Verified RealEstate™

RE REGULATORY RECORD

RERA Document

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

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+91 9996 12 9996
verified.realestate

DIGITALLY VERIFIED RECORD

C.KANNAN, M.E. (Structure)
STRUCTURAL ENGINEER

Door .21, plot No. 257- W, Flat No. 2B
"Utopia Apartments" 2nd Floor,
4th Main Road, Indira Nagar,
Chennai- 600 020
Mobile: 9841249815
Email: kannankds2007@gmail.com

03-05-2024

STRUCTURAL STABILITY CERTIFICATE

It is certified that the Proposed Residential Apartment at Old Survey No: 165/1, Old Patta No: 1656, New Patta No: 4553, As Per Patta New Sub Divided Survey No: 165/1B, Roja Thottam Main Road, Rajakeelapakkam Village, Tambaram Taluk, Chengalpattu District. Having Stilt plus Five upper floors is designed to resist earthquake. Check has been made and found safe and I hereby certify that,

1. The minimum column width is 300 in stilt floor areas
2. The minimum grade of concrete is M25.
3. The design analysis using the code of practice for loading Standards as per IS-875 Part I to III and seismic force as per one code IS 1893, is carried out.

The Structure is safe and sound when used for the purpose for which it is designed.

C. KANNAN, B.E.,M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

PROPOSED RESIDENTIAL APARTMENT AT OLD SURVEY NO: 165/1, OLD PATTA NO: 1656, NEW PATTA NO: 4553, AS PER PATTA NEW SUB DIVIDED SURVEY NO: 165/1B, ROJA THOTTAM MAIN ROAD, RAJAKEELAPAKKAM VILLAGE, TAMBARAM TALUK, CHENGALPATTU DISTRICT

GENERAL NOTE ON STRUCTURAL DESIGN.

1.0 GENERAL.

1.1 DESIGN BASIS

The proposed residential building consists of Stilt plus Five upper floors.

The design of this building is carried out based on frame analysis using STAAD CONNECT.

1.2 CODES AND STANDARDS

All structural design is carried out conforming to the provisions of National Building Code of India and other relevant Indian Codes and Standards.

1. I.S. 456 - 2000
2. I.S. 875 - Part I to III
3. I.S.1893 - 2016

2.0 BASIC CIVIL DESIGN LOADS

2.1 DEAD LOADS & LIVE LOADS

Typical slab dead load is calculated as follows

Self weight of slab	=	3.25kN/m²
Floor finish	=	2.0kN/m²
Live load	=	2.0kN/m²
		7.25kN/m²

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3.0 SOIL DETAILS

Based on soil test report Shallow Foundation is adopted.

DESIGN METHODS

General design and detailing of concrete members/elements are done conforming to the provisions of I.S: 456 and other relevant I.S codes. Limit State method is followed for the design.

Seismic Zone III load is taken into account for the analysis. The predominant direction of vibration is horizontal. Relevant combination of forces has been taken into account.

4.1

Load Combination	Ultimate Limit Load	Serviceability Limit State
DL+LL+WL Or DL+LL+EL	1.2DL+1.2LL+1.2WL Or 1.2DL+1.2LL+1.2EL	DL+LL+WL or DL+LL+EL

4.3 **MINIMUM COVER**

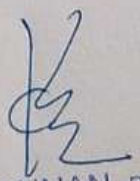
Slab	15 mm
Beam	25 mm
Columns	40 mm
Foundations	50 mm

The Structure is safe and sound when used for the purpose for which it is designed.

