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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

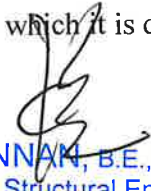
02-04-2025

STRUCTURAL STABILITY CERTIFICATE

The detailed engineering and structure design of the Proposed Construction Of Ground Floor (Part) & Stilt Floor (Part) +3 Floors Commercial Building - Showroom (Height 15.69m) At Poonamallee High Road And Kannagi Street ,Seneerkuppam, Poonamallee, Chennai Comprised In Old S.No.107/2 And New S.No.107/2b2 Of Seneerkuppam Village Within The Limits Of Poonamallee Panchayat Union, has been done based on the report of geotechnical investigation (soil test) done by Josmar Consulting engineers and Report no: **JCEIGEOTEC H12021 I104** dated:**24-12-2021** considering the functional requirement of the building.

1. It is certified that among other factors, the proposed building has been designed to resist earthquake. I have checked various parameters and found that the proposed building would be safe.
2. I further certify that:
 - (i) The minimum grade of concrete is M25
 - (ii) The design and analysis has been done using the code of practice for plain and reinforced concrete as per IS 456, design loads as per IS-875 Part I to III and design of earthquake resistant structure 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 CONSTRUCTION OF GROUND FLOOR (PART) & STILT FLOOR (PART) +3 FLOORS COMMERCIAL BUILDING - SHOWROOM (HEIGHT 15.69M) AT POONAMALLEE HIGH ROAD AND KANNAGI STREET , SENEERKUPPAM, POONAMALLEE, CHENNAI COMPRISED IN OLD S.NO.107/2 AND NEW S.NO.107/2B2 OF SENEERKUPPAM VILLAGE WITHIN THE LIMITS OF POONAMALLEE PANCHAYAT UNION

GENERAL NOTE ON STRUCTURAL DESIGN

1.0 GENERAL

1.1 DESIGN BASIS

The proposed residential building consists of Basement plus Stilt plus Three 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	=	7.5kN/m ²
Floor finish	=	2.0kN/m ²
Live load	=	5.0kN/m ²

14.5kN/m²



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3.0 SOIL DETAILS

Based on soil test report Pile 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.

PAGE NO. 1

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*****
*
*          STAAD.Pro 2024
*          Version  24.00.02.354
*          Proprietary Program of
*          Bentley Systems, Inc.
*          Date=    APR 2, 2025
*          Time=    18:20:48
*
* Licensed to: C.Kannan
*****

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1. STAAD SPACE
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2. START JOB INFORMATION
3. ENGINEER DATE 02-APR-25
4. JOB NAME PROPOSED CONSTRUCTION OF GROUND FLOOR (PART) & STILT FLOOR (PART) -
5. +3 FLOORS COMMERCIAL BUILDING- SHOWROOM (HEIGHT 15.69M) AT POONAMALLEE HIGH -
6. ROAD AND KANNAGI STREET ,SENEERKUPPAM, POONAMALLEE, CHENNAI COMPRISED IN OLD -
7. S.NO.107/2 AND NEW S.NO.107/2B2 OF SENEERKUPPAM VILLAGE WITHIN THE LIMITS -
8. OF POONAMALLEE PANCHAYAT UNION
9. ENGINEER NAME KANNAN
10. CHECKER NAME KANNAN
11. APPROVED NAME KANNAN
12. CHECKER DATE 4/2/2025
13. APPROVED DATE 4/2/2025
14. END JOB INFORMATION
15. INPUT WIDTH 79
16. UNIT METER KN
17. JOINT COORDINATES
18. 1 0 0 0; 2 10.15 0 0; 3 0 3 0; 4 10.15 3 0; 5 0 6 0; 6 10.15 6 0; 7 0 9 0
19. 8 10.15 9 0; 9 0 12 0; 10 10.15 12 0; 11 0 -3 0; 12 10.15 -3 0
20. MEMBER INCIDENCES
21. 1 1 2; 2 1 3; 3 2 4; 4 3 4; 5 3 5; 6 4 6; 7 5 6; 8 5 7; 9 6 8; 10 7 8; 11 7 9
22. 12 8 10; 13 9 10; 14 11 1; 15 12 2
23. DEFINE MATERIAL START
24. ISOTROPIC CONCRETE
25. E 2.17185E+07
26. POISSON 0.17
27. DENSITY 23.5616
28. ALPHA 1E-05
29. DAMP 0.05
30. G 9.28139E+06
31. TYPE CONCRETE
32. STRENGTH FCU 27579
33. END DEFINE MATERIAL
34. MEMBER PROPERTY
35. 1 4 7 10 13 PRIS YD 0.45 ZD 0.23
36. 2 3 5 6 8 9 11 12 14 15 PRIS YD 0.45 ZD 0.23
37. CONSTANTS
38. MATERIAL CONCRETE ALL

```


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STAAD SPACE

-- PAGE NO. 2

39. SUPPORTS
40. 11 12 FIXED
41. DEFINE IS1893 2016 LOAD
42. ZONE 0.16 RF 5 I 1.2 SS 1 ST 1 DM 0.05 DT 3
43. SELFWEIGHT 1
44. MEMBER WEIGHT
45. 1 4 7 10 13 UNI 12 0 0
46. 1 4 7 10 13 UNI 36 0 0
47. 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.

