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*                                                *
*          STAAD.Pro CONNECT Edition             *
*          Version  22.12.00.142                 *
*          Proprietary Program of                *
*          Bentley Systems, Inc.                 *
*          Date=    DEC 28, 2023                 *
*          Time=    12:42: 3                     *
*                                                *
*  Licensed to: C.Kannan                         *
**************************************************
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    1. STAAD SPACE
INPUT FILE: D:\LOGESH\STABILITY CERTIFICATE\SIS - GOPALAPURAM\SIS - GOP.. .STD
    2. START JOB INFORMATION
    3. ENGINEER DATE 28-DEC-23
    4. JOB NAME PROPOSED RESIDENTIAL BUILDING AT DOOR NO. 18, WEST END STREET, -
    5. GOPALAPURAM, CHENNAI- 600 086. COMPRISED IN R. S. NO. 69/32, 69/82 AND -
    6. 701/1, AS PER PATTA R. S. NO. 69/82, AND 70/1, BLOCK NO: 4, MYLAPORE -
    7. VILLAGE, GREATER CHENNAI CORPORATION. ZONE- IX, DIVISION- 111
    8. ENGINEER NAME KANNAN
    9. CHECKER NAME KANNAN
   10. APPROVED NAME KANNAN
   11. CHECKER DATE 12/28/2023
   12. APPROVED DATE 12/28/2023
   13. END JOB INFORMATION
   14. INPUT WIDTH 79
   15. UNIT INCHES KN
   16. JOINT COORDINATES
   17. 1 0 0 0; 2 205.5 0 -5.82077E-11; 3 367.5 0 -1.45519E-10; 4 622.828 0 0
   18. 5 684.328 0 0; 6 0 118.11 0; 7 205.5 118.11 -5.82077E-11
   19. 8 367.5 118.11 -1.45519E-10; 9 622.828 118.11 0; 10 684.328 118.11 0
   20. 11 0 236.22 0; 12 205.5 236.22 -5.82077E-11; 13 367.5 236.22 -1.45519E-10
   21. 14 622.828 236.22 0; 15 684.328 236.22 0; 16 0 354.331 0
   22. 17 205.5 354.331 -5.82077E-11; 18 367.5 354.331 -1.45519E-10
   23. 19 622.828 354.331 0; 20 684.328 354.331 0; 21 0 472.441 0
   24. 22 205.5 472.441 -5.82077E-11; 23 367.5 472.441 -1.45519E-10
   25. 24 622.828 472.441 0; 25 684.328 472.441 0; 26 0 590.551 0
   26. 27 205.5 590.551 -5.82077E-11; 28 367.5 590.551 -1.45519E-10
   27. 29 622.828 590.551 0; 30 684.328 590.551 0; 31 0 708.661 0
   28. 32 205.5 708.661 -5.82077E-11; 33 367.5 708.661 -1.45519E-10
   29. 34 622.828 708.661 0; 35 684.328 708.661 0; 36 0 -118.11 0
   30. 37 205.5 -118.11 -5.82077E-11; 38 367.5 -118.11 -1.45519E-10
   31. 39 622.828 -118.11 0
   32. MEMBER INCIDENCES
   33. 1 1 2; 2 2 3; 3 3 4; 4 4 5; 5 1 6; 6 2 7; 7 3 8; 8 4 9; 10 6 7; 11 7 8; 12 8 9
   34. 13 9 10; 14 6 11; 15 7 12; 16 8 13; 17 9 14; 19 11 12; 20 12 13; 21 13 14
   35. 22 14 15; 23 11 16; 24 12 17; 25 13 18; 26 14 19; 28 16 17; 29 17 18; 30 18 19
   36. 31 19 20; 32 16 21; 33 17 22; 34 18 23; 35 19 24; 37 21 22; 38 22 23; 39 23 24
   37. 40 24 25; 41 21 26; 42 22 27; 43 23 28; 44 24 29; 46 26 27; 47 27 28; 48 28 29
   38. 49 29 30; 50 26 31; 51 27 32; 52 28 33; 53 29 34; 55 31 32; 56 32 33; 57 33 34
```


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.

```
39. 58 34 35; 59 36 1; 60 37 2; 61 38 3; 62 39 4
40. UNIT METER KN
41. DEFINE MATERIAL START
42. ISOTROPIC CONCRETE
43. E 2.17185E+07
44. POISSON 0.17
45. DENSITY 23.5616
46. ALPHA 1E-05
47. DAMP 0.05
48. G 9.28139E+06
49. TYPE CONCRETE
50. STRENGTH FCU 27579
51. END DEFINE MATERIAL
52. MEMBER PROPERTY
53. 1 TO 4 10 TO 13 19 TO 22 28 TO 31 37 TO 40 46 TO 49 55 TO 57 -
54. 58 PRIS YD 0.45 ZD 0.23
55. 5 TO 8 14 TO 17 23 TO 26 32 TO 35 41 TO 44 50 TO 53 59 TO 61 -
56. 62 PRIS YD 0.45 ZD 0.23
57. CONSTANTS
58. MATERIAL CONCRETE ALL
59. UNIT INCHES KN
60. SUPPORTS
61. 36 TO 39 FIXED
62. DEFINE IS1893 2016 LOAD
63. ZONE 0.16 RF 5 I 1.2 SS 1 ST 1 DM 0.05 DT 3
64. SELFWEIGHT 1
65. MEMBER WEIGHT
66. 1 TO 4 10 TO 13 19 TO 22 28 TO 31 37 TO 40 46 TO 49 55 TO 58 UNI 0.3048 0 0
67. 1 TO 4 10 TO 13 19 TO 22 28 TO 31 37 TO 40 46 TO 49 55 TO 58 UNI 0.889 0 0
68. 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.

