



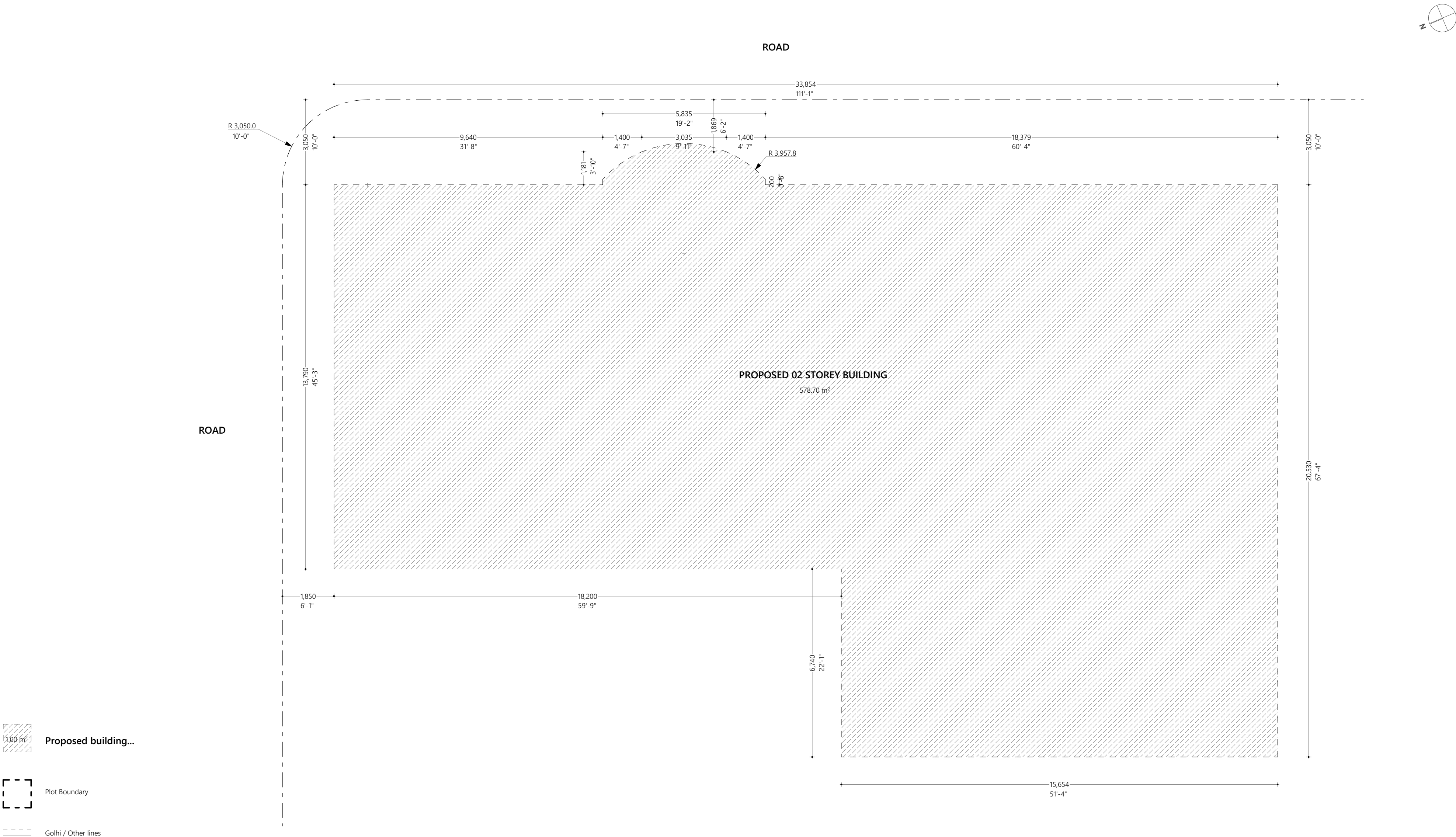
Multi Purpose Laboratory

Detailed Drawing

Ministry Of Fisheries Marine Resources
And Agriculture

Date: Sunday, September 25, 2022

Project Number: EP/PRJ/2022/23



Building Information List

Plot Area :	-
Footprint Area :	578.70 sqm / 6229.08 sqft
Built-up Area :	848.52 sqm / 9133.39 sqft
Longest Length :	15.24 m / 50 ft
Width Coefficient :	-
Open Areas :	-
Building Height :	8.06 m / 26.43 ft
Road Width :	(width of road)

Overview :



Legend :

Notes :

#	REVISION	BY	APP	DATE

Project :
Multi Purpose Laboratory

Client :
Ministry Of Fisheries Marine Resources
And Agriculture

Prepared by



T: +960 333 3528, E: info@epoch.associates,
W: www.epoch.associates, A.G.Rosary West, 3rd
Floor, Husnuheena Magu, Male', Maldives

DESIGNER:	CHECKED:
Muaviyath A. Sathar	F. Ihudha Amir
DRAWN:	APPROVED:
Mohamed Hassaan	Ihsaan Waheed

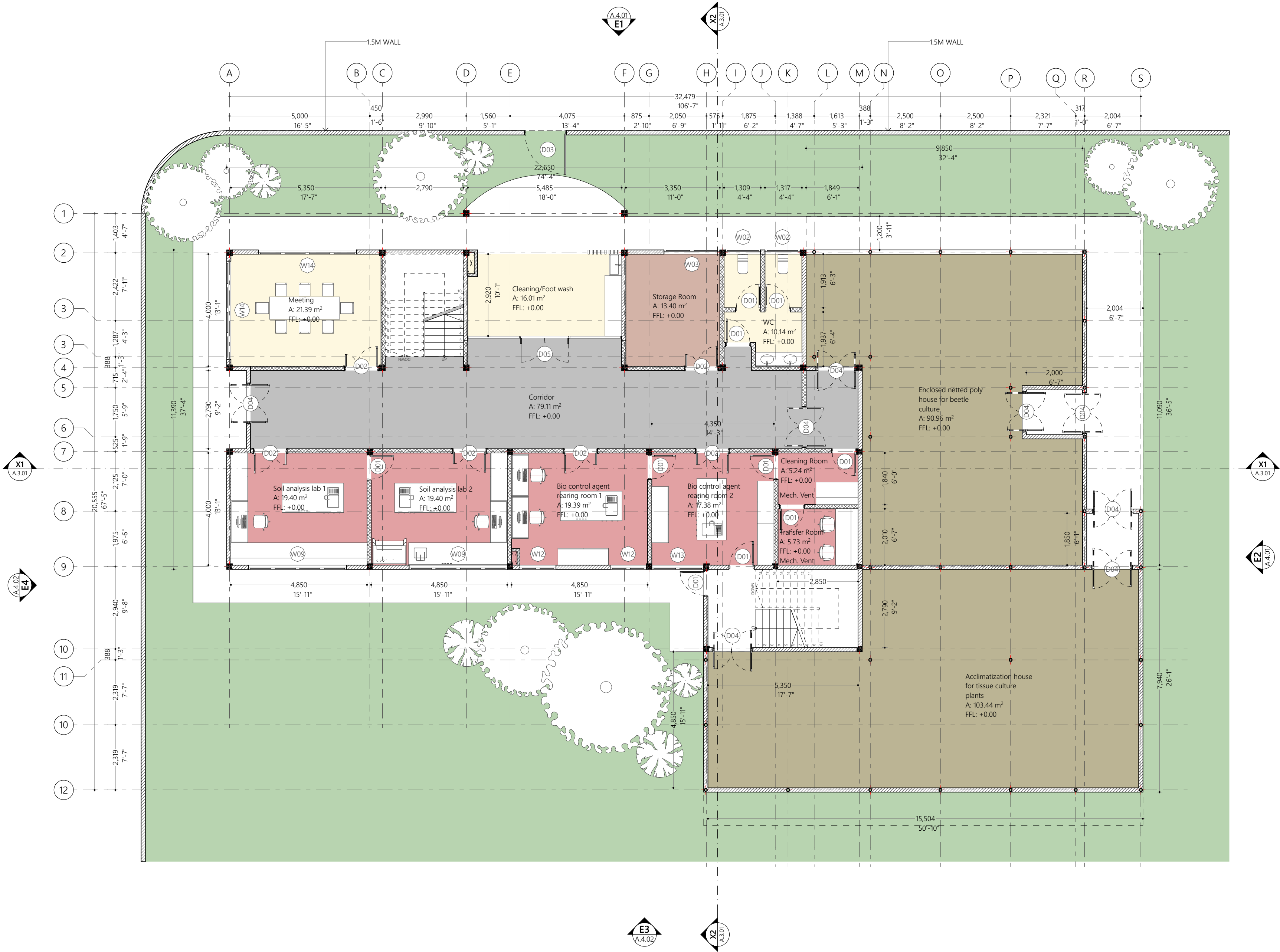
Page Title
Site Plan

Scale : 1:100

Doc No : EP/BLD-AR/2022/08/AR-I04
Date : Sunday, September 25,
2022

Rev No : **Pg** : A.1.01

Wall Legend	
2D Plan View	Description
	100mm thick masonry duct wall with 25mm plaster on exterior finished with ground smooth and washable paint of selected color
	150mm thick exterior masonry wall with 25mm plaster on exterior and 16mm plaster on interior finished with ground smooth and washable paint of selected color
	150mm thick interior masonry wall with 25mm plaster on exterior and 16mm plaster on interior finished with ground smooth and washable paint of selected color



Ground Floor Plan
1:100

Overview :

Legend :

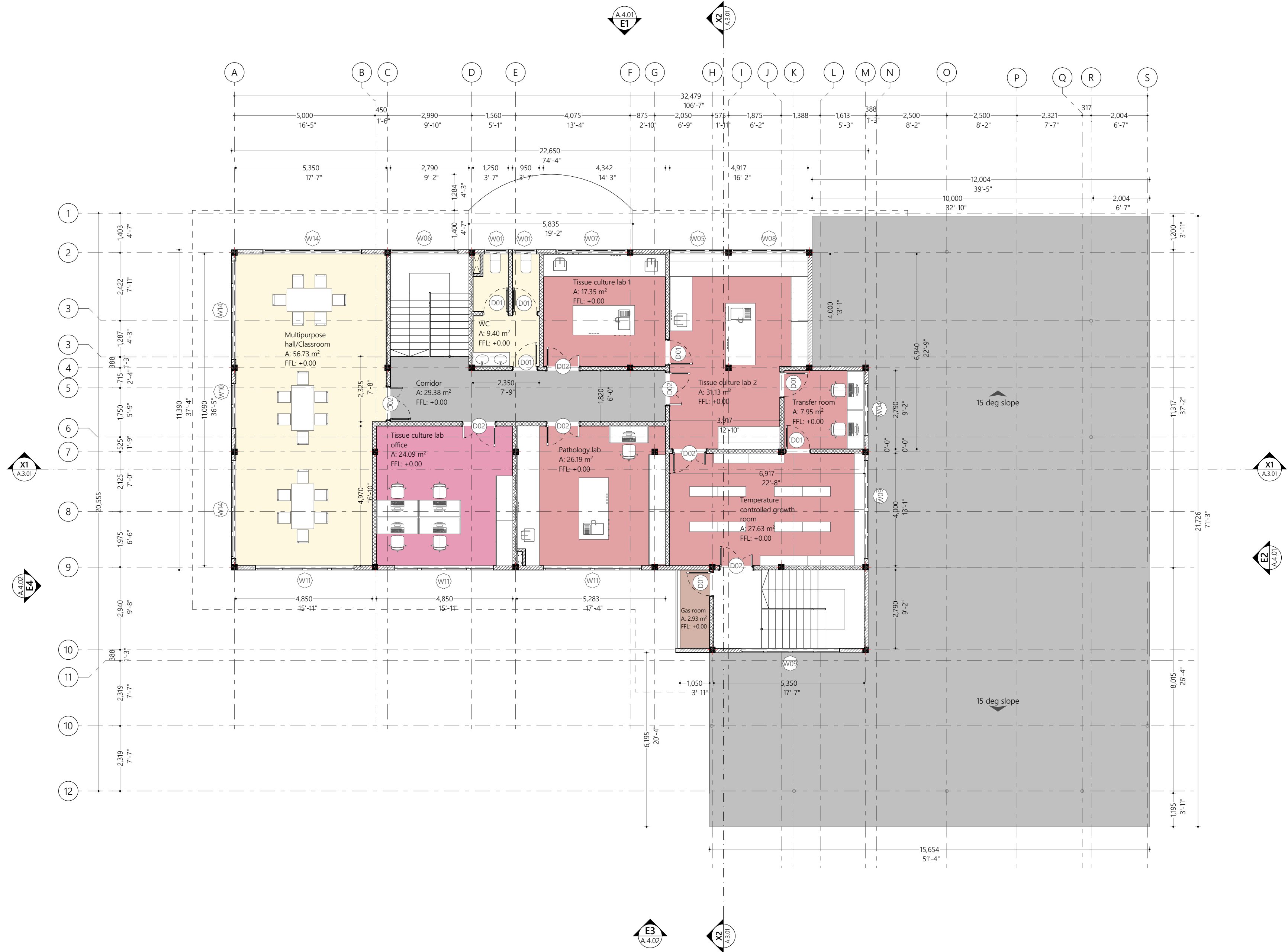
Notes :

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Multi Purpose Laboratory

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Wall Legend	
2D Plan View	Description
	100mm thick masonry duct wall with 25mm plaster on exterior finished with ground smooth and washable paint of selected color
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Overview :

Legend :

Notes :

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W: www.epoch.associates, A.G.Rosary West, 3rd
Floor, Husnuheena Magu, Male', Maldives

DESIGNER: Muaviyath A. Sothar	CHECKED: F. Ihudha Amir
DRAWN: Mohamed Hassaan	APPROVED: Ihsaan Waheed

