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DIGITALLY VERIFIED RECORD

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STABILITY CERTIFICATE

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

The detailed engineering and structure design of the proposed building comprising of S+5 floors at **R.S.F.NO. 517/1B, SUB-DIVISION R.S.F. NO. 517/1B2, SITE NO. 10, 11, 12, 13, 14, OLD WARD NO. 46, NEW WARD NO. 49, ERODE " C " VILLAGE (KASIPALAYAM), AT BLUE LEAF GARDEN (PHASE-II), IRANIYAN 2nd STREET (ANNA NAGAR), ERODE CITY MUNICIPAL CORPORATION, ERODE TALUK & DISTRICT** has been done by me/us based on the report of geotechnical investigation (soil test) done by **V R GEOTECHNICAL ENGINEERS** Report No. **Ref: 751/Soil-2022-23** Dated **27.07.2022** 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:

(i) The minimum grade of concrete is **M25**

(ii) 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 **875 Pt.1 & Pt.2** and design of earthquake resistant structure as per IS Code No.1893.2002.

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

Encl.: Structural Design Calculation

PGCADD STRUCTURES 1/14 15.9.25 ERODE

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BLUE LEAF GRANGE APARTMENT
ERODE.
DESIGN CALCULATIONS

INTRODUCTION:

The structure is a **"Six– Storied Building" consisting of Silt + 5 upper floors proposed to be constructed for "BLUE LEAF" in R.S.F.NO. 517/1B, SUB-DIVISION R.S.F. NO. 517/1B2, SITE NO. 10, 11, 12, 13, 14, OLD WARD NO. 46, NEW WARD NO. 49, ERODE " C " VILLAGE (KASIPALAYAM), AT BLUE LEAF GARDEN (PHASE-II), IRANIYAN 2nd STREET (ANNA NAGAR), ERODE CITY MUNICIPAL CORPORATION, ERODE TALUK & DISTRICT.**

It is designed as Reinforced concrete framed structure supported on footings and columns. Footings are placed at 10'-0" depth below ground level and the **SBC of the soil is taken 310 kN/Sq.m**

MATERIALS USED

Following material are generally used in the design of the various components of the structure.

1. M25 & M30 grade concrete for all concrete parts of the structure.
2. Fe 500 & Fe550D grade Reinforcement steel for all Reinforced concrete members.

CODES FOLLOWED:

Following codes and specifications has been used in the design of the members of the structure.

1. IS:456 - 2000 Plain and Reinforced Concrete
2. SP: 16 Design Aids for Reinforced Concrete to IS: 456
3. IS: 875 Part1,2,4,5(1987) and Part 3(2015) Design Loads
4. IS: 1893 – 2016 Criteria for Earthquake Resistant Design of Structures
5. IS: 13920 – 2016 Ductile Detailing for Reinforced Concrete Structures Subjected to Seismic forces.

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DESIGN DATA:

1.	No. of floors	=	Stilt + 5 upper floors
2.	Height of floors	=	3.05 m
3.	SBC of soil @ 10'-0"	=	310.0 kN/m²
4.	D.L. of 150 thk slab	=	3.75 kN/m²
5.	D.L. of 140 thk slab	=	3.5 kN/m²
6.	D.L. due to flooring	=	1.00 kN/m²
7.	D.L. of 230 thk walls per metre length	=	13.50 kN/m
8.	D.L. of 115 thk walls per metre length	=	6.00 kN/m
9.	L.L on rooms	=	2.00 kN/m²
10.	Design mix of Columns, Footings, Slabs, Beams	=	M25 & M30

ANALYSIS OF STRUCTURE:

The structure is analyzed by using Etabs. All members are Manually designed as Reinforced Concrete members.

Shear Walls are designed by using Etabs.

Independent Footing has been provided for columns.