69. TYPE 1 WIND 1
70. INT 0.000870966 0.000961288 0.00105806 HEIG  393.701  590.551  708.661
71. EXP 1 JOINT 1 TO 39
72. LOAD 1 LOADTYPE SEISMIC-H  TITLE EQ +X
73. 1893 LOAD X 1
74. LOAD 2 LOADTYPE SEISMIC-H  TITLE EQ -X
75. 1893 LOAD X -1.
76. LOAD 3 LOADTYPE SEISMIC-H  TITLE EQ +Z
77. 1893 LOAD Z 1
78. LOAD 4 LOADTYPE SEISMIC-H  TITLE EQ -Z
79. 1893 LOAD Z -1.
```

```
  80. LOAD 5 LOADTYPE WIND  TITLE WIND +X
  81. WIND LOAD X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
  82. LOAD 6 LOADTYPE WIND  TITLE WIND -X
  83. WIND LOAD -X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
  84. LOAD 7 LOADTYPE WIND  TITLE WIND +Z
  85. WIND LOAD Z 1 TYPE 1
  86. LOAD 8 LOADTYPE WIND  TITLE WIND -Z
  87. WIND LOAD -Z 1 TYPE 1
  88. LOAD 9 LOADTYPE LIVE  TITLE LIVE LOAD
  89. MEMBER LOAD
  90. 1 TO 4 10 TO 13 19 TO 22 28 TO 31 37 TO 40 46 TO 49 55 TO 58 UNI GY -0.3048
  91. LOAD 10 LOADTYPE DEAD  TITLE DEAD LOAD
  92. SELFWEIGHT Y -1
  93. MEMBER LOAD
  94. 1 TO 4 10 TO 13 19 TO 22 28 TO 31 37 TO 40 46 TO 49 55 TO 58 UNI GY -0.889
  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
```

```
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         39  NUMBER OF MEMBERS      56
  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

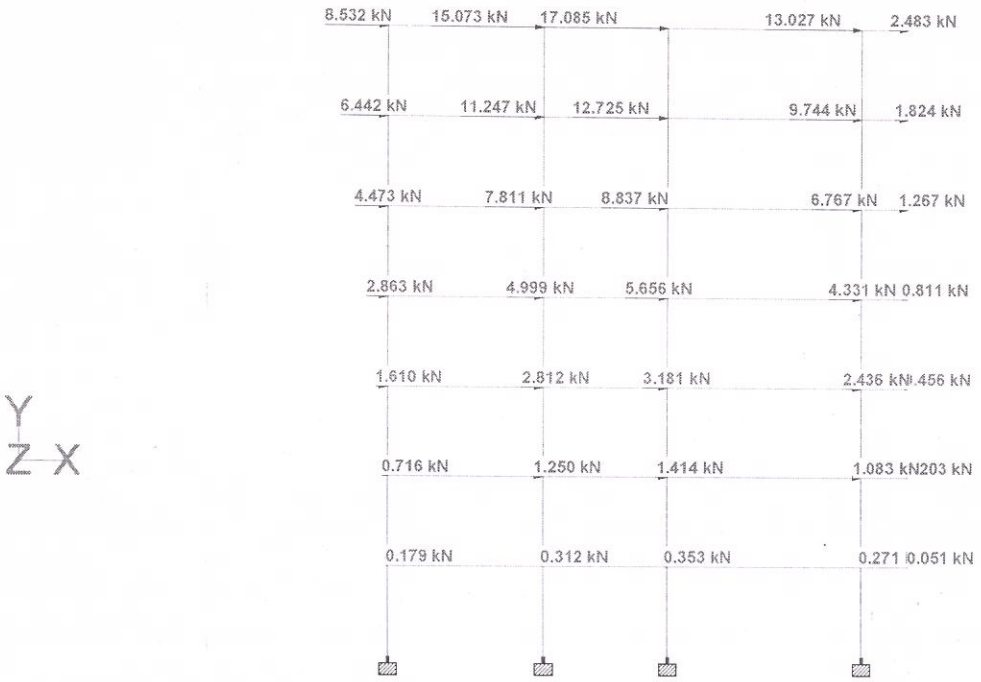
TOTAL      PRIMARY LOAD CASES =    10, TOTAL DEGREES OF FREEDOM =     210
TOTAL LOAD COMBINATION  CASES =    25  SO FAR.
```

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.