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Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

```
**************************************************
*                                                *
*          STAAD.Pro CONNECT Edition             *
*          Version  22.12.00.142                 *
*          Proprietary Program of                *
*          Bentley Systems, Inc.                 *
*          Date=    MAY  3, 2024                 *
*          Time=    15:19:51                     *
*                                                *
*  Licensed to: C.Kannan                         *
**************************************************
```

```
     1. STAAD SPACE
INPUT FILE: D:\AGAN\3.STABILITY\ATH-Roja Thottam main road\Staad\ATH-Ro.. .STD
     2. START JOB INFORMATION
     3. ENGINEER DATE 03-MAY-24
     4. JOB NAME PROPOSED RESIDENTIAL APARTMENT AT OLD SURVEY NO: 165/1, OLD PATTA -
     5. NO: 1656, NEW PATTA NO: 4553, AS PER PATTA NEW SUB DIVIDED SURVEY NO: -
     6. 165/1B, ROJA THOTTAM MAIN ROAD, RAJAKEELAPAKKAM VILLAGE, TAMBARAM TALUK, -
     7. CHENGALPATTU DISTRICT
     8. ENGINEER NAME KANNAN
     9. CHECKER NAME KANNAN
    10. APPROVED NAME KANNAN
    11. CHECKER DATE 5/3/2024
    12. APPROVED DATE 5/3/2024
    13. END JOB INFORMATION
    14. INPUT WIDTH 79
    15. SET NL 250
    16. UNIT INCHES KN
    17. JOINT COORDINATES
    18. 1 0 0 0; 2 126 0 0; 3 307.5 0 0; 4 0 118.11 0; 5 126 118.11 0
    19. 6 307.5 118.11 0; 7 0 236.22 0; 8 126 236.22 0; 9 307.5 236.22 0
    20. 10 0 354.331 0; 11 126 354.331 0; 12 307.5 354.331 0; 13 0 472.441 0
    21. 14 126 472.441 0; 15 307.5 472.441 0; 16 0 590.551 0; 17 126 590.551 0
    22. 18 307.5 590.551 0; 19 0 708.661 0; 20 126 708.661 0; 21 307.5 708.661 0
    23. 22 0 -78.7402 0; 23 126 -78.7402 0; 24 307.5 -78.7402 0
    24. MEMBER INCIDENCES
    25. 1 1 2; 2 2 3; 3 4 5; 4 5 6; 5 7 8; 6 8 9; 7 10 11; 8 11 12; 9 13 14; 10 14 15
    26. 11 16 17; 12 17 18; 13 19 20; 14 20 21; 15 22 1; 16 1 4; 17 4 7; 18 7 10
    27. 19 10 13; 20 13 16; 21 16 19; 22 23 2; 23 2 5; 24 5 8; 25 8 11; 26 11 14
    28. 27 14 17; 28 17 20; 29 24 3; 30 3 6; 31 6 9; 32 9 12; 33 12 15; 34 15 18
    29. 35 18 21
    30. UNIT METER KN
    31. DEFINE MATERIAL START
    32. ISOTROPIC CONCRETE
    33. E 2.17185E+07
    34. POISSON 0.17
    35. DENSITY 23.5616
    36. ALPHA 1E-05
    37. DAMP 0.05
    38. G 9.28139E+06
```



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Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

```
  39. TYPE CONCRETE
  40. STRENGTH FCU 27579
  41. END DEFINE MATERIAL
  42. MEMBER PROPERTY
  43. 1 TO 14 PRIS YD 0.45 ZD 0.23
  44. 15 TO 35 PRIS YD 0.45 ZD 0.23
  45. CONSTANTS
  46. MATERIAL CONCRETE ALL
  47. UNIT INCHES KN
  48. SUPPORTS
  49. 22 TO 24 FIXED
  50. UNIT METER KN
  51. DEFINE WIND LOAD

*** NOTE: If any floor diaphragm is present in the model Wind Load definition
          should be defined after Floor Diaphragm definition. Otherwise wind
          load generation may be unsuccessful during analysis.

  52. TYPE 1 WIND 1
  53. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
  54. CUSTOM:PARAMS
  55. !> END GENERATED DATA BLOCK
  56. INT 1.22 1.35 1.48 HEIG  10  15  18
  57. EXP 1 JOINT 1 TO 24
  58. DEFINE IS1893 2016 LOAD
  59. ZONE 0.16 RF 5 I 1.2 SS 1 ST 1 DM 0.05 DT 2
  60. SELFWEIGHT 1
  61. MEMBER WEIGHT
  62. 1 TO 14 UNI 12 0 0
  63. 1 TO 14 UNI 25 0 0
  64. LOAD 1 LOADTYPE SEISMIC-H  TITLE EQX
  65. 1893 LOAD X 1
  66. LOAD 2 LOADTYPE SEISMIC-H  TITLE EQX
  67. 1893 LOAD X -1.
  68. LOAD 3 LOADTYPE SEISMIC-V  TITLE EQZ
  69. 1893 LOAD Z 1
  70. LOAD 4 LOADTYPE SEISMIC-V  TITLE EQZ
  71. 1893 LOAD Z -1.
  72. LOAD 5 LOADTYPE WIND  TITLE WIND +X
  73. WIND LOAD X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
```

