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METIS structures

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metisstructures@gmail.com

STABILITY CERTIFICATE

(To be furnished while filing application for registration of building)

1) The detailed engineering and structure design of the proposed building comprising of *Basement+Stilt+5* floors at *T.S. No-28/2,30,31,32,33 Ward No-V, Block No-45 (Old S.F. No-427/1part & 428/1) IN GANAPATHY VILLAGE, COIMBATORE NORTH TALUK, COIMBATORE CORPORATION.* Has been done by me/us based on the report of geotechnical investigation (soil test) done by *GEODESIGN INDIA PRIVATE LIMITED, Coimbatore Ref: GEO – G - 053 - 2024-25,* and considering the functional requirement of the building.

2) It is certified that among other factors, the proposed building has been designed to resist earthquake. I/We have checked various parameters and found that the proposed building would be safe.

3) I/We. Further certify that:
   a. The minimum grade of concrete is M25
   b. The design and analysis has been done using the code of practice for plain and reinforced concrete as per IS 456, design loads as per IS Codes No IS 875 Part I & II and design of earthquake resistant structure as per IS Code No IS 1893-2016

4) The building will be safe and sound when used for the purpose for which it is designed.

Encl.: Structural Design Calculation

11/3/25

Signature & Stamp & Date

S. ARUN KUMAR, ME., (Struct.)
Coimbatore LPA/SE/GR-I/066/2024
METIS STRUCTURES
9,9-1,Lakshmi Garden, Sankara Collage Road,
Saravanampatti, Coimbatore - 35.
GSTIN : 33AAXFM9597P1ZT

METIS STRUCTURES

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9,9–1,Lakshmi Garden,
Sankara College Road,
Saravanampatti,
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Mobile : 979 000 6296.

