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

Door No. 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

21-03-2024

STRUCTURAL STABILITY CERTIFICATE

It is certified that the Proposed Residential Building Old Door No. 75, New Door No. 68 (Earlier Door No. 53), Dr. Alagappa Road, (Lauder's Gate Street), Purasawalkam, Chennai- 600084, Comprised in O.S. No. 182 (Part), R. S. No. 50/2 (Part), then R. S. No. 50/5 (Part), as per Extract from Town Survey Land Register Comprised in R. S. No. 50/20, Block No. 3 Of Purasawalkam Village, Purasawalkam Taluk, Chennai District. Having Stilt plus Five upper floors is designed to resist earthquake. Check has been made and found safe and I hereby certify that,

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

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


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

PROPOSED RESIDENTIAL BUILDING OLD DOOR NO. 75, NEW DOOR NO. 68 (EARLIER DOOR NO. 53), DR. ALAGAPPA ROAD, (LAUDER'S GATE STREET), PURASAWALKAM, CHENNAI- 600084, COMPRISED IN O.S. NO. 182 (PART), R. S. NO. 50/2 (PART), THEN R. S. NO. 50/5 (PART), AS PER EXTRACT FROM TOWN SURVEY LAND REGISTER COMPRISED IN R. S. NO. 50/20, BLOCK NO. 3 OF PURASAWALKAM VILLAGE, PURASAWALKAM TALUK, CHENNAI DISTRICT

GENERAL NOTE ON STRUCTURAL DESIGN.

1.0 GENERAL.

1.1 DESIGN BASIS

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

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

1.2 CODES AND STANDARDS

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

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

2.0 BASIC CIVIL DESIGN LOADS

2.1 DEAD LOADS & LIVE LOADS

Typical slab dead load is calculated as follows

Self weight of slab	=	3.25kN/m ²
Floor finish	=	2.0kN/m ²
Live load	=	2.0kN/m ²

7.25kN/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

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

PAGE NO. 1

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*****
*                               *
*      STAAD.Pro CONNECT Edition *
*      Version 22.12.00.142      *
*      Proprietary Program of    *
*      Bentley Systems, Inc.     *
*      Date= MAR 21, 2024        *
*      Time= 12:58:57            *
*                               *
*      Licensed to: C.Kannan     *
*****

```

```

1. STAAD SPACE
INPUT FILE: D:\LOGESH\STABILITY CERTIFICATE\SREE FOUNDATION - ALAGAPPA .. .STD
2. START JOB INFORMATION
3. ENGINEER DATE 21-MAR-24
4. JOB NAME PROPOSED RESIDENTIAL BUILDING OLD DOOR NO. 75, NEW DOOR NO. 68 -
5. (EARLIER DOOR NO. 53), DR. ALAGAPPA ROAD, (LAUDER'S GATE STREET), -
6. PURASAWALKAM, CHENNAI- 600084
7. ENGINEER NAME KANNAN
8. CHECKER NAME KANNAN
9. APPROVED NAME KANNAN
10. CHECKER DATE 3/21/2024
11. APPROVED DATE 3/21/2024
12. END JOB INFORMATION
13. INPUT WIDTH 79
14. UNIT MMS KN
15. JOINT COORDINATES
16. 1 0 0 0; 2 -14400 0 0; 3 -11000.1 0 0; 5 -6710 0 0; 7 -1830.05 0 0; 8 0 3000 0
17. 9 -14400 3000 0; 10 -11000.1 3000 0; 11 -6710 3000 0; 12 -1830.05 3000 0
18. 13 0 6000 0; 14 -14400 6000 0; 15 -11000.1 6000 0; 16 -6710 6000 0
19. 17 -1830.05 6000 0; 18 0 9000 0; 19 -14400 9000 0; 20 -11000.1 9000 0
20. 21 -6710 9000 0; 22 -1830.05 9000 0; 23 0 12000 0; 24 -14400 12000 0
21. 25 -11000.1 12000 0; 26 -6710 12000 0; 27 -1830.05 12000 0; 28 0 15000 0
22. 29 -14400 15000 0; 30 -11000.1 15000 0; 31 -6710 15000 0; 32 -1830.05 15000 0
23. 35 -11000.1 3000 0; 36 -6710 3000 0; 37 -1830.05 3000 0; 38 0 18000 0
24. 39 -14400 18000 0; 40 -11000.1 18000 0; 41 -6710 18000 0; 42 -1830.05 18000 0
25. MEMBER INCIDENCES
26. 1 1 7; 5 3 2; 6 5 7; 7 7 5; 10 3 10; 11 5 11; 12 7 12; 13 8 12; 14 10 9
27. 15 11 10; 16 12 11; 19 10 15; 20 11 16; 21 12 17; 22 13 17; 23 15 14; 24 16 15
28. 25 17 16; 28 15 20; 29 16 21; 30 17 22; 31 18 22; 32 20 19; 33 21 20; 34 22 21
29. 37 20 25; 38 21 26; 39 22 27; 40 23 27; 41 25 24; 42 26 25; 43 27 26; 46 25 30
30. 47 26 31; 48 27 32; 49 29 32; 50 30 29; 51 31 30; 52 32 31; 55 35 3; 56 36 5
31. 57 37 7; 58 38 40; 59 31 41; 60 32 42; 61 38 42; 62 40 39; 63 41 40; 64 42 41
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

```


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 CMDA Reg. No: SE/I/2024/2/0047
 Door No: 21, 4th Main Road,
 Indira Nagar, Chennai-600 020.

STAAD SPACE

-- PAGE NO. 2

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39. G 9.28139
40. TYPE CONCRETE
41. STRENGTH FCD 0.027579
42. END DEFINE MATERIAL
43. MEMBER PROPERTY
44. 1 5 TO 7 13 TO 16 22 TO 25 31 TO 34 40 TO 43 49 TO 52 61 TO 63 -
45. 64 PRIS YD 500 ZD 200
46. 10 TO 12 19 TO 21 28 TO 30 37 TO 39 46 TO 48 55 TO 60 PRIS YD 500 ZD 200
47. CONSTANTS
48. MATERIAL CONCRETE ALL
49. SUPPORTS
50. 35 TO 37 FIXED
51. DEFINE WIND LOAD

