

KARACHI NEIGHBORHOOD IMPROVEMENT PROJECT (KNIP)

REHABILITATION & UPGRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL & GIZRI SPORTS GROUND

STRUCTURAL TENDER DRAWINGS

AUGUST - 2021



G3 ENGINEERING CONSULTANTS (PVT.) LTD.

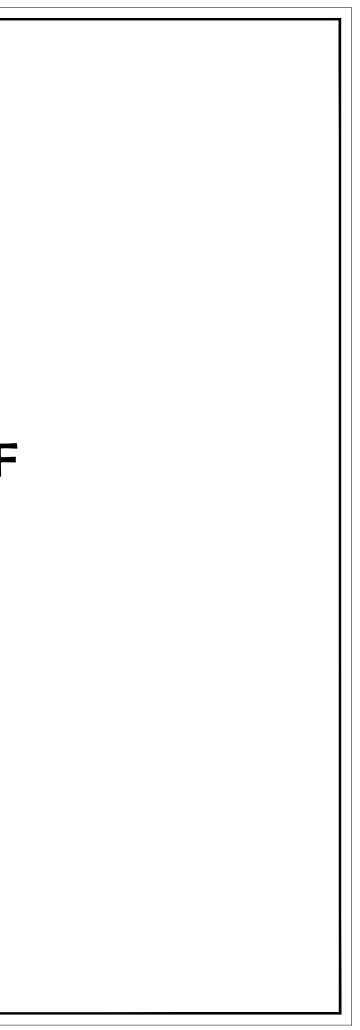
Consulting Engineers – Architects – Planners



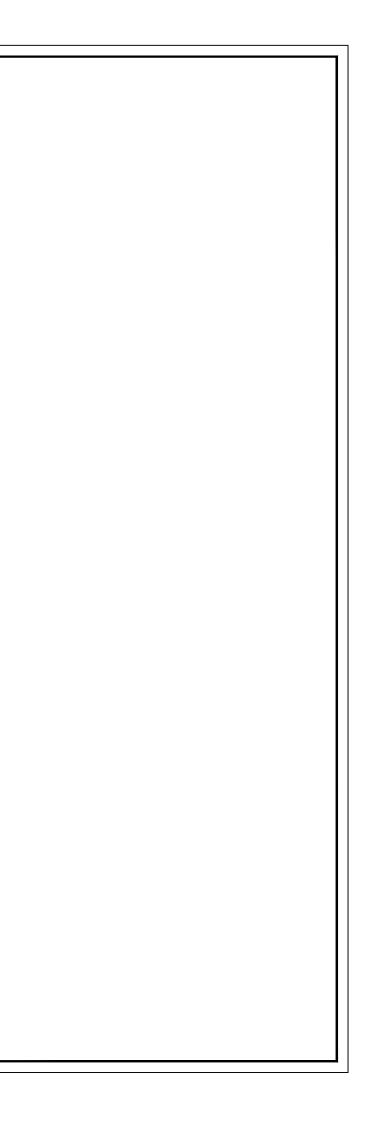
ISO 2000-9001

CERTIFIED

REHABILITATION & UP-GRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL



STRUCTURAL DRAWINGS PEDESTRIAN BRIDGE



1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements, proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

3. Construction

- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete

4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute,

Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3,000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

4.2. Reinforcing Steel

4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

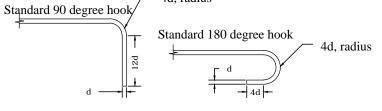
4.2.2. Clear Concrete Covers to Reinforcement

	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	11⁄2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5. Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI
- hooks shall shall be provided at the free ends of all bars.
- 5.2. Unless noted otherwise, the hooks will comply the following dimensions:
 - 4d, radius



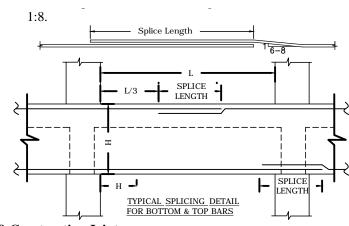
Standard 135 hook 4d, radius

5.3. Development and Splice Lengths a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)				
Designation	Concrete with cylinder strength of 3,000 psi at 28 days		Concrete with cylinder strength o 4,000 psi at 28 days		
Γ	Top bars*	Other than top bars	Top bars*	Other than top bars	
	Splice	Splice	Splice	Splice	
	Length	Length	Length	Length	
#3	30	24	27	21	
#4	39	30	33	27	
#5	48	36	42	33	
#6	57	45	51	39	
#8	93	72	81	63	

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval of the Engineer, if it is not indicated in the drawing.
- b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. **Adopted Loads**

9.1. Dead Loads	
All floor finishes	= 5
Roof finishes	= 6

9.2. Live Loads	
Floor	
Roof	

10. Foundation

- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. Terms & Abbrevations

Following terms and abbreviations are used in all structural drawings.

- a) UNO: Unless Noted Otherwise b) NSL: Natural Surface Level c) Typ: Typical Finished Floor Level d) FFL:
- e) C.Joint: Construction Joint

56 psf 63 psf

= 60 psf= 30 psf

CLIENT: PROJECT IMPLEMENTATION UNIT (PIU) KNIP CONSULTANTS: 618 G3 ENGINEERING CONSULTANTS (PVT)LTD. House No 57-M Gulberg-III, Lahr 145-ANZ 500 1 : (92-42) 35441641, 35441642 : (92-42) 35441645 : info@g3ec.com : www.g3ec.com Tel Fax E-mail URL **PROJECT: REHABILITATION & UP-GRADATION OF BOAT** BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL NOTES: ALL DIMENSIONS ARE IN FEET UNLESS ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3. **REVISIONS:** No DESCRIPTION DAT TENDER DRAWINGS DRAWING TITLE: **GENERAL NOTES** PEDESTRIAN BRIDGE DRAWN BY DATE Sh.Naiam AUG. 2021 STRUCTURE ENGINEER ENGR.MUHAMMAD IMRAN APPROVED BY: SYED ALI ABBAS GILLANI DRAWING NO: RFV

0249/BRADGE/001 ST

AS SHOWN

SCALE (A3):

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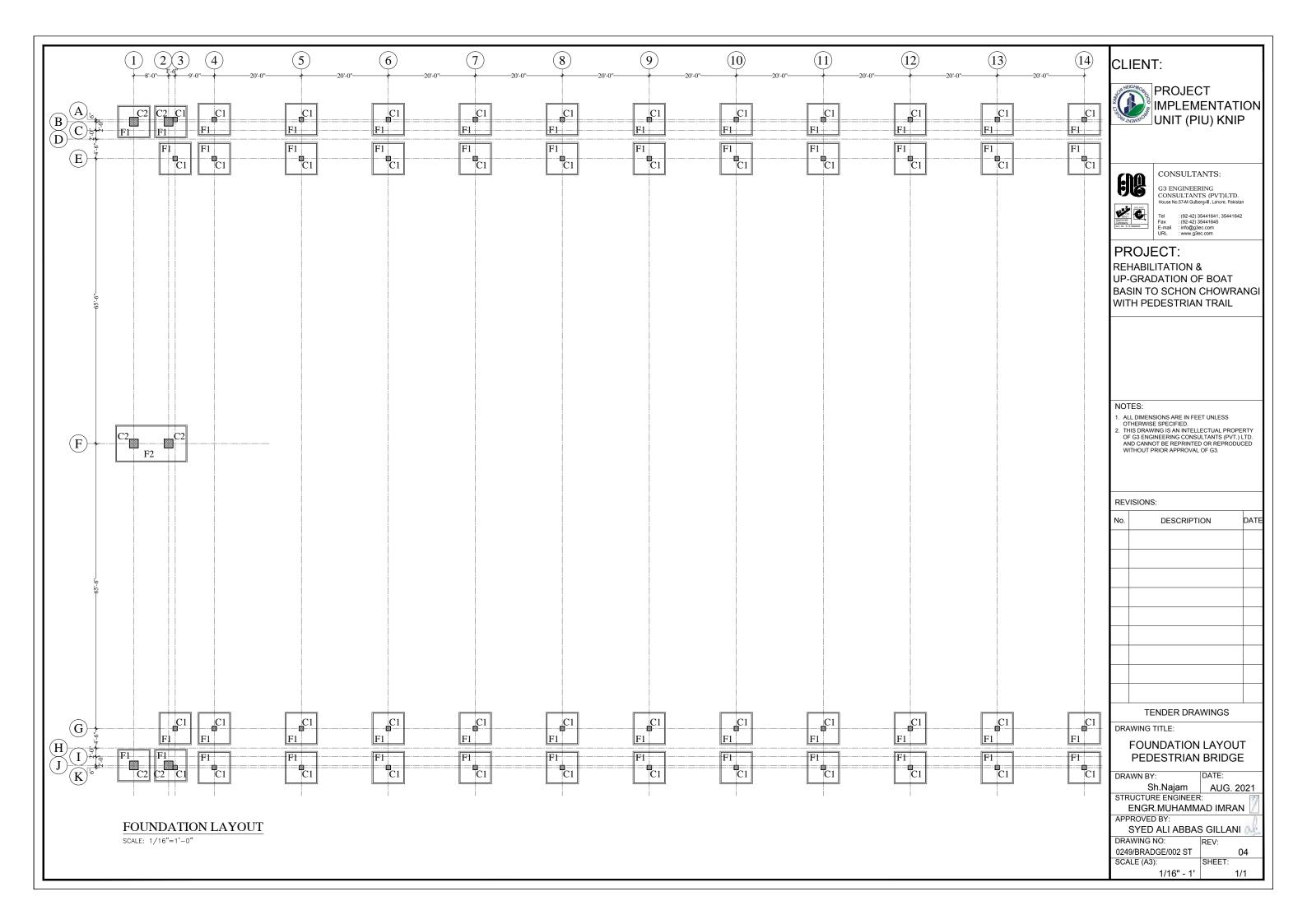
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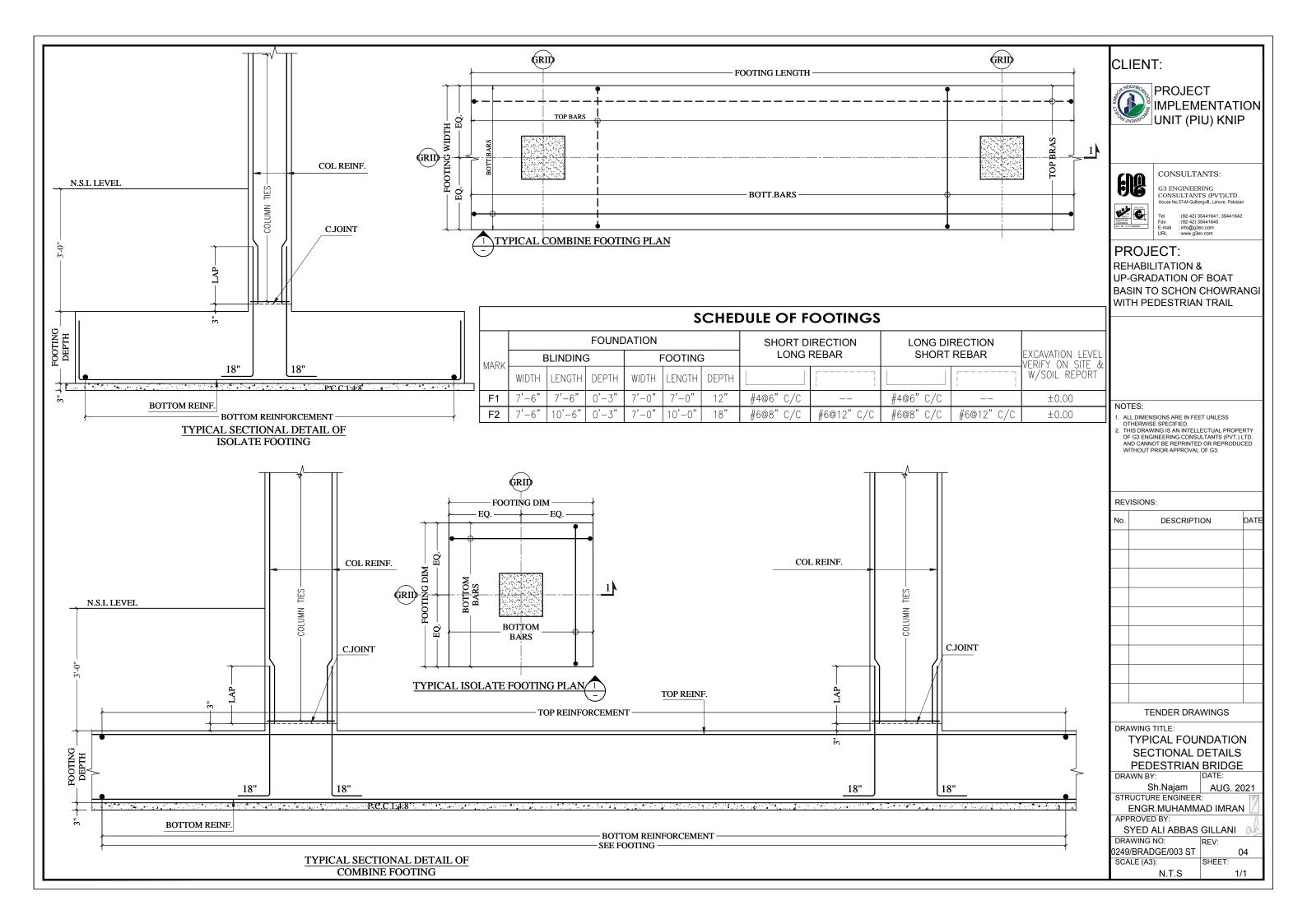
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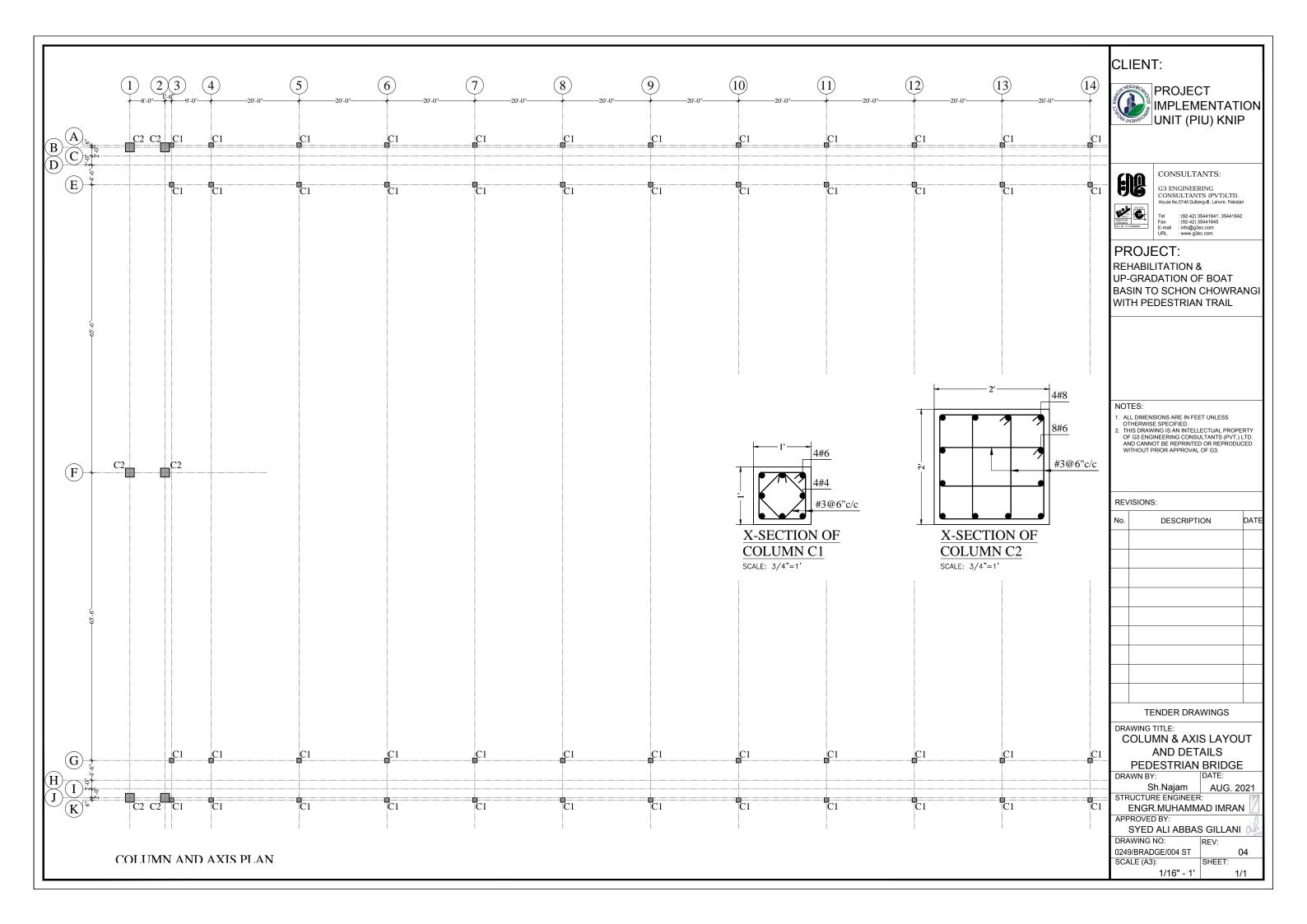
LIST OF DRAWINGS STRUCTURAL DRAWINGS

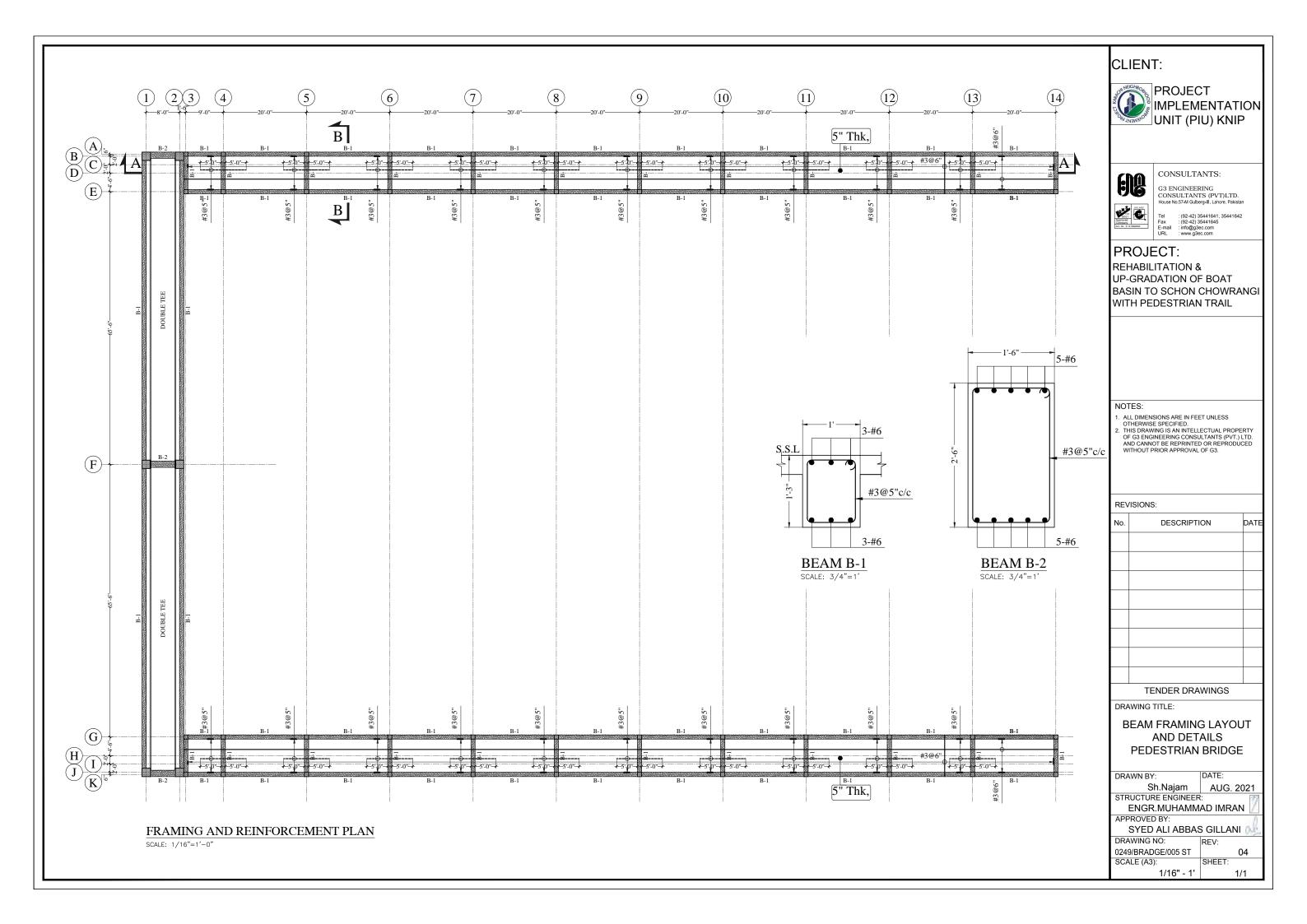
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1.	LIST OF DRAWING	0249/BRADGE-2/000 ST
2.	GENERAL NOTES	0249/BRADGE-2/001 ST
3.	FOUNDATION LAYOUT	0249/BRADGE-2/002 ST
4.	TYPICAL FOUNDATION SECTIONAL DETAILS	0249/BRADGE-2/003 ST
5.	COLUMN & AXIS LAYOUT AND DETAILS	0249/BRADGE-2/004 ST
6.	BEAM FRAMING LAYOUT AND DETAILS	0249/BRADGE-2/005 ST
7.	SECTION A-A, B-B AND DETAIL	0249/BRADGE-2/006 ST

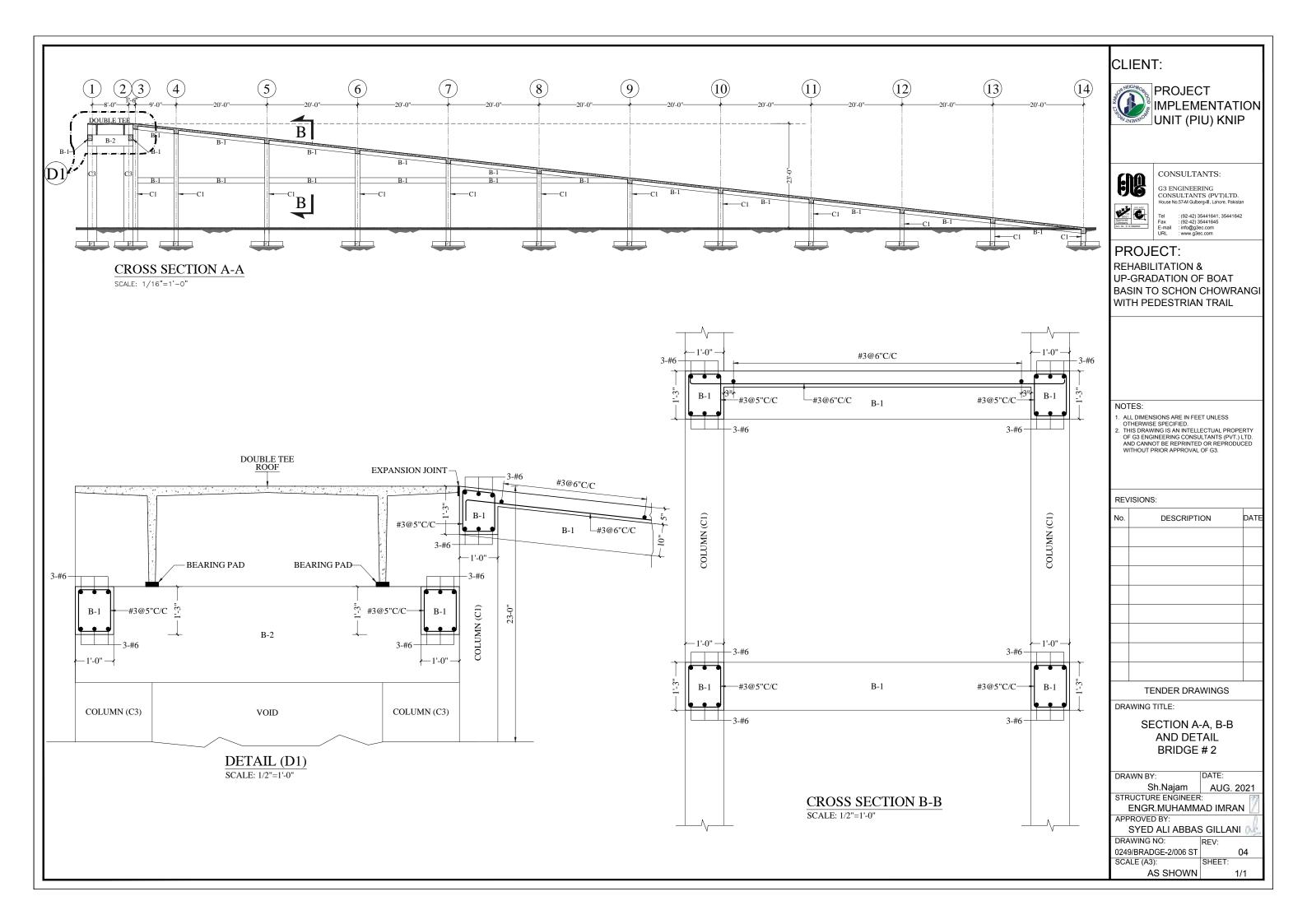
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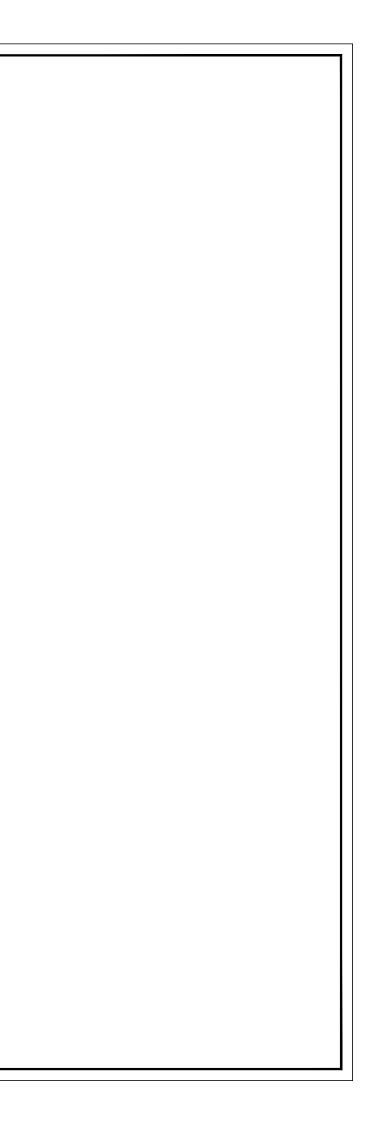








