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

DIGITALLY VERIFIED RECORD

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

# DESIGN BASIS REPORT

## PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.

Dr.G.S.VENKATASUBRAMANI
Ph.D.,ME(Structural).,FIE,C.Engg(I),PE.,
MISTE.,MI Struct E.,MICI.,FIV
Structural Engineer Grade -I-CBE/SE/GR-1/07/2025,
Professional Engineer,
Chartered Civil Engineer & Approved Valuer,
53, M.A Palanisamy Street, K.K. Pudur Post
Coimbatore - 641 038

| | | | | | |
|---|---|---|---|---|---|
| **Project Name** | **PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** | | | **Structural Consultant:** SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | | |
| **Client** | **M/s. SHRI ANEKAS VENTURES LLP** | | | | |
| | **COIMBATORE.** | | | | |
| **Doc. No** | **SGSE-HM-2026** | | | **PREPARED** | **CHECKED** |
| **REV. NO** | **0** | **DATE** | **18.06.2026** | **MP** | **VS** |

## CONTENTS


| SL No. | PARTICULARS | PAGE No. |
|---|---|---|
| 1.0 | SCOPE | 3 |
| 2.0 | DETAILED DESCRIPTION FOR BUILDING | 3 |
| 3.0 | TECHNICAL SPECIFICATION | 3 |
| 4.0 | GENERAL | 4 |
| 5.0 | SITE LEVELS | 4 |
| 6.0 | STANDARDS AND CODES | 4 |
| 7.0 | LOADINGS | 4 |
| 8.0 | METHOD OF DESIGN | 10 |
| 9.0 | SOIL INFORMATION | 11 |
| 10.0 | DESIGN | 11 |
| 11.0 | FLOOR PLAN AND ELEVATIONS | 14 |
| 12.0 | STAAD IMAGE | 16 |
| 13.0 | DESIGN CALCULATION | 19 |


SG Structural Engineers ★ Coimbatore ★

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

## 1.0 SCOPE:

This Document covers the requirement of RCC structural Design of **PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** For M/s SHRI ANEKAS VENTURES LLP, COIMBATORE.

## 2.0 DETAILED DESCRIPTION FOR APARTMENT BUILDING:

| S. No. | Description | Description |
|---|---|---|
| 1 | Building Size | |
| 1.1 | Width of Building | 13600 mm |
| 1.2 | Length of Building | 48800 mm |
| 2 | Column Spacing | As per architectural drawings |
| 3 | Floor height | |
| | Stilt floor roof | 3270mm |
| | Up to First floor roof | 3760mm |
| | Above First floor roof | 3760mm |
| 4 | Headroom floor height | 2500mm |
| 5 | Staircase | RCC Staircase with waist slab. |

SG Structural Engineers Coimbatore

| | | | | | | |
|---|---|---|---|---|---|---|
| **Project Name** | **PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** | | | **Structural Consultant:** SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | | |
| **Client** | **M/s. SHRI ANEKAS VENTURES LLP** | | | | | |
| | **COIMBATORE.** | | | | | |
| **Doc. No** | **SGSE-HM-2026** | | | | **PREPARED** | **CHECKED** |
| **REV. NO** | **0** | **DATE** | **18.06.2026** | | **MP** | **VS** |

## 3.0 TECHNICAL SPECIFICATION:

| S. No. | Parameter | Specifications |
|---|---|---|
| 1. | **Type of Building** | Rigid Frame Type |
| 2. | **Design Consideration** | Designed as per IS CODE (Refer: 6.0). |
| 3. | **Geometrical Requirements of Components** | |
| 3.1 | Beams | RCC |
| 3.2 | Columns | RCC |
| 3.3 | Slab | RCC |
| 4. | **Grades of Material** | |
| 4.1 | Grade of concrete | M35 ( Upto Stilt Floor Roof) ,M25 (For Above Stilt Floor Roof) |
| 4.2 | Grade of steel | Fe550 |

## 4.0 GENERAL:

- All design calculations are carried out in SI System.

## 5.0 SITE LEVELS:

- FFL is (+) 0.610m level from FGL as per architectural drawing.

## 6.0 STANDARDS ANDCODES:

Designs are in accordance with the latest editions of the Standards and Codes of Practice as described below:

- IS: 456-2000 - Code of Practice for Plain & Reinforced concrete.
- IS: 875-1987 & 2015 (Part1 to 5) - Code of Practice for Design loads (other than Earthquake) for Buildings and structures.
- IS: 1893 –(Part-1)-2016- Criteria for Earthquake resistant design of structures.
- IS: 13920-2016– Ductile detailing of reinforced concrete structures subjected to seismic force.

SG Structural Engineers Coimbatore

## 7.0 LOADINGS:

- Load and Load combinations are generally as per IS: 875(Part 1 to 5)-1987& 2015, unless noted otherwise.

**Dead Loads:**

Dead Loads are generally taken as per unit weights given in IS: 875 (Part 1)-1987 and as per construction elements like RC slab, floor finishes, screeds, waterproofing, masonry wall, etc.

The following table gives the density of the major materials.

| MATERIALS | DENSITY |
|---|---|
| PCC | 24.0 |
| Reinforced concrete | 25.0 |
| Brick work & Light weight bricks | 20.0 & 8.0 |

## BRICK MASONRY LOAD CALCULATION

**Type-I (Basement Wall Load)**

| | | | |
|---|---|---|---|
| Height of the wall | = | 0.610 | m |
| Width of the wall | = | 0.23 | m |
| Unit Weight of the Brick Masonry | = | 20.00 | KN/m$^3$ |
| Effective Height of the wall | = | 0.610 | m |
| Weight per meter length of wall | = | 2.806 | KN/m |
| Total UDL | = | 2.806 | KN/m |

SG Structural Engineers Coimbatore

| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
|---|---|---|---|---|---|
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

