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RE REGULATORY RECORD

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Chennai 600 097, India

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DIGITALLY VERIFIED RECORD

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 Not Verified
Name :A Meganathan
Designation :Superintendent
Date :02/28/2024 12:50:37 PM



A Meganathan

Superintendent

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

17-02-2024

STRUCTURAL STABILITY CERTIFICATE

It is certified that the Proposed Residential Building at Plot No. 349, Old Door No. 41, New Door No. 14, 10th Street, I Block, Anna Nagar East, Chennai- 600 102. Comprised in Old S. No. 49 Part, T. S. No. 61, Block No. 04 Of Periyakudal Village, Aminjikarai Taluk, Chennai District. Within the Limits Of Greater Chennai Corporation. Zone- 08, Division- 101. 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/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

PROPOSED RESIDENTIAL BUILDING AT PLOT NO. 349, OLD DOOR NO. 41, NEW DOOR NO. 14, 10TH STREET, I BLOCK, ANNA NAGAR EAST, CHENNAI- 600 102. COMPRISED IN OLD S. NO. 49 PART, T. S. NO. 61, BLOCK NO. 04 OF PERIYAKUDAL VILLAGE, AMINJIKARAI TALUK, CHENNAI DISTRICT, WITHIN THE LIMITS OF GREATER CHENNAI CORPORATION. ZONE- 08, DIVISION- 101

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

C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

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	1.2DL+1.2LL+1.2WL	DL+LL+WL
Or	Or	or
DL+LL+EL	1.2DL+1.2LL+1.2EL	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.

C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
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=    FEB 17, 2024                 *
*          Time=    16:23:24                     *
*                                                *
*  Licensed to: C.Kannan                         *
**************************************************
```

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     1. STAAD SPACE
INPUT FILE: D:\LOGESH\STABILITY CERTIFICATE\PUSHKAI - I BLOCK -PLOT 349.. .STD
     2. START JOB INFORMATION
     3. ENGINEER DATE 17-FEB-24
     4. JOB NAME PROPOSED RESIDENTIAL BUILDING AT PLOT NO. 349, OLD DOOR NO. 41, NEW -
     5. DOOR NO. 14, 10TH STREET, I BLOCK, ANNA NAGAR EAST, CHENNAI- 600 102. -
     6. COMPRISED IN OLD S. NO. 49 PART, T. S. NO. 61, BLOCK NO. 04 OF PERIYAKUDAL -
     7. VILLAGE, AMINJIKARAI TALUK, CHENNAI DISTRICT, WITHIN THE LIMITS OF GREATER -
     8. CHENNAI CORPORATION. ZONE- 08, DIVISION- 101
     9. ENGINEER NAME KANNAN
    10. CHECKER NAME KANNAN
    11. APPROVED NAME KANNAN
    12. CHECKER DATE 2/17/2024
    13. APPROVED DATE 2/17/2024
    14. END JOB INFORMATION
    15. INPUT WIDTH 79
    16. UNIT MMS KN
    17. JOINT COORDINATES
    18. 1 0 0 0; 2 4000 0 0; 3 10100 0 0; 4 15400 0 0; 5 0 3000 0; 6 4000 3000 0
    19. 7 10100 3000 0; 8 15400 3000 0; 9 0 6000 0; 10 4000 6000 0; 11 10100 6000 0
    20. 12 15400 6000 0; 13 0 9000 0; 14 4000 9000 0; 15 10100 9000 0; 16 15400 9000 0
    21. 17 0 12000 0; 18 4000 12000 0; 19 10100 12000 0; 20 15400 12000 0
    22. 21 0 15000 0; 22 4000 15000 0; 23 10100 15000 0; 24 15400 15000 0
    23. 25 0 18000 0; 26 4000 18000 0; 27 10100 18000 0; 28 15400 18000 0
    24. 29 0 -3000 0; 30 4000 -3000 0; 31 10100 -3000 0; 32 15400 -3000 0
    25. MEMBER INCIDENCES
    26. 1 1 2; 2 2 3; 3 3 4; 4 1 5; 5 2 6; 6 3 7; 7 4 8; 8 5 6; 9 6 7; 10 7 8; 11 5 9
    27. 12 6 10; 13 7 11; 14 8 12; 15 9 10; 16 10 11; 17 11 12; 18 9 13; 19 10 14
    28. 20 11 15; 21 12 16; 22 13 14; 23 14 15; 24 15 16; 25 13 17; 26 14 18; 27 15 19
    29. 28 16 20; 29 17 18; 30 18 19; 31 19 20; 32 17 21; 33 18 22; 34 19 23; 35 20 24
    30. 36 21 22; 37 22 23; 38 23 24; 39 21 25; 40 22 26; 41 23 27; 42 24 28; 43 25 26
    31. 44 26 27; 45 27 28; 46 29 1; 47 30 2; 48 31 3; 49 32 4
    32. DEFINE MATERIAL START
    33. ISOTROPIC CONCRETE
    34. E 21.7185
    35. POISSON 0.17
    36. DENSITY 2.35616E-08
    37. ALPHA 1E-05
    38. DAMP 0.05
```