STAAD SPACE -- PAGE NO. 3

```
  74. LOAD 6 LOADTYPE WIND  TITLE WIND -X
  75. WIND LOAD -X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
  76. LOAD 7 LOADTYPE WIND  TITLE WIND +Z
  77. WIND LOAD Z 1 TYPE 1
  78. LOAD 8 LOADTYPE WIND  TITLE WIND -Z
  79. WIND LOAD -Z 1 TYPE 1
  80. LOAD 9 LOADTYPE LIVE  TITLE L.L
  81. MEMBER LOAD
  82. 1 TO 14 UNI GY -12
  83. LOAD 10 LOADTYPE DEAD  TITLE D.L
  84. SELFWEIGHT Y -1 LIST ALL
  85. MEMBER LOAD
  86. 1 TO 14 UNI GY -25
  87. LOAD COMB 11 1.5(DL+IL)
  88. 9 1.5 10 1.5
  89. LOAD COMB 12 1.2(DL+IL+ELX)
  90. 9 1.5 10 1.2 1 1.2
  91. LOAD COMB 13 1.2(DL+IL-ELX)
  92. 9 1.2 10 1.2 2 1.2
  93. LOAD COMB 14 1.2(DL+IL+ELZ)
  94. 9 1.2 10 1.2 3 1.2
  95. LOAD COMB 15 1.2(DL+IL-ELZ)
  96. 9 1.2 10 1.2 4 1.2
  97. LOAD COMB 16 1.2(DL+IL+WLX)
  98. 9 1.2 10 1.2 5 1.2
  99. LOAD COMB 17 1.2(DL+IL-WLX)
 100. 10 1.2 6 1.2
 101. LOAD COMB 18 1.2(DL+IL+WLZ)
 102. 9 1.2 10 1.2 7 1.2
 103. LOAD COMB 19 1.2(DL+IL-WLZ)
 104. 9 1.2 10 1.2 8 1.2
 105. LOAD COMB 20 1.5(DL+ELX)
 106. 9 1.5 10 1.5 1 1.5
 107. LOAD COMB 21 1.5(DL-ELX)
 108. 9 1.5 10 1.5 2 1.5
 109. LOAD COMB 22 1.5(DL+ELZ)
 110. 9 1.5 10 1.5 3 1.5
 111. LOAD COMB 23 1.5(DL-ELZ)
 112. 10 1.5 4 1.5
