

Palestine Polytechnic University

College of Engineering

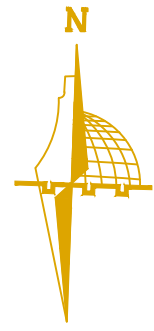
Civil Engineering

Graduation Project

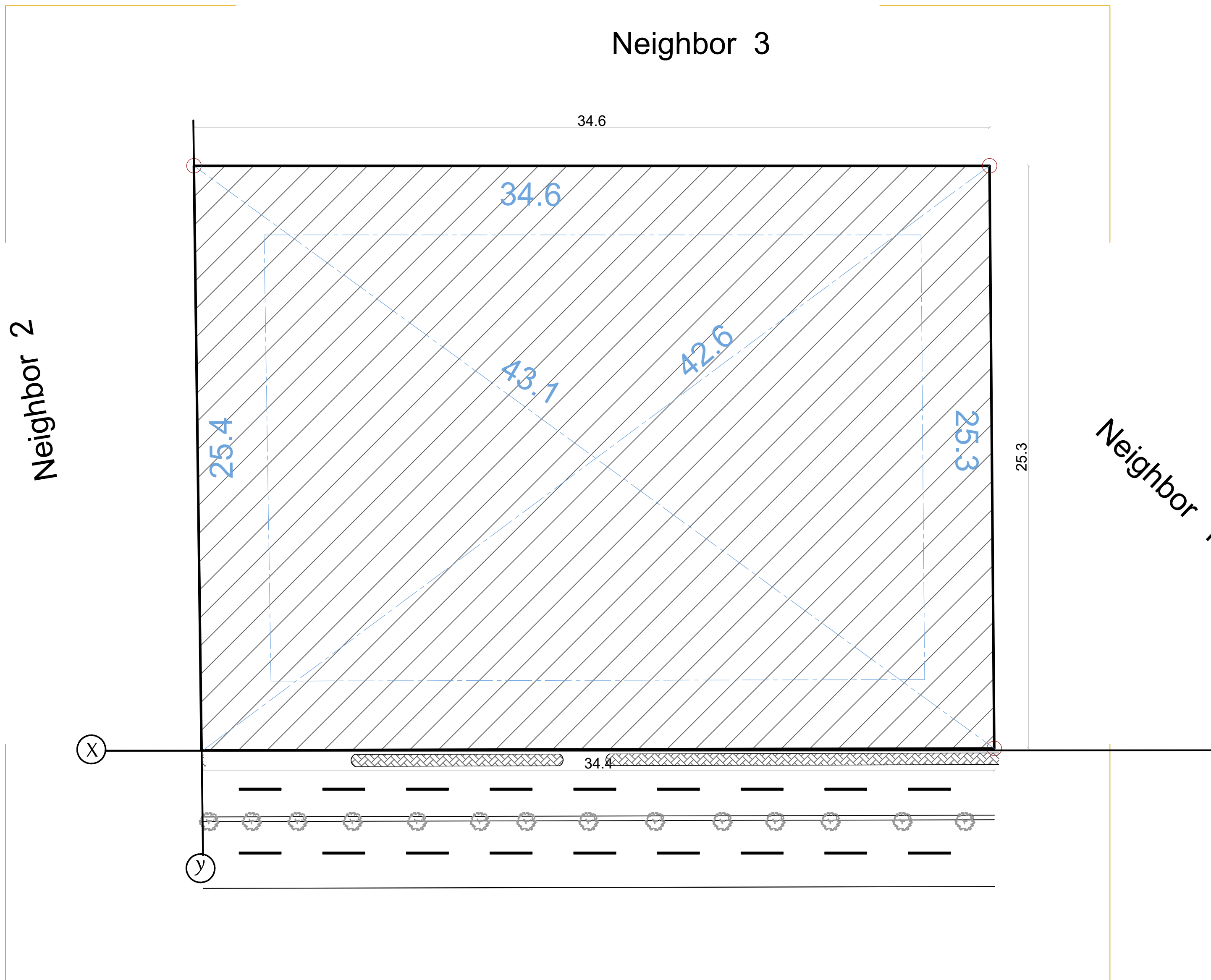
Supervisor :

Dr.Bilal Al Masri

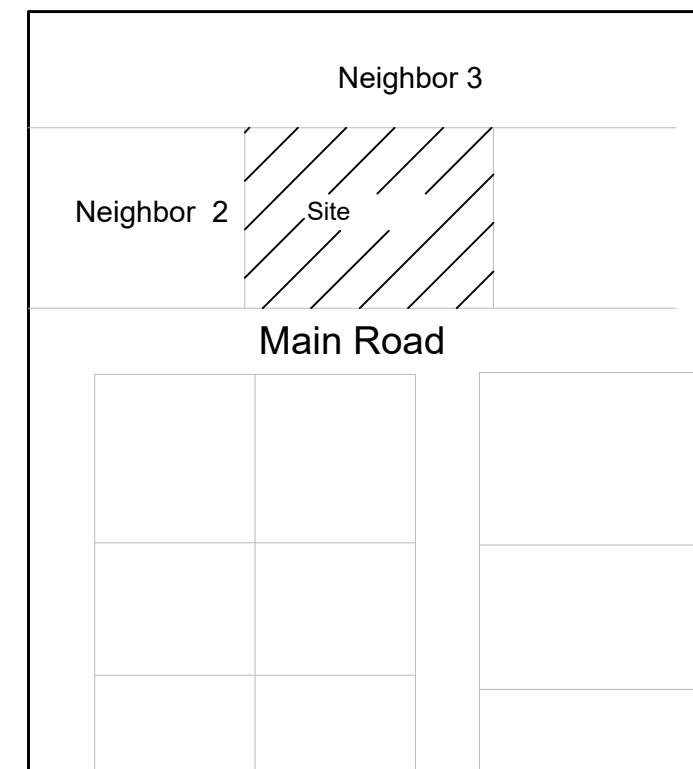
Done by : Mahmoud Dannoun



Project: Housing unit
 Governorate: Bethlehem
 City: Bait Jalah
 Site: Bait Jalah
 aquarium NO#: 600
 Area NO#: 50
 Area: 874.15m2



Site guide
 Scale 1:2000



Sheet No A00

Supervisor: Dr. Bilal Al masri

Surveying map

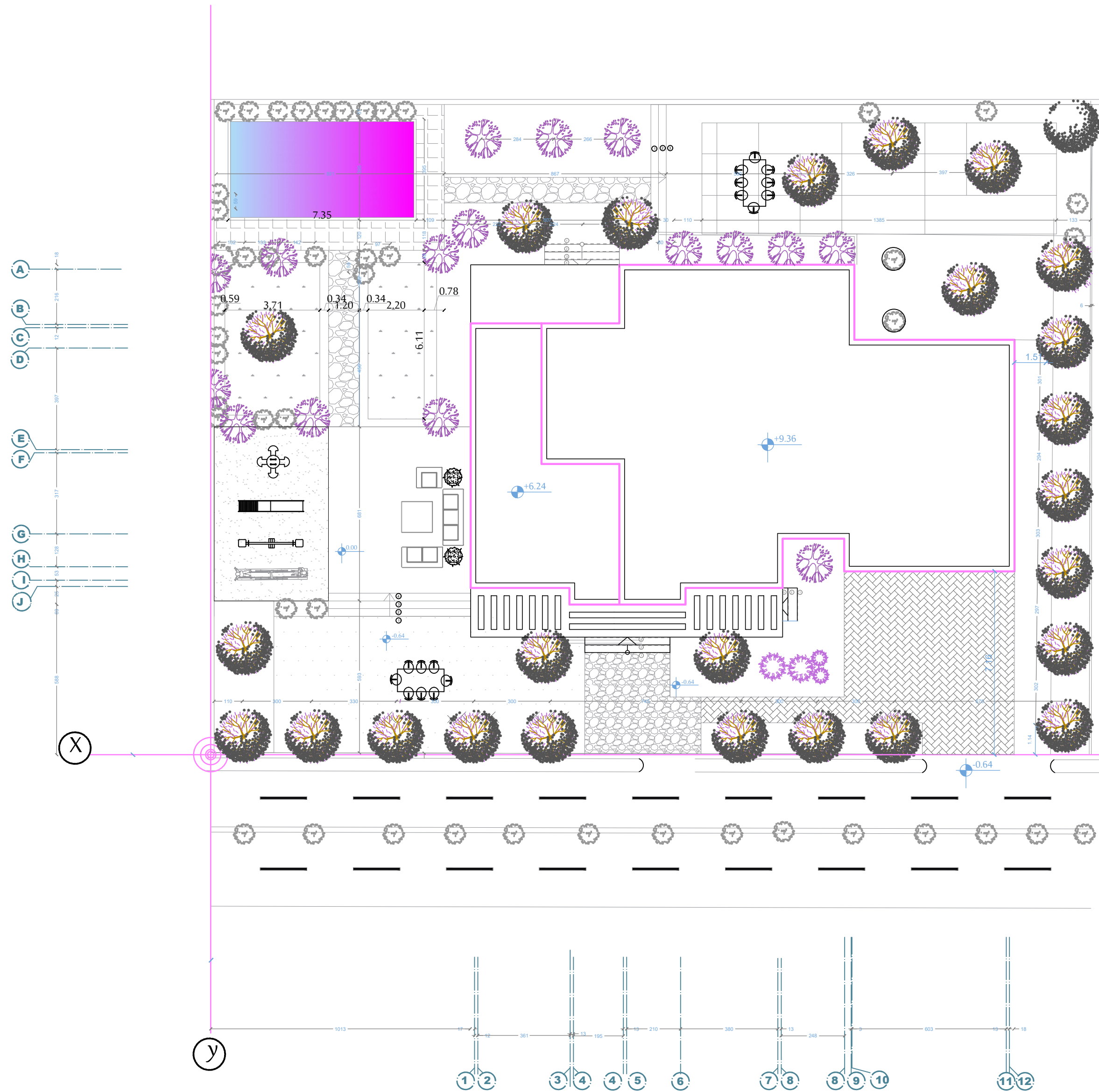
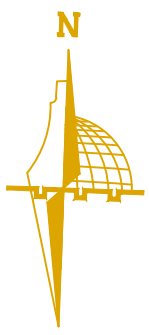
Villa design
 Bait Jallah- Bethlehem
 Client: Mr. Milad

Done by: Mahmoud Dannoun

Scale 1:150

Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK



LEGEND

Symbol	Name	Dimension		
		length	Width	depth
	Grass	—	—	—
	Tile	50CM	50CM	2CM
	Tiles	50CM	50CM	2CM
	Tiles	40CM	40CM	2CM
	ANTRLOK STONE	30CM	30CM	2CM
	stone	—	—	—
	Trees			

Sheet No A01

Supervisor: Dr. Bilal Al masri

Site plane

Villa design
Bait Jallah- Bethlehem

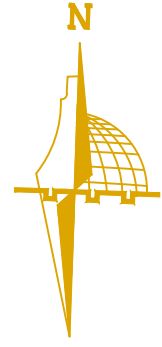
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:150

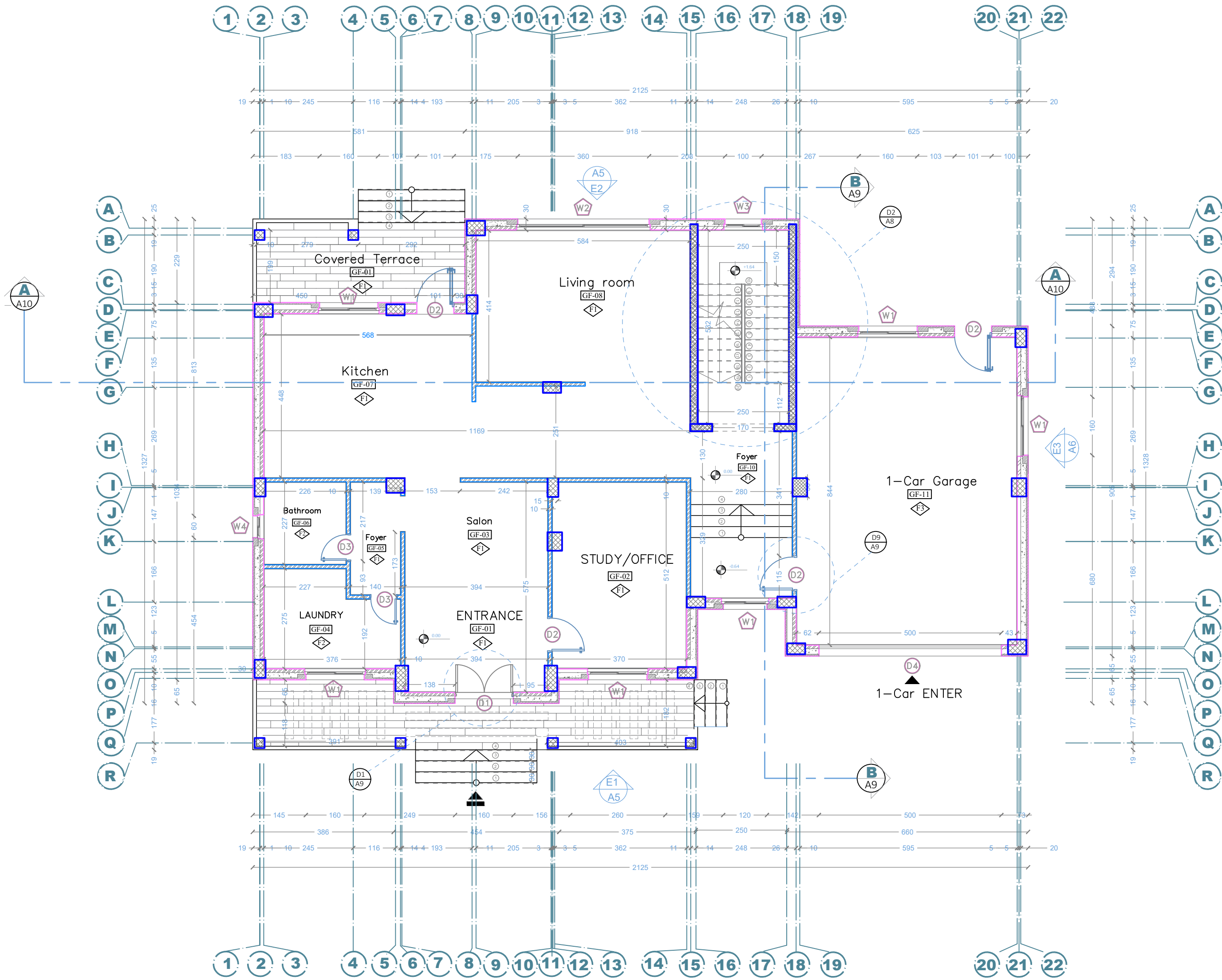
Client: Mr. Milad



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Sheet No A02

Supervisor: Dr. Bilal Al masri

Done by: Mahmoud Dannoun

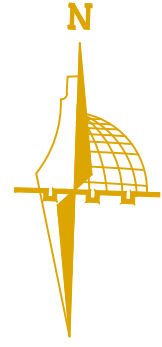
Ground floor dimension
plane

Scale 1:100

Villa design
Bait Jallah- Bethlehem
Client: Mr. Milad

Legend

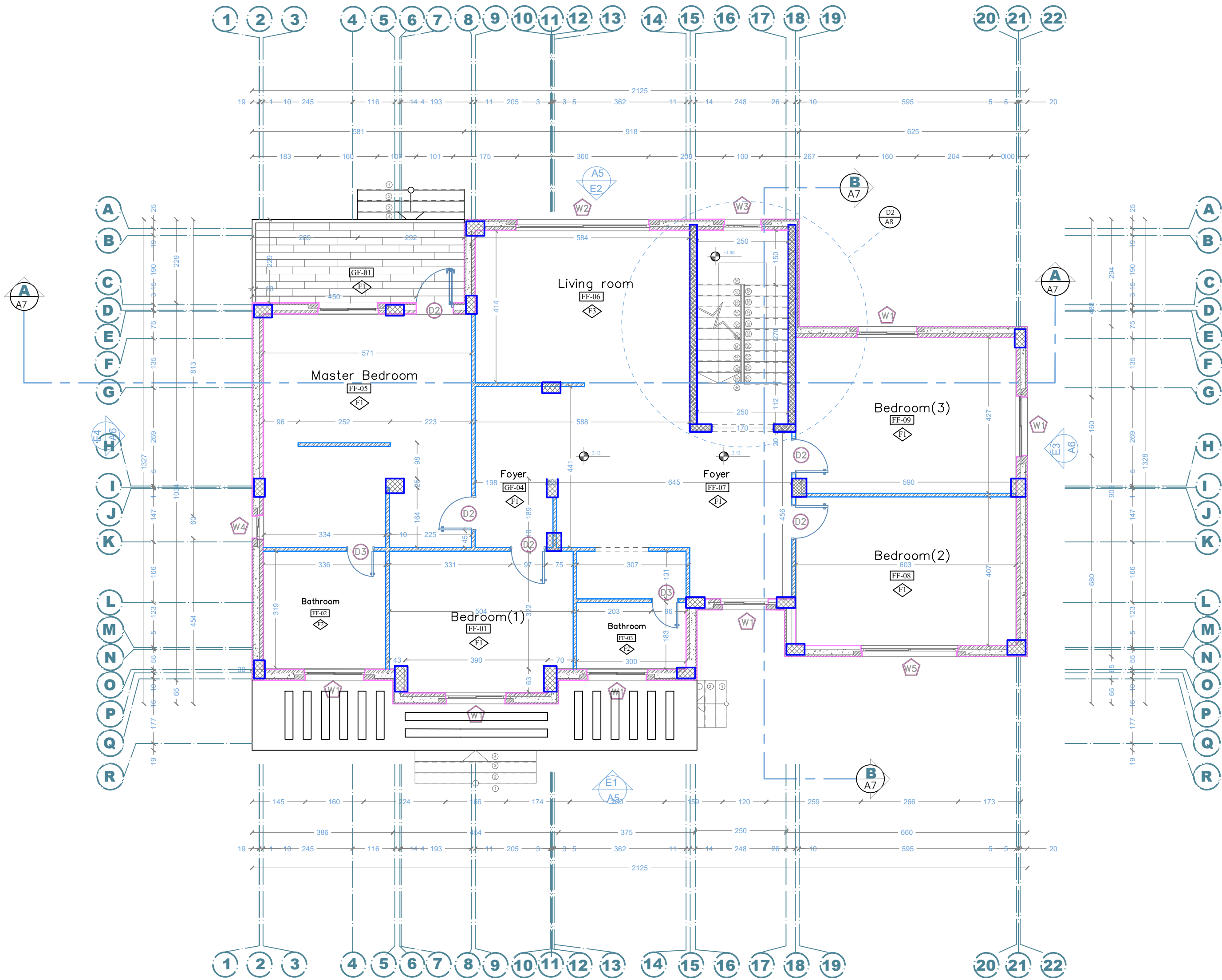
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- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK



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Sheet No A03

Supervisor: Dr. Bilal Al masri

First floor dimension plane

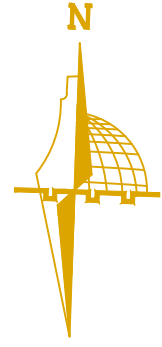
Villa design
Bait Jallah- Bethlehem
Client: Mr. Milad

Done by: Mahmoud Dannoun

Scale 1:100

Legend

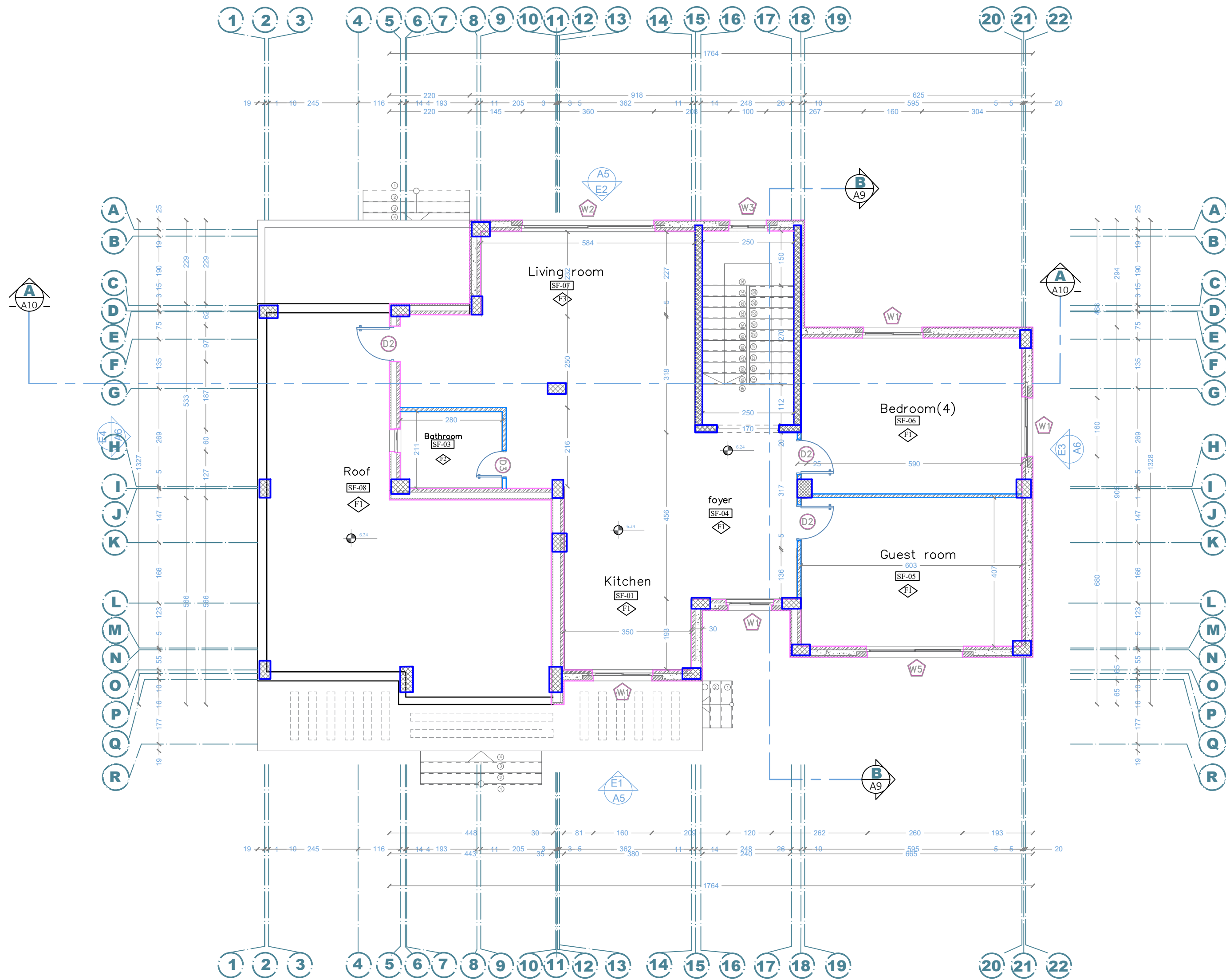
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- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK



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Sheet No A04

Supervisor: Dr. Bilal Al masri

Roof floor dimension plane

Villa design
Bait Jallah- Bethlehem

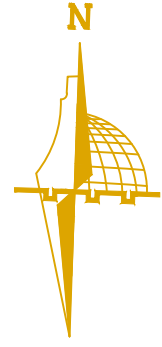
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

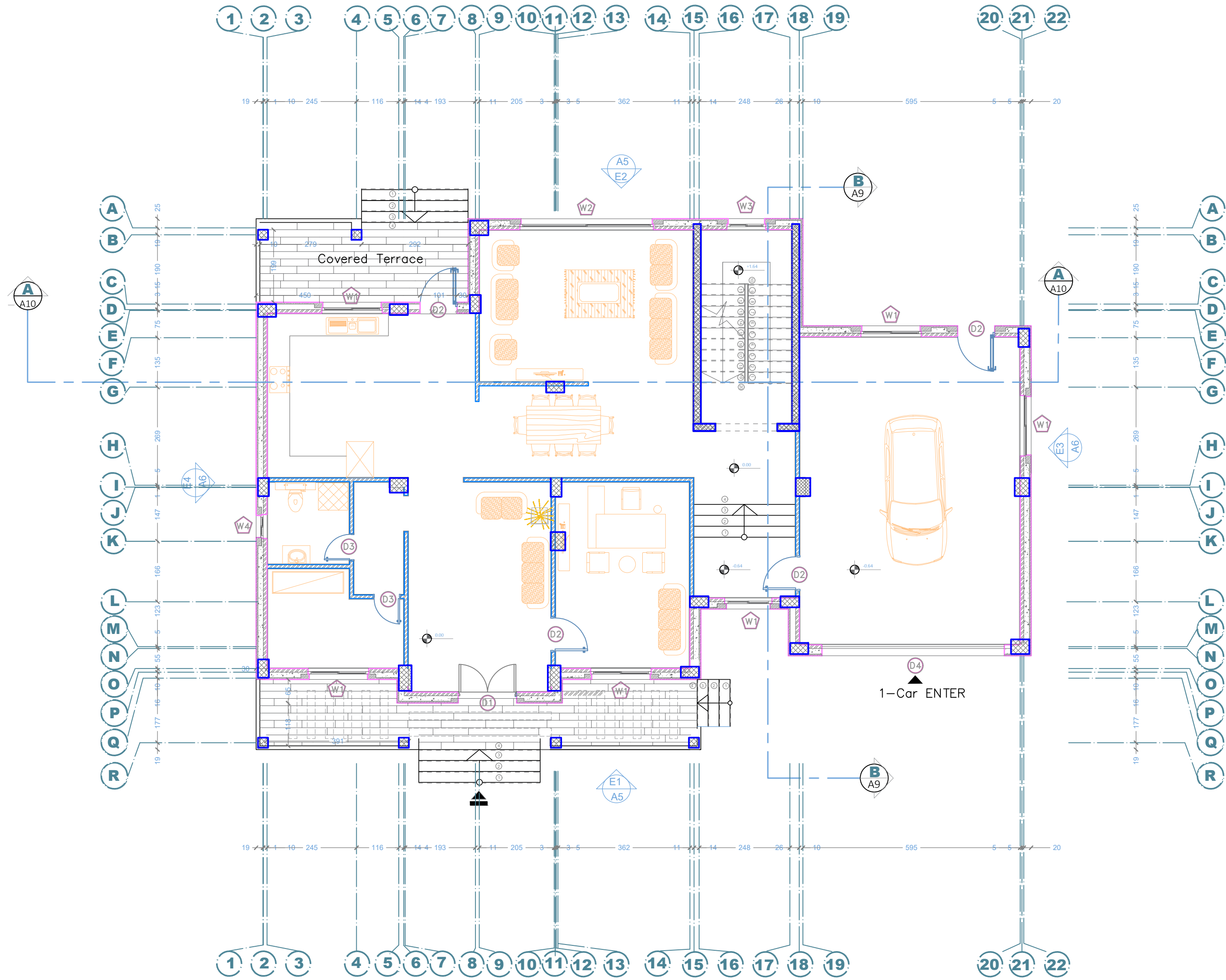
Client: Mr. Milad



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Sheet No A05

Supervisor: Dr. Bilal Al masri

Ground floor furniture plane

Villa design
Bait Jallah- Bethlehem

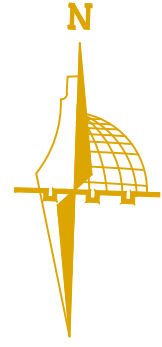
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