C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

STAAD SPACE -- PAGE NO. 2

```
39. G 9.28139
40. TYPE CONCRETE
41. STRENGTH FCU 0.027579
42. END DEFINE MATERIAL
43. MEMBER PROPERTY
44. 1 TO 3 8 TO 10 15 TO 17 22 TO 24 29 TO 31 36 TO 38 43 TO 45 PRIS YD 500 ZD 200
45. 4 TO 7 11 TO 14 18 TO 21 25 TO 28 32 TO 35 39 TO 42 46 TO 49 PRIS YD 500 ZD 200
46. CONSTANTS
47. MATERIAL CONCRETE ALL
48. SUPPORTS
49. 29 TO 32 FIXED
50. UNIT METER KN
51. DEFINE IS1893 2016 LOAD
52. ZONE 0.16 RF 5 I 1.2 SS 1 ST 1 DM 0.05 DT 3
53. SELFWEIGHT 1
54. MEMBER WEIGHT
55. 1 TO 3 8 TO 10 15 TO 17 22 TO 24 29 TO 31 36 TO 38 43 TO 45 UNI -12 0 0
56. 1 TO 3 8 TO 10 15 TO 17 22 TO 24 29 TO 31 36 TO 38 43 TO 45 UNI 35 0 0
57. 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.

58. TYPE 1 WIND 1
59. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
60. CUSTOM:PARAMS
61. !> END GENERATED DATA BLOCK
62. INT 1.35 1.49 1.65 HEIG  10  15  18
63. EXP 1 JOINT 1 TO 32
64. LOAD 1 LOADTYPE SEISMIC-H  TITLE EQ +X
65. 1893 LOAD X 1
66. LOAD 2 LOADTYPE SEISMIC-H  TITLE EQ -X
67. 1893 LOAD X -1.
68. LOAD 3 LOADTYPE SEISMIC-H  TITLE EQ +Z
69. 1893 LOAD Z 1
70. LOAD 4 LOADTYPE SEISMIC-H  TITLE EQ -Z
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 LIVE LOAD
  81. MEMBER LOAD
  82. 1 TO 3 8 TO 10 15 TO 17 22 TO 24 29 TO 31 36 TO 38 43 TO 45 UNI GY -12
  83. LOAD 10 LOADTYPE DEAD  TITLE DEAD LOAD
  84. SELFWEIGHT Y -1
  85. MEMBER LOAD
  86. 1 TO 3 8 TO 10 15 TO 17 22 TO 24 29 TO 31 36 TO 38 43 TO 45 UNI GY -35
  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
         -----------------------------------

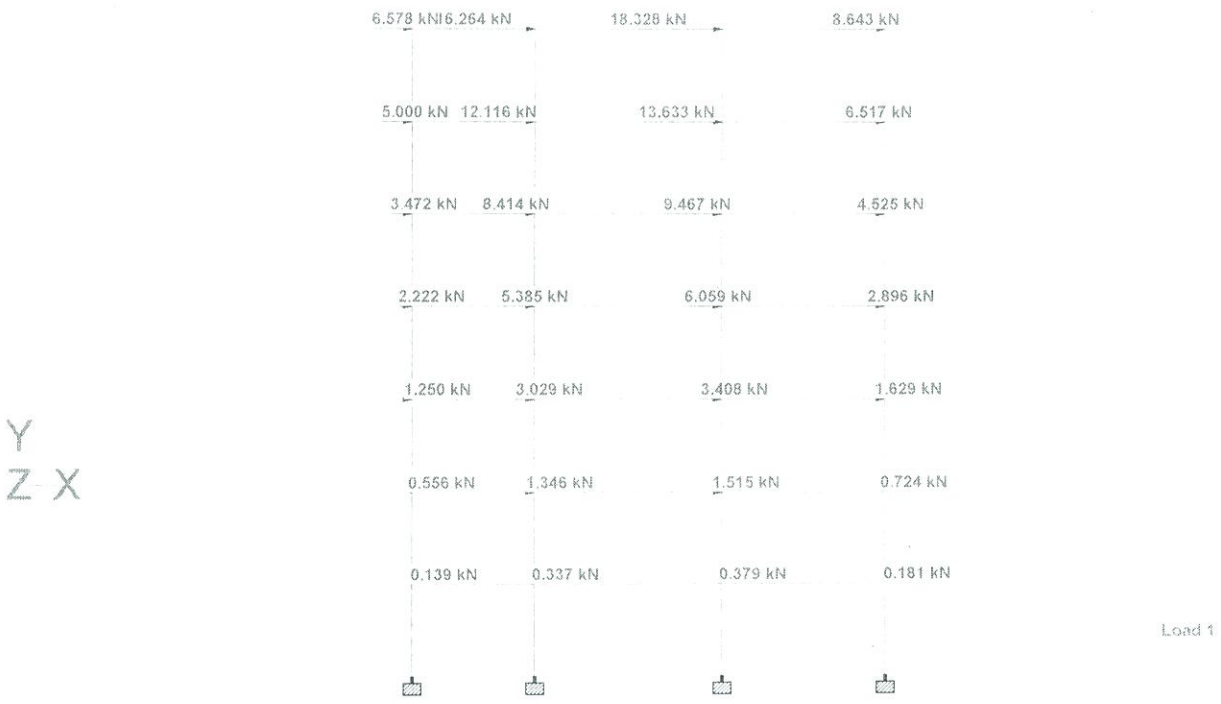
  NUMBER OF JOINTS          32  NUMBER OF MEMBERS       49
  NUMBER OF PLATES           0  NUMBER OF SOLIDS         0
  NUMBER OF SURFACES         0  NUMBER OF SUPPORTS       4

        Using 64-bit analysis engine.

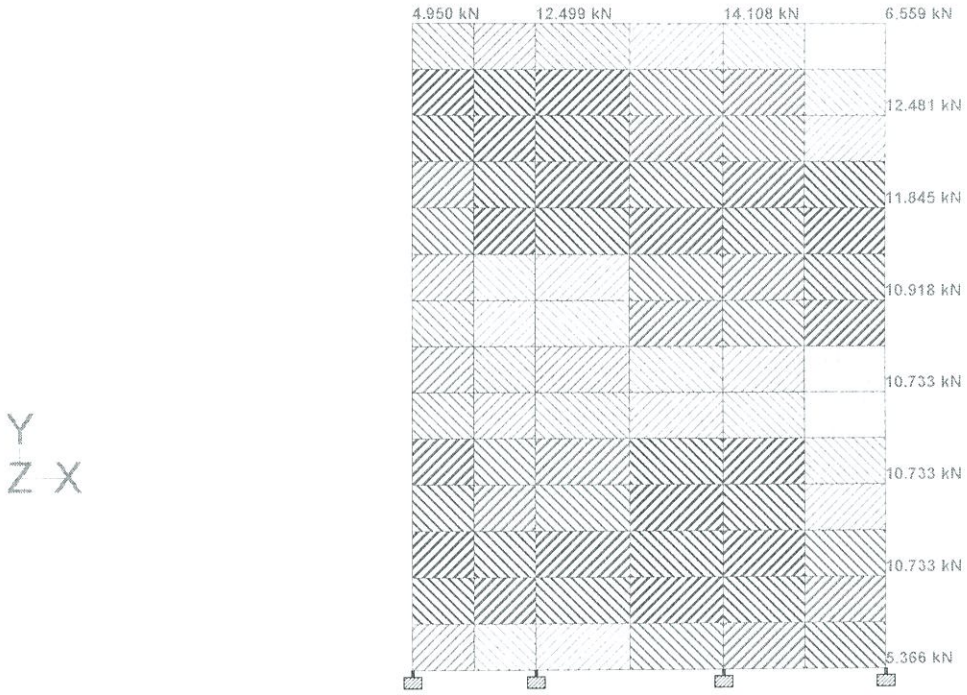
        SOLVER USED IS THE IN-CORE ADVANCED MATH SOLVER

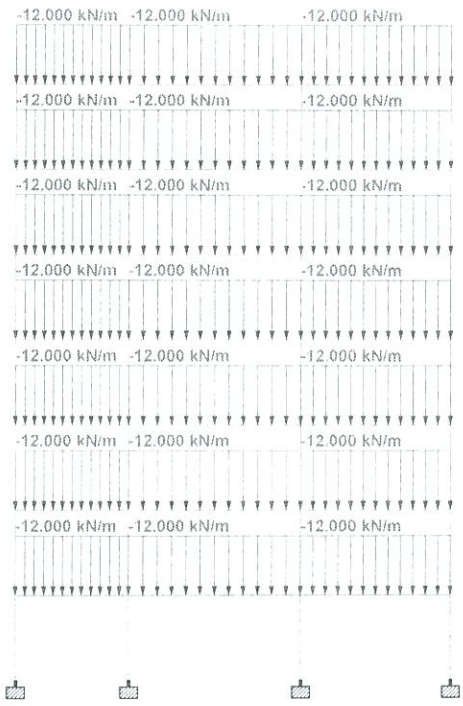
TOTAL       PRIMARY LOAD CASES =    10, TOTAL DEGREES OF FREEDOM =     168
TOTAL LOAD COMBINATION  CASES =    25  SO FAR.
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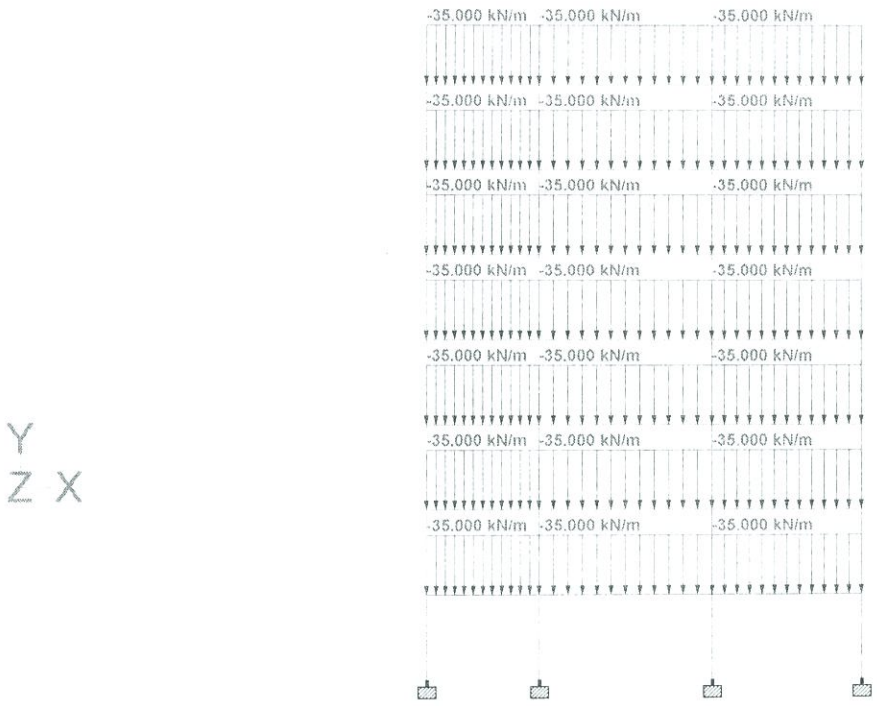
C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.



C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.


4.950 kN
12.499 kN
14.108 kN
6.559 kN
12.481 kN
11.845 kN
10.918 kN
10.733 kN
10.733 kN
10.733 kN
5.366 kN
Y
Z X
Load 7


-12.000 kN/m -12.000 kN/m -12.000 kN/m
Y
Z X
Load 9



C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