 113. LOAD COMB 24 1.5(DL+WLX)
 114. 10 1.5 5 1.5
 115. LOAD COMB 25 1.5(DL-WLX)
 116. 10 1.5 6 1.5
 117. LOAD COMB 26 1.5(DL+WLZ)
 118. 10 1.5 7 1.5
 119. LOAD COMB 27 1.5(DL-WLZ)
```

```
120. 10 1.5 8 1.5
121. LOAD COMB 28 0.9 DL+ELX
122. 10 0.9 1 1.5
123. LOAD COMB 29 0.9 DL-ELX
124. 10 0.9 2 1.5
125. LOAD COMB 30 0.9 DL+ELZ
126. 10 0.9 3 1.5
127. LOAD COMB 31 0.9 DL-ELZ
128. 10 0.9 4 1.5
129. LOAD COMB 32 0.9 DL+WLX
130. 10 0.9 5 1.5
131. LOAD COMB 33 0.9 DL-WLX
132. 10 0.9 6 1.5
133. LOAD COMB 34 0.9 DL+WLZ
134. 10 0.9 7 1.5
135. LOAD COMB 35 0.9 DL-WLZ
136. 10 0.9 8 1.5
137. PERFORM ANALYSIS PRINT ALL

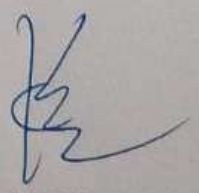

         P R O B L E M   S T A T I S T I C S
         -----------------------------------

  NUMBER OF JOINTS         24  NUMBER OF MEMBERS      35
  NUMBER OF PLATES          0  NUMBER OF SOLIDS        0
  NUMBER OF SURFACES        0  NUMBER OF SUPPORTS      3

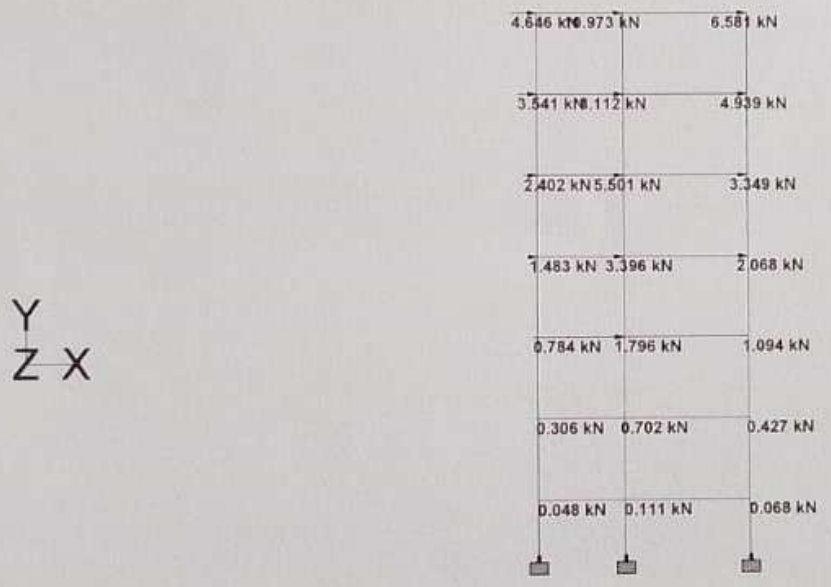
        Using 64-bit analysis engine.

        SOLVER USED IS THE IN-CORE ADVANCED MATH SOLVER

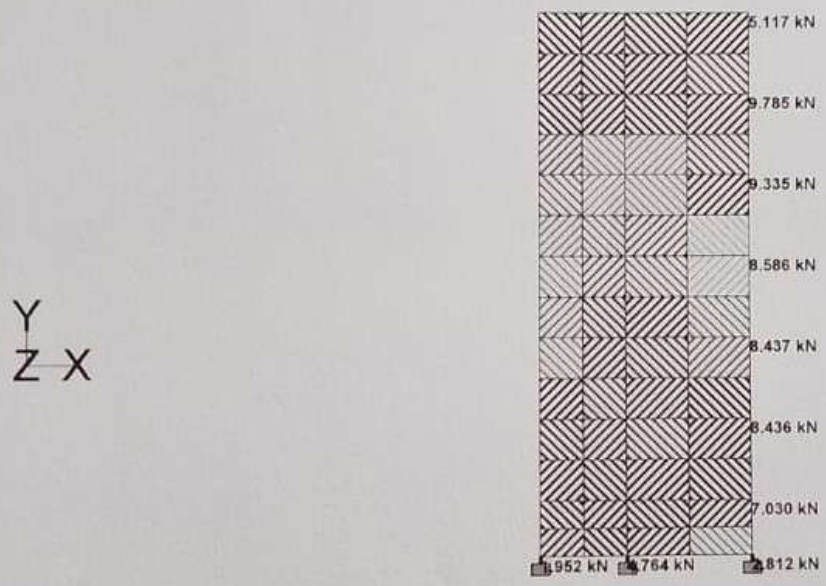
TOTAL      PRIMARY LOAD CASES =    10, TOTAL DEGREES OF FREEDOM =     126
TOTAL LOAD COMBINATION  CASES =    25  SO FAR.
```



