Verified RealEstate™

Your trusted partner for buying, selling, and managing property, ensuring hassle-free service with 100% transparency.

3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai, India

hello@verified.realestate
+91 9996 12 9996

Official Property Record

Digitally Verified Record - Powered by Verified RealEstate™



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 Plot No. 176, Old D. No. 74, New D. No. 5, F- Block , 2nd Street, Anna Nagar (East), Chennai- 600 102. Comprised in T. S. Nos. 55, Block No. 2, Periyakudal Village, Aminjikarai Taluk, Chennai District, Greater Chennai Corporation, Division No. 67, Zone- 5. 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. 176, OLD D. NO. 74, NEW D. NO. 5, F-BLOCK , 2ND STREET, ANNA NAGAR (EAST), CHENNAI- 600 102. COMPRISED IN T. S. NOS. 55, BLOCK NO. 2, PERIYAKUDAL VILLAGE, AMINJIKARAI TALUK, CHENNAI DISTRICT, GREATER CHENNAI CORPORATION, DIVISION NO. 67, ZONE- 5

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.

```
*****************************************************
*                                                   *
*           STAAD.Pro CONNECT Edition               *
*           Version  22.12.00.142                   *
*           Proprietary Program of                  *
*           Bentley Systems, Inc.                   *
*           Date=    FEB  8, 2024                   *
*           Time=    18: 1:16                       *
*                                                   *
*  Licensed to: C.Kannan                            *
*****************************************************
```

```
     1. STAAD SPACE
INPUT FILE: D:\LOGESH\STABILITY CERTIFICATE\FIRM\FIRM - BLOCK -2\FIRM -.. .STD
     2. START JOB INFORMATION
     3. ENGINEER DATE 2/8/2024
     4. JOB NAME PROPOSED RESIDENTIAL BUILDING AT PLOT NO. 176, OLD D. NO. 74, NEW -
     5. D. NO. 5, F- BLOCK , 2ND STREET, ANNA NAGAR (EAST), CHENNAI- 600 102. -
     6. COMPRISED IN T. S. NOS. 55, BLOCK NO. 2, PERIYAKUDAL VILLAGE, AMINJIKARAI -
     7. TALUK, CHENNAI DISTRICT, GREATER CHENNAI CORPORATION, DIVISION NO. 67, ZONE- -
     8. 5
     9. ENGINEER NAME KANNAN
    10. CHECKER NAME KANNAN
    11. APPROVED NAME KANNAN
    12. CHECKER DATE 2/8/2024
    13. APPROVED DATE 2/8/2024
    14. END JOB INFORMATION
    15. INPUT WIDTH 79
    16. UNIT MMS KN
    17. JOINT COORDINATES
    18. 1 0 0 0; 2 7315.2 0 0; 3 13943.2 0 1.16415E-10; 4 0 3000 0; 5 7315.2 3000 0
    19. 6 13943.2 3000 1.16415E-10; 7 0 6000 0; 8 7315.2 6000 0
    20. 9 13943.2 6000 1.16415E-10; 10 0 9000 0; 11 7315.2 9000 0
    21. 12 13943.2 9000 1.16415E-10; 13 0 12000 0; 14 7315.2 12000 0
    22. 15 13943.2 12000 1.16415E-10; 16 0 15000 0; 17 7315.2 15000 0
    23. 18 13943.2 15000 1.16415E-10; 19 0 18000 0; 20 7315.2 18000 0
    24. 21 13943.2 18000 1.16415E-10; 22 0 -3000 0; 23 7315.2 -3000 0
    25. 24 13943.2 -3000 1.16415E-10
    26. MEMBER INCIDENCES
    27. 1 1 2; 2 2 3; 3 1 4; 4 2 5; 5 3 6; 6 4 5; 7 5 6; 8 4 7; 9 5 8; 10 6 9; 11 7 8
    28. 12 8 9; 13 7 10; 14 8 11; 15 9 12; 16 10 11; 17 11 12; 18 10 13; 19 11 14
    29. 20 12 15; 21 13 14; 22 14 15; 23 13 16; 24 14 17; 25 15 18; 26 16 17; 27 17 18
    30. 28 16 19; 29 17 20; 30 18 21; 31 19 20; 32 20 21; 33 22 1; 34 23 2; 35 24 3
    31. DEFINE MATERIAL START
    32. ISOTROPIC CONCRETE
    33. E 21.7185
    34. POISSON 0.17
    35. DENSITY 2.35616E-08
    36. ALPHA 1E-05
    37. DAMP 0.05
    38. G 9.28139
```