DESIGN OF COLUMNS:

Material – M25; Fe550D

LOAD ON COLUMNS:

R1	=	3500 KN
R2	=	2690 KN
R3	=	2130 KN
R4	=	2002 KN
R5	=	1440 KN
R6	=	1000 KN
R7	=	800 KN

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COLUMN DESIGN:

DESIGN OF COLUMN								
LOAD(P)	=	3550	KN					
Fact. Laod	=	5325						
fck	=	25	N/Sq .mm					
fy	=	550	N/Sq .mm					
Unsupported length of colum	=	3.5	m					
Column end conditions	=	Effectively held in position and restrained against rotation						
Recommended value of effective lenth	=	0.65L	=	2.275	m			
Assumed area of steel	=	0.80%	=	0.08Ag				
Size of column Assumed	=	**300**	x	**760**				
Provided Area of concrete	=	228000						
Check for Slenderness ratio								
Effective length of colum	=	2.275	m					
Slenderness ratio	=	l/b	=	**7.58**	<	**12**		
		l/d	=	**2.99**	<	**12**		
So the column will be designed as short column								
Check for eccenricity								
Min. Eccenricity	=	(L/500)+((b/30)			=	17.00	mm	
	=				=	32.33	mm	
	=	20	mm		(As per IS 456-2000 cl 25.4)			
Eccenricity taken as (e)	=	32.33	mm					
Moment calculations								
Moment due to eccentricity vs As per Analysis	=	(P*e)	=	114783333.3	N.mm	=	230	KN .M
Reinforcement calculations								
Longitudinal reinforement								
P/(fck.b.d)	=	0.9342						
M/(fck.b.d^2) - (Max of M3-3 & M2-2)	=	0.053						

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d'	=	56.000	mm	(Assumed as	32	mm	dia bars to be used)	
d'/d	=	0.2						
For these values p/fck from the chart 38 of IS hand book SP-16 - As	=	0.14	fck	=	3.5	%		
Min. Reinforcement for column	=	0.8	%					
Area of steel taken as	=	3.5	%					
Area of steel reqd.	=	**7980**	Sq.mm		8493.724			
Provide	32	mm dia bars	6					
and	32	mm dia bars	6					
Ast. Provided	=	**9646.08**	Sq.mm	>	**8493.724**	**HENCEOK**		
Transverrse reinforcement								
Max. Length of the Longituditional reinforcement direction =					760			
No. of rods placing in one side =					2			
Spacing of Longituditional bars other than corner =					226.6667	>75		
Provide	8	mm dia double stirrups @			150	mm C/C		
Check for Min spacing								
150	<	300	mm	(Least lateral dimension)				
150	<	512	mm	(16 times to the smallest dia of long. bar)				
150	<	300	mm			**Hence O.K**		
Column Design Result								
Size of Column	=	**300**	x	**760**				
Longituditional Reinforcement	**32**	mm dia bars	**6**	nos. and				
	32	mm dia bars	**6**	nos.				
Transvers reinforcement	**8**	mm dia double stirrups @			**150**	mm C/C		

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COLUMN SCHEDULE:

COLUMN NAME	AXIAL LOAD(KN)	COLUMN SIZE	REINFORCEMENT	STIRRUPS
R1	3550	300 x 760	6Y32 + 6Y32	Y8 @ 150mm c/c
R2	2690	230 x 760	14Y25	Y8 @ 150mm c/c
R3	2130	230 x 680	10Y25	Y8 @ 150mm c/c
R4	2002	230 x 600	10Y20	Y8 @ 150mm c/c
R5	1440	230 x 460	4Y25 + 8Y20	Y8 @ 150mm c/c
R6	1000	230 x 610	10Y20	Y8 @ 150mm c/c
R7	800	230 x 460	4Y20 + 4Y16	Y8 @ 150mm c/c

SHEAR WALL SCHEDULE:

SHEAR WALL NAME	AXIAL LOAD(KN)	SHEAR WALL SIZE	REINFORCEMENT	STIRRUPS
SW1	2860	230 x 1220	8Y25 + 16Y20	Y8 @ 150mm c/c

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FOOTING DESIGN:

Design of Footing								
(A) INPUT DATA								
Safe Bearing Capacity of Soil, SBC			310.00	KN/m^2	Concrete, F_{ck}	25.00	MPa	
Cross- sectional width of column, b			300.00	mm	Steel, F_y	550.00	MPa	
Cross- sectional depth of column, D			760.00	mm	Clear Cover, CC	50.00	mm	
Axial Load (Service), P			**3550.00**	KN	Dia. of Steel, d_b	12.00	mm	
Footing wieght by (%) P	**5.00**	%	177.50	KN	Gross Load,	**3727.50**	KN	

