

PROPOSED DESIGN
OF
GBPS STANDARD MUSLIM
SECTOR-II RAWWALPINDI



PLANNERS CONSULTANTS ENGINEERS (PCE)

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LIST OF DRAWINGS

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CLIENT:



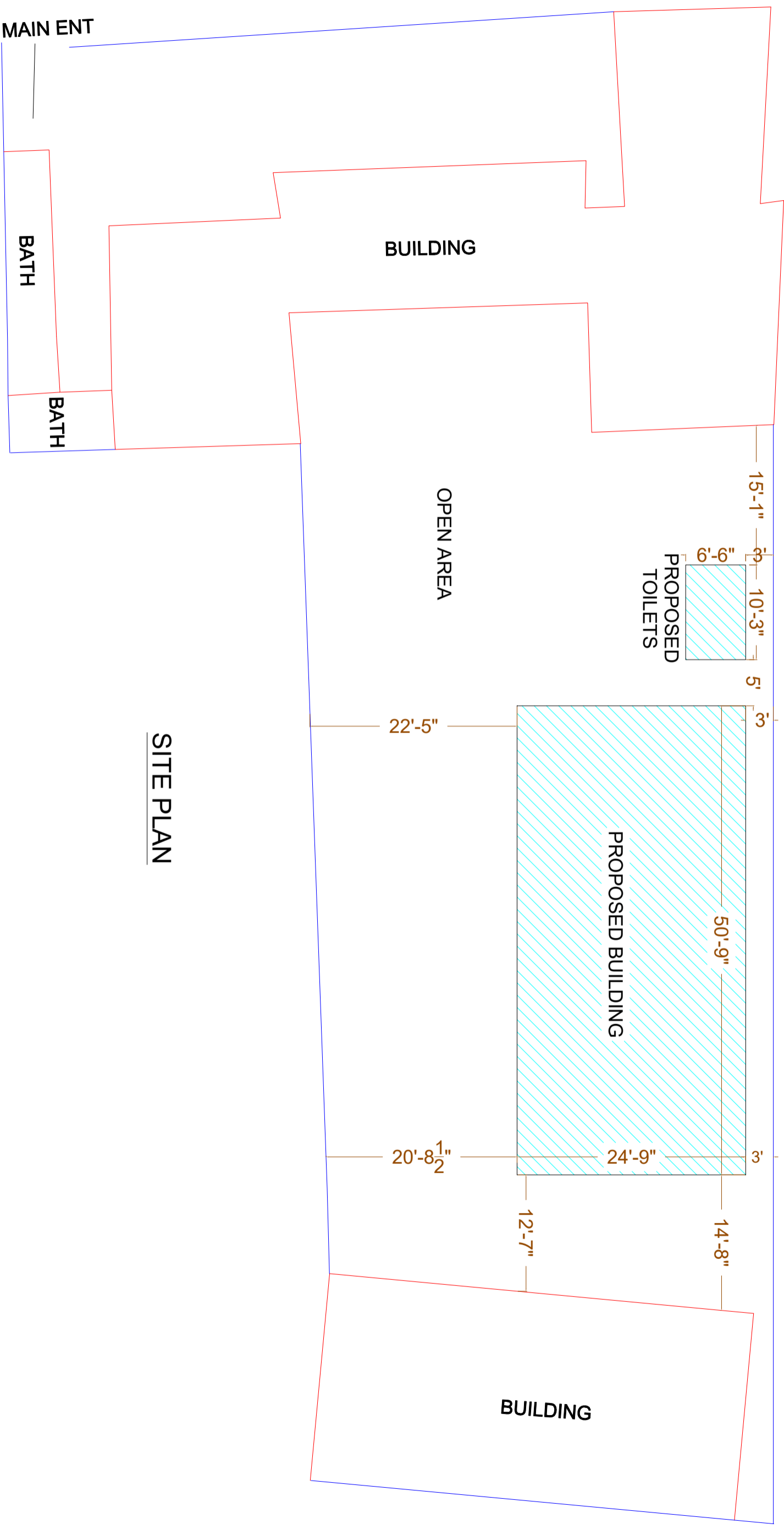
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SCHOOL NAME

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Date of Revision	Prepared By	ARCHITECT	ENGINEER
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	Approved By		

PROJECT:
 PREPARATION OF DESIGN DRAWINGS & BOOK
 FOR CONSTRUCTION/REHABILITATION OF SITES
TITLE:
 LIST OF DRAWINGS
DATE: SEP 2023
SCALE:
DRG. NO.: A-00



SITE PLAN

CLIENT:



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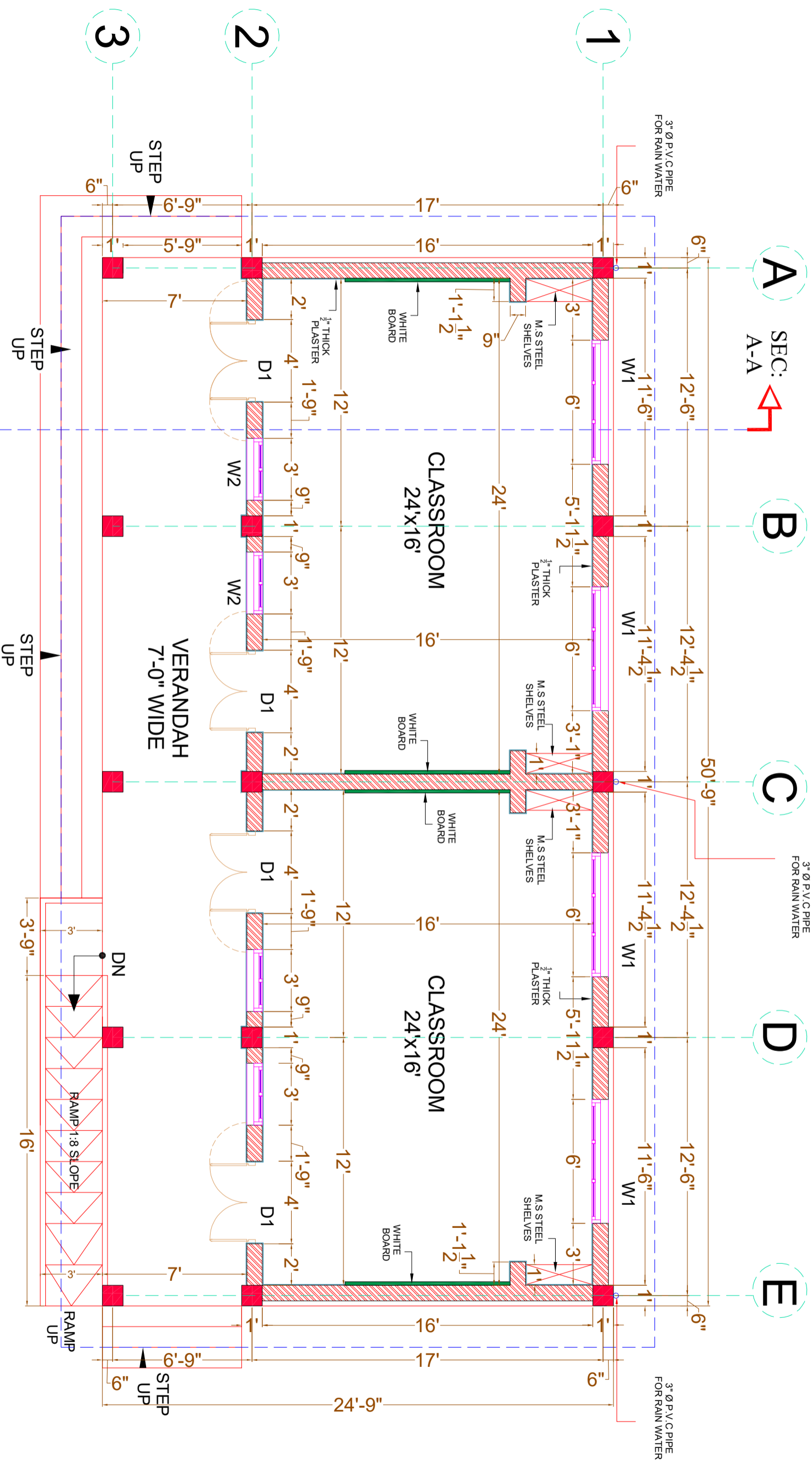
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 FOR CONSTRUCTION/ REHABILITATION OF SITES

DATE	SCALE	DRG. NO.
SEP 2023		A-01



SEC: A-A
 A-A

GROUND FLOOR PLAN

CLIENT:

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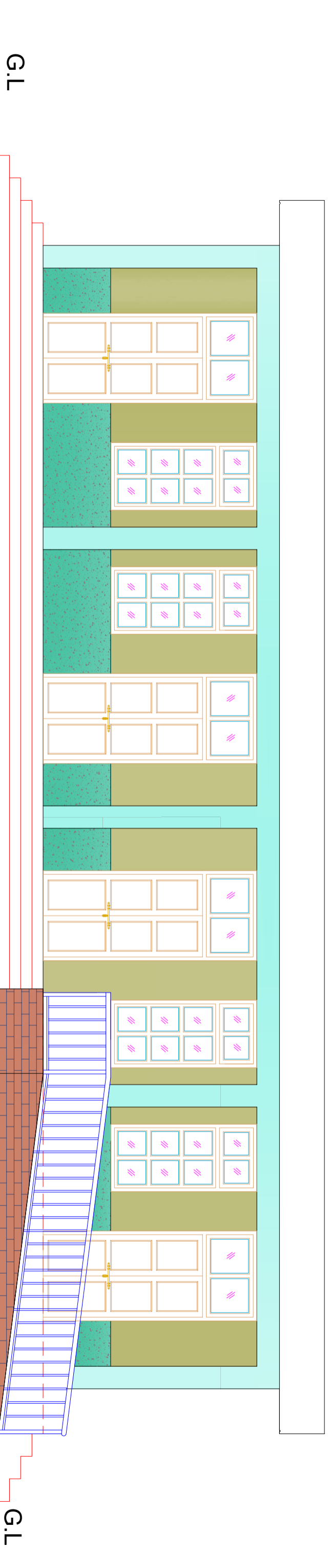
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	Designed By		TITLE:
	Checked By		GROUND FLOOR PLAN
	Approved By		DATE
			SEP 2023
			SCALE
			DRG. NO.
			A-02



FRONT ELEVATION

CLIENT:



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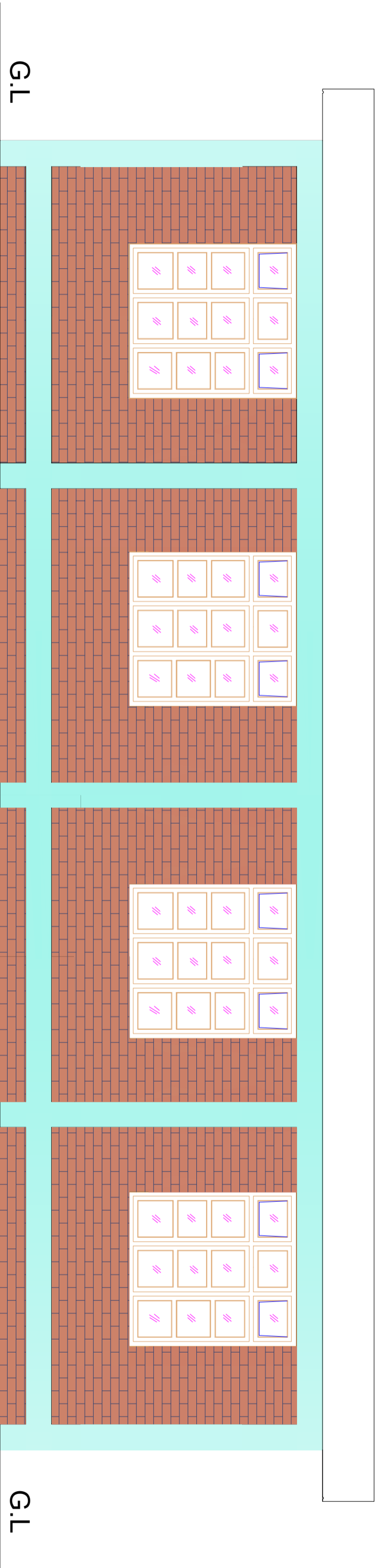
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PROJECT:
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 FOR CONSTRUCTION/ REHABILITATION OF SITES

DATE	SCALE	DRG.NO.
SEP 2023		A-03



REAR ELEVATION

CLIENT:



CONSULTANTS:

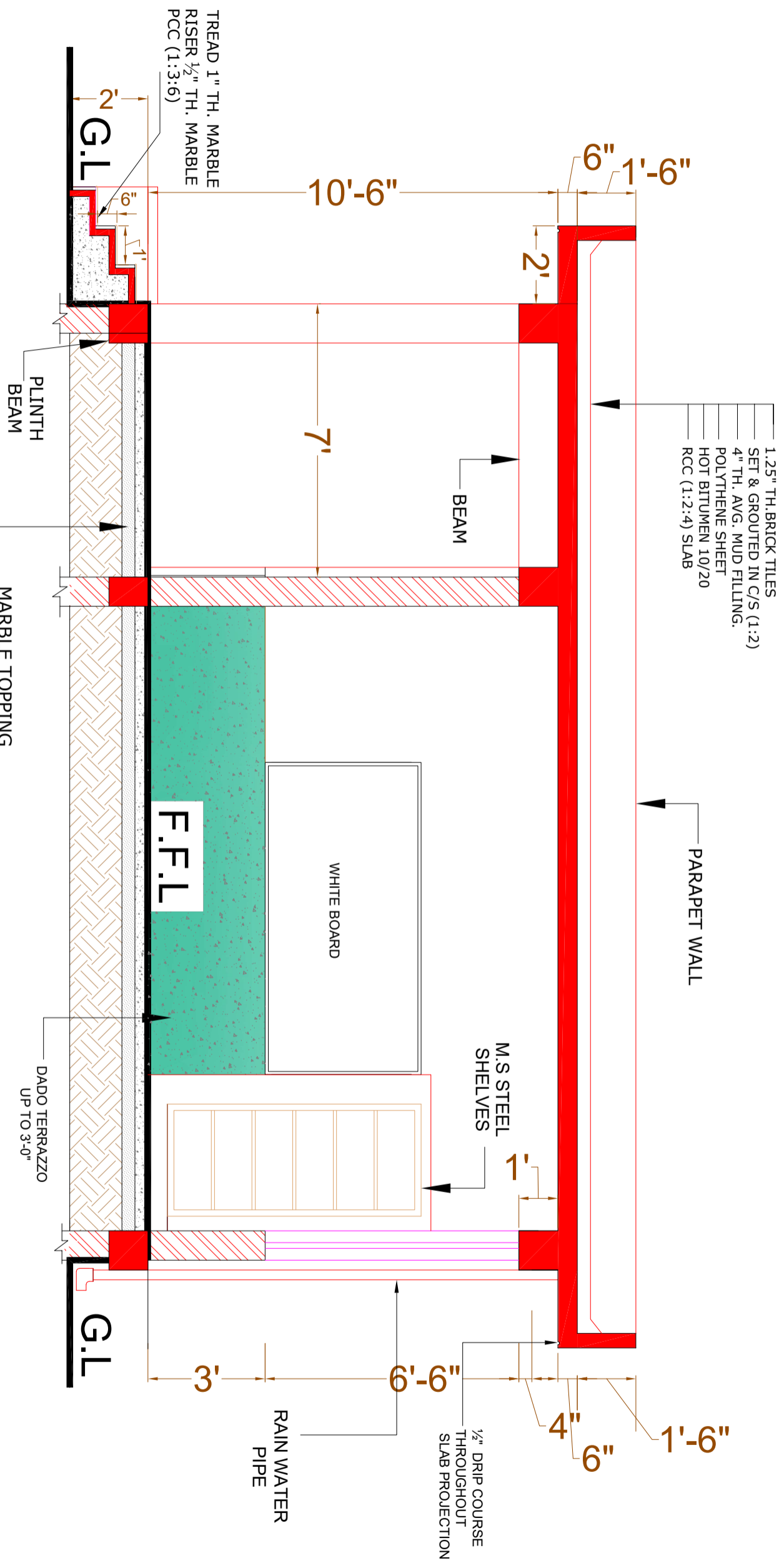


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	Checked By	MARWAT KHAN ORAKZAI (B. ARCHITECT, Karachi) (M. ARCHITECT, Lahore)	
	Approved By		
			TITLE: REAR ELEVATION
			DATE: SEP 2023
			SCALE
			DRG. NO. A-04



- 1.25" TH. BRICK TILES
- SET & GROUTED IN C/S (1:2)
- 4" TH. AVG. MUD FILLING.
- POLYTHENE SHEET
- HOT BITUMEN 10/20
- RCC (1:2:4) SLAB

SECTION AT A-A

CLIENT:



CONSULTANTS:

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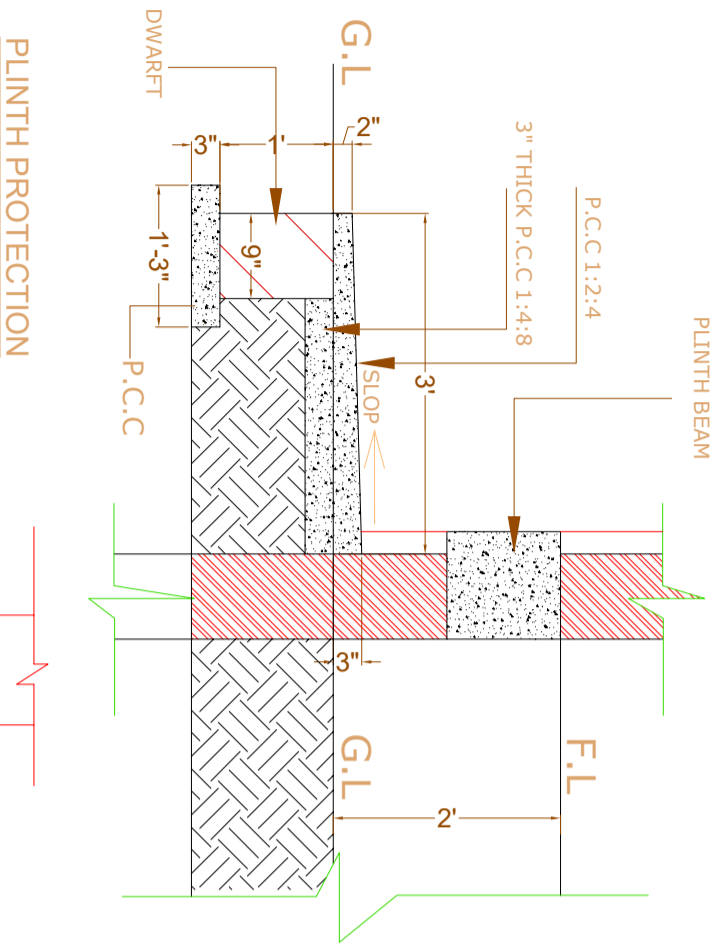
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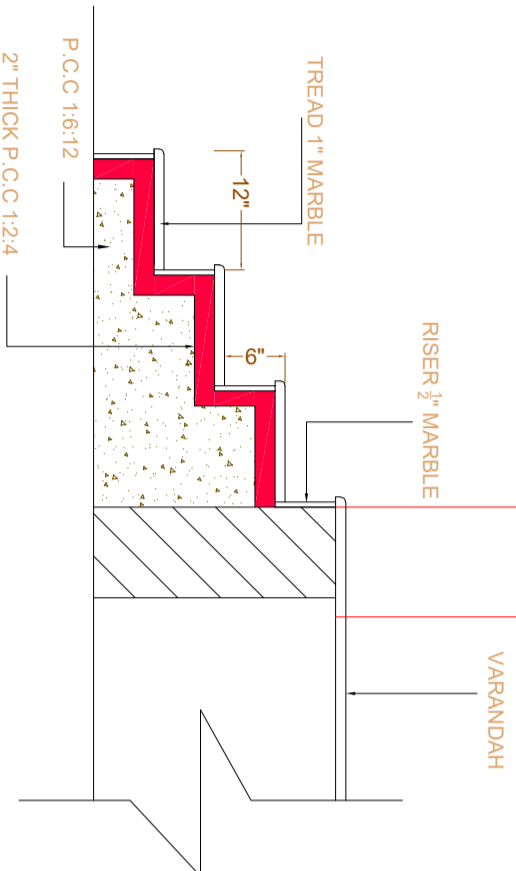
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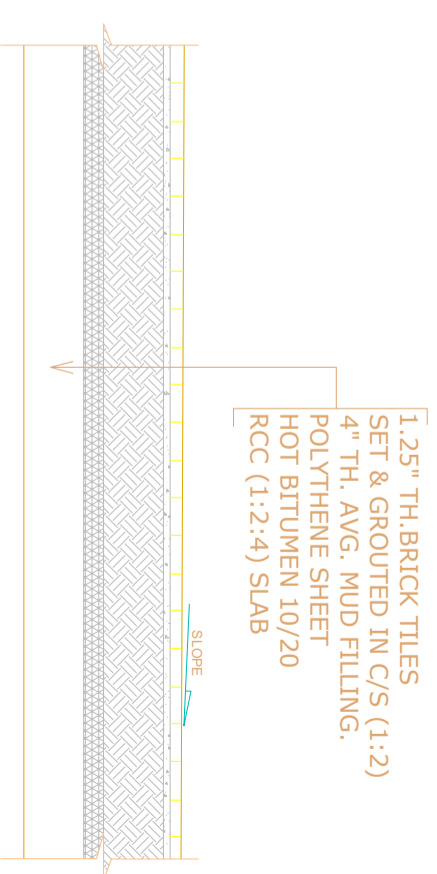
PROJECT:	DATE	SCALE	DRG. NO.
PREPARATION OF DESIGN DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES	SEP 2023		A-05
TITLE:			
SECTION AT A.A			



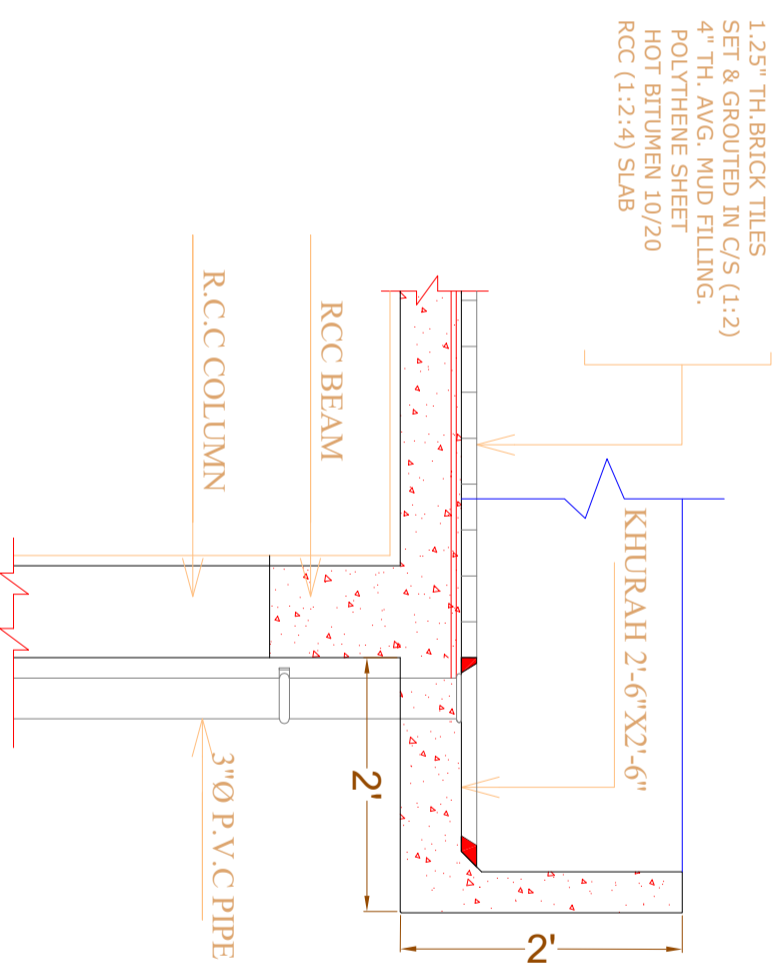
PLINTH PROTECTION



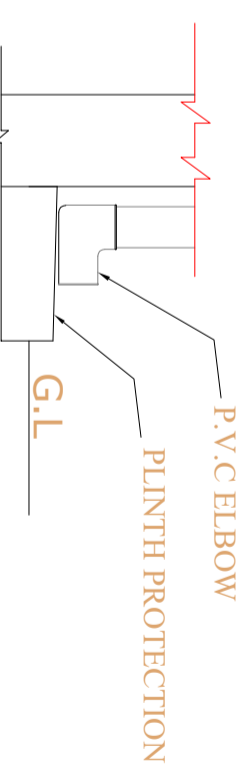
VERANDAH STEPS DETAILS



ROOF TREATMENT



RAIN WATER PIPE DETAIL



CLIENT:



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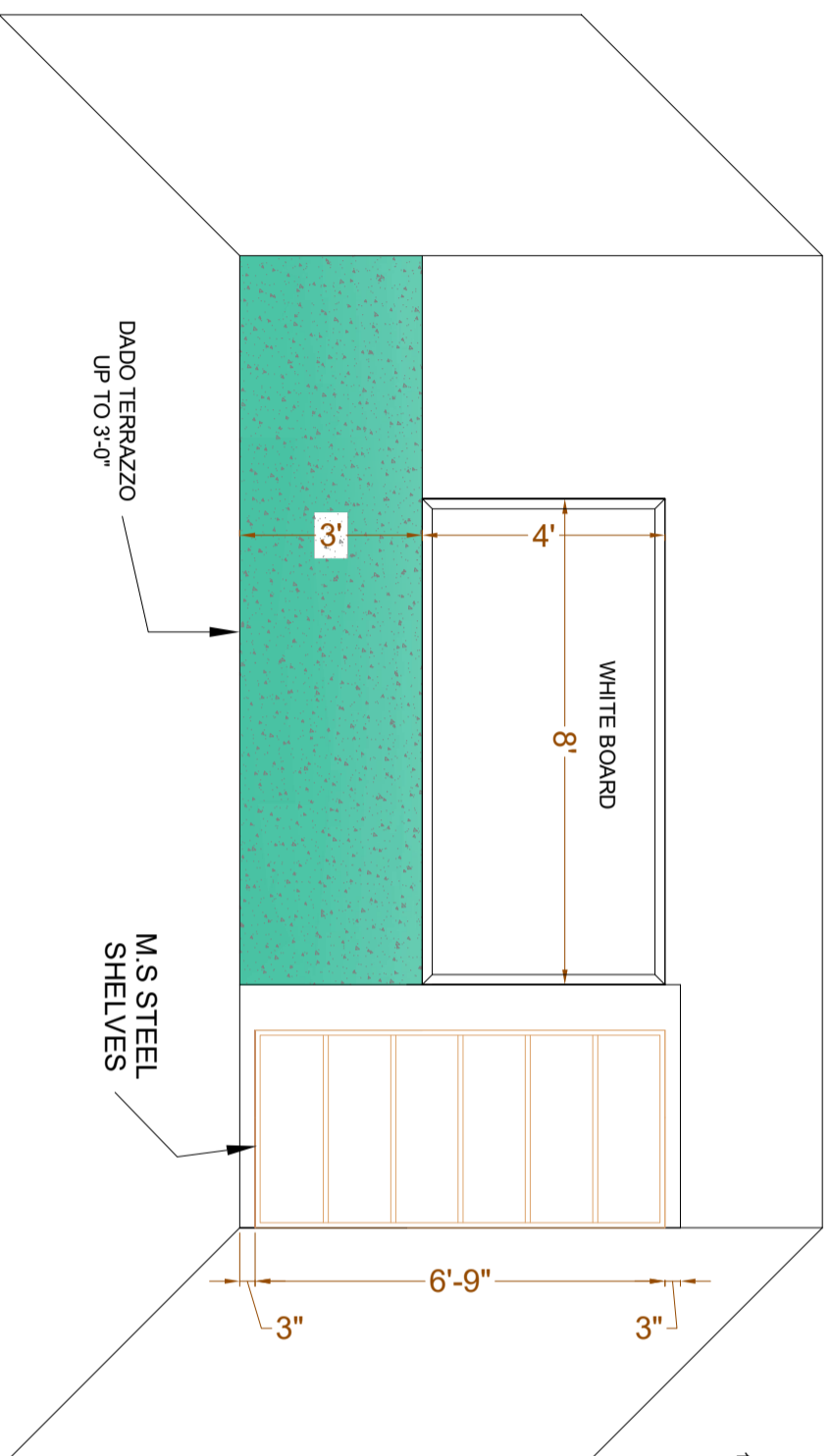
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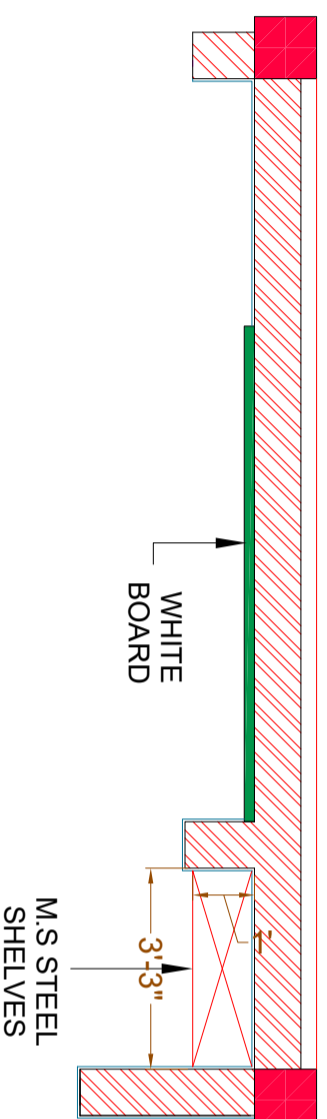
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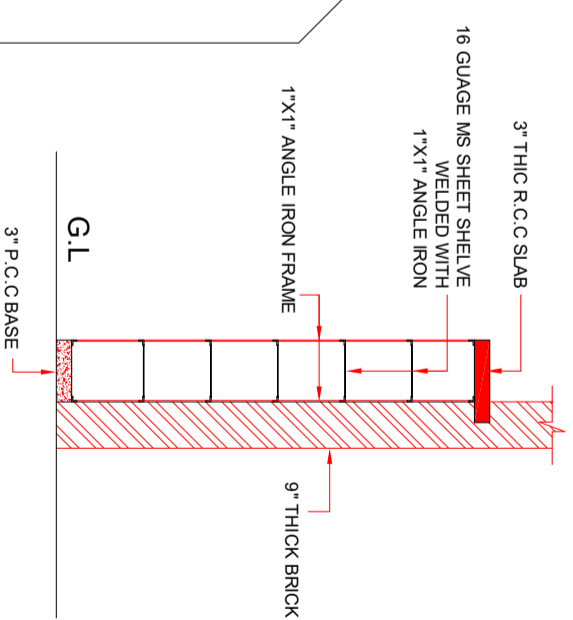
PROJECT:	DATE	SCALE	DRG.NO.
PREPARATION OF DESIGN DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES	SEP 2023		A-06
TITLE:			
PLINTH PROTECTION, RAIN WATER PIPE, AND ROOF TREATMENT DETAILS			