Bentley

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CONNECTED User: Kannan Chinnasamy

Job No	Sheet No 1	Rev	
Part			
Job Title Proposed Residential Building at Door No. 18, West End Street, Gopalapuram, Chennai- 600 086. Comprised in R. S. No. 69/32, 69/82 And 701/1, As Per Patta	Ref		
	By Kannan	Date 28-Dec-23	Chd Kannan
Client	File SIS - GOPALAPURAM -	Date/Time	28-Dec-2023 12:41

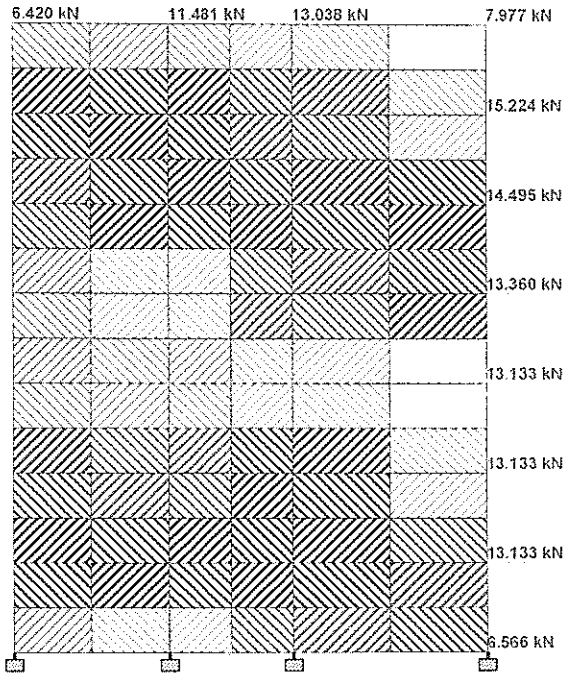


C. KANNAN, B.E., M.E., (Structure)
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Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

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CONNECTED User Kannan Chinnasamy

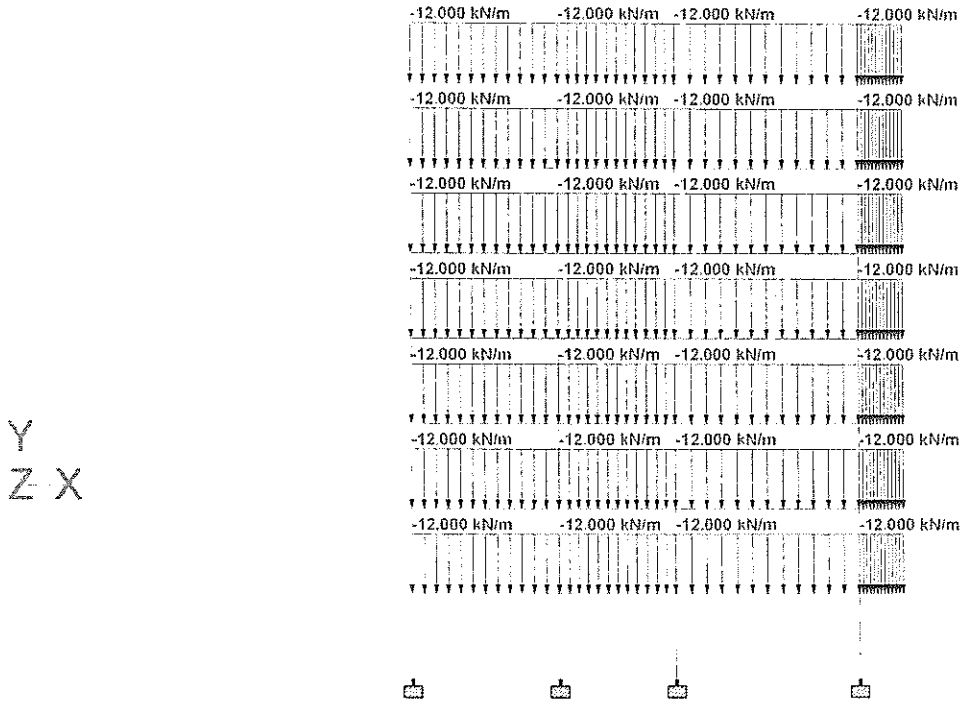
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Part			
Job Title Proposed Residential Building at Door No. 18, West End Street, Gopalapuram, Chennai- 600 086. Comprised in R. S. No. 69/32, 69/82 And 701/1, As Per Patta	Ref		
	By Kannan	Date 28-Dec-23	Chd Kannan
Client	File SIS - GOPALAPURAM -	Date/Time	28-Dec-2023 12:41



Y
Z X

Load 7

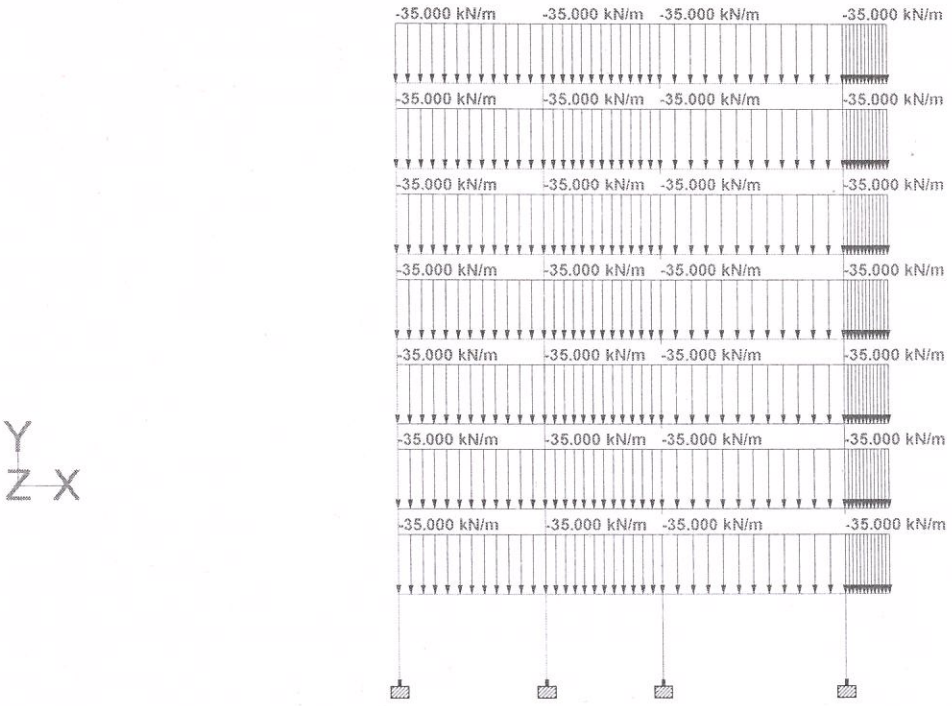
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Software licensed to C Kannan CONNECTED User Kannan Chinnasamy	Part		
Job Title Proposed Residential Building at Door No. 18, West End Street, Gopalapuram, Chennai- 600 086. Comprised in R. S. No. 69/32, 69/82 And 701/1, As Per Patta	Ref		
