

A. GENERAL

- NOTES GIVEN ON THIS DRAWING ARE APPLICABLE TO ALL STRUCTURAL DRAWINGS UNLESS OTHERWISE NOTED. NOTES WRITTEN ON ANY OTHER DRAWING SHALL BE APPLICABLE TO THAT PARTICULAR DRAWING ONLY UNLESS OTHERWISE CROSS REFERRED.
- SYSTEM OF UNITS IS FPS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY AND STABILITY OF THE STRUCTURE AND ALL TEMPORARY WORKS DURING CONSTRUCTION.
- THE CONTRACTOR SHALL INFORM THE ENGINEER ABOUT ANTICIPATED CONSTRUCTION LOADS ON THE STRUCTURE AND OBTAIN ENGINEER'S APPROVAL THEREOF BEFORE COMMENCING WORK.
- THE CONTRACTOR SHALL CO-ORDINATE ALL DRAWINGS OF ALL DISCIPLINES FOR ALL ITEMS INCLUDING BUT NOT LIMITED TO SIZES AND LOCATION OF ALL OPENINGS REQUIRED FOR DUCTS, PIPES AND PIPE SLEEVES, ELECTRICAL CONDUITS AND OTHER ITEMS TO BE EMBEDDED IN CONCRETE OR OTHERWISE INCORPORATED IN STRUCTURAL WORK AND SHALL BRING TO THE NOTICE OF THE ENGINEER DISCREPANCIES, IF ANY, FOR HIS INSTRUCTIONS, PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS AND BAR BENDING SCHEDULES FOR ENGINEER'S APPROVAL AND OBTAIN HIS APPROVAL BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY OF SHOP DRAWINGS AND BAR BENDING SCHEDULES. THE ENGINEER'S APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY.
- THE CONTRACTOR SHALL VERIFY LAYOUT, CONFIGURATION, ALL DIMENSIONS AND LEVELS PERTAINING TO EXISTING WORKS BEFORE PROCEEDING WITH THE WORK.
- CONTRACTOR SHALL COORDINATE SCHEDULE OF CONSTRUCTION WITH SUPPLY AND INSTALLATION OF EQUIPMENT, GLAZING WINDOW FRAMES AND OTHER ATTACHMENTS AS SHOWN ON ARCHITECTURAL DRAWING.
- ALL LEVELS MARKED ON THE DRAWINGS ARE LEVELS OF STRUCTURAL ELEMENTS. FINISH LEVELS SHALL BE IN ACCORDANCE WITH THE ARCHITECTURAL DRAWINGS.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO SPECIFICATIONS OF THE CONTRACT. IN ABSENCE OF ANY EXPRESS OR IMPLIED SPECIFICATION IN THE CONTRACT, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO RELEVANT AMERICAN STANDARDS.

B. FOUNDATION AND EARTHWORK.

- FOUNDATION HAS BEEN DESIGNED FOR FOLLOWING ALLOWABLE NET BEARING CAPACITY FOR RAFT = 1.0TSF
- FOUNDATION HAS BEEN DESIGNED FOR GROUND+MUMTY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING SYSTEM IF AND WHERE REQUIRED DURING CONSTRUCTION.
- TERMITE CONTROL TREATMENT SHALL BE CARRIED OUT IN THE BUILDING AS PER SPECIFICATIONS.
- THE CONTRACTOR SHALL SUPPLY AND ERECT ADEQUATE SHORING TO SUPPORT THE SIDES OF ALL EXCAVATIONS WHERE REQUIRED TO SAFEGUARD WORKMEN AND PROTECT ANY ADJACENT STRUCTURES.
- EXISTING UNDERGROUND SERVICES, REQUIRED TO BE LEFT IN POSITION, SHALL BE CAREFULLY PROTECTED DURING EXCAVATION AND BACKFILLING OPERATIONS.
- WALLS OF UNDERGROUND TANK AND BASEMENT SHALL NOT BE BACKFILLED UNTIL TOP SLAB IS CAST AND CURED.
- ANTI-TERMITE TREATMENT IS RECOMMENDED BEFORE CONSTRUCTION OF FOOTING.

C. REINFORCED CONCRETE.

- ALL CONCRETE SHALL BE TESTED IN ACCORDANCE WITH ASTM STANDARD SPECIFICATIONS AND SHALL COMPLY WITH THE FOLLOWING REQUIREMENT. TESTING OF CLASS D & E CONCRETE SHALL BE PERFORMED IF SO DIRECTED BY THE ENGINEER.

CLASS	MIN. CYLINDER CRUSHING STRENGTH AT 28 DAYS
	psi.
A	4000
B	3000
C	3000
D	1500

- CLASS OF CONCRETE FOR DIFFERENT COMPONENTS OF THE STRUCTURE SHALL COMPLY WITH THE FOLLOWING:

COMPONENT	CONCRETE CLASS
COLUMNS & SHEAR WALLS	A
SLABS/BEAMS	B
O.H.TANK	B
REATINING WALL	B
FOUNDATION	B
LEAN 1:4:8	D
ALL OTHERS	C

- ORDINARY PORTLAND CEMENT SHALL BE USED IN ALL CONCRETE WORKS.
- ALL REINFORCEMENT SHALL BE DEFORMED, CONFORMING TO ASTM A-615 GRADE 60 WITH SPECIFIED YIELD STRENGTH OF NOT LESS THAN 60,000 PSI NOR MORE THAN 78000 PSI, AND RATIO OF ULTIMATE STRENGTH / YIELD STRENGTH NOT LESS THAN 1.25.
- ALL DETAILING SHALL BE DONE AS PER ACI STANDARDS ACI-315 AND ACI-318.
- CONCRETE CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	MINIMUM COVER
CONCRETE EXPOSED TO EARTH/ WATER OR WEATHER:	
BAR DIA > #6	2"
BAR DIA < #5	1 1/2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS & WALLS	3/4"
BEAMS, COLUMNS, PRIMARY REINFORCEMENT, TIES & STIRRUPS	1 1/2"

- ALL REINFORCING STEEL SHALL BE HELD FIRMLY IN PLACE BEFORE AND DURING THE PLACING OF CONCRETE BY MEANS OF WIRES AND SUPPORTS ADEQUATE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION.
- AT THE TIME CONCRETE IS PLACED, REINFORCEMENT SHALL BE FREE FROM MUD, OIL, OR OTHER NON METALLIC COATINGS THAT DECREASE BOND.
- BEFORE CASTING OF ANY STRUCTURAL MEMBER, THE CONTRACTOR SHALL ENSURE THAT ALL EMBEDDED ITEMS FOR ELECTRICAL, MECHANICAL, HVAC, PLUMBING, STRUCTURAL STEEL AND OTHER WORKS, AND DOWELS FOR STRUCTURAL MEMBERS AND/OR MASONARY ARE PROPERLY LOCATED IN PLACE.

9. EMBEDMENT LENGTHS

UNLESS OTHERWISE STATED ON THE DRAWINGS, THE FOLLOWING EMBEDMENT LENGTHS SHALL BE PROVIDED.

BAR SIZE	3/8"Ø	1/2"Ø	5/8"Ø	3/4"Ø	1"Ø
EMBEDMENT LENGTH	21"	28"	34"	41"	55"

10. LAP LENGTH

UNLESS OTHERWISE STATED ON THE DRAWING, THE FOLLOWING LAP LENGTHS SHALL BE PROVIDED.

BAR SIZE	3/8"Ø	1/2"Ø	5/8"Ø	3/4"Ø	1"Ø
LAP LENGTH	27"	36"	44"	54"	72"

- EXCEPT WHEN OTHERWISE SHOWN ON THE DRAWING, WHENEVER REINFORCING BARS OF DIFFERENT SIZES ARE TO BE SPLICED, LAP LENGTH SHALL BE LARGER OF Ld OF LARGER BAR & TENSION LAP SPLICE LENGTH OF SMALLER BAR
- DEVELOPMENT LENGTH OF 90° HOOKS SHOULD BE 17db AND SHOULD BE ANCHORED IN CONFINED CORE OF COLUMN.

- CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE SO MADE AND LOCATED AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL NEED PRIOR APPROVAL OF THE ENGINEER. IN GENERAL THEY SHALL BE LOCATED NEAR THE MIDDLE OF THE SPAN OF SLABS AND BEAMS. JOINTS IN COLUMNS SHALL BE AT THE UNDERSIDE OF FLOORS, SLABS OR BEAMS AND AT THE TOP OF FOOTINGS OR FLOOR SLABS. JOINTS SHALL BE PERPENDICULAR TO MAIN REINFORCEMENT. ALL REINFORCING STEEL SHALL BE CONTINUED ACROSS JOINTS.

- FLOOR SLABS SUBJECT TO VEHICULAR TRAFFIC SHALL BE TREATED WITH APPROVED METALLIC FLOOR HARDENER.

14. CONSTRUCTION JOINTS

SURFACE OF CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED.

IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.

BEAMS, GIRDERS, OR SLABS SUPPORTED BY COLUMNS OR WALLS SHALL NOT BE CAST OR ERECTED UNTIL CONCRETE IN THE VERTICAL SUPPORT MEMBERS IS NO LONGER PLASTIC.

D- BRICK MASONRY WORKS

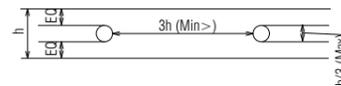
- ALL MASONRY DESIGN AND CONSTRUCTION SHALL CONFORM TO ACI 530-02/ASCE 5-02 LOCAL AUTHORITY REQUIREMENTS AND SPECIFICATIONS. EQUIVALENT BRITISH STANDARDS MAY BE CONSIDERED SUBJECT TO APPROVAL OF THE EMPLOYER. CONSULTANT. THE CONTRACTOR IS TO TAKE PARTICULAR CARE THAT ALL THE PERPENDS AND BEDS ARE PROPERLY FILLED WITH MORTOR.
- ALL CONTROL JOINTS SHALL BE FILLED WITH COMPRESSIBLE EXPANDABLE FILLER. REFER TO SPECIFICATIONS FOR FIRE RATED WALLS.
- FIRE RATING, SOUND AND THERMAL INSULATION PROPERTIES SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- PROVIDE LINTELS OVER ALL OPENING OR RECESSES IN MASONRY WALLS INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES OR EQUIPMENT. SEE STANDARD DETAIL DRAWINGS FOR LINTEL SIZES AND DETAILS.
- PROVIDE RESTRAINT TO ALL MASONRY WALLS AT SLAB SOFFIT AND SIDES AS SHOWN IN STANDARD DETAIL DRAWINGS.
- ALL MASONRY ANCHORS, MASONRY TIES AND EMBEDDED ITEMS SHALL BE HOT DIP GALVANIZED.
- PROVIDE HORIZONTAL BED JOINT REINFORCEMENT IN ACCORDANCE WITH STANDARD DETAIL DRAWINGS AND SPECIFICATIONS.

E. PROPS, FORMWORK AND CURING.

- SEQUENCE OF REMOVAL OF FORMWORK SHALL BE AS APPROVED BY THE ENGINEER.
- ALL PROPS, BRACINGS, GUY WIRE PROPS, ETC. REQUIRED FOR STRENGTH AND STABILITY OF THE STRUCTURE AND THE FORMWORK DURING CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR.
- AT LEAST ONE LOWER FLOOR SHALL REMAIN PROPPED UNTIL THE UPPER FLOOR IS CAST AND CURED.

F. OPENINGS. CONCEALED CABLES AND CAST -IN CONDUITS

- NO HOLES OR CHASES ARE PERMITTED IN CONCRETE MEMBERS OTHER THAN THOSE AS DETAILED IN THE STRUCTURE DRAWINGS OR AUTHORIZED BY THE ENGINEER PRIOR TO CONCRETING
- NO HACKING OR CORING OF STRUCTURE IS PERMITTED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL COORDINATE ALL STRUCTURAL, ARCHITECTURAL AND MECHANICAL & ELECTRICAL (M&E) DRAWINGS FOR OPENINGS, CONCEALED CABLES AND CAST -IN CONDUITS AND FITTINGS. THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES IN DRAWINGS PRIOR TO CONSTRUCTION.
- LOCATION ,MAXIMUM SIZE AND MINIMUM SPACING OF EMBEDDED PIPE AND CONDUITS IN R.C SLAB.



- CONDUITS, PIPES, AND SLEEVES PASSING THROUGH A SLAB WALL, OR BEAM SHALL NOT IMPAIR SIGNIFICANTLY THE STRENGTH OF THE CONSTRUCTION.

SIGN:

REVISION:

REV.	Date	Description
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CLIENT:

TAALEEM FOUNDATION

PROJECT:

PROPOSED DESIGN OF A SCHOOL AT TAJBI KHEL, LAKKI MARWAT, KPK.

TITLE:

GENERAL NOTES

DRAWN BY:

EMRANz

ENGINEER:

JUNAID FAROOQ

SIGN:

CHECKED BY:

SCALE:

N.T.S

DATE:

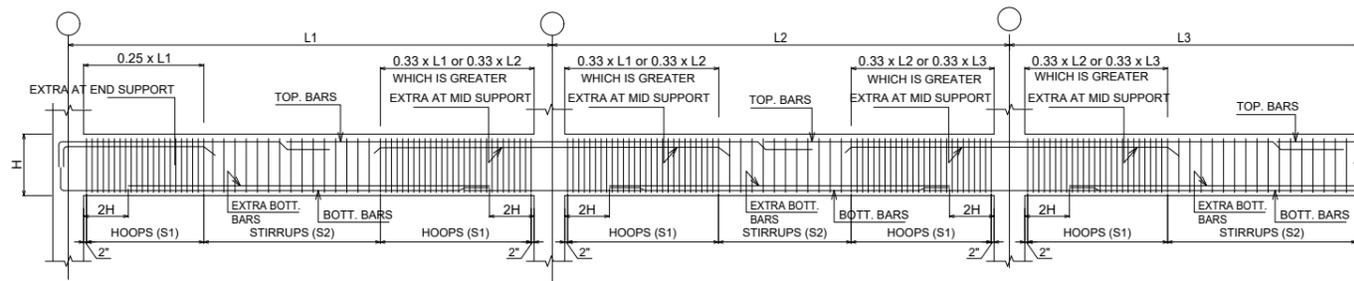
SEP, 2024

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G-01

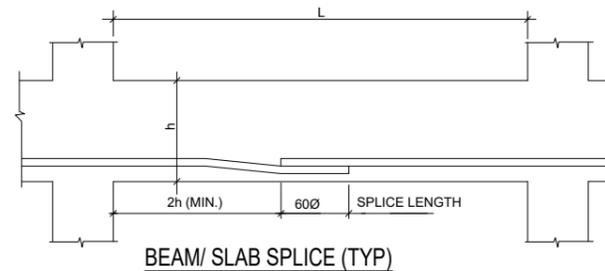
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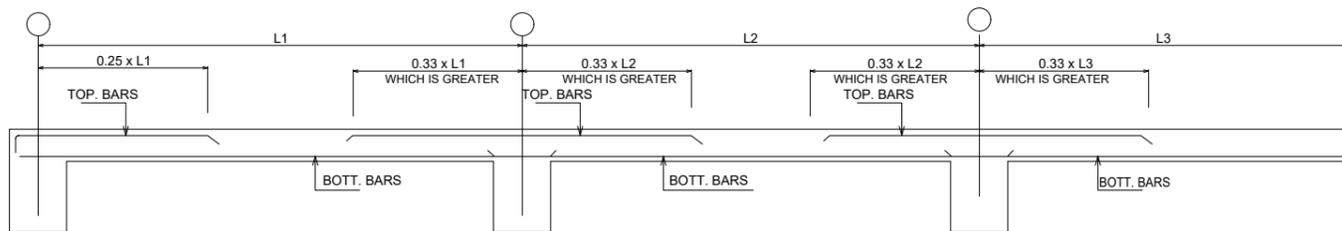


TYP BARS CUTOFF DETAILS FOR BEAM

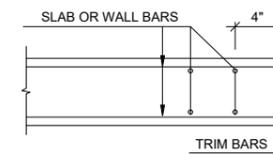
- SPACING OF S1 SHALL NOT EXCEED THE SMALLEST OF (a) (b) (c)
 - $d/4$
 - $6x\text{db}$ (Smallest Primary Flexural Rft.)
 - 6 inches
- SPACING OF S2
 - $d/2$