Page Title

First Floor Plan

Scale : 1:100, 1:1

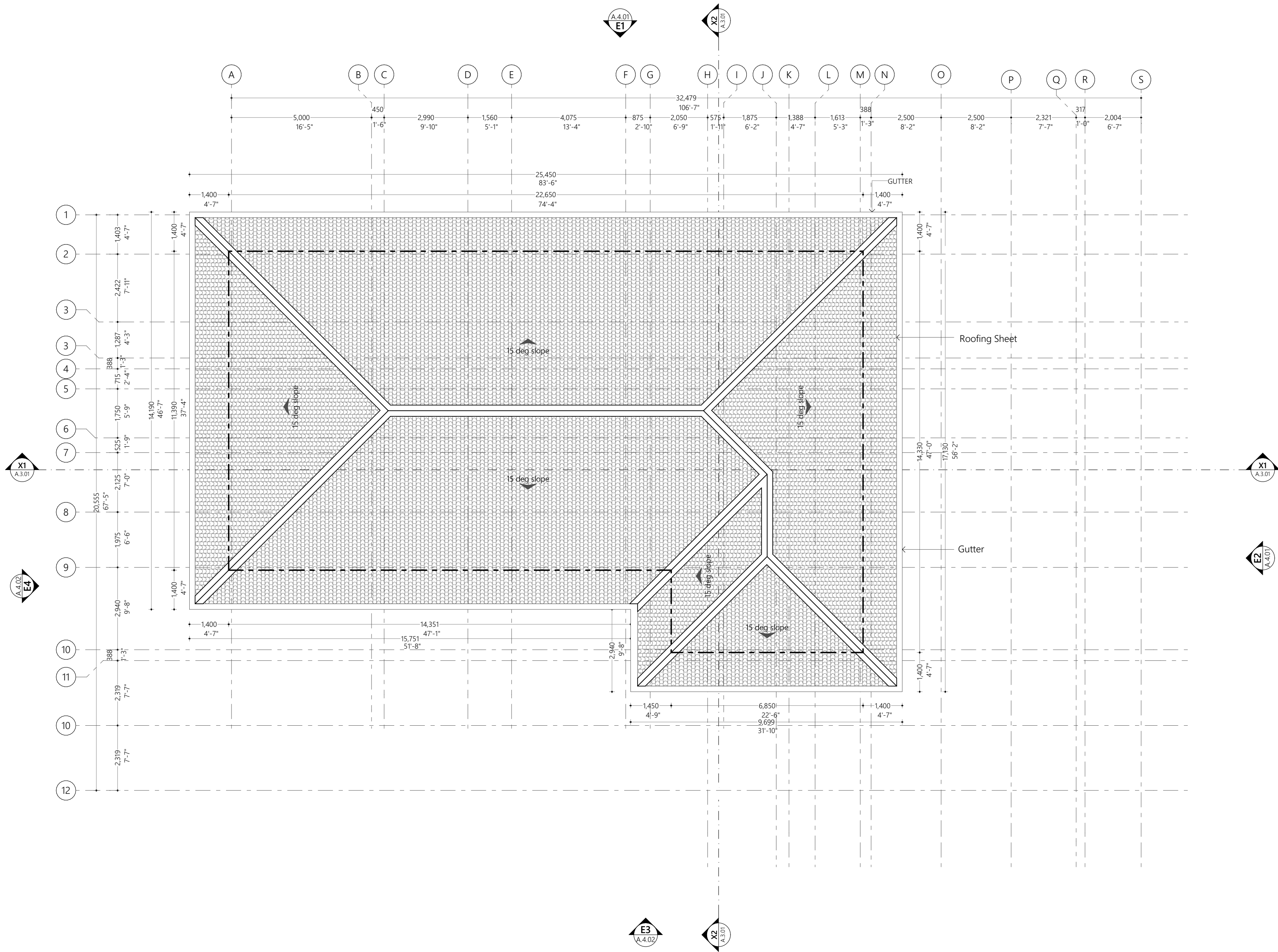
Doc No : EP/BLD-AR/2022/08/AR-I04

Date : Sunday, September 25,
2022

Rev No :

Pg : A.2.02

First Floor Plan
1:100



Overview :

Legend :

Notes :

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Floor, Husnuheena Magu, Male', Maldives

DESIGNER: Muaviyath A. Sathar	CHECKED: F. Ihudha Amir
DRAWN: Mohamed Hassaan	APPROVED: Ihsaan Waheed

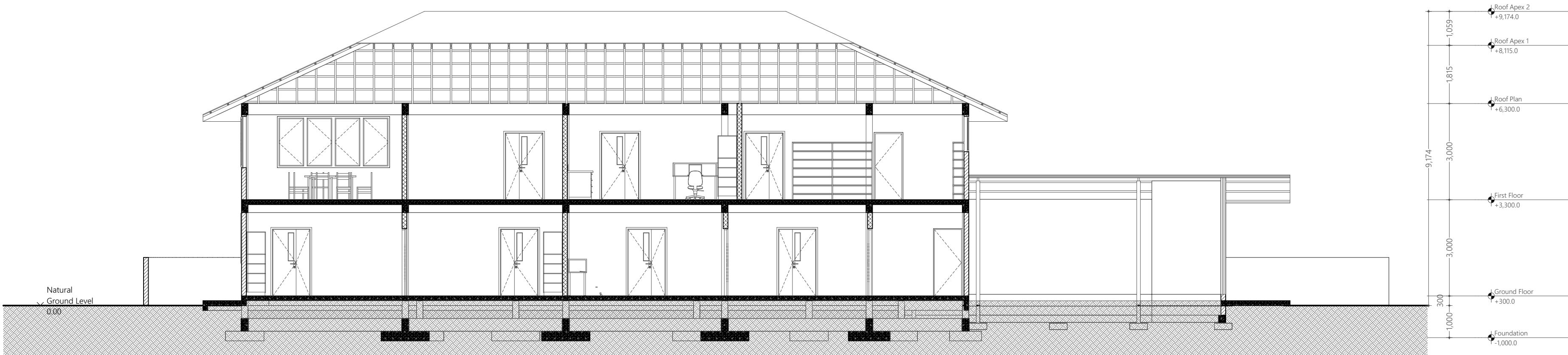
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Roof Plan

Scale : 1:100

Doc No : EP/BLD-AR/2022/08/AR-104
Date : Sunday, September 25,
2022

Rev No : **Pg** : A.2.03

Roof Plan 2
1:100

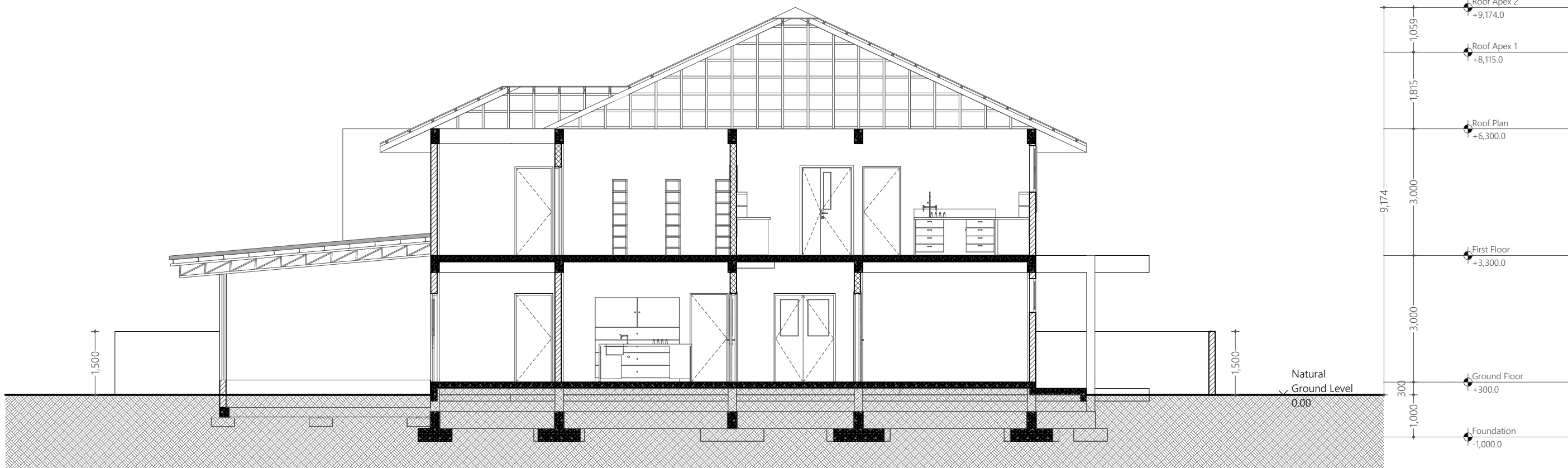


X1 Building Section
1:100

Overview :



Legend :



X2 Building Section
1:100


Notes :

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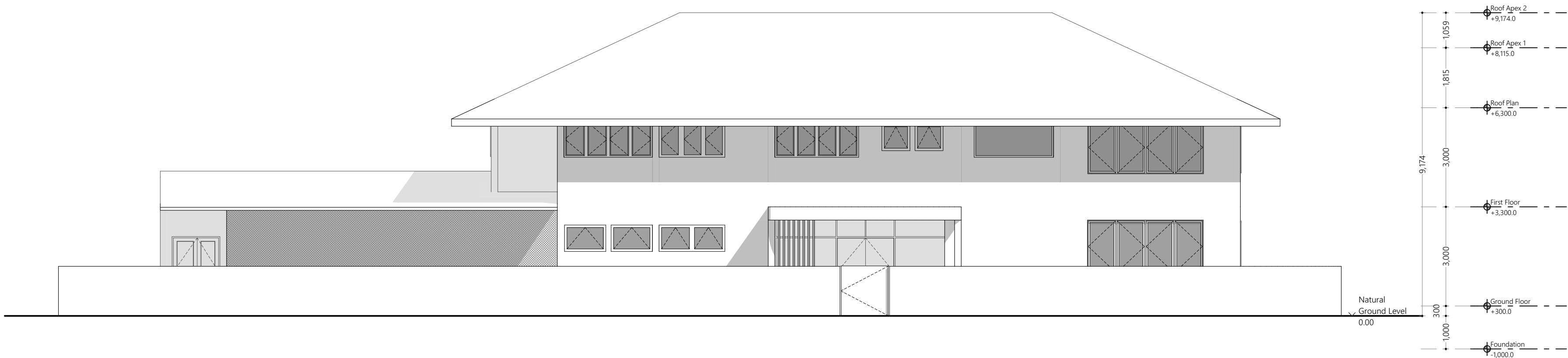
DESIGNER: Muaviyath A. Sathar	CHECKED: F. Ihudha Amir
DRAWN: Mohamed Hassaan	APPROVED: Ihsaan Waheed

Page Title
Section I

Scale : 1:100

Doc No : EP/BLD-AR/2022/08/AR-I04
Date : Sunday, September 25,
2022

Rev No : Pg : A.3.01

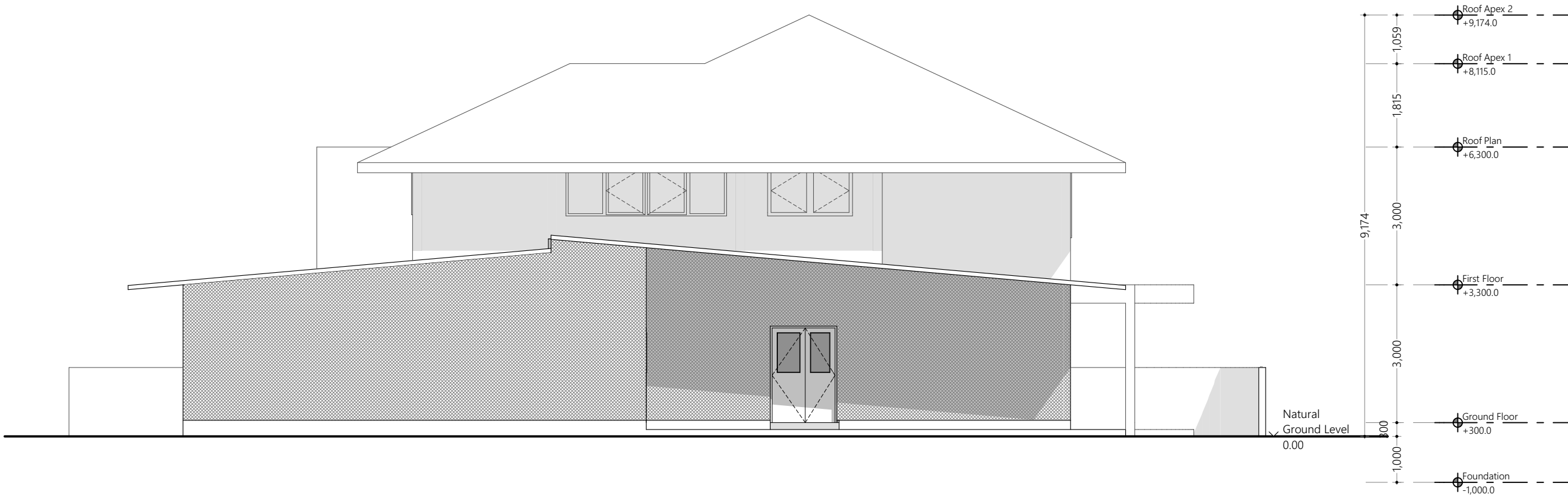


Elevation E1
1:100

Overview :



Legend :



Elevation E2
1:100

Notes :

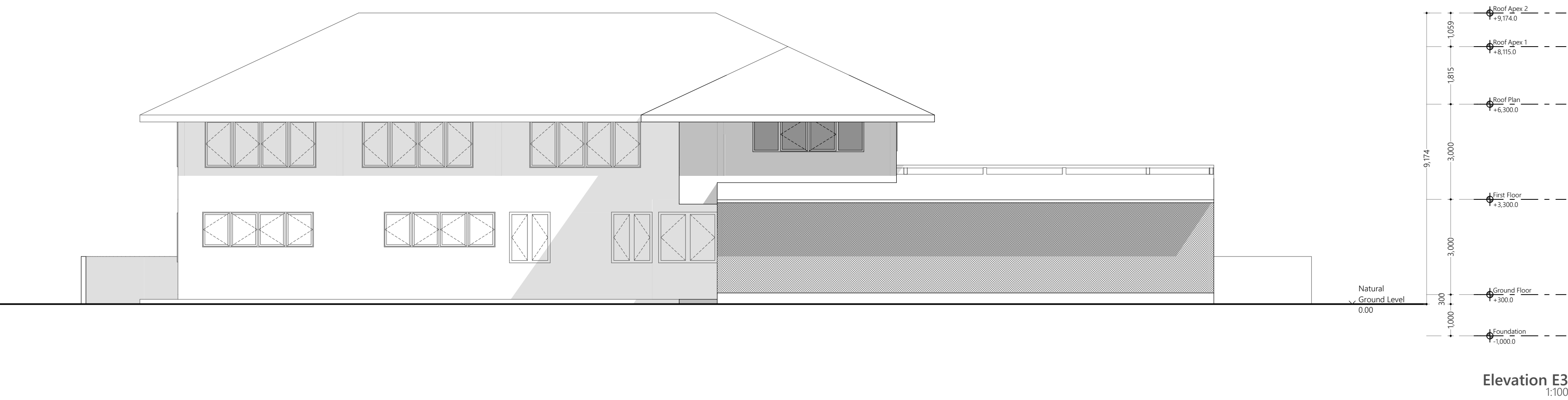
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Multi Purpose Laboratory
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W: www.epoch.associates, A.G.Rosary West, 3rd
Floor, Husnuheena Magu, Male', Maldives

