ARCHITECTURAL & STRUCTURAL DRAWINGS OF

PROPOSED 02 STOREY BUILDING

R. ATOLL EDUCATION CENTRE
2 STOREY BUILDING

Ministry Of Education

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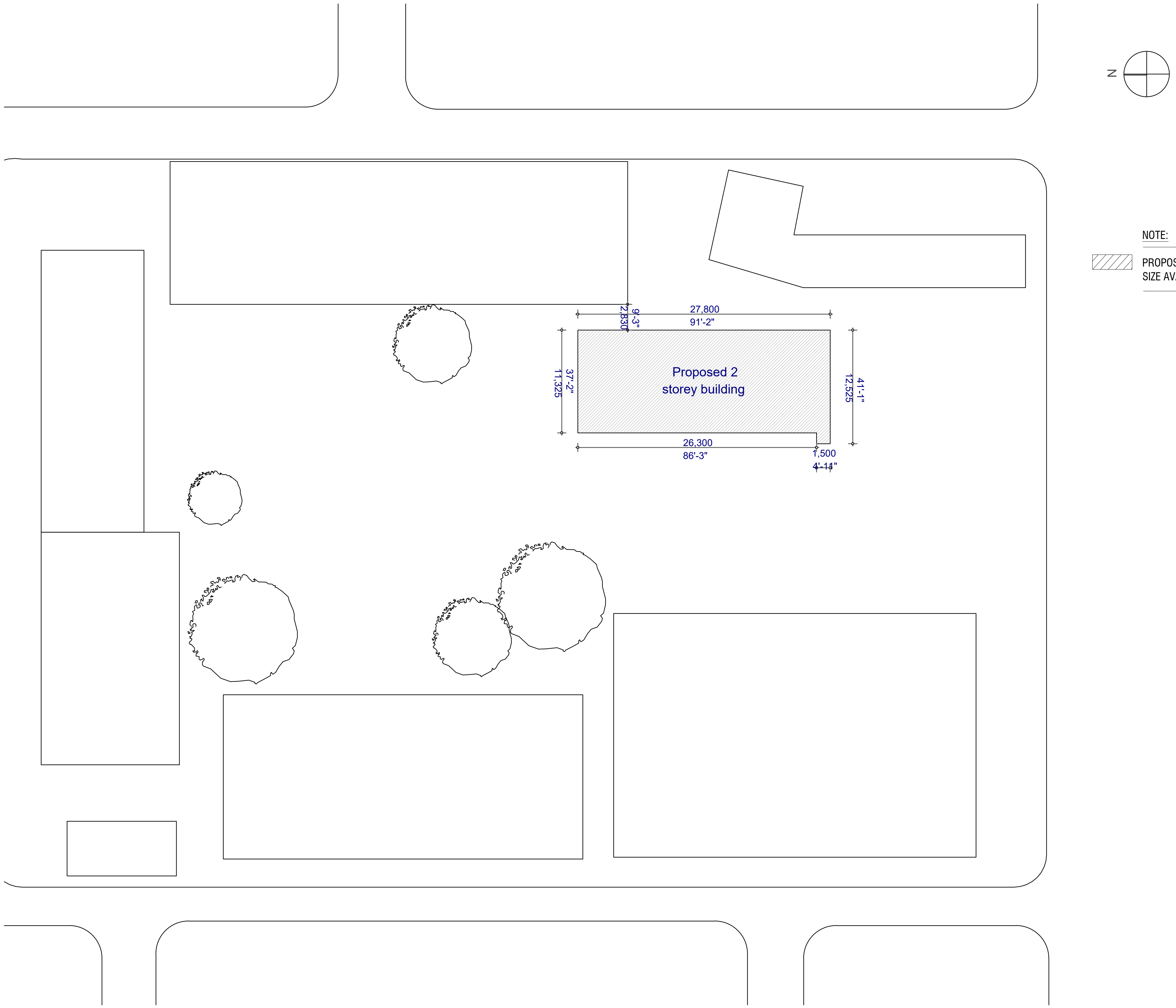

N
27,800
91'-2"
2,830
9'-3"
Proposed 2
storey building
37'-2"
11,325
12,525
41'-1"
26,300
86'-3"
1,500
4'-11"

NOTE:

▨ PROPOSED BUILDING LOCATION (NOT TO SCALE)
SIZE AVAILABLE AT THE PLOT

SITE PLAN

NTS

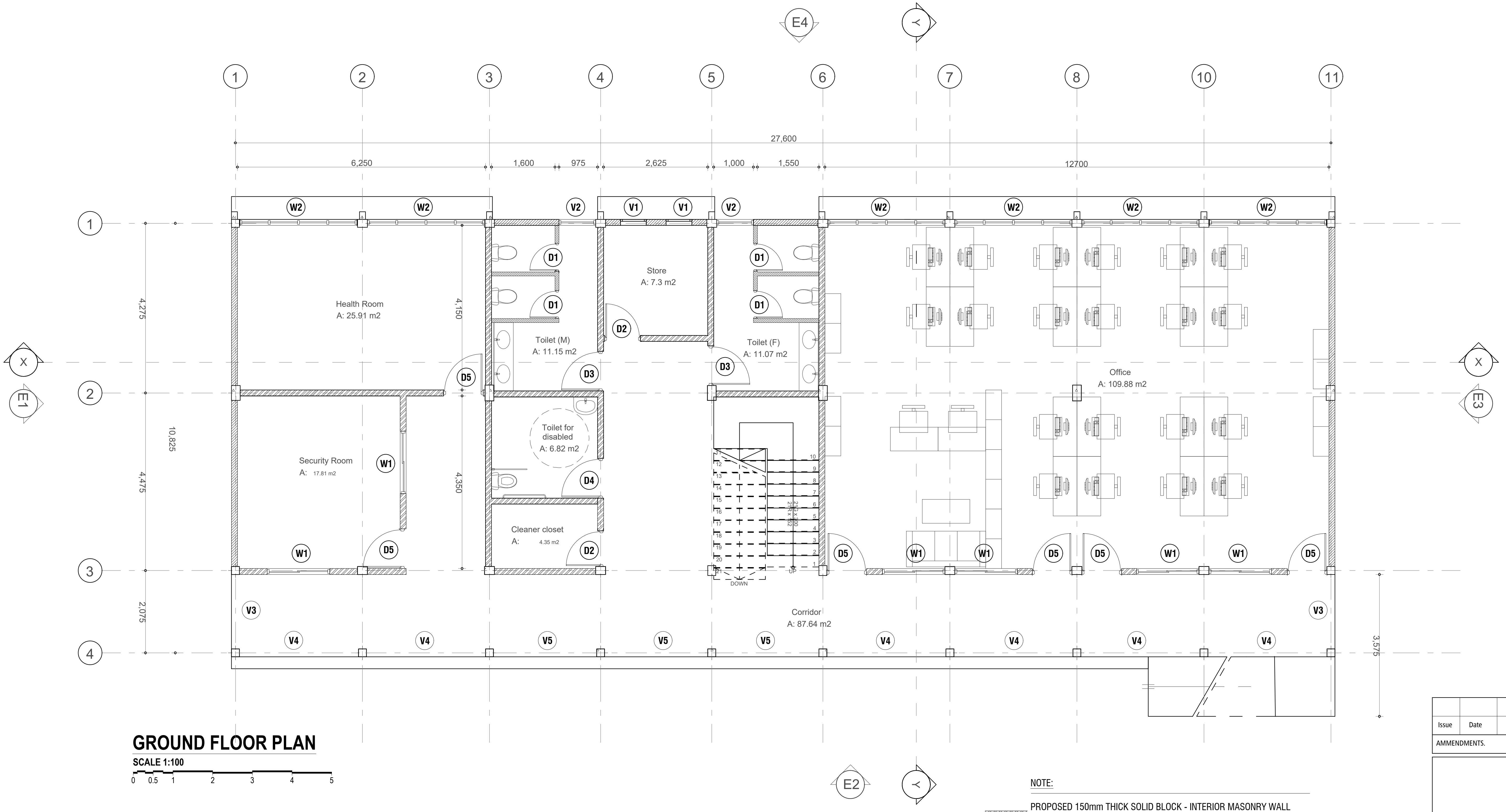
Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A-01/ 15


E4
E1
E2
E3
X
1
2
3
4
5
6
7
8
10
11
27,600
6,250
1,600
975
2,625
1,000
1,550
12700
4,275
4,475
2,075
10,825
4,150
4,350
3,575
W1
W2
V1
V2
V3
V4
V5
D1
D2
D3
D4
D5
Health Room
A: 25.91 m2
Security Room
A: 17.81 m2
Toilet (M)
A: 11.15 m2
Toilet for disabled
A: 6.82 m2
Cleaner closet
A: 4.35 m2
Store
A: 7.3 m2
Toilet (F)
A: 11.07 m2
Office
A: 109.88 m2
Corridor
A: 87.64 m2
DOWN
UP

GROUND FLOOR PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

NOTE:

▨ PROPOSED 150mm THICK SOLID BLOCK - INTERIOR MASONRY WALL WITH 16mm PLASTERING, GROUND SMOOTH IN SELECTED PAINT FINISH

▨ PROPOSED 150mm THICK SOLID BLOCK - EXTERIOR MASONRY WALL WITH 20mm PLASTERING, GROUND SMOOTH IN SELECTED PAINT FINISH

═ PROPOSED 100mm THICK SOLID BLOCK - INTERIOR MASONRY WALL WITH 16mm PLASTERING, GROUND SMOOTH IN SELECTED PAINT FINISH

▩ PROPOSED 120mm THICK RC WALL TO BE WATER PROOFED WITH WATER PROOFING AGENT

▨ PROPOSED 100mm THICK 2400mm HIGH SOLID BLOCK MASONRY WALL WITH 16mm PLASTERING, GROUND SMOOTH IN SELECTED PAINT FINISH

THE SCREEDING AND TILES ARE INCORPORATED IN THE FLOOR FINISH LEVELS

REFER TO ARCHITECT FOR FURTHER ASSISTANCE.

Issue	Date	Description

AMMENDMENTS.

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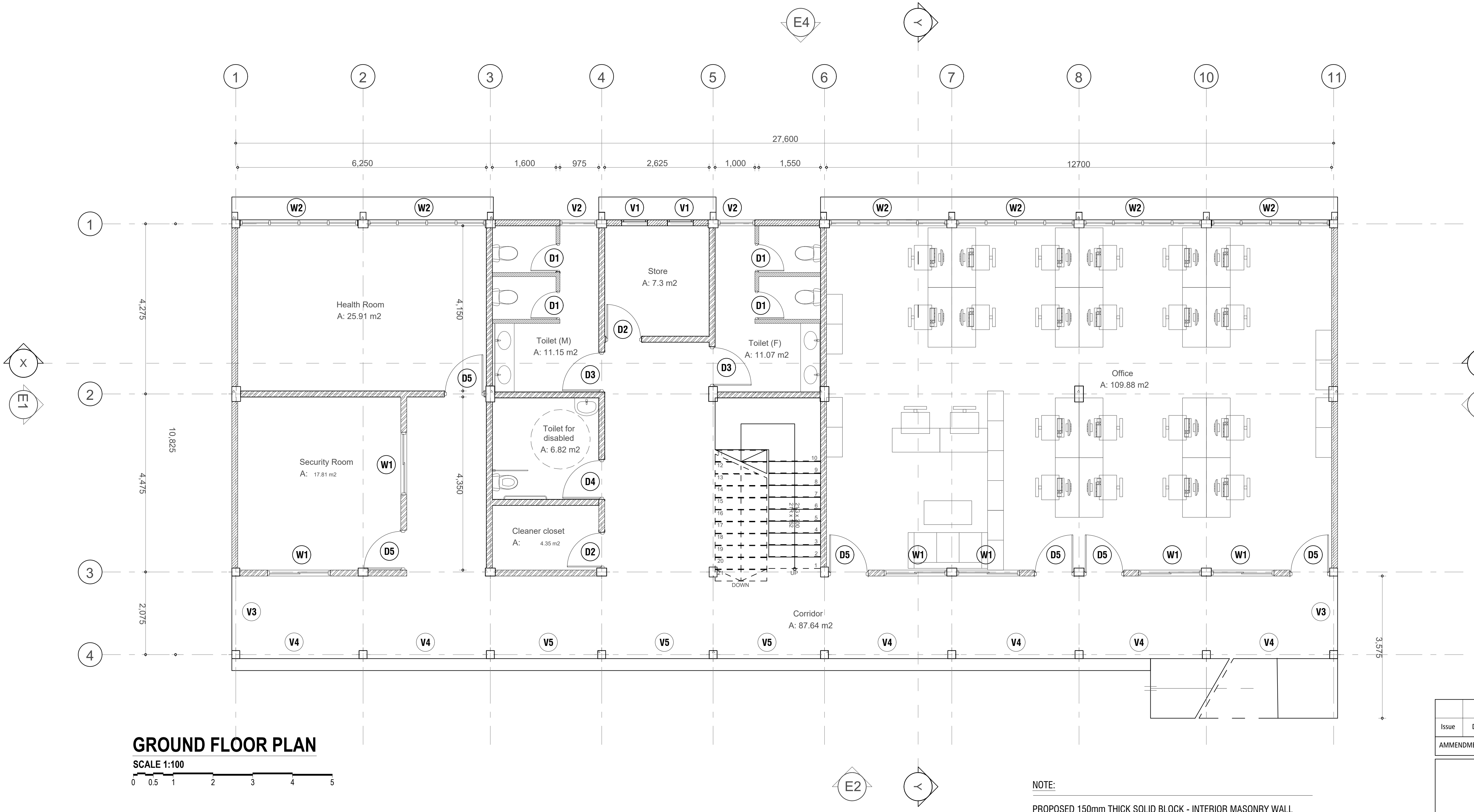
DATE : 13.10.2021
DWG NO : A-02/ 15


E4
Y
1
2
3
4
5
6
7
8
10
11
27,600
6,250
1,600
975
2,625
1,000
1,550
12700
W2
V2
V1
D1
D2
D3
D4
D5
W1
V3
V4
V5
Health Room
A: 25.91 m2
Toilet (M)
A: 11.15 m2
Store
A: 7.3 m2
Toilet (F)
A: 11.07 m2
Office
A: 109.88 m2
Security Room
A: 17.81 m2
Toilet for disabled
A: 6.82 m2
Cleaner closet
A: 4.35 m2
Corridor
A: 87.64 m2
DOWN
UP
X
E1
E3
E2
4,275
10,825
4,475
2,075
4,150
4,350
3,575

GROUND FLOOR PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

NOTE:

▨ PROPOSED 150mm THICK SOLID BLOCK - INTERIOR MASONRY WALL WITH 16mm PLASTERING, GROUND SMOOTH IN SELECTED PAINT FINISH

▨ PROPOSED 150mm THICK SOLID BLOCK - EXTERIOR MASONRY WALL WITH 20mm PLASTERING, GROUND SMOOTH IN SELECTED PAINT FINISH

PROPOSED 100mm THICK SOLID BLOCK - INTERIOR MASONRY WALL WITH 16mm PLASTERING, GROUND SMOOTH IN SELECTED PAINT FINISH

▨ PROPOSED 120mm THICK RC WALL TO BE WATER PROOFED WITH WATER PROOFING AGENT

▨ PROPOSED 100mm THICK 2400mm HIGH SOLID BLOCK MASONRY WALL WITH 16mm PLASTERING, GROUND SMOOTH IN SELECTED PAINT FINISH

THE SCREEDING AND TILES ARE INCORPORATED IN THE FLOOR FINISH LEVELS

REFER TO ARCHITECT FOR FURTHER ASSISTANCE.

Issue	Date	Description
AMMENDMENTS.		

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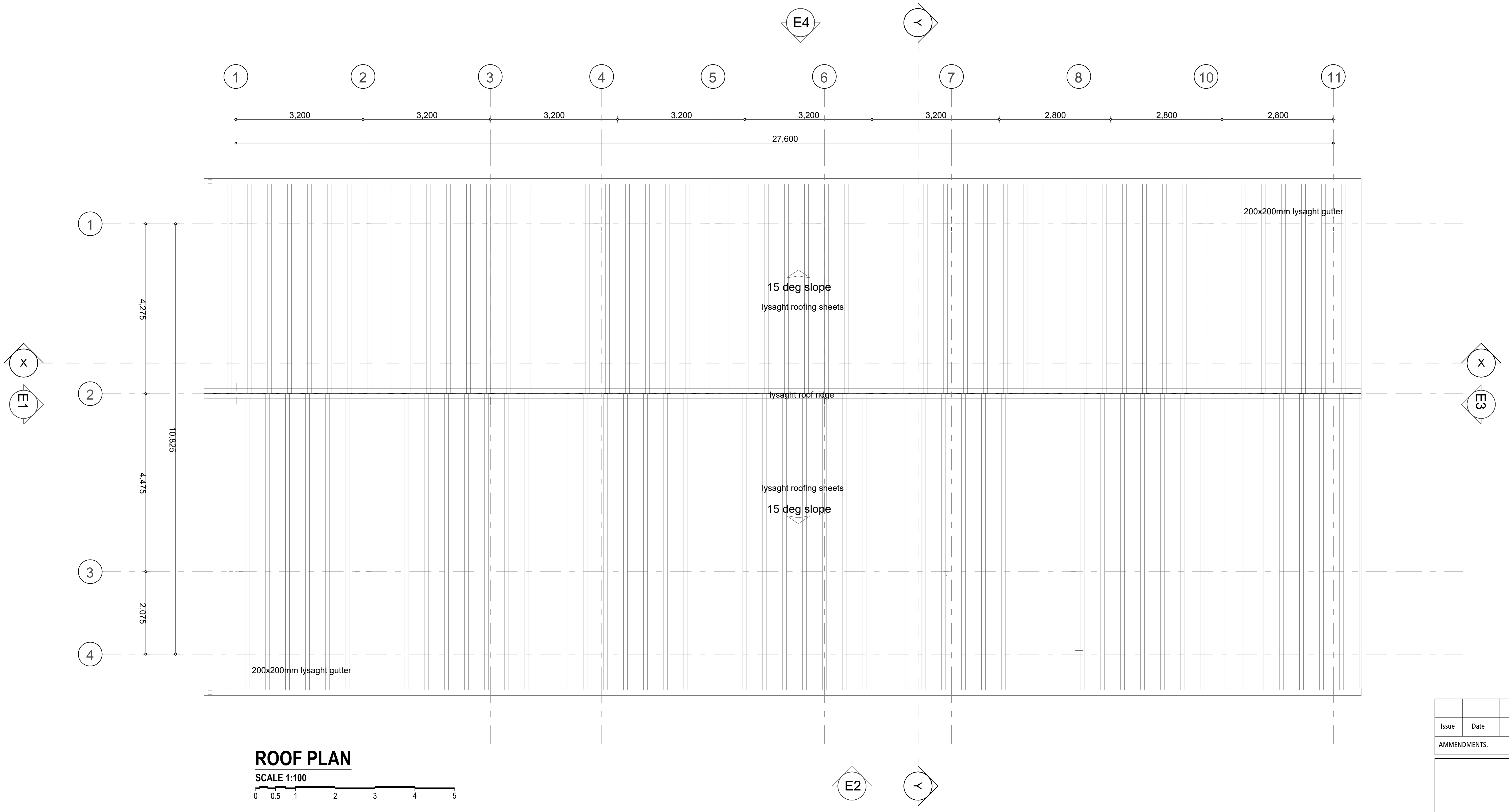
E4
Y
1
2
3
4
5
6
7
8
10
11
3,200
3,200
3,200
3,200
3,200
3,200
2,800
2,800
2,800
27,600
200x200mm lysaght gutter
15 deg slope
lysaght roofing sheets
X
X
E1
E3
4,275
10,825
lysaght roof ridge
4,475
lysaght roofing sheets
15 deg slope
2,075
200x200mm lysaght gutter
0
0.5
1
2
3
4
5
E2
Y

ROOF PLAN

SCALE 1:100

Issue	Date	Description
AMMENDMENTS.		