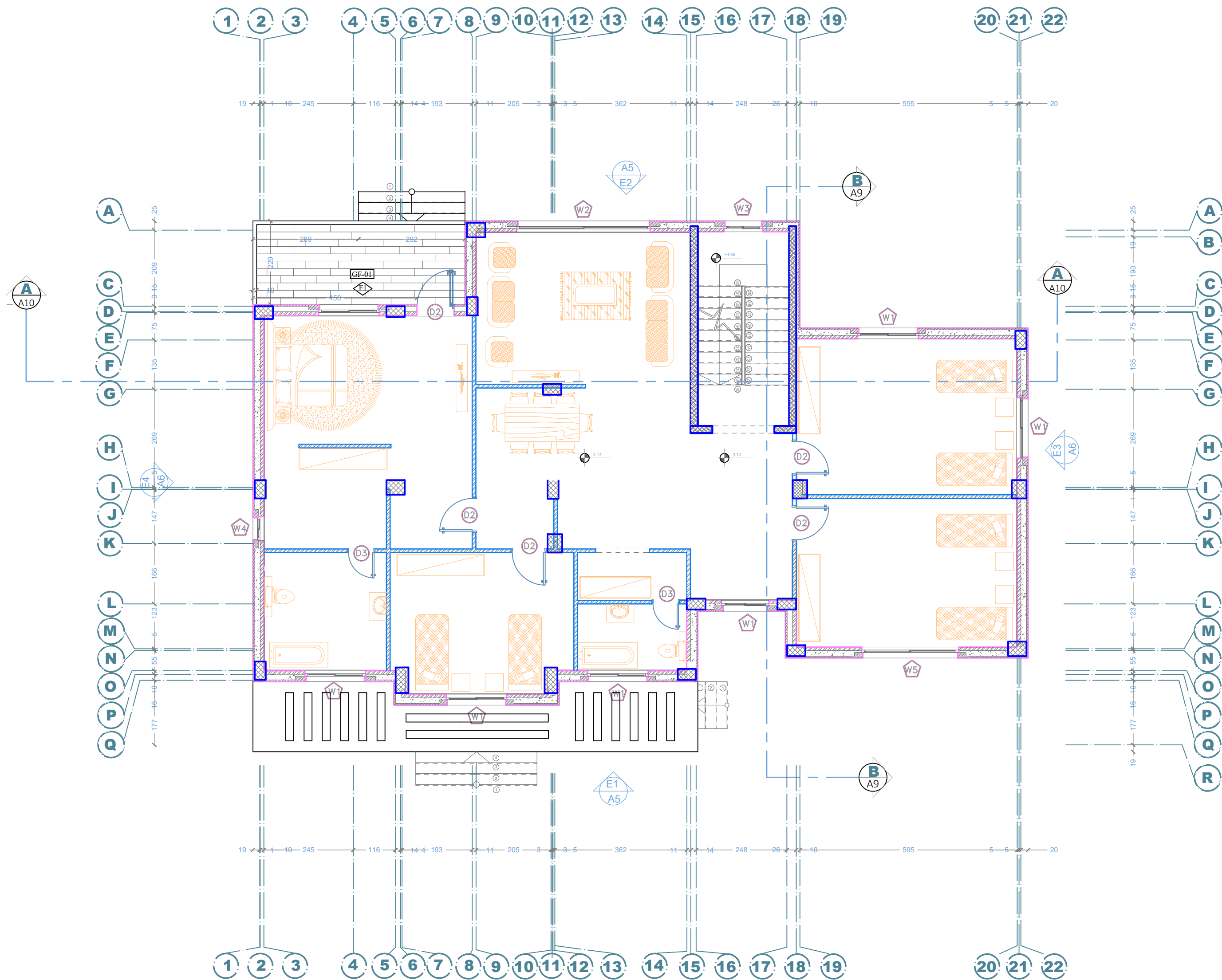
Client: Mr. Milad



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Sheet No A06

Supervisor: Dr. Bilal Al masri

Ground floor furniture plane

Villa design
Bait Jallah- Bethlehem

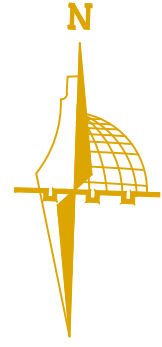
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

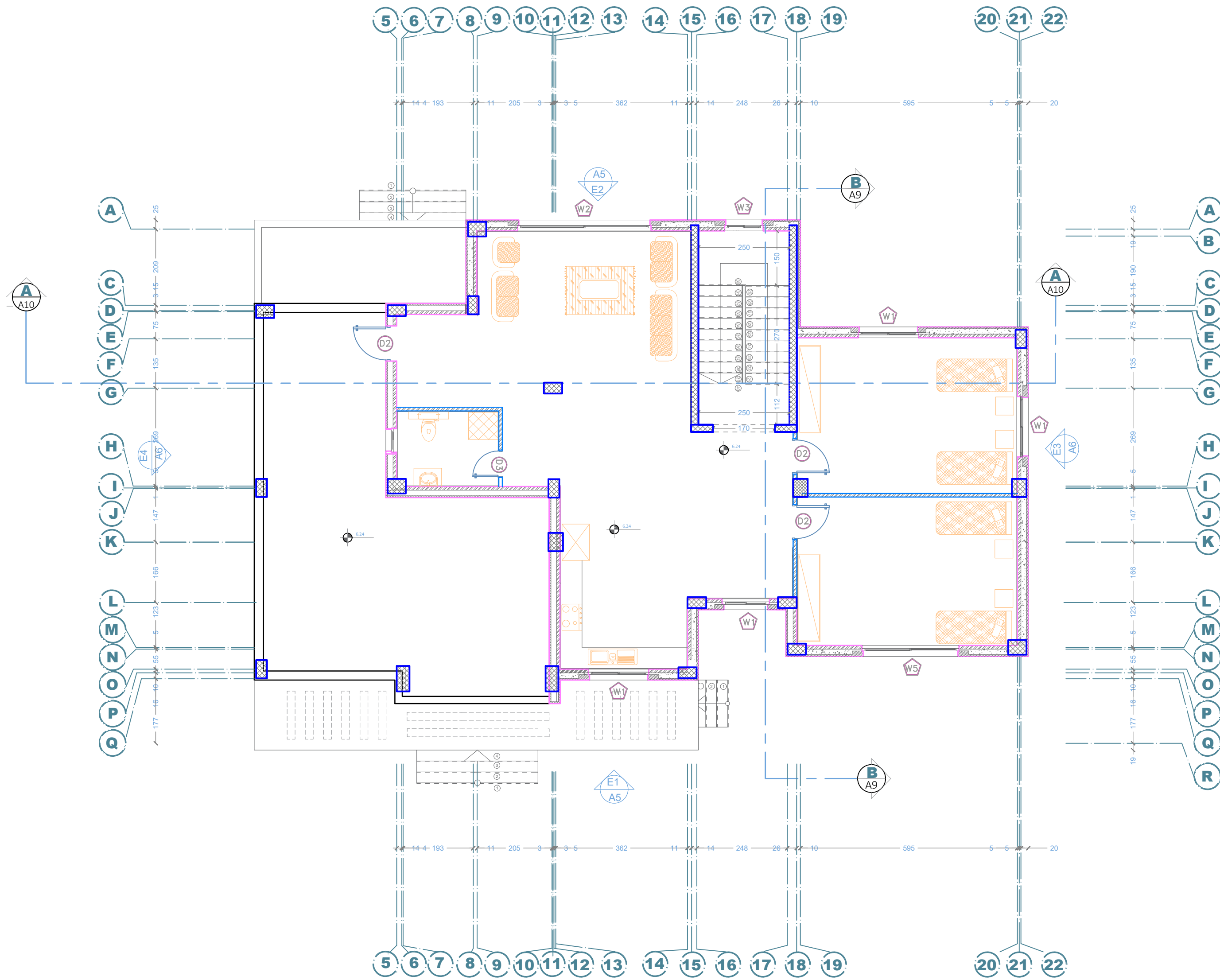
Client: Mr. Milad



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Sheet No A07

Supervisor: Dr. Bilal Al masri

Ground floor furniture plane

Villa design
Bait Jallah- Bethlehem

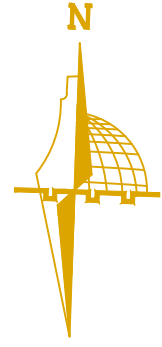
Legend

- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

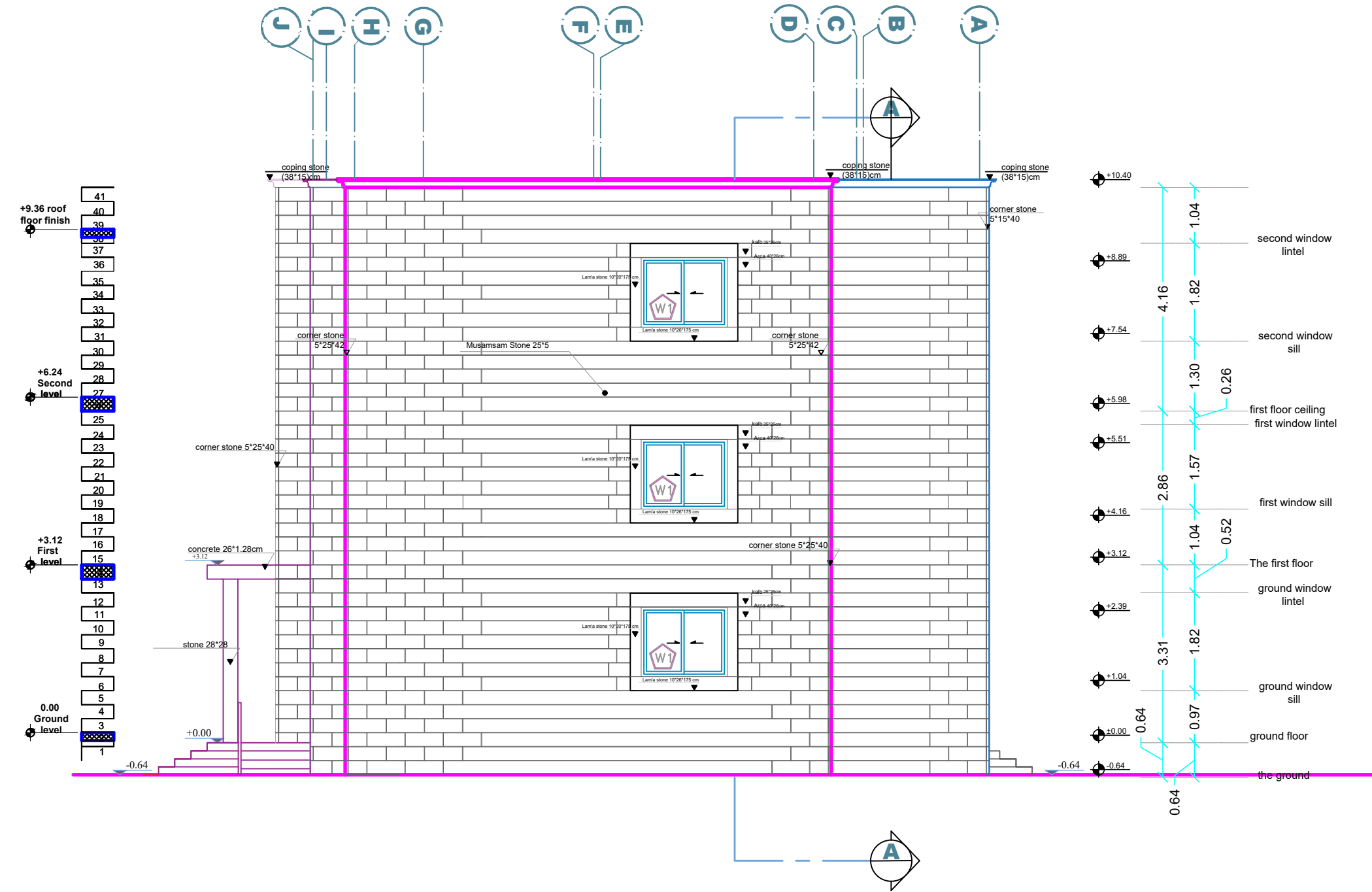
Client: Mr. Milad



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Sheet No A08

Supervisor: Dr. Bilal Al masri

East Elevation

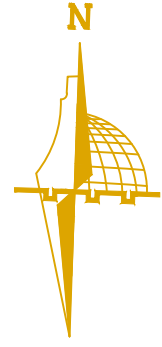
Villa design
Bait Jallah- Bethlehem
Client: Mr. Milad

Legend

- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK

Done by: Mahmoud Dannoun

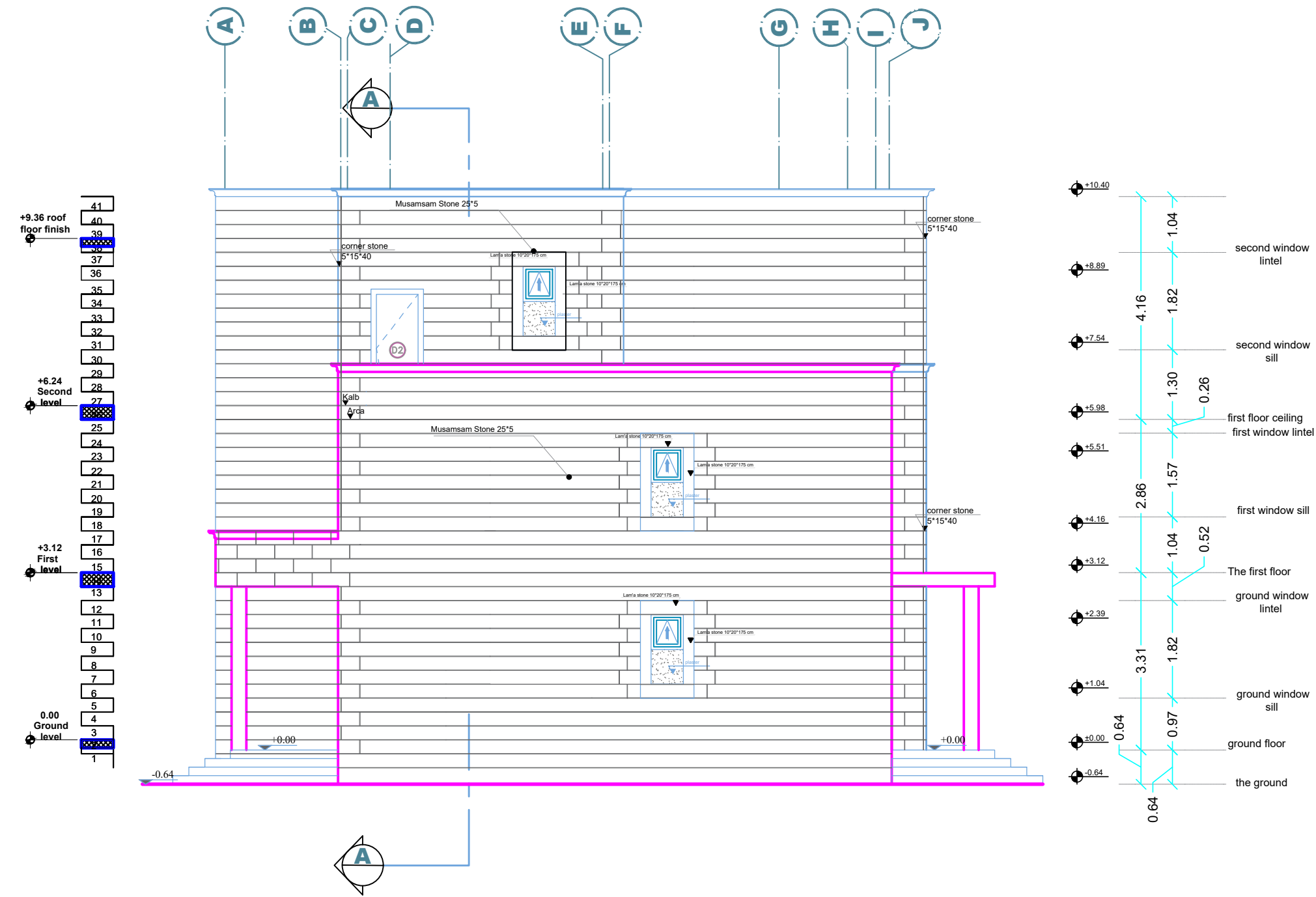
Scale 1:100



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Sheet No A09

Supervisor: Dr. Bilal Al masri

West Elevation

Villa design
Bait Jallah- Bethlehem

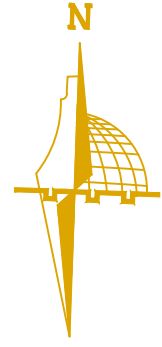
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

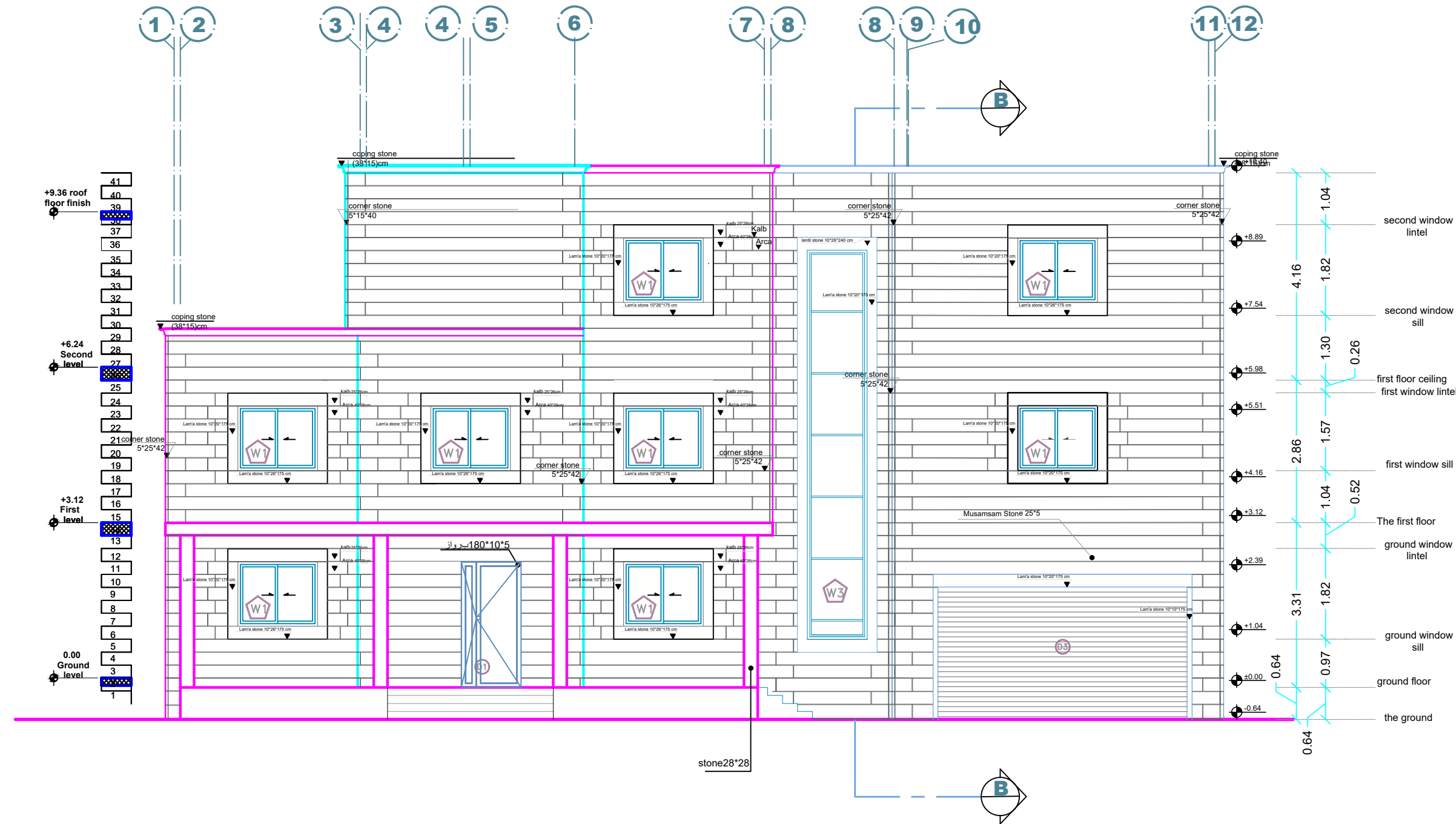
Client: Mr. Milad



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Sheet No A10

Supervisor: Dr. Bilal Al masri

South Elevation

Villa design
Bait Jallah- Bethlehem

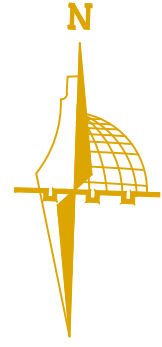
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

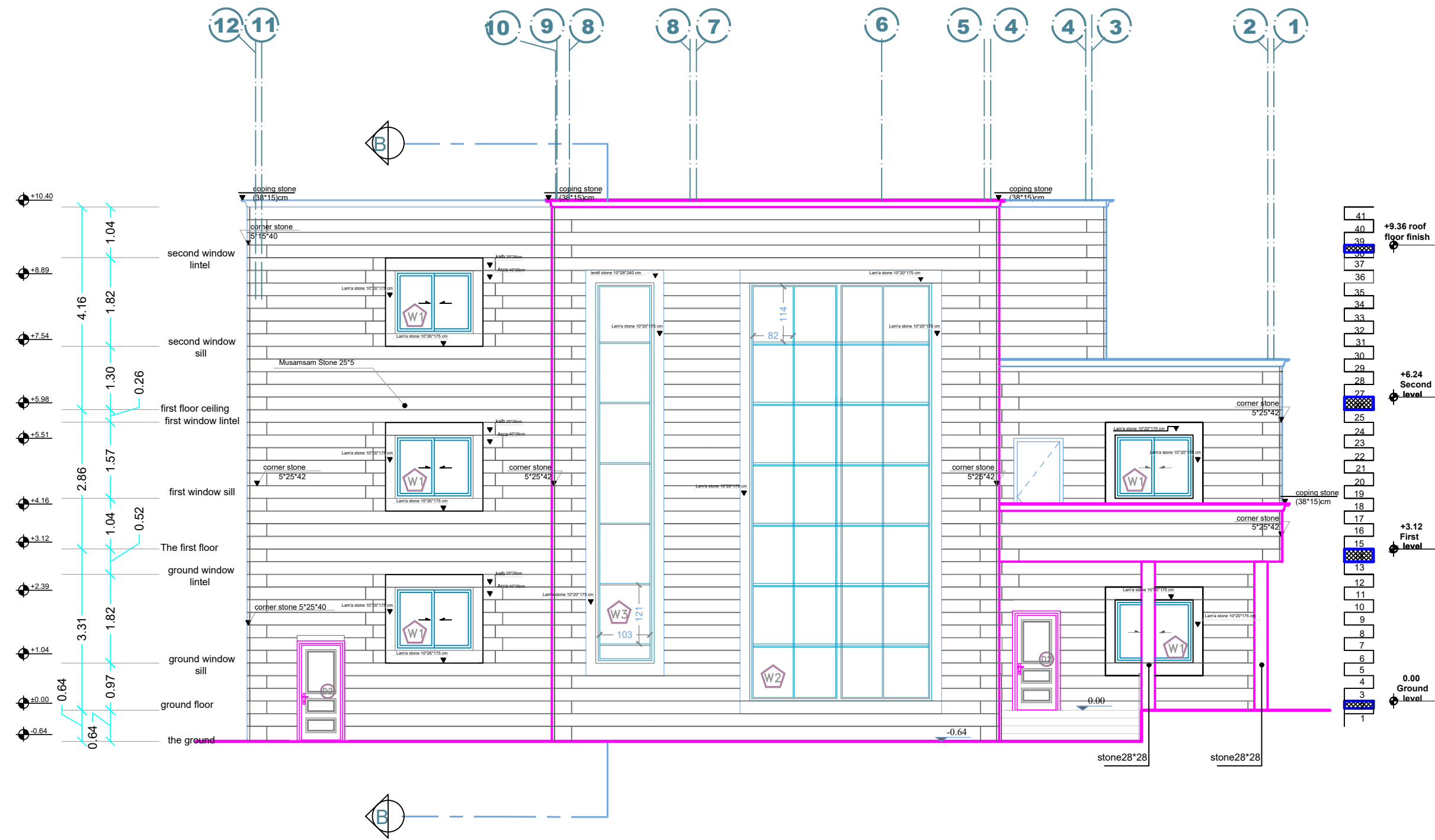
Client: Mr. Milad



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Sheet No A11

Supervisor: Dr. Bilal Al masri

North Elevation

Villa design
Bait Jallah- Bethlehem

Legend

5 cm STONE

- R.CONCRETE

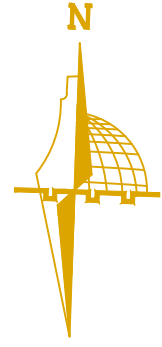
15 cm CONCRETE

7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

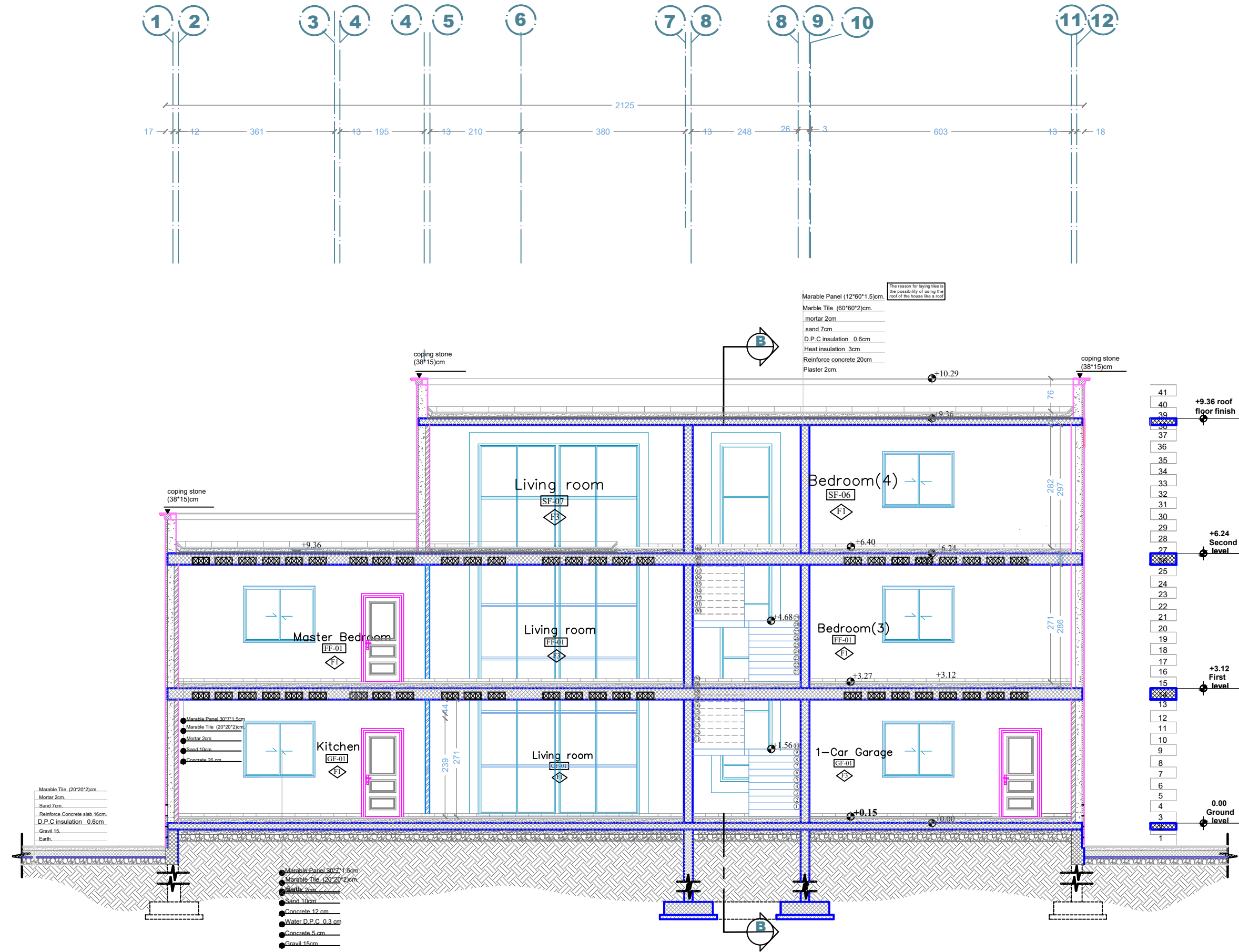
Client: Mr. Milad



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Sheet No A12

Supervisor: Dr. Bilal Al masri





Section A-A

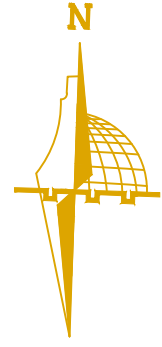
Villa design
Bait Jallah- Bethlehem
Client: Mr. Milad

Done by: Mahmoud Dannoun

Scale 1:100

Legend

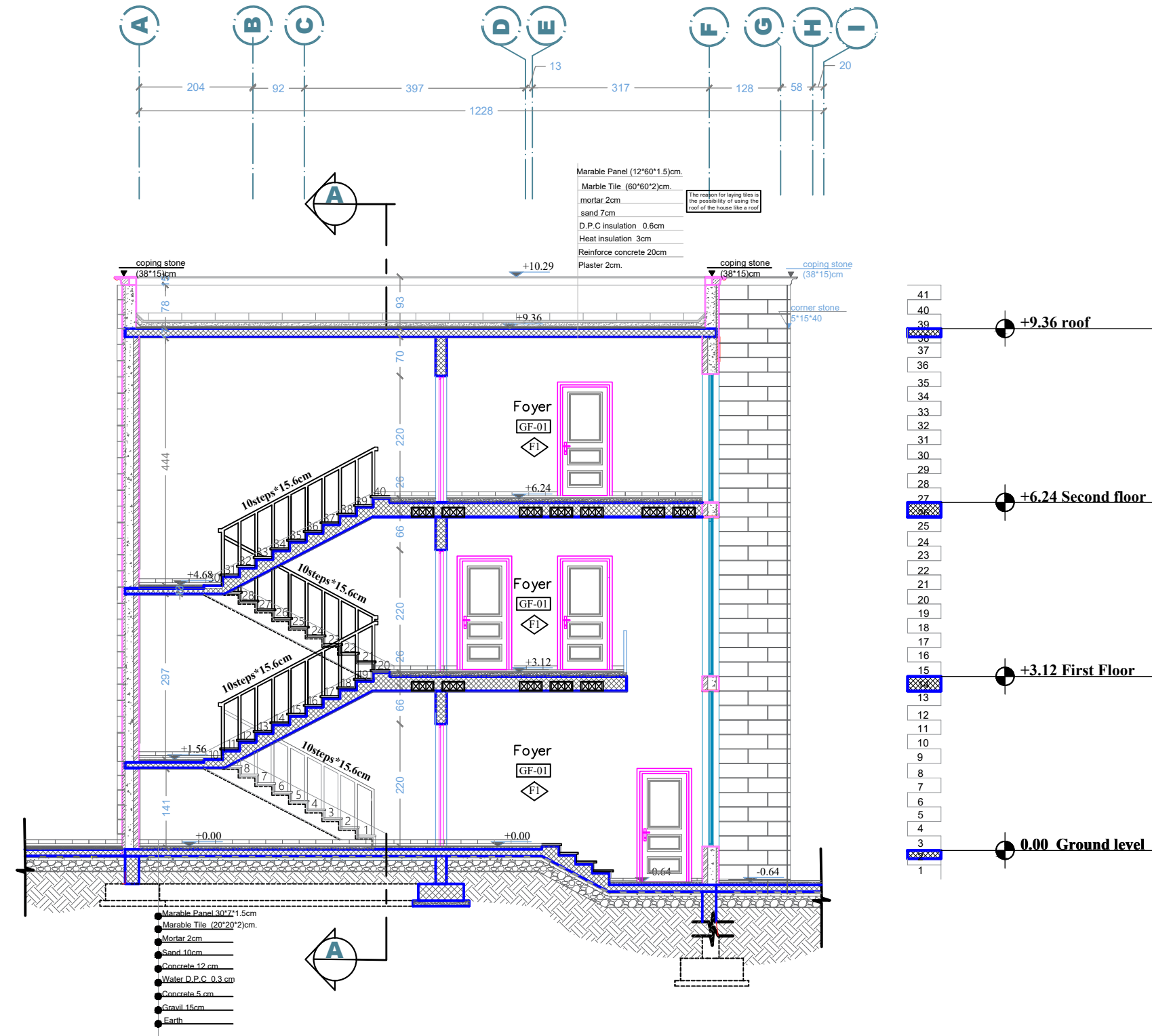
- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK



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Sheet No A13

Supervisor: Dr. Bilal Al masri

Section B-B

Villa design
Bait Jallah- Bethlehem
Client: Mr. Milad

Done by: Mahmoud Dannoun

Scale 1:100

Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Structural Design Criteria & Specifications & Construction Requirements

GENERAL NOTES

1. CODE OF PRACTICE

Detailing and workmanship shall be according to ACI 318-11, and the technical specifications provided. Approved equivalent international codes shall be accepted. Design for concrete done according to ACI 318-11 Uniform Building Code (UBC 97) For the definition of lateral Seismic Loading.