```
**************************************************
*                                                *
*          STAAD.Pro 2024                        *
*          Version  24.00.02.354                 *
*          Proprietary Program of                *
*          Bentley Systems, Inc.                 *
*          Date=    JUL 21, 2025                 *
*          Time=    12:58: 1                     *
*                                                *
*  Licensed to: C.Kannan                         *
**************************************************
```

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    1. STAAD SPACE DXF IMPORT OF UNTITLED1
INPUT FILE: D:\LOGESH\STABILITY CERTIFICATE\PUSHKAR - ARUMBAKKAM\PUSHAKR-ARUMBAKKAM_T[1]_21.07.2025.STD
    2. START JOB INFORMATION
    3. ENGINEER DATE 21-JUL-25
    4. JOB NAME PROPOSED RESIDENTIAL BUILDING OF STILT+FIVE FLOORS AT PLOT NO:15 & -
    5. 16, DOOR NO:18(136) FRIENDS AVENUE, ARUMBAKKAM, CHENNAI-600106, COMPRISED IN -
    6. OLD S.NO.158,159,160/1,160/2,161, AND T.S NO:23/24, BLOCK NO:15, WARD-01 OF -
    7. ARUMBAKKAM VILLAGE WITHIN THE LIMITS OF GREATER CHENNAI CORPORATION
    8. ENGINEER NAME KANNAN
    9. CHECKER NAME KANNAN
   10. APPROVED NAME KANNAN
   11. CHECKER DATE 7/21/2025
   12. APPROVED DATE 7/21/2025
   13. END JOB INFORMATION
   14. INPUT WIDTH 79
   15. UNIT INCHES KN
   16. JOINT COORDINATES
   17. 1 0 0 0; 6 227.52 0 0; 7 368.5 0 0; 8 509.5 0 0; 9 735.999 0 0; 10 0 118.11 0
   18. 11 227.52 118.11 0; 12 368.5 118.11 0; 13 509.5 118.11 0; 14 735.999 118.11 0
   19. 15 0 236.22 0; 16 227.52 236.22 0; 17 368.5 236.22 0; 18 509.5 236.22 0
   20. 19 735.999 236.22 0; 20 0 354.331 0; 21 227.52 354.331 0; 22 368.5 354.331 0
   21. 23 509.5 354.331 0; 24 735.999 354.331 0; 25 0 472.441 0; 26 227.52 472.441 0
   22. 27 368.5 472.441 0; 28 509.5 472.441 0; 29 735.999 472.441 0; 30 0 590.551 0
   23. 31 227.52 590.551 0; 32 368.5 590.551 0; 33 509.5 590.551 0
   24. 34 735.999 590.551 0; 35 0 708.661 0; 36 227.52 708.661 0; 37 368.5 708.661 0
   25. 38 509.5 708.661 0; 39 735.999 708.661 0; 40 0 -118.11 0; 41 227.52 -118.11 0
   26. 42 368.5 -118.11 0; 43 509.5 -118.11 0; 44 735.999 -118.11 0
   27. MEMBER INCIDENCES
   28. 5 1 6; 6 6 7; 7 7 8; 8 8 9; 9 1 10; 10 6 11; 11 7 12; 12 8 13; 13 9 14
   29. 14 10 11; 15 11 12; 16 12 13; 17 13 14; 18 10 15; 19 11 16; 20 12 17; 21 13 18
   30. 22 14 19; 23 15 16; 24 16 17; 25 17 18; 26 18 19; 27 15 20; 28 16 21; 29 17 22
   31. 30 18 23; 31 19 24; 32 20 21; 33 21 22; 34 22 23; 35 23 24; 36 20 25; 37 21 26
   32. 38 22 27; 39 23 28; 40 24 29; 41 25 26; 42 26 27; 43 27 28; 44 28 29; 45 25 30
   33. 46 26 31; 47 27 32; 48 28 33; 49 29 34; 50 30 31; 51 31 32; 52 32 33; 53 33 34
   34. 54 30 35; 55 31 36; 56 32 37; 57 33 38; 58 34 39; 59 35 36; 60 36 37; 61 37 38
   35. 62 38 39; 63 40 1; 64 41 6; 65 42 7; 66 43 8; 67 44 9
   36. UNIT METER KN
   37. DEFINE MATERIAL START
   38. ISOTROPIC CONCRETE
```