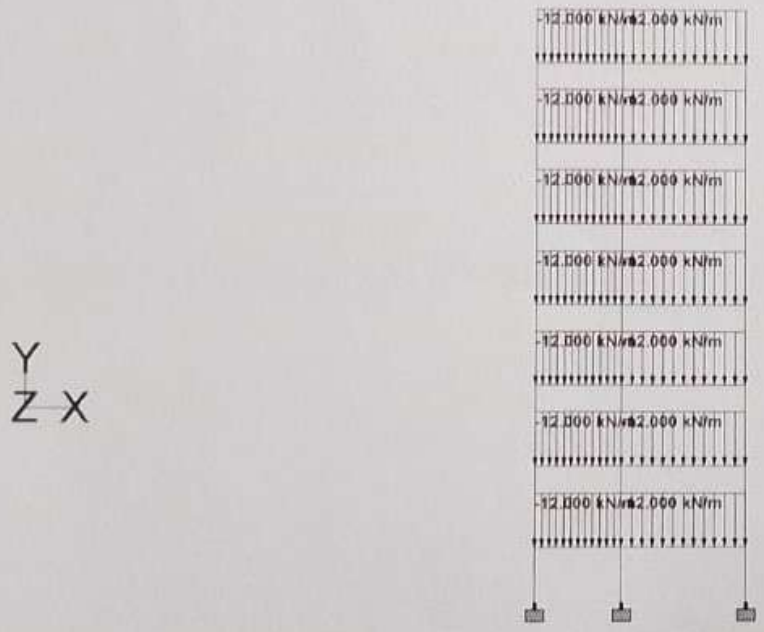
C. KANNAN, B.E.,M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
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Door No: 21, 4th Main Road,
Indira Nagar, Chennai - 600 020.