**Type-II (Main wall 230mm thick)**

**1. First floor, Second Floor, Third Floor**

| | | | |
|---|---|---|---|
| Height of the wall from beam plinth beam top | = | 3.88 | m |
| Width of the wall | = | 0.23 | m |
| Unit Weight of the Brick Masonry | = | 20.00 | KN/m$^3$ |
| Assumed average height of beams | = | 0.3 | m |
| Effective Height of the wall | = | 3.58 | m |
| Weight per meter length of wall | = | 16.5 | KN/m |
| Total UDL | = | 16.5 | KN/m |

**2. First floor, Second Floor, Third Floor**

| | | | |
|---|---|---|---|
| Height of the wall from beam plinth beam top | = | 3.88 | m |
| Width of the wall | = | 0.115 | m |
| Unit Weight of the Brick Masonry | = | 20.00 | KN/m$^3$ |
| Assumed average height of beams | = | 0.3 | m |
| Effective Height of the wall | = | 3.58 | m |
| Weight per meter length of wall | = | 8.25 | KN/m |
| Total UDL | = | 8.25 | KN/m |

**Type-IV (Parapet wall 230mm thick)**

**1.Terrace Parapet wall**

| | | | |
|---|---|---|---|
| Height of the wall from beam top | = | 0.91 | m |
| Width of the wall | = | 0.23 | m |
| Unit Weight of the Brick Masonry | = | 20.00 | KN/m$^3$ |
| Effective Height of the wall | = | 0.91 | m |
| Weight per meter length of wall | = | 4.168 | KN/m |
| Total UDL | = | 4.168 | KN/m |

SG Structural Engineers Coimbatore

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

## FLOOR LOAD CALCULATIONS

### DEAD LOADS:

**Ground Floor and First floor Roof :**

| | | |
|---|---|---|
| (i) Self weight of slab (Thk of slab (0.150)* 25 KN/m$^3$) | = | 3.75 KN/m$^2$ |
| (ii) Floor finish, Ceiling finish & Fixtures | = | 1.5 KN/m$^2$ |
| (iii) Total dead load on slab | = | 5.25 KN/m$^2$ |

**Terrace floor Roof :**

| | | |
|---|---|---|
| (i) Self weight of slab (Thk of slab(0.150)* 25 KN/m$^3$) | = | 3.75 KN/m$^2$ |
| (ii) Floor finish, Ceiling finish & Fixtures | = | 2.25 KN/m$^2$ |
| (iii) Total dead load on slab | = | 6.0 KN/m$^2$ |

### LIVE LOADS:

Live Loads are considered as per IS: 875 – 1987 Part 2.

The load is considered as indicated below

| | | |
|---|---|---|
| i) Rooms | = | 2.00 KN/m2 |
| ii) Staircase | = | 4.00 KN/m2 |
| iii) Terrace | = | 1.50 KN/m2 |

### Seismic Loads:

The Seismic loads on the structure are calculated as per IS: 1893 – 2016. The zone factor considered as indicated below.

SG Structural Engineers Coimbatore

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

- Location of structure: Coimbatore, India.
- Seismic zone: Zone III
- Z=Seismic zone factor: 0.16
- I=Importance factor: 1.1
- R=Response reduction factor: 5

**Load Combinations:**

- The load combinations are giving for the most critical conditions on foundations, structures or individual members shall be taken into account.
- The load combination indicated in IS:875 (Part 5)-1987& IS: 1893 – 2016 is adopted for the design of civil / structural members. The load combination with corresponding load factor is indicated below.

**LIMIT STATE OF SERVICEABILITY:**

LOAD COMB 101 1.0DL+1.0LL+1.0RLL
LOAD COMB 102 1.0DL+1.0EQ+X
LOAD COMB 103 1.0DL+1.0EQ-X
LOAD COMB 104 1.0DL+1.0EQ+Y
LOAD COMB 105 1.0DL+1.0EQ-Y
LOAD COMB 106 1.0DL+1.0EQ+Z
LOAD COMB 107 1.0DL+1.0EQ-Z
LOAD COMB 108 1.0DL+0.8EQ+X+0.8LL+0.8RLL
LOAD COMB 109 1.0DL+0.8EQ-X+0.8LL+0.8RLL
LOAD COMB 110 1.0DL+0.8EQ+Y+0.8LL+0.8RLL
LOAD COMB 111 1.0DL+0.8EQ-Y+0.8LL+0.8RLL
LOAD COMB 112 1.0DL+0.8EQ+Z+0.8LL+0.8RLL
LOAD COMB 113 1.0DL+0.8EQ-Z+0.8LL+0.8RLL

**LIMIT STATE OF STRENGTH:**

LOAD COMB 201 1.5DL+1.5LL+1.5RLL

SG Structural Engineers Coimbatore

LOAD COMB 202 1.5DL+1.5EQ+X
LOAD COMB 203 1.5DL+1.5EQ-X
LOAD COMB 204 1.5DL+1.5EQ+Y
LOAD COMB 205 1.5DL+1.5EQ-Y
LOAD COMB 206 1.5DL+1.5EQ+Z
LOAD COMB 207 1.5DL+1.5EQ-Z
LOAD COMB 208 1.2DL+1.2EQ+X+1.2LL+1.2RLL
LOAD COMB 209 1.2DL+1.2EQ-X+1.2LL+1.2RLL
LOAD COMB 210 1.2DL+1.2EQ+Y+1.2LL+1.2RLL
LOAD COMB 211 1.2DL+1.2EQ-Y+1.2LL+1.2RLL
LOAD COMB 212 1.2DL+1.2EQ+Z+1.2LL+1.2RLL
LOAD COMB 213 1.2DL+1.2EQ-Z+1.2LL+1.2RLL
LOAD COMB 214 0.9DL+1.5EQ+X
LOAD COMB 215 0.9DL+1.5EQ-X
LOAD COMB 216 0.9DL+1.5EQ+Y
LOAD COMB 217 0.9DL+1.5EQ-Y
LOAD COMB 218 0.9DL+1.5EQ+Z
LOAD COMB 219 0.9DL+1.5EQ-Z

Where,

DL - Dead Load

LL - Live load

EQX, EQY, EQZ - Earthquake Load

## 8.0 METHOD OF DESIGN:

Response Spectrum Analysis is carried out using Staad Pro 2024 Software and load combinations giving the most critical conditions are considered for the design of foundations.

