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12 July 2024

STRUCTURAL STABILITY CERTIFICATE FOR DESIGN

TO WHOMSOEVER IT MAY CONCERN

1. This is to certify that the proposed reconstruction of the residential buildings at Vanniyapuram Scheme located at Thiruvalluvar Salai, Vanniyapuram, Block No. 74, Mylapore Village within the limits of Greater Chennai Corporation, comprising a total of 216 dwelling units, has been structurally designed. The reconstruction involves two blocks: -

(a) Block 1: Stilt + 6 floors with 72 dwelling units (12 units per floor).

(b) Block 2: Stilt + 6 floors with 144 dwelling units (24 units per floor).

2. The detailed design report, which includes the method of analysis, design calculations, and structural drawings, is enclosed with this certificate. A broad description of the structure is as follows: -

(c) Materials. M30 (Design Mix) grade concrete and Fe 500 D grade steel have been considered for structural design.

(d) Foundation Type. Pile foundation [S+6 floors only and no additional floor is permitted].

3. The structural design has been carried out in accordance with relevant IS codes and accepted standards to withstand gravity, wind, and earthquake loads as applicable to this site condition.

4. The analysis, design calculations, and structural drawings have been thoroughly checked, certified, and proof checked by IIT Madras and found to be safe, good, and sound.

R. Balamourougane
M.Tech., F.IAStructE., FIV., MISE., MISSE., MIBC., MINSDAG, MISTE.,
Centre for Urbanization, Buildings & Environment
IIT Madras Research Park, Chennai – 600 113.
Registered Structural Engineer (GR – I)
CMDA REGD. No. SE/GR-I/2022/07/328

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NOTES:

1. ALL DIMENSIONS ARE IN "mm" UNLESS OTHERWISE SPECIFIED.
2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION
4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500m DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

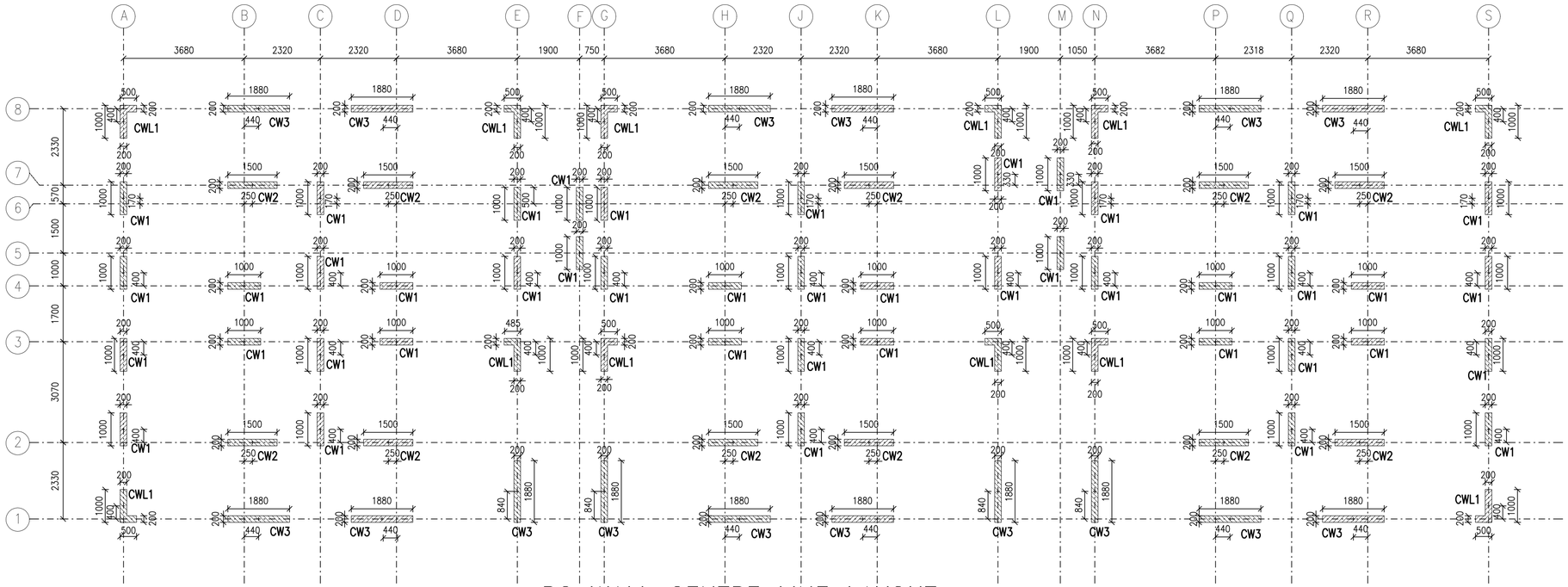
REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

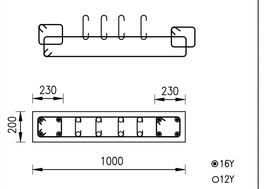
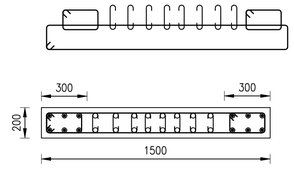
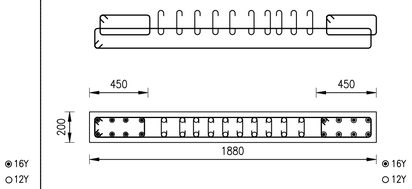
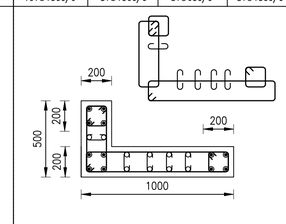
CUBE

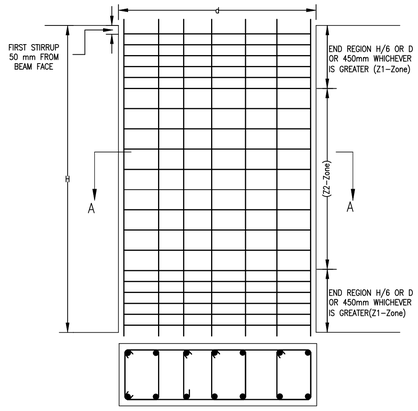
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RC WALL CENTRE LINE LAYOUT

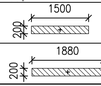
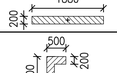
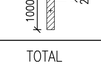
RC WALL REINFORCEMENT SCHEDULE

LINKS	Z1 – M	Z1–O	ZE	Z2–M	Z2–O	Z1 – M	Z1 – O	ZE	Z2–M	Z2–O	Z1 – M	Z1 – O	ZE	Z2–M	Z2–O	Z1 – M	Z1 – O	ZE	Z2–M	Z2–O
	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c
LINKS / C.S																				
STEEL	EGDE BAR		8–16Y			EGDE BAR		12–16Y			EGDE BAR		16–16Y			EGDE BAR		12–16Y		
	VERTICAL BAR		8–12Y			VERTICAL BAR		16–12Y			VERTICAL BAR		20–12Y			VERTICAL BAR		10–12Y		
WALL TYPE	CW1					CW2					CW3					CWL1				
TOTAL	44					12					16					12				



SECTION AA
SPACING OF SHEAR REINFORCEMENT IN RC WALL

WALL SCHEDULE

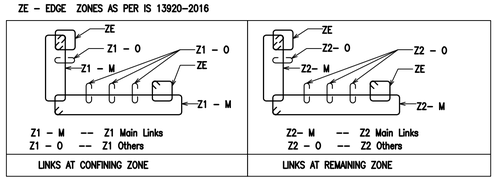
RC WALL NAME	RC WALL	NO. OF WALLS
CW1		44
CW2		12
CW3		16
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	TOTAL	84

NOTES:

Z1 – SPECIAL CONFINING ZONE AS PER IS–13920

Z2 – REMAINING ZONES AS PER IS 456

ZE – EDGE ZONES AS PER IS 13920–2016



PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:

THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B-01/002	SHEET NO: 002	REV NO: R0

DRAWING TITLE :
RC WALL LAYOUT

BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET:A1

ISSUED FOR:

☐PRELIMINARY ☐TENDER ☐INFORMATION
☐APPROVAL ☑CONSTRUCTION

DATE OF ISSUE 29–09–2022

DESIGNED BY:	DRAWN BY:
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NOTE: ALL DIMENSION ARE IN mm

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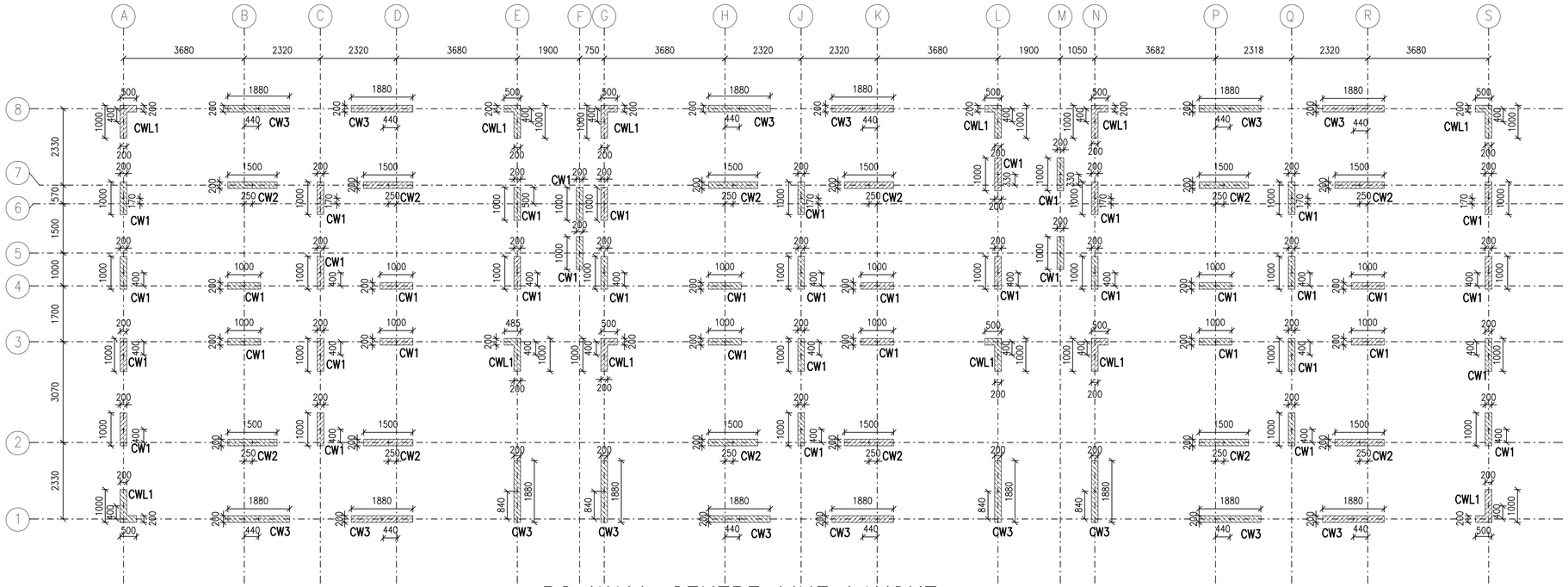
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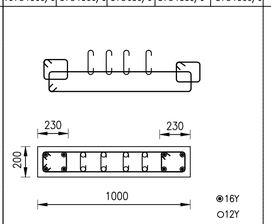
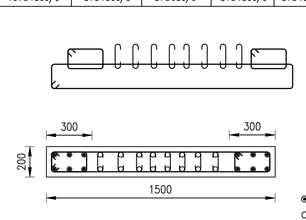
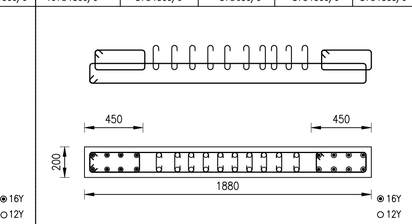
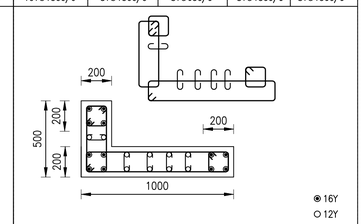
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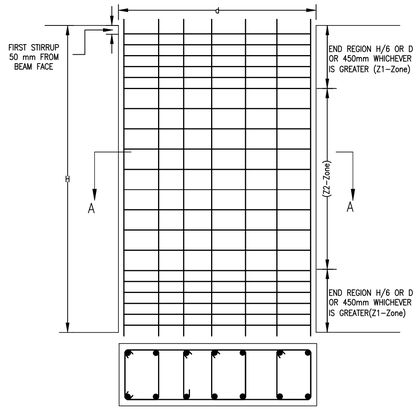
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RC WALL CENTRE LINE LAYOUT

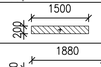
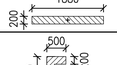
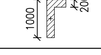
RC WALL REINFORCEMENT SCHEDULE

LINKS	Z1 – M	Z1–0	ZE	Z2–M	Z2–0	Z1 – M	Z1 – 0	ZE	Z2–M	Z2–0	Z1 – M	Z1 – 0	ZE	Z2–M	Z2–0	Z1 – M	Z1 – 0	ZE	Z2–M	Z2–0
	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c
LINKS / C.S																				
STEEL	EGDE BAR		8–16Y			EGDE BAR		12–16Y			EGDE BAR		16–16Y			EGDE BAR		12–16Y		
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WALL TYPE	CW1					CW2					CW3					CWL1				
TOTAL	44					12					16					12				



SECTION AA
SPACING OF SHEAR REINFORCEMENT IN RC WALL

WALL SCHEDULE

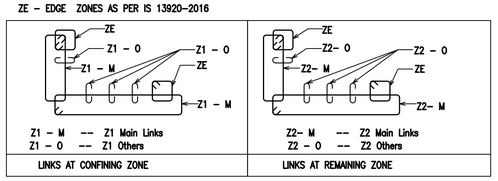
RC WALL NAME	RC WALL	NO. OF WALLS
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NOTES:

Z1 – SPECIAL CONFINING ZONE AS PER IS-13920

Z2 – REMAINING ZONES AS PER IS 456

ZE – EDGE ZONES AS PER IS 13920-2016



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NO.5 KAMARAJAR SALAI, CHENNAI-600005

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STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
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DRAWING NO:TNUHDB/CH/VAN/B-01/002	SHEET NO: 002	REV NO: R0

DRAWING TITLE :
RC WALL LAYOUT

BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET:A1

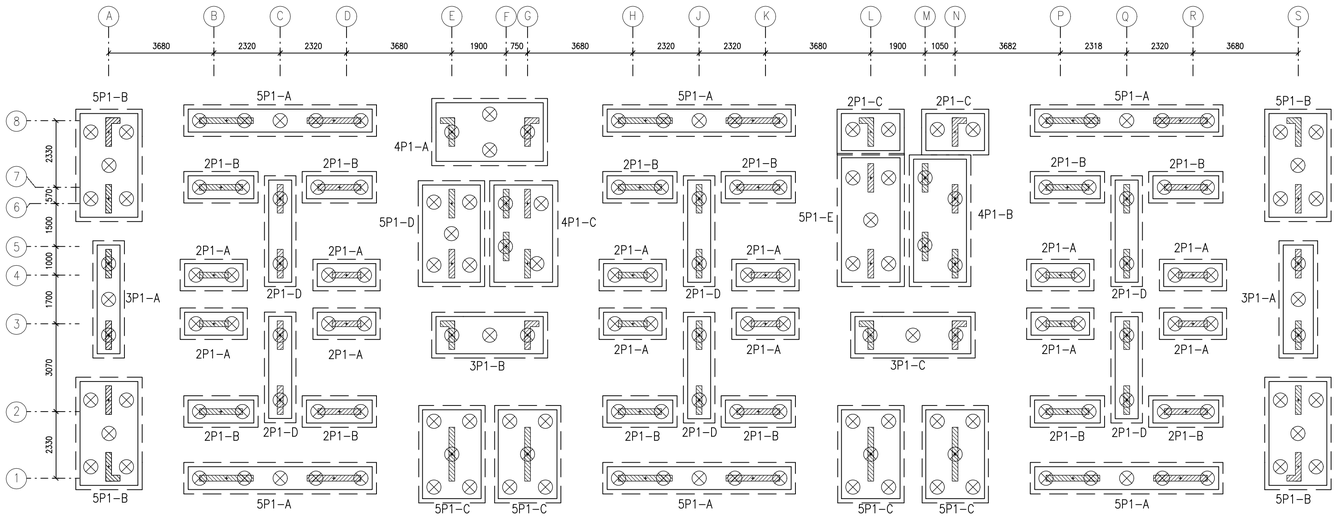
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DATE OF ISSUE 29-09-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

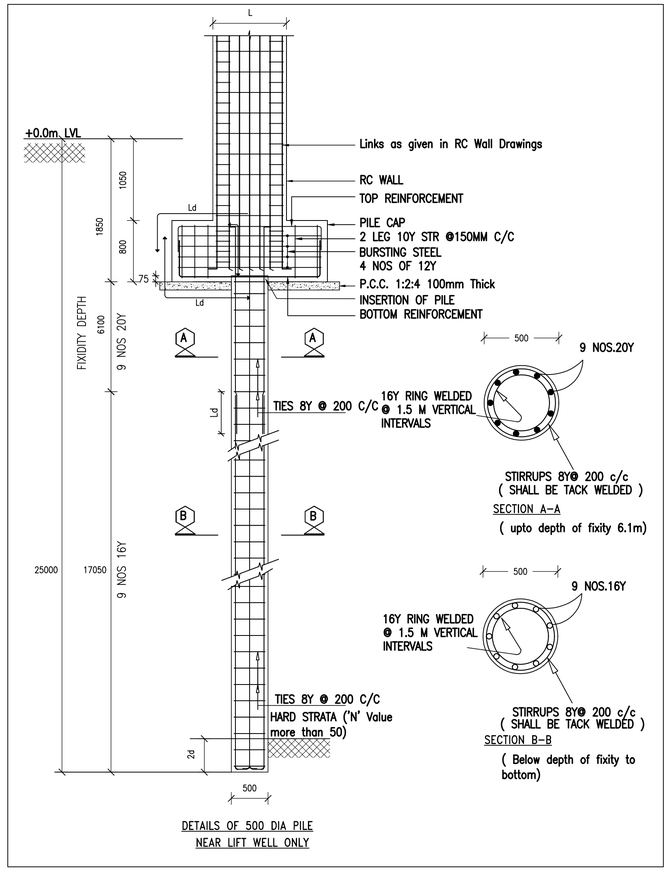
NOTE: ALL DIMENSION ARE IN mm



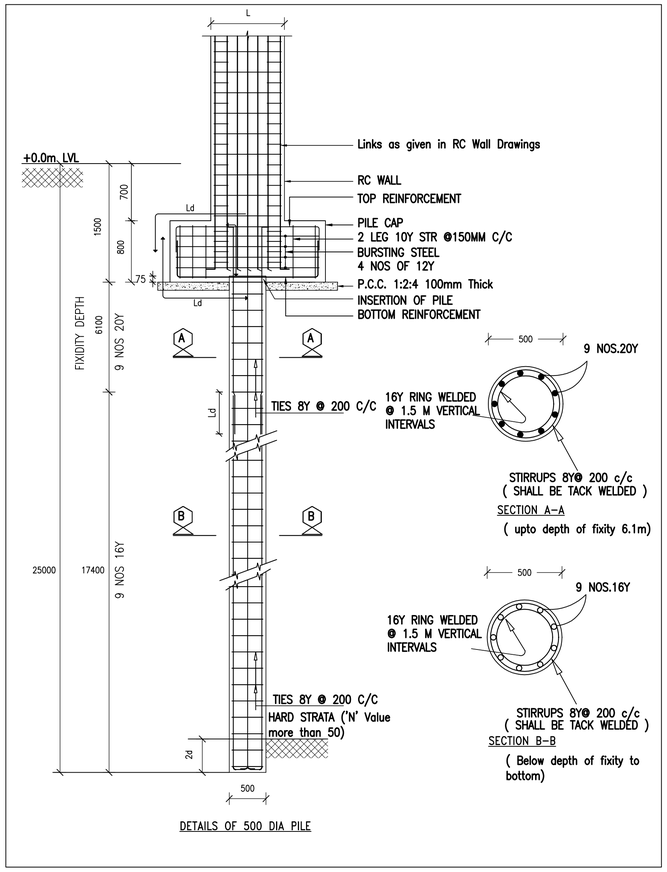
PILE LAYOUT

Legend:

⊗ – 500 Dia BoredCast-in-situ pile



DETAILS OF 500 DIA PILE
NEAR LIFT WELL ONLY



DETAILS OF 500 DIA PILE

PILE AND PILE CAP SCHEDULE:

PILE GROUP	NAME	TOTAL NOS	
		PILE	PILE CAP
2P1–A	2 PILE– 500ø	24	12
2P1–B	2 PILE– 500ø	24	12
2P1–C	2 PILE– 500ø	04	02
2P1–D	2 PILE– 500ø	12	06
3P1–A	3 PILE– 500ø	06	02
3P1–B	3 PILE– 500ø	03	01
3P1–C	3 PILE– 500ø	03	01
4P1–A	4 PILE– 500ø	04	01
4P1–B	4 PILE– 500ø	04	01
4P1–C	4 PILE– 500ø	04	01
5P1–A	5 PILE– 500ø	30	06
5P1–B	5 PILE– 500ø	20	04
5P1–C	5 PILE– 500ø	20	04
5P1–D	5 PILE– 500ø	05	01
5P1–E	5 PILE– 500ø	05	01
TOTAL		168	55

500 Dia BoredCast-in-situ Piles – 168 NOS

NOTES:

1. ALL DIMENSIONS ARE IN 'MILLI METRES' UNLESS OTHERWISE SPECIFIED. DRAWING SHALL NOT BE SCALED OUT. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
2. BORED CAST-IN-SITU PILE CONSTRUCTION WORK IN GENERAL SHALL BE CARRIED OUT AS PER I.S. 2911 (PART I/ SEC – 2) 2010.
3. THE MIX FOR THE R.C.C WORKS SHALL BE DESIGN MIX M30 WITH CEMENT CONTENT NOT LESS THAN 400 kg /cu.m OF CONCRETE.
4. THERMO MECHANICALLY TREATED BARS OF GRADE Fe 500D (ELONGATION NOT LESS THAN 16 %) CONFORMING TO I.S. SPECIFICATION 1786 SHALL BE USED FOR BARS MARKED AS Y.
5. REINFORCEMENT BARS SHALL BE TACK WELDED TO THE LATERAL TIES THROUGHOUT THE LENGTH OF THE PILES TO PROVIDE MORE RIGIDITY TO THE CAGE. ROLLER COVER BLOCKS SHALL BE PROVIDED TO THE CAGE AT APPROXIMATELY TWO METRES INTERVALS AND SUITABLY STAGGERED. ONLY ELECTRICAL WELDING IS PERMITTED.
6. CLEAR COVER TO THE MAIN REINFORCEMENT SHALL BE 60 MM FOR PILES. FOR PILECAPS 75 MM AT BOTTOM AND REMAINING ARE 60 MM.
7. WATER USED FOR ALL CONCRETE WORK SHALL CONFORM TO CLAUSE 5.4 OF IS 456–2000.
8. THE BORED CAST–IN–SITU PILE SHALL REST ON THE HARD STRATA / WEATHERED ROCK LAYER. THE PILE HAS TO BE TAKEN UPTO THE REFUSAL STRATA.
9. THE VERTICAL LOAD TEST MAY BE CONDUCTED TO ASCERTAIN THE ACTUAL SAFE LOAD CARRYING CAPACITY OF THE PILE IRRESPECTIVE OF THE SAFE LOAD MENTIONED AS PER AGREEMENT ITEM OR IN SOIL INVESTIGATION REPORT .AS PER CLAUSE 4.2.3.9 OF IS 2911 – PT – IV. THE TEST SHALL BE CONDUCTED TILL THE SETTLEMENT ATTAINS 12 MM. AS PER CLAUSE 4.2.3.9 OF IS 2911 – PT – IV.
10. THE TENTATIVE SAFE LOAD ON BORED CAST–IN –SITU PILE IS
    (A) 500MM DIA – 91 TONNES

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6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

NOTE:	SYMBOL	DESCRIPTION
	▨	NGL – NATURAL GROUND LEVEL

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B–01/003	SHEET NO: 003	REV NO: R0

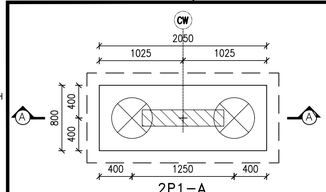
DRAWING TITLE :
PILE CAP LAYOUT

BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET:A1

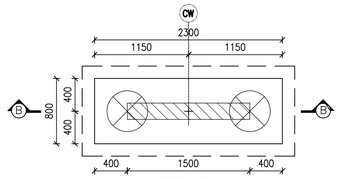
ISSUED FOR:

☐PRELIMINARY ☐TENDER ☐INFORMATION ☐APPROVAL ☑CONSTRUCTION	DATE OF ISSUE 29–09–2022
DESIGNED BY:	DRAWN BY:
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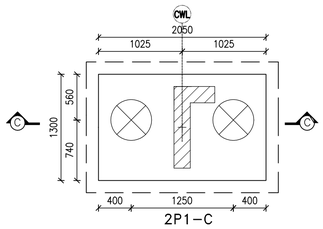
NOTE: ALL DIMENSION ARE IN mm