PHYSICAL FACILITIES DEVELOPMENT SECTION
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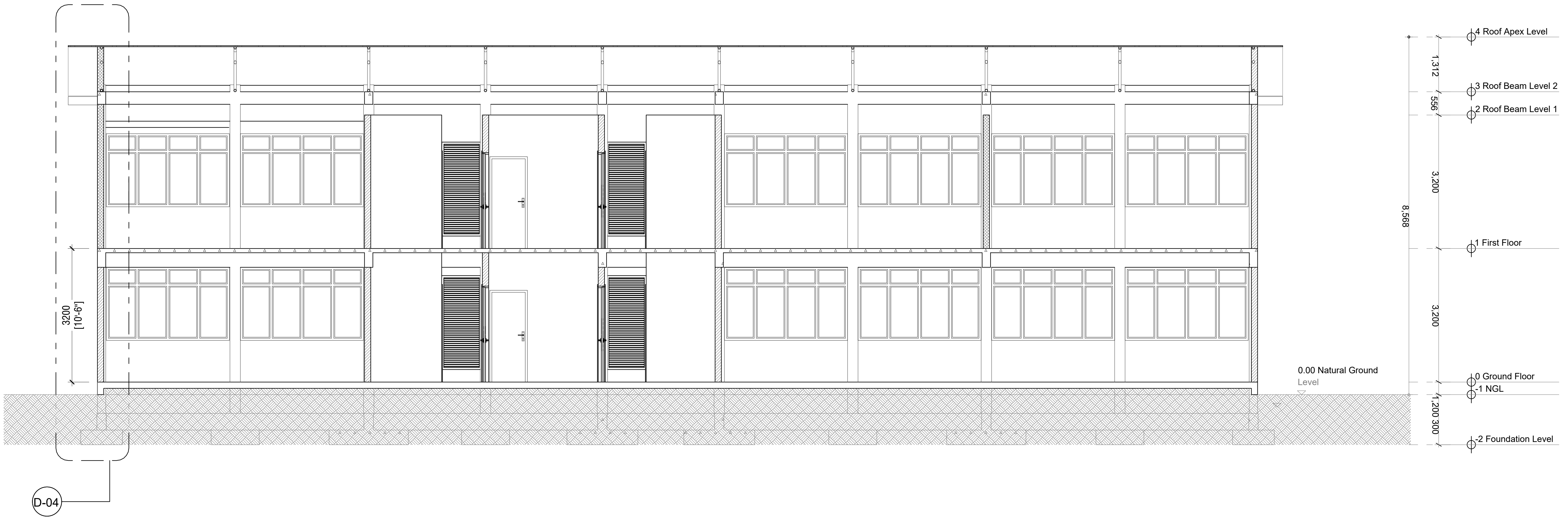
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

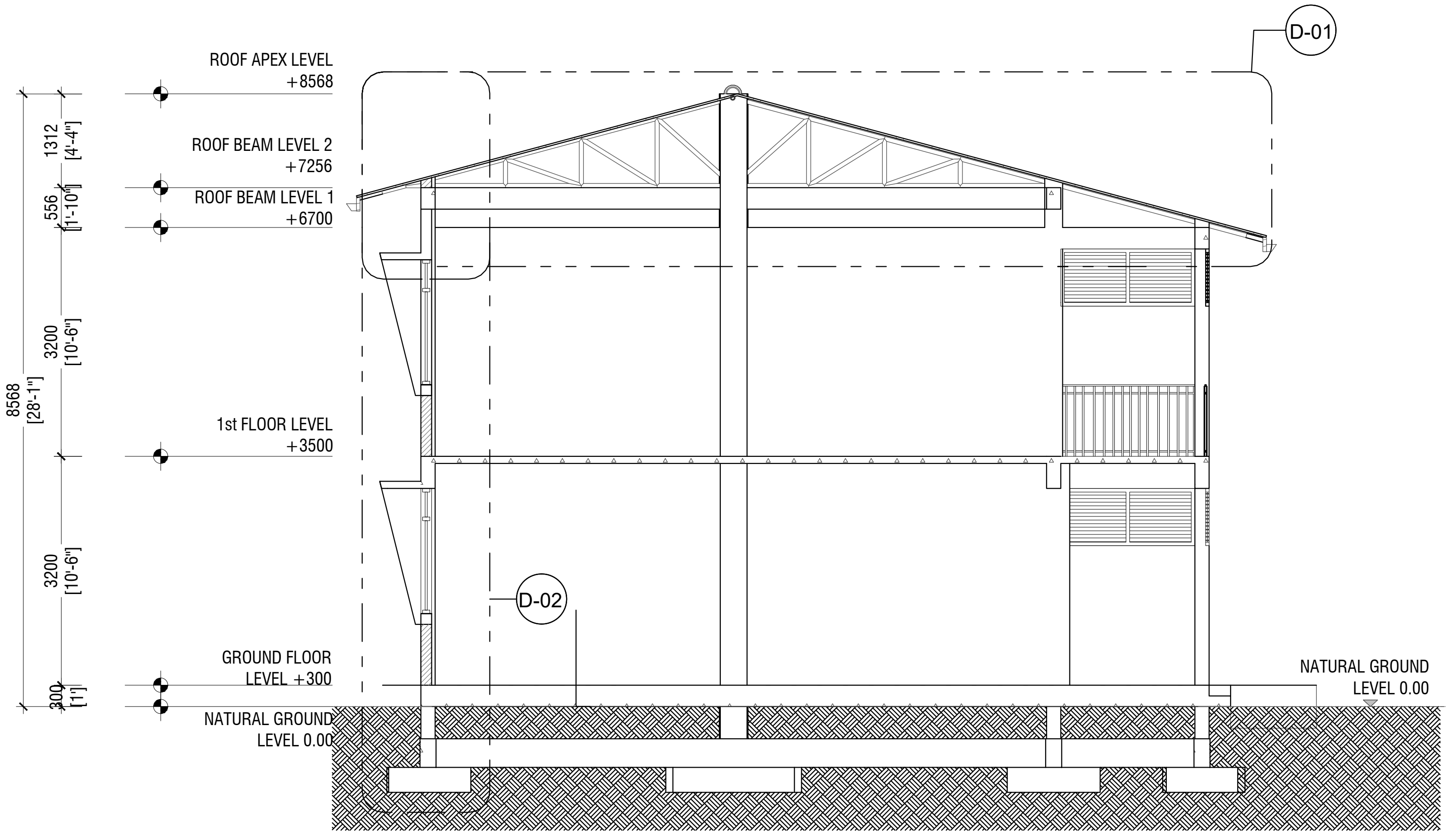
PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A-04/ 15


4 Roof Apex Level
3 Roof Beam Level 2
2 Roof Beam Level 1
1 First Floor
0 Ground Floor
-1 NGL
-2 Foundation Level
0.00 Natural Ground
Level
1,312
556
3,200
3,200
8,568
1,200
300
3200
[10'-6"]
D-04

SECTION XX

SCALE 1:100

0 0.5 1 2 3 4 5


ROOF APEX LEVEL
+8568
ROOF BEAM LEVEL 2
+7256
ROOF BEAM LEVEL 1
+6700
1st FLOOR LEVEL
+3500
GROUND FLOOR
LEVEL +300
NATURAL GROUND
LEVEL 0.00
NATURAL GROUND
LEVEL 0.00
1312
[4'-4"]
556
[1'-10"]
3200
[10'-6"]
3200
[10'-6"]
300
[1']
8568
[28'-1"]
D-01
D-02

SECTION YY

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description
AMMENDMENTS.		

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
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REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE

CLIENT MINISTRY OF EDUCATION

ARCHITECT :

ENGINEER :

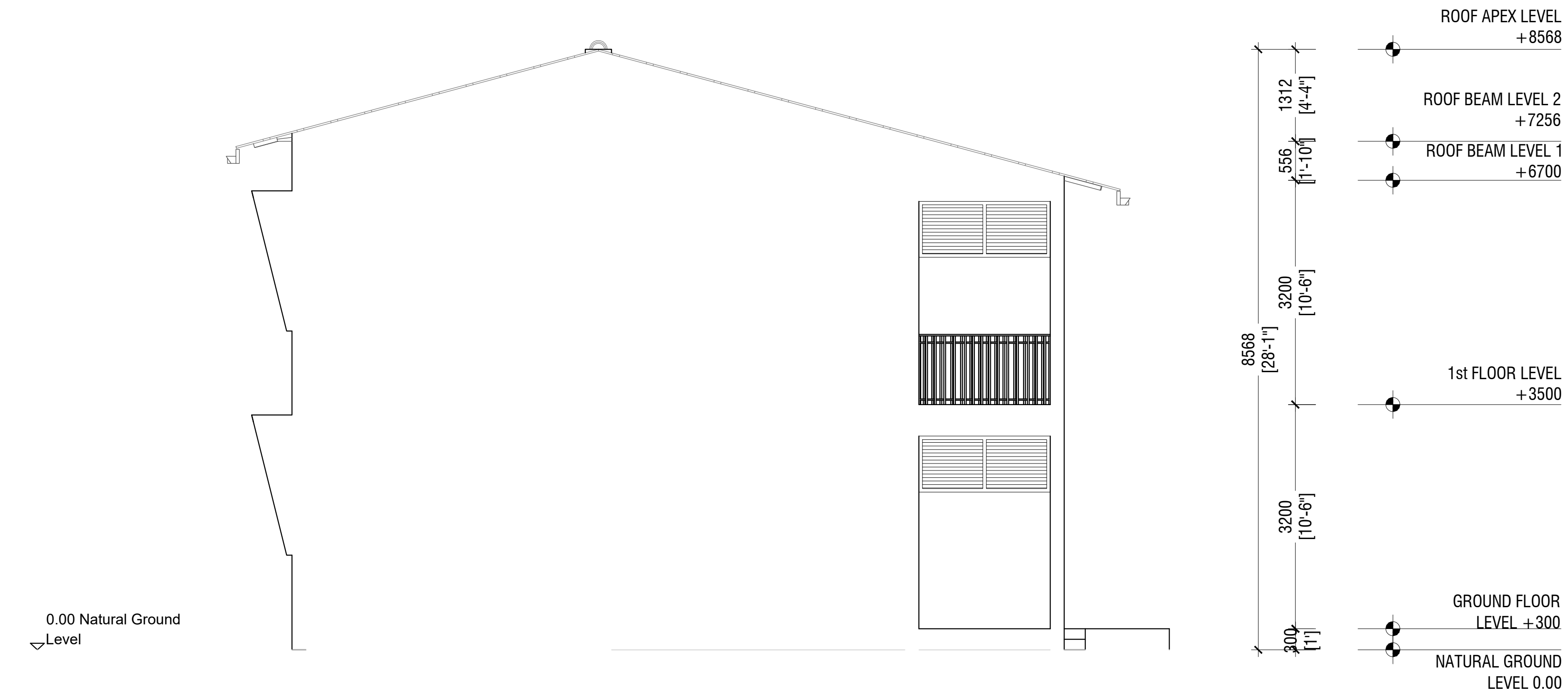
DRAWN :

CHECKED :

SCALE : AS GIVEN

DATE : 13.10.2021

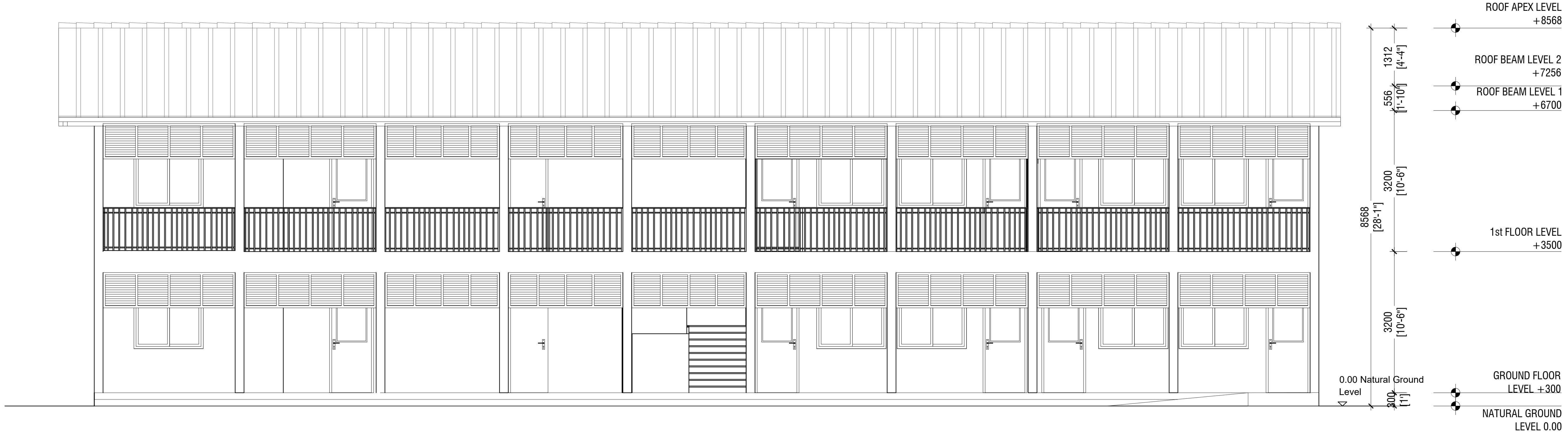
DWG NO : A-05/ 15


ROOF APEX LEVEL
+8568
ROOF BEAM LEVEL 2
+7256
ROOF BEAM LEVEL 1
+6700
1st FLOOR LEVEL
+3500
GROUND FLOOR
LEVEL +300
NATURAL GROUND
LEVEL 0.00
0.00 Natural Ground
Level
1312
[4'-4"]
556
[1'-10"]
3200
[10'-6"]
3200
[10'-6"]
300
[1']
8568
[28'-1"]

ELEVATION E1

SCALE 1:100

0 0.5 1 2 3 4 5


ROOF APEX LEVEL
+8568
ROOF BEAM LEVEL 2
+7256
ROOF BEAM LEVEL 1
+6700
1st FLOOR LEVEL
+3500
GROUND FLOOR
LEVEL +300
NATURAL GROUND
LEVEL 0.00
0.00 Natural Ground
Level
1312
[4'-4"]
556
[1'-10"]
3200
[10'-6"]
3200
[10'-6"]
300
[1']
8568
[28'-1"]