STRUCTURAL DRAWINGS LIBRARY



			CLIENT:
			PROJECT IMPLEMENTATION UNIT (PIU) KNIP
	LIST OF DRAWINGS		
	STRUCTURAL DRAWINGS		CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD.
S.NO	DRAWING DETAIL	DRAWING NO.	House No.57-M Gulberg-III, Lahore, Pakistan Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441645 E-mail : Info@g3ee.com URL : www.g3ee.com
1.	LIST OF DRAWING	0249/ST-6/000 ST	REHABILITATION & UP-GRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL
2.	GENERAL NOTES	0249/ST-6/001 ST	NOTES:
3.	FOUNDATION PLAN AND DETAIL	0249/ST-6/002 ST	 ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.
4.	ROOF SLAB REINFORCEMENT PLAN AND DETAIL	0249/ST-6/003 ST	
5.	X-SECTION OF TYPICAL LINTELS SCHEDULE OF LINTELS	0249/ST-6/004 ST	REVISIONS: No. DESCRIPTION DATE
			TENDER DRAWINGS DRAWING TITLE:
			LIST OF DRAWINGS LIBRARY DRAWN BY: DATE: Sh.Najam AUG. 2021
			STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN
			DRAWING NO: REV: 0249/ST-6/000 ST 04 SCALE (A3): SHEET: N.T.S 1/1

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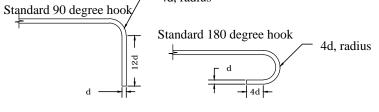
4.2.2. Clear Concrete Covers to Reinforcement

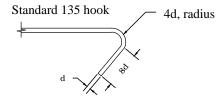
	Member	Cover
1)	Foundations	2"
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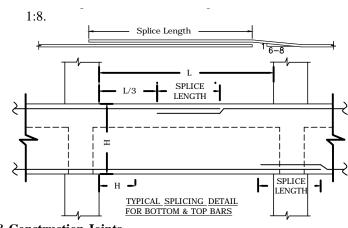


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* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
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9. Adopted Loads

9.1. Dead Loads	
All floor finishes	= 56
Roof finishes	= 63

9.2. Live Loads

Floor

Roof Foundation 10.

- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. **Terms & Abbrevations**

Following terms and abbreviations are used in all structural drawings.

- a) UNO: Unless Noted Otherwise b) NSL: Natural Surface Level c) Typ: Typical d) FFL: Finished Floor Level
- e) C.Joint: Construction Joint

12. NOTE:

Allowable bearing capacity of 1 ton/ft² must be achieved at site.

6 psf 3 psf

= 50 psf= 30 psf

CLIEN	Г:
CONTRACTOR OF CONTRACTOR	PROJECT IMPLEMENTATION UNIT (PIU) KNIP
	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57M Guberg-II, Lahore, Pakistan Tel :: (92-42) 35441641, 35441642 Fax :: (92-42) 35441645

41641, 35441642 E-mail : info@g3ec.con URL : www.g3ec.con

PROJECT: **REHABILITATION & UP-GRADATION OF BOAT** BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL

NOTES

ALL DIMENSIONS ARE IN FEET UNLESS

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TENDER DRAWINGS

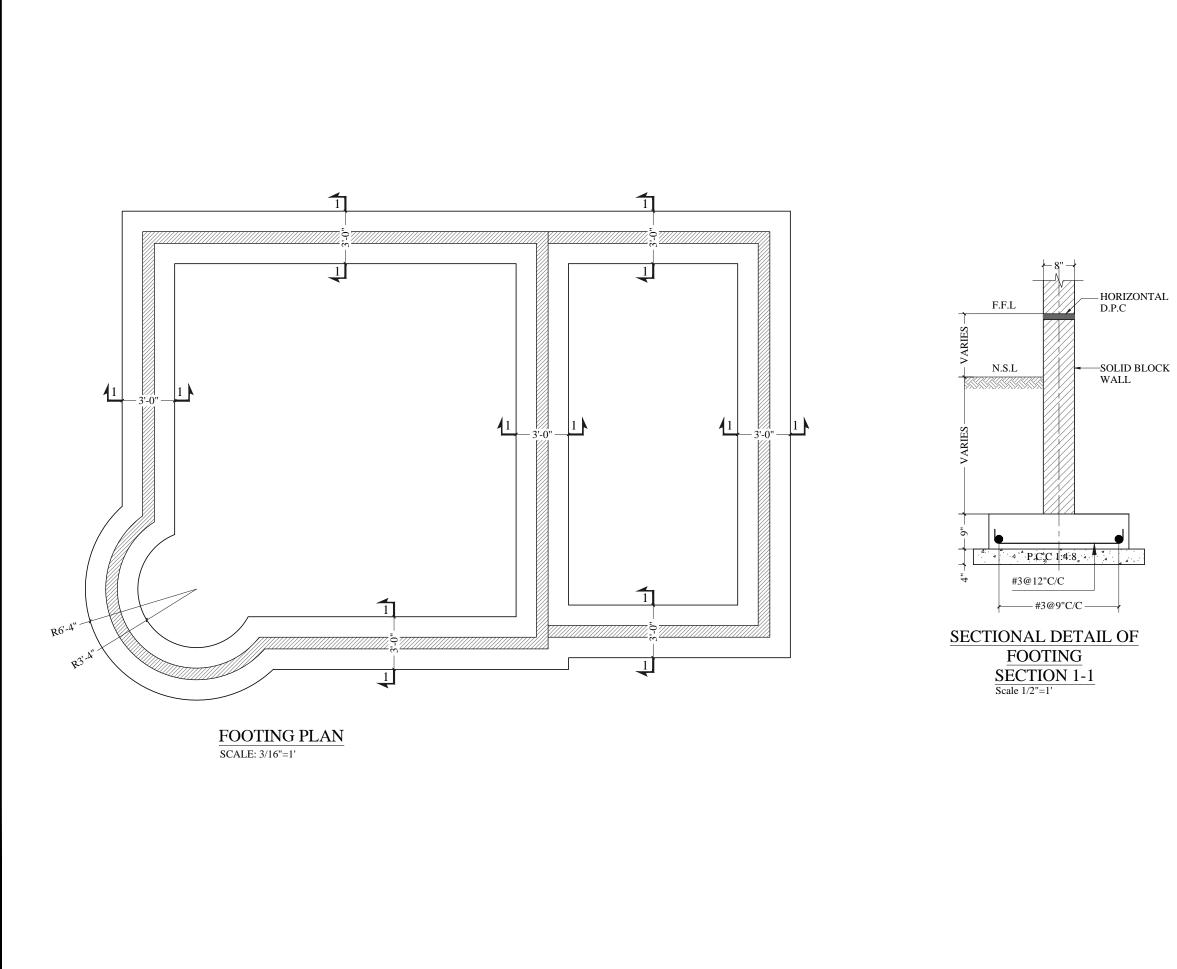
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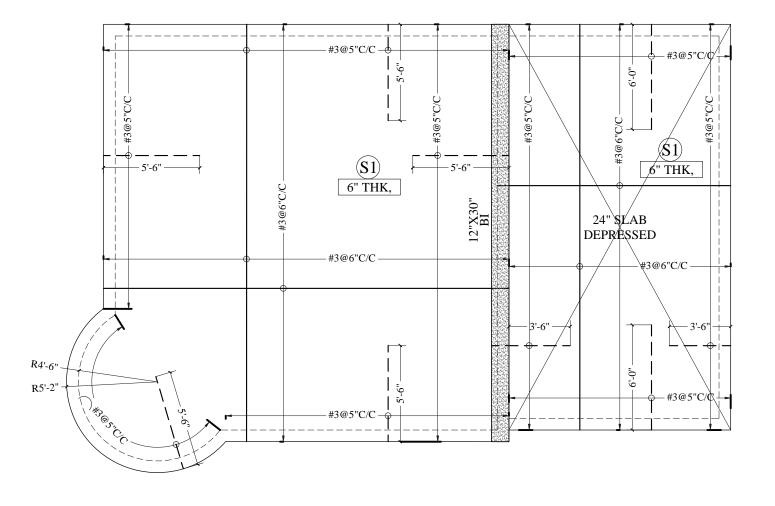
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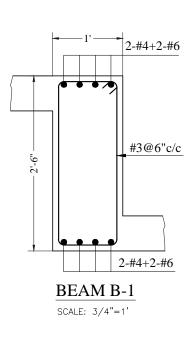
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SCALE (A3):	SHEET:	
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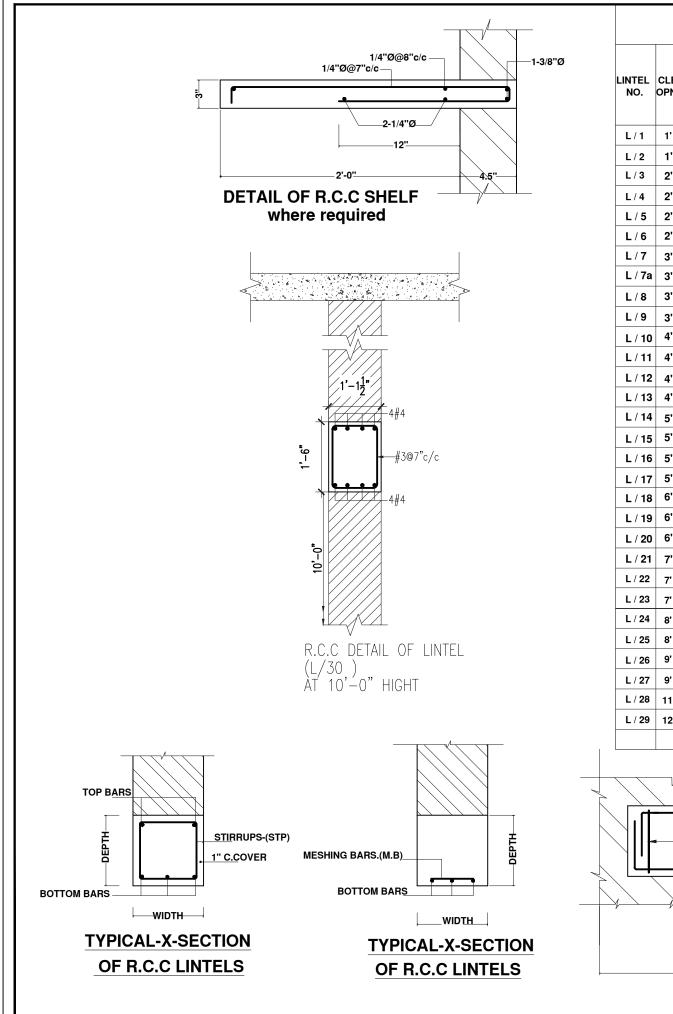
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PROJECT IMPLEMENTATION UNIT (PIU) KNIP
CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House N.57-14 Guileerjil, Lahore, Pakislan Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441645 E-mail : info@g3ec.com URL : www.g3ec.com
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TENDER DRAWINGS
FOUNDATION PLAN AND DETAIL OF LIBRARY
DRAWN BY: DATE: Sh.Najam AUG. 2021 STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN
APPROVED BY: SYED ALI ABBAS GILLANI
DRAWING NO: REV: 0249/ST-6/002 ST 04
SCALE (A3): SHEET: AS SHOWN 1/1





ROOF FRAMING & SLAB REINFORCEMENT PLAN SCALE: 3/16"=1'

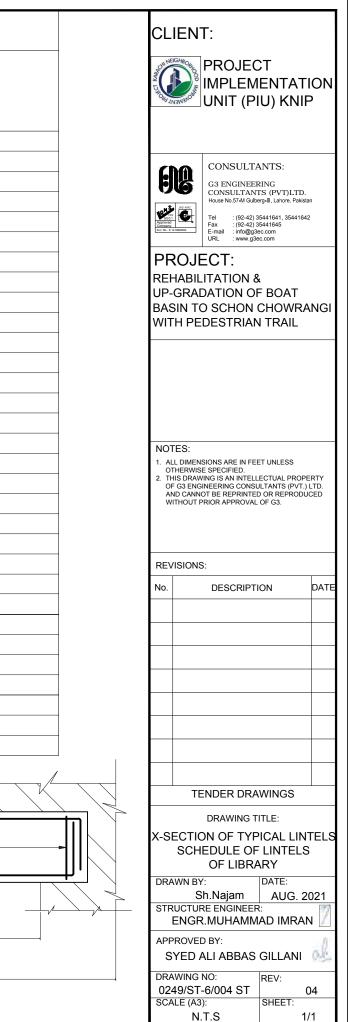
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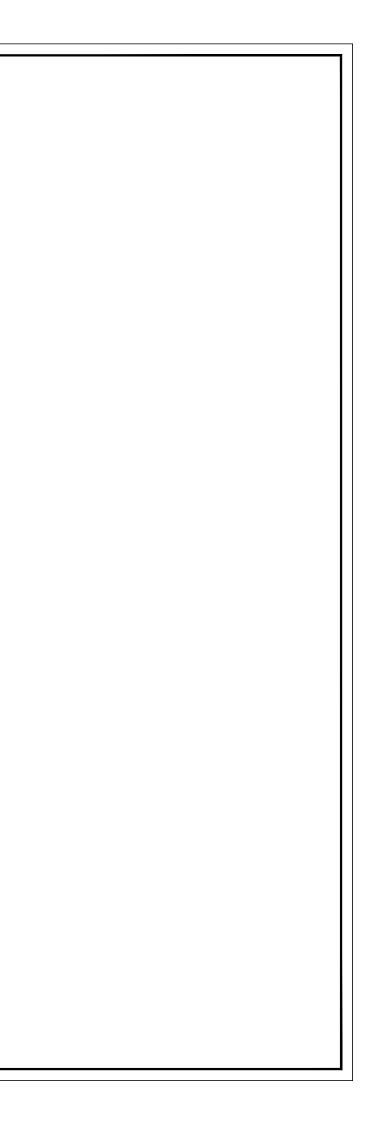
SCHEDULE OF R.C.C LINTELS

			SI	ZE	A.	Г	A.		STIRRUPS (STP)
LINTEL NO.	CLEAR OPNING			DEPTH	BOTT	DIA	TO NO	P DIA	MESHING BARS (M.B)
				DEPIN	NO				
L/1	1' - 6"	3' - 0"	4 1/2" OR 9"	6"	3	3 / 8"	_	_	1/4" Q'@ 7" C/C (M.B)
L / 2	1' - 9"	3' - 3"	4 1/2" 9" OR	6"	3	3 / 8"	_	-	4
L / 3	2' - 0''	3' - 6"	9"	6"	3	3 / 8"	_	_	4
L / 4	2' - 3"	3' - 9"	4 1/2" 9" OR		3	3 / 8"	_	-	4
L / 5	2' - 6"	4' - 0''	4 1/2", 9' OR 13½"		3	3 / 8"	-	-	4
L / 6	2' - 9"		4 1/2" 9" OR	6"	3	3 / 8"	_	-	4
L / 7	3' - 0''	4' - 6''	3	6"	3	3 / 8"	_	_	4
L / 7a	3' - 3''		9.	6"	3	3 / 8"	_	-	4
L / 8	3' - 6"	5' - 0''	9	6"	3	3 / 8"	-	_	4
L / 9	3' - 9"			6"	3	3 / 8"	-	-	4
L / 10	4' - 0''	5' - 6"	4 1/2" 9" OR	9"	3	1 / 2"	_	-	4
L / 11	4' - 3"			9"	3	1 / 2"	2	3 / 8"	1/4" 0 @ 7" C/C (STP)
L / 12	4' - 6''	6' - 0''	4 1/2" 9" OR	9"	3	1 / 2"	2	3 / 8"	4
L / 13	4' - 9''			9"	3	1 / 2"	2	3 / 8"	4
L / 14	5' - 0''	6' - 6''		9"	3	1 / 2"	2	3 / 8"	3/8"Ø @ 7" C/C (STP)
L / 15	5' - 3''	6' - 9''		9"	3	1 / 2"	2	3 / 8"	4
L / 16	5' - 6''	7' - 0''	9" 13½"OR	9"	3	1 / 2"	2	3 / 8"	4
L / 17	5' - 9''	7' - 3''	9" 13½" 13½"	9"	3	1 / 2"	2	3 / 8"	4
L / 18	6' - 0''	7' - 6''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 19	6' - 6''	8' - 0''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 20	6' - 9''	8' - 3''	9" 0R 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 21	7' - 0''	8' - 6''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 22	7' - 6''	9' - 0''	13½" 9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 23	7' - 9''	9' - 3"	13½" 9" 13½"OR	9"	4	1 / 2"	3	3 / 8"	4
L / 24	8' - 0"	11 - 0"	13½" 9" OR	9"	5	1 / 2"	3	3 / 8"	4
L / 25	8' - 6"	11 - 6"	1072	9"	5	1 / 2"	3	3 / 8"	4
L / 26	9' - 0"	12'- 0"	9" OR <u>13½</u> "	18"	2	3/4"	3	1 / 2"	
			9" OR 13½"	18"	1 2	1" 3/4"	3	1 / 2"	
L / 27 L / 28	9' - 6" 11' - 6"	12 - 6" 14'- 6"	9" 13½" ^{OR} 9" OF	18"	1 2	1" 3/4"		1 / 2"	<i>"</i>
L / 20			9" OF 13½"	10	13	1" 3/4"	3	1 / 2"	4
L / 29	12' - 0"	15' - 0''	9" OR 13½"	18"	1	1"	3		/ HT BARS AT TOP
								STRAIGE	TI BARS AT TOP
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T T				\rightarrow				1.0	C.COVER
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							LENG	TH OF LIN	ITELS

TYPICAL-L-SECTION OF R.C.C LINTELS



STRUCTURAL DRAWINGS OPEN AIR THEATER



LIST OF DRAWINGS STRUCTURAL DRAWINGS

	S.NO	DRAWING DETAIL	DRAWING
-	1.	LIST OF DRAWING	0249/ST-6
-	2.	GENERAL NOTES	0249/ST-6
-	3.	SITE LAYOUT	0249/ST-6
	4.	SECTIONAL DETAILS A-A, B-B & D1 DETAIL	0249/ST-6

	CLIENT:
	PROJECT IMPLEMENTATION UNIT (PIU) KNIP
IG NO. -6/000 ST	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57-46 Gulberg-III, Lahore, Pakistan Tel :: (92-42) 35441641, 35441642 E-mail :: info@g3ec.com IRI :: www.g3ec.com PROJECT: REHABILITATION & UP-GRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL
-6/001 ST	NOTES:
-6/002 ST	 ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.
-6/003 ST	
	REVISIONS: No. DESCRIPTION DATE
	TENDER DRAWINGS TENDER DRAWINGS DRAWING TITLE: LIST OF DRAWINGS OF OPEN AIR THEATER DRAWN BY: Sh.Najam AUG. 2021 STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN
	DRAWING NO. REV: 0249/ST-6/000 ST 04 SCALE (A3): SHEET: N.T.S 1/1

1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements, proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

3.Construction

- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete

4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3.000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

4.2. Reinforcing Steel

4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

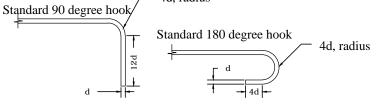
4.2.2. Clear Concrete Covers to Reinforcement

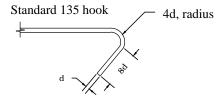
	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	11/2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5.Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions: 4d, radius



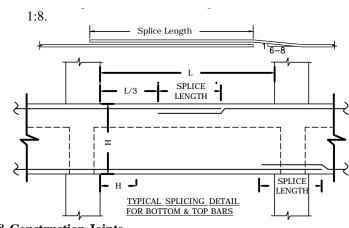


5.3. Development and Splice Lengths a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)					
Designation	Concrete with cylinder strength of 3,000 psi at 28 days		Concrete with cylinder strength 4,000 psi at 28 days			
ľ	Top bars*	Other than top bars	Top bars [*]	Other than top bars		
	Splice	Splice	Splice	Splice		
	Length	Length	Length	Length		
#3	30	24	27	21		
#4	39	30	33	27		
#5	48	36	42	33		
#6	57	45	51	39		
#8	93	72	81	63		

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval
- of the Engineer, if it is not indicated in the drawing. b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. Adopted Loads

= 56
= 63

9.2. Live Loads

Floor

Roof Foundation 10.

- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. **Terms & Abbrevations**

Following terms and abbreviations are used in all structural drawings.

- a) UNO: Unless Noted Otherwise b) NSL: Natural Surface Level c) Typ: Typical d) FFL: Finished Floor Level
- e) C.Joint: Construction Joint

12. NOTE:

Allowable bearing capacity of 1 ton/ft² must be achieved at site.

