STRUCTURAL DRAWING OF PROPOSED G+4 STORIED PRINCIPALLY RESIDENTIAL BUILDING OF MR. AMITAVA DHAR S/O:-LATE RISHIKESH DHAR ; SITUATED AT MAINA DANGA CHINSURAH, R.S DAG NO.-2415 (P) ; L.R. DAG NO.-3578 (P)R.S. KHATIAN NO.-1026 ,L.R. KATIAN NO- 5301 ;J.L. NO-16 ; P.S.-CHINSURAH ; MOUZA - SIMLA ; UNDER KODALIA1 NO. GRAM PANCHAYET ; DISTRICT - HOOGHLY.

TITLE

NOTES :

1. UNLESS OTHERWISE STATED ALL CONSTRUCTION ACTIVITIES SHALL BE CARRIED OUT CONFORMING TO RELEVANT (INDIAN) STANDARD CODES OF PRACTICE.
2. ALL DIMENSIONS ARE IN MILLIMETERS & LEVELS ARE IN METER EXCEPT OTHERWISE MENTIONED ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. ALL LEVELS GIVEN IN STRUCTURAL DRAWINGS ARE IN ACCORDANCE WITH ARCHITECTURAL DRAWINGS
3. ANY DISCREPANCY IN THE STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE NOTICE OF STRUCTURAL CONSULTANT BEFORE EXECUTION OF WORK.
4. UNLESS OTHERWISE SPECIFIED ALL REINFORCEMENT TO BE USED SHALL BE TMT BARS OF GRADE Fe-500/500D CONFORMING TO IS-1786-2008.
5. UNLESS OTHERWISE STATED LAP LENGTH OF BARS SHALL BE EQUAL TO THE DEVELOPMENT LENGTH = 50xBAR DIA.
6. CONCRETE NOMINAL COVER TO MAIN REINFORCEMENT SHALL BE
   - i) COLUMNS : 40 mm
   - ii) BEAMS : 30 mm
   - iii) SLABS : 20 mm
   - iv) WAIST SLAB : 20 mm
   - v) ISOLATED FOUNDATION : 50 mm
   - vi) BASI BEAM & SLAB : 50 mm
   - vii) SHEAR WALL : 20 mm
7. GRADE OF CONCRETE FOR SUPERSTRUCTURE & SUBSTRUCTURE WILL BE OF M25 AS PER IS:456:2000.
8. VIBRATOR SHALL BE USED FOR PROPER COMPACTION OF CONCRETE AND CURING SHALL BE DONE PROPERLY.
9. DEVELOPMENT LENGTH 50XD FOR LAP & SPLICES SHOULD BE PROVIDED AS PER THE PROVISIONS LAID DOWN IN SP24-1987 WHEREVER A SUPPORTED MEMBER TERMINATES AT A SUPPORTING MEMBER THE BARS OF THE SUPPORTED MEMBER SHOULD HAVE AN ANCHORAGE OF 60D IN THE SUPPORTING MEMBER.
10. WHEN TWO BEAMS MEET AT A COLUMN LOCATION ALONG THE SAME LINE THE HIGHER REINFORCEMENT AT THE TOP SHOULD BE CONTINUED AT BOTH SIDE.
11. ALL CANTILEVER SLAB WITHOUT PERIPHERAL BEAMS THE TOP REINFORCEMENT PARALLEL TO THE CANTILEVER SPAN SHOULD BE CONTINUED UPTO ATLEAST 1.5 TIMES THE CANTILEVER SPAN WITHIN THE ADJACENT SLAB.
12. THE NET SAFE BEARING CAPACITIES FOR ALL ISOLATED FOUNDATION & RAFT FOUNDATION AT DEPTH (-)1.5m. FROM G.L. HAVE BEEN CONSIDERED AS MENTIONED IN DRAWING IN JUNE WITH THE SOIL REPORT PREPARED BY DR. SANTOSH KUMAR CHAKRABORTY.
13. THE ABOVE WEIGHED BEARING CAPACITIES MUST BE ENSURED AT SITE UNDER THE SUPERVISION OF A COMPETENT GEOTECHNICAL ENGINEER FOR VALIDITY OF THIS DRAWING.
14. THE N VALUE DESCRIBED UNDER NOTES OF TABLE-1 OF IS-1893(PART-1)-2016 SHOULD BE ENSURED TO BE GREATER THAN 15 FOR VALIDITY OF THIS DESIGN AND DRAWING.
15. IMPORTANT NOTE:
    THE STRUCTURE MUST BE CONSTRUCTED IN PRESENCE OF A COMPETENT STRUCTURAL ENGINEER FOR STRICT SUPERVISION.

