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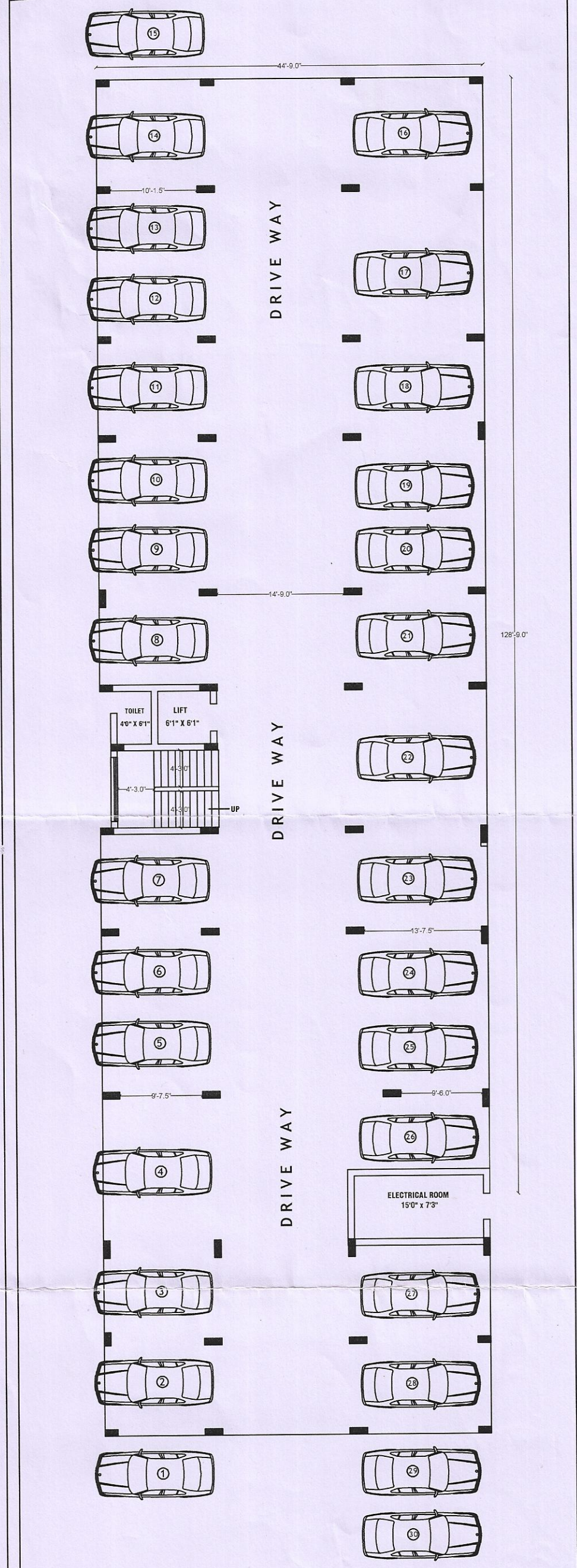
3/350/2 Mettukuppam,
OMR Thoraipakkam,
Chennai, India

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+91 9996 12 9996

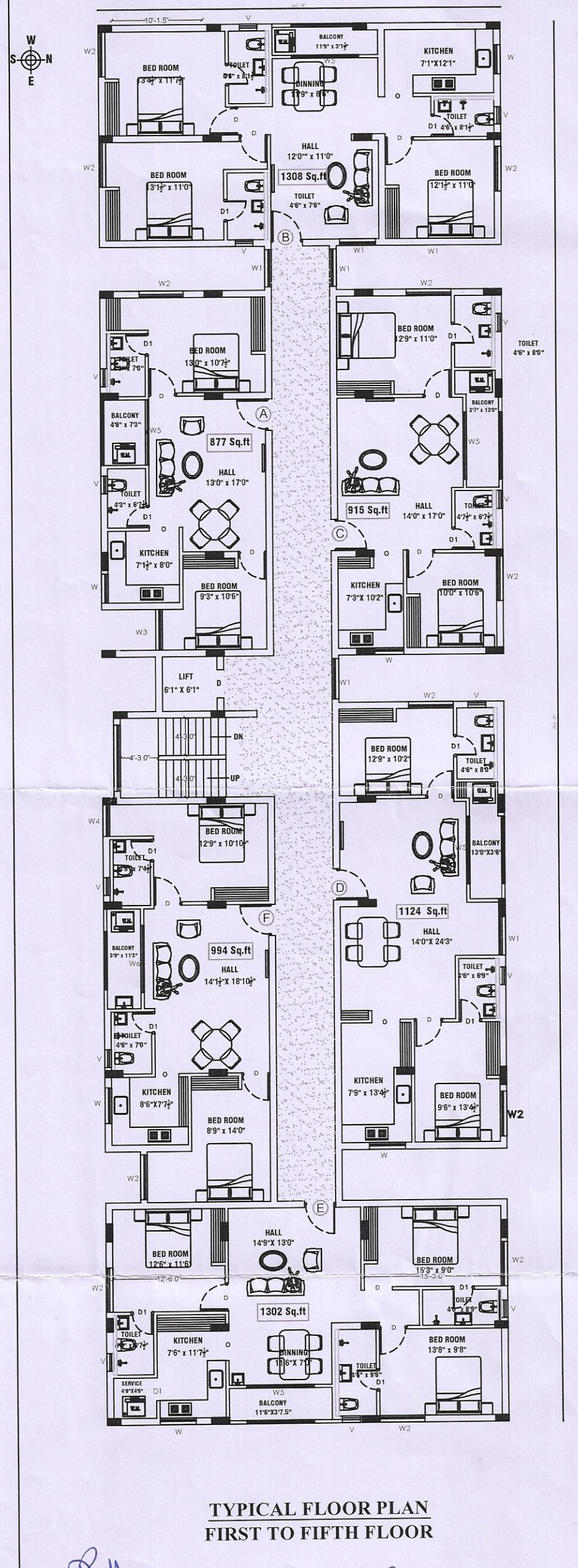
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STILT FLOOR PLAN



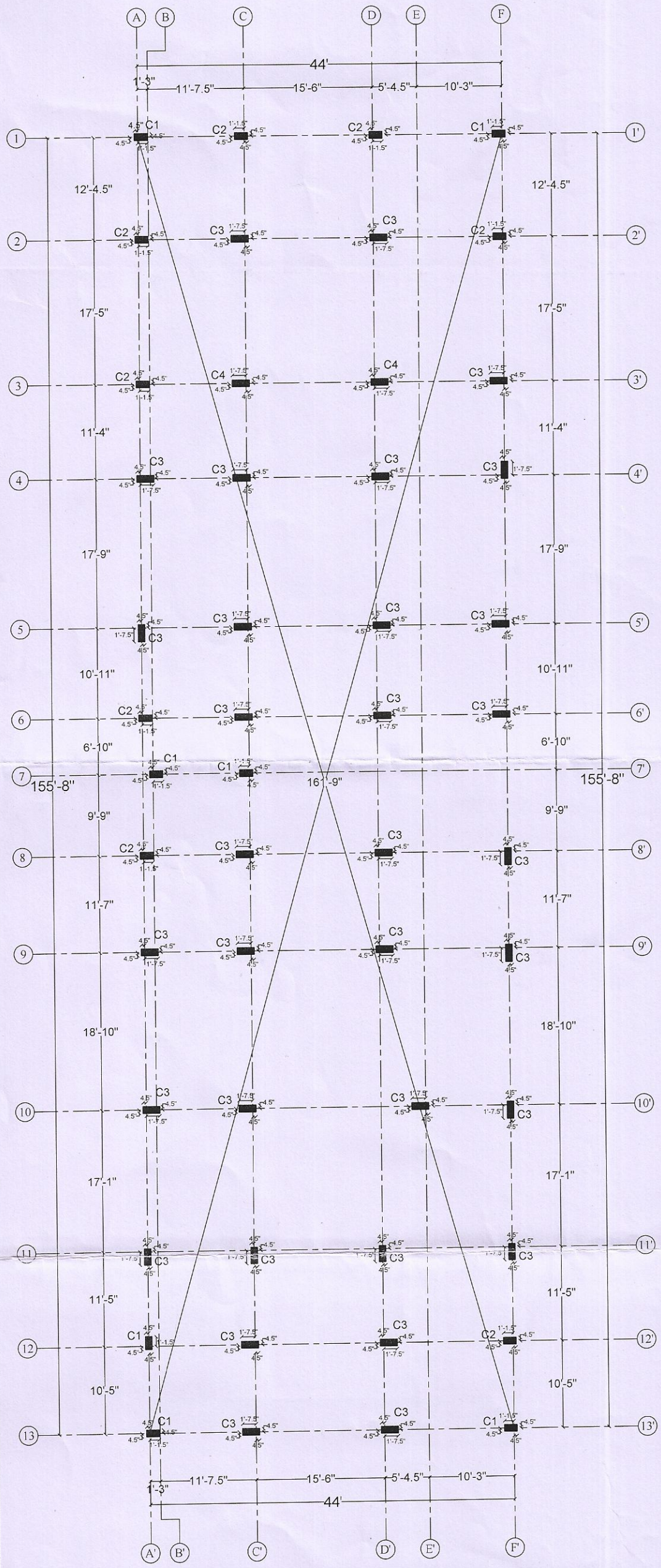
TYPICAL FLOOR PLAN
FIRST TO FIFTH FLOOR

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SHEET NO: 01

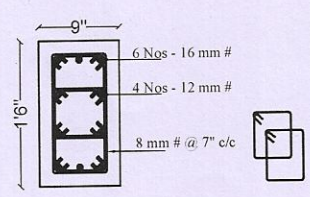
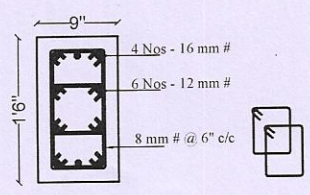
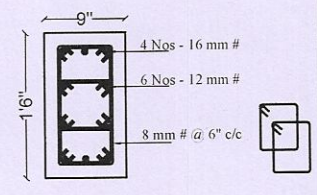
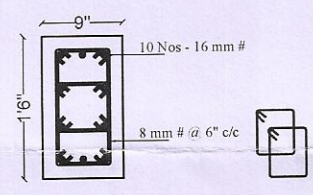
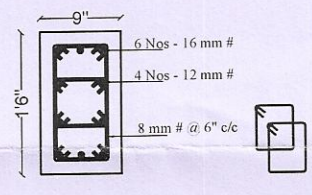
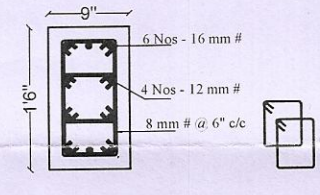
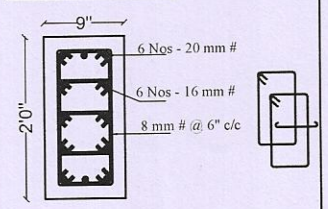
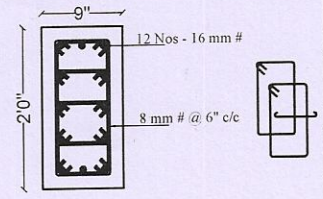
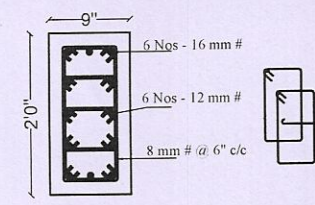
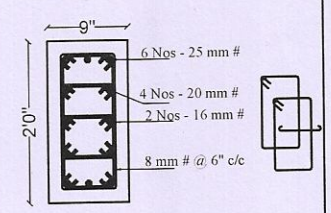
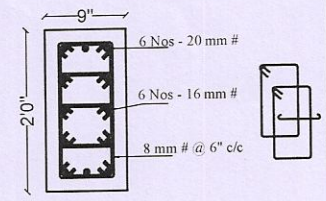
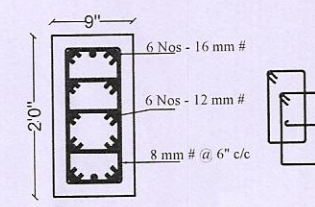
COLUMN CENTRE LINE MARKING



CONSTRUCTION OF RESIDENTIAL APARTMENT BUILDING FOR CS HOUSING PROMOTERS @ KUMBAKONAM SALAI, THIRUVANAI KOVIL, TRICHY.