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. TYPE CONCRETE
40. STRENGTH FCU 0.027579
41. END DEFINE MATERIAL
42. MEMBER PROPERTY
43. 1 2 6 7 11 12 16 17 21 22 26 27 31 32 PRIS YD 450 ZD 230
44. 3 TO 5 8 TO 10 13 TO 15 18 TO 20 23 TO 25 28 TO 30 33 TO 35 PRIS YD 450 ZD 230
45. CONSTANTS
46. MATERIAL CONCRETE ALL
47. SUPPORTS
48. 22 TO 24 FIXED
49. DEFINE IS1893 2016 LOAD
50. ZONE 0.16 RF 5 I 1.2 SS 1 ST 1 DM 0.05 DT 3000
51. SELFWEIGHT 1
52. MEMBER WEIGHT
53. 1 2 6 7 11 12 16 17 21 22 26 27 31 32 UNI 0.012 0 0
54. 1 2 6 7 11 12 16 17 21 22 26 27 31 32 UNI 0.035 0 0
55. UNIT METER KN
56. 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.

57. TYPE 1 WIND 1
58. <! STAAD PRO GENERATED DATA DO NOT MODIFY !!!
59. CUSTOM:PARAMS
60. !> END GENERATED DATA BLOCK
61. INT 1.35 1.58 1.69 HEIG  10  15  18
62. EXP 1 JOINT 1 TO 24
63. LOAD 1 LOADTYPE SEISMIC-H  TITLE EQ +X
64. 1893 LOAD X 1
65. LOAD 2 LOADTYPE SEISMIC-H  TITLE EQ -X
66. 1893 LOAD X -1.
67. LOAD 3 LOADTYPE SEISMIC-H  TITLE EQ +Z
68. 1893 LOAD Z 1
69. LOAD 4 LOADTYPE SEISMIC-H  TITLE EQ -Z
70. 1893 LOAD Z -1.
71. LOAD 5 LOADTYPE WIND  TITLE WIND +X
72. WIND LOAD X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
73. LOAD 6 LOADTYPE WIND  TITLE WIND -X
```

STAAD SPACE -- PAGE NO. 3