2. DIMENSIONS

- a) GRAVITY LOADS ESTIMATION ARE IN ACCORDANCE OF JORDAN
- b) UNLESS OTHERWISE INDICATED ON DRAWINGS ELEVATIONS ARE IN METERS, DISTANCES AND DIMENSIONS IN m., REINFORCEMENT BAR SIZES IN mm.

3. DRAWINGS

- 1- Structural drawings shall be read in conjunction with Architectural.
- 2- Sleeves and openings smaller than 200x200mm are not shown on the Structural drawings. For required openings refer to Architectural, Mechanical and Electrical drawings.
- 3- Contractor shall prepare working drawings and bar bending schedules for reinforcement in a format agreed with the engineer.
- 4- Contractor shall supply detailed drawings and calculations for all support and temporary works and propping systems as applicable and all other relevant information subject to the Engineer's approval prior to commencement of construction.

4. REINFORCEMENT

- 1- Reinforcement shall be deformed high strength steel bars of characteristic strength of 420 Mpa complying with ASTM standards or equivalent for diameters 10mm & above.
- 2- Reinforcement shall be deformed steel bars of characteristic strength of 420 MPa complying with ASTM standards Or equivalent for diameters 8mm & above.
- 3- Contractor to provide bar bending schedule.
- 4- Where bar length is not specified, longest practicable bar length shall be employed with staggered lap splices. Lap length shall be 30 times bar diameter.

5. REINFORCED CONCRETE

The following two types of reinforced concrete shall be employed:

- B300 - Grade 300 for all reinforced concrete members
- B300 - 30*0.8= 24 MPa (Because it is rectangular section)
Minimum cement content, per cubic meter, shall be:
B300 - 300 kilograms

6. PLAIN CONCRETE

The following type of plain concrete shall be employed:

- B 200 - Grade 200 concrete of characteristic cubestrength equal to 16 MPa, minimum cement content of 200 kilograms per cubic metre, and a maximum water:cement ratio of 0.50 to be used for blinding concrete under foundations.

AGGREGATES

Maximum aggregate size shall be 25 mm.

FOUNDATIONS

- 7. - Contractor shall adhere strictly to the geotechnical report for this project. He shall be responsible to determine strata characteristics at the appropriate levels:
- Allowable Bearing capacity =400 KN/m².
- Foundations are designed for four floors.

9. BACK Fill

All back fill material shall conform to specifications and shall be properly tested. No back filling is permitted around.

GENERAL RULES

1. NOTATION

T.B=TOP BARS
B.B=BOTTOM BARS
S= SPACING.
∅ or T = DIAMETER FOR STEEL BARS.
⊙ or / = INDICATES THAT THE FOLLOWING NUMBER IS THE SPACING BETWEEN BARS.

2. COVER

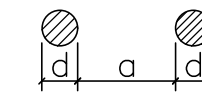
Clear concrete cover to reinforcement shall be :

20mm for ribs 40mm for beams 40mm for columns
40mm for Beams, slabs and joists.
25mm for Post-tension slabs.

Reinforcing bars of girder shall be anchored over the center line of column, And reinforcing bars of sub-beam shall be anchored over the center line of girder.

3. Min. Bar Spacing

Unless otherwise shown below, sub-beam and cantilever beam shall be conformed
Bar spacing "a" shall be not less than the greatest in the following three cases:
1) 25 mm
2) 1.5 d
3) 1.25 times the max. size of coarse aggregate.



Standard Hook Details and Bar Bends

End position

Hook details	Secondary Steel	Main Steel	Application
180°	D	4d	16mm dia. bar and larger
	1e	12d	
135°	D	4d	13mm dia. bar and smaller
	1e	12d	
90°	D	4d	T- and L-shape stirrups
	1e	12d	
135°	D	4d	90° 135°
	1e	8d	
90°	1'e	10d	Spacer bar

Intermediate position

Hook details	Secondary Steel
90°	D
	3d and over
or 45°	D
	4d and over
45°	D
	5d and over
	D
	8d

Sheet No S00

Ground floor ribs plane

Villa design
Bait Jallah- Bethlehem

Supervisor: Dr. Bilal Al Masri

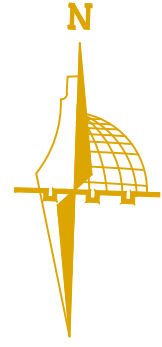
Scale 1:100

Client: Mr. Milad

Done by: Mahmoud Dannoun

Legend

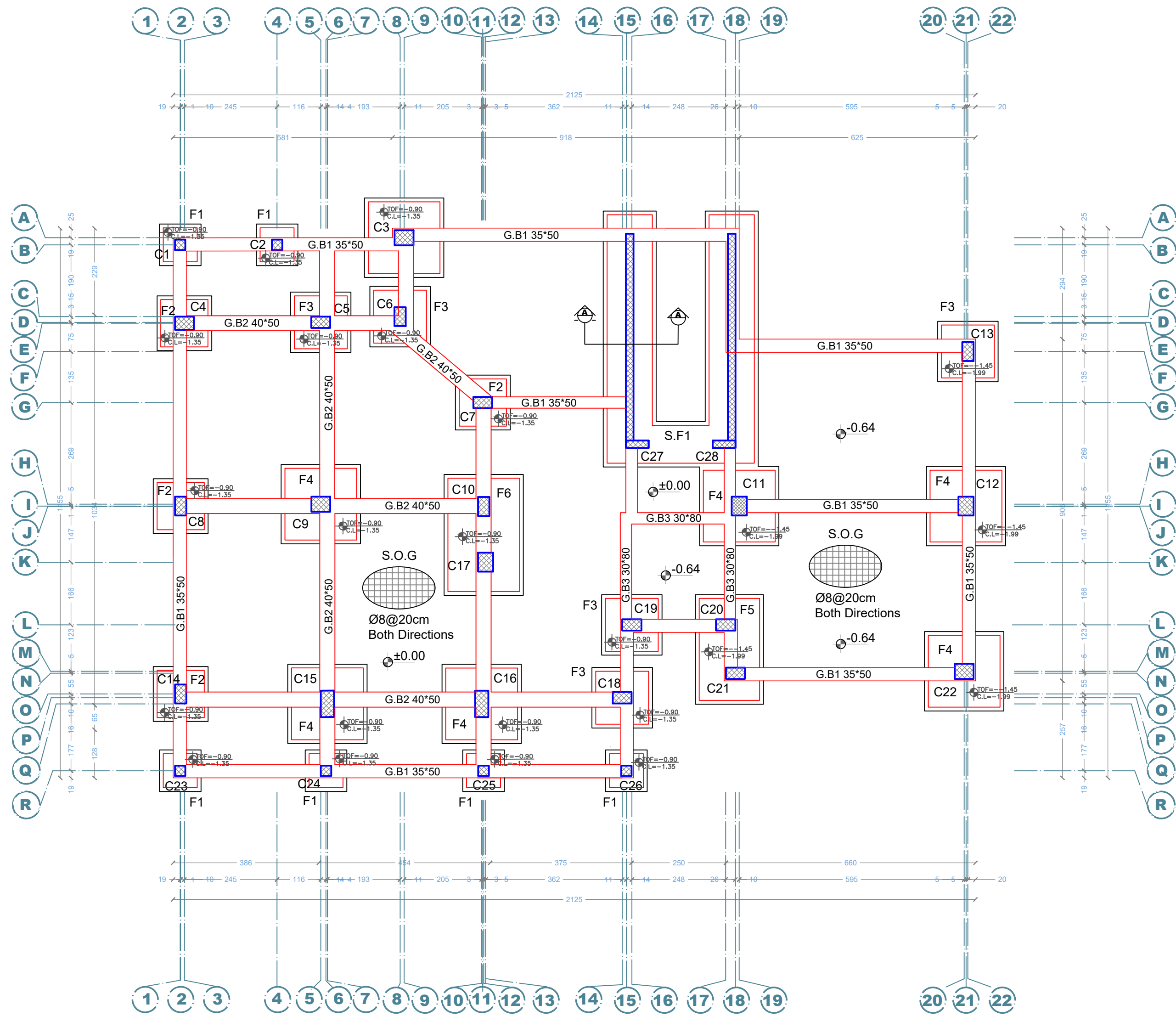
- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK



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Sheet No S01

Supervisor: Dr. Bilal Al Masri

Foundations plane

Villa design
Bait Jallah- Bethlehem

Legend

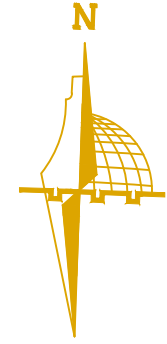
- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

Client: Mr. Milad

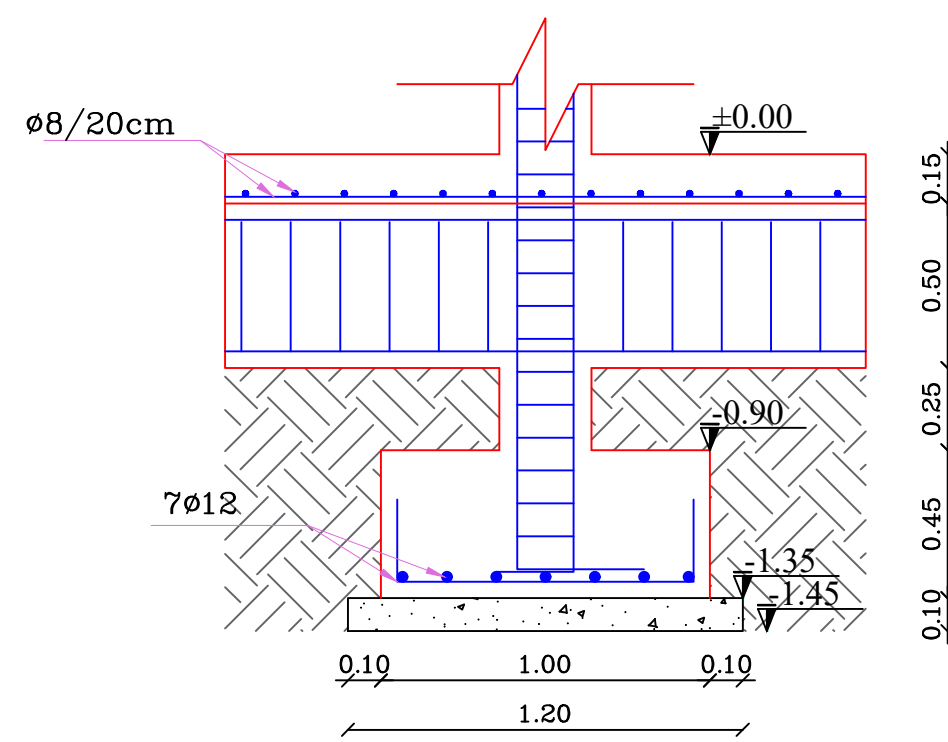
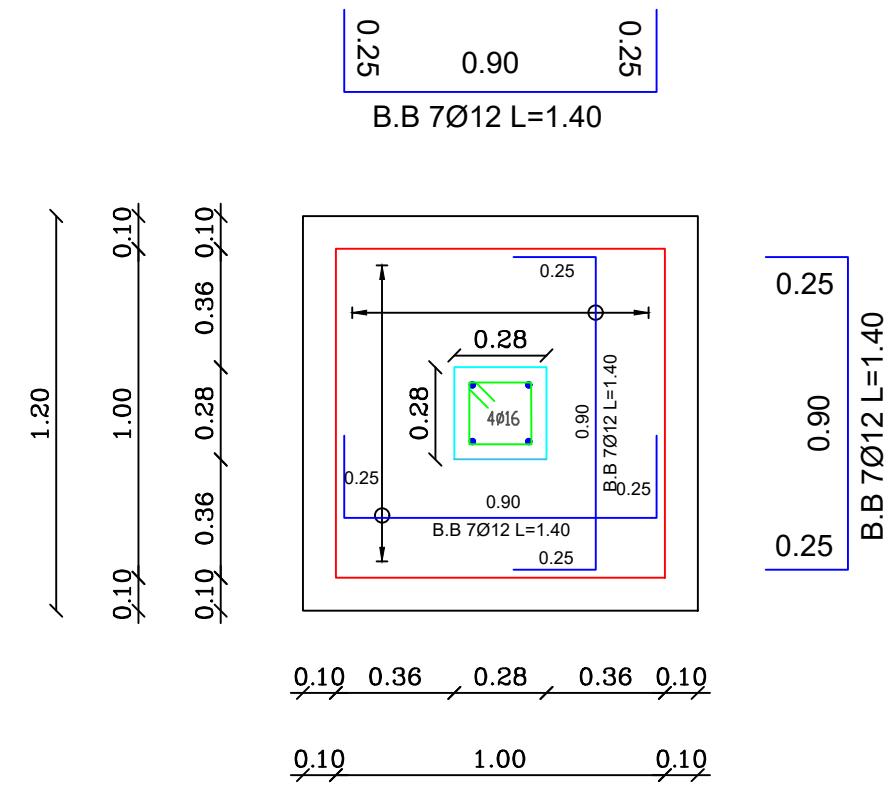
F1(1.0X1.0X0.45)m SCALE 1:25



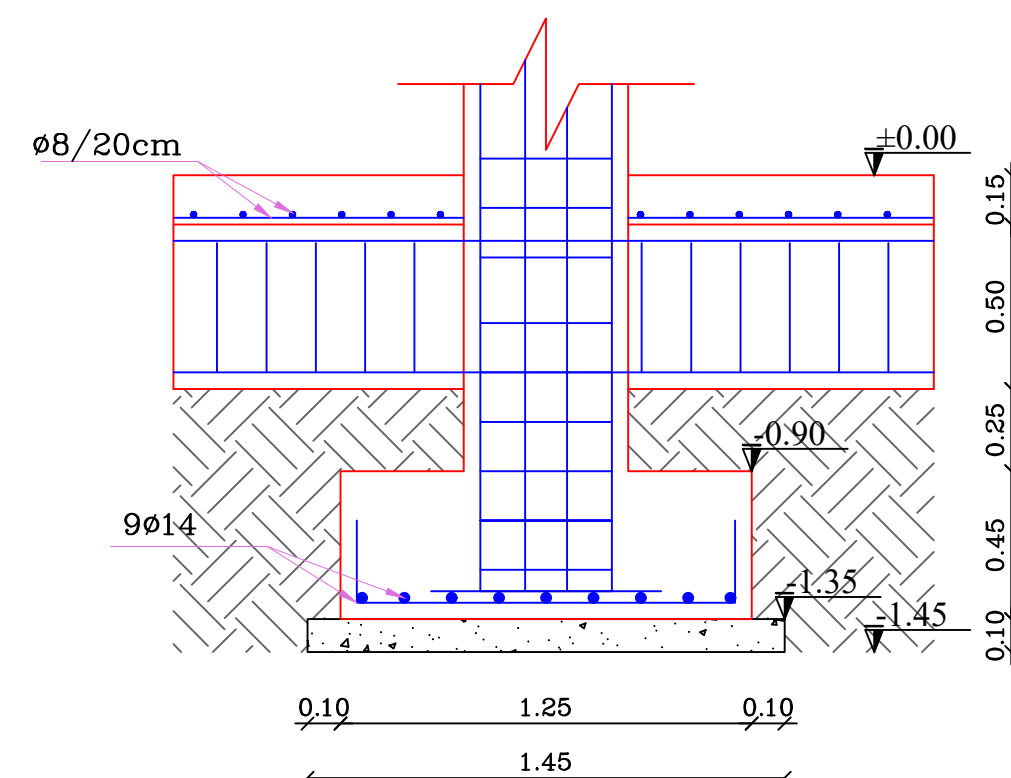
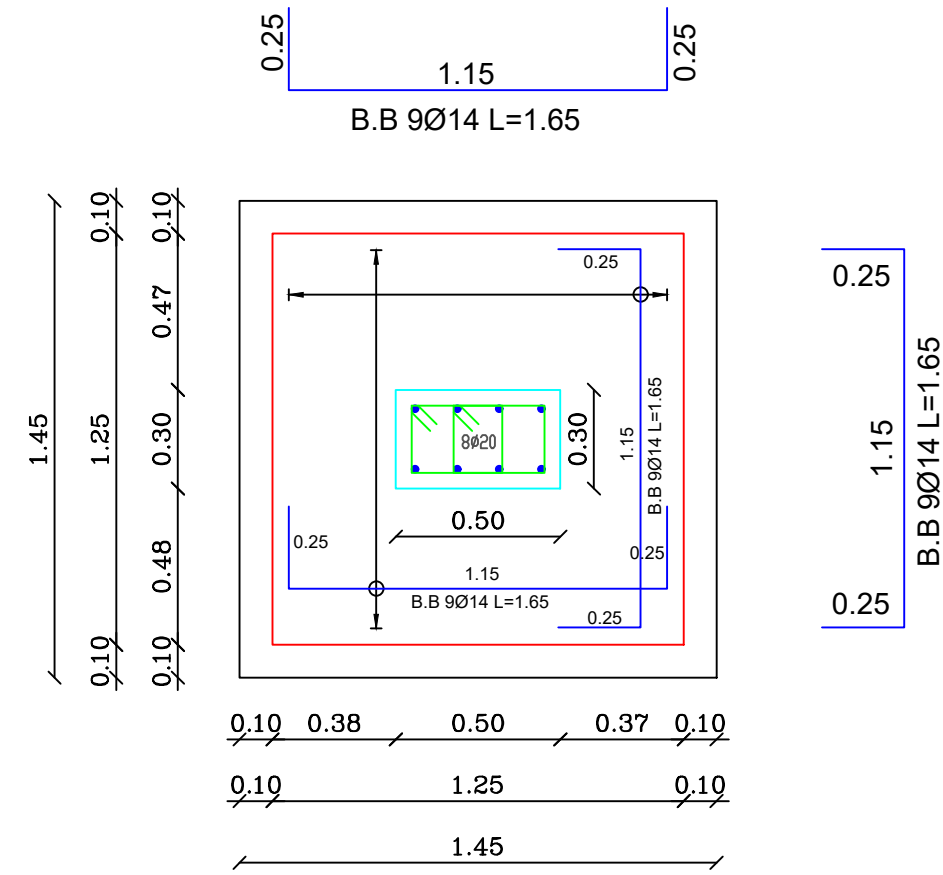
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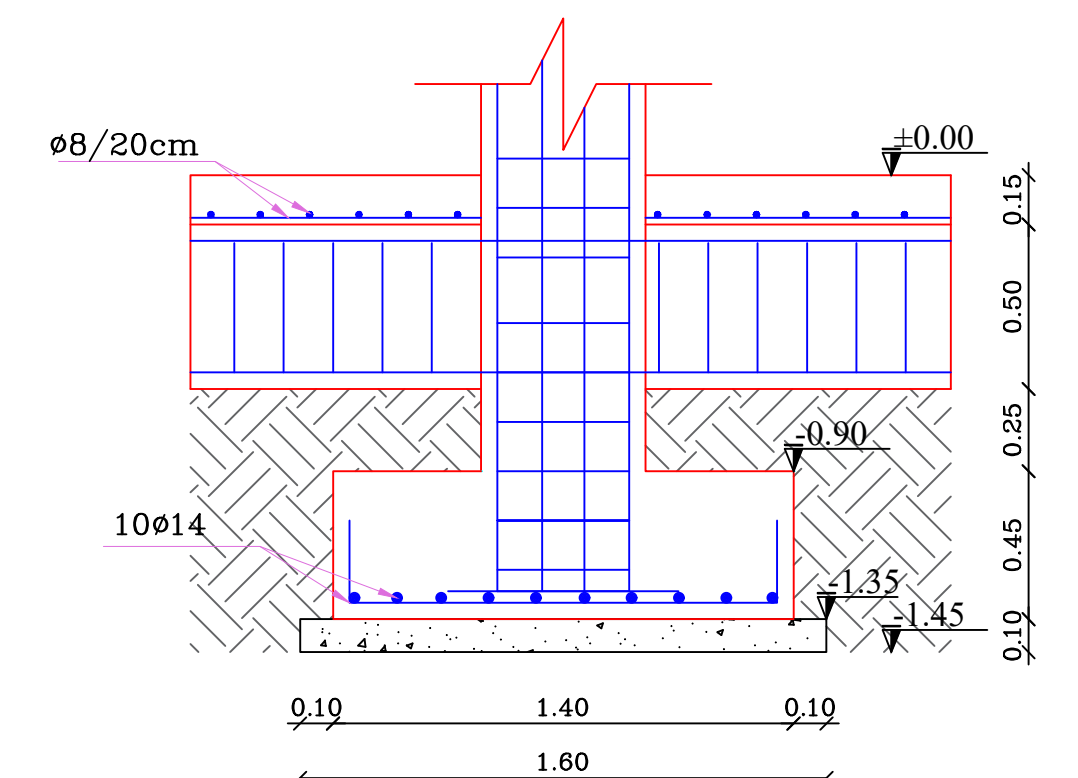
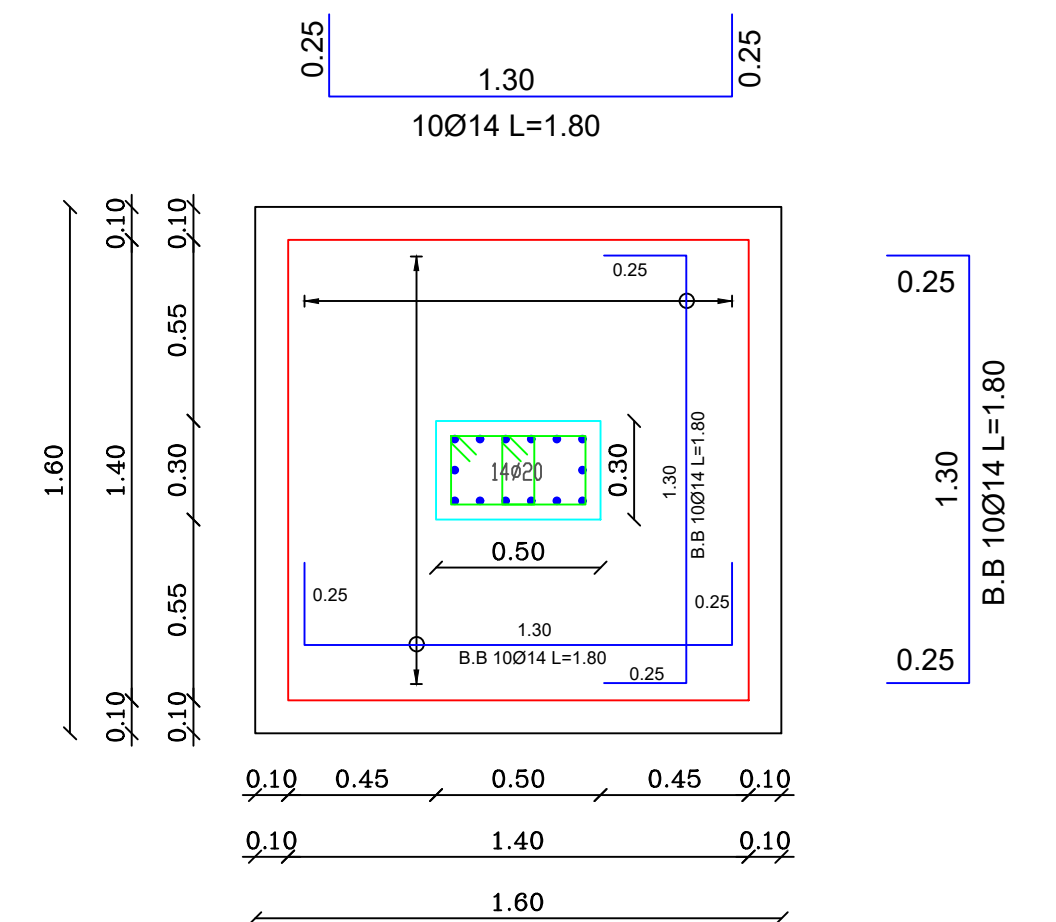
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F2(1.25X1.25X0.45)m SCALE 1:25