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.

```
39. E 2.17185E+07
40. POISSON 0.17
41. DENSITY 23.5616
42. ALPHA 1E-05
43. DAMP 0.05
44. G 9.28139E+06
45. TYPE CONCRETE
46. STRENGTH FCU 27579
47. END DEFINE MATERIAL
48. MEMBER PROPERTY
49. 5 TO 8 14 TO 17 23 TO 26 32 TO 35 41 TO 44 50 TO 53 59 TO 61 -
50. 62 PRIS YD 0.45 ZD 0.23
51. 9 TO 13 18 TO 22 27 TO 31 36 TO 40 45 TO 49 54 TO 58 63 TO 66 -
52. 67 PRIS YD 0.45 ZD 0.23
53. CONSTANTS
54. MATERIAL CONCRETE ALL
55. UNIT INCHES KN
56. SUPPORTS
57. 40 TO 44 FIXED
58. UNIT METER KN
59. DEFINE IS1893 2016 LOAD
60. ZONE 0.16 RF 5 I 1.2 SS 1 ST 1 DM 0.05 DT 3
61. SELFWEIGHT 1
62. MEMBER WEIGHT
63. 5 TO 8 14 TO 17 23 TO 26 32 TO 35 41 TO 44 50 TO 53 59 TO 62 UNI 12 0 0
64. 5 TO 8 14 TO 17 23 TO 26 32 TO 35 41 TO 44 50 TO 53 59 TO 62 UNI 30 0 0
65. 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.

66. TYPE 1 WIND 1
67. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
68. CUSTOM:PARAMS
69. !> END GENERATED DATA BLOCK
70. INT 1.35 1.49 1.65 HEIG  10  15  18
71. EXP 1 JOINT 1 6 TO 44
72. LOAD 1 LOADTYPE NONE  TITLE EQ +X
73. 1893 LOAD X 1
74. LOAD 2 LOADTYPE NONE  TITLE EQ -X
75. 1893 LOAD X -1.
76. LOAD 3 LOADTYPE NONE  TITLE EQ +Z
77. 1893 LOAD Z 1
78. LOAD 4 LOADTYPE NONE  TITLE EQ -Z
79. 1893 LOAD Z -1.
```