(B) FOOTING SIZE								
Area of Footing Required, A_f	12.02	m^2	Provided, A_f	12.08	m^2		
Length of footing required, L_f	3.71	m	Provided, L_f	3.96	m	C_{LL}	1.601
Width of footing required, B_f	3.25	m	Provided, B_f	3.05	m	C_{BB}	1.374
Top projection from column face, K	801	mm	Depth at edge of footing, E_d			914	mm
Upword soil pressure,	308.63	m^2	**Upword Soil Pressure < SBC , Hence OK**				

(C) Depth Required For Flexure					
Moment along L-L axis, M_{uL}	1808.89	KN-m	Moment along B-B axis, M_{uB}	1731.56	KN-m
Resisting width in concern	1901.20		Resisting width in concern	2361.20	mm
Depth required along length, d_{req}	598.07	mm	Depth required along width,d_{req}	525.06	mm
Provide the depth of footing, D	**914**	mm	**Available effective depth, d_{avai}**	**858.40**	mm
Actual Self weight of footing,	**276.09**	KN	Weight by % of loading (P),	**7.78**	%

(D) Design for Flexural Reinforcement

Direction	A_{st} Required (mm^2)	A_{st} Minimun (mm^2)	Dia. of Bar (mm)	Sapcing (mm)		Rebar Provided
				Required	Provided	
Along L_f	4704.48	3344.51	**20**	**203.54**	**150.00**	T20 @ 150 mm
Along B_f	4430.87	4347.86	**20**	**280.94**	**150.00**	T20 @ 150 mm

A_{st} finally provided along L_f - L_f	6383.73	mm^2	Pt (%)	0.367	**1-way shear is needed to check along L-L**
A_{st} finally provided along B_f - B_f	8298.85	mm^2	Pt (%)	0.384	

(E) Check for 1-Way Shear **Note: Critical Section is at d = 858.4 mm from column face**

Check along Length (L_f) of Footing	*Check along Width (B_f) of Footing*

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Where, β = (0.8 fck) / (6.89 Pt) or 1 whichever is greater, $\tau_c = 0.85\sqrt{(0.8\,fck)}\,(\sqrt{1+5\beta}-1)/$							
(%) R/F available	Pt =	0.35	%	(%) R/F available	Pt =	0.37	%
Therefore,	β =	8.39	-	Therefore,	β =	7.92	-
Critical Shear Capacity,	Tcc=	0.48	MPa	Critical Shear Capacity,	Tc =	0.43	MPa
Shear Force along length,	V_u =	1048.15	KN	Shear Force along width,	V_u =	945.82	KN
Critical Section Moment,	M_u =	389.28	KN-m	Critical Section Moment,	M_u =	243.83	KN-m
At critical section, b'	2016.80	858.40	mm	Critical section b' & d'	2476.80	858.40	mm
Nominal Shear, τ_v =		0.42	MPa	Nominal Shear, τ_v		0.39	MPa
Provided Depth is Safe For One Way Shear				**Provided Depth is Safe For One Way Shear**			

(F) Check for 2-Way Shear				**Note: Critical Section is at d/2 = 429.2 mm**			
Effective depth at proposed section, d/2 from the face of column, d'				858.40		mm	
Shear Force on Shaded Area, V_u =	4723.33	KN		Perimeter length of Shear Area,=	5553.60	mm	
$\tau_v = \frac{V_u}{(Perimeter\ length\ x\ Effective\ depth)}$				=	0.991	MPa	
IS 456-2000, Pg.No.58, Cl.31.6.3, Shear Stress @ Critical Section,				=	τ_c x K_S		
$K_S = 0.5 + \beta c$	Where, βc =	0.39	Therefore, K_S	=	0.89	or	1.00
$\tau_c = K_S$ x 0.25 x $\sqrt{f_{ck}}$	1.118	MPa	**Provided Depth is Safe For Two Way Shear**				

FOOTING SCHEDULE:

F.No	FOOTING SIZE						Bottom Mat	
	Step-1	Depth(D1)	Step-2	Depth(D2)	Step-3	Depth(D3)	Rebar(X)	Rebar(Y)
F1	3.96 x 3.05	910	Refer section on F1-F1				Y20 @ 150 C/C	Y20 @ 150 C/C
F2	3.35 x 2.74	835	Refer section on F2-F2				Y16 @ 125 C/C	Y16 @ 125 C/C
F3	2.89 x 2.89	460	2.14 x 2.14	460	1.37 x 1.37	460	Y16 @ 150 C/C	Y16 @ 150 C/C
F4	2.36 x 2.36	300	1.75 x 1.75	300	1.00 x 1.00	300	Y12 @ 125 C/C	Y12 @ 125 C/C
F5	2.21 x 2.21	460	1.52 x 1.52	460	---	---	Y12 @ 150 C/C	Y12 @ 150 C/C
F6	1.98 x 1.98	460	1.06 x 1.06	460	---	---	Y12 @ 150 C/C	Y12 @ 150 C/C
F7	1.68 x 1.68	380	0.91 x 0.91	380	---	---	Y12 @ 150 C/C	Y12 @ 150 C/C

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MAXIMUM MOMENT ON BEAMS:

End of the span = 239 kNm

Middle of the span = 387 kNm

MAXIMUM SHEAR ON BEAM:

End of the span = 210 kN

Middle of the span = 15 kN

BEAM DESIGN:

Beam Design											
Properties of Beam						Forces					
Fck	=	30	N/mm^2				at top LHS	at bottom Mid Span	at top RHS	Units
Fy	=	550	N/mm^2							
Length	=	8.2296	m			Moment	239	387	100	Kn.m
Size	=	228.6	X	685.8	mm	Shear	210	1	166	Kn

DESIGN CALCULATIONS								
FACT.	at top LHS	at bottom Mid Span	at top RHS	Units	Mu Lim for Balanced section			
MOMENT	358.5	580.5	150	Kn.m	Mu Lim = (0.36*Xu max/d)*(1-(0.42*Xu max/d))*b*d^{2*fck}			
SHEAR	315	1.5	249	Kn	ML	=	355.88	Kn.m
Xu max/d	0.48	0.48	0.48					

MF>Mu limit, so the beam is designed as Doubly reinforced beam

MF - ML	at top LHS	at bottom Mid Span	at top RHS	Units	Dia. Of Bars to be used					
					at top LHS		at bottom Mid Span		at top RHS	
	2.62	224.62	0.00	Kn.m	I Layer	II layer	I Layer	II layer	I Layer	II layer
Effective depth d=	613.3	613.3	613.3	mm	Tensile zone reinforcement					
					25	25	25	25	25	25
d'=	47.5	47.5	47.5	mm	Comp. zone reinforcement					
d' / d	0.0774	0.07745	0.07745		25		25		25	
					at top LHS		at bottom Mid Span		at top RHS	
Design stress in compression reinforcement (fsc)					700*(1-(d'/Xu) =		(Xu limited to Xumax)			

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	587.05		587.05	587.05	N/mm^2
Allowable stress in compression steel (0.8*0.87fy)	382.8		382.8	382.8	N/mm^2
Design stress in comp. reinforcement taken (fsc)	382.8		382.8	382.8	N/mm^2
Strain in compression steel	0.0029		0.0029	0.0029	Max. strain
Tensile Steel Calculations					
Ast for singlly reinforced beam (Ast1)	(Mu=0.87*fy*Ast*d - 0.87* fy^2 * Ast^2 / b*fck)				
	at top LHS	**at bottom Mid Span**	**at top RHS**		
(from the eqn. IS 456 Annex.G 1.01 b)	**1511.42**	**1511.42**	**550.809**	mm^2	
Compreesion Steel Calculations					
Area of comp steel (Asc)	(Mu-Mulim) / (fsc*(d-d'))				
(from the eqn. IS 456 Annex.G 1.2)	12.08119	1037.067593	0	mm^2	
Area of comp steel (Asc) for max. stress	12.55002	1077.312007	0	mm^2	
Ast 2 = (Asc*fsc) / (0.87fy)	**at bottom LHS**	**at Top Mid Span**	**at bottom RHS**		
	10.04001	861.8496052	0	mm^2	
Shear Calculations					
	LHS	**MIDSPAN**	**RHS**		
Percentage of tensile steel=	1.56	1.56	1.56	%	
Tc from Table 19 of IS 456 : 2000	0.770	0.791	0.770	N/mm^2	
Tv=	2.246784	0.010698972	1.776029	N/mm^2	
Maximum Allowed Shear stress Tc max =		3.4			
Shear strength of concrete (Tc*b*d)	108.00	110.9099618	108.0048	KN	
Strength of shear reinfocement reqd. (Vus)	207.00	-109.41	141.00	KN	
Dia. Of shear reinforcement	**10**	**10**	**10**		
Shear reinforcement = Sv= (0.87*fy*Asv*d) / Vus	222.5842	300	326.7762	mm C/C	
Min. shear reinforcement	821.5715	821.5715223	821.5715	mm C/C	
Max spacing (0.75*d)	459.975	459.975	459.975	mm C/C	
	300	300	300	mm C/C	
Check for development length					