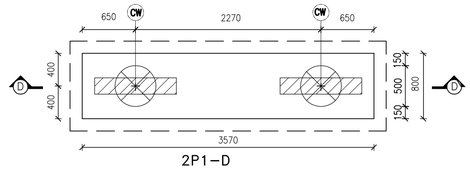
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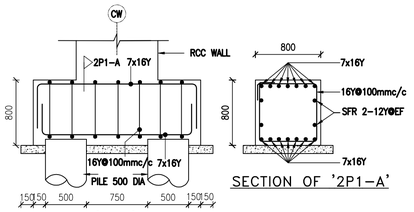
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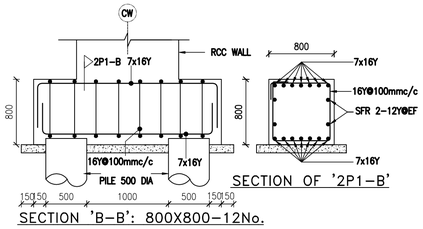
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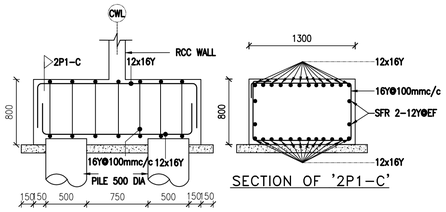
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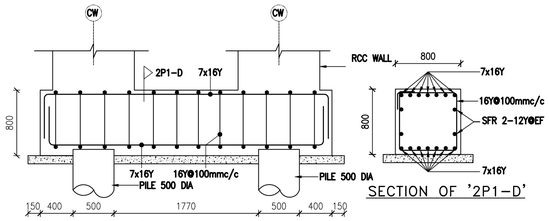
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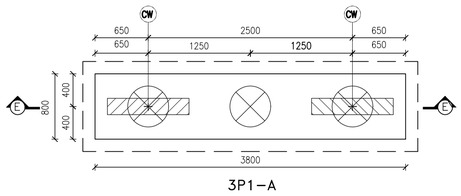
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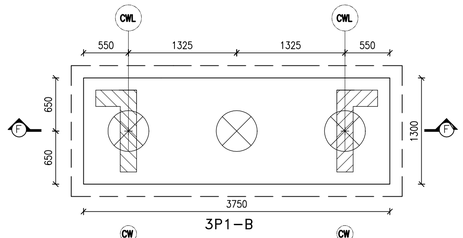
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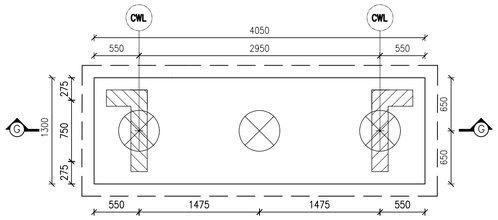
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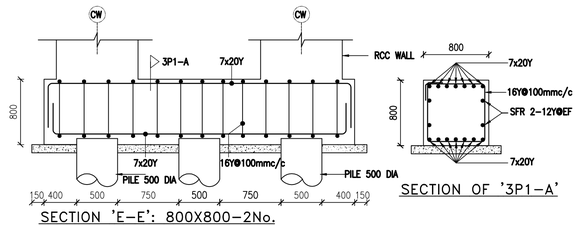
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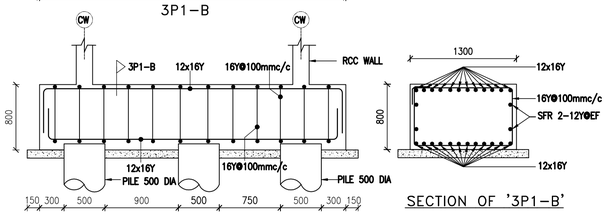
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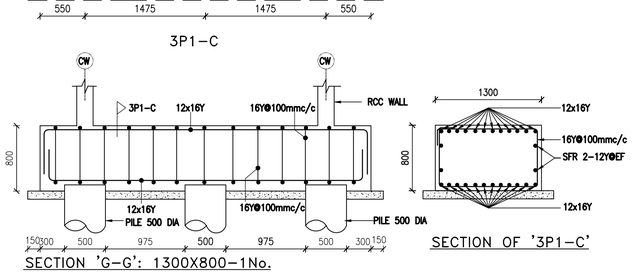
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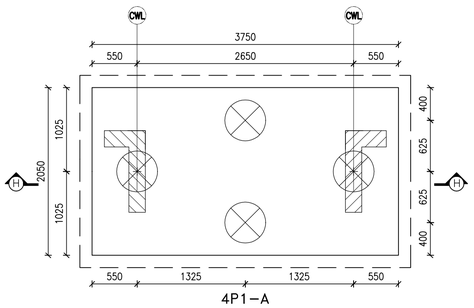
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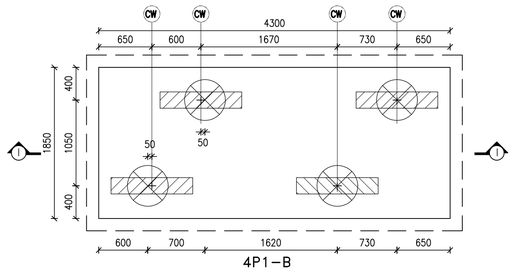
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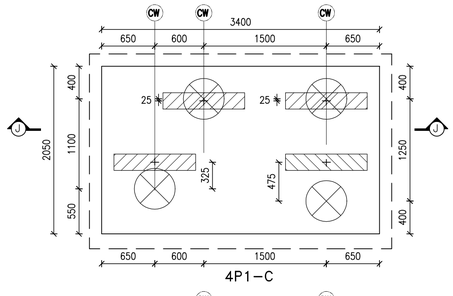
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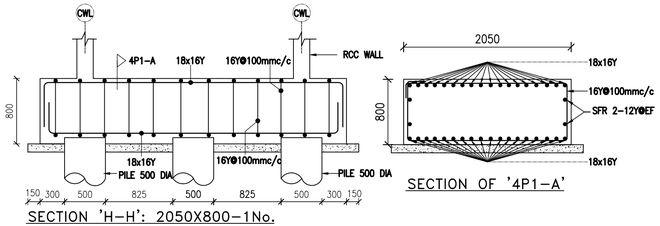
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4P1–B

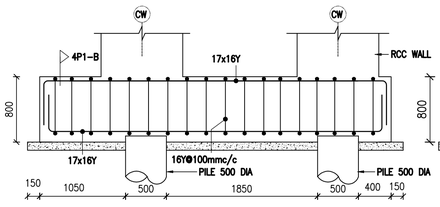


4P1–C

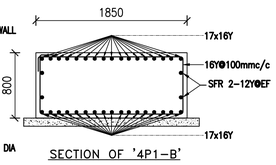


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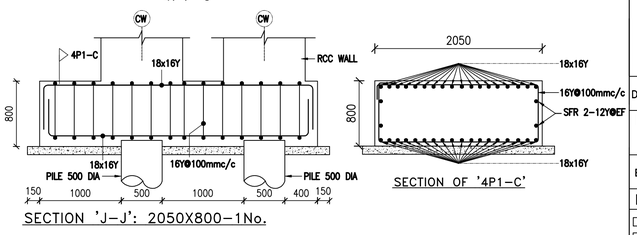
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SECTION 'I–I': 1850X800–1No.



SECTION OF '4P1–B'



SECTION 'J–J': 2050X800–1No.

SECTION OF '4P1–C'

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M30	Ld	45d	Where d is Diameter of rod

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REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:

THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B–01/004	SHEET NO: 004	REV NO: R0

DRAWING TITLE :

PILE CAP SECTION DETAILS

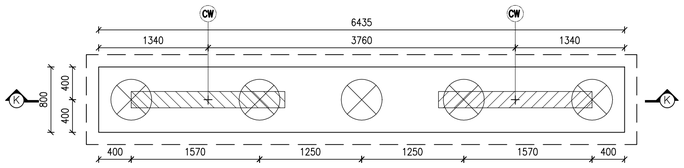
BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET:A1

ISSUED FOR:

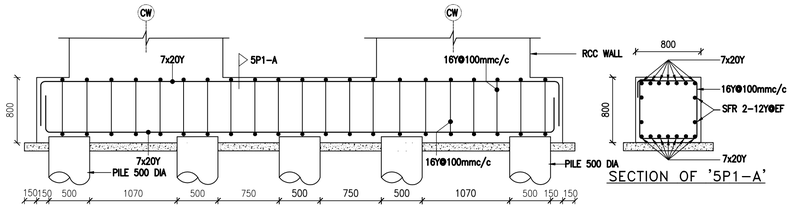
☐PRELIMINARY ☐TENDER ☐INFORMATION ☐APPROVAL ☑CONSTRUCTION	DATE OF ISSUE 29–09–2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm

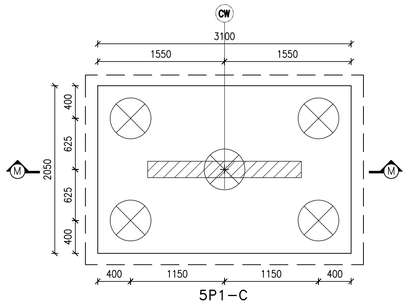


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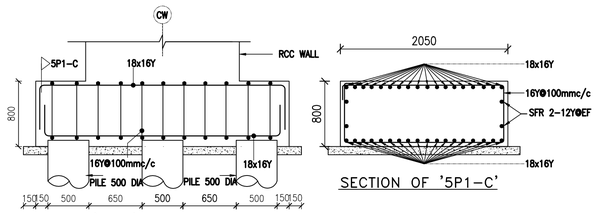


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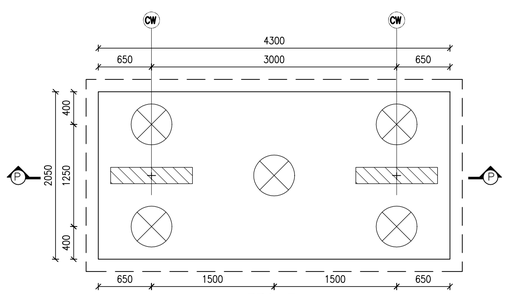


5P1–C

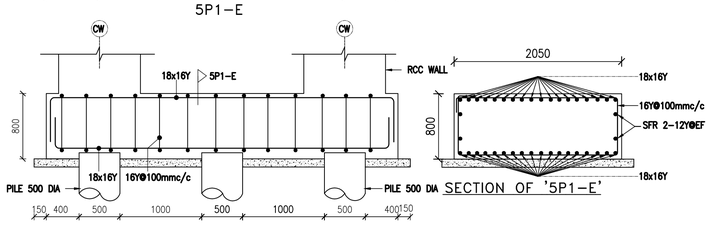


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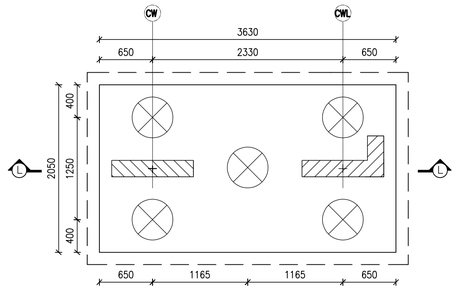


5P1–E

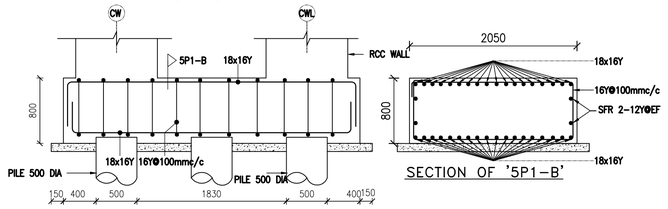


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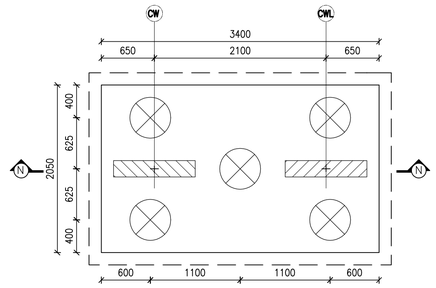


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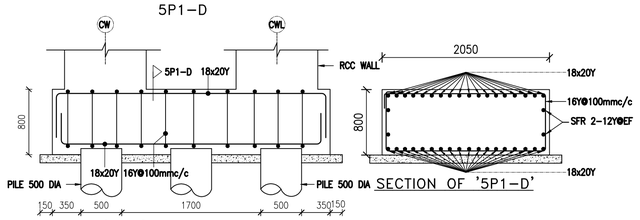


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SECTION 'L–L': 2050X800–4No.



5P1–D



SECTION OF '5P1–D'

SECTION 'N–N': 2050X800–1No.

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REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

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CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
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NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:
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DRAWING NO: TNUHDB/CH/VAN/B–01/005	SHEET NO: 005	REV NO: R0

DRAWING TITLE :
PILE CAP SECTION DETAILS

BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET: A1

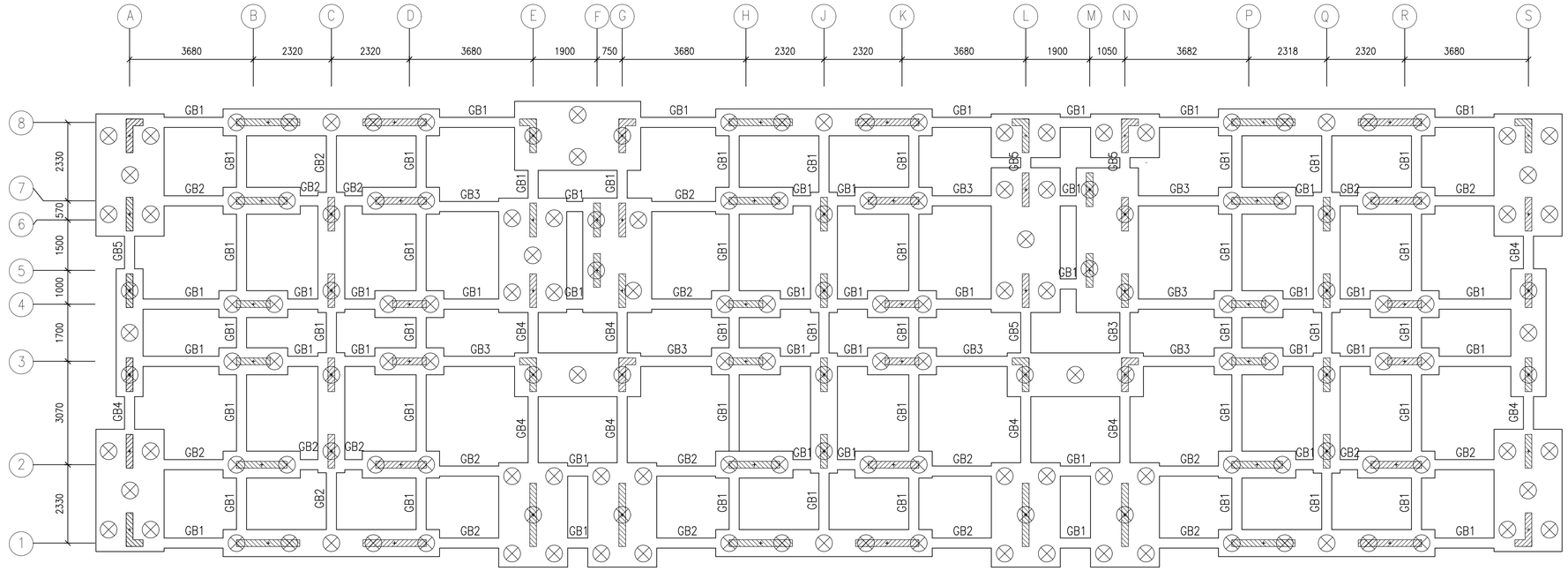
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☐ PRELIMINARY ☐ TENDER ☐ INFORMATION
☐ APPROVAL ☑ CONSTRUCTION

DATE OF ISSUE 29–09–2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm



PILE LAYOUT

LIFT WALL –1 LAYOUT

TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM

LIFT WALL–2 LAYOUT

SECTION D–D

SECTION A–A

SECTION B–B

SECTION C–C

GRADE BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
GB1 300x450	3x20Y / 2L–8Y@100mm c/c / 3x20Y	3x20Y / 2L–8Y@100mm c/c / 3x20Y	3x20Y / 2L–8Y@100mm c/c / 3x20Y
GB2 300x450	3x20Y(I) / 2L–8Y@100mm c/c / 3x16Y(II) 3x20Y(I)	3x20Y(I) / 2L–8Y@100mm c/c / 3x20Y(I)	3x20Y(I) / 2L–8Y@100mm c/c / 3x16Y(II) 3x20Y(I)
GB3 300x450	3x20Y(I) 3x16Y(II) / 2L–10Y@100mm c/c / 3x16Y(II) 3x20Y(I)	3x20Y(I) / 2L–10Y@100mm c/c / 3x20Y(I)	3x20Y(I) 3x16Y(II) / 2L–10Y@100mm c/c / 3x16Y(II) 3x20Y(I)
GB4 300x450	3x20Y(I) 3x20Y(II) / 2L–12Y@100mm c/c / 3x20Y(II) 3x20Y(I)	3x20Y(I) / 2L–12Y@130mm c/c / 3x20Y(I)	3x20Y(I) 3x20Y(II) / 2L–12Y@100mm c/c / 3x20Y(II) 3x20Y(I)
GB5 300x450	3x25Y(I) 3x20Y(II) / 2L–12Y@100mm c/c / 3x25Y(II) 3x20Y(I)	3x25Y(I) / 2L–12Y@100mm c/c / 3x25Y(I)	3x25Y(I) 3x20Y(II) / 2L–12Y@100mm c/c / 3x20Y(II) 3x25Y(I)

NOTES:

(I) – FIRST LAYER REINFORCEMENT
(II) – SECOND LAYER REINFORCEMENT

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4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

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Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

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PRINCIPAL DEVELOPER:

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NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:

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STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B–01/006	SHEET NO: 006	REV NO: R0

DRAWING TITLE : GRADE BEAM LAYOUT

BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET:A1

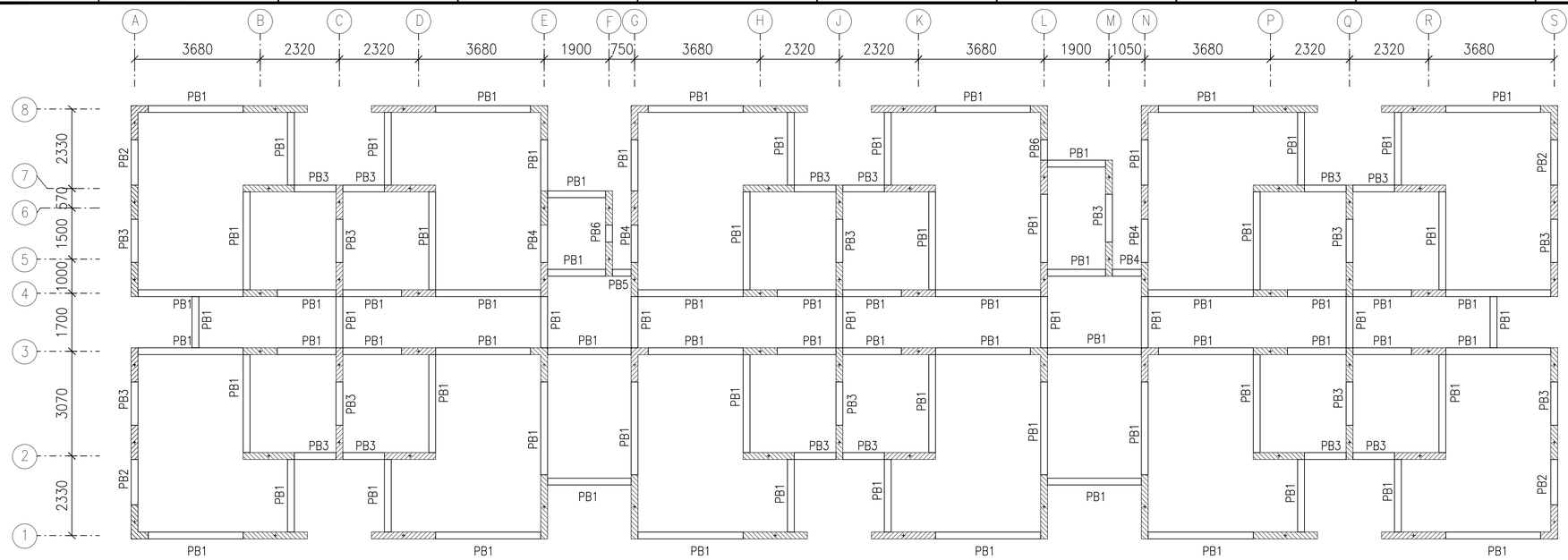
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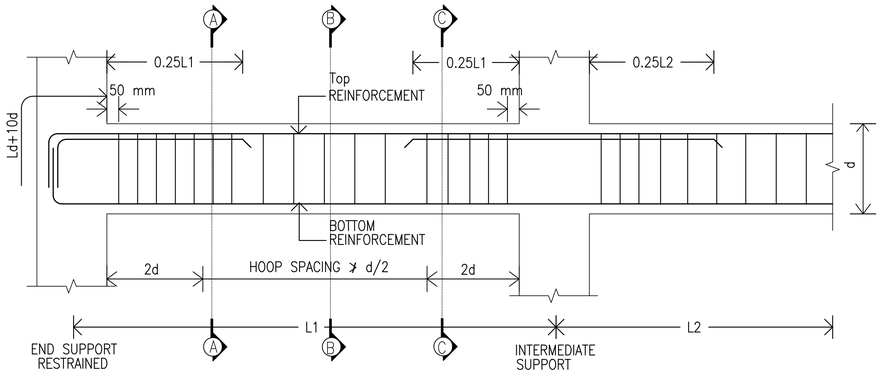
DATE OF ISSUE 29–09–2022

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NOTE: ALL DIMENSION ARE IN mm



PLINTH BEAM LAYOUT @ 0.0LVL



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM

PLINTH BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
PB1 200x450	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@180 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y
PB2 200x450	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@150 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y
PB3 200x450	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@130 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y
PB4 200x450	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@100 mm c/c; 2x16Y
PB5 200x450	200; 2x16Y; 450; 2L-8Y@75 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@75 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-8Y@75 mm c/c; 2x16Y
PB6 200x450	200; 2x16Y; 450; 2L-10Y@100 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-10Y@100 mm c/c; 2x16Y	200; 2x16Y; 450; 2L-10Y@100 mm c/c; 2x16Y

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RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

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NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
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CHENNAI, TAMIL NADU-600036

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CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022-23/018/TNUHDB_VAN

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DRAWING NO:TNUHDB/CH/VAN/B-01/007	SHEET NO: 007	REV NO: R0

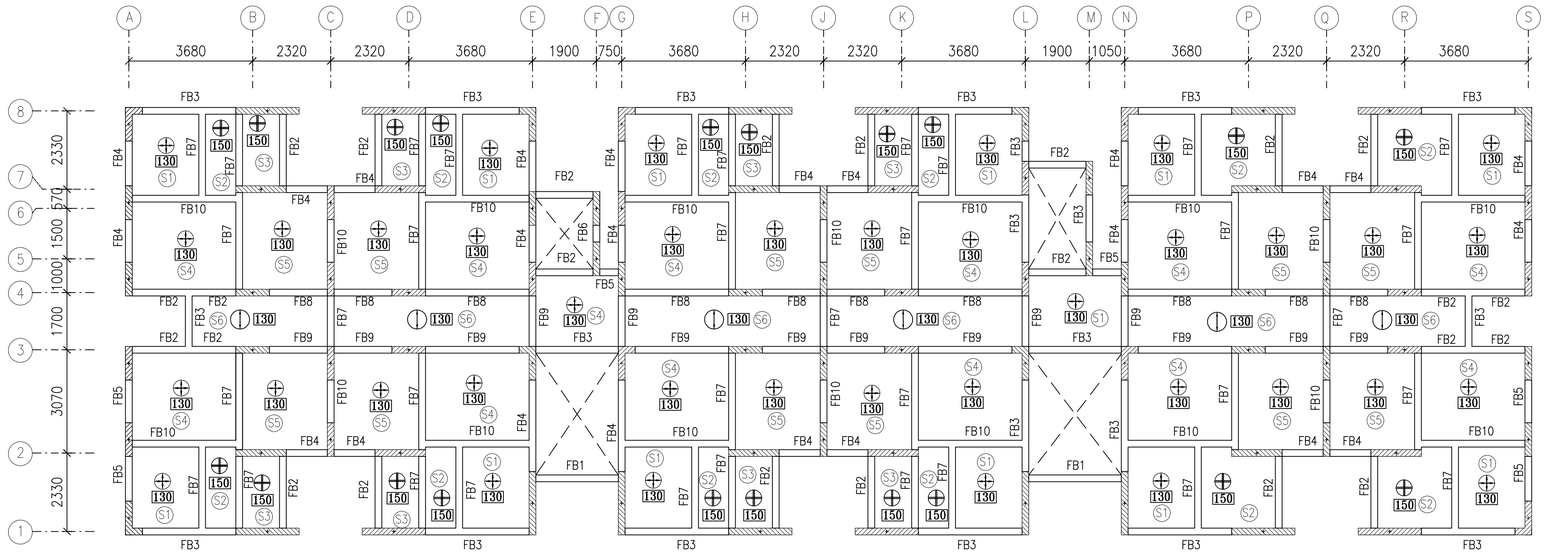
DRAWING TITLE :
PLINTH BEAM REINFORCEMENT DETAILS

BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET:A1

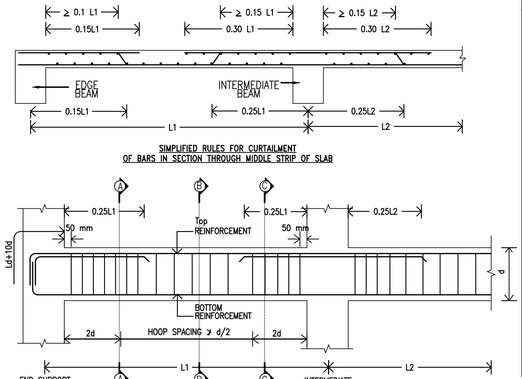
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NOTE: ALL DIMENSION ARE IN mm