```

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

```

52. TYPE 1 WIND 1
53. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
54. CUSTOM:PARAMS
55. !> END GENERATED DATA BLOCK
56. INT 1.45E-06 1.58E-06 1.69E-06 HEIG 10000 15000 18000
57. EXP 1 JOINT 1 TO 3 5 7 TO 32 35 TO 37
58. UNIT METER KN
59. DEFINE TS1893 2016 LOAD
60. ZONE 0.15 RF 5 I 1.2 SS 1 ST 1 DM 0.05 DT 3
61. SELFWEIGHT 1
62. MEMBER WEIGHT
63. 1 5 TO 7 13 TO 16 22 TO 25 31 TO 34 40 TO 43 49 TO 52 61 TO 64 UNI 12 0 0
64. 1 5 TO 7 13 TO 16 22 TO 25 31 TO 34 40 TO 43 49 TO 52 61 TO 64 UNI 35 0 0
65. LOAD 1 LOADTYPE SEISMIC-H TITLE EQ +X
66. 1893 LOAD X 1
67. LOAD 2 LOADTYPE SEISMIC-H TITLE EQ -X
68. 1893 LOAD X -1.
69. LOAD 3 LOADTYPE SEISMIC-H TITLE EQ +Z
70. 1893 LOAD Z 1
71. LOAD 4 LOADTYPE SEISMIC-H TITLE EQ -Z
72. 1893 LOAD X -1.
73. LOAD 5 LOADTYPE WIND TITLE WIND +X
74. WIND LOAD X 1 TYPE 1

```

STANDARD SPACE

-- PAGE NO. 3

*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.

75. LOAD 6 LOADTYPE WIND TITLE WIND -X

76. WIND LOAD -X 1 TYPE 1

*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.