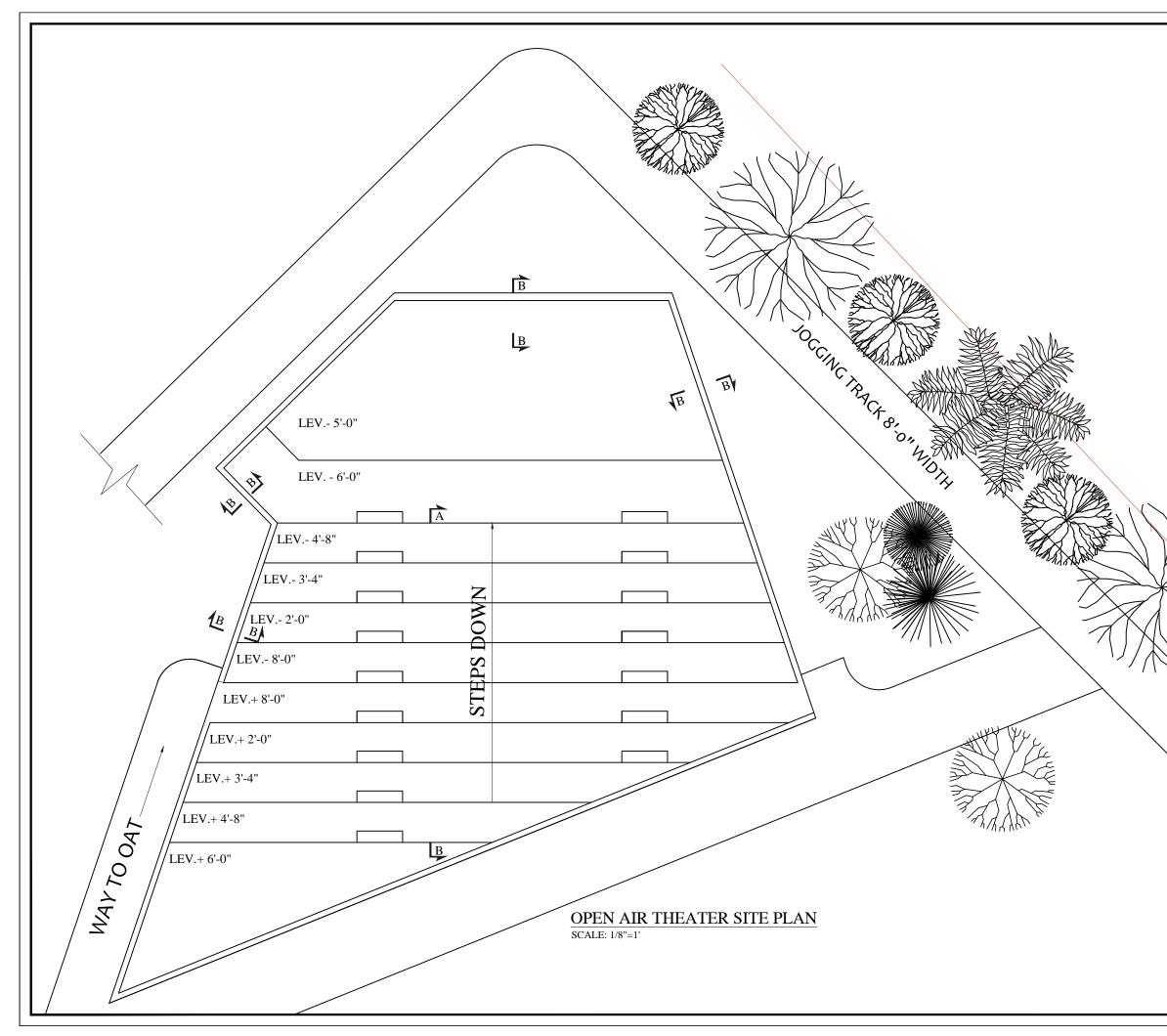
6 psf 3 psf

= 50 psf= 30 psf

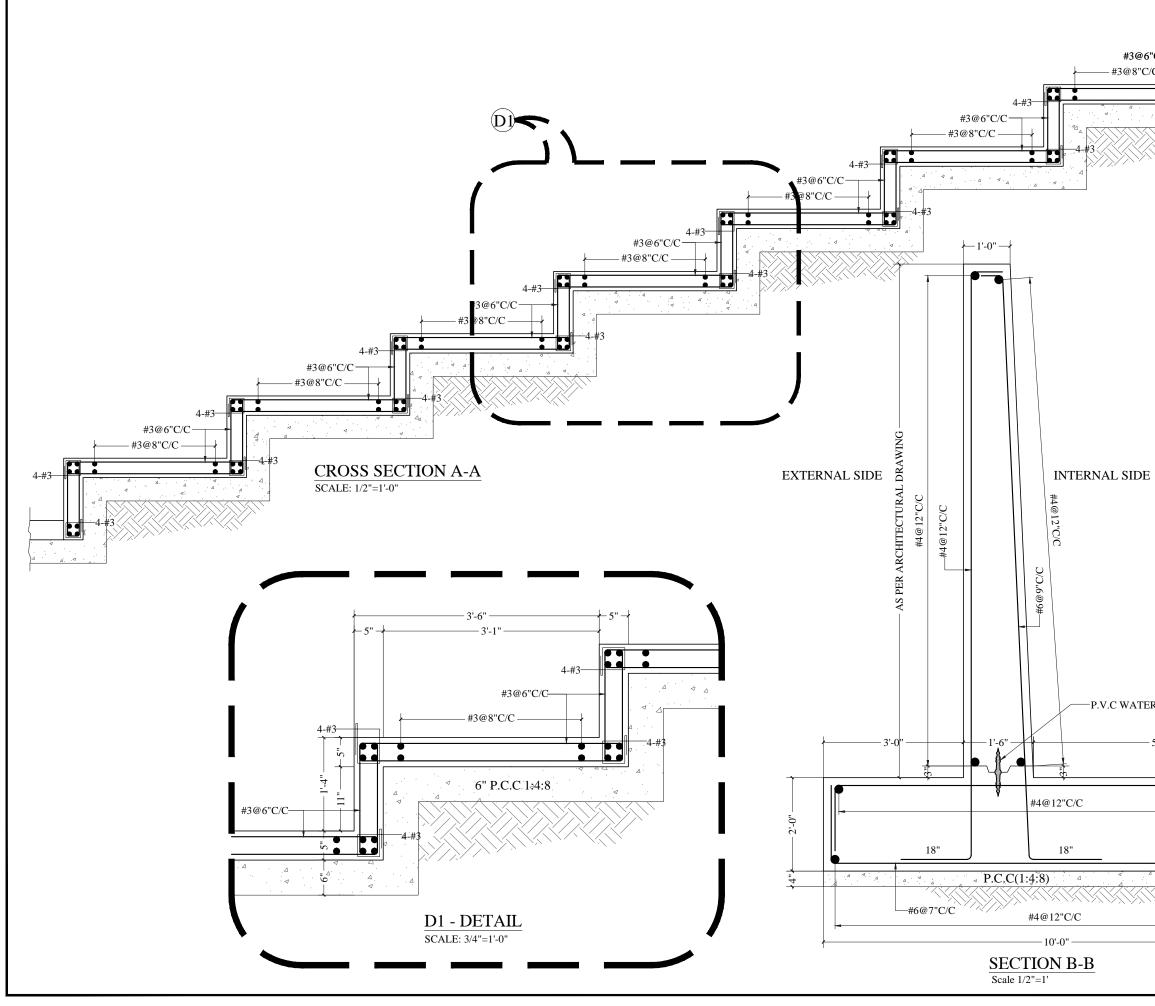
	IENT:				
SPORET MARAG	PROJECT IMPLEMENTATI UNIT (PIU) KNIF				
Approved Approved	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57-M Gulberg-III, Lahore, Pakisla Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441645, 35441645 E-mail : info@gdec.com				
REI UP- BAS	ROJECT: HABILITATION & GRADATION OF BOAT SIN TO SCHON CHOWRA TH PEDESTRIAN TRAIL	NGI			
1. Al O 2. Th Ol Al	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.				
REV	/ISIONS:				
No.	DESCRIPTION	DATE			
<u> </u>					
<u> </u>					
┣─	TENDER DRAWINGS				
DRAWING TITLE:					
GENERAL NOTES OF OPEN AIR THEATER					
DRA	AWN BY: DATE: Sh.Najam AUG. 20)21			
	ENGR.MUHAMMAD IMRAN	17			
	PROVED BY: SYED ALI ABBAS GILLANI	al			
DRA	AWING NO: REV:				
	9/ST-6/001 ST C)4			

N.T.S

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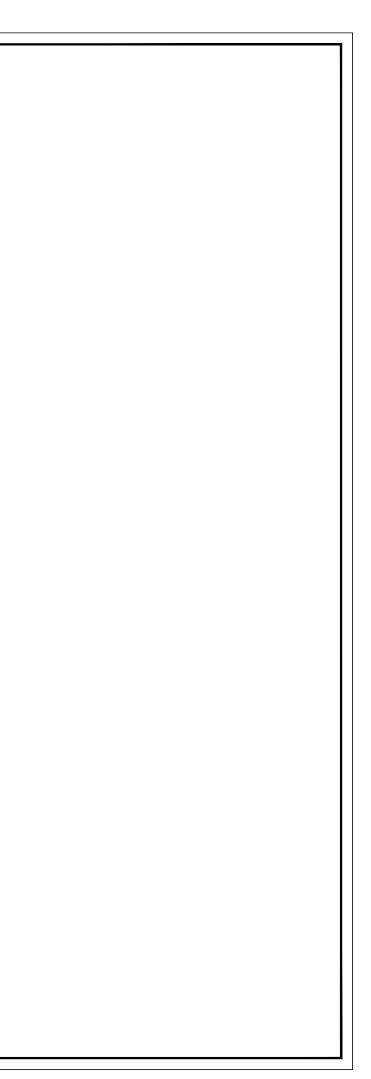


	CLIENT: PROJECT IMPLEMENTATION IMPLEMENTATION UNIT (PIU) KNIP CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57.44 Gulberg-II, Lahore, Pakistan CONSULTANTS (PVT)LTD. House No.57.44 Gulberg-II, Lahore, Pakistan CONSULTANTS (PVT)LTD. House No.57.44 Gulberg-II, Lahore, Pakistan URL :: (92-42) 35441641, 35441642 E-mail :: Info@g3e.com URL :: www.g3ec.com PROJECT: REHABILITATION & UP-GRADATION OF BOAT BASIN
W W W	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3. REVISIONS: No. DESCRIPTION
	TENDER DRAWINGS TENDER DRAWINGS DRAWING TITLE: SITE LAYOUT OF OPEN AIR THEATER DRAWN BY: DATE: Sh.Najam AUG. 2021 STRUCTURE ENGINEER: Image: Colspan="2">Colspan="2"Colspan="2



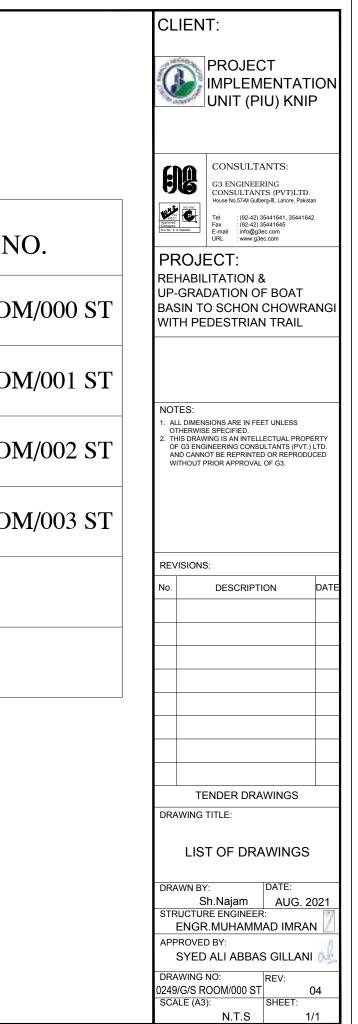
	-
#3@6"C/C #3@8"C/C 4-#3	
	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57-M Gulberg-III, Lahore, Pakistan Tel : (92-42) 35441641 Fax : (92-42) 35441642 Fax : (92-42) 35441642 E-mail : info@g3.8c.com URL : www.g3ec.com
	PROJECT: REHABILITATION & UP-GRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL
	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS
	OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.
	REVISIONS:
	No. DESCRIPTION DATE
D STOD	
R STOP	
5'-6"#6@7"C/C	
	TENDER DRAWINGS DRAWING TITLE:
	SECTIONAL DETAILS A-A, B-B & D1 DETAIL
	OF OPEN AIR THEATER
	Sh.Najam AUG. 2021 STRUCTURE ENGINEER:
	ENGR.MUHAMMAD IMRAN
ł	DRAWING NO: REV: 0249/ST-6/003 ST 04
	SCALE (A3): SHEET: AS SHOWN 1/1

STRUCTURAL DRAWINGS GUARD ROOM & SECURITY ROOM



LIST OF DRAWINGS STRUCTURAL DRAWINGS

	S.NO	DRAWING DETAIL	DRAWING N
	1.	LIST OF DRAWING	0249/G/S ROOI
	2.	GENERAL NOTES	0249/G/S ROOI
	3.	FOUNDATION & ROOF SLAB REINFORCEMENT PLAN AND DETAIL FOR GUARD ROOM & SECURITY	0249/G/S ROOI
	4.	X-SECTION OF TYPICAL LINTELS SCHEDULE OF LINTELS	0249/G/S ROOI
-			
L			I



1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements. proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

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- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete

4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3.000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

4.2. Reinforcing Steel

4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

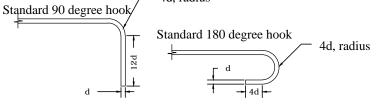
4.2.2. Clear Concrete Covers to Reinforcement

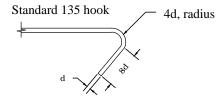
	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	11⁄2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5.Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions: 4d, radius



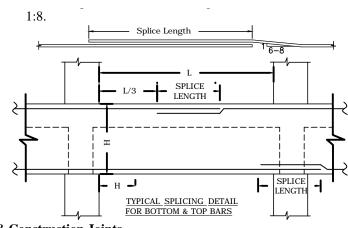


5.3. Development and Splice Lengths a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)					
Designation		n cylinder strength of psi at 28 days	Concrete with cylinder strength of 4,000 psi at 28 days			
Γ	Top bars*	Other than top bars	Top bars [*]	Other than top bars		
Γ	Splice	Splice	Splice	Splice		
	Length	Length	Length	Length		
#3	30	24	27	21		
#4	39	30	33	27		
#5	48	36	42	33		
#6	57	45	51	39		
#8	93	72	81	63		

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval
- of the Engineer, if it is not indicated in the drawing. b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. Adopted Loads

9.1. Dead Loads	
All floor finishes	= 56
Roof finishes	= 63

9.2. Live Loads

Floor

Roof Foundation 10.

- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. **Terms & Abbrevations**

Following terms and abbreviations are used in all structural drawings.

- Unless Noted Otherwise a) UNO: b) NSL: Natural Surface Level c) Typ: Typical d) FFL: Finished Floor Level
- e) C.Joint: Construction Joint

12. NOTE:

Allowable bearing capacity of 1 ton/ft² must be achieved at site.

6 psf 3 psf

= 50 psf= 30 psf

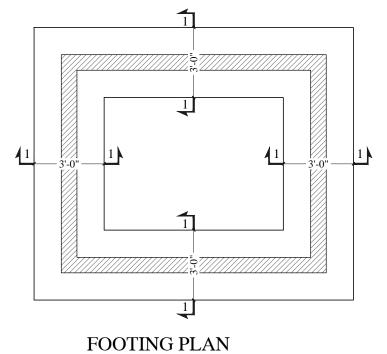
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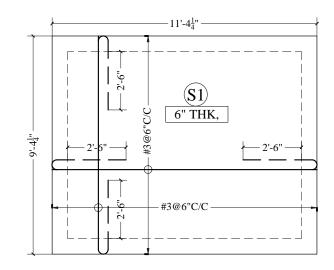
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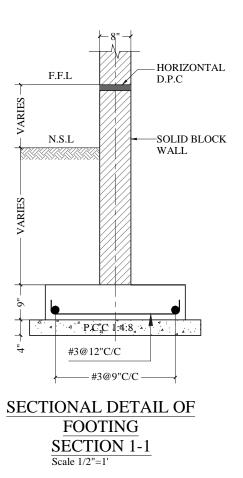
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REI UP- BAS	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57M Guberg-III, Lahore, Pakista Tel :: (92-42) 35441642 Ermail :: info@38c.com URL :: www.g38c.com ROJECT: HABILITATION & GRADATION OF BOAT SIN TO SCHON CHOWRA TH PEDESTRIAN TRAIL					
1. AI O 2. Tł Ol AI W	OTHERWISE SPECIFIED.					
	/ISIONS:					
No.	DESCRIPTION	DATE				
	TENDER DRAWINGS					
DR/	AWING TITLE:					
	GENERAL NOTES					
GL	FOR GUARD ROOM & SECURITY					
DRAWN BY: DATE: Sh.Najam AUG. 2021						
-	ENGR.MUHAMMAD IMRAN	1				
	PROVED BY:					
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	AWING NO: REV:	и				



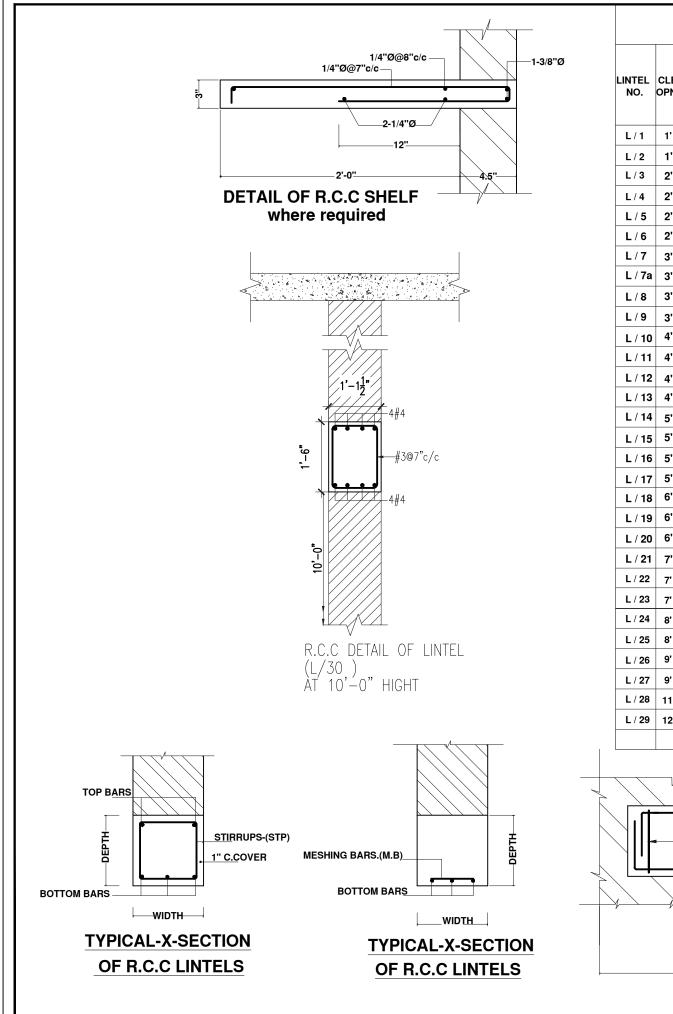
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ROOF SLAB REINFORCEMENT PLAN SCALE: 1/4"=1'



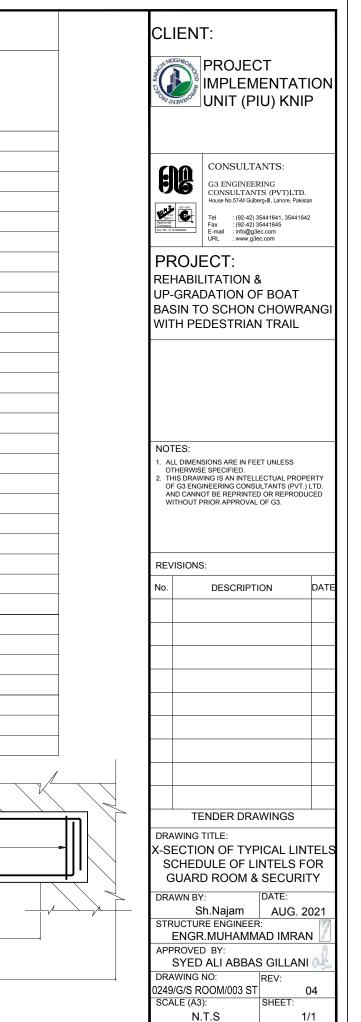
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FOUNDATION & ROOF SLAB REINFORCEMENT PLAN AND DETAIL FOR					
GUARD ROOM & SECURITY ROOM					
DRAWN BY: DATE: Sh.Najam AUG. 2021					
STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN					
APPROVED BY: SYED ALI ABBAS GILLANI					
DRAWING NO: REV:					
	/G/S R0 LE (A3)	DOM/002 ST :	SHEET:	94	
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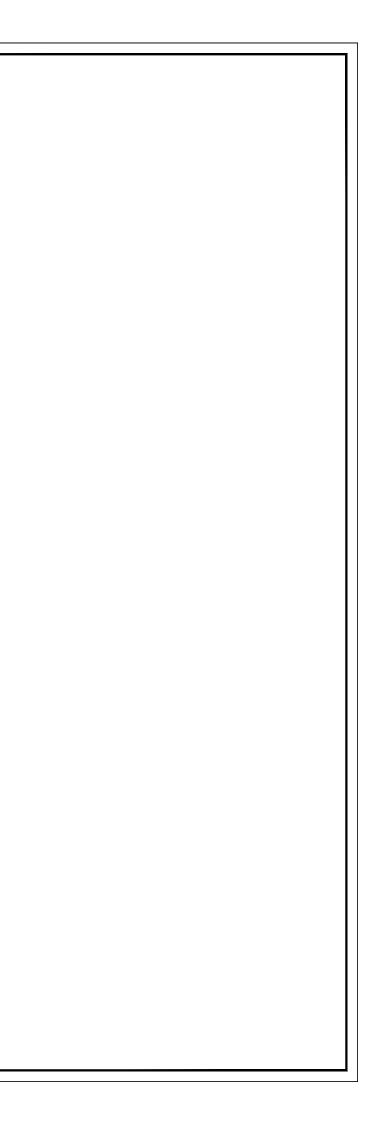
SCHEDULE OF R.C.C LINTELS

			SI	ZE	A.	г	A.		STIRRUPS (STP)
LINTEL NO.	CLEAR OPNING			DEPTH	BOTT	DIA	TO NO	P DIA	MESHING BARS (M.B)
				DEPIN	NO				
L/1	1' - 6"	3' - 0"	4 1/2" 9" OR	6"	3	3 / 8"	_	_	1/4" Q'@ 7" C/C (M.B)
L / 2	1' - 9"	3' - 3"	4 1/2" 9" OR	6"	3	3 / 8"	_	-	4
L / 3	2' - 0''	3' - 6"	9"	6"	3	3 / 8"	_	_	4
L / 4	2' - 3"	3' - 9"	4 1/2" 9" OR		3	3 / 8"	_	-	4
L / 5	2' - 6"	4' - 0''	4 1/2", 9' OR 13½"		3	3 / 8"	-	-	4
L / 6	2' - 9"		4 1/2" 9" OR	6"	3	3 / 8"	_	-	4
L / 7	3' - 0''	4' - 6''	3	6"	3	3 / 8"	_	_	4
L / 7a	3' - 3''		9.	6"	3	3 / 8"	_	-	4
L / 8	3' - 6"	5' - 0''	9	6"	3	3 / 8"	-	_	4
L / 9	3' - 9"			6"	3	3 / 8"	-	-	4
L / 10	4' - 0''	5' - 6"	4 1/2" 9" OR	9"	3	1 / 2"	_	-	4
L / 11	4' - 3"			9"	3	1 / 2"	2	3 / 8"	1/4" 0 @ 7" C/C (STP)
L / 12	4' - 6''	6' - 0''	4 1/2" 9" OR	9"	3	1 / 2"	2	3 / 8"	4
L / 13	4' - 9''			9"	3	1 / 2"	2	3 / 8"	4
L / 14	5' - 0''	6' - 6''		9"	3	1 / 2"	2	3 / 8"	3/8"Ø @ 7" C/C (STP)
L / 15	5' - 3''	6' - 9''		9"	3	1 / 2"	2	3 / 8"	4
L / 16	5' - 6''	7' - 0''	9" 13½"OR	9"	3	1 / 2"	2	3 / 8"	4
L / 17	5' - 9''	7' - 3''	9" 13½" 13½"	9"	3	1 / 2"	2	3 / 8"	4
L / 18	6' - 0''	7' - 6''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 19	6' - 6''	8' - 0''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 20	6' - 9''	8' - 3''	9" 0F 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 21	7' - 0''	8' - 6''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 22	7' - 6''	9' - 0''	13½" 9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 23	7' - 9''	9' - 3"	13½" 9" 13½"OR	9"	4	1 / 2"	3	3 / 8"	4
L / 24	8' - 0"	11 - 0"	13½" 9" OR	9"	5	1 / 2"	3	3 / 8"	4
L / 25	8' - 6"	11 - 6"	1072	9"	5	1 / 2"	3	3 / 8"	4
L / 26	9' - 0"	12'- 0"	9" OR <u>13½</u> "	18"	2	3/4"	3	1 / 2"	
			9" OR 13½"	18"	1 2	1" 3/4"	3	1 / 2"	
L / 27 L / 28	9' - 6" 11' - 6"	12 - 6" 14'- 6"	9" 13½" ^{OR} 9" OF	18"	1 2	1" 3/4"		1 / 2"	<i>"</i>
L / 20			9" OF 13½"	10	13	1" 3/4"	3	1 / 2"	4
L / 29	12' - 0"	15' - 0''	9" OR 13½"	18"	1	1"	3		/ HT BARS AT TOP
								STRAIGE	TI BARS AT TOP
				,				/	1
//								\mathbf{X}	
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<u>`</u>	\sum						ST		C.COVER
							CLEA	R OF OPE	NING
							LENG	TH OF LIN	ITELS