FIRST FLOOR BEAM AND SLAB LAYOUT @ 2.90 LVL



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		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

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FIRST FLOOR BEAM REINFORCEMENT DETAILS

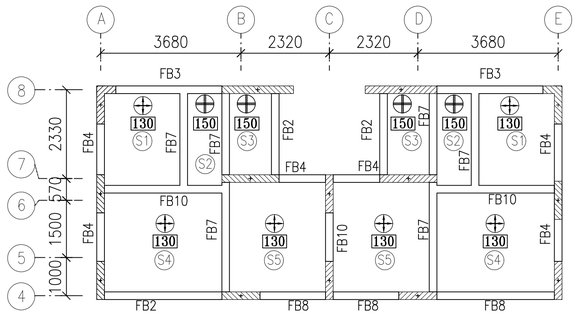
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB1 200x600	200, 2x16Y, 600, 2L-8Y@100mm c/c, 2x16Y	200, 2x16Y, 600, 2L-8Y@150mm c/c, 2x16Y	200, 2x16Y, 600, 2L-8Y@100mm c/c, 2x16Y
FB2 200x600	200, 2x16Y, 600, 2L-8Y@100mm c/c, 2x16Y	200, 2x16Y, 600, 2L-8Y@130mm c/c, 2x16Y	200, 2x16Y, 600, 2L-8Y@100mm c/c, 2x16Y
FB3 200x600	200, 2x16Y, 600, 2L-8Y@100mm c/c, 2x16Y	200, 2x16Y, 600, 2L-8Y@100m c/c, 2x16Y	200, 2x16Y, 600, 2L-8Y@100mm c/c, 2x16Y
FB4 200x600	200, 2x16Y, 600, 2L-8Y@75mm c/c, 2x16Y	200, 2x16Y, 600, 2L-8Y@75mm c/c, 2x16Y	200, 2x16Y, 600, 2L-8Y@75mm c/c, 2x16Y
FB5 200x600	200, 2x16Y, 600, 2L-10Y@100mm c/c, 2x16Y	200, 2x16Y, 600, 2L-10Y@100mm c/c, 2x16Y	200, 2x16Y, 600, 2L-10Y@100mm c/c, 2x16Y
FB6 200x600	200, 2x16Y, 600, 2L-10Y@75mm c/c, 2x16Y	200, 2x16Y, 600, 2L-10Y@75mm c/c, 2x16Y	200, 2x16Y, 600, 2L-10Y@75mm c/c, 2x16Y

FIRST FLOOR BEAM REINFORCEMENT DETAILS

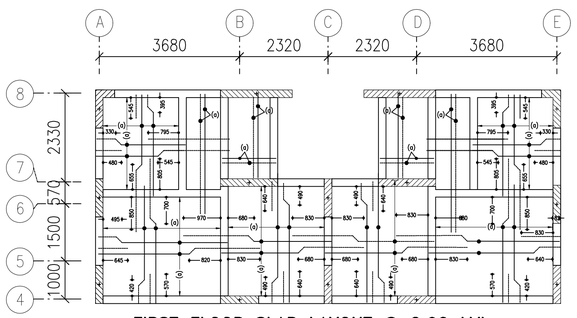
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB7 200x450	200, 2x16Y, 450, 2L-8Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@150mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100mm c/c, 2x16Y
FB8 200x450	200, 2x16Y, 450, 2L-8Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@130mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100mm c/c, 2x16Y
FB9 200x450	200, 2x16Y, 450, 2L-8Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100mm c/c, 2x16Y
FB10 200x450	200, 2x16Y, 450, 2L-10Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L-10Y@100mm c/c, 2x16Y	200, 2x16Y, 450, 2L-10Y@100mm c/c, 2x16Y

NOTES:

(I) – FIRST LAYER REINFORCEMENT
(II) – SECOND LAYER REINFORCEMENT



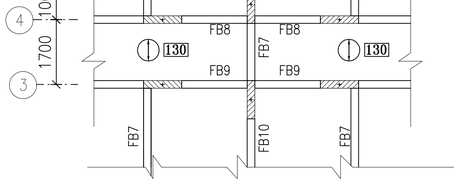
FIRST FLOOR BEAM LAYOUT @ 2.90 LVL



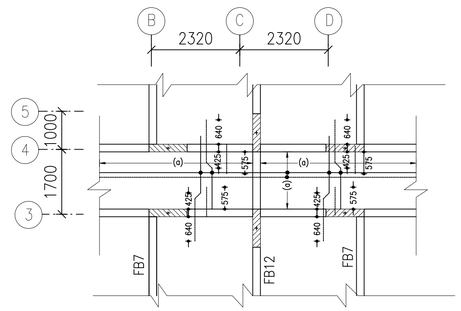
FIRST FLOOR SLAB LAYOUT @ 2.90 LVL

SLAB REINFORCEMENT DETAILS (FIRST FLOOR)

SL NO	SLABS	THICK	MAIN BARS SHORT SPAN (a) DIA	MAIN BARS LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP) SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP) LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (C) DIA
1	S1	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
2	S2	150	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
3	S3	150	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
4	S4	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
5	S5	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
6	S6	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C



FIRST FLOOR CORRIDOR SLAB LAYOUT



FIRST FLOOR CORRIDOR SLAB LAYOUT

LEGEND:

⊕ – Two way slab
⊖ – One way slab
⊕ – Double Mat slab
— – Top Bar
— – Bottom Bar

LEGEND:

(a)– 8Y @ 150 c/c

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
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STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
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PROJECT CODE:CUBE/B&C/2022–23/018/TNUHDB_VAN

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DRAWING NO:TNUHDB/CH/VAN/B-01/008	SHEET NO: 008	REV NO: R0

DRAWING TITLE :
FIRST FLOOR REINFORCEMENT DETAILS

BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET:A1

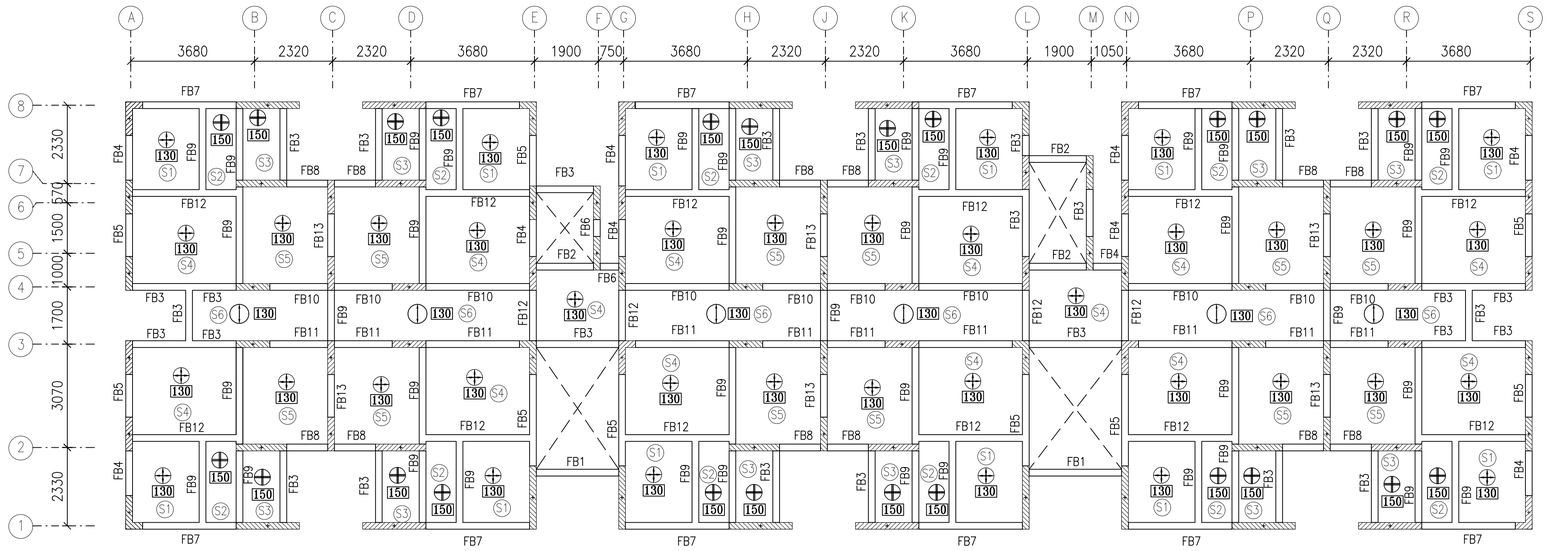
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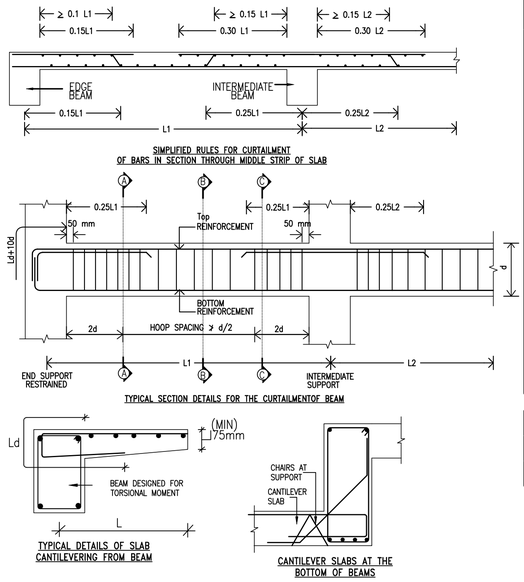
DATE OF ISSUE 29–09–2022

DESIGNED BY:	DRAWN BY:
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NOTE: ALL DIMENSION ARE IN mm



TYPICAL FLOOR BEAM AND SLAB LAYOUT @ 5.8, 8.7, 11.6, 14.5, 17.4 LVL



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M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

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REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

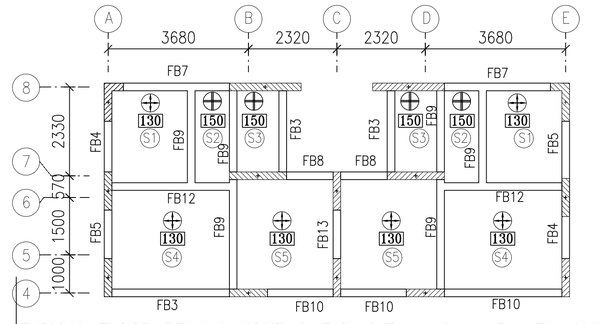
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB1 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@150mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB2 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@130mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB3 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100m c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB4 200x600	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y
FB5 200x600	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y
FB6 200x600	2x16Y; 2L-10Y@75mm c/c; 2x16Y	2x16Y; 2L-10Y@75mm c/c; 2x16Y	2x16Y; 2L-10Y@75mm c/c; 2x16Y
FB7 200x600	2x16Y(I) + 2x12Y(II); 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y(I) + 2x12Y(II); 2L-8Y@100mm c/c; 2x16Y
FB8 200x600	2x16Y; 2L-8Y@75mm c/c; 2x16Y(I) + 2x12Y(II)	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y(I) + 2x12Y(II)

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

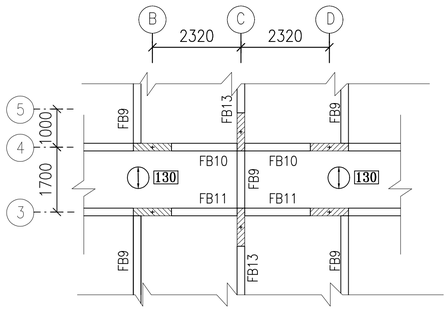
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
FB9 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@150mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB10 200x450	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y
FB11 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
FB12 200x450	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y
FB13 200x450	2x16Y; 2L-10Y@75mm c/c; 2x16Y	2x16Y; 2L-10Y@75mm c/c; 2x16Y	2x16Y; 2L-10Y@75mm c/c; 2x16Y

NOTES:

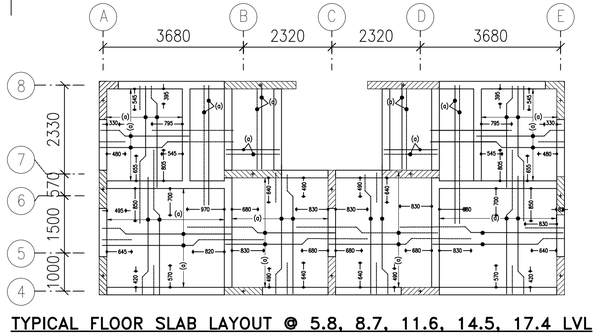
(I) – FIRST LAYER REINFORCEMENT
(II) – SECOND LAYER REINFORCEMENT



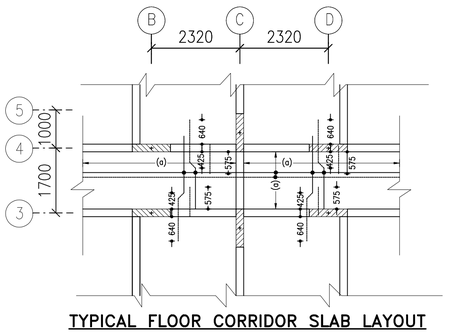
TYPICAL FLOOR BEAM LAYOUT @ 5.8, 8.7, 11.6, 14.5, 17.4 LVL



TYPICAL FLOOR CORRIDOR SLAB LAYOUT



TYPICAL FLOOR SLAB LAYOUT @ 5.8, 8.7, 11.6, 14.5, 17.4 LVL



TYPICAL FLOOR CORRIDOR SLAB LAYOUT

SLAB REINFORCEMENT DETAILS (TYPICAL FLOOR)

SL NO	SLABS	THICK	MAIN BARS: SHORT SPAN (a) DIA	MAIN BARS: LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP): SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP): LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (C) DIA
1	S1	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
2	S2	150	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
3	S3	150	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
4	S4	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
5	S5	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
6	S6	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C

LEGEND:

⊕ – Two way slab
⊖ – One way slab
⊕ – Double Mat slab
—— – Top Bar
—— – Bottom Bar

LEGEND:

(a)– 8Y @ 150 c/c

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B-01/009	SHEET NO: 09	REV NO: R0

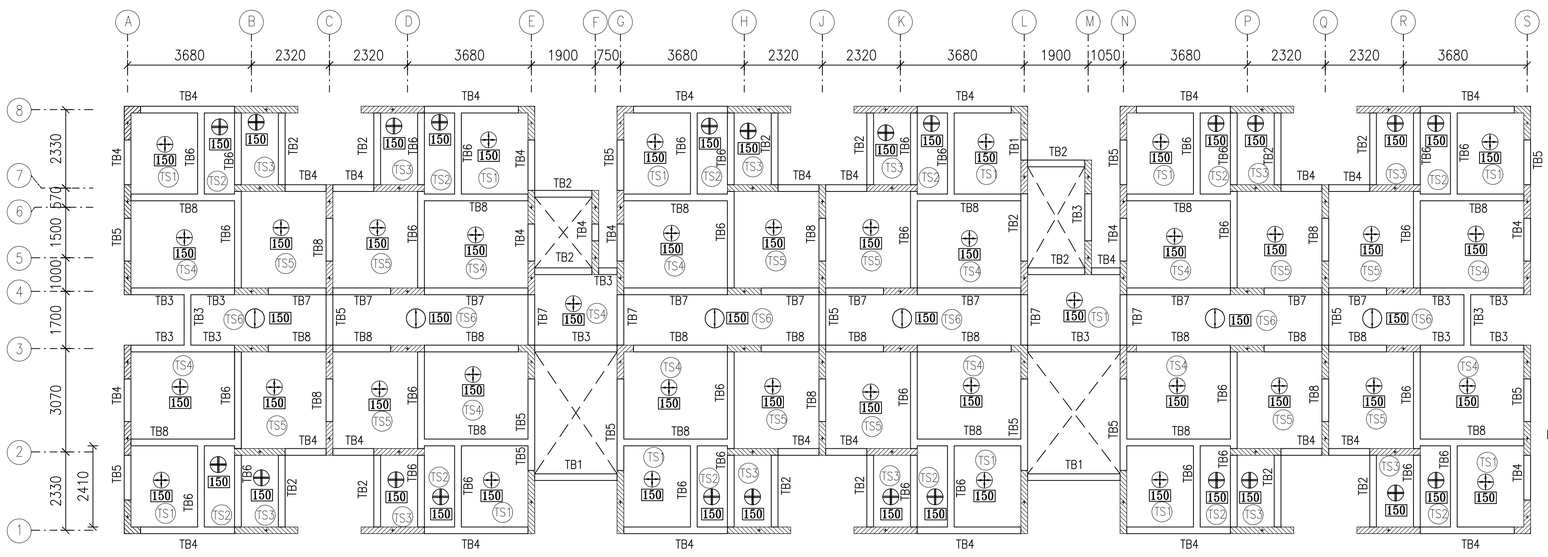
DRAWING TITLE :
TYPICAL FLOOR REINFORCEMENT DETAILS

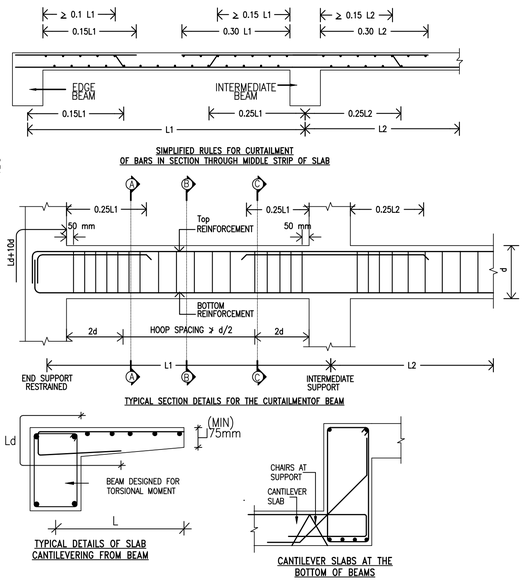
BLOCK NO: 01 OF 02	SCALE: NTS	SIZE OF SHEET:A1

ISSUED FOR:
☐PRELIMINARY ☐TENDER ☐INFORMATION
☐APPROVAL ☑CONSTRUCTION
DATE OF ISSUE 29-09-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm





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NOTES:

1. ALL DIMENSIONS ARE IN "mm" UNLESS OTHERWISE SPECIFIED.
2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION
4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

TERRACE FLOOR BEAM AND SLAB LAYOUT @ 20.3 LVL

TERRACE FLOOR BEAM REINFORCEMENT DETAILS

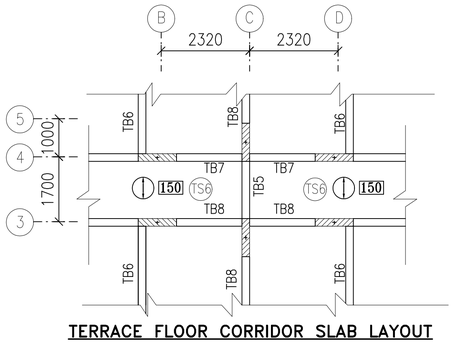
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
TB1 200x600	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@150mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
TB2 200x600	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@125mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
TB3 200x600	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@100m c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
TB4 200x600	2x16Y / 2L-8Y@75mm c/c / 2x16Y	2x16Y / 2L-8Y@75mm c/c / 2x16Y	2x16Y / 2L-8Y@75mm c/c / 2x16Y
TB5 200x600	2x16Y / 2L-10Y@100mm c/c / 2x16Y	2x16Y / 2L-10Y@100mm c/c / 2x16Y	2x16Y / 2L-10Y@100mm c/c / 2x16Y

TERRACE FLOOR BEAM REINFORCEMENT DETAILS

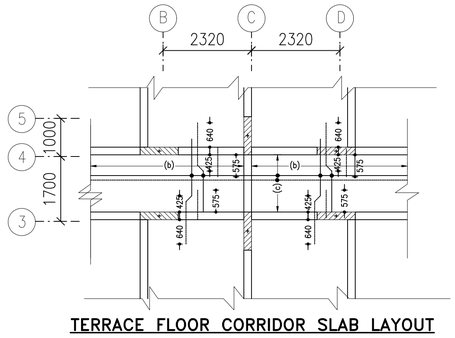
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
TB6 200x450	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@150mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
TB7 200x450	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y
TB8 200x450	2x16Y / 2L-8Y@100mm c/c / 2x16Y	2x16Y / 2L-8Y@75mm c/c / 2x16Y	2x16Y / 2L-8Y@100mm c/c / 2x16Y

NOTES:

(I) – FIRST LAYER REINFORCEMENT
(II) – SECOND LAYER REINFORCEMENT



TERRACE FLOOR CORRIDOR SLAB LAYOUT



TERRACE FLOOR CORRIDOR SLAB LAYOUT

SLAB REINFORCEMENT DETAILS (TERRACE FLOOR)

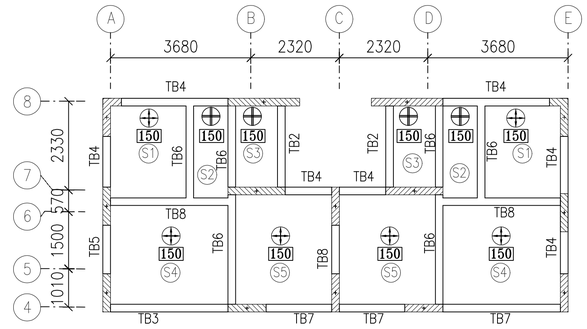
SL NO	SLABS	THICK	MAIN BARS SHORT SPAN (a) DIA	MAIN BARS LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP) SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP) LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (C) DIA
1	TS1	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
2	TS2	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
3	TS3	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
4	TS4	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
5	TS5	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
6	TS6	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C

LEGEND:

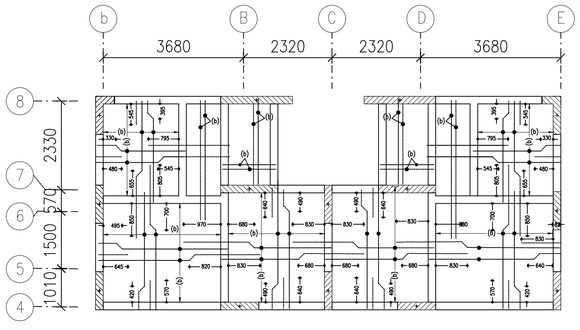
⊕ – Two way slab
⊖ – One way slab
⊕ – Double Mat slab
— – Top Bar
— – Bottom Bar

LEGEND:

(b) – 10Y @ 150 c/c



TERRACE FLOOR BEAM LAYOUT @ 20.3LVL



TERRACE FLOOR SLAB LAYOUT @ 20.3LVL

Proof Checked By:

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

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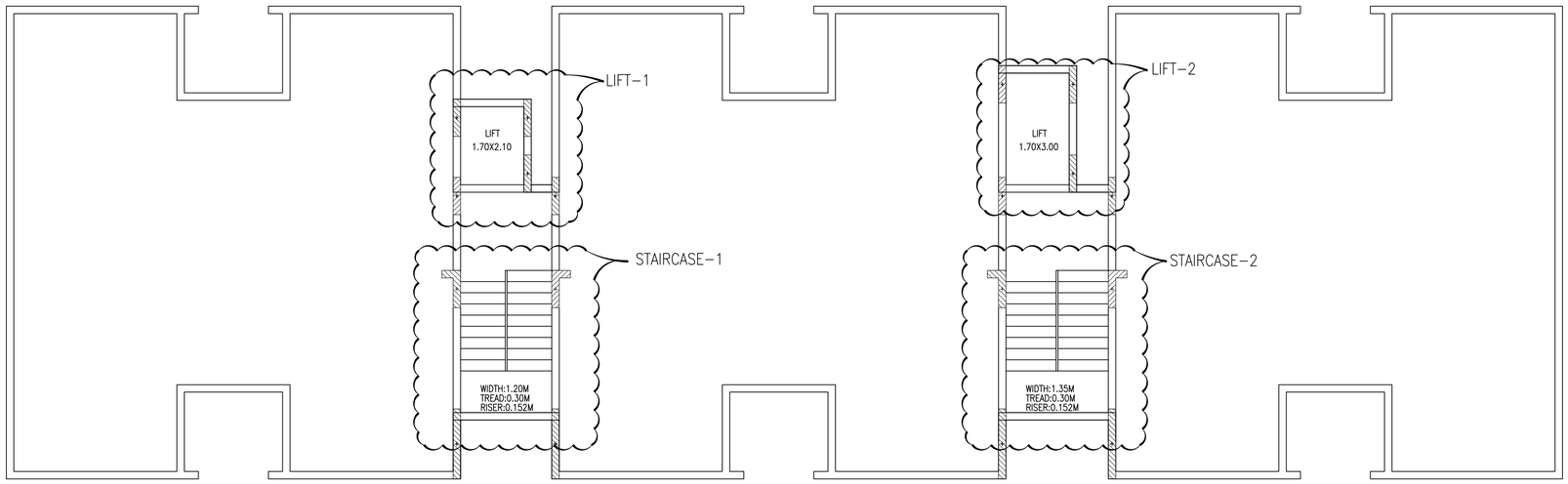
DRAWING TITLE :
TERRACE FLOOR REINFOECEMENT DETAILS