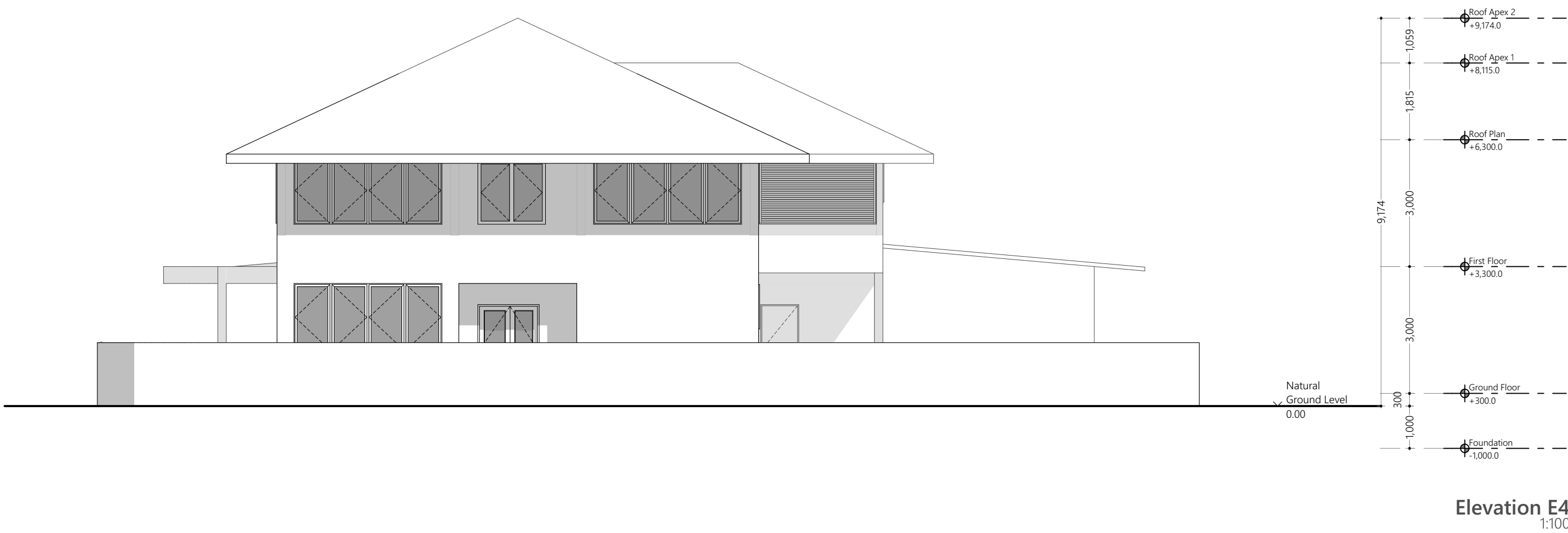
DESIGNER: Muaviyath A. Sathar	CHECKED: F. Ihudha Amir
DRAWN: Mohamed Hassan	APPROVED: Ihsaan Waheed

Page Title
Elevation 1
Scale : 1:100
Doc No : EP/BLD-AR/2022/08/AR-104
Date : Sunday, September 25,
2022
Rev No : | **Pg** : A.4.01



Overview :

Legend :



Notes :

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W: www.epoch.associates, A.G.Rosary West, 3rd
Floor, Husnuheena Magu, Male', Maldives

DESIGNER:	CHECKED:
Muaviyath A. Sathar	F. Ihudha Amir
DRAWN:	APPROVED:
Mohamed Hassan	Ihsaan Waheed

Page Title
Elevation 2

Scale : 1:100

Doc No : EP/BLD-AR/2022/08/AR-I04
Date : Sunday, September 25, 2022

Rev No :	Pg : A.4.02

All Openings Schedule				
Element ID	D01	D02	D03	D04
Quantity	17	13	1	8
W x H Size	900×2,100	1,200×2,100	1,500×1,500	1,450×2,100
Sill height	0	0	0	0
Head height	2,100	2,100	1,500	2,100
2D Symbol				
View from Side Opposite to Opening Side				
Frame	02 Solid Core Hardwood	03 Powder Coated Aluminum	02 Solid Core Hardwood	03 Powder Coated Aluminum
Door Leaf	02 Solid Core Hardwood	03 Powder Coated Aluminum	02 Solid Core Hardwood	03 Powder Coated Aluminum
Window Sash	---	---	---	---
Glazing	01 (No Glazing)	01 (No Glazing)	01 (No Glazing)	01 (No Glazing)

Door and Window Notes

Dimensions shown on DWG indicate effective openings of frame

All frame depths are 100mm
All door leaf thicknesses are 35mm
All window sash thickness are 25mm
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All wooden components should be wood stained finish
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All glazing should be of 6mm unless specified

External units must comply the following weather conditions:
Wind pressure: 200 kg/sqm
Water tightness: 25 kg/sqm

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and the wedges trimmed with 12X12mm hardwood beading fixed to
frames by brass nails

Sealent shall be provided at all joints while fabrication

All hardware should be provided for the performance of al functions
of the units
Hinges shall confirm to

1) Door size more than 700X1900mm
WD: 125mm X2 sets
SD: 150mm X3 sets

2) Door size less than 700X1900mm
WD: 100mm X2 sets
SD: 125mm X2 sets

Locks shall be cylindrical with master key sets
Door knobs shall be1000mm above FFL

All Openings Schedule

#	REVISION	BY	APP	DATE

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W: www.epoch.associates, A:G.Rosary West, 3rd
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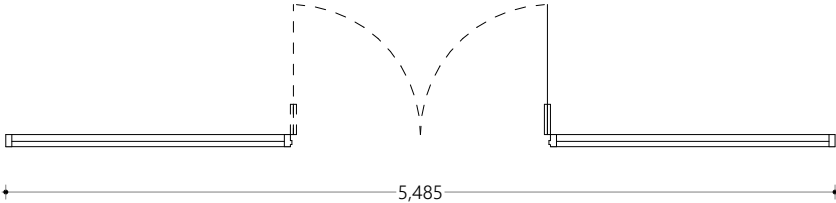
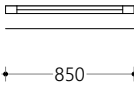
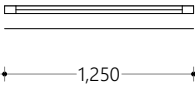
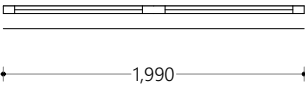
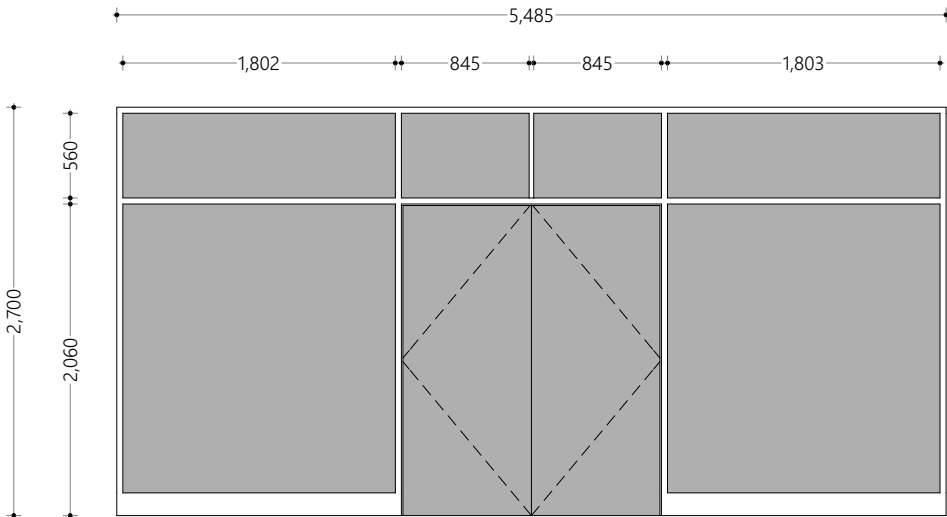
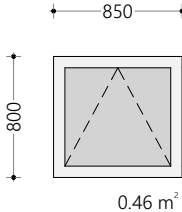
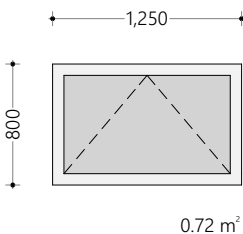
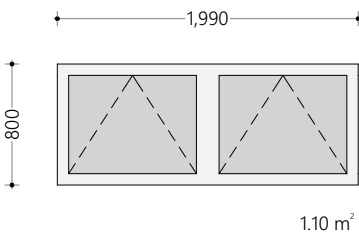
DESIGNER: A. Shadhny Afzal	CHECKED: F. Ihudha Amir
DRAWN: A. Shadhny Afzal	APPROVED: Mohamed Hassaan

Page Title
All Opening Schedule 1

Scale : 1:100, 1:1

Doc No : EP/BLD-AR/2022/23/CD-
T01/01
Date : Sunday, September 25,
2022

Rev No : | **Pg :** A.5.01

All Openings Schedule				
Element ID	D05	W01	W02	W03
Quantity	1	2	2	1
W x H Size	5,485×2,700	850×800	1,250×800	1,990×800
Sill height	0	1,700	1,650	1,650
Head height	2,700	2,500	2,450	2,450
2D Symbol				
View from Side Opposite to Opening Side				
Frame	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum
Door Leaf	01 Reflective Glass	---	---	---
Window Sash	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum
Glazing	01 Reflective Glass	01 Clear Glass	01 Clear Glass	01 Clear Glass

Door and Window Notes

Dimensions shown on DWG indicate effective openings of frame

All frame depths are 100mm
All door leaf thicknesses are 35mm
All window sash thickness are 25mm
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All aluminum components to be powder coated (min. 60 microns)

All aluminum panels should be of 6mm thick unless specified
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External units must comply the following weather conditions:
Wind pressure: 200 kg/sqm
Water tightness: 25 kg/sqm

All external frames / wall joints must be sealed with silicon sealant
and the wedges trimmed with 12X12mm hardwood beading fixed to
frames by brass nails

Sealent shall be provided at all joints while fabrication

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Hinges shall confirm to

1) Door size more than 700X1900mm
WD: 125mm X2 sets
SD: 150mm X3 sets

2) Door size less than 700X1900mm
WD: 100mm X2 sets
SD: 125mm X2 sets

Locks shall be cylindrical with master key sets
Door knobs shall be1000mm above FFL

All Openings Schedule

#	REVISION	BY	APP	DATE

Project :
Multi Purpose Laboratory

Client :
Ministry Of Fisheries Marine Resources
And Agriculture

Prepared by

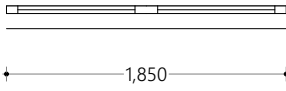
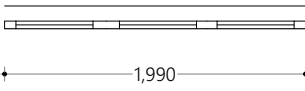
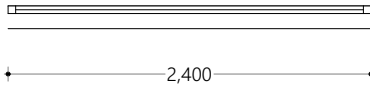
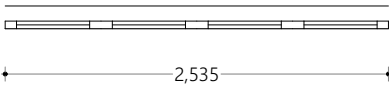
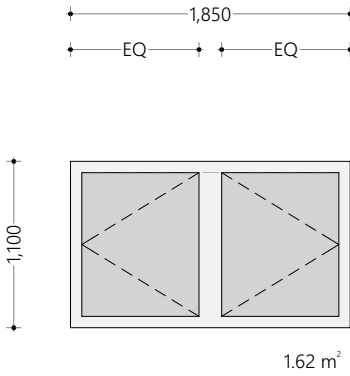
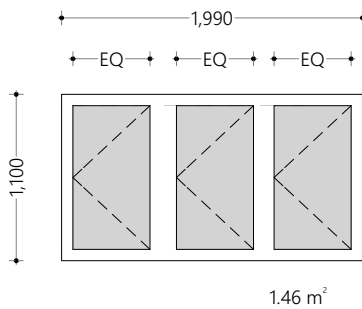
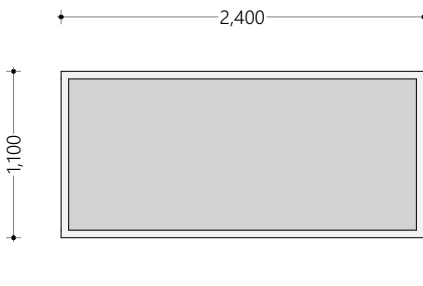
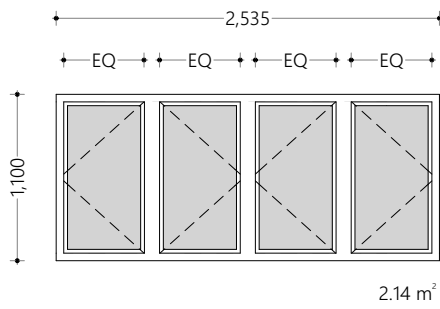
	
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DESIGNER: A. Shadhny Afzal	CHECKED: F. Ihudha Amir
DRAWN: A. Shadhny Afzal	APPROVED: Mohamed Hassaan

Page Title
All Opening Schedule 1

Scale : 1:100, 1:1

Doc No : EP/BLD-AR/2022/23/CD-T01/01
Date : Sunday, September 25, 2022

Rev No :	Pg : A.5.02
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All Openings Schedule				
Element ID	W04	W05	W06	W07
Quantity	1	1	1	1
W x H Size	1,850×1,100	1,990×1,100	2,400×1,100	2,535×1,100
Sill height	1,500	1,500	1,500	1,500
Head height	2,600	2,600	2,600	2,600
2D Symbol				
View from Side Opposite to Opening Side				
Frame	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum
Door Leaf	---	---	---	---
Window Sash	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum
Glazing	01 Clear Glass	01 Clear Glass	01 Clear Glass	01 Clear Glass

Door and Window Notes

Dimensions shown on DWG indicate effective openings of frame

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External units must comply the following weather conditions:
Wind pressure: 200 kg/sqm
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All external frames / wall joints must be sealed with silicon sealant
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Door knobs shall be1000mm above FFL

All Openings Schedule

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Project :

Multi Purpose Laboratory

Client :

Ministry Of Fisheries Marine Resources
And Agriculture

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DESIGNER: A. Shadhny Afzal	CHECKED: F. Ihudha Amir
DRAWN: A. Shadhny Afzal	APPROVED: Mohamed Hassaan

Page Title

All Opening Schedule 1

Scale : 1:100, 1:1

Doc No : EP/BLD-AR/2022/23/CD-
T01/01

Date : Sunday, September 25,
2022

Rev No :