TYPICAL-L-SECTION OF R.C.C LINTELS



STRUCTURAL DRAWINGS TOILET FOR FOOD STREET



			CLIENT: PROJECT IMPLEMENTATION UNIT (PIU) KNIP
	LIST OF DRAWINGS		
	STRUCTURAL DRAWINGS		CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD.
S.NO	DRAWING DETAIL	DRAWING NO.	House No.57-M Gulberg-III, Lahore, Pakistan House No.57-M Gulberg-III, Lahore, Pakistan Tel: : (92-42) 35441641, 35441642 Fax: : (92-42) 35441645 Frail: : Inf@g3ec.com URL: : www.g3ec.com
1.	LIST OF DRAWING	0249/FS-TB/000 ST	REHABILITATION & UP-GRADATION OF BOAT BASIN TO SCHON CHOWRANG WITH PEDESTRIAN TRAIL
2.	GENERAL NOTES	0249/FS-TB/001 ST	NOTES:
3.	FOOTING PLAN AND DETAILS	0249/FS-TB/002 ST	1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.
4.	ROOF SLAB REINFORCEMENT PLAN	0249/FS-TB/003 ST	
5.	X-SECTION OF TYPICAL LINTELS SCHEDULE OF LINTELS	0249/FS-TB/004 ST	REVISIONS: No. DESCRIPTION DAT
			TENDER DRAWINGS DRAWING TITLE: LIST OF DRAWINGS TOILET FOR FOOD STREET
			DRAWN BY: DATE: Sh.Najam AUG. 2021 STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN
			APPROVED BY: SYED ALI ABBAS GILLANI DRAWING NO: 0249/FS-TB/000 ST SCALE (A3): SHEET:

1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements. proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

3.Construction

- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete

4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3.000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

4.2. Reinforcing Steel

4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

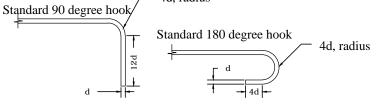
4.2.2. Clear Concrete Covers to Reinforcement

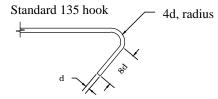
	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	11/2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5.Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions: 4d, radius



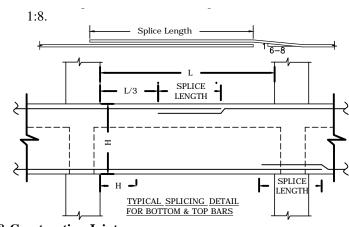


5.3. Development and Splice Lengths a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)					
Designation		n cylinder strength of psi at 28 days	Concrete with cylinder strength of 4,000 psi at 28 days			
Γ	Top bars*	Other than top bars	Top bars [*]	Other than top bars		
Γ	Splice	Splice	Splice	Splice		
	Length	Length	Length	Length		
#3	30	24	27	21		
#4	39	30	33	27		
#5	48	36	42	33		
#6	57	45	51	39		
#8	93	72	81	63		

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval
- of the Engineer, if it is not indicated in the drawing. b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. Adopted Loads

9.1. Dead Loads	
All floor finishes	= 56
Roof finishes	= 63

9.2. Live Loads

Floor

Roof Foundation 10.

- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. **Terms & Abbrevations**

Following terms and abbreviations are used in all structural drawings.

- a) UNO: Unless Noted Otherwise b) NSL: Natural Surface Level c) Typ: Typical d) FFL: Finished Floor Level
- e) C.Joint: Construction Joint

12. NOTE:

Allowable bearing capacity of 1 ton/ft² must be achieved at site.

6 psf 3 psf

= 50 psf= 30 psf

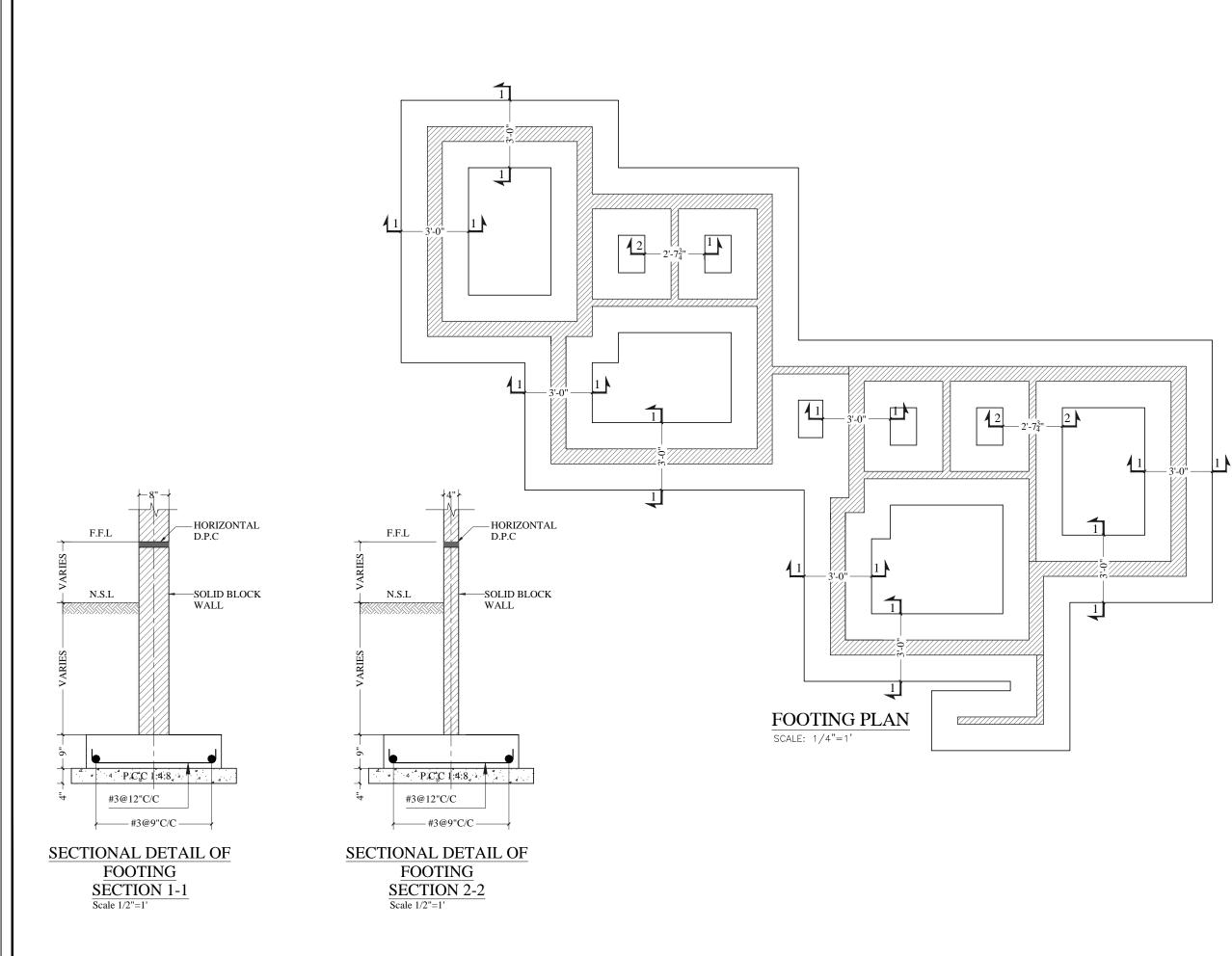
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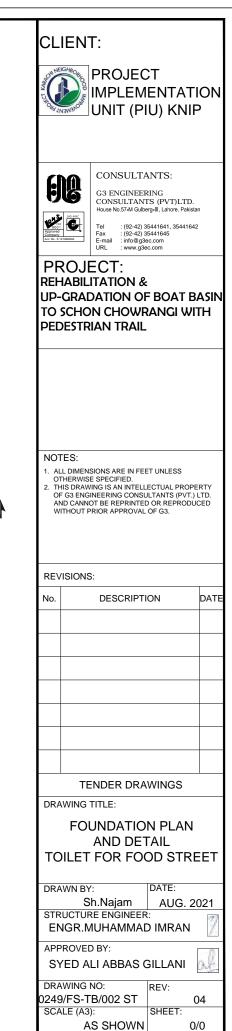
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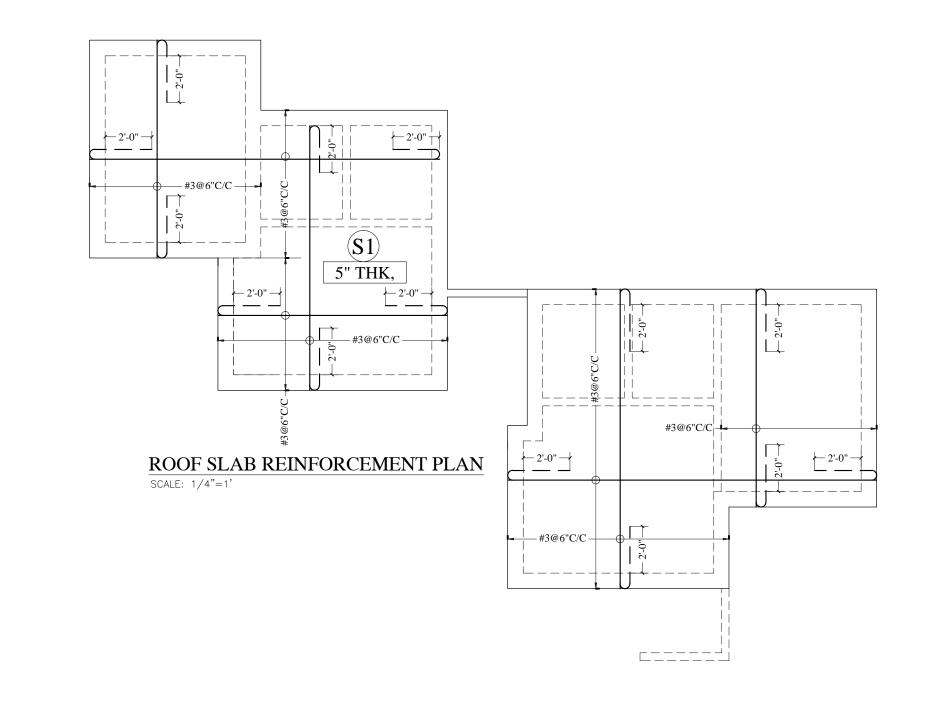
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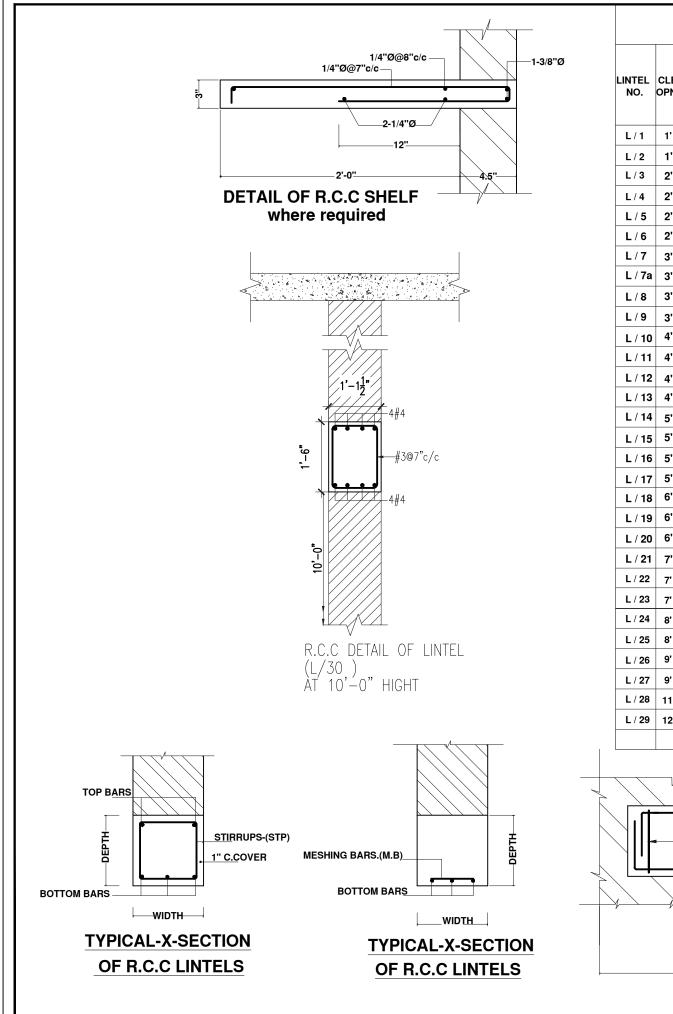
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A SOURCE MARA	PROJECT IMPLEMENTATI UNIT (PIU) KNIP	
E Social Approved Acc. No. 5	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PV)1TD. House No.574M Gubger]II, Lahore, Pakislar Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441643, 35441642 E-mail : infr@g3dec.com	
REI UP- BAS	ROJECT: HABILITATION & GRADATION OF BOAT SIN TO SCHON CHOWRA TH PEDESTRIAN TRAIL	NGI
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RE\	ISIONS:	
No.	DESCRIPTION	DATE
	TENDER DRAWINGS	
	WING TITLE: GENERAL NOTES DILET FOR FOOD STRE	ET
STF	AWN BY: DATE: Sh.Najam AUG. 20 RUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN	$\langle T \rangle$
APF	PROVED BY: SYED ALI ABBAS GILLANI	1
DR/	WING NO: REV: 9/FS-TB/001 ST 0	







CL	IENT:			
ECT KARE	PROJECT IMPLEMENTATI UNIT (PIU) KNIP			
Ref UP- TO	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.5744 Gulderg-III, Lahore, Pakistar Tel :: (92-42) 35441641, 35441642 Fax :: (92-42) 35441645 Email :: info@g3ec.com URL :: www.g3ec.com ROJECT: ABILITATION & GRADATION OF BOAT BA SCHON CHOWRANGI WIT DESTRIAN TRAIL	ASIN		
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ROOF SLAB REINFORCEMENT PLAN TOILET FOR FOOD STREET				
DRAWN BY: DATE: Sh.Najam AUG. 2021 STRUCTURE ENGINEER:				
ENGR.MUHAMMAD IMRAN				
	YED ALI ABBAS GILLANI	建		
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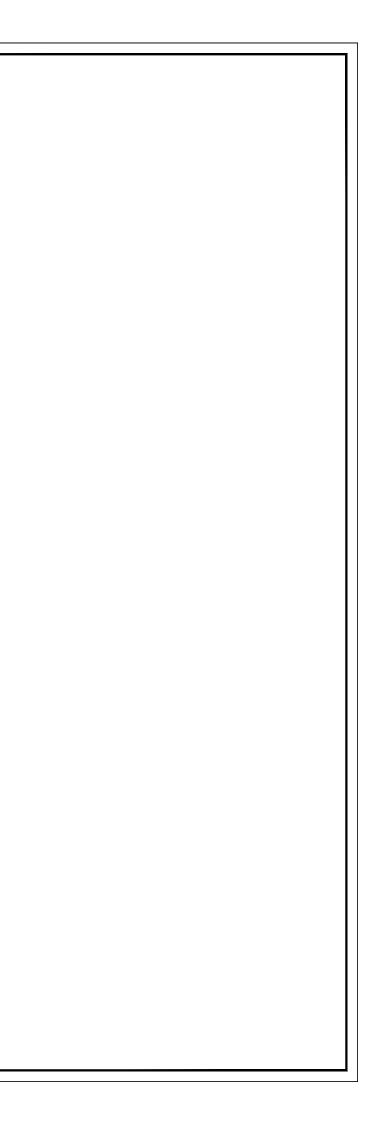
SCHEDULE OF R.C.C LINTELS

NTEL OPANG O				J						
Intel OPAN LIATEL WIDTH DEPTH NO DIA NO DIA MESHING BARS (M.B) L/1 1'-6' 3'-0' 6'' 3 3/8'' - <t< td=""><td></td><td></td><td></td><td>si</td><td>ZE</td><td>A</td><td>Г</td><td>A</td><td>г</td><td>STIRRUPS (STP)</td></t<>				si	ZE	A	Г	A	г	STIRRUPS (STP)
L/1 1'-6" 3'-0" $\frac{1}{12}$ OR 6" 3 3 3/8" 144" 0 @ 7" C/C (M.B) L/1 1'-6" 3'-6" $\frac{1}{12}$ OR 6" 3 3 3/8" $\%$ L/3 2'-0" 3'-6" $\frac{1}{12}$ OR 6" 3 3/8" $\%$ L/4 2'-3" 3'-6" $\frac{1}{12}$ OR 6" 3 3/8" $\%$ L/4 2'-3" 3'-9" $\frac{1}{12}$ OR 6" 3 3/8" $\%$ L/5 2'-6" 4'-6" $\frac{1}{12}$ OR 6" 3 3/8" $\%$ L/7 3'-0" 4'-6" $\frac{1}{12}$ OR 6" 3 3/8" $\%$ L/1 4'-0" 5'-6" $\frac{1}{12}$ OR 9" 3 1/2" $\%$ L/1 4'-0" 5'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" 1/4" 0@ 7" C/C (STP) L/12 4'-6" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 3 1/2" 2 3/8" $\%$ L/14 5'-0" 6'-6" $\frac{1}{12}$ OR 9" 4 1/2" 3 3/8" $\%$ L/15 5'-6" 7'-0" $\frac{1}{12}$ OR 9" 4 1/2" 3 3/8" $\%$ L/12 7'-0" 8'-6" $\frac{1}{12}$ OR 9" 5 1/2" 3 3/8" $\%$ L/22 7'-6" 9'-0 9''' 9''''''''''''''''''''''''''''	LINTEL NO.		OF			вотт				
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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	L/4	2' - 3''	3' - 9"		6"	3	3 / 8"	-	-	4
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STRAIGHT BARS AT TOP				13½" 9" оп			1"			
E STIRRUPS-(STP) BU 1"C.COVER I"C.COVER STRAIGHT BARS AT BOTTOM CLEAR OF OPENING	L / 29	12' - 0''	15' - 0"	13½"	18"	1	1"	3		
F STIRRUPS-(STP) H G I"C.COVER STRAIGHT BARS AT BOTTOM CLEAR OF OPENING									STRAIGE	HI BARS AT TOP
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LENGTH OF LINTELS										
								LENG	TH OF LIN	ITELS

TYPICAL-L-SECTION OF R.C.C LINTELS

		CLIENT:				
		CONSULTANTS: G3 ENGINEERING				
		CONSULTANTS (PVT) House No.57/4 Gulberg-II, Lahore Tel : (92-42) 35441641, 31 Fax : (92-42) 35441641,	, Pakistan			
		PROJECT: REHABILITATION & UP-GRADATION OF BOA	т			
		BASIN TO SCHON CHOW WITH PEDESTRIAN TRA	VRANGI			
		NOTEO				
		NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.				
		REVISIONS:				
		No. DESCRIPTION	DATE			
\swarrow		TENDER DRAWING	S			
		DRAWING TITLE:				
		X-SECTION OF TYPICAL SCHEDULE OF LINT TOILET FOR FOOD ST	ELS			
		DRAWN BY: DATE:				
		Sh.Najam AU STRUCTURE ENGINEER: ENGR.MUHAMMAD IM	G. 2021 RAN			
		APPROVED BY: SYED ALI ABBAS GILL	ANI			
		DRAWING NO: 0249/FS-TB/004 ST SCALE (A3): SHEET	04			
		N.T.S	1/1			

STRUCTURAL DRAWINGS TOILET FOR PARKS



			CLIENT: PROJECT IMPLEMENTATION UNIT (PIU) KNIP
	LIST OF DRAWINGS		
	STRUCTURAL DRAWINGS		CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD.
S.NO	DRAWING DETAIL	DRAWING NO.	House No. 57-M Guiberg-II, Lahore, Pakistan House No. 57-M Guiberg-II, Lahore, Pakistan Tel: : (92-42) 35441641, 35441642 Fax: : (92-42) 35441641, 35441645 URL: : www.g3ec.com PROJECT:
1.	LIST OF DRAWING	0249/PARKS-TB/000 ST	REHABILITATION & UP-GRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL
2.	GENERAL NOTES	0249/PARKS-TB/001 ST	NOTES:
3.	FOUNDATION PLAN AND DETAIL	0249/PARKS-TB/002 ST	ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.
4.	BEAM FRAMING AND SLAB REINFORCEMENT PLAN & DETAILS	0249/PARKS-TB/003 ST	
5.	X-SECTION OF TYPICAL LINTELS SCHEDULE OF LINTELS	0249/PARKS-TB/004 ST	REVISIONS: No. DESCRIPTION
			TENDER DRAWINGS DRAWING TITLE:
			LIST OF DRAWINGS TOILET FOR PARKS
			DRAWN BY: DATE: Sh.Najam AUG. 2021 STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN
			APPROVED BY: SYED ALI ABBAS GILLANI
			DRAWING NO: REV: 0249/PARKS-TB/000 ST 04 SCALE (A3): SHEET: N.T.S 1/1

1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements. proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

3.Construction

- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete

4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3,000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

4.2. Reinforcing Steel

4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

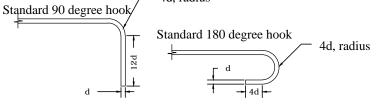
4.2.2. Clear Concrete Covers to Reinforcement

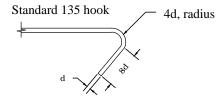
	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	11⁄2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5.Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions: 4d, radius



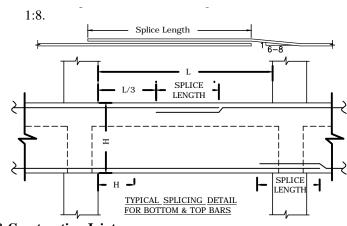


5.3. Development and Splice Lengths a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)					
Designation		n cylinder strength of psi at 28 days	Concrete with cylinder strength of 4,000 psi at 28 days			
ľ	Top bars [*]	Other than top bars	Top bars [*]	Other than top bars		
	Splice	Splice	Splice	Splice		
	Length	Length	Length	Length		
#3	30	24	27	21		
#4	39	30	33	27		
#5	48	36	42	33		
#6	57	45	51	39		
#8	93	72	81	63		

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval
- of the Engineer, if it is not indicated in the drawing. b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. Adopted Loads

= 56
= 63

9.2. Live Loads

Floor

Roof Foundation 10.

- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. **Terms & Abbrevations**

Following terms and abbreviations are used in all structural drawings.

- Unless Noted Otherwise a) UNO: b) NSL: Natural Surface Level c) Typ: Typical d) FFL: Finished Floor Level
- e) C.Joint: Construction Joint

12. NOTE:

Allowable bearing capacity of 1 ton/ft² must be achieved at site.