DXF IMPORT OF UNTITLED1 -- PAGE NO. 3

```
  80. LOAD 5 LOADTYPE NONE  TITLE WIND +X
  81. WIND LOAD X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
  82. LOAD 6 LOADTYPE NONE  TITLE WIND -X
  83. WIND LOAD -X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
  84. LOAD 7 LOADTYPE NONE  TITLE WIND +Z
  85. WIND LOAD Z 1 TYPE 1
  86. LOAD 8 LOADTYPE NONE  TITLE WIND -Z
  87. WIND LOAD -Z 1 TYPE 1
  88. LOAD 9 LOADTYPE NONE  TITLE LL
  89. MEMBER LOAD
  90. 5 TO 8 14 TO 17 23 TO 26 32 TO 35 41 TO 44 50 TO 53 59 TO 62 UNI GY -12
  91. LOAD 10 LOADTYPE NONE  TITLE DL
  92. SELFWEIGHT Y -1
  93. MEMBER LOAD
  94. 5 TO 8 14 TO 17 23 TO 26 32 TO 35 41 TO 44 50 TO 53 59 TO 62 UNI GY -30
  95. LOAD COMB 11 1.5(DL+IL)
  96. 9 1.5 10 1.5
  97. LOAD COMB 12 1.2(DL+IL+ELX)
  98. 9 1.5 10 1.2 1 1.2
  99. LOAD COMB 13 1.2(DL+IL-ELX)
 100. 9 1.2 10 1.2 2 1.2
 101. LOAD COMB 14 1.2(DL+IL+ELZ)
 102. 9 1.2 10 1.2 3 1.2
 103. LOAD COMB 15 1.2(DL+IL-ELZ)
 104. 9 1.2 10 1.2 4 1.2
 105. LOAD COMB 16 1.2(DL+IL+WLX)
 106. 9 1.2 10 1.2 5 1.2
 107. LOAD COMB 17 1.2(DL+IL-WLX)
 108. 10 1.2 6 1.2
 109. LOAD COMB 18 1.2(DL+IL+WLZ)
 110. 9 1.2 10 1.2 7 1.2
 111. LOAD COMB 19 1.2(DL+IL-WLZ)
 112. 9 1.2 10 1.2 8 1.2
 113. LOAD COMB 20 1.5(DL+ELX)
 114. 9 1.5 10 1.5 1 1.5
 115. LOAD COMB 21 1.5(DL-ELX)
 116. 9 1.5 10 1.5 2 1.5
 117. LOAD COMB 22 1.5(DL+ELZ)
 118. 9 1.5 10 1.5 3 1.5
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DXF IMPORT OF UNTITLED1 -- PAGE NO. 4

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119. LOAD COMB 23 1.5(DL-ELZ)
120. 10 1.5 4 1.5
121. LOAD COMB 24 1.5(DL+WLX)
122. 10 1.5 5 1.5
123. LOAD COMB 25 1.5(DL-WLX)
124. 10 1.5 6 1.5
125. LOAD COMB 26 1.5(DL+WLZ)
126. 10 1.5 7 1.5
127. LOAD COMB 27 1.5(DL-WLZ)
128. 10 1.5 8 1.5
129. LOAD COMB 28 0.9 DL+ELX
130. 10 0.9 1 1.5
131. LOAD COMB 29 0.9 DL-ELX
132. 10 0.9 2 1.5
133. LOAD COMB 30 0.9 DL+ELZ
134. 10 0.9 3 1.5
135. LOAD COMB 31 0.9 DL-ELZ
136. 10 0.9 4 1.5
137. LOAD COMB 32 0.9 DL+WLX
138. 10 0.9 5 1.5
139. LOAD COMB 33 0.9 DL-WLX
140. 10 0.9 6 1.5
141. LOAD COMB 34 0.9 DL+WLZ
142. 10 0.9 7 1.5
143. LOAD COMB 35 0.9 DL-WLZ
144. 10 0.9 8 1.5
145. PERFORM ANALYSIS PRINT ALL
```

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

NUMBER OF JOINTS	40	NUMBER OF MEMBERS	63
NUMBER OF PLATES	0	NUMBER OF SOLIDS	0
NUMBER OF SURFACES	0	NUMBER OF SUPPORTS	5

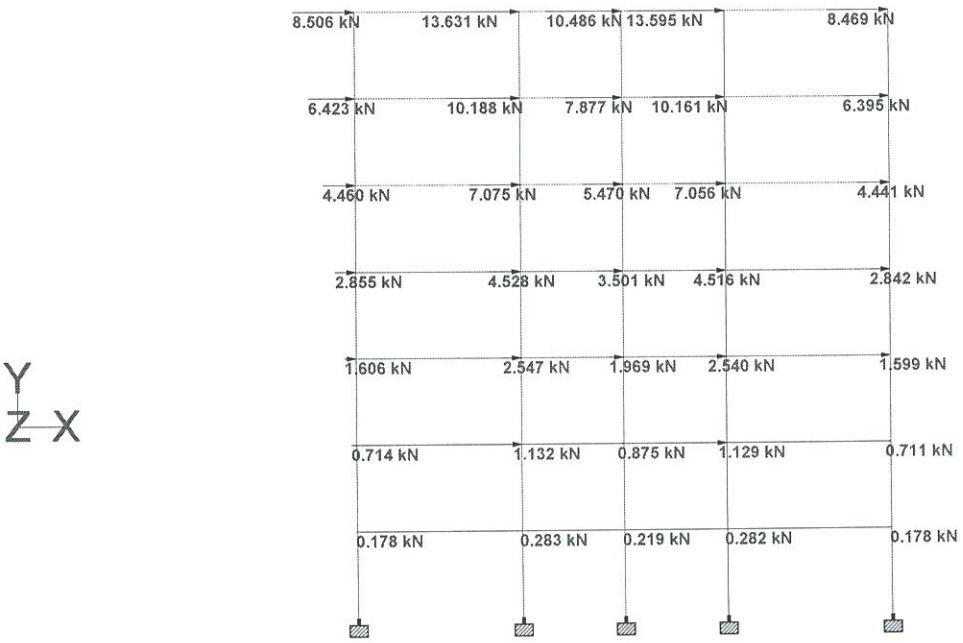
Using 64-bit analysis engine.