W S N E

COLUMN CROSS SECTION DETAILS

STILT & FIRST FLOOR	SECOND, THIRD & FOURTH FLOOR	FIFTH FLOOR & HEAD ROOM
C1 - 1000 KN	C1	C1
		
C2 - 1200 KN	C2	C2
		
C3 - 1700 KN	C3	C3
		
C4 - 2000 KN	C4	C4
		

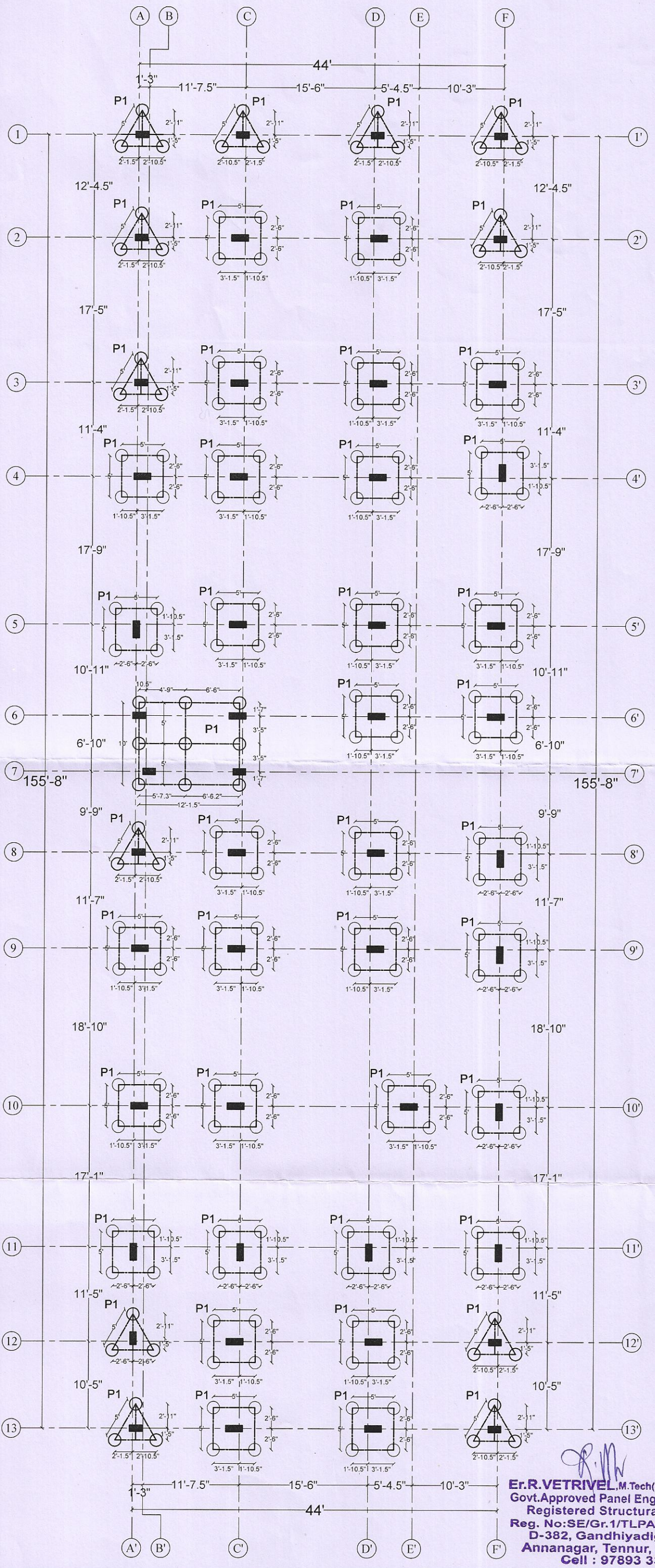
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Cell : 97893 33245.

NOTE:

Concrete Grade	= M25
Grade of Steel	= Fe500
Clear Cover for Column	= 40mm
Clear Cover for Footing	= 50mm

PILE MARKING LAYOUT



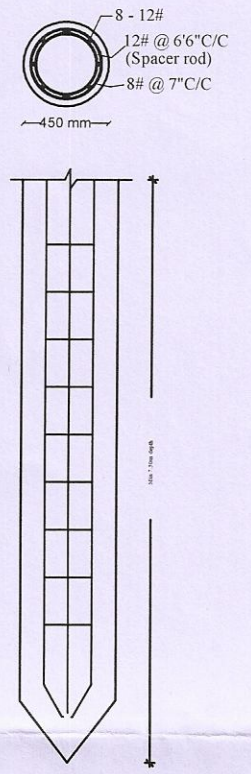
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CONSTRUCTION OF
RESIDENTIAL APARTMENT BUILDING
FOR CS HOUSING PROMOTERS
@ KUMBAKONAM SALAI,
THIRUVANAI KOVIL, TRICHY.

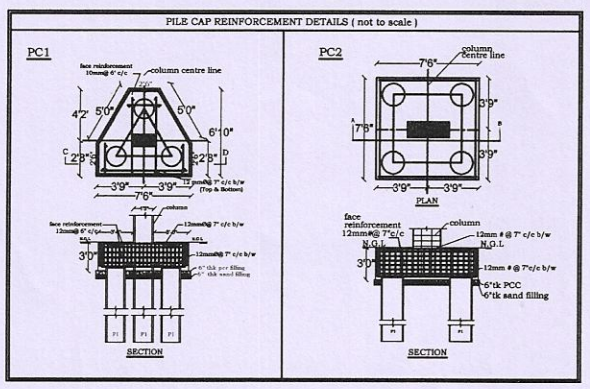


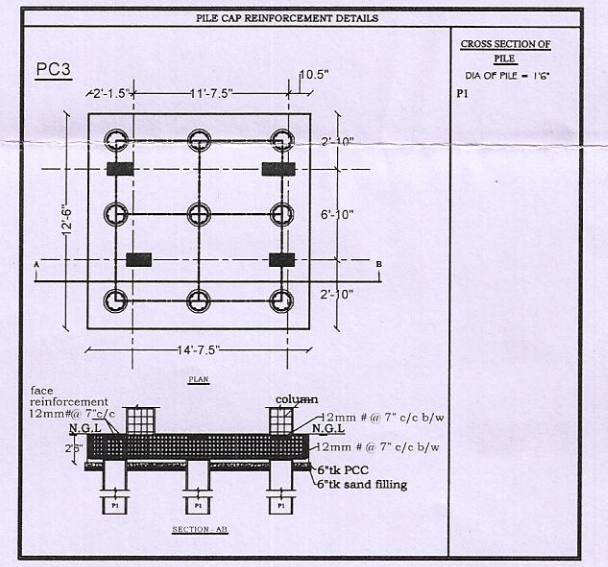
DRAWING TITLE

PILE MARKING LAYOUT



PILE - BORED Machinary pile:





NOTE:

Concrete Grade = M25

Grade of Steel = Fe500

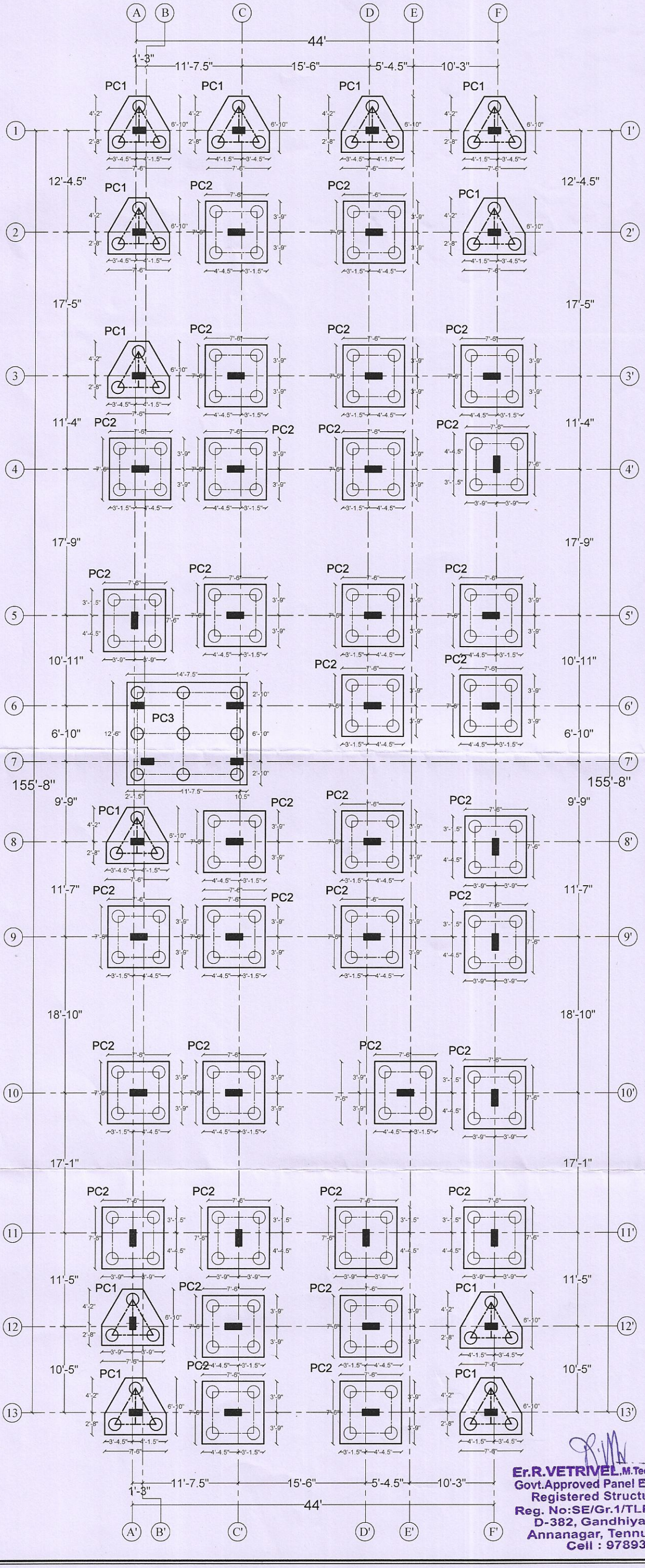
Clear Covering for Pile Cap = 50mm

Clear Covering for Pile = 75mm

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PILE CAP MARKING LAYOUT

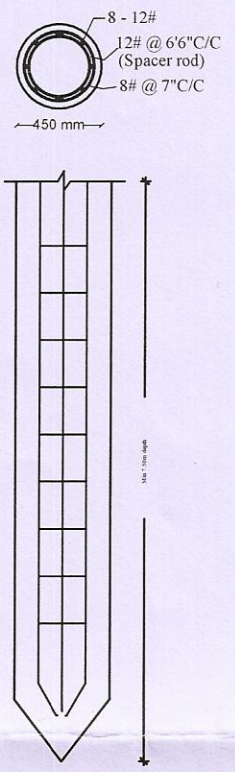


CONSTRUCTION OF
RESIDENTIAL APARTMENT BUILDING
FOR CS HOUSING PROMOTERS
@ KUMBAKONAM SALAI,
THIRUVANAI KOVIL, TRICHY.