48. TYPE 1 WIND 1
49. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
50. CUSTOM:PARAMS
51. !> END GENERATED DATA BLOCK
52. INT 1.38 1.45 HEIG 10 15
53. LOAD 1 LOADTYPE NONE TITLE EQ +X
54. 1893 LOAD X 1
55. LOAD 2 LOADTYPE NONE TITLE EQ -X
56. 1893 LOAD X -1.
57. LOAD 3 LOADTYPE NONE TITLE EQ +Z
58. 1893 LOAD Z 1
59. LOAD 4 LOADTYPE NONE TITLE EQ -Z
60. 1893 LOAD Z -1.
61. LOAD 5 LOADTYPE NONE TITLE WIND +X
62. WIND LOAD X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
63. LOAD 6 LOADTYPE NONE TITLE WIND -X
64. WIND LOAD -X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
65. LOAD 7 LOADTYPE NONE TITLE WIND +Z
66. WIND LOAD Z 1 TYPE 1


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STAAD SPACE

-- PAGE NO. 3

67. LOAD 8 LOADTYPE NONE TITLE WIND -Z
 68. WIND LOAD -Z 1 TYPE 1
 69. LOAD 9 LOADTYPE NONE TITLE LL
 70. MEMBER LOAD
 71. 1 4 7 10 13 UNI GY -12
 72. LOAD 10 LOADTYPE NONE TITLE DL
 73. MEMBER LOAD
 74. 1 4 7 10 13 UNI GY -36
 75. SELFWEIGHT Y -1
 76. LOAD COMB 11 1.5(DL+IL)
 77. 9 1.5 10 1.5
 78. LOAD COMB 12 1.2(DL+IL+ELX)
 79. 9 1.5 10 1.2 1 1.2
 80. LOAD COMB 13 1.2(DL+IL-ELX)
 81. 9 1.2 10 1.2 2 1.2
 82. LOAD COMB 14 1.2(DL+IL+ELZ)
 83. 9 1.2 10 1.2 3 1.2
 84. LOAD COMB 15 1.2(DL+IL-ELZ)
 85. 9 1.2 10 1.2 4 1.2
 86. LOAD COMB 16 1.2(DL+IL+WLX)
 87. 9 1.2 10 1.2 5 1.2
 88. LOAD COMB 17 1.2(DL+IL-WLX)
 89. 10 1.2 6 1.2
 90. LOAD COMB 18 1.2(DL+IL+WLZ)
 91. 9 1.2 10 1.2 7 1.2
 92. LOAD COMB 19 1.2(DL+IL-WLZ)
 93. 9 1.2 10 1.2 8 1.2
 94. LOAD COMB 20 1.5(DL+ELX)
 95. 9 1.5 10 1.5 1 1.5
 96. LOAD COMB 21 1.5(DL-ELX)
 97. 9 1.5 10 1.5 2 1.5
 98. LOAD COMB 22 1.5(DL+ELZ)
 99. 9 1.5 10 1.5 3 1.5
 100. LOAD COMB 23 1.5(DL-ELZ)
 101. 10 1.5 4 1.5
 102. LOAD COMB 24 1.5(DL+WLX)
 103. 10 1.5 5 1.5
 104. LOAD COMB 25 1.5(DL-WLX)
 105. 10 1.5 6 1.5
 106. LOAD COMB 26 1.5(DL+WLZ)
 107. 10 1.5 7 1.5
 108. LOAD COMB 27 1.5(DL-WLZ)
 109. 10 1.5 8 1.5
 110. LOAD COMB 28 0.9 DL+ELX
 111. 10 0.9 1 1.5
 112. LOAD COMB 29 0.9 DL-ELX
 113. 10 0.9 2 1.5
 114. LOAD COMB 30 0.9 DL+ELZ
 115. 10 0.9 3 1.5
 116. LOAD COMB 31 0.9 DL-ELZ
 117. 10 0.9 4 1.5
 118. LOAD COMB 32 0.9 DL+WLX
 119. 10 0.9 5 1.5


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STAAD SPACE

-- PAGE NO. 4

120. LOAD COMB 33 0.9 DL-WLX
121. 10 0.9 6 1.5
122. LOAD COMB 34 0.9 DL+WLZ
123. 10 0.9 7 1.5
124. LOAD COMB 35 0.9 DL-WLZ
125. 10 0.9 8 1.5
126. PERFORM ANALYSIS PRINT ALL

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

NUMBER OF JOINTS	12	NUMBER OF MEMBERS	15
NUMBER OF PLATES	0	NUMBER OF SOLIDS	0
NUMBER OF SURFACES	0	NUMBER OF SUPPORTS	2

Using 64-bit analysis engine.