BLOCK NO: 01 OF 02 | SCALE: NTS | SIZE OF SHEET: A1

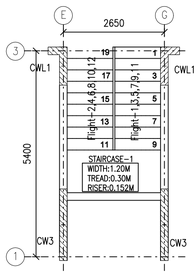
ISSUED FOR:
☐ PRELIMINARY ☐ TENDER ☐ INFORMATION
☐ APPROVAL ☑ CONSTRUCTION
DATE OF ISSUE 29-09-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

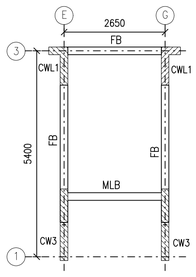
NOTE: ALL DIMENSION ARE IN mm



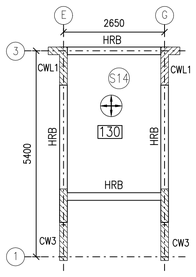
STAIRCASE, LIFT WELL & WATER TANK (KEY PLAN)



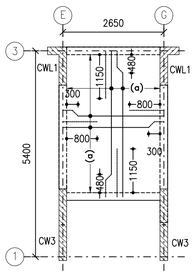
STAIRCASE-1 WALL LAYOUT



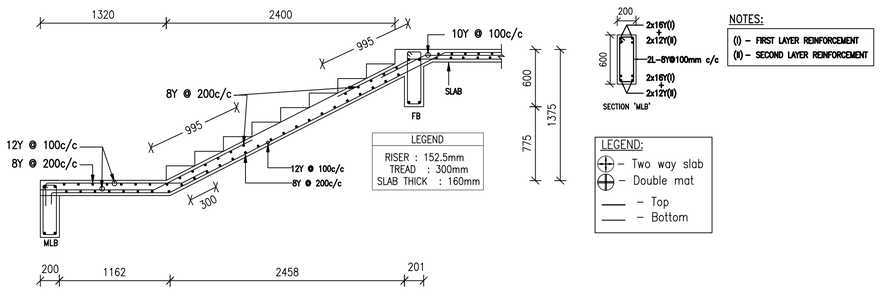
STAIRCASE-1 BEAM LAYOUT



HEADROOM BEAM LAYOUT STAIRCASE-1



HEADROOM SLAB LAYOUT STAIRCASE-1



NOTES:
(I) – FIRST LAYER REINFORCEMENT
(II) – SECOND LAYER REINFORCEMENT

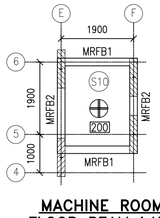
LEGEND:
– Two way slab
– Double mat
– Top
– Bottom

STAIRCASE-2 WALL LAYOUT

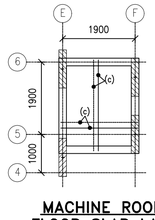
STAIRCASE-2 BEAM LAYOUT

HEADROOM BEAM LAYOUT STAIRCASE-2

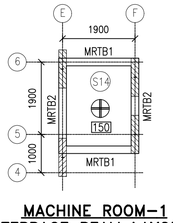
HEADROOM SLAB LAYOUT STAIRCASE-2



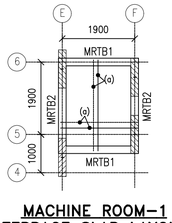
MACHINE ROOM-1 FLOOR BEAM LAYOUT



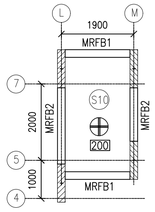
MACHINE ROOM-1 FLOOR SLAB LAYOUT



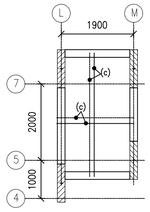
MACHINE ROOM-1 TERRACE BEAM LAYOUT



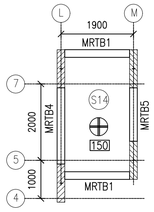
MACHINE ROOM-1 TERRACE SLAB LAYOUT



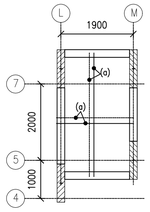
MACHINE ROOM-2 FLOOR BEAM LAYOUT



MACHINE ROOM-2 FLOOR SLAB LAYOUT



MACHINE ROOM-2 TERRACE BEAM LAYOUT



MACHINE ROOM-2 TERRACE SLAB LAYOUT

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NOTES:

1. ALL DIMENSIONS ARE IN "mm" UNLESS OTHERWISE SPECIFIED.
2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION
4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE / FOOTING = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:
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STRUCTURAL CONSULTANT:
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MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:
PLAN SHOWING THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM, CHENNAI 600018 IN R.S.NOS.3790/3, 3792/1 (PT), 3793/5 (PT) & 3791 (PT), BLOCK NO.74 OF MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION, CORPORATION DIVISION NO 123,ZONE IX.

DRAWING NO: TNUHDB/CH/VAN/B-01/011 | SHEET NO: 011 | REV NO: R0

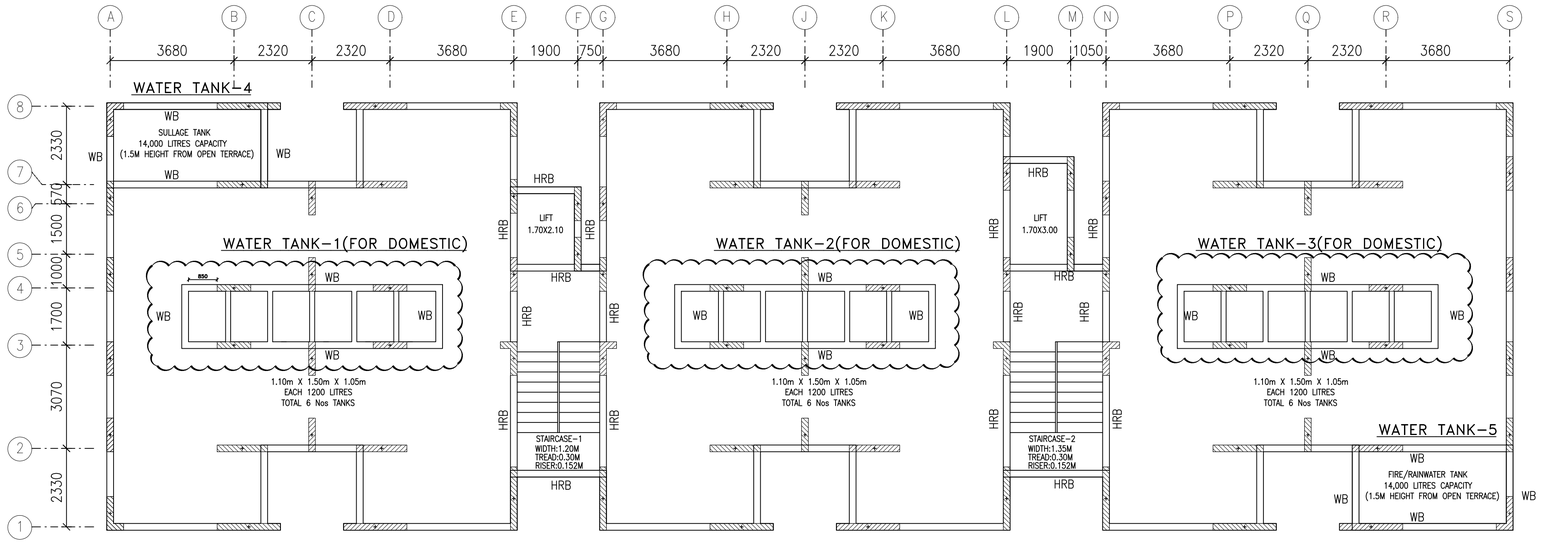
DRAWING TITLE :
STAIRCASE, LIFT WALL & WATER TANK (KEY PLAN)

BLOCK NO: 01 OF 02 | SCALE: NTS | SIZE OF SHEET: A1

ISSUED FOR:
☐ PRELIMINARY ☐ TENDER ☐ INFORMATION
☐ APPROVAL ☑ CONSTRUCTION
DATE OF ISSUE 29-09-2022

DESIGNED BY: | DRAWN BY:
CHECKED BY: | APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm



HEAD ROOM, MACHINE ROOM BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
HRB 200x450	2x16Y; 2L-8Y@100 mm c/c; 2x16Y	2x16Y; 2L-8Y@130 mm c/c; 2x16Y	2x16Y; 2L-8Y @ 100 mm c/c; 2x16Y
MRFB1 200x600	2x16Y; 2L-8Y@100 mm c/c; 2x16Y	2x16Y; 2L-8Y@125 mm c/c; 2x16Y	2x16Y; 2L-8Y @ 100 mm c/c; 2x16Y
MRFB2 200x600	2x16Y; 2L-8Y@75 mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y @ 75 mm c/c; 2x16Y
MRTB1 200x450	2x16Y; 2L-8Y@100 mm c/c; 2x16Y	2x16Y; 2L-8Y@150 mm c/c; 2x16Y	2x16Y; 2L-8Y @ 100 mm c/c; 2x16Y
MRTB2 200x450	2x16Y; 2L-10Y@75mm c/c; 2x16Y	2x16Y; 2L-10Y@75mm c/c; 2x16Y	2x16Y; 2L-10Y@75mm c/c; 2x16Y

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RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

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11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

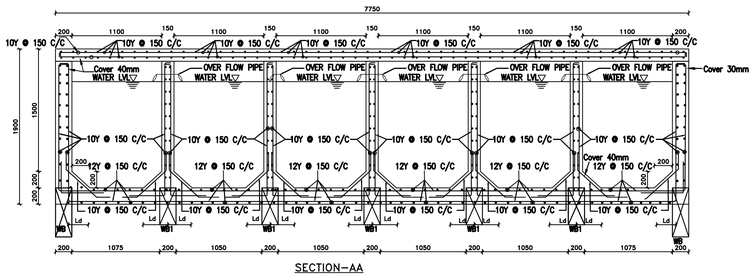
REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

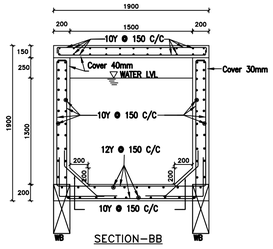
Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

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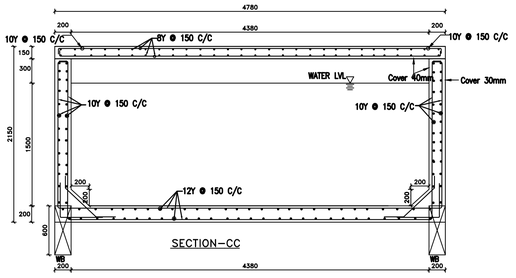
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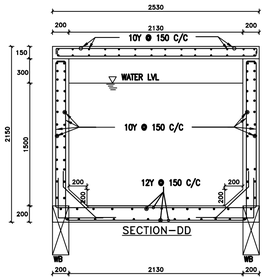
SECTION-AA



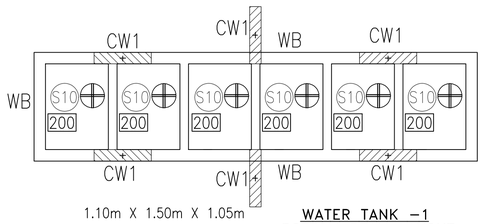
SECTION-BB



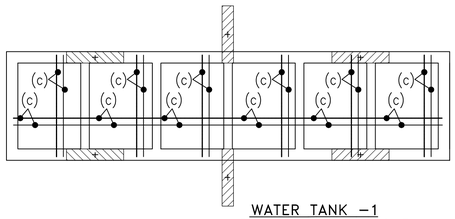
SECTION-CC



SECTION-DD



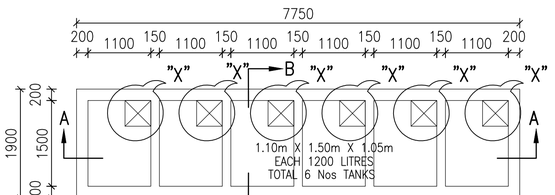
WATER TANK -1
BOTTOM BEAM LAYOUT



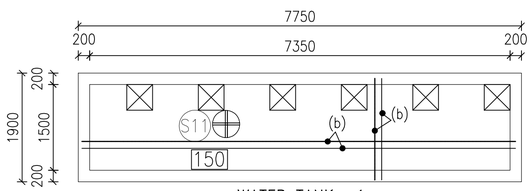
WATER TANK -1
BOTTOM SLAB LAYOUT

SLAB REINFORCEMENT DETAILS (WATER TANK BOTTOM AND TOP SLAB)

SL NO	SLABS	THIK	MAIN BARS		EXTRA BARS OVER SUPPORT(TOP)		DISTRIBUTION BAR (TOP & BOTTOM) (C)
			SHORT SPAN (a)	LONG SPAN (a)	SHORT SPAN (A')	LONG SPAN (B')	
			DIA	DIA	DIA	DIA	DIA
1	S10	200	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C
2	S11	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C
3	S12	200	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C
4	S13	150	(d) -10Y@150 C/C	(d) -10Y@150 C/C	(d) -10Y@150 C/C	(d) -10Y@150 C/C	(d) -10Y@150 C/C
5	S14	130	(a) -8Y@150 C/C	(a) -8Y@150 C/C	(a) -8Y@150 C/C	(a) -8Y@150 C/C	(a) -8Y@150 C/C



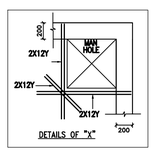
WATER TANK -1
RC WALL LAYOUT AND MANHOLE DETAILS

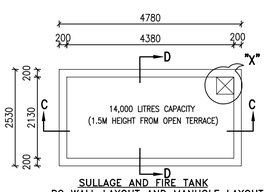


WATER TANK -1
TOP COVER SLAB LAYOUT

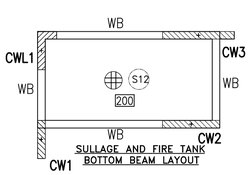
WATER TANK REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
WB 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@125mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
WB1 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@125mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y

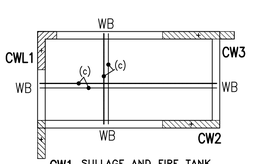




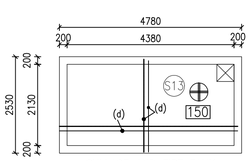
SULLAGE AND FIRE TANK
RC WALL LAYOUT AND MANHOLE LAYOUT



SULLAGE AND FIRE TANK
BOTTOM BEAM LAYOUT



SULLAGE AND FIRE TANK
BOTTOM SLAB LAYOUT



SULLAGE AND FIRE TANK
TOP COVER SLAB LAYOUT

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT
DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
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STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/CH/VAN/B-01/012 | SHEET NO: 012 | REV NO: R0

DRAWING TITLE :
STAIRCASE & WATERTANK HEAD ROOM,MACHINE ROOM REIFORCEMENT DETAILS

BLOCK NO: 01 OF 02 | SCALE: NTS | SIZE OF SHEET: A1

ISSUED FOR:

☐ PRELIMINARY ☐ TENDER ☐ INFORMATION
☐ APPROVAL ☑ CONSTRUCTION

DATE OF ISSUE 29-09-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm

GENERAL

1) ALL STRUCTURAL KEY PLANS AND DETAILS ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTURAL DRAWINGS, SERVICE DRAWINGS, SPECIFICATIONS, BILLS OF QUANTITIES AND ALL OTHER RELEVANT DOCUMENTS. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER–IN–CHARGE.
2) ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED. NEITHER THE BARS SHALL BE COUNTED NOR THE DIMENSIONS SCALED FROM THE DRAWING.

FOUNDATIONS

1) FOUNDATIONS ARE DESIGNED FOR THE SBC SPECIFIED IN THE FOUNDATION DRAWING. MIX FOR ALL RCC WORKS SHALL BE AS SPECIFIED IN THE STRUCTURAL DRAWINGS.
2) IF ASSUMED SAFE BEARING CAPACITY OF THE SOIL IS NOT FOUND AT THE SPECIFIED FOUNDING LEVEL, THE SAME SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER–IN–CHARGE FOR FURTHER DIRECTIONS.
3) FORMATION LEVELS OF FOUNDATIONS SHALL BE DETERMINED BY THE ENGINEER–IN–CHARGE BASED UPON EXISTING ROAD LEVEL, WATER TABLE LEVEL AND REQUIREMENT OF PROVISION OF SERVICES.
4) FOUNDATIONS ARE DESIGNED TO BE AT SAME FOUNDING LEVEL. ANY VARIATIONS IN THE GROUND LEVEL BEYOND 600MM AND THE DIFFERENCE IN LEVEL OF TWO ADJACENT FOOTINGS GREATER THAN HALF OF THE CLEAR DISTANCE BETWEEN THEM SHALL BE BROUGHT TO THE NOTICE OF ENGINEER–IN–CHARGE.
5) ANY LOOSE POCKETS OR PROTUDING BOULDERS SHALL BE REMOVED BEFORE LAYING BED CONCRETE FOR FOUNDATIONS AND SHALL BE LEVELLED BY FILLING WITH PCC.
6) THE TOP LEVEL OF THE GRADE BEAMS OF THE EXTERNAL WALL SHALL BE 150MM BELOW GROUND LEVEL AND OTHER BEAMS OF INTERNAL WALLS SHALL BE 40MM BELOW THE PLINTH LEVEL.

CONCRETE

1) GRADE OF CONCRETE SHALL BE M30 AND MINIMUM CEMENT CONTENT FOR PILE SHOULD BE 400KG/CUM UNLESS OTHERWISE SPECIFIED.
2) ALL OPENINGS FOR PIPING AND CONDUITS ETC., SHALL BE FORMED IN POSITION BEFORE THE CASTING OF CONCRETE.
3) NO HOLES OR CHASES ARE PERMITTED IN THE STRUCTURAL CONCRETE MEMBERS OTHER THAN AS DETAILED OR APPROVED BY THE ENGINEER–IN–CHARGE.
4) THE CLEAR DEPRESSION OF SLAB FOR BATH, WASHBASIN AND E.W.C SHALL BE 300MM AND FOR I.W.C SHALL BE 500MM. DEPRESSION IN SLAB FOR BALCONY SHALL BE 20MM FROM THE ADJACENT FLOOR LEVELS. NECESSARY PROVISION FOR OUTLETS FROM TRAPS SHALL BE KEPT WHILE CASTING THE BEAMS.
5) WHEN THE SPAN IS MORE THAN 6.00M, PROVIDE CAMBER @ SPAN/250 FOR BEAMS AND SLABS.
6) THE FREE END OF CANTILEVER SLABS OR BEAMS SHALL BE RAISED BY 2% OF THE SPAN. TORSIONAL REINFORCEMENT AT DISCONTINUOUS EDGES OF TWO WAY REINFORCED SLABS SHALL BE AS PER IS 456–2000.
7) ALL CONCRETE IS TO BE CURED BY AN APPROVED METHOD– WATER PONDING, POLYTHENE/HESSIAN SHEET, CURING COMPOUND.

REINFORCEMENT

1) ALL STEEL REINFORCEMENT SHALL BE OF TMT BARS CONFORMING TO IS 1786 WITH MINIMUM YIELD STRESS / 0.2% PROOF STRESS OF 500 N/SQ.MM
2) GRADE FE 500D FOR ALL STRUCTURES DESIGNED FOR SEISMIC RESISTANCE UNDER ZONE–III OF IS 1893–2016.
3) ALL REBARS SHALL BE CUT AND BENT CONFORMING TO THE LATEST EDITION OF IS 1786. MECHANICAL COUPLERS CONFORMING TO IS 16172 SHALL BE USED WHEN LONGITUDINAL STEEL BARS HAVE TO BE CONTINUED FOR BEAM SPANS LARGER THAN THEIR MANUFACTURED LENGTH.
4) WELDING OF REBARS WILL NOT BE PERMITTED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER–IN–CHARGE. WELDING OF LINKS, TIES, INSERTS OR OTHER SIMILAR ELEMENTS TO VERTICAL REINFORCEMENT BARS REQUIRED AS PER DESIGN IS NOT PERMITTED, IN ANY SEISMIC ZONE.
5) ALL REBARS ARE TO BE FIRMLY SUPPORTED ON APPROVED CHAIRS OR CONCRETE BLOCKS PLACED AT NOT GREATER THAN 750MM CENTRES BOTH WAYS.
6) NOT MORE THAN 50% OF AREA OF STEEL BARS ON EITHER TOP OR BOTTOM FACE SHALL BE SPLICED AT ANY ONE SECTION. LAPPING OF REBARS SHALL AS FAR AS POSSIBLE BE AWAY FROM THE SECTIONS OF MAXIMUM STRESS AND BE STAGGERED. LAP SPLICES SHALL BE CONSIDERED AS STAGGERED, IF THE CENTRE TO CENTRE DISTANCE OF THE SPLICES IS NOT LESS THAN 1.3 TIMES THE LAP LENGTH.
7) LAP / MECHANICAL COUPLERS / WELDED SPLICES SHOULD NOT BE PROVIDED
   A) WITHIN A JOINT
   B) WITHIN A DISTANCE OF 2D FROM THE RC WALL, WHERE 'D' IS THE EFFECTIVE DEPTH OF THE MEMBER.
   C) WITHIN A DISTANCE 1/4 LENGTH OF MEMBER FROM THE RC WALL.
8) LAP LENGTH INCLUDING ANCHORAGE VALUE OF HOOKS FOR BARS IN FLEXURAL TENSION SHALL BE LD OR 30DIA WHICHEVER IS GREATER. THE STRAIGHT LENGTH OF THE LAP SHALL NOT BE LESS THAN 15DIA OR 200MM. WHEN BARS OF TWO DIFFERENT DIAMETERS ARE TO BE SPLICED, THE LAP LENGTH SHALL BE CALCULATED ON THE BASIS OF DIAMETER OF THE SMALLER BAR.
9) THE HORIZONTAL DISTANCE BETWEEN TWO PARALLEL MAIN REINFORCING BARS SHALL BE NOT LESS THAN THE DIAMETER OF THE LARGER BAR USED OR 5MM MORE THAN THE NOMINAL MAXIMUM SIZE OF COARSE AGGREGATE USED, WHICHEVER IS GREATER.
10) WHENEVER REINFORCEMENT IS PROVIDED IN TWO LAYERS IN BEAMS, SPACER BAR SHALL BE PROVIDED TO MAINTAIN 25MM GAP OR MAXIMUM DIA OF THE MAIN BAR WHICHEVER IS MORE BETWEEN TWO LAYERS.
11) IN CASE OF CANTILEVER BEAMS / SLABS THE TOP REINFORCEMENT SHALL BE TAKEN BEYOND THE INNER FACE OF THE SUPPORTS TO ATLEAST THE SPAN OF THE CANTILEVER WHEREVER POSSIBLE. IN CASE IT IS NOT POSSIBLE TO ADOPT THE ABOVE SAID PRACTICE, THE REINFORCEMENT SHALL BE PROPERLY ANCHORED INTO THE SUPPORTING MEMBER.
12) LAP / DEVELOPMENT LENGTH FOR MAIN REINFORCEMENT BARS (IN TENSION / COMPRESSION) FOR DIFFERENT GRADES OF CONCRETE MIX SHALL BE AS FOLLOWS:

CONCRETE MIX	Fe 500D (FOR ZONE–III STRUCTURES)
M30	45d (TENSION) & 36d (COMP)

WHERE d IS THE DIAMETER OF THE BAR.

13) WHERE OPENINGS ARE SMALL AND THE SLAB IS NOT SUBJECTED TO ANY SPECIAL TYPE LOADING OR VIBRATION CONDITIONS, THE FOLLOWING GENERAL DETAILING RULES MAY BE FOLLOWED AROUND OPENINGS.
   A) DIAMETER OF TRIMMER BARS SHALL BE SIMILAR TO BIGGER REINFORCING BARS OF THE STRUCTURE THROUGH WHICH THE OPENING IS FORMED.
   B) NO TRIMMER BARS ARE REQUIRED FOR OPENINGS LESS THAN 200MM WIDE. NO REINFORCING BARS SHALL BE CUT BUT THESE SHALL BE ADJUSTED IN POSITION TO AVOID OPENINGS.
   C) TRIMMER BARS SHALL BE NOT LESS THAN THE NOS. OF BARS CUT BY OPENING.
   D) MINIMUM 2 NOS. EACH AT TOP AND BOTTOM AND BAR DIAMETER AS SPECIFED ABOVE BUT NOT LESS THAN 10ϕ.
   E) BOTH PERPENDICULAR AND DIAGONAL TRIMMIMG BARS SHALL BE PROVIDED AS SHOWN IN SKETCHES.
14) WHENEVER THE REINFORCEMENT IS PROJECTED FROM THE STRUCTURAL MEMBERS AS A PROVISION MADE TOWARDS FUTURE EXTENSION OF THE BUILDING THE SAME SHALL BE APPROPRIATELY PROTECTED FROM CORROSION BY TREATING WITH EPOXY AFTER COMPLETELY REMOVING SCALES OR RUST, IF ANY. THIS REINFORCEMENT MAY BE ENCASED IN A CONCRETE MIX OF 1:3:6 OR LEFT EXPOSED OR PROTECTED IN ANY OTHER MANNER AS DIRECTED BY ENGINEER–IN–CHARGE.
15) THE NOMINAL COVER GIVEN BELOW FOR MODERATE EXPOSURE CONDITION SHALL BE MEASURED FROM THE OUTER FACE OF THE STRUCTURAL ELEMENT TO THE STIRRUPS / LINKS.