Pg : A.5.03

All Openings Schedule				
Element ID	W08	W09	W10	W11
Quantity	1	4	1	3
W x H Size	2,675×1,100	3,500×1,100	1,600×1,500	3,500×1,500
Sill height	1,500	1,500	1,000	1,000
Head height	2,600	2,600	2,500	2,500
2D Symbol				
View from Side Opposite to Opening Side				
Frame	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum
Door Leaf	---	---	---	---
Window Sash	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum
Glazing	01 Clear Glass	01 Clear Glass	01 Clear Glass	01 Clear Glass

Door and Window Notes

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All Openings Schedule

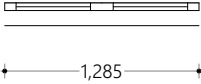
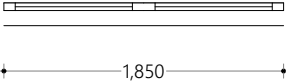
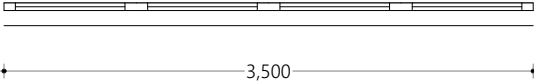
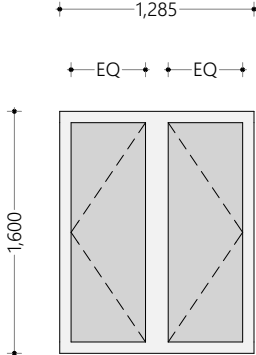
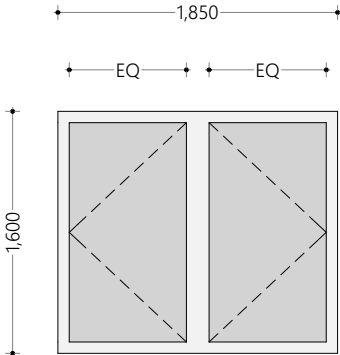
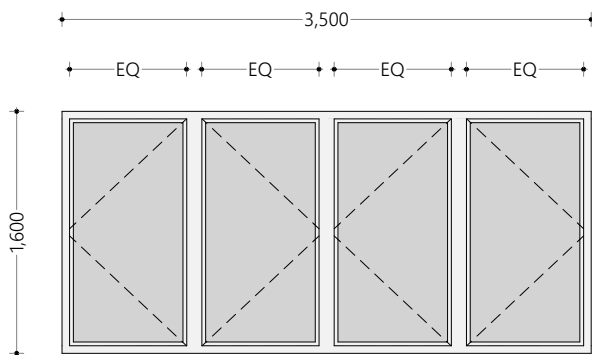
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DESIGNER: A. Shadhny Afzal	CHECKED: F. Ihudha Amir
DRAWN: A. Shadhny Afzal	APPROVED: Mohamed Hassaan

All Openings Schedule			
Element ID	W12	W13	W14
Quantity	2	1	5
W x H Size	1,285×1,600	1,850×1,600	3,500×1,600
Sill height	1,000	1,000	1,000
Head height	2,600	2,600	2,600
2D Symbol			
View from Side Opposite to Opening Side	 2.25 m ²	 4.65 m ²	 4.65 m ²
Frame	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum
Door Leaf	---	---	---
Window Sash	03 Powder Coated Aluminum	03 Powder Coated Aluminum	03 Powder Coated Aluminum
Glazing	01 Clear Glass	01 Clear Glass	01 Clear Glass

Door and Window Notes

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Ministry Of Fisheries Marine Resources
And Agriculture

Prepared by

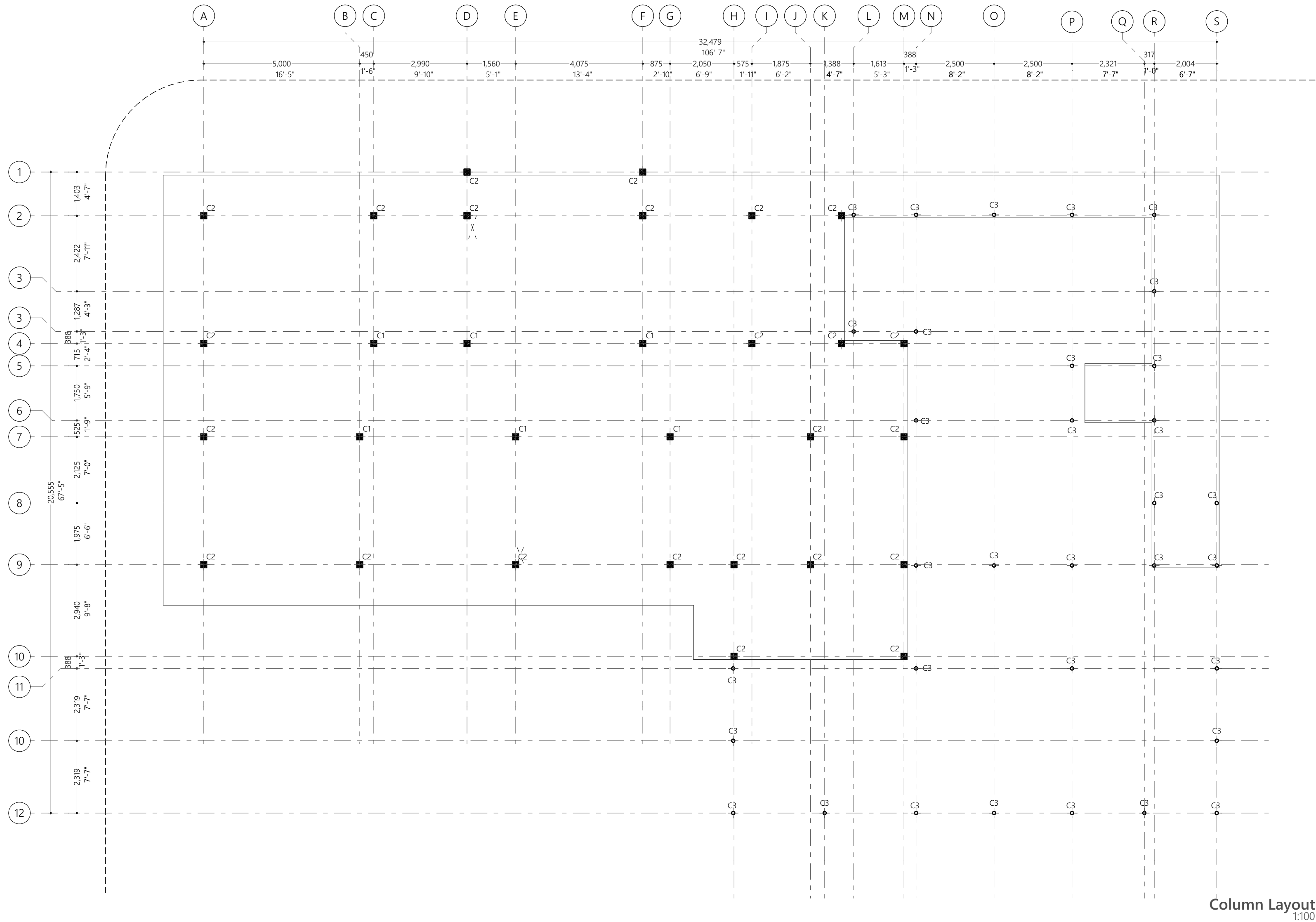
	
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Page Title
All Opening Schedule 1

Scale : 1:100, 1:1

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Column Layout
1:100

Overview :



Legend :

Notes :

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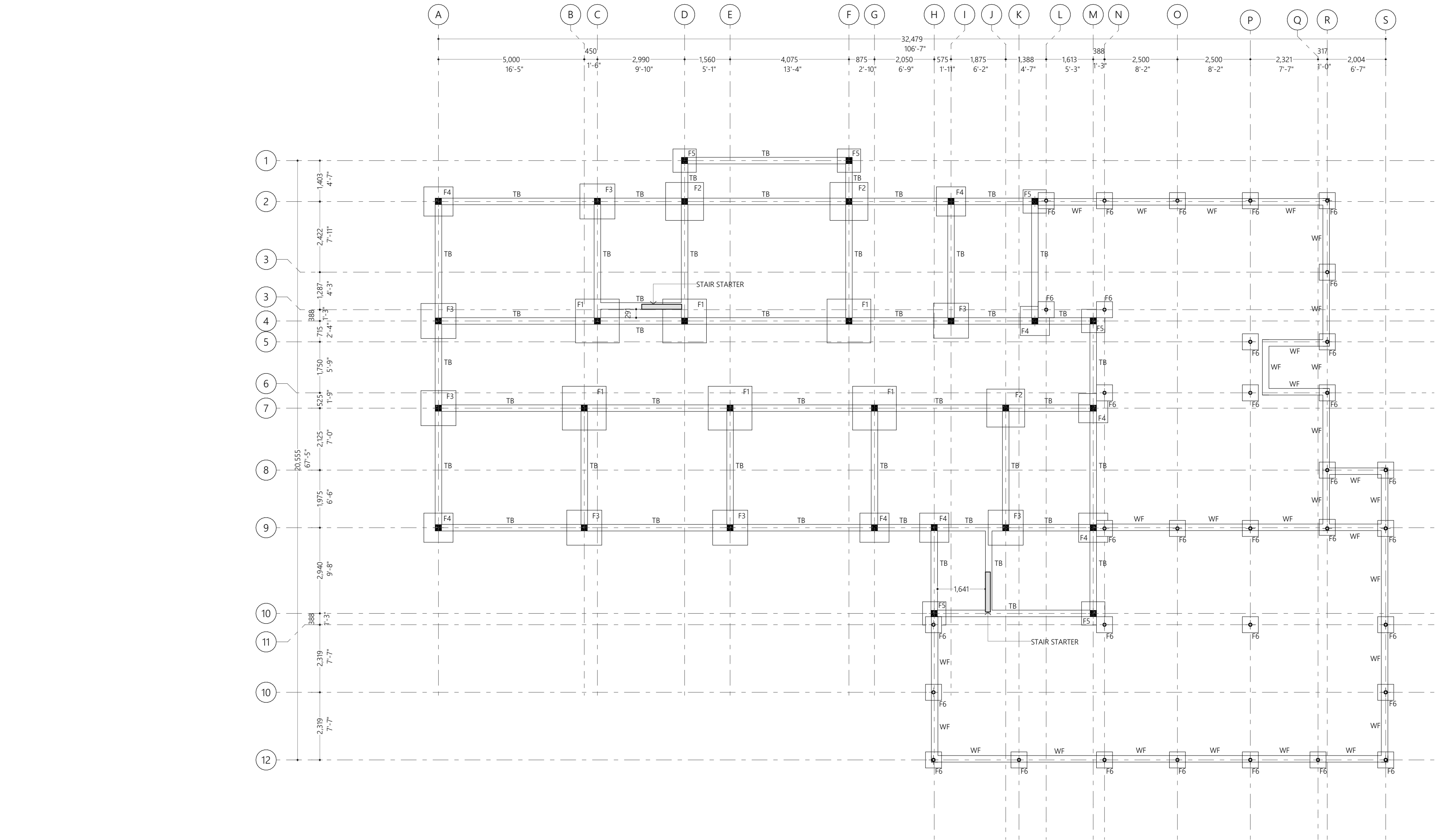
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Page Title
Column Layout

Scale : 1:100

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Foundation Details:

	Dimensions	Reinforcement	Foudation Depth
F1	1500x1500x300	T10@150C/C B/W (B)	1000mm
F2	1300x1300x300	T10@150C/C B/W (B)	1000mm
F3	1200x1200x300	T10@150C/C B/W (B)	1000mm
F4	1000x1000x300	T10@150C/C B/W (B)	1000mm
F5	800x800x300	T10@150C/C B/W (B)	1000mm
F6	550x550x200	T10@150C/C B/W (B)	700mm

Ground Slab = 100mm thick RC slab on fill reinforced with T10@200C/C (B/W)

All Footings are to be laid on top of 50mm thick lean concrete
Apply waterproofing to all substructure (below ground elements)
All below ground & terrace concrete works shall be done using waterproofing admixtures

Foundation Plan
1:100

Overview :



Legend :


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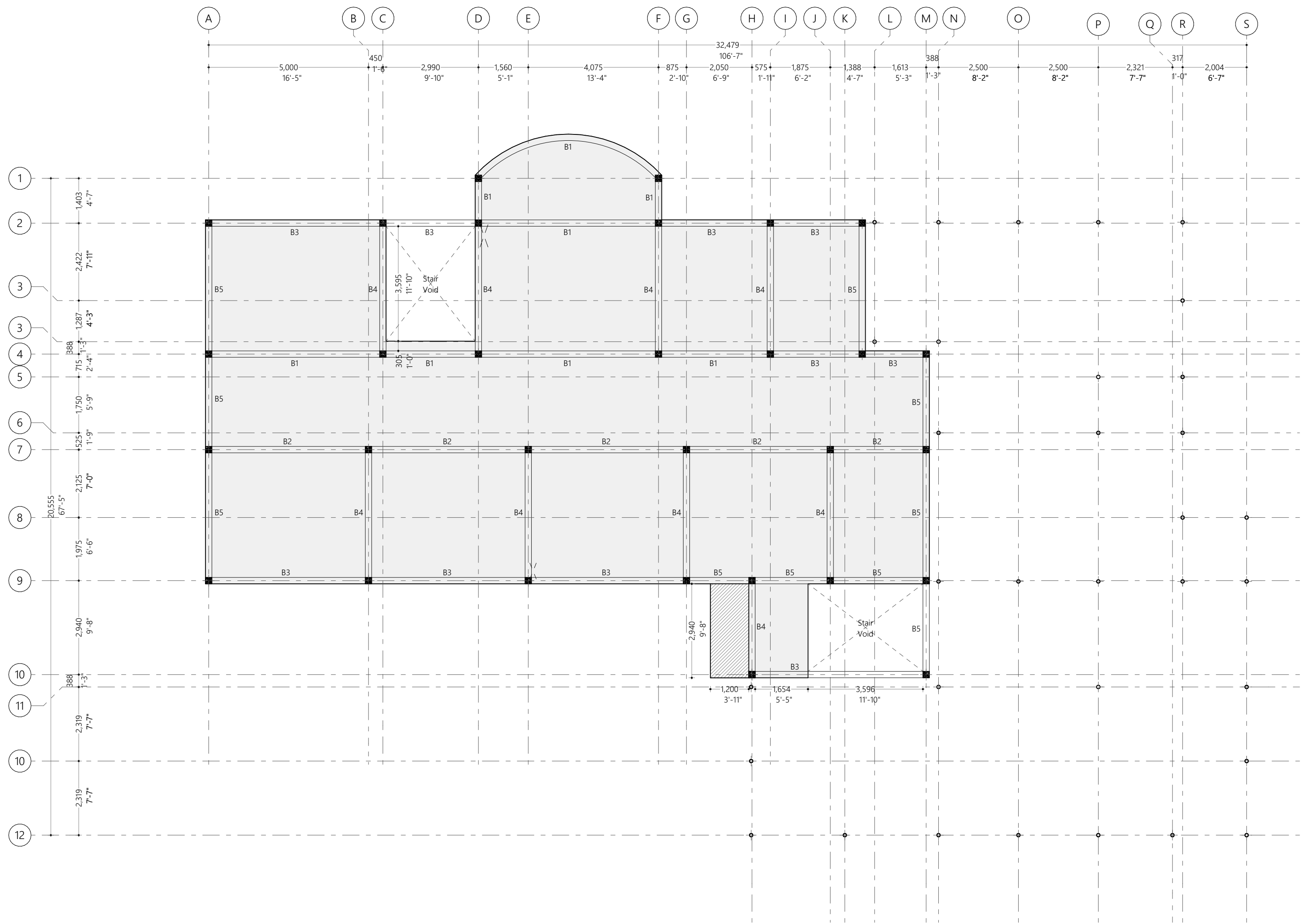
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Page Title
Foundation Plan

