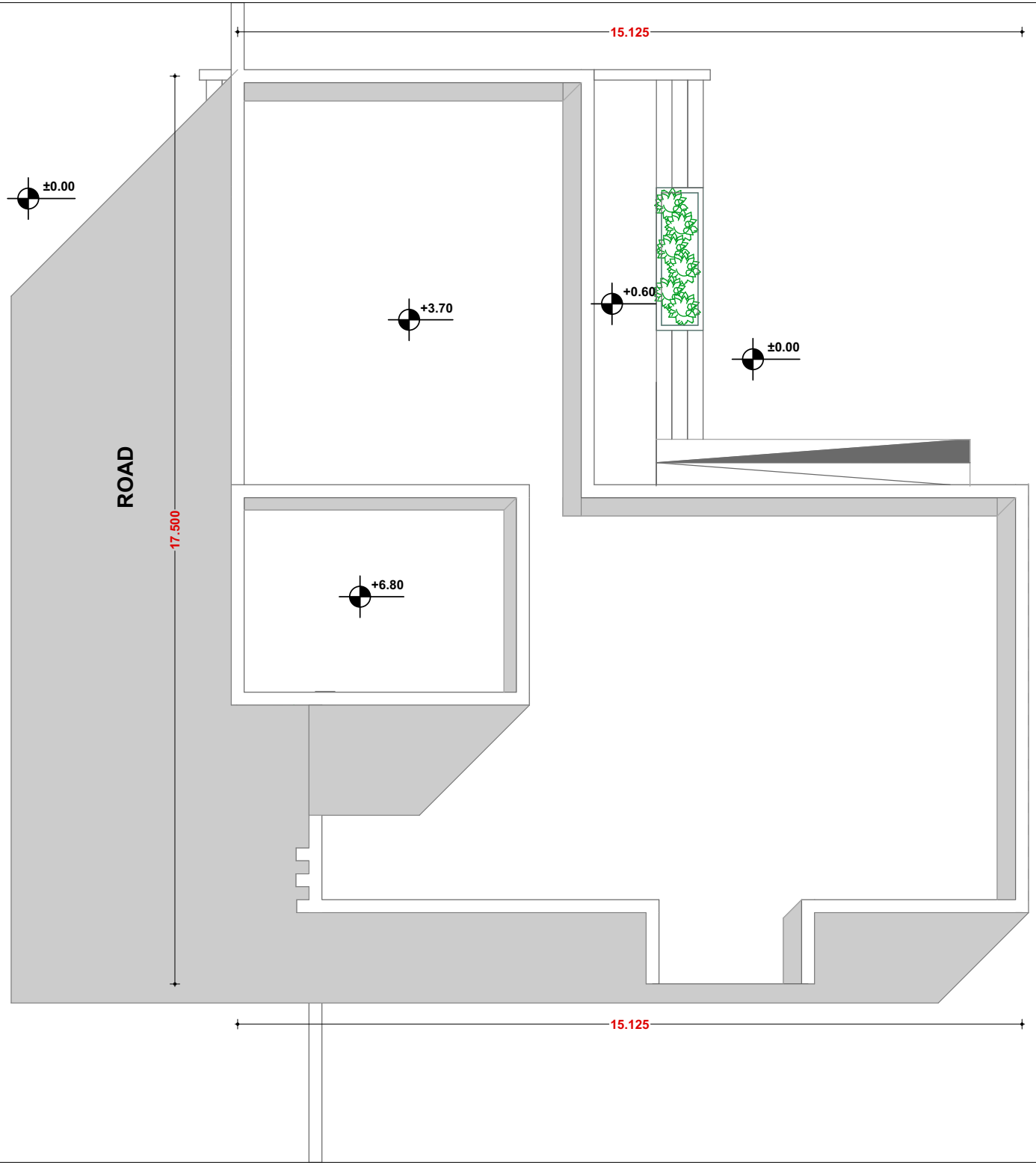

NOTES:

ALL DIMENTIONS ARE IN METER.

UNHCR
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MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

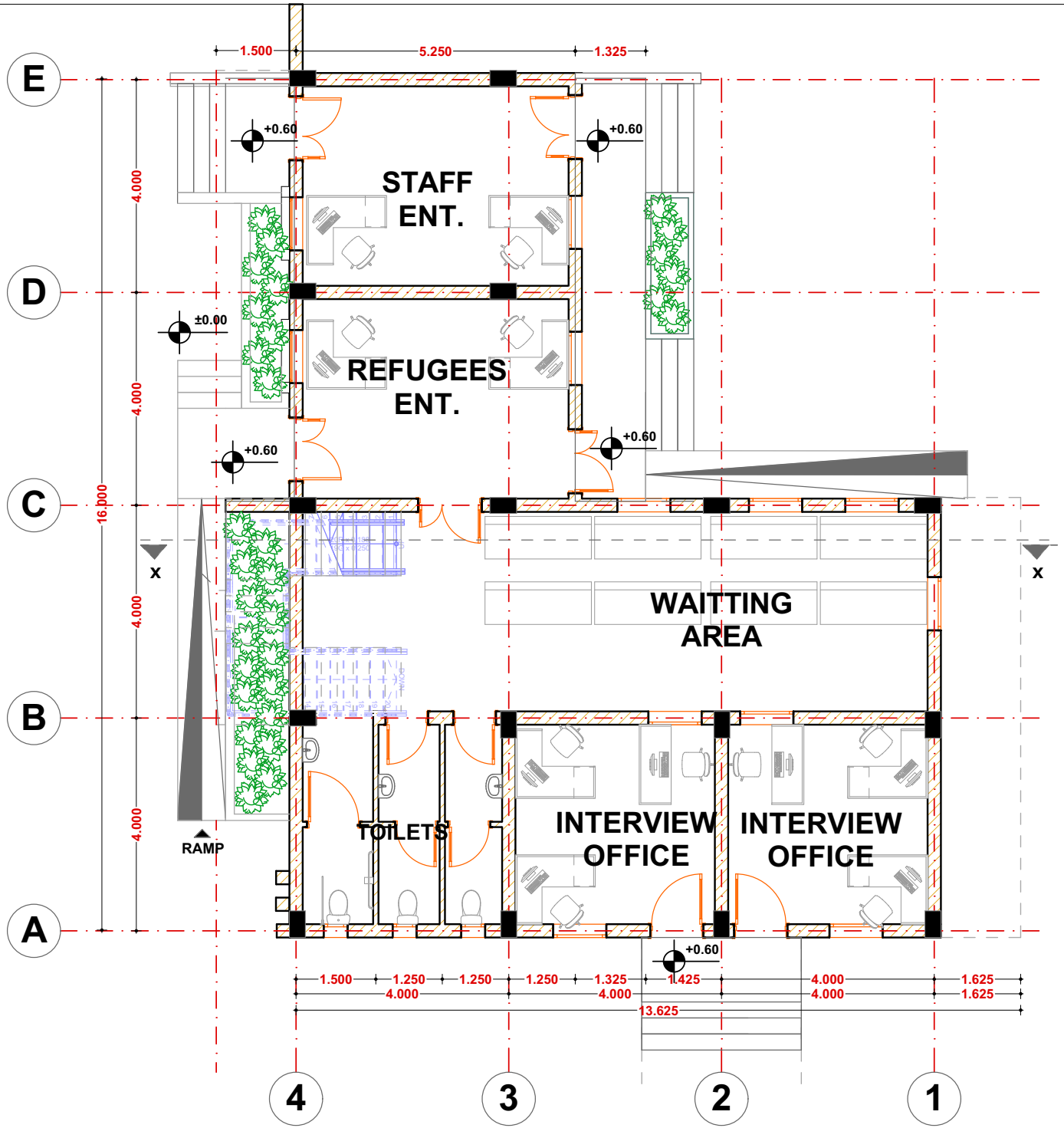
SITE PLAN

SHEET:
01

REV.:
MAY 2021 **REV.00**

DESIGN & DRAWINGS:

UNHCR
The UN Refugee Agency



NOTES:

ALL DIMENTIONS ARE IN METER.

UNHCR The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

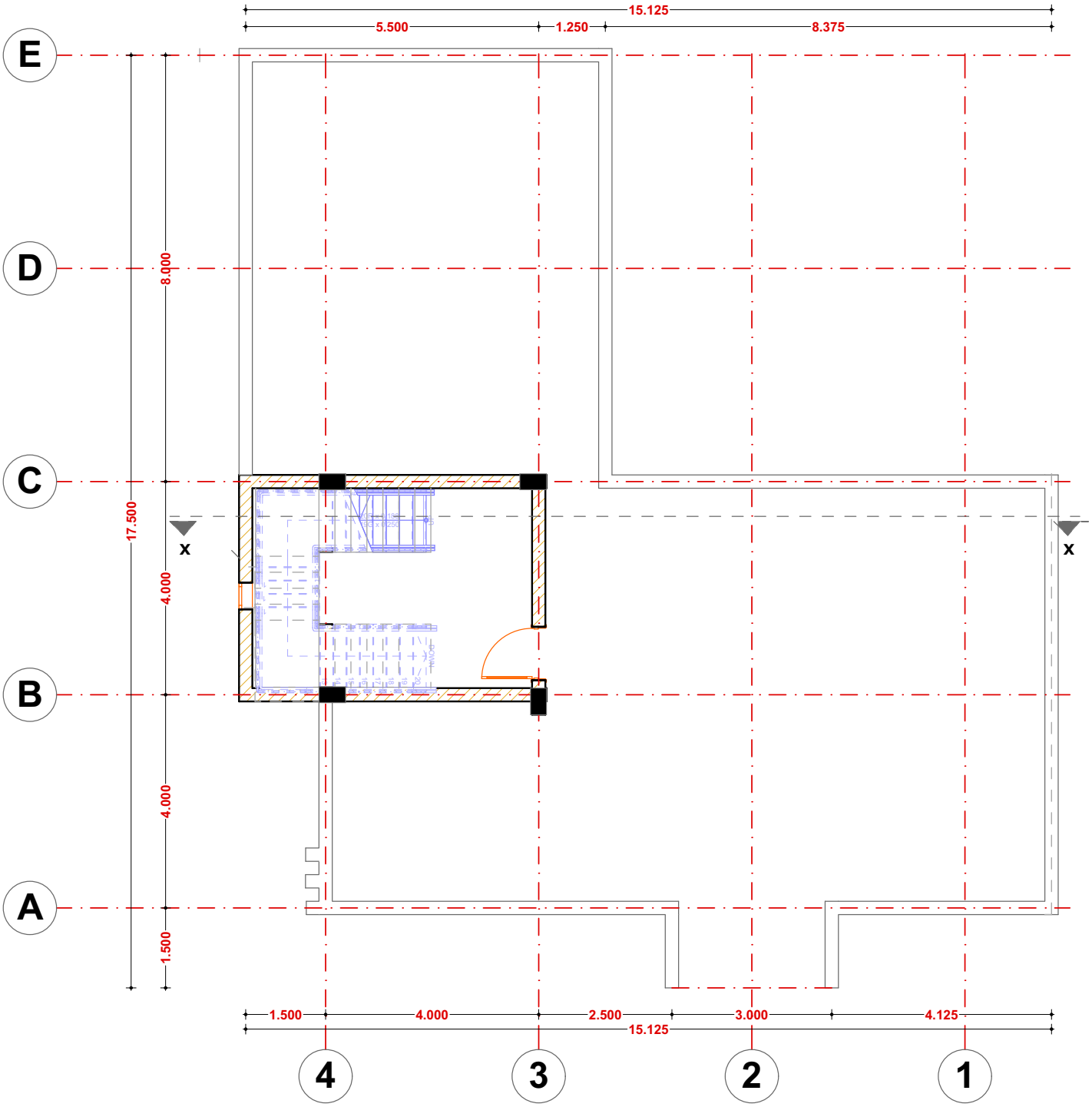
GROUND FLOOR PLAN

SHEET:
01

REV.:
MAY 2021 REV.00

DESIGN & DRAWINGS:

UNHCR The UN Refugee Agency



NOTES:

ALL DIMENTIONS ARE IN METER.