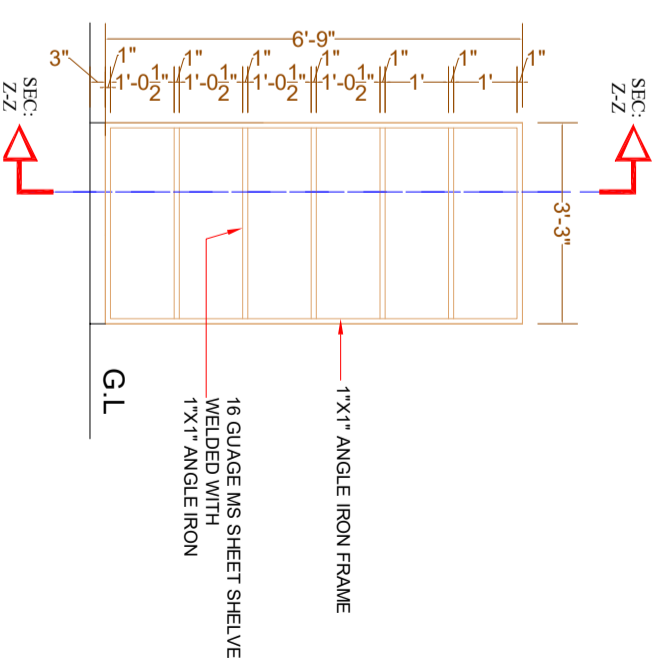
ELEVATION OF WHITE BOARD & CUPBOARD



PLAN OF WHITE BOARD & M.S STEEL SHELVES



SHELVES SECTION AT Z-Z



SHELVES ELEVATION

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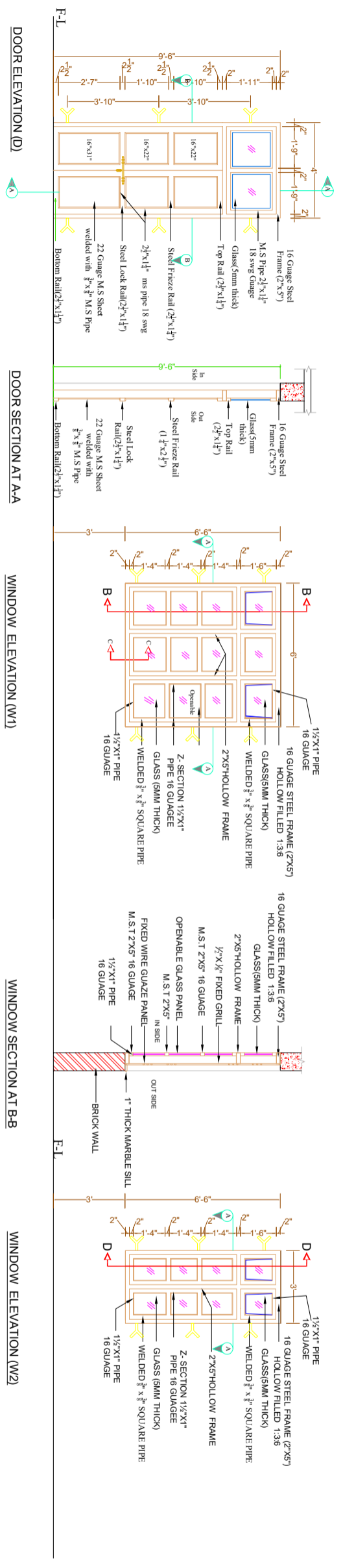
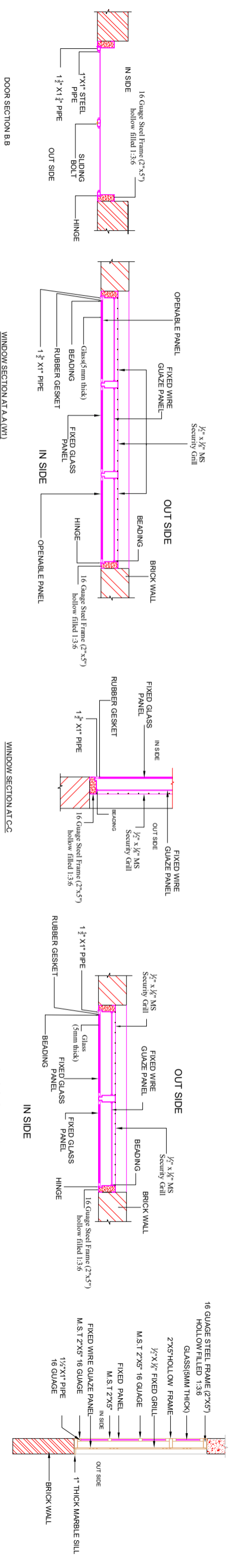
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PROJECT:		
PREPARATION OF DESIGN, DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES		
TITLE:	PLAN OF WHITE BOARD & M.S STEEL SHELVES	
DATE	SCALE	DRG. NO.
SEP 2023		A-07

SCHEDULE OF OPENING			
TYPE	SIZE	S-LEVEL	DESCRIPTION
D1	4'-0" X 9'-6"	0'-0"	STEEL
W1	6'-0" X 6'-6"	3'-0"	STEEL
W2	3'-0" X 6'-6"	3'-0"	STEEL



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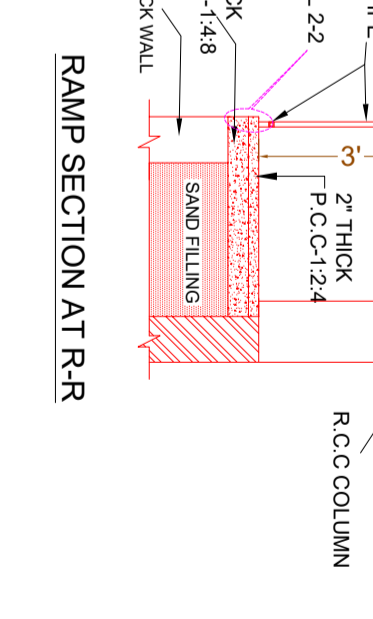
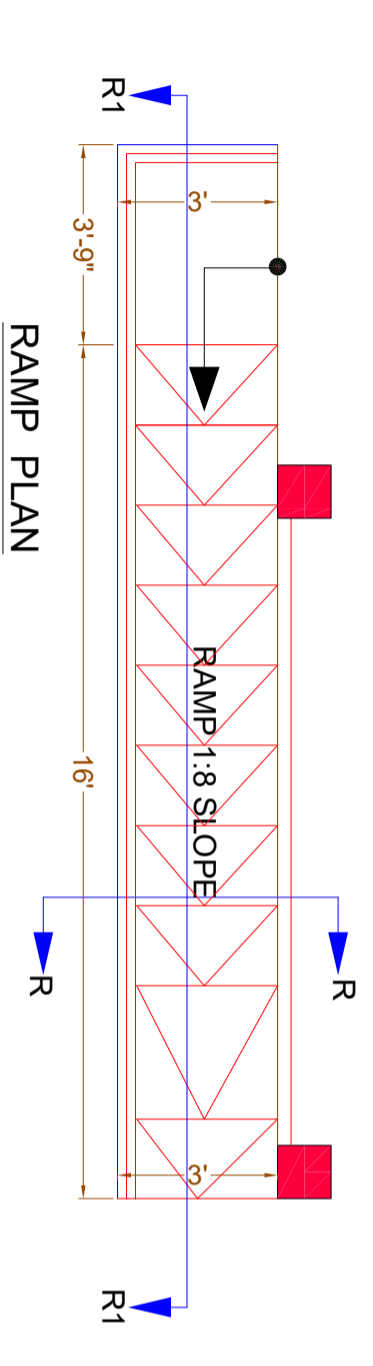
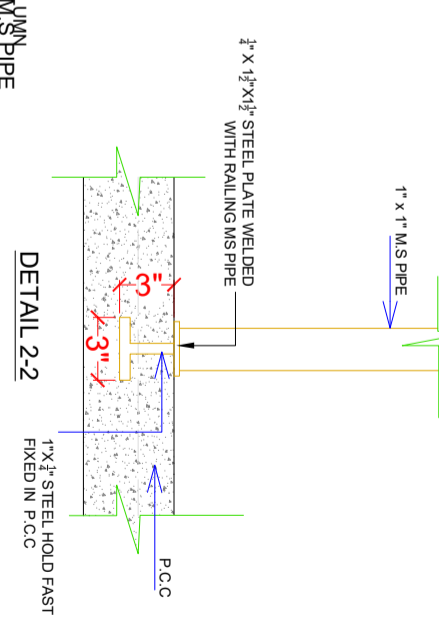
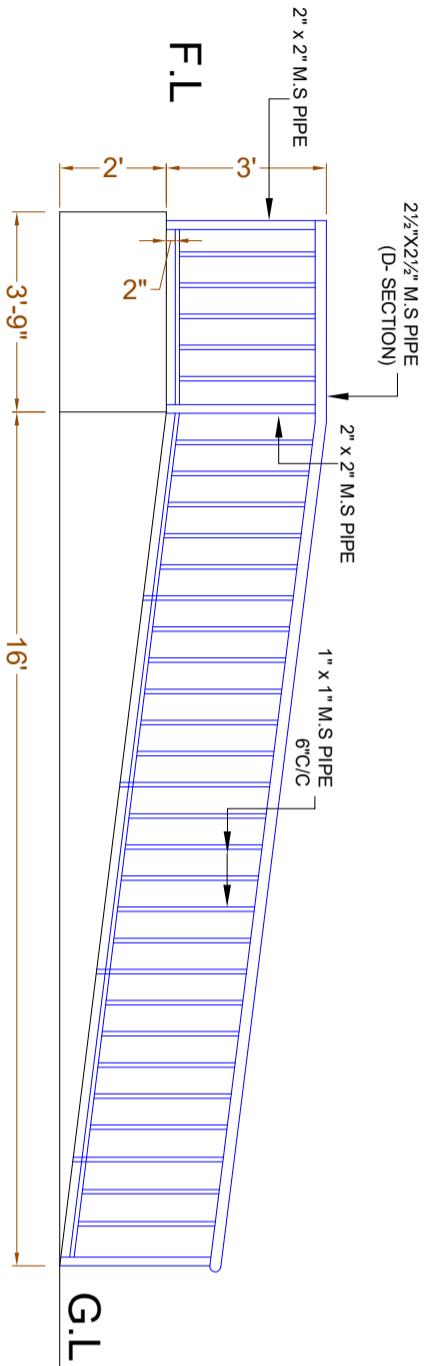
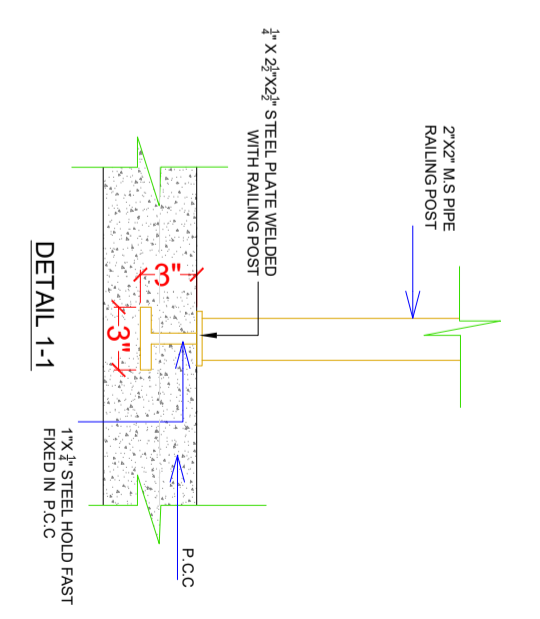
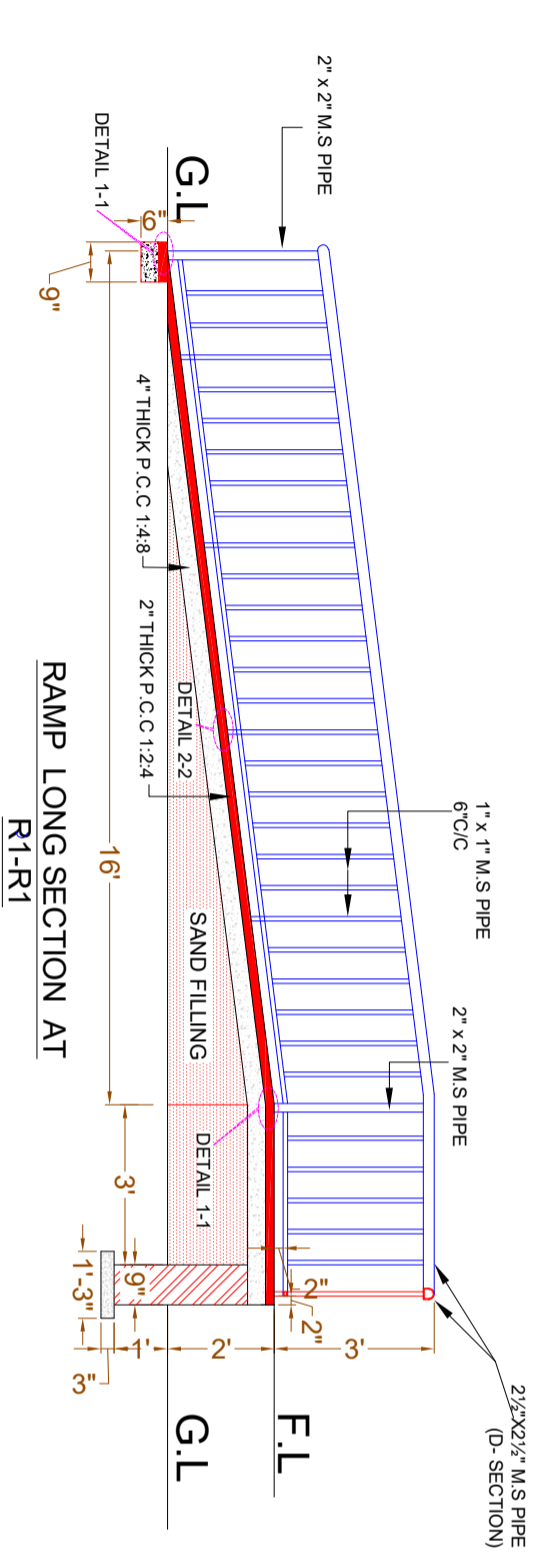
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GBPS STANDARD MUSLIM SECTOR-II RAWALPINDI		PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES	
Date of Revision	Prepared By	ARCHITECT	DOOR WINDOW DETAILS DATE: SEP 2023 SCALE: DRG.NO. A-08
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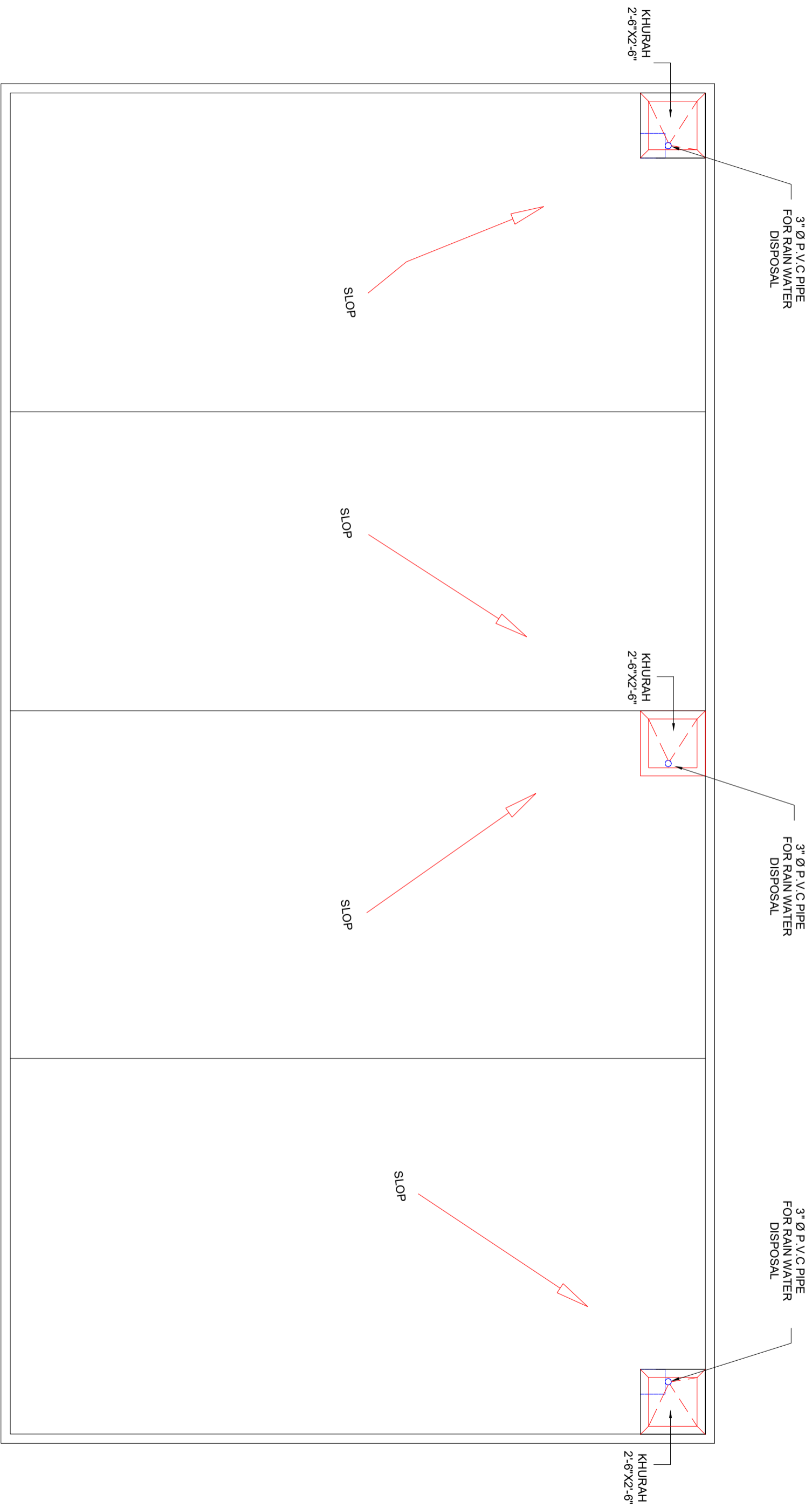
GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

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	Approved By	

PROJECT:

PREPARATION OF DESIGN, DRAWINGS & BOOKS
 FOR CONSTRUCTION/REHABILITATION OF SITES

DATE	SCALE	DRG. NO.
SEP 2023		A-09



TOP ROOF PLAN

CLIENT:



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	Checked By		TITLE: TOP ROOF PLAN
	Approved By		DATE: <i>SEP 2023</i>
			SCALE
			DRG.NO. A-10

**STRUCTURE DRAWING
OF
GBPS STANDARD MUSLIM
SECTOR-II RAWWALPINDI**

1. GENERAL

1. READ ALL DRAWINGS IN CONJUNCTION WITH ARCHITECTURAL, GEOTECHNICAL, PLUMBING, MECHANICAL, ELECTRICAL & ANY OTHER RELEVANT DRAWINGS.
2. NOTES GIVEN IN THIS DRAWING ARE APPLICABLE TO ALL DRAWINGS UNLESS MENTIONED OTHERWISE. NOTES WRITTEN ON A DRAWING, SHALL BE APPLICABLE TO THAT PARTICULAR DRAWING ONLY UNLESS OTHERWISE CROSS-REFERRED.
3. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE SPECIFICATIONS OF THE CONTRACT DOCUMENTS, IN ABSENCE OF ANY SPECIFICATIONS, ALL MATERIALS & WORKMANSHIP SHALL CONFORM TO RELEVANT ACI/BRITISH CODES AND SHALL BE SUBJECTED TO APPROVAL OF THE ENGINEER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE STRUCTURES DURING CONSTRUCTION. HE SHALL ALSO VERIFY ALL DIMENSIONS AND LEVELS BEFORE EXECUTION OF WORK. ANY DISCREPANCY, ERROR OR OMISSION, IF FOUND, SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER FOR CORRECTION AND APPROVAL.
5. THE CONTRACTOR SHALL CO-ORDINATE WITH VARIOUS SERVICES DRAWINGS FOR SIZES & LOCATION OF ALL STRUCTURAL MEMBERS, FLOORS, WALLS, OPENINGS, FLOOR FINISHES, PIPES ETC.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXECUTION OF DEWATERING SYSTEM WHERE SO REQUIRED DURING CONSTRUCTION.
7. ALL DIMENSIONS & LEVELS ARE IN FEET & INCHES.
8. DO NOT SCALE THE DRAWINGS. DIMENSIONS, GIVEN ON THE DRAWING, SHALL GOVERN.
9. ALL FABRICATION, PAINTING, ERECTION AND QUALITY CONTROL IS TO BE DONE IN ACCORDANCE WITH THE LATEST APPLICABLE ACI/BRITISH SPECIFICATIONS.
10. BACKFILLING AROUND FOUNDATIONS AND WALLS SHALL BE WELL COMPACTED LAYERS NOT EXCEEDING 6 INCHES IN THICKNESS.
11. IT IS STRONGLY RECOMMENDED TO RECONFIRM THE SITE PLAN BEFORE START OF EXECUTION AT SITE. THE SITE SHOULD BE EXAMINED FOR CLEARANCE WITH RESPECT TO LOCAL/SEISMIC HAZARDS.
12. THE CONTRACTOR SHALL INFORM THE ENGINEER ABOUT ANTICIPATED CONSTRUCTION LOADS IN THE STRUCTURE AND OBTAIN ENGINEER'S APPROVAL THEREOF BEFORE COMMENCING THE WORK.
13. THE CONTRACTOR SHALL VERIFY LAYOUT, CONFIGURATION, ALL DIMENSIONS AND LEVELS PERTAINING TO EXISTING WORKS BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL ADOPT ADEQUATE AND APPROPRIATE MEASURES SO AS NOT TO DAMAGE THE EXISTING WORKS.
14. THE CONTRACTOR SHALL EXERCISE UTMOST CARE AND PRECAUTION DURING THE WORKS, AGAINST ANY MISHAPS OR ACCIDENTS, FOR WHICH THE CONTRACTOR SHALL BE WHOLLY AND SOLELY RESPONSIBLE. THE CONTRACTOR SHALL INDEMNIFY THE OWNER AGAINST ANY ACCIDENTS AND ANY LOSSES THEREFROM AND SHALL REPAIR AND RECTIFY THEM AT HIS OWN COST AND TIME.
15. ANY DEPARTURES/DEVIATIONS DESIRED FROM THE DESIGN OR SPECIFICATIONS, OR SOLUTIONS TO ANY PROBLEMS ENCOUNTERED, SHALL BE GOT APPROVED FROM THE ENGINEER PRIOR TO IMPLEMENTATION. UNAPPROVED DEPARTURES/DEVIATIONS MAY LEAD TO REJECTION/REPLACEMENT OF THE ENTIRE WORK AT THE CONTRACTOR'S COST.
16. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS AND BAR BENDING SCHEDULES. THE ENGINEERS APPROVAL SHALL NOT RELIEVE THE APPROVAL BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY OF SHOP DRAWINGS AND BAR BENDING SCHEDULES. FOR ENGINEERS APPROVAL AND OBTAIN HIS CONTRACTOR FROM HIS RESPONSIBILITY.
17. The allowable bearing capacity of soil should be 11sf.

2. SHORING AND BRACING

1. SHORE & BRACE ALL PARTS OF THE STRUCTURE DURING CONSTRUCTION, TO THE EXTENT NECESSARY TO ENSURE COMPLETE SAFETY, STRENGTH & SERVICEABILITY OF ALL STRUCTURAL ELEMENTS UNDER ALL CONDITIONS OF LOADS WHICH MAY OCCUR DURING CONSTRUCTION. SUCH SHORING & BRACING IS THE CONTRACTOR'S SOLE RESPONSIBILITY AND IS NOT SHOWN ON STRUCTURAL DRAWINGS OR SPECIFIED IN THE PROJECT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY AND STABILITY OF THE SLOPES AND SHALL PROVIDE SHORING AND BRACING DURING EXCAVATION AND CONSTRUCTION, WHEREVER AND WHENEVER REQUIRED.
3. SEQUENCE OF REMOVAL OF FORMWORK SHALL BE APPROVED BY THE ENGINEER.
4. AT LEAST ONE LOWER FLOOR SHALL REMAIN PROPPED UNTILL THE UPPER FLOOR IS CAST AND CURED.

3. REINFORCED CONCRETE

1. STRUCTURAL DESIGN IS BASED ON THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE OF AMERICAN CONCRETE INSTITUTE (ACI 318).
2. ALL STRUCTURAL CONCRETE SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE (ACI) REQUIREMENTS.
3. CONCRETE MIX TO BE DESIGNED ON THE BASIS OF ACI 211 OR EQUIVALENT. TRIAL STRENGTH RESULTS TO BE SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BEFORE CONCRETING.
4. NO CONCRETING SHALL BE CARRIED OUT UNTIL PERMISSION IS GIVEN IN WRITING OR APPROVED BY STRUCTURE ENGINEER.
5. ALL CONCRETE SHALL BE TESTED IN ACCORDANCE WITH ASTM STANDARDS C31, C39, C173 & AS WRITTEN IN SPECIFICATIONS AND THE MINIMUM CYLINDER CRUSHING STRENGTH OF CONCRETE AT 28 DAYS SHALL BE AS FOLLOWS. TESTING OF CLASS D & E CONCRETE SHALL BE PERFORMED IF SO SHAHEED CHAWK EXACT, NEAR ALFALAH FURNITURE LOWER DIRECTED BY THE ENGINEER.

CLASS	MIN. CYLINDER CRUSHING STRENGTH AT 28 DAYS (psi).
A	4000
B	3000
C	2400
D	1200
E	800

6. CLASS OF CONCRETE FOR DIFFERENT COMPONENTS OF THE STRUCTURE SHALL BE AS FOLLOWS UNLESS NOTED OTHER WISE:

COMPONENT	CONCRETE CLASS
COLUMNS	CLASS 'A'
SLABS, BEAMS, FOUNDATION	CLASS 'B'
RCC WALLS	CLASS 'D'
PCC STEPS,	CLASS 'E'
LEAN / BLINDING CONCRETE	CLASS 'E'

7. ORDINARY PORTLAND CEMENT SHALL BE USED FOR ALL CONCRETE WORKS.
8. AN INTEGRAL WATER PROOFING AGENT SHALL BE USED IN CONCRETE THAT IS CONSTANTLY OR INTERMITTENTLY IN CONTACT WITH WATER AS PER MANUFACTURER'S RECOMMENDATIONS (GENCON GENPRUF RMC OR PENETRON ADMIX OR EQUIVALENT).
9. ALL DETAILING SHALL BE DONE AS PER ACI STANDARDS ACI-315, ACI-318 & ACI-350R.

STRUCTURAL ELEMENT	COVER (INCHES)
FOOTINGS	2"
BEAMS	1 1/2"
COLUMNS	1 1/2"
SLABS	3/4"

4. REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM-A615 GRADE 60 HAVING A MINIMUM YIELD STRENGTH OF 60,000 PSI. FOR STIRRUPS, TIES AND #3 BARS USE ASTM A615.
 2. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED STRENGTH BY MORE THAN 18,000 PSI (RETENTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000 PSI)
 3. THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRENGTH TO THE ACTUAL TENSILE YIELD STRENGTH IS NOT LESS THAN 1.25
- L-GREATER CLEAR SPAN, db-DIAMETER OF BAR, d-EFFECTIVE DEPTH THE FIRST HOOP SHALL BE LOCATED NOT MORE THAN 2" FROM THE FACE OF THE SUPPORTING MEMBER.
- WHERE:

7. ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED IN THE FORMS AND HELD FIRMLY IN PLACE BEFORE & DURING THE PLACEMENT OF CONCRETE, BY MEANS OF WIRE AND SUPPORTS ADEQUATE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION.
8. LINTELS ARE EXTENDED AT 9 (INCHES) FROM BOTH SIDES OF OPENING.
9. PROVIDE 135° HOOK IN ADJACENT STIRRUPS ON ALTERNATE SIDES.

5. CONCRETE CONSTRUCTION

1. ALL STRUCTURAL SURFACES, AGAINST WHICH EARTH IS TO BE FILLED, SHALL BE COATED WITH TWO COATS OF HOT BITUMEN OF 10/20 GRADE AT THE RATE OF 0.2 lbs/ft²/coat.
2. PROVIDE POLYETHENE SHEET OVER TWO COATS OF HOT BITUMEN AT TOP OF PLINTH BEAM/DPC FOR EXTERIOR WALLS.
3. BEFORE CASTING OF ANY STRUCTURAL MEMBER, THE CONTRACTOR SHALL ENSURE THAT ALL EMBEDDED ITEMS FOR ELECTRICAL, MECHANICAL, HVAC, PLUMBING, STRUCTURAL STEEL AND OTHER WORKS ARE PROPERLY LOCATED AND FIRMLY SECURED IN PLACE.
4. DURING CONSTRUCTION, STACKING OF CONSTRUCTION MATERIALS, BLOCKS, etc. SHOULD BE AVOIDED ON SLAB PANELS.