Scale : 1:100

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First Floor Beam Plan
1:100

Overview :



Legend :

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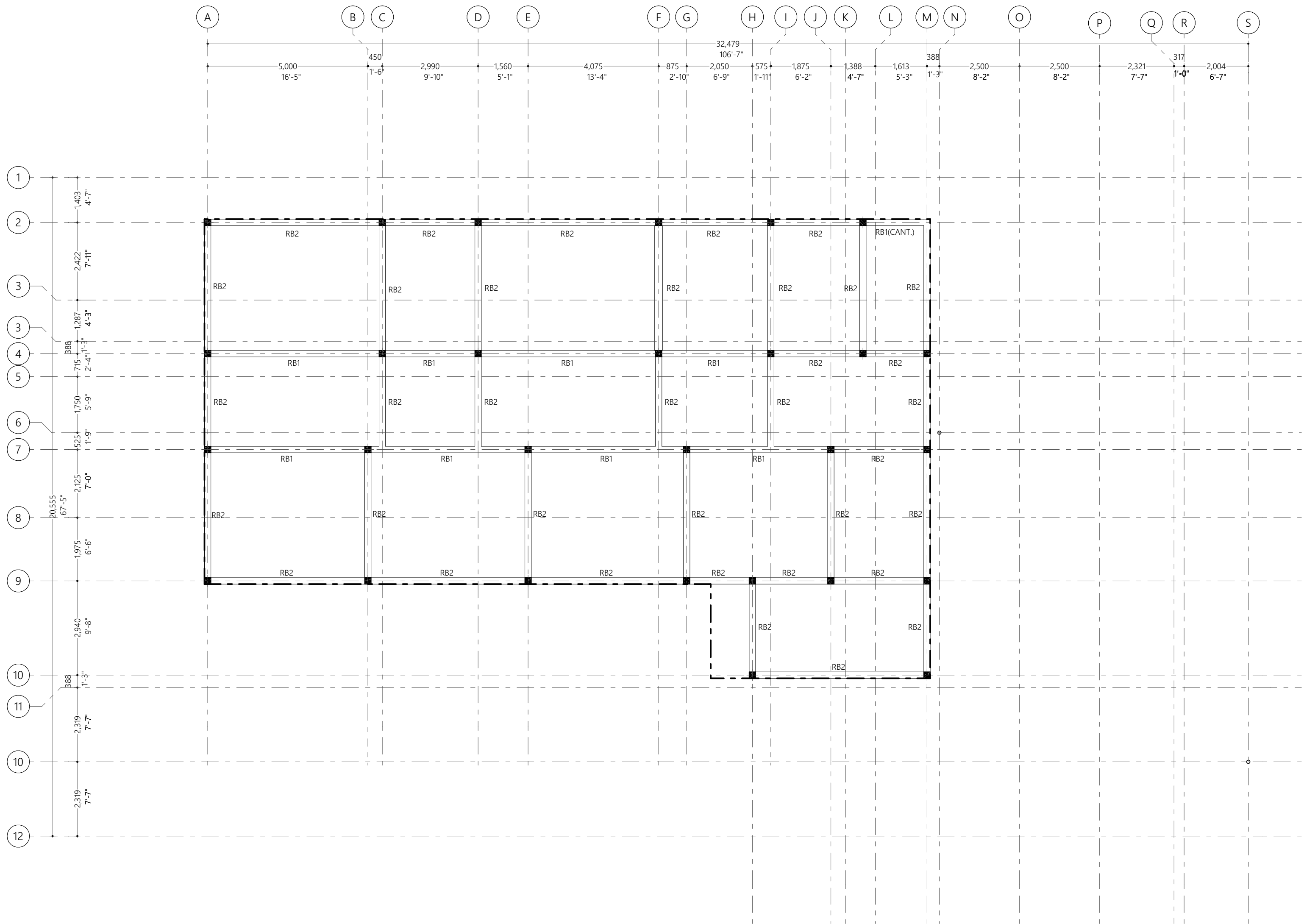
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Roof Beam Plan
1:100

Overview :



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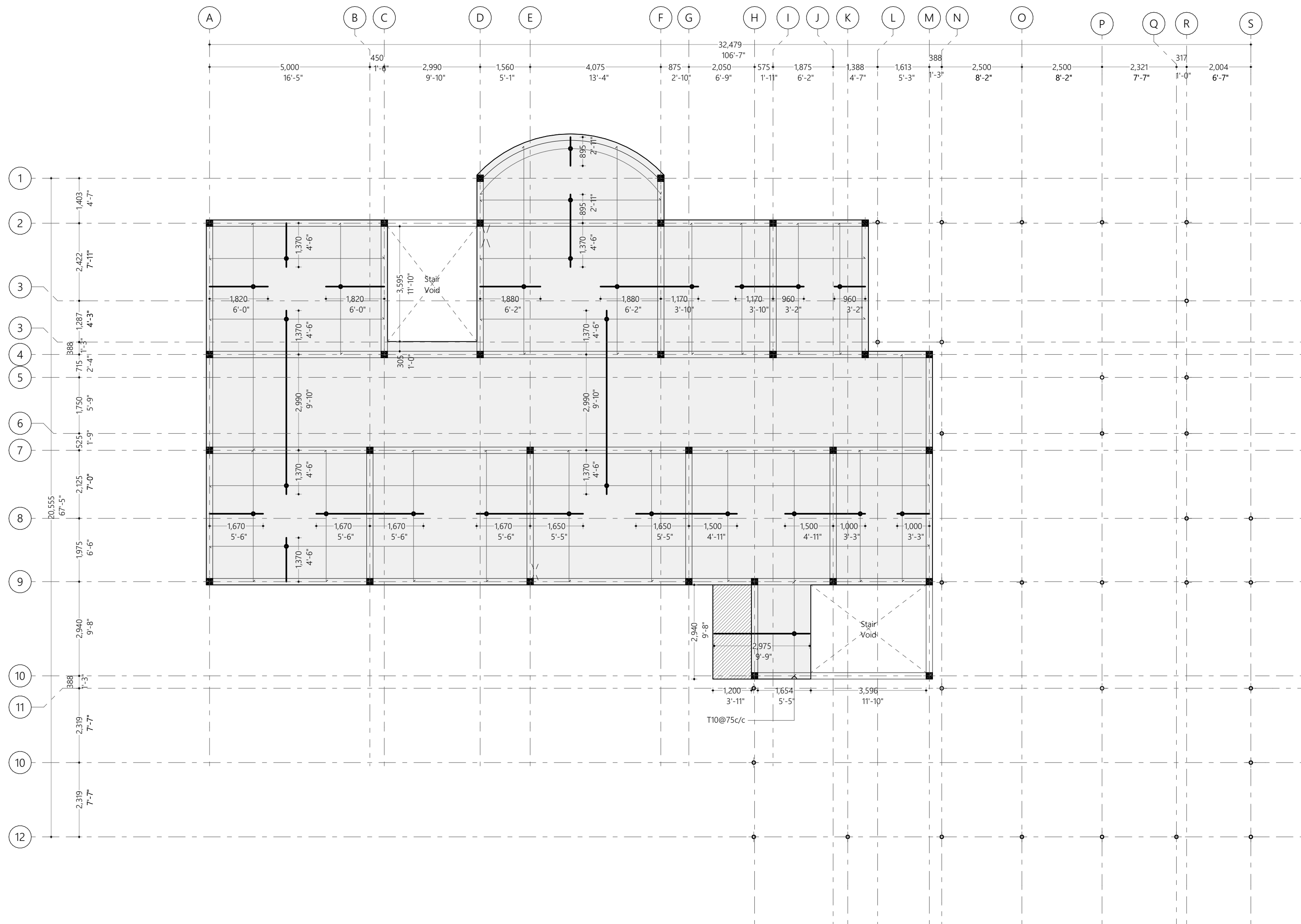
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Page Title
Roof Beam Plan

Scale : 1:100

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Page Title
First Floor Slab Reinforcement Plan

Scale : 1:100

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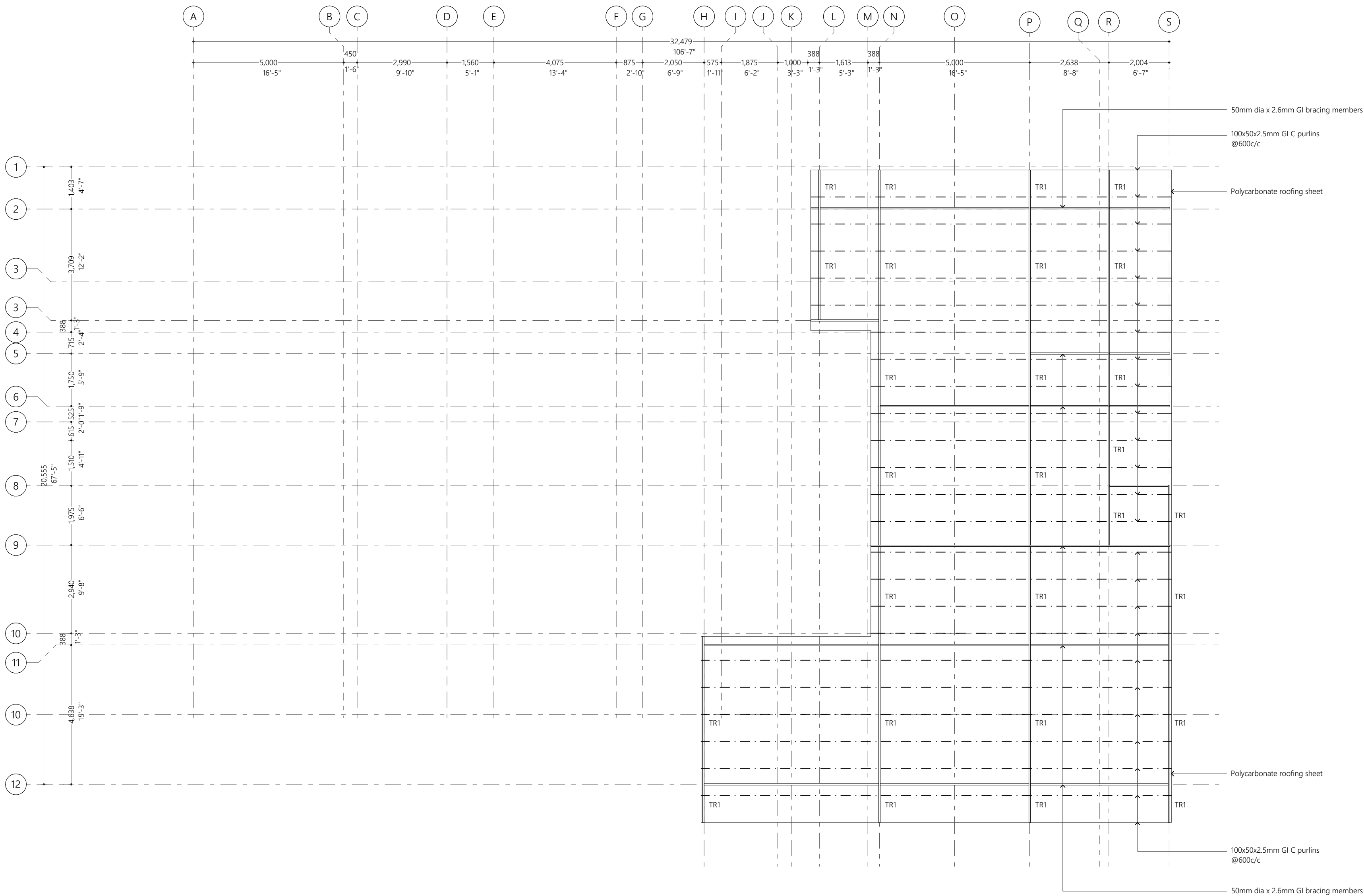
Pg : B.3.1

Notes:

- Slab thickness: 140mm
- Shaded area slab thickness: 150mm

Bottom Reinforcement - T10@150 C/C B/W Throughout (not shown)
Top Reinf. - T10@150C/C (as shown, unless stated)
Top Dist. Steel - T10@150 C/C (not shown)
Extra Bars - 3T10@45C/C T&B as shown
Reinforcement discontinuous at voids
Provide 30mm cover

First Floor Slab Reinforcement Plan
1:100



Overview :