UNHCR
The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

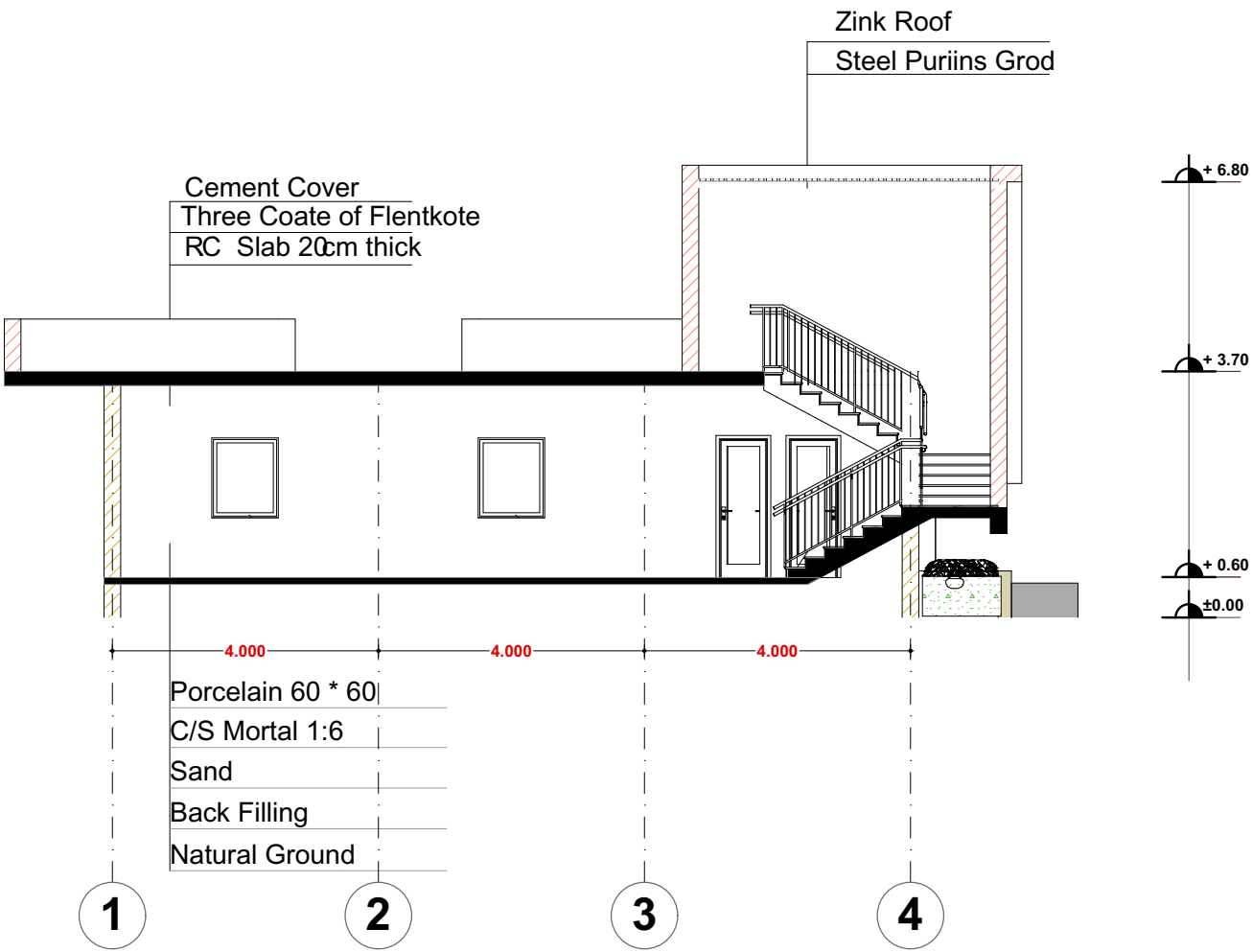
ROOF FLOOR PLAN

SHEET:
01

REV.:
MAY 2021 REV.00

DESIGN & DRAWINGS:

UNHCR
The UN Refugee Agency



NOTES:

ALL DIMENTIONS ARE IN METER.

UNHCR
The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

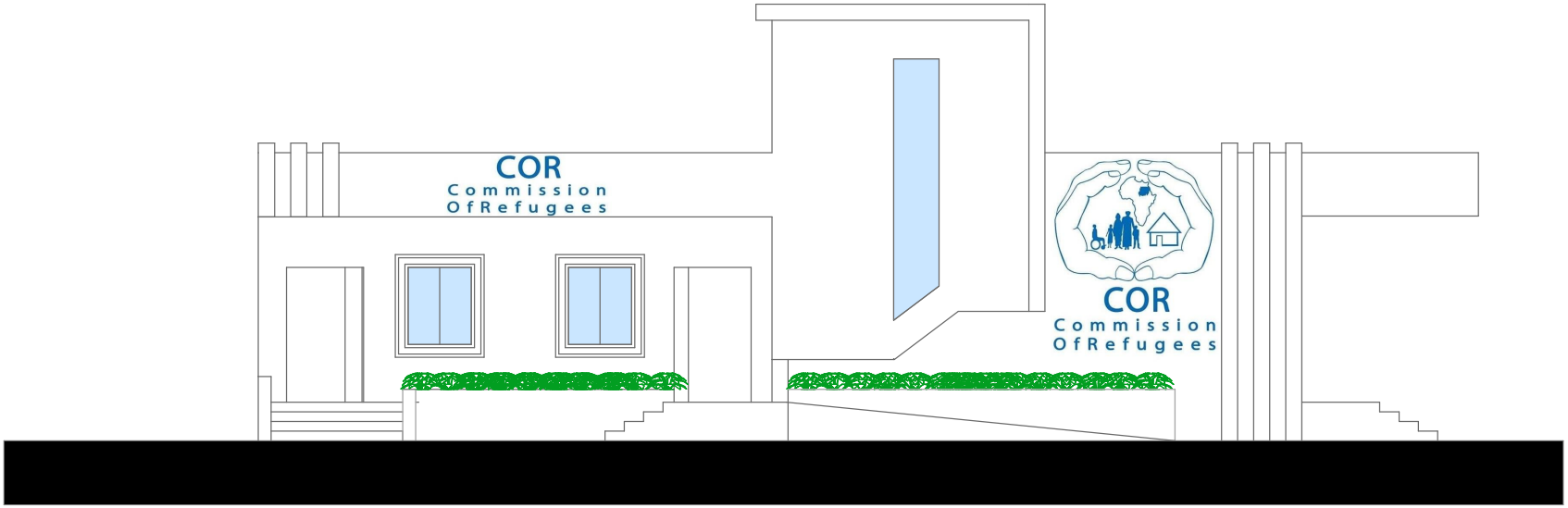
SECTION (X-X)

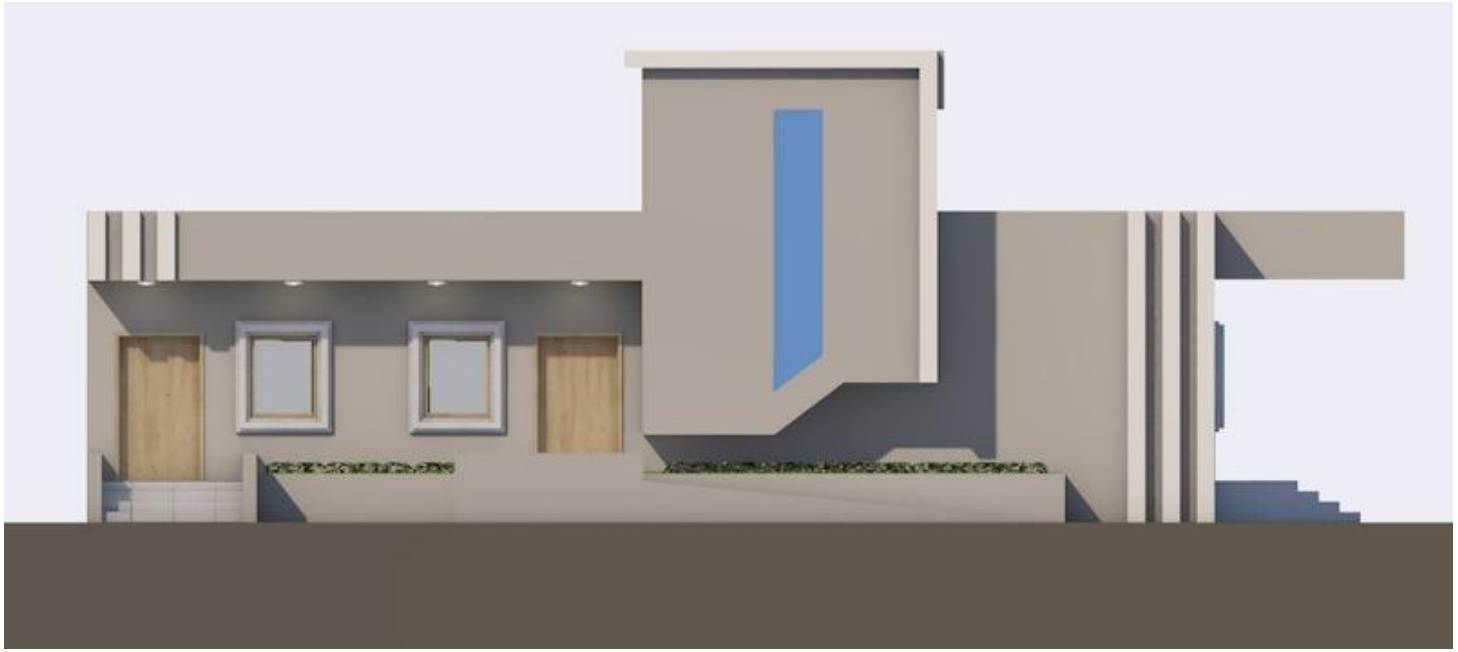
SHEET:
01

REV.:
MAY 2021 REV.00

DESIGN & DRAWINGS:

UNHCR
The UN Refugee Agency





NOTES:

ALL DIMENTIONS ARE IN METER.

UNHCR
The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

WESTERN ELEVATION

SHEET:
01

REV.:
MAY 2021 **REV.00**

DESIGN & DRAWINGS:

UNHCR
The UN Refugee Agency

NOTES:

ALL DIMENTIONS ARE IN METER.