- Sub structure is designed for critical load combination by manual calculation.
- Reinforced cement concrete - Design as per IS: 456 – 2000 using STAAD Pro 2024 Software.

SG Structural Engineers Coimbatore

## 9.0 SOIL INFORMATION:

Soil type is considered as per soil investigation report

- Soil investigation report from M/s. Geodesign India Private limited, Coimbatore-641038. Dated: 23.06.2026 – 24.06.2026. **Ref: GEO – G - 073 – 2025 – 2026**
- Depth of foundation shall be 1.8m from existing ground level.
- SBC of soil is taken as 360 kN/m$^2$ at 1.8m existing ground level.

## 10.0 DESIGN:

### 10.1 FOUNDATIONS:S

Foundation is designed to carry all the loads from super-structure.

### 10.2 RCC COLUMNS:

RCC columns are designed using the STAAD pro analysis software for critical load conditions and are tabulated in the provided drawing.

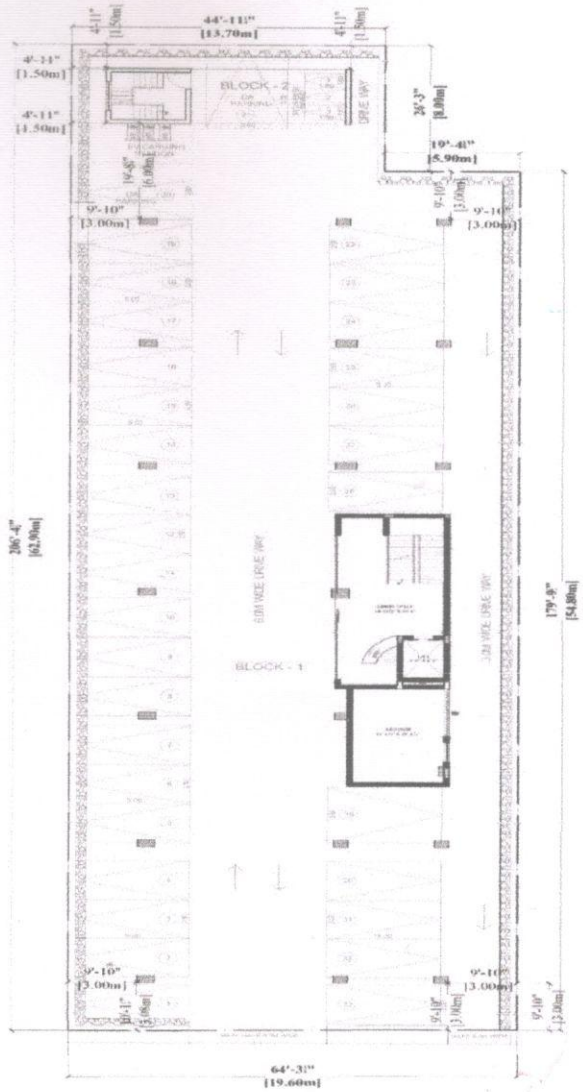
### 10.2 ROOF SLABS AND BEAMS:

All beams are designed using STAAD pro analysis software for critical load conditions. Slab design is carried out manually.

SG Structural Engineers Coimbatore

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 Ph: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

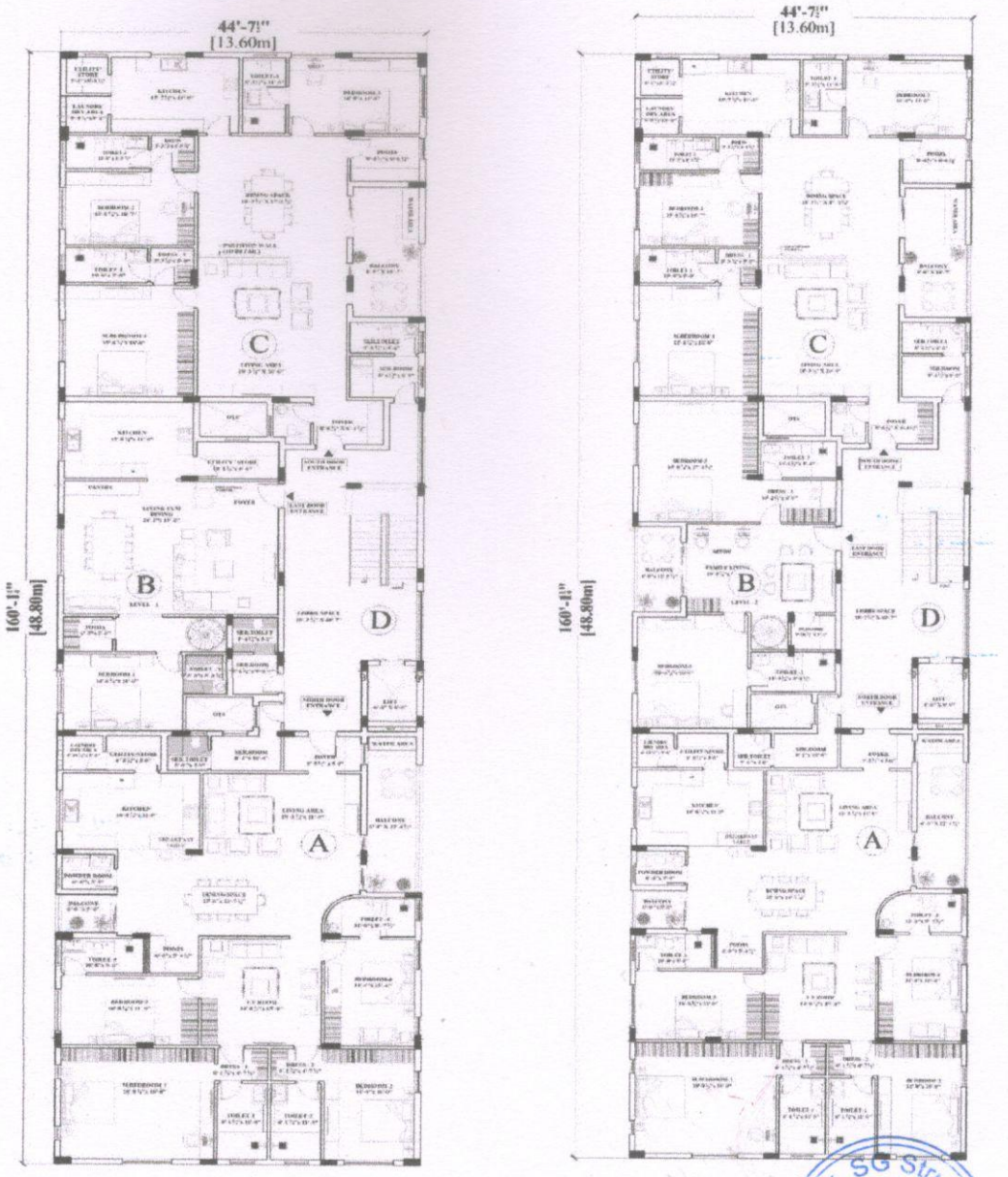
## 11.0 FLOOR PLAN, ELEVATION AND SECTION:




**STILT FLOOR PLAN**
**PT BEAM @STILT FLOOR**

SG Structural Engineers Coimbatore

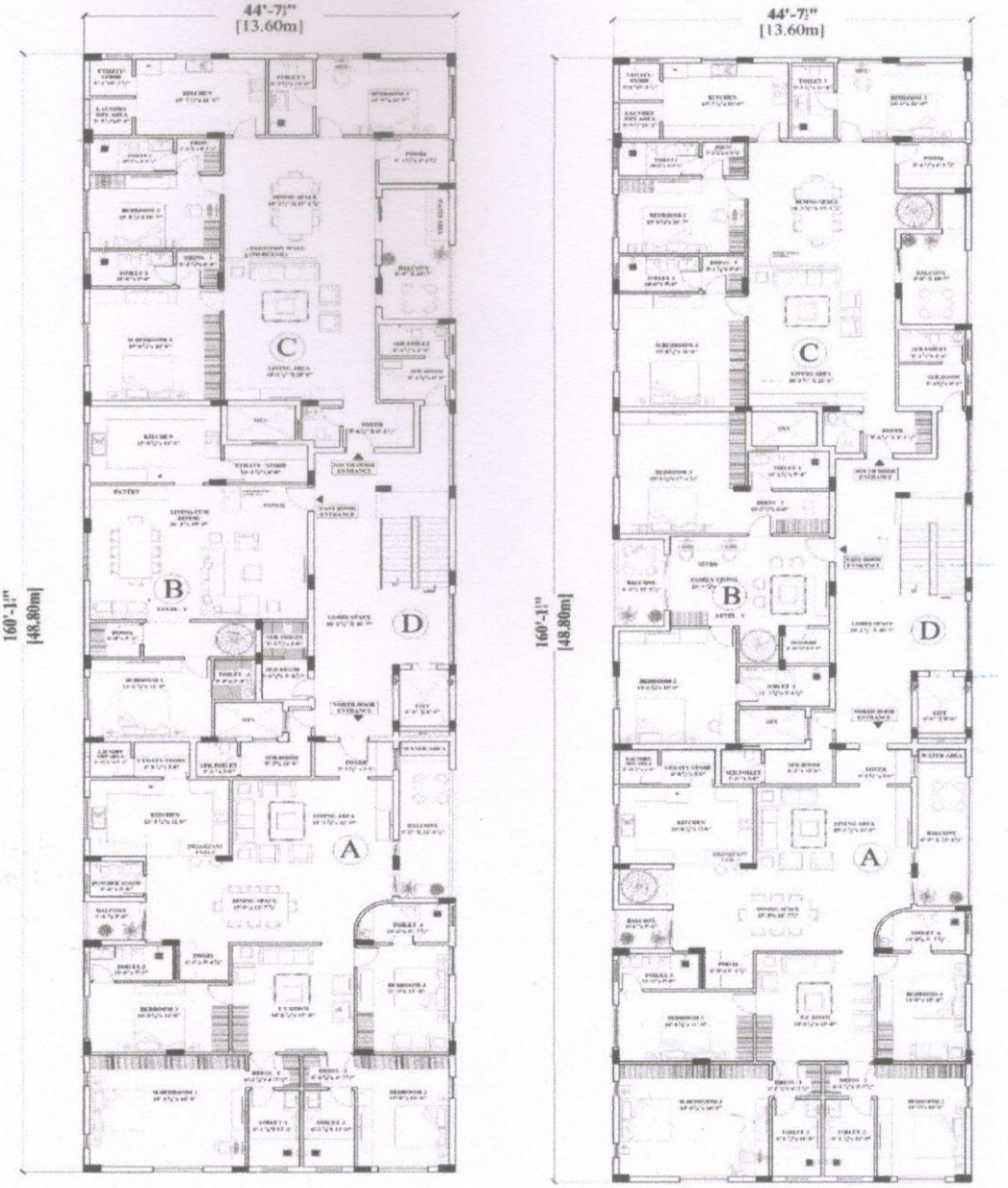
| | | | | | |
|---|---|---|---|---|---|
| **Project Name** | **PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** | | | **Structural Consultant:** SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| **Client** | **M/s. SHRI ANEKAS VENTURES LLP** | | | | |
| | **COIMBATORE.** | | | | |
| **Doc. No** | **SGSE-HM-2026** | | | **PREPARED** | **CHECKED** |
| **REV. NO** | **0** | **DATE** | **18.06.2026** | **MP** | **VS** |