77. LOAD 7 LOADTYPE WIND TITLE WIND +Z

78. WIND LOAD +Z 1 TYPE 1

79. LOAD 8 LOADTYPE WIND TITLE WIND -Z

80. WIND LOAD -Z 1 TYPE 1

81. LOAD 9 LOADTYPE LIVE TITLE LIVE

82. MEMBER LOAD

83. 1 5 TO 7 13 TO 16 22 TO 25 31 TO 34 40 TO 43 49 TO 52 61 TO 64 UNI GY -12

84. LOAD 10 LOADTYPE DEAD TITLE DEAD LOAD

85. SELFWEIGHT Y -1

86. MEMBER LOAD

87. 1 5 TO 7 13 TO 16 22 TO 25 31 TO 34 40 TO 43 49 TO 52 61 TO 64 UNI GY -35

88. LOAD COMB 11 1 5(DL+IL)

89. 9 1.5 10 1.5

90. LOAD COMB 12 1.2(DL+IL+ELX)

91. 9 1.5 10 1.2 1 1.2

92. LOAD COMB 13 1.2(DL+IL-ELX)

93. 9 1.2 10 1.2 2 1.2

94. LOAD COMB 14 1.2(DL+IL+ELZ)

95. 9 1.2 10 1.2 3 1.2

96. LOAD COMB 15 1.2(DL+IL-ELZ)

97. 9 1.2 10 1.2 4 1.2

98. LOAD COMB 16 1.2(DL+IL+WLX)

99. 9 1.2 10 1.2 5 1.2

100. LOAD COMB 17 1.2(DL+IL-WLX)

101. 10 1.2 6 1.2

102. LOAD COMB 18 1.2(DL+IL+WLZ)

103. 9 1.2 10 1.2 7 1.2

104. LOAD COMB 19 1.2(DL+IL-WLZ)

105. 9 1.2 10 1.2 8 1.2

106. LOAD COMB 20 1.5(DL+ELX)

107. 9 1.5 10 1.5 1 1.5

108. LOAD COMB 21 1.5(DL-ELX)

109. 9 1.5 10 1.5 2 1.5

110. LOAD COMB 22 1.5(DL+ELZ)

111. 9 1.5 10 1.5 3 1.5

112. LOAD COMB 23 1.5(DL-ELZ)

113. 10 1.5 4 1.5

114. LOAD COMB 24 1.5(DL+WLX)

115. 10 1 5 5 1.5

116. LOAD COMB 25 1.5(DL-WLX)

117. 10 1 5 5 1.5

118. LOAD COMB 26 1.5(DL+WLZ)

119. 10 1.5 7 1.5

PHYSICAL STATISTICS

NUMBER OF POINTS	38	NUMBER OF MEMBERS	49
NUMBER OF PLATES	0	NUMBER OF SOLIDS	0
NUMBER OF SURFACES	0	NUMBER OF SUPPORTS	3

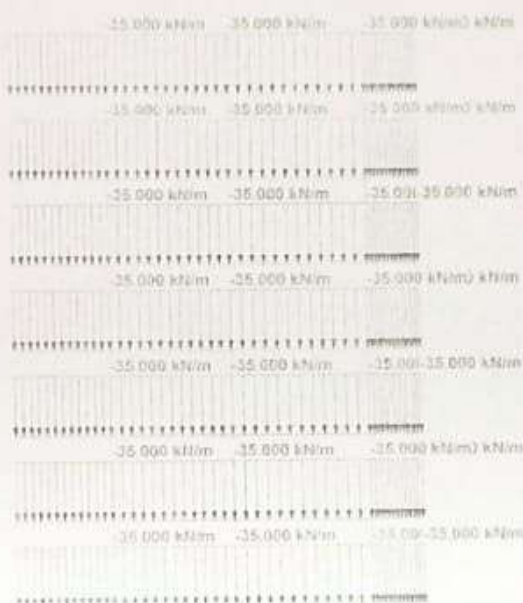
- 64-bit analysis engine.

ANALYSIS USED IS THE IN-CORE ADVANCED MATH SOLVER

TOTAL PRIMARY LOAD CASES = 18, TOTAL DEGREES OF FREEDOM = 218
TOTAL LOAD COMBINATION CASES = 25 SO FAR.

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

Job No.	Sheet No.	Rev.
	1	
Part		
Ref.		
By Kannan	Date 21-Mar-24	Chk Kannan
For SREE FOUNDATION - A)	Date/Time	21-Mar-2024 12:58

$$\begin{array}{c} Y \\ Z \quad X \end{array}$$


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

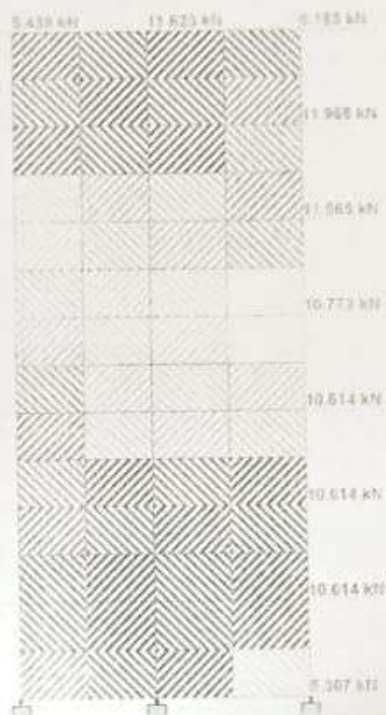
Bentley

Software Engineer R. S. Kannan
 (2046)CTED User: Kannan Chinnakong

Job No.	Drawn No.	Rev.
	1	
Pac.		
Ref.		
By Kannan	Date 21-Mar-24	Chk Kannan
Client	For SREE FOUNDATION - AI	Drawn Time 21-Mar-2024 12:58