UNHCR
The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

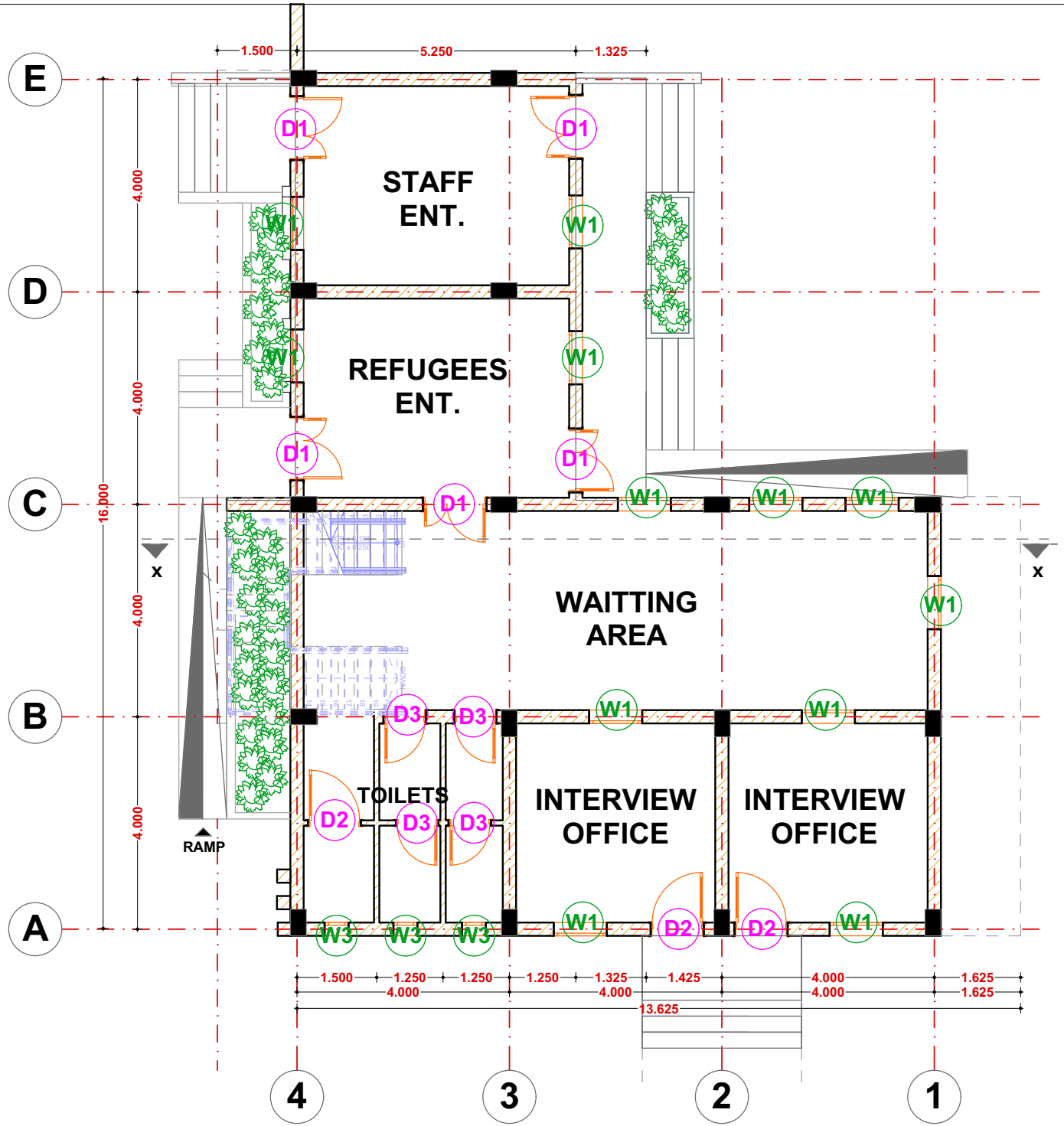
VIEWS

SHEET:
01

REV.:
MAY 2021 **REV.00**

DESIGN & DRAWINGS:

UNHCR
The UN Refugee Agency



NOTES:

ALL DIMENTIONS ARE IN METER.

Door Type	W	H
D1	1.20	2.20
D2	1.00	2.20
D3	0.80	2.20

Win.Type	W	H
W1	1.00	1.20
W2	0.70	3.55
W3	0.45	0.45

UNHCR
The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

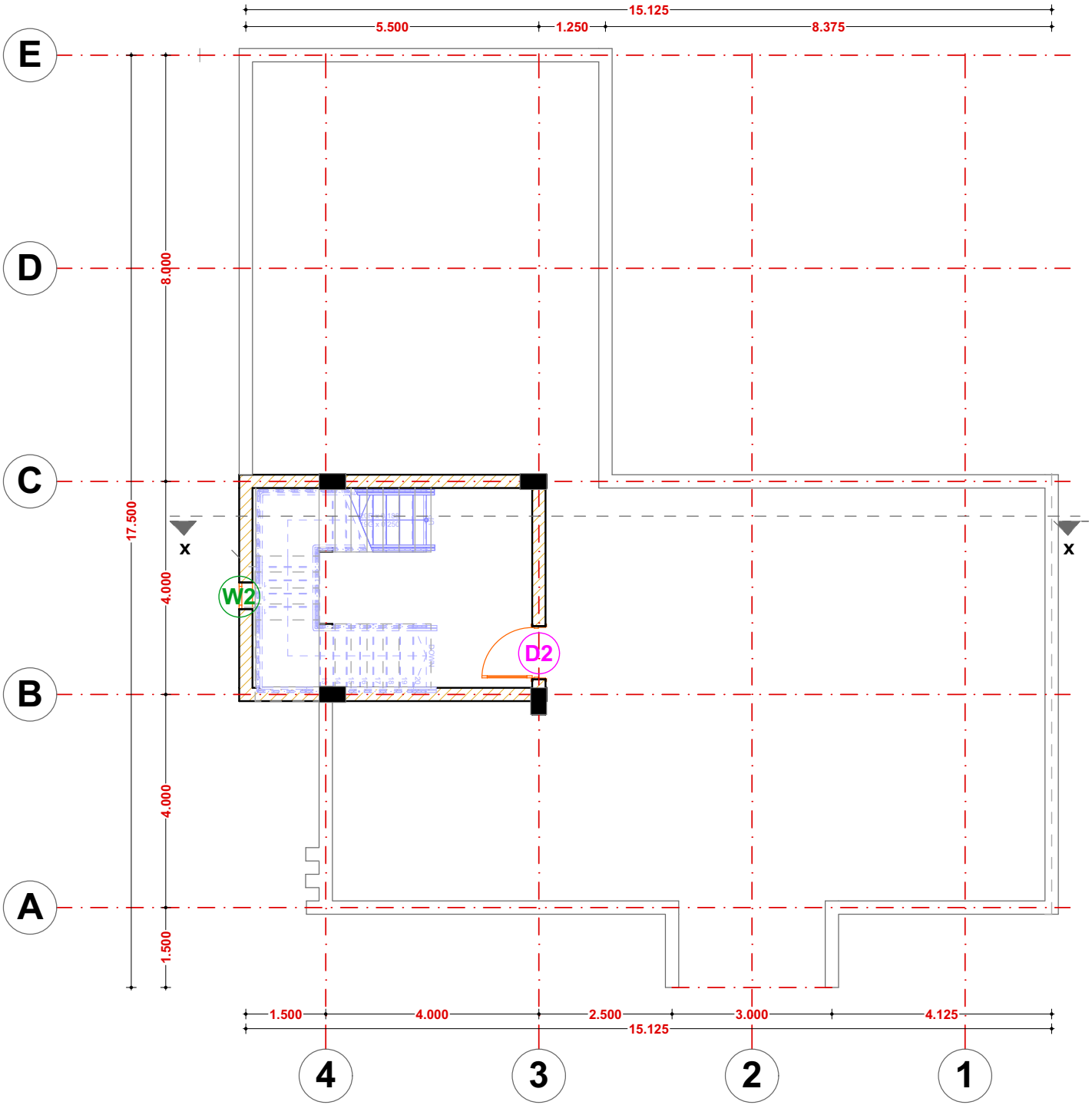
DOORS & WINDOWS OF GROUND FLOOR PLAN

SHEET:
01

REV.:
MAY 2021 REV.00

DESIGN & DRAWINGS:

UNHCR
The UN Refugee Agency



NOTES:

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Door Type	W	H
D1	1.20	2.20
D2	1.00	2.20
D3	0.80	2.20

Win.Type	W	H
W1	1.00	1.20
W2	0.70	3.55
W3	0.45	0.45

UNHCR
The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

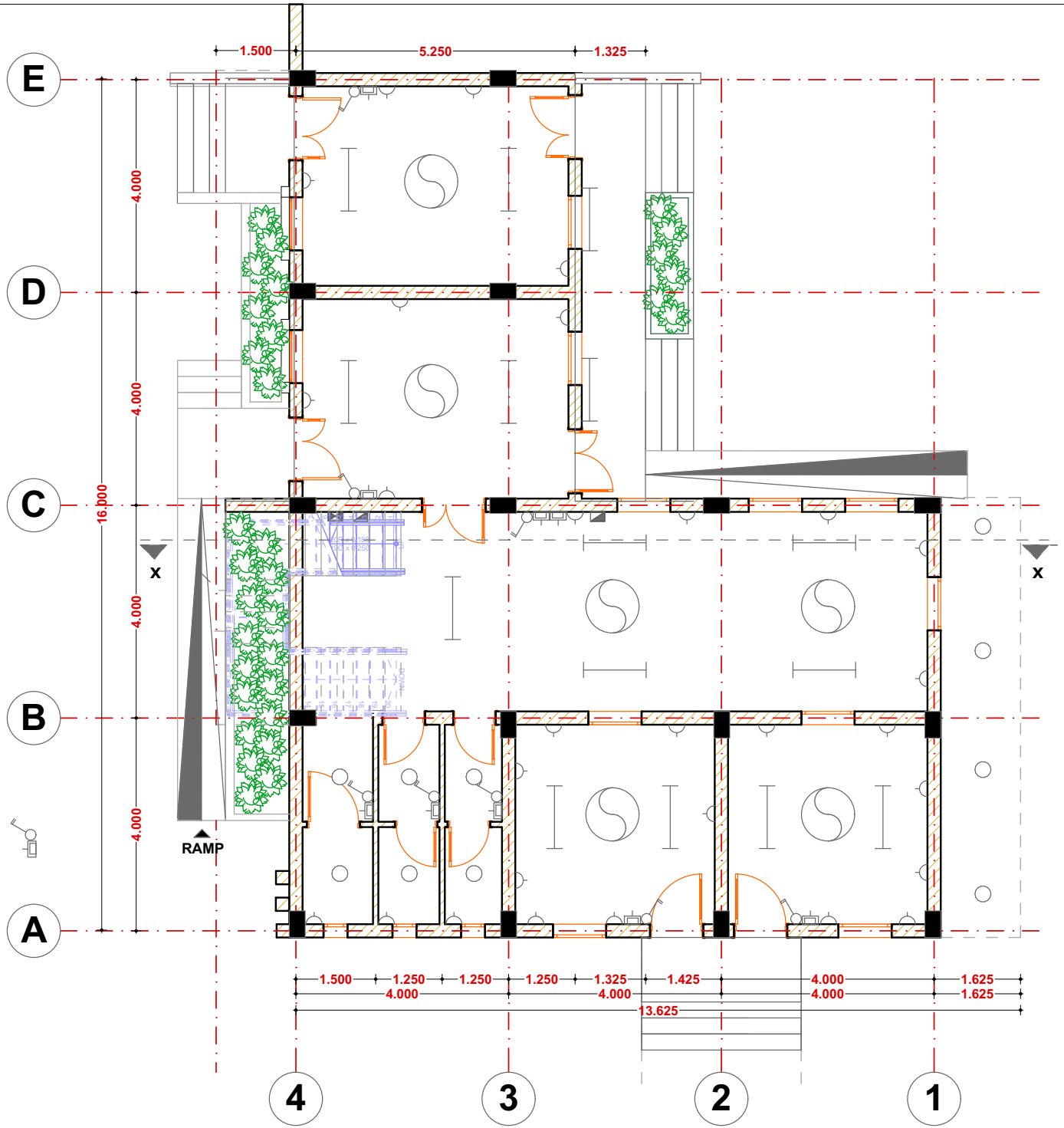
ROOF FLOOR PLAN

SHEET:
01

REV.:
MAY 2021 REV.00

DESIGN & DRAWINGS:

UNHCR
The UN Refugee Agency



NOTES:

ALL DIMENTIONS ARE IN METER.