ELEVATION E2

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
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PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
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ENGINEER :
DRAWN :
CHECKED :
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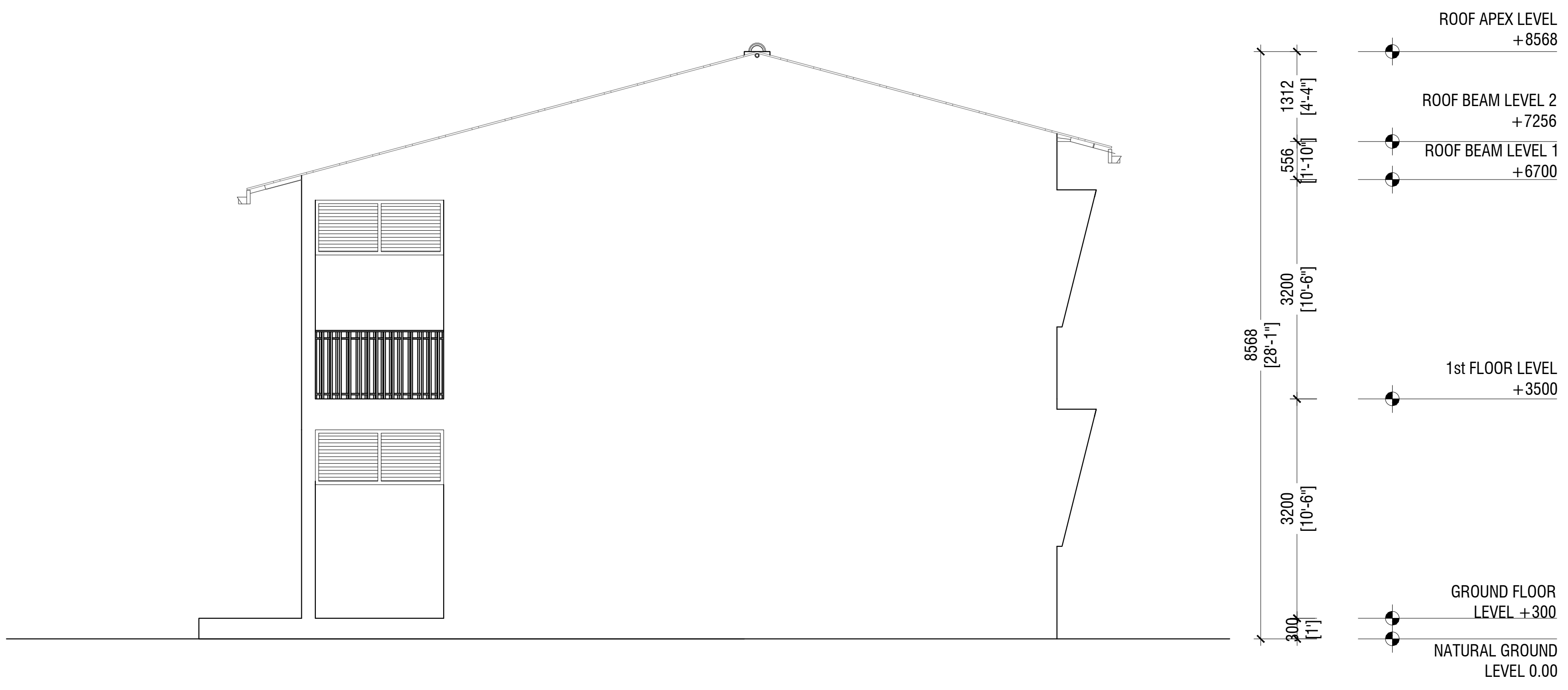
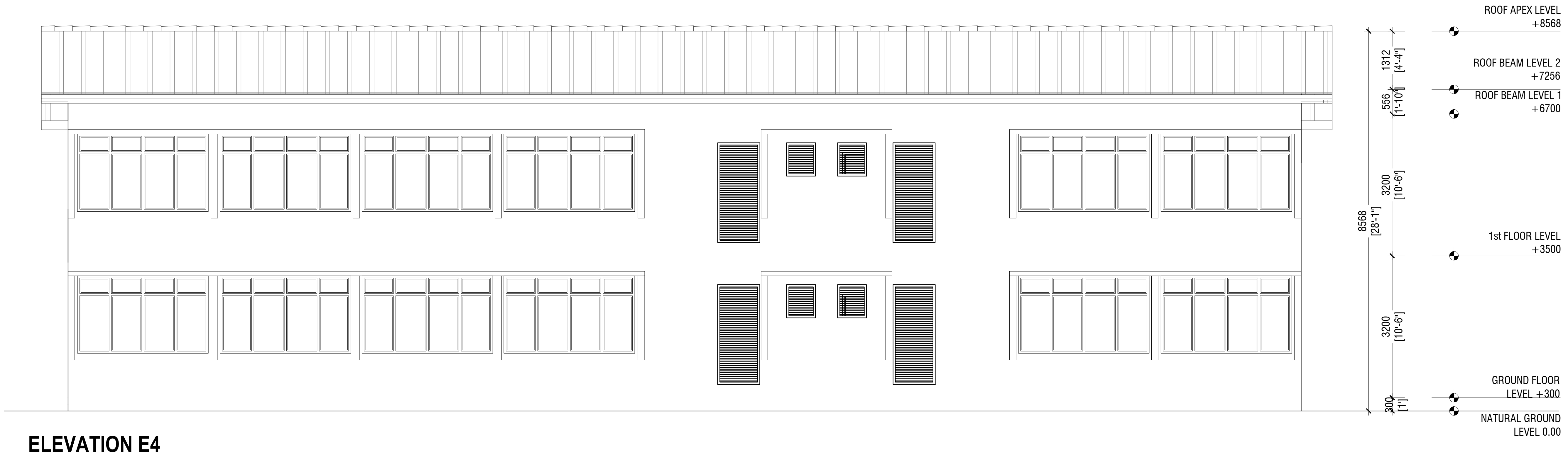
DATE : 13.10.2021
DWG NO : A-06/ 15


ROOF APEX LEVEL
+8568
ROOF BEAM LEVEL 2
+7256
ROOF BEAM LEVEL 1
+6700
1st FLOOR LEVEL
+3500
GROUND FLOOR
LEVEL +300
NATURAL GROUND
LEVEL 0.00
1312
[4'-4"]
556
[1'-10"]
3200
[10'-6"]
3200
[10'-6"]
300
[1']
8568
[28'-1"]

ELEVATION E3

SCALE 1:100

0 0.5 1 2 3 4 5


ROOF APEX LEVEL
+8568
ROOF BEAM LEVEL 2
+7256
ROOF BEAM LEVEL 1
+6700
1st FLOOR LEVEL
+3500
GROUND FLOOR
LEVEL +300
NATURAL GROUND
LEVEL 0.00
1312
[4'-4"]
556
[1'-10"]
3200
[10'-6"]
3200
[10'-6"]
300
[1']
8568
[28'-1"]

ELEVATION E4

SCALE 1:100

0 0.5 1 2 3 4 5

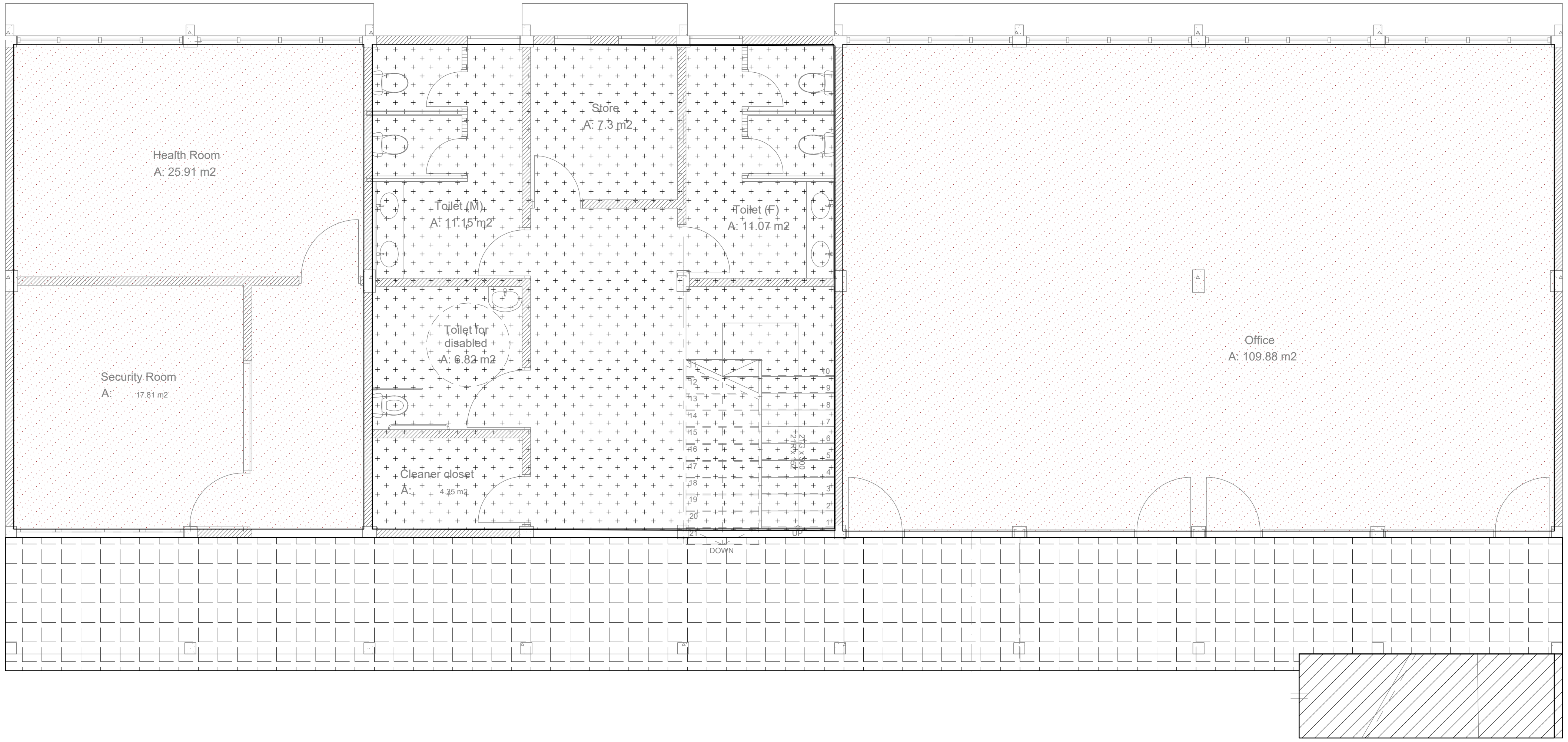
Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A-07/ 15


Health Room
A: 25.91 m2
Security Room
A: 17.81 m2
Store
A: 7.3 m2
Toilet (M)
A: 11.15 m2
Toilet (F)
A: 11.07 m2
Toilet for disabled
A: 6.82 m2
Cleaner closet
A: 4.35 m2
Office
A: 109.88 m2
21G x 300
21R x 152
UP
DOWN

GROUND FLOOR FLOOR FINISHES PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

LEGEND

CODE	DESCRIPTION
░	600X600mm HOMOGENOUS NON-SLIP TILES OVER 50mm SCREEDING
▨	35mm NORMAL SCREEDING WITH 2.5mm SELF LEVELING CEMENT WITH EPOXY FLOOR PAINT (2 COATS EPOXY)
+	300X300mm HOMOGENOUS NON-SLIP TILES OVER 25mm SCREEDING
⊞	600X600mm HOMOGENOUS NON-SLIP TILES OVER 25mm SCREEDING (CEMENTITIOUS WATERPROOFING: MASTERPEL 588 OR EQUIVALENT ON TOP OF THE SLAB)

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

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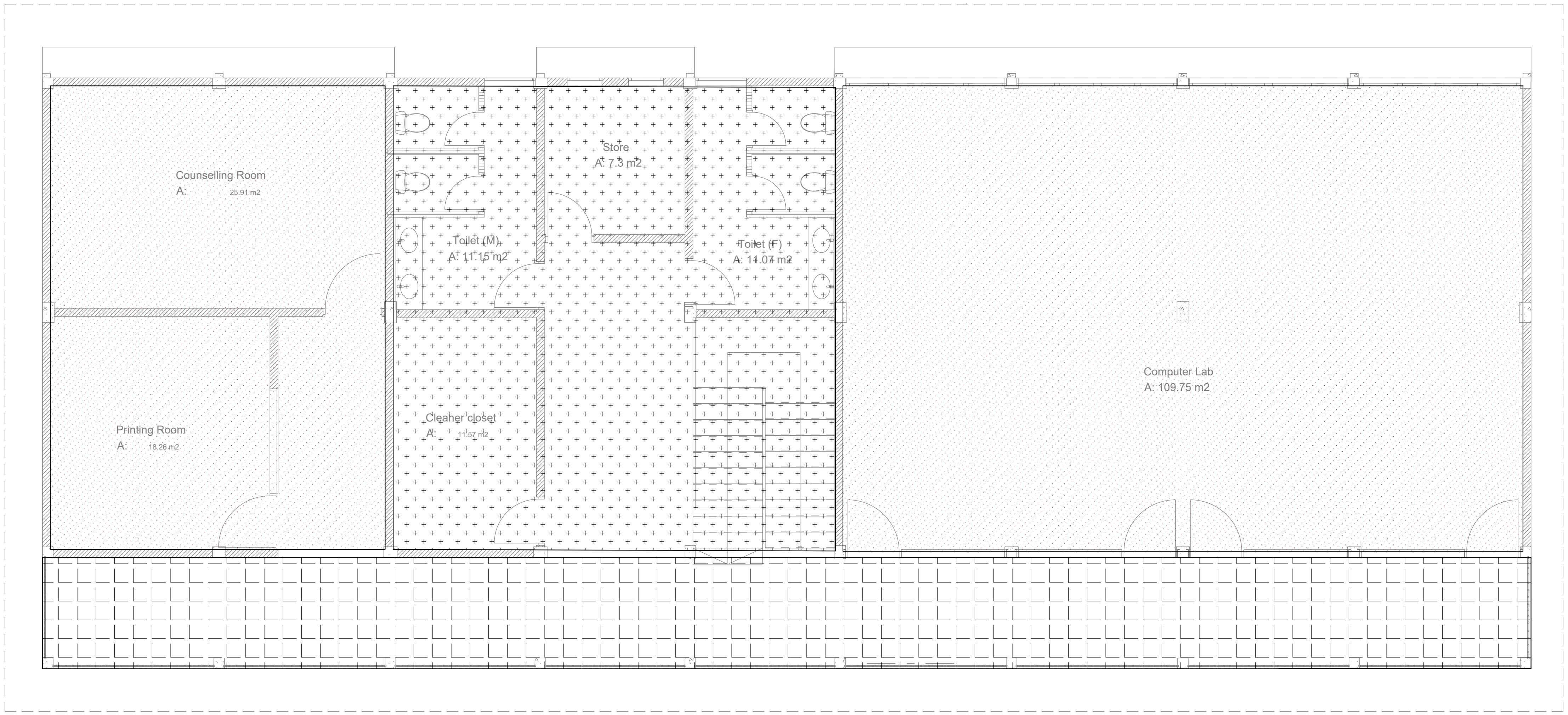
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A-08/ 15


Counselling Room
A: 25.91 m2
Store
A: 7.3 m2
Toilet (M)
A: 11.15 m2
Toilet (F)
A: 11.07 m2
Printing Room
A: 18.26 m2
Cleaner closet
A: 11.57 m2
Computer Lab
A: 109.75 m2

FIRST FLOOR FLOOR FINISHES PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

LEGEND

CODE	DESCRIPTION
░	600X600mm HOMOGENOUS NON-SLIP TILES OVER 50mm SCREEDING
▨	35mm NORMAL SCREEDING WITH 2.5mm SELF LEVELING CEMENT WITH EPOXY FLOOR PAINT (2 COATS EPOXY)
+	300X300mm HOMOGENOUS NON-SLIP TILES OVER 25mm SCREEDING
▦	600X600mm HOMOGENOUS NON-SLIP TILES OVER 25mm SCREEDING (CEMENTITIOUS WATERPROOFING: MASTERPEL 588 OR EQUIVALENT ON TOP OF THE SLAB)

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
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PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

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ARCHITECT :
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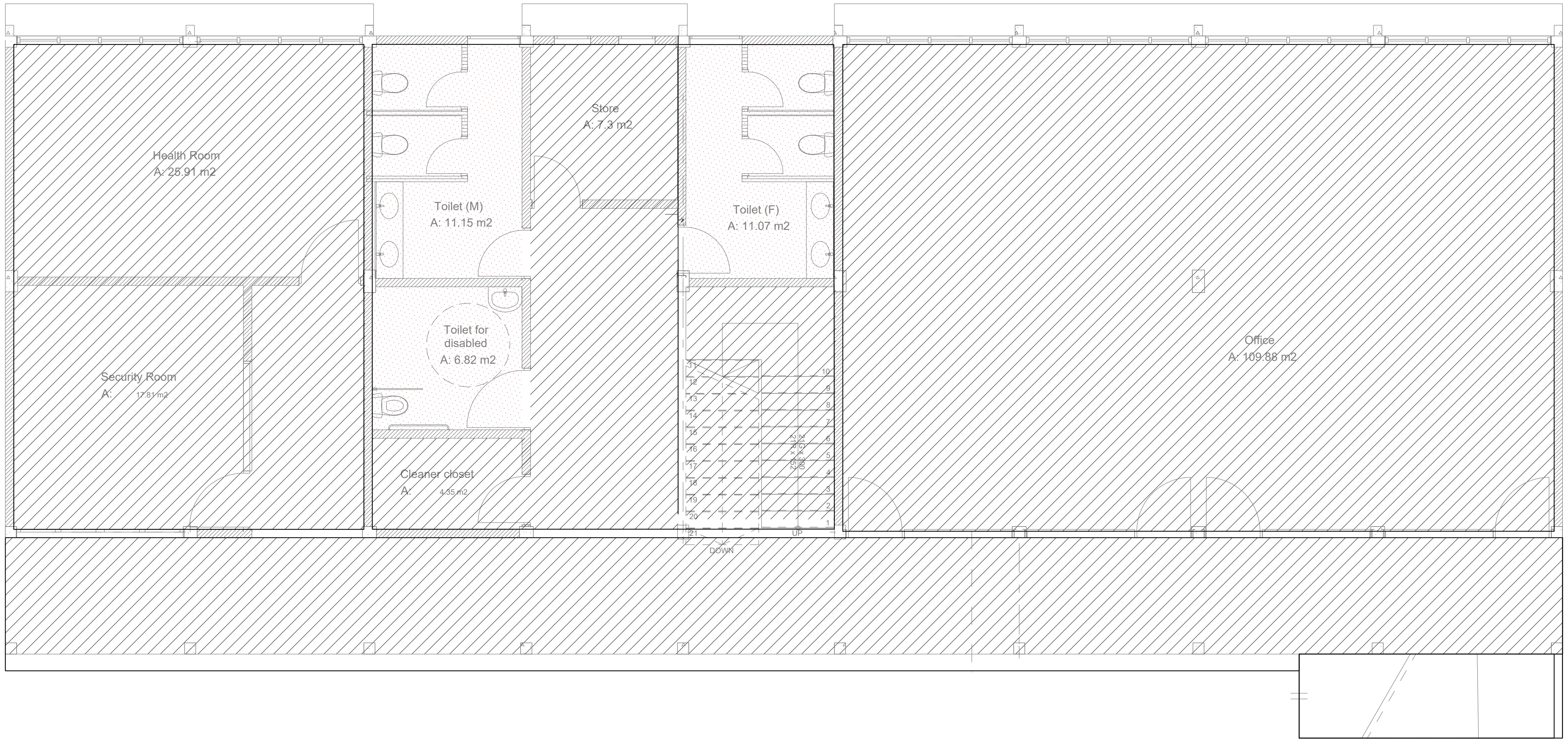
Health Room
A: 25.91 m2
Toilet (M)
A: 11.15 m2
Store
A: 7.3 m2
Toilet (F)
A: 11.07 m2
Toilet for disabled
A: 6.82 m2
Security Room
A: 17.81 m2
Cleaner closet
A: 4.35 m2
Office
A: 109.88 m2
UP
DOWN

GROUND FLOOR REFLECTED CEILING PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

LEGEND

CODE	DESCRIPTION
▨	EXPOSED SLAB SOFFIT TO BE GROUND SMOOTH IN SELECT PAINT FINISH (ONE COAT OF PUTTY FOLLOWED BY SEALER AND 2 COATS OF PAINT)
░	6mm THICK CEMENT BOARD ON ROOF EAVE/GABLE CEILING (ONE COAT OF PUTTY FOLLOWED BY SEALER AND 2 COATS OF PAINT)

Issue	Date	Description

AMMENDMENTS.