6. BRICK WORK

1. ALL BRICK WORK SHALL CONFORM TO SPECIFICATIONS GIVEN IN THE CONTRACT DOCUMENT.
2. ALL BRICK SHALL BE SOUND, HARD, WELL BURNT AND OF UNIFORM SIZE, COLOUR AND TEXTURE. DIMENSIONAL VARIATION IN SIZES SHALL NOT EXCEED 1/8". BRICKS SHOULD BE IN ACCORDANCE WITH SPECIFICATIONS AND SHOULD CONFIRM TO ASTM C62.
3. ALL BRICK WORK SHALL BE ERECTED PLUMB AND TRUE TO LINE AND LEVEL. THE MAXIMUM VARIATION IN ANY STOREY HEIGHT OR ANY LENGTH OF WALL SHALL BE 1/8" IN 10'-0".
4. MORTAR USED IN MASONRY CONSTRUCTION SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF NOT LESS THAN 12 MPa (1800psi) AND SHALL CONFORM TO ASTM C270.
5. COMPRESSIVE STRENGTH OF BRICK MASONRY AVERAGE OF 5 UNITS AT 28 DAYS SHALL NOT BE LESS THAN AS SPECIFIED IN SPECIFICATION AND SHALL CONFORM TO RELEVANT ASTM STANDARD.
6. ALL DESIGN, DETAILING, MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH RELEVANT ACI, ASTM, AND UBC CODES AND STANDARDS.
7. BRICK SHALL BE LAID "FROG" UPWARD WITH MORTAR JOINT AND IN ENGLISH FLEMISH BOND OR AS SHAHEED CHAWK EXACT, NEAR ALFALAH FURNITURE LOWER DIRECTED BY THE ENGINEER.
8. BRICKS SHOULD BE SOAKED WITH WATER PROPERLY BEFORE USE.
9. VERTICAL JOINTS SHOULD BE STAGGERED.
10. ALL MASONRY WALLS SHALL BE ANCHORED TO STRUCTURAL FRAME WORK AS INDICATED ON THE DRAWINGS

CLIENT:



CONSULTANTS:

PLANNERS CONSULTANTS ENGINEERS (PCE)

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SCHOOL NAME

GBPS STANDARD MUSLIM
SECTOR-II RAWALPINDI

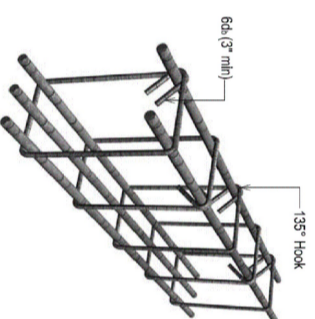
Date of Revision	Prepared By	DATE	SCALE	DRG.NO.
	Designed By			
	Checked By			
	Approved By			
	DATE	SEP 2023		

PROJECT: PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES

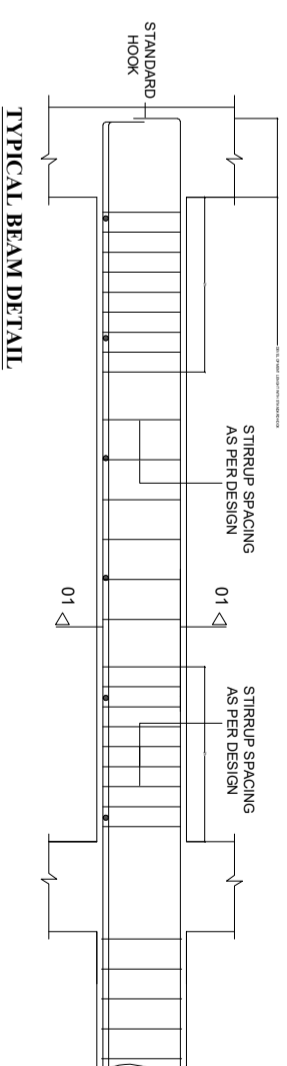
TITLE: GENERAL NOTES

7. CONSTRUCTION JOINTS

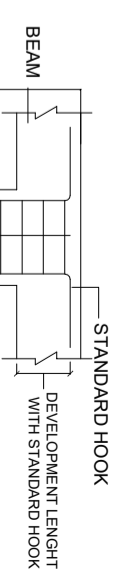
1. JOINTS, NOT SHOWN ON THE DRAWING, SHALL BE SO MADE AND LOCATED AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL NEED PRIOR APPROVAL OF THE ENGINEER. THEY SHALL BE LOCATED NEAR THE MIDDLE OF THE SPANS OF SLAB & BEAMS. JOINTS IN WALLS & COLUMNS SHALL BE AT THE UNDERSIDE OF FLOORS, SLABS OR BEAMS AND AT THE TOP OF FOOTINGS OR FLOOR SLABS.
2. JOINTS SHALL BE PERPENDICULAR TO MAIN REINFORCEMENT. ALL REINFORCING STEEL SHALL BE CONTINUED ACROSS THE JOINTS.
3. JOINTS IN BASE SLAB & WALLS AND ROOF SLAB, IN ADDITION TO THOSE SHOWN ON THE DRAWINGS SHALL BE BORNE BY THE CONTRACTOR. BEAMS & BRACKETS SHALL BE PLACED AT THE SAME TIME AS SLABS.



SEISMIC HOOK DETAILS



TYPICAL BEAM DETAIL



TYPICAL COLUMN DETAIL

DEVELOPMENT LENGTH IN TENSION (ACI 21.5.4.1)

BAR DIA	DEVELOPMENT LENGTH (INCHES) $f_c' = 4,000$ psi $f_y = 60,000$ psi	STRAIGHT BARS WITH STANDARD HOOK
3/8"	18	7.5
1/2"	24	9.5
3/4"	30	14.5
1"	48	19

SPLICE LENGTH (ACI 21.3.2.4, Class B Splice)

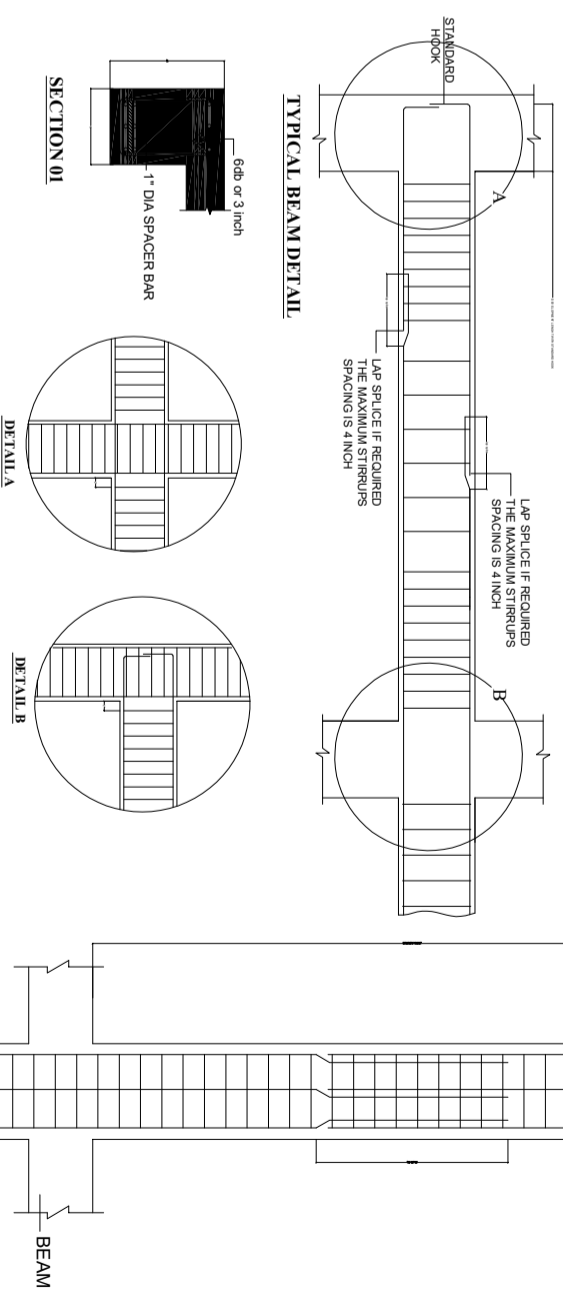
BAR DIA	MINIMUM SPLICE LAP LENGTH (INCHES) $f_c' = 3,000$ psi $f_y = 40,000$ psi	TENSION	COMPRESSION
3/8"	15	-	-
1/2"	20	9	9
3/4"	30	15	15
1"	48	18	18

DEVELOPMENT LENGTH IN TENSION (ACI 21.5.4.1)

BAR DIA	DEVELOPMENT LENGTH (INCHES) $f_c' = 3,000$ psi $f_y = 60,000$ psi	STRAIGHT BARS WITH STANDARD HOOK
1/2"	22	11"
5/8"	30	14"
3/4"	34	17"
1"	55	22"

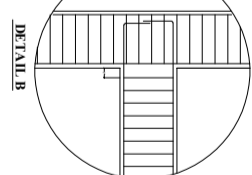
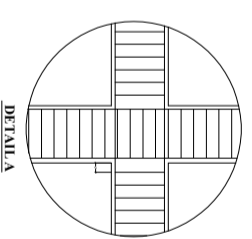
SPLICE LENGTH (ACI 21.3.2.4, Class B Splice)

BAR DIA	MINIMUM SPLICE LAP LENGTH (INCHES) $f_c' = 3,000$ psi $f_y = 60,000$ psi	SLAB	BEAM / COLUMN
1/2"	25	35	35
5/8"	-	44	44
3/4"	-	55	55
1"	-	70	70



TYPICAL BEAM DETAIL

SECTION 01



TYPICAL COLUMN DETAIL

CLIENT:



CONSULTANTS:



PLANNERS CONSULTANTS ENGINEERS (PCE)

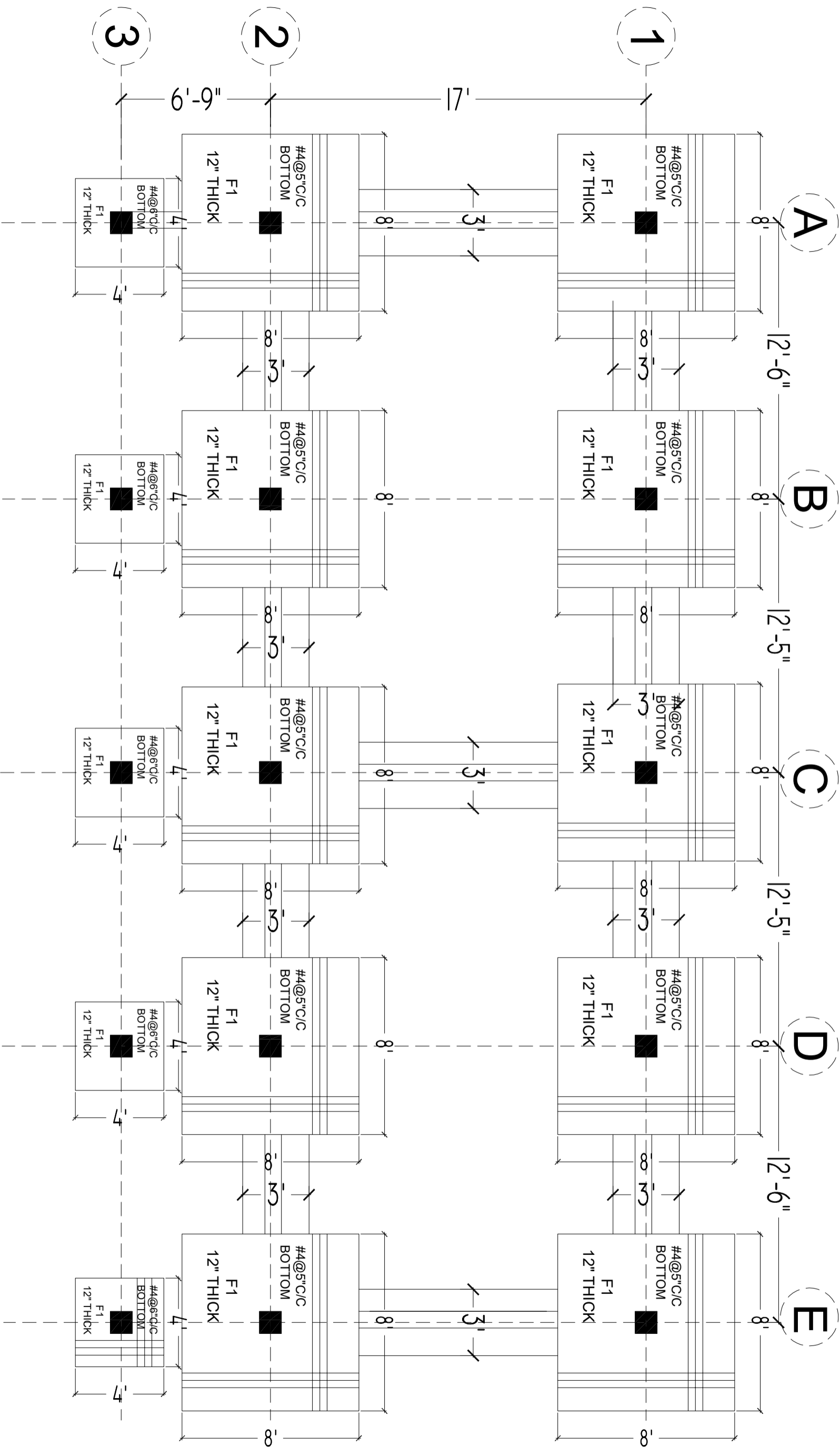
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	Designed By	
	Checked By	
	Approved By	

PROJECT:		
PREPARATION OF DESIGN DRAWINGS & BOQS FOR CONSTRUCTION/ REHABILITATION OF SITES		
TITLE:		
GENERAL NOTES		
DATE	SCALE	DRG. NO.
SEP 2023		S-02



FOUNDATION PLAN

CLIENT:

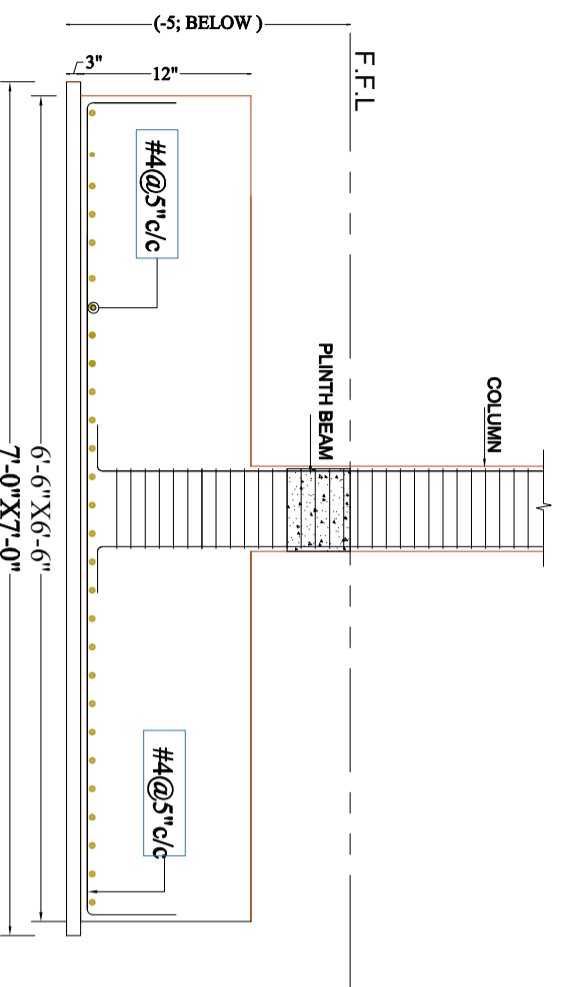


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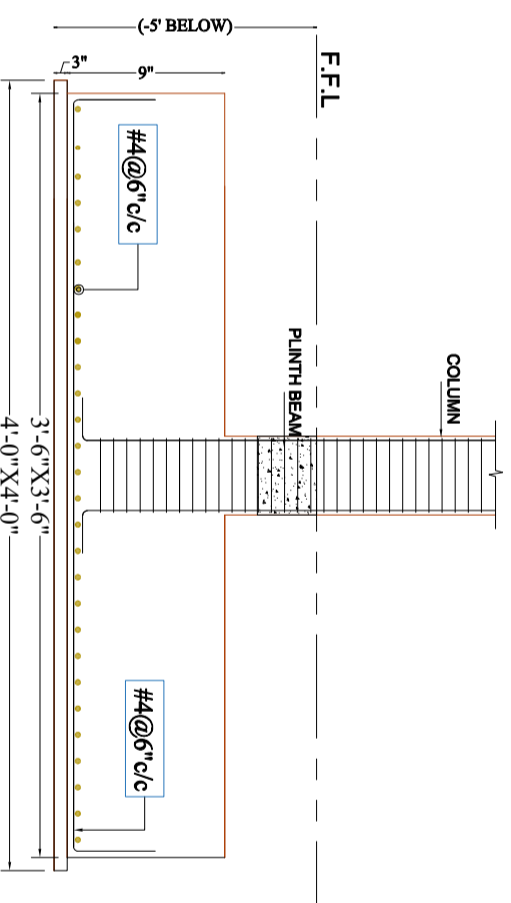
SCHOOL NAME

GBPS STANDARD MUSLIM
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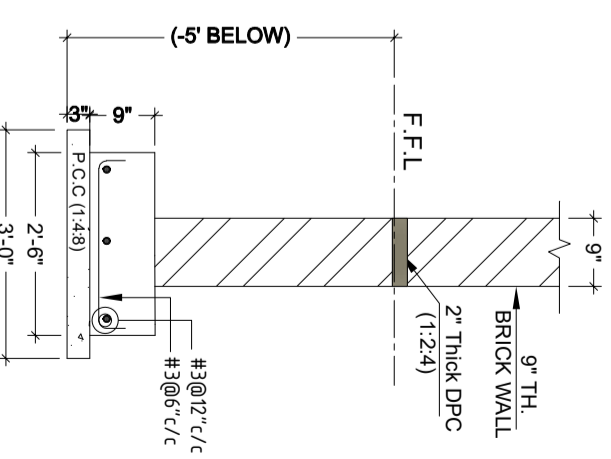
Date of Revision	Prepared By	PROJECT:
	FAKID KHAN KIYAN HAIDER STRUCTURE ENGINEER:	PREPARATION OF DESIGN DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES
	Designed By	TITLE:
	Checked By	FOUNDATION PLAN
	Approved By	DATE: SEP 2023
		SCALE
		DRG.NO. S-03



SECTION 1-1



SECTION 2-2



SECTION 3-3

CLIENT:



CONSULTANTS:



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	Approved By	

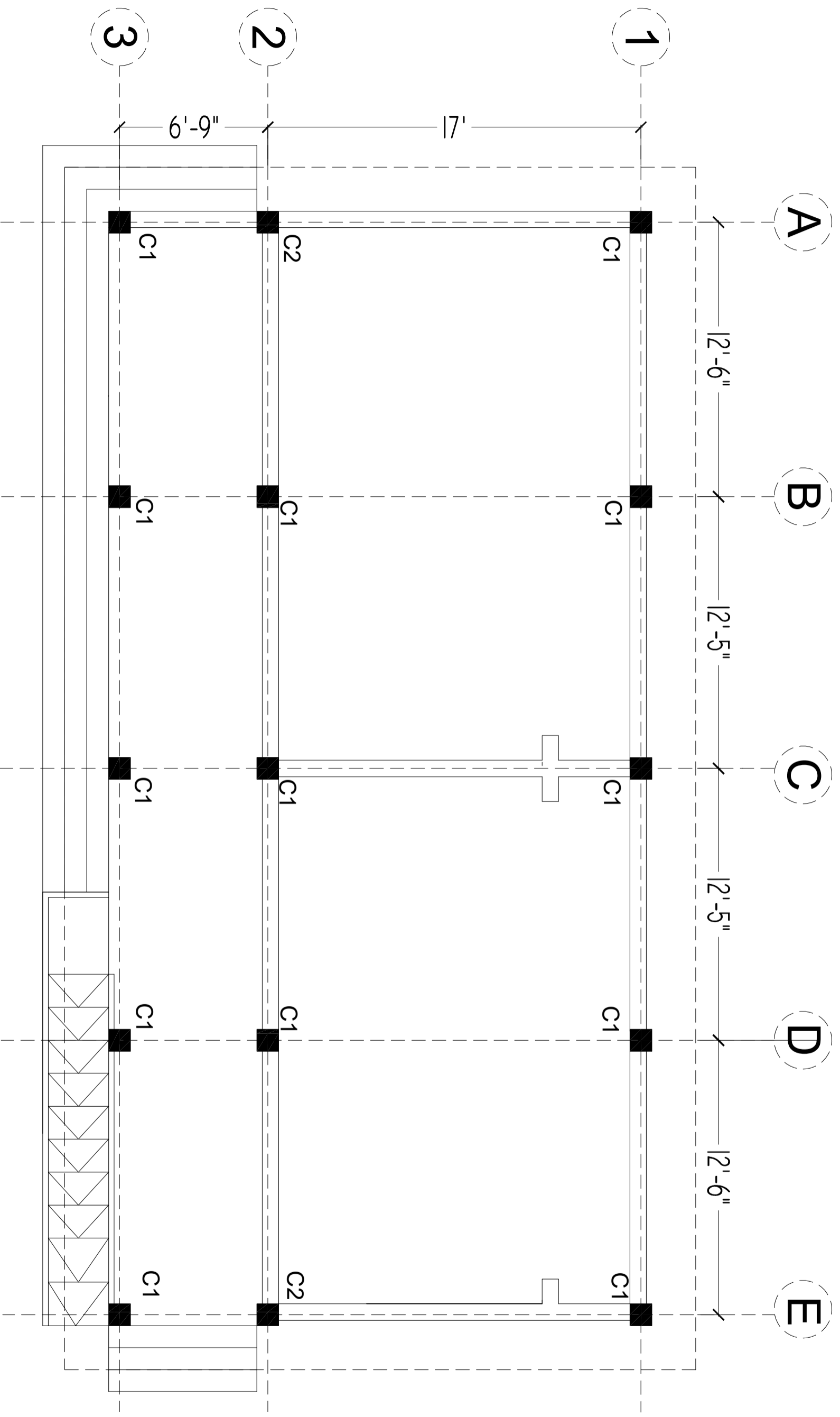
PROJECT:

PREPARATION OF DESIGN DRAWINGS & BOOKS
 FOR CONSTRUCTION/REHABILITATION OF SITES

TITLE:

FOUNDATION SECTION DETAIL

DATE	SCALE	DRG. NO.
SEP 2023		S-04



GROUND FLOOR COLUMN LAYOUT PLAN

CLIENT:



The UN Refugee Agency

CONSULTANTS:



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 KHAN HAIDER
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PREPARATION OF DESIGN DRAWINGS & BOQS
 FOR CONSTRUCTION/REHABILITATION OF SITES

Designed By

Engr. HUMZA AHMAD

TITLE:

GROUND FLOOR COLUMN LAYOUT PLAN

Checked By

Approved By

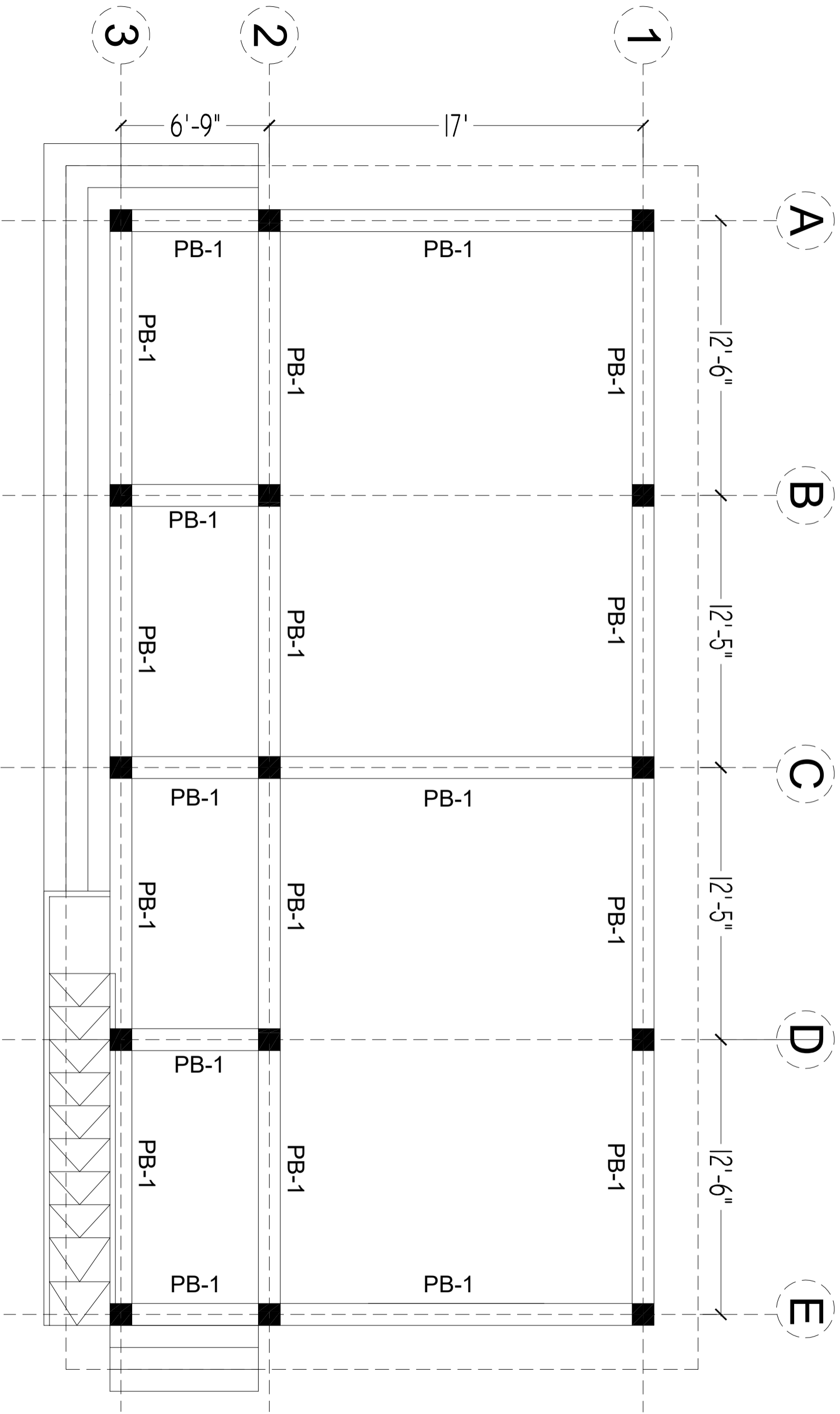
DATE

SEP 2023

SCALE

DRG.NO.

S-05



PLINTH BEAM PLAN

CLIENT:



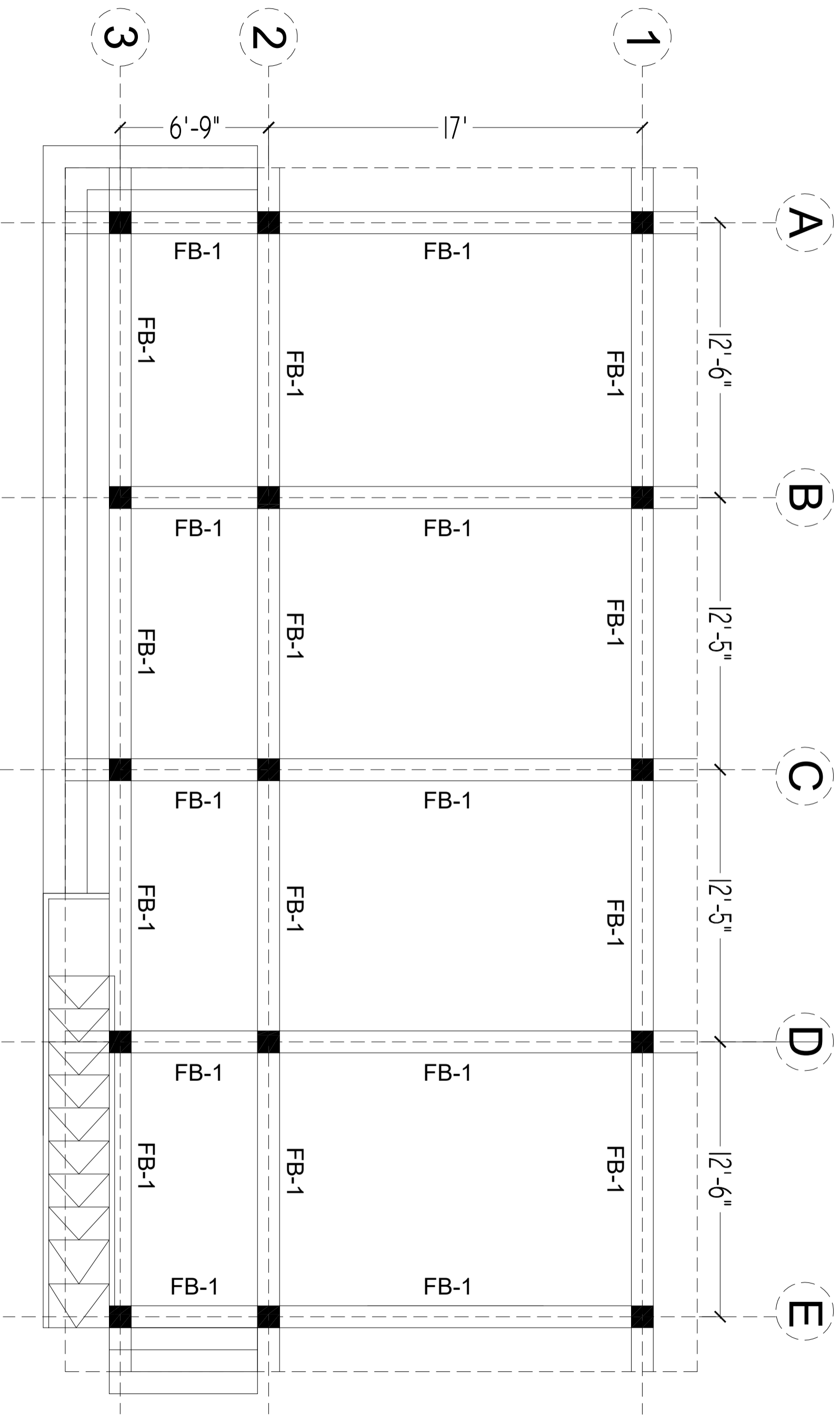
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	Approved By	

PROJECT:	PREPARATION OF DESIGN, DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES
TITLE:	PLINTH BEAM PLAN
DATE	SEP 2023
SCALE	
DRG. NO.	S-06



GROUND FLOOR BEAM PLAN

CLIENT:



CONSULTANTS:



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SCHOOL NAME

GBPS STANDARD MUSLIM
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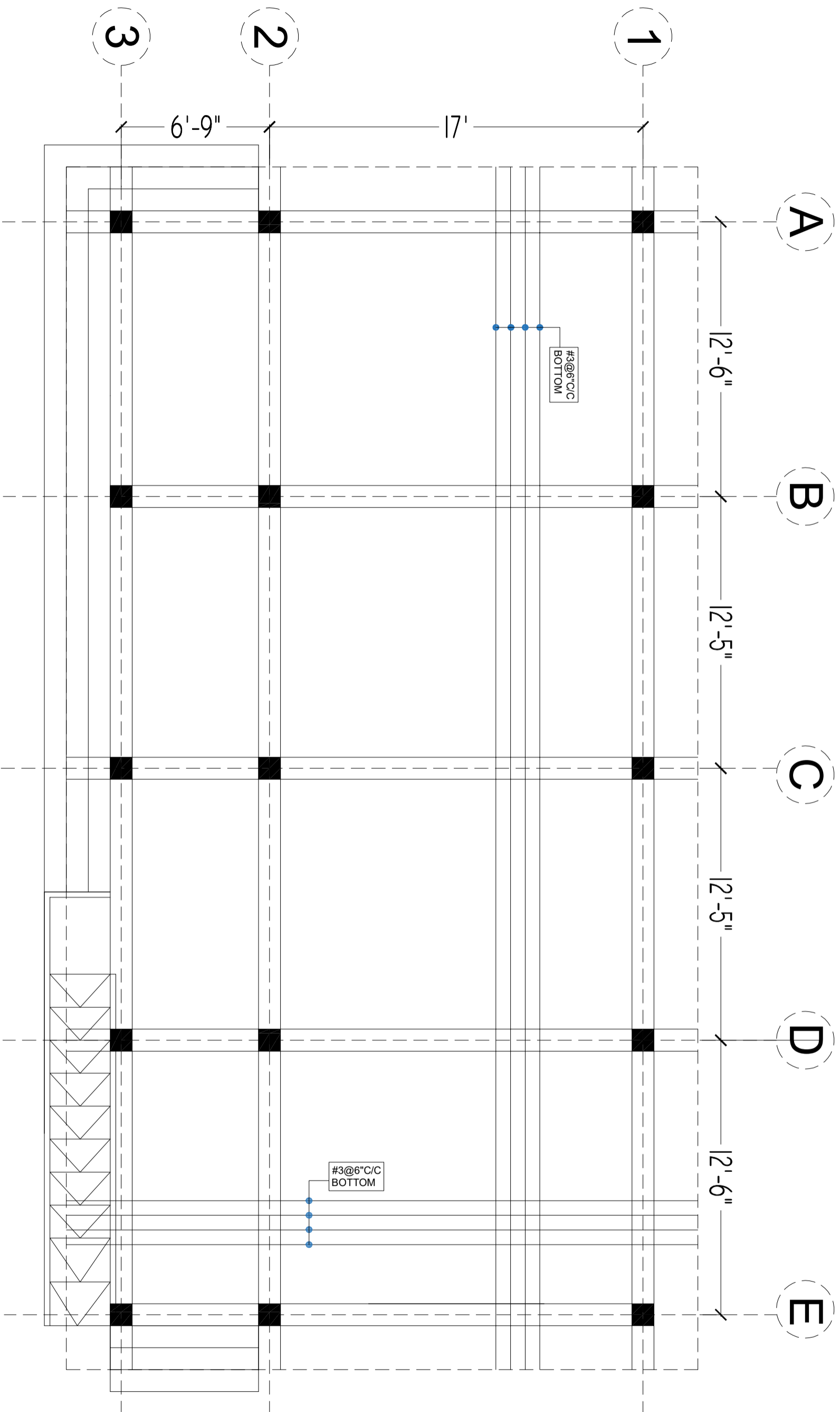
Date of Revision	Prepared By	FAHAD KHAN KIYAN HAJDER STRUCTURE ENGINEER
	Designed By	Engr. HUMZA AHMAD
	Checked By	
	Approved By	