General Note:

Symbol	Description
	Celling Fan
	Single 40W Fluorescent Light Lamp
	Spot Light
	Wall Lamp
	Main Distribution
	Sub Distribution Panel Board
	Fan Switch
	One Way Tow Gana Switch
	16 Amp Socket Outlet

UNHCR
The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

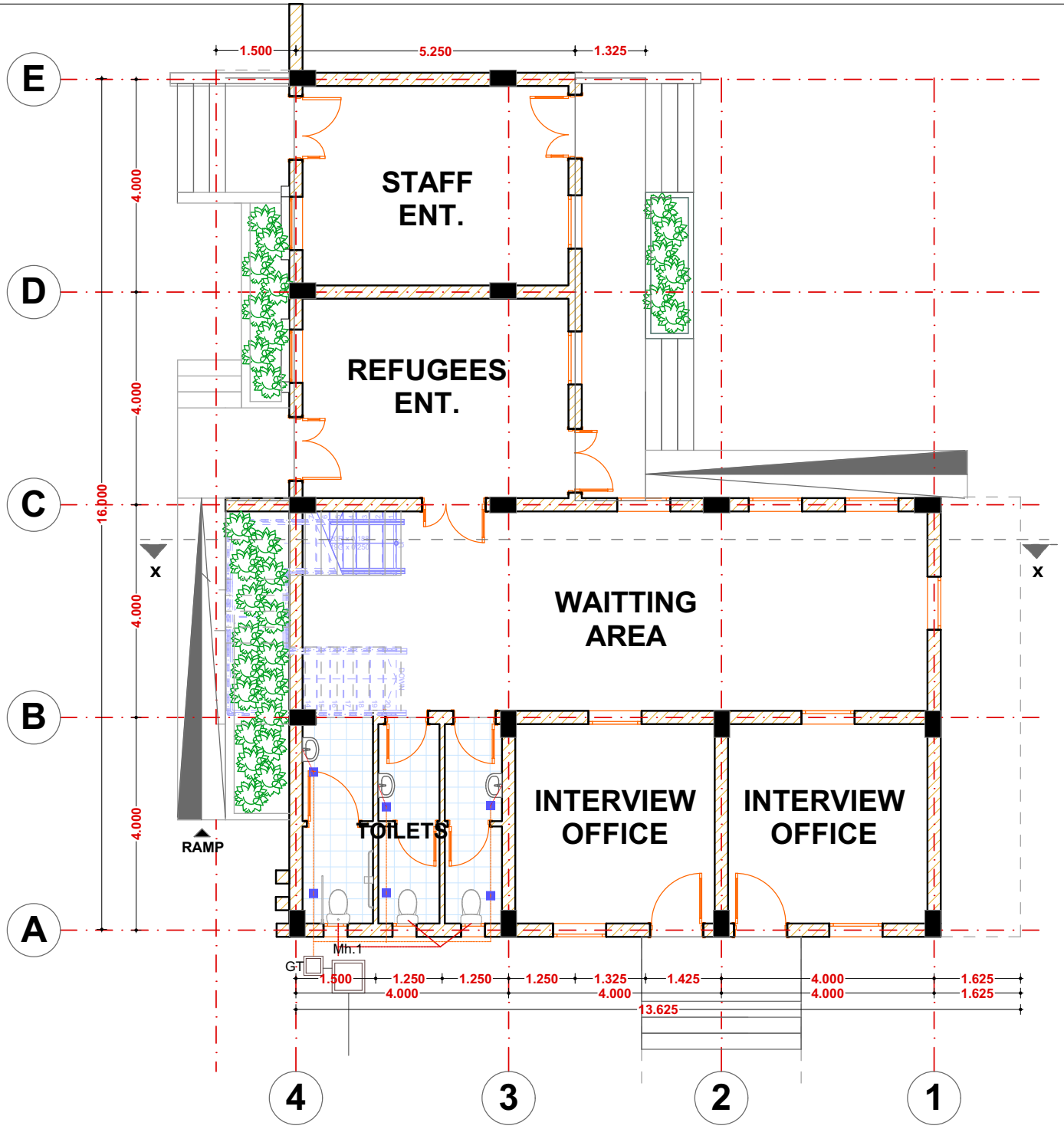
ELECTIRCAL FOR GROUND FLOOR PLAN

SHEET:
01

REV.:
MAY 2021 REV.00

DESIGN & DRAWINGS:

UNHCR
The UN Refugee Agency



NOTES:

ALL DIMENTIONS ARE IN METER.

UNHCR The UN Refugee Agency

MAIN ENT. / INTERVIEW AREA

KHARTOUM SOUTH
KHARTOUM STATE

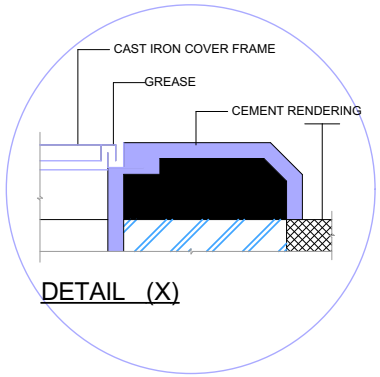
DRAINGE SYSTEM FOR GROUND FLOOR PLAN

SHEET:
01

REV.:
MAY 2021 REV.00

DESIGN & DRAWINGS:

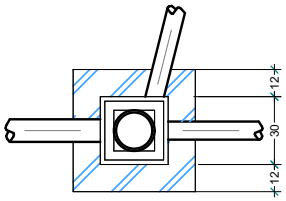
UNHCR The UN Refugee Agency



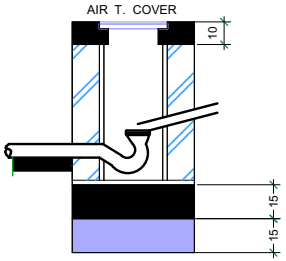
DETAIL (X)

NO. OF PERSONS	A	B	C	D
1 TO 3	275	75	105	145
1 0 TO 14	300	100	105	145
15 TO 20	360	125	120	160
21 TO 25	360	125	125	165
26 TO 30	400	140	125	165
31 TO 35	420	140	130	170
36 TO 40	450	140	130	170

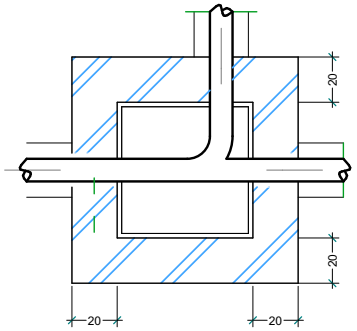
ST. SIZE IN METERS

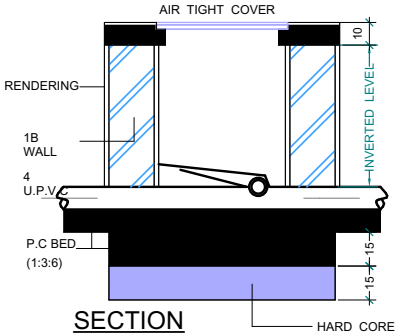


PLAN

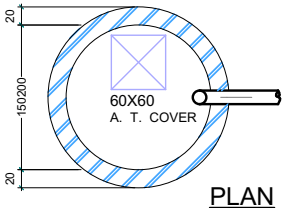


SECTION

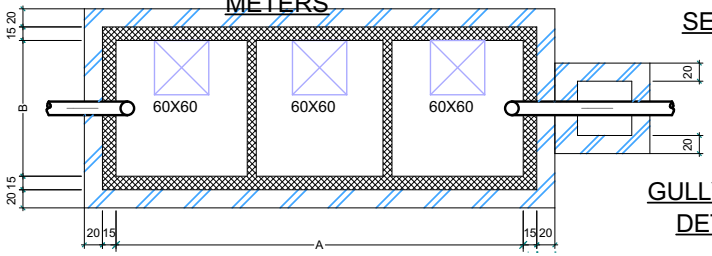




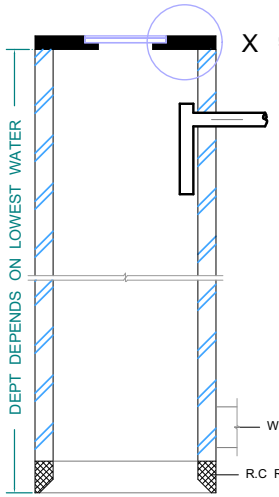
SECTION



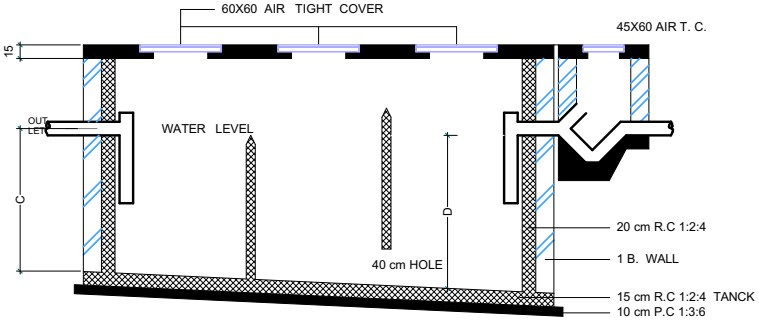
PLAN



GULLY TRAP DETAILS



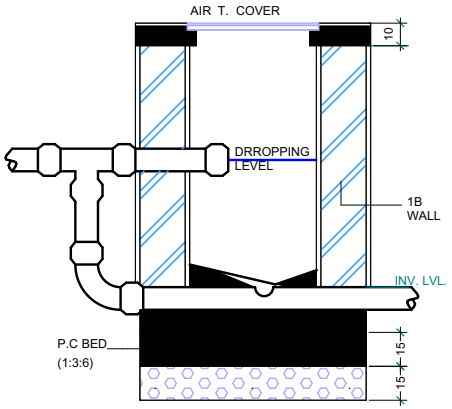
WELL DETAILS



SECTION

SEPTIC TANCK DETAILS

DRAINAGE SYSTEM DETAILS



SECTION

MANHOLE DETAILS

NOTES:

ALL DIMENTIONS ARE IN METER.

PROP. OF:

UNHCR The UN Refugee Agency

KHARTOUM SOUTH
KHARTOUM STATE

DRAINGE SYSTEM DETAILS

SHEET: 01

REV.: MAY 2021 REV.00

DESIGN & DRAWINGS:

UNHCR The UN Refugee Agency

FEEDBACK: BAKERM@UNHCR.ORG

STRUCTURAL DRAWINGS

S-01 Columns Layout at Footings Level

S-02 Footings Layout

S-03 Footings Dimensions

S-04 Schedule of Columns & Footings

S-05 Footings Reinforcement Details

S-06 Ground Floor (Grade Beam)

