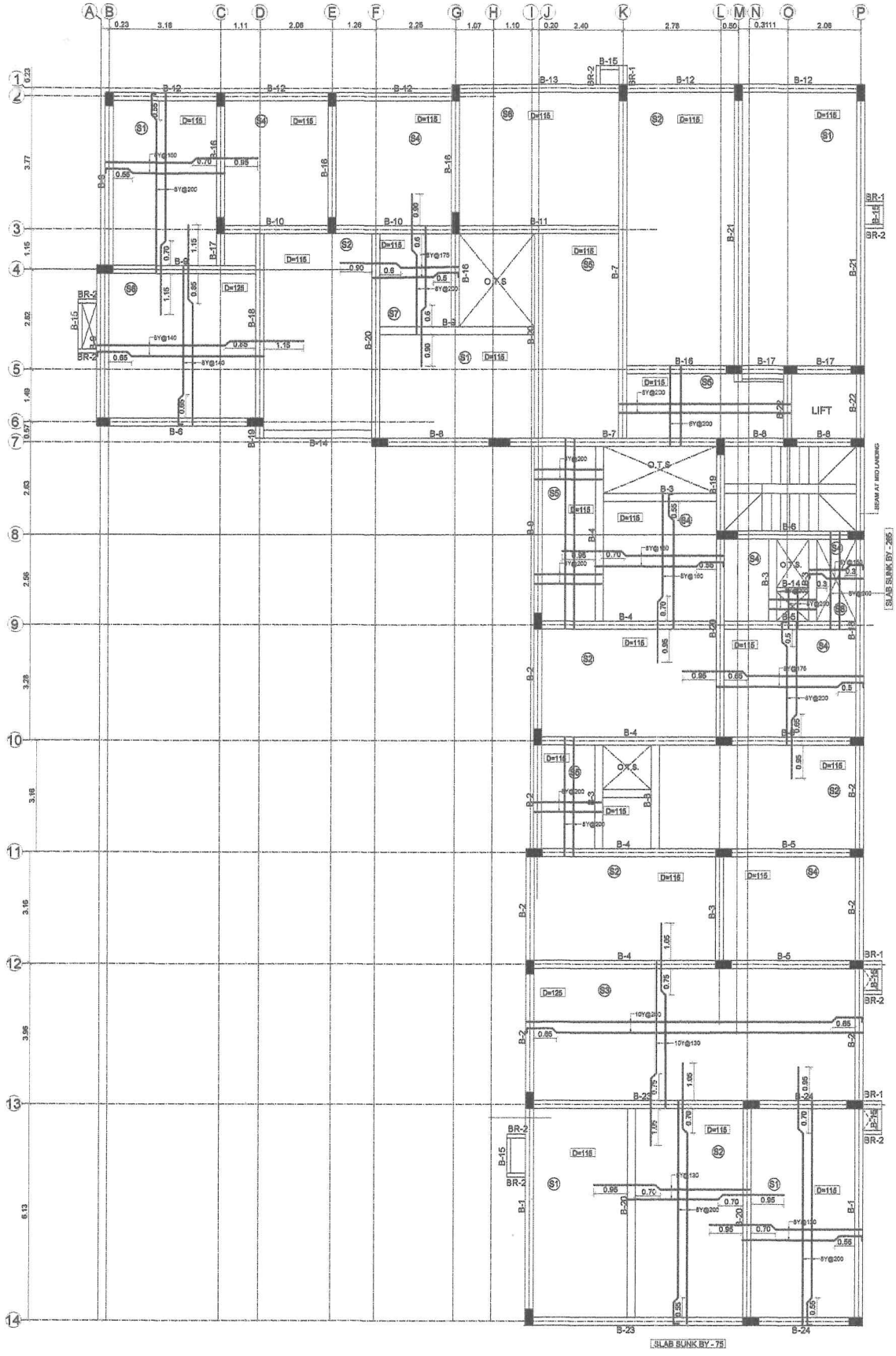


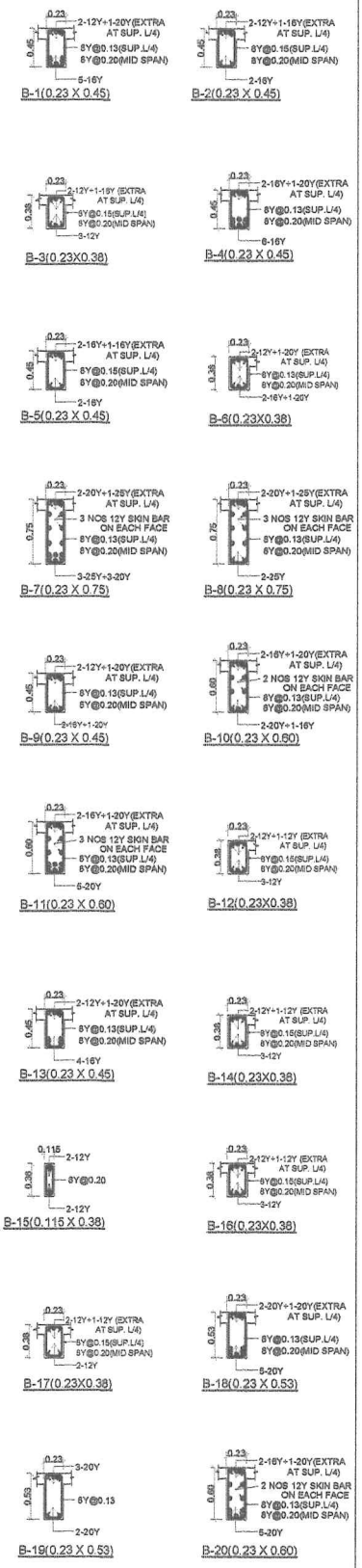


TYPICAL (I & II) FLOOR ROOF SLAB - R.C.DETAILS

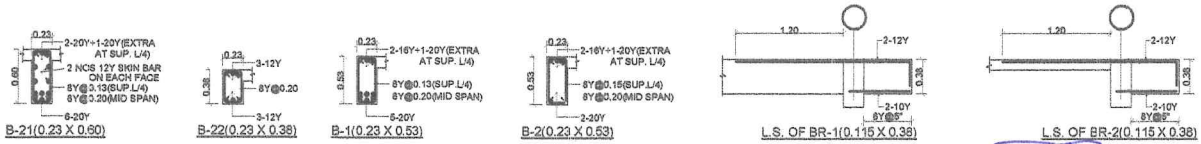


S.PONNUSWAMY, M.Tech.(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/071 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Koyambedu, Chennai - 600 107.





THIRD FLOOR ROOF SLAB - R.C.DETAILS



S.PONNUSWAMY, M.Tech.,(Struc.)
Registered Structural Engineer GR-I
Regn. No: SE/GR-I/19/03/971 CMDA
RSE101532021 GCC
10, First Floor, 22, P.H.Road,
Kovambedu, Chennai - 600 107

THE LANDLENS SUITE

Eight ways to know a piece of land before you pay for it.

This report covers one part of the picture. These cover the rest, drawn from the same government records, for any property in Tamil Nadu.

LandLens One
Ask anything about a property and get an answer grounded in live government records, with the sources shown.
/landlens/one

Verify My Land
Every record check run on one property and returned as a single report.
/landlens/verify-my-land

Legal Opinion
An advocate's written opinion on the title, built on the records we pull for it.
/landlens

One Map
Every layer on one map: the parcel, its boundary, zoning, water bodies and what sits around it.
/landlens/one/map

PriceMap
What land actually changed hands for around this plot, taken from the registered deeds.
/landlens/pricemap

Build Scope
What you are allowed to build here: floor space, height, coverage and setbacks.
/landlens/build-scope

Property Tracker
Watch a property and hear about it when something new is registered against it.
/landlens/property-tracker

Deal Room
Run the transaction in one place: documents, stamping, signatures and the parties.
/landlens/deal-room