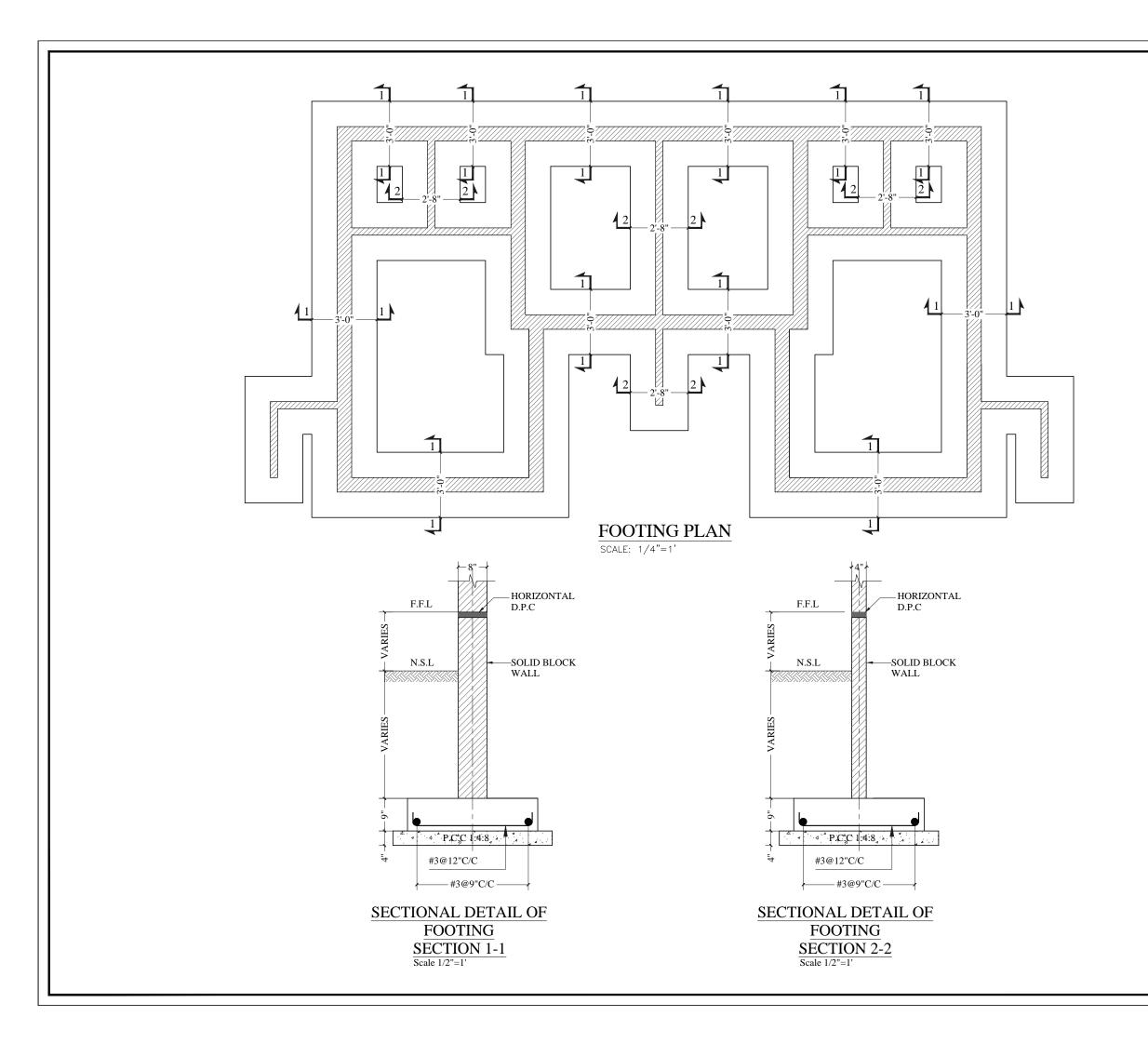
6 psf 3 psf

= 50 psf= 30 psf

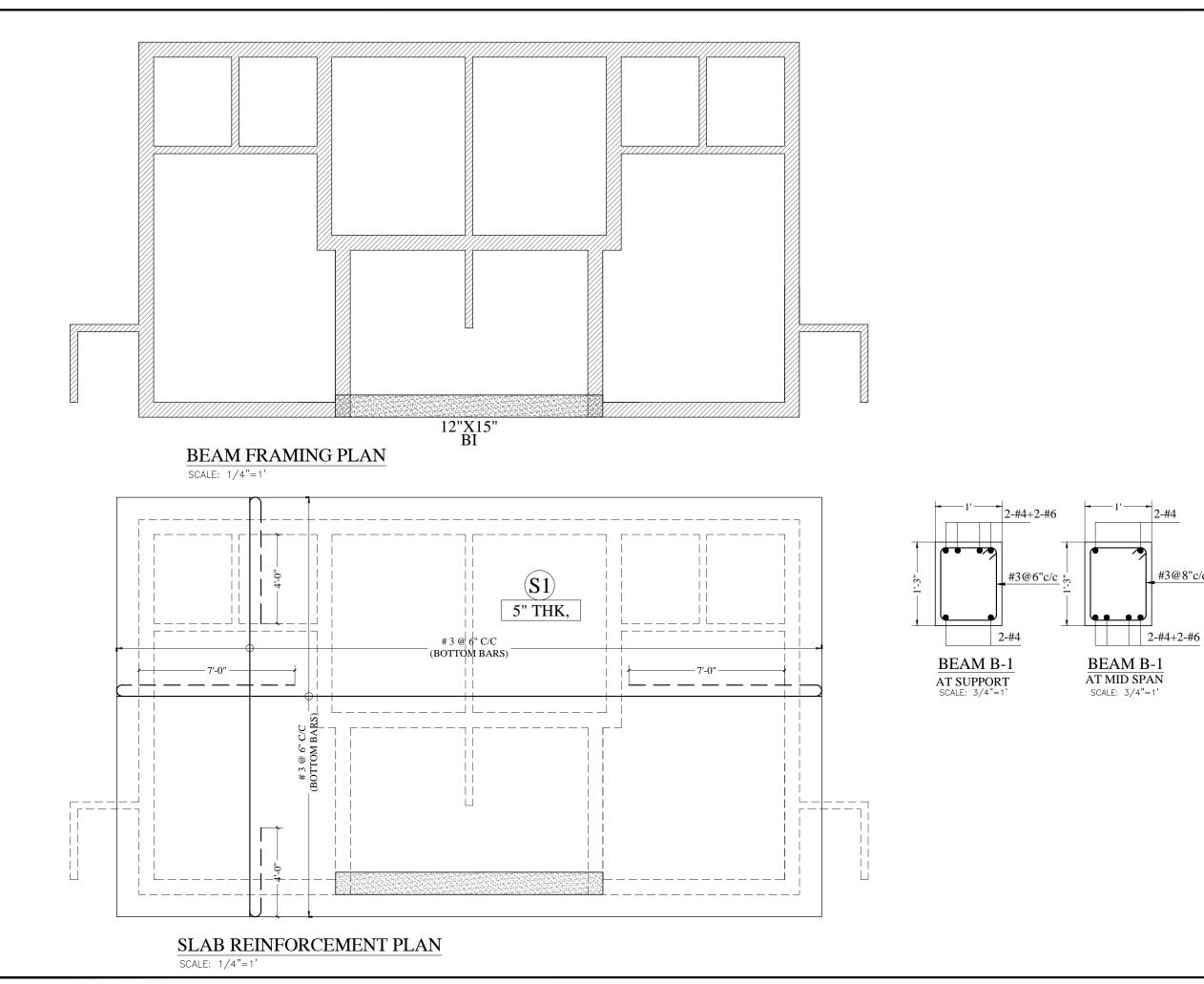
	IENT:					
Separate Second	PROJECT IMPLEMENTATION UNIT (PIU) KNIP					
Company Approved Across	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.574 MGubergill, Lahore, Pakislar Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441643, 35441642 E-mail : infr@g3ec.com					
REI UP BAS	PROJECT: REHABILITATION & UP-GRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL					
1. Al O 2. Th	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED.					
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No.	DESCRIPTION	DATE				
	TENDER DRAWINGS					
DR4	DRAWING TITLE: GENERAL NOTES TOILET FOR PARKS					
STF	DRAWN BY: DATE: Sh.Najam AUG. 2021 STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN					
S`	PROVED BY: YED ALI ABBAS GILLANI WING NO: REV:	al				
0249	//PARKS-TB/001 ST 0	4				

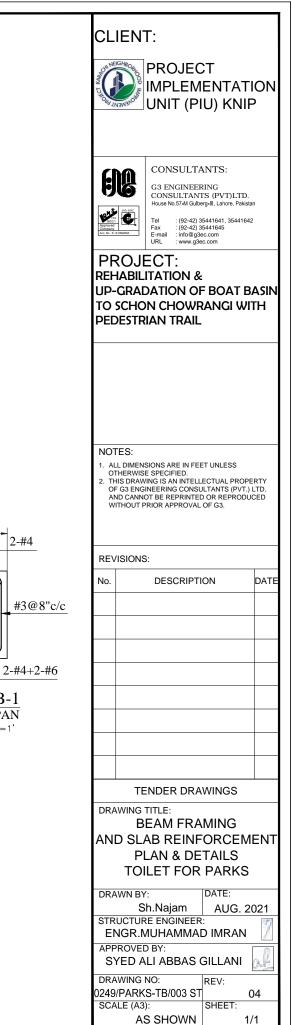
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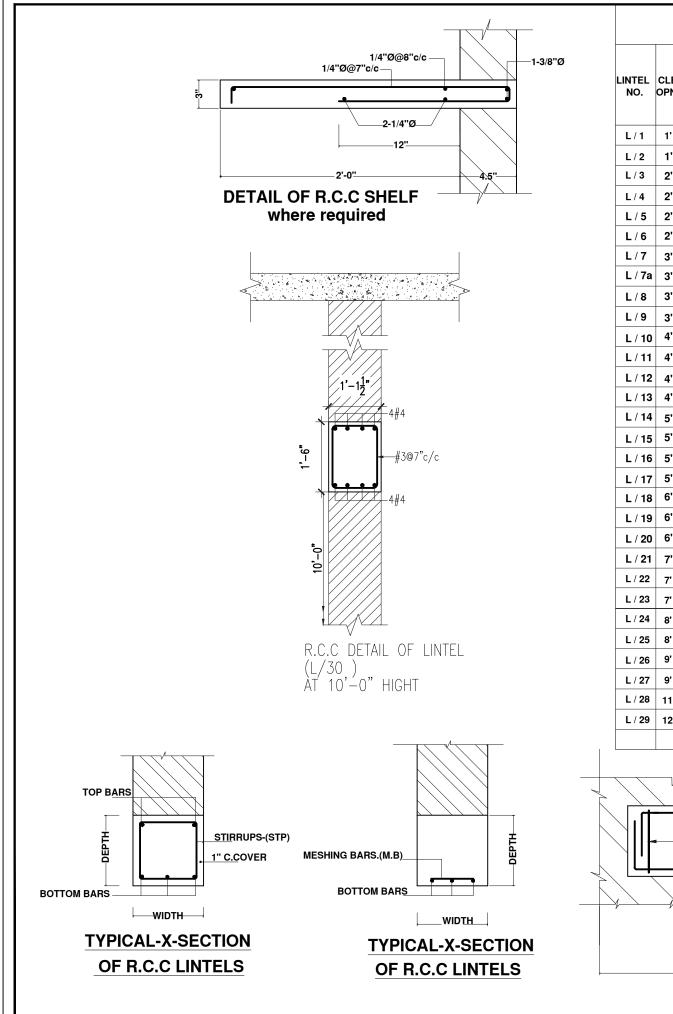
1/1



CLIENT:				
PROJECT IMPLEMENTATION UNIT (PIU) KNIP				
6	CONSULTANTS:			
U	G3 ENGINEERING CONSULTANTS (PVT) LTD. House No.57-M Gulberg-III, Lahore, Pakistai	n		
Approved Company Acc. No. 5	Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441645 E-mail : info@g3ec.com URL <th: th="" www.g3ec.com<=""></th:>			
PROJECT: REHABILITATION & UP-GRADATION OF BOAT BASIN TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL				
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REV	/ISIONS:			
No.	DESCRIPTION	DATE		
DRA	TENDER DRAWINGS DRAWING TITLE:			
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STR	FOUNDATION PLAN AND DETAIL TOILET FOR PARKS	021		
STR EN	FOUNDATION PLAN AND DETAIL TOILET FOR PARKS WN BY: Sh.Najam AUG. 20 UCTURE ENGINEER:	021		
STR EN APF SN	FOUNDATION PLAN AND DETAIL TOILET FOR PARKS MIN BY: DATE: Sh.Najam AUG. 20 UCTURE ENGINEER: NGR.MUHAMMAD IMRAN PROVED BY: YED ALI ABBAS GILLANI	021		



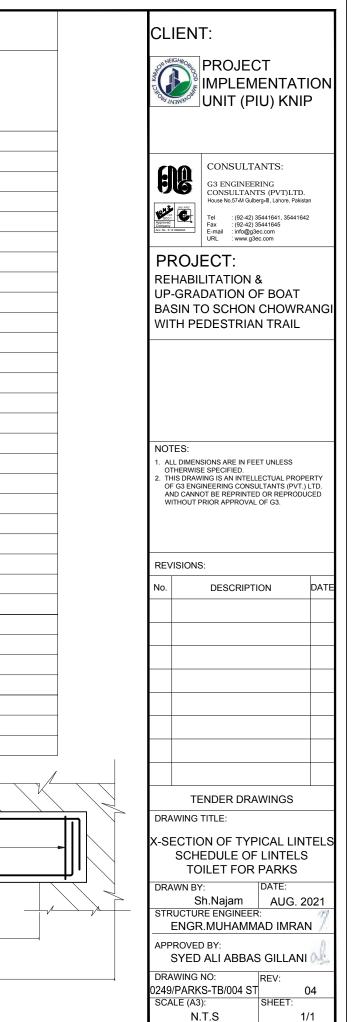




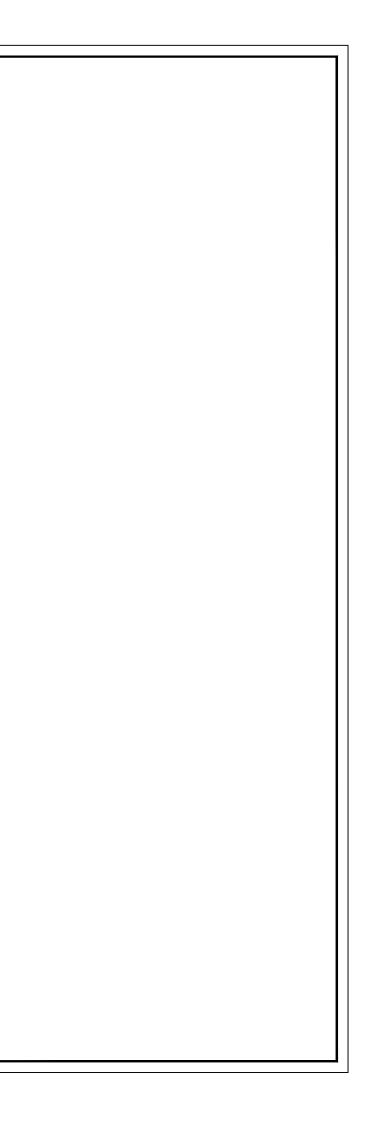
SCHEDULE OF R.C.C LINTELS

			SI	ZE	A.	Г	A.		STIRRUPS (STP)
LINTEL NO.	CLEAR OPNING			DEPTH	BOTT	DIA	TO NO	P DIA	MESHING BARS (M.B)
				DEPIN	NO				
L/1	1' - 6"	3' - 0"	4 1/2" OR 9"	6"	3	3 / 8"	_	_	1/4" Q'@ 7" C/C (M.B)
L / 2	1' - 9"	3' - 3"	4 1/2" 9" OR	6"	3	3 / 8"	_	-	4
L / 3	2' - 0''	3' - 6"	9"	6"	3	3 / 8"	_	_	4
L / 4	2' - 3"	3' - 9"	4 1/2" 9" OR		3	3 / 8"	_	-	4
L / 5	2' - 6"	4' - 0''	4 1/2", 9' OR 13½"		3	3 / 8"	-	-	4
L / 6	2' - 9"		4 1/2" 9" OR	6"	3	3 / 8"	_	-	4
L / 7	3' - 0''	4' - 6''	3	6"	3	3 / 8"	_	_	4
L / 7a	3' - 3''		9.	6"	3	3 / 8"	_	-	4
L / 8	3' - 6"	5' - 0''	9	6"	3	3 / 8"	-	_	4
L / 9	3' - 9"			6"	3	3 / 8"	-	-	4
L / 10	4' - 0''	5' - 6"	4 1/2" 9" OR	9"	3	1 / 2"	_	-	4
L / 11	4' - 3"			9"	3	1 / 2"	2	3 / 8"	1/4" 0 @ 7" C/C (STP)
L / 12	4' - 6''	6' - 0''	4 1/2" 9" OR	9"	3	1 / 2"	2	3 / 8"	4
L / 13	4' - 9''			9"	3	1 / 2"	2	3 / 8"	4
L / 14	5' - 0''	6' - 6''		9"	3	1 / 2"	2	3 / 8"	3/8"Ø @ 7" C/C (STP)
L / 15	5' - 3''	6' - 9''		9"	3	1 / 2"	2	3 / 8"	4
L / 16	5' - 6''	7' - 0''	9" 13½"OR	9"	3	1 / 2"	2	3 / 8"	4
L / 17	5' - 9''	7' - 3''	9" 13½" 13½"	9"	3	1 / 2"	2	3 / 8"	4
L / 18	6' - 0''	7' - 6''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 19	6' - 6''	8' - 0''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 20	6' - 9''	8' - 3''	9" 0F 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 21	7' - 0''	8' - 6''	9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 22	7' - 6''	9' - 0''	13½" 9" OR 13½"	9"	4	1 / 2"	3	3 / 8"	4
L / 23	7' - 9''	9' - 3"	13½" 9" 13½"OR	9"	4	1 / 2"	3	3 / 8"	4
L / 24	8' - 0"	11 - 0"	13½" 9" OR	9"	5	1 / 2"	3	3 / 8"	4
L / 25	8' - 6"	11 - 6"	1072	9"	5	1 / 2"	3	3 / 8"	4
L / 26	9' - 0"	12'- 0"	9" OR <u>13½</u> "	18"	2	3/4"	3	1 / 2"	
			9" OR 13½"	18"	1 2	1" 3/4"	3	1 / 2"	
L / 27 L / 28	9' - 6" 11' - 6"	12 - 6" 14'- 6"	9" 13½" ^{OR} 9" OF	18"	1 2	1" 3/4"		1 / 2"	<i>"</i>
L / 20			9" OF 13½"	10	13	1" 3/4"	3	1 / 2"	4
L / 29	12' - 0"	15' - 0''	9" OR 13½"	18"	1	1"	3		/ HT BARS AT TOP
								STRAIGE	TI BARS AT TOP
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TYPICAL-L-SECTION OF R.C.C LINTELS



STRUCTURAL DRAWINGS FEATURE WALL



S.NO	DRAWING DETAIL	DRAWING
1.	LIST OF DRAWING	0249/FW/000
2.	GENERAL NOTES	0249/FW/001
3.	R.C.C FOOTING, STEEL PIPE P.C.C FOOTING, TIE BEAM AND REINFORCEMENT DETAILS OF FEATURE WALL	0249/FW/002

	CLIENT:
	PROJECT IMPLEMENTATIO UNIT (PIU) KNIP
	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. HOUSE NO.57-M GUIDErg-III, Lahre, Pakistan HOUSE NO.57-M GUIDErg-III, Lahre, Pakistan HOUSE NO.57-M GUIDErg-III, Lahre, Pakistan Tel :: (92-42) 35441641 E-mail :: (92-42) 35441642 E-mail :: (92-42) 35441645 E-mail :: (100@g3ec.com URL :: www.g3ec.com PROJECT: REHABILITATION & UP-GRADATION OF BOAT BASI TO SCHON CHOWRANGI WITH PEDESTRIAN TRAIL
ST	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS
2 ST	 THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.
	REVISIONS:
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1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements. proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

3.Construction

- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete

4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3.000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

4.2. Reinforcing Steel

4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

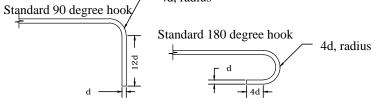
4.2.2. Clear Concrete Covers to Reinforcement

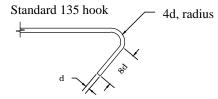
	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	11/2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5. Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions: 4d, radius



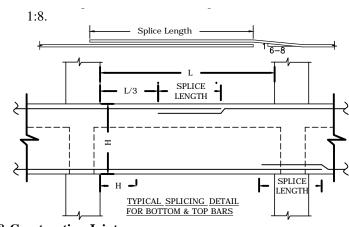


5.3. Development and Splice Lengths a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)				
Designation	Concrete with cylinder strength of 3,000 psi at 28 days		Concrete with cylinder strength of 4,000 psi at 28 days		
Γ	Top bars*	Other than top bars	Top bars [*]	Other than top bars	
Γ	Splice	Splice	Splice	Splice	
	Length	Length	Length	Length	
#3	30	24	27	21	
#4	39	30	33	27	
#5	48	36	42	33	
#6	57	45	51	39	
#8	93	72	81	63	

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval
- of the Engineer, if it is not indicated in the drawing. b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. Adopted Loads

9.1. Dead Loads	
All floor finishes	= 56
Roof finishes	= 63

9.2. Live Loads

Floor

Roof Foundation 10.

- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. **Terms & Abbrevations**

Following terms and abbreviations are used in all structural drawings.

- a) UNO: Unless Noted Otherwise b) NSL: Natural Surface Level c) Typ: Typical d) FFL: Finished Floor Level
- e) C.Joint: Construction Joint

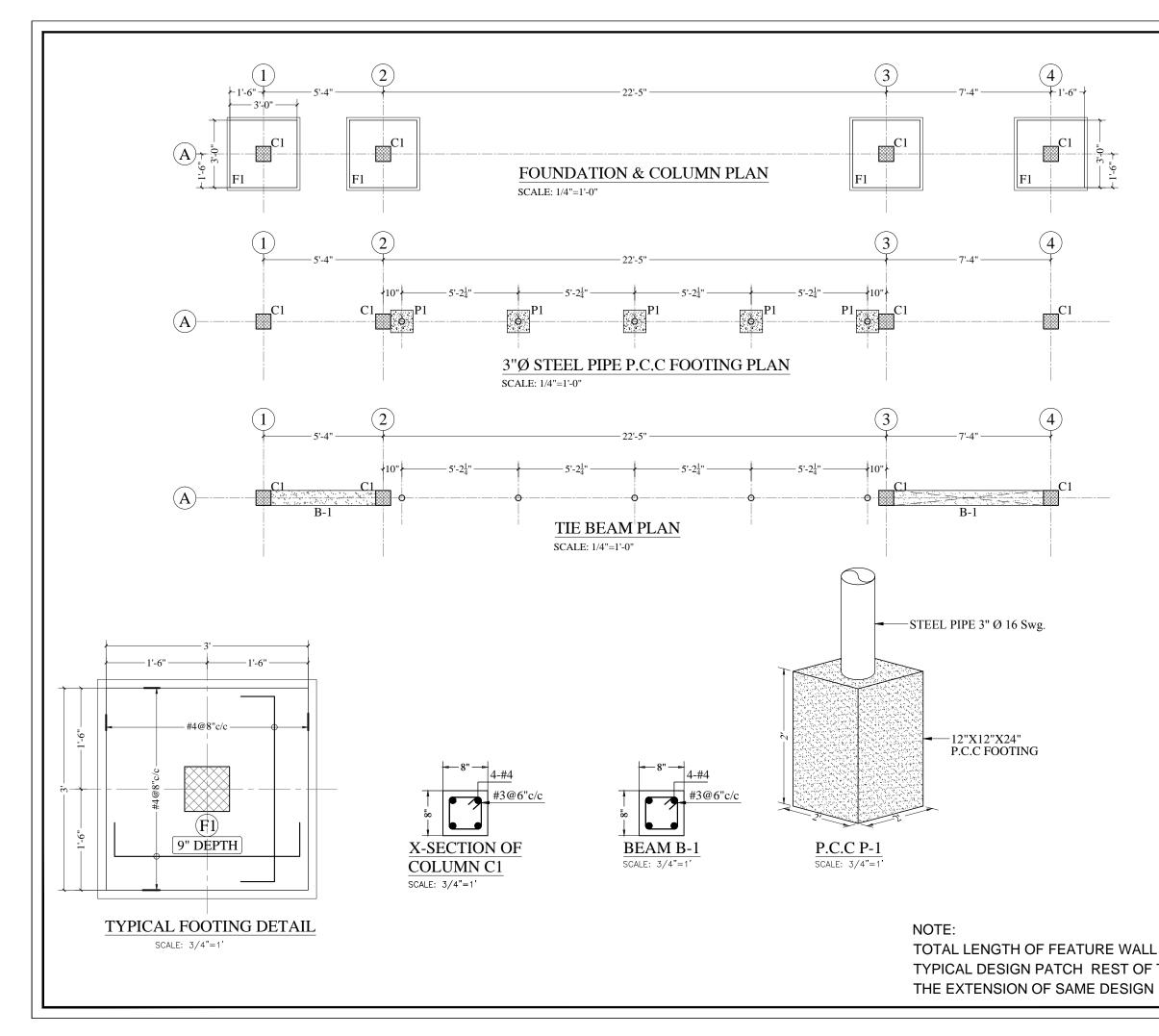
12. NOTE:

Allowable bearing capacity of 1 ton/ft² must be achieved at site.