SOLVER USED IS THE IN-CORE ADVANCED MATH SOLVER

TOTAL PRIMARY LOAD CASES = 10, TOTAL DEGREES OF FREEDOM = 60
TOTAL LOAD COMBINATION CASES = 25 SO FAR.


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Job No

Sheet No

1

Rev

Part

Job Title **Proposed Construction Of Ground Floor (Part) & Stilt Floor (Part) +3 Floors
Commercial Building- Showroom (Height 15.69m) At Poonamallee High**

Ref

By Kannan

Date 02-Apr-25

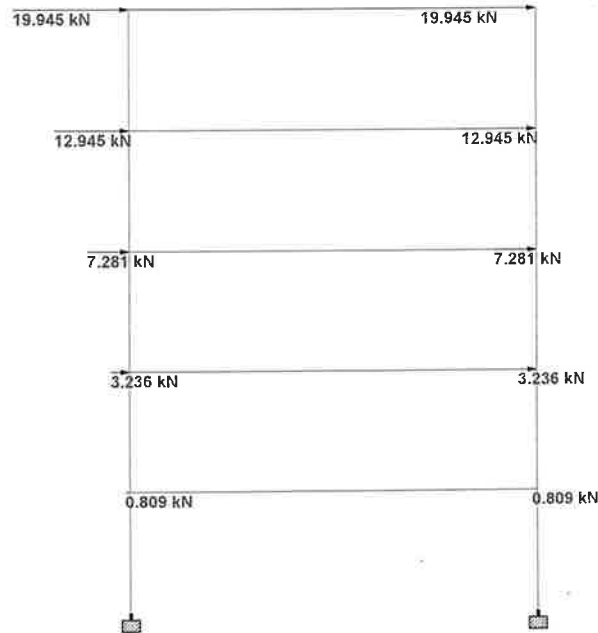