```
  74. WIND LOAD -X 1 TYPE 1
*WARNING- NO MEMBERS LOADED FOR A WIND LOAD GENERATION.
  75. LOAD 7 LOADTYPE WIND  TITLE WIND +Z
  76. WIND LOAD Z 1 TYPE 1
  77. LOAD 8 LOADTYPE WIND  TITLE WIND -Z
  78. WIND LOAD -Z 1 TYPE 1
  79. LOAD 9 LOADTYPE LIVE  TITLE LIVE LOAD
  80. MEMBER LOAD
  81. 1 2 6 7 11 12 16 17 21 22 26 27 31 32 UNI GY -12
  82. LOAD 10 LOADTYPE DEAD  TITLE DEAD LOAD
  83. SELFWEIGHT Y -1
  84. MEMBER LOAD
  85. 1 2 6 7 11 12 16 17 21 22 26 27 31 32 UNI GY -35
  86. LOAD COMB 11 1.5(DL+IL)
  87. 9 1.5 10 1.5
  88. LOAD COMB 12 1.2(DL+IL+ELX)
  89. 9 1.5 10 1.2 1 1.2
  90. LOAD COMB 13 1.2(DL+IL-ELX)
  91. 9 1.2 10 1.2 2 1.2
  92. LOAD COMB 14 1.2(DL+IL+ELZ)
  93. 9 1.2 10 1.2 3 1.2
  94. LOAD COMB 15 1.2(DL+IL-ELZ)
  95. 9 1.2 10 1.2 4 1.2
  96. LOAD COMB 16 1.2(DL+IL+WLX)
  97. 9 1.2 10 1.2 5 1.2
  98. LOAD COMB 17 1.2(DL+IL-WLX)
  99. 10 1.2 6 1.2
 100. LOAD COMB 18 1.2(DL+IL+WLZ)
 101. 9 1.2 10 1.2 7 1.2
 102. LOAD COMB 19 1.2(DL+IL-WLZ)
 103. 9 1.2 10 1.2 8 1.2
 104. LOAD COMB 20 1.5(DL+ELX)
 105. 9 1.5 10 1.5 1 1.5
 106. LOAD COMB 21 1.5(DL-ELX)
 107. 9 1.5 10 1.5 2 1.5
 108. LOAD COMB 22 1.5(DL+ELZ)
 109. 9 1.5 10 1.5 3 1.5
 110. LOAD COMB 23 1.5(DL-ELZ)
 111. 10 1.5 4 1.5
 112. LOAD COMB 24 1.5(DL+WLX)
 113. 10 1.5 5 1.5
 114. LOAD COMB 25 1.5(DL-WLX)
 115. 10 1.5 6 1.5
 116. LOAD COMB 26 1.5(DL+WLZ)
 117. 10 1.5 7 1.5
 118. LOAD COMB 27 1.5(DL-WLZ)
 119. 10 1.5 8 1.5
```

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


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

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

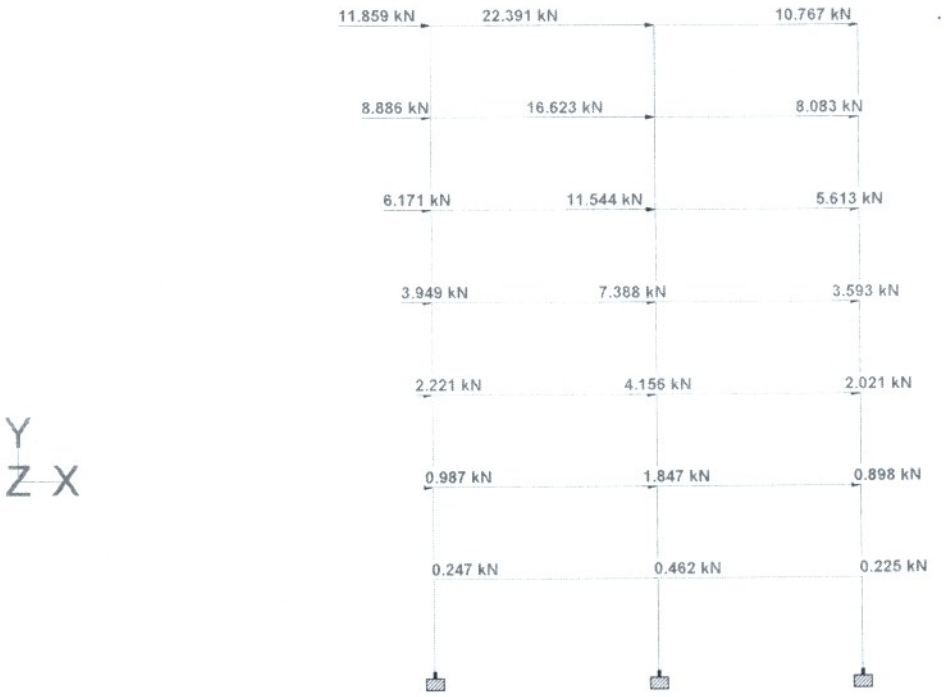
        Using 64-bit analysis engine.

        SOLVER USED IS THE IN-CORE ADVANCED MATH SOLVER

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

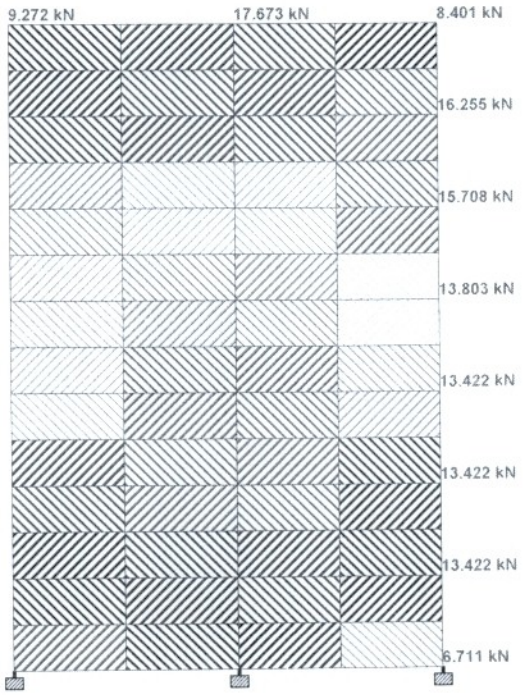
C. KANNAN, B.E., M.E., (Structure)
Structural Engineer,
CMDA Reg. No: SE/GR-I/19/02/002.
Door No: 21, 4th Main Road,
Indira Nagar, Chennai-600 020.

Bentley Software licensed to C Kannan CONNECTED User: Kannan Chinnasamy	Job No	Sheet No 1	Rev
	Part		
Job Title: Proposed Residential Building at Plot No. 176, Old D. No. 74, New D. No. 5, F-Block , 2nd Street, Anna Nagar (East), Chennai- 600 102. Comprised in T. S.	Ref		
	By Kannan	Date 2/8/2024	Chd Kannan
Client	File FIRM - BLOCK -2.STD	Date/Time 08-Feb-2024 18:01	



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.

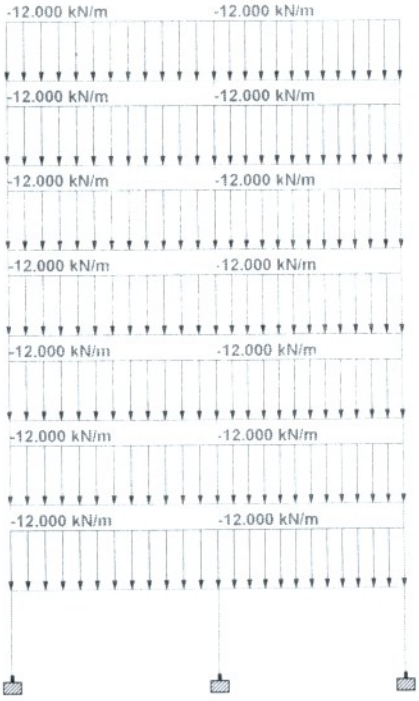
Bentley Software licensed to C.Kannan CONNECTED User: Kannan Chinnasamy	Job No	Sheet No 1	Rev
	Part		
Job Title Proposed Residential Building at Plot No. 176, Old D. No. 74, New D. No. 5, F-Block , 2nd Street, Anna Nagar (East), Chennai- 600 102. Comprised in T. S.	Ref		