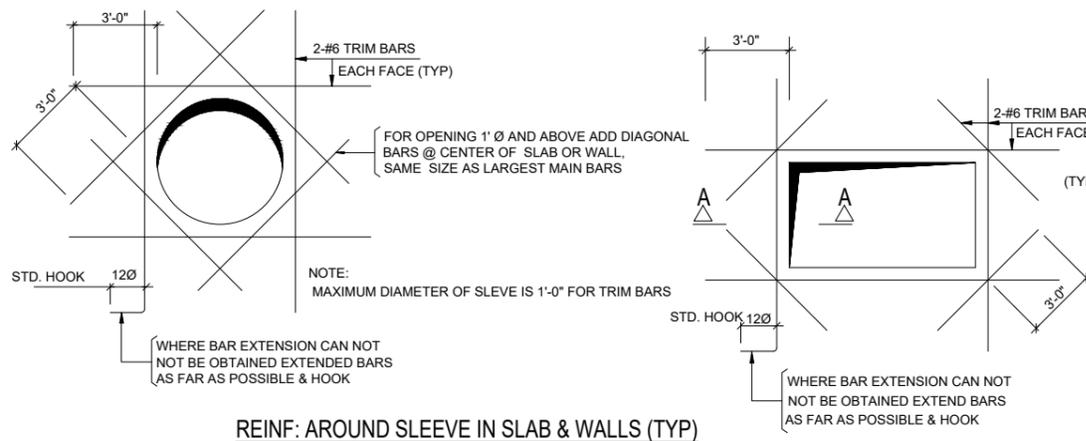
BEAM/ SLAB SPLICE (TYP)



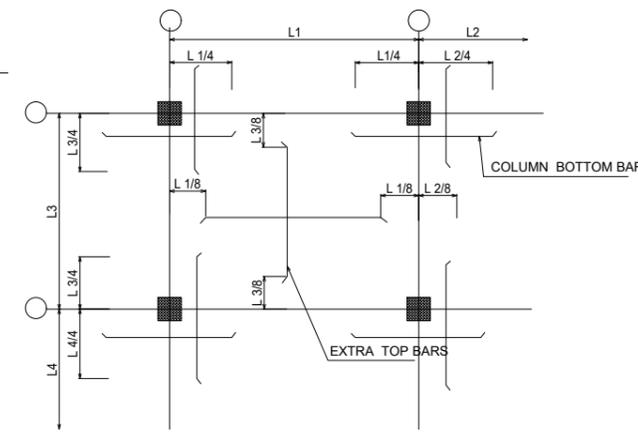
TYP BARS CUTOFF DETAILS FOR SLAB



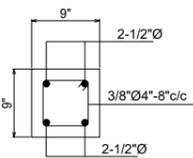
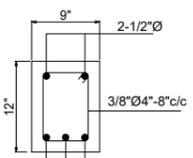
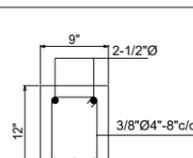
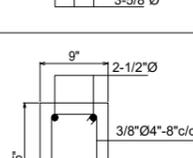
SECTION A-A

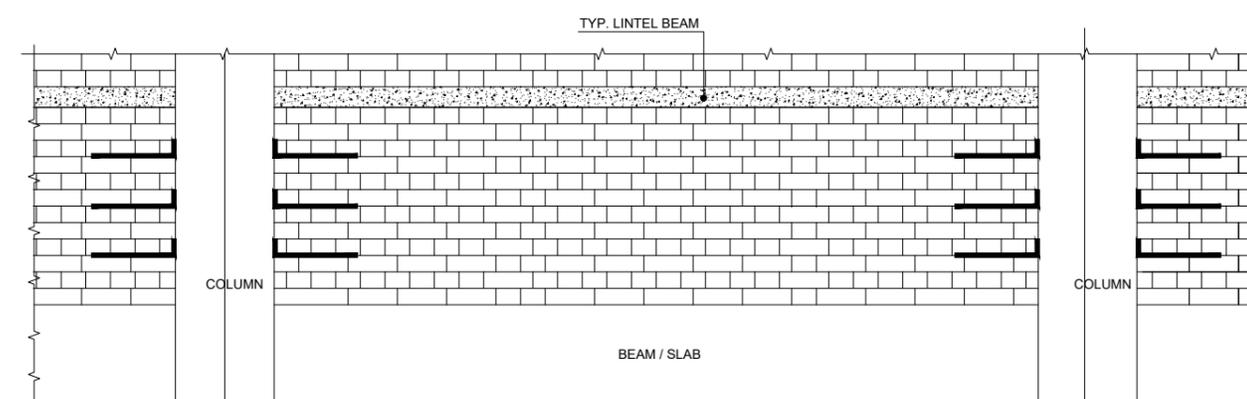


REINF: AROUND SLEEVE IN SLAB & WALLS (TYP)
 (OPENING SIZE: $3\phi > \text{OPENING DIAMETER} > 12\phi$)

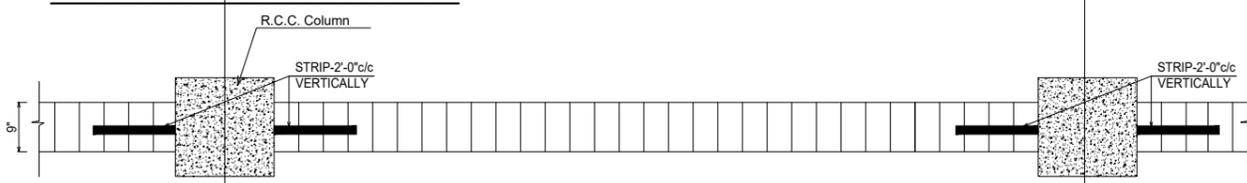


RAFT TYP. CUTOFF BARS DETAIL

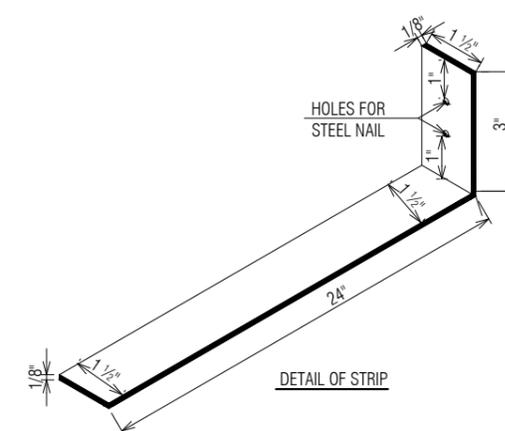
SCHEDULE OF LINTELS		
S/No	CLEAR SPAN	CONFIGURATION
1	UPTO 4'-0"	
2	UPTO 6'-0"	
3	UPTO 8'-0"	
5	UPTO 10'-0"	



ELEVATION OF STRUCTURAL BRICK WALL



PLAN OF STRUCTURAL BRICK WALL



DETAIL OF STRIP

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REVISION:

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REV.	Date	Description
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 TAJBI KHEL, LAKKI MARWAT, KPK.