**FIRST AND SECOND FLOOR PLAN**

SG Structural Engineers ★ Coimbatore ★

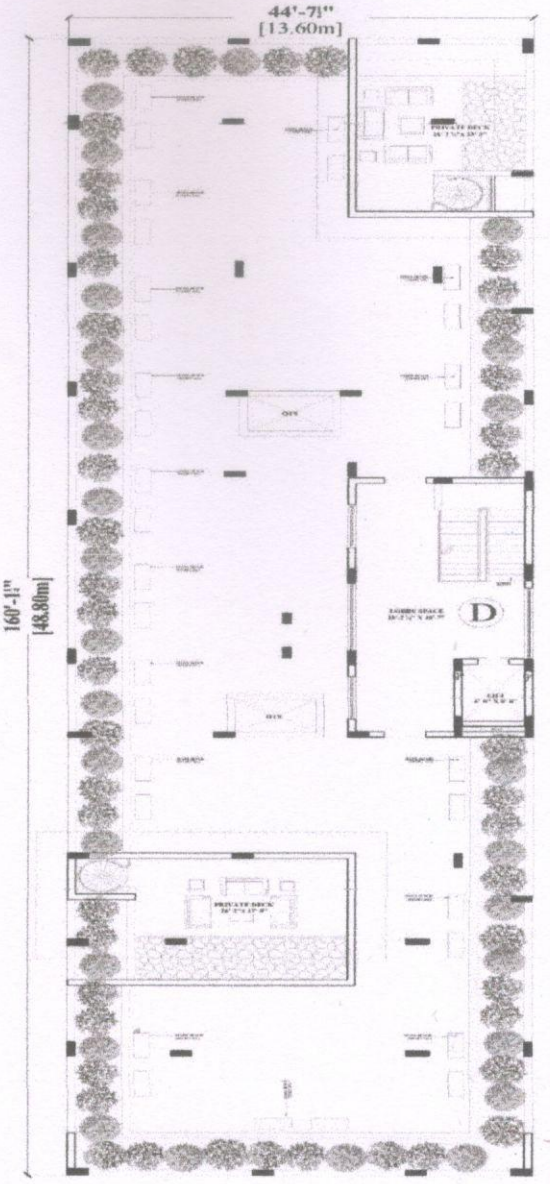
| | | | | | |
|---|---|---|---|---|---|
| **Project Name** | **PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** | | | **Structural Consultant:** SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| **Client** | **M/s. SHRI ANEKAS VENTURES LLP** | | | | |
| | **COIMBATORE.** | | | | |
| **Doc. No** | **SGSE-HM-2026** | | | **PREPARED** | **CHECKED** |
| **REV. NO** | **0** | **DATE** | **18.06.2026** | **MP** | **VS** |




**THIRD AND FOURTH FLOOR PLAN**

SG Structural Engineers Coimbatore

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

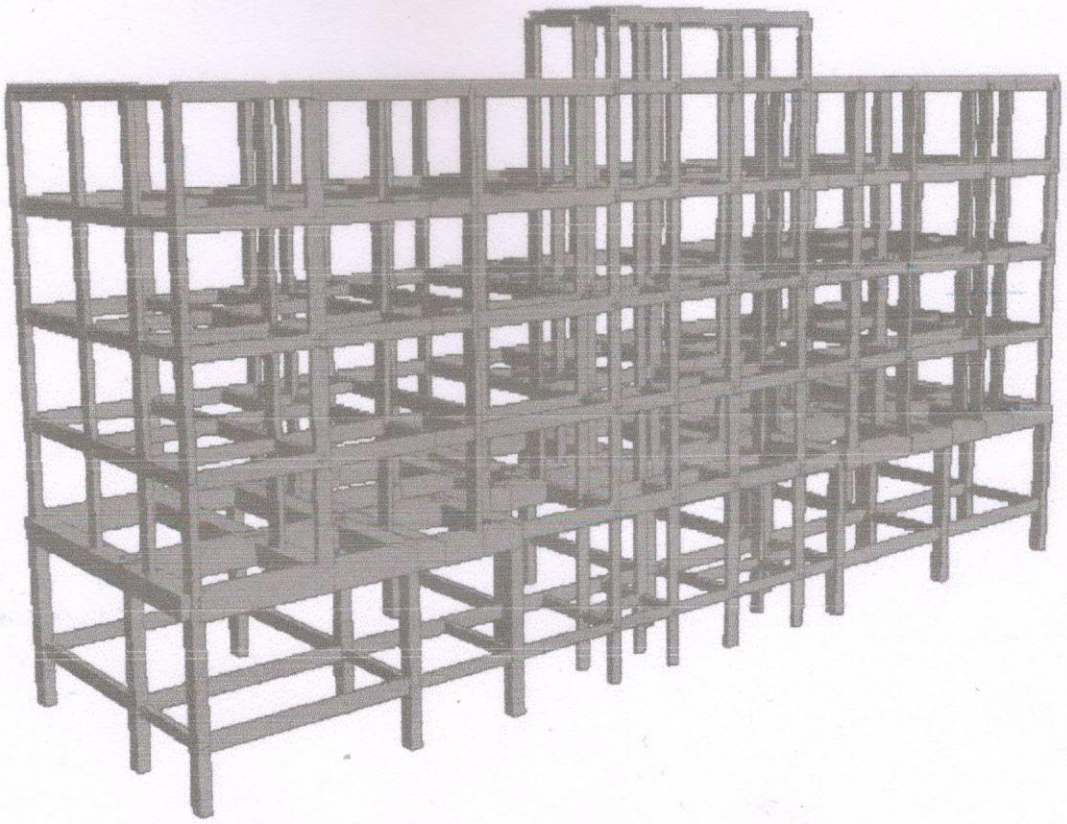



**TERRACE FLOOR PLAN**

SG Structural Engineers Coimbatore

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

## 12.0 STAAD IMAGE:



## 13.0 DESIGN CALCULATION:

SG Structural Engineers ★ Coimbatore ★

| | | | | | |
|---|---|---|---|---|---|
| **Project Name** | **PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** | | | **Structural Consultant:** SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| **Client** | **M/s. SHRI ANEKAS VENTURES LLP** | | | | |
| | **COIMBATORE.** | | | | |
| **Doc. No** | **SGSE-HM-2026** | | | **PREPARED** | **CHECKED** |
| **REV. NO** | **0** | **DATE** | **18.06.2026** | **MP** | **VS** |