Chd Kannan

Client

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Date/Time 02-Apr-2025 18:20

Y
Z-X




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Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
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Job No

Sheet No

1

Rev

Part

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Commercial Building- Showroom (Height 15.69m) At Poonamallee High**

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By **Kannan**

Date **02-Apr-25**

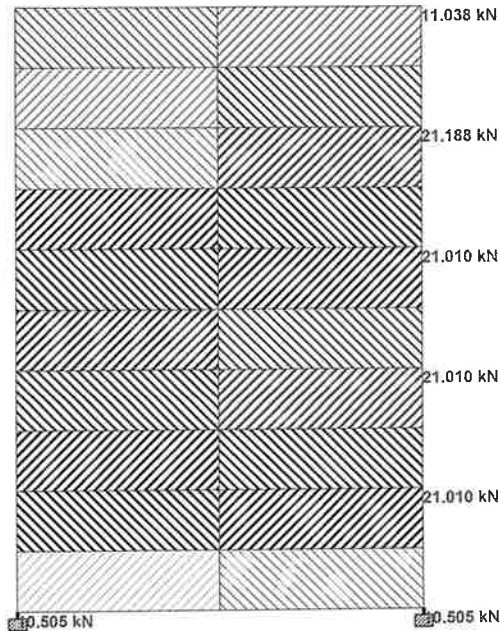
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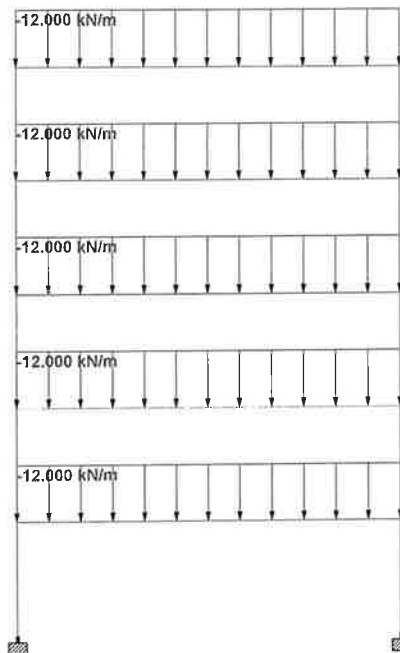
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C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

Y
Z X



Load 9

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

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Sheet No

1

Rev

Part