DESIGN BASIS REPORT

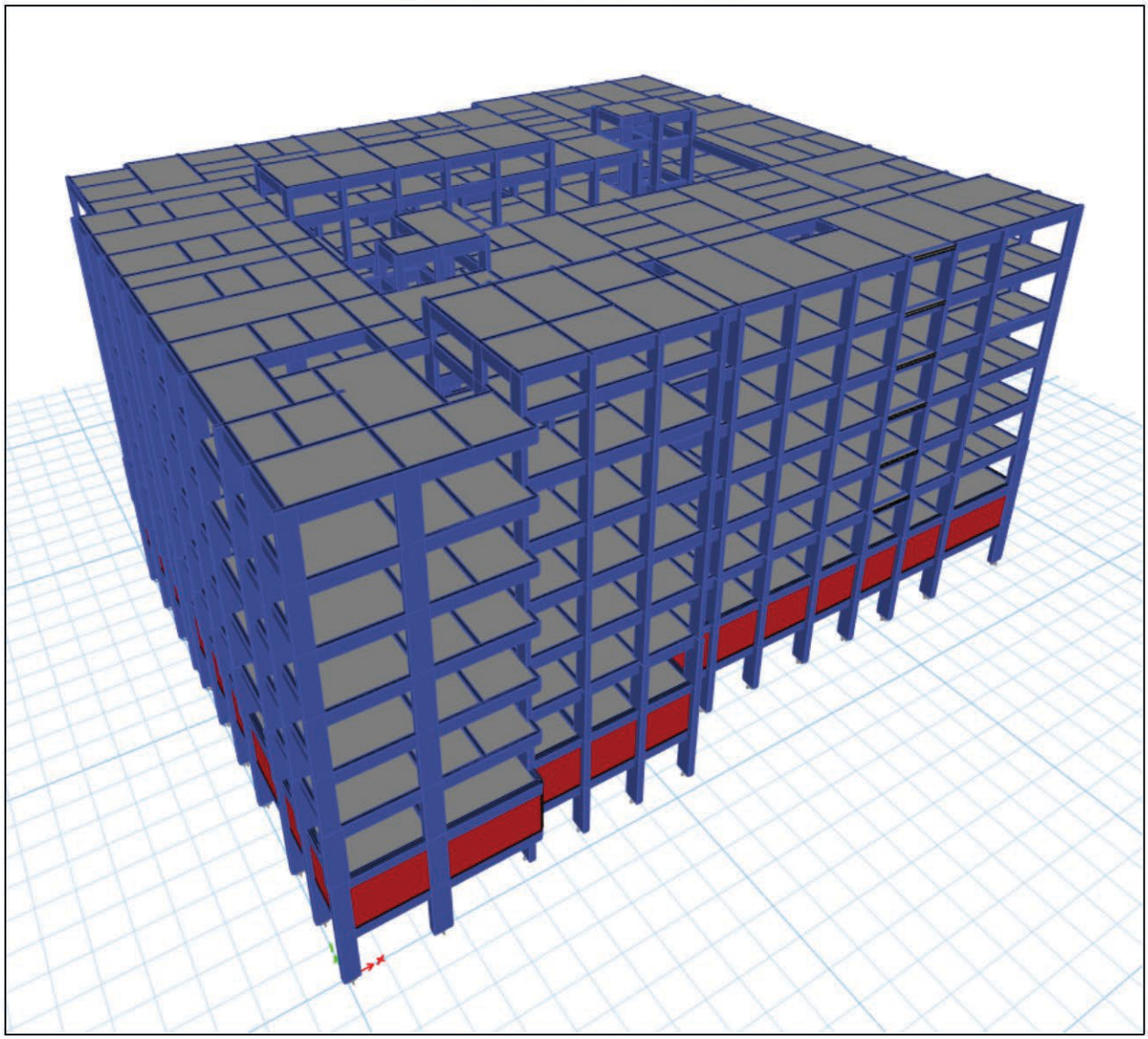
ON

GRAND CITY APARTMENT

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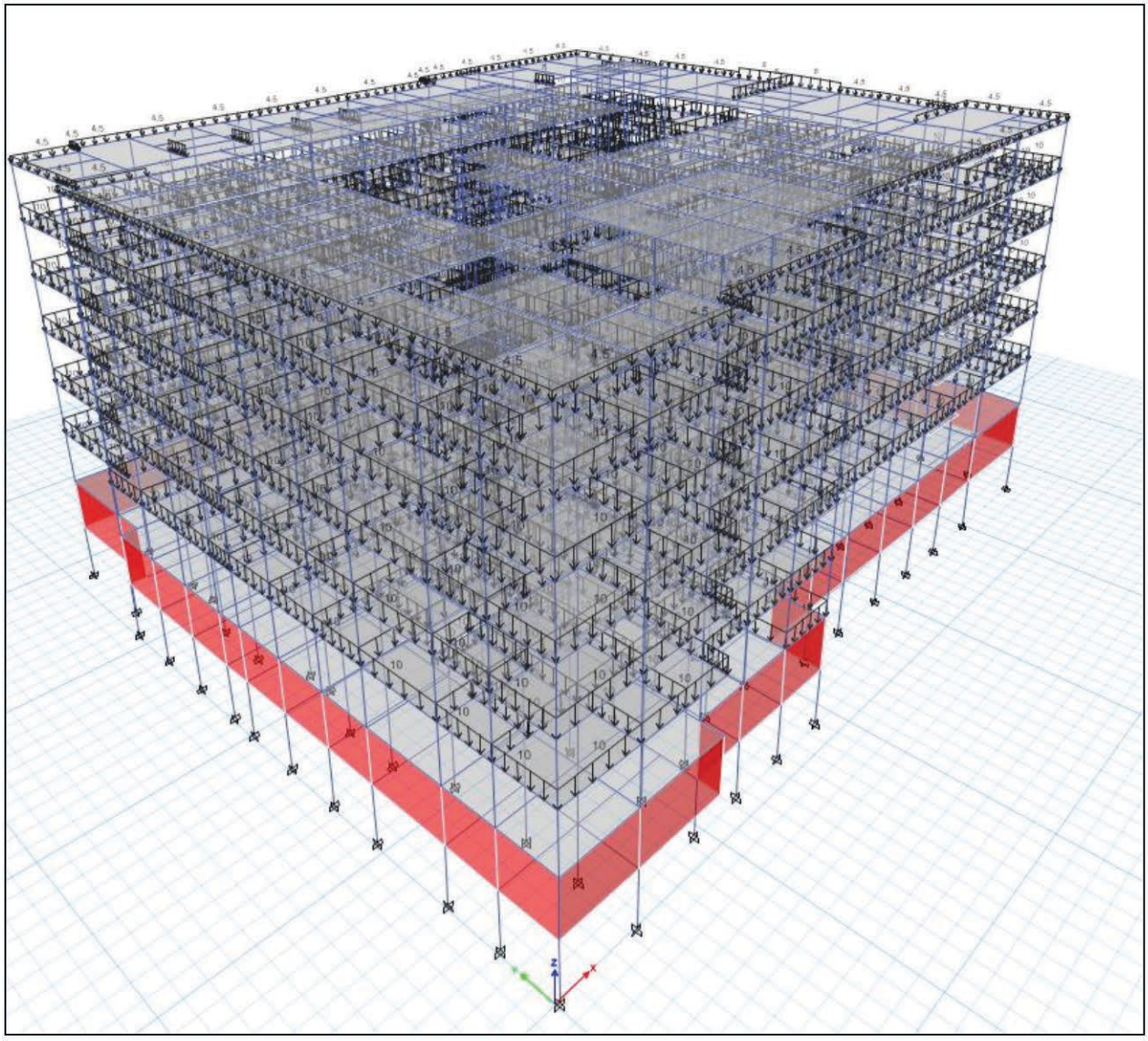
6. ETABS IMAGES