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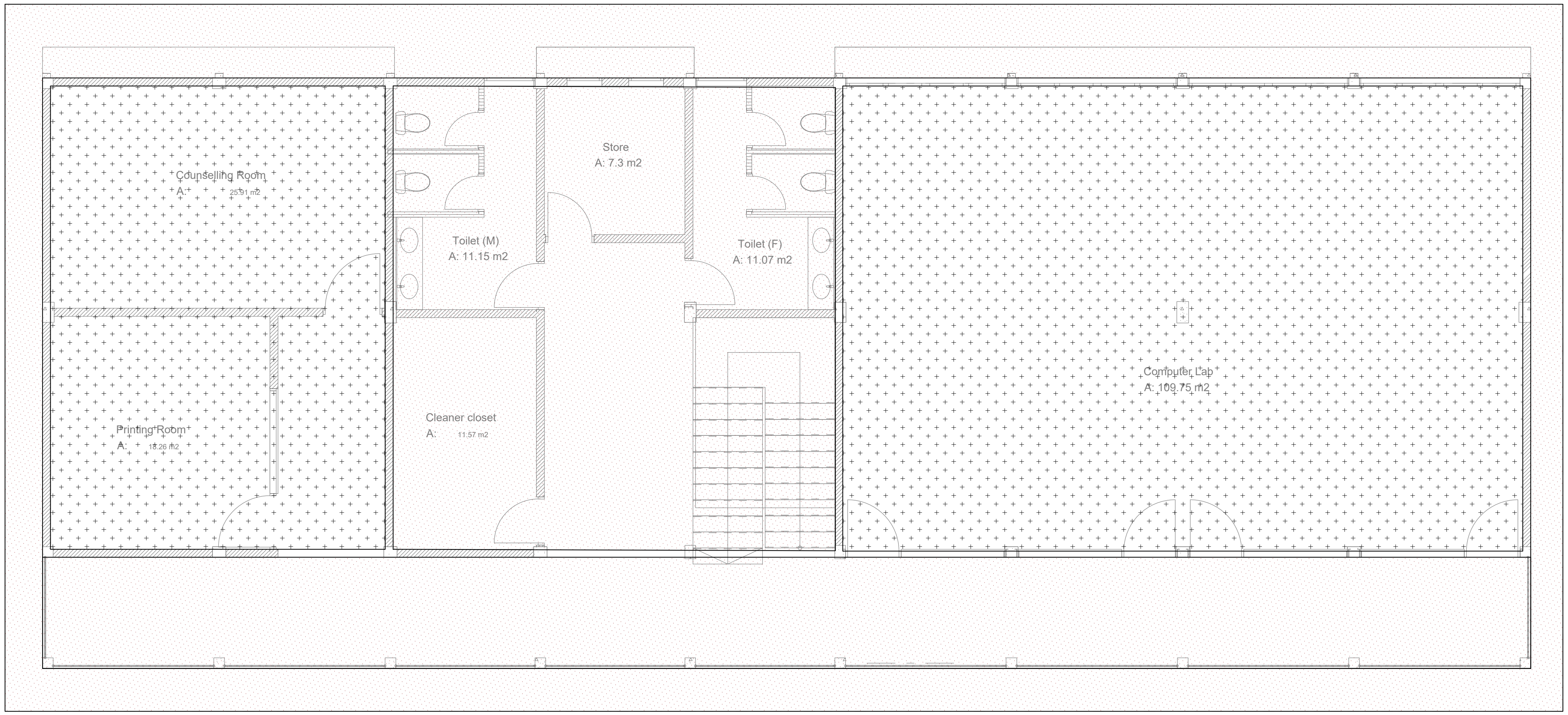
Counselling Room
A: 25.91 m2
Toilet (M)
A: 11.15 m2
Store
A: 7.3 m2
Toilet (F)
A: 11.07 m2
Printing Room
A: 18.26 m2
Cleaner closet
A: 11.57 m2
Computer Lap
A: 109.75 m2

FIRST FLOOR REFLECTED CEILING PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

LEGEND

CODE	DESCRIPTION
▦	9mm THICK FIXED CEILING 'BORAL' OR EQUIVALENT PLASTERBOARD CEILING SYSTEM WITH TIMBER FRAMES, APPLIED WITH GROUND SMOOTH FINISH IN SELECTED PAINT
□	6mm THICK CEMENT BOARD ON ROOF EAVE/GABLE CEILING (ONE COAT OF PUTTY FOLLOWED BY SEALER AND 2 COATS OF PAINT)

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
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R.ATOLL EDUCATION CENTRE
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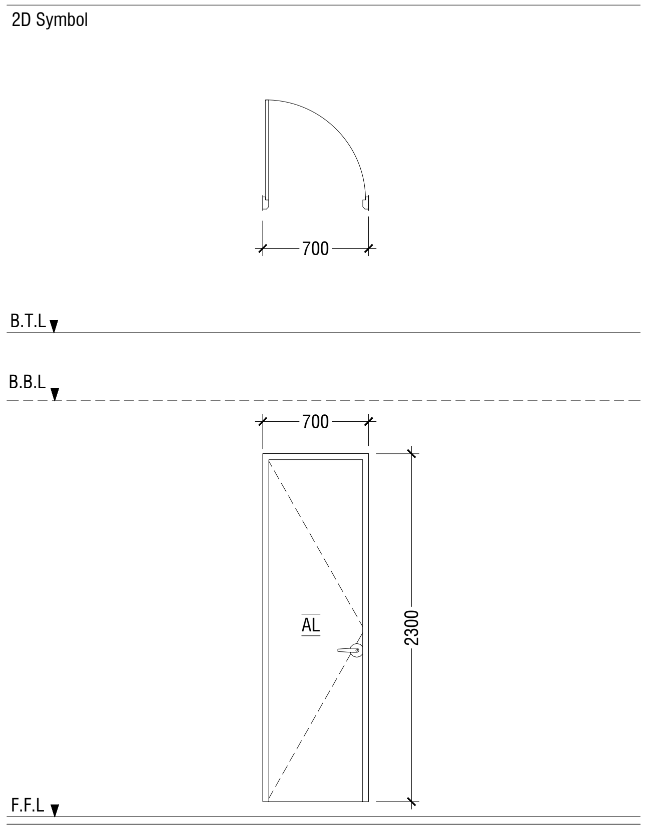
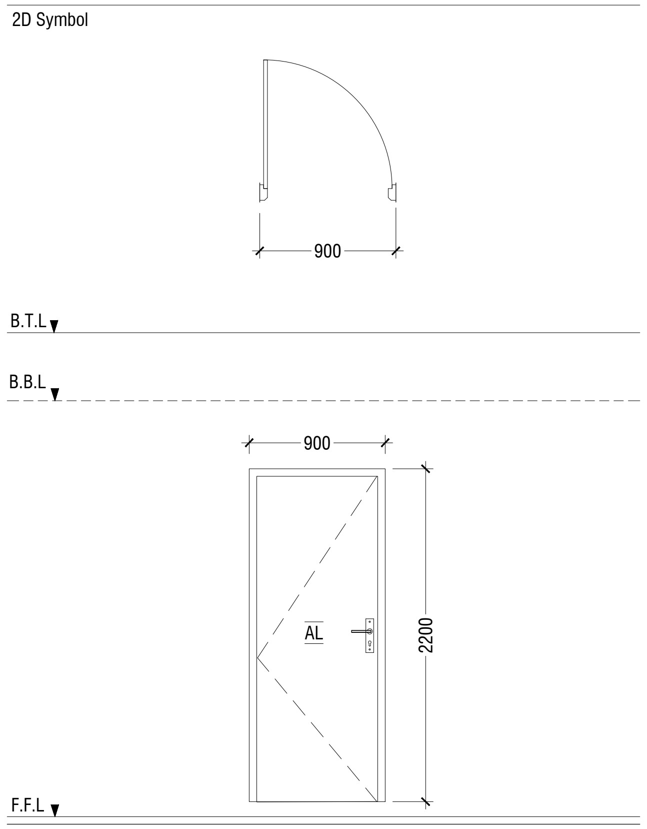
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A-11/ 15

NOTE:-
- ALL DOORS & WINDOWS TO BE CHECKED ON SITE BEFORE FABRICATION.
- ALL DOOR & WINDOWS VIEWED FROM EXTERIOR, FOR DOOR SWING, REFER TO FLOOR PLANS.
- THE DOORS / WINDOWS WHICH DO NOT TOUCH THE BEAM SHALL HAVE A LINTEL BEAM (LB) ABOVE THE DOOR / WINDOW.
- FOR ALL THE WINDOWS PUT A SILL BEAM BELOW THE WINDOW (SB)
- FOR SAFETY PURPOSES REFER TO TECHNICAL SPECIFICATIONS FOR GLASS THICKNESS.
  - ALUMINIUM FRAME PROFILE SHALL BE 35-50MMX100MM (MIN 1,6MM THICK)
  - ALUMINIUM PANELS SHOULD BE MINIMUM 6MM THICK SINGLE SHEET WITHIN AN ALUMINIUM PROFILE OF 35-50MM X 100MM (MIN 1.6MM THICK)
  - TIMBER DOOR FRAME SHALL BE 50MMX100MM HARDWOD
  - ALL DOOR PANEL THICKNESS SHOULD BE 40MM THICK SOLID CORE
  - ALL FRAMES EDGED SHALL BE TRIMMED 3MM
  - ALL WOODEDN COMPONENTS SHOULD BE WOOD STAINED FINISH
  - ALL GLAZING SHOULD BE OF 6MM UNLESS SPECIFIED
  - EXTERNAL UNITS MUST COMPLY THE FOLLOWING WEATHER CONDITIONS :
    WIND PRESSURE :200KG/SQM
    WATER TIGHTNESS : 25KG/SQM
  - ALL EXTERNAL FRAMES / WALL JOINTS MS BE SEALED WITH SILICON SEALANT AND THE EDGES TRIMMED WITH 12X12MM HARDWOOD BEADING FIXED TO FRAMED BY NAILS
  - ALL HARDWARE SHOULD BE PROVIDED FOR THE PERFORMANCE OF ALL FUNCTIONS OF THE UNITS
  - HINGES SHALL CONFIRM TO :
    1. DOOR SIZE MORE THAN 700X900MM
       WD : 125MM X 2SETS
       SD: 150MM X 3SETS
    2. DOOR SIZE LESS THAN 700X1900MM
       WD : 100MM X 2SETS
       SD: 125MM X 2SETS
  - LOCKS SHALL BE CYLINDRICAL WITH MASTER KEY SETS
  - DOOR KNOBS SHALL BE 1000MM ABOVE FFL

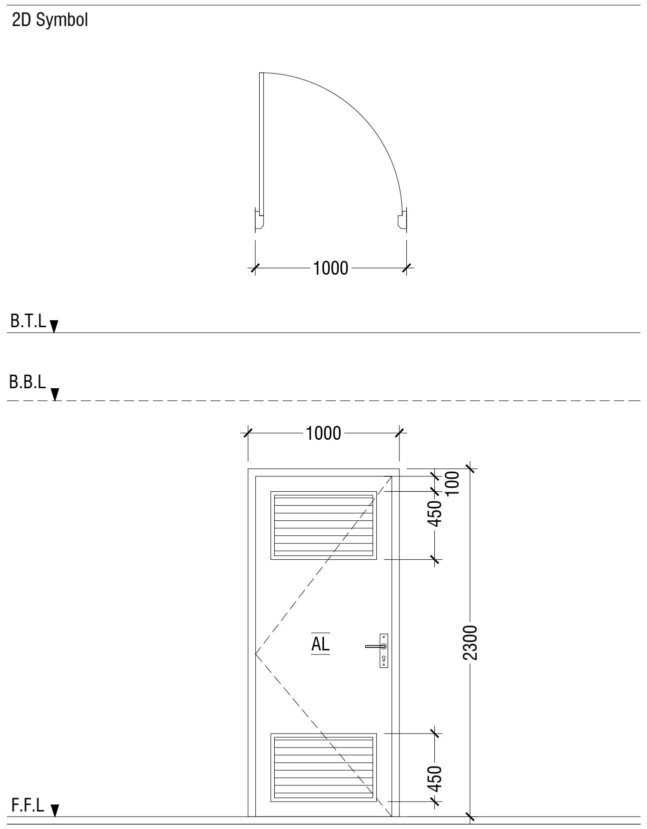
LEGEND:
CG - CLEAR GLASS
RG - REFLECTED GLASS
AL - ALUMINIUM
PVC - POLYVINYL CHLORIDE



D1	SWING DOOR
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINIUM PANEL OF SELECTED COLOUR
LOCATION	TOILET STALLS
QUANTITY	08 NOS
OPEN AREA	1.39 sqm



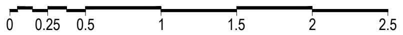
D2	SWING DOOR
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINIUM PANEL OF SELECTED COLOUR
LOCATION	STORE & CLEANER CLOSET
QUANTITY	04 NOS
OPEN AREA	1.72sqm



D3	SWING DOOR
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINIUM PANEL OF SELECTED COLOUR
LOCATION	TOILET
QUANTITY	04 NOS
OPEN AREA	1.39 sqm

DOOR & WINDOW SCHEDULE - 1

SCALE 1:50



Issue	Date	Description

AMMENDMENTS.

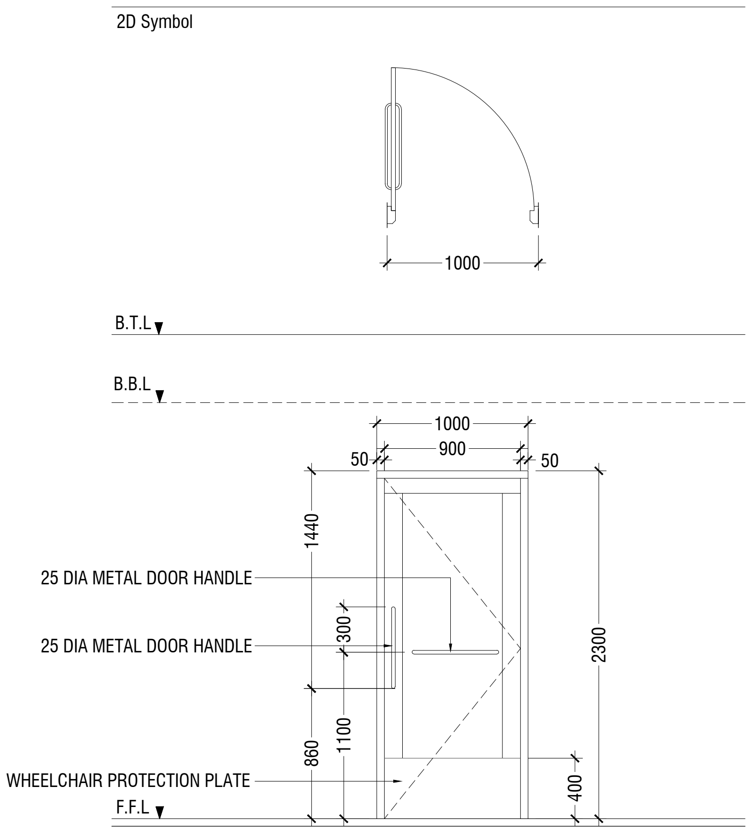
PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

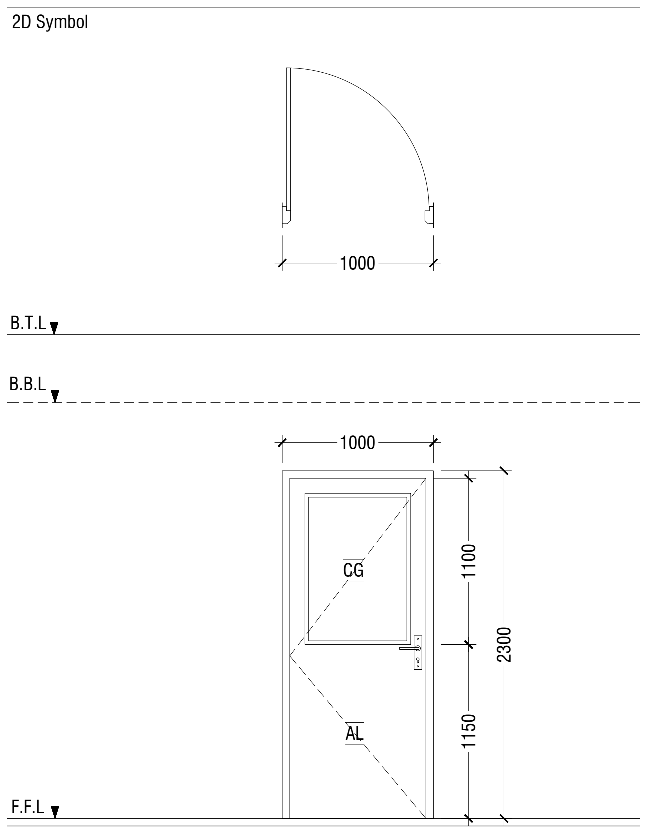
PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A 9 / 19