Job Title **Proposed Construction Of Ground Floor (Part) & Stilt Floor (Part) +3 Floors
Commercial Building- Showroom (Height 15.69m) At Poonamallee High**

Ref

By **Kannan**

Date **02-Apr-25**

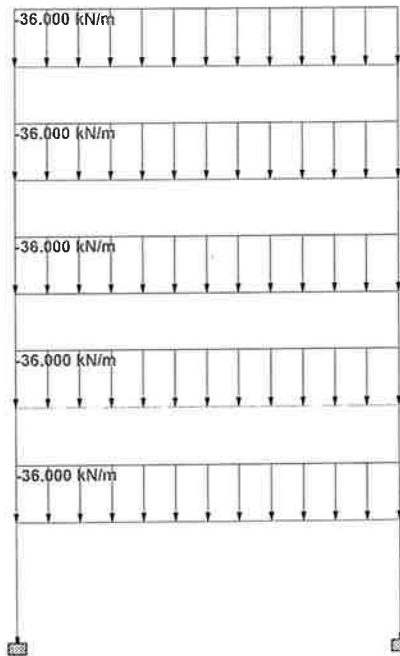
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Client

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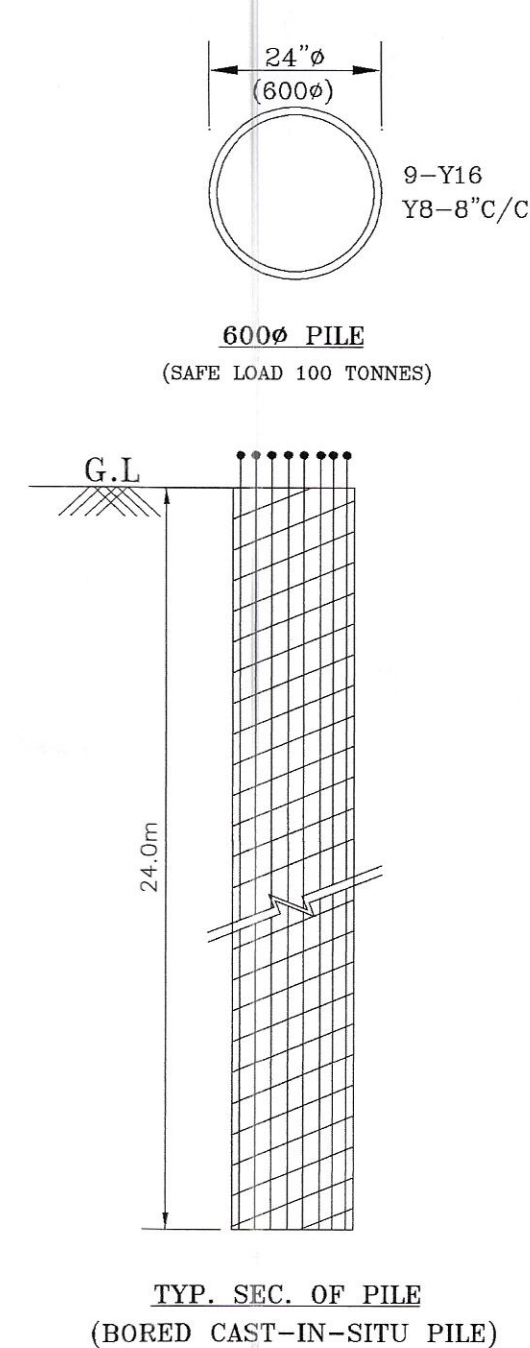
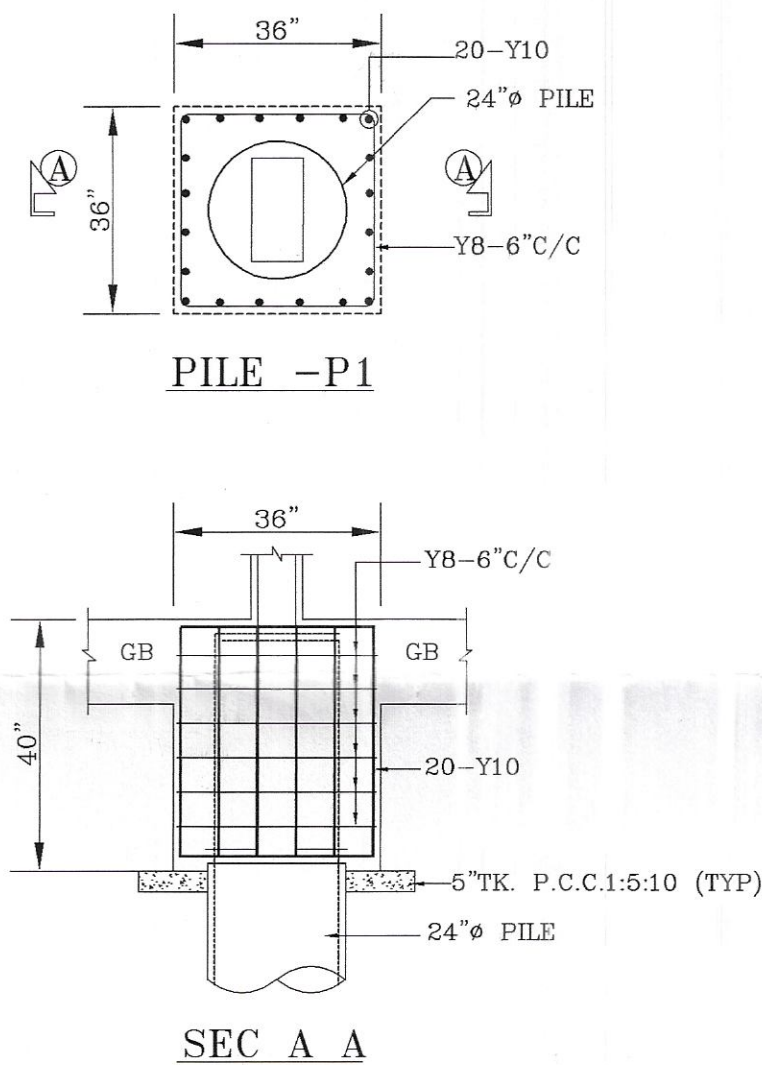
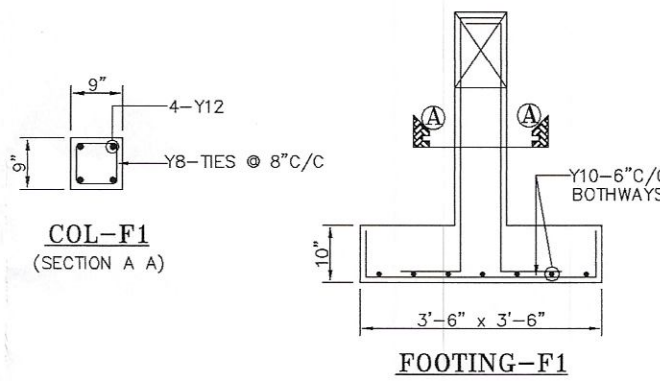