a) WHOLE STRUCTURE



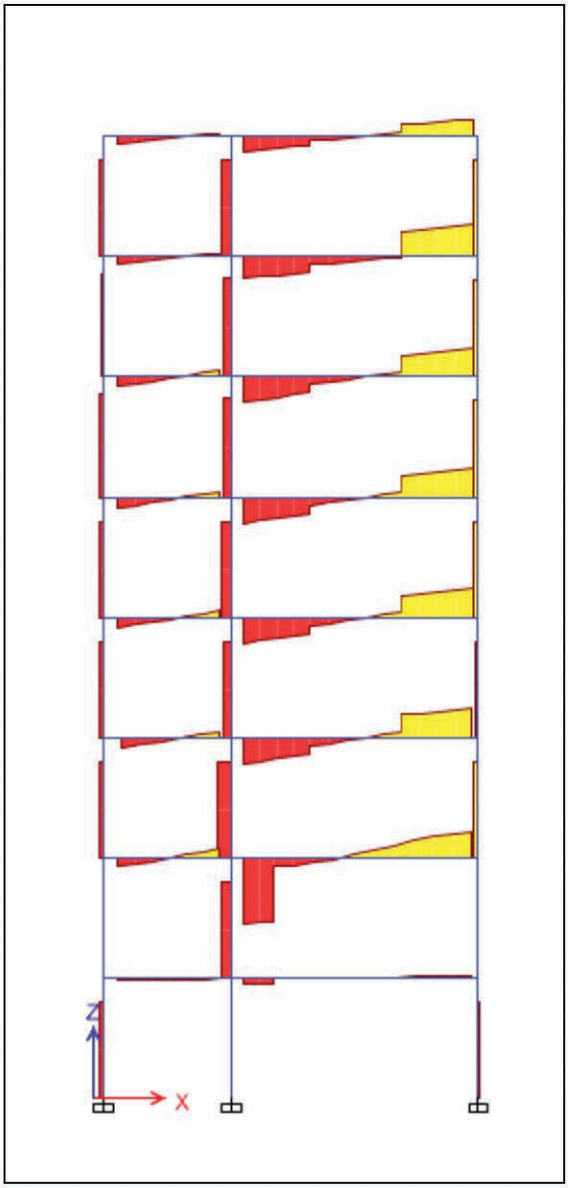
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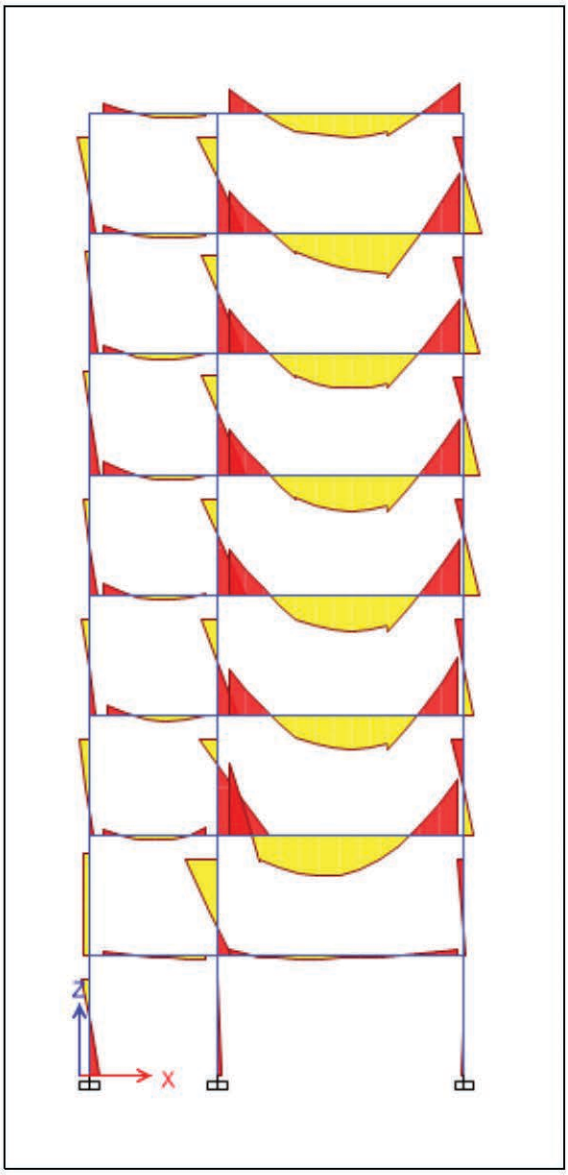
b) DEAD LOAD