NOTE:-
- ALL DOORS & WINDOWS TO BE CHECKED ON SITE BEFORE FABRICATION.
- ALL DOOR & WINDOWS VIEWED FROM EXTERIOR, FOR DOOR SWING, REFER TO FLOOR PLANS.
- THE DOORS / WINDOWS WHICH DO NOT TOUCH THE BEAM SHALL HAVE A LINTEL BEAM (LB) ABOVE THE DOOR / WINDOW.
- FOR ALL THE WINDOWS PUT A SILL BEAM BELOW THE WINDOW (SB)
- FOR SAFETY PURPOSES REFER TO TECHNICAL SPECIFICATIONS FOR GLASS THICKNESS.
  - ALUMINIUM FRAME PROFILE SHALL BE 35-50MMX100MM (MIN 1,6MM THICK)
  - ALUMINIUM PANELS SHOULD BE MINIMUM 6MM THICK SINGLE SHEET WITHIN AN ALUMINIUM PROFILE OF 35-50MM X 100MM (MIN 1.6MM THICK)
  - TIMBER DOOR FRAME SHALL BE 50MMX100MM HARDWOD
  - ALL DOOR PANEL THICKNESS SHOULD BE 40MM THICK SOLID CORE
  - ALL FRAMES EDGED SHALL BE TRIMMED 3MM
  - ALL WOODEDN COMPONENTS SHOULD BE WOOD STAINED FINISH
  - ALL GLAZING SHOULD BE OF 6MM UNLESS SPECIFIED
  - EXTERNAL UNITS MUST COMPLY THE FOLLOWING WEATHER CONDITIONS :
    WIND PRESSURE :200KG/SQM
    WATER TIGHTNESS : 25KG/SQM
  - ALL EXTERNAL FRAMES / WALL JOINTS MS BE SEALED WITH SILICON SEALANT AND THE EDGES TRIMMED WITH 12X12MM HARDWOOD BEADING FIXED TO FRAMED BY NAILS
  - ALL HARDWARE SHOULD BE PROVIDED FOR THE PERFORMANCE OF ALL FUNCTIONS OF THE UNITS
  - HINGES SHALL CONFIRM TO :
    1. DOOR SIZE MORE THAN 700X900MM
       WD : 125MM X 2SETS
       SD: 150MM X 3SETS
    2. DOOR SIZE LESS THAN 700X1900MM
       WD : 100MM X 2SETS
       SD: 125MM X 2SETS
  - LOCKS SHALL BE CYLINDRICAL WITH MASTER KEY SETS
  - DOOR KNOBS SHALL BE 1000MM ABOVE FFL

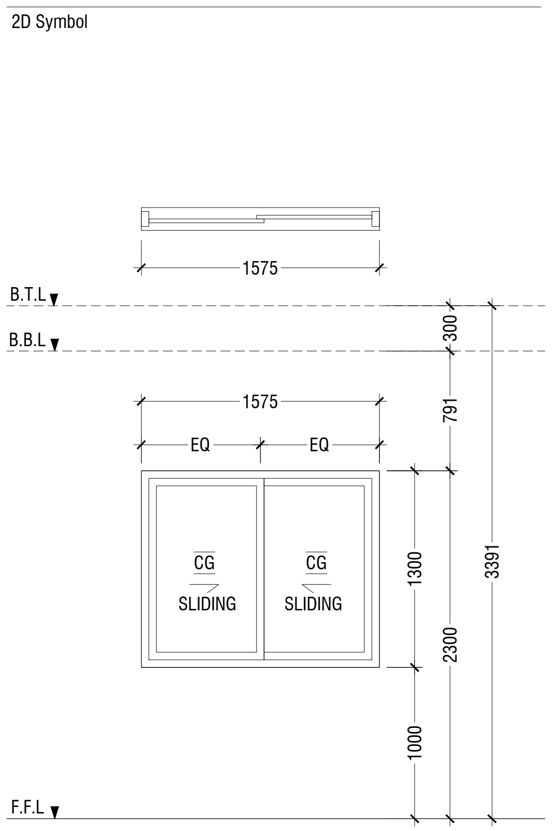
LEGEND:
CG - CLEAR GLASS
RG - REFLECTED GLASS
AL - ALUMINIUM
PVC - POLYVINYL CHLORIDE


2D Symbol
1000
B.T.L
B.B.L
1000
50
900
50
1440
25 DIA METAL DOOR HANDLE
25 DIA METAL DOOR HANDLE
300
2300
860
1100
WHEELCHAIR PROTECTION PLATE
400
F.F.L

D4	SWING DOOR
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINIUM PANEL OF SELECTED COLOUR
LOCATION	DISABLED TOILET
QUANTITY	01 NOS
OPEN AREA	1.39 sqm


2D Symbol
1000
B.T.L
B.B.L
1000
CG
1100
2300
AL
1150
F.F.L

D5	SWING DOOR
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINIUM PANEL AND 6mm THICK CLEAR GLASS
LOCATION	CLASSROOM
QUANTITY	12 NOS
OPEN AREA	1.39 sqm


2D Symbol
1575
B.T.L
300
B.B.L
791
1575
EQ
EQ
CG
SLIDING
CG
SLIDING
1300
3391
2300
1000
F.F.L

W1	SLIDING WINDOW
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINIUM PANEL AND 6mm THICK CLEAR GLASS
LOCATION	CLASSROOMS
QUANTITY	12 NOS
OPEN AREA	0.92 sqm

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

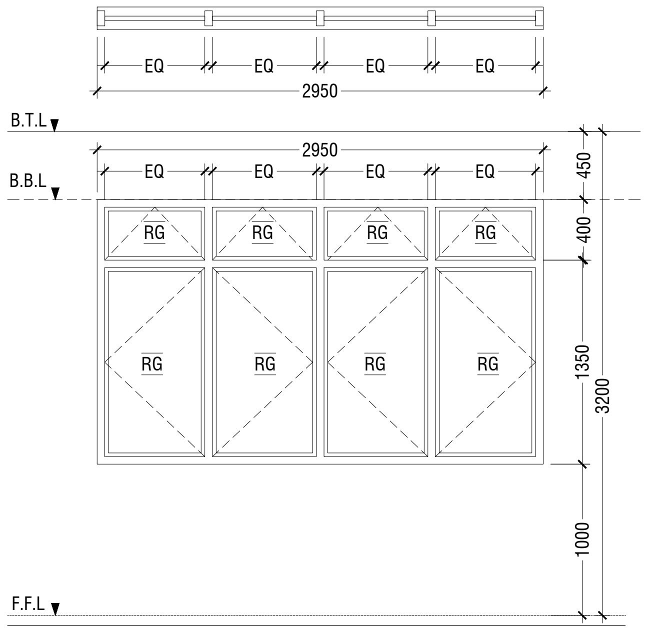
PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A 10/ 19

DOOR & WINDOW SCHEDULE - 2

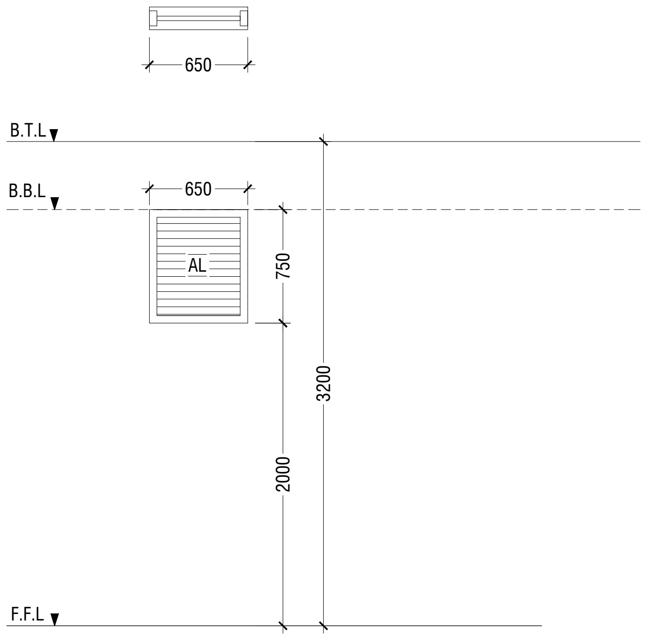
SCALE 1:50
0 0.25 0.5 1 1.5 2 2.5

2D Symbol



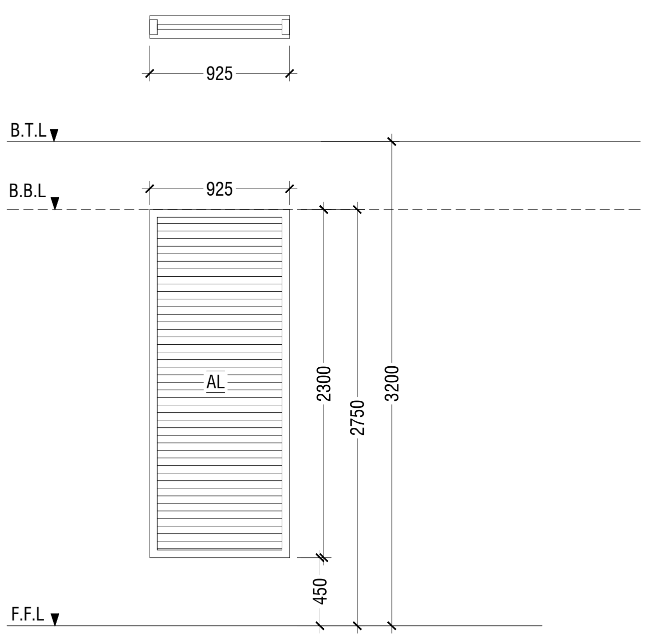
W2	SWING WINDOW
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WINDOW WITH 6mm THICK REFLECTIVE GLASS
LOCATION	CLASSROOMS , CLEANER CLOSET
QUANTITY	09 NOS
OPEN AREA	4.24 sqm

2D Symbol



V1	WINDOW WITH ALUMINUM LOUVERS
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINUM LOUVERS
LOCATION	TOILETS & MAIN SWITCH BOARD STORE
QUANTITY	04 NOS
OPEN AREA	0.36 SQM

2D Symbol



V2	WINDOW WITH ALUMINUM LOUVERS
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINUM LOUVERS
LOCATION	TOILETS & MAIN SWITCH BOARD STORE
QUANTITY	04 NOS
OPEN AREA	1.87 SQM

NOTE:-

- ALL DOORS & WINDOWS TO BE CHECKED ON SITE BEFORE FABRICATION.
- ALL DOOR & WINDOWS VIEWED FROM EXTERIOR, FOR DOOR SWING, REFER TO FLOOR PLANS.
- THE DOORS / WINDOWS WHICH DO NOT TOUCH THE BEAM SHALL HAVE A LINTEL BEAM (LB) ABOVE THE DOOR / WINDOW.
- FOR ALL THE WINDOWS PUT A SILL BEAM BELOW THE WINDOW (SB)
- FOR SAFETY PURPOSES REFER TO TECHNICAL SPECIFICATIONS FOR GLASS THICKNESS.
  - ALUMINIUM FRAME PROFILE SHALL BE 35-50MMX100MM (MIN 1,6MM THICK)
  - ALUMINIUM PANELS SHOULD BE MINIMUM 6MM THICK SINGLE SHEET WITHIN AN ALUMINIUM PROFILE OF 35-50MM X 100MM (MIN 1.6MM THICK)
  - TIMBER DOOR FRAME SHALL BE 50MMX100MM HARDWOD
  - ALL DOOR PANEL THICKNESS SHOULD BE 40MM THICK SOLID CORE
  - ALL FRAMES EDGED SHALL BE TRIMMED 3MM
  - ALL WOODEDN COMPONENTS SHOULD BE WOOD STAINED FINISH
  - ALL GLAZING SHOULD BE OF 6MM UNLESS SPECIFIED
  - EXTERNAL UNITS MUST COMPLY THE FOLLOWING WEATHER CONDITIONS :
WIND PRESSURE :200KG/SQM
WATER TIGHTNESS : 25KG/SQM
  - ALL EXTERNAL FRAMES / WALL JOINTS MS BE SEALED WITH SILICON SEALANT AND THE EDGES TRIMMED WITH 12X12MM HARDWOOD BEADING FIXED TO FRAMED BY NAILS
  - ALL HARDWARE SHOULD BE PROVIDED FOR THE PERFORMANCE OF ALL FUNCTIONS OF THE UNITS
  - HINGES SHALL CONFIRM TO :
    1. DOOR SIZE MORE THAN 700X900MM
       WD : 125MM X 2SETS
       SD: 150MM X 3SETS
    2. DOOR SIZE LESS THAN 700X1900MM
       WD : 100MM X 2SETS
       SD: 125MM X 2SETS
  - LOCKS SHALL BE CYLINDRICAL WITH MASTER KEY SETS
  - DOOR KNOBS SHALL BE 1000MM ABOVE FFL

LEGEND:

CG - CLEAR GLASS
RG - REFLECTED GLASS
AL - ALUMINIUM
PVC - POLYVINYL CHLORIDE

Issue	Date	Description
AMMENDMENTS.		

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A 11 / 19

DOOR & WINDOW SCHEDULE - 3

SCALE 1:50

0 0.25 0.5 1 1.5 2 2.5

NOTE:-
- ALL DOORS & WINDOWS TO BE CHECKED ON SITE BEFORE FABRICATION.
- ALL DOOR & WINDOWS VIEWED FROM EXTERIOR, FOR DOOR SWING, REFER TO FLOOR PLANS.
- THE DOORS / WINDOWS WHICH DO NOT TOUCH THE BEAM SHALL HAVE A LINTEL BEAM (LB) ABOVE THE DOOR / WINDOW.
- FOR ALL THE WINDOWS PUT A SILL BEAM BELOW THE WINDOW (SB)
- FOR SAFETY PURPOSES REFER TO TECHNICAL SPECIFICATIONS FOR GLASS THICKNESS.
  - ALUMINIUM FRAME PROFILE SHALL BE 35-50MMX100MM (MIN 1,6MM THICK)
  - ALUMINIUM PANELS SHOULD BE MINIMUM 6MM THICK SINGLE SHEET WITHIN AN ALUMINIUM PROFILE OF 35-50MM X 100MM (MIN 1.6MM THICK)
  - TIMBER DOOR FRAME SHALL BE 50MMX100MM HARDWOD
  - ALL DOOR PANEL THICKNESS SHOULD BE 40MM THICK SOLID CORE
  - ALL FRAMES EDGED SHALL BE TRIMMED 3MM
  - ALL WOODEDN COMPONENTS SHOULD BE WOOD STAINED FINISH
  - ALL GLAZING SHOULD BE OF 6MM UNLESS SPECIFIED
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    WIND PRESSURE :200KG/SQM
    WATER TIGHTNESS : 25KG/SQM
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  - ALL HARDWARE SHOULD BE PROVIDED FOR THE PERFORMANCE OF ALL FUNCTIONS OF THE UNITS
  - HINGES SHALL CONFIRM TO :
    1. DOOR SIZE MORE THAN 700X900MM
       WD : 125MM X 2SETS
       SD: 150MM X 3SETS
    2. DOOR SIZE LESS THAN 700X1900MM
       WD : 100MM X 2SETS
       SD: 125MM X 2SETS
  - LOCKS SHALL BE CYLINDRICAL WITH MASTER KEY SETS
  - DOOR KNOBS SHALL BE 1000MM ABOVE FFL