	By Kannan	Date 2/8/2024	Chd Kannan
Client	File FIRM - BLOCK -2.STD	Date/Time	08-Feb-2024 18:01



Bentley

Software licensed to C Kannan
CONNECTED User: Kannan Chinnasamy

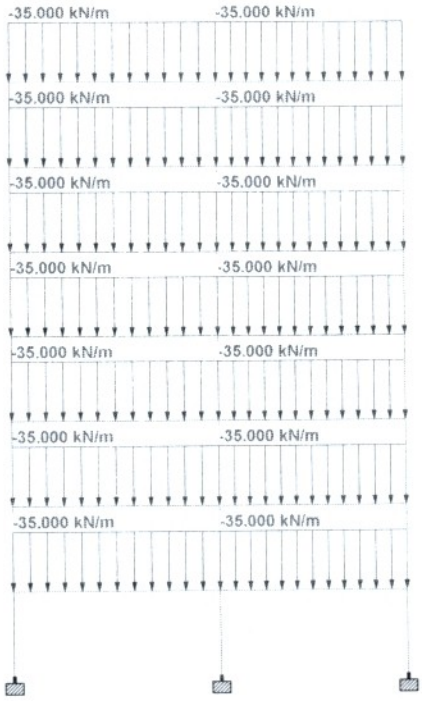
Job No	Sheet No 1	Rev	
Part			
Job Title: Proposed Residential Building at Plot No. 176, Old D. No. 74, New D. No. 5, F-Block , 2nd Street, Anna Nagar (East), Chennai- 600 102. Comprised in T. S.	Ref		
	By Kannan	Date 2/8/2024	Chd Kannan
Client	File FIRM - BLOCK -2.STD	Date/Time 08-Feb-2024 18:01	



Y
Z X

Load 9

Bentley Software licensed to C.Kannan CONNECTED User: Kannan Chinnasamy	Job No	Sheet No 1	Rev
	Part		
Job Title Proposed Residential Building at Plot No. 176, Old D. No. 74, New D. No. 5, F-Block , 2nd Street, Anna Nagar (East), Chennai- 600 102. Comprised in T. S.	Ref		
	By Kannan	Date 2/8/2024	Chd Kannan
Client	File FIRM - BLOCK -2.STD	Date/Time 08-Feb-2024 18:01	



Load 10

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.



தமிழ்நாடு तमिलनाडु TAMIL NADU

02 JAN 2024

FIRM FOUNDATIONS & HOUSING (P) LTD., CHENNAI-600 040

25AC 125276

Mrs.K.NIRANJANA
STAMP VENDOR
L.C. No. 13075 Dt : 6-6-94
NEW No.9, SINGARAVEL STREET, CHENNAI - 600 001.
Cell : 99401 63480 / 99410 29538

FORM FOR CERTIFICATE FOR STRUCTURAL DESIGN SUFFIENCY

With respect to the Builder office located at Q Block no.93, 4th Main road, Annanagar Chennai 600 040, and construction site at **FIRM'S DEJAVU** AT Plot no.176, Old no.74, New no.5, F Block , 2nd street, Annanagar east, Comprised in T.S.no.55, Block no.2, of Periyakudal village, Aminjikarai taluk, Chennai district, Chennai 600 102.

We certify that the structural plans of the building meet the structural safety requirements for for all situations including natural disasters as applicable as stipulated under part 6 Structural Design of National Building Code of India and other relevant codes: The Design has been done after Detailed Soil Test and we are satisfied as to the adequacy of Soil Test carried out and the information given therein is factually correct to the best of our knowledge and understanding.

STR

For FIRM FOUNDATIONS & HOUSING PVT. LTD.

CHAIRMAN & MANAGING DIRECTOR

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.

Dr. S.CHOCKALINGAM, M.E. (Geo-Tech)., Ph.D.,
Geo - Technical Engineer
T.J. ENGINEERS
Plot No:4, Anna Nagar, 1st Street,
Velachery, Chennai-600 042.
Phone: 044-42334194 Mob: 9841255480
CMDA Registration No: GTE/19/03/006
DTCP Reg. No: CGLRGN/RGTE/2019/07/010

V. SRINIVASAN, AIIA.
Registered Architect-CA/96/19755
Licensed Surveyor-Corporation of Chennai
R.A. No. 344