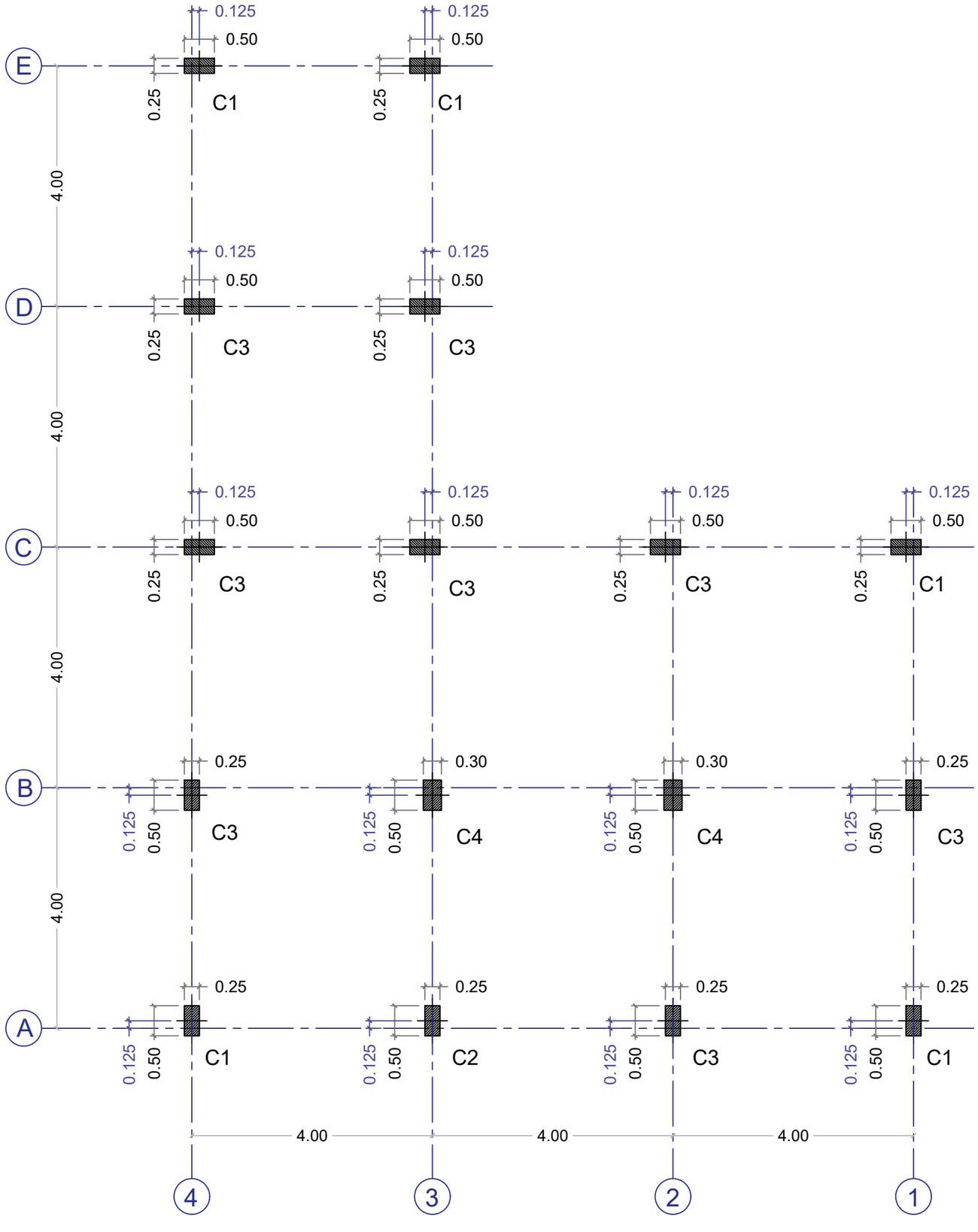
S-07 Ground Cover Slab Reinforcement (bottom)

S-08 Ground Cover Slab Reinforcement (top)

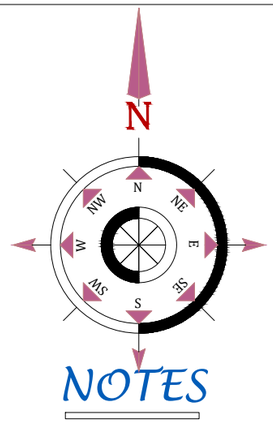
S-09 Section A-A & B-B Details

S-10 Cross Section for Beams

S-11 Stair Case Reinforcement Details



Columns Layout at Footings Level



NOTES

1. Concrete strength shall be taken as 25 N/mm² at 28-days.
2. Max aggregate size shall not exceed 20mm,crushed stone is preferred.
3. W/C water cement ratio 0.45.
4. Soil safe bearing capacity is 196 KN/m² at 3.0m depth.
6. weight of slab concrete = 5.0 KN/m²
(thickness of slab = 200 mm) .
7. Finishing load = 1.0 KN/m².
8. Bricks used for partitioning shall be of total load of =4.5 KN/m².
9. Live load is = 1.5 KN/m².
Total Service Load (SL) = 10.5+1.5
(SL) = 12.0 KN/m².
Total Ultimate Load(uL) =(1.4x10.5)+(1.6x1.5)
(UL) = 17.5 KN/m².
10.BS 8110 is used for design.
11. BS 6399 is used for loading requirements and analysis.
12.BS 8004 and BS8001 is used for foundation design.
13. Min. of 10cm of Plain concrete shall be used under footings.
14. All sub-structural works shall be well insulated and protected against water.
15. Expansive soil effective zone shall be determined and removed.

PROJECT:
Residential building

OWNER:
Ekhlas Al Sheikh Salih
& Khairy Hassan Osman

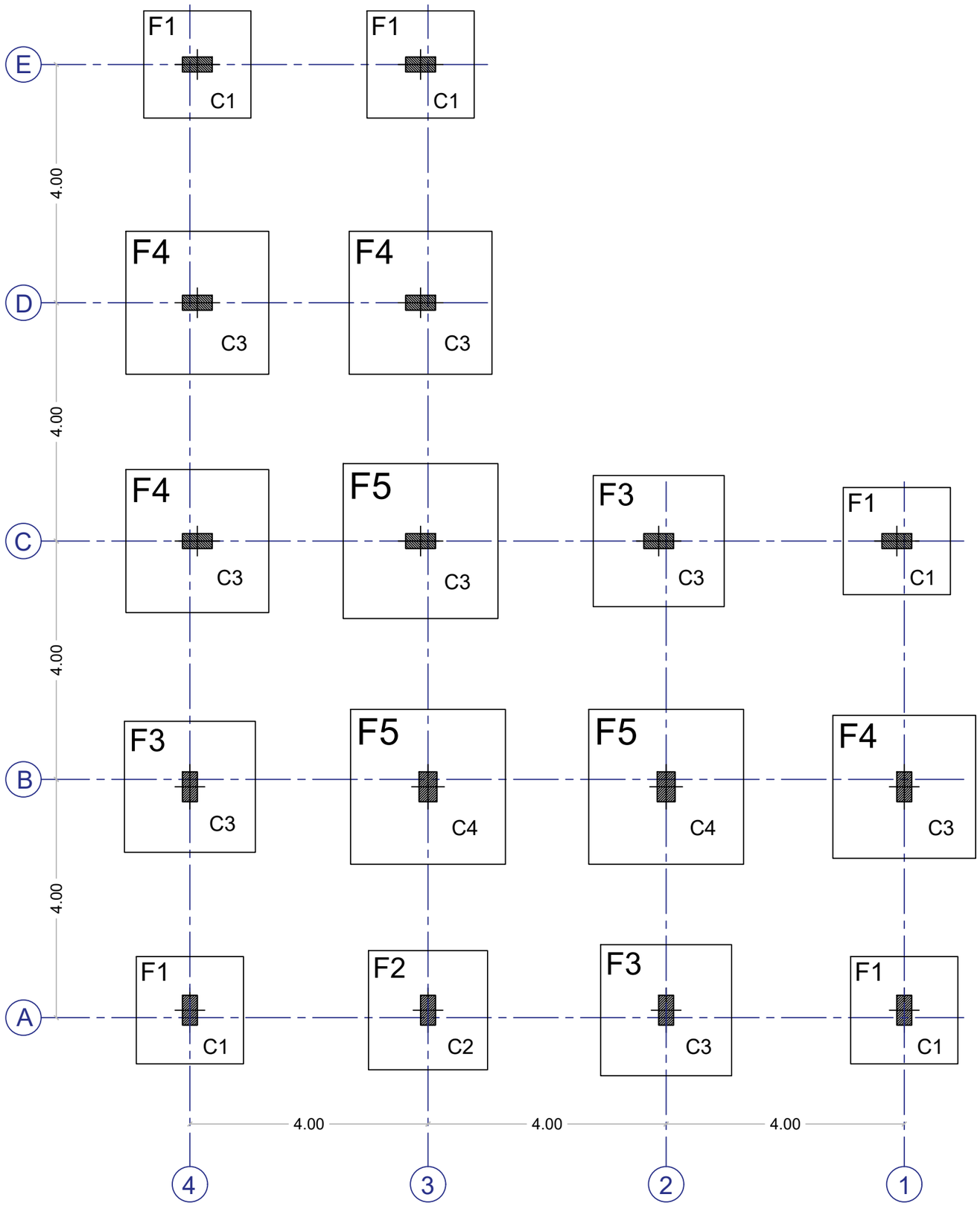
LOCATION:
Khartoum- Bahri
Block : 10 Al Graif East - Plot : 1294

DRAWING TITLE:
Columns Layout at Footings Level

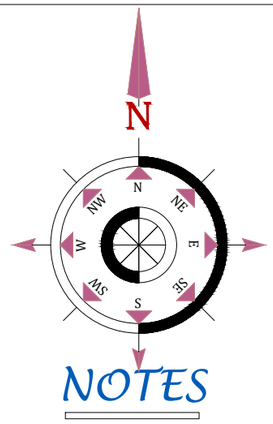
DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-01

DATE:
August - 2021



Footings Layout



NOTES

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PROJECT:
Residential building

OWNER:
Ekhlas Al Sheikh Salih
& Khairy Hassan Osman

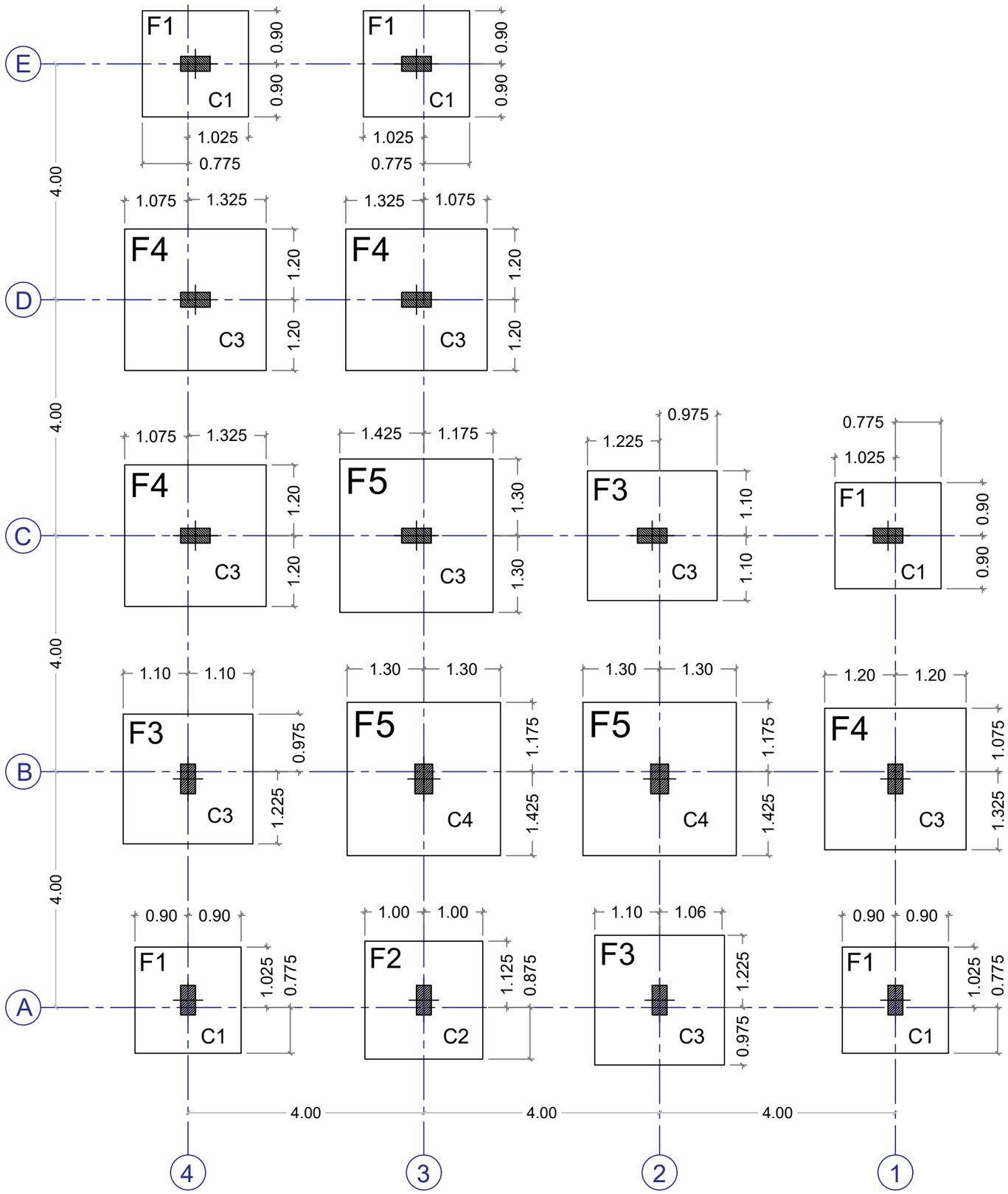
LOCATION:
Khartoum- Bahri
Block : 10 Al Graif East - Plot : 1294