FREE TOOLS · NO ACCOUNT NEEDED

Twenty-four checks you can run yourself, at no cost.

Records and verification

The registers themselves, read for you.

- Encumbrance Certificate
- Patta and Chitta
- Field Measurement Sketch
- EC Analyzer
- Bank charge check
- Court case search
- Seller background check
- Approval check by survey

Value and duty

What it is worth and what it costs to register.

- Guideline value by street
- Guideline value by survey
- Stamp duty and registration fees
- Capital gains
- Floor space index
- Area unit converter

Zoning and land use

What the plan says can happen on this land.

- Land use zone finder
- CMDA land use check
- Coastal regulation zone
- Master plan check
- Water bodies finder
- Airport height clearance

Registers and directories

Who holds it, and which office keeps the record.

- Find your registering office
- Temple property check
- Waqf property check
- RERA register

Every free tool
/tools

Services we run for you
/services

The LandLens suite
/landlens/one

Verified RealEstate™

Every claim in this document traces back to a government record.

- Legal opinions, due diligence and title verification
- Building plan, layout and sub-division approvals
- Completion and occupancy certificates, regularisation
- Escrow, negotiation and NRI property management
- Land survey, soil testing, architecture and construction

Verified RealEstate
3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai 600 097, India
hello@verified.realestate
+91 9996 12 9996

Prepared from the registers named on the page each finding sits on. Where a register could not be read, this document says so in its place rather than leaving the gap to be read as a clean result.