F3(1.40X1.40X0.45)m SCALE 1:25



Sheet No S02

Supervisor: Dr. Bilal Al Masri

Done by: Mahmoud Dannoun

Foundations design

Scale 1:100

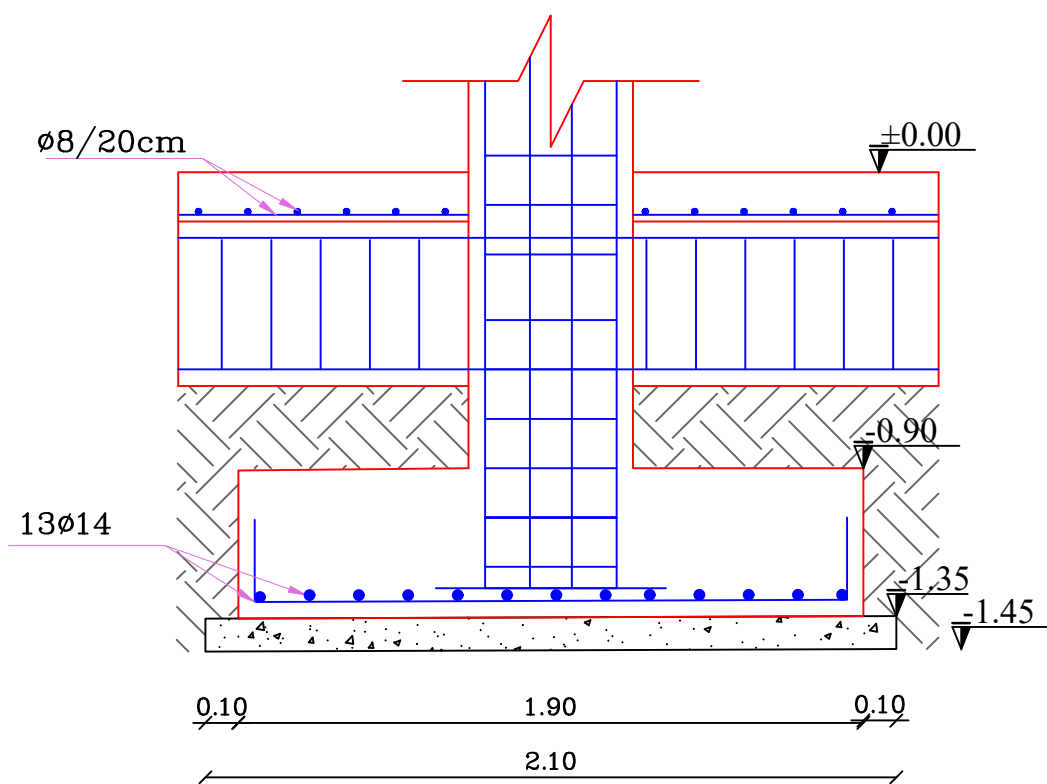
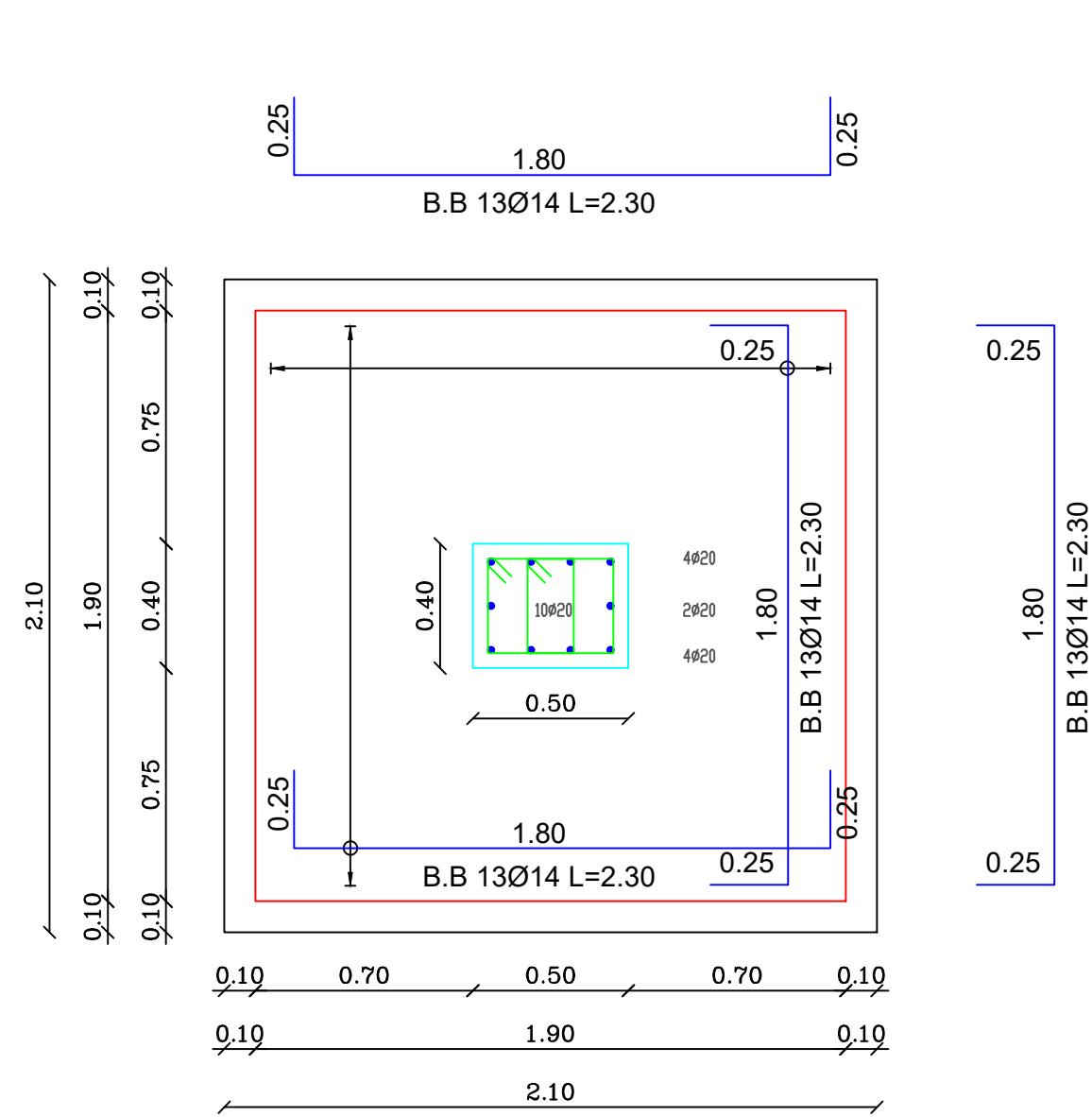
Villa design
Bait Jallah- Bethlehem

Client: Mr. Milad

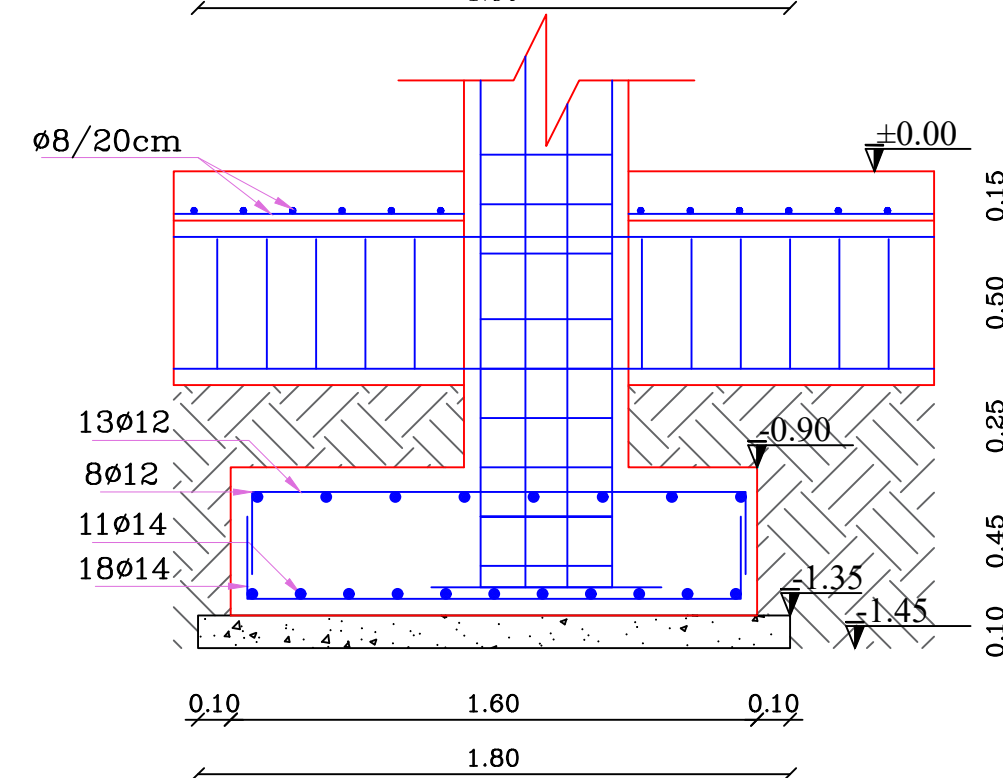
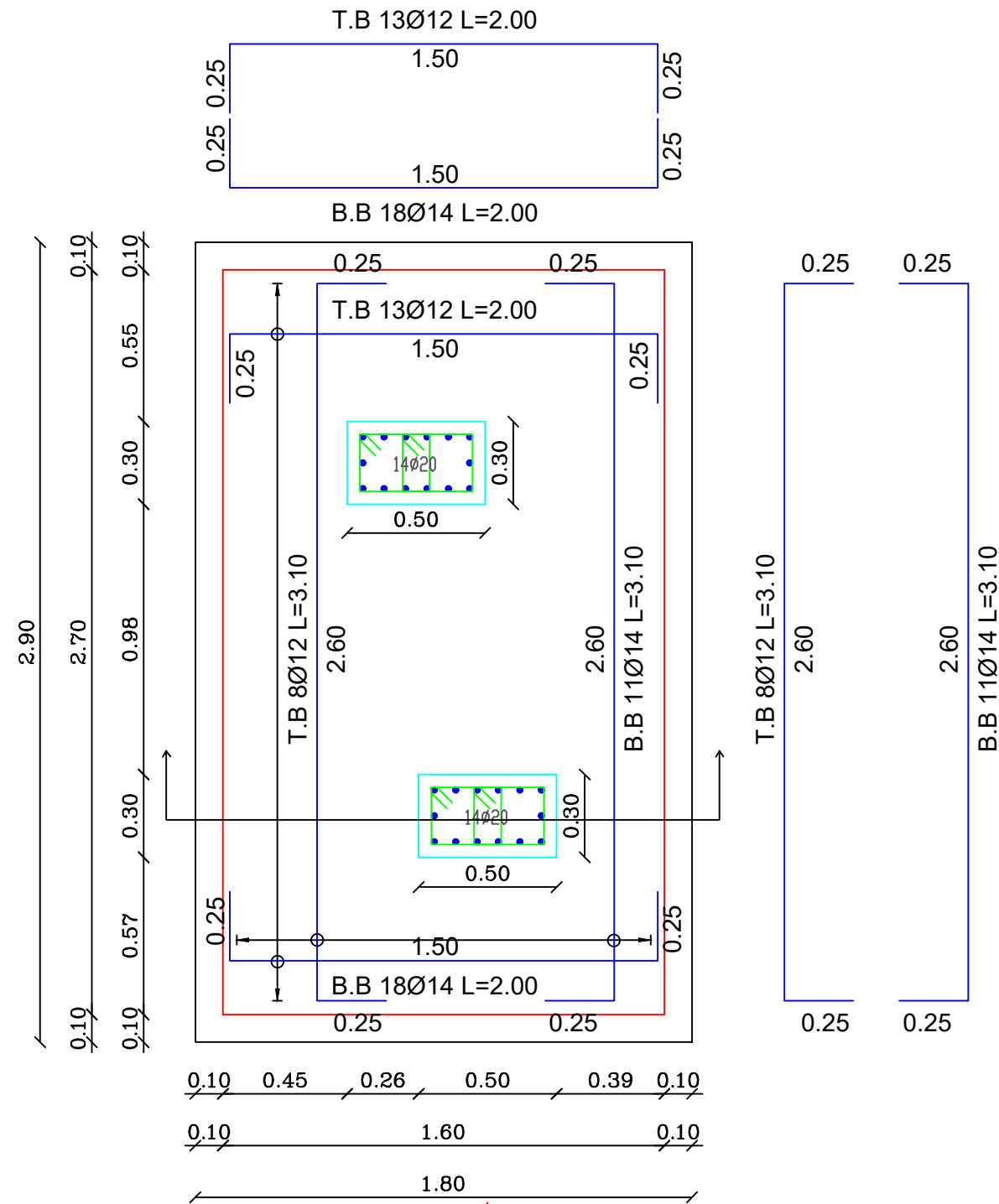
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

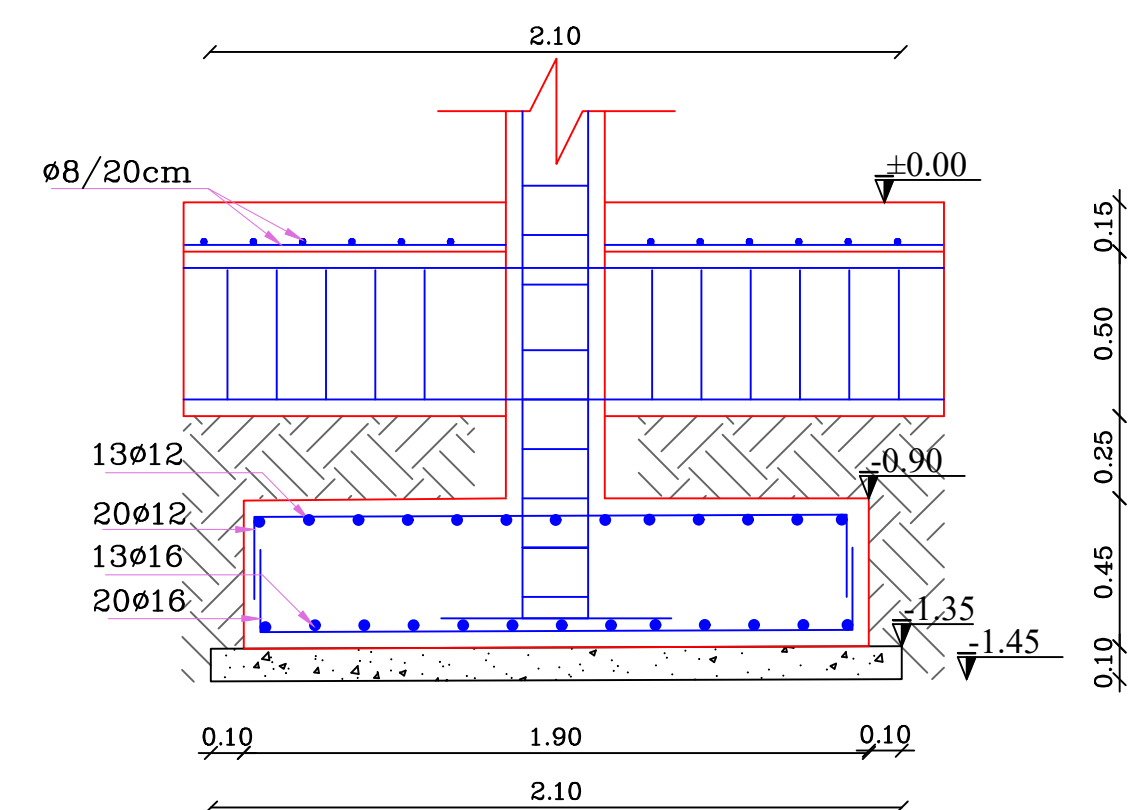
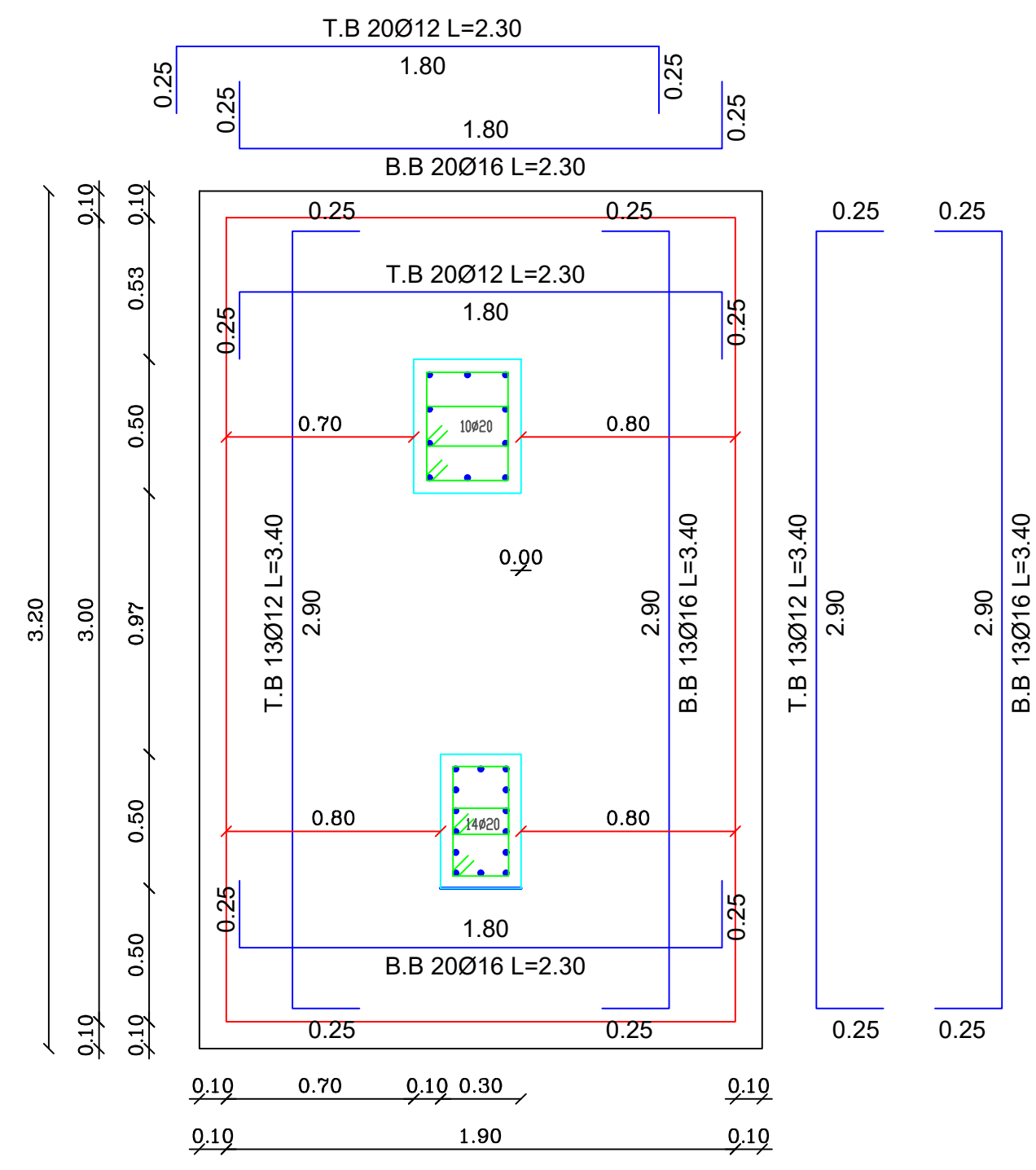
F4(1.90X1.90X0.45)m SCALE 1:25



F5(1.60X2.70X0.45)m SCALE 1:25



F6(1.90X3.00X0.45)m SCALE 1:25



Sheet No S03

Supervisor: Dr. Bilal Al Masri

Done by: Mahmoud Dannoun

Foundations design

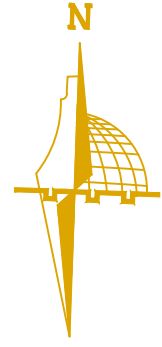
Scale 1:100

Villa design
Bait Jallah- Bethlehem

Client: Mr. Milad

Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

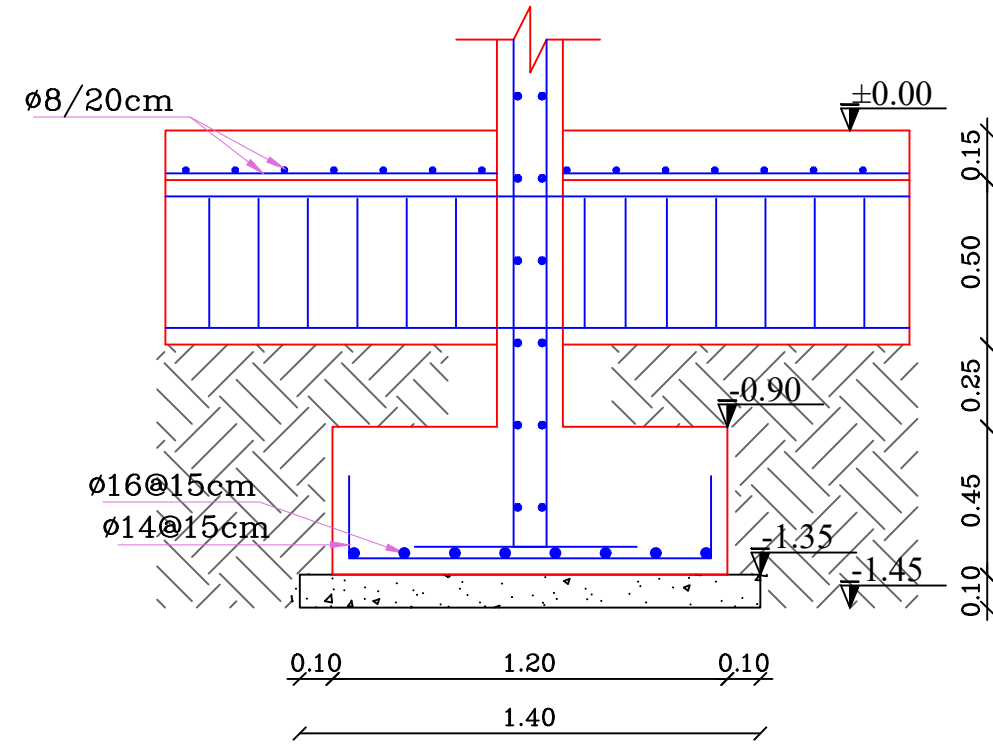


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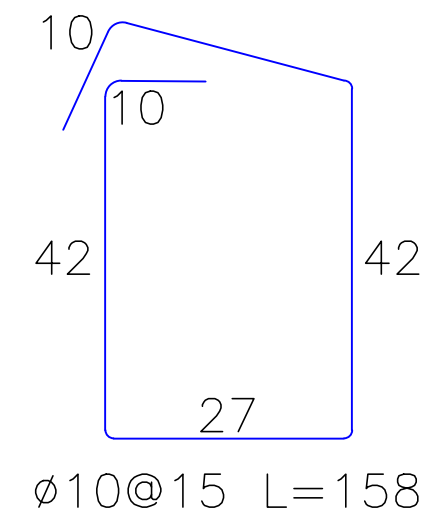
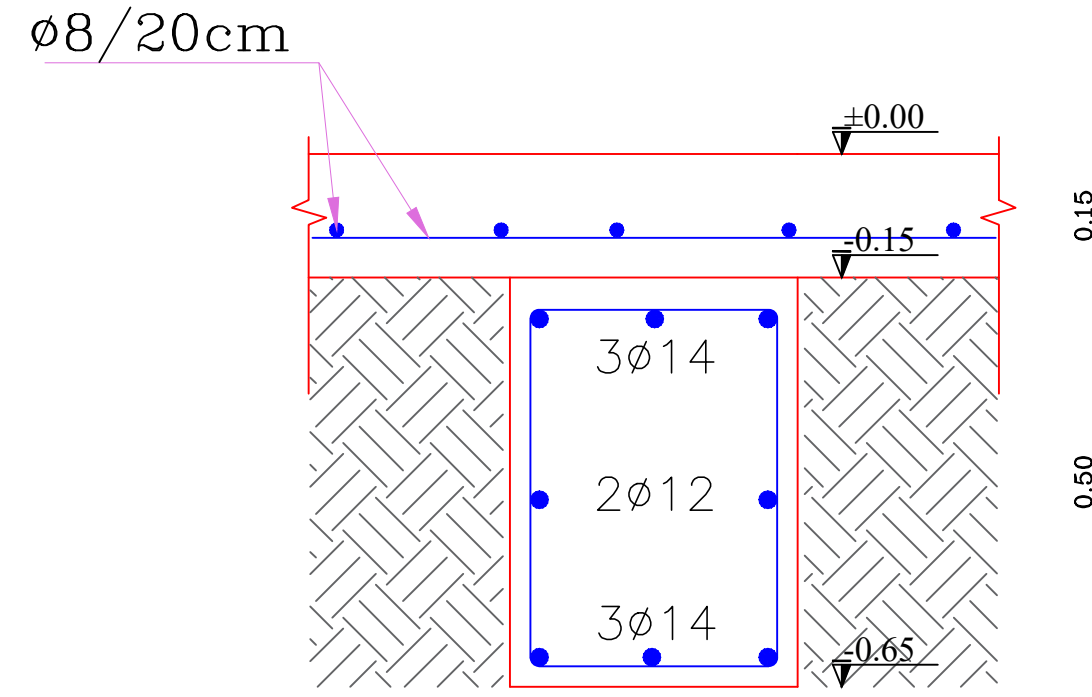
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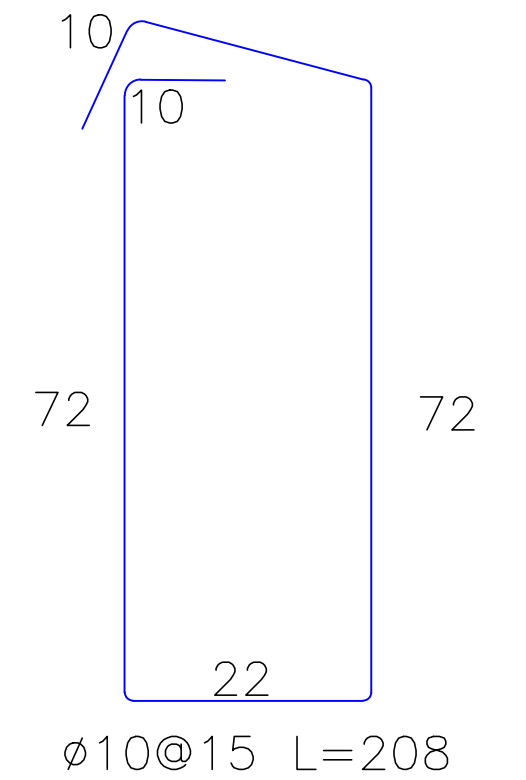
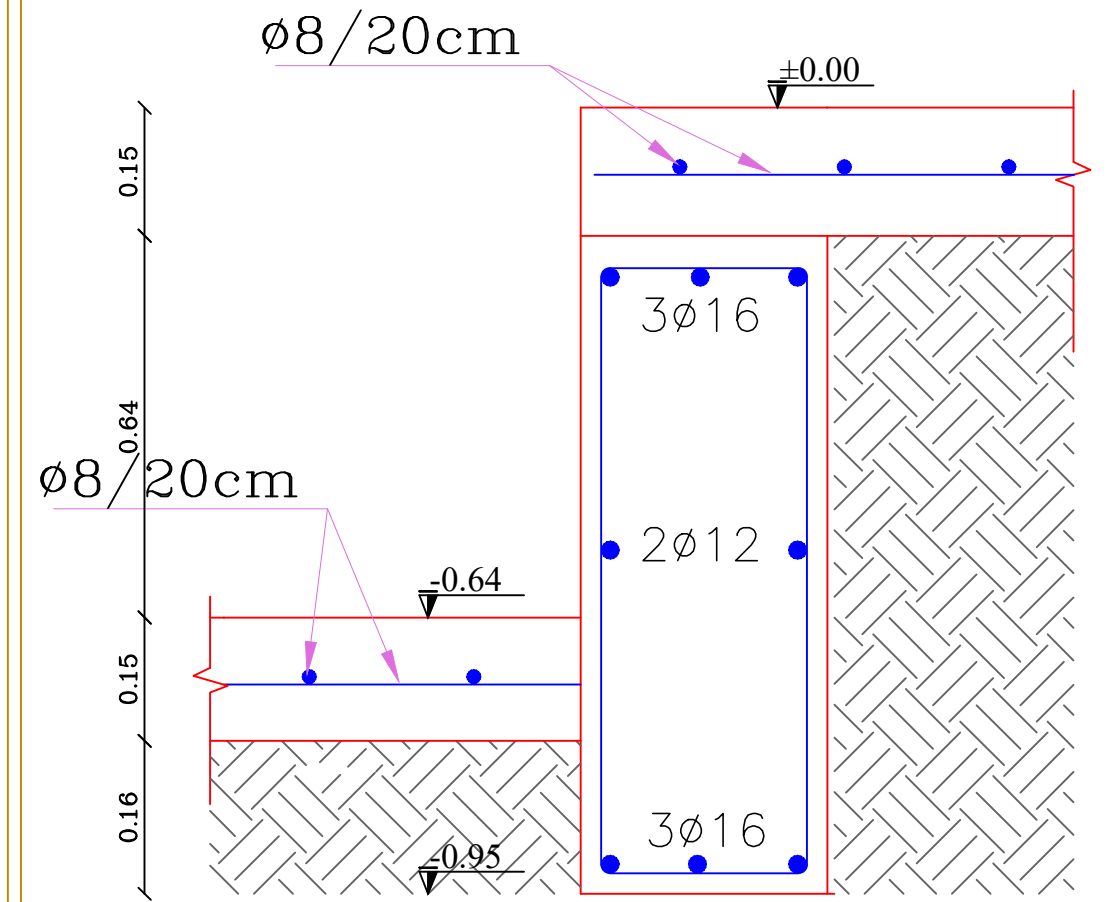
S.F1(1.20x0.45)m SCALE 1:25



G.B1(0.35x0.50)m SCALE 1:10



G.B3(0.30x0.80)m SCALE 1:25



Sheet No S04

Supervisor: Dr. Bilal Al Masri

Done by: Mahmoud Dannoun

Foundations design

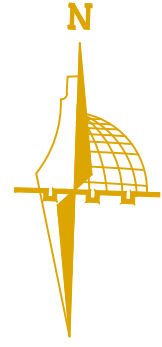
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Villa design
Bait Jallah- Bethlehem