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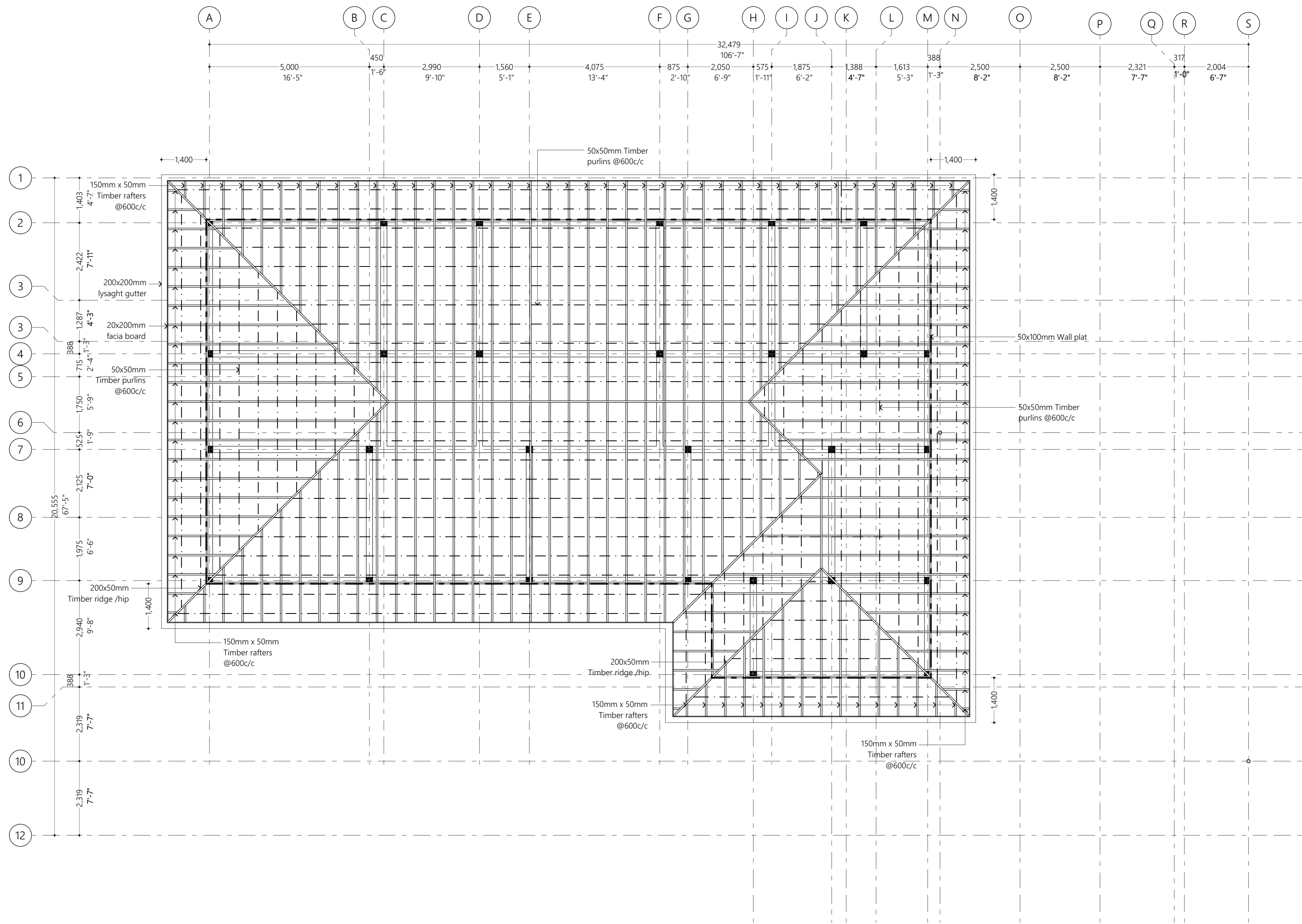
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Roof Framing Plan 1

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Roof Framing Plan 1
1:100



Roof Framing Plan 2
1:100

Overview :



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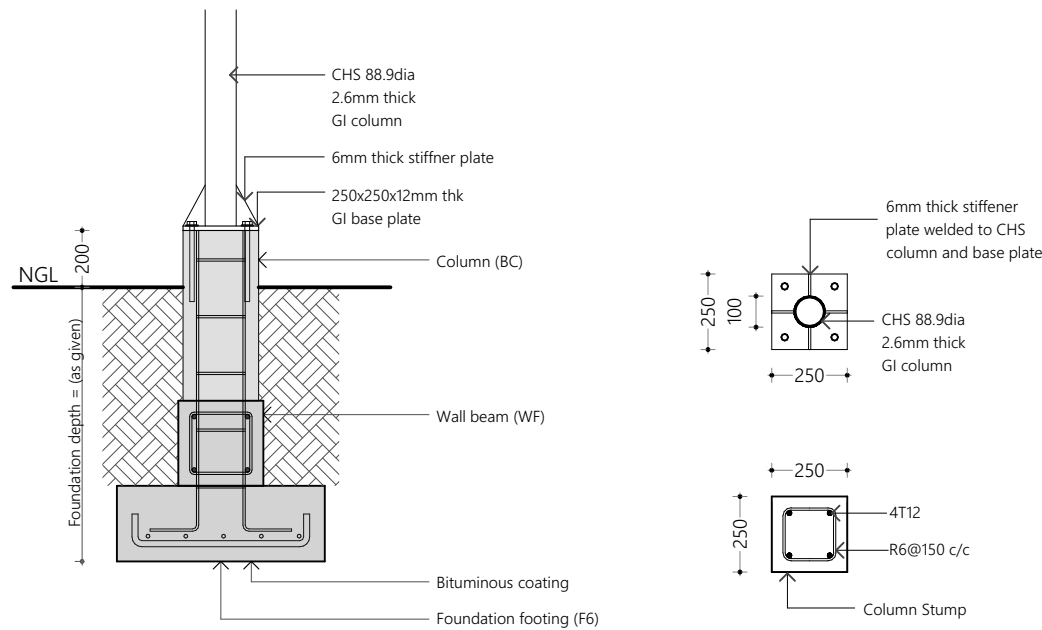
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Roof Framing Plan 2

Scale : 1:100

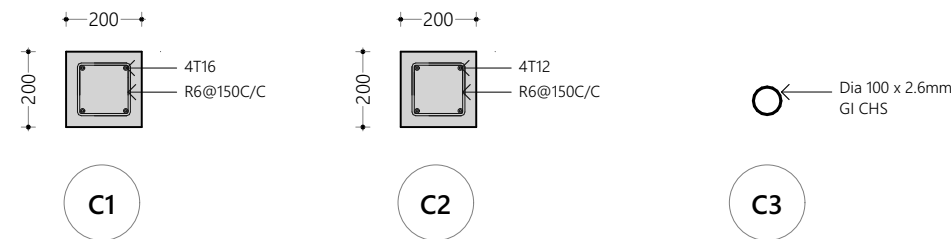
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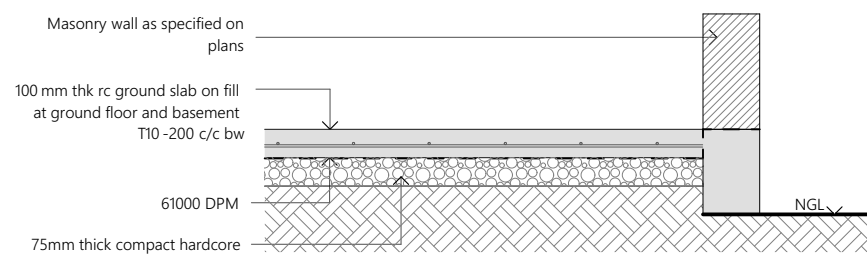


Sectional View (C3/F6)

Column and Stump Detail (C3)
1:20



Column Detail
1:20

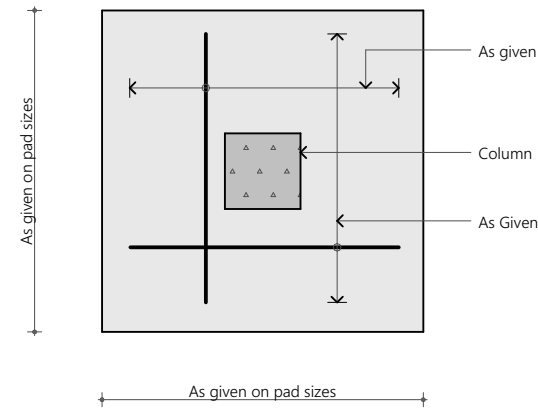


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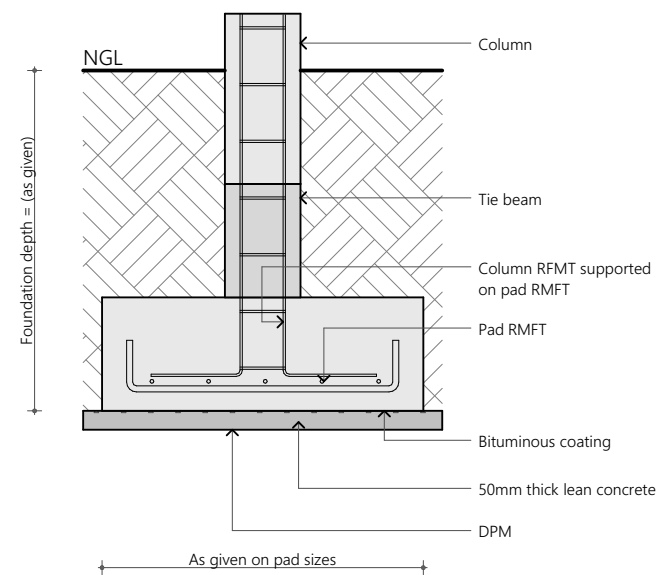
All cover blocks shall be casted using grade C 25 / 30 concrete with 5-10 mm aggregates

For slab, rebar spacer chairs spacing shall be minimum 1m spacing or 1no. per 1 sqm

Typical Ground Slab Construction Detail
1:20



Plan View



Sectional View

Typical Footing Detail
1:20

Foundation Details:

	Dimensions	Reinfrocement	Foudation Depth
F1	1500x1500x300	T10@150C/C B/W (B)	1000mm
F2	1300x1300x300	T10@150C/C B/W (B)	1000mm
F3	1200x1200x300	T10@150C/C B/W (B)	1000mm
F4	1000x1000x300	T10@150C/C B/W (B)	1000mm
F5	800x800x300	T10@150C/C B/W (B)	1000mm
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Ground Slab = 100mm thick RC slab on fill reinforced with T10@200C/C (B/W)

All Footings are to be laid on top of 50mm thick lean concrete
Apply waterproofing to all substructure (below ground elements)
All below ground & terrace concrete works shall be done using waterproofing admixtures

Notes:

Cover to foundations = 50mm
Cover to floor slabs = 30mm
Cover to floor beams = 35mm
Cover to columns = 40mm
Laps = 45Dia (Dia=Bar Diameter)
Mid bars = 0.85 x Span
Sup bars = 1/3 x Span
Concrete mix = 1:2:3 (C:S:A)
Lean concrete mix = 1:2:5

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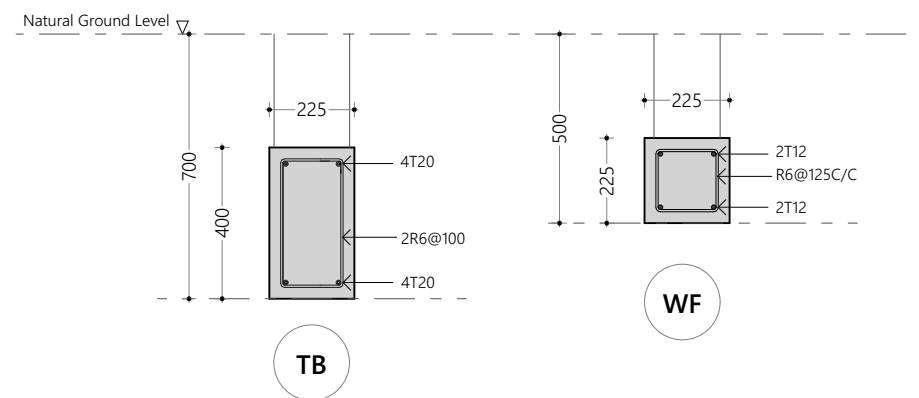
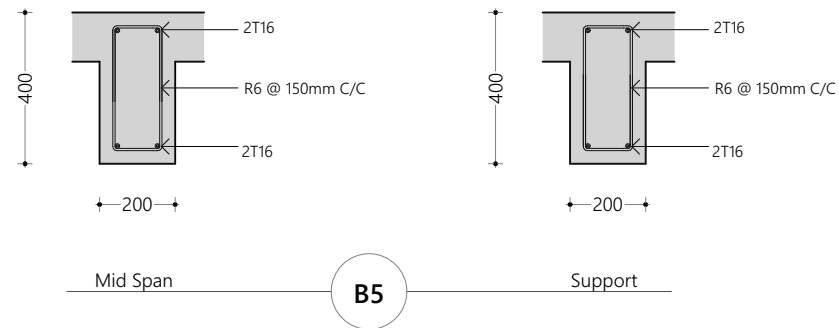
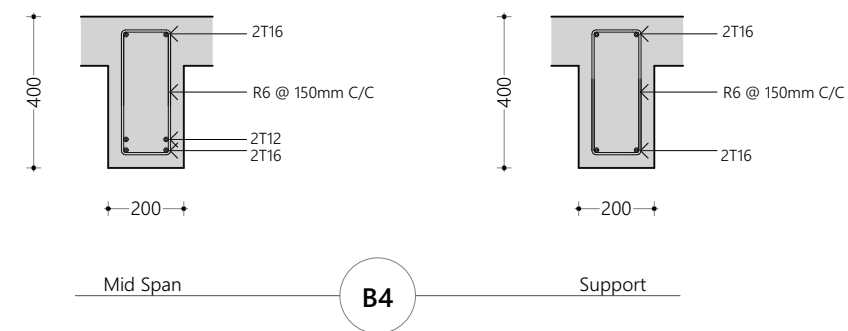
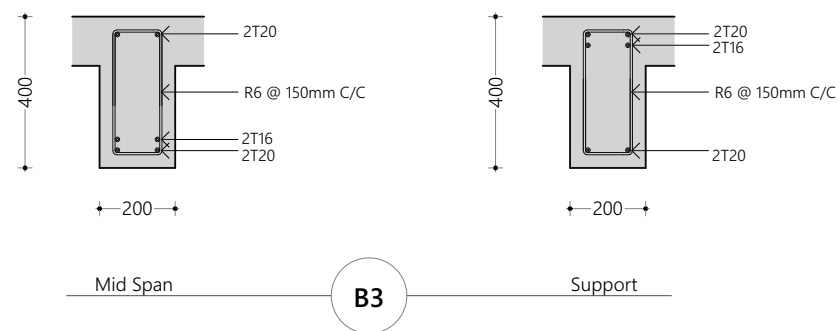
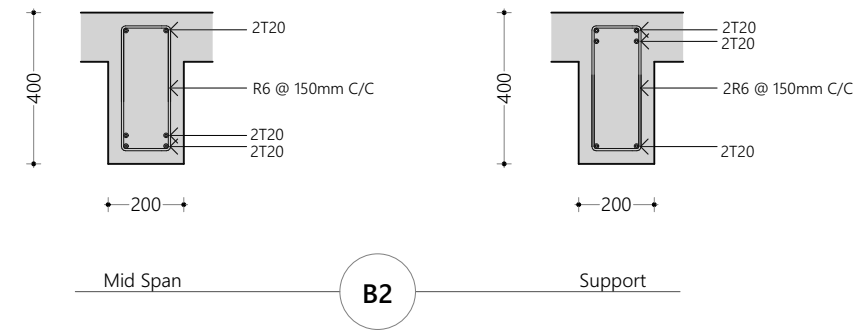
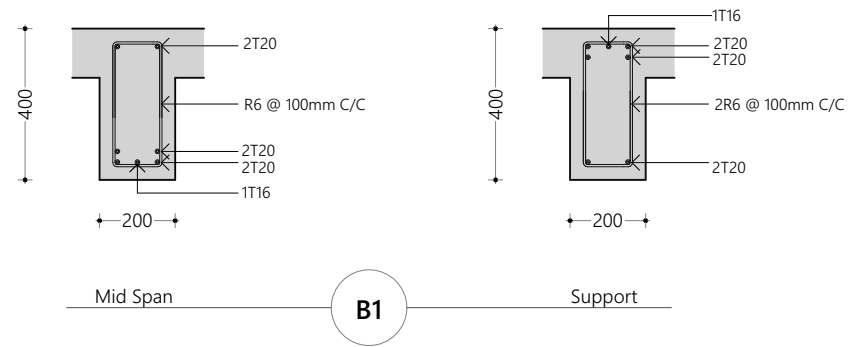
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Page Title
Structural Details 01