	By Kannan	Date 28-Dec-23	Chd Kannan
Client	File SIS - GOPALAPURAM - '	Date/Time	28-Dec-2023 12:41



Bentley

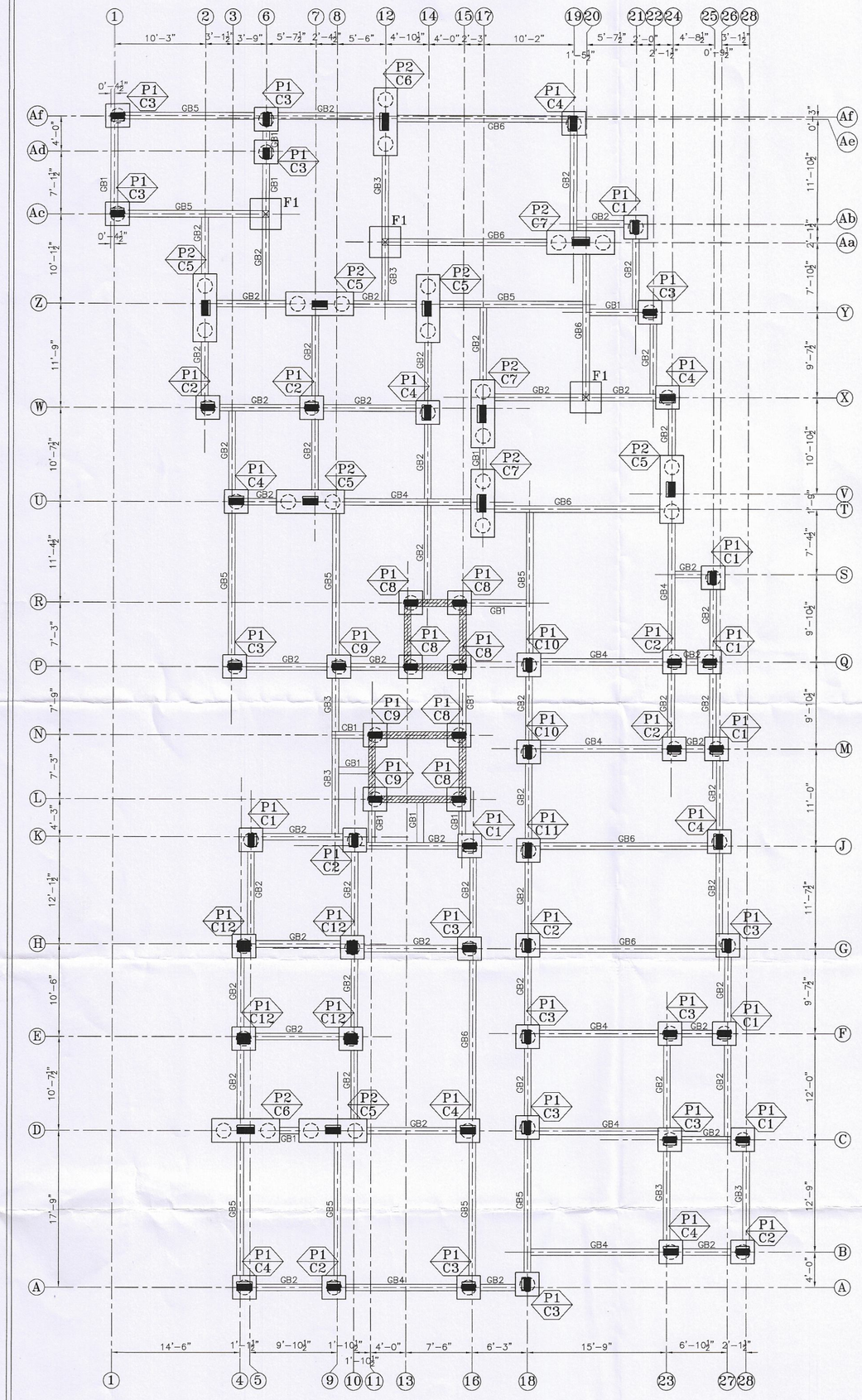
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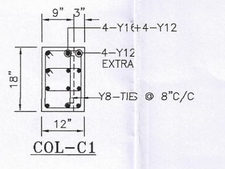
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Part			
Job Title	Proposed Residential Building at Door No. 18, West End Street, Gopalapuram, Chennai- 600 086. Comprised in R. S. No. 69/32, 69/82 And 701/1, As Per Patta	Ref	
		By Kannan	Date 28-Dec-23 Chd Kannan
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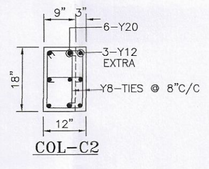
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C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

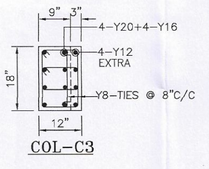




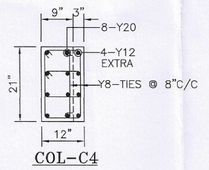
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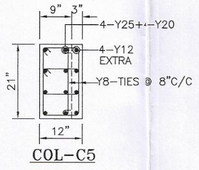
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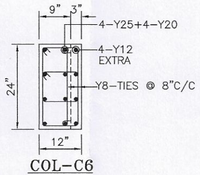
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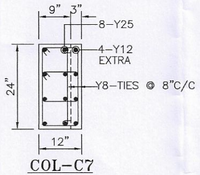
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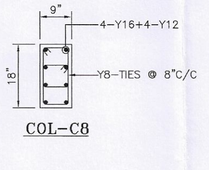
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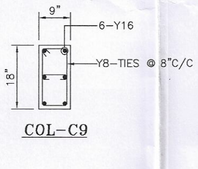