Client: Mr. Milad

Legend

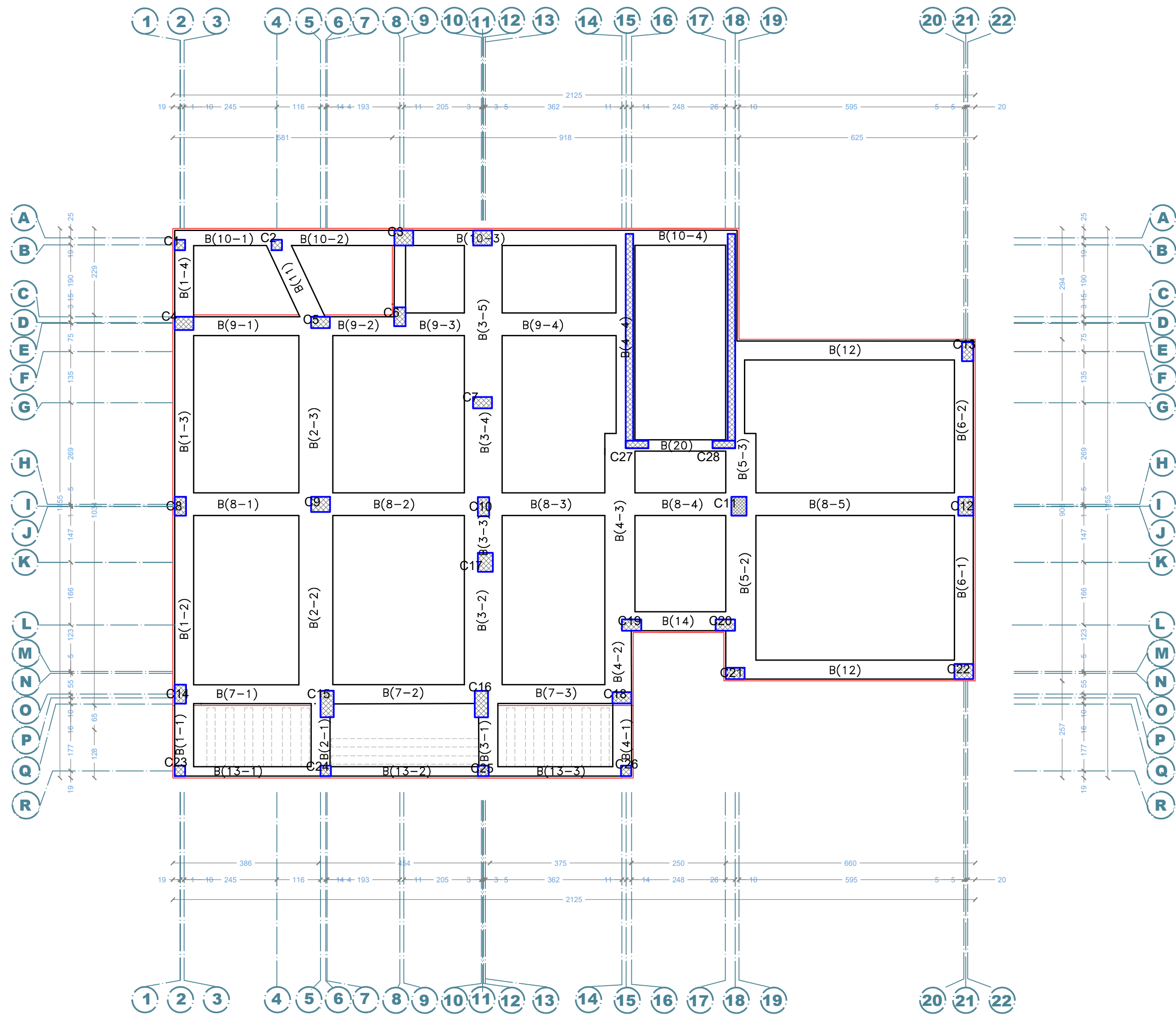
- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK



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Sheet No S05

Supervisor: Dr. Bilal Al Masri

Ground Floor column plane

Villa design
Bait Jallah- Bethlehem

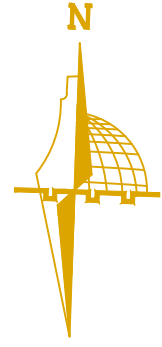
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

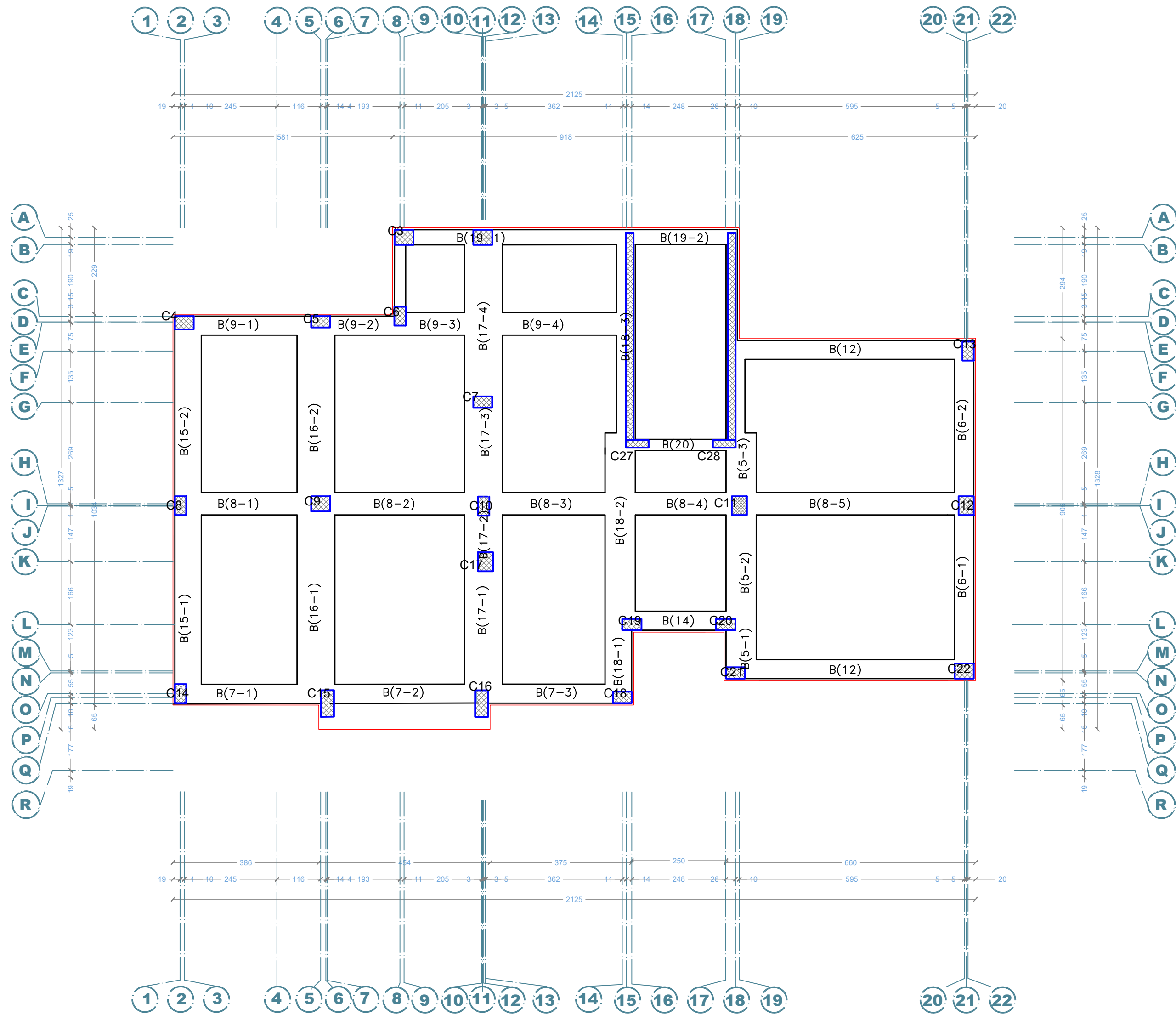
Client: Mr. Milad



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Sheet No S06

Supervisor: Dr. Bilal Al Masri

First Floor column plane

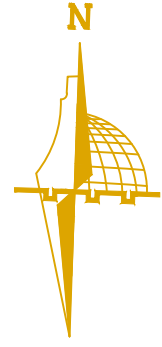
Villa design
Bait Jallah- Bethlehem
Client: Mr. Milad

Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

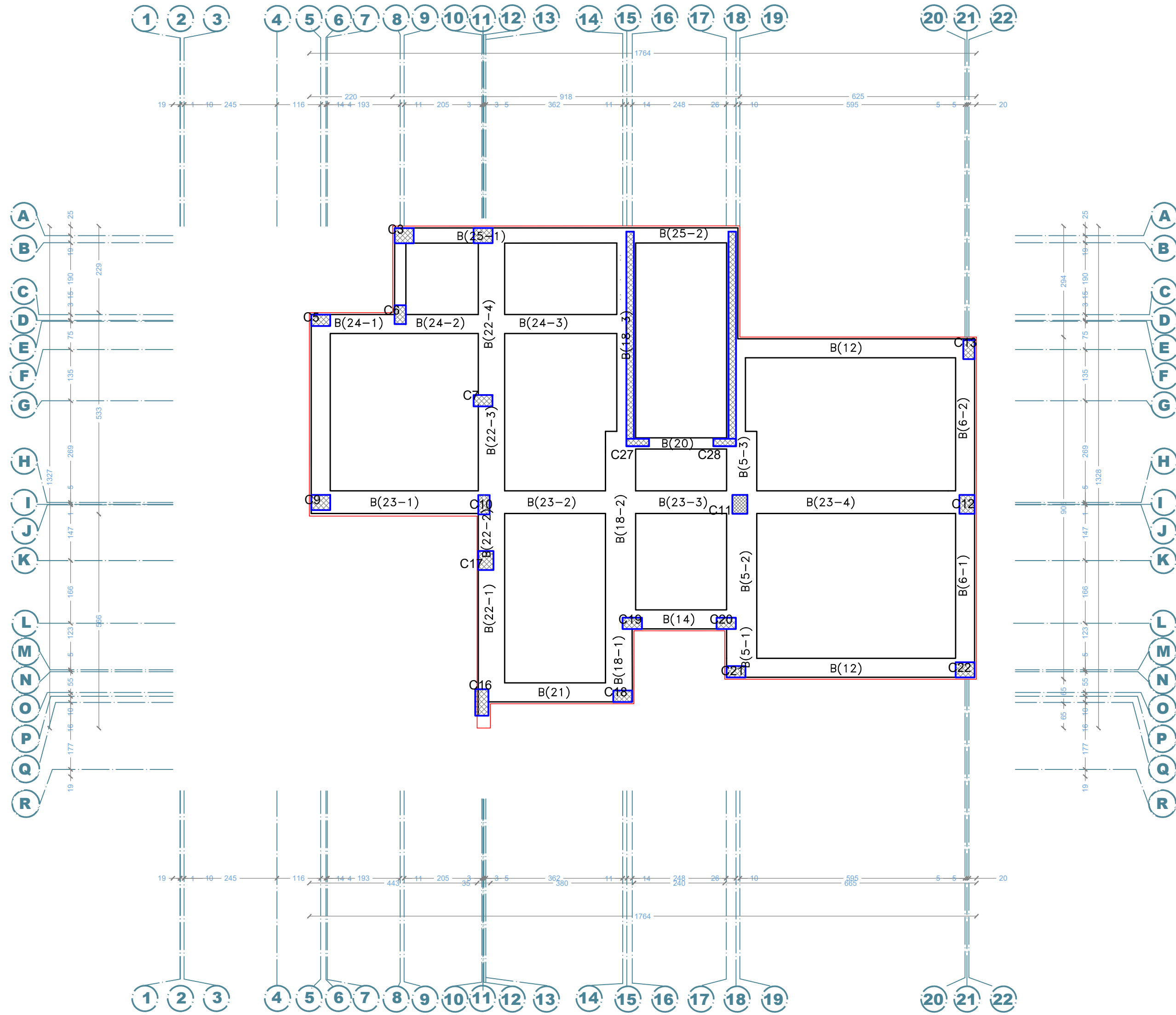
Scale 1:100



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Sheet No S07

Supervisor: Dr. Bilal Al Masri

Roof Floor column plane

Villa design
Bait Jallah- Bethlehem

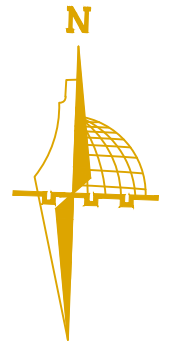
Legend

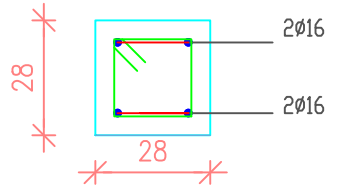
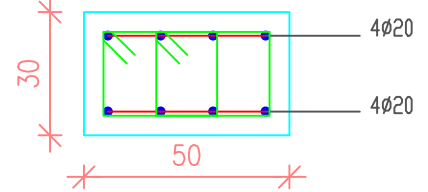
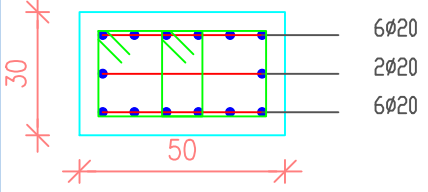
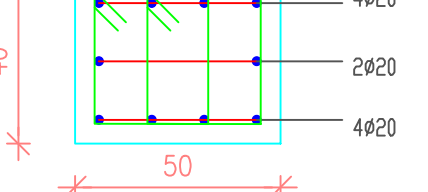
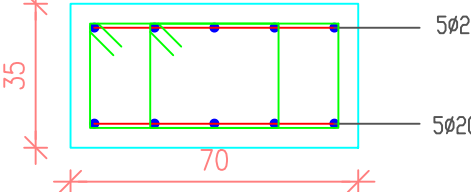
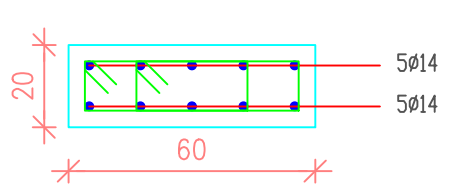
- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

Client: Mr. Milad



Colomns	Group A	Group B	Group C	Group D	Group E	Group F
Section						
Coloumns	C1, C2, C23, C24, C25, C26	C4, C7, C8, C14	C5, C6, C10, C13, C18, C19, C20, C21	C3, C9, C11, C12, C17, C22	C15, C16	C27, C28
Floors	Ground Floor	Ground and First floor	Ground, First and Roof floor	Ground, First and Roof floor	C15: Ground & First floor C16: Ground, First & Roof floor	Ground, First and Roof floor

Sheet No S08

Supervisor: Dr. Bilal Al Masri

Done by: Mahmoud Dannoun





Column design

Scale 1:100

Villa design
Bait Jallah- Bethlehem

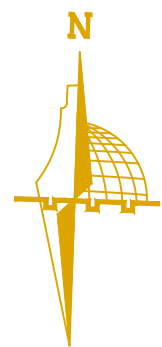
Client: Mr. Milad

Legend

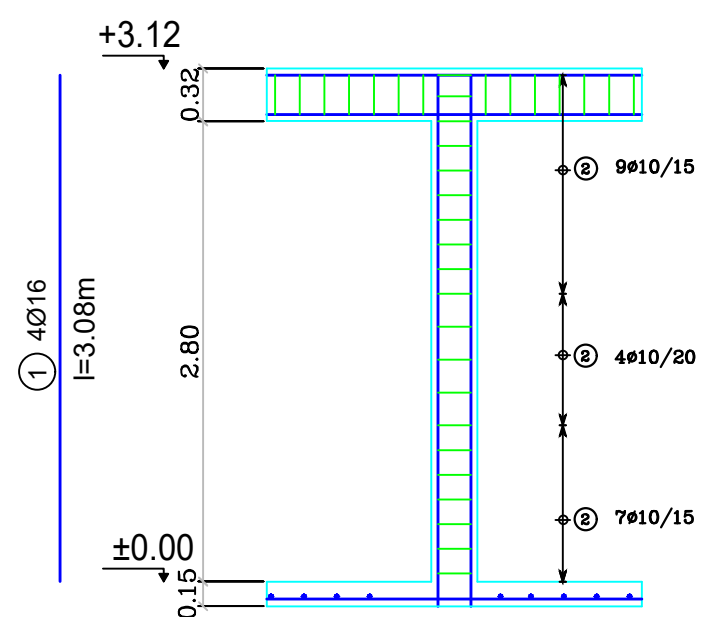
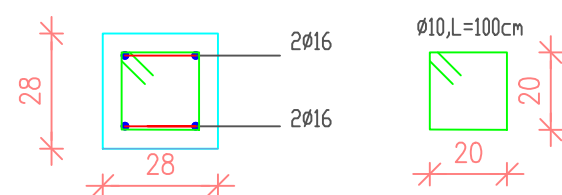
- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK

Group A

C1, C2, C23, C24,
C25, C26



Scale 1:20

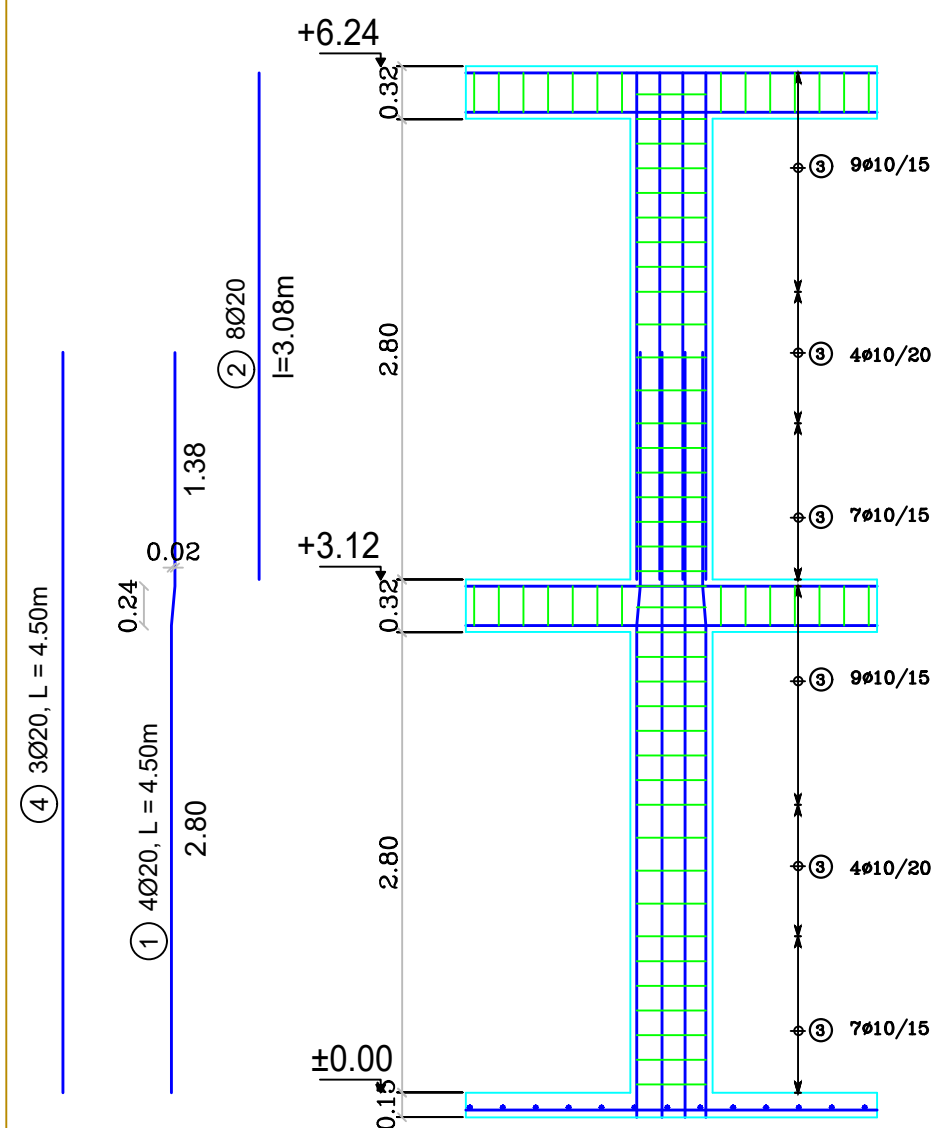
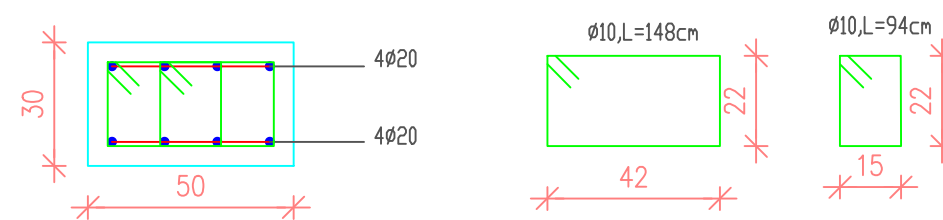


Scale 1:50

Group B

C4, C7, C8, C14

Scale 1:20

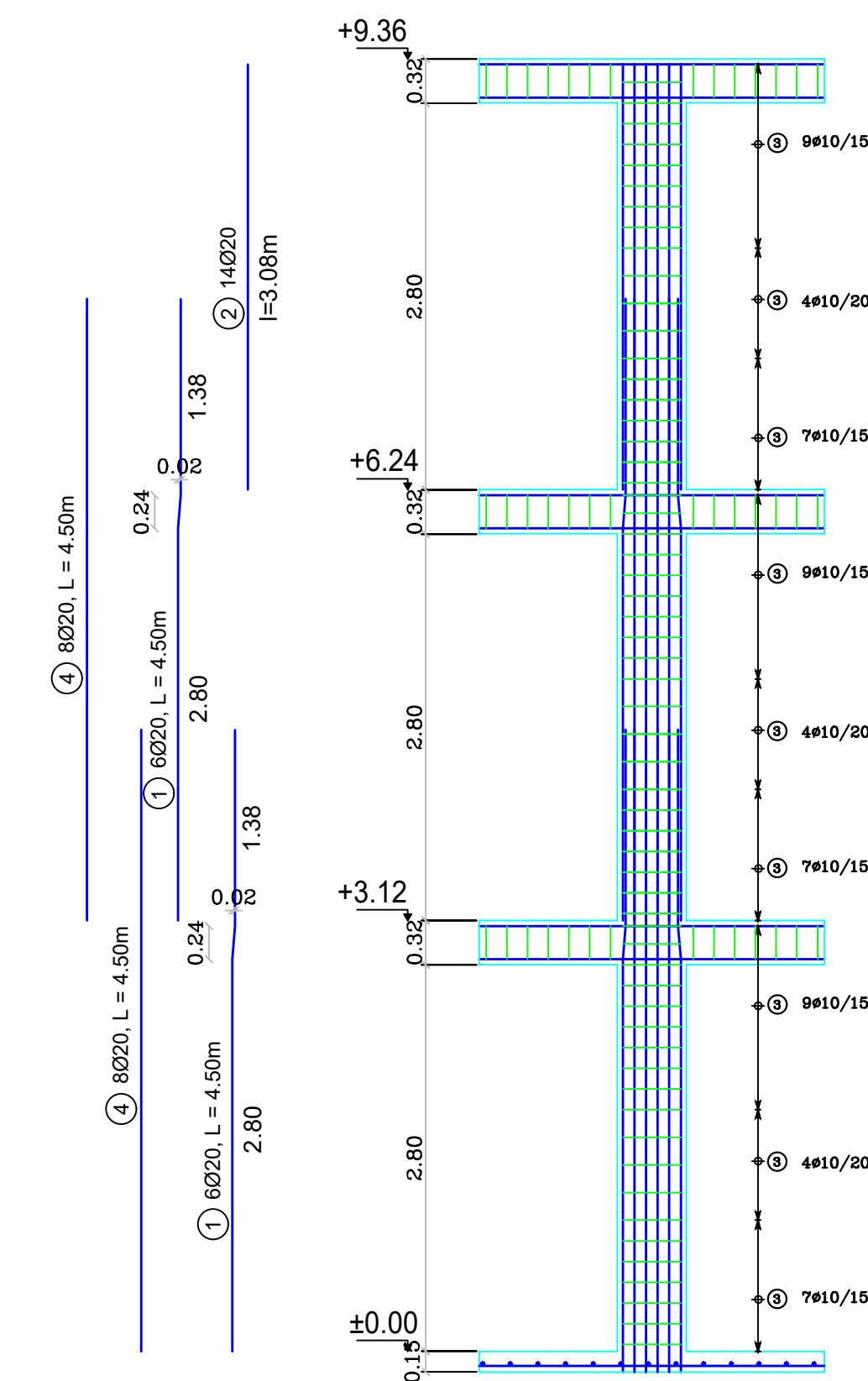
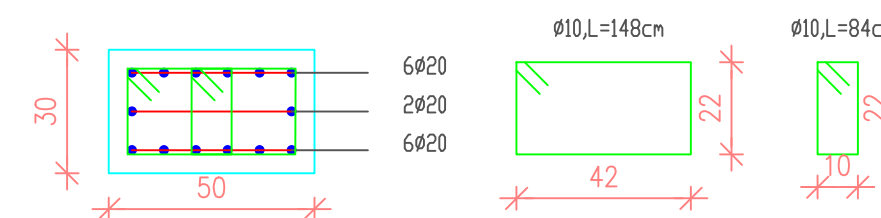


Scale 1:50

Group C

C5, C6, C10, C13,
C18, C19, C20, C21

Scale 1:20



Scale 1:50

Sheet No S09

Supervisor: Dr. Bilal Al Masri

Done by: Mahmoud Dannoun

Column design

Scale 1:100

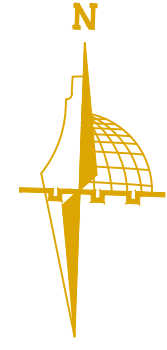
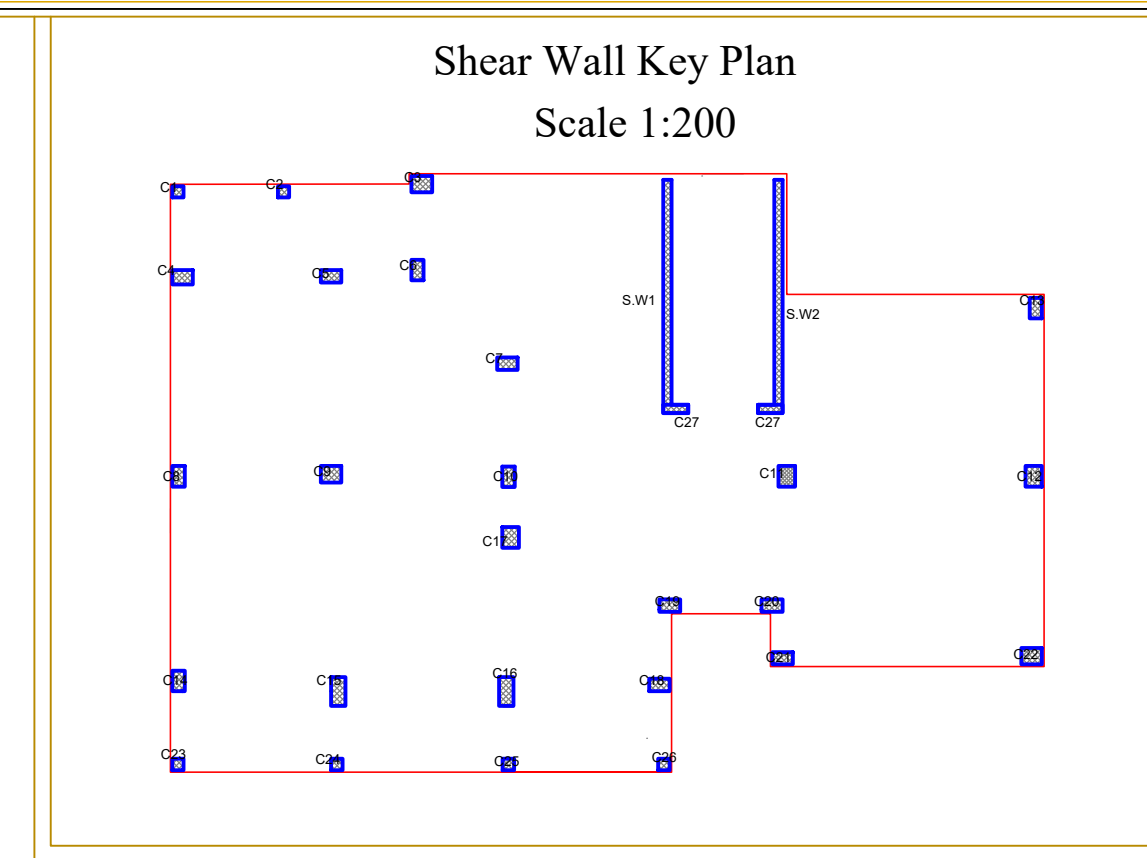
Villa design
Bait Jallah- Bethlehem