PROJECT:

PREPARATION OF DESIGN, DRAWINGS & BOQS
 FOR CONSTRUCTION/REHABILITATION OF SITES



TITLE:
 GROUND FLOOR BEAM PLAN

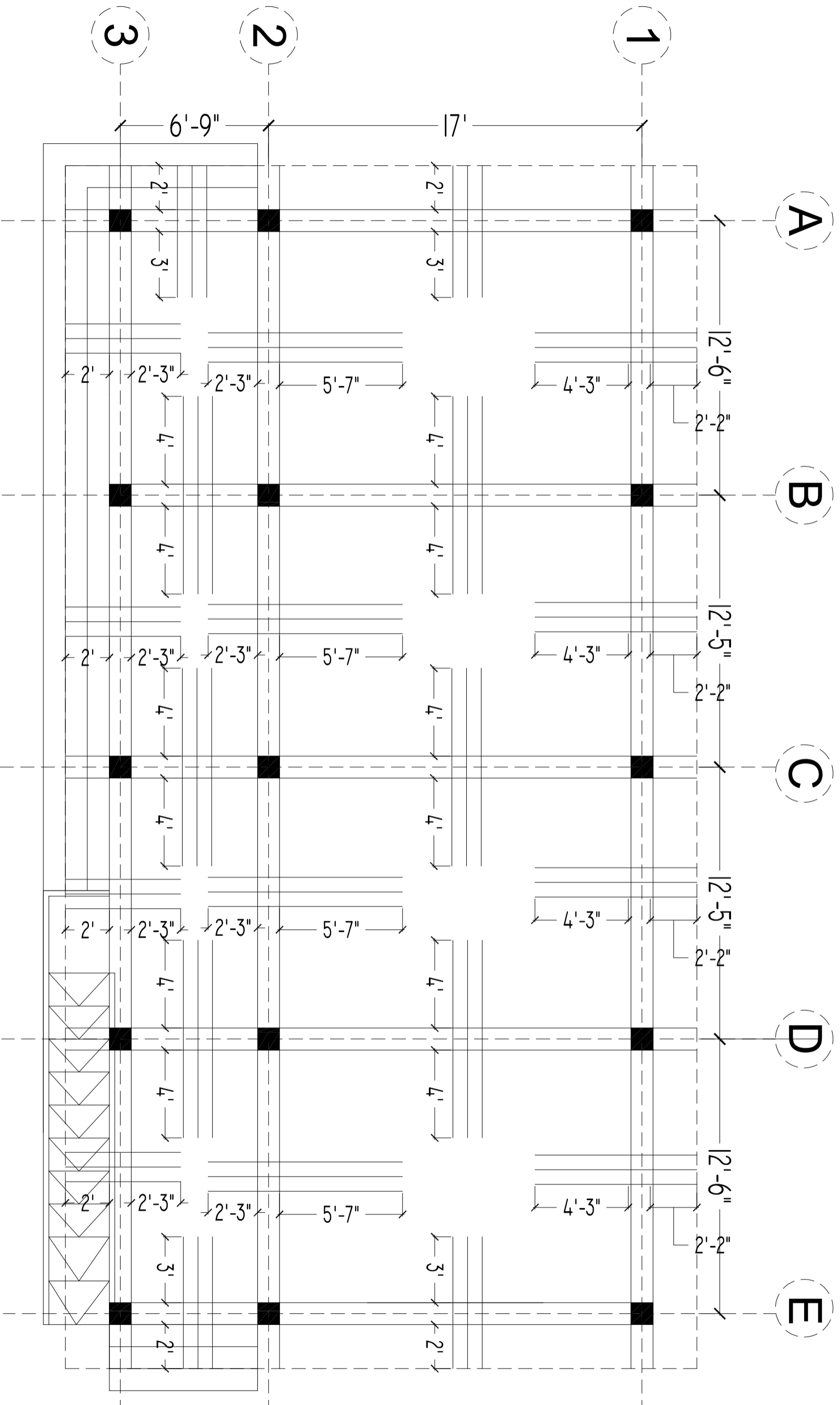
DATE	SCALE	DRG.NO.
SEP 2023		S-07



GROUND FLOOR SLAB BOTTOM REINFORCEMENT PLAN

NOTE:
SLAB THICKNESS = 6"

CLIENT: 		CONSULTANTS: 		SCHOOL NAME GBPS STANDARD MUSLIM SECTOR-II RAWALPINDI	
PLANNERS CONSULTANTS ENGINEERS (PCE) 97-K Industrial Estate, Hayatabad Peshawar Pakistan Ph: 0092-91-5816017, 5891661-4, Fax: 5891845 E-Mail: pce.pesh@yahoo.com		Prepared By FARID KHAN KIANN HABIBER STRUCTURE ENGINEER	Designed By Engr. HUMZA AHMAD	Checked By Approved By	PROJECT: PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/ REHABILITATION OF SITES
DATE SEP 2023	SCALE	DRG. NO. S-08	TITLE: GROUND FLOOR SLAB BOTTOM REINFORCEMENT PLAN		



GROUND FLOOR SLAB TOP REINFORCEMENT PLAN

NOTE:
 SLAB THICKNESS = 6"
 TOP REINFORCEMENT = #3@6"C/C

CLIENT:



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SCHOOL NAME

GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

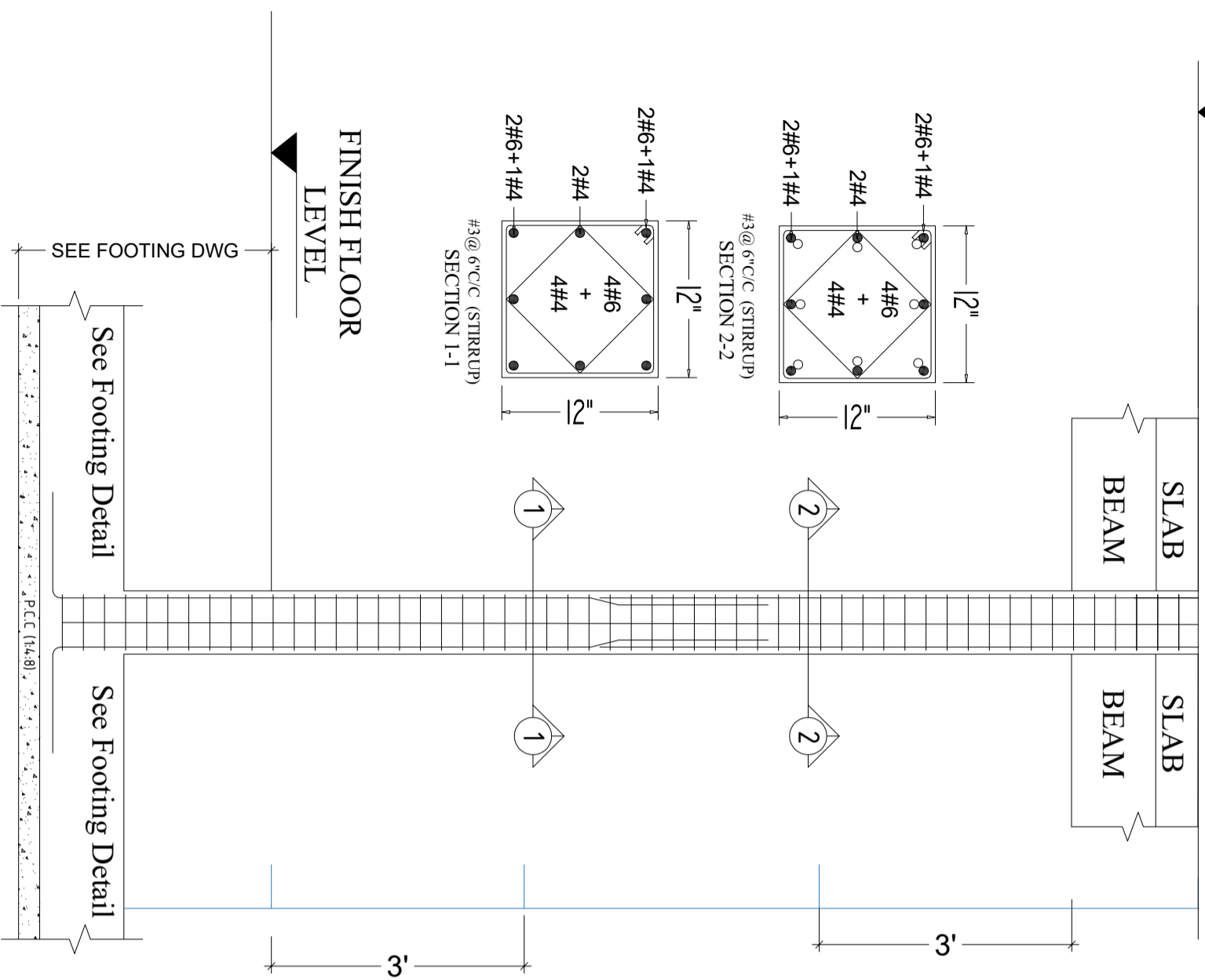
Date of Revision	Prepared By	STRUCTURE ENGINEER:	PROJECT:
	Designed By	Engr. HUMZA AHMAD	PREPARATION OF DESIGN DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES
	Checked By		TITLE: GROUND FLOOR SLAB TOP REINFORCEMENT PLAN
	Approved By		DATE: SEP 2023
			SCALE: DRG. NO. S-09

COLUMN TYPES	COLUMN C1	COLUMN C2
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GROUND FLOOR			
	T1	# 3 @ 4" C/C	# 3 @ 4" C/C
	T2	# 3 @ 4" C/C	# 3 @ 4" C/C
	T3	# 3 @ 4" C/C	# 3 @ 4" C/C

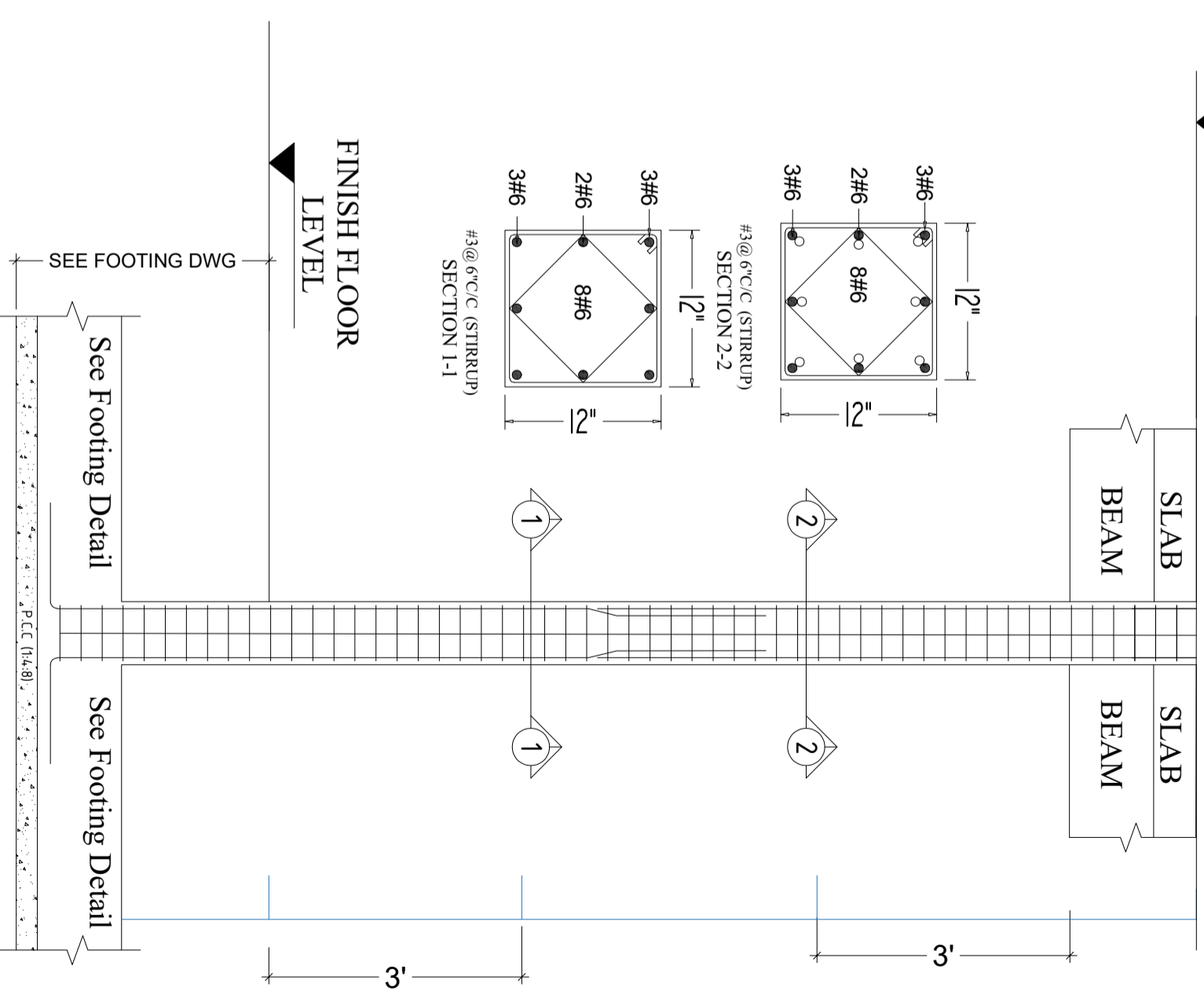
CLIENT:  		SCHOOL NAME GBPS STANDARD MUSLIM SECTOR-II RAWALPINDI	
CONSULTANTS: PLANNERS CONSULTANTS ENGINEERS (PCE) 97-K Industrial Estate, Hayatabad Peshawar Pakistan Ph: 0092-91-5816017, 5891661-4, Fax: 5891845 E-Mail: pce.pesh@yahoo.com		Date of Revision Prepared By Designed By Checked By Approved By	
PROJECT: PREPARATION OF DESIGN DRAWINGS & BOOK FOR CONSTRUCTION/REHABILITATION OF SITES		F.ARD KHAN KHAN HADIR STRUCTURE ENGINEER: Engr. HUMIZA AHMAD	
DATE SEP 2023		TITLE: COLUMN DETAIL	
SCALE		DRG.NO. S-10	

GROUND FLOOR
SLAB LEVEL



COLUMN LONG SECTION C1

GROUND FLOOR
SLAB LEVEL



COLUMN LONG SECTION C2

CLIENT:



UNHCR
The UN Refugee Agency

CONSULTANTS:



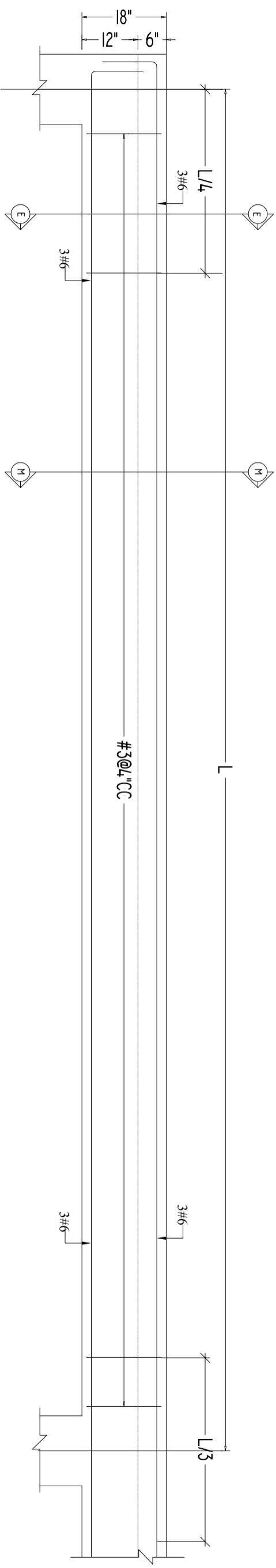
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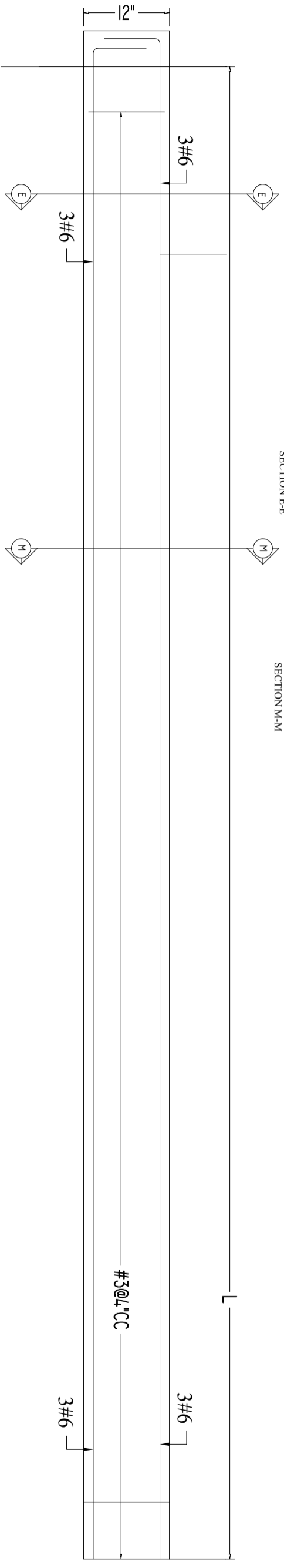
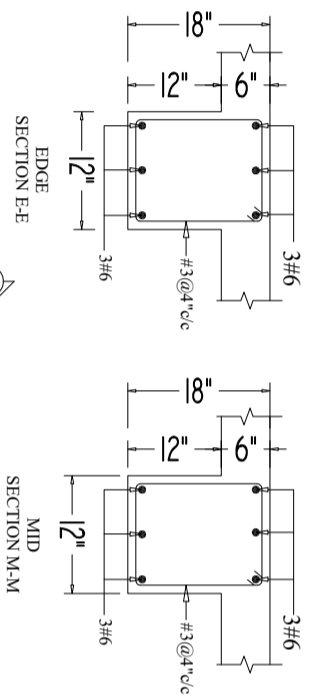
SCHOOL NAME

GBPS STANDARD MUSLIM
SECTOR-II RAWALPINDI

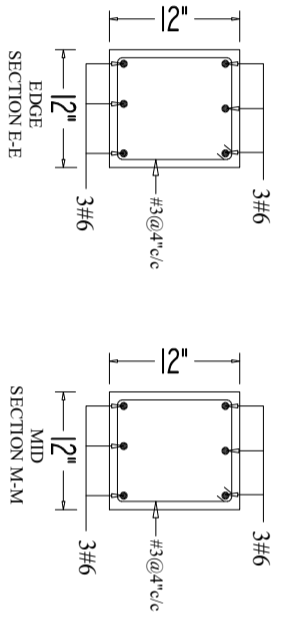
Date of Revision	Prepared By	STRUCTURE ENGINEER:	PROJECT:
	Designed By	Engr. HUMZA AHMAD	PREPARATION OF DESIGN, DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES
	Checked By		TITLE: COLUMN DETAIL
	Approved By		DATE SEP 2023
			SCALE
			DRG.NO. S-11



TYPICAL ELEVATION OF FB-1



TYPICAL ELEVATION OF PB-1



CLIENT:



CONSULTANTS:



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	Approved By	

PROJECT:

PREPARATION OF DESIGN, DRAWINGS & BOOKS
 FOR CONSTRUCTION/REHABILITATION OF SITES

TITLE:

BEAM DETAIL

DATE	SCALE	DRG. NO.
SEP 2023		S-12

**ELECTRIFICATION DRAWINGS
OF
GBPS STANDARD MUSLIM
SECTOR-II RAWWALPINDI**

ELECTRICAL DRAWINGS		
1	GENERAL NOTES	E-01
2	APPROVED MANUFACTURE LIST	E-02
3	LEGEND	E-03
4	GROUND FLOOR PLAN	E-04
5	GROUND FLOOR DIMENSION PLAN	E-05
6	SECTION	E-06
7	EARTHING DETAIL PLAN	E-07
8	MAIN DISTRIBUTION BOARD	E-08
9	LOAD CALCULATION	E-09

CLIENT:



CONSULTANTS:

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	Checked By	
	Approved By	

PROJECT:

PREPARATION OF DESIGN, DRAWINGS & HOOS
 FOR CONSTRUCTION/REHABILITATION OF SITES

TITLE: LIST OF DRAWINGS

DATE: SEP 2023 SCALE: DRG.NO. E-00

ELECTRICAL SYSTEMS

FOLLOWING NOTES SHALL IN GENERAL APPLY TO ALL ELECTRICAL DRAWINGS. THE INSTRUCTIONS IN THESE NOTES SHALL BE FOLLOWED UNLESS STATED OTHERWISE.

1. THESE NOTES SHALL BE APPLICABLE TO THE ENTIRE ELECTRICAL WORKS THE SITE CONDITIONS NECESSITARY ALTERATION OR DEVIATION OF THE DIRECTIONS OF THE ENGINEER SHALL BE OBSERVED AS FINAL INSTRUCTIONS.
2. DIMENSIONS / MEASUREMENTS IS GIVEN IN LAYOUT AND DETAILED DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALCULATE THE ACTUAL DIMENSIONS ACCORDING TO STRUCTURAL AND ARCHITECTURAL DRAWINGS.
3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH ALL RELEVANT DETAILS TO THE ENGINEER FOR APPROVAL ACCORDING TO THE GENERAL CONDITION OF CONTRACT WELL IN TIME BEFORE COMMENCEMENT OF THAT WORK.
4. PROPER CO-ORDINATION OF ELECTRICAL WORKS WITH OTHER SERVICES SHALL BE CARRIED OUT AT SITE.
5. ALL NON CURRENT CARRYING PARTS i.e OUTER CASINGS OF EQUIPMENT SUCH AS H.T & IT PANELS, DISTRIBUTION BOARDS, CABLE TRAYS, AUXILIARY CONSTRUCTION FOR EQUIPMENT ETC. SHALL BE CONNECTED TO THE GROUND-EARTHING SYSTEM AT REQUIRED NUMBER OF POINTS WITH SPECIFIED SIZES OF CONDUCTORS. WATER PIPES ALONG ELECTRICAL LINE SHALL BE BONDED TO THE EARTHING SYSTEM WITH TO 10MMsq SINGLE CORE COPPER CONDUCTOR PVC CABLE.
6. ELECTRICAL POINTS FOR EQUIPMENT SHALL BE INSTALLED IN CO-ORDINATION WITH THE RELEVANT DRAWINGS OF OTHER SERVICES, SUCH AS COMMUNICATION SYSTEMS, HVAC, PLUMBING ETC. THE LOCATION ON ELECTRICAL DRAWINGS IS ONLY INDICATIVE.
7. ARRANGEMENT OF ELECTRICAL EQUIPMENTS ON ELECTRICAL DRAWINGS ARE TENTATIVE EXACT ARRANGEMENT OF EQUIPMENT SHALL BE MADE IN VIEW OF ITS PHYSICAL DIMENSIONS AND EASY OF MAINTENANCE.
8. LOAD ON ALL PHASES SHALL BE MAXIMUM BALANCED AT THE TIME OF COMMISSIONING STAGE IT IS RESPONSIBILITY OF CONTRACTOR.
9. CONDUIT RUN UNDER FLOOR SHALL HAVE A MINIMUM COVER OF TWO INCHES FROM TOP TO CONDUIT TO FINISH FLOOR LEVEL.
10. ALL WIRING SHOULD BE CARRY OUT ACCORDING TO THE PHASES RED, YELLOW, BLUE CABLE COLOUR ARE AS PER PHASE DISTRIBUTION IN BUILDING.

NUMBER OF CABLE IN (CONDUIT)	SIZE OF CABLE		
NEW STANDER SIZE MM sq	25 MM (1")	20 MM (3/4")	15 MM (3/8")
1.5 MM sq	13	8	5
2.5 MM sq	10	6	4
4 MM sq	7	4	3
6 MM sq	5	3	2
10 MM sq	3	2	1

11. RUN GREEN OR WHITE SINGLE CORE PVC INSULATED COPPER CONDUCTOR CABLE OF SPECIFIED SIZE AS PROTECTIVE EARTH CONDUCTOR (LCC) ALL ALONG LIGHT AND POWER WIRING WHEREVER THE SIZE IS NOT SPECIFIED THE FOLLOWING OR ILLERIA SHELL BE OBSERVED TO DETERMINE MINIMUM CROSS SECTIONAL AREA OF EARTH CONTINUITY CONDUCTOR (ECC) IN RELATION TO THE AREA OFFICE PHASE CONDUCTORS RUN SEPARATE ECC FOR EACH CIRCUIT.
- ECC 2 PHASE CONDUCTOR OF SAME SIZE FOR UPTO AND INCLUDING 16 MMSQ CABLES
- FOR CABLES OF 50 MM SQ AND ABOVE SIZES IS HALF SIZE OF PHASE CONDUCTOR -MINIMUM SIZE ECC IS 70MM SQ.
12. ALL WIRING FOR CONTROLS SHELL BE CARRIED OUT WITH 1 CORE FLEXIBLE PVC CABLES OF SPECIFIED VOLTAGE GRADE AND SIZES.
13. THE MAXIMUM CAPACITY OF PVC CONDUITS FOR SIMAL TONCOUS DRAWING OF PVC INSULATED CABLES SHALL BE DETERMINED AS PIN BS 4607. THE FOLLOWING TABLE SHALL BE USED TO DETERMINE THE MAXIMUM NUMBER OF CABLES

14. NORMAL & EMERGENCY CIRCUITS SHALL BE RUN IN SEPARATE CONDUITS.
15. THE WIRING SHELL BE CONTINUOUS LOOPING-IN TYPE AND NO JOINT IN WIRES SHELL BE ALLOWED.
16. THE WIRING SYSTEM SHELL BE CARRIED OUT ONLY AFTER THE CONDUIT SYSTEM IS COMPLETELY INSTALLED AND ALL OUTLET BOXES, ETC. ARE FIXED IN POSITION.
17. MOUNTING HEIGHTS OF ELECTRICAL FITTINGS WHEN MEASURED FROM FINISHED FLOOR LEVEL (ECC) TO THE BOTTOM OF FITTINGS SHELL BE AS UNDER UNLESS OTHER WISE SHOWN OR INSTRUCTED

- > SWITCH BOARD 48 INCHES
- > EXHAUST FAN REF TO ARCH DRAWING
- > DISTRIBUTION BOARD 56 INCHES
- > CONTROL PANEL 48 INCHES
- > ON/OFF PUSH BUTTON STATION 48 INCHES
- > DIMMER CONTROL UNIT 48 INCHES
- > LIGHT CONTROL SWITCH (ONE WAY/TWO WAY) 48 INCHES
- > 5 AMP SOCKET OUTLETS IN GENERAL AREAS 12 INCHES
- > 15 AMP SOCKET OUTLETS IN GENERAL AREAS 12 INCHES
- > 20 AMP SOCKET OUTLETS IN GENERAL AREAS 12 INCHES
- > 16 AMP SOCKET OUTLETS IN KITCHEN (ABOVE COUNTER) 10 INCHES
- > 16 AMP TP SPIN INDUSTRIAL SOCKET OUTLETS IN LABS 12 INCHES
- > CEILING FAN ON SLAB 90 INCHES
- > WALL BRACKET FAN

CLIENT:



CONSULTANTS:

PLANNERS CONSULTANTS ENGINEERS (PCE)

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SCHOOL NAME

GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

Date of Revision	Prepared By	Checked By	Approved By
	Designed By	Checked By	Approved By




FAHD KHAN
 KHAN HAJER
 ELECTRICAL ENGINEER

Egr. HAMMAD AHMAD

PROJECT:	DATE	SCALE	DRG. NO.
PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES	SEP 2023	GENERAL NOTES	E-01

APPROVED MANUFACTURE LIST

S NO.	ITEM OR ACCESSORIES	BRAND
01	WIRING CABLE	PAKISTAN,NEW AGE,FAST, GM, COPPERGAT CABLE
02	POWER CABLE	PAKISTAN,NEW AGE,FAST, GM, COPPERGAT CABLE
03	LIGHT FIXTURES	PHILIPS,PIERLITE,CLIPSAL, OSAKA, FAST LIGHT
04	CEILING FAN	PAK, GFC, ROYAL, LAHORE FAN
05	PVC CONDUIT	POLO,BETA,POPULAR, GM, ADAMJEE
06	SWITCHES	PPL
07	LT SWITCHGEAR	SCHNEIDER, ABB, PEL,ELECTRECH
08	MOULDED CASE CIRCUIT BREAKER	SCHNEIDER, CHINT, LS, ABB
9	MINIATURE CIRCUIT BREAKER	SCHNEIDER, CHINT, LS, ABB

CLIENT:  		CONSULTANTS:  PLANNERS CONSULTANTS ENGINEERS (PCE) 97-K Industrial Estate, Hayatabad Peshawar Pakistan Ph: 0092-91-5816017, 5891661-4, Fax: 5891845 E-Mail: pce.pesh@yahoo.com		SCHOOL NAME GBPS STANDARD MUSLIM SECTOR-II RAWWALPINDI		Date of Revision Prepared By Designed By Checked By Approved By		HAND KHAN KHAN KHAN ELECTRICAL ENGINEER: Engr. HAMMAD AHMAD		PROJECT: PREPARATION OF DESIGN, DRAWINGS & BOQS FOR CONSTRUCTION/ REHABILITATION OF SITES TITLE: APPROVED MANUFACTURE LIST		DATE SEP 2023	SCALE	DRG. NO.	E-02
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SYMBOL	DESCRIPTION	INSTALLATION HEIGHT
	SURFACE MOUNTED DOWN LIGHT WITH 17 WATT ENERGY SAVER	CEILING MOUNTED
	TMS 136	SLAB MOUNTED
	56" SWEEP CEILING FAN	SLAB MOUNTED
	SWITCH BOARD	56" FROM FFL
	DISTRIBUTION UNIT	60" FROM FFL
	EXHAUST FAN POINT	

CLIENT:



CONSULTANTS:



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SCHOOL NAME

GBPS STANDARD MUSLIM
SECTOR-II RAWALPINDI

Date of Revision

Prepared By

FARID KHAN
KHAN HABIB
ELECTRICAL ENGINEER

Designed By

Engr. HAMMAD AHMAD

Checked By

Approved By

PROJECT:

PREPARATION OF DESIGN, DRAWINGS & BOOK
FOR CONSTRUCTION/REHABILITATION OF SITES

TITLE:

LEGEND

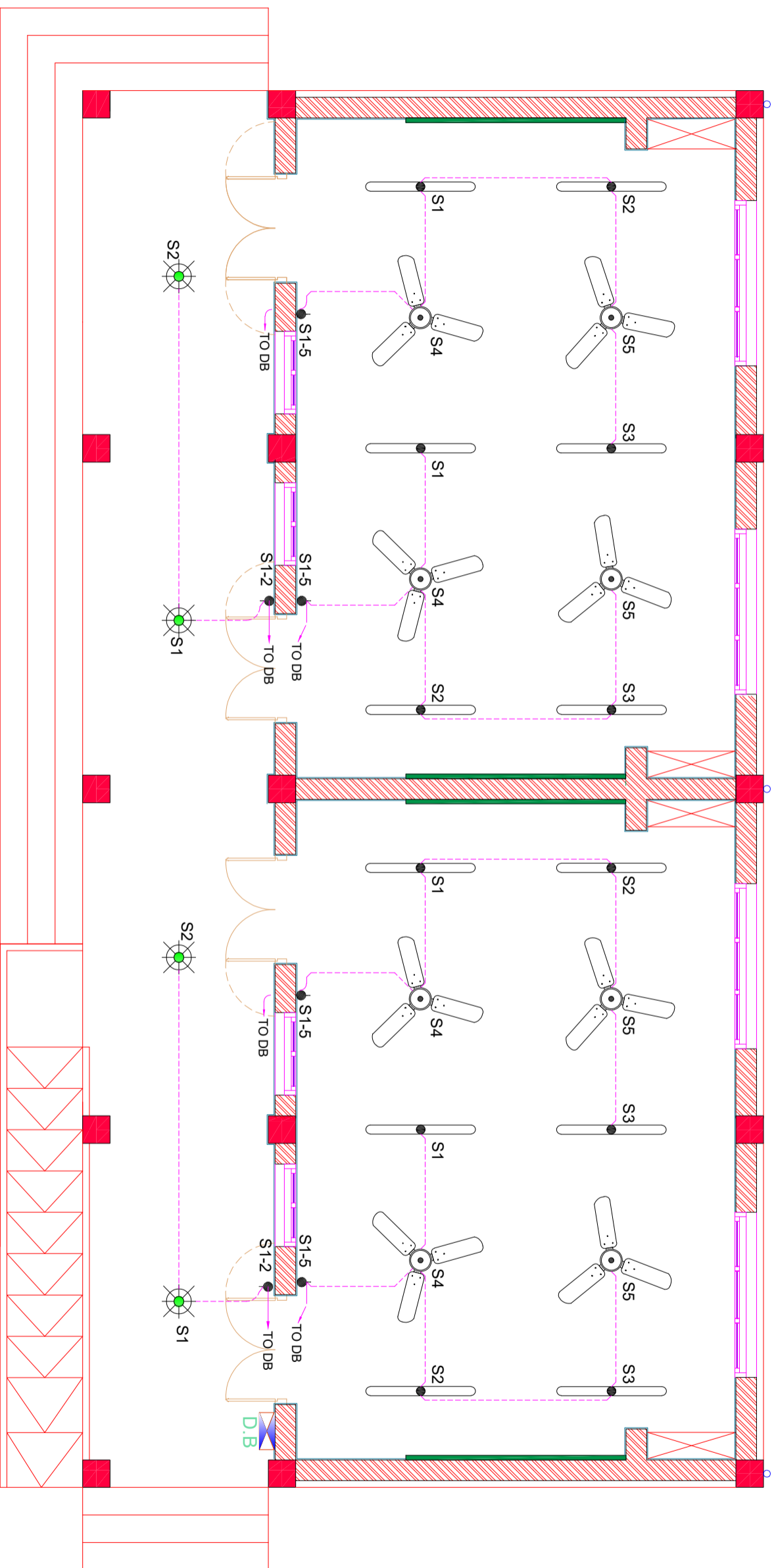
DATE

SEP 2023

SCALE

DRG.NO.