LEGEND:
CG - CLEAR GLASS
RG - REFLECTED GLASS
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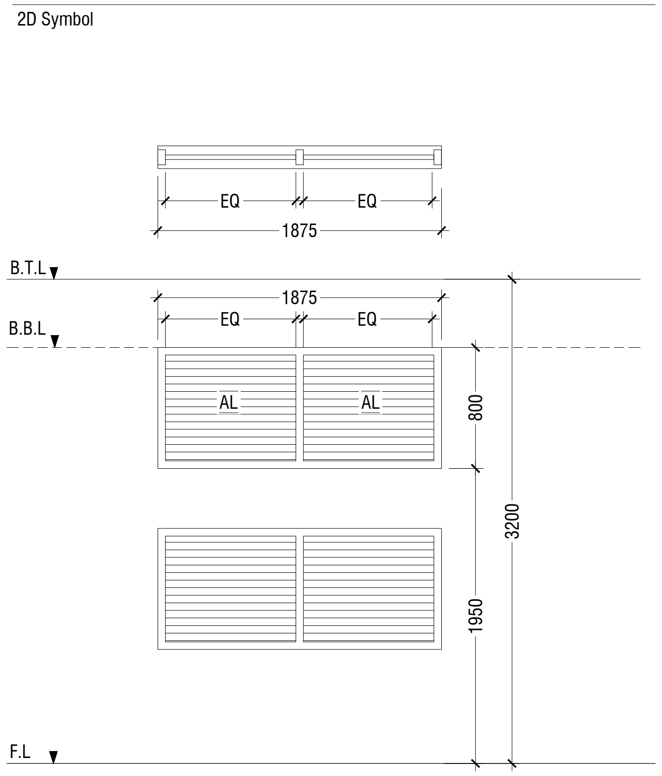
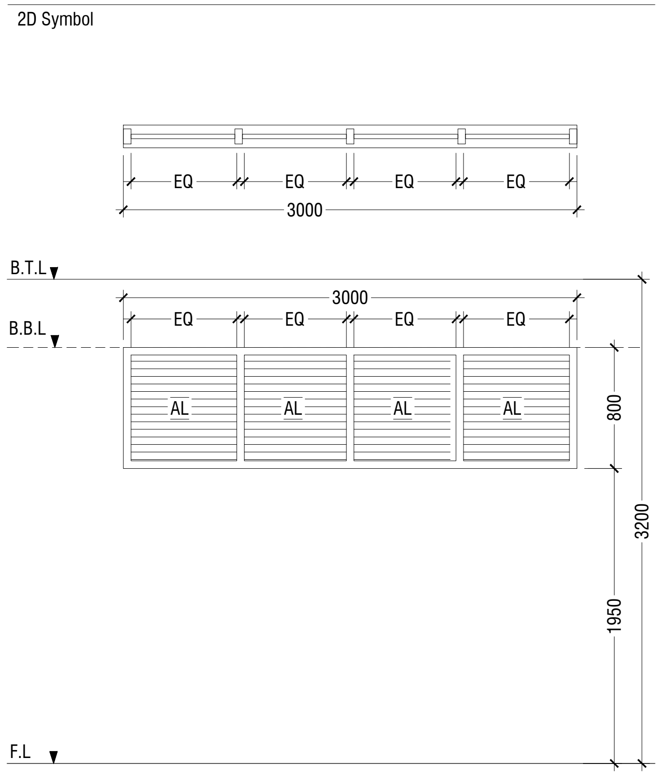
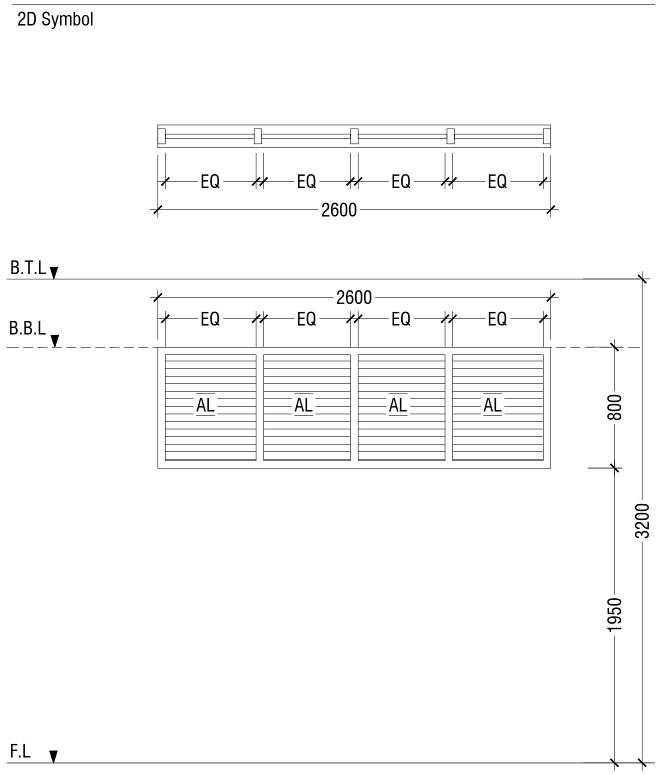
PVC - POLYVINYL CHLORIDE



V3	SUNSHADING
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINUM LOUVERS
LOCATION	CORRIDOR
QUANTITY	04 NOS
OPEN AREA	1.20 SQM



V4	SUNSHADING
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINUM LOUVERS
LOCATION	CORRIDOR
QUANTITY	12 NOS
OPEN AREA	1.96 SQM



V5	SUNSHADING
REMARKS	50mm THICK WHITE POWDER COATED (60 MICRONS) ALUMINUM FRAMED WITH ALUMINUM LOUVERS
LOCATION	CORRIDOR
QUANTITY	6 NOS
OPEN AREA	1.68 SQM

Issue	Date	Description
AMMENDMENTS.		

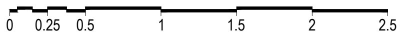
PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A 12 / 19

DOOR & WINDOW SCHEDULE - 4

SCALE 1:50



			Ventilation Schedule			
Level	Zone Name	Area (sqm)	Opening	Required Opening	Designed Opening	Opening %
Ground Floor	Classroom 1	54.19	D04 X 2, W06 X 2	5.419	15.68	28.94
	Cleaner closet	4.35	Mechanical			
	Corridor	99.15	Open			
	Classroom 2	54.28	D04 X 2, W06 X 2	5.428	15.68	28.89
	Store	3.9	Mechanical			
	Toilet for disabled	6.82	Mechanical			
First Floor	Classroom 3	54.28	D04 X 2, W06 X 2	5.428	15.68	28.89
	Classroom 4	54.28	D04 X 2, W06 X 2	5.428	15.68	28.89
	Cleaner closet	11.57	Mechanical			
	Corridor	102.97	Open			
	Store	7.3	Mechanical			
	Toilet (F)	11.07	W02	1.107	1.84	16.62
	Toilet (M)	11.15	W02	1.115	1.84	16.50

VENTILATION SCHEDULE

NTS

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : A-15/ 15

1. General notes

1.1.Do not scale the drawings. All dimensions shall be read from the drawing or computed.Elevations are in millimeters, distances and reinforcement bar sizes are in millimeters.

1.2. In the interpretation of these drawings, indicated dimensions shall govern and distances or sizes shall not be scaled for construction purposes.

1.3. The contractor shall coordinate with the ar, se, ee and other utility and equipment plans for the exact size, number and locations of all sleeves or openings through floor slabs, beams and walls. Any discrepancies or conflict in the setting out lines, levels, details, locations, sizes, reinforcement etc. Of the structural member shall be brought to the attention of the engineer prior to commencement of work.

1.4. All reinforced concrete work shall be done in accordance with the british structural code bs 8110 or ec-en2 building code.

1.5. All structural steel work shall be done in accordance with the british structural code bs5950 parts 1to 9 and ec-en3 in so far as they do not conflict with the local building code requirements.

1.6. All slabs, beams and other structural elements which are not indicated, detailed, designated or inadvertently omitted but are necessary to be coordinated with architectural and other allied engineering plans as well as to complete the structural works in accordance with the intent of the plans and specifications shall be brought up during pre-bids/meetings/negotiations. It is understood that the contractor has provided and included all these items in his bid.

1.7. The contractor shall produce shop drawings and schedules as required for completion of the works and record drawings of the as-built and builder works for the consultant's approval.

1.8. Contractor shall do full coordination between structural, architectural and mep drawings in wet areas to allow for drainage pipes.

1.9. All discrepancies shall be brought to the attention of the consultant engineer proceeding with the work on site.

1.10. All materials to be used in conjunctions shall comply with the requirements of the specified codes, standards and ordinance of relevant building authorities unless noted otherwise in the project specification and /or drawings.

1.11. All dimensions and levels shown on the drawings shall be verified by the contractor . Any discrepancies shall be brought to consultant's attention prior to construction.

1.12. The contractor shall ensure that during construction, no part of the structure is overstressed by excessive construction loads until their completion. Temporary bracing and propping to be provided were required.

1.13. Once the excavation is done to a specified depth, the bearing capacity of the soil shall be confirmed by relevant test, if the value is less than the design bearing capacity the engineer is to be informed immediately.

1.14. The contractor shall submit a method statement for all elements of work and shall not proceed until consultant's written approval is given. The method statement shall provide the contractor's preferable options where such options are available.

1.15. The contractor shall comply with all requirements of the local regulations and requirements of all concerned authorities.

1.16. Quality of concrete finish for all non-plastered columns and beams is to be in accordance with- fair faced concrete as reflected on the architectural drawings and specifications.

1.17. Any structural requirements specified by relevant authorities, which are not covered in notes and specifications are assumed to be duly considered by the contractor.

1.18. All typical details and notes shown on drawings shall apply unless noted otherwise. Typical detail may not necessary be indicated on the plans but shall still apply as shown or described in the details where particular details are noted on the drawings the specified details shall be used.

1.19. The design life of the structure of this project shall maintain a minimum of50 years life period. The primary structural components are to be designed and detailed to satisfy this requirement. Concrete mix supplier shall submit a life cycle analysis which reflect a 50 years design life without maintenance, inspection and repair requirement during this period.

2. Concrete

2.1. All concrete works shall conform to the bs8110 or ec-en, a grade of c25/30 indicates that concrete shall have a fcu compressive strength of 30n/mm2 established from test cubes at 28 days equivalent to a compressive strength of 25n/mm2 established from cylinder tests at 28 days.

concrete mix design shall comply with bs8500-1:2006 as follows:

Miz Number	1	2	3	4
Grade	C30/37	C25/30	C25/30	C16/20
Min cement content (kg/m³)	380	340	340	300
Cement Type	SRC	SRC / OPC	OPC	SRC / OPC
Max free W/C ratio	0.4	0.45	0.45	0.55
Slump	75 ± 25	75 ± 25	75 ± 25	100 ± 25
Aggregate	20	20	20	20

mix 1 - used in reinforced concrete works for structures at sea/exposed to sea, water retaining structures and tank structures.

mix 2 - used in reinforced concrete works for ground level and below (sub-structutre) or any reinforced concrete works in contact with soil or water.

mix 3 - used in reinforced concrete works above ground flr lvl (superstructure) for horizontal members (beams/slabs) and vertical members (columns/walls).

mix 4 - used for plain concrete blinding and mass fill.

2.2. Contractor shall implement a trial mix in accordance with the project specifications & authority requirements. Trial mix results shall be submitted for engineer's review & approval prior to commencing concreting.

2.3. Contractor shall submit the details of additives, plasticizers, micro silica, curing compounds, waterproofing agents, etc. Application should follow strictly the manufacturer recommendation. It is contractors responsibility to ensure that all constituents of concrete are compatible to each other.

2.4. Maximum percentage (by weight) of salt contents permissible in aggregates used for concrete, hollow blocks & hourdi blocks, etc, shall be as follows:

a) acid soluble chlorides in aggregate - (fine 0.03%, coarse 0.02%)

b) acid soluble sulphate in aggregate - (fine 0.3%, coarse 0.2%)

2.5. Concrete shall be cured by an approved means in accordance with the specifications.

2.6. Aggregates shall be from approved source and in accordance with the specifications.

2.7. Openings, sleeves:

a) no holes, sleeves or penetrations be placed vertically or horizontally through beams unless approved by the engineer.

b) no holes to be made in slabs unless approved by the engineer.

2.8. Construction joints:

a) the contractor shall submit to the engineer for approval a plan marked up showing the location of all construction joints

b) horizontal construction joints shall not be made in beams, unless approved by the consultant or engineers.

c) vertical construction joints may be located at midspan of slabs or beams after reviewed and approved by the engineers.

d) contractor shall submit shear friction and the additional required reinforcement calculation of construction joint at any location) for engineers review and approval.

3. Reinforcement

3.1. The reinforcement used in the reinforced concrete shall be round, deformed type 2 bars marked as (t) to indicate high yield strength of 460n/mm2 to bs4449 or type 500b to ec-en. The carbon equivalent of rebars should not exceed 0.51 for grade 460.

3.2. Reinforcement details shown are indicative. The contractor shall prepare detailed shop drawings & full bar schedules in accordance with the design drawings and shall be cut and bent in accordance with bs 8666 and aci 315-09 for the engineer's approval at least four weeks prior to commencement of reinforced concrete work and after coordinating with all concerned parties.

3.3. Lap lengths and anchorage lengths of reinforcement shall be as per bs 8110 and ec en. Additional lapping if required to be provided with engineer's approval. The minimum lap length of reinforcement shall be the maximum of (45 bar dia in general and 50 dia for tension) or the values of the table a.

Table a : schedule of lap splices

Bar dia	lap splices length (mm)
10	500
12	600
16	800
20	1000
25	1250

3.4. Spacer bars in beams shall be a minimum t25 or the size of bar if greater at 1000mm c/c; chairs in slabs shall be a minimum t12@1000mm c/c; and minimum ties in walls shall be t8@1000mm c/c.

3.5. Clear cover to reinforcement including links, stirrups, and ties shall be as follows:

A) structure in contact with ground
Footings = 60mm
Wall and column = 50mm
Ground beam = 50mm
Slab at ground level = 50mm

B) super structure
Columns = 40mm
Beams = 35mm
Slabs = 30mm
Walls = 40mm
All concrete elements in contact with water/splash zone = 50mm

3.6. Reinforcement bars to be cut, bent or adjusted to clear all openings and interfering structures to suit at site to the approval of the consultant or engineer.

3.7. For holes in slabs up to 300x300 sq., reinforcement is to be cut and replacement bars fixed adjacent to the hole extending 50x bar diameter beyond the hole.

4. Fire resistance

4.1. All structural concrete members between units on boundaries are designed to maintain fire resistance of 2 hours.

Genaral Notes 1
1:20

5. Cracking

5.1. The cracking of the structural concrete in general is restricted to 0.30mm.

6. Earthwork & foundations

6.1. Foundation detail design is based on the assumed safe allowable bearing capacity has been taken as 150kpa. The actual requirement for the foundation design is to be verified based on final geotechnical report for the project.

6.2. Excavations for foundations down to formation level shall be carried out by mechanical means, except for the last 100mm of excavation which is to be carried out by manual methods and recommended by geotechnical consultant.

6.3. The formation level of foundation is to be inspected and approved by the geotechnical engineer before commencement of the work.

6.4. Engineering fill (unless specified otherwise as a higher quality material) shall be selected well graded granular material approved by the engineer with a minimum soaked cbr of 15% compacted not exceeding 250mm in layers to 95% maximum dry density as per geotechnical investigation report recommendations in accordance with the specification. However, a minimum cover of 250mm back fill material shall be provided at the top of foundations below the blinding to cast against.

6.5. Efficient site drainage during and after construction of the project should be provided by the contractor.

6.6. Site inspection by a qualified engineer should be carried out after completion of the excavation works and after preparation of the proposed foundation level to ensure that the contact surface is free from any loose/soft layer and properly prepared for the foundation.

7. Concrete workmanship

7.1. All concrete without plaster shall be fair finish unless noted otherwise.

7.2. All concrete surface to have plaster are to be hacked to have an adequate surface key.

7.3. All concrete is to be cured by an approved method-water pounding or curing compound.

7.4. All types of construction joints in concrete shall be at a specified locations and approved by the engineers.

7.5. All substructure concrete works shall be protected with water proofing as per standard details & specifications.

7.6. All concrete shall be compacted using a mechanical vibration process.

7.7. 25x25mm chamfers to external corners and edges shall be provided in accordance with specifications and directed by the engineer.

8. Structural steel

8.1. All structural steel works shall be in accordance with bs 5950 parts 1 to 9 or ec-en3.

8.2. Maximum dimension of holes shall be in accordance with bs 5950 : part 1 : 2000 table 35, unless indicated otherwise.

8.3. The contractor shall provide whatever temporary ties or bracing necessary for a safe and proper erection of the steel structures.

8.4. Welding shall comply with bs en 1011-1: 2009, bs en 1011-2 : 2001 and bs bs en 1011-8 : 2004.

8.5. Contractor shall do a detailed design for aluminum shades and to submit full design calculations and detailed shop drawings for all steel sections and connections to the engineer for approval prior to commencement of fabrication.

8.6. All rolled products and plates shall conform to bs en 10025-2. Cold form welded structural hollow sections shall conform to bs en 10219-1. Hot finish hollow sections shall conform to bs 10210-1 unless noted otherwise on drawings.

8.7. All connections shall be made with minimum 2nos. Galvanized grade 8.8 to bs 3692 with a minimum diameter of 20mm and minimum yield strength of 627mpa and minimum ultimate strength of 765mpa and electrodes to bsd 639, unless noted otherwise.

8.8. Unless noted otherwise on the drawings, all connections shall be in accordance with the following minimum requirements:

A) all welds shall be at least 6mm continuous fillet welds all around.
B) all structural bolted connections should be galvanized minimum 85 micron and with a minimum of 2 bolts per connection. Purlin bolts shall be in accordance with the suppliers recommendations.
C) all gusset plates shall be at least 4mm thick.
D) all cap plates shall be at least 4mm thick.
E) all base plates shall be at leat 4mm thick.

8.9. As minimum all structural steel members shall be shot blasted to sa 2.5, galvanized, primed & painted as below unless noted otherwise:

A) hot galvanization (dft 200micron)
B) primer coat to contain 2 coats of zinc rich epoxy primer (dft 75 micron)
C) top coat to contain 2 coats of polyurethane enamel paint (dft 125 micron)

8.10. All structural steel work shall be corrosion protected in accordance with the structural specifications.

8.11. All steel should conform to the following:

A) shs, rhs and chs sections bsen 10210 s275 fy=275mpa
B) all angles and channels u.n.o bsen 10025 s275 fy=275mpa

8.12. All steel columns to be central on grids or equally spaced between grids unless noted otherwise.
8.13. All steel beams to be central on grids or equally spaced between grids unless noted otherwise.

8.14. All steel dimensions are to center line of section unless noted otherwise.

8.15. All bracing is to be set out on the centroids of bracing members and on the center line of beams and columns unless noted otherwise.

8.16. Where bracing is shown offset from center of members the contractor shall design and provide all necessary stiffeners.

8.17. Contractor to provide all leader railing as required to support free edges not trimmed with cold formed or mild steel work. To be provided in accordance with architect 's drawings.

8.18. Location of any connections, splices not shown in the drawings shall be submitted with design for engineer's approval. No splices shall be made unless shown in the drawings and as approved by the engineers.

8.19. Contractor shall do a full coordination between architecture and structural drawings for the steel support for shade elements, locations and sizing connections with structural concrete elements and sections. Care shall be taken to prevent dissimilar metal corrosion.

9. Masonry blocks

9.1. Design and construction of all blocks shall comply with bs 5628 : parts 1.2 & 3 : 1992 or en-ec6. The contractor shall submit a construction method statement prior to commencing the works.

9.2. Wall ties in accordance with bs 1248 - cp 121 part 1.73.

9.3. All block wall joints to manufacturers specifications.

9.4. All block work walls are to be considered as non-load bearing partitions unless noted otherwise in drawings.

9.5. Block walls shall be reinforced horizontally and vertically as per manufacturers requirements.

9.6. Masonry wall mechanical properties

young's modulus = 3.5e+006 kn/m2
poisson's ratio = 0.25
density = 20kn/m3
min.compressive strength = 3.5 mpa

10. Design & loading

10.1. Consultant design

design and construction of reinforced concrete structural members, shall be in accordance with bs8110 & ec-en2 and the structural steel members to bs 5950 & ec-en3.