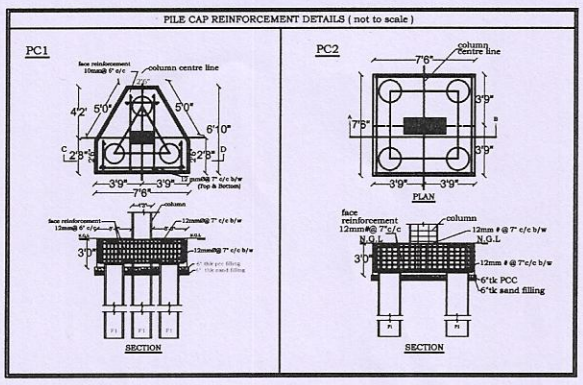


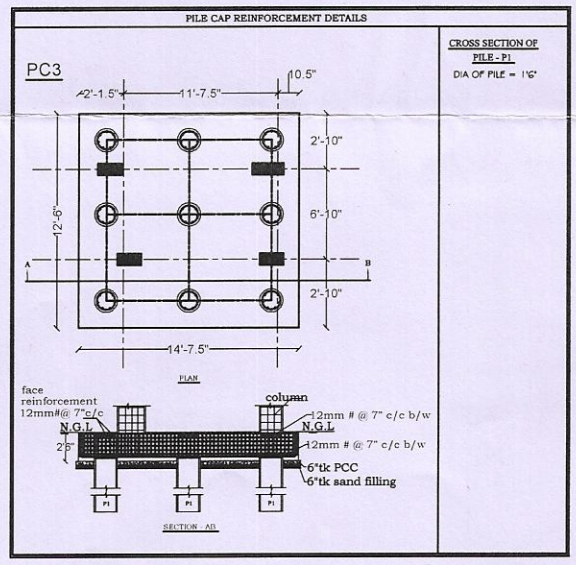
DRAWING TITLE

PILE CAP MARKING LAYOUT



PILE - BORED Machinary pile:





NOTE:

Concrete Grade = M25

Grade of Steel = Fe500

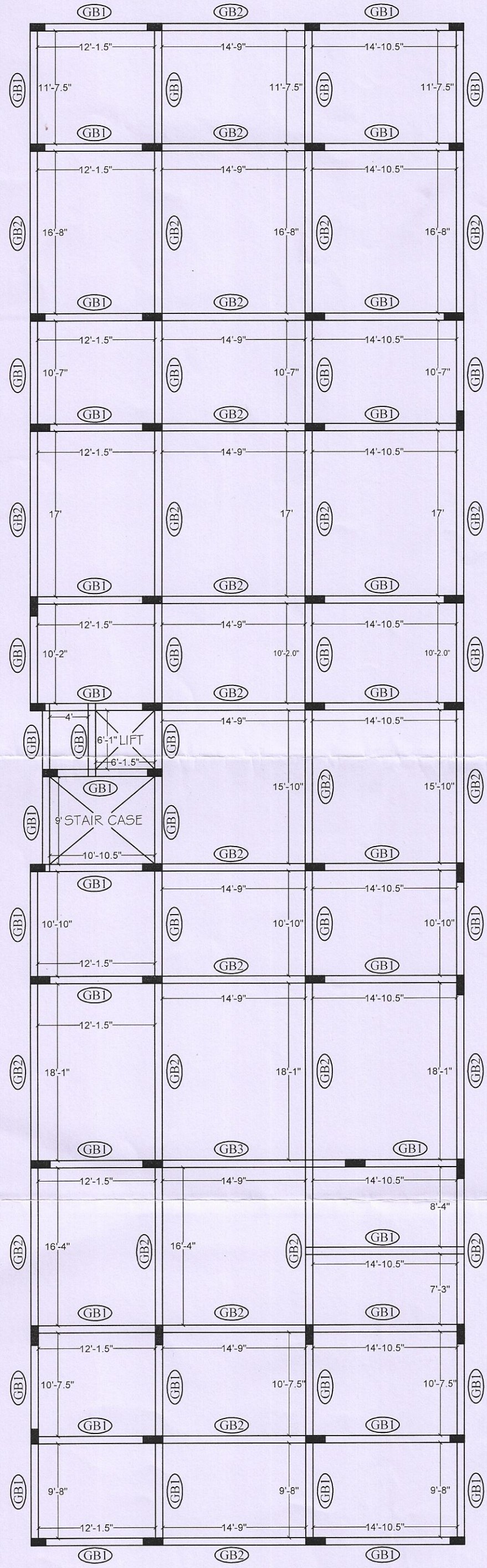
Clear Cover for Pile = 50mm

Clear Cover for Pile Cap = 75mm

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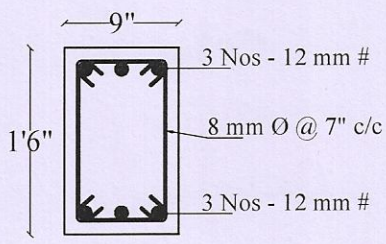
GRADE BEAM DESIGN



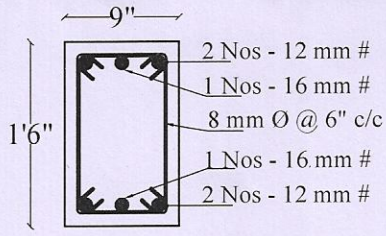
CONSTRUCTION OF
RESIDENTIAL APARTMENT BUILDING
FOR CS HOUSING PROMOTERS
@ KUMBAKONAM SALAI,
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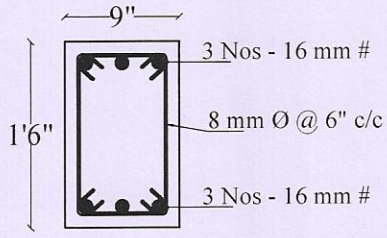
GB1



GB2



GB3



NOTE :

RCC MIX	= M25
Reinforcement	= Fe500
Clear Cover for Beam	= 25mm
Clear Cover for Column	= 40mm

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NOTES:

1. ALL DIMENSIONS ARE IN "FEET & INCHES".
2. ALL REINFORCEMENT STEEL SHALL BE HYSD (Fe 500) CONFORMING TO IS:1786–2008
3. GRADE OF CONCRETE SHALL BE M25 (MAXIMUM CEMENT CONTENT SHOULD BE 450 KGS/CU.M) (SLUMP SHOULD BE 75 TO 100MM)

GRADE	CEMENT/CUM	WATER CEMENT RATIO	SLUMP
	375 KGS	0.55	75 MM TO 100 MM
	400 KGS	0.50	
	425 KGS	0.45	
	425 KGS	0.45	
	450 KGS	0.40	

(NOTE:– IF SUPER PLASTICIZER IS USED, THE WATER CONTENT CAN BE REDUCED UPTO 20%)

4. CLEAR COVER FOR MAIN REINFORCEMENT
   a) Footing: 50mm, Pile: 50mm, Pile Cap: 75mm, Column: 40mm, Sump: 40mm, Shear wall: 40mm.
   b) Slab: 20mm, Beam: 25mm
5. WATER CEMENT RATIO SHOULD BE 0.55 FOR M20, 0.50 FOR M25, 0.45 FOR M30 & M35 AND 0.40 FOR M40
6. ALL KIND OF SHUTTERING PLANKS SHOULD BE PAINTED WITH GREASE OR CRUDE OIL BEFORE CONCRETING.
7. NO OPENING SHALL BE MADE IN CONCRETE WORKS.
8. VIBRATORS MUST TO BE USED FOR ALL CONCRETING WORKS.
9. MINIMUM 6 NOS. OF CONCRETE CUBE SHALL BE TAKEN ON EACH DAY OF CONCRETE AND IT SHALL BE TESTED IN IN ACCORDNCE WITH THE RECOMMENDATIONS OF IS 456–2000.
10. STABILITY OF THE FORM WORK RESPOMNSIBILITY OF THE CONTRACTOR.
11. BEFORE CONCRETING CHECK AND FINALIZED THE LEVEL OF TOP OF CONCRETE WORK.
12. DO NOT SCALE THE DRAWINGS, WRITTEN DIMENSIONS TO BE FOLLOWED.
13. READ STRUCTURAL DWG IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
14. THE CONSULTANT IS NOT RESPONSIBLE FOR THE FAILURES DUE TO IMPROPER EXECUTION OF WORK AT SITE.
15. POLYTHENE SHEETS 1000 GAUGE TO BE LAID BELOW THE FOUNDATIONS (AT TOP OF P.C.C)
16. ALL STRUCTURES BELOW THE GROUND LEVEL IN CONTACT SOIL MUST BE PAINTED WITH TWO COATS OF BITUMEN.
17. IS CODE FOR COARSE AGGREGATE – TABLE 2 OF IS 383
    IS CODE FOR FINE AGGREGATE – ZONE 1 OF IS 383
    IS CODE FOR MIX DESIGN – IS 10262 : 1982
    IS CODE FOR WATER – IS 3025 TO BE FOLLOWED.
18. ALL CONSTRUCTION JOINTS CONCRETE TO BE CHIPPED BEFORE NEW CONCRETING.

19. NOTE FOR LAPPING:

I) AT ANY CROSS SECTION NOT MORE THAN 1/3 rd OF THE BARS SHALL BE LAPPED.
II) LAPS SHALL BE STAGGERED WITH A MINIMUM DISTANCE OF 1.30 TIMES OF LAP LENGTH.
III) LAP IN COLUMNS SHALL BE PROVIDED AT MID HEIGHT OF THE FLOOR AND NOT AT THE SLAB LEVEL.
IV) LAP IN BEAMS & SLABS SHALL BE PROVIDED AT POINT OF CONTRAFLEXUTRE.

20. CURING WORKS:

A) CURING MUST BE STARTED IN 8 HOURS AFTER CONCRETING.
B) WET GUNNY BAGS, JUTE MATING, STRAW ETC., ARE TO BE USED TO COVER THE VERTICAL SURFACE TO KEEP THE COCRETE WET.
C) ALL STRUCTURES SHOULD BE CURED FOR 21 DAYS.