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Beam Details

1:20

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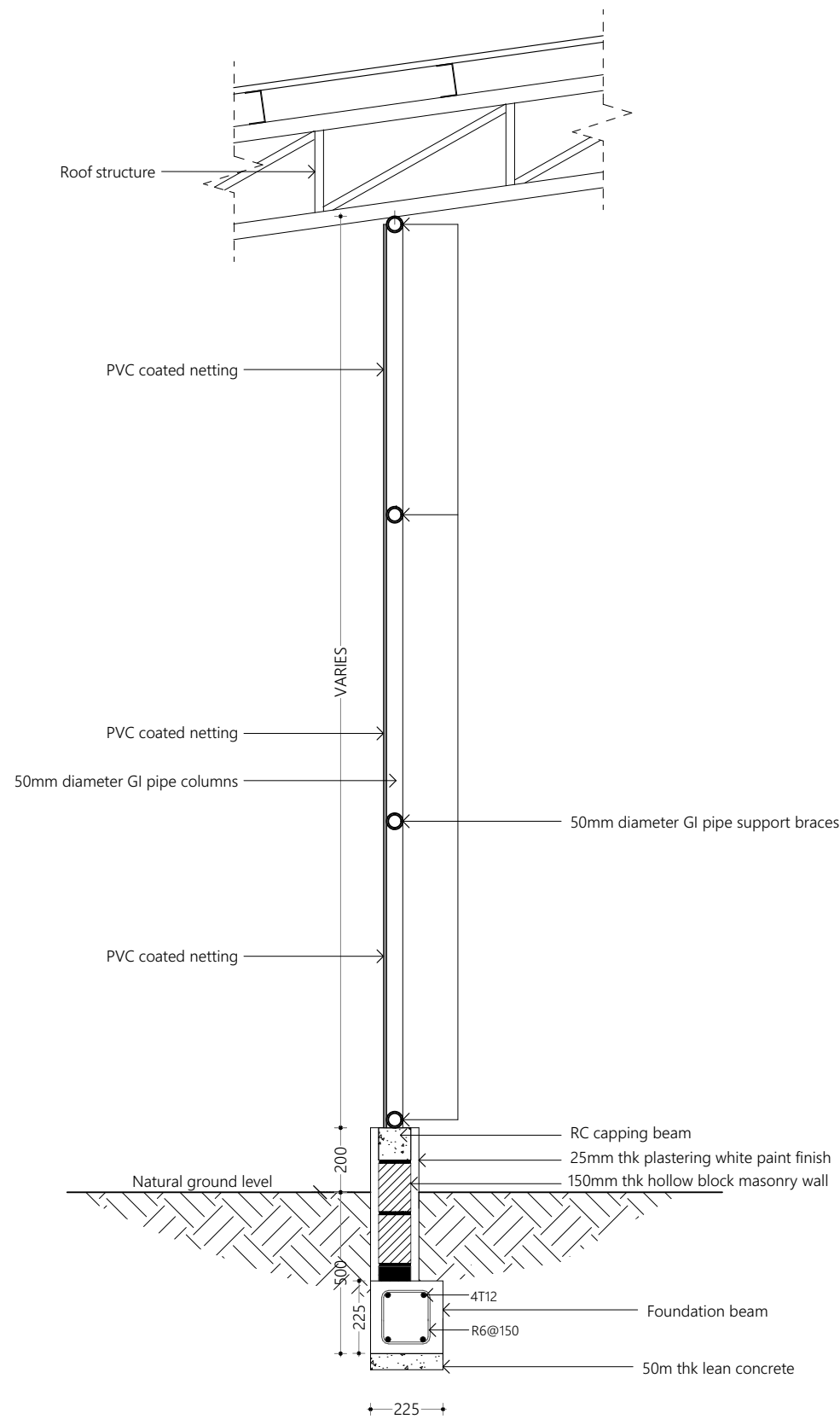
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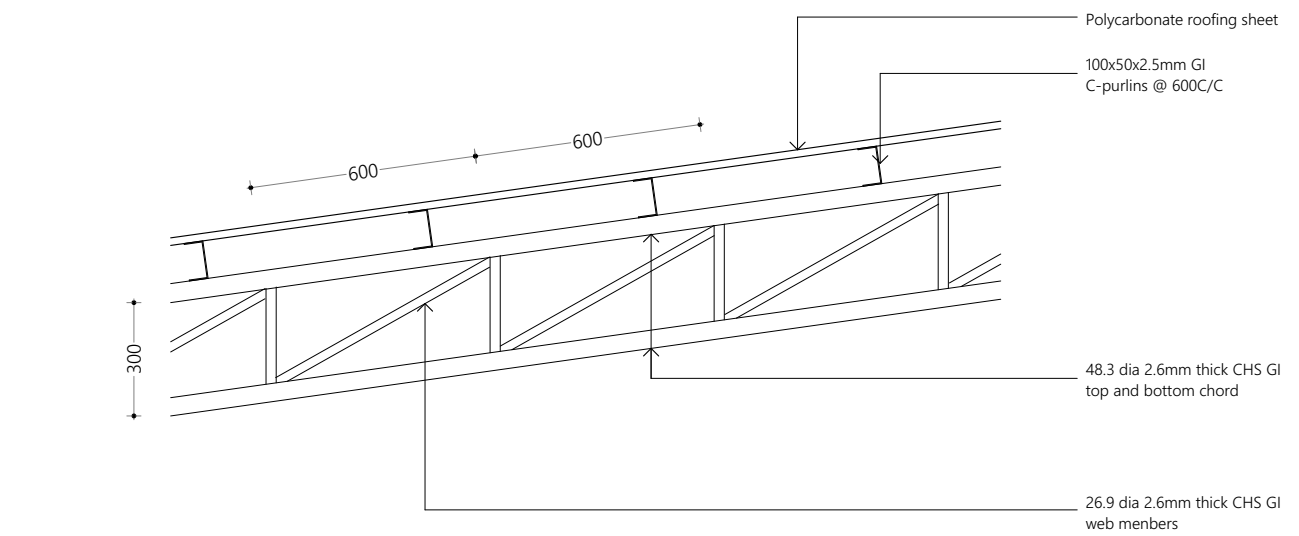
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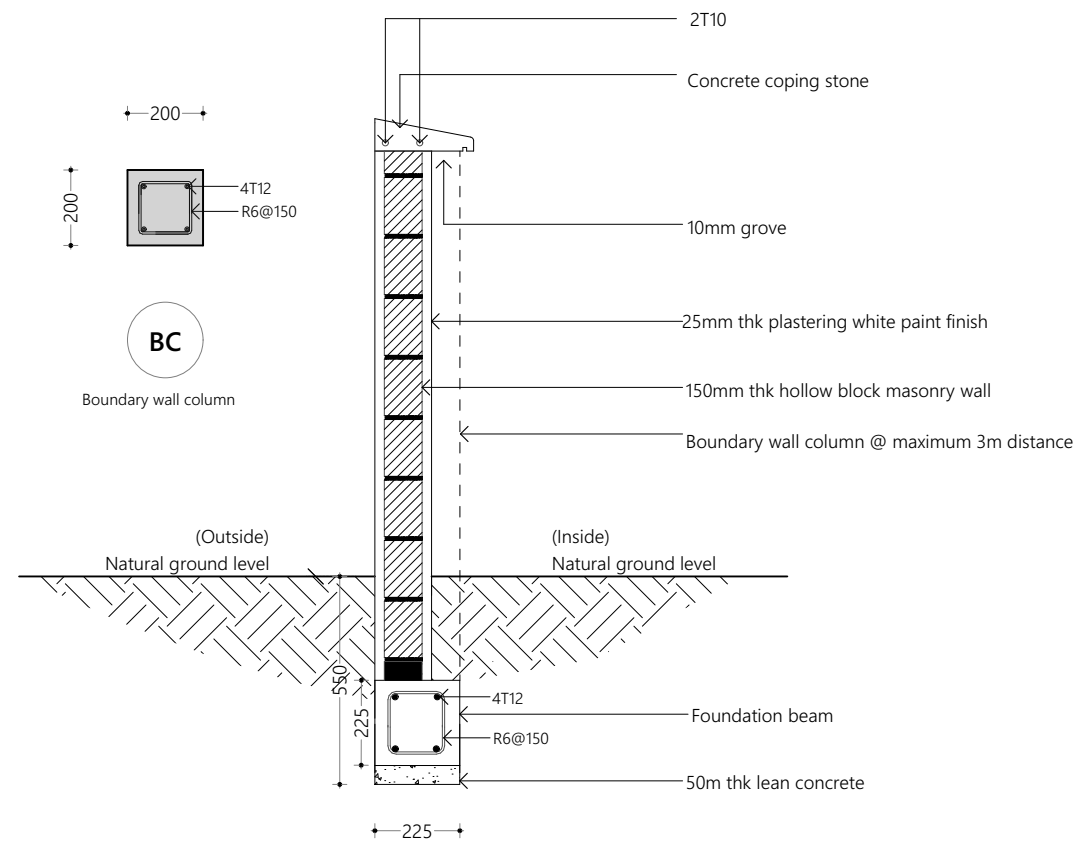
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Netting Detail
1:20



TR1 Detail
1:20



Boundary Wall Detail
1:20

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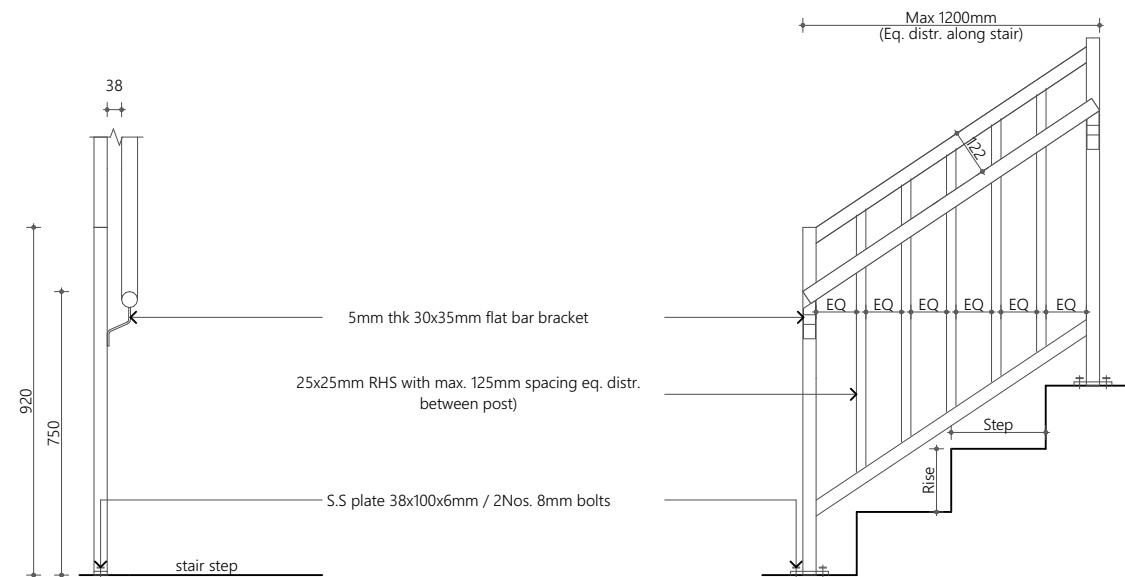
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Page Title
Details I

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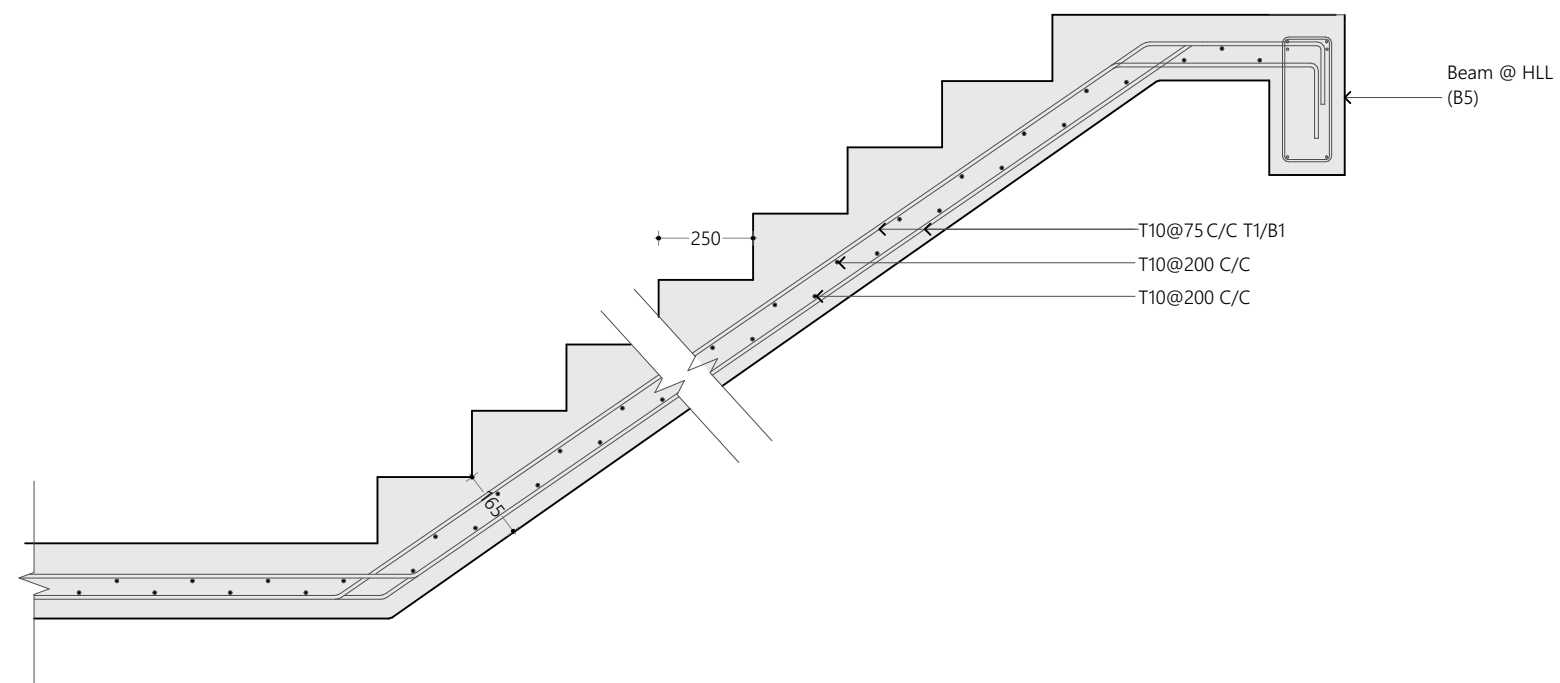
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1. Post, top line and bottom line material to be 38X38mm RHS
2. Handrail material to be 38mm Ø S.S or varnished timber
3. Step: 250mm
4. Raise: 167mm