5.117 kN
9.785 kN
9.335 kN
8.586 kN
8.437 kN
8.436 kN
7.030 kN
3.952 kN
4.764 kN
3.812 kN
Y
Z
X

Load 7

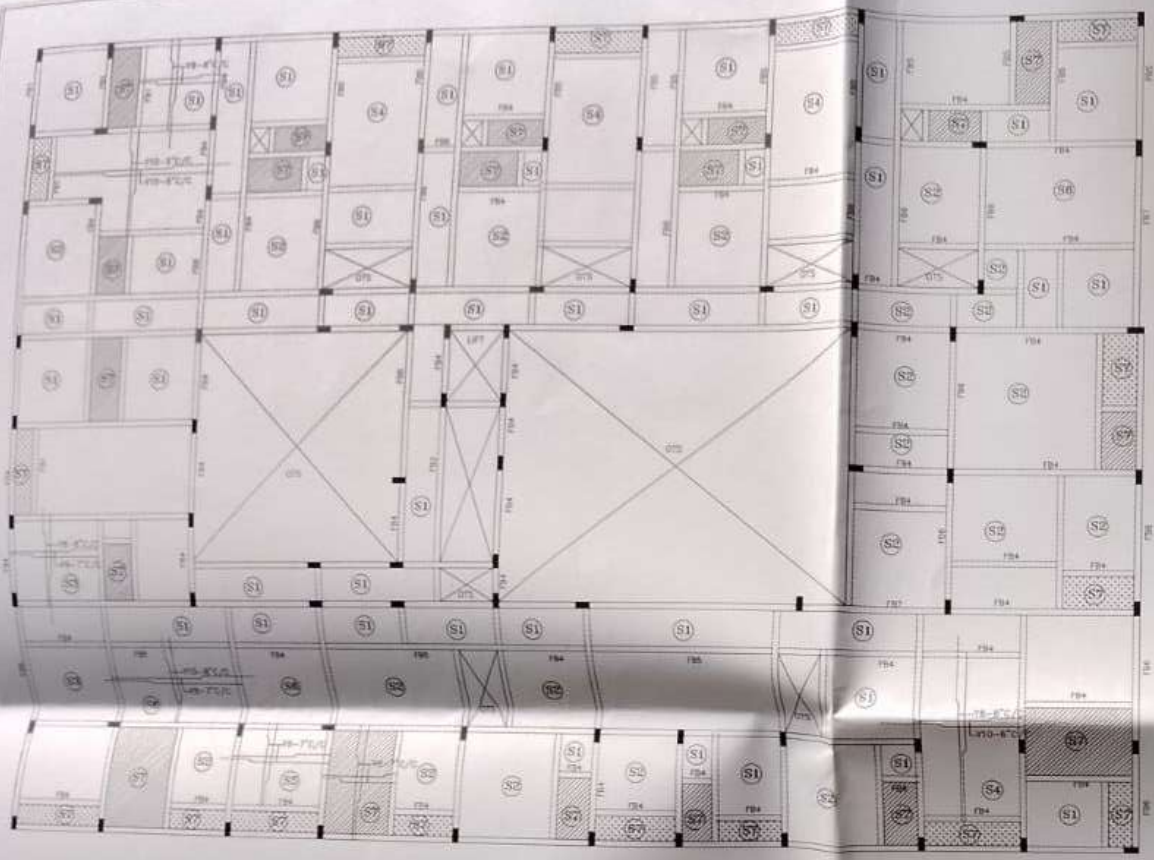


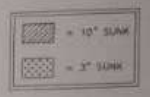
Load 9

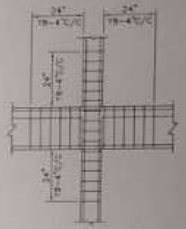


Load 10

C. KANNAN, B.E.,M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/1/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.



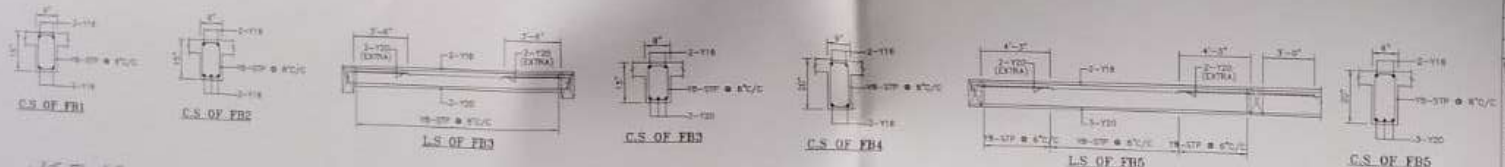


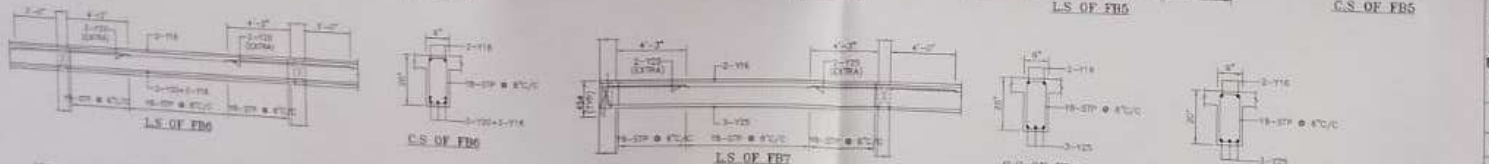


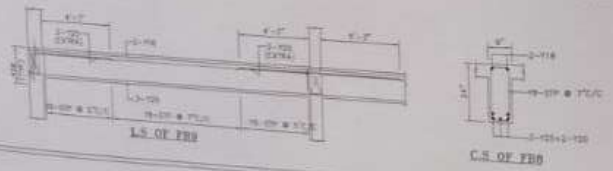
TYP. SEC. FOR STP. DETAILS

Notes :