21. TAKE CARE ABOUT THE NEARBY BUILDINGS/WALLS AND SOIL CONDITIONS DURING EARTH WORK EXCAVATION.
22. THIS DRAWING IS VALID ONLY IF CONSULTANT CHECK AT SITE.
23. STRUCTURAL ENGINEER TAKES NO RESPONSIBILITY IN THE VIOLATION / DEVIATION OF SETBACK & FSI NORMS IN THE TNCDBR 2019 WHATSOEVER FOR THE SAME.
24. THIS BUILDING DESIGNED FOR Stilt + Five Floors (Seismic design as per IS 1893 – 2002) – Zone – II

DEVELOPMENT LENGTH VALUES:

CONCRETE GRADE	STEEL GRADE	TENSION (EX: BEAM, etc.,)	COMPRESSION (EX:COLUMN ETC.,)
~~M 20~~	~~Fe 415~~	~~50 x d~~	~~40 x d~~
M 25	Fe 415	42 x d	36 x d
M 30	Fe 415	40 x d	34 x d
M 20	Fe 500	60 x d	48 x d
M 25	Fe 500	50 x d	40 x d
M 30	Fe 500	48 x d	38 x d

REMOVAL OF FORM WORKS AFTER CASTING CONCRETE

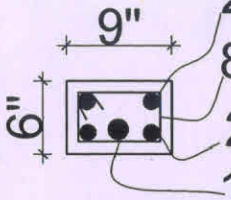
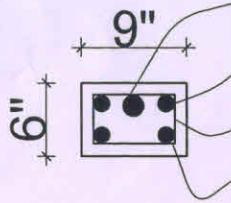
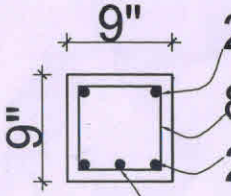
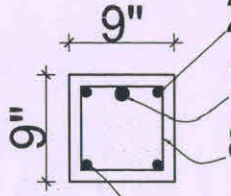
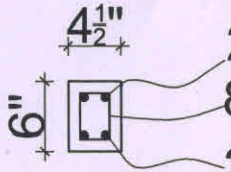
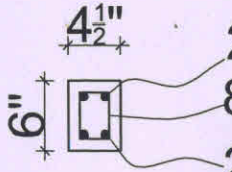
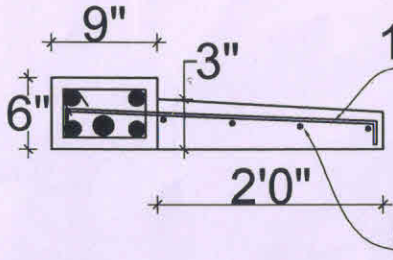
A) FOR COLUMNS & BEAM SIDES	– 24 Hours
B) FOR ROOF SLABS BOTTOM	
i) CLEAR SPAN LESS THAN 4.5M	– 7 DAYS
ii) CLEAR SPAN MORE THAN 4.50M	– 14 DAYS
B) FOR ROOF BEAMS BOTTOM	
i) CLEAR SPAN LESS THAN 6M	– 14 DAYS
ii) CLEAR SPAN MORE THAN 6M	– 21 DAYS

20/6/24

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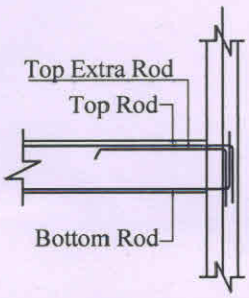
LINTEL DESIGN

SHEET NO: 05

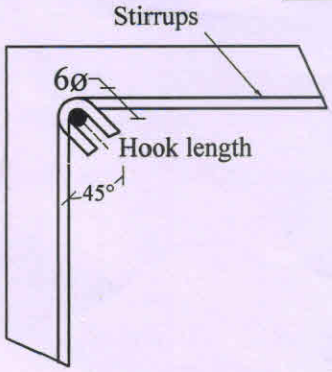
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L1	UPTO 5'0" OPEN	 2nos 10mm tmt bar 8mm # rts @ 7"c/c 2nos 10mm tmt bar 1nos 12mm cut rod	 1no 12mm cut rod 2nos 10mm tmt bar 8mm # rts @ 7"c/c 2nos 10mm tmt bar
L2	6'0" - 8'0" OPEN	 2nos 10mm # tmt bar 8mm # rts @ 7"c/c 2nos 12mm # tmt bar 1no 12mm cut rod	 2nos 10mm # tmt bar 1no 12mm cut rod 8mm # rts @ 7"c/c 2nos 10mm # tmt bar
L3	UPTO 5'0" OPEN IN 4.5" WALL	 2 nos 10 mm # rts 8 mm # rts @ 7"c/c 2 nos 10 mm # rts	 2 nos 10 mm # rts 8 mm # rts @ 7"c/c 2 nos 10 mm # rts
	LINTEL CUM SUNSHADE	 10 mm # rts @6"c/c 8 mm # rts @8"c/c	

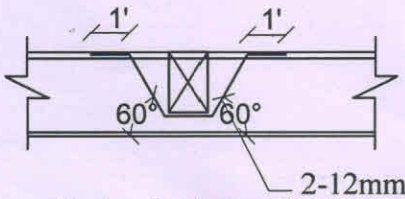
Er.R.VETRIVEL,M.Tech(Struct).,F.I.V.,C.E(I).
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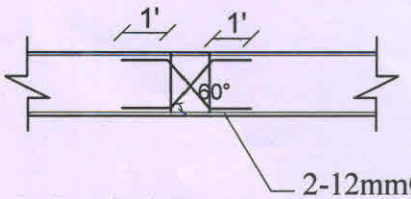


COLUMN BEAM JOINT
TYPICAL DETAILS



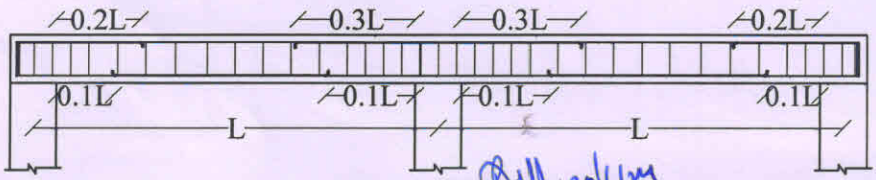


Inter Section of Main Beam &
Secondary Beam (Un Equal Depth)



Inter Section of Main Beam &
Secondary Beam (Equal Depth)

DETAILS OF CUT ROD



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DEVELOPMENT LENGTH VALUES:

CONCRETE GRADE	STEEL GRADE	TENSION (EX: BEAM, etc.,)	COMPRESSION (EX: COLUMN, etc.,)
M 20	Fe 415	50 x d	40 x d
M 25	Fe 415	42 x d	36 x d
M 30	Fe 415	40 x d	34 x d
M 20	Fe 500	60 x d	48 x d
M 25	Fe 500	50 x d	40 x d
M 30	Fe 500	48 x d	38 x d

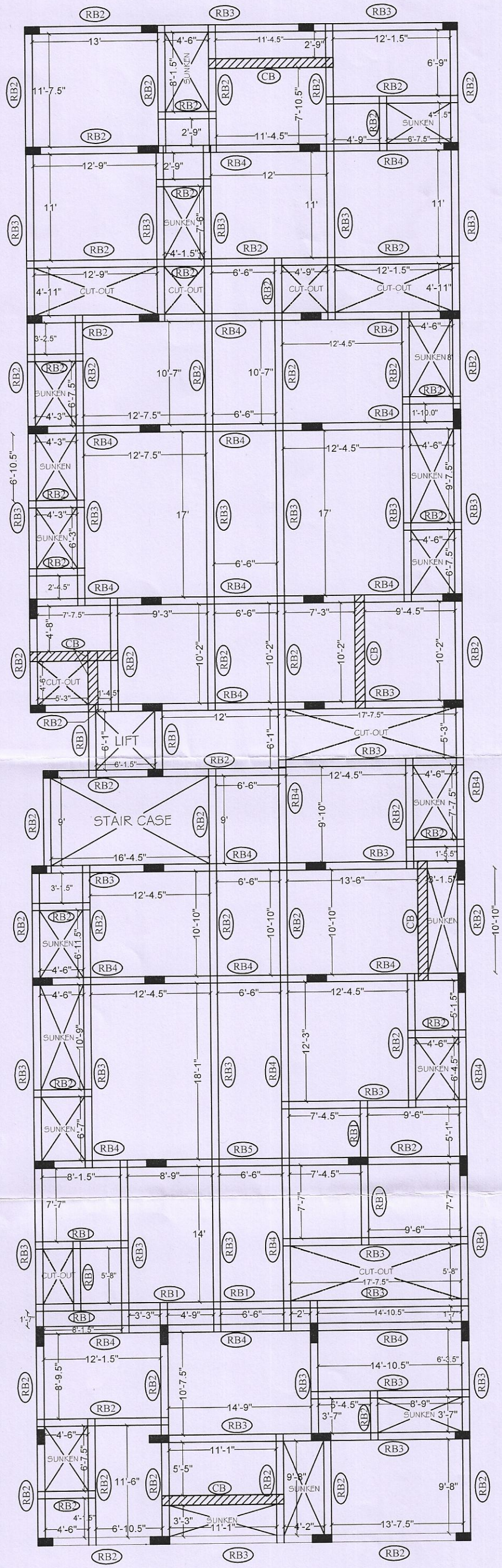
(MAXIMUM CEMENT CONTENT SHOULD BE 450 KGS/CU.M)
(SLUMP SHOULD BE 75 TO 100MM)

GRADE	CEMENT/CUM	WATER CEMENT RATIO	SLUMP
M20	375 KGS	0.55	75 MM TO 100 MM
M25	400 KGS	0.50	
M30	425 KGS	0.45	
M35	425 KGS	0.45	
M40	450 KGS	0.40	

(NOTE:– IF SUPER PLASTICIZER IS USED, THE WATER CONTENT CAN BE REDUCED UPTO 20%)

ROOF BEAM DESIGN

(For Stilt, First, Second, Third & Fourth Floor)



CONSTRUCTION OF RESIDENTIAL APARTMENT BUILDING FOR CS HOUSING PROMOTERS @ KUMBAKONAM SALAI, THIRUVANAI KOVIL, TRICHY.