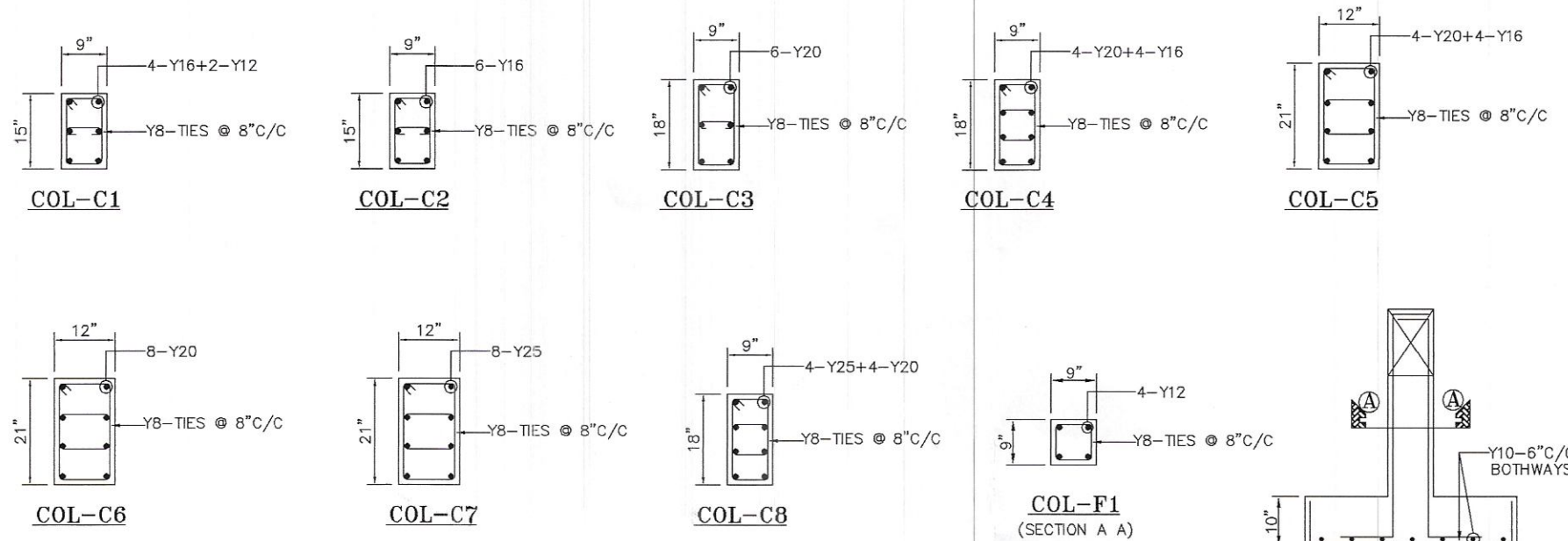
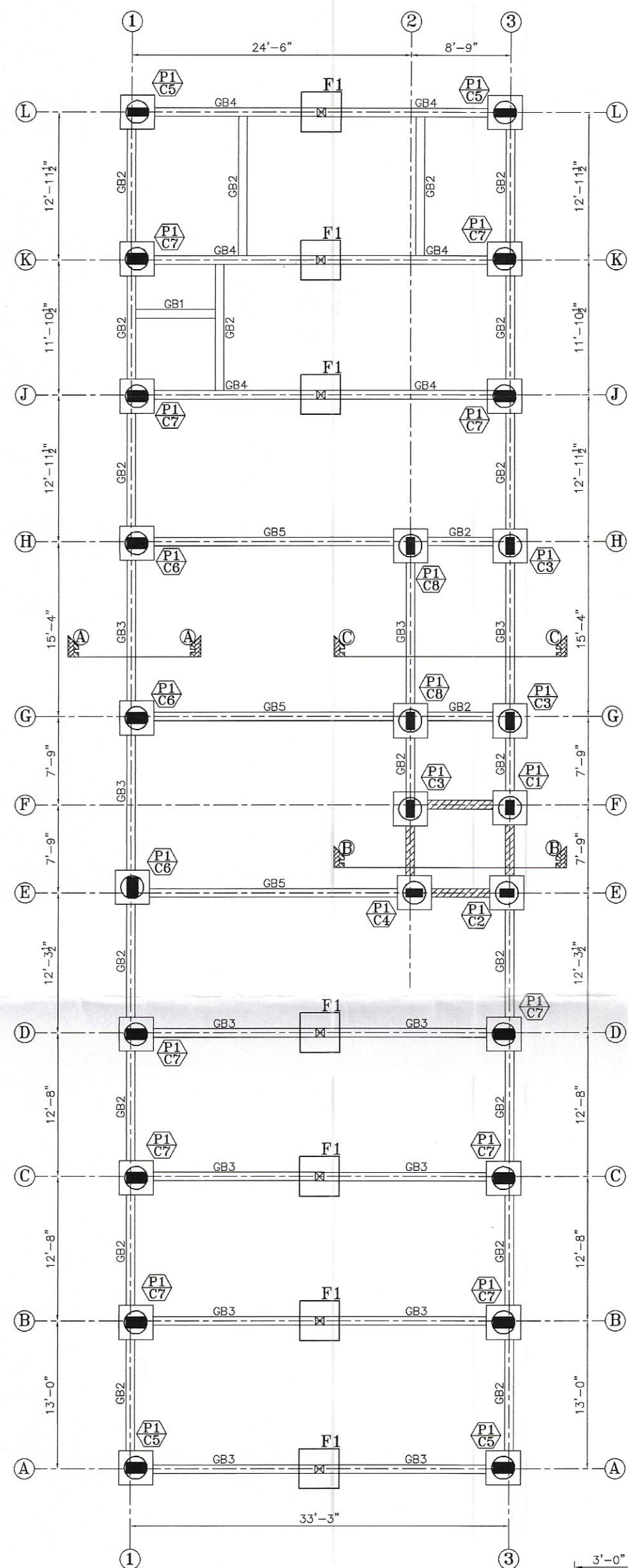
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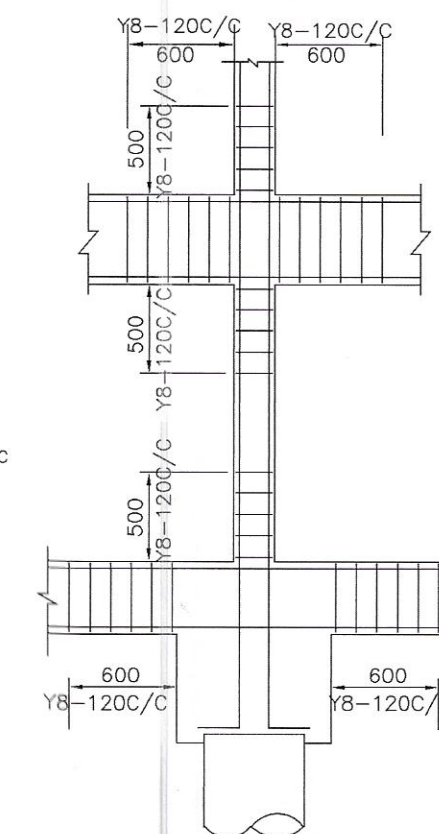
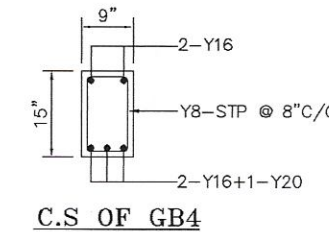
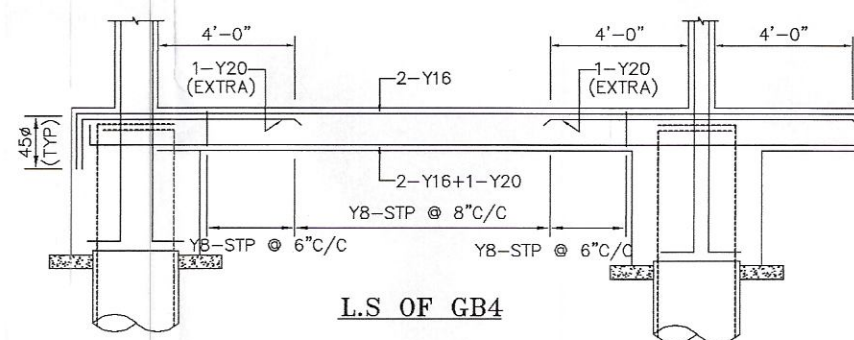
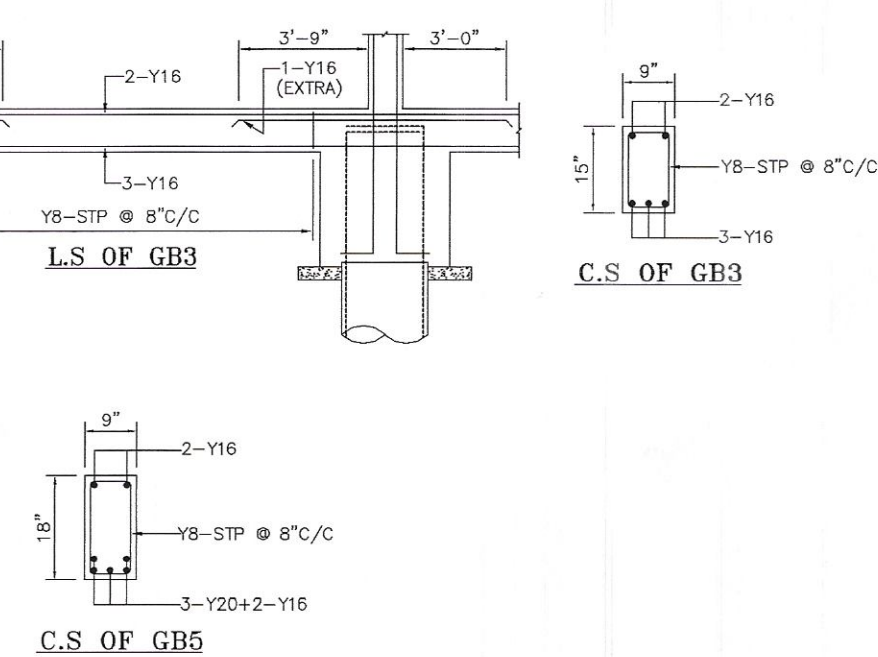
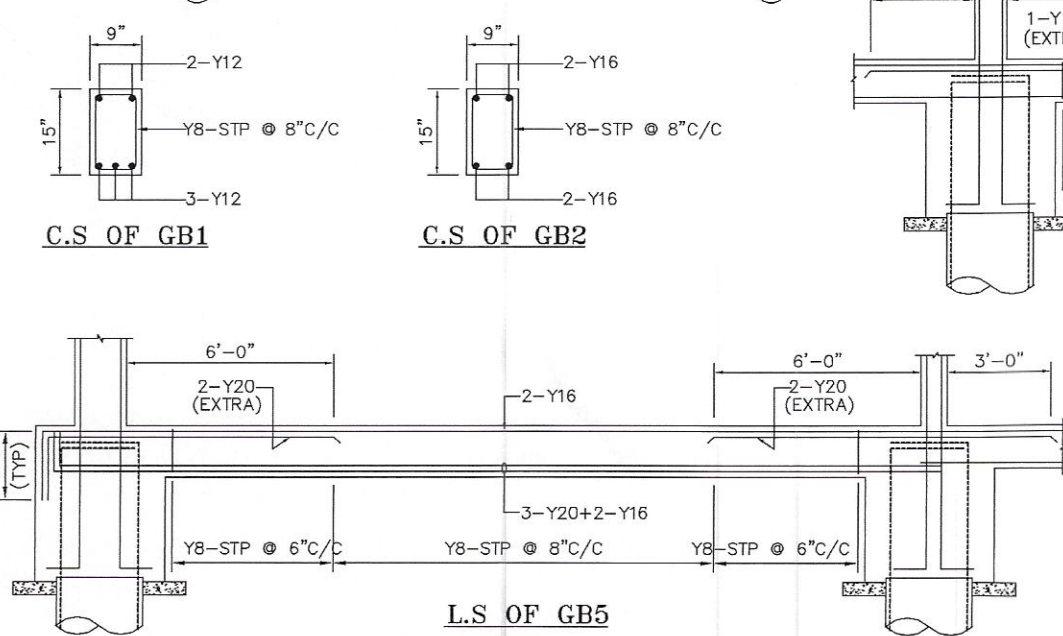


Load 10


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.



- Notes:-**
- This drawing should be read along with architectural drawings.