## 13.1 FOOTING DESIGN

**GENERAL DATA**

| | | |
|---|---|---|
| Design Method | = | Limit-State of IS:456-2000 |
| Unfactored axial load (without selfwt) | = | 1820.43 kN |
| Unfactored moment about X (Anticlock +ve) | = | 16 kN.m |
| Unfactored moment about Z (Anticlock +ve) | = | 2.3 kN.m |
| Net Safe bearing capacity of soil @ 1.8 m below Finished grade lvl | = | 360 kN/m² |
| Concrete mix | = | M 35 |
| Density of concrete | = | 25 kN/m³ |
| Density of soil | = | 18 kN/m³ |
| Factor of Safety | = | 1.50 |
| Provide size of footing | = | 2.74 x 2.43 x 0.75 m |
| Size of Column | = | 0.75 x 0.45 m |
| Depth of footing below ground level | = | 1.8 m |
| Clear cover to steel | = | 75 mm |

**VERTICAL LOAD:**
Weight of entire foundation

(2.74*2.43*0.75*25)

= 124.84 kN

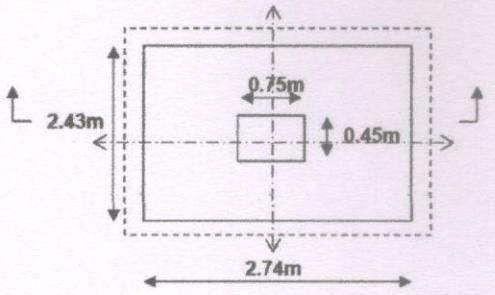
Weight of soil

(2.74*2.43*1.05*18)

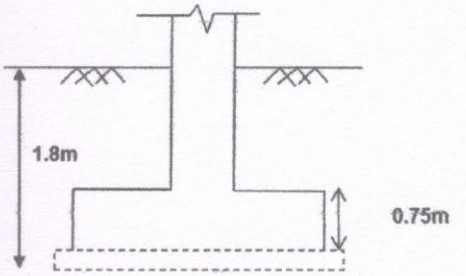
= 125.84 kN

SG Structural Engineers Coimbatore

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |




PLAN




SECTION

**DESIGN CALCULATION**

**CHECK FOR BEARING PRESSURE:**

**Total Vertical Load**

a) Weight of foundation = 124.84 kN

b) Weight of soil = 125.84 kN

c) Vertical load from structures = 1820.4 kN

**TOTAL DOWNWARD LOAD** = 124.84+125.84+1820.43
= **2071.1 kN**

Section Modulus about XX (Zxx) = 2.74*2.43^2/6
= 2.697 Cum

Section Modulus about YY (Zyy) = 2.43*2.74^2/6
= 3.041 Cum

**Actual base pressure** = (2071.11/2.74/2.43)+(ABS(16)/2.697 )+(ABS(2.3)/3.041)

**qmax** = **317.75 kN/m²**

**qmin** = **304.37 kN/m²** **Hence Safe**

SG Structural Engineers Coimbatore

| | | | | | |
|---|---|---|---|---|---|
| **Project Name** | **PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** | | | **Structural Consultant:** SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| **Client** | **M/s. SHRI ANEKAS VENTURES LLP** | | | | |
| | **COIMBATORE.** | | | | |
| **Doc. No** | **SGSE-HM-2026** | | | **PREPARED** | **CHECKED** |
| **REV. NO** | **0** | **DATE** | **18.06.2026** | **MP** | **VS** |

**Max Net Pressure, qmax-$\gamma$ H** = 317.75-1.8*18

= **285.35 kN/m²**

< **360 kN/m²**

**Hence Safe**

**DESIGN OF FOOTING SLAB:**

Maximum base pressure = 317.75 kN/m²

Maximum overhang of pad = (2.74-0.75)/2 =

= 1 m

Pressure due to over burden of soil & pad = (1.8-0.75)*18+0.75*25

= 37.65 kN/m²

Base pressure at face of the pedestal = = (304.372700399455+((317.75-304.372700399455)/2.74*(2.74-

= 312.87 kN/m²

Maximum cantilever moment at the face of pedestal = 0.5*(317.75+312.87)*1*(1/3*(312.87+2*317.75)/(312.87+317.75))-37.65*1*(1/2)

= 139.240 kNm

**Overall depth provided 750 mm**

Diameter of reinforcement bar = 10 mm

Effective depth provided = 750-75-10/2

= 670 mm

Mu/bd² = 1.5*139.24*1000000/(1000*670^2)

= 0.4653

Percentage of reinforcement required (Pt) = 0.119 **(As per Table 2 of SP16)**

$A_{st}$ required = 0.119/100*(1000*670)

= 797.3 mm²

Minimum reinforcement = 0.12/100*(1000*670) = 804 mm²

**Provide 12 @ 100 c/c m both ways at bottom.**

**($A_{st}$ provided = 1131 mm²)**

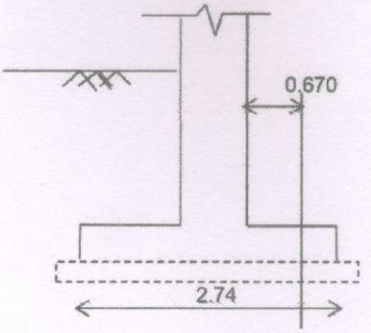
**Pt provided** = 100*1131/(1000*670)= 0.169 **mm² Hence Safe**