TITLE:
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DRAWN BY:
 EMRANz

ENGINEER:
 JUNAID FAROOQ

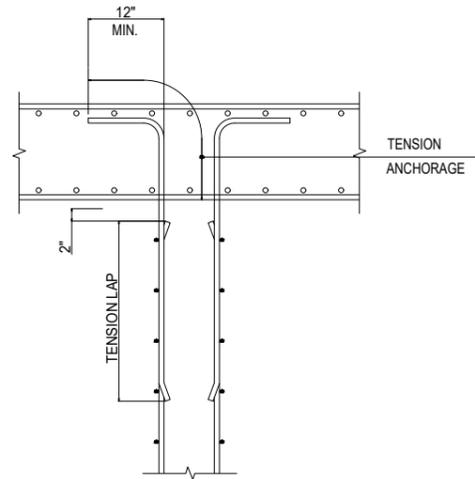
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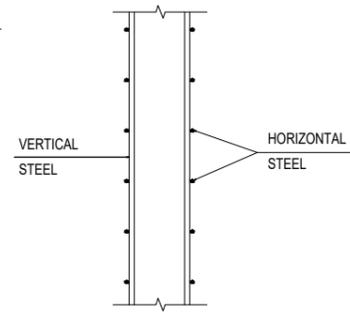
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DATE:
 SEP, 2024

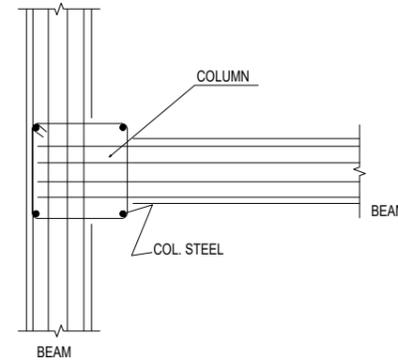
DWG. NO: G-02 REV: R-00



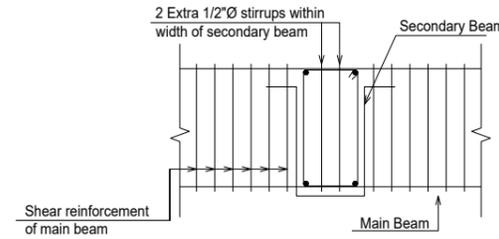
TYPICAL TOP OF WALL DETAIL (INTO SLAB)



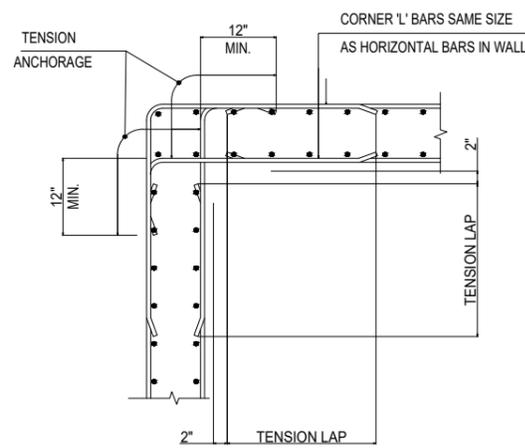
TYPICAL VERTICAL SECTION SHOWING ARRANGEMENT OF STEEL IN RCC WALLS



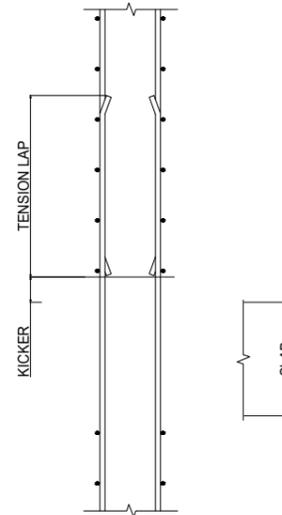
PLAN OF COLUMN BEAM JUNCTION DETAIL



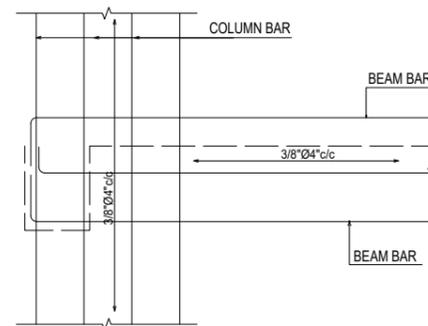
BEAM TO BEAM CONNECTION



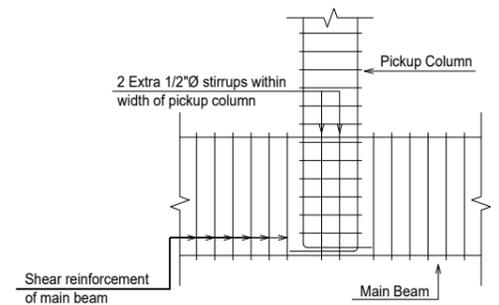
TYPICAL HORIZONTAL CORNER DETAILS IN RETAINING WALLS



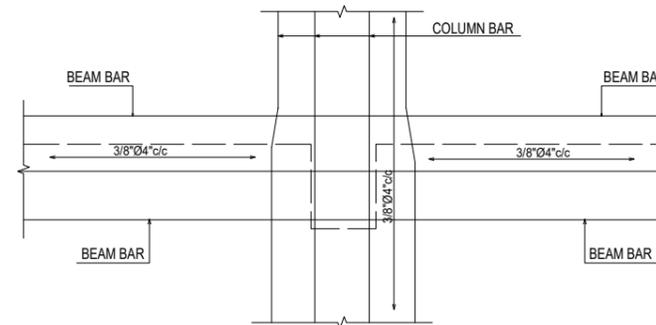
TYPICAL LAP DETAIL AT FLOOR LEVEL IN RCC WALLS



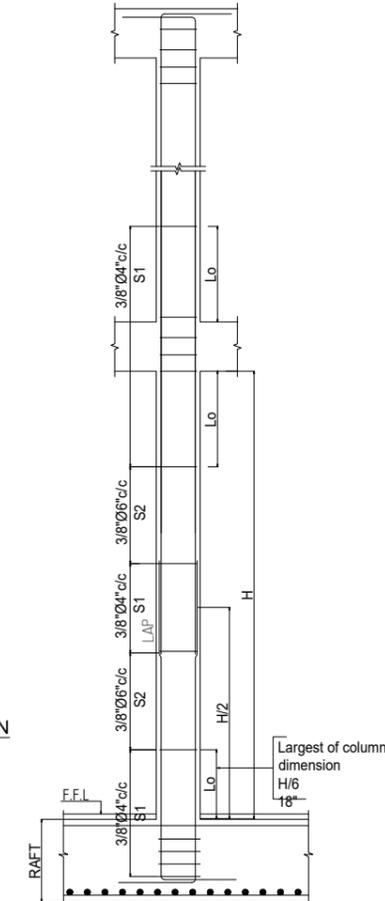
ELEVATION OF COLUMN BEAM JUNCTION DETAIL



BEAM TO PICKUP COLUMN CONNECTION



BEAM COLUMN JOINT ELEVATION WITH DIFFERENT COLUMN SIZE



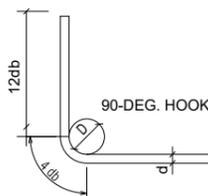
TYP. ELEVATION OF COLUMN



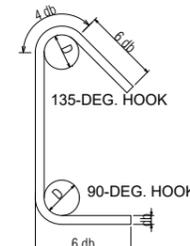
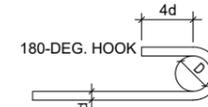
VERTICAL BAR SPACING (COLUMN)



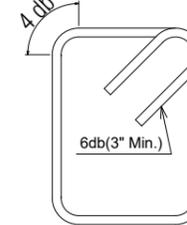
STIRRUPS AND TIE HOOKS



STANDARD BAR HOOKS

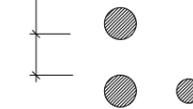


CROSS TIE



HOOPS

SPACING BETWEEN BARS IN A LAYER BAR DIAMETER OR 1" (MIN.)



SPACING BETWEEN BARS IN A LAYER BAR DIAMETER OR 1" (MIN.)

BAR SPACING IN BEAM

SIGN:

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JUNAID FAROOQ

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CHECKED BY:

SCALE:

N.T.S

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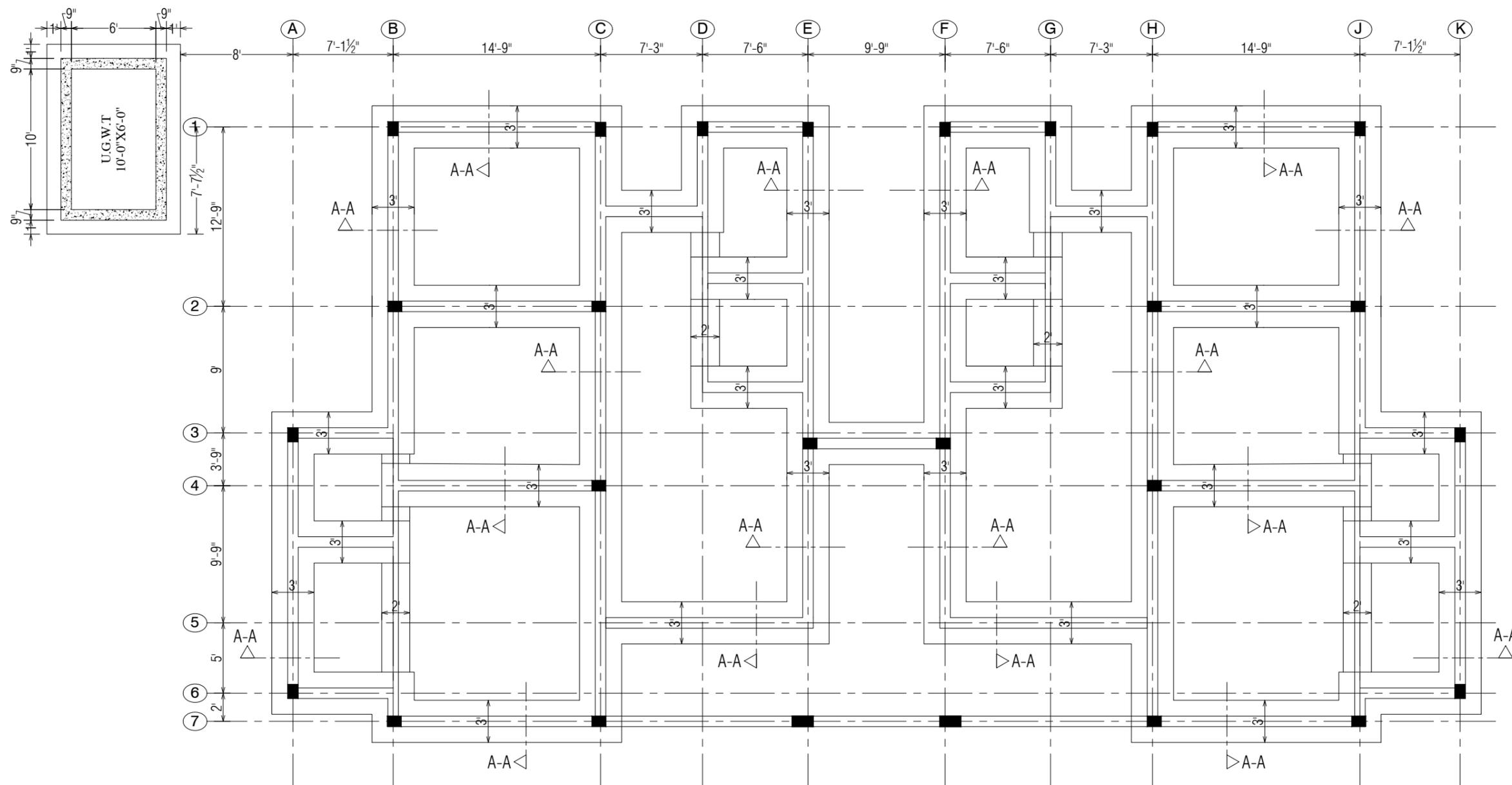
SEP, 2024

DWG. NO:

G-03

REV:

R-00



FOOTING LAYOUT PLAN

SIGN:

REVISION:

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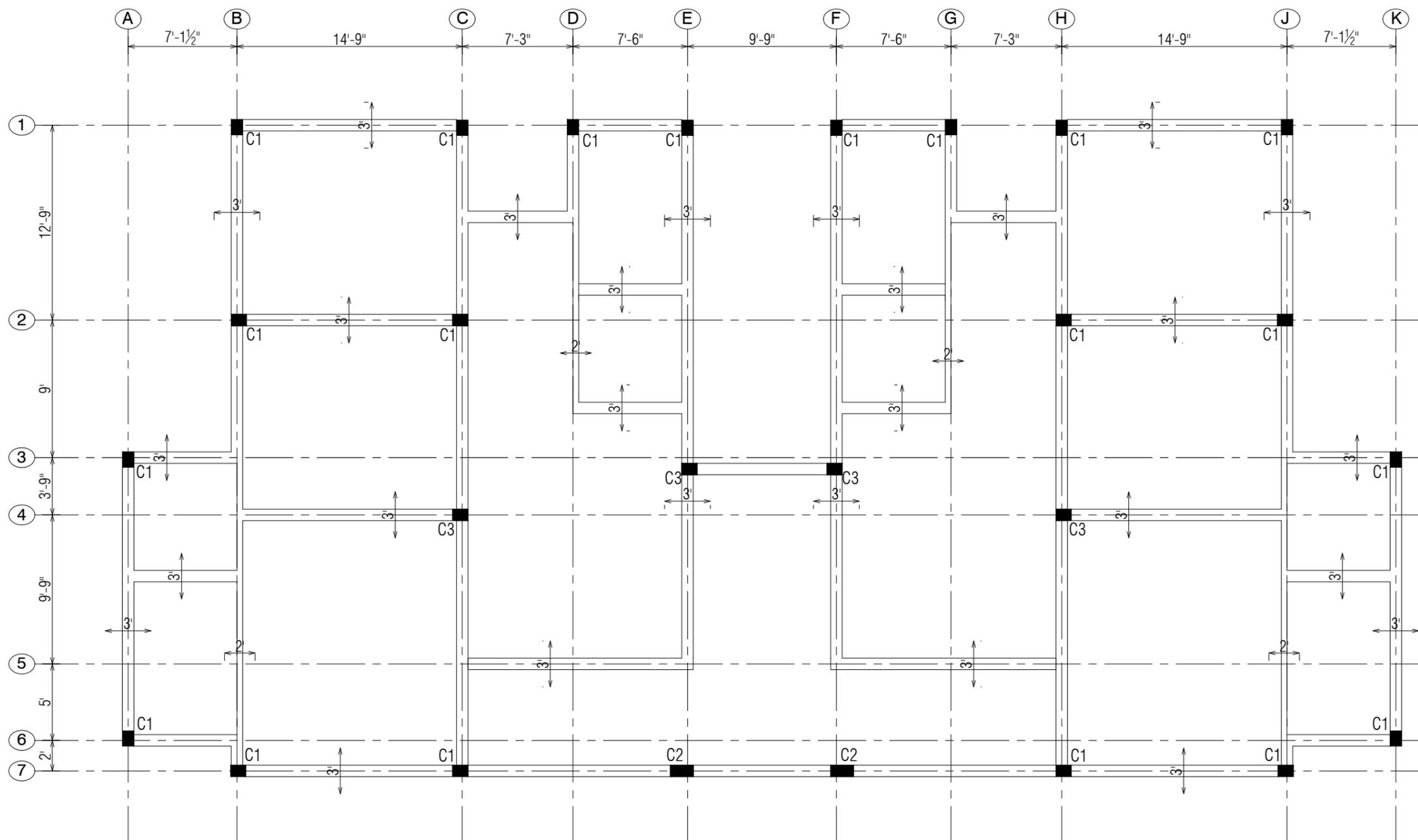
SEP, 2024

DWG. NO:

S-01

REV:

R-00



COLUMN LAYOUT PLAN

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REVISION:

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TITLE:

COLUMN LAYOUT PLAN

DRAWN BY:

EMRANz

ENGINEER:

JUNAID FAROOQ

SIGN:

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DATE:

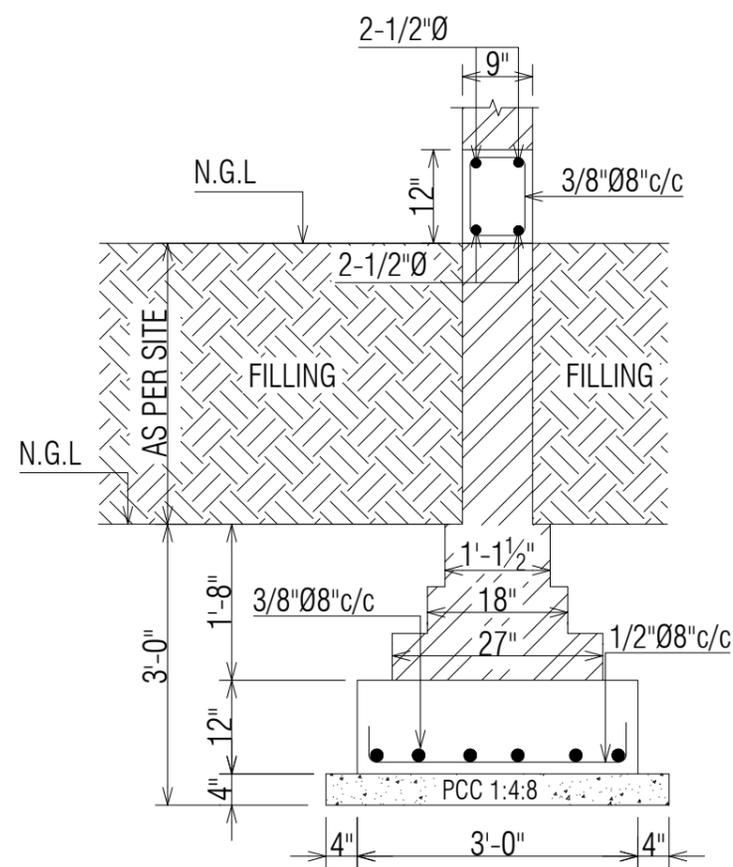
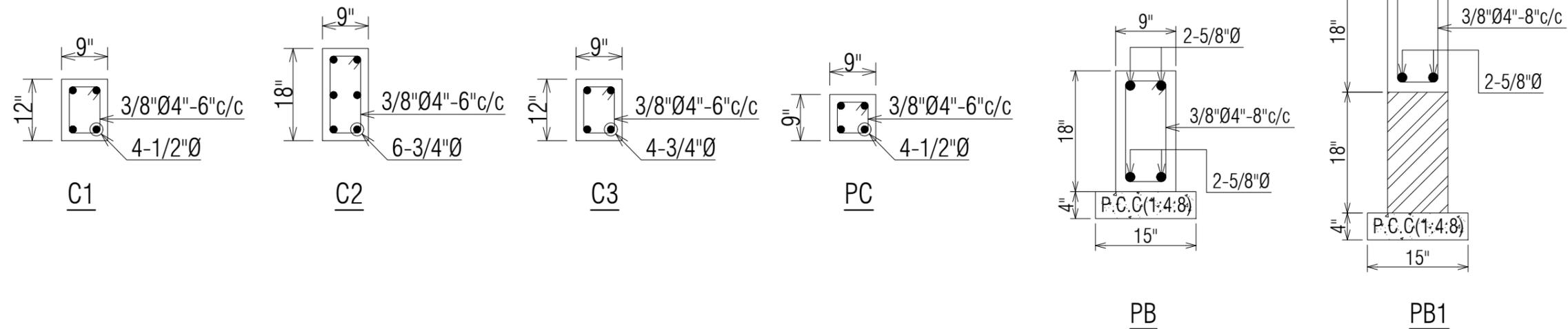
SEP, 2024

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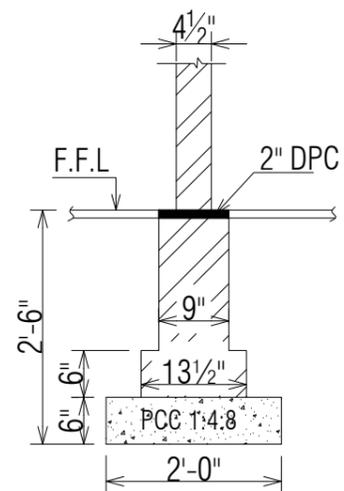
S-02

REV:

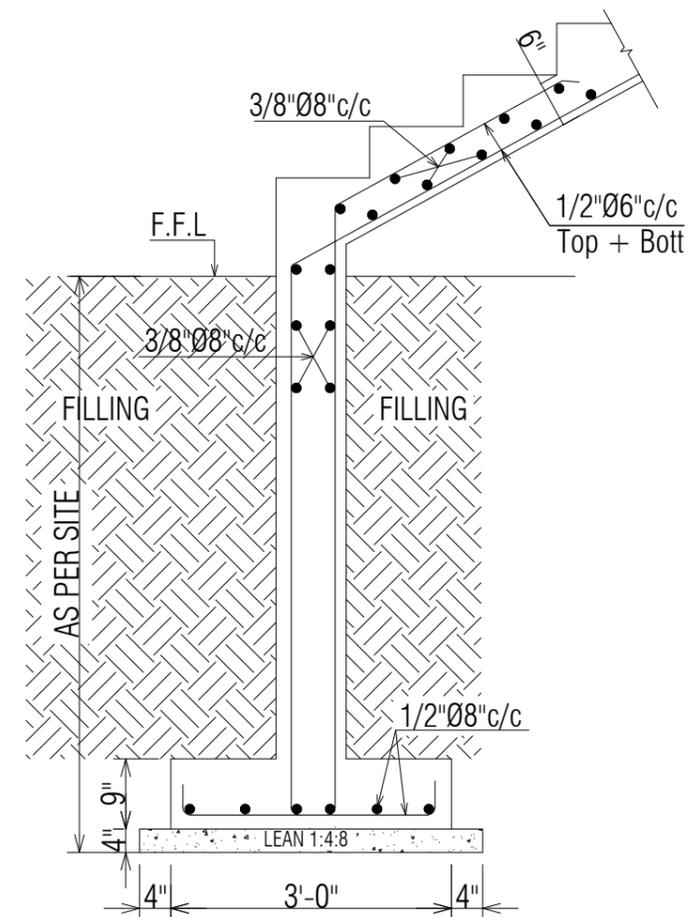
R-00



SECTION A-A



4 1/2" TH WALL DETAIL



TYPICAL STAIR DETAIL

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REVISION:

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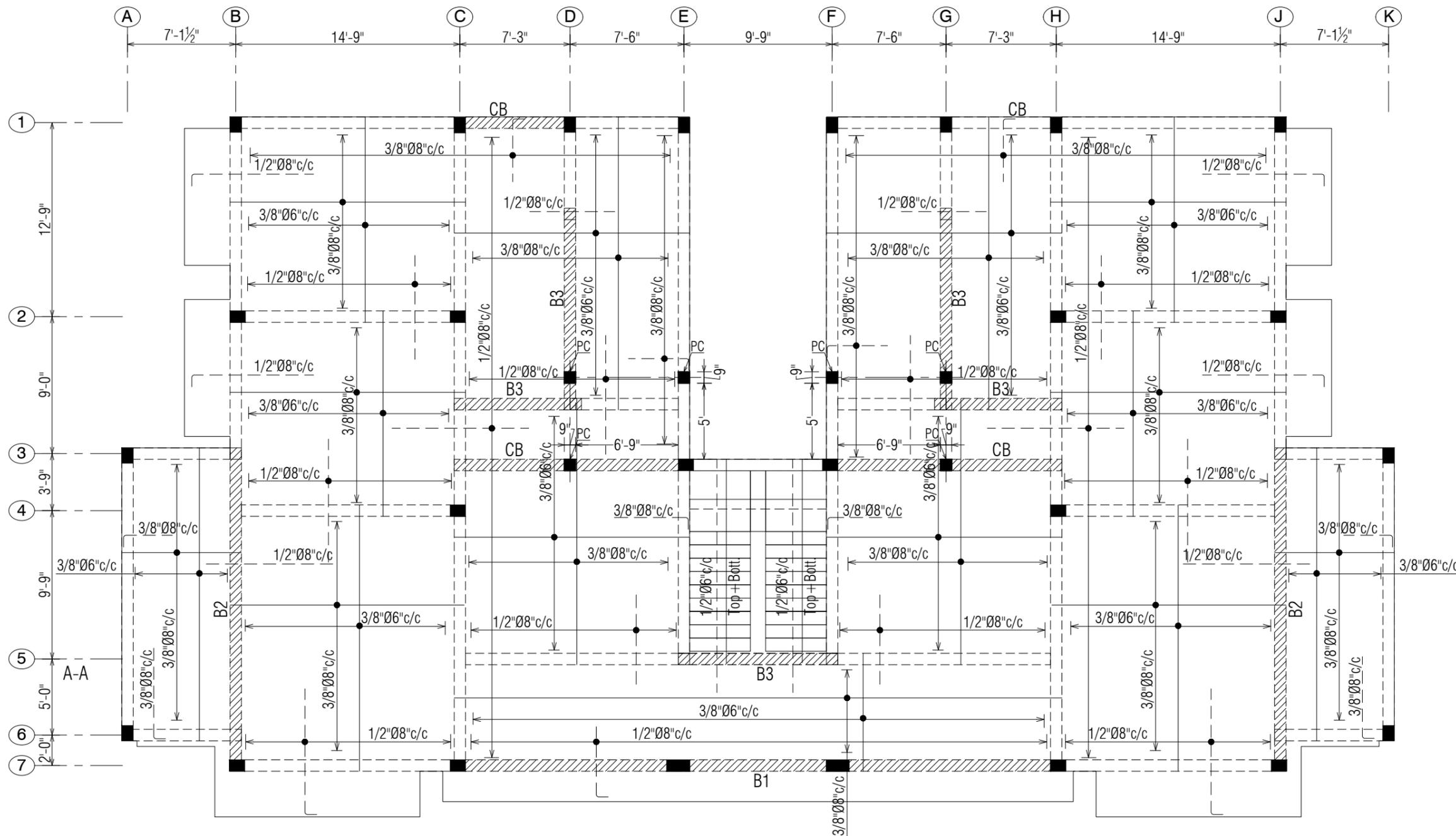
SEP, 2024