6 psf 3 psf

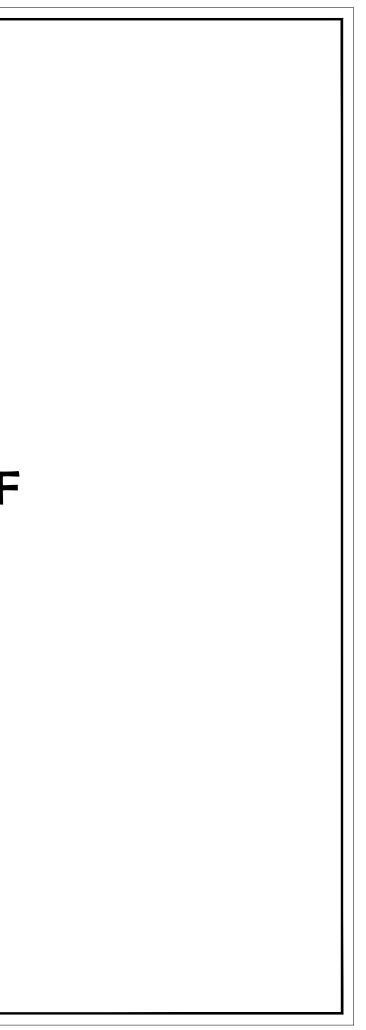
= 50 psf= 30 psf

	CLIENT:					
5	PROJECT IMPLEMENTATION UNIT (PIU) KNIP					
	JAS-ANZ	RING FS (PVT)LTD. rg-III, Lahore, Pakista 5441641, 35441642 5441645 sc.com	n			
REH UP- TO	ROJECT: HABILITATION & GRADATION OF SCHON CHOWF DESTRIAN TRAIL	BOAT BA				
1. AL OT 2. TH OF AN	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.					
REV	ISIONS:					
No.	DESCRIPTI	ON	DATE			
DRA	TENDER DRAWINGS					
GENERAL NOTES FEATURE WALL						
STR	DRAWN BY: DATE: Sh.Najam AUG. 2021 STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN					
APPROVED BY: SYED ALI ABBAS GILLANI						
			90.024m			
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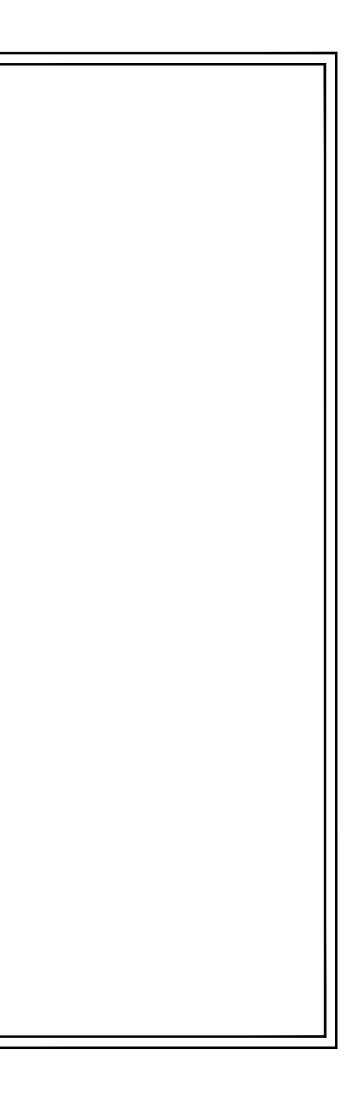


	CLIENT:
	PROJECT IMPLEMENTATION UNIT (PIU) KNIP
	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. HouseNo57Al Gulbergil, Lahore, Pakistan Tel : (20-42) 35441641, 35441642 Fax : (20-42) 35441645 Fax : (20-42) 5441645 Fax : (20-42) 545 Fax : (20
	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3. REVISIONS:
	No. DESCRIPTION DATE
	TENDER DRAWINGS
	DRAWING TITLE: R.C.C FOOTING, STEEL PIPE P.C.C FOOTING, TIE BEAM AND REINFORCEMENT DETAILS OF FEATURE WALL
	DRAWN BY: DATE:
	Sh.Najam AUG. 2021 STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN APPROVED BY:
= 3315' 35'	SYED ALI ABBAS GILLANI 🛛 🛝
THE 3280' WILL BE	0249/FW/002 ST 04
	SCALE (A3): SHEET: AS SHOWN 1/1

REHABILITATION & UP-GRADATION OF GIZRI SPORTS GROUND



STRUCTURAL DRAWINGS BOUNDARY WALL



S.NO	DRAWING DETAIL	DRAWING NO
1.	LIST OF DRAWING	0249/B-W/000
2.	GENERAL NOTES	0249/B-W/001
3.	FOUNDATION, COLUMN PLAN AND REINFORCEMENT DETAILS	0249/B-W/002

	CLIENT:			
	PROJECT IMPLEMENTATIC UNIT (PIU) KNIP	N		
	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT) LTD. HOUSE NG 57-M Gubergill, Labore, Pakstan Tel :: (92-42) 35441641, 35441642 Fax :: (92-42) 35441642, 35441642 Fax :: (92-42) 3544164, 35441642 E-mail :: Info@gdec.com			
J.	PROJECT:			
0 ST	REHABILITATION & UP-GRADATION OF GIZRI SPORTS GROUND			
1 ST				
2 ST	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERT OF G3 ENGINEERING CONSULTANTS (PVT.) LTD AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3.).		
	REVISIONS:			
	No. DESCRIPTION D/	ATE		
	TENDER DRAWINGS			
	DRAWING TITLE:			
	LIST OF DRAWINGS BOUNDARY WALL DRAWN BY: DATE: Sh.Najam AUG. 202	1		
	STRUCTURE ENGINEER : ENGR.MUHAMMAD IMRAN APPROVED BY: SYED ALI ABBAS GILLANI	2		
	DRAWING NO: REV: 0249/B-W/000 ST 04 SCALE (A3): SHEET:			
	N.T.S 1/1			

1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements, proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

3.Construction

- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete 4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3,000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

- 4.2. Reinforcing Steel
- 4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

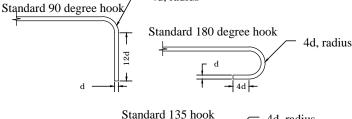
4.2.2. Clear Concrete Covers to Reinforcement

	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	11⁄2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

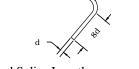
- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5. Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions: 4d, radius



4d, radius



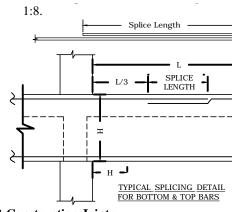
5.3. Development and Splice Lengths

a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)				
Designation		n cylinder strength of psi at 28 days	Concrete with cylinder strength of 4,000 psi at 28 days		
	Top bars [*]	Other than top bars	Top bars*	Other than top bars	
[Splice	Splice	Splice	Splice	
	Length	Length	Length	Length	
#3	30	24	27	21	
#4	39	30	33	27	
#5	48	36	42	33	
#6	57	45	51	39	
#8	93	72	81	63	

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval of the Engineer, if it is not indicated in the drawing.
- b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. Adopted Loads

9.1. Dead Loads	
All floor finishes	= 56 psf
Roof finishes	= 63 psf

= 60 psf

= 30 psf

9.2. Live Loads

Floor Roof

Foundation 10.

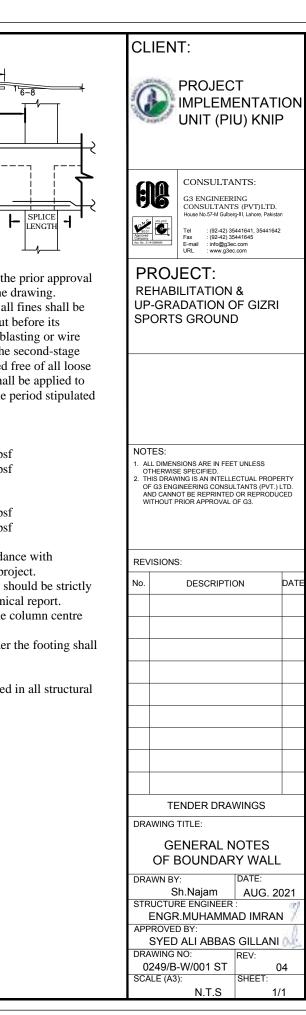
- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. **Terms & Abbrevations**

Following ter	rms and abbreviations are use	e
drawings.		
	United Materia Othermotics	

a) UNO:	Unless Noted Otherwise
b) NSL:	Natural Surface Level
c) Typ:	Typical
d) FFL:	Finished Floor Level

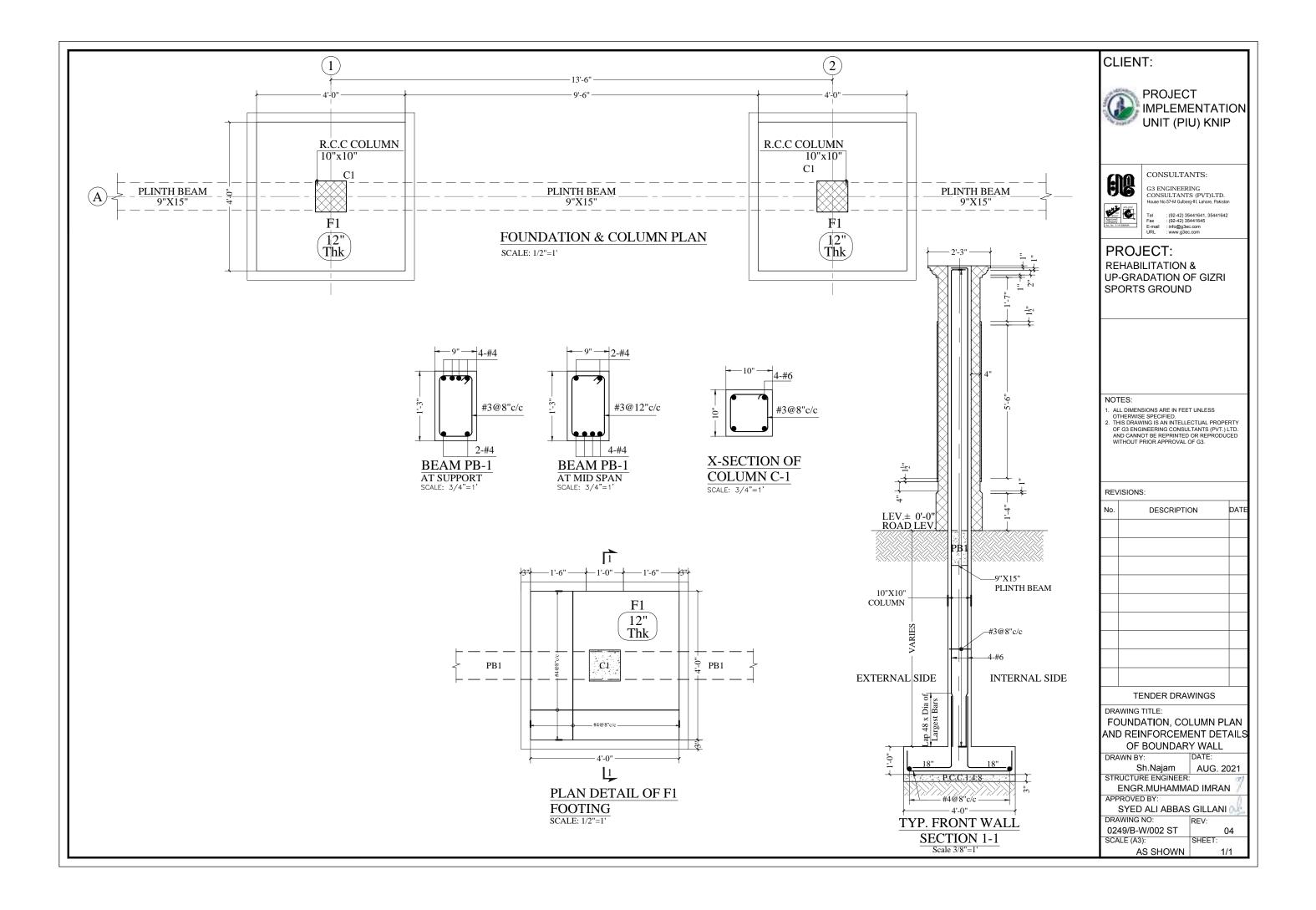
e) C.Joint: Construction Joint



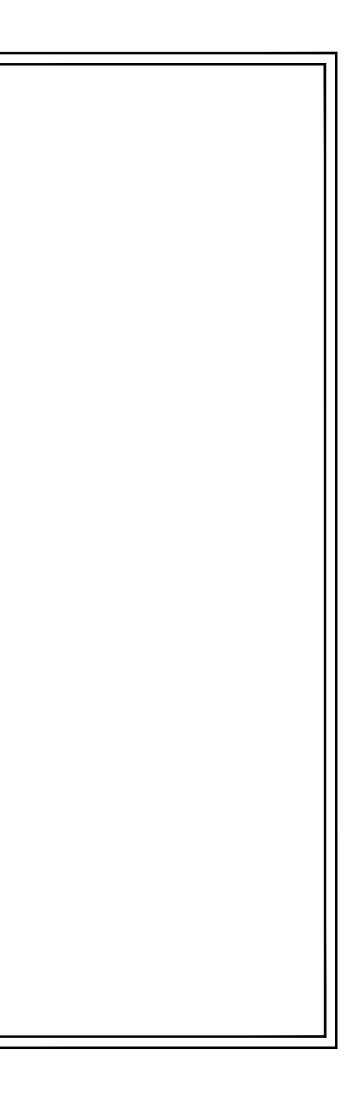
DATE

04

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STRUCTURAL DRAWINGS ENTRANCE GATE



S.NO	DRAWING DETAIL	DRAWING NO
1.	LIST OF DRAWING	0249/E-G/000
2.	GENERAL NOTES	0249/E-G/001
3.	FOUNDATION AND SLAB REINFORCEMENT PLAN	0249/E-G/002
4.	X-SECTION OF TYPICAL LINTELS SCHEDULE OF LINTELS	0249/E-G/003

	CLIENT:	
	PROJECT IMPLEMENTATION UNIT (PIU) KNIP	
	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57-M Gulberg-III, Lahore, Pakislan Tel (92-42) 35441641, 35441642 Fax : (92-42) 35441645	
Э.	E-mail :info@g3ec.com URL :www.g3ec.com PROJECT:	
0 ST	REHABILITATION & UP-GRADATION OF GIZRI SPORTS GROUND	
1 ST		
2 ST	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED	
3 ST	WITHOUT PRIOR APPROVAL OF G3.	
	REVISIONS:	
	No. DESCRIPTION DATE	
	TENDER DRAWINGS	
	DRAWING TITLE:	
	LIST OF DRAWINGS ENTRANCE GATE DRAWN BY: DATE: Sh.Najam AUG. 2021	
	STRUCTURE ENGINEER : ENGR.MUHAMMAD IMRAN	
	SYED ALI ABBAS GILLANI	
	0249/E-G/000 ST 04 SCALE (A3): SHEET: N.T.S 1/1	
		-

1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements, proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

3.Construction

- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete 4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3,000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

- 4.2. Reinforcing Steel
- 4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

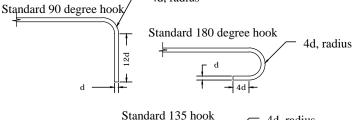
4.2.2. Clear Concrete Covers to Reinforcement

	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	11⁄2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

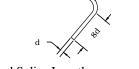
- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5. Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions: 4d, radius



4d, radius



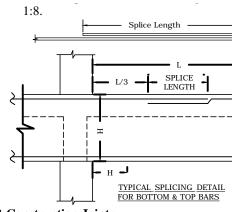
5.3. Development and Splice Lengths

a. Splice length of reinforcing bars shall as follows.

Bar		Splice leng	gths (in)	
Designation		n cylinder strength of psi at 28 days		cylinder strength of osi at 28 days
	Top bars [*]	Other than top bars	Top bars*	Other than top bars
[Splice	Splice	Splice	Splice
	Length	Length	Length	Length
#3	30	24	27	21
#4	39	30	33	27
#5	48	36	42	33
#6	57	45	51	39
#8	93	72	81	63

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval of the Engineer, if it is not indicated in the drawing.
- b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. Adopted Loads

9.1. Dead Loads	
All floor finishes	= 56 ps
Roof finishes	= 63 ps

9.2. Live Loads

Floor Roof

Foundation 10.

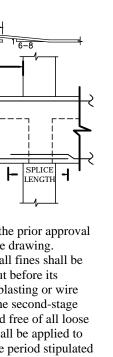
- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. **Terms & Abbrevations**

Following te	erms and	abbrev	viations	are	use
drawings.					
		3.7	101		

a) UNO:	Unless Noted Otherwise
b) NSL:	Natural Surface Level
c) Typ:	Typical
d) FFL:	Finished Floor Level
A T T	с , ,: т : ,

e) C.Joint: Construction Joint

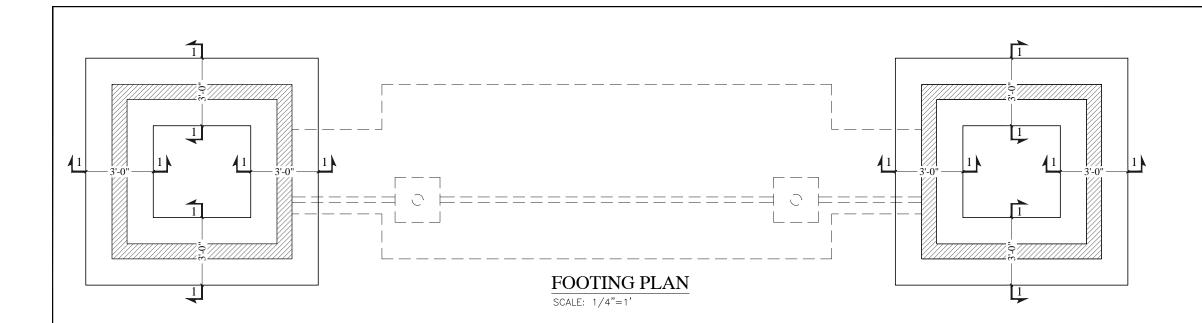


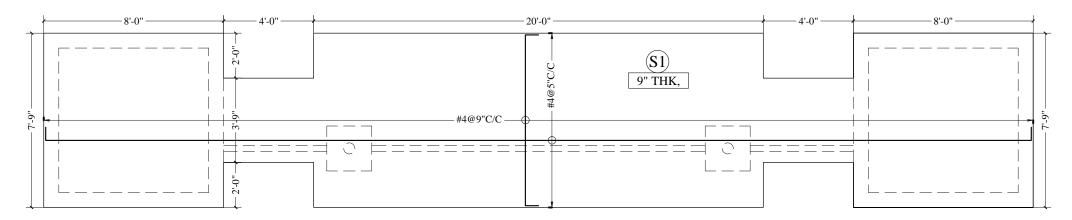
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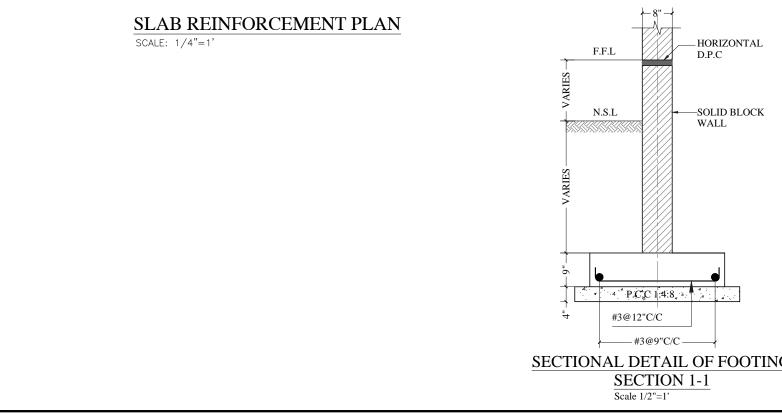
= 60 psf= 30 psf

ed in all structural

CL	IENT:	
C	PROJECT IMPLEMENTA UNIT (PIU) KN	_
Approved Approved Acc. No. 5	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTI House No.57M Gauery III. Lahore, Pak House No.57M Gauery III. Lahore, Pak Tel : (92-42) 35441641, 35441 Fax :: (92-42) 35441645 E-mail : info@gae.com URL :: www.g3ec.com	istan
RE UP	ROJECT: HABILITATION & D-GRADATION OF GIZF ORTS GROUND	RI
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	/ISIONS:	
No.	DESCRIPTION	DATE
	TENDER DRAWINGS	
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	GENERAL NOTES OF ENTRANCE GAT	E
DRA	AWN BY: DATE: Sh.Najam AUG.	2021
	RUCTURE ENGINEER :	12.7
APF	ENGR.MUHAMMAD IMRA PROVED BY:	A
	SYED ALI ABBAS GILLAN	10.0
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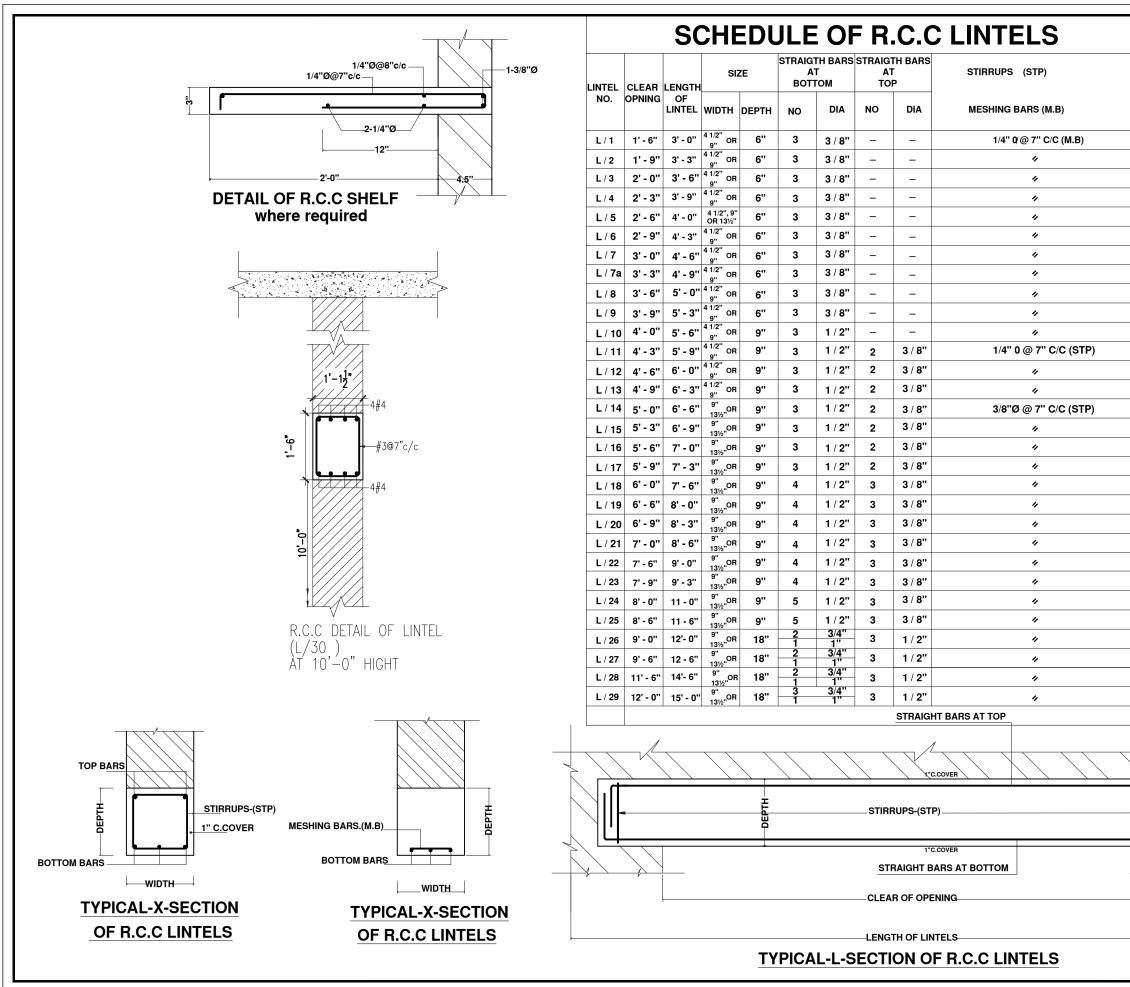