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c) SHEAR & BENDING MOMENT





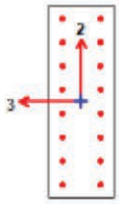
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7. COLUMMN DESIGN

ETABS 21.2.0 License #

ETABS Concrete Frame Design

IS 456:2000 + IS 13920:2016 Column Section Design (Summary)



Column Element Details

Level	Element	Unique Name	Section ID	Combo ID	Station Loc	Length (mm)	LLRF	Type
BASEMENT ROOF	C71	456	C - 300X900 C2	1.5DL+1.5LL+1.5SL	2400	3000	0.495	Ductile Frame

Section Properties

b (mm)	h (mm)	dc (mm)	Cover (Torsion) (mm)
300	900	60.5	30

Material Properties

E_c (MPa)	f_{ck} (MPa)	Lt.Wt Factor (Unitless)	f_y (MPa)	f_{ys} (MPa)
27386.13	30	1	500	500

Design Code Parameters

γ_c	γ_s
1.5	1.15

Axial Force and Biaxial Moment Design For P_u , M_{u2} , M_{u3}

Design P_u kN	Design M_{u2} kN-m	Design M_{u3} kN-m	Minimum M_2 kN-m	Minimum M_3 kN-m	Rebar Area mm^2	Rebar % %
2604.8095	-169.9938	275.784	52.0962	90.6474	4232	1.57

Axial Force and Biaxial Moment Factors

	K Factor Unitless	Length mm	Initial Moment kN-m	Additional Moment kN-m	Minimum Moment kN-m
Major Bend(M3)	5.945881	2400	22.031	221.4716	90.6474
Minor Bend(M2)	2.504662	2400	-6.8494	117.8977	52.0962

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ETABS 21.2.0 License #

Shear Design for V_{u2} , V_{u3}

	Shear V_u kN	Shear V_c kN	Shear V_s kN	Shear V_p kN	Rebar A_{sv}/s mm²/m
Major, V_{u2}	33.6265	232.434	100.7396	0	332.53
Minor, V_{u3}	3.3627	211.7419	86.2189	0	997.59

Joint Shear Check/Design

	Joint Shear Force kN	Shear V_{Top} kN	Shear $V_{u,Tot}$ kN	Shear V_c kN	Joint Area cm²	Shear Ratio Unitless
Major Shear, V_{u2}	N/N	N/N	N/N	N/N	N/N	N/N
Minor Shear, V_{u3}	N/N	N/N	N/N	N/N	N/N	N/N

(1.4) Beam/Column Capacity Ratio

Major Ratio	Minor Ratio
N/N	N/N

Additional Moment Reduction Factor k (IS 39.7.1.1)

A_g cm²	A_{sc} cm²	P_{u2} kN	P_b kN	P_u kN	k Unitless
2700	42.3	5232.1282	1736.2765	2604.8095	0.751553

Additional Moment (IS 39.7.1)

	Consider M_a	Length Factor	Section Depth (mm)	KL/Depth Ratio	KL/Depth Limit	KL/Depth Exceeded	M_a Moment (kN-m)
Major Bending (M_2)	Yes	0.8	900	15.856	12	Yes	294.6852
Minor Bending (M_3)	Yes	0.8	300	20.037	12	Yes	156.872

Notes:

N/A: Not Applicable

N/C: Not Calculated

N/N: Not Needed



our services doesn't just end there

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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

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