Client: Mr. Milad

Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

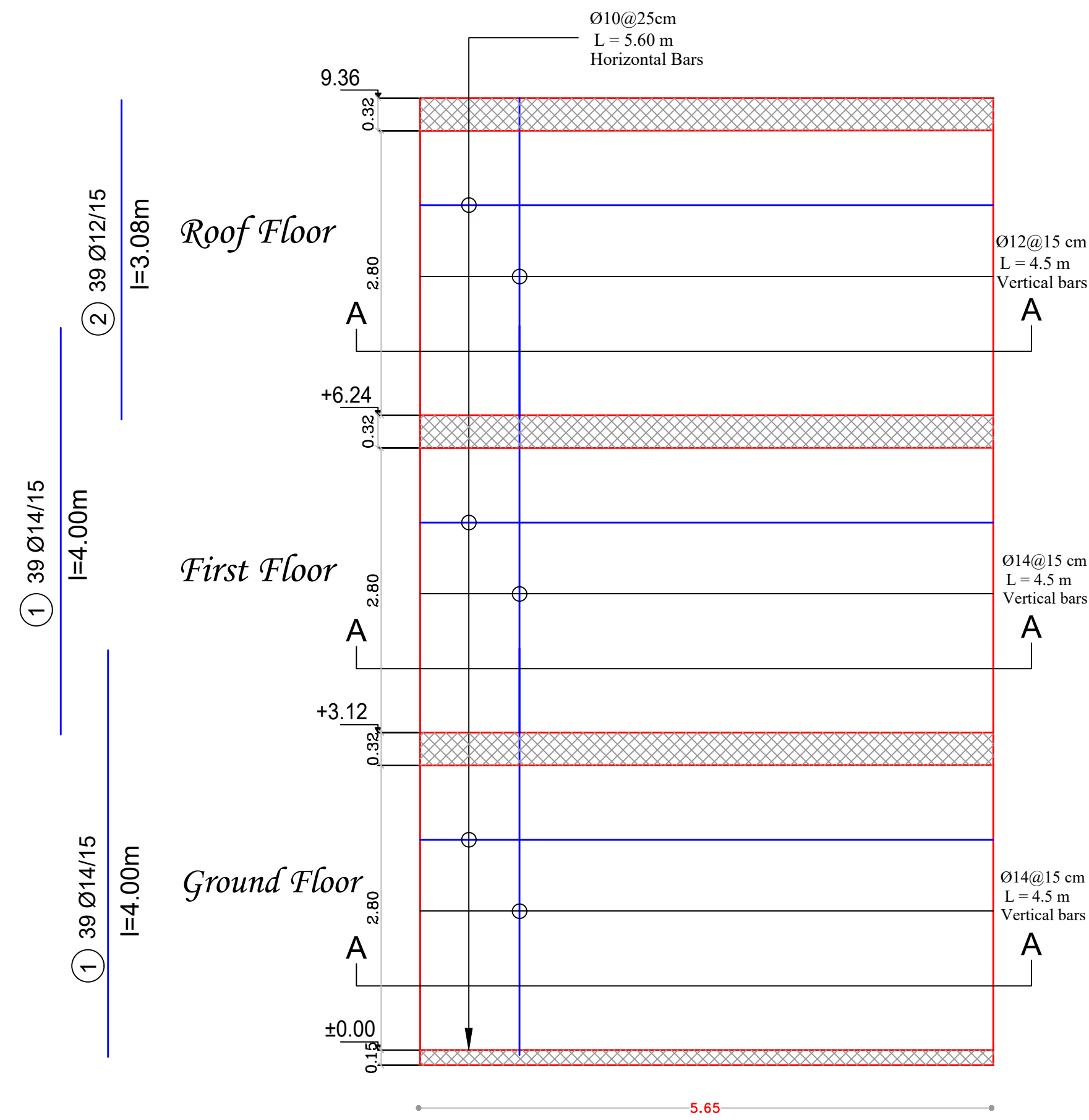
S.W 1 & S.W2



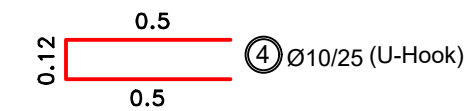
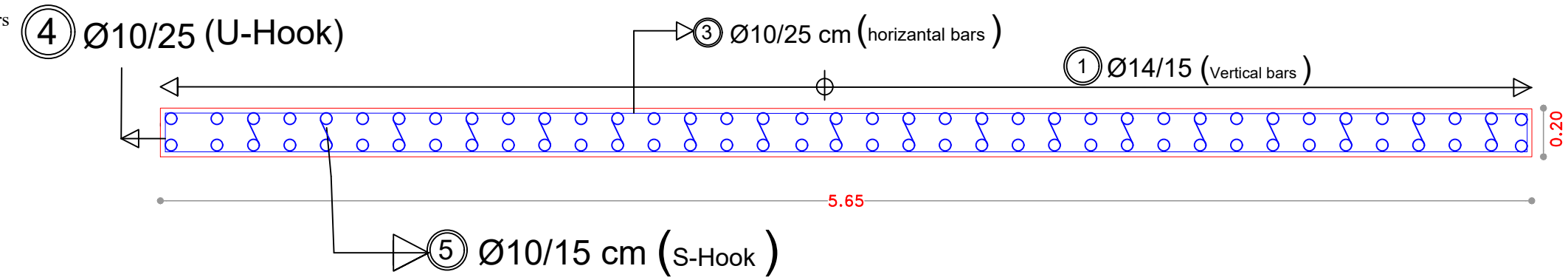
P

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W



section(A-A)



SCALE 1:25

Sheet No S11

Supervisor: Dr. Bilal Al Masri

Shear Walls

Villa design
Bait Jallah- Bethlehem

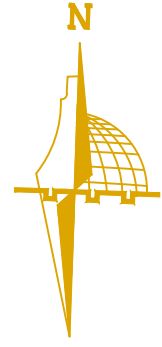
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

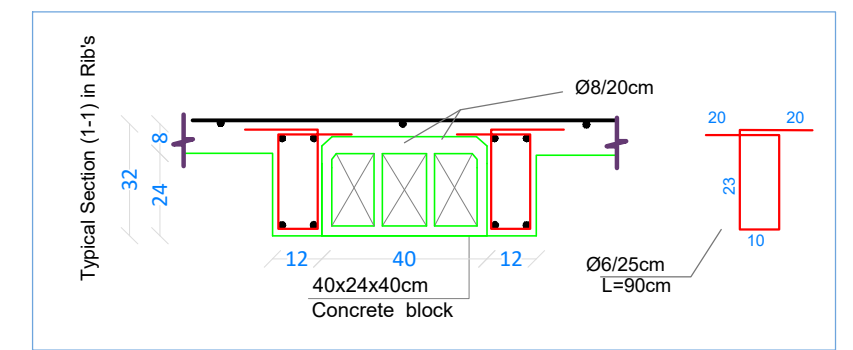
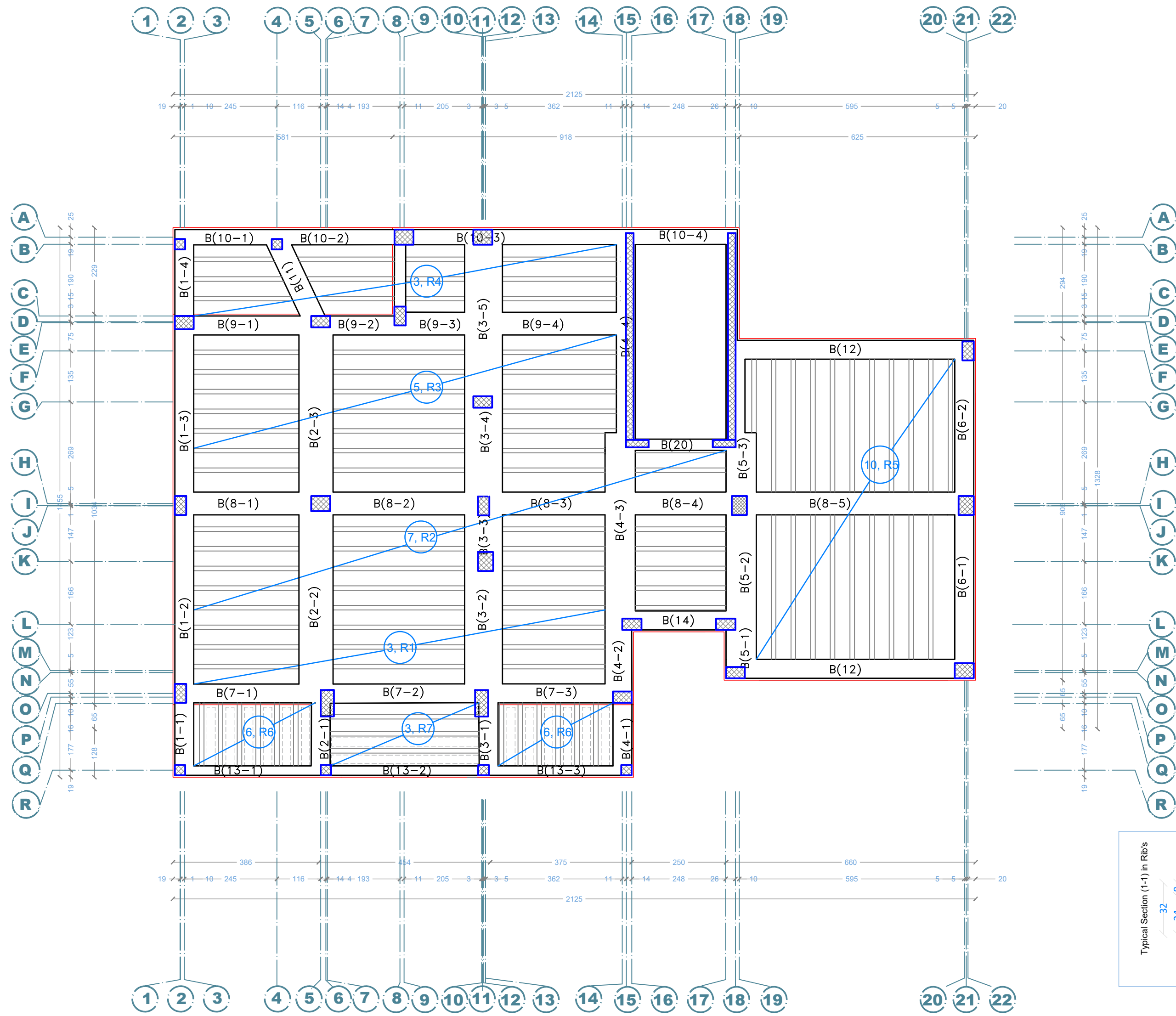
Client: Mr. Milad



P

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U



Sheet No S12

Supervisor: Dr. Bilal Al Masri

Ground floor ribs plane

Villa design
Bait Jallah- Bethlehem

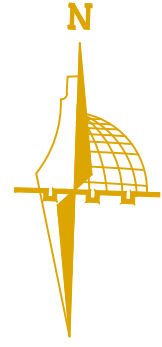
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

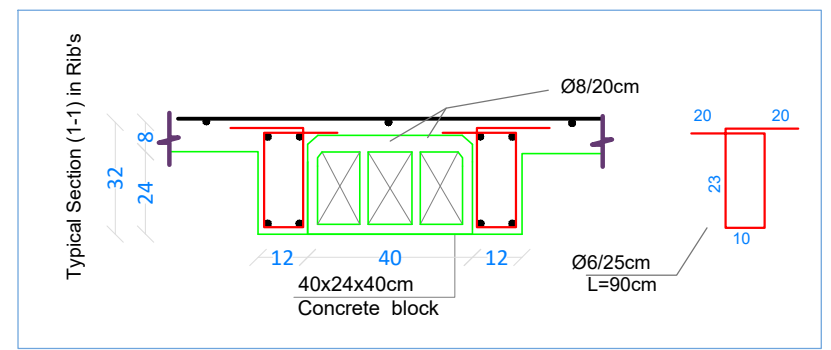
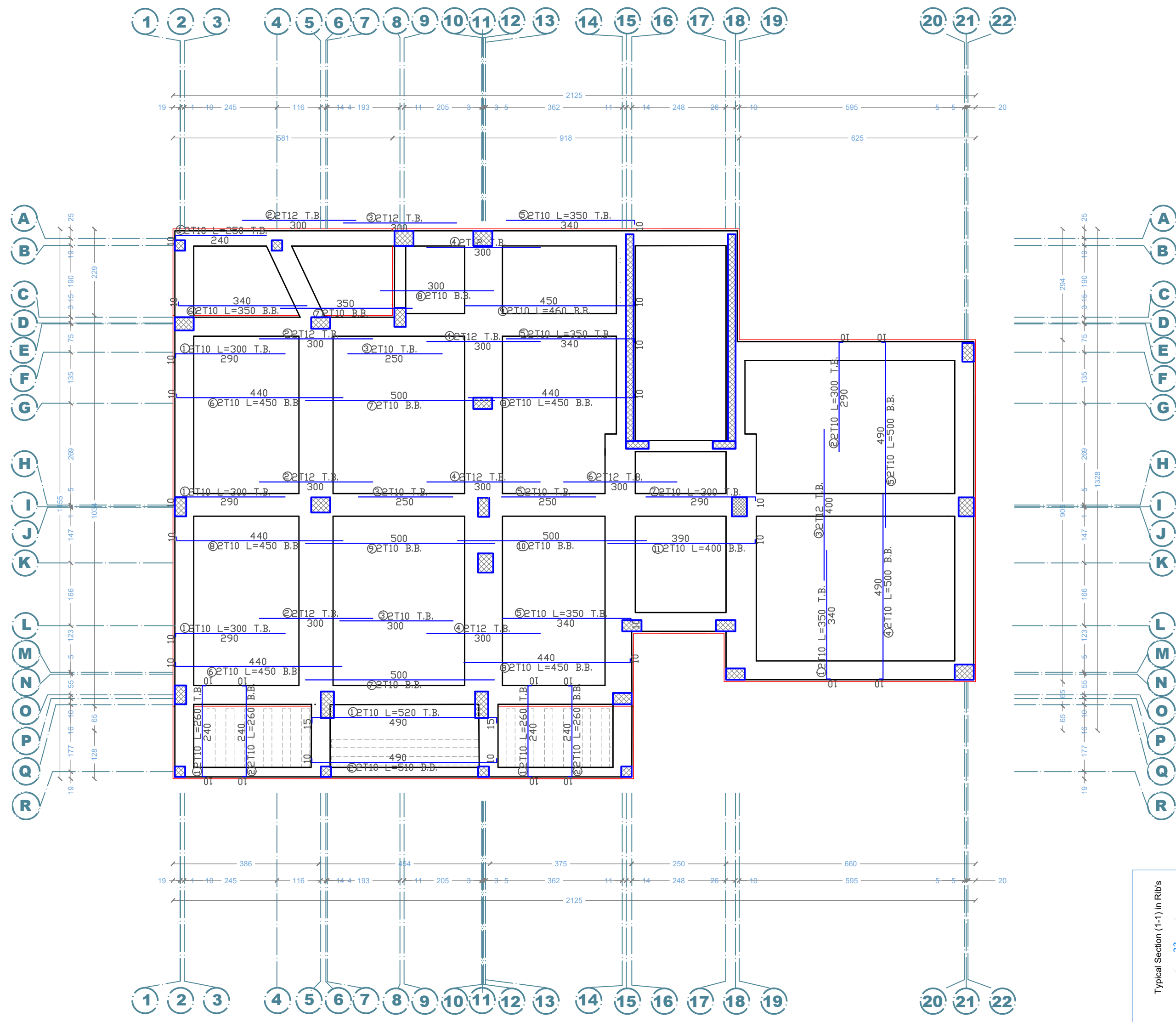
Client: Mr. Milad



P

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U



Sheet No S13

Supervisor: Dr. Bilal Al Masri

Ground floor ribs plane





Villa design
Bait Jallah- Bethlehem

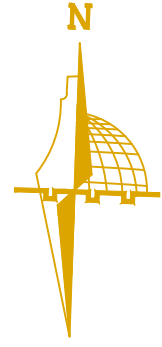
Done by: Mahmoud Dannoun

Scale 1:100

Client: Mr. Milad

Legend

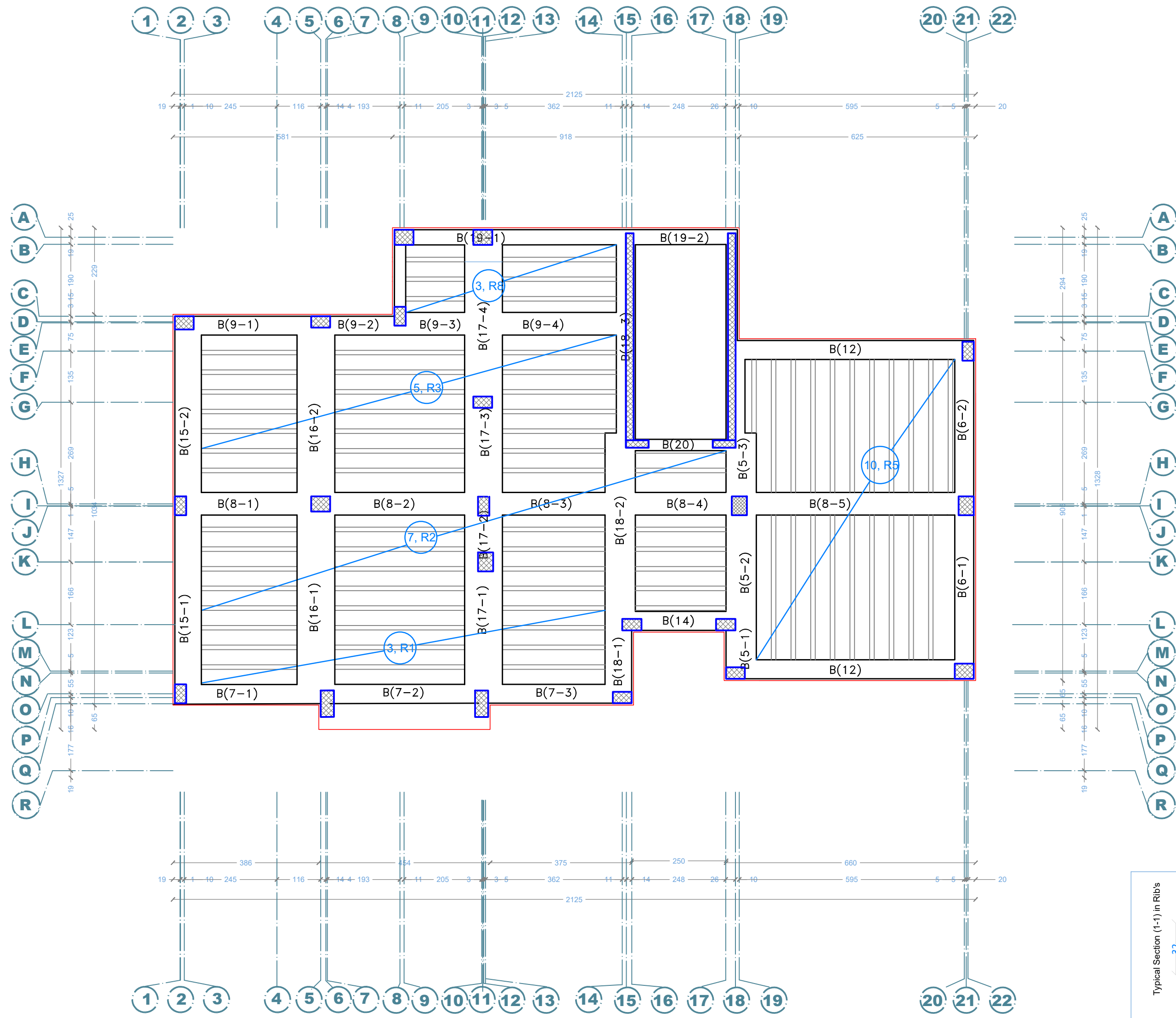
- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK



P

P

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Sheet No S14

Supervisor: Dr. Bilal Al Masri

First floor ribs plane

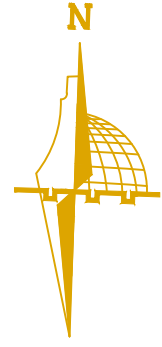
Villa design
Bait Jallah- Bethlehem
Client: Mr. Milad

Done by: Mahmoud Dannoun

Scale 1:100

Legend

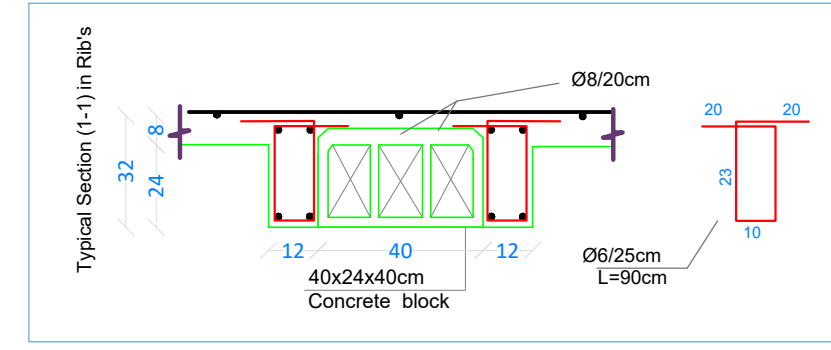
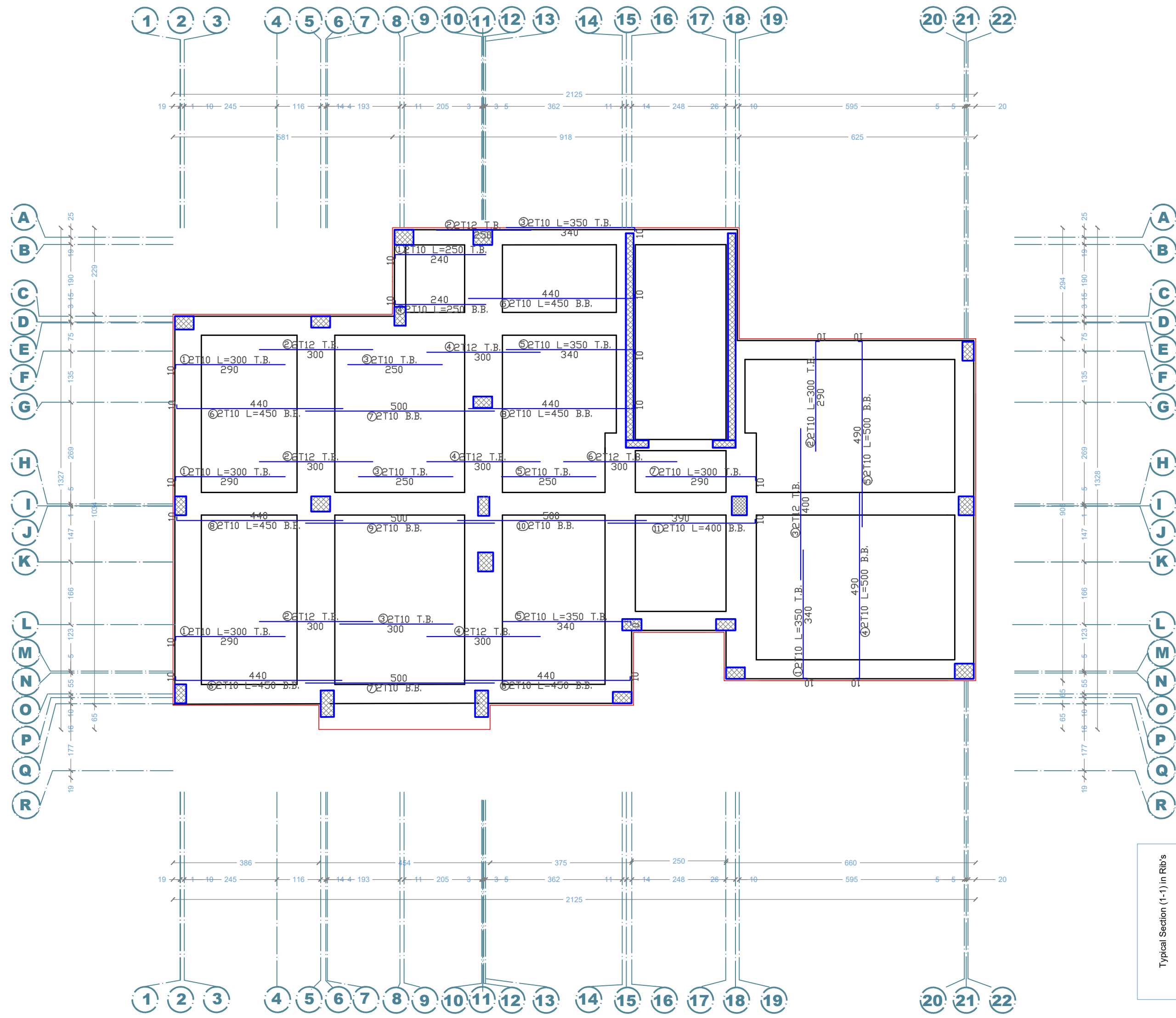
- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK



P

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Sheet No S15

Supervisor: Dr. Bilal Al Masri

First floor ribs plane

Villa design
Bait Jallah- Bethlehem

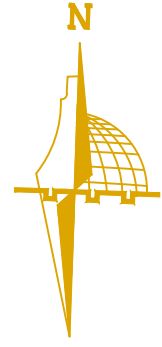
Legend

- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

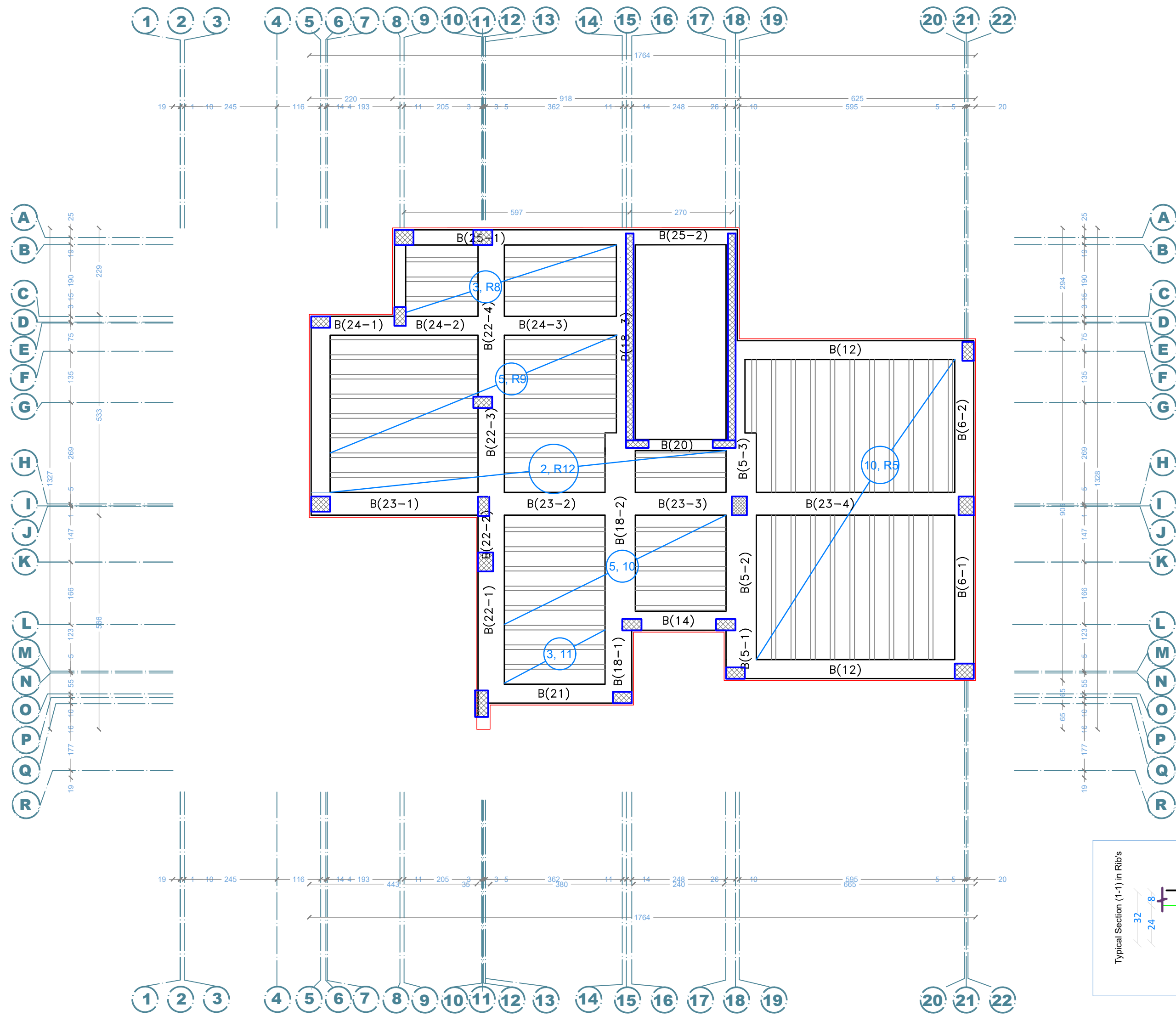
Client: Mr. Milad



P

P

U







Sheet No S16

Supervisor: Dr. Bilal Al Masri

Roof floor ribs plane

Villa design
Bait Jallah- Bethlehem

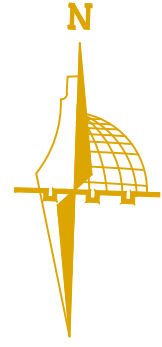
Legend

- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

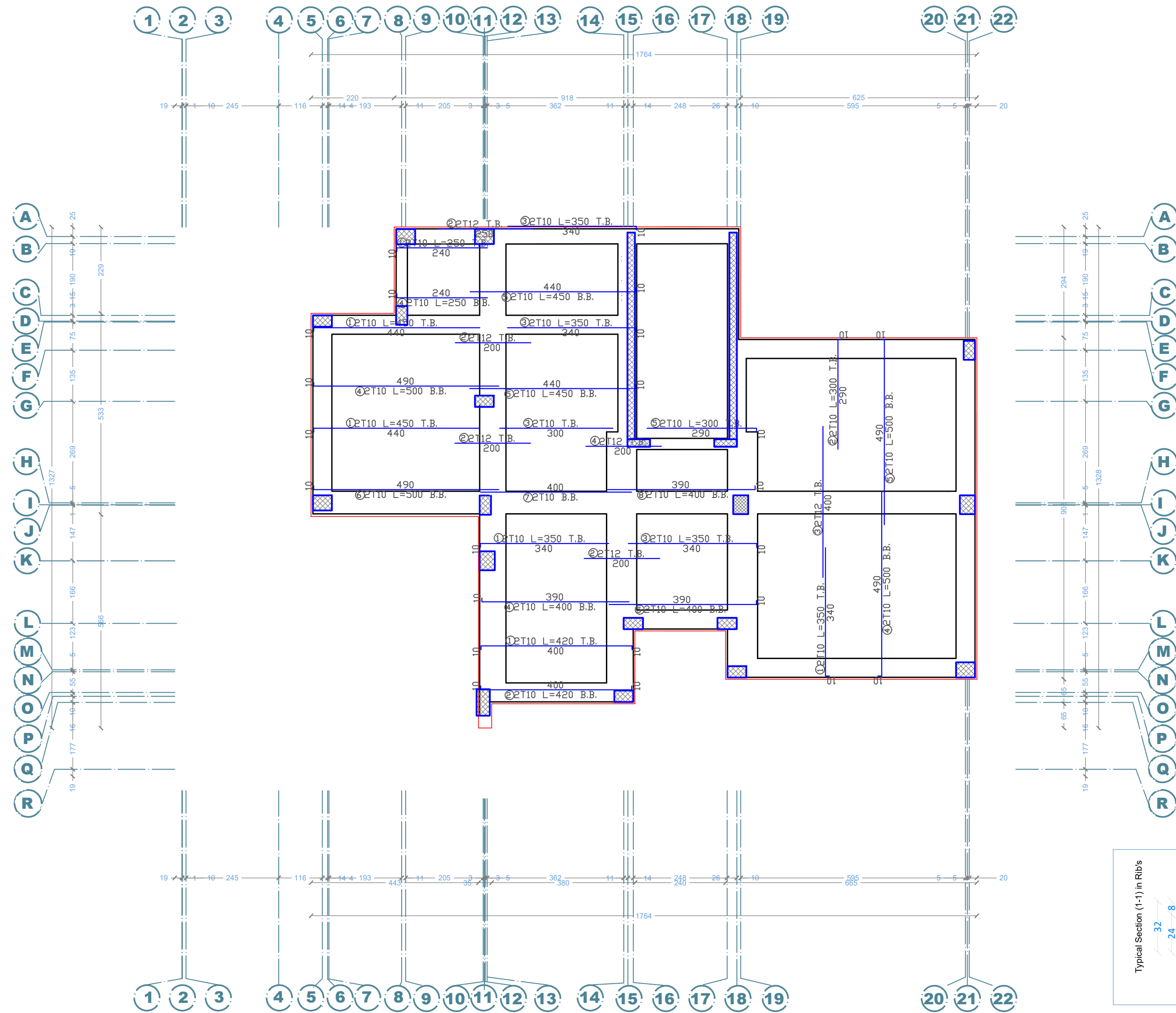
Client: Mr. Milad



P

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Sheet No S17

Supervisor: Dr. Bilal Al Masri

Roof floor ribs plane

Villa design
Bait Jallah- Bethlehem

Legend

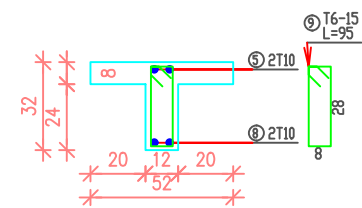
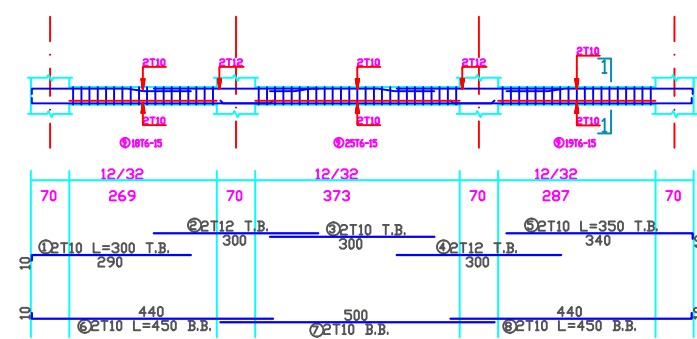
- 5 cm  STONE
-  R.CONCRETE
- 15 cm  CONCRETE
- 7 cm  HOLLOW BLOCK

Done by: Mahmoud Dannoun

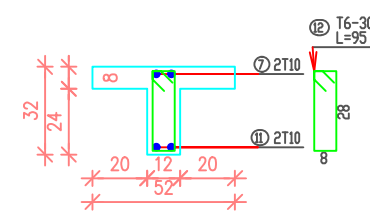
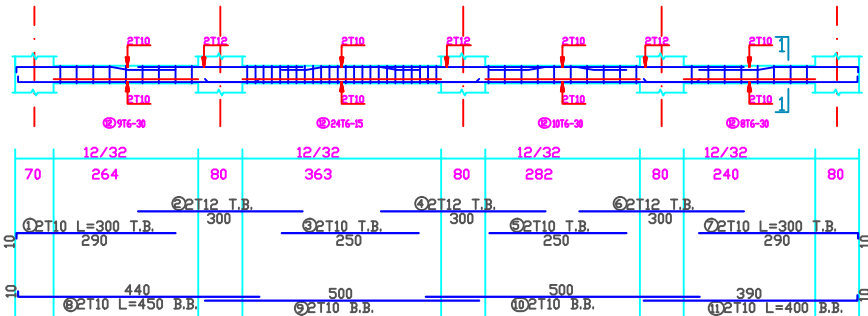
Scale 1:100

Client: Mr. Milad

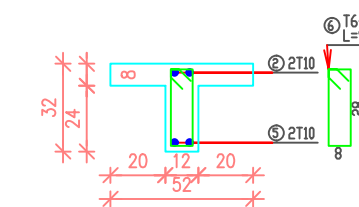
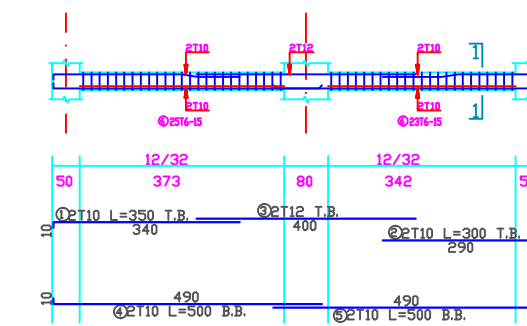
Rib 1:



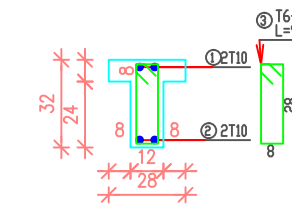
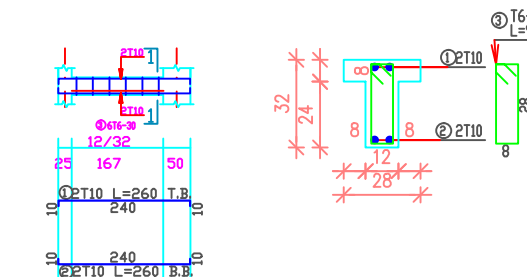
Rib 2:



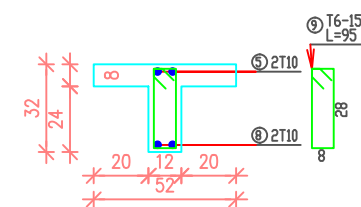
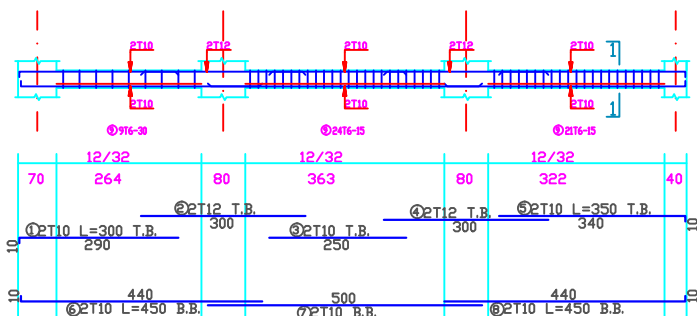
Rib 5:



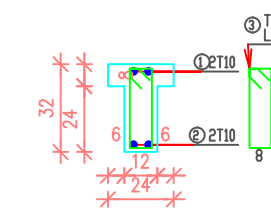
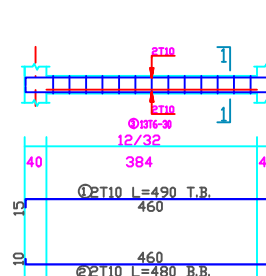
Rib 6:



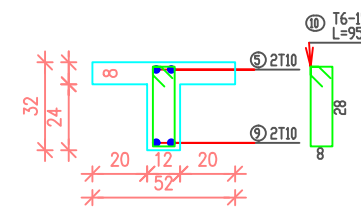
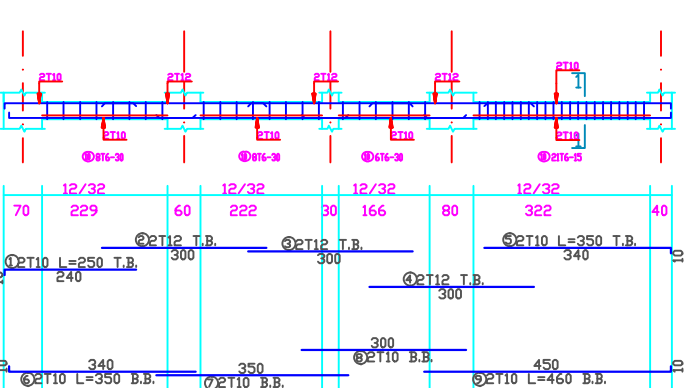
Rib 3:



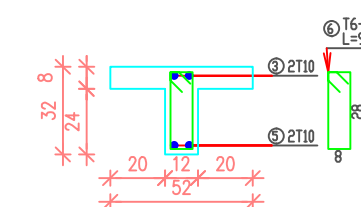
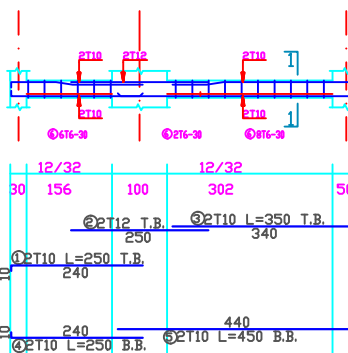
Rib 7:



Rib 4:



Rib 8:



Sheet No S18

Supervisor: Dr. Bilal Al Masri

Ribs Design

Villa design
Bait Jallah- Bethlehem

Legend

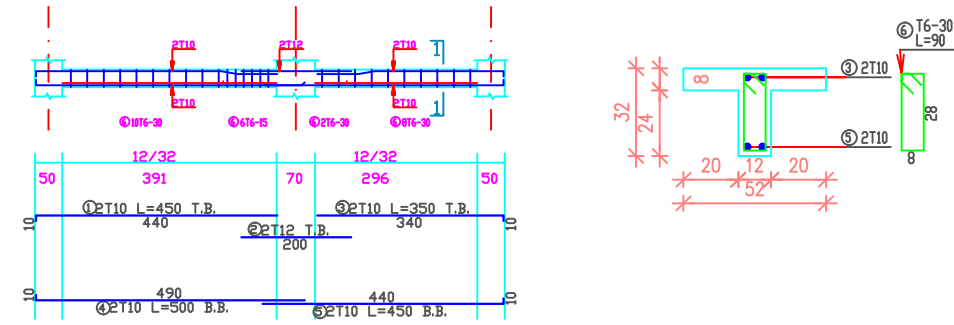
- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

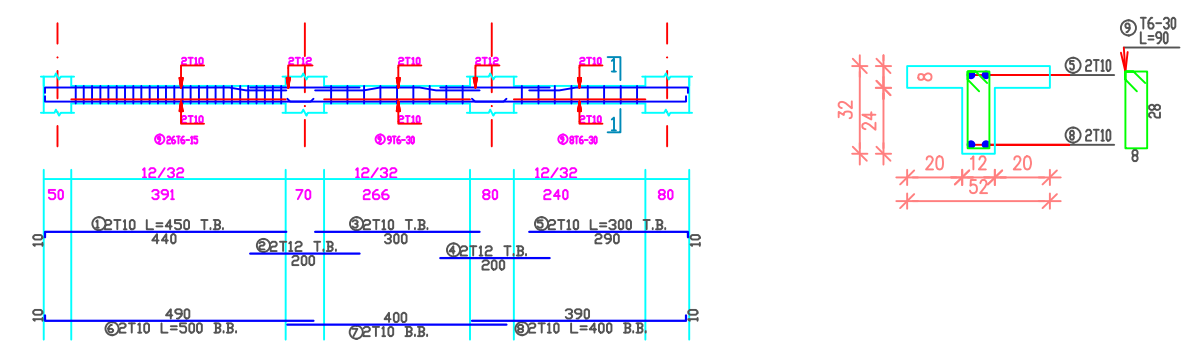
Scale 1:150

Client: Mr. Milad

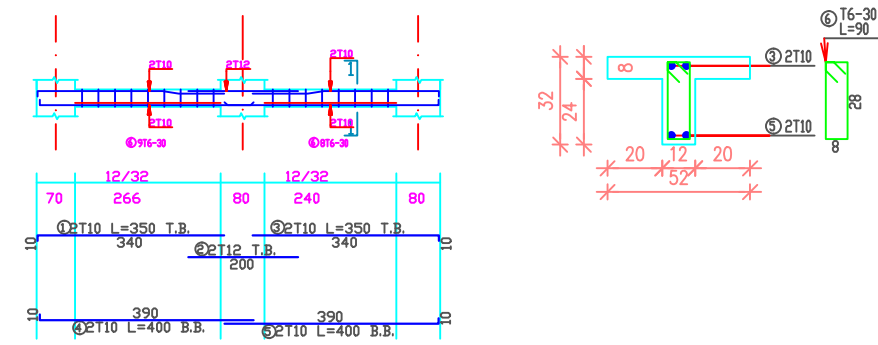
Rib 9:



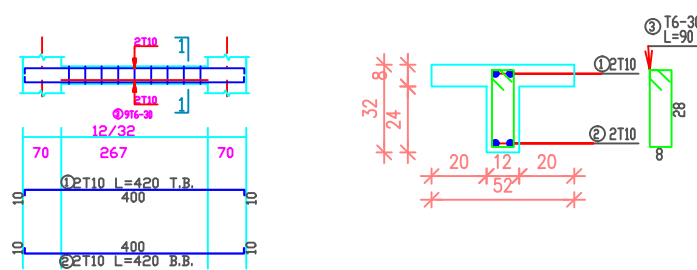
Rib 12:



Rib 10:



Rib 11:



Sheet No S19

Supervisor: Dr. Bilal Al Masri

Ribs Design

Villa design
Bait Jallah- Bethlehem

Legend

5 cm STONE

- R.CONCRETE

15 cm CONCRETE

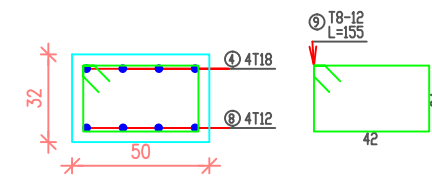
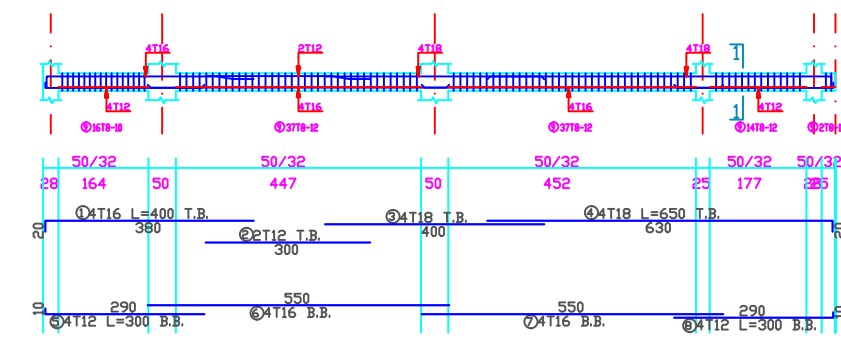
7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

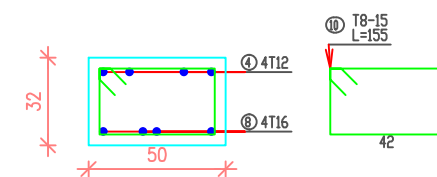
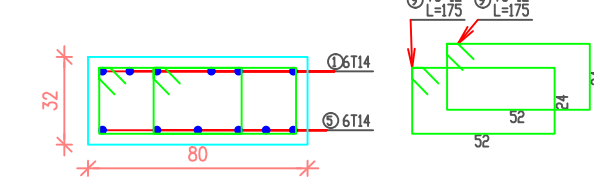
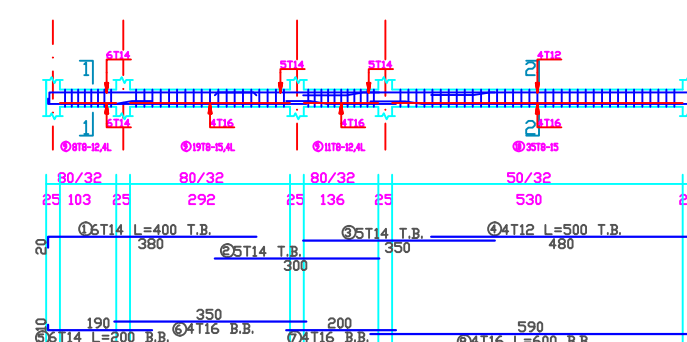
Scale 1:150

Client: Mr. Milad

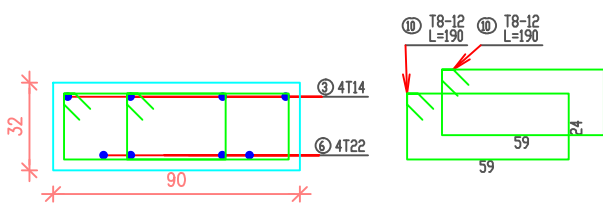
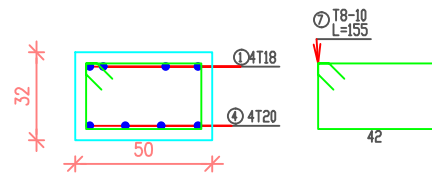
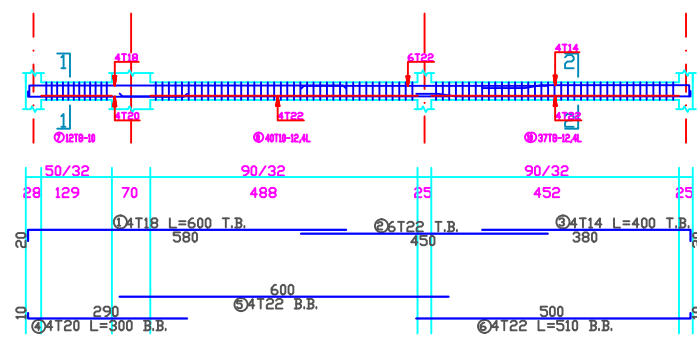
1xB1:



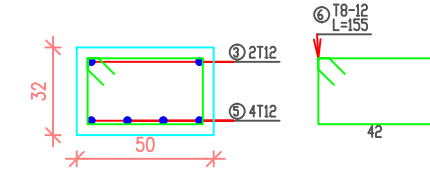
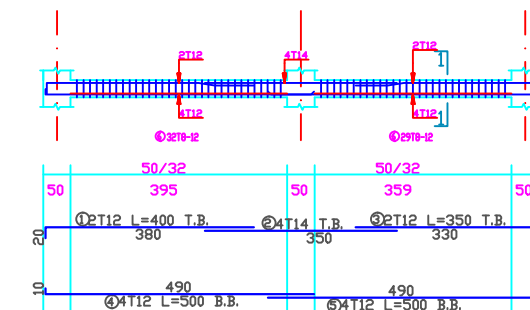
1xB5:



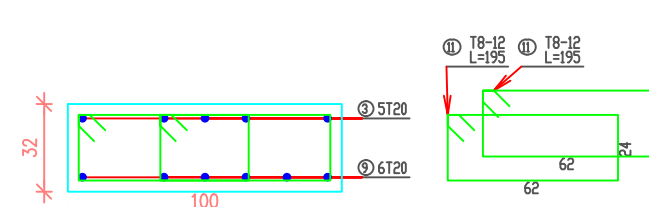
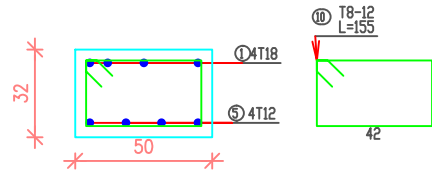
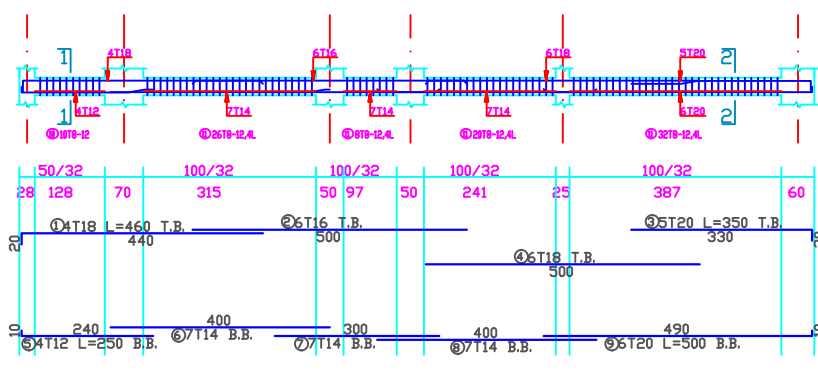
1xB2:



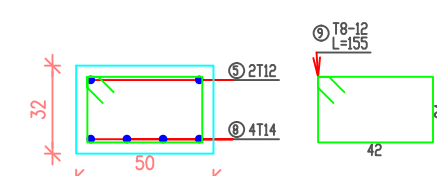
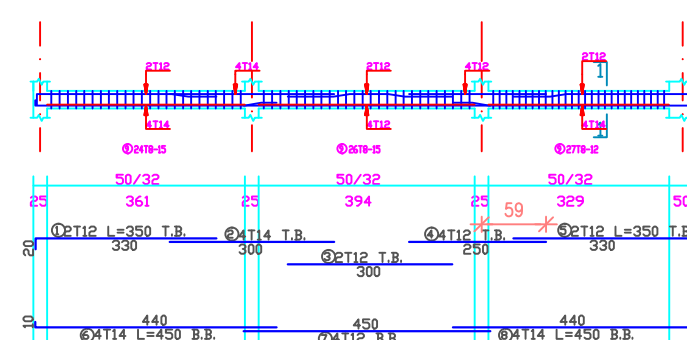
1xB6:



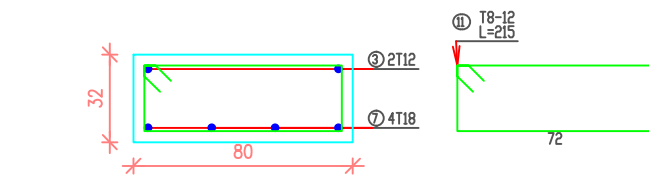
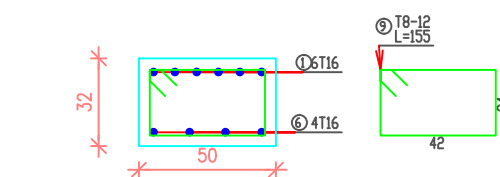
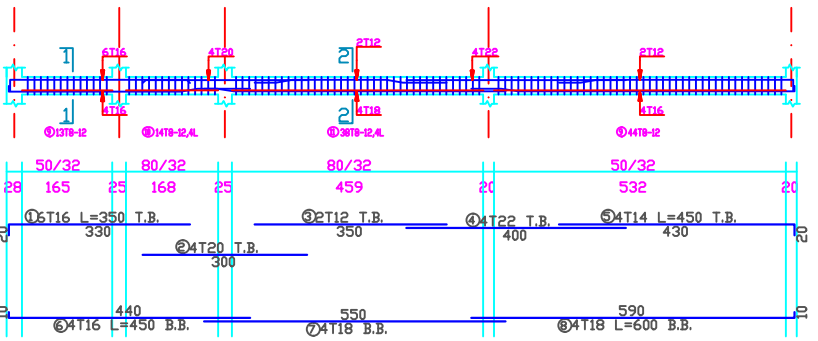
1xB3:



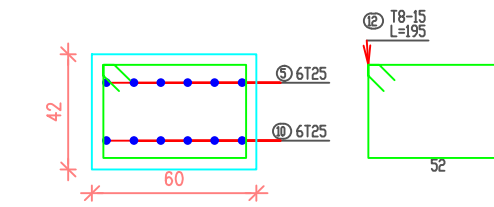
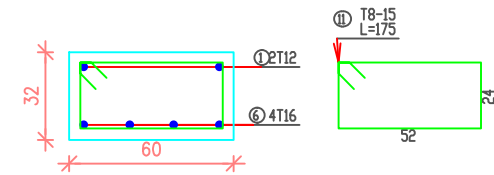
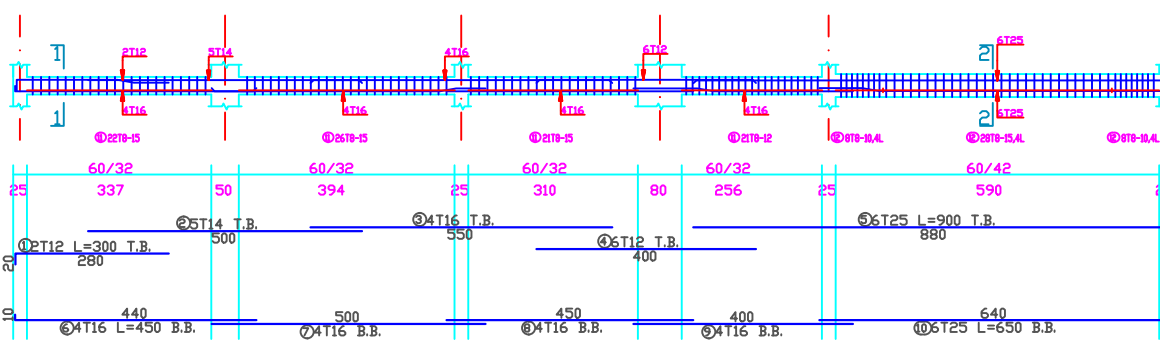
1xB7:



1xB4:



1xB8:



Sheet No B00

Supervisor: Dr. Bilal Al Masri

Beams Design

Villa design
Bait Jallah- Bethlehem

Legend

5 cm STONE

- R.CONCRETE

15 cm CONCRETE

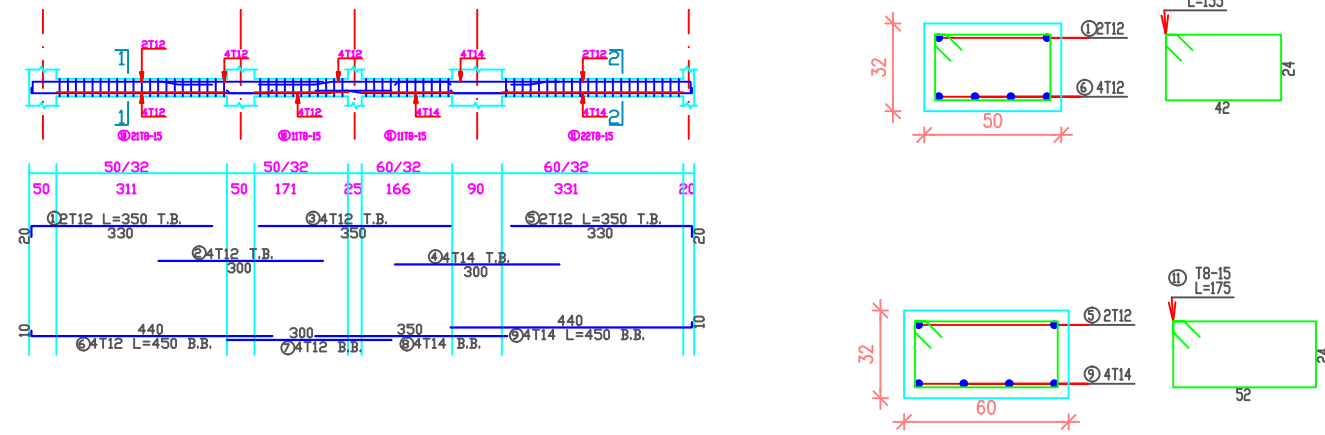
7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