1. This drawing should be read along with architectural drawings.
2. Grade of R.C.C. Items shall be M30 for columns & M25 for all other R.C.C. works.
3. Y Denotes TORAD Steel conforming to I.S. 1786 – 1985 Grade – Fe 500
4. Clear cover to the main steel
   - 50 for Footings , Raft Slabs & Raft Beams.
   - 40 for Columns.
   - 25 for Lintel & Beams.
   - 20 for Sunshade & Slab.
5. Lap length shall be 50 ϕ (Max. dia) for all bars.
6. ——— Bottom Reinforcement
7. ——— Top Reinforcement
8. Provide Continuous Chairs to keep the top Reinforcement in position.
9. Provide T 8 at 200 as Distribution steel for all top Reinforcement.
10. Spacer Bar to be Provided in Between Two Layers Of Reinforcement of Same Dia at Every 1000 c/ c.
11. Not more than 40% of Reinforcement shall be Lapped at any particular section.
12. Cantilever props should not be removed until the roof is concreted.
13. Foundation is designed for still plus five upper floor only.
14. For Earthquake analysis Zone III is taken as per IS : 1893-2016 code.
15. Removal of formworks :
    - i) For Slabs
    - a. Slabs spanning upto 4.5 m (15'-0") - 7 days
    - b. Slabs spanning over 4.5 m (15'-0") - 14 days
    - ii) For Beams and Arches
    - c. Beams and Arches spanning upto 8 m (26'-0") -14days
    - d. Beams and Arches spanning over 8 m (26'-0") - 21days







NO	DATE	DESCRIPTION

PROJECT

PROPOSED RESIDENTIAL APARTMENT AT OLD SURVEY NO. 165/1, OLD PATTA NO: 1656, NEW PATTA NO: 4553, AS PER PATTA NEW SUB DIVIDED SURVEY NO. 165/1B,ROJA THOTTAM MAIN ROAD, RAJAKEELAPAKKAM VILLAGE, TAMBARAM TALUK, CHENGALPATTU DISTRICT