SOLVER USED IS THE IN-CORE ADVANCED MATH SOLVER

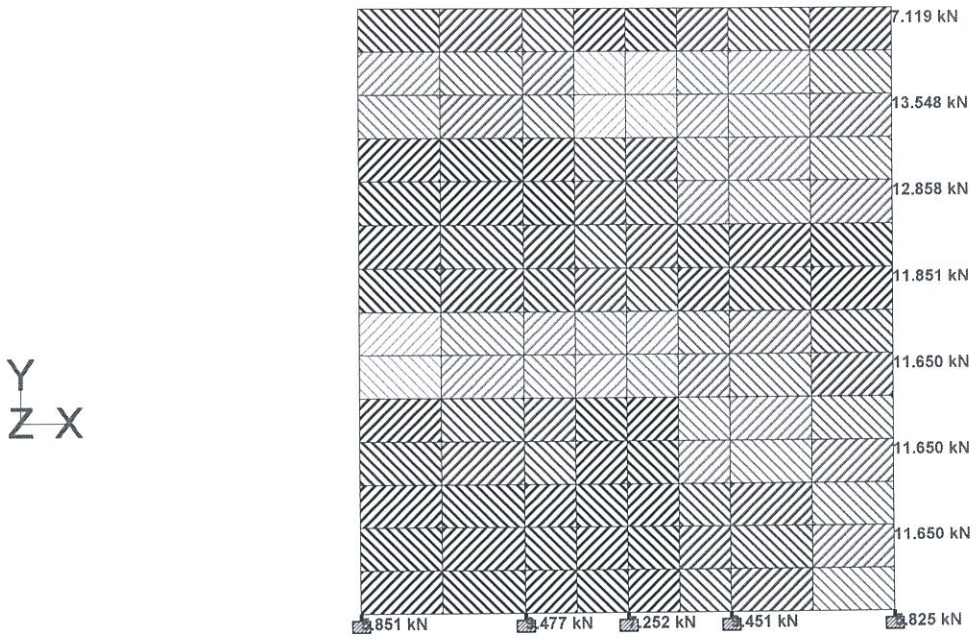
TOTAL PRIMARY LOAD CASES = 10, TOTAL DEGREES OF FREEDOM = 210
TOTAL LOAD COMBINATION CASES = 25 SO FAR.

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.





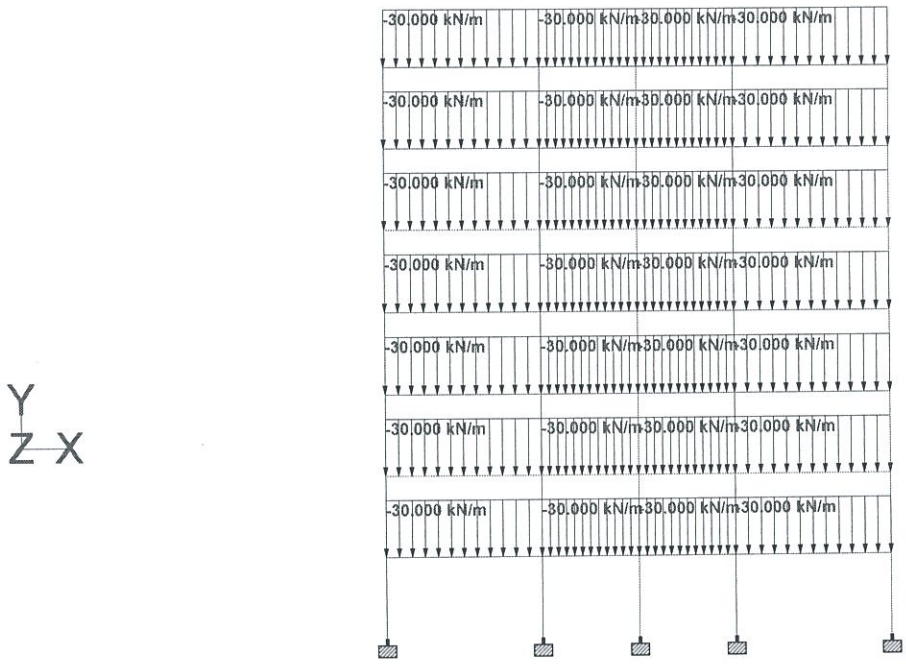
C. KANNAN, B.E., M.E, (Structure)
Structural Engineer,
CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.


7.119 kN
13.548 kN
12.858 kN
11.851 kN
11.650 kN
11.650 kN
11.650 kN
851 kN
477 kN
252 kN
451 kN
825 kN
Y
Z
X

Load 7

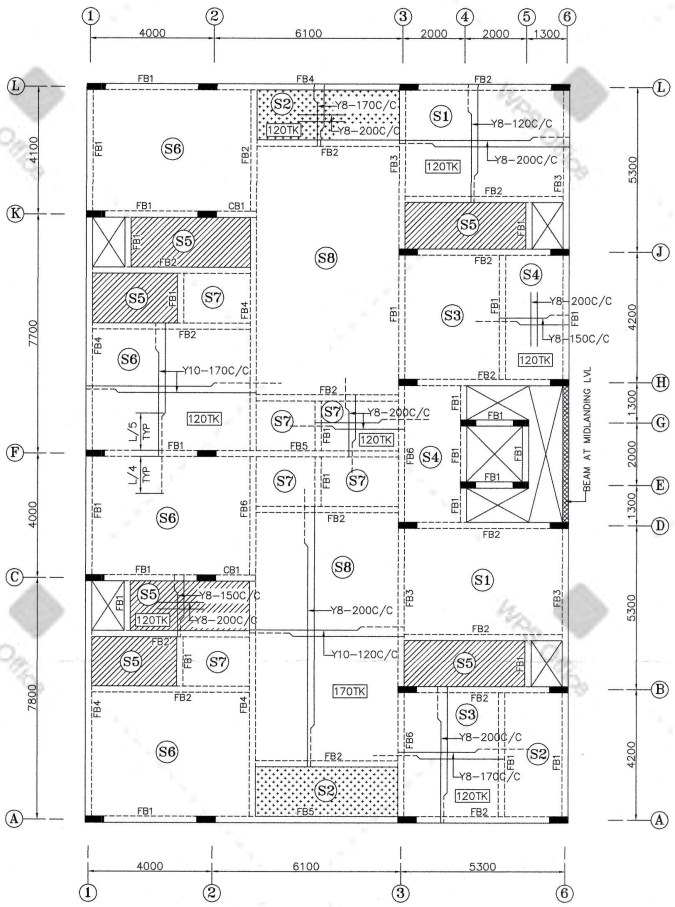
Bentley Software licensed to C.Kannan CONNECTED User: Kannan Chinnasamy	Job No	Sheet No 1	Rev
	Part		
Job Title Proposed Residential Building of Stilt+Five Floors at Plot NO:15 & 16, Door NO:18(136) Friends Avenue, Arumbakkam, Chennai-600106, Comprised in	Ref		
	By Kannan	Date 21-Jul-25	Chd Kannan
Client	File PUSHAKR-ARUMBAKKA	Date/Time 21-Jul-2025 12:58	

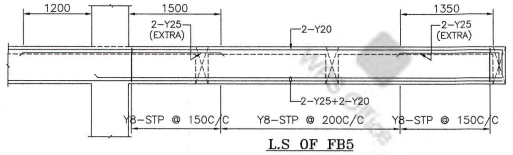




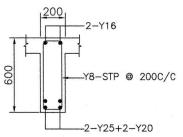
Load 10

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.