RAFTS	–60MM	PILES	–60MM	STRIP BEAM	–75MM	FOOTINGS	–60MM	COLUMNS	–40MM
BEAMS	–25MM	SLABS	–25MM	WALLS	–25MM	TANK WALLS	–40MM	TANK BASES	–50MM

WATER AND DRAINAGE LINES WITHIN STRUCTURAL ELEMENTS:

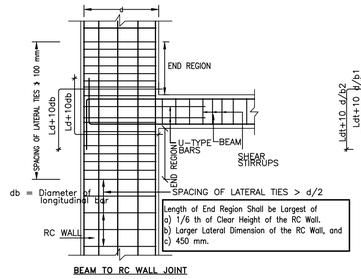
1) THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DETAILS OF EXIT AND ENTRY OF PIPES THROUGH STRUCTURAL ELEMENTS.
2) THESE POINTS ARE TO HAVE ADDITIONAL FUSION BONDED EPOXY COATED REINFORCEMENT PLACED AROUND THE PIPE.

RC WALLS FOR BASEMENTS:

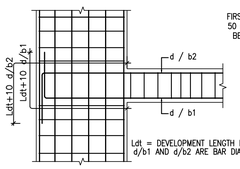
1) IF THE LEVEL OF THE WATER TABLE OR ANY SEEPAGE IS FOUND TO BE WITHIN THE DEPTH OF EXCAVATION, THE SAME SHALL BE BROUGHT TO THE NOTICE OF ENGINEER–IN–CHARGE.
2) 100MM THICK BLINDING CONCRETE OF GRADE M15 IS TO BE PLACED BELOW THE WATER TANKS BASE SLAB.
3) WATER BARS ARE TO BE INCORPORATED IN ALL VERTICAL AND HORIZONTAL JOINTS.
4) ALL WALL KICKERS SHALL BE CAST MONOLITHICALLY WITH THE BASE SLAB.

CONSTRUCTION JOINTS:

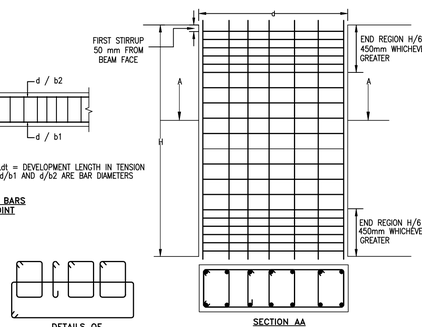
1) THESE ARE TO BE PROVIDED AT LOCATIONS OF ZERO OR MINIMUM SHEAR IN BEAMS AND SLABS AND AT LOCATIONS OF MINIMUM STEEL CONGESTION.
2) THESE ARE TO BE PERPENDICULAR TO THE COMPRESSIVE FORCES ACROSS THE JOINT. IN MOST CASES THE JOINTS WILL HAVE TO BE PERPENDICULAR TO THE AXIS OF THE MEMBER.
3) ALL REINFORCING BARS INTERSECTED BY THE CONSTRUCTION JOINTS ARE TO EXTEND THROUGH THE JOINTS WITHOUT INTERCEPTION.
4) VERTICAL JOINTS SHALL BE FORMED WITH TIMBER FORMWORK COATED WITH AN APPROVED SURFACE RETARDER AND THE VERTICAL FACE IS TO BE WASHED TO EXPOSE THE AGGREGATE BEFORE FINAL SET OF THE CONCRTE HAS TAKEN PLACE.
5) HORIZONTAL JOINTS SHALL BE SCRABBLED TO REMOVE ALL LAITANCE AND WEAK CONCRETE BEFORE CONCRETE FOR THE NEXT LIFT IS PLACED. NECESSARY KEYS SHALL BE PROVIDED IN THE APPROVED METHODOLOGY AS REQUIRED BY THE ENGINEER–IN–CHARGE.
6) WATERJET CLEANING AND FLUSHING THE JOINT WITH MORTAR OR GROUT ARE TO PRECEDE THE POURING OF FRESH CONCRETE.



BEAM TO RC WALL JOINT

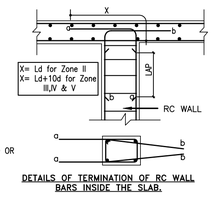


ANCHORAGE OF BEAM BARS IN AN EXTERNAL JOINT

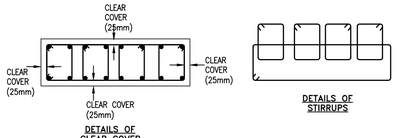


DETAILS OF STIRRUPS

SECTION AA
SPACING OF SHEAR REINFORCEMENT IN RC WALL

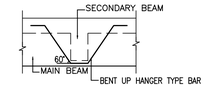


DETAILS OF TERMINATION OF RC WALL BARS INSIDE THE SLAB.

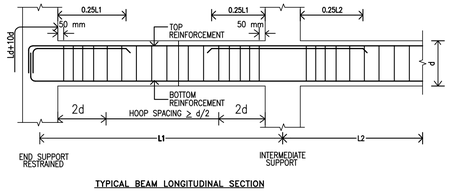


DETAILS OF CLEAR COVER

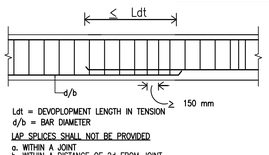
DETAILS OF STIRRUPS



DETAILS AT JUNCTION OF MAIN BEAM AND SECONDARY BEAM



TYPICAL BEAM LONGITUDINAL SECTION

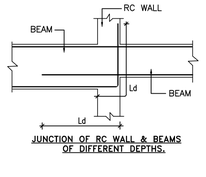


Ldt = DEVOPLOPMENT LENGTH IN TENSION
d/b = BAR DIAMETER

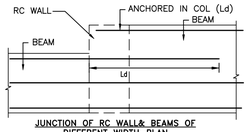
LAP SPLICES SHALL NOT BE PROVIDED
a. WITHIN A JOINT
b. WITHIN A DISTANCE OF 2d FROM JOINT
c. WITHIN A QUARTER LENGTH OF THE MEMBER

(NOT MORE THAN 50% BARS SHALL BE SPLICED AT ONE SECTION)

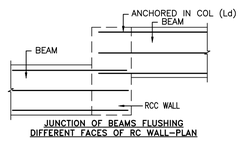
LAP SPLICE IN BEAM



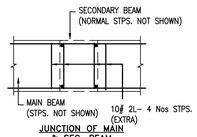
JUNCTION OF RC WALL & BEAMS OF DIFFERENT DEPTHS.



JUNCTION OF RC WALL& BEAMS OF DIFFERENT WIDTH–PLAN



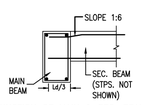
JUNCTION OF BEAMS FLUSHING DIFFERENT FACES OF RC WALL–PLAN



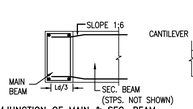
JUNCTION OF MAIN & SEC. BEAM



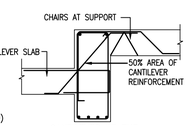
TYPICAL DETAIL OF BEAM STIRRUPS
Y=6d FOR SEISMIC ZONE II
Y=10d (BUT NOT < 75 mm) FOR SEISMIC ZONE III, IV & V



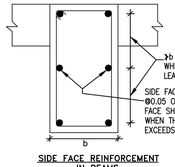
JUNCTION OF MAIN & SEC. BEAM (UNEQUAL DEPTHS)



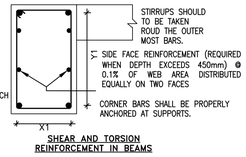
JUNCTION OF MAIN & SEC. BEAM (EQUAL DEPTHS)



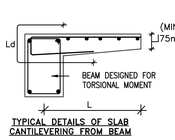
CANTILEVER AT THE TOP OF BEAMS



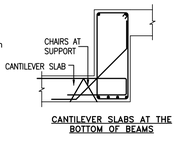
SIDE FACE REINFORCEMENT IN BEAMS



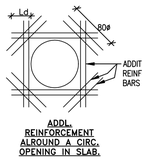
SHEAR AND TORSION REINFORCEMENT IN BEAMS



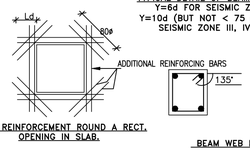
TYPICAL DETAILS OF SLAB CANTILEVERING FROM BEAM



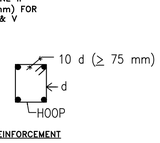
CANTILEVER SLABS AT THE BOTTOM OF BEAMS



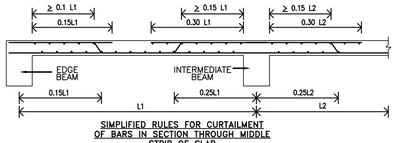
ADDL. REINFORCEMENT ALROUND A CIRC. OPENING IN SLAB.



ADDL. REINFORCEMENT ROUND A RECT. OPENING IN SLAB.



BEAM WEB REINFORCEMENT



SIMPLIFIED RULES FOR CURTAILMENT OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB

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NOTES:

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3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION.
4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS.
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

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Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B–02/001	SHEET NO:001	REV NO: R0

DRAWING TITLE : GENERAL NOTES

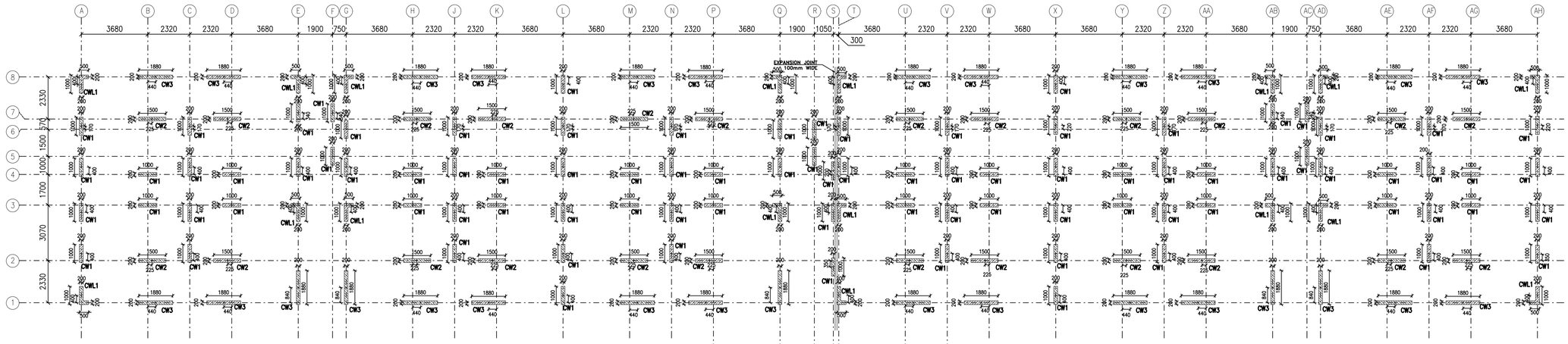
BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET:A1

ISSUED FOR:

☐PRELIMINARY ☐APPROVAL	☐TENDER ☑CONSTRUCTION	☐INFORMATION	DATE OF ISSUE 29–09–2022

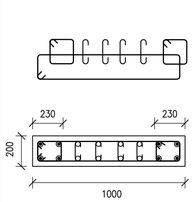
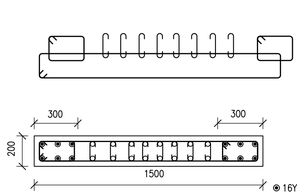
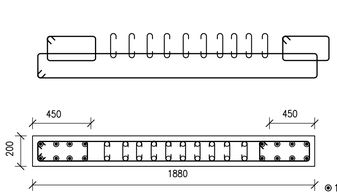
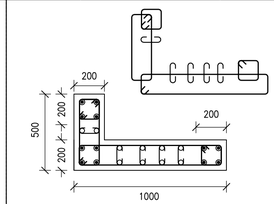
DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

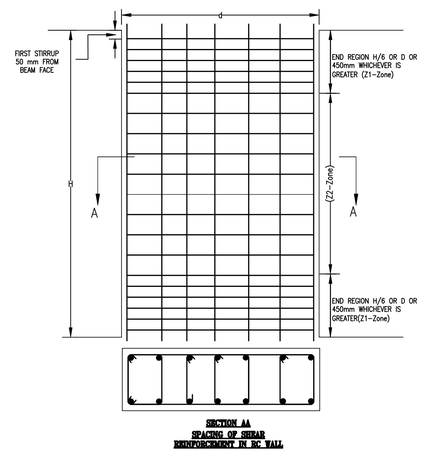
NOTE: ALL DIMENSION ARE IN mm



RC WALL CENTRE LINE LAYOUT

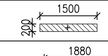
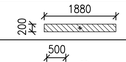
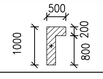
RC WALL REINFORCEMENT SCHEDULE

LINKS	Z1 – M	Z1–O	ZE	Z2–M	Z2–O	Z1 – M	Z1 – O	ZE	Z2–M	Z2–O	Z1 – M	Z1 – O	ZE	Z2–M	Z2–O	Z1 – M	Z1 – O	ZE	Z2–M	Z2–O
	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c	10Y@130c/c	8Y@130c/c	8Y@65c/c	8Y@130c/c	8Y@130c/c
LINKS C.S																				
STEEL	EGDE BAR	8–16Y				EGDE BAR	12–16Y				EGDE BAR	16–16Y				EGDE BAR	12–16Y			
	VERTICAL BAR	8–12Y				VERTICAL BAR	16–12Y				VERTICAL BAR	20–12Y				VERTICAL BAR	10–12Y			
WALL TYPE	CW1					CW2					CW3					CWL1				
TOTAL	89					24					29					17				



SECTION AA
SPACING OF SHEAR REINFORCEMENT IN RC WALL

WALL SCHEDULE

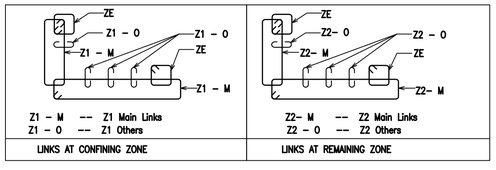
RC WALL NAME	RC WALL	NO. OF WALLS
CW1		89
CW2		24
CW3		29
CWL1		17
	TOTAL	159

NOTES:

Z1 – SPECIAL CONFINING ZONE AS PER IS-13920

Z2 – REMAINING ZONES AS PER IS 456

ZE – EDGE ZONES AS PER IS 13920-2016



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3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION
4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

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Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
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NO.5 KAMARAJAR SALAI, CHENNAI-600005

PROOF-CHECKING AGENCY:

STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/CH/VAN/B-02/002	SHEET NO: 002	REV NO: R0

DRAWING TITLE :
RC WALL LAYOUT

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET: A1

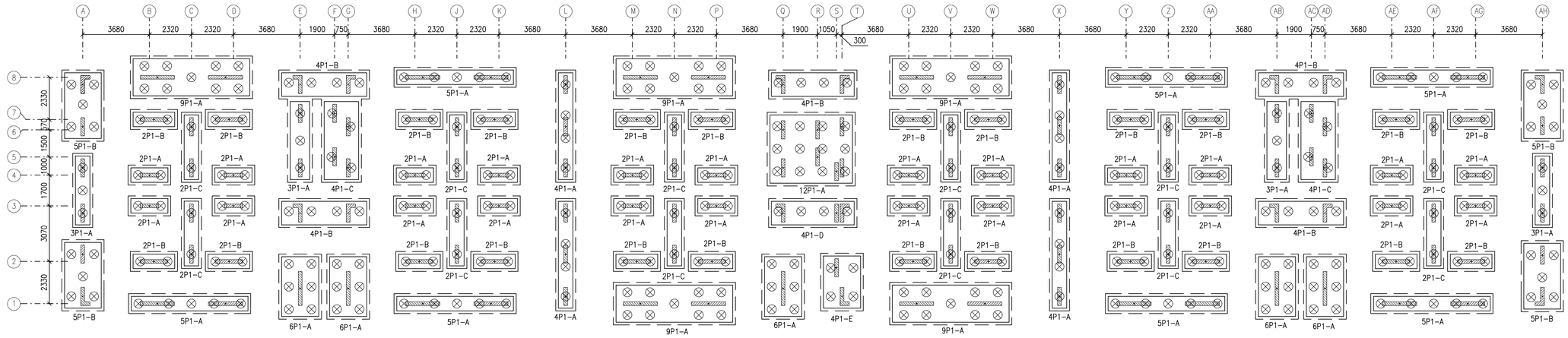
ISSUED FOR:

☐ PRELIMINARY ☐ TENDER ☐ INFORMATION
☐ APPROVAL ☑ CONSTRUCTION

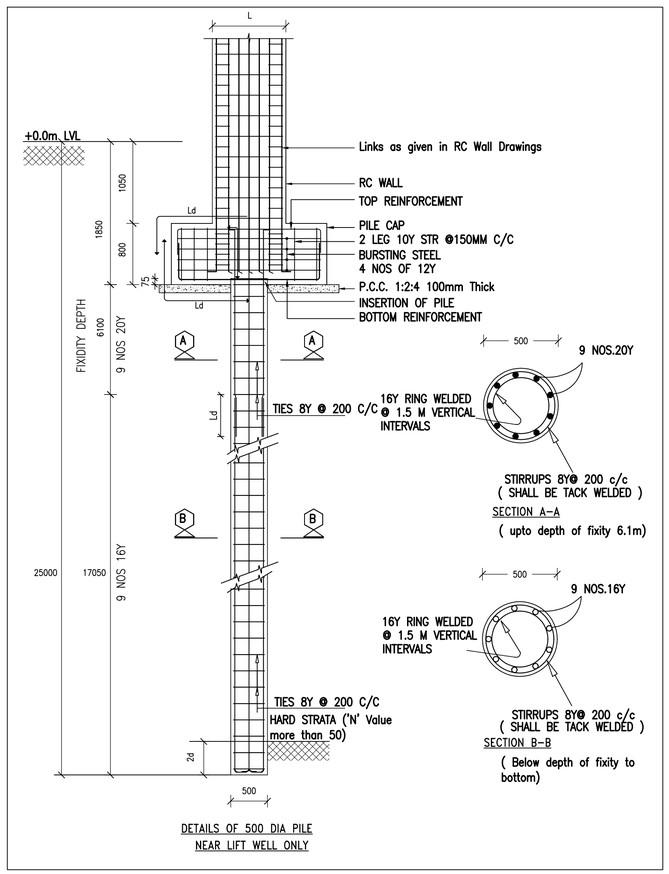
DATE OF ISSUE 29-09-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

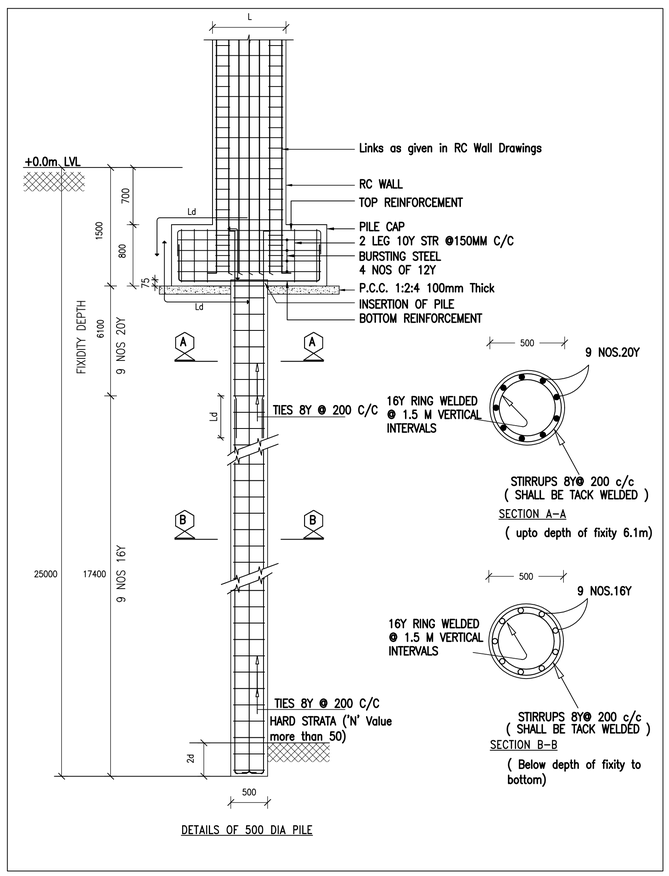
NOTE: ALL DIMENSION ARE IN mm



PILECAP LAYOUT



DETAILS OF 500 DIA PILE
NEAR LIFT WELL ONLY



DETAILS OF 500 DIA PILE

Legend:

⊗ – 500 Dia BoredCast-in-situ pile

NOTES:

1. ALL DIMENSIONS ARE IN 'MILLI METRES' UNLESS OTHERWISE SPECIFIED. DRAWING SHALL NOT BE SCALED OUT. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
2. BORED CAST-IN-SITU PILE CONSTRUCTION WORK IN GENERAL SHALL BE CARRIED OUT AS PER I.S. 2911 (PART I/ SEC – 2) 2010.
3. THE MIX FOR THE R.C.C WORKS SHALL BE DESIGN MIX M30 WITH CEMENT CONTENT NOT LESS THAN 400 kg /cu.m OF CONCRETE.
4. THERMO MECHANICALLY TREATED BARS OF GRADE Fe 500D (ELONGATION NOT LESS THAN 16 %) CONFORMING TO I.S. SPECIFICATION 1786 SHALL BE USED FOR BARS MARKED AS Y.
5. REINFORCEMENT BARS SHALL BE TACK WELDED TO THE LATERAL TIES THROUGHOUT THE LENGTH OF THE PILES TO PROVIDE MORE RIGIDITY TO THE CAGE. ROLLER COVER BLOCKS SHALL BE PROVIDED TO THE CAGE AT APPROXIMATELY TWO METRES INTERVALS AND SUITABLY STAGGERED. ONLY ELECTRICAL WELDING IS PERMITTED.
6. CLEAR COVER TO THE MAIN REINFORCEMENT SHALL BE 60 MM FOR PILES. FOR PILECAPS 75 MM AT BOTTOM AND REMAINING ARE 60 MM.
7. WATER USED FOR ALL CONCRETE WORK SHALL CONFORM TO CLAUSE 5.4 OF IS 456–2000.
8. THE BORED CAST-IN-SITU PILE SHALL REST ON THE HARD STRATA / WEATHERED ROCK LAYER. THE PILE HAS TO BE TAKEN UPTO THE REFUSAL STRATA.
9. THE VERTICAL LOAD TEST MAY BE CONDUCTED TO ASCERTAIN THE ACTUAL SAFE LOAD CARRYING CAPACITY OF THE PILE IRRESPECTIVE OF THE SAFE LOAD MENTIONED AS PER AGREEMENT ITEM OR IN SOIL INVESTIGATION REPORT .AS PER CLAUSE 4.2.3.9 OF IS 2911 – PT – IV. THE TEST SHALL BE CONDUCTED TILL THE SETTLEMENT ATTAINS 12 MM. AS PER CLAUSE 4.2.3.9 OF IS 2911 – PT – IV.
10. THE TENTATIVE SAFE LOAD ON BORED CAST-IN -SITU PILE IS
    (A) 500MM DIA – 91 TONNES

PILE AND PILE CAP SCHEDULE:

PILE GROUP	NAME	TOTAL NOS	
		PILE	PILE CAP
2P1-A	2 PILE- 500ø	48	24
2P1-B	2 PILE- 500ø	48	24
2P1-C	2 PILE- 500ø	24	12
3P1-A	3 PILE- 500ø	12	04
4P1-A	4 PILE- 500ø	16	04
4P1-B	4 PILE- 500ø	20	05
4P1-C	4 PILE- 500ø	08	02
4P1-D	4 PILE- 500ø	04	01
4P1-E	4 PILE- 500ø	04	01
5P1-A	5 PILE- 500ø	35	07
5P1-B	5 PILE- 500ø	20	04
6P1-A	6 PILE- 500ø	30	05
9P1-A	9 PILE- 500ø	45	05
12P1-A	12 PILE- 500ø	12	01
TOTAL		326	99

500 Dia BoredCast-in-situ Piles – 326 NOS

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NOTES:

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4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

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STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
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DRAWING NO:TNUHDB/CH/VAN/B-02/003	SHEET NO: 003	REV NO: R0