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							1.3 * M1/V+	L0	>=Ld	L0=	613.3
Ld=(0.87*fy / (4*tbd))* Dia. Of Bar=							**1246.09375**	mm	<	2082.025	mm

RESULTS

Fck	=	30	Fy	=	550	Beam Size	=	228.6	x	685.8	

SUP P.	Steel Provided						Min.Reqd spacing for stirrups	Tensile steel		Comp. steel	
	Straight		Curtail		Stirrups			Prov.	Reqd.	Prov.	Reqd.
	Dia.	Nos.	Dia.	Nos.	Dia.	Spacing					
LHS	**25**	**3**	**25**	**2**	10	**150**	**223**	**2453**	**1521**	**1472**	**13**
MID SPA	**25**	**3**	**25**	**2**	10	**150**	**300**	**2453**	**2373**	**1472**	**1077**
RHS	**25**	**3**	**25**	**2**	10	**150**	**300**	**2453**	**551**	**1472**	**0**

Check for Deflection

Stress Developed in Steel, F_s	=	308.62	N/Sq.mm
Maximum Provided % of reinforcements, P_t	=	1.56	%
Modification Factor, K_t (M/F)	=	0.75	-
Maximum Allowed Deflection Ratio, $\delta R_{Allowed}$	=	19.40	-
Actual Deflection Ratio, δR_{Actual}	=	13.42	-

DESIGN IS SAFE IN DEFLECTION

ROOF BEAM SCHEDULE:

BEAM No	BEAM SIZE	REINFORCEMENT			STIRRUPS
		Bottom	Top	Extra	
RB1	230 X 685	3-Y25 + 2-Y25	3-Y25	2-Y25	Y10 @ 150 C/C
RB2	230 X 609	3-Y25 + 2-Y25	3-Y25	2-Y25	Y10 @ 150 C/C
RB3	230 X 609	2-Y25 + 2-Y25	2-Y25	2-Y25	Y10 @ 150 C/C
RB4	230 x 530	3-Y25 + 2-Y25	3-Y25	2-Y25	Y10 @ 150 C/C
RB5	230 X 609	2-Y25 + 2-Y25	2-Y25	2-Y25	Y10 @ 150 C/C
RB6	230 X 609	2-Y20 + 2-Y20	3-Y20	2-Y20	Y10 @ 150 C/C
RB7	230 X 609	2-Y20 + 2-Y20	2-Y20	2-Y20	Y10 @ 150 C/C
RB8	230 x 530	2-Y20 + 2-Y20	2-Y20	2-Y20	Y10 @ 150 C/C
RB10	230 x 460	2-Y20 + 2-Y20	2-Y20	2-Y20	Y8 @ 150 C/C
CB1	230 x Slab Tk	3-Y12	3-Y12	---	Y8 @ 150 C/C

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ROOF SLAB DESIGN:

Slab Design							
Size of the slab in 'm'	=	5.03	x	5.03			
Support width	=	0.23	m				
Slab tk.(Span/25)	=	201.168	mm				
Adopt eff. Depth	=	125	mm				
Overall Depth	=	150	mm				
Grade of concrete	=	M	20		20	N/sq.mm	
Grade of steel	=	Fe	500		500	N/sq.mm	

Loads

Dead				Live	Fact. Load(1.5D.l+1.5l.l)	
Dead	Floor finish	Total				
Kn/Sq.m	Kn/Sq.m	Kn/Sq.m		Kn/Sq.m	(w) Kn/Sq.m	
3.75	1.5	5.25		2	10.875	