DRAWING TITLE:
Footings Layout

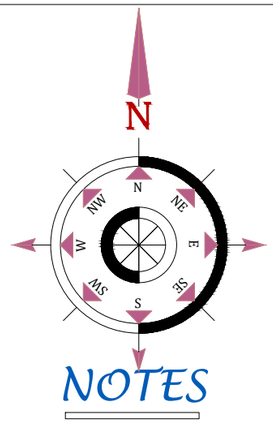
DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-02

DATE:
August - 2021



Footings Dimensions



NOTES

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PROJECT:
Residential building

OWNER:
Ekhlas Al Sheikh Salih
& Khairy Hassan Osman

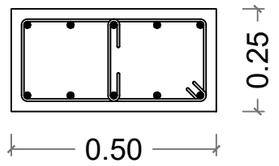
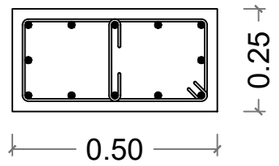
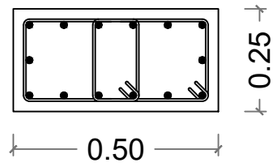
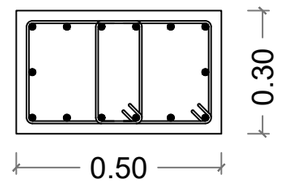
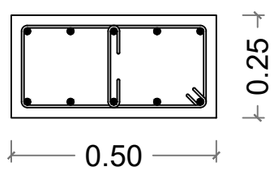
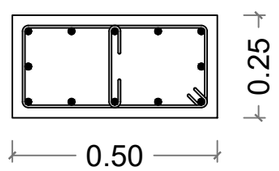
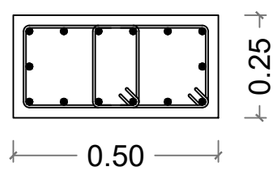
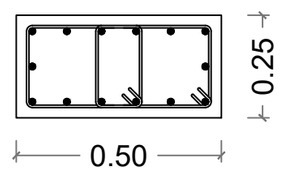
LOCATION:
Khartoum- Bahri
Block : 10 Al Graif East - Plot : 1294

DRAWING TITLE:
Footings Dimensions

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-03

DATE:
August - 2021

Concrete Strength F_{cu} = 25 N/mm² - Steel High Tensile F_y = 460N/mm²				
COLUMN / FLOORS	C1	C2	C3	C4
Short Columns	10T16 	12T16 	14T16 	14T16 
Ground Floor Columns	10T16 	12T16 	14T16 	14T16 
ALL Links T8@150 mm Short Columns should not exceed height 3.2 m				

Schedule of Footings					
TYPE	B	L	D	Reinforcement (bottom)	Reinforcement (top)
F1	1.80	1.80	0.50	T16 @ 150 mm c/c	———
F2	2.00	2.00	0.50	T16 @ 150 mm c/c	———
F3	2.20	2.20	0.50	T16 @ 150 mm c/c	———
F4	2.40	2.40	0.50	T16 @ 150 mm c/c	———
F5	2.60	2.60	0.50	T16 @ 150 mm c/c	———

NOTES

1- Steel F_y not less than 460 N/mm^2.
2- Concrete F_{cu} should not be less than 25 N/mm^2 for 28 days strength.
3-Max-Aggregate size 20mm for beams & col.s and 30mm for found.s.
4- Concrete cover for reinforcement should not be less than 25mm for beams & columns and 50mm for foundations.
5- Over laps of steel should not be less than 45 times larger bar size &should always be located within concrete being under compression.
6- Construction joints shall be located at one-fifth of span of slabs.
7- All Dimensions are in mm.

PROJECT:
Residential building

OWNER:
Ekhlas Al Sheikh Salih
& Khairy Hassan Osman

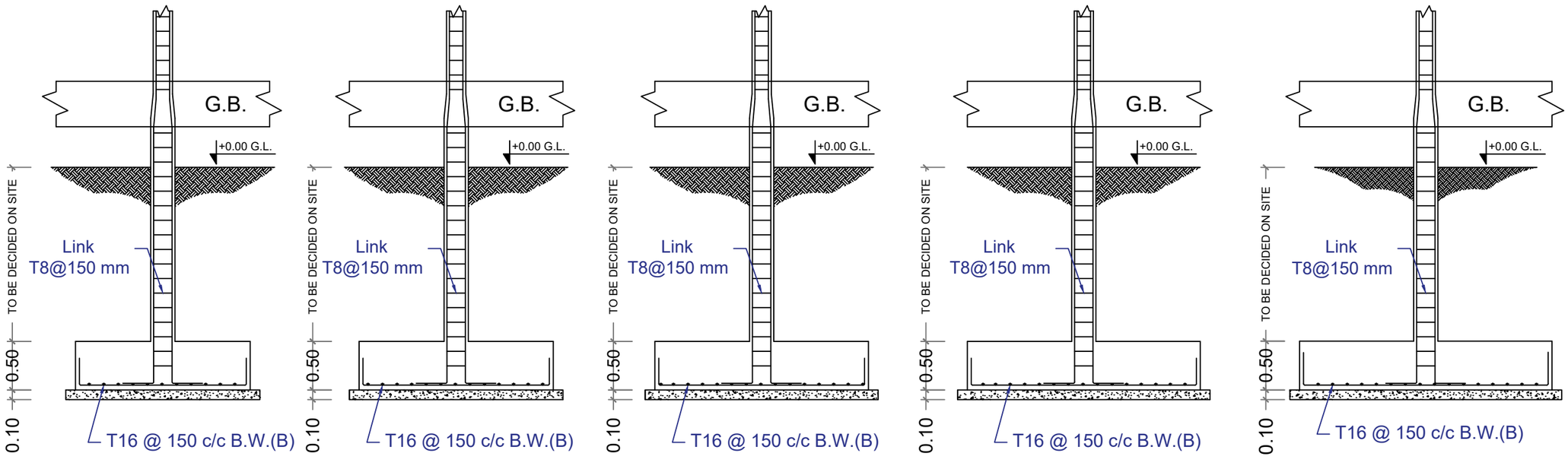
LOCATION:
Khartoum- Bahri
Block : 10 Al Graif East - Plot : 1294

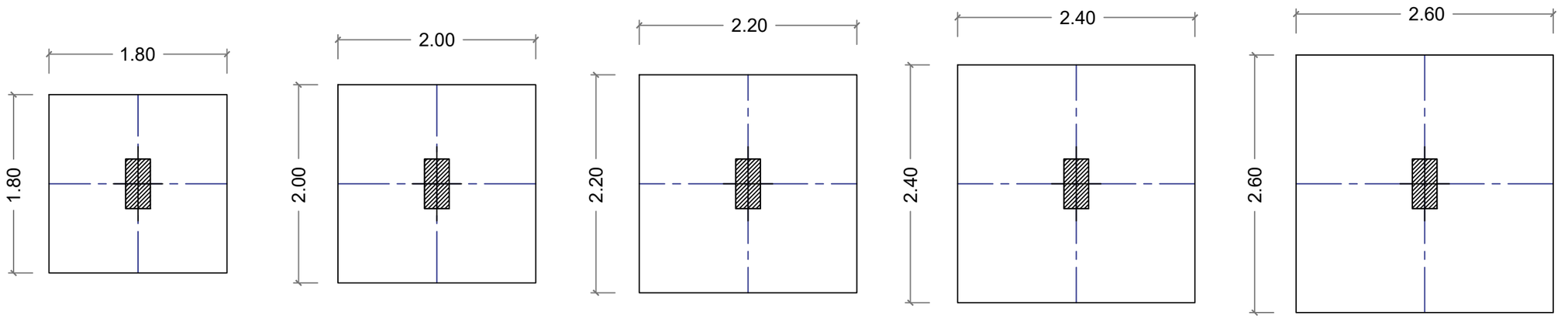
DRAWING TITLE:
Schedule of Columns & Footings

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-04

DATE:
August - 2021





Isolated Footing (F1) | Isolated Footing (F2) | Isolated Footing (F3) | Isolated Footing (F4) | Isolated Footing (F5)

NOTES

1- Steel F_y not less than 460 N/mm^2.
2- Concrete F_{cu} should not be less than 25 N/mm^2 for 28 days strength.
3-Max-Aggregate size 20mm for beams & col.s and 30mm for found.s.
4- Concrete cover for reinforcement should not be less than 25mm for beams & columns and 50mm for foundations.
5- Over laps of steel should not be less than 45 times larger bar size &should always be located within concrete being under compression.
6- Construction joints shall be located at one-fifth of span of slabs.
7- All Dimensions are in mm.

PROJECT:
Residential building

OWNER:
Ekhlas Al Sheikh Salih
& Khairy Hassan Osman

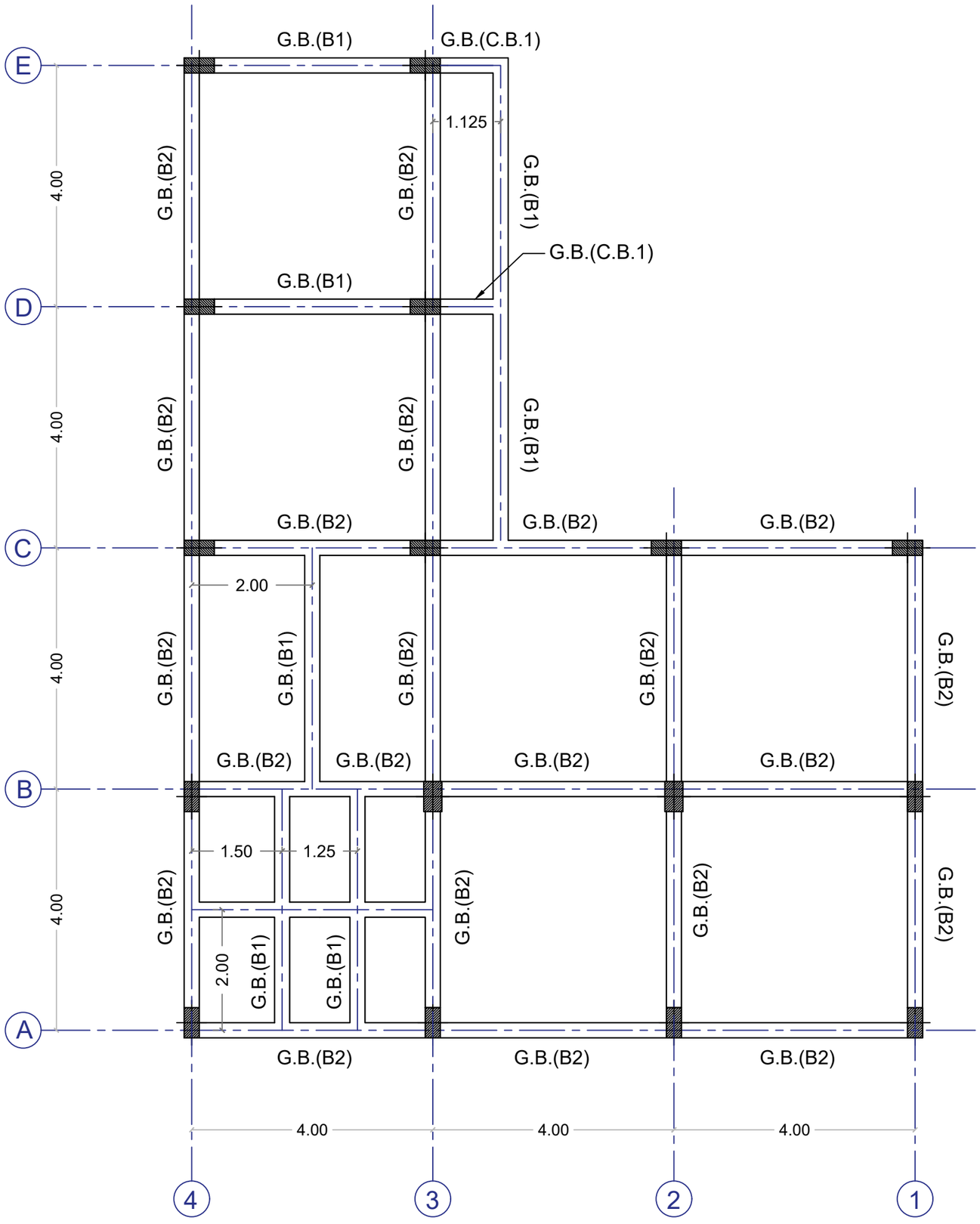
LOCATION:
Khartoum- Bahri
Block : 10 Al Graif East - Plot : 1294