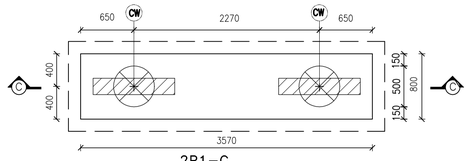
DRAWING TITLE :
PILE CAP LAYOUT

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET:A1

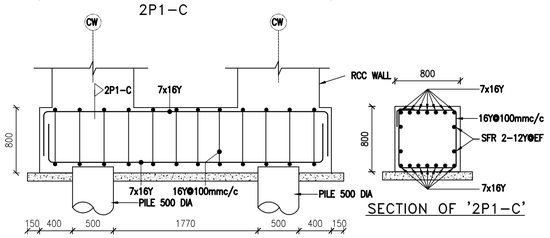
ISSUED FOR:

☐PRELIMINARY ☐TENDER ☐INFORMATION ☐APPROVAL ☑CONSTRUCTION	DATE OF ISSUE 29-09-2022
DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm

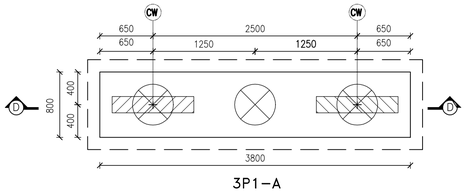


2P1–C

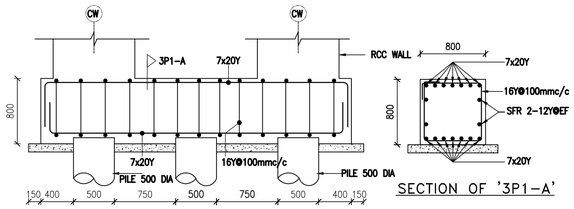


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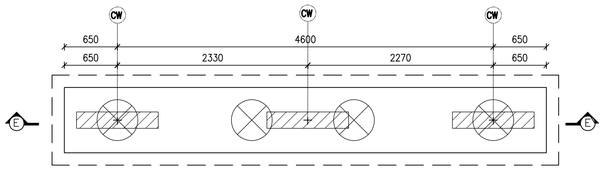


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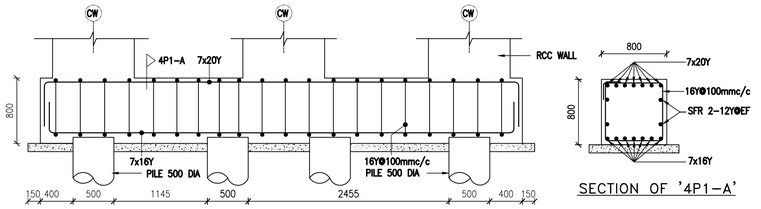


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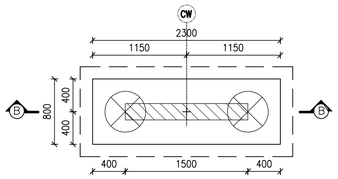


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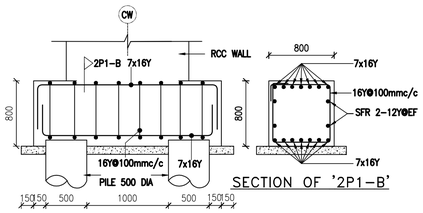


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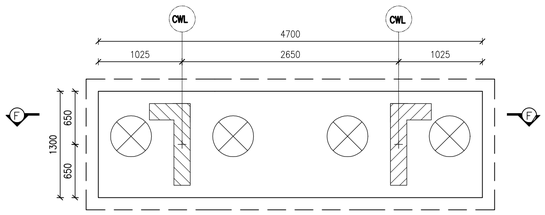


2P1–B

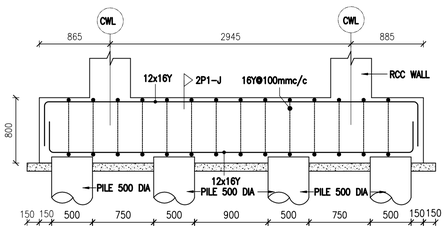


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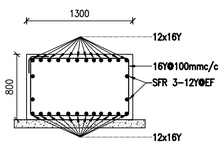
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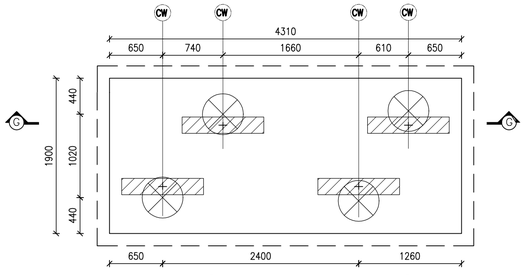
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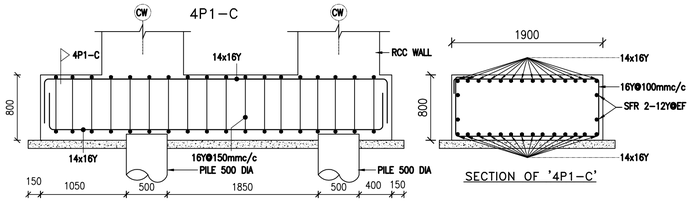
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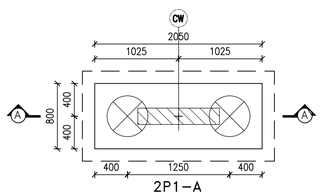


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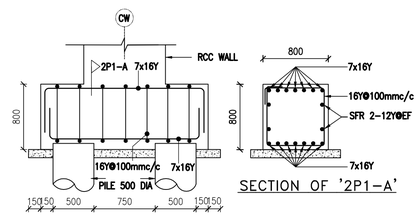


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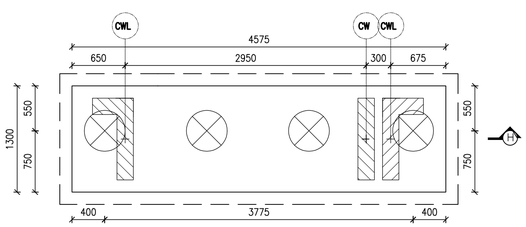


2P1–A

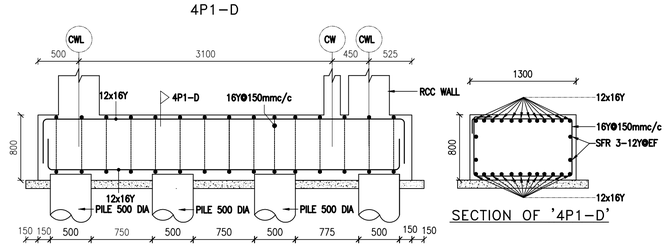


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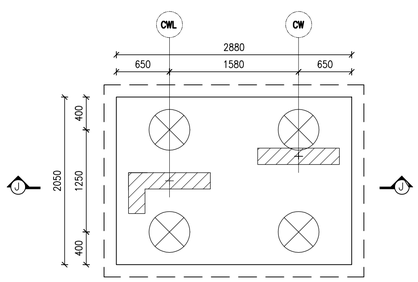


4P1–D

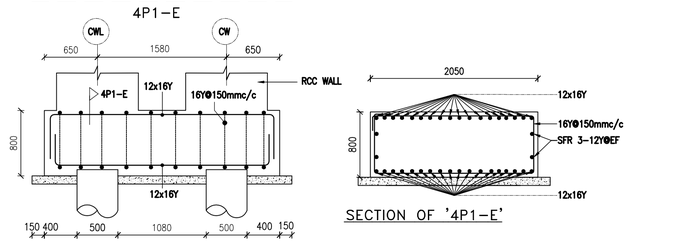


SECTION 'H–H': 1300X800–1No.

SECTION OF '4P1–D'



4P1–E



SECTION 'J–J': 1300X900–1No.

SECTION OF '4P1–E'

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M30	Ld	45d	Where d is Diameter of rod

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Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:
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DRAWING NO:TNUHDB/CH/VAN/B–02/004	SHEET NO: 004	REV NO: R0

DRAWING TITLE :
PILE CAP SECTION DETAILS

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET:A1

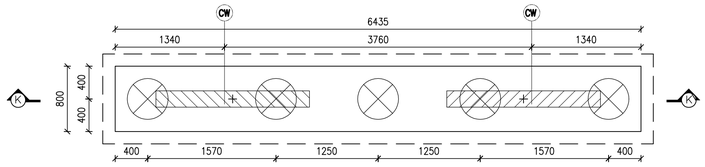
ISSUED FOR:

☐PRELIMINARY ☐TENDER ☐INFORMATION
☐APPROVAL ☑CONSTRUCTION

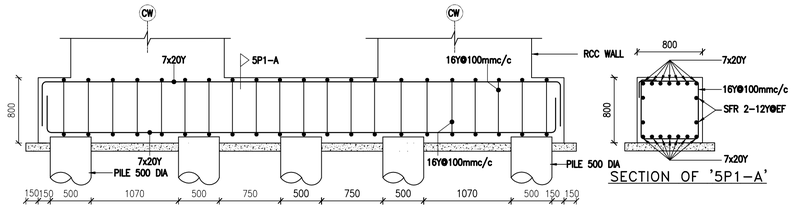
DATE OF ISSUE 29–09–2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm

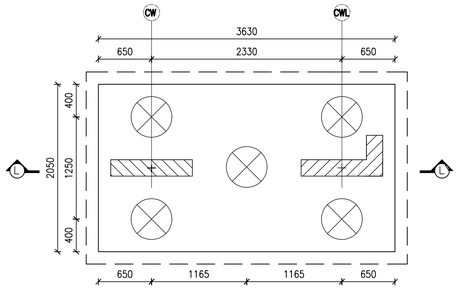


5P1–A

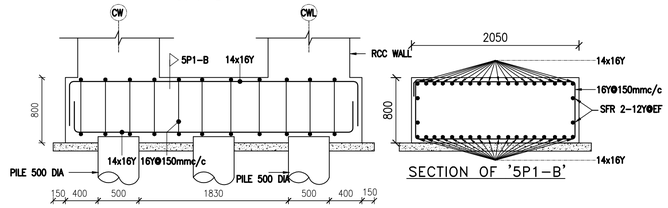


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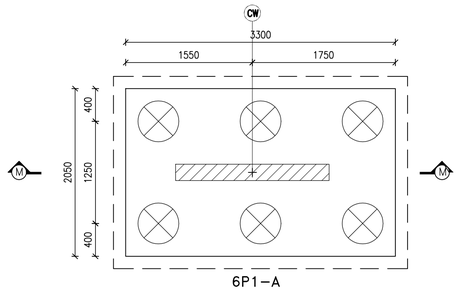


5P1–B

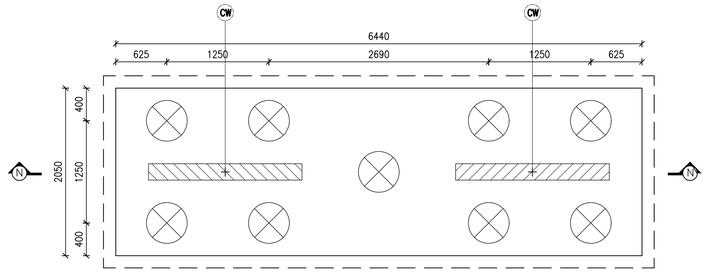


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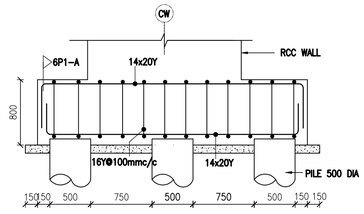
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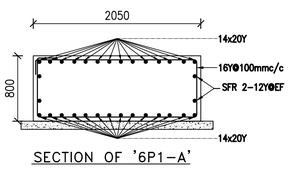
6P1–A



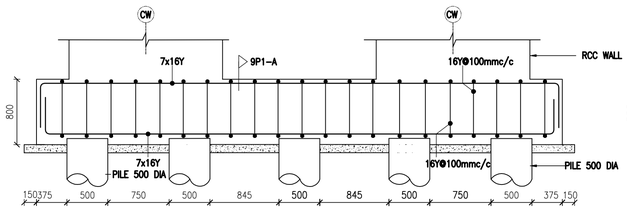
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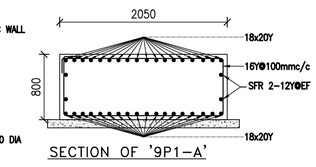
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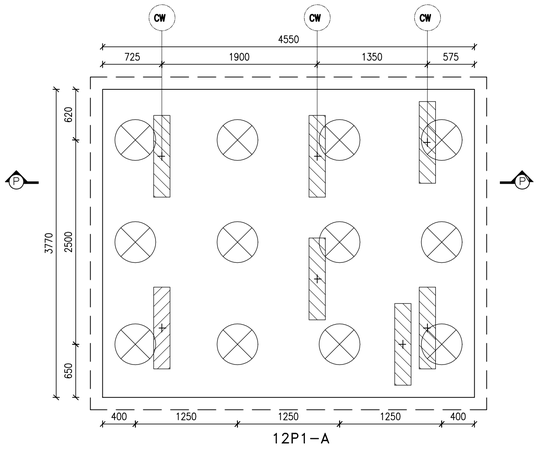
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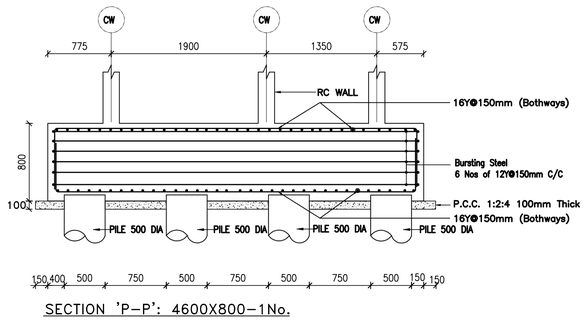
SECTION 'N–N': 2050X800–5No.



SECTION OF '9P1–A'



12P1–A



SECTION 'P–P': 4600X800–1No.

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4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
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PROOF–CHECKING AGENCY:
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STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B–02/005	SHEET NO: 005	REV NO: R0

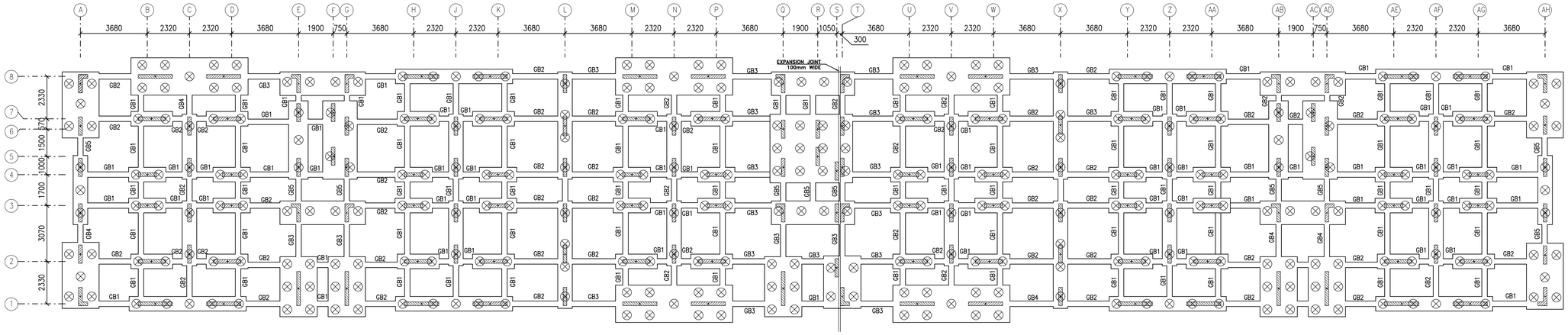
DRAWING TITLE :
PILE CAP SECTION DETAILS

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET:A1

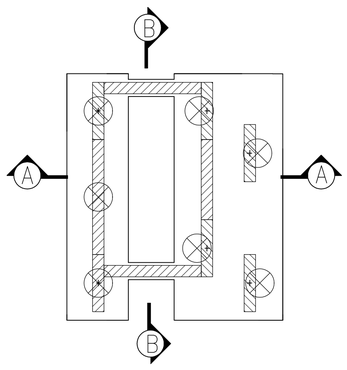
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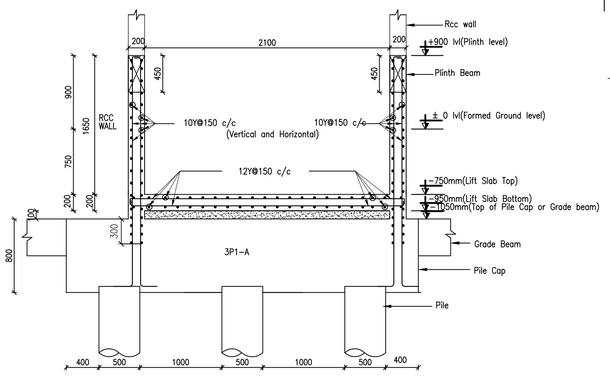
NOTE: ALL DIMENSION ARE IN mm



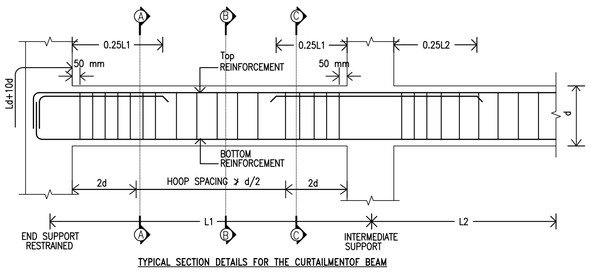
GRADE BEAM LAYOUT



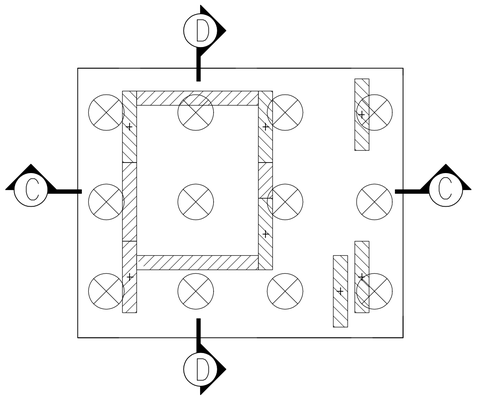
LIFT WALL –1,3 LAYOUT

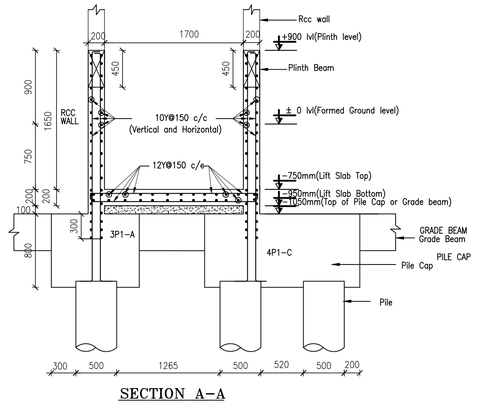


SECTION B–B

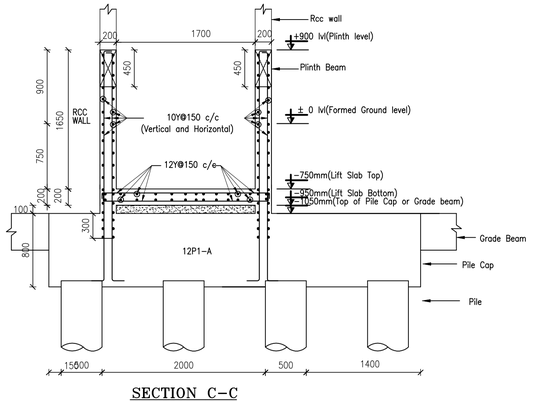


TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM

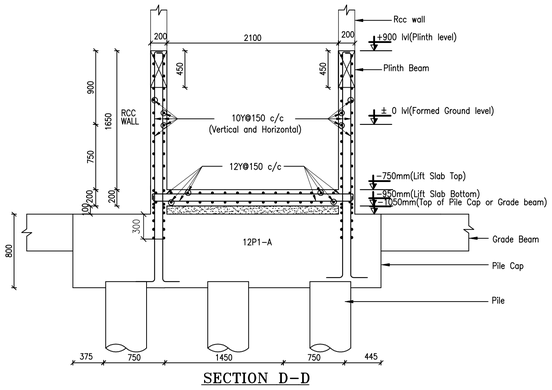




SECTION A–A



SECTION C–C



SECTION D–D

GRADE BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
GB1 300x450	3x20Y; 2L–8Y@100mm c/c; 3x20Y	3x20Y; 2L–8Y@100mm c/c; 3x20Y	3x20Y; 2L–8Y@100mm c/c; 3x20Y
GB2 300x450	3x20Y(I); 3x12Y(II); 2L–8Y@100mm c/c; 3x16Y(II); 3x20Y(I)	3x20Y(I); 2L–8Y@100mm c/c; 3x20Y(I)	3x20Y(I); 3x12Y(II); 2L–8Y@100mm c/c; 3x16Y(II); 3x20Y(I)
GB3 300x450	3x20Y(I); 3x16Y(II); 2L–10Y@100mm c/c; 3x16Y(II); 3x20Y(I)	3x20Y(I); 2L–10Y@100mm c/c; 3x20Y(I)	3x20Y(I); 3x16Y(II); 2L–10Y@100mm c/c; 3x16Y(II); 3x20Y(I)
GB4 300x450	3x20Y(I); 3x20Y(II); 2L–12Y@100mm c/c; 3x20Y(II); 3x20Y(I)	3x20Y(I); 2L–12Y@130mm c/c; 3x20Y(I)	3x20Y(I); 3x20Y(II); 2L–12Y@100mm c/c; 3x20Y(II); 3x20Y(I)
GB5 300x450	3x25Y(I); 3x20Y(II); 2L–12Y@100mm c/c; 3x25Y(II); 3x20Y(I)	3x25Y(I); 2L–12Y@100mm c/c; 3x25Y(I)	3x29Y(I); 3x20Y(II); 2L–12Y@100mm c/c; 3x20Y(II); 3x25Y(I)

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8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

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SAFETY AND STRUCTURAL STABILITY CERTIFICATE

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CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:

OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:

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CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:

CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:

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DRAWING NO: TNUHDB/CH/VAN/B–02/006	SHEET NO: 006	REV NO: R0

DRAWING TITLE : GRADE BEAM LAYOUT

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET: A1

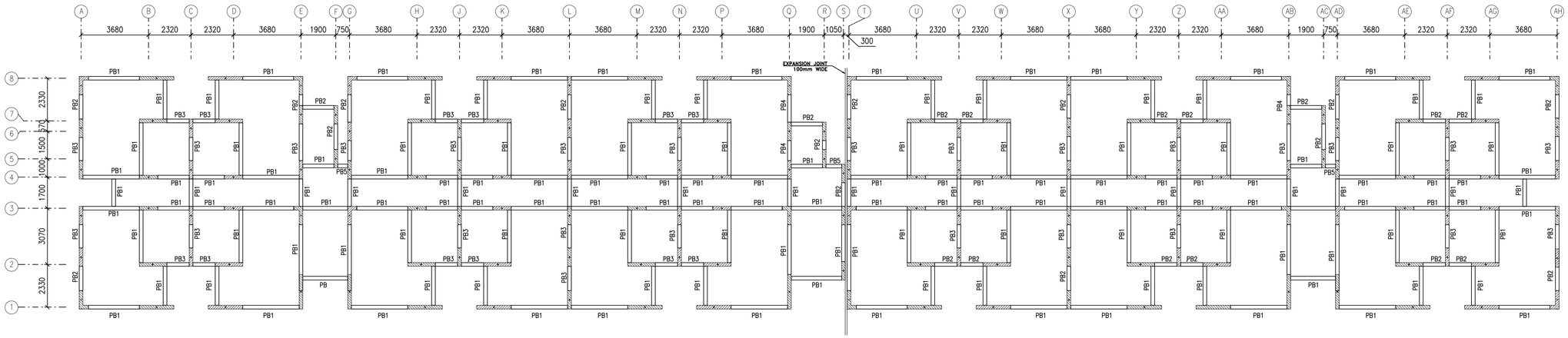
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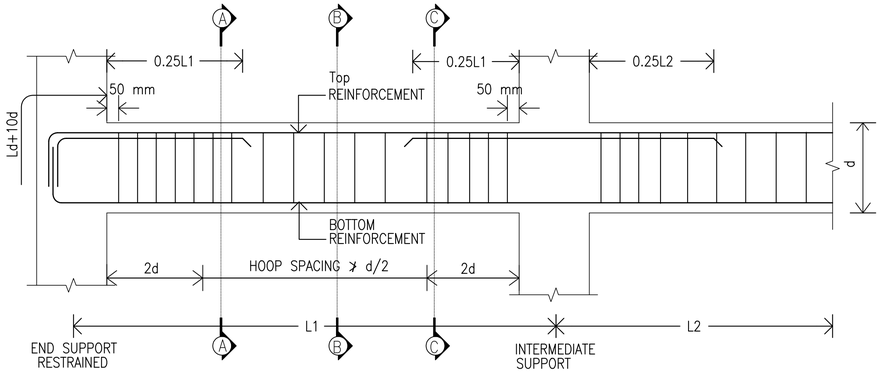
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NOTE: ALL DIMENSION ARE IN mm



PLINTH BEAM LAYOUT @ 0.0 LVL



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM

PLINTH BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
PB1 200x450	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@175 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y
PB2 200x450	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@150 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y
PB3 200x450	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@125 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y
PB4 200x450	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@100 mm c/c, 2x16Y
PB5 200x450	200, 2x16Y, 450, 2L-8Y@75 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@75 mm c/c, 2x16Y	200, 2x16Y, 450, 2L-8Y@75 mm c/c, 2x16Y