Design Calculations

From IS 456:2000, Anx.D2.1

Shorter span Bending Moment			Mx=	ax*w*lx²	ax,ay are co efficeients		
Shorter span Bending Moment			My=	ay*w*lx²			
Effective Shorter span			Lx=	5.26	m		
Effective Longer span			Ly=	5.26	m		
		Ly/Lx=	1.00	<	2		

So the Slab is designed as Two way slab

Edge Condition =		1	Interior panels				
(-)ax=	0.032		(-)ay=	0.032	Refer IS 456:2000 Table 26		
ax=	0.024		ay=	0.024			
Midspan moments			Support Moments				
Mx=	7.22	Kn.m	(-)Mx	9.63		Mx max=	**9.63**
My=	7.22	Kn.m	(-)My	9.63		My max=	**9.63**

Check for Depth :

	Mmax=	0.138*fck*bd²				
	d=	Sqrt(M/(0.138*fck*b)				
	d reqd=	59.0547408	mm	<	125	

Area of steel Calculations

Ast for Slab	(Mu=0.87*fy*Ast*d - 0.87* fy² * Ast² / b*fck)			
	Shorter span		**Longer Span**	
	Reqd	**Provided**	**Reqd**	**Provided**
(from the eqn. IS 456 Annex.G 1.01 b)	**171.159656**	**523.333333**	**171.159656**	**523.333333**
	At Support		**At mid span**	

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	Dia of rod	Spacing	% of ast	Dia of rod	Spacing	% of ast
Shorter span	**10**	**150**	**0.42**	**10**	**150**	**0.42**
Longer span	**10**	**150**	**0.42**	**10**	**150**	**0.42**

Torsion reinforcement			
Area of steel	**Dia of rod**	**Spacing**	Length in mm	To be Provide @ corners of the slab in both directions & both faces
346	10	150	1051.84	

Check for shear						
	% of Ast=	0.42		ζc max=	1.4	N/mm^2
	ζv=	V/b*d	0.18	N/mm^2	Refer IS 456 cl 40.1	
	ζc=		**0.44**	N/mm^2	Refer IS 456 Table 19	
	ζv	<	ζc	< ζc max	**DESIGN IS SAFE**	

Check for Crack width							
$\varepsilon 1$ =Strain@lvl considered		**$\varepsilon 2$ = 1.5b(D-x)(a-x)/3AsEs(d-x)**			**Wcr={3*acr*εm}/{1+[2(acr-cmin)/(D-x)]}**		
	acr	**X**	**fsb**	**ε_1 =fsb/Es**	**ε_2**	**εm(ε1-ε2)**	**Wcrb**
S span	**85.1388**	**56.96**	**96.16**	**0.00048**	**0.00061**	**0.0000**	**0.000**
L Span	**45.0000**	**68.16**	**67.14**	**0.00034**	**0.00061**	**0.0000**	**0.000**

Check for Deflection			
Stress Developed in Steel, F_s	=	94.85	N/Sq.mm
Maximum Provided % of reinforcements, P_t	=	0.42	%
Modification Factor, K_t (M/F)	=	3.40	-
Maximum Allowed Deflection Ratio, $\delta R_{Allowed}$	=	88.37	-
Actual Deflection Ratio, δR_{Actual}	=	42.07	-
DESIGN IS SAFE IN DEFLECTION			

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PGCADD STRUCTURES ★ 13/14 15.9.25 ★ ERODE

ROOF SLAB SCHEDULE:

Slab No.	Tk	Type of slab	Main Reinforcement	Distributor	Shorter Span	Longer Span
S1	150	Two Way	---	---	Y10 @ 150 C/C	Y10 @ 150 C/C
S2	150	Two Way	---	---	Y8 @ 150 C/C	Y8 @ 150 C/C
S3	150	One Way	Y10 @ 150 C/C	Y8 @ 150 C/C	---	---
S4	150	One Way	Y8 @ 150 C/C	Y8 @ 150 C/C	---	---

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Note:

Adequate Plinth beams, Continuous Lintels are provided for the earthquake resistance. Columns are designed for horizontal shear forces. The detailing of Reinforcement is done according to provisions of IS:13920 – Indian Standard Code of Practice for ductile detailing of R.C. Structures subjected to Seismic forces.

PGCADD STRUCTURES ERODE 14/14 15.9.25

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.