SCHEDULE OF S1 & S2 MARKED SLABS
(TYPICAL FLOORS SLABS THICKNESS-115mm& 125mm)

BAR MARK	REINFORCEMENT	POSITION
A	⌀8 @ 150 mm C/C (ALL THROUGH)	BOT
B	⌀8 @ 150 mm C/C (ALL THROUGH)	BOT
X	⌀8 @ 150 mm C/C (ALL THROUGH)	BOT
Y	⌀8 @ 150 mm C/C (ALL THROUGH)	BOT
C	⌀8 @ 150mm C/C (DISTRIBUTEMENT)	TOP
D(BINDER)	⌀8 @ 200 mm C/C (WHEREVER REQUIRED)	TOP

TYPICAL CROSS SECTION OF BEAM AT SUPPORT

TYPICAL CROSS SECTION OF BEAM AT SPAN

TYPICAL ARRANGEMENT OF REINFORCEMENT IN BEAM

SCALE – N.T.S

TYPICAL CROSS SECTION OF FOUNDATION BEAM AT SUPPORT

TYPICAL CROSS SECTION OF FOUNDATION BEAM AT SPAN

TYPICAL ARRANGEMENT OF REINFORCEMENT IN FOUNDATION BEAM
(AS PER SP 34-1987)
N.T.S

TYPICAL DETAILS OF SLAB REINFORCEMENT (TOP)
(SLAB MARKED S1 & S2)
(SCALE-N.T.S)

SECTION A-A
SCALE- 1:25

TYPICAL DETAIL OF ISOLATED FOUNDATION
SCALE N.T.S.

SECTION -B-B
SCALE N.T.S.

TYPICAL DETAILS OF SLAB REINFORCEMENT (BOTTOM)
(SLAB MARKED S1 & S2)
(SCALE – N.T.S.)

SECTION-C-C
(SCALE-N.T.S)

TYPICAL SECTIONAL DETAILS OF 150mm THK. STAIR WAIST SLAB
N.T.S.

SCHEDULE OF RAFT SLAB

SLAB MARKED	SLAB THICKNESS (mm)	REINFORCEMENT ALONG SHORTER DIRECTION		REINFORCEMENT ALONG LONGER DIRECTION	
		BOTTOM	TOP	BOTTOM	TOP
RS	450	12⌀@ 125 C/C	12⌀@ 125 C/C	12⌀@ 125 C/C	12⌀@ 125 C/C

SCHEDULE FOR ISOLATED FOUNDATION

UNDER COLUMNS MARKED	FOUNDATION NUMBER	LENGTH (m)	WIDTH (m)	DEPTH D1 (mm)	D (mm)	THICKNESS ALONG SHORT DIRECTION	THICKNESS ALONG LONG DIRECTION	TOP REINFORCEMENT ALONG SHORT DIRECTION	TOP REINFORCEMENT ALONG LONG DIRECTION
C24	F5	2.350	2.000	350	450	12 ⌀@ 250 C/C	12 ⌀@ 150 C/C	8 ⌀@ 300 C/C	8 ⌀@ 300 C/C
C18,C20	F4	2.450	2.100	450	300	12 ⌀@ 125 C/C	12 ⌀@ 125 C/C	8 ⌀@ 300 C/C	8 ⌀@ 300 C/C
C9,C12,C22,C26	F3	2.450	2.250	450	300	12 ⌀@ 125 C/C	12 ⌀@ 125 C/C	8 ⌀@ 300 C/C	8 ⌀@ 300 C/C
C5,C6,C15,C23,C25	F2	2.450	2.400	450	300	12 ⌀@ 125 C/C	12 ⌀@ 150 C/C	8 ⌀@ 300 C/C	8 ⌀@ 300 C/C
C1,C2,C3,C4	F1	2.450	2.450	450	250	12 ⌀@ 150 C/C	12 ⌀@ 150 C/C	8 ⌀@ 300 C/C	8 ⌀@ 300 C/C