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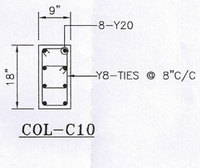
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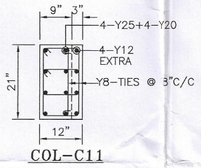
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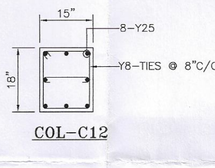
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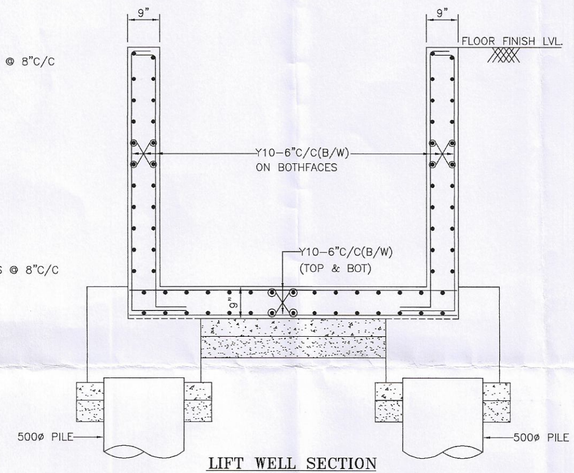
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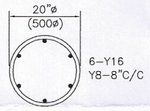
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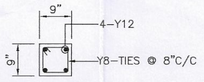
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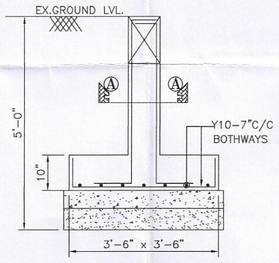
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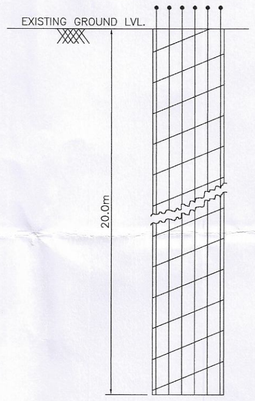
500ø PILE



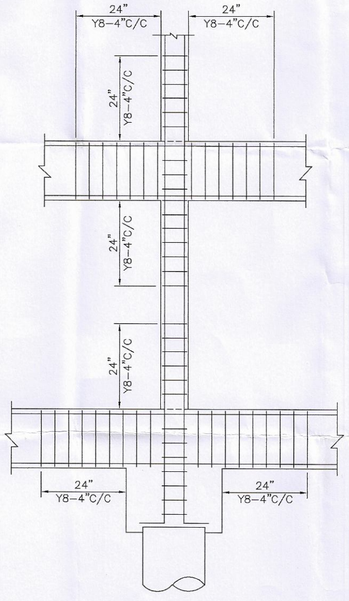
COL-F1
(SECTION A A)



FOOTING-F1



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



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 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 – 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.
   15 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 DOOR NO. 18, WEST END STREET, GOPALAPURAM, CHENNAI– 600 086. COMPRISED IN R. S. NO. 69/32, 69/82 AND 701/1, AS PER PATTA R. S. NO. 69/82, AND 70/1, BLOCK NO: 4, MYLAPORE VILLAGE, GREATER CHENNAI CORPORATION. ZONE– IX, DIVISION– 111.