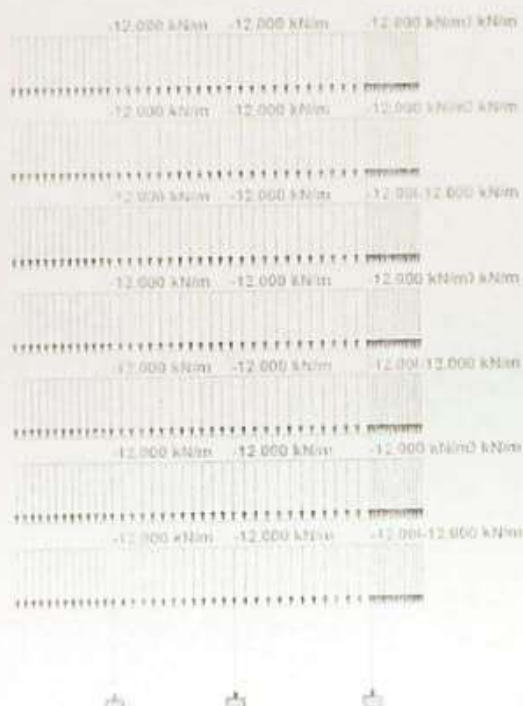
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Y
Z X



Sheet 1

Job Title: Proposed Residential Building Old Door No. 75, New Door No. 68 (Earlier Door No. 53), Dr. Alagappa Road, (Lauder's Gate Street), Purasawalkam, Chennai.


$$\begin{array}{c} Y \\ Z \quad X \end{array}$$

Bentley

Software Version: 22.12.00.142
CONNECT Edition: 22.12.00.142

Job No.

Sheet No.

1

Rev.

Part

Job Title: Proposed Residential Building Old Door No. 75, New Door No. 68 (Earlier Door No. 53), Dr Alagappa Road, (Lauder's Gate Street), Purasawalkam, Chennai-

Ref.

By: Kannan

Date: 21-Mar-24

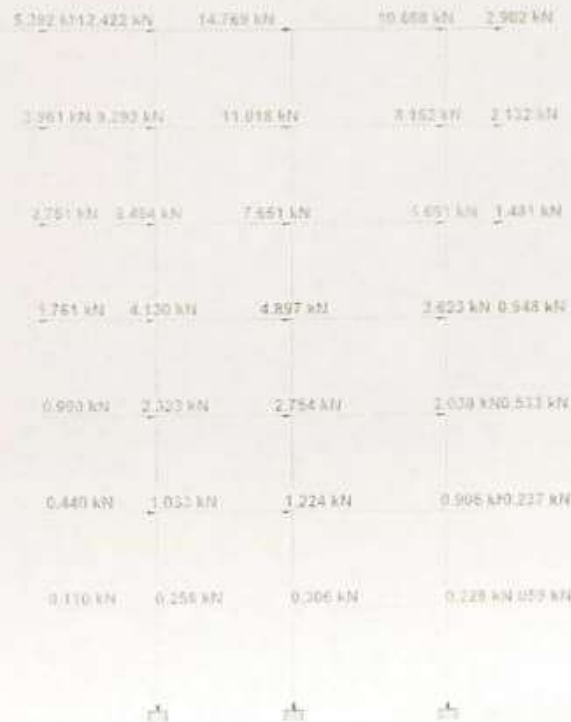
Chd: Kannan

Client

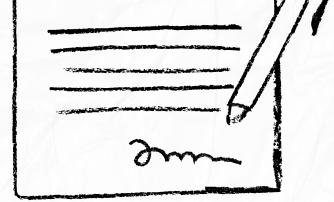
File: SREE FOUNDATION - AI

Print Time: 21-Mar-2024 12:58

Y
Z X




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CMDA Reg. No: SE/I/2024/2/0047
Door No: 21, 4th Main Road,
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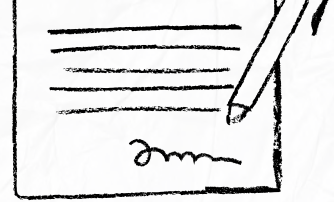
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real estate journey

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OMR Thoraipakkam,
Chennai, India

hello@verified.realestate
[+91 9996 12 9996](tel:+919996129996)
www.verified.realestate