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7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

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RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
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PROOF-CHECKING AGENCY:
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INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU-600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:
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DRAWING NO:TNUHDB/CH/VAN/B-02/007	SHEET NO: 007	REV NO: R0

DRAWING TITLE :
PLINTH BEAM LAYOUT

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET:A1

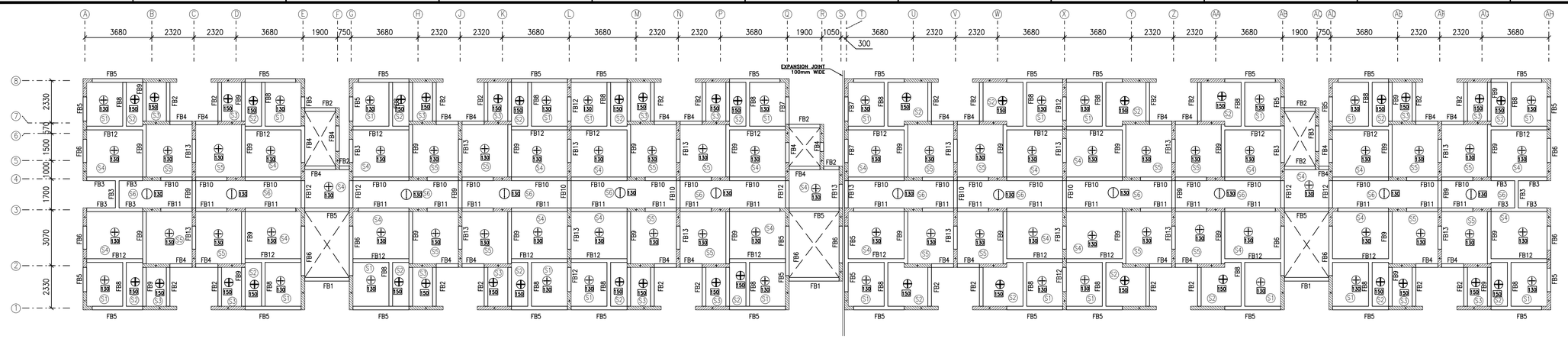
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DESIGNED BY:	DRAWN BY:
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NOTE: ALL DIMENSION ARE IN mm



FIRST FLOOR BEAM AND SLAB LAYOUT @ 2.90 LVL

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

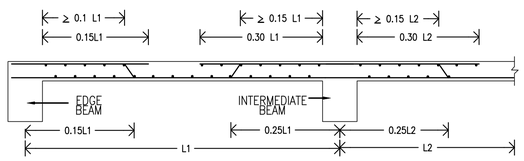
BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
FB1 200x600	2x16Y / 2L–8Y@100mm c/c / 2x16Y	2x16Y / 2L–8Y@150mm c/c / 2x16Y	2x16Y / 2L–8Y@100mm c/c / 2x16Y
FB2 200x600	2x16Y / 2L–8Y@100mm c/c / 2x16Y	2x16Y / 2L–8Y@130mm c/c / 2x16Y	2x16Y / 2L–8Y@100mm c/c / 2x16Y
FB3 200x600	2x16Y / 2L–8Y@100mm c/c / 2x16Y	2x16Y / 2L–8Y@100m c/c / 2x16Y	2x16Y / 2L–8Y@100mm c/c / 2x16Y
FB4 200x600	2x16Y(I) / 2L–8Y@75mm c/c / 2x16Y(I)	2x16Y / 2L–8Y@75mm c/c / 2x16Y	2x16Y(I) / 2L–8Y@75mm c/c / 2x16Y(I)
FB5 200x600	2x16Y(I) + 2x12Y(II) / 2L–8Y@75mm c/c / 2x12Y(II) + 2x16Y(I)	2x16Y(I) / 2L–8Y@75mm c/c / 2x16Y(I)	2x16Y(I) + 2x12Y(II) / 2L–8Y@75mm c/c / 2x12Y(II) + 2x16Y(I)
FB6 200x600	2x16Y(I) + 2x12Y(II) / 2L–10Y@100mm c/c / 2x12Y(II) + 2x16Y(I)	2x16Y(I) / 2L–10Y@100mm c/c / 2x16Y(I)	2x16Y(I) + 2x12Y(II) / 2L–10Y@100mm c/c / 2x12Y(II) + 2x16Y(I)
FB7 200x600	2x16Y(I) + 2x12Y(II) / 2L–10Y@75mm c/c / 2x16Y(I) + 2x12Y(II)	2x16Y(I) / 2L–10Y@75m c/c / 2x16Y(I)	2x16Y(I) + 2x12Y(II) / 2L–10Y@75mm c/c / 2x16Y(I) + 2x12Y(II)

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
FB8 200x450	2x16Y / 2L–8Y@100mm c/c / 2x16Y	2x16Y / 2L–8Y@180mm c/c / 2x16Y	2x16Y / 2L–8Y@100mm c/c / 2x16Y
FB9 200x450	2x16Y / 2L–8Y@100mm c/c / 2x16Y	2x16Y / 2L–8Y@150mm c/c / 2x16Y	2x16Y / 2L–8Y@100mm c/c / 2x16Y
FB10 200x450	2x16Y / 2L–10Y@100mm c/c / 2x16Y	2x16Y / 2L–10Y@100mm c/c / 2x16Y	2x16Y / 2L–10Y@100mm c/c / 2x16Y
FB11 200x450	2x16Y / 2L–8Y@100mm c/c / 2x16Y	2x16Y / 2L–8Y@100mm c/c / 2x16Y	2x16Y / 2L–8Y@100mm c/c / 2x16Y
FB12 200x450	2x16Y / 2L–8Y@75mm c/c / 2x16Y	2x16Y / 2L–8Y@75mm c/c / 2x16Y	2x16Y / 2L–8Y@75mm c/c / 2x16Y
FB13 200x450	2x16Y(I) / 2x12Y(II) / 2L–10Y@75mm c/c / 2x16Y(I) / 2x12Y(II)	2x16Y(I) / 2L–10Y@75mm c/c / 2x16Y(I)	2x16Y(I) / 2x12Y(II) / 2L–10Y@75mm c/c / 2x16Y(I) / 2x12Y(II)

NOTES:

(I) – FIRST LAYER REINFORCEMENT
(II) – SECOND LAYER REINFORCEMENT

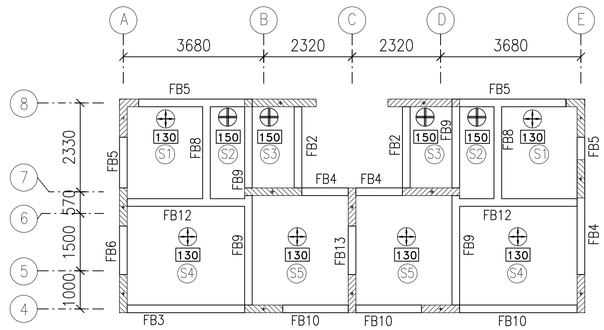


SIMPLIFIED RULES FOR CURTAILMENT OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB

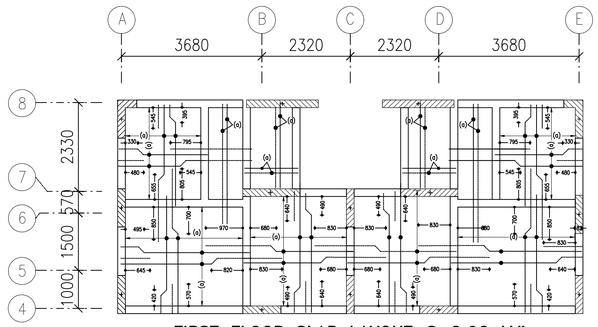
LEGEND:

⊕ – Two way slab
⊖ – One way slab
⊕ – Double Mat slab
— – Top Bar
— – Bottom Bar

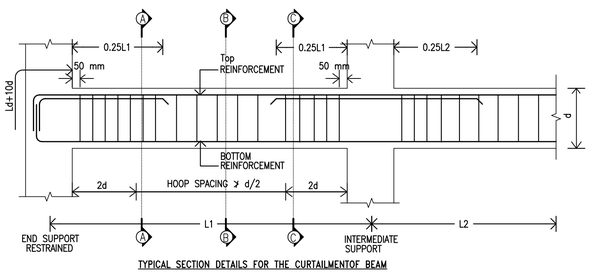
LEGEND:
(a)– 8Y @ 150 c/c



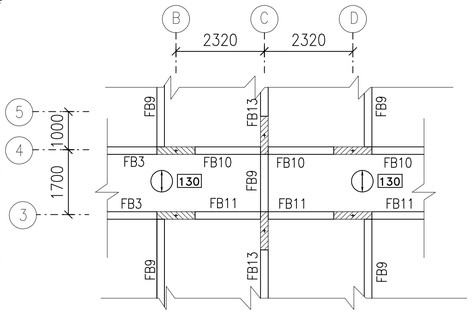
FIRST FLOOR BEAM LAYOUT @ 2.90 LVL



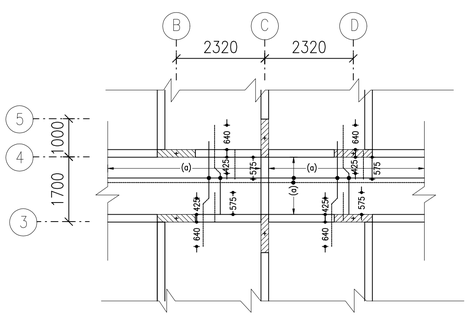
FIRST FLOOR SLAB LAYOUT @ 2.90 LVL



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM



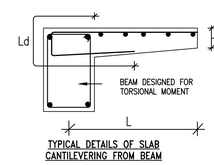
FIRST FLOOR CORRIDOR SLAB LAYOUT



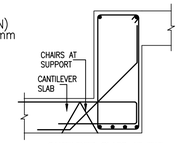
FIRST FLOOR CORRIDOR SLAB LAYOUT

SLAB REINFORCEMENT DETAILS (FIRST FLOOR)

SL NO	SLABS	THICK	MAIN BARS		EXTRA BARS OVER SUPPORT(TOP)		DISTRIBUTION BAR (TOP & BOTTOM) (C)
			SHORT SPAN (a)	LONG SPAN (a)	SHORT SPAN (A')	LONG SPAN (B')	
			DIA	DIA	DIA	DIA	DIA
1	S1	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
2	S2	150	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
3	S3	150	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
4	S4	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
5	S5	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
6	S6	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C



TYPICAL DETAILS OF SLAB CANTILEVERING FROM BEAM



CANTILEVER SLABS AT THE BOTTOM OF BEAMS

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NOTES:

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3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION
4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:
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INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B–02/008	SHEET NO: 008	REV NO: R0

DRAWING TITLE :
FIRST FLOOR REINFORCEMENT DETAILS

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET:A1

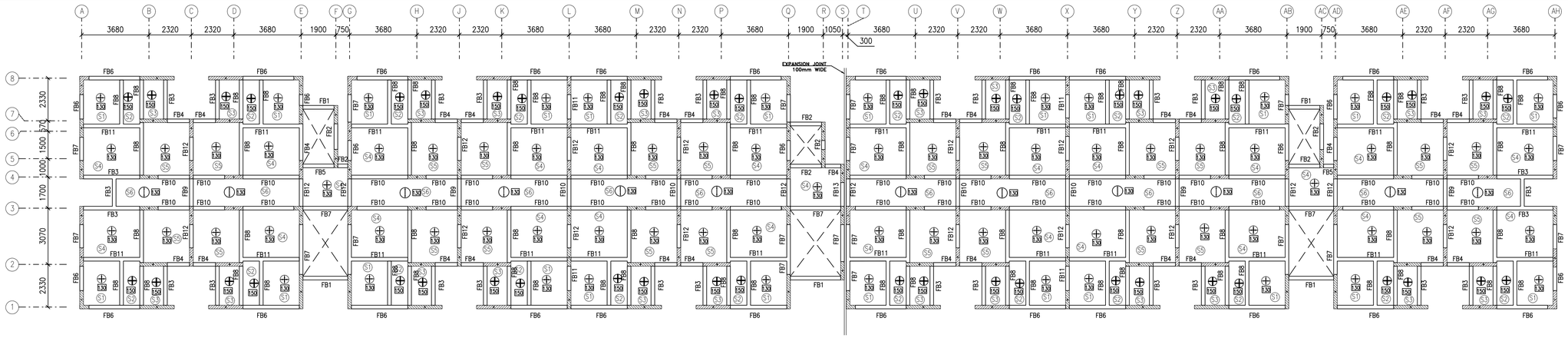
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DATE OF ISSUE 29–09–2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm



TYPICAL FLOOR BEAM AND SLAB LAYOUT @5.8, 8.7, 11.6, 14.5, 17.4 LVL

TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
FB1 200x600	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@150mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB2 200x600	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@130mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB3 200x600	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@100m c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB4 200x600	2x16Y; 2L–8Y@75mm c/c; 2x16Y	2x16Y; 2L–8Y@75mm c/c; 2x16Y	2x16Y; 2L–8Y@75mm c/c; 2x16Y
FB5 200x600	2x16Y; 2L–10Y@100mm c/c; 2x16Y	2x16Y; 2L–10Y@100mm c/c; 2x16Y	2x16Y; 2L–10Y@100mm c/c; 2x16Y
FB6 200x600	2x20Y(I) + 2x12Y(II); 2L–10Y@100mm c/c; 2x12Y(II) + 2x16Y(I)	2x20Y(I); 2L–10Y@100mm c/c; 2x16Y(I)	2x20Y(I) + 2x12Y(II); 2L–10Y@100mm c/c; 2x12Y(II) + 2x16Y(I)
FB7 200x600	2x20Y(I) + 2x12Y(II); 2L–10Y@75mm c/c; 2x12Y(II) + 2x20Y(I)	2x20Y(I); 2L–10Y@75mm c/c; 2x20Y(I)	2x20Y(I) + 2x12Y(II); 2L–10Y@75mm c/c; 2x12Y(II) + 2x20Y(I)

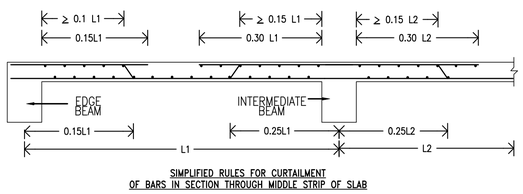
TYPICAL FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
FB8 200x450	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@150mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB9 200x450	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@130mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
FB10 200x450	2x16Y; 2L–10Y@100mm c/c; 2x16Y	2x16Y; 2L–10Y@100mm c/c; 2x16Y	2x16Y; 2L–10Y@100mm c/c; 2x16Y
FB11 200x450	2x16Y; 2L–8Y@75mm c/c; 2x16Y	2x16Y; 2L–8Y@75mm c/c; 2x16Y	2x16Y; 2L–8Y@75mm c/c; 2x16Y
FB12 200x450	2x16Y(I) + 2x12Y(II); 2L–10Y@100mm c/c; 2x16Y(I) + 2x12Y(II)	2x16Y(I); 2L–10Y@100mm c/c; 2x16Y(I)	2x16Y(I) + 2x12Y(II); 2L–10Y@100mm c/c; 2x16Y(I) + 2x12Y(II)

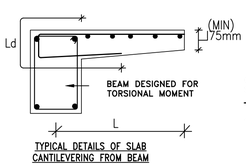
NOTES:

(I) – FIRST LAYER REINFORCEMENT

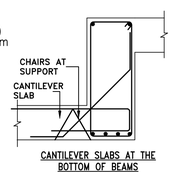
(II) – SECOND LAYER REINFORCEMENT



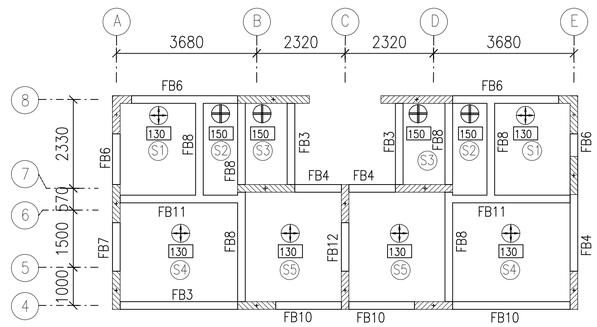
SIMPLIFIED RULES FOR CURTAILMENT OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB



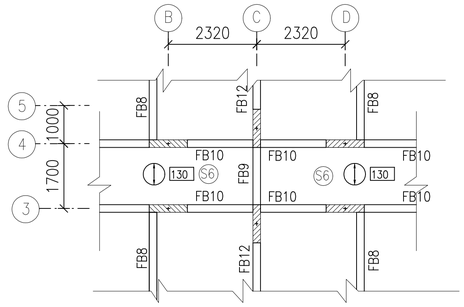
TYPICAL DETAILS OF SLAB CANTILEVERING FROM BEAM



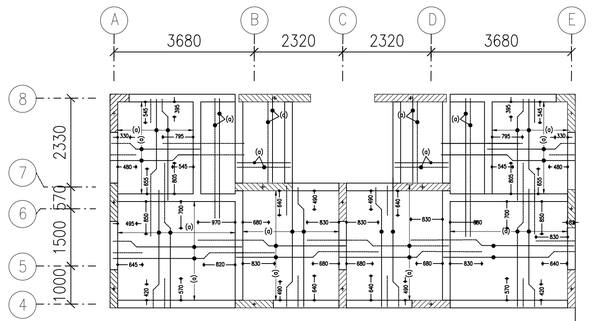
CANTILEVER SLABS AT THE BOTTOM OF BEAMS



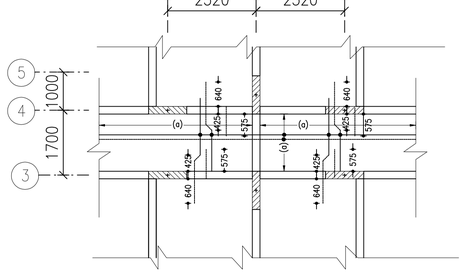
TYPICAL FLOOR BEAM LAYOUT@ 5.80, 8.7, 11.6, 14.5, 17.4 LVL



TYPICAL FLOOR CORRIDOR SLAB LAYOUT



TYPICAL FLOOR BEAM LAYOUT@ 5.80, 8.7, 11.6, 14.5, 17.4 LVL

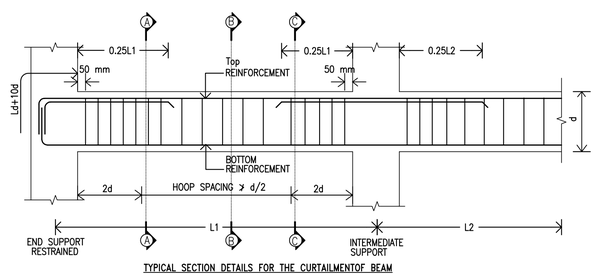


TYPICAL FLOOR CORRIDOR SLAB LAYOUT

TYPICAL FLOOR SLAB LAYOUT@ 5.80, 8.7, 11.6, 14.5, 17.4 LVL

SLAB REINFORCEMENT DETAILS (TYPICAL FLOOR)

SL NO	SLABS	THICK	MAIN BARS – SHORT SPAN (a) DIA	MAIN BARS – LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP) – SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP) – LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (C) DIA
1	S1	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
2	S2	150	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
3	S3	150	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
4	S4	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
5	S5	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C
6	S6	130	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C	(a) –8Y@150 C/C



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM

LEGEND:

⊕ – Two way slab

⊖ – One way slab

⊕ – Double Mat slab

—— – Top Bar

—— – Bottom Bar

LEGEND:
(a)– 8Y @ 150 c/c

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4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
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PROOF–CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B–02/009	SHEET NO: 09	REV NO: R0

DRAWING TITLE :
TYPICAL FLOOR REINFORCEMENT DETAILS

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET:A1

ISSUED FOR:

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DATE OF ISSUE 29–09–2022

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NOTE: ALL DIMENSION ARE IN mm

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5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS.
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7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 50MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

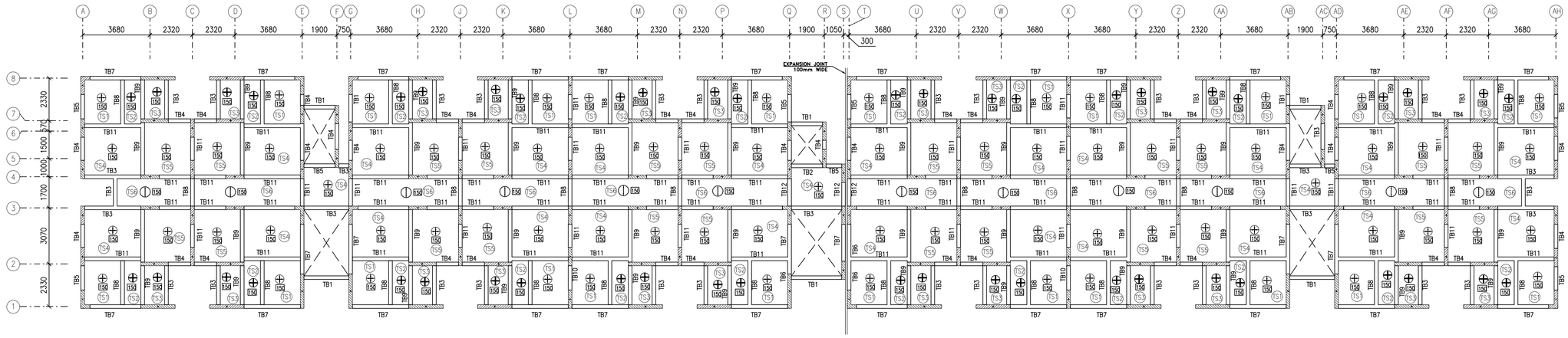
		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY



TERRACE FLOOR BEAM AND SLAB LAYOUT @ 20.30 LVL

TERRACE FLOOR BEAM REINFORCEMENT DETAILS

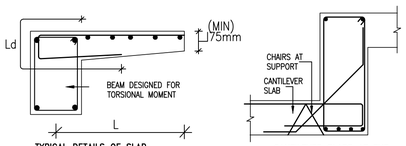
BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
TB1 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@150mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
TB2 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@130mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
TB3 200x600	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100m c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
TB4 200x600	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y	2x16Y; 2L-8Y@75mm c/c; 2x16Y
TB5 200x600	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y
TB6 200x600	2x16Y(I) + 2x12Y(II); 2L-10Y@100mm c/c; 2x16Y(I) + 2x12Y(II)	2x16Y(I); 2L-10Y@100mm c/c; 2x12Y(I)	2x16Y(I) + 2x12Y(II); 2L-10Y@100mm c/c; 2x16Y(I) + 2x12Y(II)
TB7 200x600	2x16Y(I) + 2x12Y(II); 2L-10Y@75mm c/c; 2x16Y(I) + 2x12Y(II)	2x16Y(I); 2L-10Y@75mm c/c; 2x16Y(I)	2x16Y(I) + 2x12Y(II); 2L-10Y@75mm c/c; 2x16Y(I) + 2x12Y(II)

TERRACE FLOOR BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
TB8 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@150mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
TB9 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@130mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
TB10 200x450	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y	2x16Y; 2L-8Y@100mm c/c; 2x16Y
TB11 200x450	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y	2x16Y; 2L-10Y@100mm c/c; 2x16Y

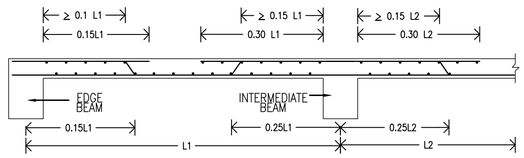
NOTES:

(I) – FIRST LAYER REINFORCEMENT
(II) – SECOND LAYER REINFORCEMENT

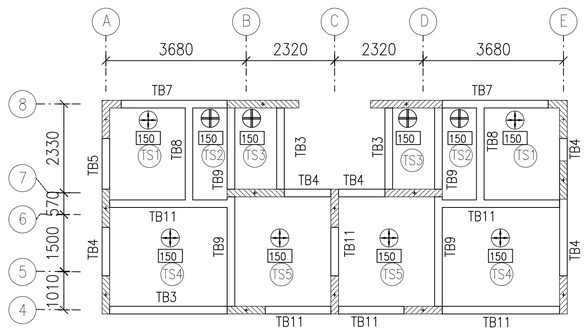


TYPICAL DETAILS OF SLAB CANTILEVERING FROM BEAM

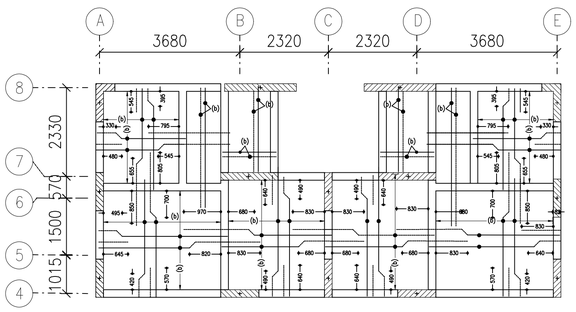
CANTILEVER SLABS AT THE BOTTOM OF BEAMS



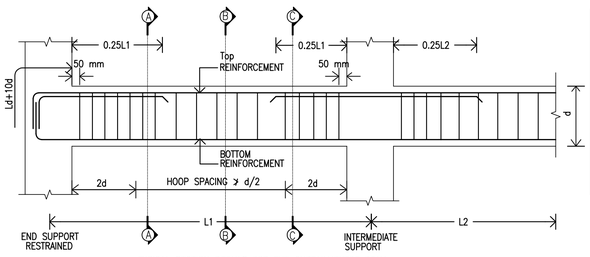
SIMPLIFIED RULES FOR CURTAILMENT OF BARS IN SECTION THROUGH MIDDLE STRIP OF SLAB