Firm Arcade, P-47/1, 17th Street, Anna Nagar
Chennai-600 040. Ph : 2628 6529

This site is fit for the proposed construction: it has been tested vide soil test report no.**TJE/003121/2024** done by Mr. S.Chokalingam of T.J.Engineers site at Firm Foundations & Housing (P) Ltd. same address as above.

Signature of the Owner/Builder

Name : Mr.C.KASTURI RAJ
Address : Q Block no.93, 4th Main Road
Annanagar, Chennai 600 040.
Phone : 97909 22619
Mail ID : mail@firmfoundations.in
Lisence no. : RD/2024/03/034

For FIRM FOUNDATIONS & HOUSING PVT. LTD.
CHAIRMAN & MANAGING DIRECTOR

Signature of the Structural Engineer

Name : C. KANNAN
Address : Door no.21, 4th Main road
Indhra Nagar, Chennai 600 020
Phone : 98412 49815
Mail ID : kannankds2007@gmail.com
Lisence No. : SE/1/2024/2/0047

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.

Signature of the Architect/Registered Engineer

Name : V.SRINIVASAN
Address : P Block no.47/1, 17th street
Annanagar, Chennai 600 040
Phone : 98400 20446
Mail ID : srinivasanvkm@gmail.com
Lisence No. : CA/1996/19755

V. SRINIVASAN, AIIA.
Registered Architect-CA/96, 19755
Licensed Surveyor-Corporation of Chennai
R.A. No. 344
Firm Arcade, P.47/1, 17th Street, Anna Nagar,
Chennai-600 040. Ph : 2628 6529

Signature of the Registered Geo-Technical

Name : S. CHOCKALINGAM
Address : No.4, Annanagar, 1st street
Velachery, 600 042
Phone : 98412 55480
Mail ID : tjengineers@yahoo.com
Lisence No. : GTE/2024/03/006 .

Dr. S.CHOCKALINGAM, M.E. (Geo-Tech)., Ph.D.,
Geo - Technical Engineer
T.J. ENGINEERS
Plot No:4, Anna Nagar, 1st Street,
Velachery, Chennai-600 042.
Phone: 044-42334194 Mob: 9841255480
CMDA Registration No: GTE/19/03/006
DTCP Reg. No: CGLRGN/RGTE/2019/07/010



our services doesn't just end there

Buying & Selling Services

Property Buying Assistance, Property Selling Support, Market Price Analysis, Owner Outreach and Negotiation.

Legal & Documentation Services

Certified EC, Patta, legal opinions, property verification, due diligence, litigation solutions, and legal heir certificates.

Property Development & Approvals

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

NRI & Investment Services

Escrow Services, Rentals, Litigation Solutions, Property Valuation and Property Management

Compliance & Special Services

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



empowering your real estate decisions with smart tools

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

Verified RealEstate™

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

3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai, India

hello@verified.realestate
+91 9996 12 9996
www.verified.realestate