E-03



GROUND FLOOR PLAN

CLIENT:



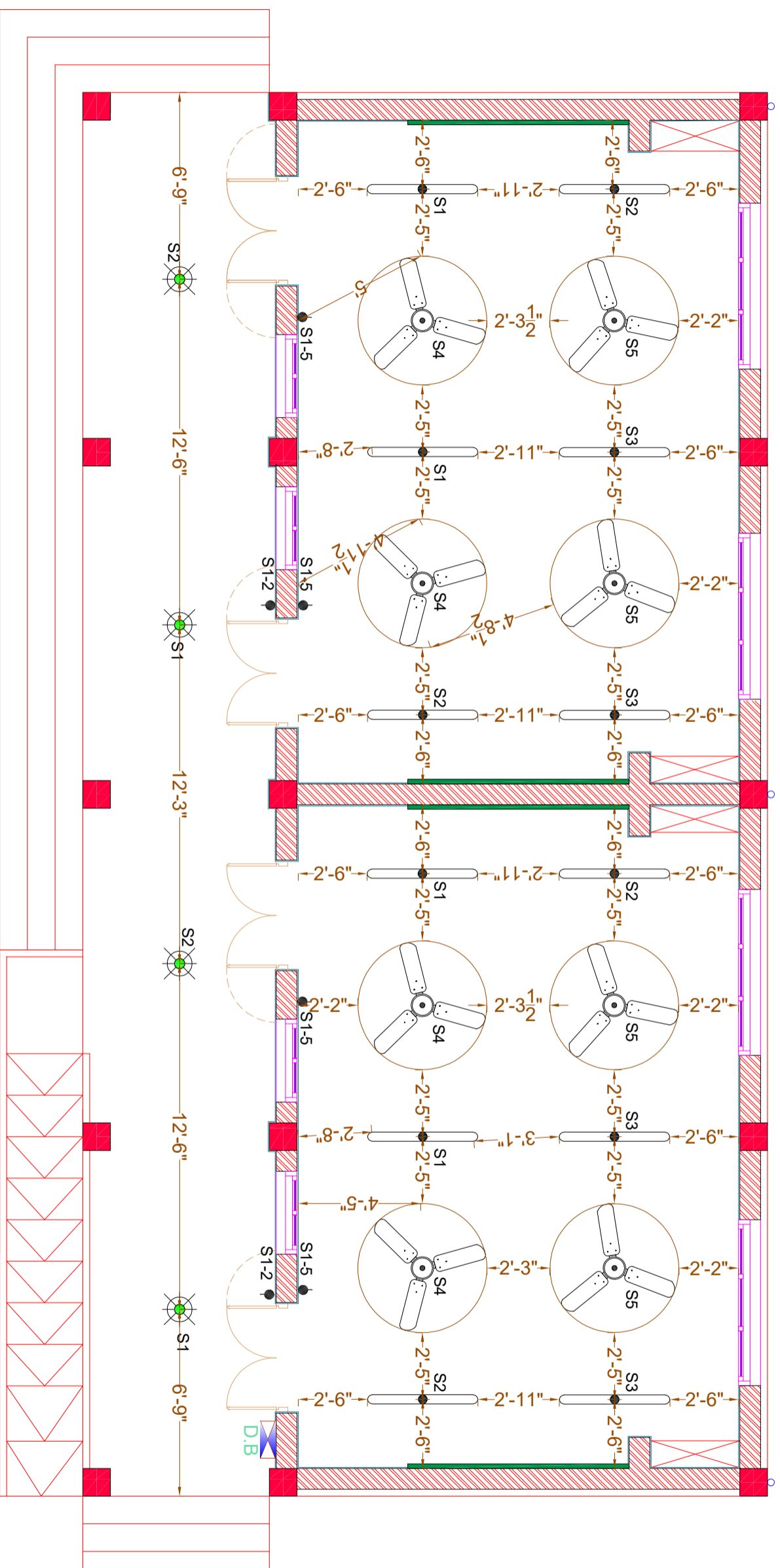
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SCHOOL NAME

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 SECTOR-II RAWALPINDI

Date of Revision	Prepared By	DESIGNED BY
	FAHIM KHAN KHAJAN KHAN	Engr. HAMMAD AHMAD
	Checked By	
	Approved By	

PROJECT:	DATE	SCALE	DRG. NO.
PREPARATION OF DESIGN, DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES	SEP 2023		E-04
TITLE:			



GROUND FLOOR DIMENSION PLAN

CLIENT:



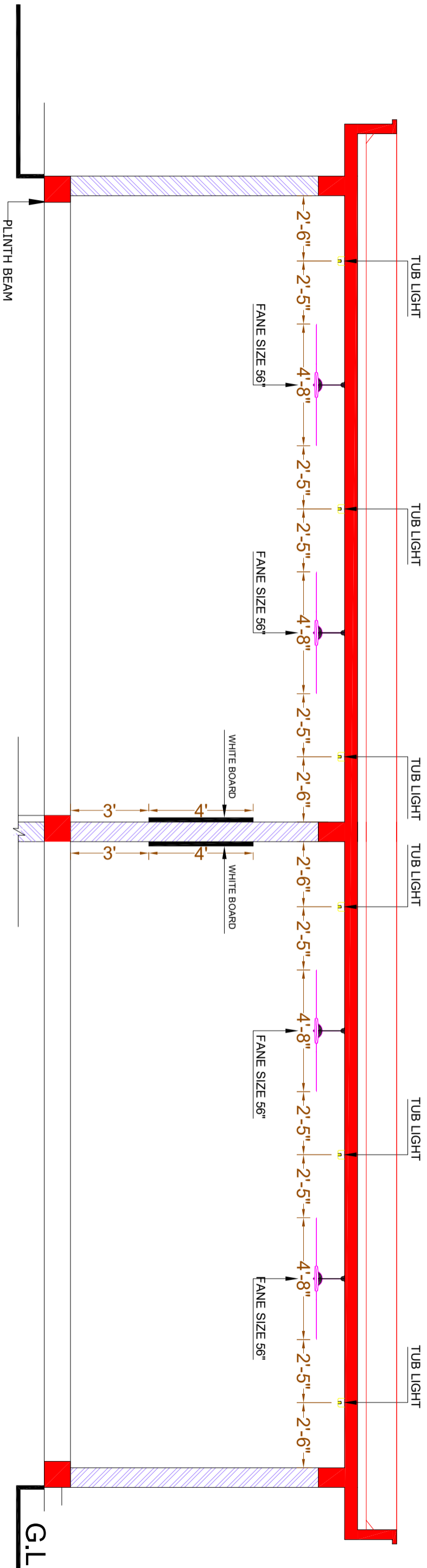
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SCHOOL NAME

**GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI**

Date of Revision	Prepared By	DESIGNED BY
	FARID KHAN KHAJAN HADDER ELECTRICAL ENGINEER	Engr. HAMMAD AHMAD
	Designed By	
	Checked By	
	Approved By	

PROJECT:	DATE	SCALE	DRG.NO.
PREPARATION OF DESIGN DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES	SEP 2023		E-05
TITLE:			
GROUND FLOOR DIMENSION PLAN			



SECTION

CLIENT:



CONSULTANTS:



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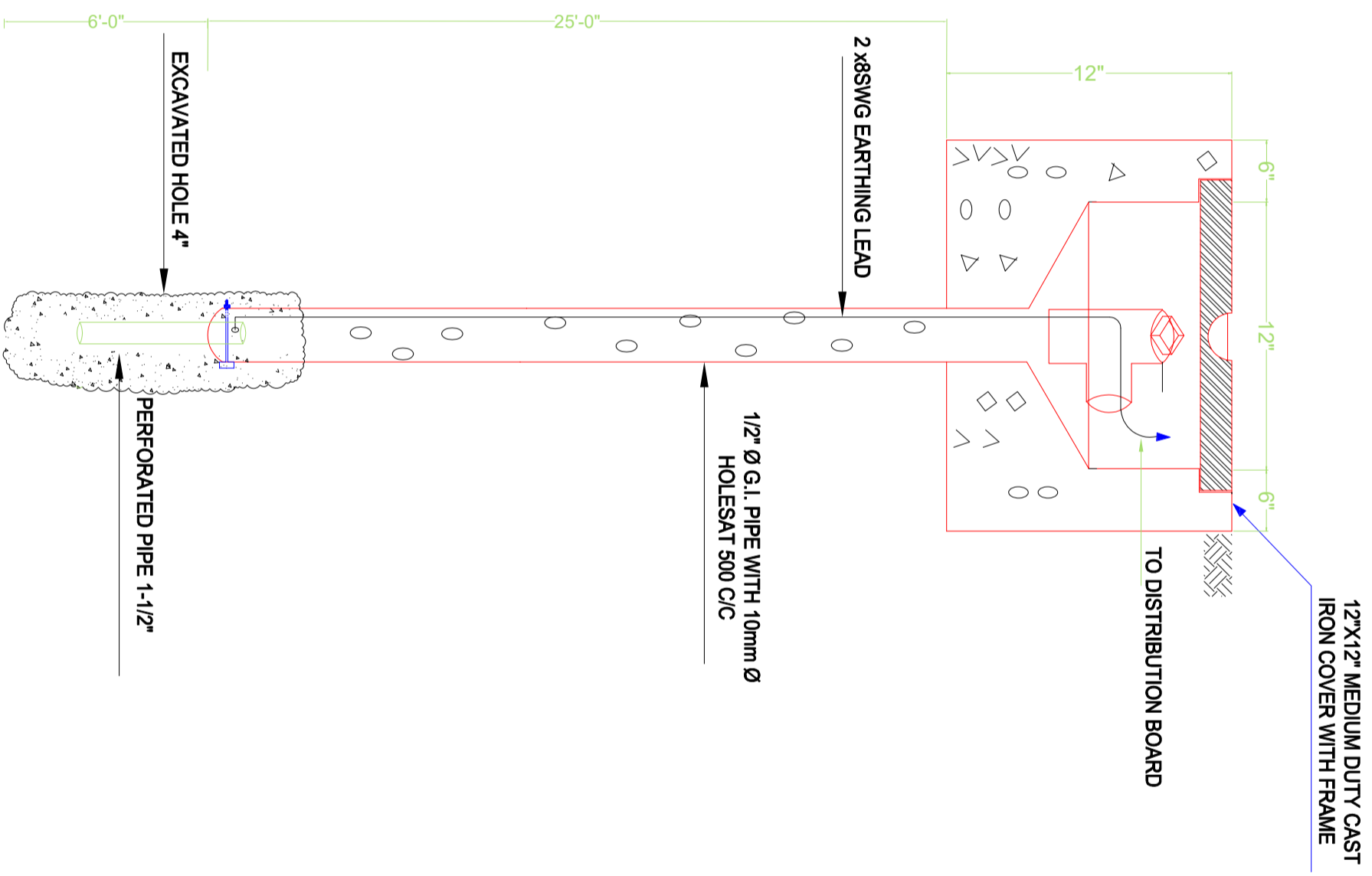
GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

Date of Revision	Prepared By	PROJECT:		
	Designed By	PREPARATION OF DESIGN, DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES		
	Checked By			
	Approved By			
		DATE	SCALE	DRG.NO.
		SEP 2023		E-06

FARID KHAN
 KHAN HADDER
 ELECTRICAL ENGINEER

Engr. HAMMAD AHMAD

TITLE:
 SECTION



CLIENT:



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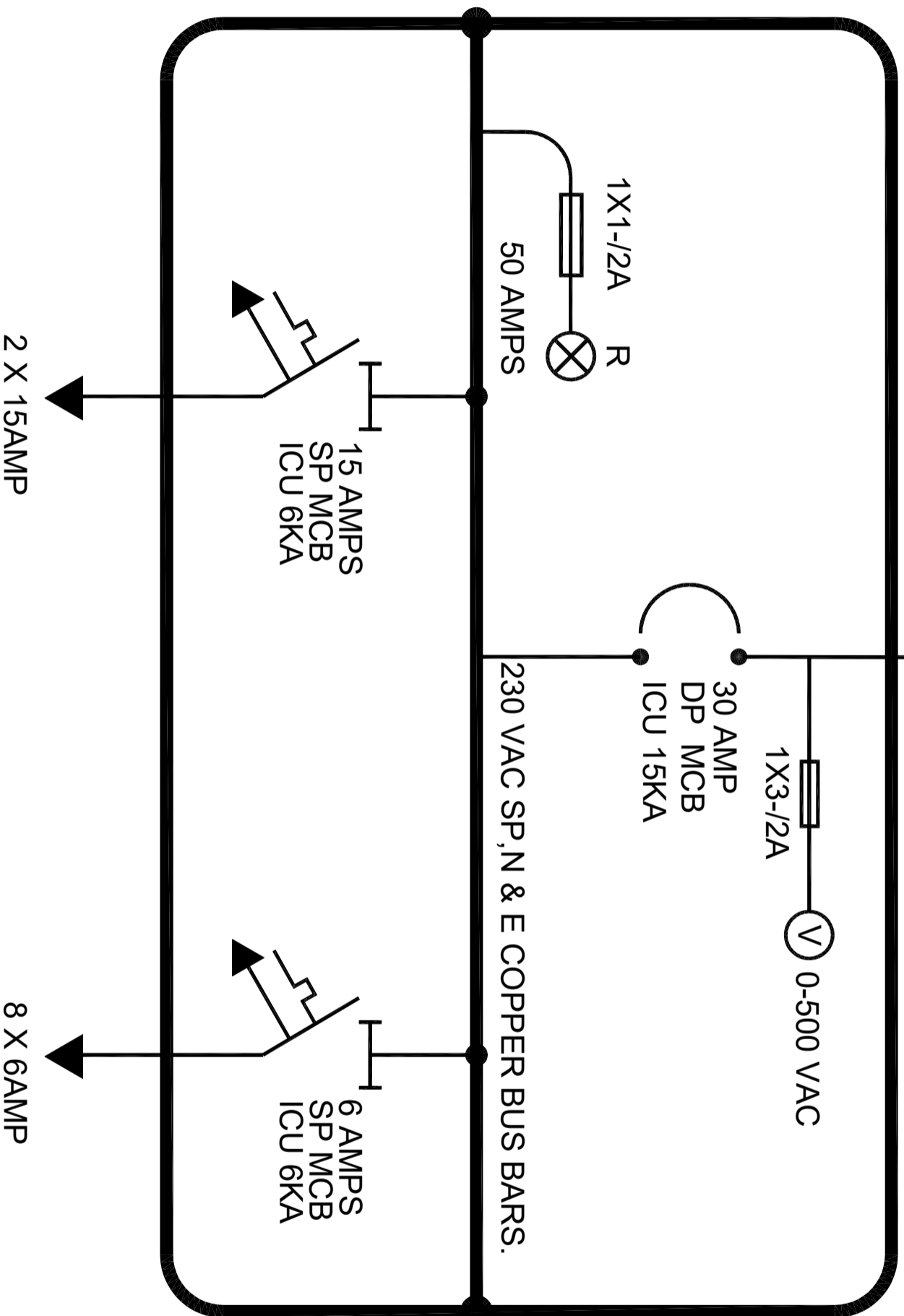
GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

Date of Revision	Prepared By	FAHD KHAN KI/AN/HANDER ELECTRICAL ENGINEER	PROJECT:
	Designed By	Engr. HAMMAD AHMAD	PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/ REHABILITATION OF SITES
	Checked By		TITLE: EARTHING DETAIL PLAN
	Approved By		DATE: <i>SEP 2023</i> SCALE: DRG.NO. E-07

DISTRIBUTION BOARD

INCOMING FROM MAIN
DISTRIBUTION BOARD
2 X 7/0.044" SINGL CORE
1X7/0.044" SINGL CORE AS EARTH

16 SWG SHEET STEEL POWDER
PAINTED RECESSED IN WALL.



CLIENT:



The UN Refugee Agency

CONSULTANTS:



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SECTOR-II RAWALPINDI

Date of Revision	Prepared By	FAHD KHAN KHAJANHAIDER ELECTRICAL ENGINEER :	PROJECT:
	Designed By	Engr. HAMMAD AHMAD	PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES
	Checked By		TITLE: MAIN DISTRIBUTION BOARD
	Approved By		DATE: SEP 2023 SCALE: DRG.NO. E-08

LOAD CALCULATION

LOAD (W)	768
PEAK DEMAND LOAD (W)	768
25% FUTURE LOAD PROVISION (W)	960
TOTAL LOAD (W)	1067
CABLE SIZE (MM sq)	1.5

CLIENT:



CONSULTANTS:



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SECTOR-II RAWALPINDI

Date of Revision

Prepared By

FABD KHAN
KIAN HADDER
ELECTRICAL ENGINEER

Designed By

Engr. HAMMAD AHMAD

Checked By

Approved By

PROJECT:

PREPARATION OF DESIGN, DRAWINGS & BOOKS
FOR CONSTRUCTION/REHABILITATION OF SITES

TITLE:

LOAD CALCULATION

DATE

SEP 2023

SCALE

DRG.NO.

E-09

PROPOSED DESIGN
OF
REHAB WORKS
AT
GBPS STANDARD MUSLIM
SECTOR-II RAWWALPINDI





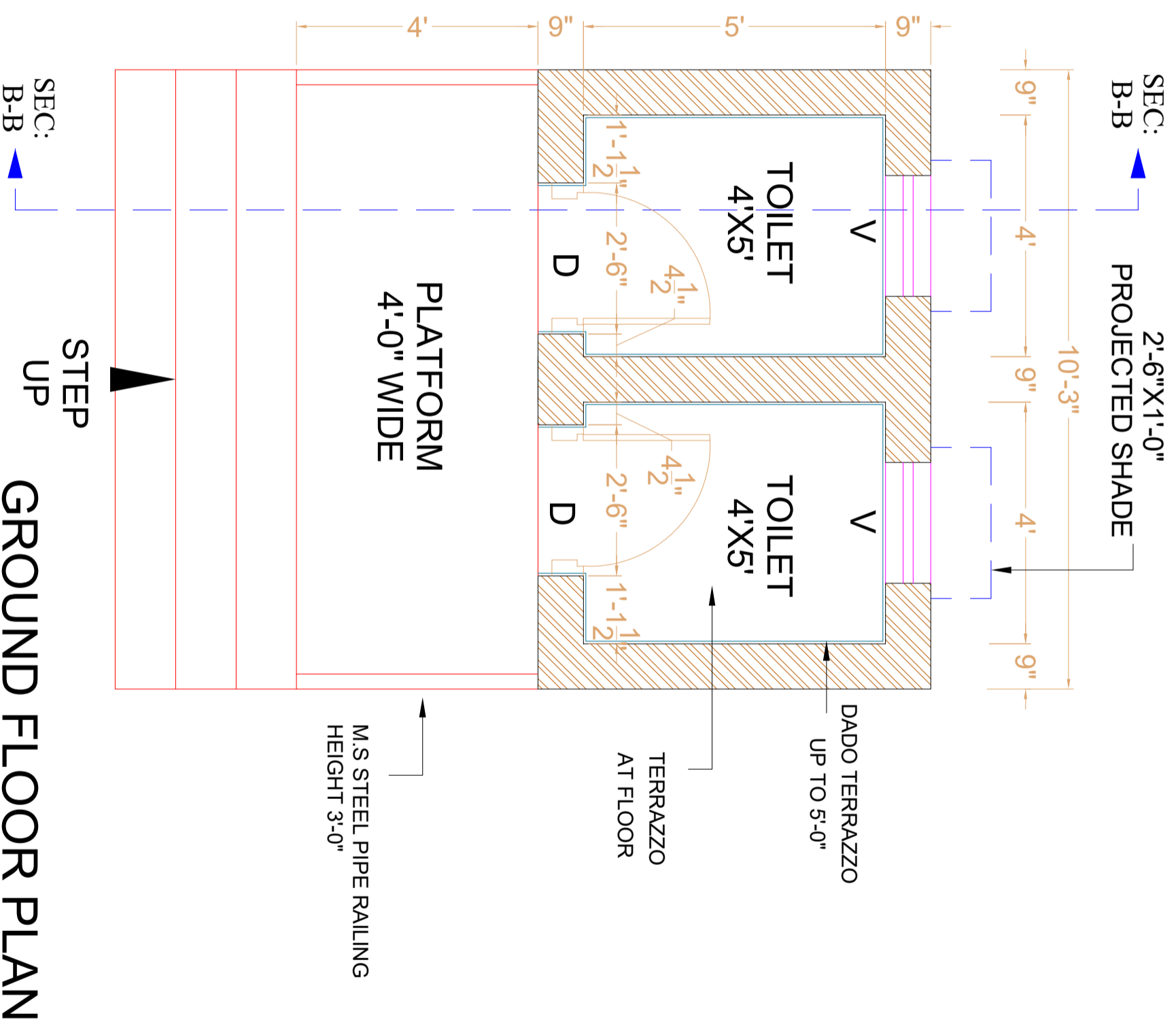
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LIST OF DRAWINGS

ARCHITECTURAL DRAWINGS		PLUMBING DRAWINGS			
SR.NO	DESCRIPTION	DRG. NO.	SR.NO	DESCRIPTION	DRG. NO.
1	GROUND FLOOR PLAN	A-01	14	GENERAL NOTES	P-01
2	FRONT ELEVATION	A-02	15	GROUND FLOOR PLUMBING PLAN	P-02
3	SECTION AT B-B	A-03	16	SEPTIC TANK PLAN	P-03
4	SCHEDULE OF OPENING	A-04	WATER SUPPLY DRAWINGS		
5	VENTILATOR, PROJECTION , DRIP COURSE & RAILING DETAILS	A-05	17	LEGEND	WS-01
STRUCTURAL DRAWINGS			18	GROUND FLOOR WATER SUPPLY PLAN	WS-02
6	GENERAL NOTES	S-01	ELECTRICAL DRAWINGS		
7	GENERAL NOTES	S-02	19	GENERAL NOTES	E-01
8	FOUNDATION PLAN	S-03	20	APPROVED MANUFACTURE LIST	E-02
9	FOUNDATION SECTION DETAIL	S-04	21	LEGEND	E-03
10	GROUND FLOOR LINTEL BEAM PLAN	S-05	22	GROUND FLOOR PLAN	E-04
11	GROUND FLOOR SLAB BOTTOM REINFORCEMENT PLAN	S-06	23	GROUND FLOOR DIMENSION PLAN	E-05
12	GROUND FLOOR SLAB TOP REINFORCEMENT PLAN	S-07			
13	LINTEL BEAM DETAIL	S-08			

CLIENT:  The UN Refugee Agency	CONSULTANTS:  PLANNERS CONSULTANTS ENGINEERS (PCE) 97-K Industrial Estate, Hayatabad Peshawar Pakistan Ph: 0092-91-5816017, 5891661-4, Fax: 5891845 E-Mail: pce.pesh@yahoo.com	SCHOOL NAME REHAB WORKS OF GBPS STANDARD MUSLIM SECTOR-II RAWALPINDI	Date of Revision Prepared By Designed By Checked By Approved By	FARID KHAN KHAN HADDER ARCHITECT MARWAT KHAN OKAZAI (B.Arch, D.C.E.T Karachi) (M.Arch, UET, Lahore)	PROJECT: PREPARATION OF DESIGN, DRAWINGS & BOOK FOR CONSTRUCTION/REHABILITATION OF SITES LIST OF DRAWINGS DATE: <i>SEP 2023</i> SCALE: DRG.NO: <i>A-00</i>
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GROUND FLOOR PLAN

CLIENT:



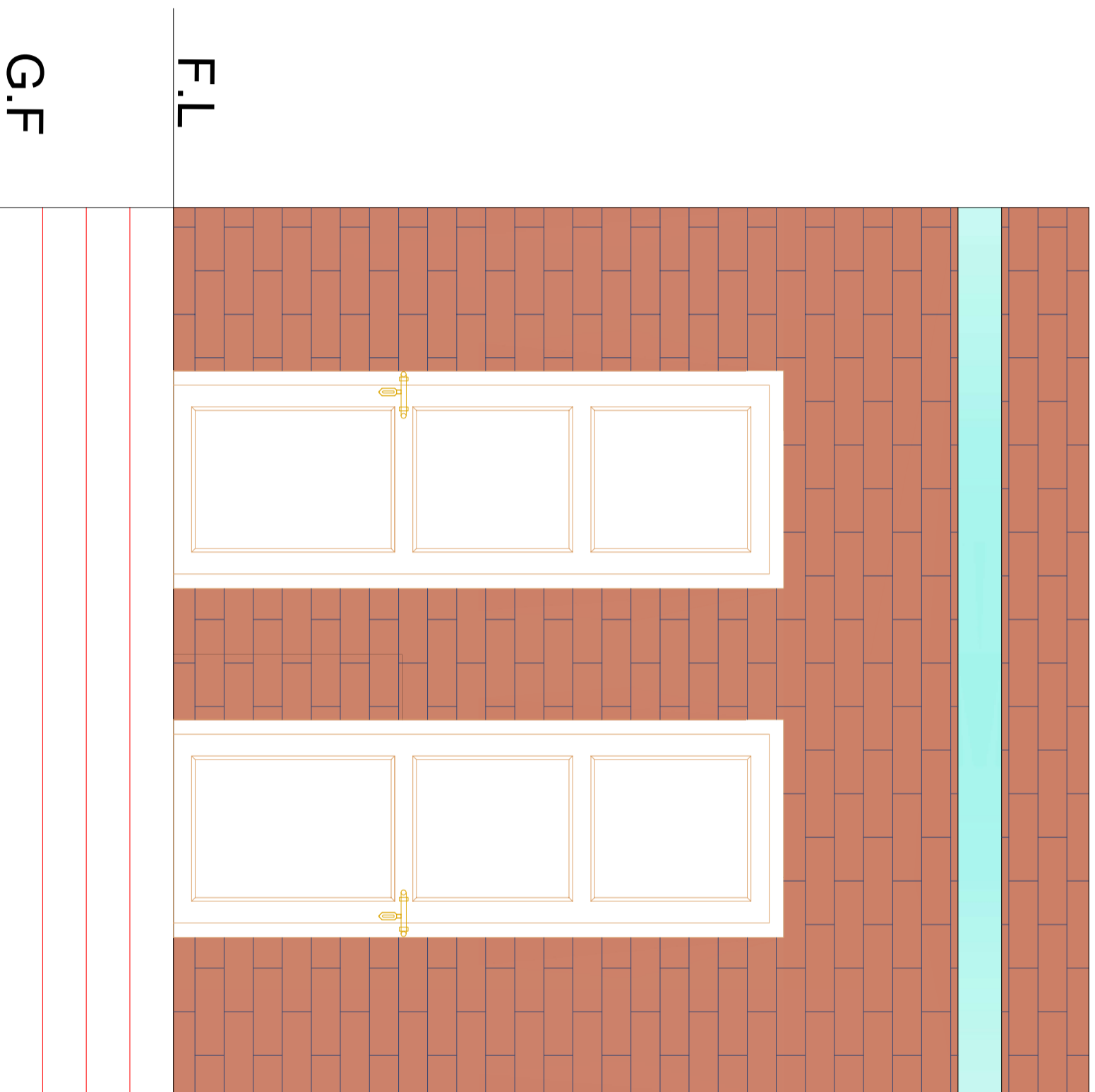
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CONSULTANTS:

SCHOOL NAME

REHAB WORKS OF
 GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

Date of Revision	Prepared By	ARCHITECT	PROJECT:
	Designed By	MARWAT KHAN ORAKZAI (B.Arch.D, C.E.T Karachi) (M.Arch.UET, Lahore)	PREPARATION OF DESIGN DRAWINGS & BOQ FOR CONSTRUCTION/REHABILITATION OF SITES
	Checked By		GROUND FLOOR PLAN
	Approved By		DATE: SEP 2023
			SCALE
			DRG. NO. A-01



FRONT ELEVATION

CLIENT:



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SCHOOL NAME

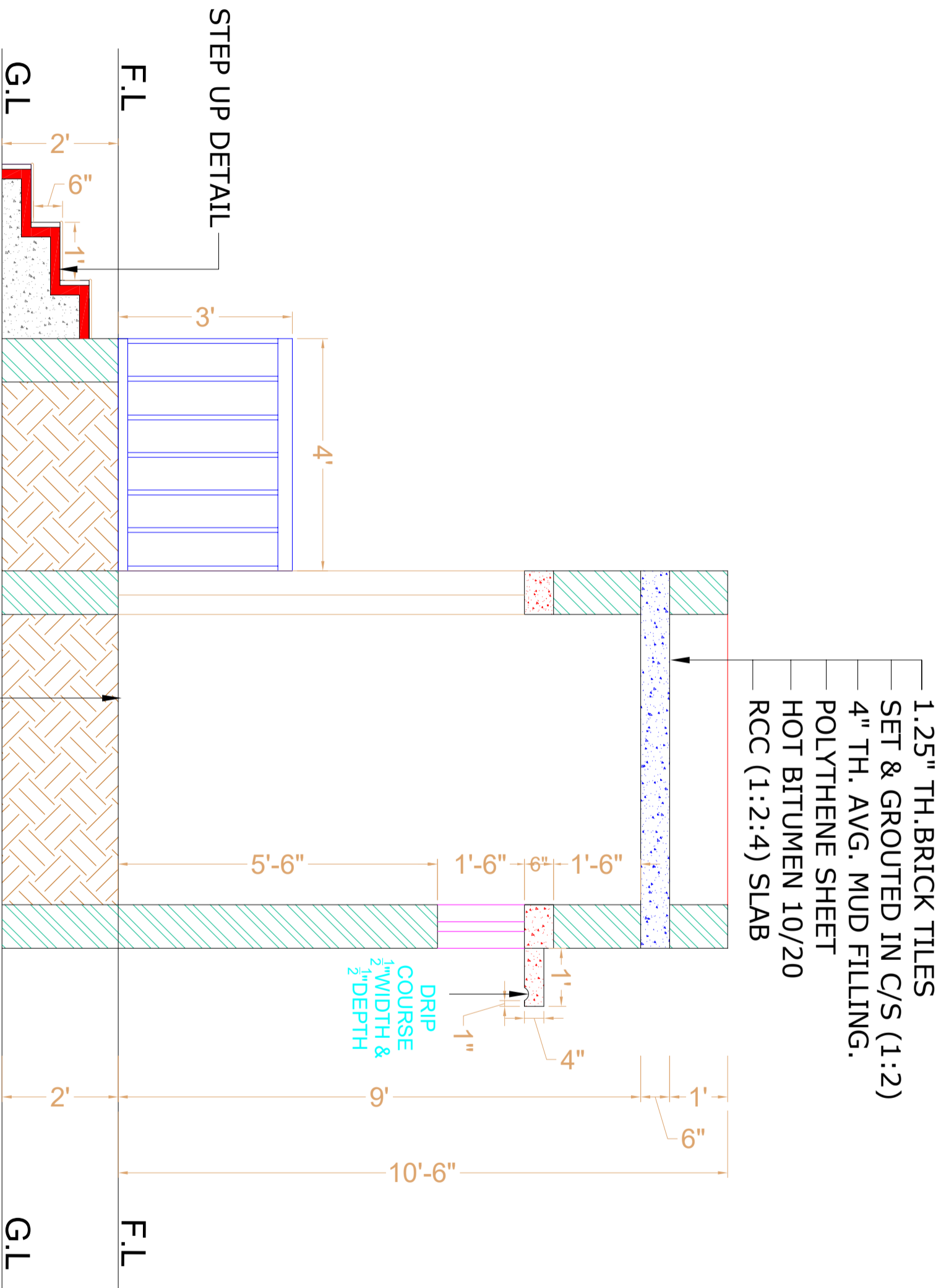
REHAB WORKS OF
 GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

Date of Revision	Prepared By	DESIGNED BY
	ARCHITECT	MARWAT KHAN ORAKZAI (B.Arch, D.C.E.T Karachi) (M.Arch, UET Lahore)
	Checked By	
	Approved By	

PROJECT:

PREPARATION OF DESIGN, DRAWINGS & BOQS
 FOR CONSTRUCTION/ REHABILITATION OF SITES

DATE	SCALE	DRG.NO.
SEP 2023		A-02



- 1.25" TH. BRICK TILES
- SET & GROUTED IN C/S (1:2)
- 4" TH. AVG. MUD FILLING.
- POLYTHENE SHEET
- HOT BITUMEN 10/20
- RCC (1:2:4) SLAB

SECTION AT B.B

MARBLE TOPPING
 3" PCC 1:3:6
 4" SAND FILLING
 COMPACTED EARTH

CLIENT:



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	Checked By	
	Approved By	

PROJECT:		
PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/ REHABILITATION OF SITES		
TITLE: SECTION AT B.B		
DATE	SCALE	DRG. NO.
SEP 2023		A-03

SCHEDULE OF OPENING

TYPE	SIZE	S-LEVEL	DESCRIPTION
D	2'-6" X 7'-0"	0"-0"	STEEL
V	2'-0" X 1'-6"	5'-6"	STEEL

CLIENT:



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SCHOOL NAME

REHAB WORKS OF
GBPS STANDARD MUSLIM
SECTOR-II RAWALPINDI

Date of Revision

Prepared By

FAHAD KHAN
KHAN HAIDER
ARCHITECT

Designed By

MARWAT KHAN OKARZAI
(B.Archd. C.E.T Karachi)
(Architect, Lahore)

Checked By

Approved By

PROJECT:

PREPARATION OF DESIGN DRAWINGS & BOQS
FOR CONSTRUCTION/REHABILITATION OF SITES

TITLE:

SCHEDULE OF OPENING

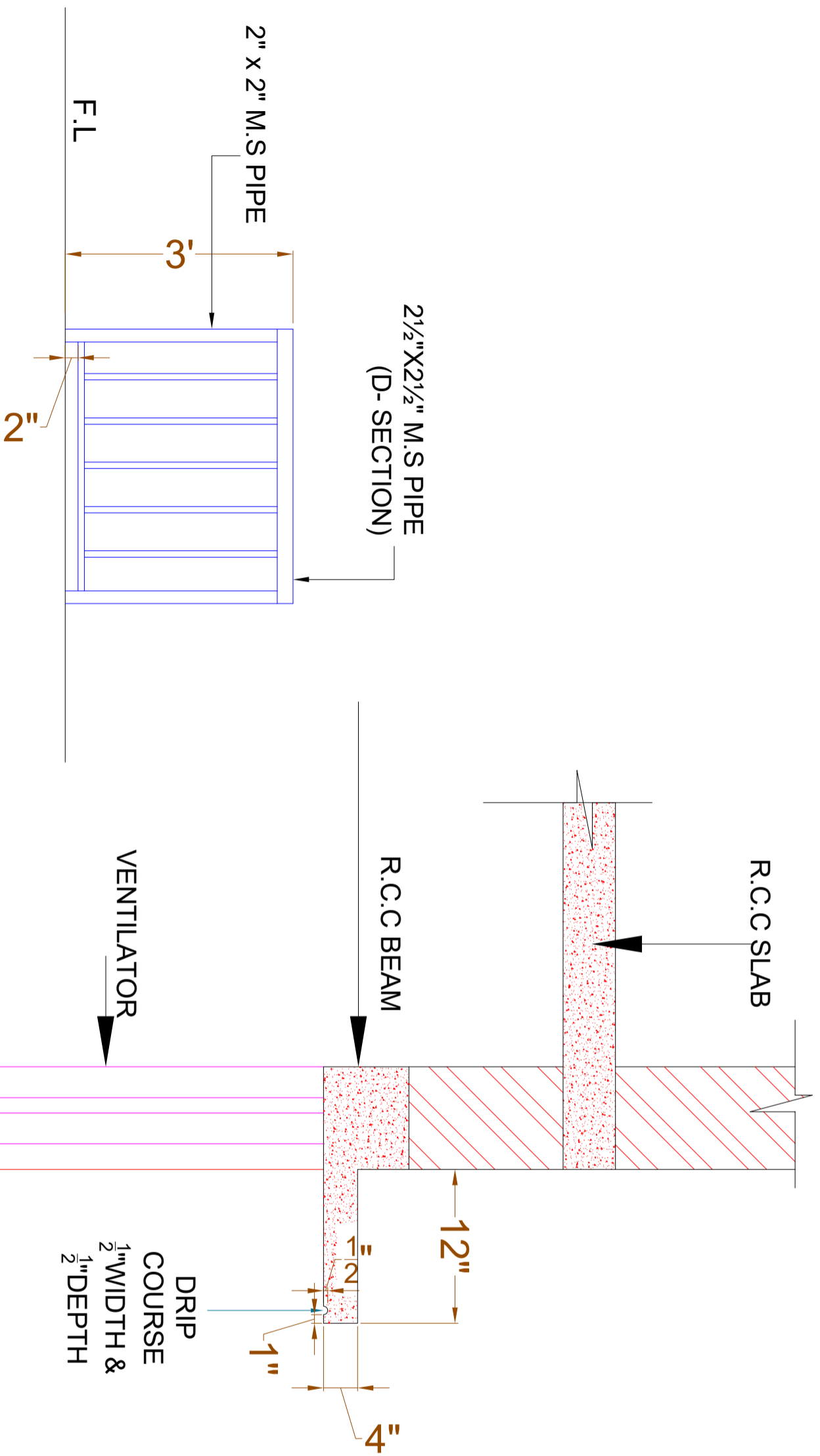
DATE

SEP 2023

SCALE

DRG.NO.

A-04



CLIENT:



RAILING DETAILS

VENTILATOR PROJECTION & DRIP COURSE DETAIL

CONSULTANTS:



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SCHOOL NAME

REHAB WORKS OF
 GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

Date of Revision

Prepared By

ARCHITECT
 FARID KHAN
 KHAN HANIDER

PROJECT:

PREPARATION OF DESIGN, DRAWINGS & BOQS
 FOR CONSTRUCTION/ REHABILITATION OF SITES

TITLE:

VENTILATOR, PROJECTION, DRIP COURSE
 AND RAILING DETAILS

Designed By

MARWAT KHAN ORAKZAI
 (B.Arch, D.C.E.T Karachi)
 (M.Arch, UET, Lahore)

Checked By

Approved By

DATE

SEP 2023

SCALE

DRG.NO.

A-05

**STRUCTURE DRAWING
OF
REHAB WORKS AT
GBPS STANDARD MUSLIM
SECTOR-II RAWWALPINDI**

1. GENERAL

1. READ ALL DRAWINGS IN CONJUNCTION WITH ARCHITECTURAL, GEOTECHNICAL, PLUMBING, MECHANICAL, ELECTRICAL & ANY OTHER RELEVANT DRAWINGS.
2. NOTES GIVEN IN THIS DRAWING ARE APPLICABLE TO ALL DRAWINGS UNLESS MENTIONED OTHERWISE. NOTES WRITTEN ON A DRAWING, SHALL BE APPLICABLE TO THAT PARTICULAR DRAWING ONLY UNLESS OTHERWISE CROSS-REFERRED.
3. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE SPECIFICATIONS OF THE CONTRACT DOCUMENTS. IN ABSENCE OF ANY SPECIFICATIONS, ALL MATERIALS & WORKMANSHIP SHALL CONFORM TO RELEVANT ACIBRITISH CODES AND SHALL BE SUBJECTED TO APPROVAL OF THE ENGINEER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE STRUCTURES DURING CONSTRUCTION. HE SHALL ALSO VERIFY ALL DIMENSIONS AND LEVELS BEFORE EXECUTION OF WORK. ANY DISCREPANCY, ERROR OR OMISSION, IF FOUND, SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER FOR CORRECTION AND APPROVAL.
5. THE CONTRACTOR SHALL CO-ORDINATE WITH VARIOUS SERVICES DRAWINGS FOR SIZES & LOCATION OF ALL STRUCTURAL MEMBERS, FLOORS, WALLS, OPENINGS, FLOOR FINISHES, PIPES ETC.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXECUTION OF DEWATERING SYSTEM WHERE SO REQUIRED DURING CONSTRUCTION.
7. ALL DIMENSIONS & LEVELS ARE IN FEET & INCHES.
8. DO NOT SCALE THE DRAWINGS. DIMENSIONS, GIVEN ON THE DRAWING, SHALL GOVERN.
9. ALL FABRICATION, PAINTING, ERECTION AND QUALITY CONTROL IS TO BE DONE IN ACCORDANCE WITH THE LATEST APPLICABLE ACI/BRITISH SPECIFICATIONS.
10. BACKFILLING AROUND FOUNDATIONS AND WALLS SHALL BE WELL COMPACTED LAYERS NOT EXCEEDING 6 INCHES IN THICKNESS.
11. IT IS STRONGLY RECOMMENDED TO RECONFIRM THE SITE PLAN BEFORE START OF EXECUTION AT SITE. THE SITE SHOULD BE EXAMINED FOR CLEARANCE WITH RESPECT TO LOCAL/SEISMIC HAZARDS.
12. THE CONTRACTOR SHALL INFORM THE ENGINEER ABOUT ANTICIPATED CONSTRUCTION LOADS IN THE STRUCTURE AND OBTAIN ENGINEER'S APPROVAL THEREOF BEFORE COMMENCING THE WORK.
13. THE CONTRACTOR SHALL VERIFY LAYOUT, CONFIGURATION, ALL DIMENSIONS AND LEVELS PERTAINING TO EXISTING WORKS BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL ADOPT ADEQUATE AND APPROPRIATE MEASURES SO AS NOT TO DAMAGE THE EXISTING WORKS.
14. THE CONTRACTOR SHALL EXERCISE UTMOST CARE AND PRECAUTION DURING THE WORKS, AGAINST ANY MISHAPS OR ACCIDENTS, FOR WHICH THE CONTRACTOR SHALL BE WHOLLY AND SOLELY RESPONSIBLE. THE CONTRACTOR SHALL INDENIFY THE OWNER AGAINST ANY ACCIDENTS AND ANY LOSSES THEREFROM AND SHALL REPAIR AND RECTIFY THEM AT HIS OWN COST AND TIME.
15. ANY DEPARTURES/DEVIATIONS DESIRED FROM THE DESIGN OR SPECIFICATIONS, OR SOLUTIONS TO ANY PROBLEMS ENCOUNTERED, SHALL BE GOT APPROVED FROM THE ENGINEER PRIOR TO IMPLEMENTATION. UNAPPROVED DEPARTURES/DEVIATIONS MAY LEAD TO REJECTION/REPLACEMENT OF THE ENTIRE WORK AT THE CONTRACTOR'S COST.
16. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS AND BAR BENDING SCHEDULES. THE ENGINEER'S APPROVAL SHALL NOT RELIEVE THE APPROVAL BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY OF SHOP DRAWINGS AND BAR BENDING SCHEDULES. FOR ENGINEERS APPROVAL AND OBTAIN HIS CONTRACTOR FROM HIS RESPONSIBILITY.
17. The allowable bearing capacity of soil should be 1tsf.

2. SHORING AND BRACING

1. SHORE & BRACE ALL PARTS OF THE STRUCTURE DURING CONSTRUCTION, TO THE EXTENT NECESSARY TO ENSURE COMPLETE SAFETY, STRENGTH & SERVICEABILITY OF ALL STRUCTURAL ELEMENTS UNDER ALL CONDITIONS OF LOADS WHICH MAY OCCUR DURING CONSTRUCTION. SUCH SHORING & BRACING IS THE CONTRACTOR'S SOLE RESPONSIBILITY AND IS NOT SHOWN ON STRUCTURAL DRAWINGS OR SPECIFIED IN THE PROJECT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY AND STABILITY OF THE SLOPES AND SHALL PROVIDE SHORING AND BRACING DURING EXCAVATION AND CONSTRUCTION, WHEREVER AND WHENEVER REQUIRED.
3. SEQUENCE OF REMOVAL OF FORMWORK SHALL BE APPROVED BY THE ENGINEER.
4. AT LEAST ONE LOWER FLOOR SHALL REMAIN PROPPED UNTILL THE UPPER FLOOR IS CAST AND CURED.

3. REINFORCED CONCRETE

1. STRUCTURAL DESIGN IS BASED ON THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE OF AMERICAN CONCRETE INSTITUTE (ACI 318).
2. ALL STRUCTURAL CONCRETE SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE (ACI) REQUIREMENTS.
3. CONCRETE MIX TO BE DESIGNED ON THE BASIS OF ACI 211 OR EQUIVALENT. TRIAL STRENGTH RESULTS TO BE SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BEFORE CONCRETING.
4. NO CONCRETING SHALL BE CARRIED OUT UNTIL PERMISSION IS GIVEN IN WRITING OR APPROVED BY STRUCTURE ENGINEER.
5. ALL CONCRETE SHALL BE TESTED IN ACCORDANCE WITH ASTM STANDARDS C31, C39, C78 & AS WRITTEN IN SPECIFICATIONS AND THE MINIMUM CYLINDER CRUSHING STRENGTH OF CONCRETE AT 28 DAYS SHALL BE AS FOLLOWS. TESTING OF CLASS D & E CONCRETE SHALL BE PERFORMED IF SO SHAHEED CHAWK EXACT, NEAR ALFALAH FURNITURE LOWER DIRECTED BY THE ENGINEER.

CLASS	MIN. CYLINDER CRUSHING STRENGTH AT 28 DAYS (psi).
A	4000
B	3000
C	2400
D	1200
E	800

6. CLASS OF CONCRETE FOR DIFFERENT COMPONENTS OF THE STRUCTURE SHALL BE AS FOLLOWS UNLESS NOTED OTHER WISE:

COMPONENT	CONCRETE CLASS
COLUMNS	CLASS 'A'
SLABS, BEAMS, FOUNDATION	CLASS 'B'
RCC WALLS	CLASS 'D'
PCC STEPS	CLASS 'E'
LEAN / BLINDING CONCRETE	CLASS 'E'

7. ORDINARY PORTLAND CEMENT SHALL BE USED FOR ALL CONCRETE WORKS.
8. AN INTEGRAL WATER PROOFING AGENT SHALL BE USED IN CONCRETE THAT IS CONSTANTLY IN CONTACT WITH WATER AS PER MANUFACTURERS RECOMMENDATIONS (GENCON GENPRUF RMC OR PENETRON ADMIX OR EQUIVALENT).
9. ALL DETAILING SHALL BE DONE AS PER ACI STANDARDS ACI-315, ACI-318 & ACI-350R.

STRUCTURAL ELEMENT	COVER (INCHES)
FOOTINGS	2"
BEAMS	1 1/2"
COLUMNS	1 1/2"
SLABS	3/4"
WALLS	3/4"

4. REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM-A615 GRADE 60 HAVING A MINIMUM YIELD STRENGTH OF 60,000 PSI. FOR STIRRUPS, TIES AND #3 BARS USE ASTM A615, GRADE 60 HAVING MINIMUM YIELD STRENGTH OF 60,000 PSI.
 2. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED STRENGTH BY MORE THAN 18,000 PSI (RETENTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000 PSI)
 3. THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRENGTH TO THE ADDITIONAL 3000 PSI) SHALL BE NOT LESS THAN 1.25
- L-GREATER CLEAR SPAN, db-DIAMETER OF BAR,d-EFFECTIVE DEPTH
- THE FIRST HOOP SHALL BE LOCATED NOT MORE THAN 2" FROM THE FACE OF THE SUPPORTING MEMBER.
- WHERE:

7. ALL REINFORCING STEEL SHALL BE ACCURATELY LOCATED IN THE FORMS AND HELD FIRMLY IN PLACE BEFORE & DURING THE PLACEMENT OF CONCRETE. BY MEANS OF WIRE AND SUPPORTS ADEQUATE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION.
8. LINTELS ARE EXTENDED AT 9 (INCHES) FROM BOTH SIDES OF OPENING.
9. PROVIDE 135° HOOK IN ADJACENT STIRRUPS ON ALTERNATE SIDES.

5. CONCRETE CONSTRUCTION

1. ALL STRUCTURAL SURFACES, AGAINST WHICH EARTH IS TO BE FILLED, SHALL BE COATED WITH TWO COATS OF HOT BITUMEN OF 10/20 GRADE AT THE RATE OF 0.2 lbs/ft/ coat.
2. PROVIDE POLYTHENE SHEET OVER TWO COATS OF HOT BITUMEN AT TOP OF PLINTH BEAM/DPC FOR EXTERIOR WALLS.
3. BEFORE CASTING OF ANY STRUCTURAL MEMBER, THE CONTRACTOR SHALL ENSURE THAT ALL EMBEDDED ITEMS FOR ELECTRICAL, MECHANICAL, HVAC, PLUMBING, STRUCTURAL STEEL AND OTHER WORKS ARE PROPERLY LOCATED AND FIRMLY SECURED IN PLACE.
4. DURING CONSTRUCTION, STACKING OF CONSTRUCTION MATERIALS, BLOCKS, etc. SHOULD BE AVOIDED ON SLAB PANELS.

6. BRICK WORK

1. ALL BRICK WORK SHALL CONFORM TO SPECIFICATIONS GIVEN IN THE CONTRACT DOCUMENT.
2. ALL BRICK SHALL BE SOUND, HARD, WELL BURNED AND OF UNIFORM SIZE, COLOUR AND TEXTURE. DIMENSIONAL VARIATION IN SIZES SHALL NOT EXCEED 1/8". BRICKS SHOULD BE IN ACCORDANCE WITH SPECIFICATIONS AND SHOULD CONFORM TO ASTM C270.
3. ALL BRICK WORK SHALL BE ERECTED PLUMB AND TRUE TO LINE AND LEVEL. THE MAXIMUM VARIATION IN ANY STOREY HEIGHT OR ANY LENGTH OF WALL SHALL BE 1/8" IN 10'-0"
4. MORTAR USED IN MASONRY CONSTRUCTION SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF NOT LESS THAN 12 MPa (1800Psi) AND SHALL CONFORM TO ASTM C270.
5. COMPRESSIVE STRENGTH OF BRICK MASONRY AVERAGE OF 5 UNITS AT 28 DAYS SHALL NOT BE LESS THAN AS SPECIFIED IN SPECIFICATION AND SHALL CONFORM TO RELEVANT ASTM STANDARD.
6. ALL DESIGN, DETAILING, MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH RELEVANT ACI, ASTM, AND UBC CODES AND STANDARDS.
7. BRICK SHALL BE LAID "FROG" UPWARD WITH MORTAR JOINT AND IN ENGLISH FLEMISH BOND OR AS SHAHEED CHAWK EXACT, NEAR ALFALAH FURNITURE LOWER DIRECTED BY THE ENGINEER.
8. BRICKS SHOULD BE SOAKED WITH WATER PROPERLY BEFORE USE.
9. VERTICAL JOINTS SHOULD BE STAGGERED.
10. ALL MASONRY WALLS SHALL BE ANCHORED TO STRUCTURAL FRAME WORK AS INDICATED ON THE DRAWINGS

CLIENT:



CONSULTANTS:



PLANNERS CONSULTANTS ENGINEERS (PCE)

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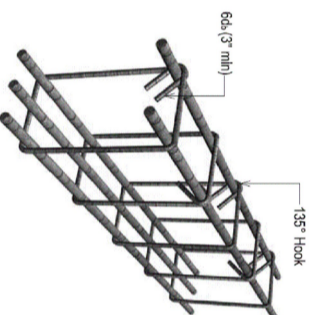
SCHOOL NAME

REHAB WORKS AT
GBPS STANDARD MUSLIM
SECTOR-II RAWALPINDI

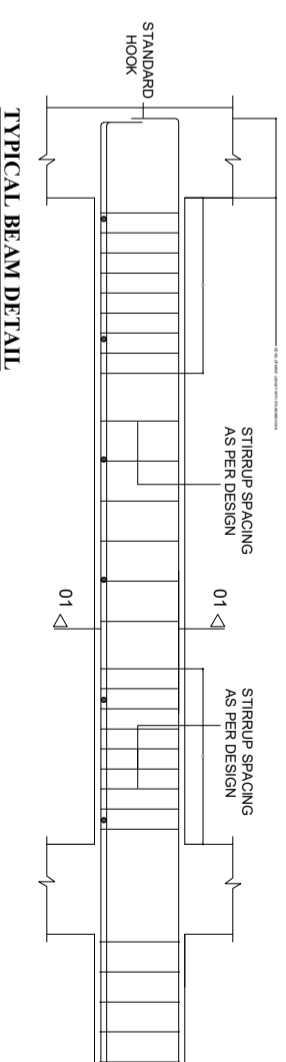
Date of Revision	Prepared By	FAHID KHAN KHAN HANIDER STRUCTURE ENGINEER	PROJECT:
	Designed By	Engr. HUMZA AHMAD	PREPARATION OF DESIGN DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES
	Checked By		TITLE: GENERAL NOTES
	Approved By		DATE: SEP 2023
			SCALE
			DRG.NO. S-01

7. CONSTRUCTION JOINTS

1. JOINTS, NOT SHOWN ON THE DRAWING, SHALL BE SO MADE AND LOCATED AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL NEED PRIOR APPROVAL OF THE ENGINEER. THEY SHALL BE LOCATED NEAR THE MIDDLE OF THE SPANS OF SLAB & BEAMS. JOINTS IN WALLS & COLUMNS SHALL BE AT THE UNDER-SIDE OF FLOORS, SLABS OR BEAMS AND AT THE TOP OF FOOTINGS OR FLOOR SLABS.
2. JOINTS SHALL BE PERPENDICULAR TO MAIN REINFORCEMENT. ALL REINFORCING STEEL SHALL BE CONTINUED ACROSS THE JOINTS.
3. JOINTS IN BASE SLAB & WALLS AND ROOF SLAB, IN ADDITION TO THOSE SHOWN ON THE DRAWINGS SHALL BE BORNE BY THE CONTRACTOR. BEAMS & BRACKETS SHALL BE PLACED AT THE SAME TIME AS SLABS.



SEISMIC HOOK DETAILS



TYPICAL BEAM DETAIL

DEVELOPMENT LENGTH IN TENSION (ACI 21.5.4.1)

BAR DIA	DEVELOPMENT LENGTH (INCHES)	
	$f_c' = 3,000$ psi	$f_y = 60,000$ psi
3/8"	18	7.5
1/2"	24	9.5
3/4"	30	14.5
1"	48	19

SPLICE LENGTH (ACI 21.3.2.4, Class B Splice)

BAR DIA	MINIMUM SPLICE LAP LENGTH (INCHES)	
	$f_c' = 3,000$ psi	$f_y = 40,000$ psi
3/8"	15	-
1/2"	20	9
3/4"	30	15
1"	48	18

DEVELOPMENT LENGTH IN TENSION (ACI 21.5.4.1)

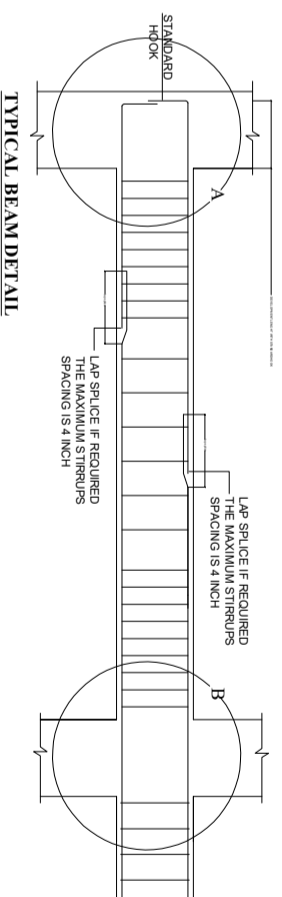
BAR DIA	DEVELOPMENT LENGTH (INCHES)	
	$f_c' = 3,000$ psi	$f_y = 60,000$ psi
1/2"	22	11"
5/8"	30	14"
3/4"	34	17"
1"	55	22"

SPLICE LENGTH (ACI 21.3.2.4, Class B Splice)

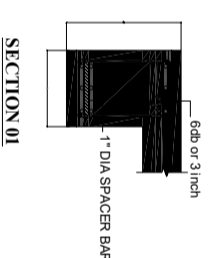
BAR DIA	MINIMUM SPLICE LAP LENGTH (INCHES)	
	$f_c' = 3,000$ psi	$f_y = 60,000$ psi
1/2"	25	35
5/8"	-	44
3/4"	-	55
1"	-	70

STANDARD HOOK

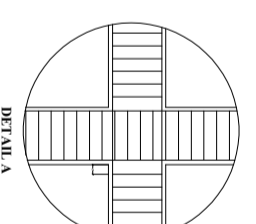
DEVELOPMENT LENGTH WITH STANDARD HOOK



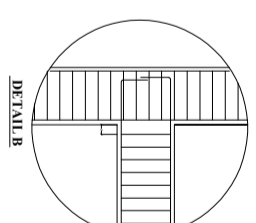
TYPICAL BEAM DETAIL



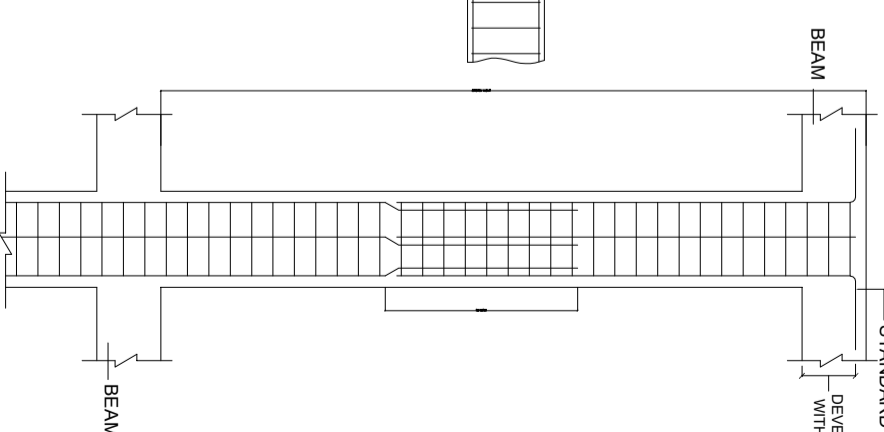
SECTION 01



DETAIL A



DETAIL B



TYPICAL COLUMN DETAIL

CLIENT:



CONSULTANTS:



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REHAB WORKS AT
GBPS STANDARD MUSLIM
SECTOR-II RAWALPINDI

Date of Revision

Prepared By

FARID KHAN
KHAN HADDER
STRUCTURE ENGINEER

PROJECT:

PREPARATION OF DESIGN DRAWINGS & BOOKS
FOR CONSTRUCTION/REHABILITATION OF SITES

Designed By

Engr. HUMZA AHMAD

TITLE:

GENERAL NOTES

Checked By

Approved By

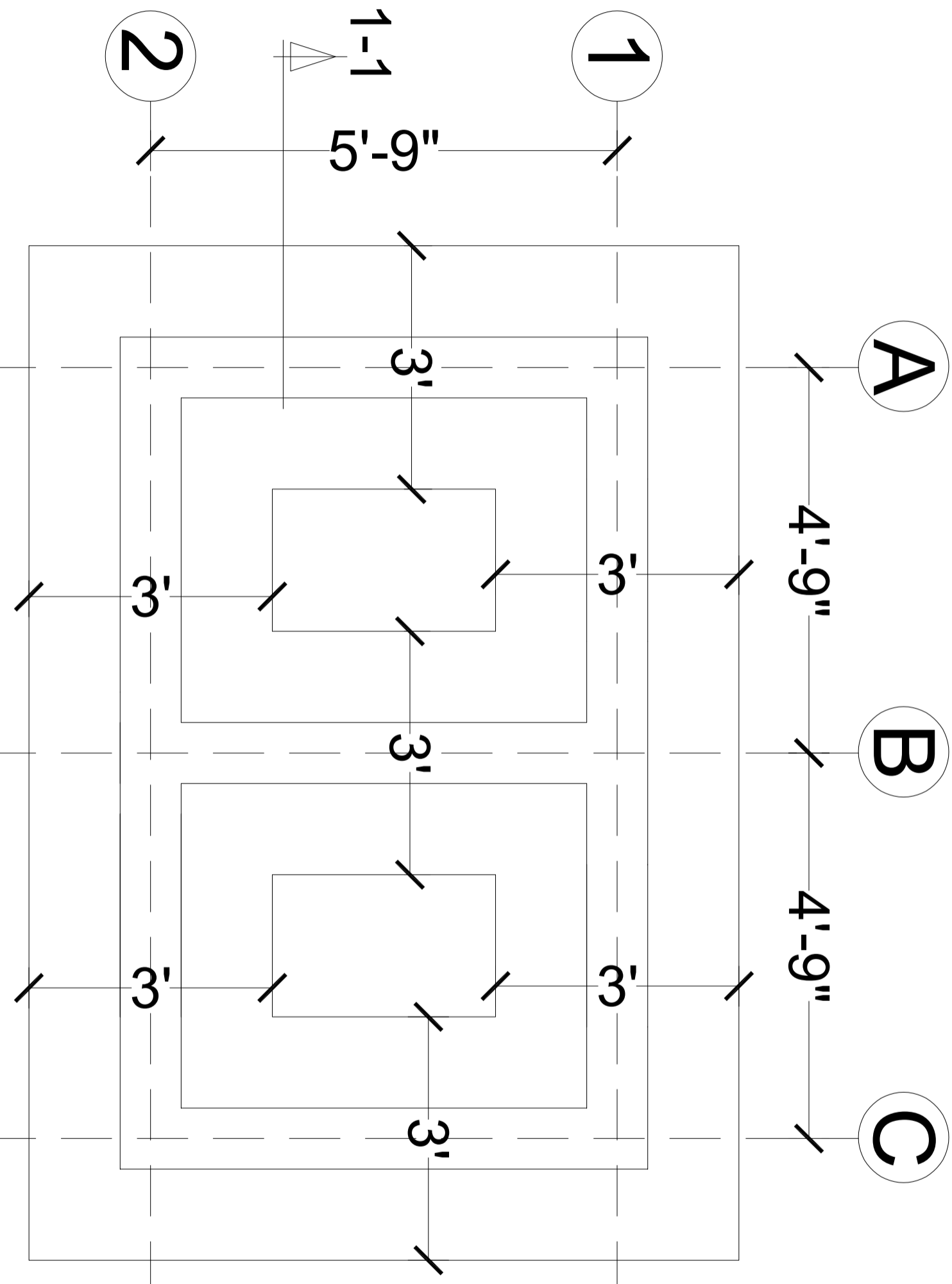
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SEP 2023

SCALE

DRG.NO.