	IENT:		
G	PROJEC IMPLEMI UNIT (PI	ENTATIO	N
Approve Approve Constant Acc No. 3	CONSULTAN G3 ENGINEER CONSULTANT House No.57-M Guber Tel : (92-42) 33 Fax : (92-42) 35 Fax : (92-42) 30 Fax : (92-42) 30	ING S (PVT) LTD. g-III, Lahore, Pakistan 441641, 35441642 441645 2.com	
RE UF	ROJECT: EHABILITATION P-GRADATION C PORTS GROUNE	F GIZRI	
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No.	TENDER DRAV TENDER DRAV AWING TITLE: FOUNDATION REINFORCEME OF ENTRANC AWN BY: Sh.Najam RUCTURE ENGINEER ENGR.MUHAMM/	WINGS & SLAB ENT PLAN E GATE DATE: AUG. 202	
No.	TENDER DRAV TENDER DRAV AWING TITLE: FOUNDATION REINFORCEME OF ENTRANC OF ENTRANC AWN BY: Sh.Najam RUCTURE ENGINEER ENGR.MUHAMM/ PROVED BY: SYED ALI ABBAS	WINGS & SLAB ENT PLAN E GATE DATE: AUG. 202 AD IMRAN GILLANI	
No.	TENDER DRAV	WINGS & SLAB ENT PLAN E GATE DATE: AUG. 202 AUG. 202	

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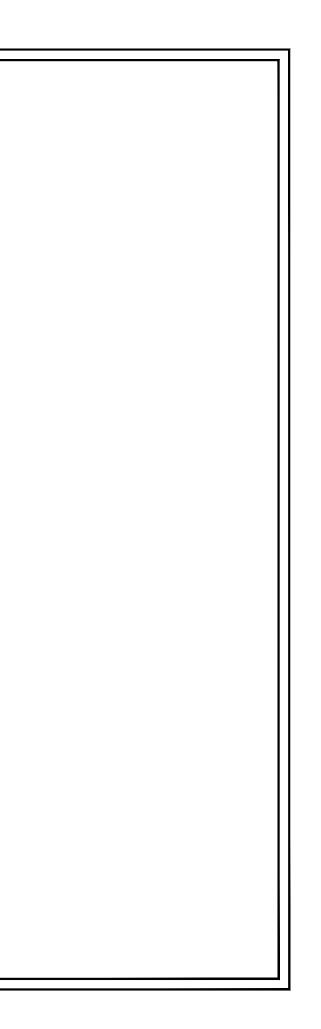
-HORIZONTAL D.P.C

—SOLID BLOCK WALL



CLIENT:
PROJECT IMPLEMENTATION UNIT (PIU) KNIP
CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57-M Guberg-III, Lahore, Pakistan Tel : (22-42) 35441641, 35441642 E-mail : infogg3ec.com URL : www.g3ec.com PROJECT: REHABILITATION & UP-GRADATION OF GIZRI SPORTS GROUND
NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED WITHOUT PRIOR APPROVAL OF G3. REVISIONS:
No. DESCRIPTION DATE
TENDER DRAWINGS DRAWING TITLE: X-SECTION OF TYPICAL LINTELS SCHEDULE OF LINTELS FOR
ENTRANCE GATE DRAWN BY: DATE: Sh.Najam AUG. 2021 STRUCTURE ENGINEER : ENGR.MUHAMMAD IMRAN APPROVED BY: SYED ALI ABBAS GILLANI
 DRAWING NO: REV: 0249/E-G/003 ST 04 SCALE (A3): SHEET: N.T.S 1/1

STRUCTURAL DRAWINGS PIAZZA



S.NO	DRAWING DETAIL	DRAWING NO
1.	LIST OF DRAWING	0249/E-P/000
2.	GENERAL NOTES	0249/E-P/001
3.	FOUNDATION AND COLUMN & AXIS PLAN	0249/E-P/002
4.	BEAM FRAMING PLAN AND REINFORCEMENT DETAILS	0249/E-P/003

	CLIENT:		
	PROJECT IMPLEMENTATION UNIT (PIU) KNIP		
	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57-M Gulberg-III, Lahore, Pakistan Tel : (92-42) 35441641, 35441642 Fax :: (92-42) 35441645 E-mail : infogg3ec.com		
Э.	PROJECT:		
) ST	REHABILITATION & UP-GRADATION OF GIZRI SPORTS GROUND		
ST			
ST	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY OF G3 ENGINEERING CONSULTANTS (PVT.) LTD. AND CANNOT BE REPRINTED OR REPRODUCED		
ST	WITHOUT PRIOR APPROVAL OF G3.		
	REVISIONS:		
	No. DESCRIPTION DATE		
	TENDER DRAWINGS		
	DRAWING TITLE:		
	LIST OF DRAWINGS ENTRANCE PIAZZA		
	DRAWN BY: DATE: Sh.Najam AUG. 2021		
	STRUCTURE ENGINEER : ENGR.MUHAMMAD IMRAN		
	APPROVED BY: SYED ALI ABBAS GILLANI		
	DRAWING NO: REV: 0249/E-P/000 ST 04 SCALE (A3): SHEET:		
	N.T.S 1/1		

1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
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4. Materials

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All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days. b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

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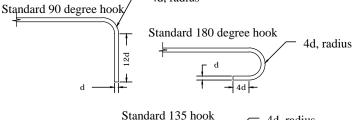
4.2.2. Clear Concrete Covers to Reinforcement

	Member	Cover
1)	Foundations	2"
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3)	Beams (with depth less than 10")	3/4"
4)	Beams (with depth greater than than 10")	1½"
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7)	Walls Other	1"

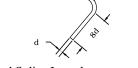
- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
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- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions: 4d, radius



4d, radius



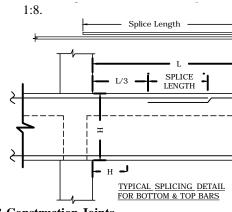
5.3. Development and Splice Lengths

a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)					
Designation	Concrete with cylinder strength of 3,000 psi at 28 days		Concrete with cylinder strength o 4,000 psi at 28 days			
	Top bars [*]	Other than top bars	Top bars*	Other than top bars		
[Splice	Splice	Splice	Splice		
	Length	Length	Length	Length		
#3	30	24	27	21		
#4	39	30	33	27		
#5	48	36	42	33		
#6	57	45	51	39		
#8	93	72	81	63		

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

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9. Adopted Loads

9.1. Dead Loads	
All floor finishes	= 56 psf
Roof finishes	= 63 psf

= 60 psf

= 30 psf

9.2. Live Loads

Floor Roof

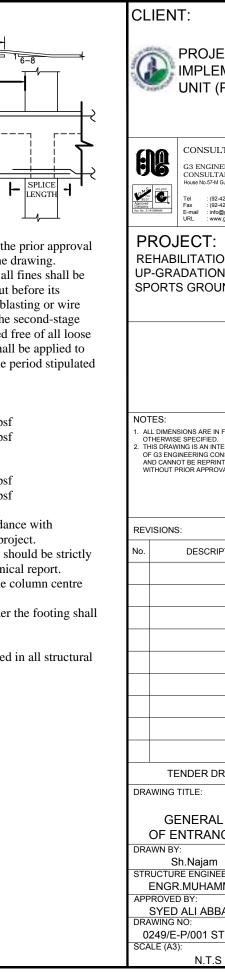
Foundation 10.

- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

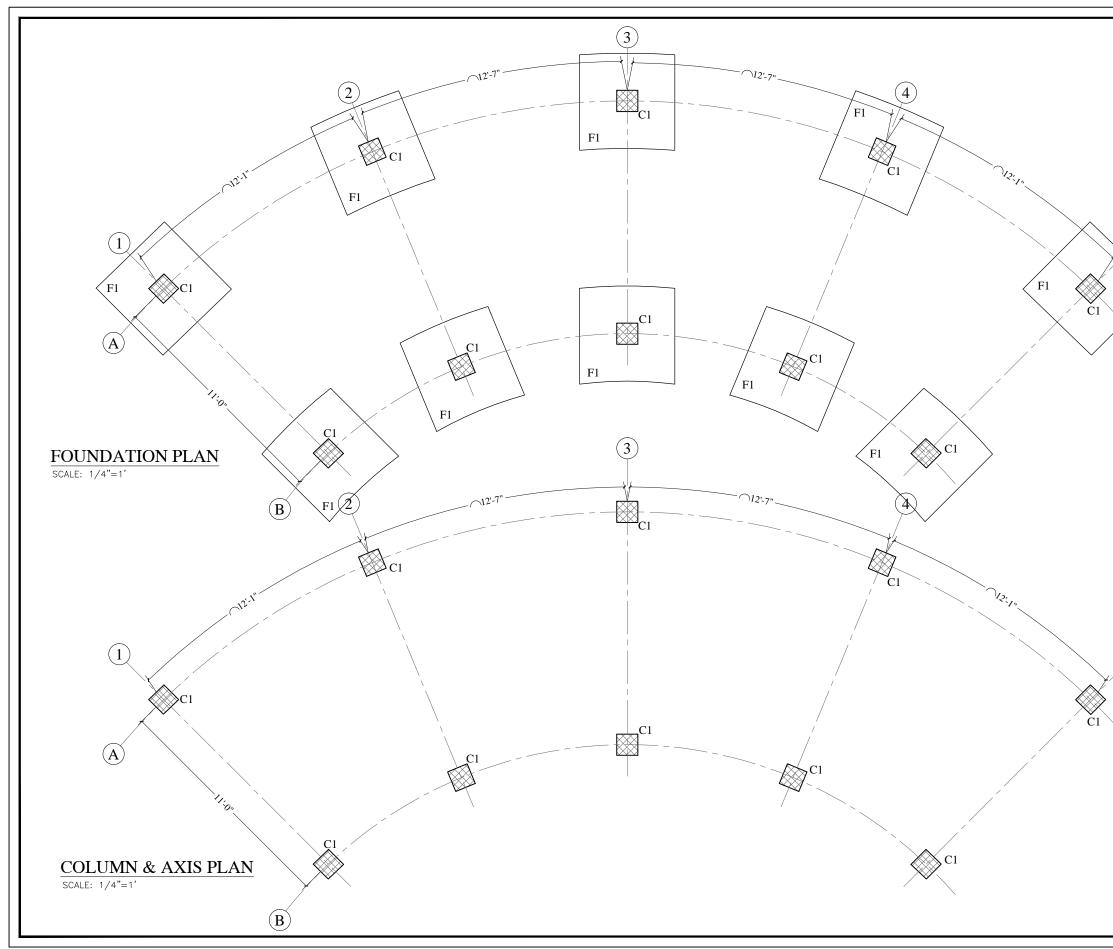
11. **Terms & Abbrevations**

Following te	rms and abbreviations are use
drawings.	
a) UNO	Unless Noted Otherwise

<i>a)</i> 0110.	Officios Hoted Offici wise
b) NSL:	Natural Surface Level
c) Typ:	Typical
d) FFL:	Finished Floor Level
e) C.Joint:	Construction Joint



WIT (PIU) KNIP					
Approved Approved Accompany Acc. No. 5 1		G3 EN CONS	5.57-M Gulber	ING S (PVT)LTD. g-III, Lahore, Pakista 441641, 35441642 441645 2.com	
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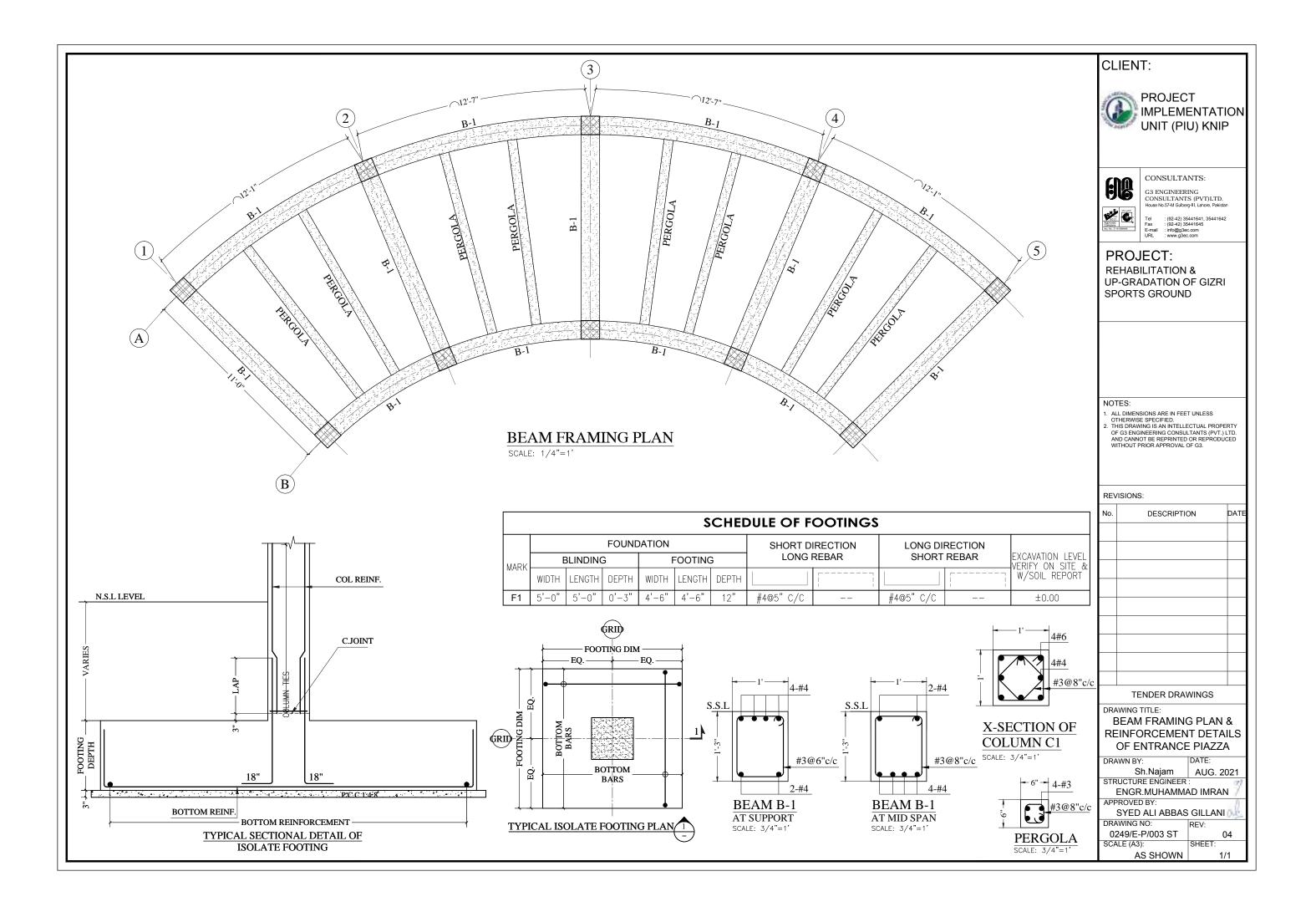


CL	IENT:				
Ç	PROJECT IMPLEMENTATION UNIT (PIU) KNIP				
6	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD.				
Approved Company Acc. No. 5	House No.57-M Gulberg-III, Lahore, Pakistar Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441645 E-mail : info@g3ec.com URL : www.g3ec.com				
RE UF	ROJECT: EHABILITATION & P-GRADATION OF GIZR PORTS GROUND	1			
1. Al O 2. TH OI Al	TES: L DIMENSIONS ARE IN FEET UNLESS THERWISE SPECIFIED. 18 DRAWING IS AN INTELLECTUAL PROPEI F 03 ENGINEERING CONSULTANTS (PVT.) L ND CANNOT BE REPRINTED OR REPRODUC ITHOUT PRIOR APPROVAL OF G3.	TD.			
REV	/ISIONS:				
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TENDER DRAWINGS					
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COLUMN & AXIS PLAN OF ENTRANCE PIAZZA					
DRAWN BY: DATE:					
Sh.Najam AUG. 2021 STRUCTURE ENGINEER: ENGR.MUHAMMAD IMRAN					
APPROVED BY: SYED ALI ABBAS GILLANI					
DRAWING NO: REV: 0249/E-P/002 ST 04					
	ALE (A3): SHEET:				

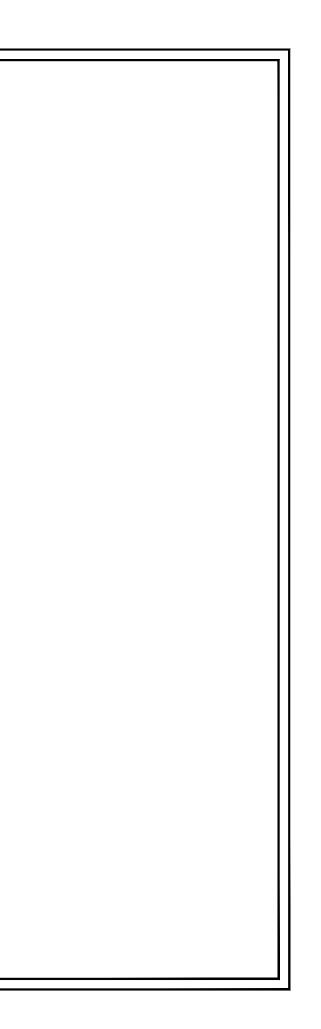
1/16" - 1'

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STRUCTURAL DRAWINGS PAVILION



	S.NO	DRAWING DETAIL	DRAWING NO
	1.	LIST OF DRAWING	0249/PAVILION/
	2.	GENERAL NOTES	0249/PAVILION/
	3.	FOUNDATION, COLUMN & BEAM FRAMING LAYOUT	0249/PAVILION/
	4.	TYPICAL FOUNDATION SECTIONAL DETAILS	0249/PAVILION/
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	7.	TYPICAL STAIR DETAIL	0249/PAVILION/
	8.	X-SECTION OF TYPICAL LINTELS SCHEDULE OF LINTELS	0249/PAVILION/
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	CLIENT:	
	PROJECT IMPLEMENTATION UNIT (PIU) KNIP	
	CONSULTANTS: G3 ENGINEERING CONSULTANTS (PVT)LTD. House No.57-M Guberg-III, Lahore, Pakistan Tel : (92-42) 35441641, 35441642 Fax : (92-42) 35441645 Fax : (92-42) 5441645 Fax : (92-42) 544165 Fax : (9	
Э.	PROJECT:	
/000 ST	REHABILITATION & UP-GRADATION OF GIZRI SPORTS GROUND	
/001 ST		
/002 ST	NOTES: 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SPECIFIED. 2. THIS DRAWING IS AN INTELLECTUAL PROPERTY	
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7/004 ST	REVISIONS: No. DESCRIPTION DATE	
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7/007 ST	TENDER DRAWINGS	
	DRAWING TITLE: LIST OF DRAWINGS	
	OF PAVILION DRAWN BY: DATE:	
	Sh.Najam AUG. 2021 STRUCTURE ENGINEER : ENGR.MUHAMMAD IMRAN	
	APPROVED BY: SYED ALI ABBAS GILLANI	
	DRAWING NO: REV: 0249/PAVILION/000 ST 04 SCALE (A3): SHEET:	
	N.T.S 1/1	

1. General

- 1.1. All structural drawings should be read in conjunction with Architectural, Civil, Mechanical, Electrical and other relevant drawings. The contractor should coordinate with Architectural and various service drawings for levels, sizes and location of all Structural members, Floors Walls and Pipes etc..
- 1.2. The contractor shall report all discrepancies, differences and conflicts, as soon as they are observed.
- 1.3. Safe working practices will be adopted, and no damage to any property or life will be ensured.
- 1.4. Prior approval of proposed method of work, sequence of jobs, location of block-outs and construction joints in concrete, location of all splices and proposed values of camber is required.
- 1.5. The structure is not designed against construction loads. The contractor is responsible for ensuring that all elements should remain supported during construction.
- 1.6. Prior to adopting finished levels of structural elements, proper allowances are to be maintained by the contractor.

2. Design

- 2.1. The Structural design of all concrete elements is based on Building Code Requirements for Structural Concrete (ACI 318-08) of the American Concrete Institute, USA.
- 2.2. The Structural design of all masonry elements shall conform to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA.

3.Construction

- 3.1. Work on this building shall conform to all requirements of ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan, except as modified by the requirements below.
- 3.2. The Construction Work of all Masonry elements should confirm to Specification for Masonry Structures (ACI 530.1-05/ ASCE 6-05/ TMS 602-05) reported by the Masonry Standards Joint Committee (MSJC) USA..

4. Materials

4.1. Concrete 4.1.1. Plain Concrete

All Plain concrete shall have a cylinder strength of 1500 psi, at 28 days, unless noted otherwise.

4.1.2. Structural Concrete

a) The structural concrete for all columns and foundations shall have a minimum compressive cylinder strength of 4,000 psi, at 28 days.
b)All concrete work shall conform to Specifications for Structural Concrete for Buildings ACI 301-05 published by the American Concrete Institute, Farmington Hills, Michigan.

c) Unless Noted Otherwise all other structural concrete shall have a minimum compressive cylinder strength of 3,000 psi, at 28 days.

Note that specified compressive strength shall be achieved through proper mix design and this design shall be sole responsibility of Contractor (or as specified in the contract documents).

- 4.2. Reinforcing Steel
- 4.2.1. Except as otherwise specified, all reinforcing steel shall conform to ASTM A615, Grade 60.

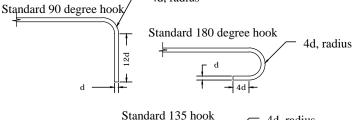
4.2.2. Clear Concrete Covers to Reinforcement

	Member	Cover
1)	Foundations	2"
2)	Columns	11/2"
3)	Beams (with depth less than 10") 3/4"	
4)	Beams (with depth greater than than 10")	11/2"
5)	Slab	3/4"
6)	Walls Facing Soil	2"
7)	Walls Other	1"

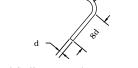
- 4.1. In order to ensure the specified covers, bars must be secured in position, with the help of concrete spacer blocks, with embedded binding wire.
- 4.2. To support top bars, provide supporting rebars and standard ACI chairs.

5. Bar Development

- 5.1. Standard Hooks
- Unless otherwise shown in the drawings, standard ACI hooks shall shall be provided at the free ends of all bars. 5.2. Unless noted otherwise, the hooks will comply the
- following dimensions:



4d, radius



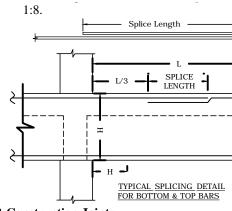
5.3. Development and Splice Lengths

a. Splice length of reinforcing bars shall as follows.

Bar	Splice lengths (in)				
Designation	Concrete with cylinder strength of 3,000 psi at 28 days		Concrete with cylinder strength of 4,000 psi at 28 days		
	Top bars*	Other than top bars	Top bars [*]	Other than top bars	
[Splice	Splice	Splice	Splice	
	Length	Length	Length	Length	
#3	30	24	27	21	
#4	39	30	33	27	
#5	48	36	42	33	
#6	57	45	51	39	
#8	93	72	81	63	

* Top bars are horizontal bars, with at least 12 in of fresh concrete below them.

- b. For splicing unequal diameter bars, use smaller diameter for splice length determination.
- c. Where required, bar shall have a gradient between 1:6 to



8. Construction Joints

- a. Construction joints shall be located with the prior approval of the Engineer, if it is not indicated in the drawing.
- b. On proposed construction joint surfaces, all fines shall be removed, on initial setting of concrete, but before its hardening. In order to achieve this, sand blasting or wire brushing could be used. Before placing the second-stage concrete, the joint surface shall be cleaned free of all loose material and washed. A bonding agent shall be applied to the surface and concrete placed within the period stipulated by the manufacturer.