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S-03

REV:

R-00



GROUND FLOOR SLAB
 6" TH. SLAB UNLESS SPECIFIED

SIGN:

REVISION:

6		
5		
4		
3		
2		
1		

REV.	Date	Description

CLIENT:

TAALEEM FOUNDATION

PROJECT:

PROPOSED DESIGN OF A SCHOOL AT
 TAJBI KHEL, LAKKI MARWAT, KPK.

TITLE:

GROUND FLOOR SLAB

DRAWN BY:

EMRANZ

ENGINEER:

JUNAID FAROOQ

SIGN:

CHECKED BY:

SCALE:

N.T.S

DATE:

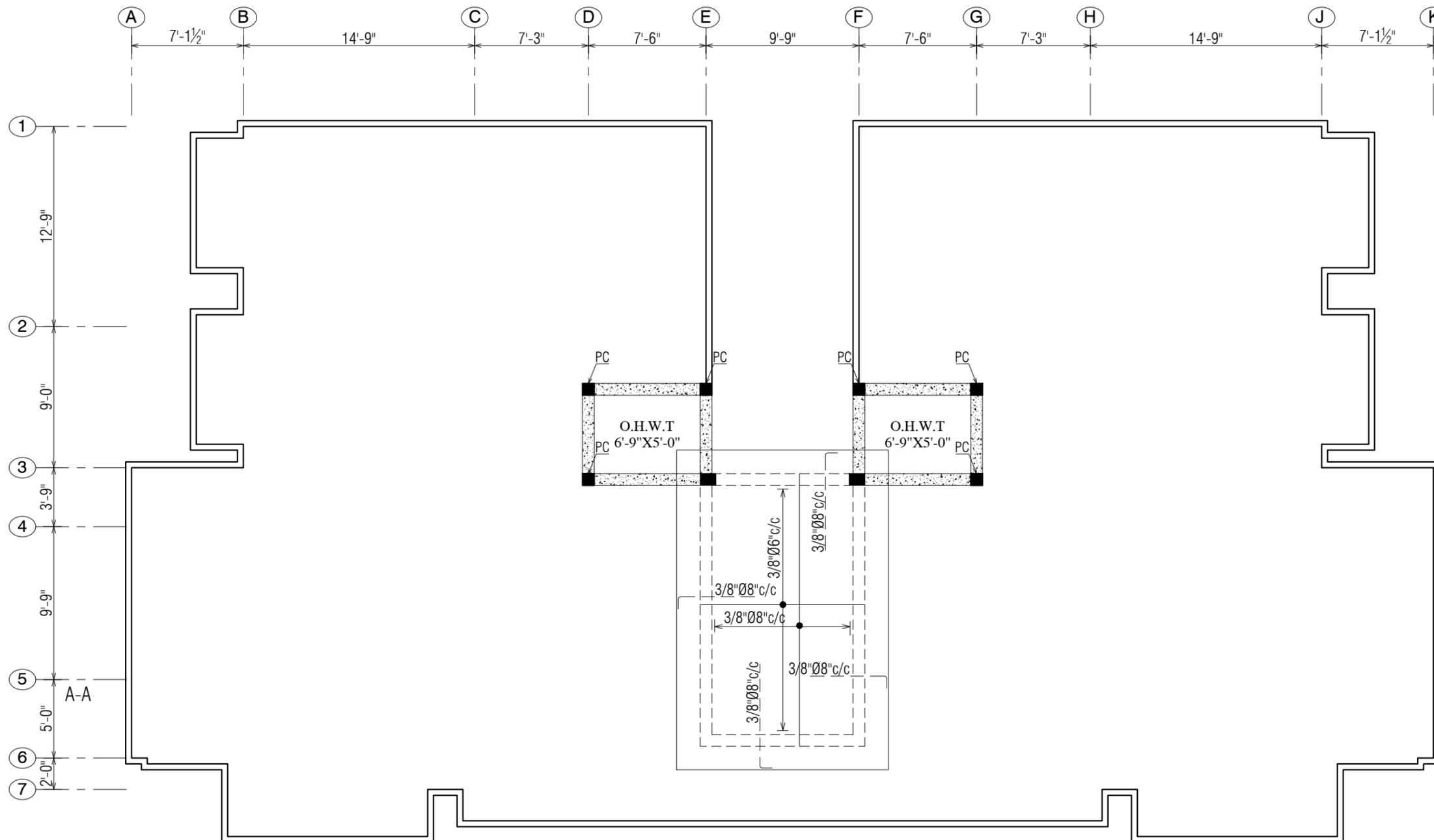
SEP, 2024

DWG. NO:

S-04

REV:

R-00



MUMTY SLAB
 6" TH. SLAB UNLESS SPECIFIED

SIGN:

REVISION:

REV.	Date	Description
6		
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CLIENT:

TAALEEM FOUNDATION

PROJECT:

PROPOSED DESIGN OF A SCHOOL AT
 TAJBI KHEL, LAKKI MARWAT, KPK.

TITLE:

MUMTY SLAB

DRAWN BY:

EMRANz

ENGINEER:

JUNAID FAROOQ

SIGN:

CHECKED BY:

SCALE:

N.T.S

DATE:

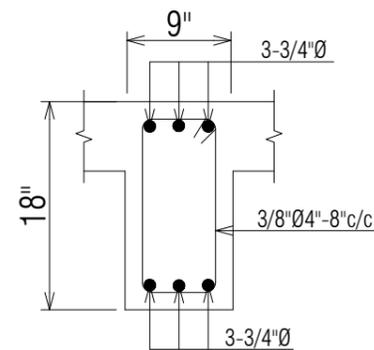
SEP, 2024

DWG. NO:

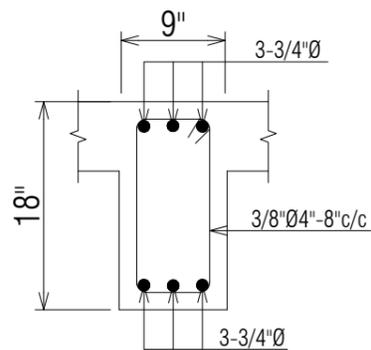
S-05

REV:

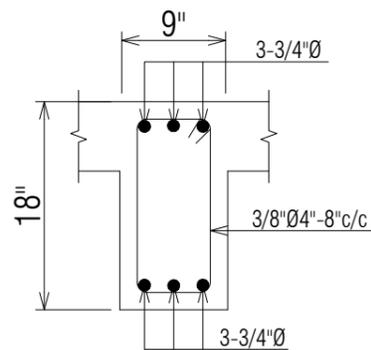
R-00



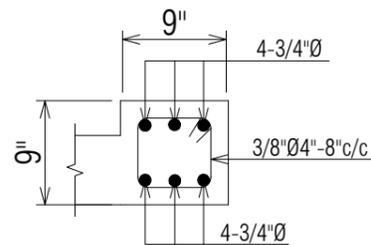
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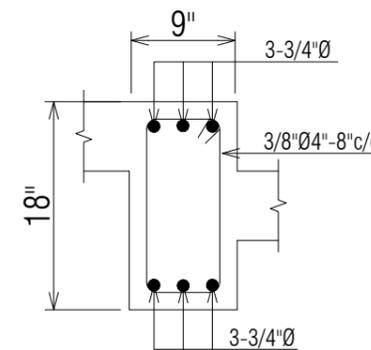
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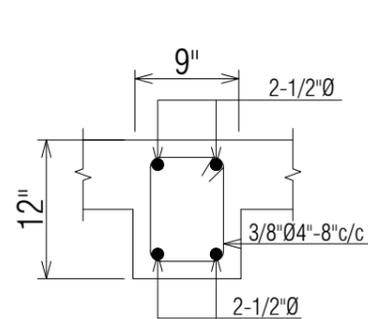
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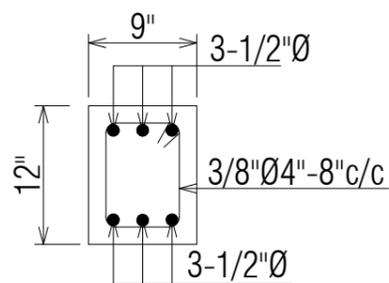
CB