PILE FOUNDATION DETAIL (SHEET 1 OF 2)

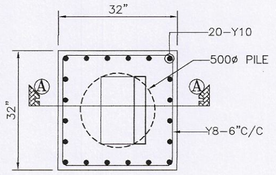
DESIGNED	KANNAN		SCALE	1 : 100
DRAWN	JP		DATE	28-12-2023

STRUCTURAL CONSULTANTS:

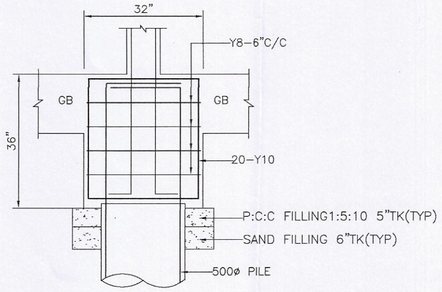
C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Indira Nagar, Chennai-600 020.

C.KANNAN, No: 25 (SHOWER)
DOOR NO: 18, WEST END STREET,
FLAT NO:2B, "UTOPIA APARTMENTS",
2nd FLOOR, 4th MAIN ROAD,
INDIRA NAGAR, CHENNAI–20.
MOBILE NO: 098412 49815.
E–MAIL:kannankds2007@gmail.com

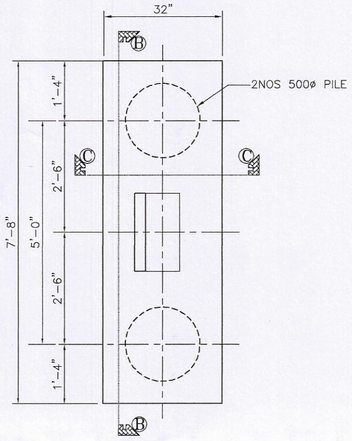
FILE NAME : D/JEYANTHI/SIS–GOPALAPURAM



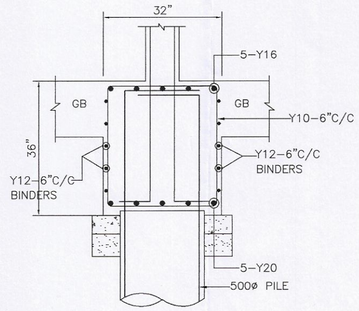
PILE-P1



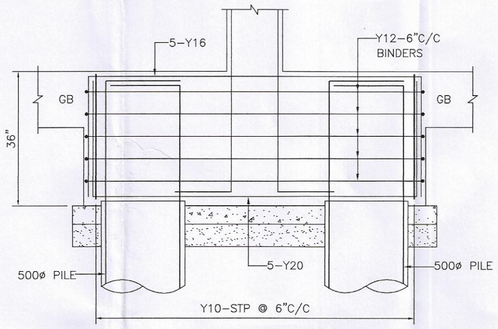
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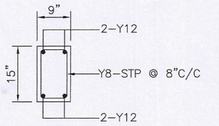
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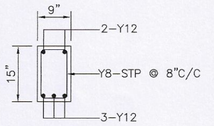
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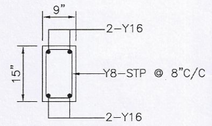
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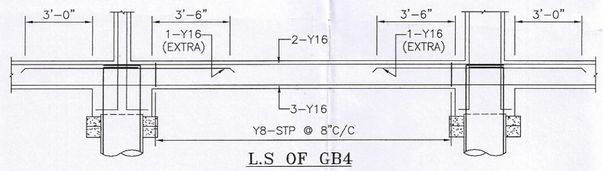
C.S OF GB1



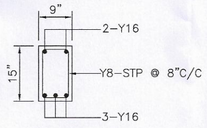
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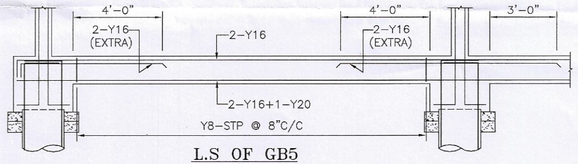
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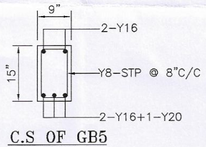
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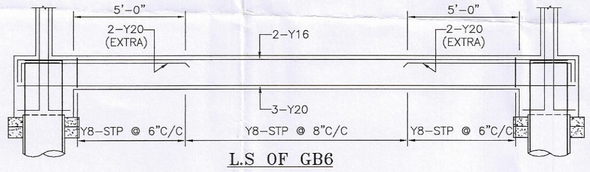
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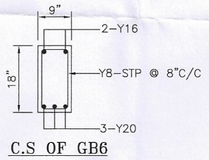
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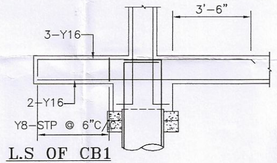
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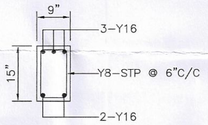
L.S OF GB6



C.S OF GB6



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 – 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.
   15 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

PROJECT

PROPOSED RESIDENTIAL BUILDING AT DOOR NO. 18, WEST END STREET, GOPALAPURAM, CHENNAI- 600 086. COMPRISED IN R. S. NO. 69/32, 69/82 AND 701/1, AS PER PATTA R. S. NO. 69/82, AND 70/1, BLOCK NO: 4, MYLAPORE VILLAGE, GREATER CHENNAI CORPORATION. ZONE- IX, DIVISION- 111.