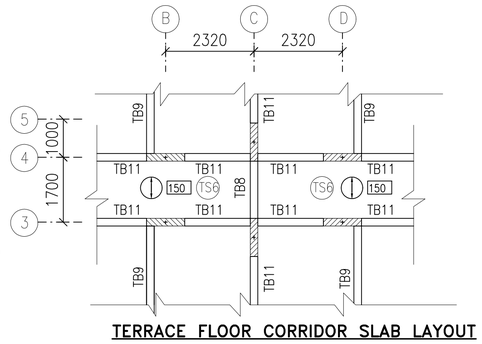
TERRACE FLOOR BEAM LAYOUT @ 20.3 LVL



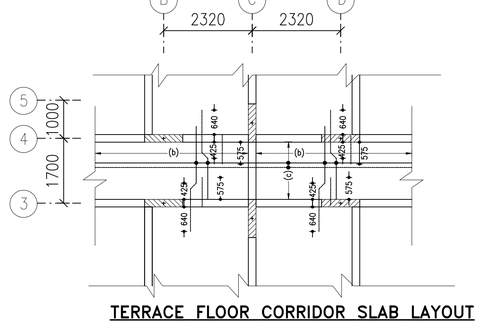
TERRACE FLOOR SLAB LAYOUT @ 20.3 LVL



TYPICAL SECTION DETAILS FOR THE CURTAILMENTOF BEAM



TERRACE FLOOR CORRIDOR SLAB LAYOUT



TERRACE FLOOR CORRIDOR SLAB LAYOUT

SLAB REINFORCEMENT DETAILS (TERRACE FLOOR)

SL NO	SLABS	THICK	MAIN BARS: SHORT SPAN (a) DIA	MAIN BARS: LONG SPAN (a) DIA	EXTRA BARS OVER SUPPORT(TOP): SHORT SPAN (A') DIA	EXTRA BARS OVER SUPPORT(TOP): LONG SPAN (B') DIA	DISTRIBUTION BAR (TOP & BOTTOM) (C) DIA
1	TS1	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
2	TS2	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
3	TS3	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
4	TS4	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
5	TS5	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C
6	TS6	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(c) -8Y@150 C/C

LEGEND:

⊕ – Two way slab
⊖ – One way slab
⊕ – Double Mat slab
—— – Top Bar
—— – Bottom Bar

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
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STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
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IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE: CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO: TNUHDB/CH/VAN/B-02/010	SHEET NO: 010	REV NO: R0

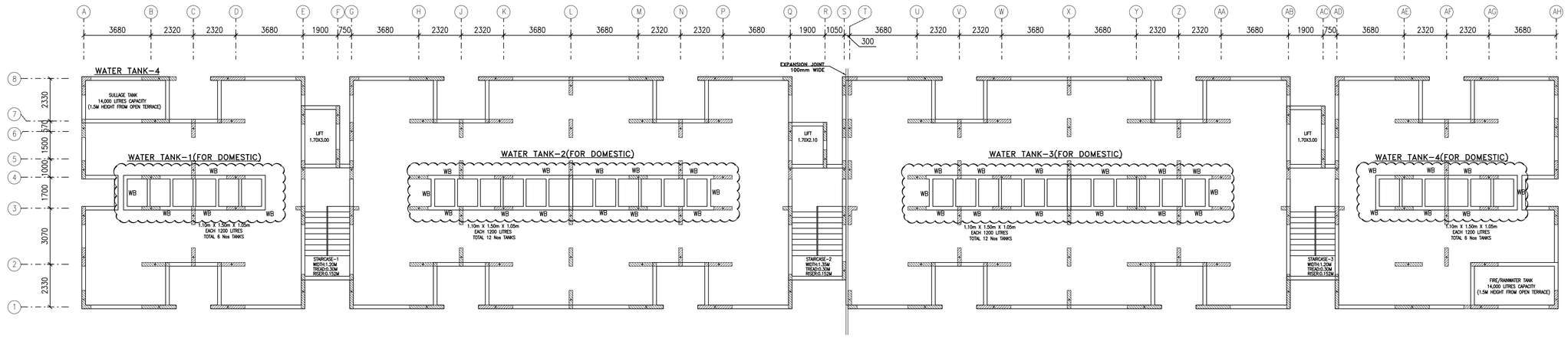
DRAWING TITLE :
TERRACE FLOOR REINFORCEMENT DETAILS

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET: A1

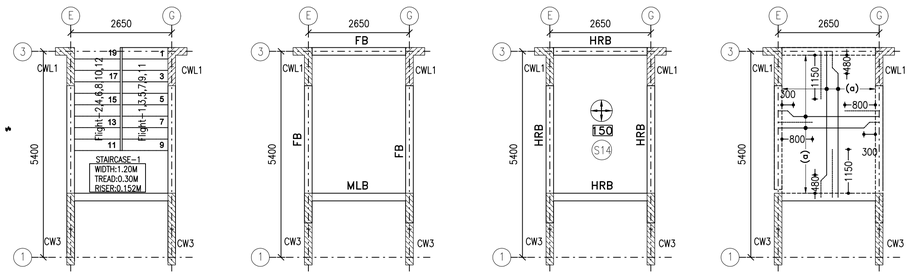
ISSUED FOR:
☐ PRELIMINARY ☐ TENDER ☐ INFORMATION
☐ APPROVAL ☑ CONSTRUCTION
DATE OF ISSUE 29-09-2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm



STAIRCASE, LIFT, WATER TANK KEYPLAN

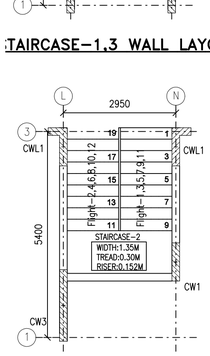


STAIRCASE-1,3 WALL LAYOUT

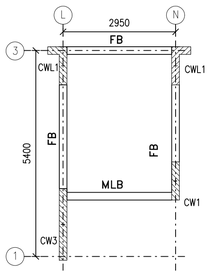
STAIRCASE-1,3 BEAM LAYOUT

HEADROOM BEAM LAYOUT STAIRCASE-1,3

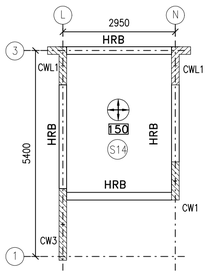
HEADROOM SLAB LAYOUT STAIRCASE-1,3



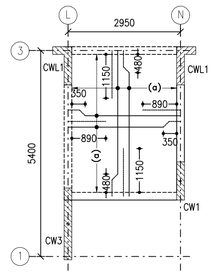
STAIRCASE-2 WALL LAYOUT



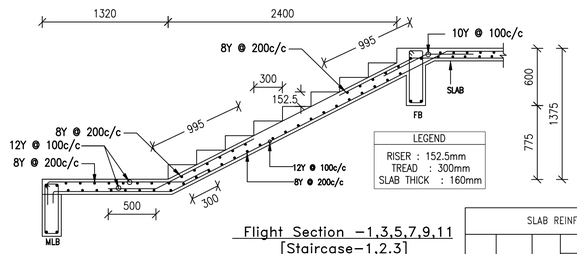
STAIRCASE-2 BEAM LAYOUT



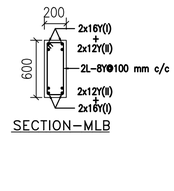
HEADROOM BEAM LAYOUT STAIRCASE-2



HEADROOM SLAB LAYOUT STAIRCASE-2



Flight Section -1,3,5,7,9,11
[Staircase-1,2,3]



SECTION-MLB

Flight Section -2,4,6,8,10,12
[Staircase-1,2,3]

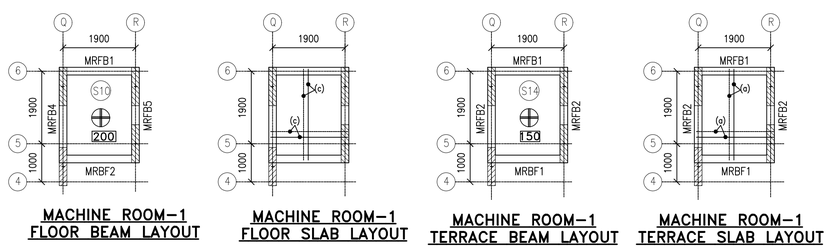
SLAB REINFORCEMENT DETAILS (WATER TANK BOTTOM AND TOP SLAB)

SL NO	SLABS	THIK	MAIN BARS		EXTRA BARS OVER SUPPORT(TOP)		DISTRIBUTION BAR (TOP & BOTTOM) (c)
			SHORT SPAN (a)	LONG SPAN (a)	SHORT SPAN (A')	LONG SPAN (B')	
			DIA	DIA	DIA	DIA	DIA
1	S10	200	(a) -12Y@150 C/C	(a) -12Y@150 C/C	(a) -12Y@150 C/C	(a) -12Y@150 C/C	(c) -12Y@150 C/C
2	S11	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C
3	S12	200	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C	(c) -12Y@150 C/C
4	S13	150	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C	(b) -10Y@150 C/C
5	S14	150	(a) -8Y@150 C/C	(a) -8Y@150 C/C	(a) -8Y@150 C/C	(a) -8Y@150 C/C	(a) -8Y@150 C/C

HEAD ROOM, MACHINE ROOM BEAM REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A-A	SECTION ALONG B-B	SECTION ALONG C-C
HRB1 200x450	2x16Y, 2L-8Y@150 mm c/c, 2x16Y	2x16Y, 2L-8Y@150 mm c/c, 2x16Y	2x16Y, 2L-8Y @ 100 mm c/c, 2x16Y
MRB1 200x600	2x16Y, 2L-8Y@100 mm c/c, 2x16Y	2x16Y, 2L-8Y@125 mm c/c, 2x16Y	2x16Y, 2L-8Y @ 100 mm c/c, 2x16Y
MRB2 200x600	2x16Y, 2L-8Y@75 mm c/c, 2x16Y	2x16Y, 2L-8Y@75mm c/c, 2x16Y	2x16Y, 2L-8Y @ 75 mm c/c, 2x16Y
MRTB1 200x450	2x16Y, 2L-8Y@100 mm c/c, 2x16Y	2x16Y, 2L-8Y@125 mm c/c, 2x16Y	2x16Y, 2L-8Y @ 100 mm c/c, 2x16Y
MRTB2 200x450	2x16Y, 2L-8Y@75 mm c/c, 2x16Y	2x16Y, 2L-8Y@75mm c/c, 2x16Y	2x16Y, 2L-8Y @ 75 mm c/c, 2x16Y

LEGEND:
- ⊕ – Two way slab
- ⊕ – Double mat
- —— – Top
- —— – Bottom

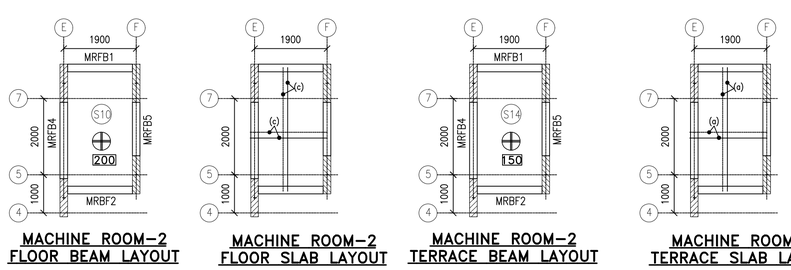


MACHINE ROOM-1 FLOOR BEAM LAYOUT

MACHINE ROOM-1 FLOOR SLAB LAYOUT

MACHINE ROOM-1 TERRACE BEAM LAYOUT

MACHINE ROOM-1 TERRACE SLAB LAYOUT



MACHINE ROOM-2 FLOOR BEAM LAYOUT

MACHINE ROOM-2 FLOOR SLAB LAYOUT

MACHINE ROOM-2 TERRACE BEAM LAYOUT

MACHINE ROOM-2 TERRACE SLAB LAYOUT

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NOTES:

1. ALL DIMENSIONS ARE IN "mm" UNLESS OTHERWISE SPECIFIED.
2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION
4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe-500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe-500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe-500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
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CHENNAI, TAMIL NADU-600036

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MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022-23/018/TNUHDB_VAN

PROJECT TITLE:
PLAN SHOWING THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM, CHENNAI 600018 IN R.S.NOS.3790/3, 3792/1 (PT), 3793/5 (PT) & 3791 (PT), BLOCK NO.74 OF MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION, CORPORATION DIVISION NO 123,ZONE IX.

DRAWING NO:TNUHDB/CH/VAN/B-02/011	SHEET NO: 011	REV NO: R0

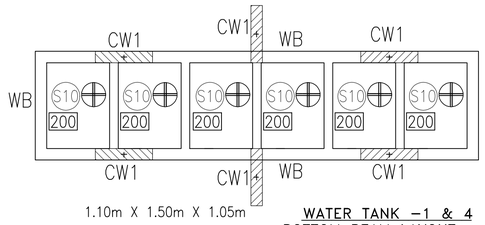
DRAWING TITLE :
STAIRCASE , LIFT, WATERTANK (KEY PLAN)

BLOCK NO: 02 OF 02	SCALE: NTS	SIZE OF SHEET:A1

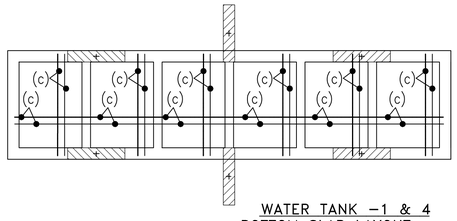
ISSUED FOR:

☐PRELIMINARY ☐TENDER ☐INFORMATION ☐APPROVAL ☑CONSTRUCTION	DATE OF ISSUE 29-09-2022
DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

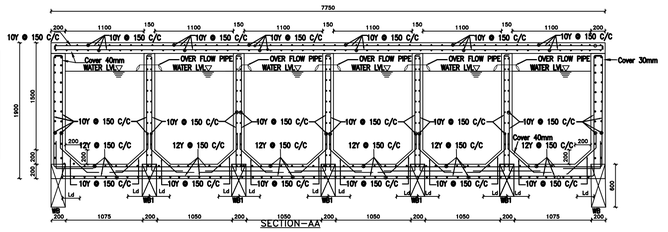
NOTE: ALL DIMENSION ARE IN mm

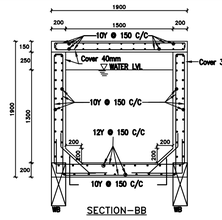


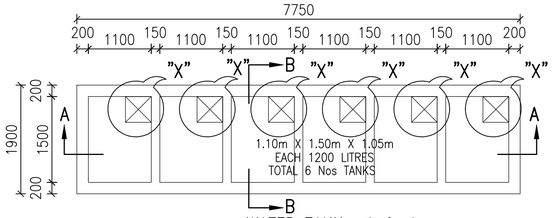
WATER TANK –1 & 4
BOTTOM BEAM LAYOUT



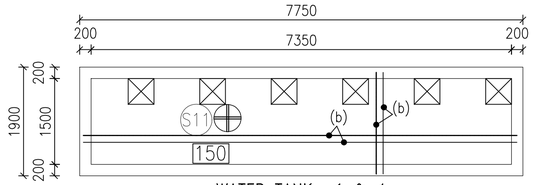
WATER TANK –1 & 4
BOTTOM SLAB LAYOUT



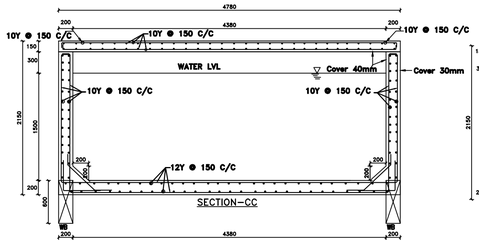


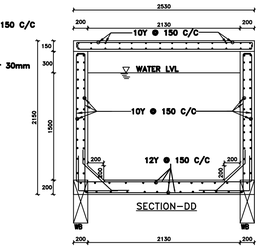


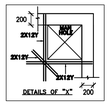
WATER TANK –1 & 4
RC WALL LAYOUT AND MANHOLE DETAILS

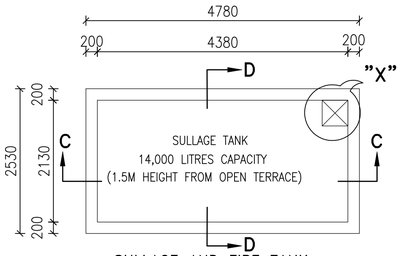


WATER TANK –1 & 4
TOP COVER SLAB LAYOUT

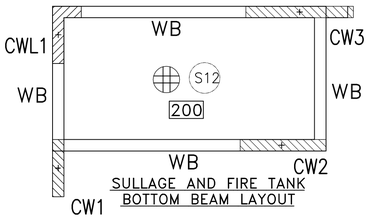




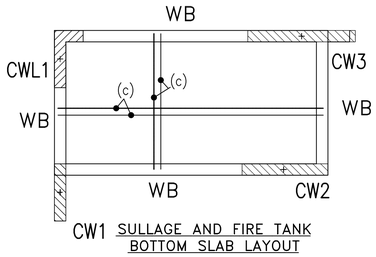




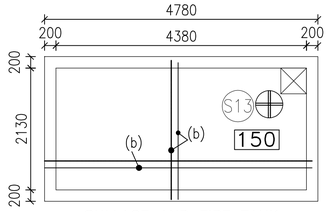
SULLAGE AND FIRE TANK
BOTTOM BEAM LAYOUT



SULLAGE AND FIRE TANK
BOTTOM BEAM LAYOUT



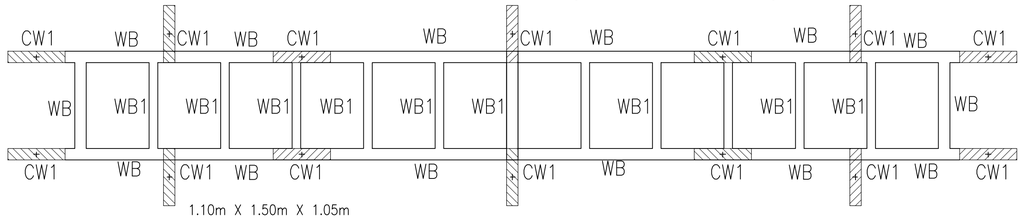
CW1 SULLAGE AND FIRE TANK
BOTTOM SLAB LAYOUT

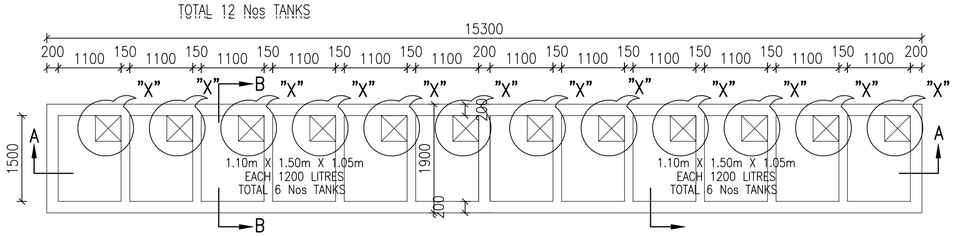


SULLAGE AND FIRE TANK
TOP COVER SLAB LAYOUT

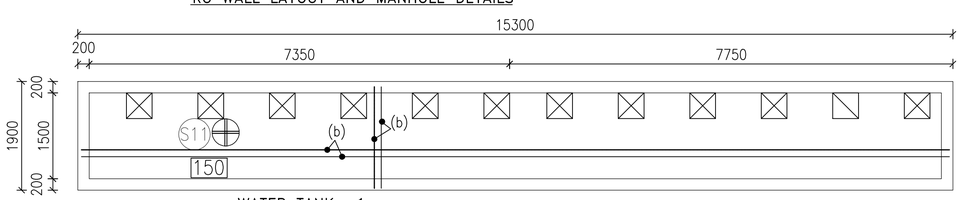
LEGEND:
⊕ – Two way slab
⊕ – Double mat
—— – Top
—— – Bottom

WATER TANK–2 & 3(FOR DOMESTIC)





WATER TANK –2 & 3
RC WALL LAYOUT AND MANHOLE DETAILS



WATER TANK –1
TOP COVER SLAB LAYOUT

WATER TANK REINFORCEMENT DETAILS

BEAM NAME	SECTION ALONG A–A	SECTION ALONG B–B	SECTION ALONG C–C
WB 200x600	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@125mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y
WB1 200x450	2x16Y; 2L–8Y@100mm c/c; 2x16Y	2x16Y; 2L–8Y@125mm c/c; 2x16Y	2x16Y; 2L–8Y@100mm c/c; 2x16Y

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NOTES:

1. ALL DIMENSIONS ARE IN "mm" UNLESS OTHERWISE SPECIFIED.
2. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED, NEITHER THE DRAWING SHALL BE SCALED OUT NOR THE BARS SHALL BE COUNTED.
3. ANY DISCREPANCY FOUND BETWEEN THIS DRAWING AND THE ARCHITECTURAL DRAWING SHALL BE BROUGHT TO THE NOTICE OF THIS OFFICE BEFORE EXECUTION
4. GRADE OF CONCRETE SHALL BE M30 UNLESS OTHERWISE NOTED.
5. GRADE OF STEEL SHALL BE Fe–500D CONFORMING TO LATEST INDIAN STANDARDS
6. ALL REINFORCEMENT SHALL BE FREE FROM LOOSE SCALES, RUST, COAT OF PAINT, OIL OR ANY OTHER SUBSTANCES.
7. THE NOMINAL COVER COVER FOR MAIN REINFORCEMENT ARE AS FOLLOWS

PILE = 60MM	BEAMS = 25MM TO LINKS
RC WALLS = 25MM TO LINKS	SLABS = 25MM

8. THE DEVELOPMENT LENGTH FOR TENSION

		Fe–500D	
M30	Ld	45d	Where d is Diameter of rod

9. THE DEVELOPMENT LENGTH FOR COMPRESSION

		Fe–500D	
M30	Ld	36d	Where d is Diameter of rod

10. STRUCTURE IS DESIGNED AS PER ARCHITECTURAL DRAWING
11. SAFE LOAD CARRYING CAPACITY OF 500mm DIA PILE IS 910 kN.
12. THIS BUILDING IS DESIGNED FOR STILT+6 FLOORS ONLY.

REV NO:	DETAILS	DATE	DRAWN	CHECKED BY	APPROVED BY

SAFETY AND STRUCTURAL STABILITY CERTIFICATE

Certified that the structural designs and drawings have been perused by me keeping in view the relevant IS codes and Sound Engineering practice these structural drawings are good for construction.

CUBE

Proof Checked By:

PRINCIPAL DEVELOPER:
OFFICE OF THE CHIEF ENGINEER,
TAMIL NADU URBAN HABITAT DEVELOPMENT BOARD (TNUHDB)
NO.5 KAMARAJAR SALAI, CHENNAI–600005

PROOF–CHECKING AGENCY:
STRUCTURAL ENGINEERING DEPARTMENT,
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,
CHENNAI, TAMIL NADU–600036

STRUCTURAL CONSULTANT:
CENTRE FOR URBANIZATION, BUILDING & ENVIRONMENT
MODULE NO. 6C, 6TH FLOOR, PHASE II BUILDING,
IIT MADRAS RESEARCH PARK, KANAGAM ROAD,
THARAMANI, CHENNAI, TAMIL NADU 600113

PROJECT CODE:CUBE/B&C/2022–23/018/TNUHDB_VAN

PROJECT TITLE:
THE PROPOSED CONSTRUCTION OF GROUP DEVELOPMENT COMPRISING OF 2 BLOCKS; BLOCK 1 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL BUILDING WITH 72 DWELLING UNITS (12 DWELLING UNITS IN EACH FLOOR) AND BLOCK 2 CONSISTING OF STILT FLOOR + 6 FLOORS RESIDENTIAL
BUILDING WITH 144 DWELLING UNITS (24 DWELLING UNITS IN EACH FLOOR) TOTALLY 216 DWELLING UNITS AT THIRUVALLUVAR SALAI, VANNIYAPURAM,BLOCK NO.74 MYLAPORE VILLAGE WITHIN THE LIMIT OF GREATER CHENNAI CORPORATION.

DRAWING NO:TNUHDB/CH/VAN/B–02/012 | SHEET NO: 012 | REV NO: R0

DRAWING TITLE :
STAIRCASE & WATERTANK HEAD ROOM,MACHINE ROOM REIFORCEMENT DETAILS

BLOCK NO: 02 OF 02 | SCALE: NTS | SIZE OF SHEET:A1

ISSUED FOR:

☐PRELIMINARY ☐TENDER ☐INFORMATION
☐APPROVAL ☑CONSTRUCTION

DATE OF ISSUE 29–09–2022

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:

NOTE: ALL DIMENSION ARE IN mm



our services doesn't just end there

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Vastu & Property Management Tools

Home Vastu Shastra, Plot Vastu Shastra, Property Management

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