FLOOR BEAM REINFORCEMENT DETAILS

CROSS SECTION @ MID SPAN	CROSS SECTION @ SUPPORT
RB1 2 Nos - 12 mm # 8 mm # - 7" c/c 2 Nos - 12 mm # 1 No - 12 mm # Cut rod	RB1 1 No - 12 mm # Cut rod 2 Nos - 12 mm # 8 mm # - 7" c/c 2 Nos - 12 mm #
RB2 2 Nos - 12 mm # 8 mm # - 6" c/c 2 Nos - 12 mm # 1 No - 12 mm # Cut rod	RB2 1 No - 12 mm # Cut rod 2 Nos - 12 mm # 8 mm # - 6" c/c 2 Nos - 12 mm #
RB3 2 Nos - 20 mm # 8 mm # - 5" c/c 2 Nos - 20 mm # 1 No - 16 mm # Cut rod	RB3 1 No - 16 mm # Cut rod 2 Nos - 20 mm # 8 mm # - 5" c/c 2 Nos - 20 mm #
RB4 3 Nos - 20 mm # 2 Nos - 12 mm # 10 mm # - 6" c/c 2 Nos - 16 mm # Cut rod 3 Nos - 20 mm #	RB4 3 Nos - 20 mm # 2 Nos - 16 mm # 2 Nos - 12 mm # 10 mm # - 6" c/c 3 Nos - 20 mm #
RB5 3 Nos - 20 mm # 2 Nos - 12 mm # 10 mm # - 6" c/c 3 Nos - 20 mm # Cut rod 3 Nos - 20 mm #	RB5 3 Nos - 20 mm # 3 Nos - 20 mm # 2 Nos - 12 mm # 10 mm # - 6" c/c 3 Nos - 20 mm #
Concealed Beam 1'0" 8 mm Ø - 7" c/c 3 Nos - 12 mm Ø 3 Nos - 12 mm Ø CB	NOTE: RCC MIX = M25 Reinforcement = Fe500 Clear Cover for Beam = 25mm Clear Cover for Slab = 20mm



NOTES:

1. ALL DIMENSIONS ARE IN "FEET & INCHES".
2. ALL REINFORCEMENT STEEL SHALL BE HYSD (Fe 500) CONFORMING TO IS:1786–2008
3. GRADE OF CONCRETE SHALL BE M25 (MAXIMUM CEMENT CONTENT SHOULD BE 450 KGS/CU.M) (SLUMP SHOULD BE 75 TO 100MM)

GRADE	CEMENT/CUM	WATER CEMENT RATIO	SLUMP
	375 KGS	0.55	75 MM
	400 KGS	0.50	
	425 KGS	0.45	TO
	425 KGS	0.45	100 MM
	450 KGS	0.40	

(NOTE:– IF SUPER PLASTICIZER IS USED, THE WATER CONTENT CAN BE REDUCED UPTO 20%)

4. CLEAR COVER FOR MAIN REINFORCEMENT
   a) Footing: 50mm, Pile: 50mm, Pile Cap: 75mm, Column: 40mm, Sump: 40mm, Shear wall: 40mm.
   b) Slab: 20mm, Beam: 25mm
5. WATER CEMENT RATIO SHOULD BE 0.55 FOR M20, 0.50 FOR M25, 0.45 FOR M30 & M35 AND 0.40 FOR M40
6. ALL KIND OF SHUTTERING PLANKS SHOULD BE PAINTED WITH GREASE OR CRUDE OIL BEFORE CONCRETING.
7. NO OPENING SHALL BE MADE IN CONCRETE WORKS.
8. VIBRATORS MUST TO BE USED FOR ALL CONCRETING WORKS.
9. MINIMUM 6 NOS. OF CONCRETE CUBE SHALL BE TAKEN ON EACH DAY OF CONCRETE AND IT SHALL BE TESTED IN IN ACCORDNCE WITH THE RECOMMENDATIONS OF IS 456–2000.
10. STABILITY OF THE FORM WORK RESPOMNSIBILITY OF THE CONTRACTOR.
11. BEFORE CONCRETING CHECK AND FINALIZED THE LEVEL OF TOP OF CONCRETE WORK.
12. DO NOT SCALE THE DRAWINGS, WRITTEN DIMENSIONS TO BE FOLLOWED.
13. READ STRUCTURAL DWG IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
14. THE CONSULTANT IS NOT RESPONSIBLE FOR THE FAILURES DUE TO IMPROPER EXECUTION OF WORK AT SITE.
15. POLYTHENE SHEETS 1000 GAUGE TO BE LAID BELOW THE FOUNDATIONS (AT TOP OF P.C.C)
16. ALL STRUCTURES BELOW THE GROUND LEVEL IN CONTACT SOIL MUST BE PAINTED WITH TWO COATS OF BITUMEN.
17. IS CODE FOR COARSE AGGREGATE – TABLE 2 OF IS 383
    IS CODE FOR FINE AGGREGATE – ZONE 1 OF IS 383
    IS CODE FOR MIX DESIGN – IS 10262 : 1982
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IV) LAP IN BEAMS & SLABS SHALL BE PROVIDED AT POINT OF CONTRAFLEXUTRE.

20. CURING WORKS:
A) CURING MUST BE STARTED IN 8 HOURS AFTER CONCRETING.
B) WET GUNNY BAGS, JUTE MATING, STRAW ETC., ARE TO BE USED TO COVER THE VERTICAL SURFACE TO KEEP THE COCRETE WET.
C) ALL STRUCTURES SHOULD BE CURED FOR 21 DAYS.

21. TAKE CARE ABOUT THE NEARBY BUILDINGS/WALLS AND SOIL CONDITIONS DURING EARTH WORK EXCAVATION.
22. THIS DRAWING IS VALID ONLY IF CONSULTANT CHECK AT SITE.
23. STRUCTURAL ENGINEER TAKES NO RESPONSIBILITY IN THE VIOLATION / DEVIATION OF SETBACK & FSI NORMS IN THE TNCDBR 2019 WHATSOEVER FOR THE SAME.
24. THIS BUILDING DESIGNED FOR Stilt + Five Floors (Seismic design as per IS 1893 – 2002) – Zone – II

DEVELOPMENT LENGTH VALUES:

CONCRETE GRADE	STEEL GRADE	TENSION (EX: BEAM, etc.,)	COMPRESSION (EX:COLUMN ETC.,)
M 20	Fe 415	50 x d	40 x d
M 25	Fe 415	42 x d	36 x d
M 30	Fe 415	40 x d	34 x d
M 20	Fe 500	60 x d	48 x d
M 25	Fe 500	50 x d	40 x d
M 30	Fe 500	48 x d	38 x d

REMOVAL OF FORM WORKS AFTER CASTING CONCRETE

A) FOR COLUMNS & BEAM SIDES	– 24 Hours
B) FOR ROOF SLABS BOTTOM	
i) CLEAR SPAN LESS THAN 4.5M	– 7 DAYS
ii) CLEAR SPAN MORE THAN 4.50M	– 14 DAYS
B) FOR ROOF BEAMS BOTTOM	
i) CLEAR SPAN LESS THAN 6M	– 14 DAYS
ii) CLEAR SPAN MORE THAN 6M	– 21 DAYS

NOTE :
RCC MIX = M25
Reinforcement = Fe500
Clear Cover for Beam = 40mm
Clear Cover for Slab = 20mm

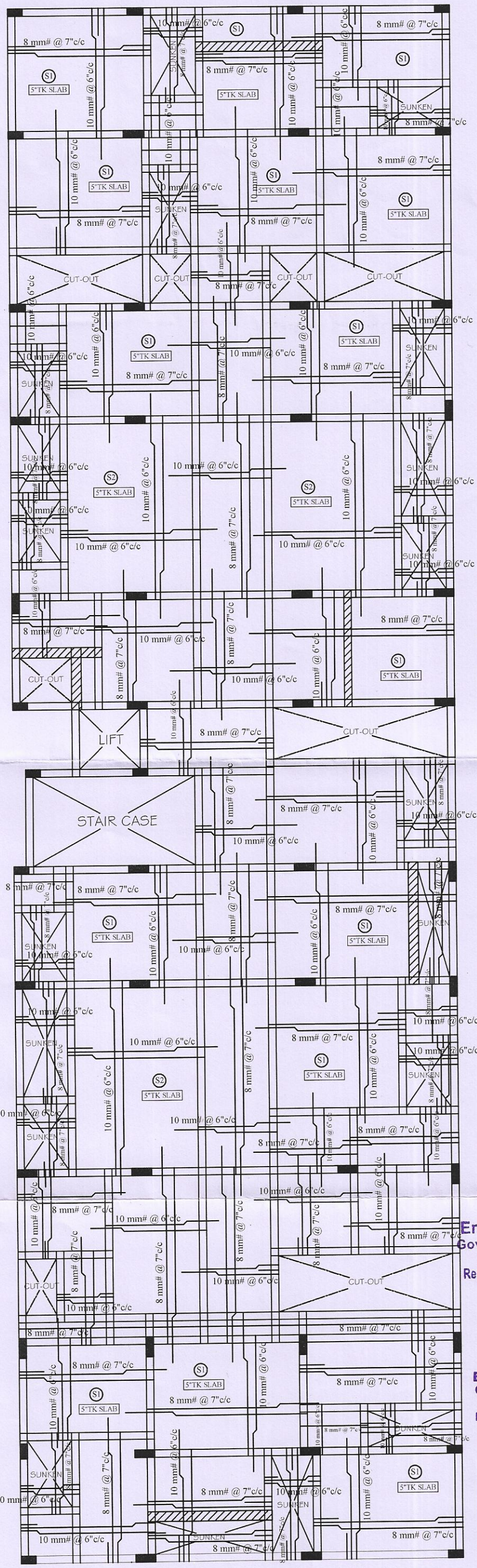
20/6/24

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ROOF SLAB DESIGN

(For Stilt, First, Second, Third & Fourth Floor)





ROOF SLAB DETAILS:-		
SYMBOL	SLAB THICKNESS	REINFORCEMENT DETAILS
S1	5"	10 mm Ø @ 6" c/c (shorter) 8 mm Ø @ 7" c/c (longer)
S2	5"	10 mm Ø @ 6" c/c (shorter) 10 mm Ø @ 6" c/c (longer)

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Cell : 97893 33245.

NOTE :	
RCC MIX	= M25
Reinforcement	= Fe500
Clear Cover for Beam	= 40mm
Clear Cover for Slab	= 20mm

SHEET NO: 08

CONSTRUCTION OF
RESIDENTIAL APARTMENT BUILDING
FOR CS HOUSING PROMOTERS
@ KUMBAKONAM SALAI,
THIRUVANAI KOVIL, TRICHY.

NOTES:

1. ALL DIMENSIONS ARE IN "FEET & INCHES".
2. ALL REINFORCEMENT STEEL SHALL BE HYSD (Fe 500) CONFORMING TO IS:1786–2008
3. GRADE OF CONCRETE SHALL BE M25 (MAXIMUM CEMENT CONTENT SHOULD BE 450 KGS/CU.M) (SLUMP SHOULD BE 75 TO 100MM)

GRADE	CEMENT/CUM	WATER CEMENT RATIO	SLUMP
	375 KGS	0.55	75 MM TO 100 MM
	400 KGS	0.50	
	425 KGS	0.45	
	425 KGS	0.45	
	450 KGS	0.40	

(NOTE:– IF SUPER PLASTICIZER IS USED, THE WATER CONTENT CAN BE REDUCED UPTO 20%)

4. CLEAR COVER FOR MAIN REINFORCEMENT
   a) Footing: 50mm, Pile: 50mm, Pile Cap: 75mm, Column: 40mm, Sump: 40mm, Shear wall: 40mm.
   b) Slab: 20mm, Beam: 25mm
5. WATER CEMENT RATIO SHOULD BE 0.55 FOR M20, 0.50 FOR M25, 0.45 FOR M30 & M35 AND 0.40 FOR M40
6. ALL KIND OF SHUTTERING PLANKS SHOULD BE PAINTED WITH GREASE OR CRUDE OIL BEFORE CONCRETING.
7. NO OPENING SHALL BE MADE IN CONCRETE WORKS.
8. VIBRATORS MUST TO BE USED FOR ALL CONCRETING WORKS.
9. MINIMUM 6 NOS. OF CONCRETE CUBE SHALL BE TAKEN ON EACH DAY OF CONCRETE AND IT SHALL BE TESTED IN IN ACCORDNCE WITH THE RECOMMENDATIONS OF IS 456–2000.
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   I) AT ANY CROSS SECTION NOT MORE THAN 1/3 rd OF THE BARS SHALL BE LAPPED.
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   A) CURING MUST BE STARTED IN 8 HOURS AFTER CONCRETING.
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24. THIS BUILDING DESIGNED FOR Stilt + Five Floors (Seismic design as per IS 1893 – 2002) – Zone – II

DEVELOPMENT LENGTH VALUES:

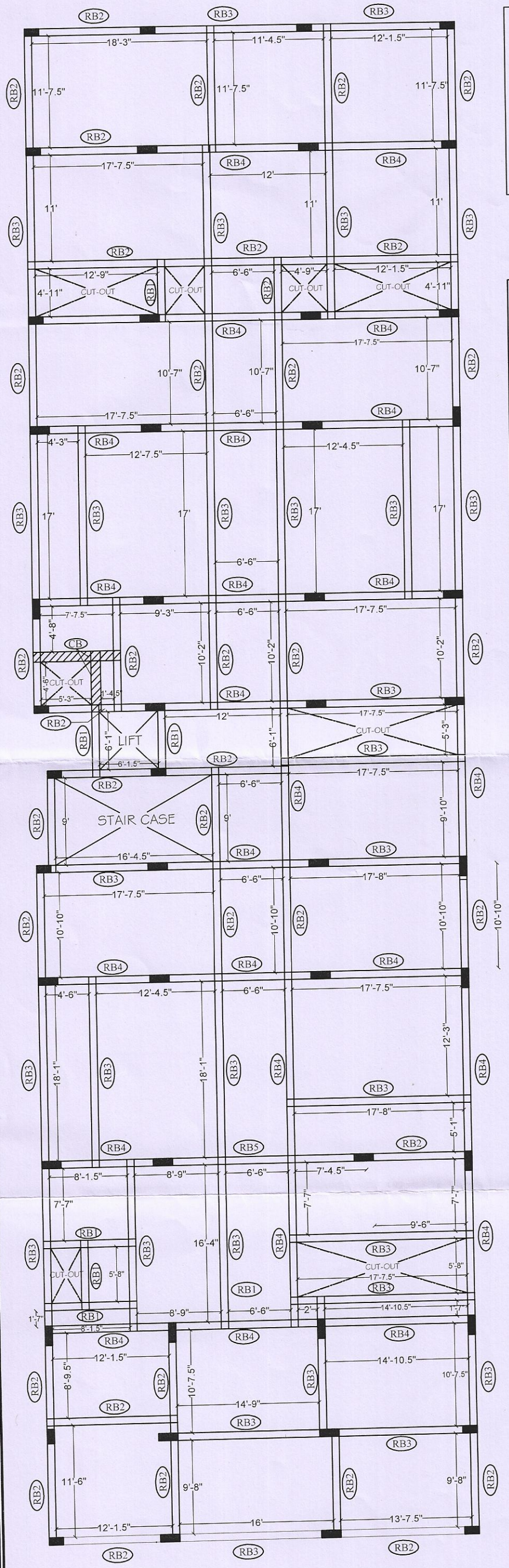
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M 25	Fe 415	42 x d	36 x d
M 30	Fe 415	40 x d	34 x d
M 20	Fe 500	60 x d	48 x d
M 25	Fe 500	50 x d	40 x d
M 30	Fe 500	48 x d	38 x d

REMOVAL OF FORM WORKS AFTER CASTING CONCRETE

A) FOR COLUMNS & BEAM SIDES	–	24 Hours
B) FOR ROOF SLABS BOTTOM		
i) CLEAR SPAN LESS THAN 4.5M	–	7 DAYS
ii) CLEAR SPAN MORE THAN 4.50M	–	14 DAYS
B) FOR ROOF BEAMS BOTTOM		
i) CLEAR SPAN LESS THAN 6M	–	14 DAYS
ii) CLEAR SPAN MORE THAN 6M	–	21 DAYS

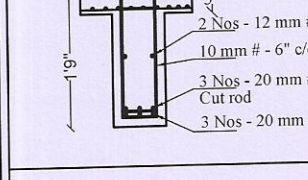
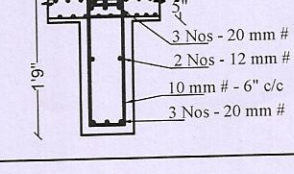
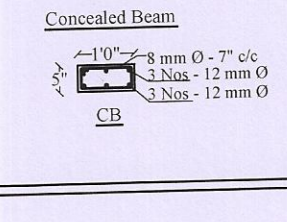
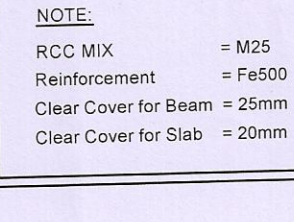
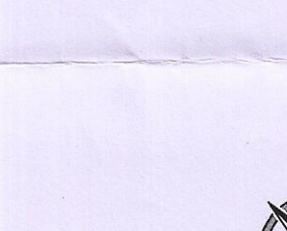
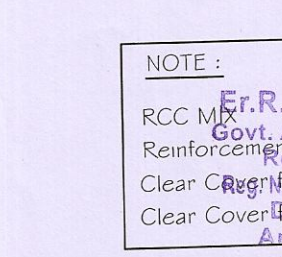
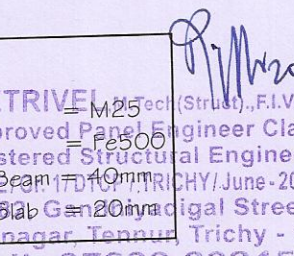
ROOF BEAM DESIGN

(For Fifth Floor (or) Terrace Floor)



CONSTRUCTION OF RESIDENTIAL APARTMENT BUILDING FOR CS HOUSING PROMOTERS @ KUMBAKONAM SALAI, THIRUVANAI KOVIL, TRICHY.

FLOOR BEAM REINFORCEMENT DETAILS

CROSS SECTION @ MID SPAN	CROSS SECTION @ SUPPORT
RB1  	**RB1** 
RB2  	**RB2** 
RB3  	**RB3** 
RB4  	**RB4** 
RB5  	**RB5** 

Concealed Beam

NOTE:

RCC MIX	= M25
Reinforcement	= Fe500
Clear Cover for Beam	= 25mm
Clear Cover for Slab	= 20mm

NOTES:

1. ALL DIMENSIONS ARE IN "FEET & INCHES".
2. ALL REINFORCEMENT STEEL SHALL BE HYSD (Fe 500) CONFORMING TO IS:1786–2008
3. GRADE OF CONCRETE SHALL BE M25 (MAXIMUM CEMENT CONTENT SHOULD BE 450 KGS/CU.M) (SLUMP SHOULD BE 75 TO 100MM)

GRADE	CEMENT/CUM	WATER CEMENT RATIO	SLUMP
	375 KGS	0.55	75 MM TO 100 MM
	400 KGS	0.50	
	425 KGS	0.45	
	425 KGS	0.45	
	450 KGS	0.40	

(NOTE:– IF SUPER PLASTICIZER IS USED, THE WATER CONTENT CAN BE REDUCED UPTO 20%)

4. CLEAR COVER FOR MAIN REINFORCEMENT
   a) Footing: 50mm, Pile: 50mm, Pile Cap: 75mm, Column: 40mm, Sump: 40mm, Shear wall: 40mm.
   b) Slab: 20mm, Beam: 25mm
5. WATER CEMENT RATIO SHOULD BE 0.55 FOR M20, 0.50 FOR M25, 0.45 FOR M30 & M35 AND 0.40 FOR M40
6. ALL KIND OF SHUTTERING PLANKS SHOULD BE PAINTED WITH GREASE OR CRUDE OIL BEFORE CONCRETING.
7. NO OPENING SHALL BE MADE IN CONCRETE WORKS.
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DEVELOPMENT LENGTH VALUES:

CONCRETE GRADE	STEEL GRADE	TENSION (EX: BEAM, etc.,)	COMPRESSION (EX:COLUMN ETC.,)
M 20	Fe 415	50 x d	40 x d
M 25	Fe 415	42 x d	36 x d
M 30	Fe 415	40 x d	34 x d
M 20	Fe 500	60 x d	48 x d
M 25	Fe 500	50 x d	40 x d
M 30	Fe 500	48 x d	38 x d

REMOVAL OF FORM WORKS AFTER CASTING CONCRETE

A) FOR COLUMNS & BEAM SIDES	– 24 Hours
B) FOR ROOF SLABS BOTTOM	
i) CLEAR SPAN LESS THAN 4.5M	– 7 DAYS
ii) CLEAR SPAN MORE THAN 4.50M	– 14 DAYS
B) FOR ROOF BEAMS BOTTOM	
i) CLEAR SPAN LESS THAN 6M	– 14 DAYS
ii) CLEAR SPAN MORE THAN 6M	– 21 DAYS



NOTE :

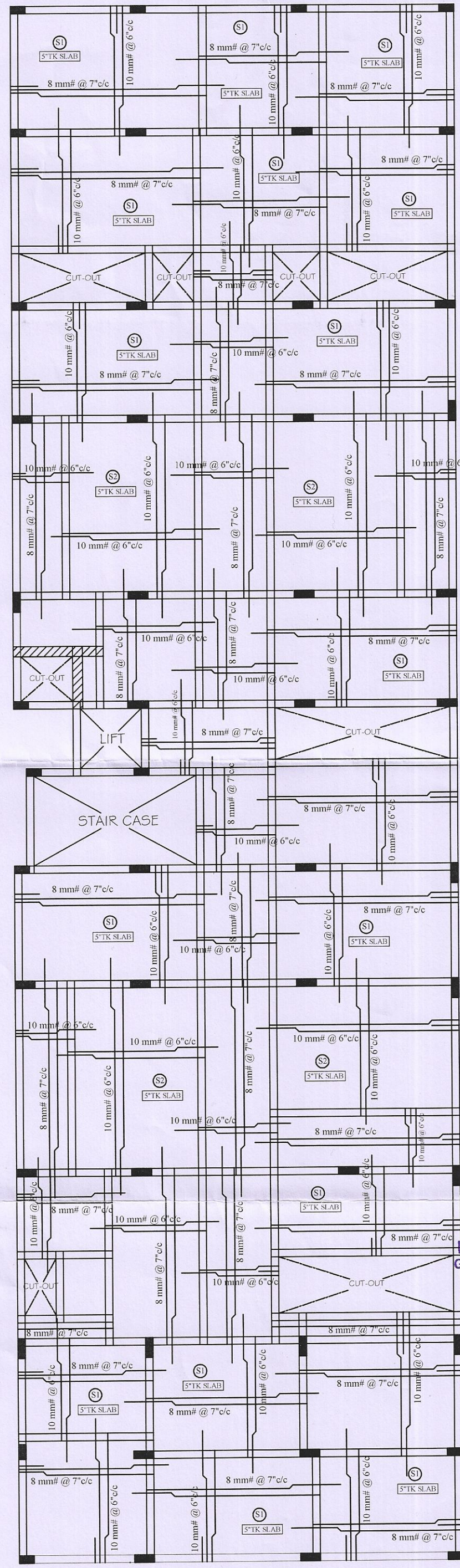
RCC MIX	= M25
Reinforcement	= Fe500
Clear Cover for Beam	= 40mm
Clear Cover for Slab	= 20mm

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ROOF SLAB DESIGN

(For Fifth Floor (or) Terrace Floor)





SHEET NO: 10

CONSTRUCTION OF
RESIDENTIAL APARTMENT BUILDING
FOR CS HOUSING PROMOTERS
@ KUMBAKONAM SALAI,
THIRUVANAI KOVIL, TRICHY.