SG Structural Engineers Coimbatore

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

**CHECK FOR SHEAR**

**One Way Shear**




| | | |
|---|---|---|
| Overhang of footing beyond critical section for shear | = | (2.74-0.75)/2-0.67<br>0.325 m |
| Maximum base pressure | = | 317.75 KN/m² |
| Depth at Critical Section | = | 0.67 m |
| Base pressure at a distance "d" from face of the pedestal = | = | (304.372700399455+((317.75-304.372700399455)/2.74*(2.74-<br>314.48 KN/m² |
| Downward force from footing | = | 37.65 KN/m² |
| Shear force at critical section V | = | 0.5*(317.75+314.48)*0.325-37.65*0.325<br>90.501 kN/m |
| Shear stress $\tau_v$ | = | 1.5*90.501*1000/(1000*1000*0.67) |
| | = | 0.2026 N/mm² |
| $\tau_c$ (Table 19 of IS 456-2000) | = | 0.37 N/mm²<br>**Hence Safe** |

**Two Way Shear**

| | | |
|---|---|---|
| Perimeter of the critical section around the pedetal at a distance d/2 from face of pedestal | = | ((0.75+2*(670/2/1000))*2)+((0.45+2*(670/2/1000))*2) |
| | = | 5.080 m |
| Depth at Critical Section | = | 0.67 m |
| Allowable punching shear stress | | |
| $\tau_c' = k_s \cdot \tau_c$ | | |
| $ks = 0.5 + \beta_c$ | | |
| $\beta_c = 0.75/0.45 = 1.66667$ | | |
| ks | = | 0.5 + 2 |
| | = | 2.2 |
| ks should not be greater than 1 | = | 1 |
| $\tau_c = 0.25 \sqrt{f_{ck}}$ | = | 0.25 x √ 35 |
| | = | **1.479 N/mm²** |
| Allowable maximum load (unfactored) on pedestal from punching shear point of view | = | 1.479*(5.08*1000)*0.67/1.5 |
| | = | 3355.995 kN |
| Total Downward load | = | 1820 kN |

**Hence Safe**

## 13.2 COLUMN DESIGN

| | | | | | |
|---|---|---|---|---|---|
| Project Name | PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION. | | | Structural Consultant: SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | |
| Client | M/s. SHRI ANEKAS VENTURES LLP | | | | |
| | COIMBATORE. | | | | |
| Doc. No | SGSE-HM-2026 | | | PREPARED | CHECKED |
| REV. NO | 0 | DATE | 18.06.2026 | MP | VS |

```
================================================================================
                IS-456   L I M I T   S T A T E   D E S I G N
                B E A M  N O.   425   D E S I G N  R E S U L T S

      M25                      Fe500 (Main)                 Fe500 (Sec.)

    LENGTH:  1600.2 mm      SIZE:   230.0 mm X  530.0 mm   COVER: 30.0 mm

  DXF IMPORT OF 1                                          -- PAGE NO.  575

                        SUMMARY OF REINF. AREA (Sq.mm)
--------------------------------------------------------------------------------
SECTION       0.0 mm       400.0 mm      800.1 mm      1200.1 mm     1600.2 mm
--------------------------------------------------------------------------------
 TOP          1229.06       777.77        373.69        193.54          0.00
REINF.       (Sq. mm)      (Sq. mm)      (Sq. mm)      (Sq. mm)      (Sq. mm)

BOTTOM        170.77          0.00          0.00        193.54        354.24
REINF.       (Sq. mm)      (Sq. mm)      (Sq. mm)      (Sq. mm)      (Sq. mm)
--------------------------------------------------------------------------------

                      SUMMARY OF PROVIDED REINF. AREA
--------------------------------------------------------------------------------
SECTION       0.0 mm       400.0 mm      800.1 mm      1200.1 mm     1600.2 mm
--------------------------------------------------------------------------------
 TOP          4-20d         3-20d         2-20d         2-20d         2-20d
REINF.     1 layer(s)    1 layer(s)    1 layer(s)    1 layer(s)    1 layer(s)

BOTTOM       3-10d         3-10d         3-10d         3-10d         5-10d
REINF.     1 layer(s)    1 layer(s)    1 layer(s)    1 layer(s)    1 layer(s)

SHEAR    2 legged  8d  2 legged  8d  2 legged  8d  2 legged  8d  2 legged  8d
REINF.  @ 130 mm c/c  @ 135 mm c/c  @ 140 mm c/c  @ 135 mm c/c  @ 155 mm c/c
--------------------------------------------------------------------------------

SHEAR DESIGN RESULTS AT DISTANCE d (EFFECTIVE DEPTH) FROM FACE OF THE SUPPORT
--------------------------------------------------------------------------------

SHEAR DESIGN RESULTS AT    640.0 mm AWAY FROM START SUPPORT
  VY =    169.35 MX =      6.67 LD=     4
  Provide 2 Legged  8d  @ 135 mm c/c

================================================================================
```

13.3

## BEAM DESIGN

SG Structural Engineers Coimbatore

Beam Group Name: B5
Beam No. (From Staad): 425

The steel requirement for B5 is

At Top = 1229.06 $mm^2$

At bottom = 354.24 $mm^2$

Adopt 3 nos. of Y20 bars + 3 nos. of Y20 bars (Extra bars) at Top.

Adopt 3 nos. of Y20 bars at Bottom.

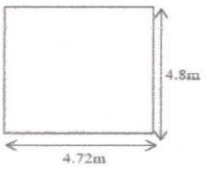
Adopt 2 legged stirrups with Y8 at 125 mm C/C (at end) & Y8 at 150 mm (at mid) as spacing.