PILE CAP & GRADE BEAM DETAIL

(SHEET-2 OF 2)

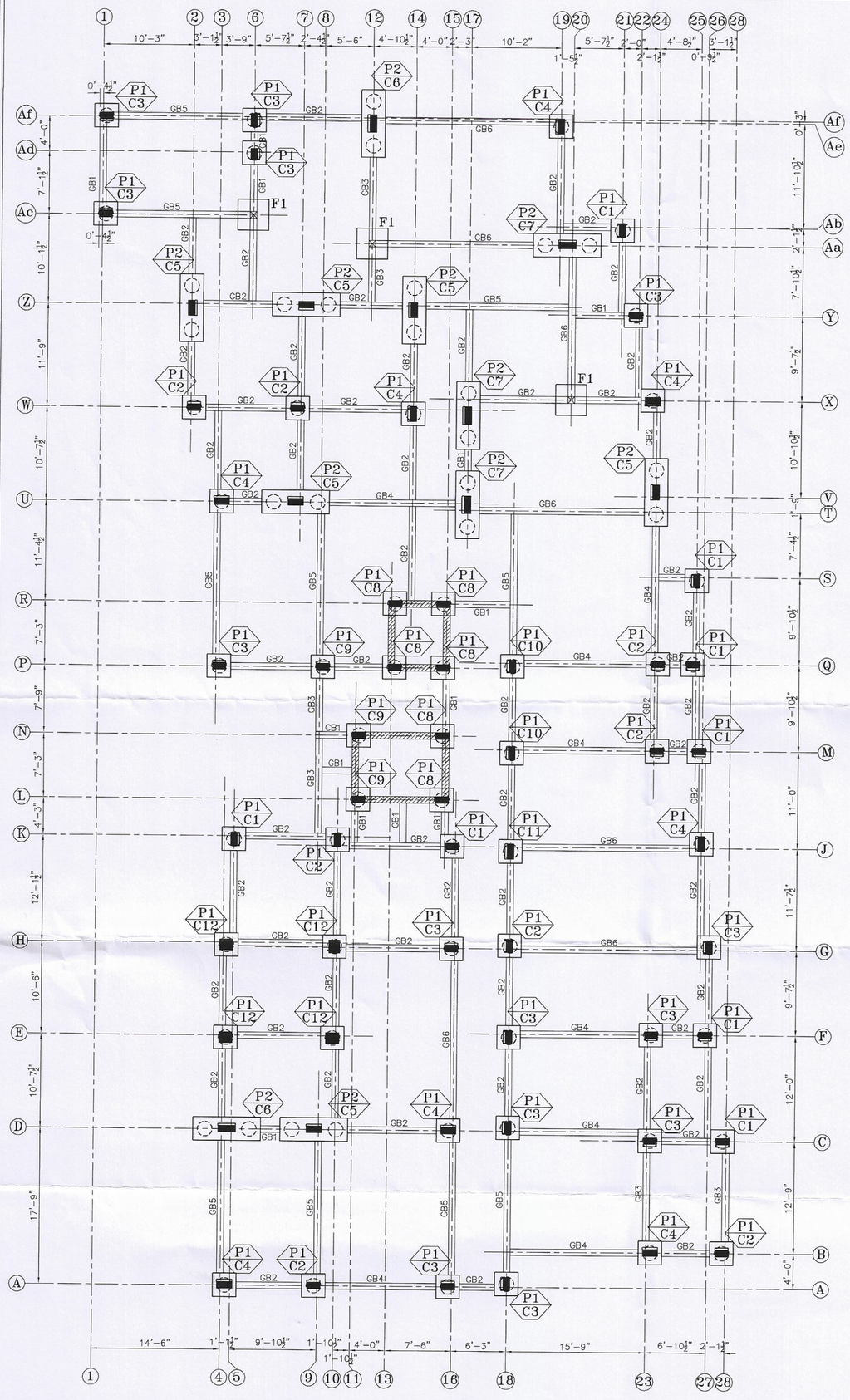
DESIGNED	KANNAN		SCALE	1 : 100
DRAWN	JP		DATE	28-12-2023

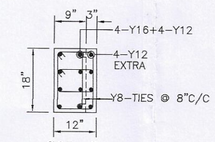
STRUCTURAL CONSULTANTS:

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.

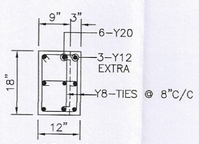
C.KANNAN, B.E., M.E.(STRUCTURE)
DOOR NO:21, PLOT NO:257-W,
FLAT NO:2B, "UTOPIA APARTMENTS",
2nd FLOOR, 4th MAIN ROAD,
INDIRA NAGAR, CHENNAI-20.
MOBILE NO: 098412 49815.