S-02



FOUNDATION PLAN

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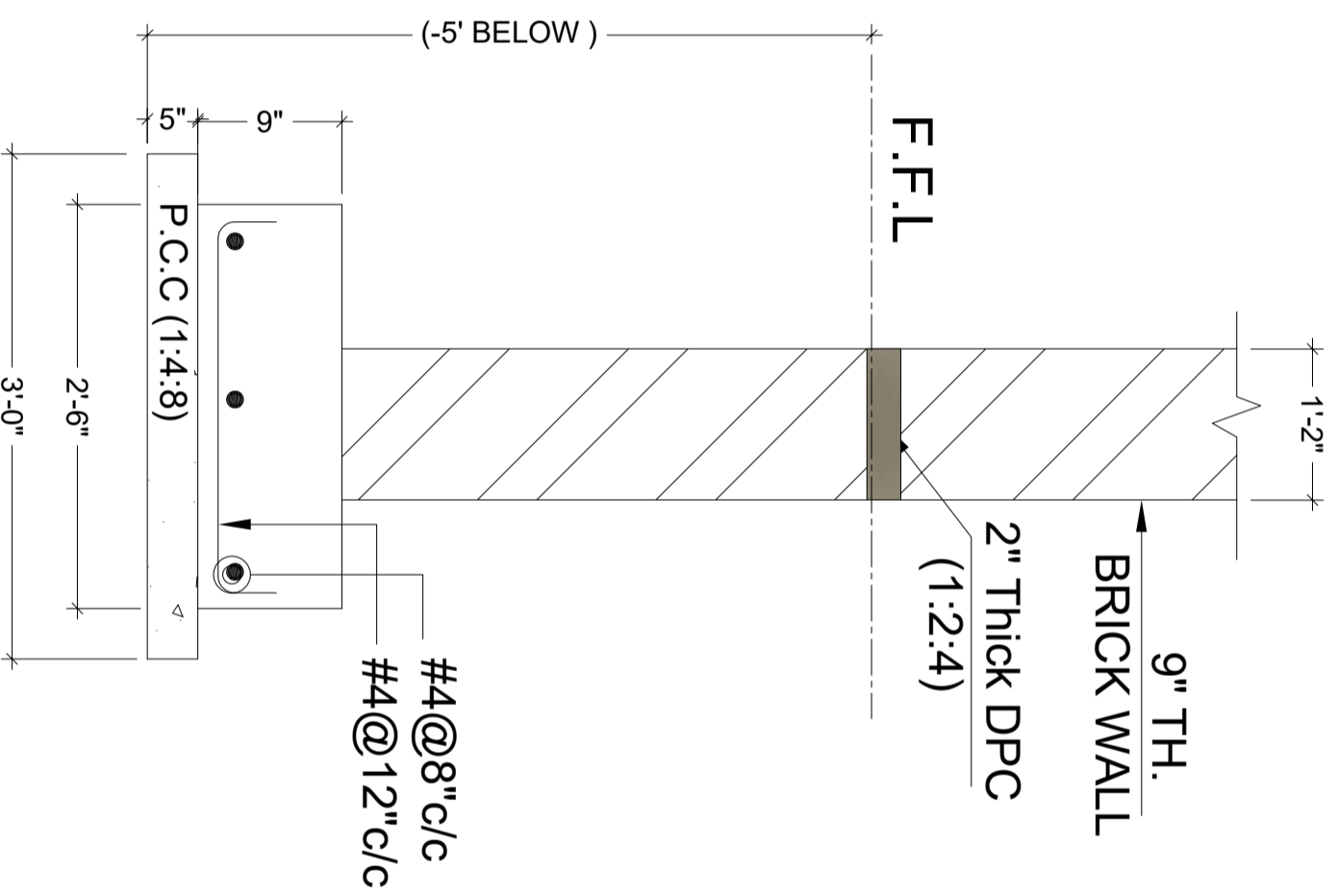
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Date of Revision	Prepared By	STRUCTURE ENGINEER:
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	Designed By	Engr. HUMZA AHMAD
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	Approved By	

PROJECT:			
PREPARATION OF DESIGN DRAWINGS & BOOK FOR CONSTRUCTION/REHABILITATION OF SITES			
TITLE:		FOUNDATION PLAN	
DATE	SCALE	DRG. NO.	
SEP 2023		S-03	



SECTION 1-1

CLIENT:



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FAKID KHAN
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Designed By

Engr. HUMZA AHMAD

Checked By

Approved By

PROJECT:
 PREPARATION OF DESIGN DRAWINGS & BOQs
 FOR CONSTRUCTION/REHABILITATION OF SITES

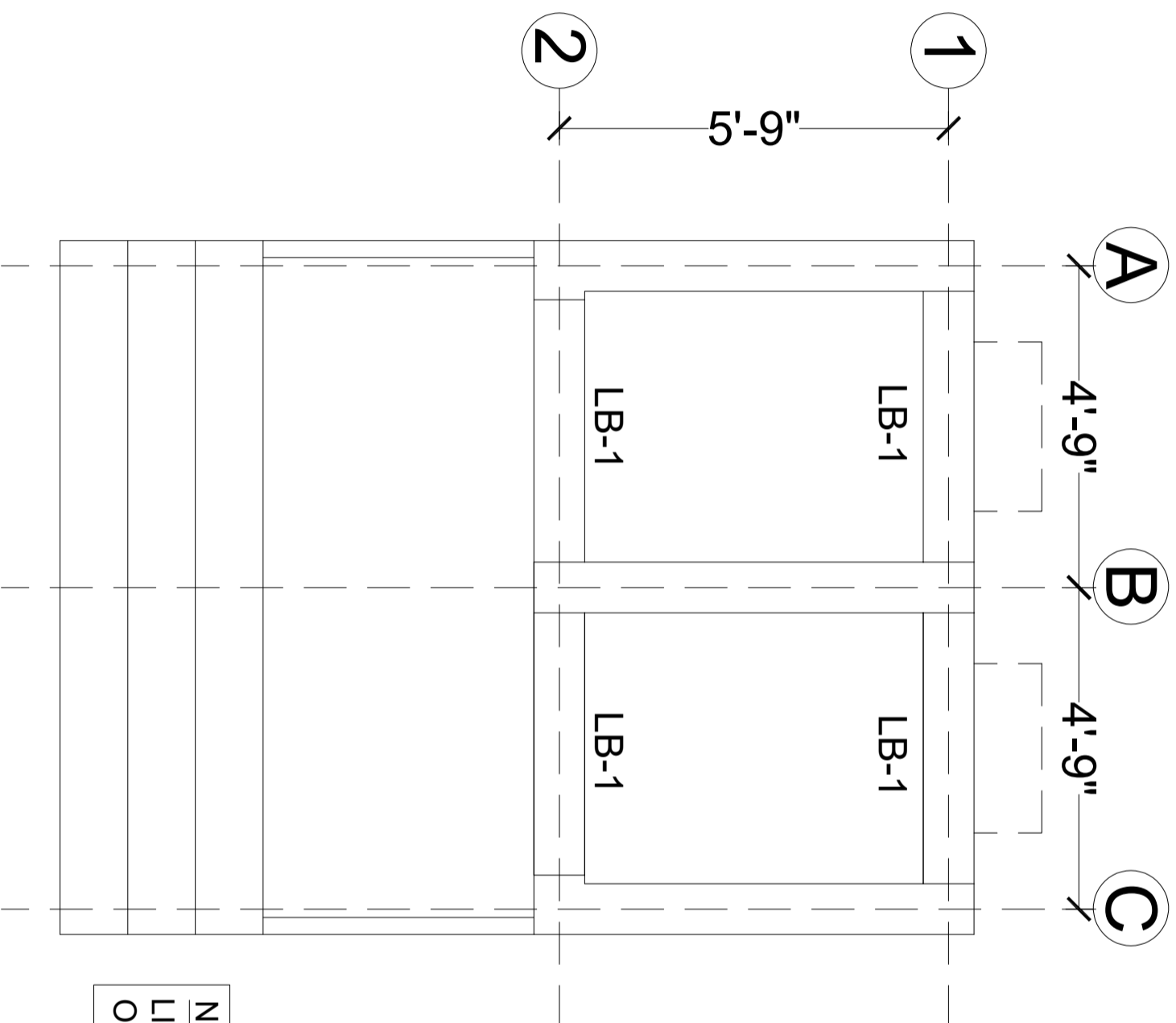
TITLE:
 FOUNDATION SECTION DETAIL

DATE
 SEP 2023

SCALE

DRG.NO.

S-04



NOTE
 LINTEL BEAM WILL BE EXTEND
 ON BOTH SIDE UP TO 1'

GROUND FLOOR LINTEL BEAM PLAN

CLIENT:



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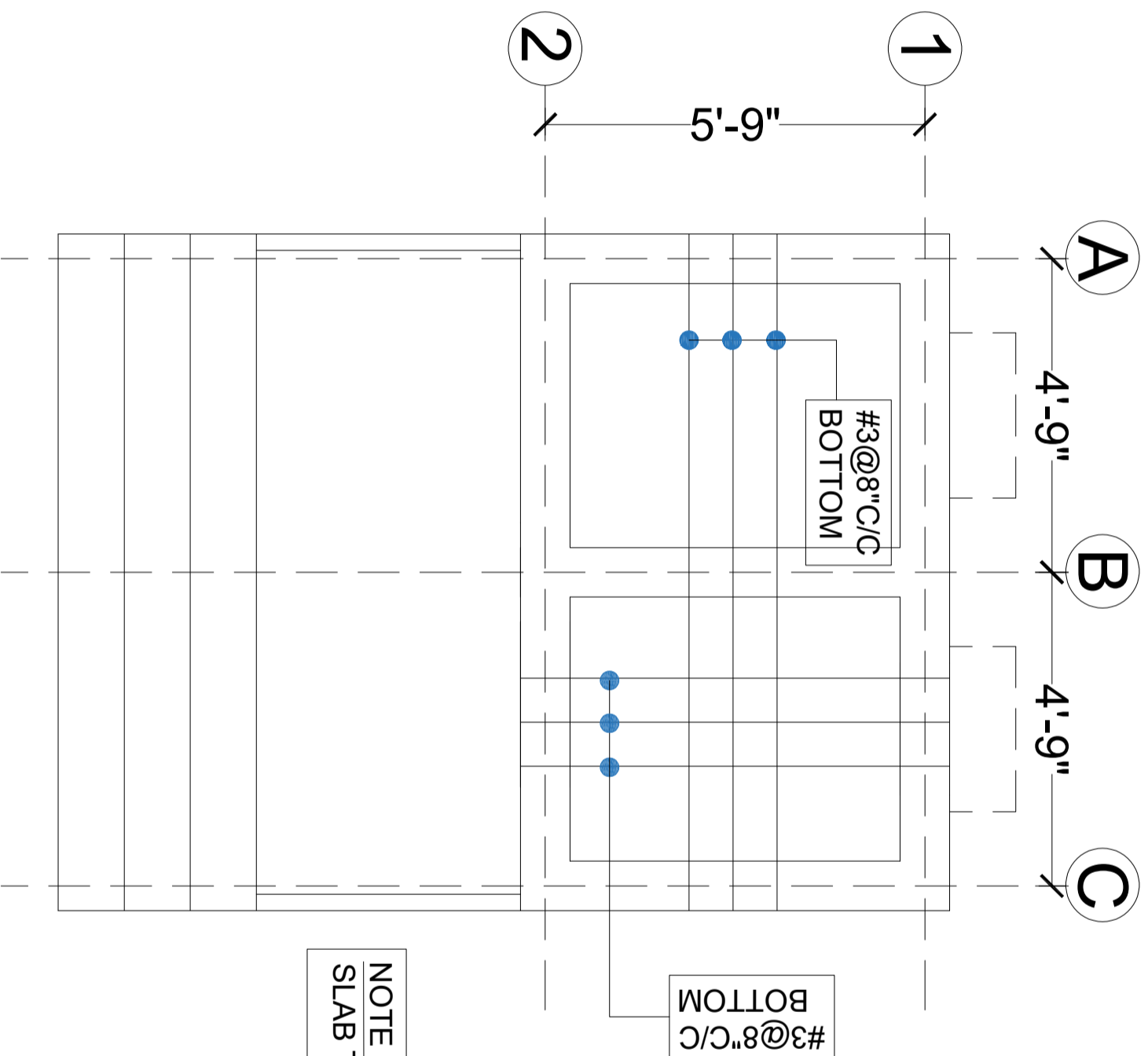
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Date of Revision	Prepared By	FAHAD KHAN KHAN HADDER STRUCTURE ENGINEER	PROJECT:
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	Checked By		GROUND FLOOR LINTEL BEAM PLAN
	Approved By		DATE: SEP 2023 SCALE: DRG. NO. S-05



NOTE :
SLAB THICKNESS = 5"

GROUND FLOOR SLAB BOTTOM REINFORCEMENT PLAN

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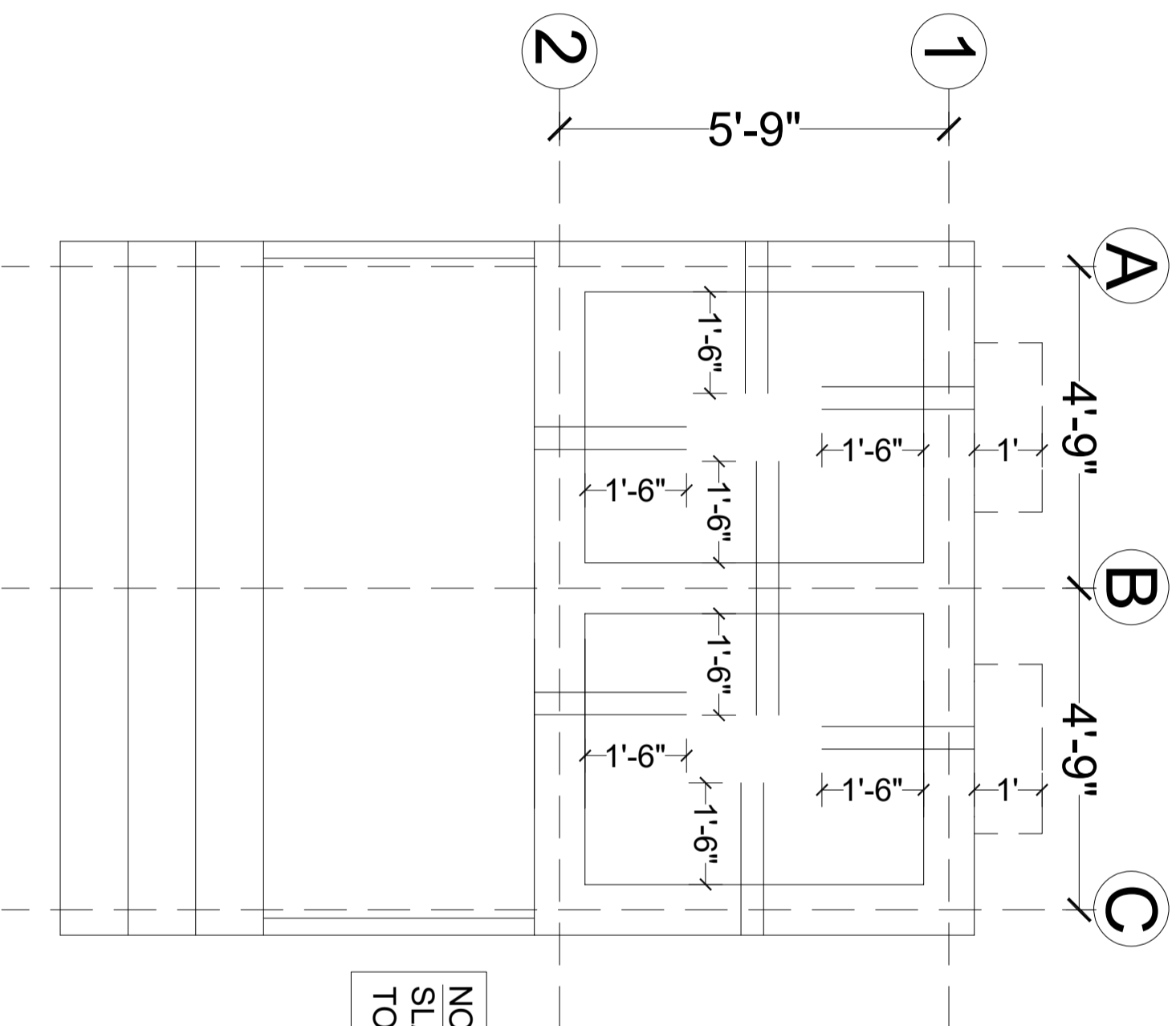


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	Designed By	Engr. HUMZA AHMAD	PREPARATION OF DESIGN, DRAWINGS & BOQS FOR CONSTRUCTION/ REHABILITATION OF SITES
	Checked By		
	Approved By		
DATE	SCALE	DRG.NO.	
SEPT 2023		S-06	



NOTE :
 SLAB THICKNESS = 5"
 TOP REINFORCEMENT = #4@8" C/C

GROUND FLOOR SLAB TOP REINFORCEMENT PLAN

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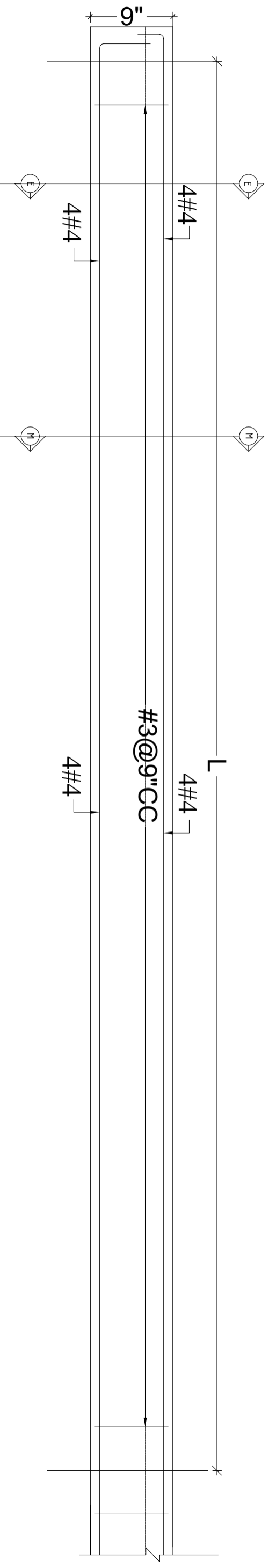
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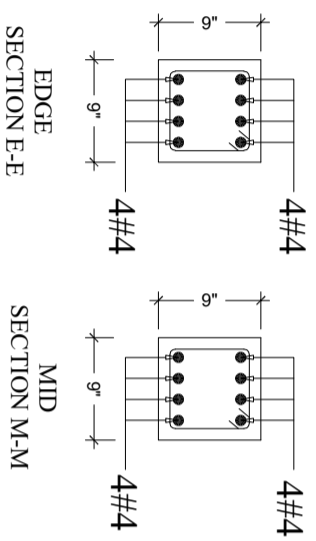
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PROJECT:	TITLE:	DATE	SCALE	DRG.NO.
PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES	GROUND FLOOR SLAB TOP REINFORCEMENT PLAN	SEP 2023		S-07



TYPICAL ELEVATION OF LB-1



CLIENT:



The UN Refugee Agency



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Date of Revision	Prepared By	FARID KHAN KIANN HAIDER STRUCTURE ENGINEER	PROJECT: PREPARATION OF DESIGN DRAWINGS & BOQS FOR CONSTRUCTION/REHABILITATION OF SITES TITLE: LINTEL BEAM DETAIL
	Designed By	Engr. HUMZA AHMAD	
	Checked By		
	Approved By		DATE SEP 2023 SCALE DRG.NO. S-08

PLUMBING DRAWING

















GENERAL NOTES

ALL UNDER GROUND SEWAGE PIPES SHALL HAVE A MINIMUM SLOPE OF 1%.
ISOLATING VALVES SHALL BE PROVIDED TO SEPARATE THE INDIVIDUAL TOILETS, GATE VALVES SHALL BE PROVIDED TO/ FROM WATER HEATERS
EXACT LOCATION OF WATER PIPE WORK SHALL BE DETERMINED ON SITE.
PROVIDE ISOLATING VALVE ON ALL MAIN AND BRANCH LINES FOR MAINTENANCE.
IN PLUMBING WATER SUPPLY SYSTEM THE PIPE DIAMETER INDICATED ARE NET FLOW AREAS (i.e. INTERNAL DIAMETERS) AND THE CONTRACTOR SHALL USE ADEQUATE PIPES SIZE, SPECIALLY WHEN USING PLASTIC PIPES TO ACCOUNT FOR PIPE WALL THICKNESS.
CONTRACTOR TO PROVIDE OVERFLOW, TEST PIPE, WARNING LEVEL AND DRAIN CONNECTION.

FOR COLD WATER SUPPLY PPR PN-20 PIPES SHALL BE USED.
ALL EXPOSED COLD AND HOT WATER PIPING SHALL BE PPR.
ALL HOT WATER PIPES SHALL BE PPR PN-20.
ALL HOT WATER PIPES SHALL BE INSULATED.
PPR PIPE INTERNAL CLEAR DIA.
ALL SUI GAS PIPE SHALL BE G.I PIPE BEST QUALITY

LEGEND FOR PLUMBING

1	MAIN HOLE
2	2" Ø u.P.V.C VENT PIPE ABOVE

LEGEND	
	CW COLD WATER SUPPLY & MAKEUP WATER
	HW HOT WATER SUPPLY
	WMH WASTE WATER MANHOLE
	SMH SOIL WATER MANHOLE
	HWG HOT WATER GEYSER
	W/C WATER CLOSET (ENGLISH)
	W/C WATER CLOSET (INDIAN)
	W.B WASH BASIN
	F.T FLOW TRAP
	T.R TOWEL RAIL (ROD)
	SH SHOWER
	TAP
	OHWT OVER HEAD WATER TANK
	UGWT UNDER GROUND WATER TANK

CLIENT:



CONSULTANTS:



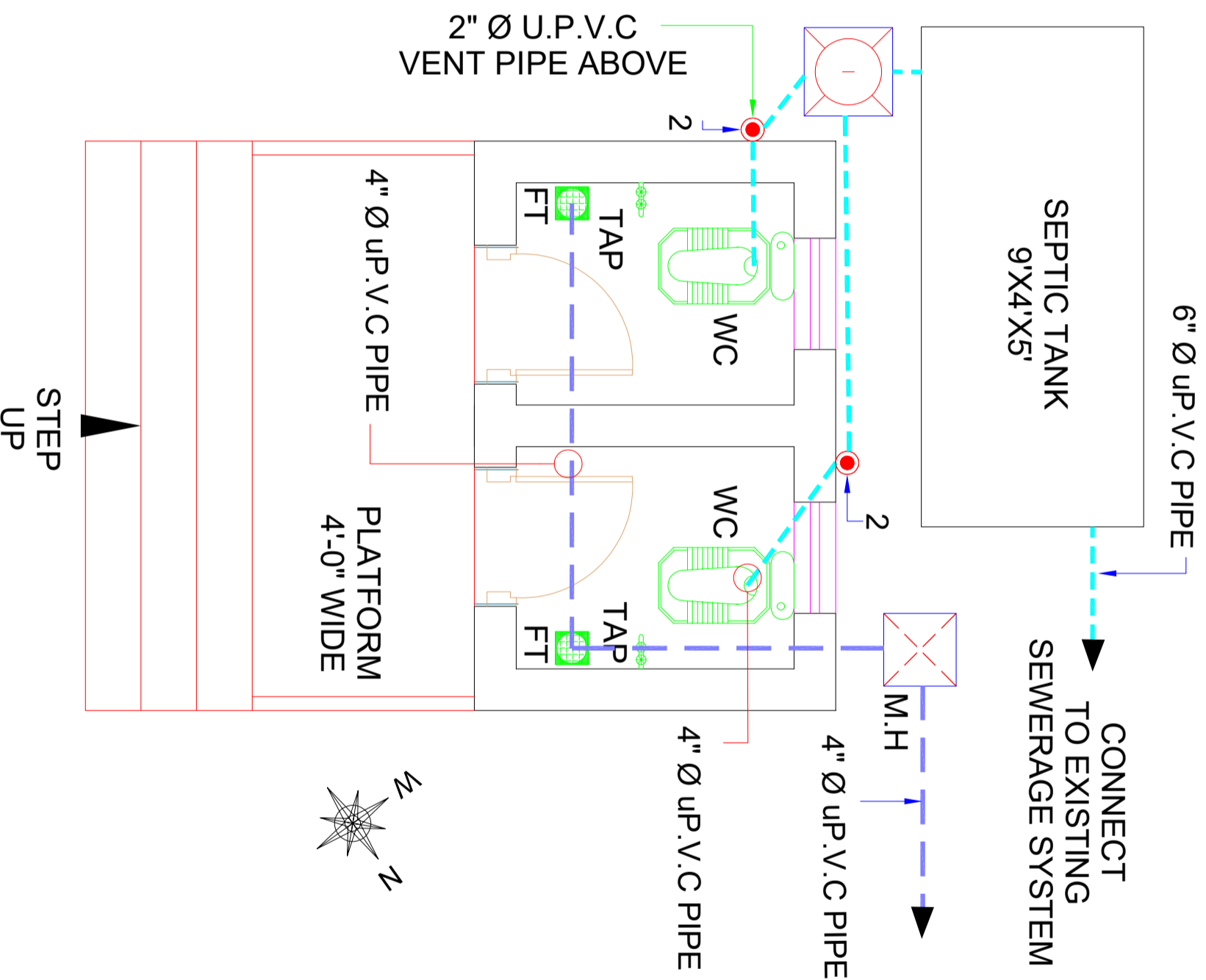
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REHAB WORKS OF
GBPS STANDARD MUSLIM
SECTOR-II RAWALPINDI

Date of Revision	Prepared By	ARCHITECT	PROJECT:
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	Designed By	MARWAT KHAN OR AKZAI (B.Arch/UD CET Karachi) (M.Arch/UDT Lahore)	TITLE: GENERAL NOTES
	Checked By		DATE: SEP 2023
	Approved By		SCALE
			DRG.NO. P-01



GROUND FLOOR PLUMBING PLAN

CLIENT:

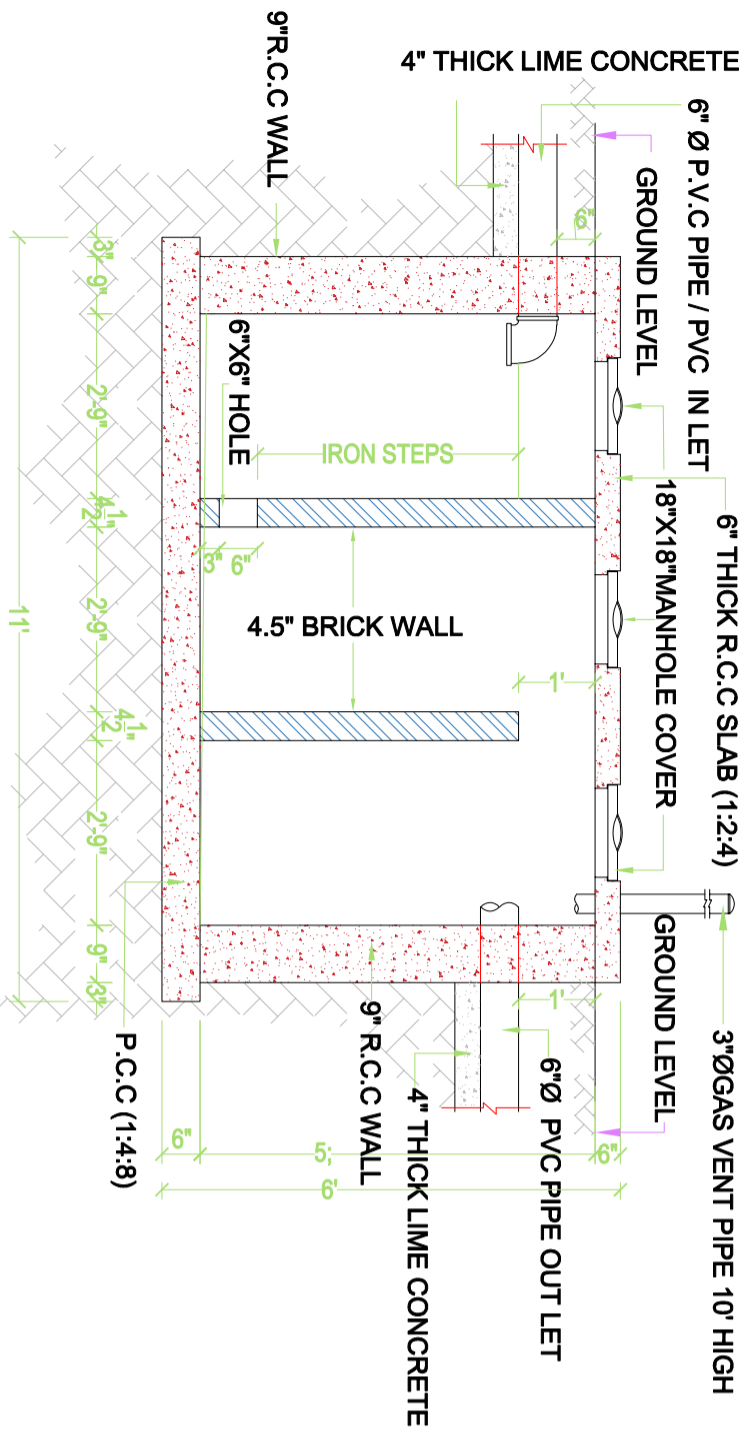


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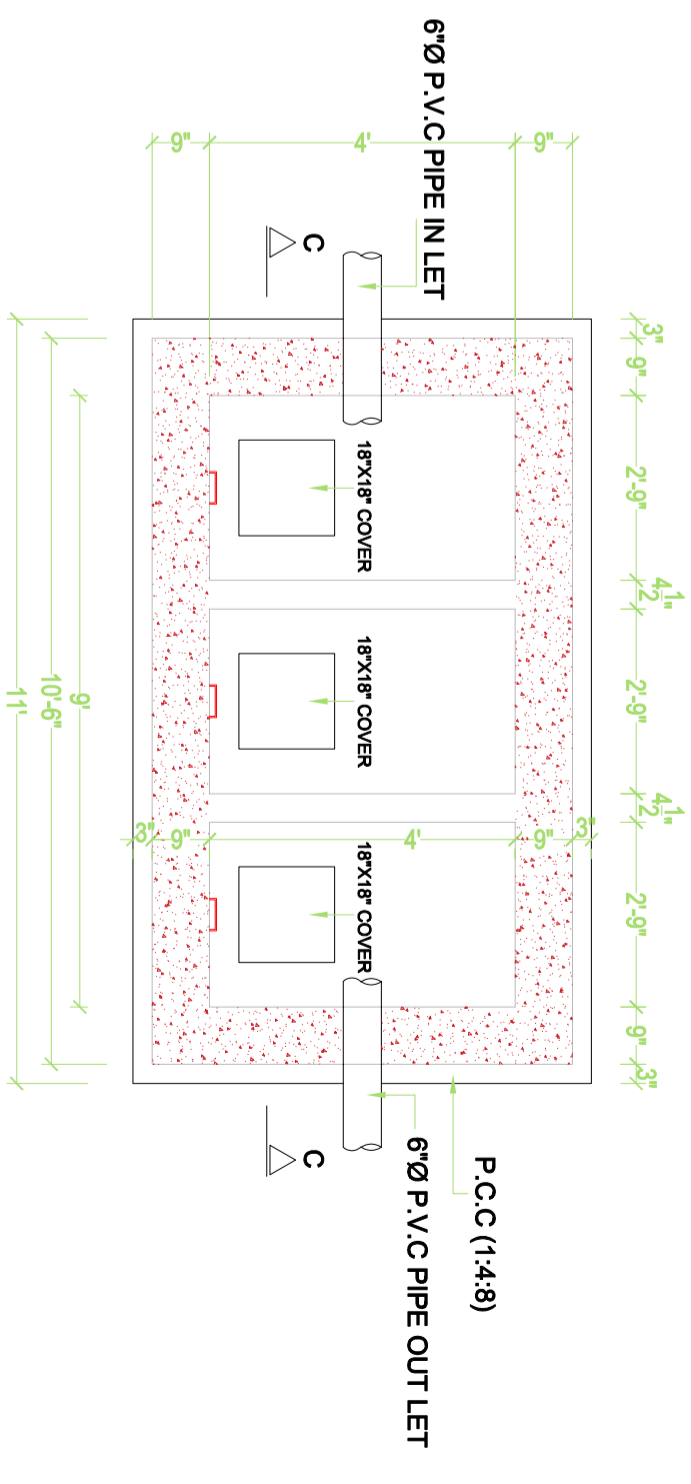
SCHOOL NAME
 REHAB WORKS OF
 GBPS STANDARD
 SECTOR
 MUSLIM-II RAWALPINDI

Date of Revision	Prepared By	ARCHITECT
	Designed By	MARWAT KHAN ORAKZAI (S.A.M.D.C.E.T. Karachi) (M.Archd. UET, Lahore)
	Checked By	
	Approved By	

PROJECT:
 PREPARATION OF DESIGN, DRAWINGS & BOQS
 FOR CONSTRUCTION/REHABILITATION OF SITES
TITLE:
 GROUND FLOOR PLUMBING PLAN
DATE SEP 2023 **SCALE** **DRG.NO.** P-02



SEPTIC TANK SECTION



SEPTIC TANK PLAN

CLIENT:



CONSULTANTS:

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SCHOOL NAME

REHAB WORKS OF
 GBPS STANDARD MUSLIM
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	Checked By		TITLE: SEPTIC TANK PLAN
	Approved By		DATE SEP 2023
			SCALE
			DRG.NO.
			P-03

**WATER SUPPLY
DRAWING**

LEGEND

	CW	COLD WATER SUPPLY & MAKEUP WATER
	HW	HOT WATER SUPPLY
	WMH	WASTE WATER MANHOLE
	SMH	SOIL WATER MANHOLE
	HWG	HOT WATER GEYSER
	W.C	WATER CLOSET (ENGLISH)
	W.C	WATER CLOSET (INDIAN)
	W.B	WASH BASIN
	F.T	FLOW TRAP
	T.R	TOWEL RAIL (ROD)
	SH	SHOWER
	TAP	TAP
	OHWT	OVER HEAD WATER TANK
	UGWT	UNDER GROUND WATER TANK

CLIENT:



UNHCR
The UN Refugee Agency

CONSULTANTS:



PLANNERS CONSULTANTS ENGINEERS (PCE)

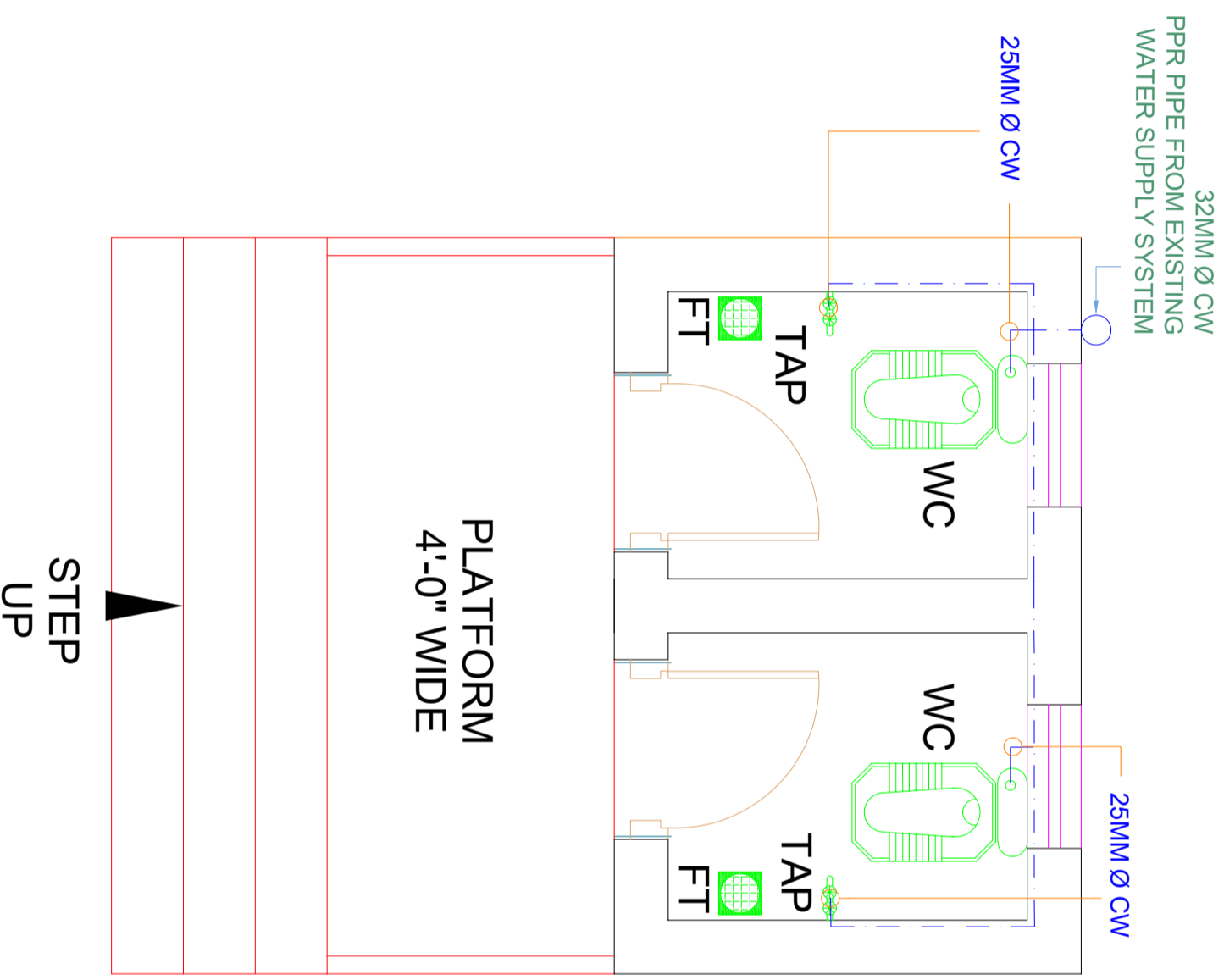
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SCHOOL NAME

REHAB WORKS OF
GBPS STANDARD MUSLIM
SECTOR-II RAWALPINDI

Date of Revision	Prepared By	FARID KHAN KIYAN HABIB	PROJECT: PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES
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	Approved By		DATE SEP 2023
			SCALE
			DRG. NO. WS-01

TITLE:
LEGEND



GROUND FLOOR WATER SUPPLY PLAN

CLIENT:



The UN Refugee Agency

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SECTOR-II RAWALPINDI

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	Checked By		TITLE: GROUND FLOOR WATER SUPPLY PLAN
	Approved By		DATE: <i>S/P 2023</i>
			SCALE
			DRG.NO. WS-02

**ELECTRIFICATION DRAWINGS
OF
REHAB WORKS
AT
GBPS STANDARD MUSLIM
SECTOR-II RAWWALPINDI**

ELECTRICAL DRAWINGS		
1	GENERAL NOTES	E-01
2	APPROVED MANUFACTURE LIST	E-02
3	LEGEND	E-03
4	GROUND FLOOR PLAN	E-04
5	GROUND FLOOR DIMENSION PLAN	E-05

CLIENT:



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PLANNERS CONSULTANTS ENGINEERS (PCE)

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SCHOOL NAME

REHAB WORKS OF
 GBPS STANDARD MUSLIM
 SECTOR-II RAWALPINDI

Date of Revision	Prepared By	Engr. HAMMAD AHMAD
	Designed By	
	Checked By	
	Approved By	

PROJECT:		
PREPARATION OF DESIGN DRAWINGS & BOOKS FOR CONSTRUCTION/ REHABILITATION OF SITES		
TITLE:	LIST OF DRAWINGS	
DATE	SCALE	DRG.NO.
SEP 2023		E-00

ELECTRICAL SYSTEMS

FOLLOWING NOTES SHALL IN GENERAL APPLY TO ALL ELECTRICAL DRAWINGS. THE INSTRUCTIONS IN THESE NOTES SHALL BE FOLLOWED UNLESS STATED OTHERWISE.

1. THESE NOTES SHALL BE APPLICABLE TO THE ENTIRE ELECTRICAL WORKS. THE SITE CONDITIONS NECESSITATE ALTERATION OR DEVIATION OF THE DIRECTIONS OF THE ENGINEER SHALL BE OBSERVED AS FINAL INSTRUCTIONS.
2. DIMENSIONS / MEASUREMENTS IS GIVEN IN LAYOUT AND DETAILED DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALCULATE THE ACTUAL DIMENSIONS ACCORDING TO STRUCTURAL AND ARCHITECTURAL DRAWINGS.
3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH ALL RELEVANT DETAILS TO THE ENGINEER FOR APPROVAL ACCORDING TO THE GENERAL CONDITION OF CONTRACT WELL IN TIME BEFORE COMMENCEMENT OF THAT WORK.
4. PROPER CO-ORDINATION OF ELECTRICAL WORKS WITH OTHER SERVICES SHALL BE CARRIED OUT AT SITE.
5. ALL NON CURRENT CARRYING PARTS, i.e. OUTER CASINGS OF EQUIPMENT SUCH AS H.T & IT PANELS, DISTRIBUTION BOARDS, CABLE TRAYS, AUXILIARY CONSTRUCTION FOR EQUIPMENT ETC. SHALL BE CONNECTED TO THE GROUND-EARTHING SYSTEM AT REQUIRED NUMBER OF POINTS WITH SPECIFIED SIZES OF CONDUCTORS. WATER PIPES ALONG ELECTRICAL LINE SHALL BE BONDED TO THE EARTHING SYSTEM WITH TO 10MMsq SINGLE CORE COPPER CONDUCTOR PVC CABLE.
6. ELECTRICAL POINTS FOR EQUIPMENT SHALL BE INSTALLED IN CO-ORDINATION WITH THE RELEVANT DRAWINGS OF OTHER SERVICES, SUCH AS COMMUNICATION SYSTEMS, HVAC, PLUMBING ETC. THE LOCATION ON ELECTRICAL DRAWINGS IS ONLY INDICATIVE.
7. ARRANGEMENT OF ELECTRICAL EQUIPMENTS ON ELECTRICAL DRAWINGS ARE TENTATIVE EXACT ARRANGEMENT OF EQUIPMENT SHALL BE MADE IN VIEW OF ITS PHYSICAL DIMENSIONS AND EASY OF MAINTENANCE.
8. LOAD ON ALL PHASES SHALL BE MAXIMUM BALANCED AT THE TIME OF COMMISSIONING STAGE. IT IS RESPONSIBILITY OF CONTRACTOR.
9. CONDUIT RUN UNDER FLOOR SHALL HAVE A MINIMUM COVER OF TWO INCHES FROM TOP TO CONDUIT TO FINISH FLOOR LEVEL.
10. ALL WIRING SHOULD BE CARRIED OUT ACCORDING TO THE PHASES RED, YELLOW, BLUE CABLE COLOUR ARE AS PER PHASE DISTRIBUTION IN BUILDING.
11. RUN GREEN OR WHITE SINGLE CORE PVC INSULATED COPPER CONDUCTOR CABLE OF SPECIFIED SIZE AS PROTECTIVE EARTH CONDUCTOR (LCC) ALL ALONG LIGHT AND POWER WIRING WHEREVER THE SIZE IS NOT SPECIFIED THE FOLLOWING OR ILLERIA SHALL BE OBSERVED TO DETERMINE MINIMUM CROSS SECTIONAL AREA OF EARTH CONTINUITY CONDUCTOR (ECC) IN RELATION TO THE AREA OFFICE PHASE CONDUCTORS RUN SEPARATE ECC FOR EACH CIRCUIT.
 - ECC 2 PHASE CONDUCTOR OF SAME SIZE FOR UPTO AND INCLUDING 16 MMSQ CABLES
 - FOR CABLES OF 50 MM SQ AND ABOVE SIZES IS HALF SIZE OF PHASE CONDUCTOR
 - MINIMUM SIZE ECC IS 70MM SQ.
12. ALL WIRING FOR CONTROLS SHALL BE CARRIED OUT WITH 1 CORE FLEXIBLE PVC CABLES OF SPECIFIED VOLTAGE GRADE AND SIZES.
13. THE MAXIMUM CAPACITY OF PVC CONDUITS FOR SIMILAR TONCOUS DRAWING OF PVC INSULATED CABLES SHALL BE DETERMINED AS PER BS 4607. THE FOLLOWING TABLE SHALL BE USED TO DETERMINE THE MAXIMUM NUMBER OF CABLES

NUMBER OF CABLE IN (CONDUIT)	SIZE OF CABLE		
NEW STANDER SIZE MM sq	25 MM (1")	20 MM (3/4")	15 MM (3/8")
1.5 MM sq	13	8	5
2.5 MM sq	10	6	4
4 MM sq	7	4	3
6 MM sq	5	3	2
10 MM sq	3	2	1

14. NORMAL & EMERGENCY CIRCUITS SHALL BE RUN IN SEPARATE CONDUITS.
15. THE WIRING SHELL BE CONTINUOUS LOOPING-IN TYPE AND NO JOINT IN WIRES SHELL BE ALLOWED.
16. THE WIRING SYSTEM SHELL BE CARRIED OUT ONLY AFTER THE CONDUIT SYSTEM IS COMPLETELY INSTALLED AND ALL OUTLET BOXES, ETC. ARE FIXED IN POSITION.
17. MOUNTING HEIGHTS OF ELECTRICAL FITTINGS WHEN MEASURED FROM FINISHED FLOOR LEVEL (ECC) TO THE BOTTOM OF FITTINGS SHELL BE AS UNDER UNLESS OTHER WISE SHOWN OR INSTRUCTED
 - > SWITCH BOARD 48 INCHES
 - > EXHAUST FAN REF TO ARCH DRAWING
 - > DISTRIBUTION BOARD 56 INCHES
 - > CONTROL PANEL 48 INCHES
 - > ON/OFF PUSH BUTTON STATION 48 INCHES
 - > DIMMER CONTROL UNIT 48 INCHES
 - > LIGHT CONTROL SWITCH (ONE WAY/TWO WAY) 48 INCHES
 - > 5 AMP SOCKET OUTLETS IN GENERAL AREAS 12 INCHES
 - > 15 AMP SOCKET OUTLETS IN GENERAL AREAS 12 INCHES
 - > 20 AMP SOCKET OUTLETS IN GENERAL AREAS 12 INCHES
 - > 16 AMP SOCKET OUTLETS IN KITCHEN (ABOVE COUNTER) 10 INCHES
 - > 16 AMP TP SPIN INDUSTRIAL SOCKET OUTLETS IN LABS 12 INCHES
 - > CEILING FAN ON SLAB 12 INCHES
 - > WALL BRACKET FAN 90 INCHES

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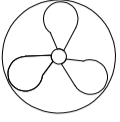
Date of Revision	Prepared By	FARID KHAN KHAN HADDER ELECTRICAL ENGINEER
	Designed By	Engr. HAMMAD AHMAD
	Checked By	
	Approved By	

PROJECT:	DATE	SCALE	DRG. NO.
PREPARATION OF DESIGN DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES	SEP 2023		E-01
TITLE:		GENERAL NOTES	

APPROVED MANUFACTURE LIST

S NO.	ITEM OR ACCESSORIES	BRAND
01	WIRING CABLE	PAKISTAN,NEW AGE,FAST, GM, COPPERGAT CABLE
02	POWER CABLE	PAKISTAN,NEW AGE,FAST, GM, COPPERGAT CABLE
03	LIGHT FIXTURES	PHILIPS,PIERLITE,CLIPSAL, OSAKA, FAST LIGHT
04	CEILING FAN	PAK, GFC, ROYAL, LAHORE FAN
05	PVC CONDUIT	POLO,BETA,POPULAR, GM, ADAMJEE
06	SWITCHES	PPL
07	LT SWITCHGEAR	SCHNEIDER, ABB, PEL,ELECTRECH
08	MOULDED CASE CIRCUIT BREAKER	SCHNEIDER, CHINT, LS, ABB
9	MINIATURE CIRCUIT BREAKER	SCHNEIDER, CHINT, LS, ABB

CLIENT: 	CONSULTANTS:  <p>PLANNERS CONSULTANTS ENGINEERS (PCE) 97-K Industrial Estate, Hayatabad Peshawar Pakistan Ph: 0092-91-5816017, 5891661-4, Fax: 5891845 E-Mail: pce.pesh@yahoo.com</p>	SCHOOL NAME REHAB WORKS OF GBPS STANDARD MUSLIM SECTOR-II RAWALPINDI												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Date of Revision</td> <td style="width: 30%;">Prepared By</td> <td style="width: 40%;">FARID KHAN KHAN HAIDER ELECTRICAL ENGINEER</td> </tr> <tr> <td></td> <td>Designed By</td> <td>Egr. HAMMAD AHMAD</td> </tr> <tr> <td></td> <td>Checked By</td> <td></td> </tr> <tr> <td></td> <td>Approved By</td> <td></td> </tr> </table>		Date of Revision	Prepared By	FARID KHAN KHAN HAIDER ELECTRICAL ENGINEER		Designed By	Egr. HAMMAD AHMAD		Checked By			Approved By		PROJECT: PREPARATION OF DESIGN, DRAWINGS & BOOKS FOR CONSTRUCTION/REHABILITATION OF SITES TITLE: APPROVED MANUFACTURE LIST DATE: SEP 2023 SCALE: DRG.NO.: E-02
Date of Revision	Prepared By	FARID KHAN KHAN HAIDER ELECTRICAL ENGINEER												
	Designed By	Egr. HAMMAD AHMAD												
	Checked By													
	Approved By													

SYMBOL	DESCRIPTION	INSTALLATION HEIGHT
	SURFACE MOUNTED DOWN LIGHT WITH 17 WATT ENERGY SAVER	CEILING MOUNTED
	TMS 136	SLAB MOUNTED
	56" SWEEP CEILING FAN	SLAB MOUNTED
	SWITCH BOARD	56" FROM FFL
	DISTRIBUTION UNIT	60" FROM FFL
	EXHAUST FAN POINT	

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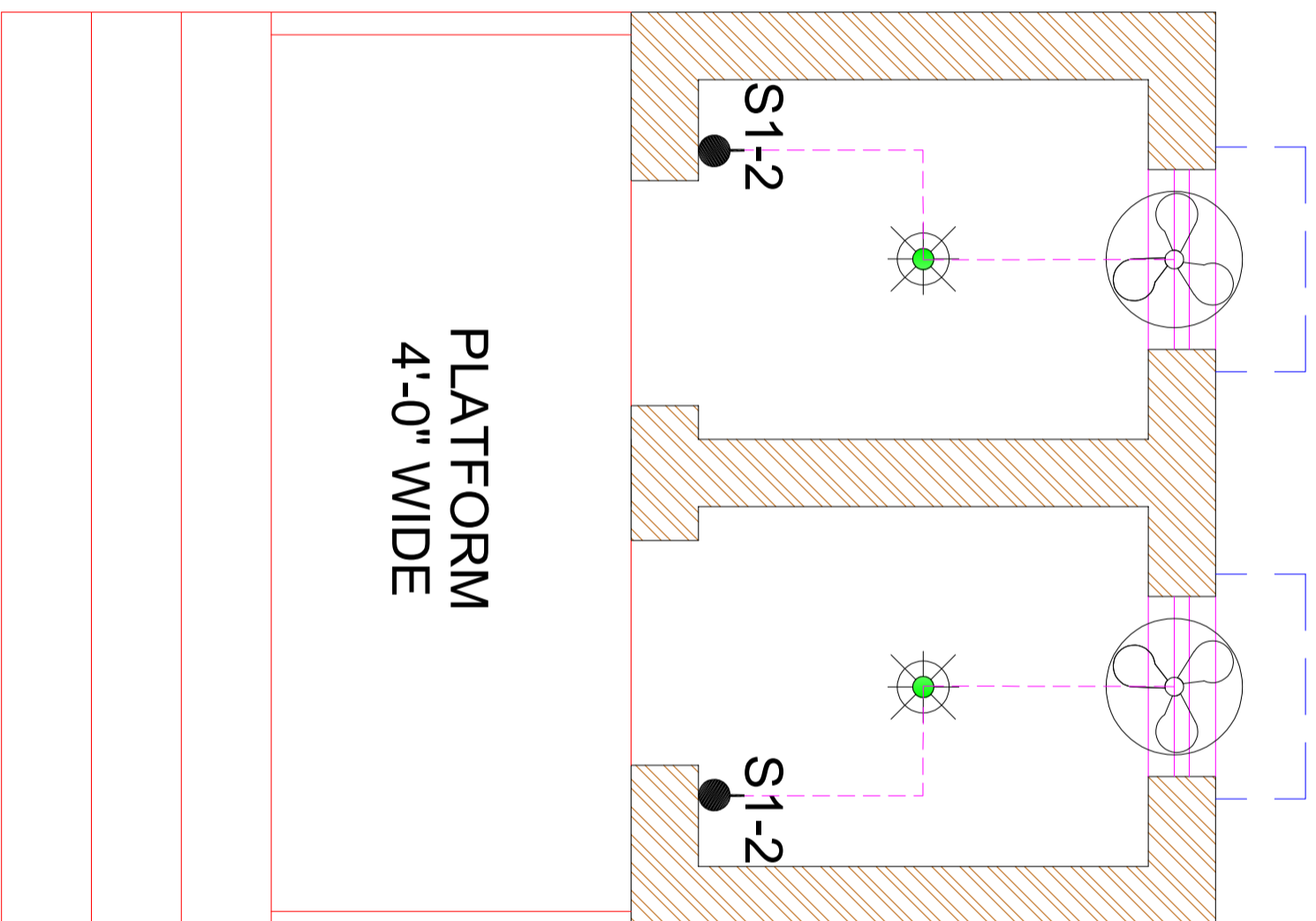
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	Checked By		
	Approved By		
			DATE: SEP 2023
			SCALE
			DRG.NO. F-03

TITLE:
LEGEND



GROUND FLOOR PLAN

CLIENT:



CONSULTANTS:
PLANNERS CONSULTANTS ENGINEERS (PCE)

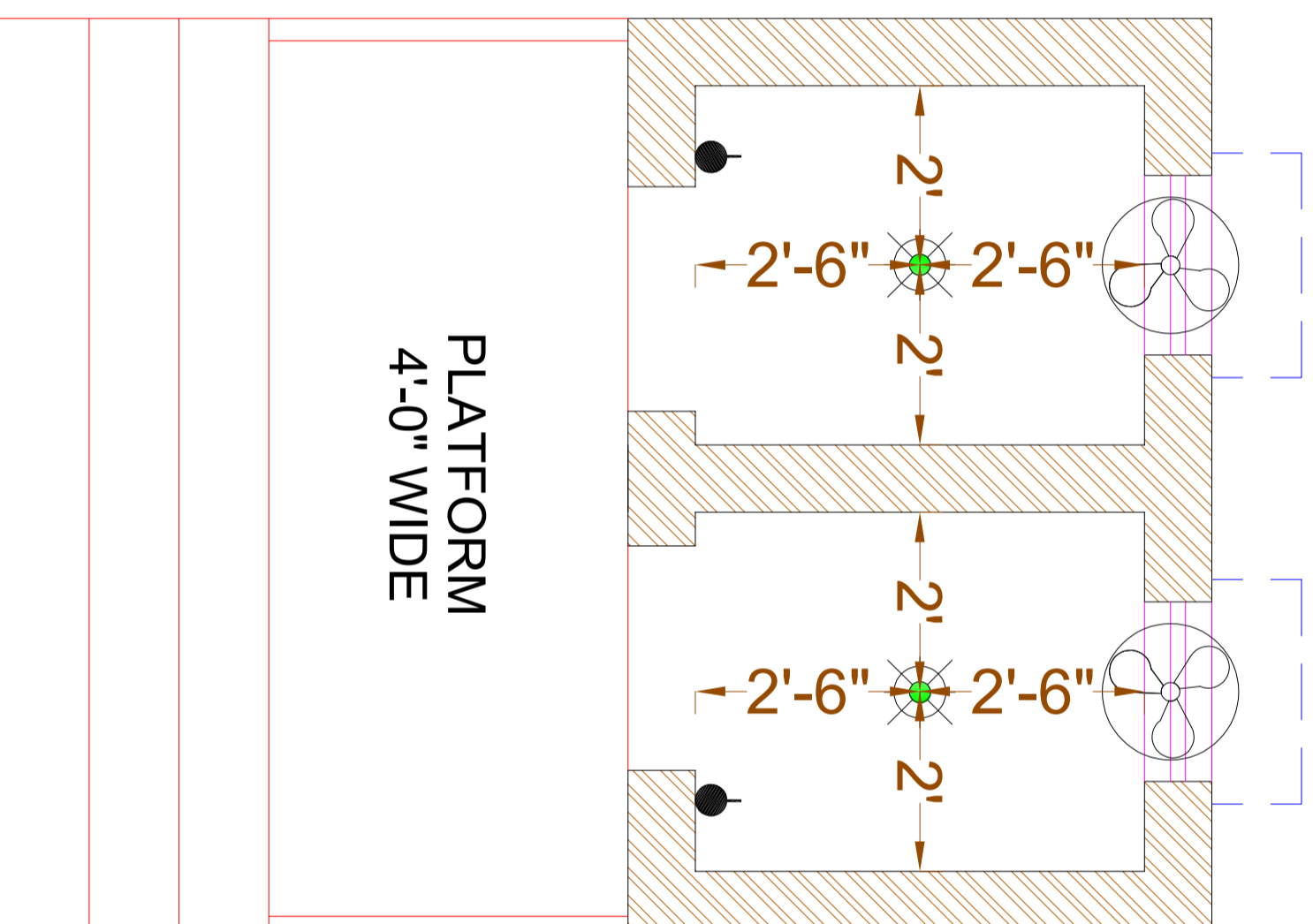
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DATE	SCALE	DRG.NO.
SEP 2023		E-04



GROUND FLOOR PLAN

CLIENT:



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	Checked By	Engr. HAMMAD AHMAD	
	Approved By		
			TITLE: GROUND FLOOR DIMENSION PLAN
			DATE: <i>SEP 2023</i>
			SCALE
			DRG.NO. E-05