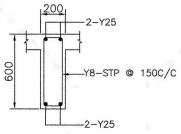




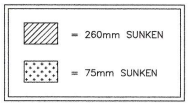
L.S OF FB5

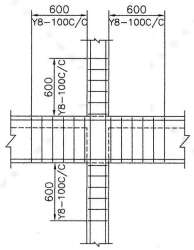


C.S OF FB5

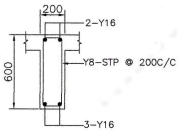


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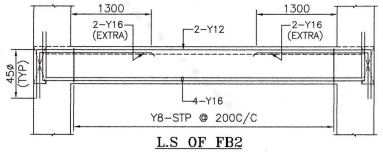




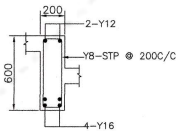
TYP. SEC. FOR STP. DETAILS



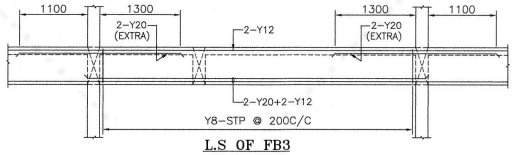
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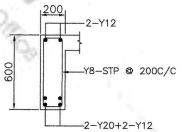
L.S OF FB2



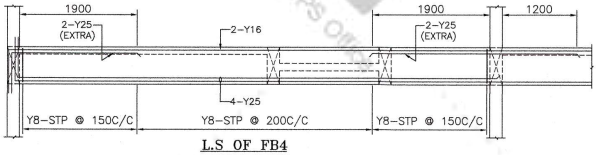
C.S OF FB2



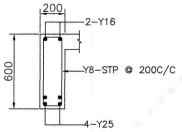
L.S OF FB3



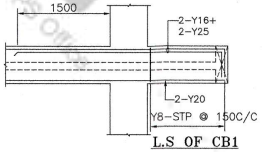
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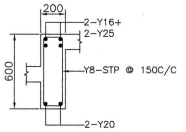
L.S OF FB4



C.S OF FB4



L.S OF CB1



C.S OF CB1

Notes:–

1. This drawing should be read along with architectural drawings.
2. Grade of R.C.C. items shall be M30 for column & M25 for all other R.C.C works
   Grade of pile elements shall be M30 with minimum cement content 400 kg/m3
3. Y Denotes TOR50 Steel confirming to I.S. 1786 – 2008. 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 d (Max. dia) for all bars.
6. —— Bottom Reinforcement
7. ---- Top Reinforcement
8. Provide Continuous Chairs to keep the top Reinforcement in position
9. Provide Y 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 junction.
12. Cantilever props should not be released until the roof is concreted.
13. Foundation is designed for Stilt 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 6 m (20'–0") –14days
    d. Beams and Arches spanning over 6 m (20'–0") –21days

R.NO	DATE	DESCRIPTION

PROJECT

PROPOSED RESIDENTIAL BUILDING AT PLOT NO:349, OLD DOOR NO:41, NEW DOOR NO:14, 10TH STREET, I BLOCK, ANNA NAGAR EAST, CHENNAI–600102, COMPRISED IN OLD S.NO:49 PART, T.S. NO:61, BLOCK NO:04 OF PERIYAKUDAL VILLAGE, AMINJIKARI TALUK, CHENNAI DISTRICT, WITH IN THE LIMITS OF GREATER CHENNAI CORPORATION.
ZONE–08, DIVISION–101.

TYPICAL FLOOR SLAB DETAIL

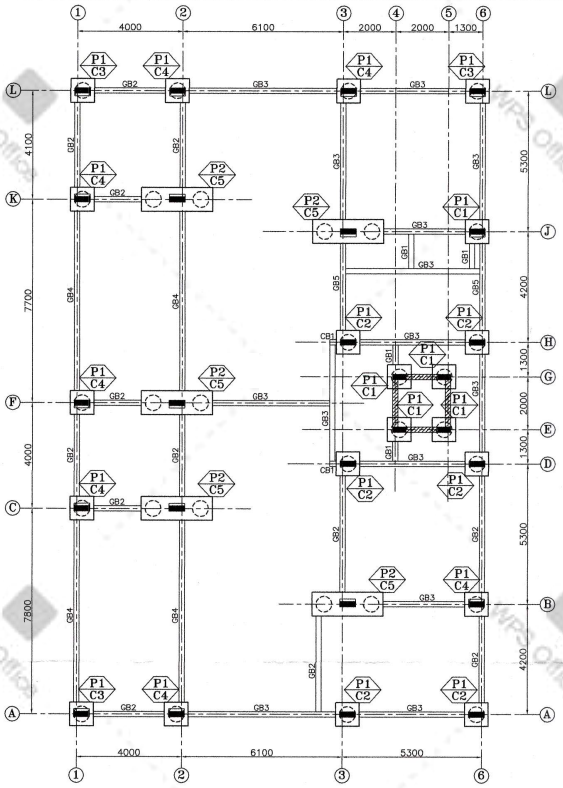
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DRAWN	CHITRA		DATE	17–02–2024

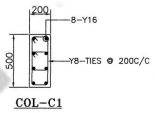
STRUCTURAL CONSULTANTS:

C. KANNAN, B.E., M.E. (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

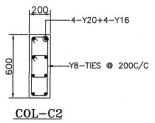
C.KANNAN B.E., M.E(STRUCTURE)
DOOR NO:21, PLOT NO:257–W,
FLAT NO:2B, "UTOPIA APARTMENTS",
2nd FLOOR, 4th MAIN ROAD,
INDIRA NAGAR, CHENNAI–20.
MOBILE NO: 098412 49815.
E–MAIL:kannankds2007@gmail.com

FILE NAME : D/CHITRA/CORPORATION/PUSHKAR–I BLOCK

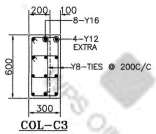




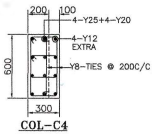
COL–C1



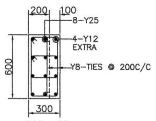
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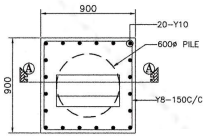
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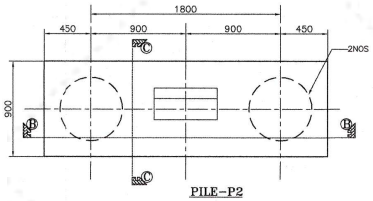
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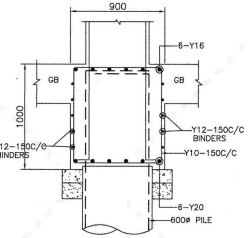
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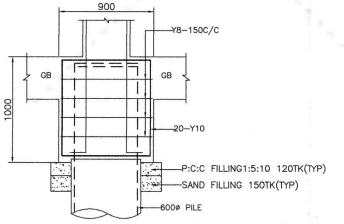
PILE–P1



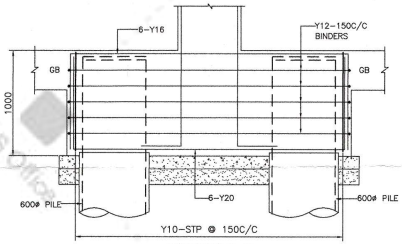
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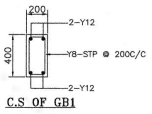
SECTION C C



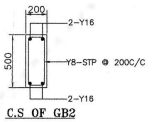
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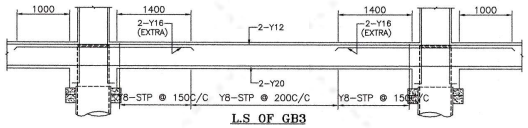
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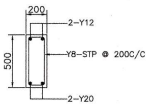
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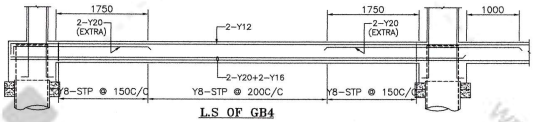
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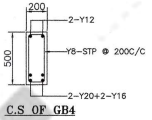
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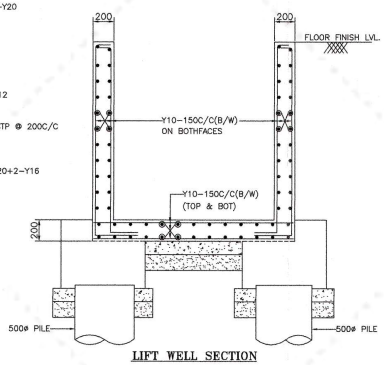
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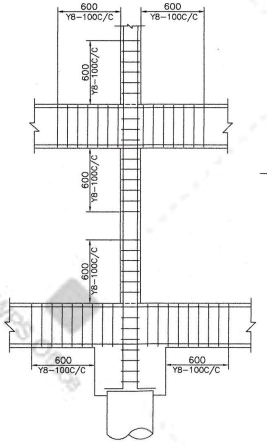
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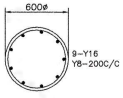
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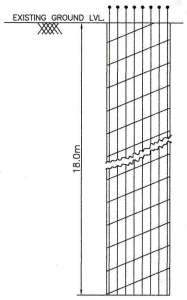
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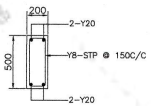
TYP. SEC. FOR
STP. DETAILS



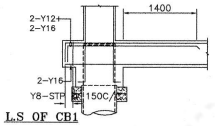
600ø PILE



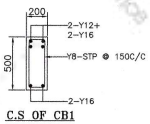
TYP. SEC. OF PILE
(BORED CAST–IN–SITU PILE)



C.S OF GB5



L.S OF CB1



C.S OF CB1

Notes:–

1. This drawing should be read along with architectural drawings.
2. Grade of R.C.C. items shall be M30 for column & M25 for all other R.C.C works
   Grade of pile elements shall be M30 with minimum cement content 400 kg/m3.
3. Y Denotes TOR50 Steel confirming to I.S. 1786 – 2008.
   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 d (Max. dia) for all bars.
6. —— Bottom Reinforcement
7. ----- Top Reinforcement
8. Provide Continuous Chairs to keep the top Reinforcement in position
9. Provide Y 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 junction.
12. Cantilever props should not be released until the roof is concreted.
13. Foundation is designed for Stilt 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 6 m (20'–0") –14days
    d. Beams and Arches spanning over 6 m (20'–0") –21days

R.NO	DATE	DESCRIPTION

PROJECT

PROPOSED RESIDENTIAL BUILDING AT PLOT NO:349, OLD DOOR NO:41, NEW DOOR NO:14, 10TH STREET, I BLOCK, ANNA NAGAR EAST, CHENNAI–600102, COMPRISED IN OLD S.NO:49 PART, T.S. NO:61, BLOCK NO:04 OF PERIYAKUDAL VILLAGE, AMINJIKARI TALUK, CHENNAI DISTRICT, WITH IN THE LIMITS OF GREATER CHENNAI CORPORATION.
ZONE–08, DIVISION–101.

PILE FOUNDATION DETAIL

DESIGNED	KANNAN		SCALE	1 : 100
DRAWN	CHITRA		DATE	17–02–2024

STRUCTURAL CONSULTANTS:

C. KANNAN, B.E, M.E. (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
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/CHITRA/CORPORATION/PUSHKAR–I BLOCK

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

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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.