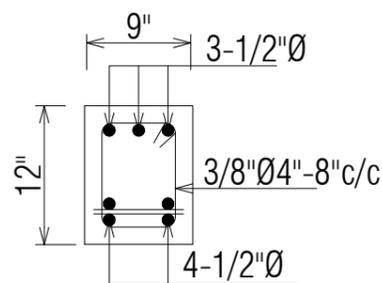
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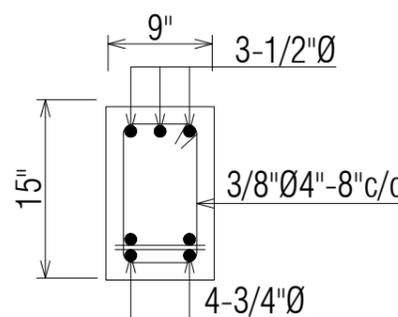
TYP SLAB BEAM



TYP LINTEL BEAM
Upto 4'-0"



TYP LINTEL BEAM
Upto 8'-0"



TYP LINTEL BEAM
Upto 12'-0"

SIGN:

REVISION:

6		
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REV.	Date	Description
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CLIENT:

TAALEEM FOUNDATION

PROJECT:

PROPOSED DESIGN OF A SCHOOL AT
TAJBI KHEL, LAKKI MARWAT, KPK.

TITLE:

BEAMS DETAIL

DRAWN BY:

EMRANz

ENGINEER:

JUNAID FAROOQ

SIGN:

CHECKED BY:

SCALE:

N.T.S

DATE:

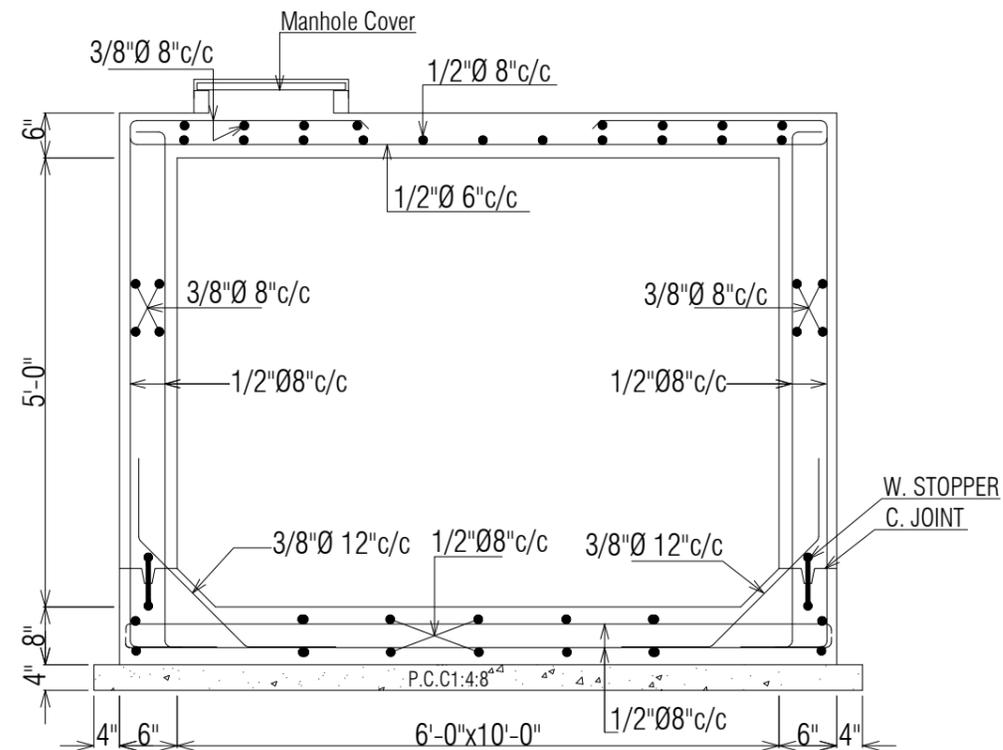
SEP, 2024

DWG. NO:

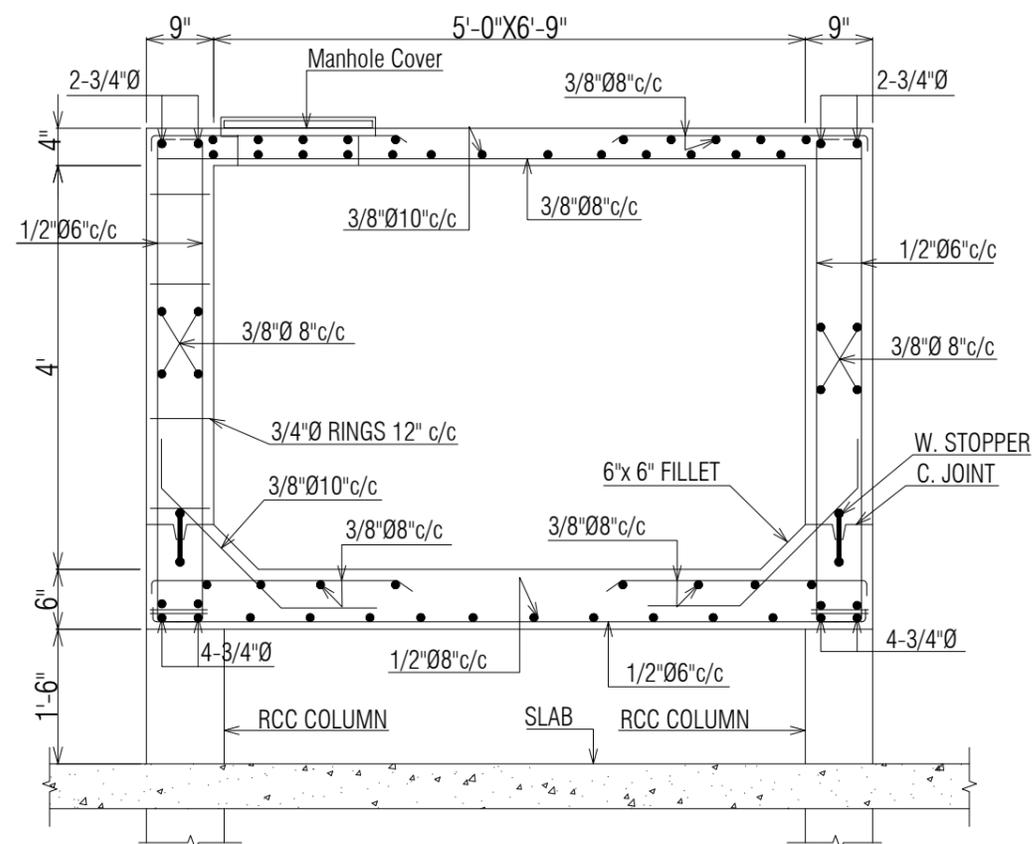
S-06

REV:

R-00



U.G. WATER TANK



O.H. WATER TANK

SIGN:

REVISION:

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REV.	Date	Description
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CLIENT:

TAALEEM FOUNDATION

PROJECT:

PROPOSED DESIGN OF A SCHOOL AT
TAJBI KHEL, LAKKI MARWAT, KPK.

TITLE:

TANKS DETAIL

DRAWN BY:

EMRANz

ENGINEER:

JUNAID FAROOQ

SIGN:

CHECKED BY:

SCALE:

N.T.S

DATE:

SEP, 2024

DWG. NO:

S-07

REV:

R-00