 - Grade of R.C.C. items shall be M30 for column & M25 for all other R.C.C. works
 - Y Denotes TOR50 Steel conforming to I.S. 1786 - 2008, Grade - Fe 500
 - Clear cover to the main steel
50 for Footings, Raft Slabs & Raft Beams.
40 for Columns.
25 for Lintel & Beams.
20 for Sunshade & Slab.
 - Lap length shall be 50 d (Max. dia) for all bars.
 - Bottom Reinforcement
 - Top Reinforcement
 - Provide Continuous Chairs to keep the top Reinforcement in position
 - Provide Y 8 at 200 as Distribution steel for all top Reinforcement.
 - Spacer Bar to be Provided in Between Two Layers Of Reinforcement of Same Dia at Every 1000 C/C.
 - Not more than 40% of Reinforcement shall be Lapped at any particular junction.
 - Cantilever props should not be released until the roof is concreted.
 - Foundation is designed for Stilt plus three upper floor only.
 - For Earthquake analysis Zone III is taken as per IS : 1893-2016 code.
 - 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 6 m (20'-0") -14days
d. Beams and Arches spanning over 6 m (20'-0") -21days



FOUNDATION DETAIL		
DESIGNED	SATHISH	SCALE 1 : 100
DRAWN	KK	DATE 02-04-2025
STRUCTURAL CONSULTANTS:		
 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.		
C.KANNAN B.E., M.E.(STRUCTURE) DOOR NO:21, PLOT NO:257-W, FLAT NO:2B, "UTOPIA APARTMENTS", 2nd FLOOR, 4th MAIN ROAD, INDIRA NAGAR, CHENNAI-20. MOBILE NO: 098412 49815. E-MAIL:kannankds2007@gmail.com FILE NAME : D/VETRI/FN/CREATIVE-POONAMALLEE		



CHENNAI METROPOLITAN DEVELOPMENT AUTHORITY

Thalamuthu Natarajan Building, No.1, Gandhi Irwin Road, Egmore,
Chennai - 600 008

Phone : 28414855 Fax: 91-044-28548416

E-mail: mscmda@tn.gov.in

Web site: www.cmdachennai.gov.in.

PROFESSIONAL REGISTRATION CERTIFICATE

This is to certify that the Thiru / Tmt. / M/s. **C.KANNAN** has enrolled as **Registered Structural Engineer Grade-I(SE)** with Chennai Metropolitan Development Authority (CMDA) who has the qualification of **M.E Structures** and experience in the relevant field for **15** years.

He/She has been given the Registration No. **SE/I/2024/2/0047** on **28-Feb-2024** He/She shall be required to comply with the duties and responsibilities prescribed by the Government of Tamil Nadu in Part V, "Registration of Professionals", Tamil Nadu Combined Development and Building Rules, 2019 approved vide G.O.(ms) No.18 MAWS (MA1) Dept. Dated. 04.02.2019.

This Registration is valid upto **27-Feb-2029**.

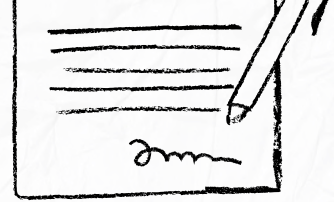
Signature valid

Name : A. Meganathan
Designation : Superintendent
Date : 02/28/2024 12:50:37 PM



A Meganathan

Superintendent



our services doesn't just end there



Buying & Selling Services

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Building plan approvals, construction, layout and sub-division approvals, zone conversion, and occupancy certification.



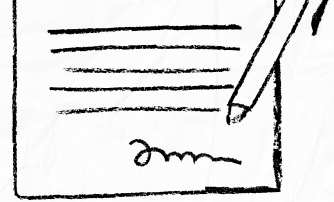
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Demolition, Vaasthu checks, regularization of unauthorized buildings, and office space solutions.



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with smart tools**



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Guideline Value, Apartment Composite Value, Stamp Duty & Registration Fees Calculator, Building Value Calculator, Capital Gains Calculator, Area Unit Converter, Length Unit Converter



Ownership, Compliance & Legal Verification

Encumbrance Certificate (EC) Search, Find Your SRO, Temple Property Check, WAQF Property Check, View Patta/Chitta, View FMB, Patta Analyzer, EC Analyzer



Zoning & Land Use Analysis

Land Use Zone Finder, CRZ Zone Check, Aquifer Zone Check, CBA Check, EWS Check, Road Width Check, Proposed Road Widening Check, FSI Calculator



Property Documentation & Workflow Tools

Forms & Templates, Document Generator, Document Translation, Dictionary



Vastu & Property Management Tools

Home Vastu Shastra, Plot Vastu Shastra, Property Management



We're honored to be part of your
real estate journey

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