NOTES:

1. ALL DIMENSIONS ARE IN "FEET & INCHES".
2. ALL REINFORCEMENT STEEL SHALL BE HYSD (Fe 500) CONFORMING TO IS:1786–2008
3. GRADE OF CONCRETE SHALL BE M25 (MAXIMUM CEMENT CONTENT SHOULD BE 450 KGS/CU.M) (SLUMP SHOULD BE 75 TO 100MM)

GRADE	CEMENT/CUM	WATER CEMENT RATIO	SLUMP
	375 KGS	0.55	75 MM TO 100 MM
	400 KGS	0.50	
	425 KGS	0.45	
	425 KGS	0.45	
	450 KGS	0.40	

(NOTE:– IF SUPER PLASTICIZER IS USED, THE WATER CONTENT CAN BE REDUCED UPTO 20%)

4. CLEAR COVER FOR MAIN REINFORCEMENT
   a) Footing: 50mm, Pile: 50mm, Pile Cap: 75mm, Column: 40mm, Sump: 40mm, Shear wall: 40mm.
   b) Slab: 20mm, Beam: 25mm
5. WATER CEMENT RATIO SHOULD BE 0.55 FOR M20, 0.50 FOR M25, 0.45 FOR M30 & M35 AND 0.40 FOR M40
6. ALL KIND OF SHUTTERING PLANKS SHOULD BE PAINTED WITH GREASE OR CRUDE OIL BEFORE CONCRETING.
7. NO OPENING SHALL BE MADE IN CONCRETE WORKS.
8. VIBRATORS MUST TO BE USED FOR ALL CONCRETING WORKS.
9. MINIMUM 6 NOS. OF CONCRETE CUBE SHALL BE TAKEN ON EACH DAY OF CONCRETE AND IT SHALL BE TESTED IN IN ACCORDNCE WITH THE RECOMMENDATIONS OF IS 456–2000.
10. STABILITY OF THE FORM WORK RESPOMNSIBILITY OF THE CONTRACTOR.
11. BEFORE CONCRETING CHECK AND FINALIZED THE LEVEL OF TOP OF CONCRETE WORK.
12. DO NOT SCALE THE DRAWINGS, WRITTEN DIMENSIONS TO BE FOLLOWED.
13. READ STRUCTURAL DWG IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
14. THE CONSULTANT IS NOT RESPONSIBLE FOR THE FAILURES DUE TO IMPROPER EXECUTION OF WORK AT SITE.
15. POLYTHENE SHEETS 1000 GAUGE TO BE LAID BELOW THE FOUNDATIONS (AT TOP OF P.C.C)
16. ALL STRUCTURES BELOW THE GROUND LEVEL IN CONTACT SOIL MUST BE PAINTED WITH TWO COATS OF BITUMEN.
17. IS CODE FOR COARSE AGGREGATE – TABLE 2 OF IS 383
    IS CODE FOR FINE AGGREGATE – ZONE 1 OF IS 383
    IS CODE FOR MIX DESIGN – IS 10262 : 1982
    IS CODE FOR WATER – IS 3025 TO BE FOLLOWED.
18. ALL CONSTRUCTION JOINTS CONCRETE TO BE CHIPPED BEFORE NEW CONCRETING.

19. NOTE FOR LAPPING:
   I) AT ANY CROSS SECTION NOT MORE THAN 1/3 rd OF THE BARS SHALL BE LAPPED.
   II) LAPS SHALL BE STAGGERED WITH A MINIMUM DISTANCE OF 1.30 TIMES OF LAP LENGTH.
   III) LAP IN COLUMNS SHALL BE PROVIDED AT MID HEIGHT OF THE FLOOR AND NOT AT THE SLAB LEVEL.
   IV) LAP IN BEAMS & SLABS SHALL BE PROVIDED AT POINT OF CONTRAFLEXUTRE.

20. CURING WORKS:
   A) CURING MUST BE STARTED IN 8 HOURS AFTER CONCRETING.
   B) WET GUNNY BAGS, JUTE MATING, STRAW ETC., ARE TO BE USED TO COVER THE VERTICAL SURFACE TO KEEP THE COCRETE WET.
   C) ALL STRUCTURES SHOULD BE CURED FOR 21 DAYS.
21. TAKE CARE ABOUT THE NEARBY BUILDINGS/WALLS AND SOIL CONDITIONS DURING EARTH WORK EXCAVATION.
22. THIS DRAWING IS VALID ONLY IF CONSULTANT CHECK AT SITE.
23. STRUCTURAL ENGINEER TAKES NO RESPONSIBILITY IN THE VIOLATION / DEVIATION OF SETBACK & FSI NORMS IN THE TNCDBR 2019 WHATSOEVER FOR THE SAME.
24. THIS BUILDING DESIGNED FOR Stilt + Five Floors (Seismic design as per IS 1893 – 2002) – Zone – II

DEVELOPMENT LENGTH VALUES:

CONCRETE GRADE	STEEL GRADE	TENSION (EX: BEAM, etc.,)	COMPRESSION (EX:COLUMN ETC.,)
M 20	Fe 415	50 x d	40 x d
M 25	Fe 415	42 x d	36 x d
M 30	Fe 415	40 x d	34 x d
M 20	Fe 500	60 x d	48 x d
M 25	Fe 500	50 x d	40 x d
M 30	Fe 500	48 x d	38 x d

REMOVAL OF FORM WORKS AFTER CASTING CONCRETE

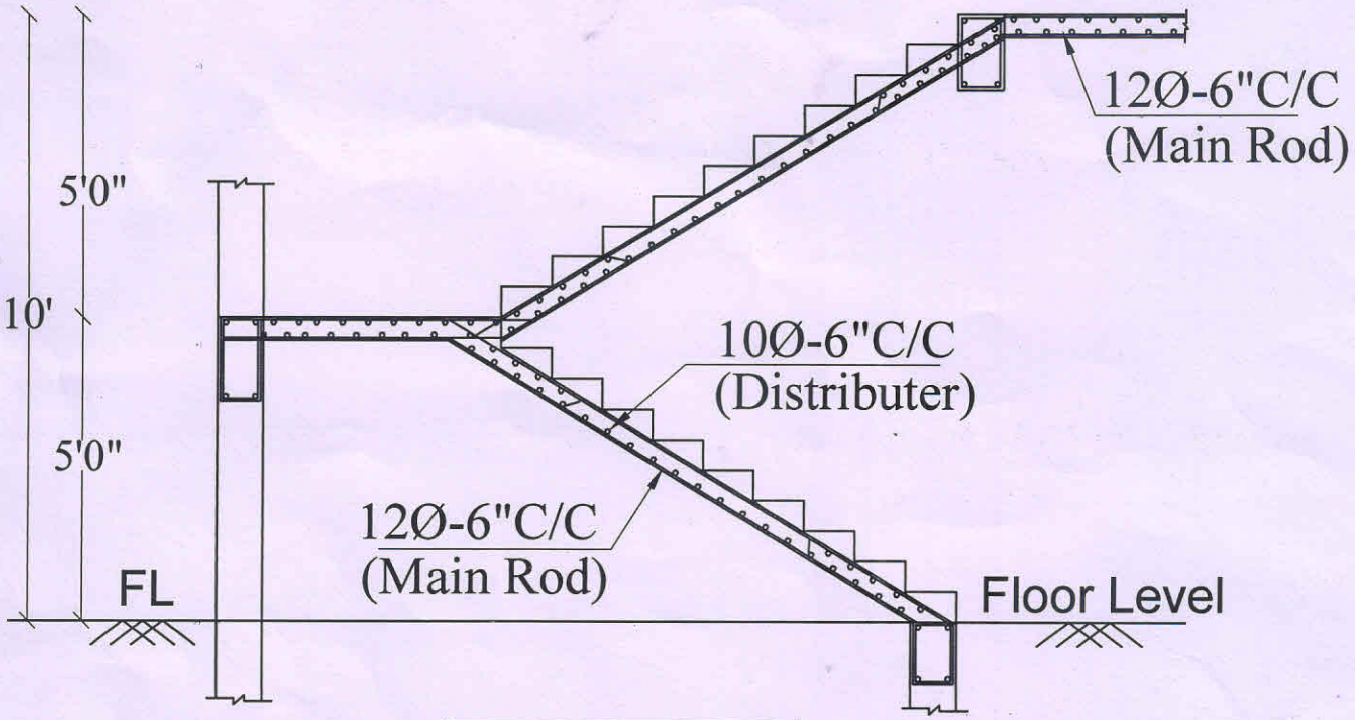
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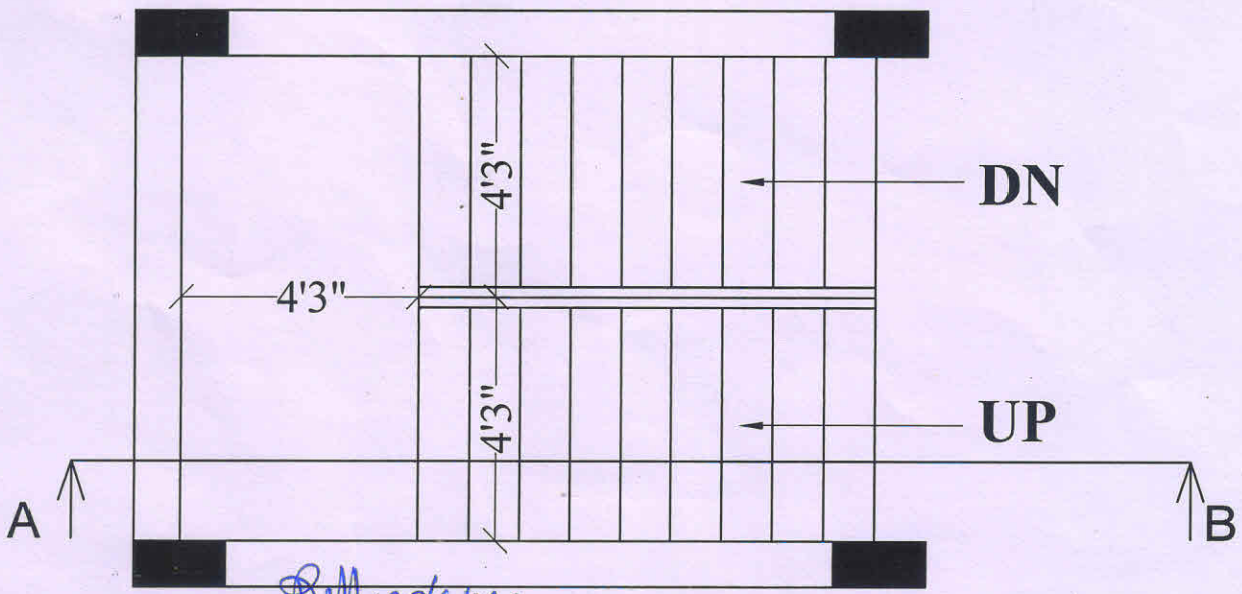
NOTE :

RCC MIX	= M25
Reinforcement	= Fe500
Clear Cover for Beam	= 40mm
Clear Cover for Slab	= 20mm