DRAWING TITLE:
Footings Reinforcement Details

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-05

DATE:
August - 2021



Ground Floor (Grade Beams)

N

NOTES

1. Concrete strength shall be taken as 25 N/mm² at 28-days.
2. Max aggregate size shall not exceed 20mm,crushed stone is preferred.
3. W/C water cement ratio 0.45.
4. Soil safe bearing capacity is 196 KN/m² at 3.0m depth.
6. weight of slab concrete = 5.0 KN/m² (thickness of slab = 200 mm) .
7. Finishing load = 1.0 KN/m².
8. Bricks used for partitioning shall be of total load of =4.5 KN/m².
9. Live load is = 1.5 KN/m².
Total Service Load (SL) = 10.5+1.5
(SL) = 12.0 KN/m².
Total Ultimate Load(uL) =(1.4x10.5)+(1.6x1.5)
(UL) = 17.5 KN/m².
10.BS 8110 is used for design.
11. BS 6399 is used for loading requirements and analysis.
12.BS 8004 and BS8001 is used for foundation design.
13. Min. of 10cm of Plain concrete shall be used under footings.
14. All sub-structural works shall be well insulated and protected against water.
15. Expansive soil effective zone shall be determined and removed.

PROJECT:
Residential building

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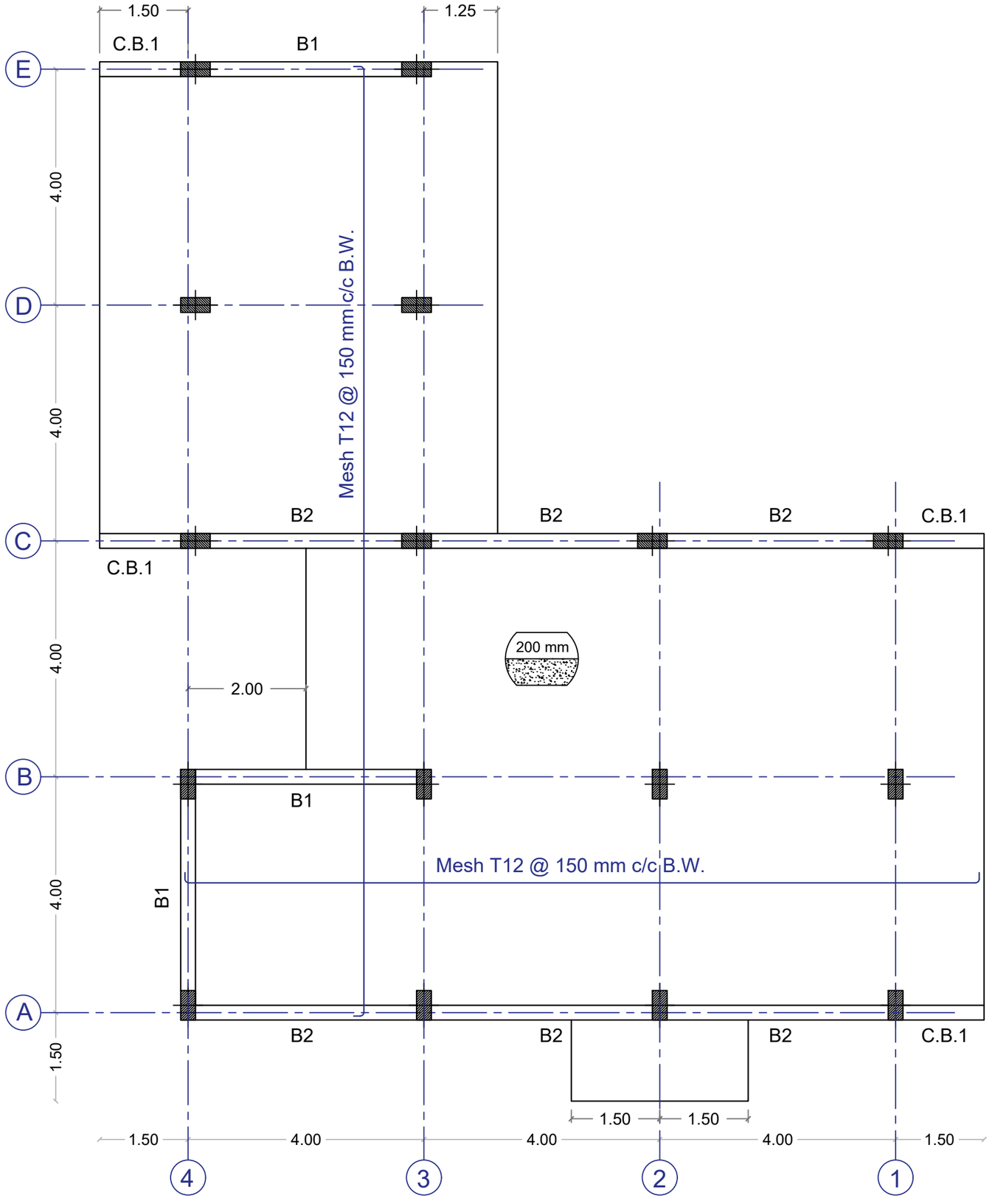
DRAWING TITLE:
Ground Floor (Grade Beams)

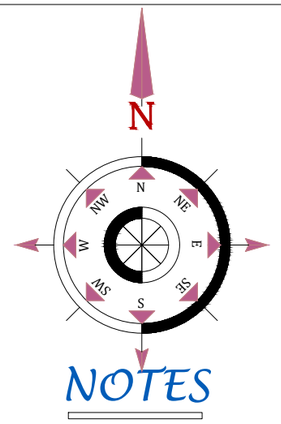
DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-06

DATE:
August - 2021



Ground Cover Slab Reinforcement (bottom)



NOTES

PROJECT:
Residential building

OWNER:
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& Khairy Hassan Osman

LOCATION:
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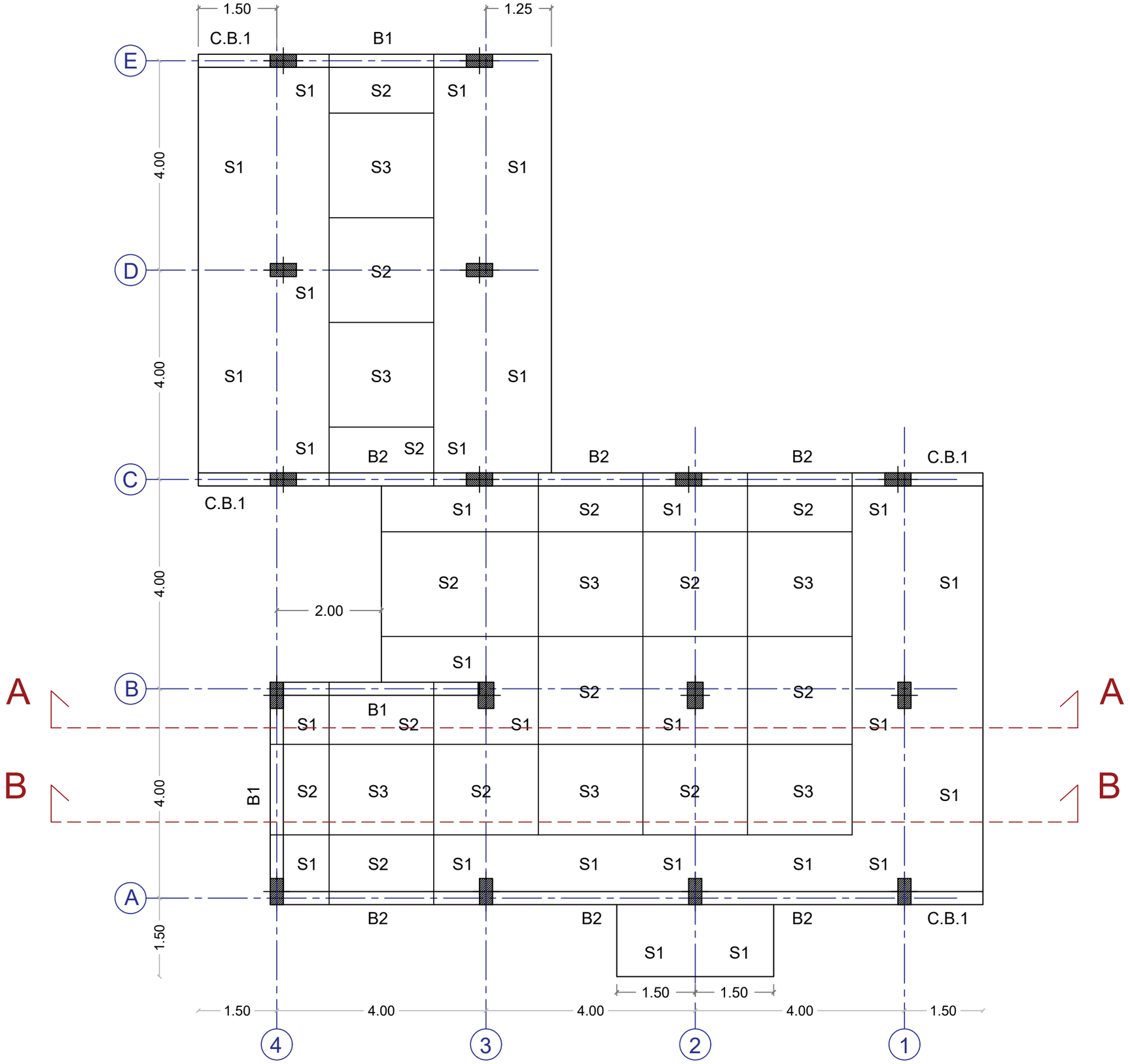
Block : 10 Al Graif East - Plot : 1294

DRAWING TITLE:
Ground Cover Slab Reinforcement (B)

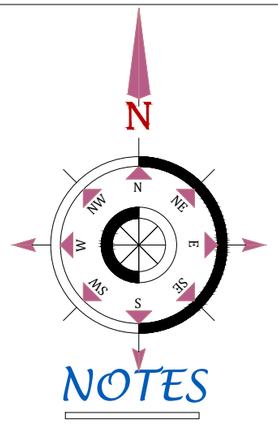
DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-07

DATE:
August - 2021



Ground Cover Slab Reinforcement (top)



NOTES

NOTE
1) Thickness Of Slab = 200mm.

2) Top Reinforcement

S1 T 12 @ 100 mm c/c B.W.
S2 T 12 @ 200 mm c/c B.W.
S3 T 12 @ 400 mm c/c B.W.

3) Bottom Reinforcement
T 12 @ 150 mm c/c B.W.