## 13.4 SLAB DESIGN

| | | | | | |
|---|---|---|---|---|---|
| **Project Name** | **PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** | | | **Structural Consultant:** SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1966@gmail.com www.sgstructurals.com | | |
| **Client** | **M/s. SHRI ANEKAS VENTURES LLP** | | | | |
| | **COIMBATORE.** | | | | |
| **Doc. No** | **SGSE-HM-2026** | | | **PREPARED** | **CHECKED** |
| **REV. NO** | **0** | **DATE** | **18.06.2026** | **MP** | **VS** |

**GENERAL DATA**

| | | | |
|---|---|---|---|
| Shorter dimension of slab, $l_x$ | | 4.72 | m |
| Longer dimension of slab, $l_y$ | | 4.80 | m |
| | $l_y/l_x$ | 1.02 | Twoway Slab |
| Assuming thickness of slab | | 150 | mm |
| Consider width | | 1000 | mm |
| | $f_{ck}$ | 25 | kN/m$^2$ |
| | $f_y$ | 550 | kN/m$^2$ |




| | | |
|---|---|---|
| Type of panel - | Interior panel | |
| Clear cover to reinforcement | 20 | mm |

**Loads**

| | | |
|---|---|---|
| Live load | 2 | kN/m$^2$ |
| Dead load | 3.75 | kN/m$^2$ |
| Floor Finish | 1.5 | kN/m$^2$ |
| Total load | 7.25 | kN/m$^2$ |
| Fact. load | 10.88 | kN/m$^2$ |

**Typical design calculation**

Mu = Coeff*$W_u$*$l_x$*$l_x$ (Coefficient from IS:456)

= 0.032*10.88*4.72*4.72

= 7.76 kN-m

Mu /bd$^2$ = (7.76*10^6)/(1000*125^2)

0.497 N/mm$^2$

$P_t$ = 0.207685818 (From SP-16, Table-3)

Ast = (0.207685818181818*1000*125)/100

= 259.6072727 mm$^2$

Spacing = (3.14*12*12/4/259.607272727273)*1000

435.43 mm

| **Short span direction** | Coeff | Mu (kNm) | Mu /bd2 | $P_t$ | Ast | Dia | Spacing |
|---|---|---|---|---|---|---|---|
| Negative moment @ continuous edge | 0.032 | 7.76 | 0.496 | 0.116908 | 146.1355336 | 12 | 773.53 |
| Positive moment @ midspan | 0.024 | 5.82 | 0.37 | 0.08715 | 108.9377689 | 12 | 1037.66 |

| **Long span direction** | Coeff | Mu (kNm) | Mu /bd$^2$ | $P_t$ | Ast | Dia | Max. Spacing |
|---|---|---|---|---|---|---|---|
| Negative moment @ continuous edge | 0.032 | 7.76 | 0.50 | 0.116908 | 146.1355336 | 12 | 773.53 |
| Positive moment @ midspan | 0.024 | 5.82 | 0.37 | 0.08715 | 108.9377689 | 12 | 1037.66 |

**Reinforcement provided**

| | | | | | |
|---|---|---|---|---|---|
| Ast provided in short span = | 753.60 | mm$^2$ | Ast provided in long spa | 753.60 | mm$^2$ |
| Spacing provided in short span = | 150.00 | mm | Spacing provided in lon | 150.00 | mm |
| $P_t$ provided in short span = | 0.60 | | $P_t$ provided in long span | 0.60 | |
| Hence spacing is safe | | | Hence spacing is safe | | |

Minimum effective depth required dreqd. = 47.42 mm (SQRT(MAX(Mu/0.138*fck*1000)))*1000

Minimum effective depth provided dprov. = (150-20-10/2)

125 mm

Minimum reinforcement Ast min = (0.12*1000*125/100)

= 150 mm$^2$

Depth provided is greater than minimum effective depth required

Hence safe

| | | | | | |
|---|---|---|---|---|---|
| **Project Name** | **PLAN SHOWING THE PROPOSED RESIDENTIAL APARTMENT BUILDING IN T.S .Nos. 318/3, 330, 331/2, WARD No. H, BLOCK No. 9 AT COIMBATORE TOWN, R.S.PURAM, COIMBATORE SOUTH TALUK, COIMBATORE CORPORATION.** | | | **Structural Consultant:** SG STRUCTURAL ENGINEERS ENGINEERS/ARCHITECTS 53, M.A. Palaniswamy Street, K.K. Pudur, Coimbatore-38 PH: 0422-2450245, 2453323. Email:profgsv1968@gmail.com www.sgstructurals.com | | |
| **Client** | **M/s. SHRI ANEKAS VENTURES LLP** | | | | |
| | **COIMBATORE.** | | | | |
| **Doc. No** | **SGSE-HM-2026** | | | **PREPARED** | **CHECKED** |
| **REV. NO** | **0** | **DATE** | **18.06.2026** | **MP** | **VS** |

**Check for shear**

Maximum shear force @ support $Vu = Wl_e/2$

$= (10.88*4.72)/2$

$= 25.68$ kN

Actual shear force $\zeta v = Vu / bd$

$= (25.68*1000)/(1000*125)$

$= 0.21$ N/mm$^2$

% of tension rft. provided in support pt $= 0.60$

IS:456-2000 Table-19

Allowable shear stress $\zeta c = 0.48$

As per IS:456,cl:40.2.1.1 k value for slab = 1.3

Design shear stress for concrete $k \times \zeta c = 0.624$

Actual shear stress < Design shear stress

Hence safe

**Check for deflection**

Type of slab Continous

Allowable span / depth ratio = l/d = 20 [As per IS:456-2000, Cl:23.2.1(a)]

Percentage of tension reinforcement = 0.60

Steel stress of service loads fs= 0.58fy(Area of steel required/Area of steel provided)

46.11 N/mm$^2$

Corresponding comp. rft.

Percentage of comp. reinforcement = 0.60

Modification factor for tension rft. F1= 2.00 (From fig:4 ,IS:456-2000)

Modification factor for comp. rft. F2= 1.100 (From fig:5 ,IS:456-2000)

Modified span/depth ratio = l/d x F1x F2

44

Actual span/ depth ratio = 37.76

Actual span/ depth ratio < Modified span / depth ratio

Hence safe

At Short span direction

Provided T12@ 150mm c/c

At Longer span direction

Provided T12@ 150mm c/c

Dr.G.S.VENKATASUBRAMANI
Ph.D.,ME(Structural).,FIE,C.Engg(I),PE.,
MISTE.,MI Struct E.,MICI.,FIV
Structural Engineer Grade -1-CBE/SE/GR-1/07/2025,
Professional Engineer,
Chartered Civil Engineer & Approved Valuer,
53, M.A Palanisamy Street, K.K. Pudur Post
Coimbatore - 641 038

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.