E-MAIL:kannankds2007@gmail.com

FILE NAME : D/JEYANTHI/SIS-GOPALAPURAM

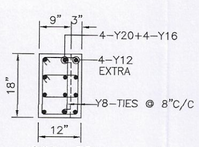




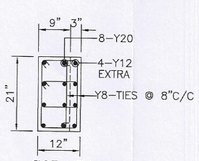
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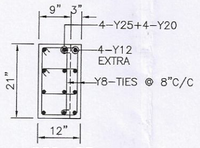
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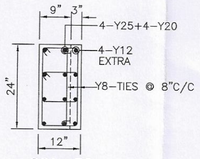
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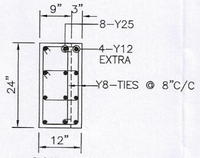
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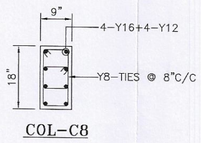
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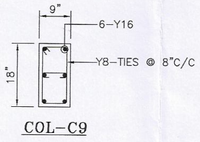
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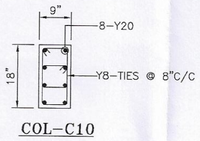
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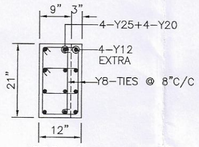
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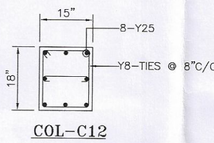
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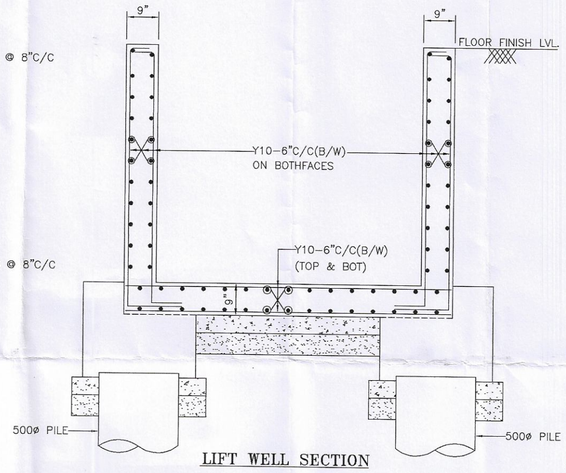
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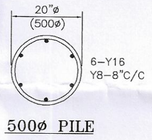
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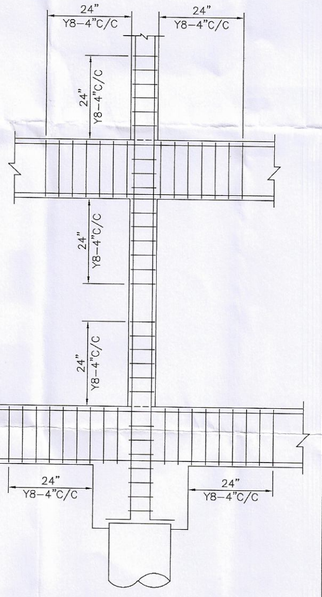
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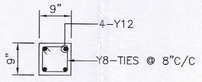
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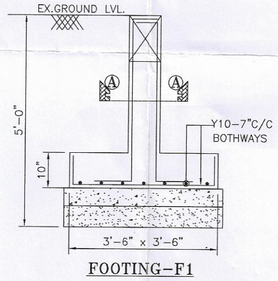
500ø PILE



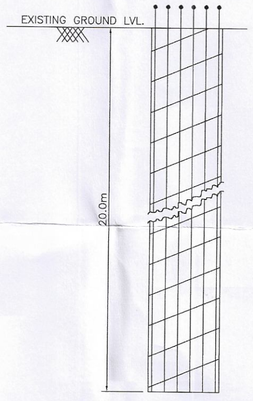
TYP. SEC. FOR STP. DETAILS



COL–F1
(SECTION A A)



FOOTING–F1



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

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 – 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.
   15 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 DOOR NO. 18, WEST END STREET, GOPALAPURAM, CHENNAI– 600 086. COMPRISED IN R. S. NO. 69/32, 69/82 AND 701/1, AS PER PATTA R. S. NO. 69/82, AND 70/1, BLOCK NO: 4, MYLAPORE VILLAGE, GREATER CHENNAI CORPORATION. ZONE– IX, DIVISION– 111.

PILE FOUNDATION DETAIL (SHEET 1 OF 2)

DESIGNED	KANNAN		SCALE	1 : 100
DRAWN	JP		DATE	28–12–2023

STRUCTURAL CONSULTANTS:

C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No. 2, 1st Main Road,
Indira Nagar, Chennai-600 020.

C.KANNAN, B.E., M.E.(STRUCTURE)
DOOR NO:2, 1st MAIN ROAD,
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/JEYANTHI/SIS–GOPALAPURAM

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

STRUCTURAL STABILITY CERTIFICATE

It is certified that the Proposed Residential Building at Door No. 18, West End Street, Gopalapuram, Chennai- 600 086. Comprised in R. S. No. 69/32, 69/82 And 701/1, As Per Patta R. S. No. 69/82, And 70/1, Block No: 4, Mylapore Village, Greater Chennai Corporation. Zone-IX, Division- 111. 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 DOOR NO. 18, WEST END STREET, GOPALAPURAM, CHENNAI- 600 086. COMPRISED IN R. S. NO. 69/32, 69/82 AND 701/1, AS PER PATTA R. S. NO. 69/82, AND 70/1, BLOCK NO: 4, MYLAPORE VILLAGE, GREATER CHENNAI CORPORATION. ZONE- IX, DIVISION- 111

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 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.

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.



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Property Valuation & Cost Estimation

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

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