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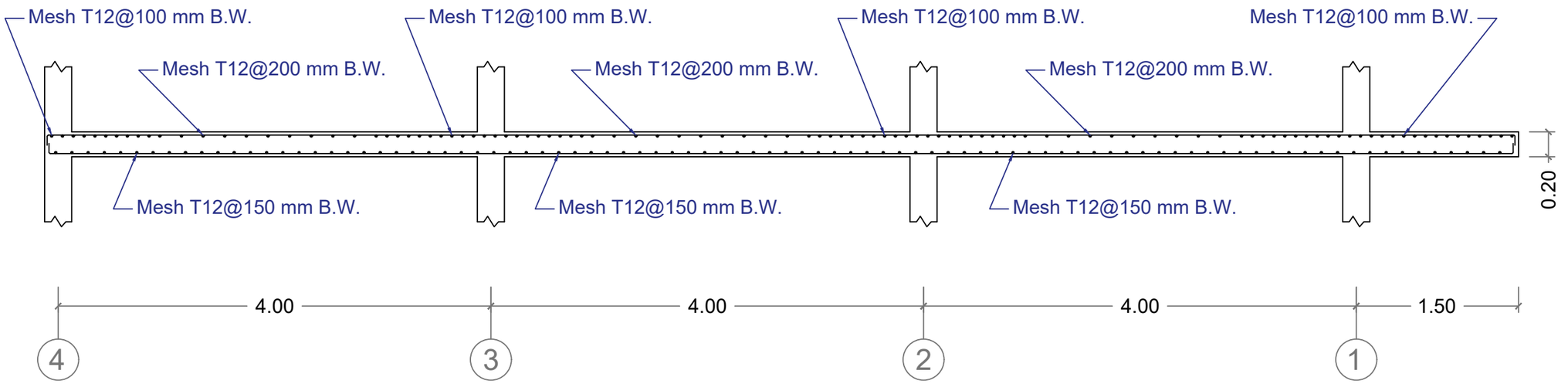
DRAWING TITLE:
Ground Cover Slab Reinforcement (T)

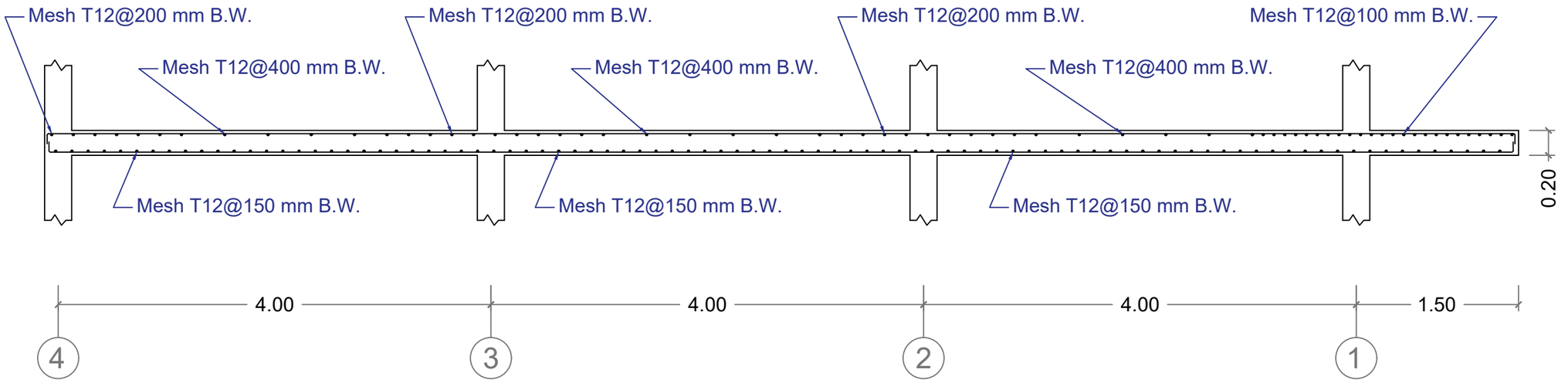
DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-08

DATE:
August - 2021



Section (A-A) at Column Zone



Section (B-B) at Middle Zone

NOTES

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Residential building

OWNER:
Ekhlas Al Sheikh Salih
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LOCATION:
Khartoum- Bahri
Block : 10 Al Graif East - Plot : 1294

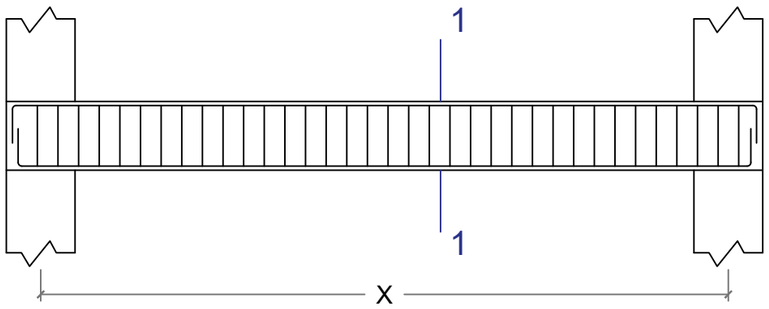
DRAWING TITLE:
Section A-A & B-B Details

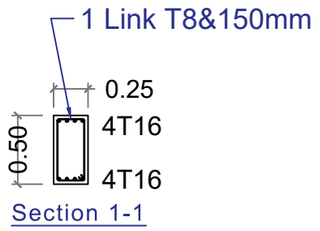
DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-09

DATE:
August - 2021

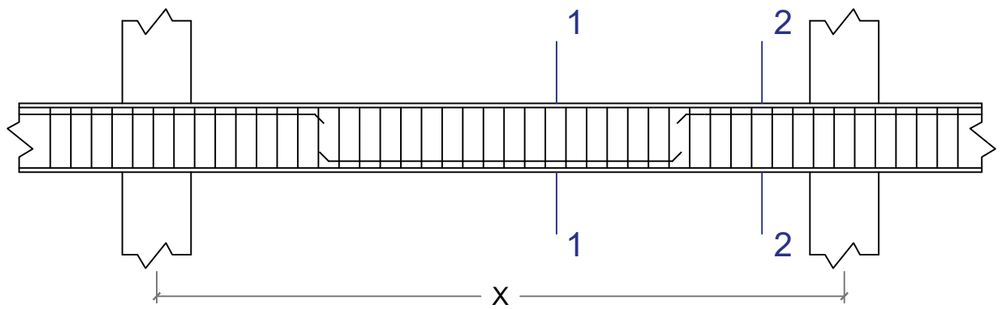
Section (B1):-

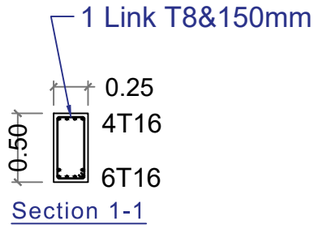




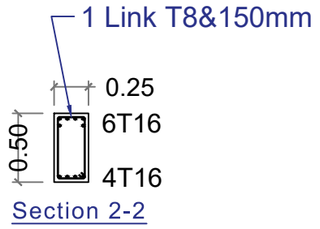
Section 1-1

Section (B2):-



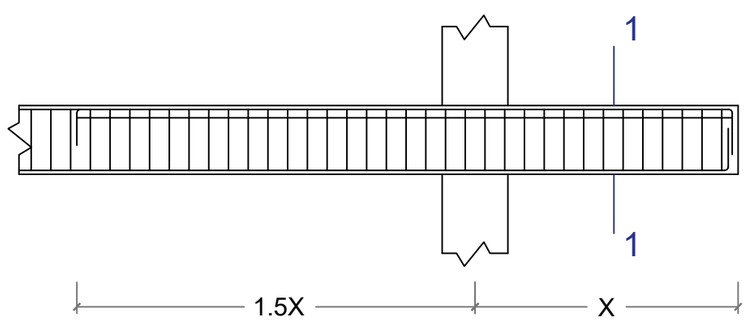


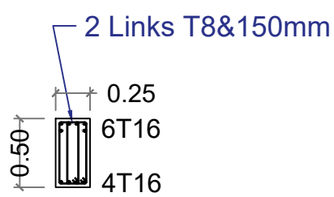
Section 1-1



Section 2-2

Section (C.B.1):-





Section 1-1

NOTES

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Residential building

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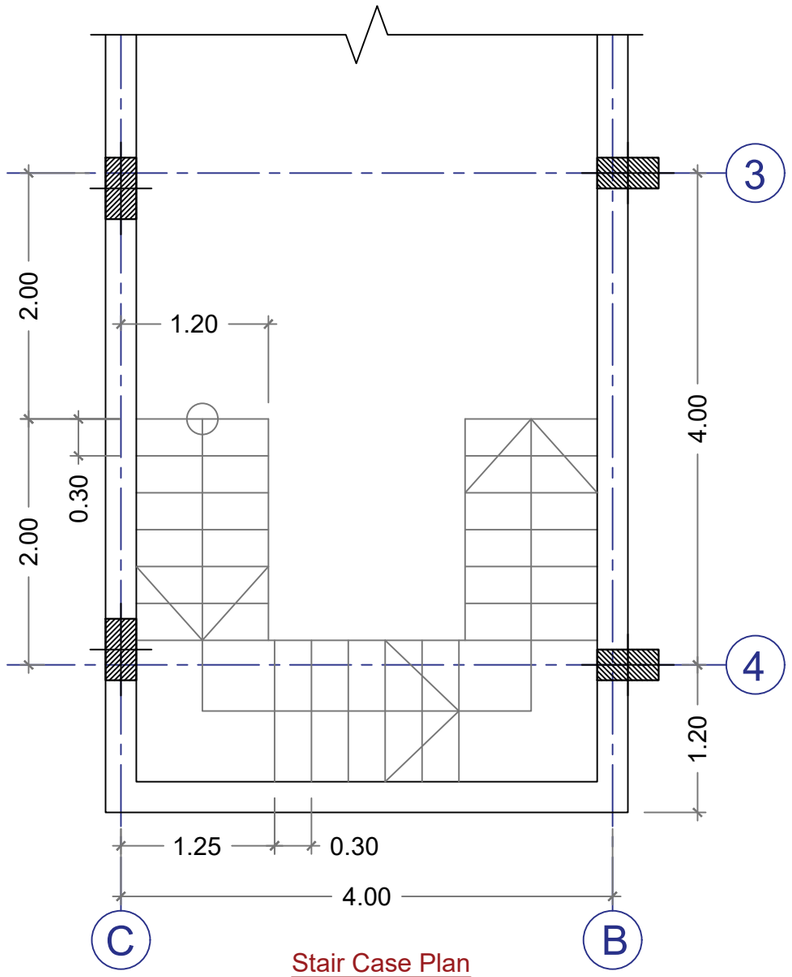
DRAWING TITLE:
Cross Section for Beams

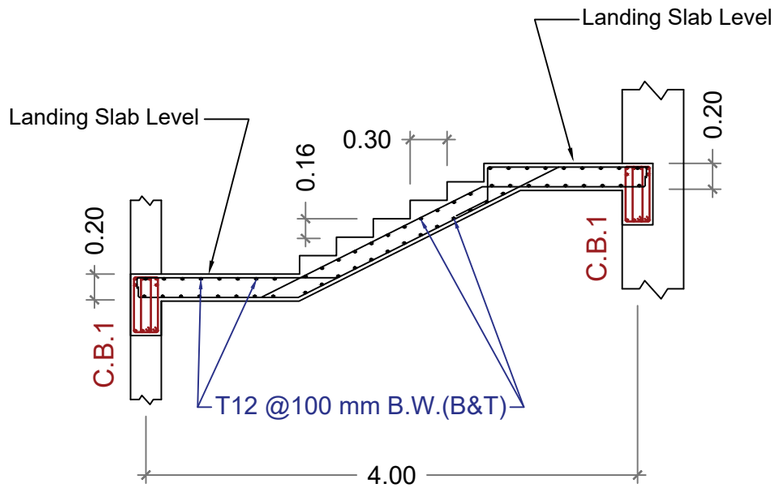
DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-10

DATE:
August - 2021



Stair Case Plan



Stair Case Reinforcement

NOTES

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DRAWING TITLE:
Stair Case Reinforcement Details

DESIGN BY:
Eng. Mohamed Aldirdeery Gaffer

SHEET NO.
S-11

DATE:
August - 2021