10.2. Contractor design

the contractor is responsible for the design of all temporary works. (shoring for excavation, signage... Etc) and the following items of permanent secondary works. (subjected to engineers review and approval)

a) precast concrete elements
b) architectural facade and support steelwork
c) non load bearing feature columns
d) all secondary steel works
e) structural steelwork connections
f) structural support for mep services
g) shade structures
h) balustrade and crash barrier
i) structural glass
j) interior signage

the design of the primary structure is considering the interfaces with these structures) loading reactions, opening...etc.) And were detailed to accommodate these elements into the design.
the contractor shall submit a full detail design for the wall and boundary wall foundation, also the contractor to do
full coordination between the structural foundation for villas (including the water tanks, and the boundary wall for clashes, the contractor shall produce shop drawings for
the boundary walls for engineer's approval.

10.3. Loading

a) superimposed (dead loads & live loads) as per bs 6399 or en-ec1.
b) self-weight & densities as per bs 648 or en-ec1.
c) wind loads as per bs 6399 or en-ec1 (mean wind speed = 25m/s).

11. Timber

11.1. All timbers shall be in accordance with bs 5268 or ec-en5

11.2. All timber members sizes are indicative. Contractor shall coordinate with supplier and submit detail designs for all prefab timber structure for approval.

Genaral Notes 2

1:100

Notes:

1. First stirrups location shall be s/2 from the face of the column/ support.

2. Place one b bar in each bottom corner and one t bar in each top corner of the stirrup cage.

3. Condition shown is at columns. Where beams and girder intersect, use typical interior girder section.

4. All bottom bars and top bars shall be placed in one layer unless two layers are noted in the beam schedule. Where to layers are noted provide 25 mm clear between layers. If two layers are noted place bar b1 above bar b and bar t above t1.

5. Length of exterior top bars are given only when straight bar occurs otherwise hooked bars are required.

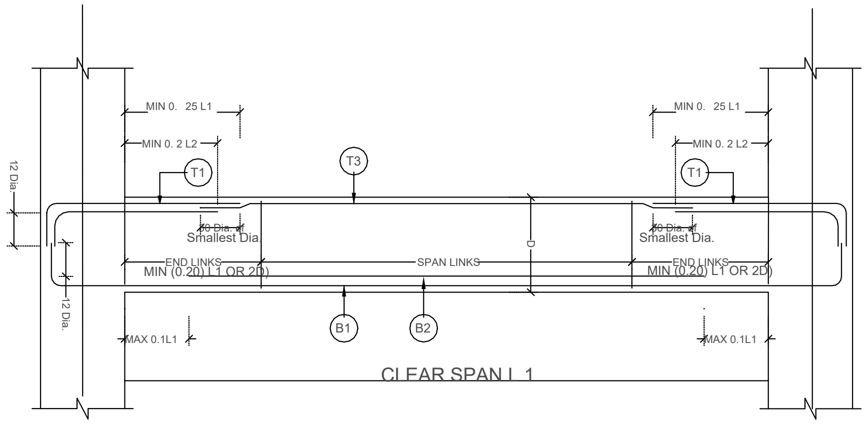
6. Where a member is supported by a column, but has another member running perpendicular to it at the same column, the first stirrup spacing shall start from the face of the column and not from the face of the transverse beam.

7. Top & bottom reinforcement lapping of both main rebars can be ignored if the main rebars at left and right side of lapping location are identical.

8. For 'column width less or equal 2m l*="column width'/2. For 'column width' greater than 2m, l*=1m

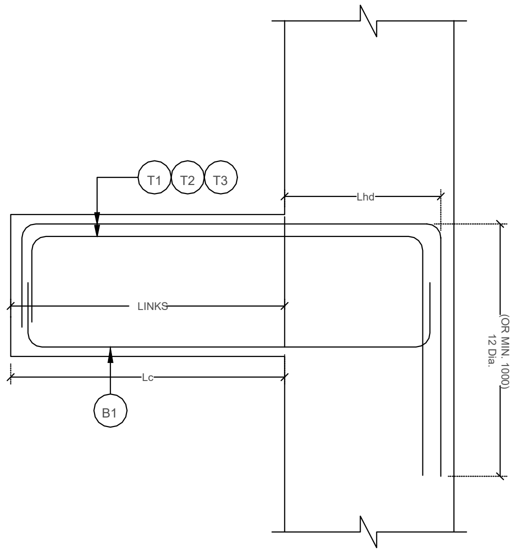
Supplementary abbreviations:

B1 - continuous bottom bars.
B2 - additional bottom bars
CE - cantilevered end
D - depth of member, mm
EE - each end
EF - each face
FL - full length
EW - each way
H - aci standard hook
ITB - interior top bar
LE - left end
LG - length
P - paired stirrups
RE - right end
REM - remainder
S - side bars
T1 - top bars at internal supports
T2 - top bars at mid-span
T3 - top bars at end support
W - width of member, mm


MIN 0. 25 L1
MIN 0. 2 L2
T1
T3
T1
MIN 0. 25 L1
MIN 0. 2 L2
12 Dia.
30 Dia. of Smallest Dia.
30 Dia. of Smallest Dia.
END LINKS
SPAN LINKS
END LINKS
MIN (0.20) L1 OR 2D)
MIN (0.20) L1 OR 2D)
D
12 Dia.
B1
B2
MAX 0.1L1
MAX 0.1L1
CLEAR SPAN L 1

SIMPLE BEAM DETAILS

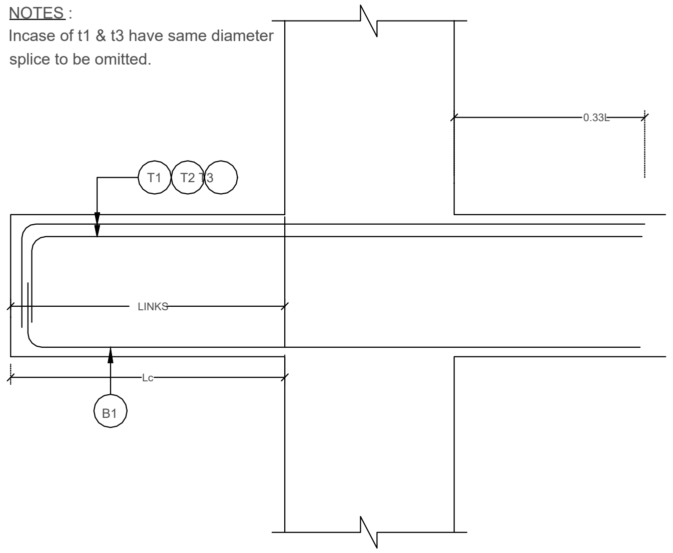
NTS


T1
T2
T3
Lhd
LINKS
Lc
B1
(OR MIN. 100)
12 Dia.

TYPICAL CANTELEVER BEAM FROM COLUMN

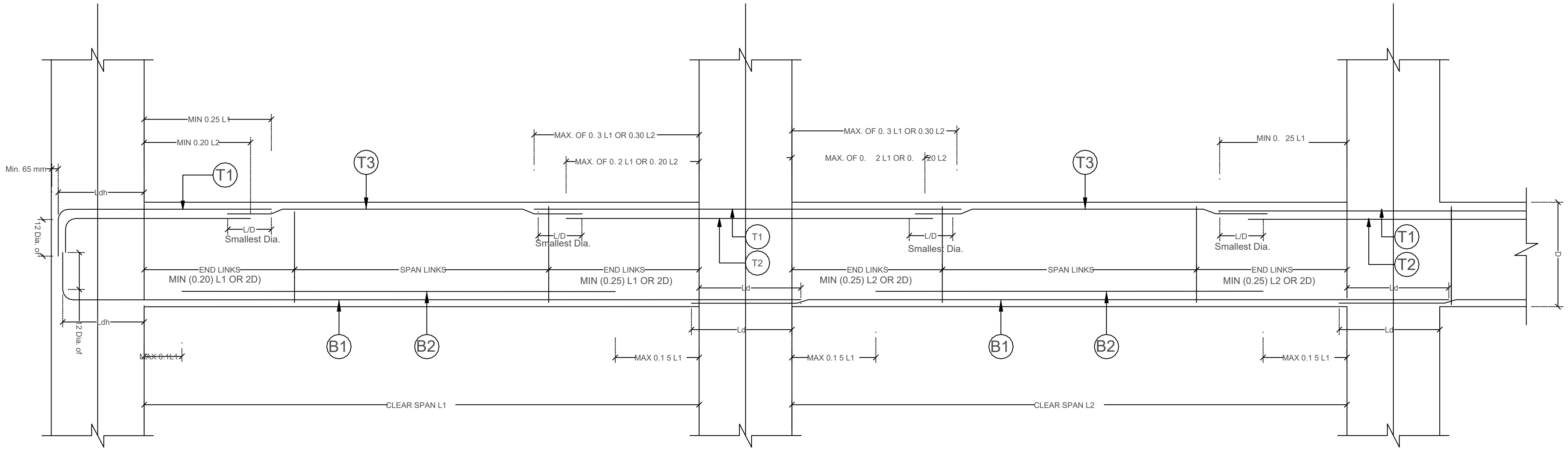
NTS

NOTES :
Incase of t1 & t3 have same diameter
splice to be omitted.


0.33L
T1
T2
T3
LINKS
Lc
B1

TYPICAL CANTELEVER BEAM CONTINUOUS

NTS

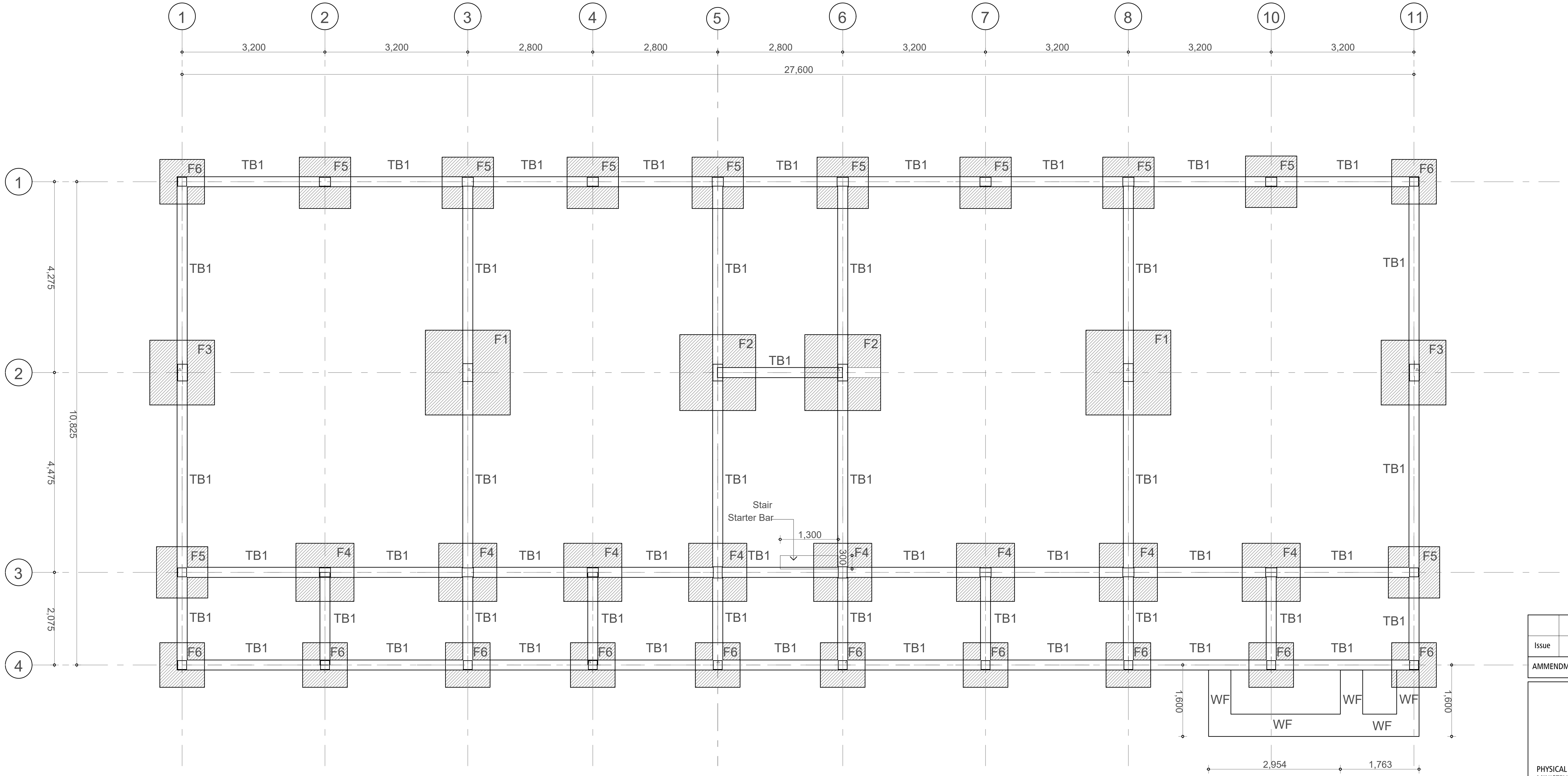

MIN 0.25 L1
MIN 0.20 L2
Min. 65 mm
T1
T3
Ldh
12 Dia. of
L/D
Smallest Dia.
END LINKS
MIN (0.20) L1 OR 2D)
SPAN LINKS
MAX. OF 0. 3 L1 OR 0.30 L2
MAX. OF 0. 2 L1 OR 0. 20 L2
L/D
Smallest Dia.
END LINKS
MIN (0.25) L1 OR 2D)
T1
T2
Ld
Ld
MAX. OF 0. 3 L1 OR 0.30 L2
MAX. OF 0. 2 L1 OR 0. 20 L2
T3
L/D
Smallest Dia.
END LINKS
MIN (0.25) L2 OR 2D)
SPAN LINKS
MIN 0. 25 L1
L/D
Smallest Dia.
END LINKS
MIN (0.25) L2 OR 2D)
T1
T2
Ld
Ld
D
Ldh
12 Dia. of
MAX 0.1L1
B1
B2
MAX 0.1 5 L1
MAX 0.1 5 L1
B1
B2
MAX 0.1 5 L1
CLEAR SPAN L1
CLEAR SPAN L2

CONTINUOUS BEAM DETAILS

NTS

Genaral Notes 3

1:100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27,600
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4,275
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F5
F5
F5
F5
F5
F6
TB1
F3
F1
F2
F2
F1
F3
Stair
Starter Bar
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F5
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F4
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F6
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F6
F6
F6
F6
F6
WF
1,600
1,600
2,954
1,763

FOUNDATION PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

Foundation Details:

	Dimensions	Reinforcement	Foundation depth
F1	1900X1900X350	T12@125C/C B/W (B)	1200mm
F2	1700X1700X350	T12@150C/C B/W (B)	1200mm
F3	1450X1450X350	T12@150C/C B/W (B)	1200mm
F4	1300X1300X350	T12@150C/C B/W (B)	1200mm
F5	1150X1150X350	T12@150C/C B/W (B)	1200mm
F6	1000X1000X350	T10@150C/C B/W (B)	1200mm

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
Add waterproofing admixture and apply waterproofing to all substructure (below ground elements)

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
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PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
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ARCHITECT :
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DRAWN :
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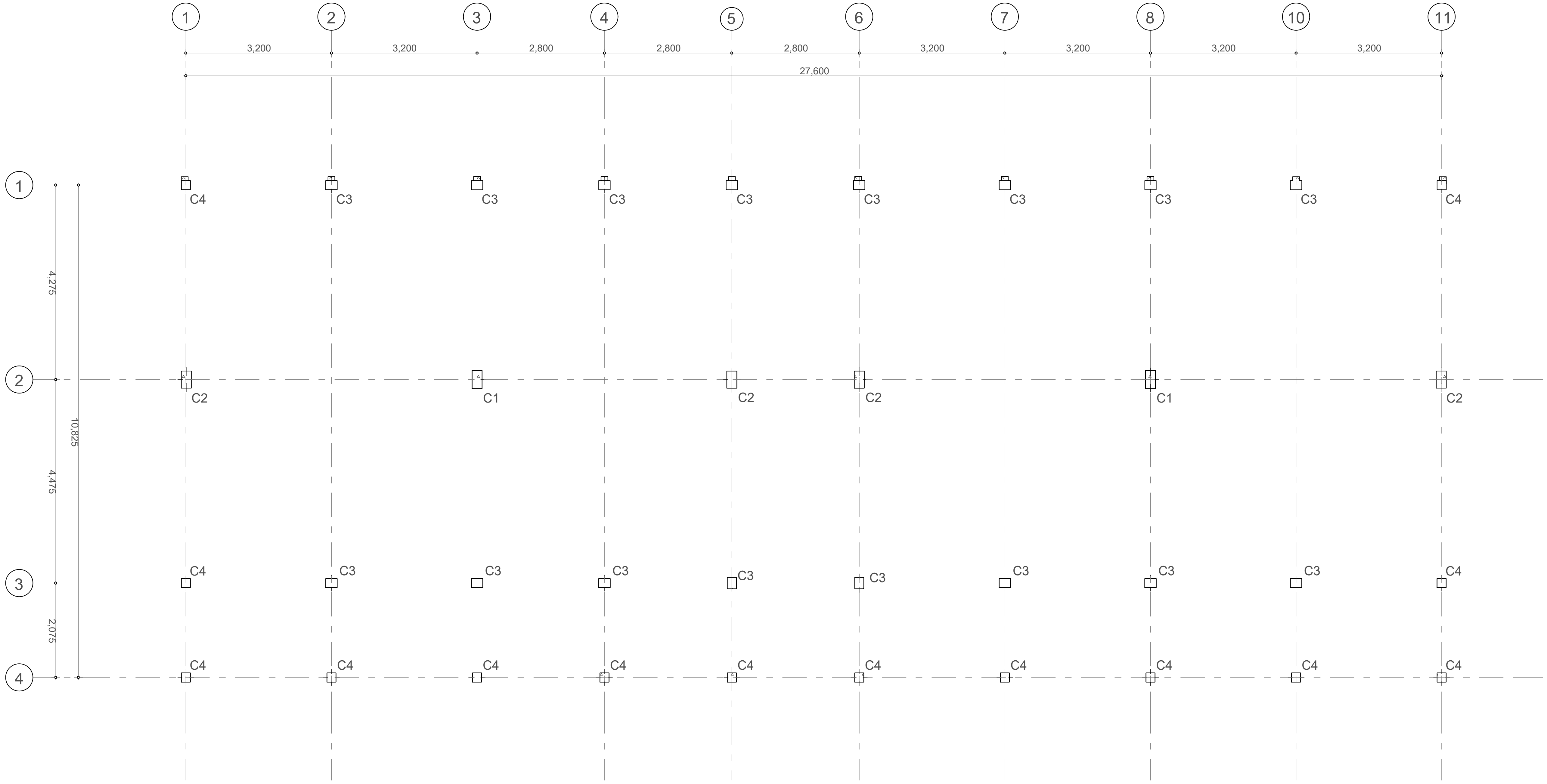
DATE : 13.10.2021
DWG NO : E-01 / 18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COLUMN LAYOUT PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