SCHEDULE OF TYPICAL FLOOR BEAMS

BEAM MARKED	SIZE WIDTH (mm)	SIZE DEPTH (mm)	TOP REINFORCEMENT ALTHROUGH (a)	BOTTOM REINFORCEMENT EXTRA AT SUPPORT (b)	EXTRA AT SPAN (c)	STIRRUPS (AT SPAN) (S1)	STIRRUPS (AT SUPPORT) (S2)
FB1	250	450	3-16⌀	2-16⌀	-	8-⌀@100 C/C	2L-8⌀@100 C/C
FB2	250	450	3-16⌀	2-16⌀	1-16⌀	8-⌀@100 C/C	2L-8⌀@100 C/C
FB3	250	450	3-16⌀	2-16⌀	2-16⌀	8-⌀@100 C/C	2L-8⌀@100 C/C
FB4	250	450	3-16⌀	2-16⌀	-	8-⌀@100 C/C	2L-8⌀@100 C/C
FB5	250	450	3-16⌀	2-16⌀	2-12⌀	8-⌀@100 C/C	2L-8⌀@100 C/C
FB6	250	450	3-16⌀	-	3-16⌀	8-⌀@100 C/C	2L-8⌀@100 C/C
FB7	250	450	3-16⌀	-	3-16⌀	8-⌀@100 C/C	2L-8⌀@100 C/C
FB8	250	450	3-16⌀	-	3-16⌀	8-⌀@100 C/C	2L-8⌀@100 C/C

SCHEDULE OF TIE BEAMS

BEAM MARKED	SIZE WIDTH (mm)	SIZE DEPTH (mm)	TOP REINFORCEMENT ALTHROUGH (a)	BOTTOM REINFORCEMENT EXTRA AT SUPPORT (b)	EXTRA AT SPAN (c)	STIRRUPS (AT SPAN) (S1)	STIRRUPS (AT SUPPORT) (S2)
TB1	250	350	2-16⌀	2-16⌀	-	8-⌀@100 C/C	2L-8⌀@100 C/C
TB2	250	350	2-16⌀	2-16⌀	-	8-⌀@100 C/C	2L-8⌀@100 C/C
TB3	250	350	2-16⌀	2-16⌀	1-12⌀	8-⌀@100 C/C	2L-8⌀@100 C/C
TB4	250	350	2-16⌀	2-16⌀	2-16⌀	8-⌀@100 C/C	2L-8⌀@100 C/C
TB5	250	350	2-16⌀	2-16⌀	-	8-⌀@100 C/C	2L-8⌀@100 C/C

SCHEDULE OF COLUMNS

COLUMN MARKED	NOS. OF COLUMNS	COLUMN SIZE (mm x mm)	FOUNDATION TO ABOVE (2 NOS CLOSED LINK)	STIRRUP ARRANGEMENT & SPACING NEAR JUNCTION(NJ)	REST PORTION
C1,C2,C3, C4,C5,C6, C7,C8,C10, C11,C14, C22,C23, C24,C25	17	300X400	4-16⌀ + 4-12⌀	8 ⌀@75 C/C (2 NOS CLOSED LINK)	8 ⌀@150 C/C (2 NOS CLOSED LINK)
C16	01	300X450	MAIN REINF.– 6-20⌀ + 4-16⌀	8 ⌀@75 C/C (3 NOS CLOSED LINK)	8 ⌀@150 C/C (3 NOS CLOSED LINK)
C12,C13, C17,C18	04	300X400	MAIN REINF.– 4-16⌀ + 4-16⌀	8 ⌀@75 C/C (2 NOS CLOSED LINK)	8 ⌀@150 C/C (2 NOS CLOSED LINK)
C9,C20 C21,C26	04	300X400	MAIN REINF.– 8-16⌀	8 ⌀@75 C/C (2 NOS CLOSED LINK)	8 ⌀@150 C/C (2 NOS CLOSED LINK)