Tread =10"
Rise = 6"
Waist = 6" tk

SECTION ON AB



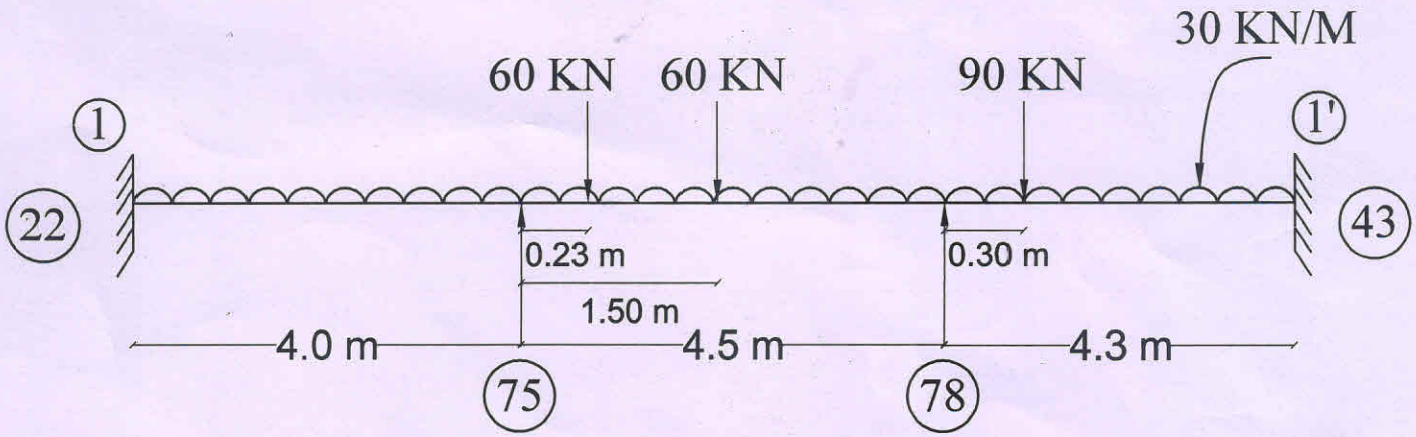
PLAN

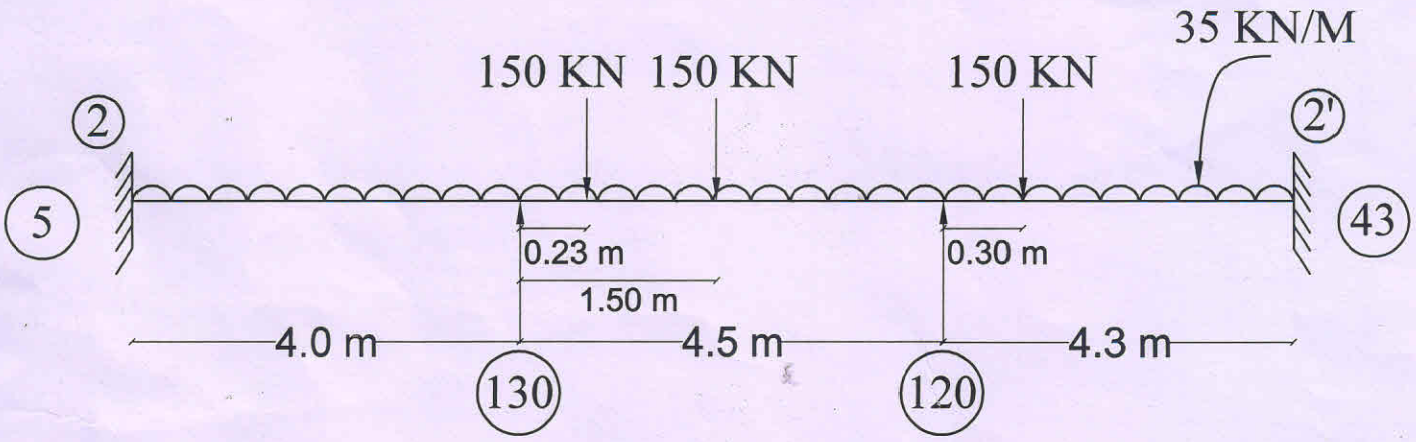
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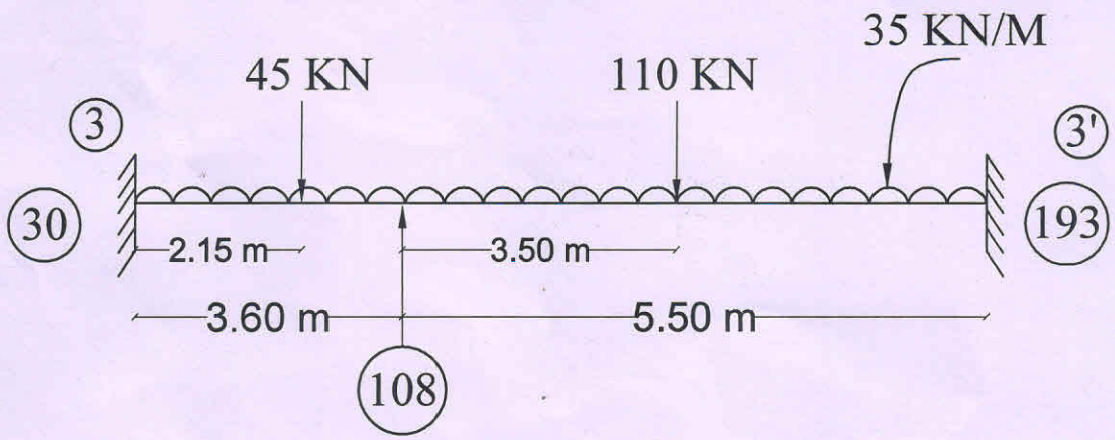
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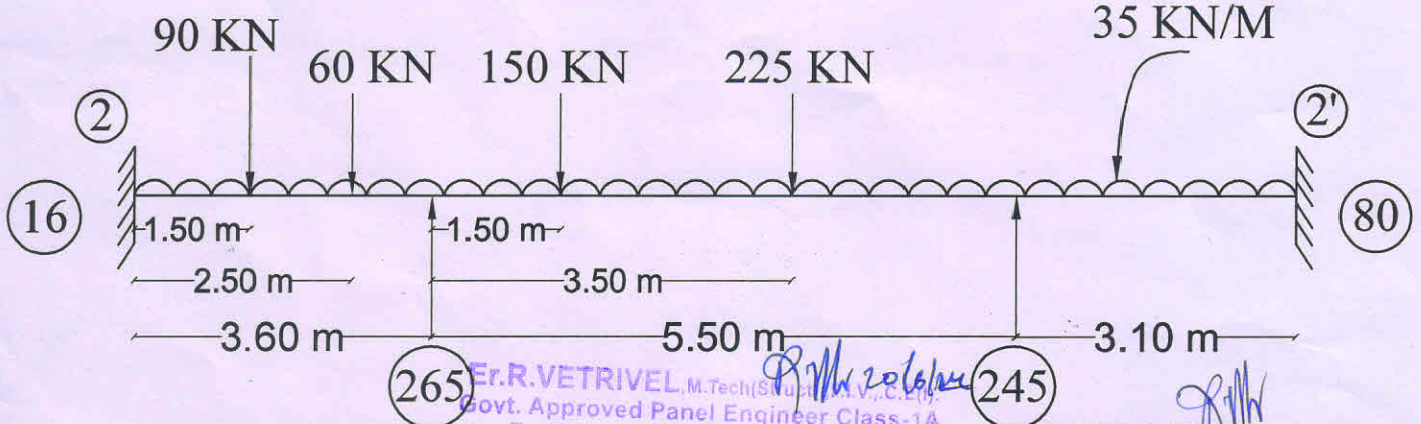
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BEAM LOADS AND BENDING MOMENT ANALYSIS









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1. LOADING ON SLAB

SELF WEIGHT OF SLAB = 1X1X0.13X25 = 3.25

LIVE LOAD = 1X1X2 = 2.00

FLOOR FINISH = 1X1X0.07x1x24 = 1.68

TOTAL = 6.93 KN/M^2

Say 7 KN/M^2

2. LOADING ON OUTER BEAM

SELF WEIGHT = 0.23 X 0.45 X 1 X 25 = 2.59

SLAB LOAD = 2.0 X 1 X 7 = 14.00

BRICK WALL = 0.23 X 1 X 2.70 X 20 = 12.42

TOTAL = 29.01 KN/M

Say 30 KN/M

3. LOADING INNER BEAM

SELF WEIGHT = 0.12 X 0.45 X 1 X 25 = 1.35

SLAB LOAD = 3.50 X 1 X 7 = 24.50

BRICK WALL = 0.12 X 1 X 2.70 X 20 = 6.48

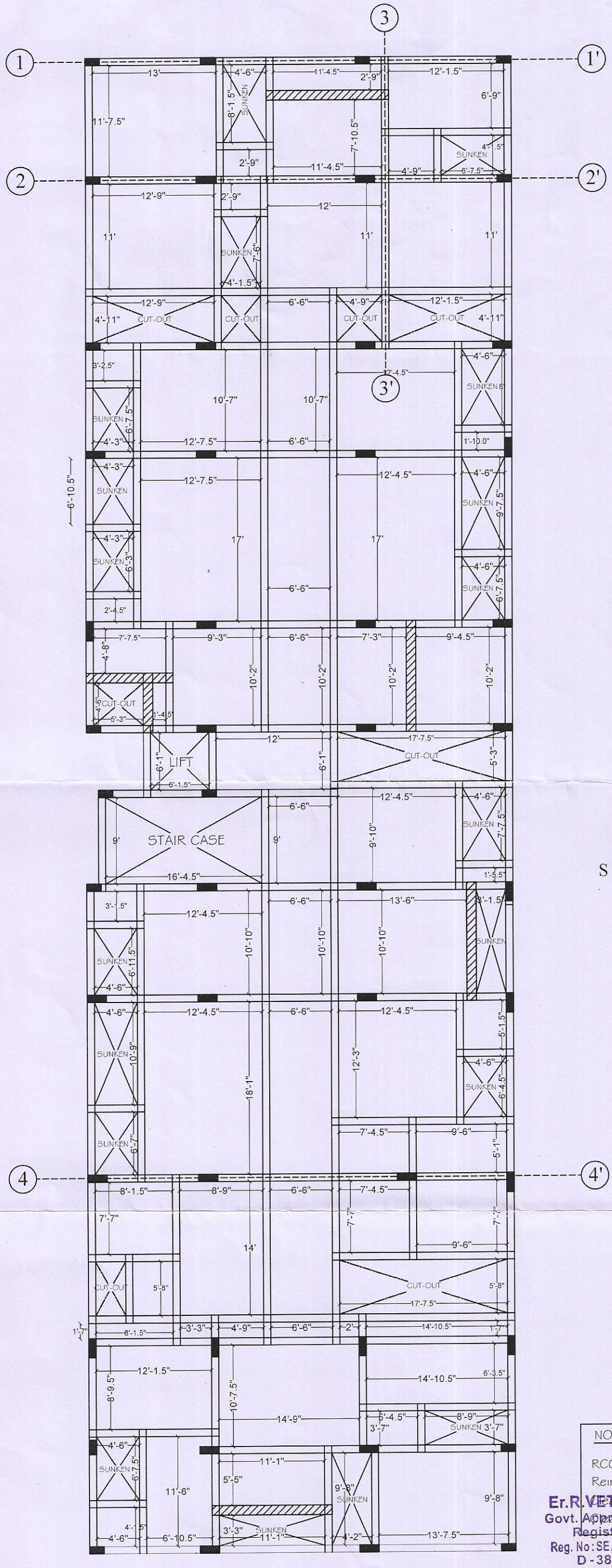
TOTAL = 32.33 KN/M

Say 35 KN/M

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BENDING MOMENT ANALYSIS





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NOTE :
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Clear Cover for Slab = 20mm

20/06/24

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