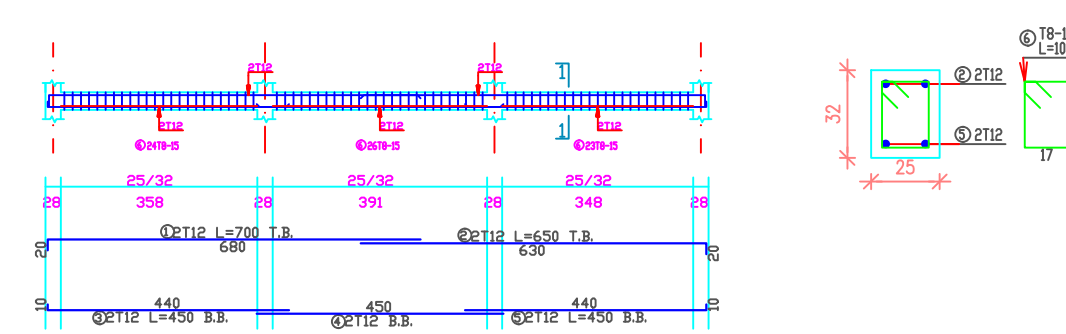
Scale 1:150

Client: Mr. Milad

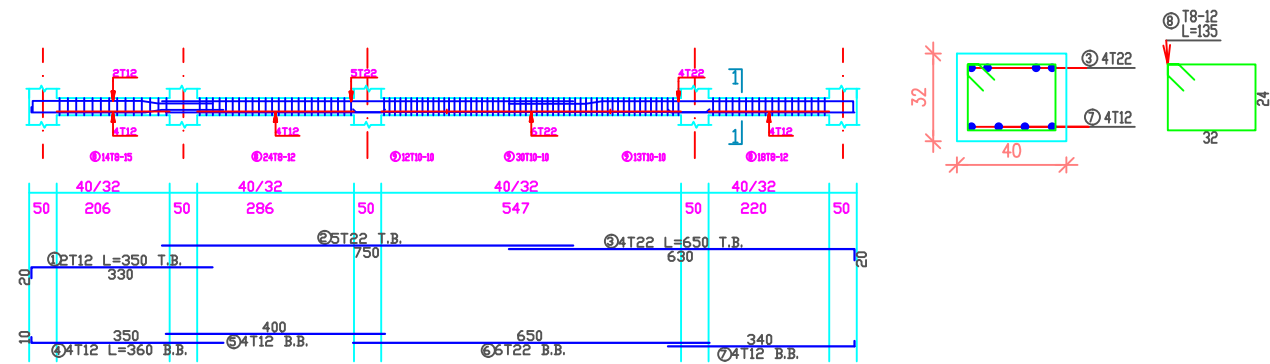
1xB9:



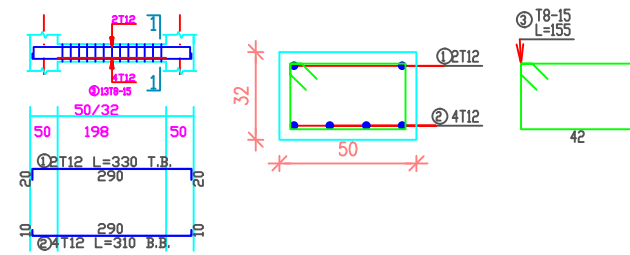
1xB13:



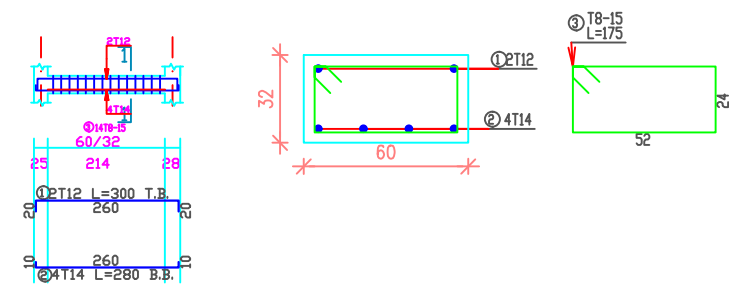
1xB10:



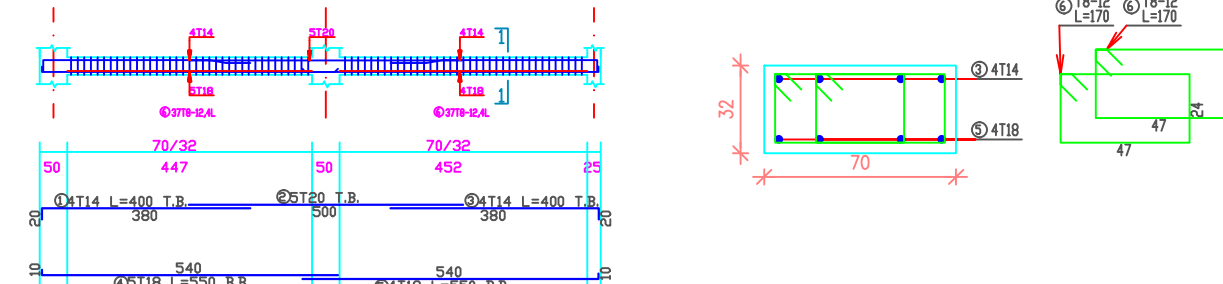
1xB14:



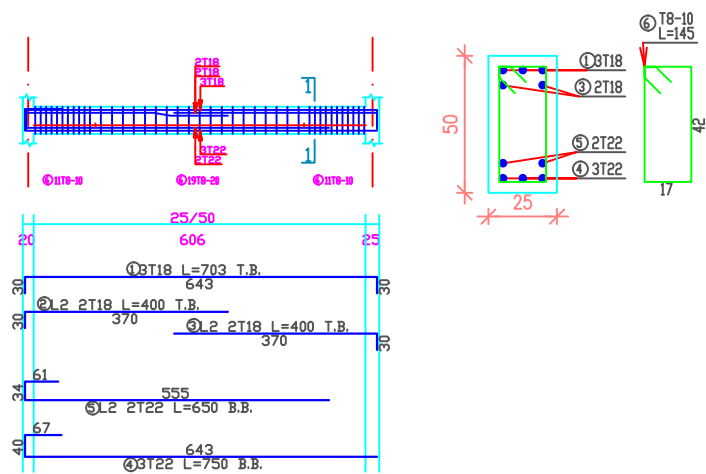
1xB11:



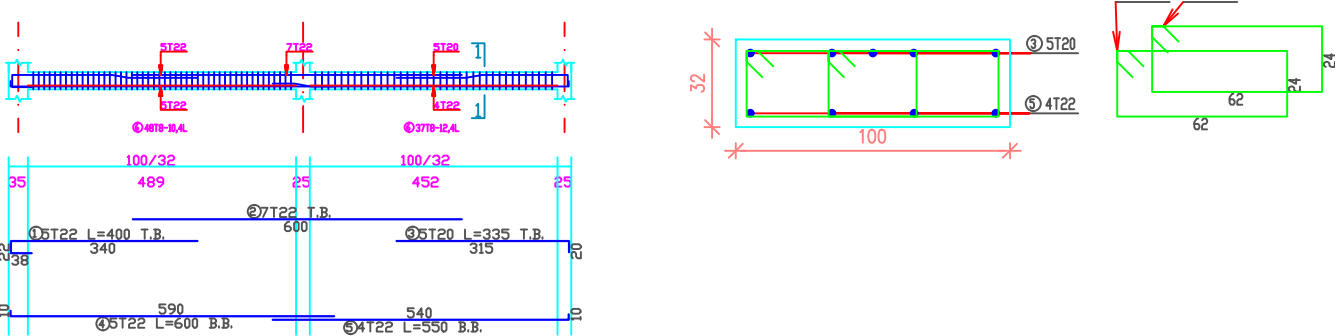
1xB15:



2xB12:



1xB16:



Sheet No B01

Supervisor: Dr. Bilal Al Masri

Beams Design

Villa design
Bait Jallah- Bethlehem

Legend

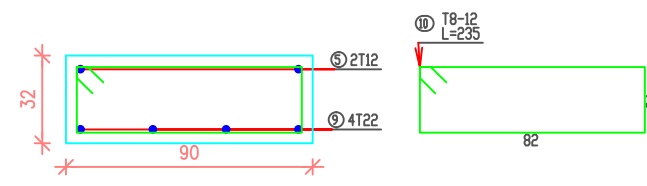
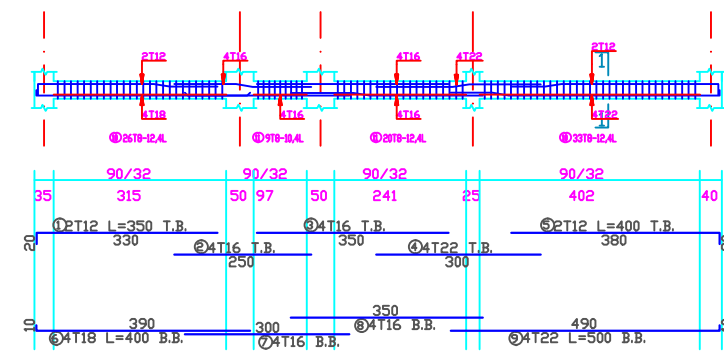
- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

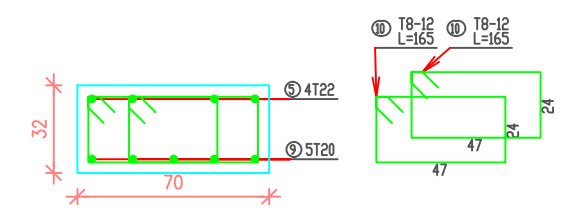
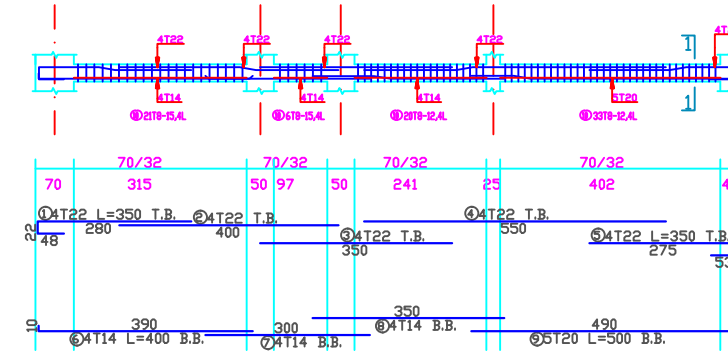
Scale 1:150

Client: Mr. Milad

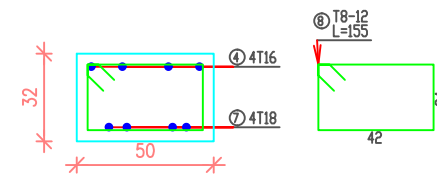
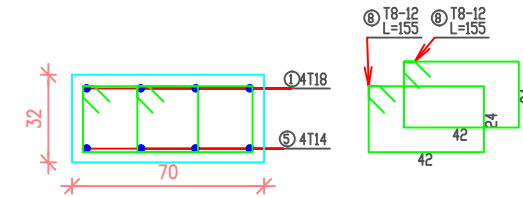
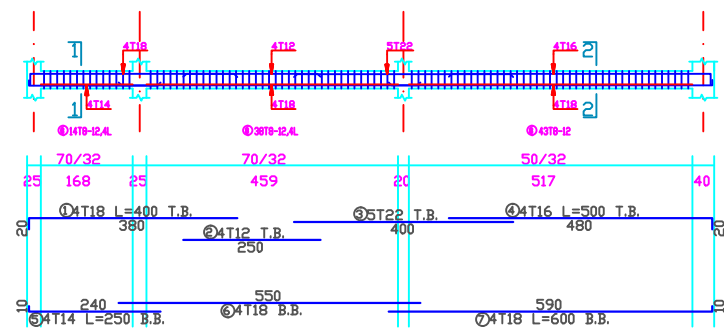
1xB17:



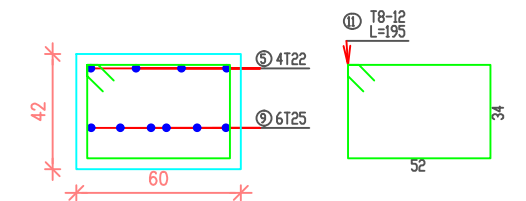
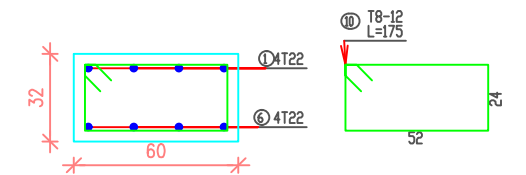
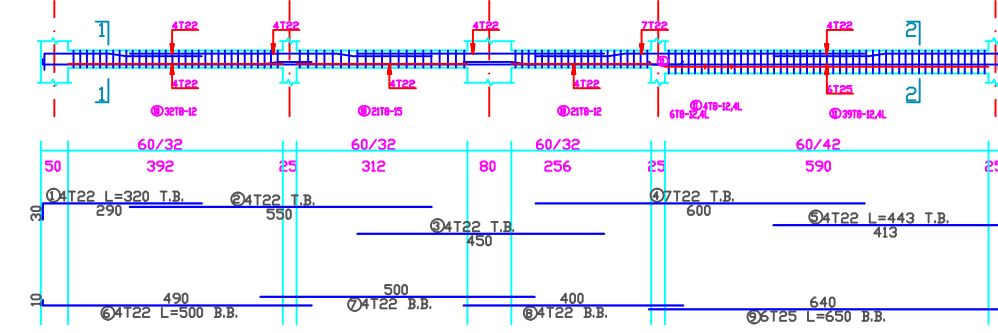
1xB22:



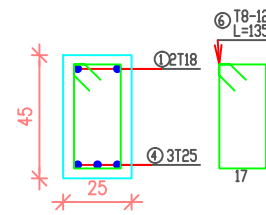
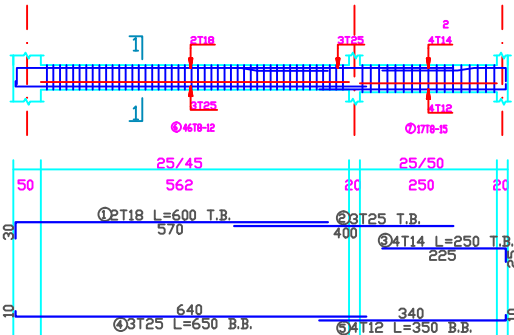
1xB18:



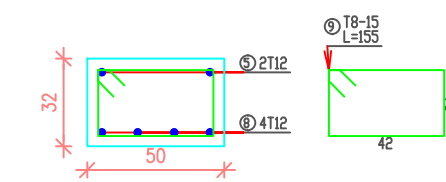
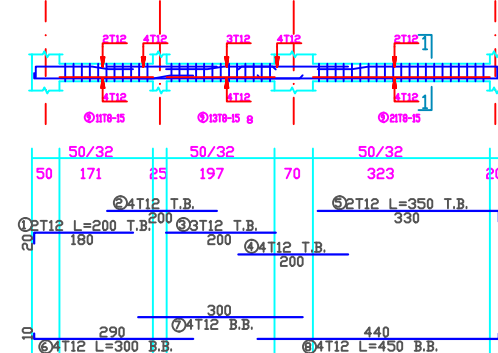
1xB23:



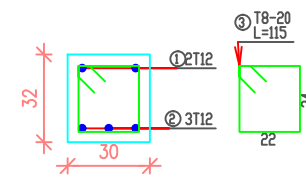
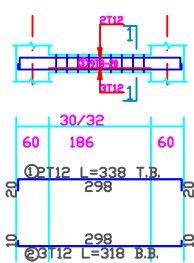
1xB19:



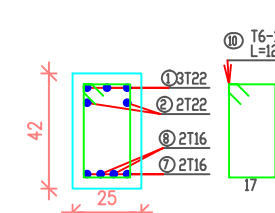
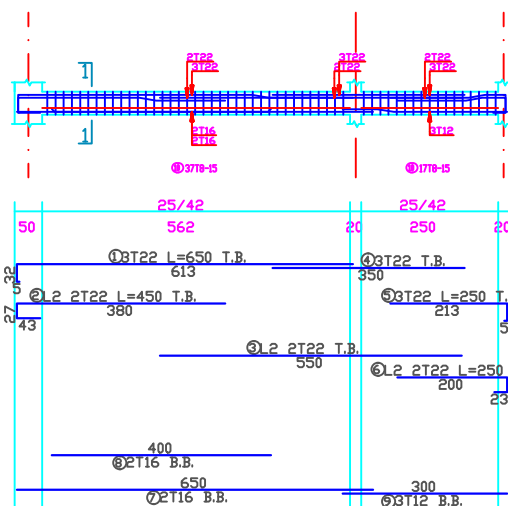
1xB24:



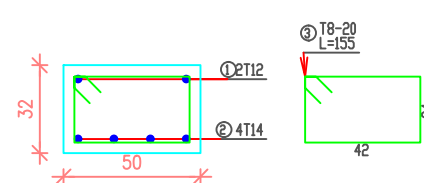
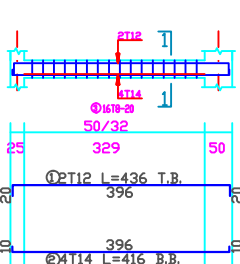
1xB20:



1xB25:



1xB21:



Sheet No B02

Supervisor: Dr. Bilal Al Masri

Beams Design

Villa design
Bait Jallah- Bethlehem

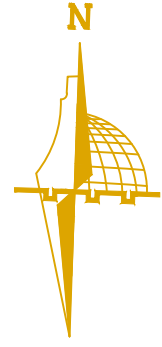
Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:150

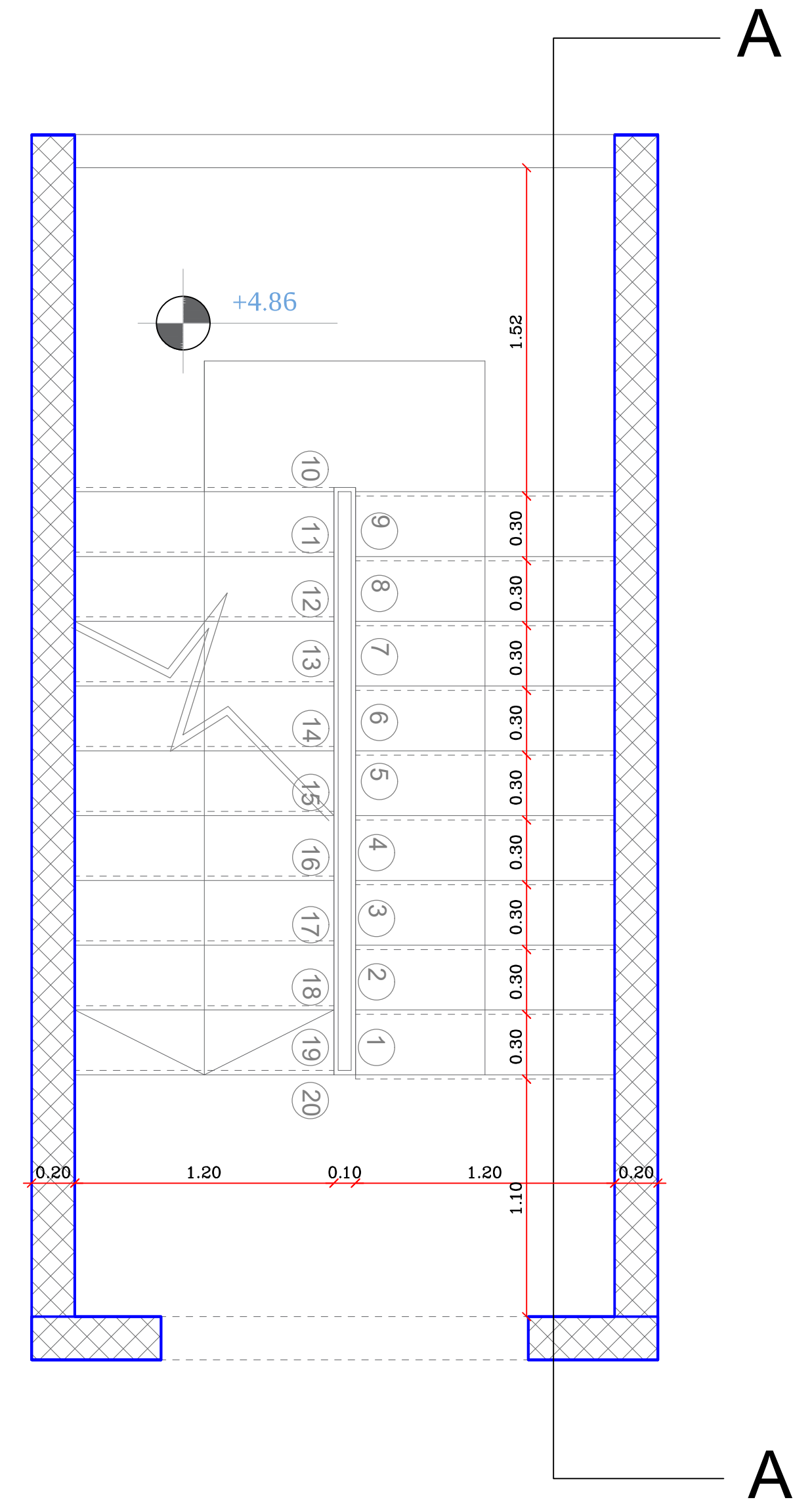
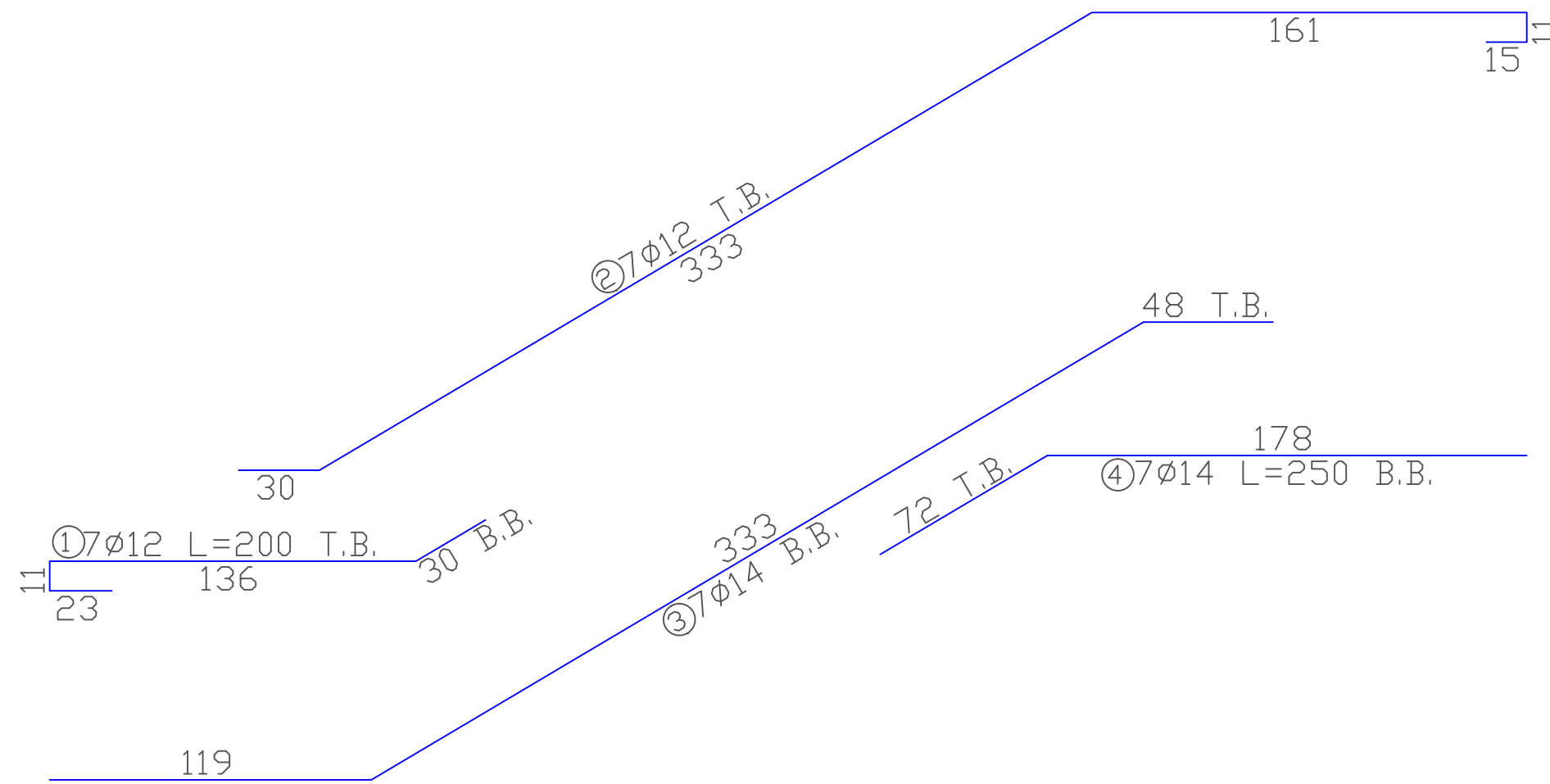
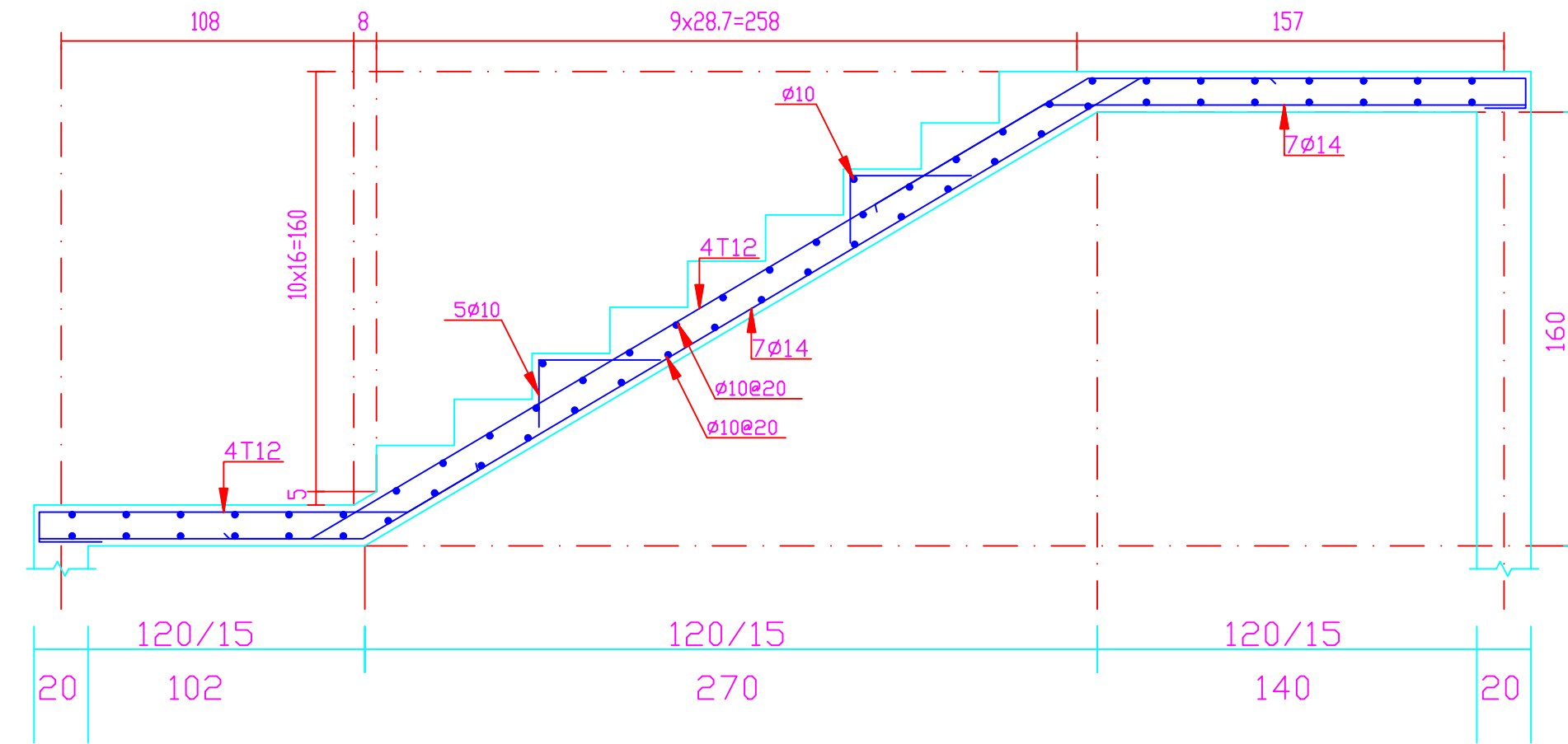
Client: Mr. Milad



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Sheet No S20

Supervisor: Dr. Bilal Al Masri

Stair Case

Villa design
Bait Jallah- Bethlehem

Legend

- 5 cm STONE
- R.CONCRETE
- 15 cm CONCRETE
- 7 cm HOLLOW BLOCK

Done by: Mahmoud Dannoun

Scale 1:100

Client: Mr. Milad