9. Adopted Loads

9.1. Dead Loads	
All floor finishes	= 56 psf
Roof finishes	= 63 psf

= 60 psf

= 30 psf

9.2. Live Loads

Floor Roof

10. Foundation

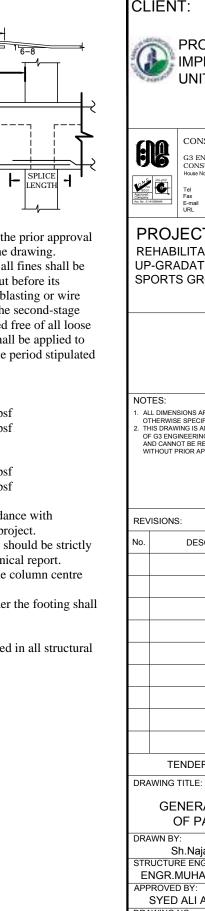
- a. Foundation Should be executed in accordance with geotechincal investigation report of this project.
- b. Procedure for placement of structural fill should be strictly followed as if recommended in geo technical report.
- c. All footings should be concentric with the column centre line unless otherwise shown.
- d. Irregularity formed from loose strata under the footing shall be replaced with plain cement concrete.

11. Terms & Abbrevations

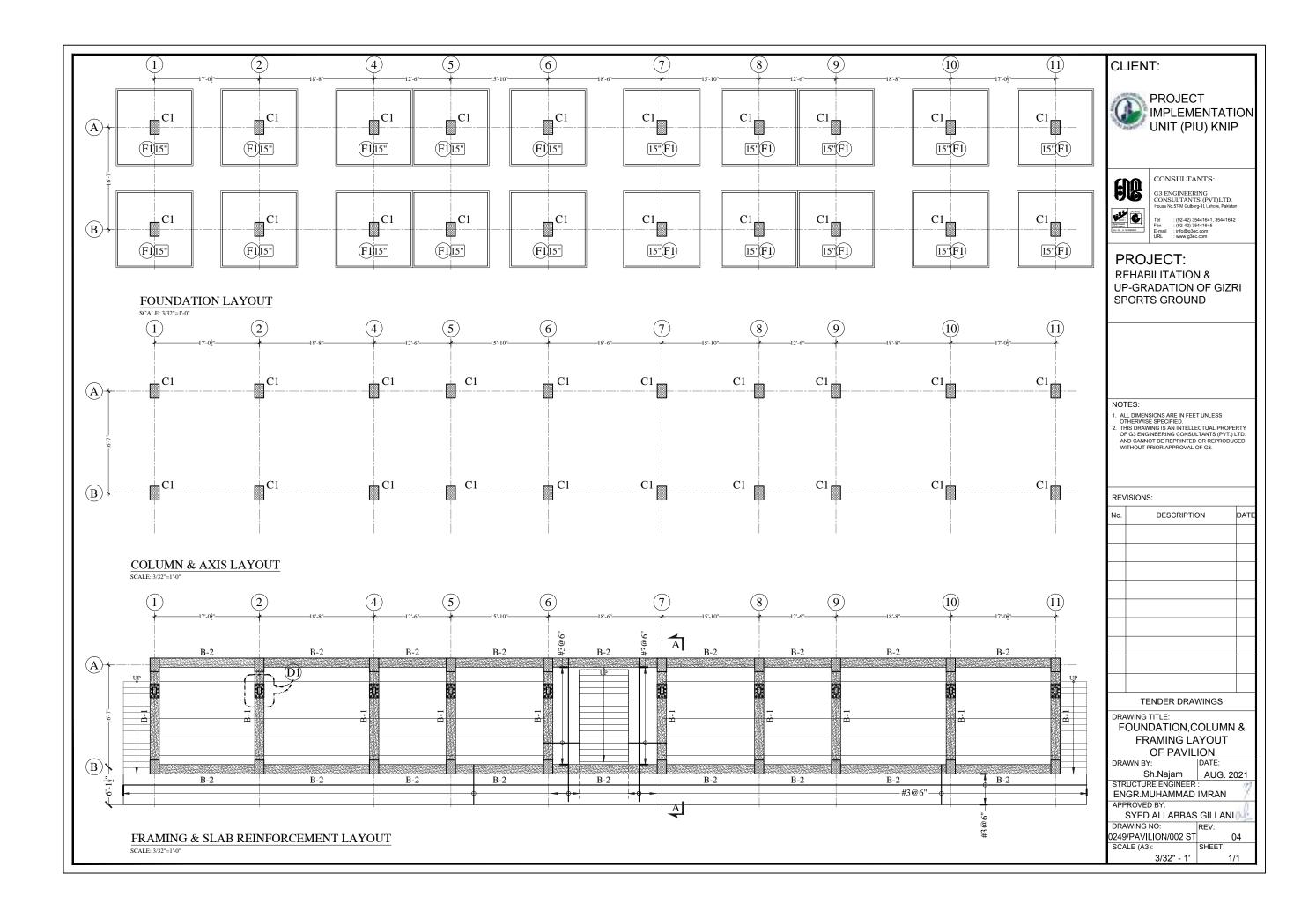
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drawings.		
	United Materia Othermatics	

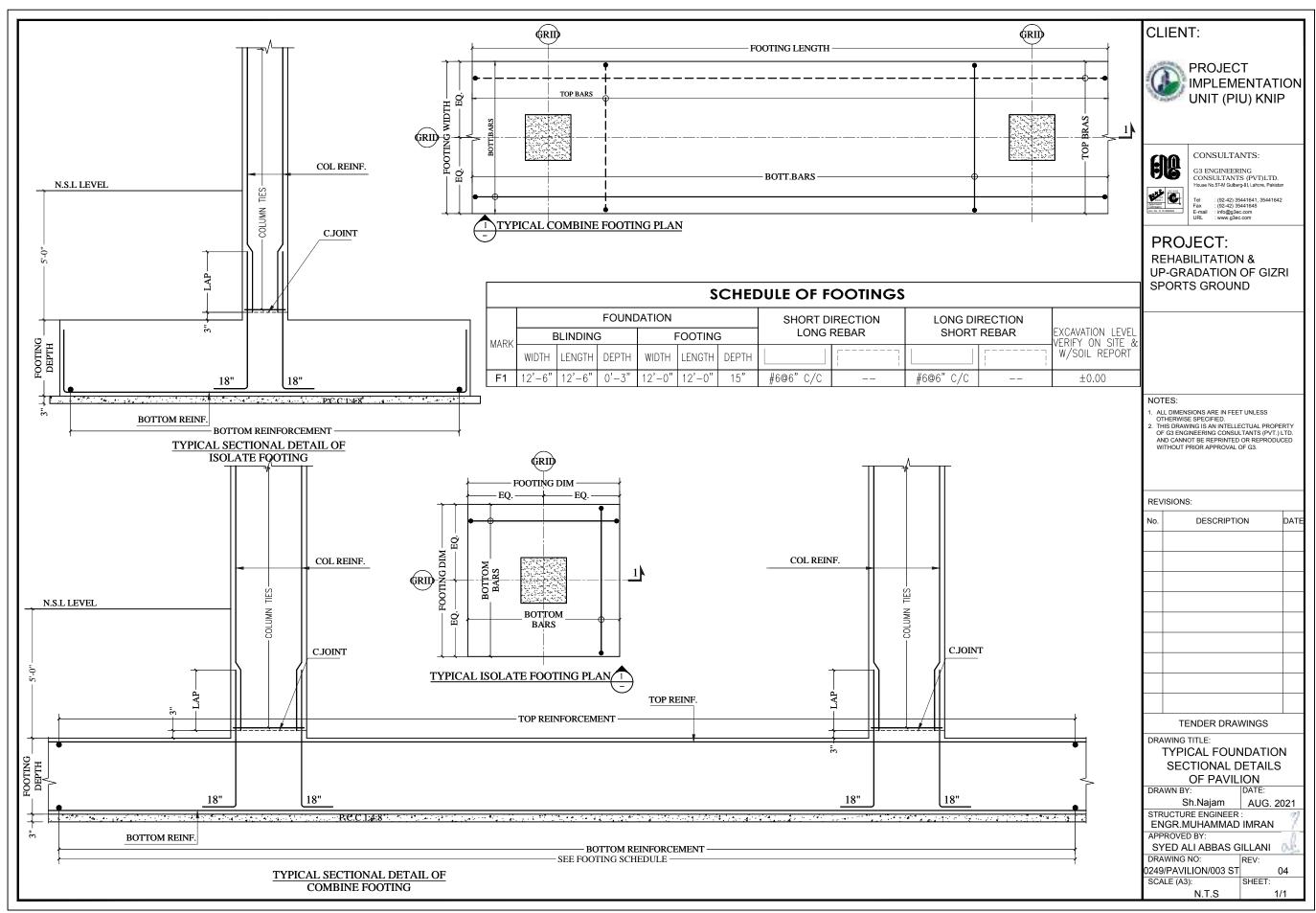
a) UNO:	Unless Noted Otherwise
b) NSL:	Natural Surface Level
c) Typ:	Typical
d) FFL:	Finished Floor Level

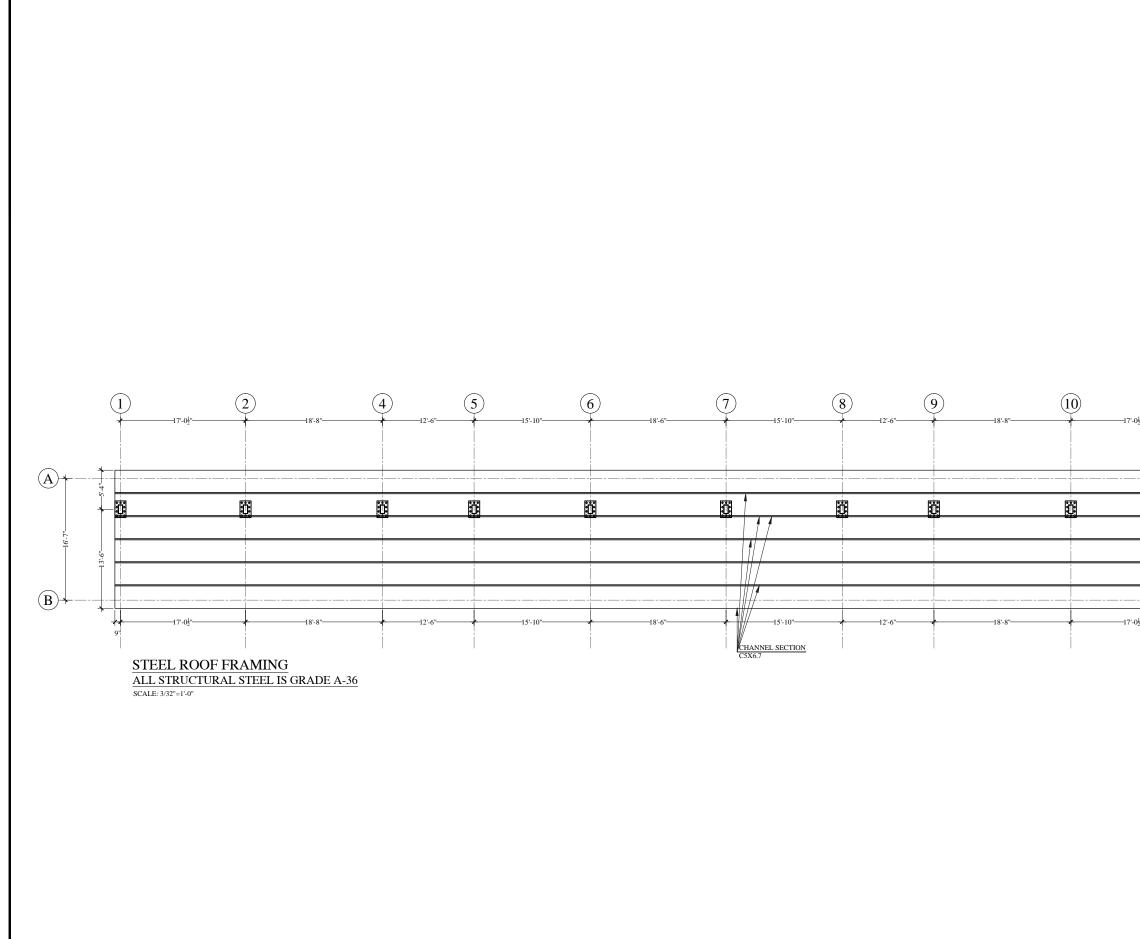
e) C.Joint: Construction Joint

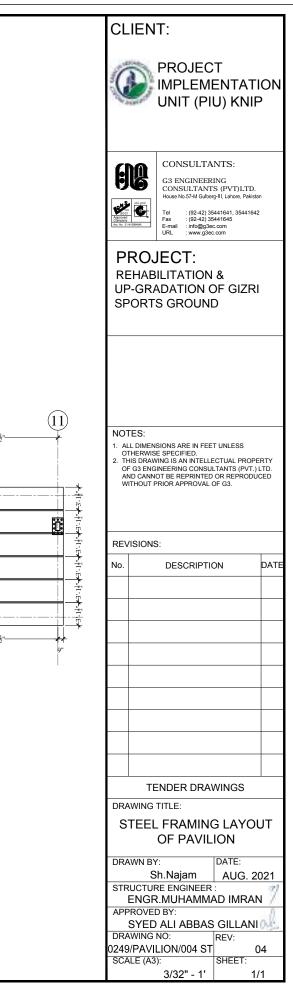


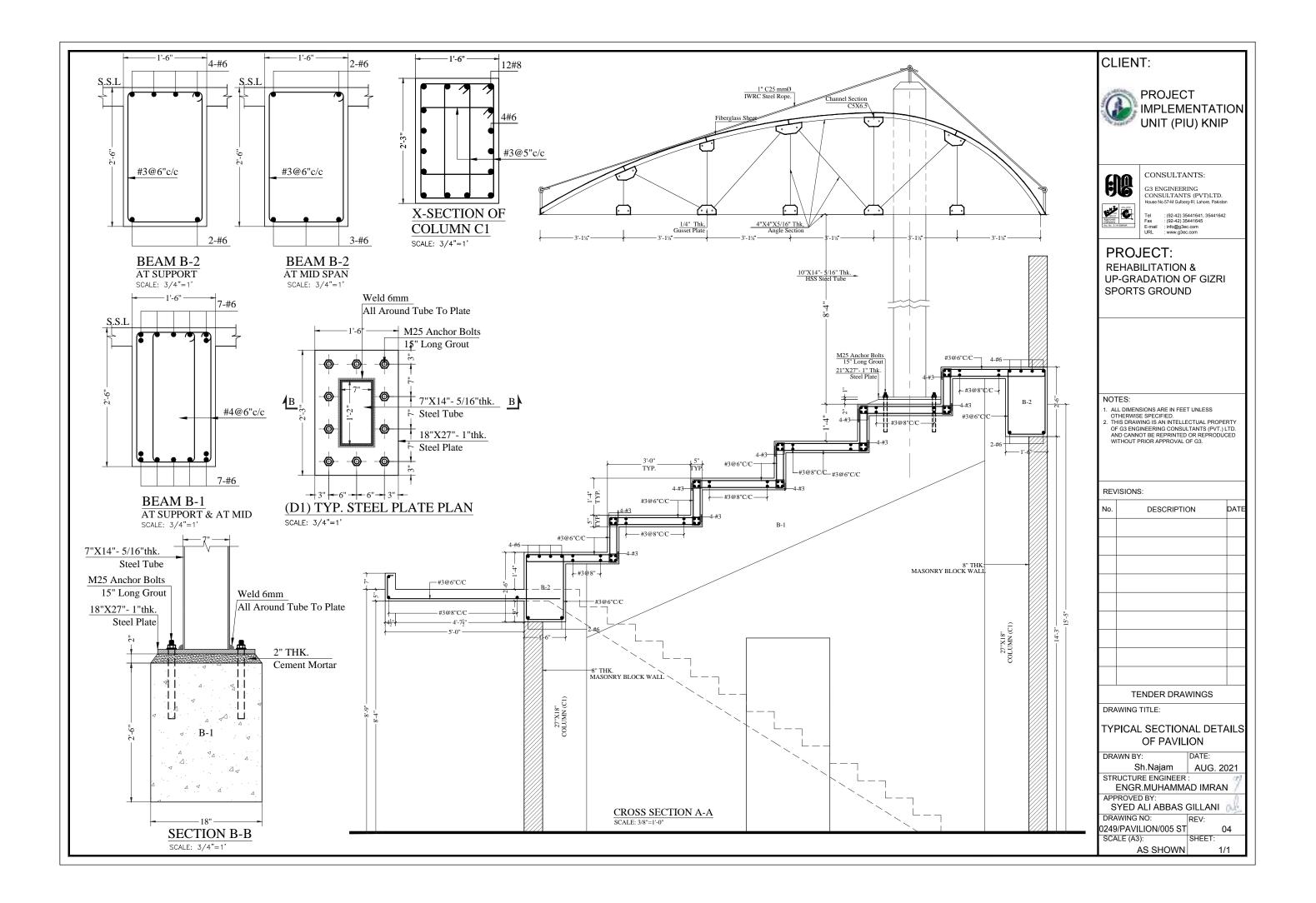
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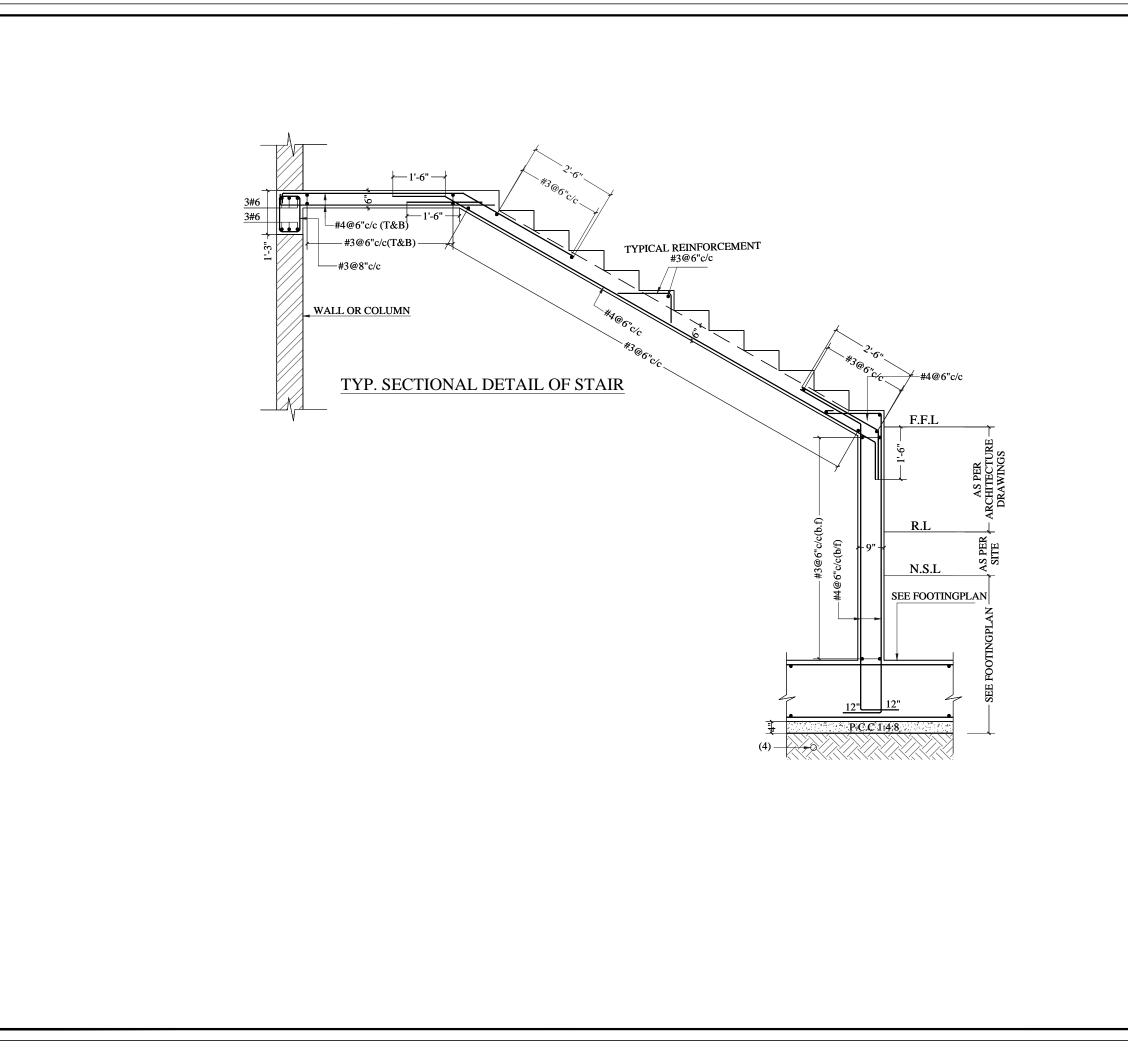




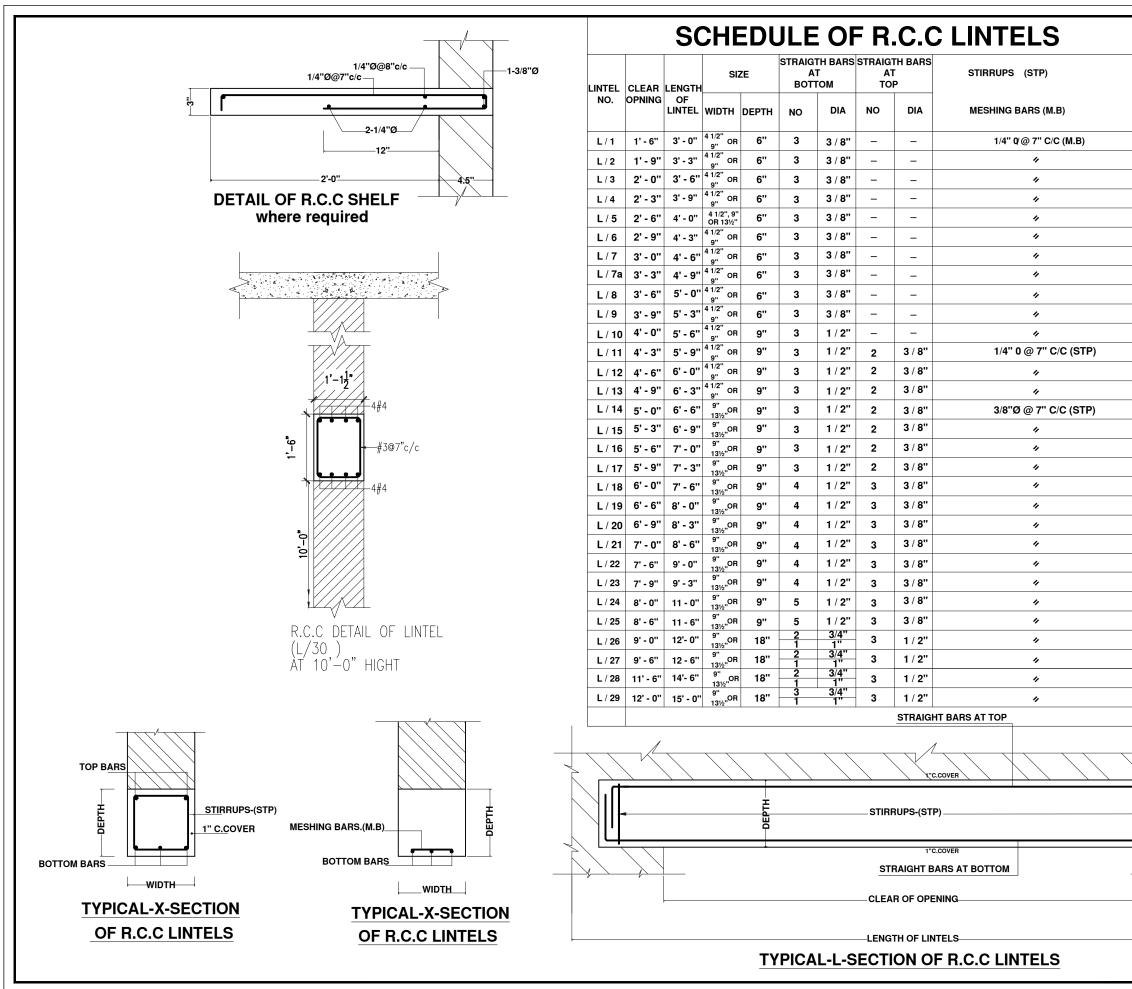








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