Staircase Railing Detail
1:20



Staircase Reinforcement Detail
1:20

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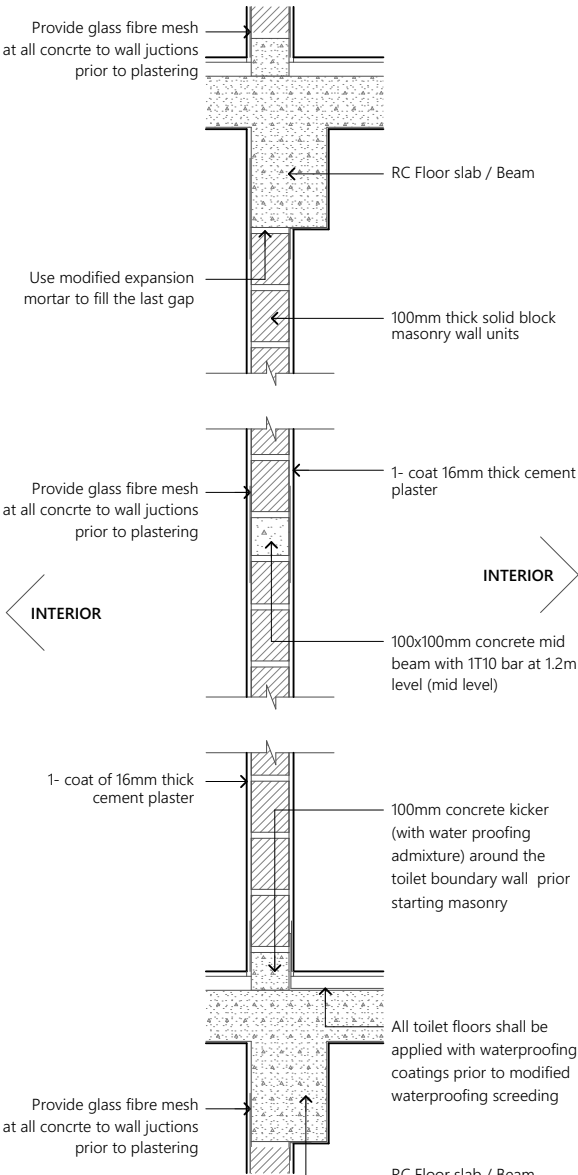
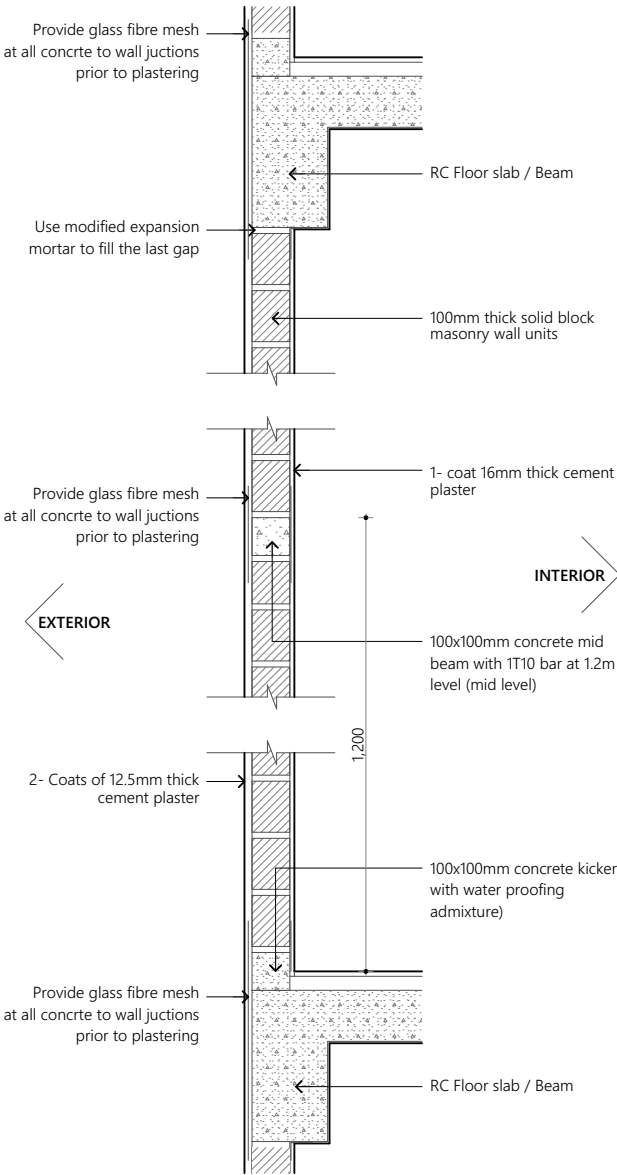
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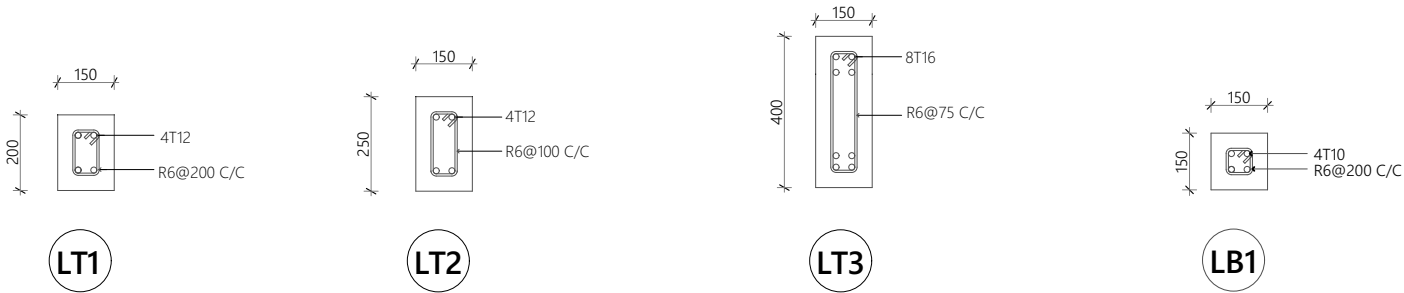
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Note:

- * Concrete surfaces shall be thoroughly cleaned with water & applied with mastercast 141 or equivalent bonding mortar prior to plastering.
- * Plastering mortar mix shall be 1:4 (cement: sand) ratio.
- * Plaster mix shall be modified using fibre wool & mastercast 141 or equivalent plasticisers as per manufacturer's specification.
- * Height of placing blocks shall be maximum 1.2m per day.
- * After initial coat of plastering, water curing shall be provided for minimum 3 days & after final coat water curing shall be provided for 7 days.

Wall Construction Detail
1:20

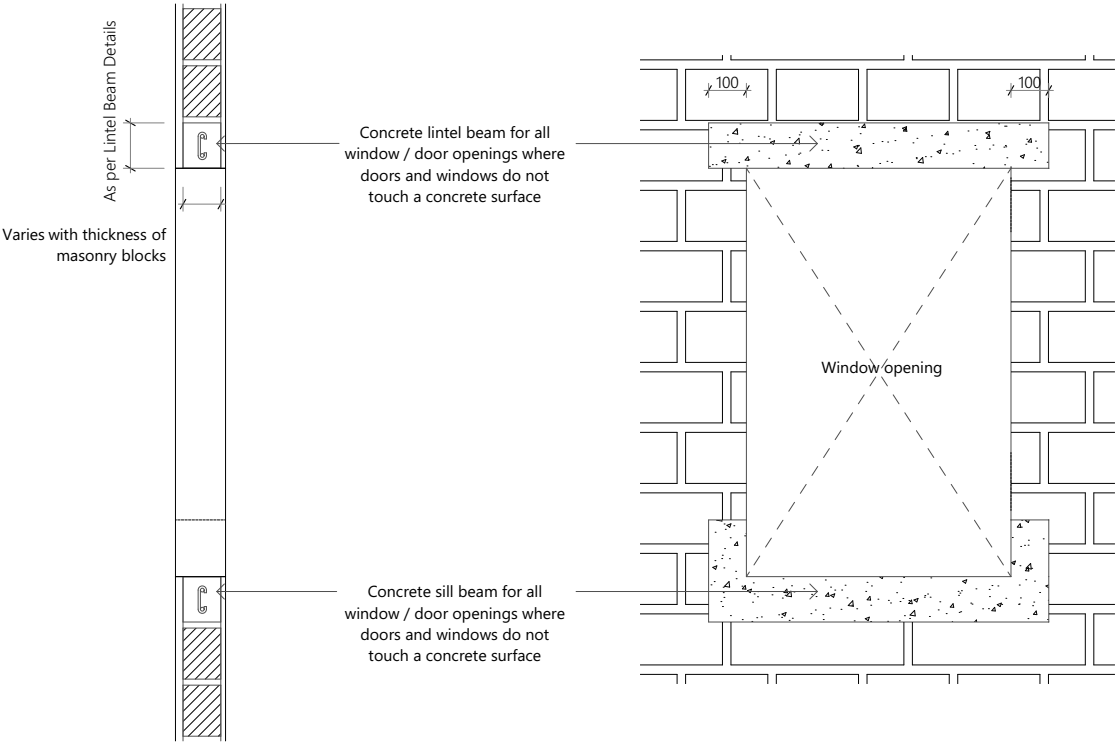


LT1 LINTELS OVER ALL DOORS, WINDOWS (THAT DOES NOT RISE TO BEAM LEVEL) LT1 FOR WINDOWS < 1.5M

LT2 LINTELS OVER ALL DOORS, WINDOWS (THAT DOES NOT RISE TO BEAM LEVEL) LT2 FOR WINDOWS > 1.5M & <3.0M

LT3 LINTELS OVER ALL DOORS, WINDOWS (THAT DOES NOT RISE TO BEAM LEVEL) LT3 FOR WINDOWS > 3.0M & <6.0M

Lintel Beam Detail
1:20



Window Construction Detail
1:20

Sill Beam Detail
1:20

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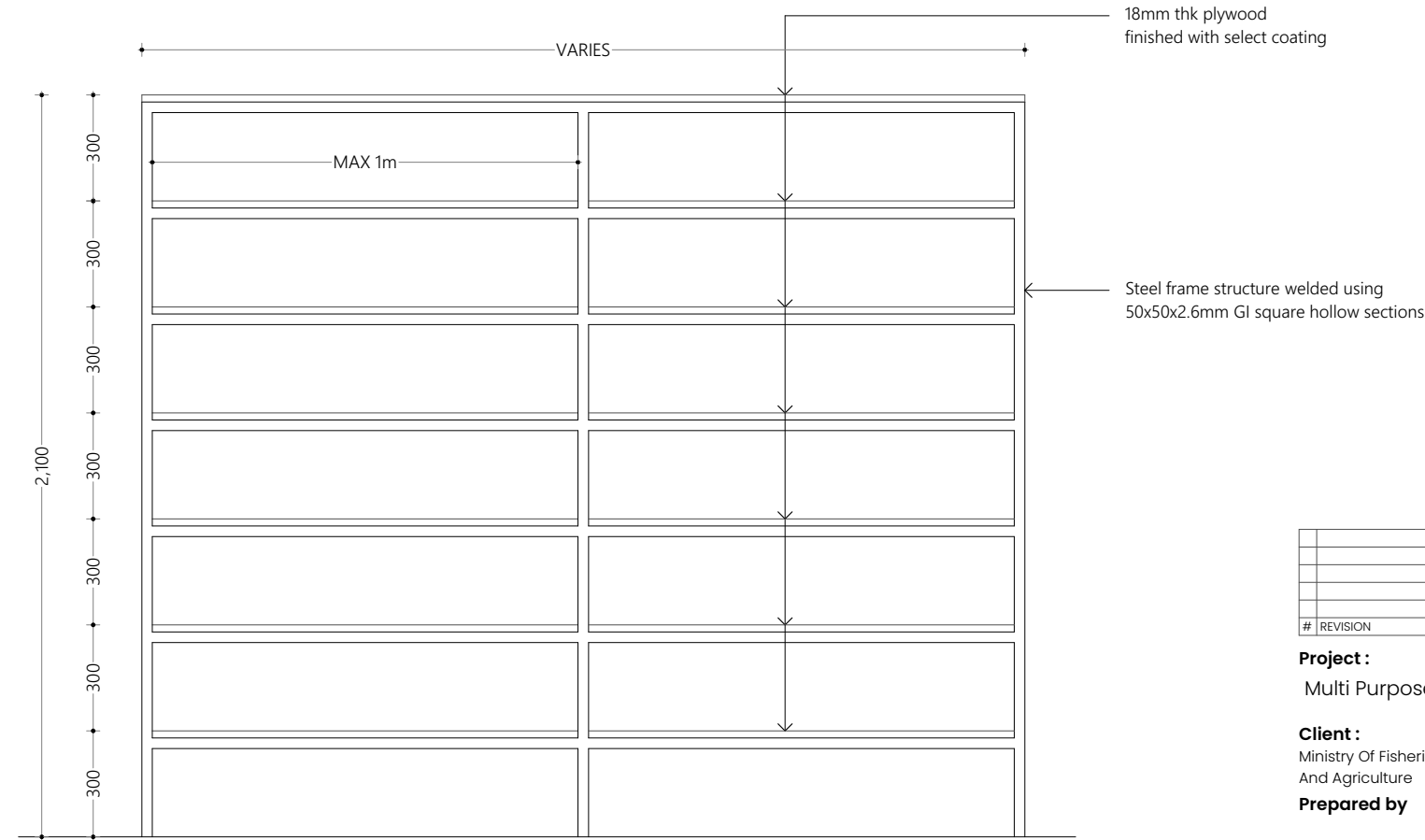
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PLAN VIEW



ELEVATION VIEW

Shelf Detail

1:20

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Details 4

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