SCHEDULE OF SI & S2 MARKED SLABS

BAR MARK	REINFORCEMENT	POSITION
A	⌀8 @ 150 mm C/C (ALL THROUGH)	BOT
B	⌀8 @ 150 mm C/C (ALL THROUGH)	BOT
X	⌀8 @ 150 mm C/C (ALL THROUGH)	BOT
Y	⌀8 @ 150 mm C/C (ALL THROUGH)	BOT
C	⌀8 @ 150mm C/C (DISTRIBUTEMENT)	TOP
D(BINDER)	⌀8 @ 200 mm C/C (WHEREVER REQUIRED)	TOP

NET SAFE BEARING CAPACITIES CONSIDERED FOR FOUNDATION

TYPE OF FOUNDATION	SIZE	NET SAFE BEARING CAPACITY (T/M²)
ISOLATED	2.45m x 2.45m	8.90
	2.65m x 2.65m	8.30
	2.55m x 2.55m	8.70
	2.25m x 2.25m	9.60
	2.10m x 2.10m	9.80
RAFT	AS SHOWN IN DRAWING	8.75

SPECIAL NOTE:
THE ABOVE MENTIONED BEARING CAPACITY VALUES MUST BE ENSURED BY A COMPETENT GEO-TECHNICAL ENGINEER AT SITE BEFORE EXECUTION FOR VALIDITY OF THIS DESIGN AND DRAWING .IN CASE THE ABOVE MENTIONED CAPACITIES CAN NOT BE ENSURED, THE DESIGN MUST BE RECASTED BACK TO DESIGNER WITH RECOMMENDATIONS OF PILE FOUNDATION.

TYPICAL DUCTILE DETAIL OF BEAM COLUMN JUNCTION

DETAIL : A

DETAIL : A
(TYPICAL DETAIL OF 135° HOOK)

SCHEDULE OF SLAB

SLAB MARKED	SLAB THICKNESS (mm)	REINFORCEMENT ALONG SHORTER DIRECTION		REINFORCEMENT ALONG LONGER DIRECTION	
		BOTTOM	TOP	BOTTOM	TOP
S1	115	12⌀@ 125 C/C	12⌀@ 125 C/C	12⌀@ 125 C/C	12⌀@ 125 C/C
S2	125	12⌀@ 125 C/C	12⌀@ 125 C/C	12⌀@ 125 C/C	12⌀@ 125 C/C

FOUNDATION LAYOUT PLAN
(RS) MARKED SLAB 450MM THK.
SCALE 1:100

TYPICAL FLOOR BEAM AND SLAB LAYOUT PLAN
AT LEVELS(+)3.55m,(+)6.10m,(+)8.85m.
S1 MARKED SLABS ARE 115 mm THICK.
S2 MARKED SLABS ARE 125 mm THICK.
FOR "*" MARKED SLABS REFER NOTE NO.-12
SCALE 1:100

TIE BEAM LAYOUT PLAN
AT LEVEL (±)0.00m.
SCALE 1:100

COLUMN LAYOUT PLAN
SCALE 1:100

STRUCTURAL CONSULTANT:

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DRAWING TITLE
BEAM, COLUMN, SLAB, STAIR AND FOUNDATION LAYOUT PLAN AND REINFORCEMENT DETAILS

DATE:-12.08.2022
SCALE:-1:100,DR.2S-SHOWN
SHEET SIZE - A
SHEET NO. - 1 OF 1

Memo No.:-[illegible] 7/01/22- 83/ARE-1021
Dt.:-[illegible]

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Validity of the technically vetted Plan for three years
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