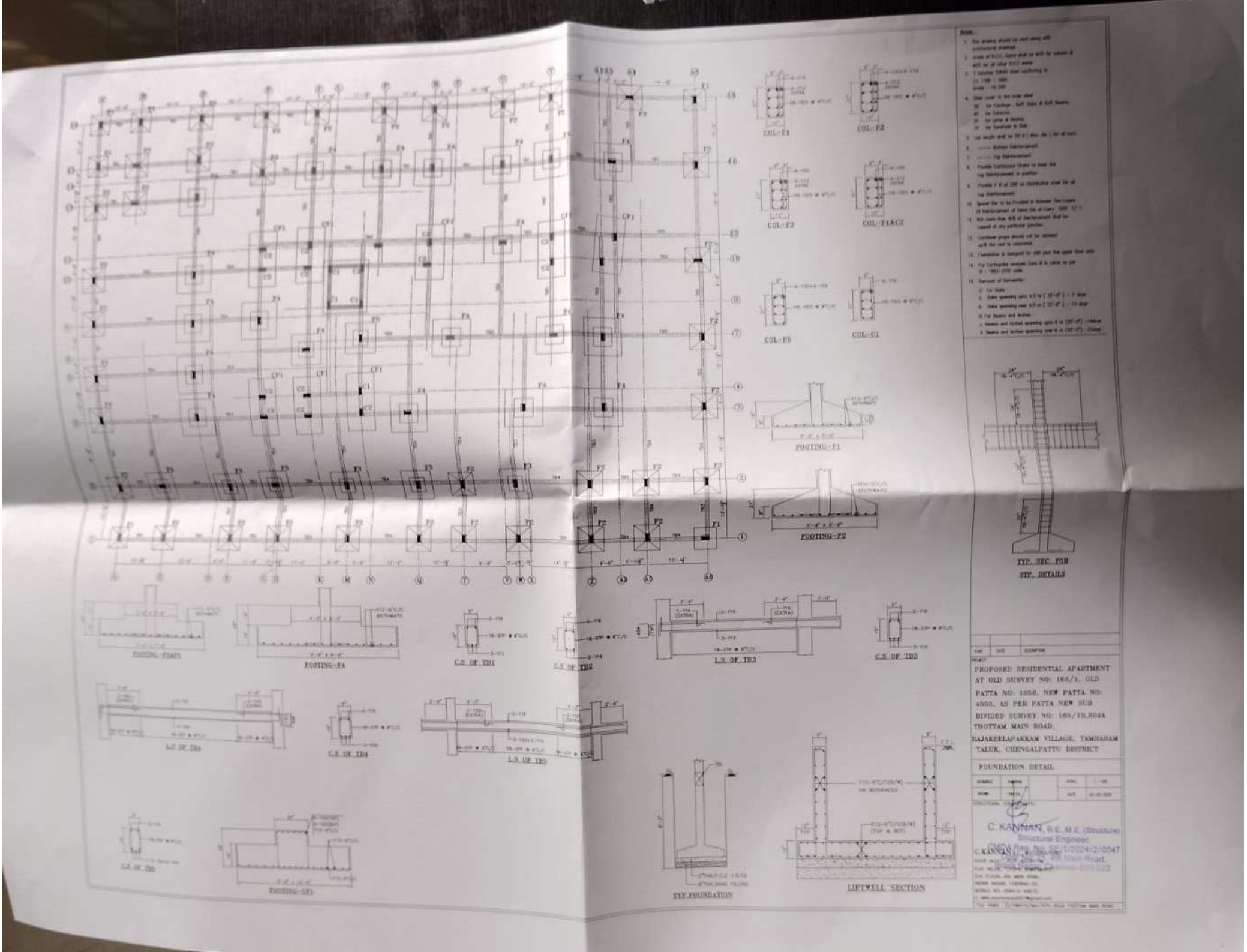
TYPICAL FLOOR SLAB DETAIL

DESIGNED		SCALE	1 : 100
DRAWN		DATE	03-09-2024

STRUCTURAL CONSULTANTS

C. KANNAN, B.E., M.E. (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
C.KANNAN, B.E., M.E. (Structure)
Door No: [illegible] Main Road,
[illegible], Chennai - 600 020.
FLAT NO.03B, "UTOPIA APARTMENTS",
2nd FLOOR, 4th MAIN ROAD,
INDIRA NAGAR, CHENNAI-20.
MOBILE NO: 098413 [illegible]
E-MAIL: [illegible]@gmail.com

FILE NAME : D:\TAMBARAM\4TH-ROJA THOTTAM MAIN ROAD


COL-F1
COL-F2
COL-F3
COL-F1&C2
COL-F5
COL-C1
FOOTING-F1
FOOTING-F2
TYP. SEC. FOR STP. DETAILS
FOOTING-F4
C.S OF TB1
C.S OF TB2
L.S OF TB3
C.S OF TB3
L.S OF TB4
C.S OF TB4
L.S OF TB5
L.S OF TB6
FOOTING-F3
TYP.FOUNDATION
LIFTWELL SECTION
PROPOSED RESIDENTIAL APARTMENT AT OLD SURVEY NO: 165/1, OLD PATTA NO: 1850, NEW PATTA NO: 4553, AS PER PATTA NEW SUB DIVIDED SURVEY NO: 165/1B,302A THOTTAM MAIN ROAD, RAJAKEELAPAKKAM VILLAGE, TAMBARAM TALUK, CHENGALPATTU DISTRICT
FOUNDATION DETAIL
C.KANNAN, B.E.,M.E.(Structure)
Structural Engineer

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
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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.