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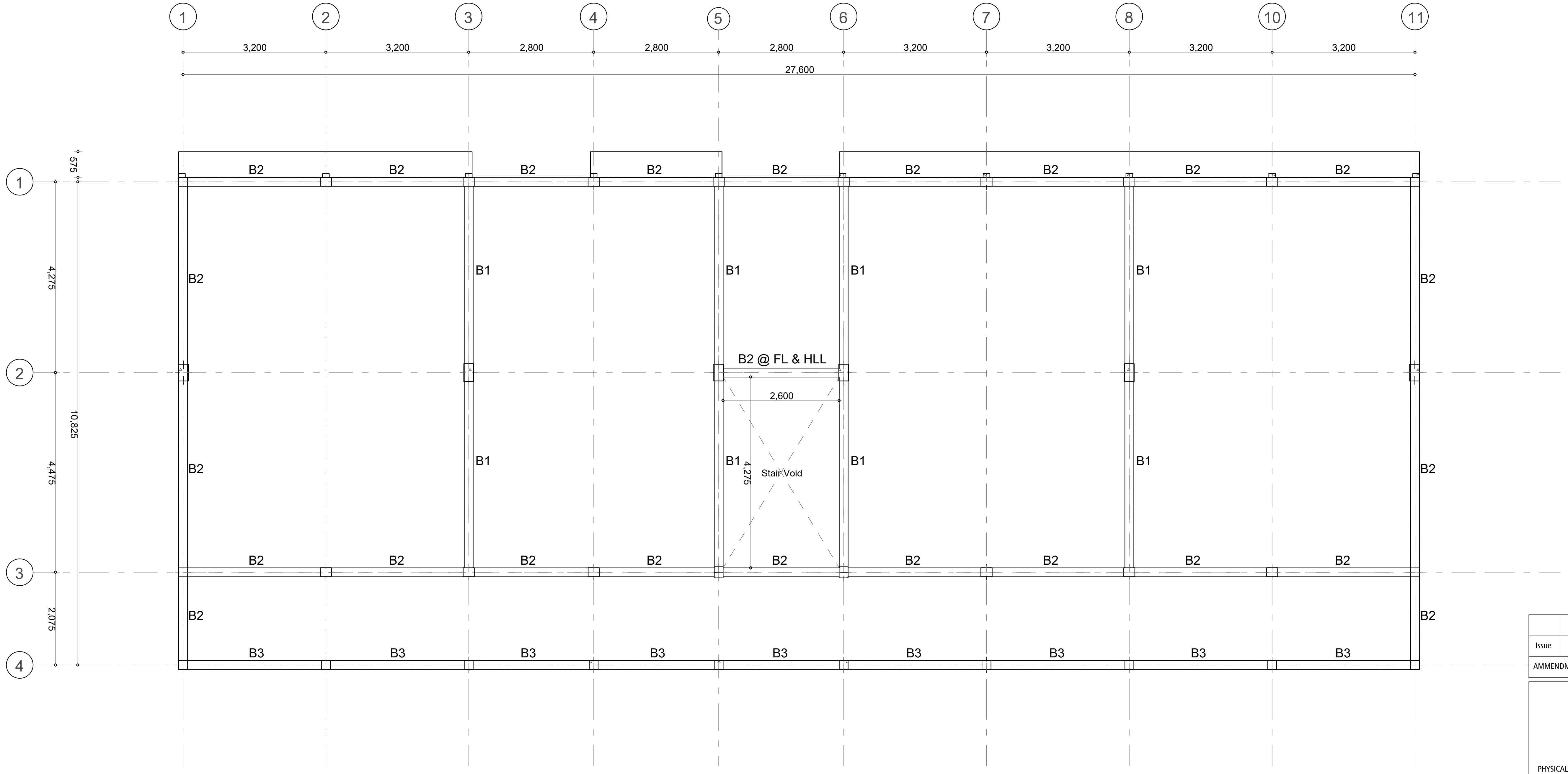
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B2 @ FL & HLL
2,600
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4,275
Stair Void
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FIRST FLOOR BEAM PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

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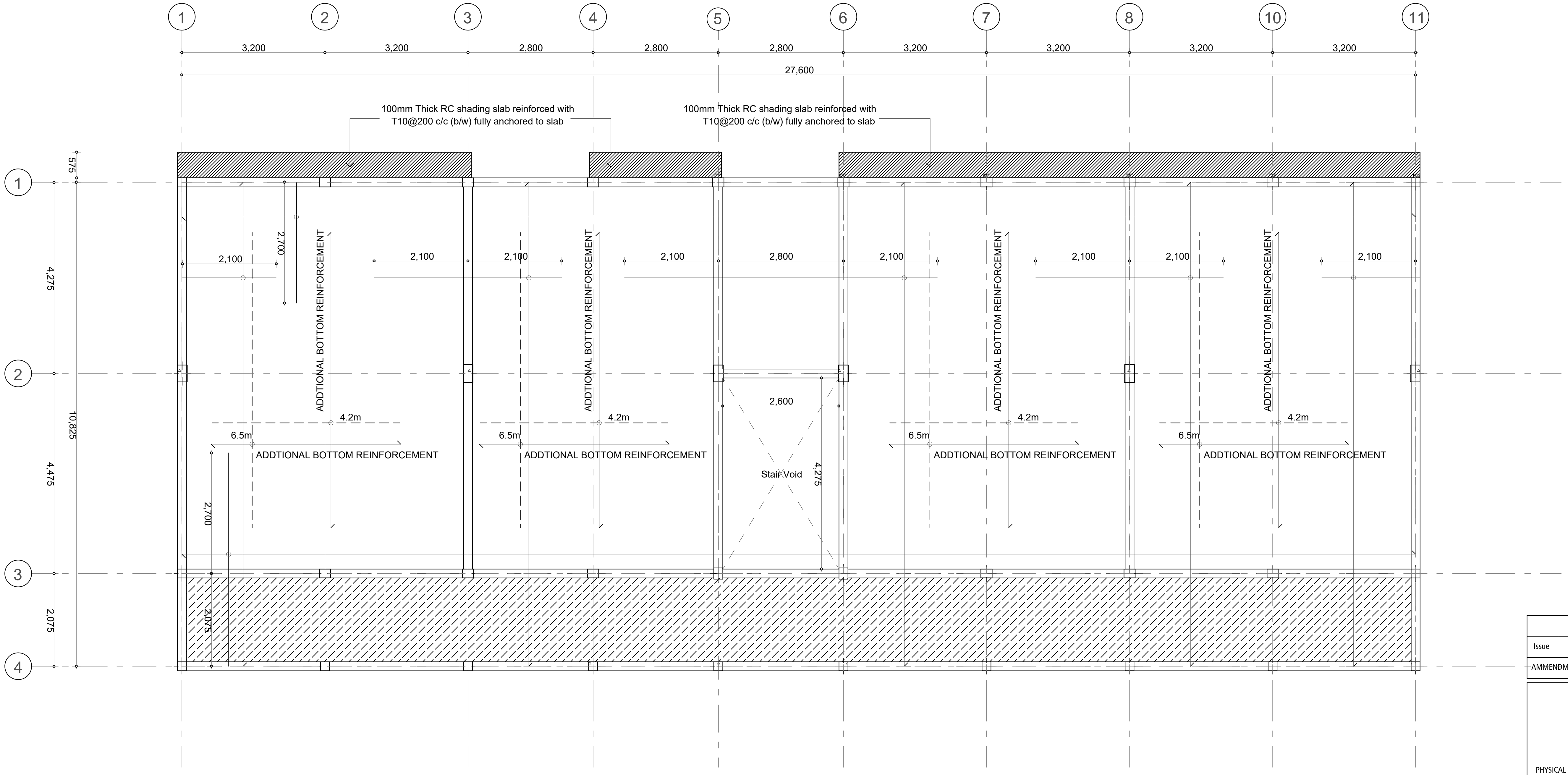
☐	175 mm
▨	155 mm

Bottom Reinforcement:	T12@150c/c B/W (Not Shown)
Bottom Additional Reinforcement:	T12@150c/c B/W (As shown)
Top Reinforcement:	T12@150c/c (As shown, unless stated)
Top Distribution steel:	T12@150c/c (Unless stated)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3,200
3,200
27,600
575
4,275
4,475
2,075
10,825
2,100
2,700
2,800
2,600
4,275
4.2m
6.5m
ADDTIONAL BOTTOM REINFORCEMENT
Stair Void
1
2
3
4

100mm Thick RC shading slab reinforced with T10@200 c/c (b/w) fully anchored to slab

100mm Thick RC shading slab reinforced with T10@200 c/c (b/w) fully anchored to slab

FIRST FLOOR SLAB REINFORCEMENT PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

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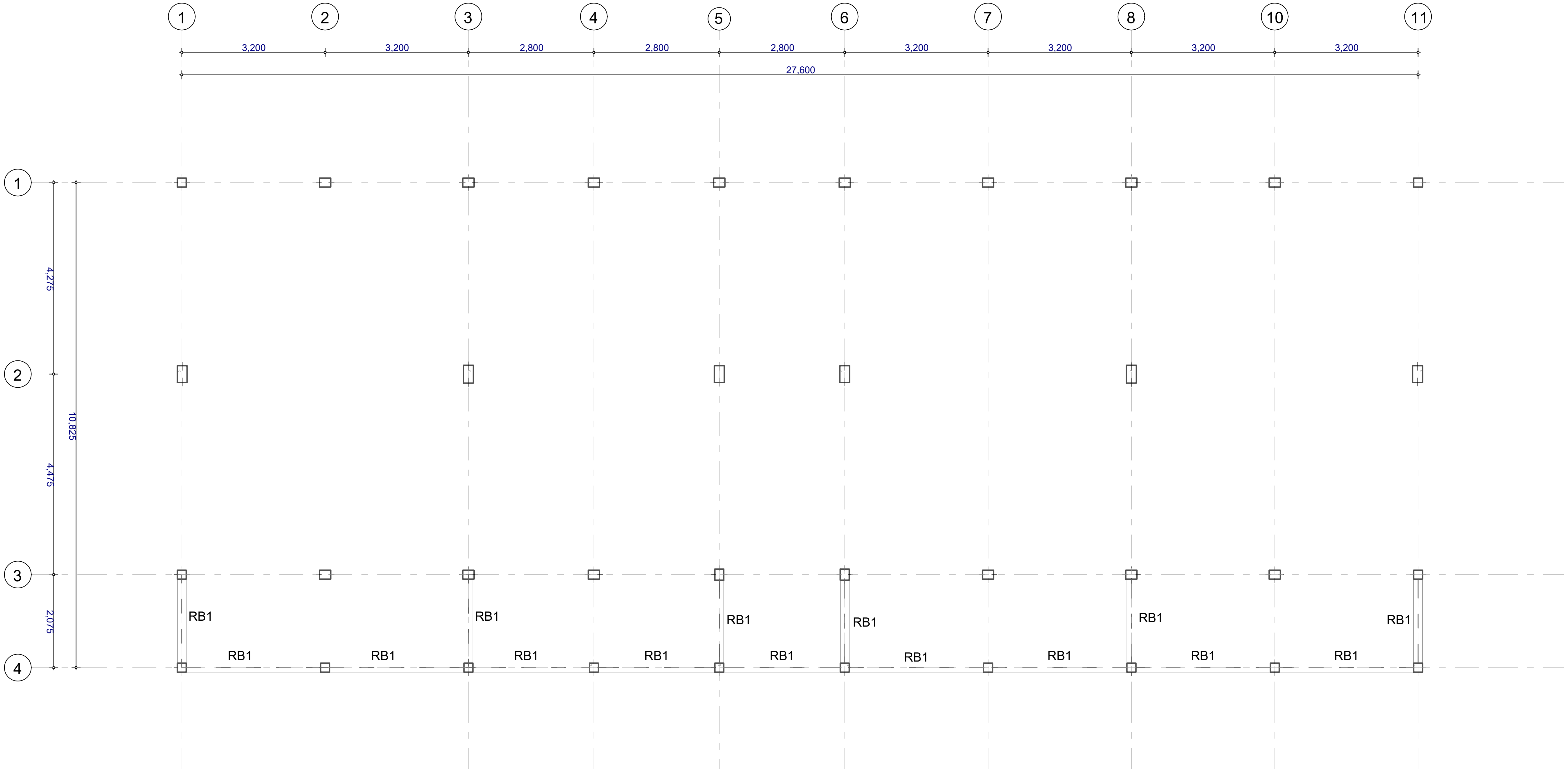
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ROOF BEAM LEVEL 1

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
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PROJECT REFERENCE

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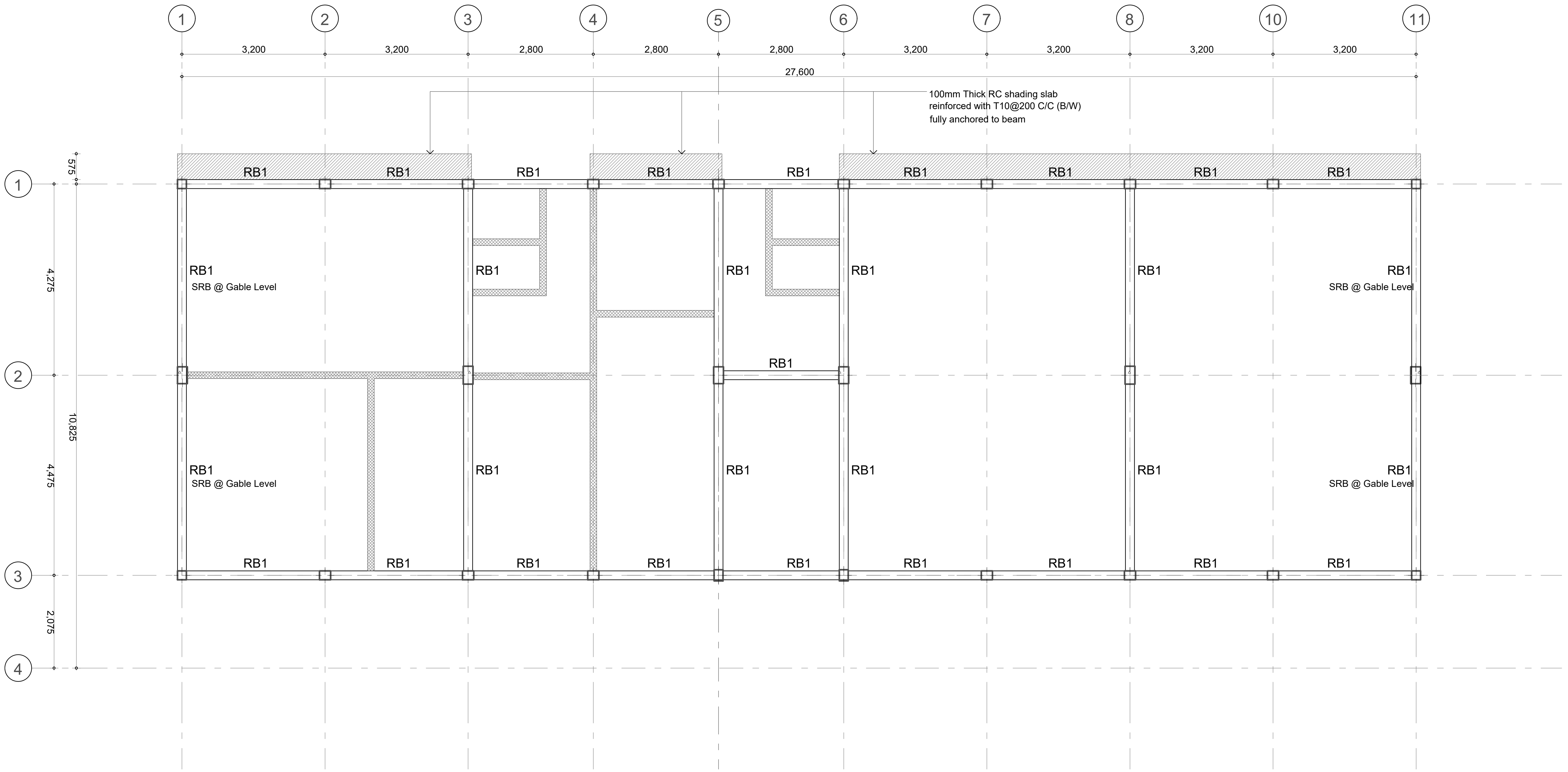
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27,600
575
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10,825
RB1
SRB @ Gable Level
WCB

100mm Thick RC shading slab
reinforced with T10@200 C/C (B/W)
fully anchored to beam

Notes:

▨ WCB (Wall cast beam cast on top of wall)

ROOF BEAM LEVEL 2

SCALE 1:100

Notes:

▨ WCB (Wall cast beam cast on top of wall)

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
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PROJECT REFERENCE
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ENGINEER :
DRAWN :
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DATE : 13.10.2021
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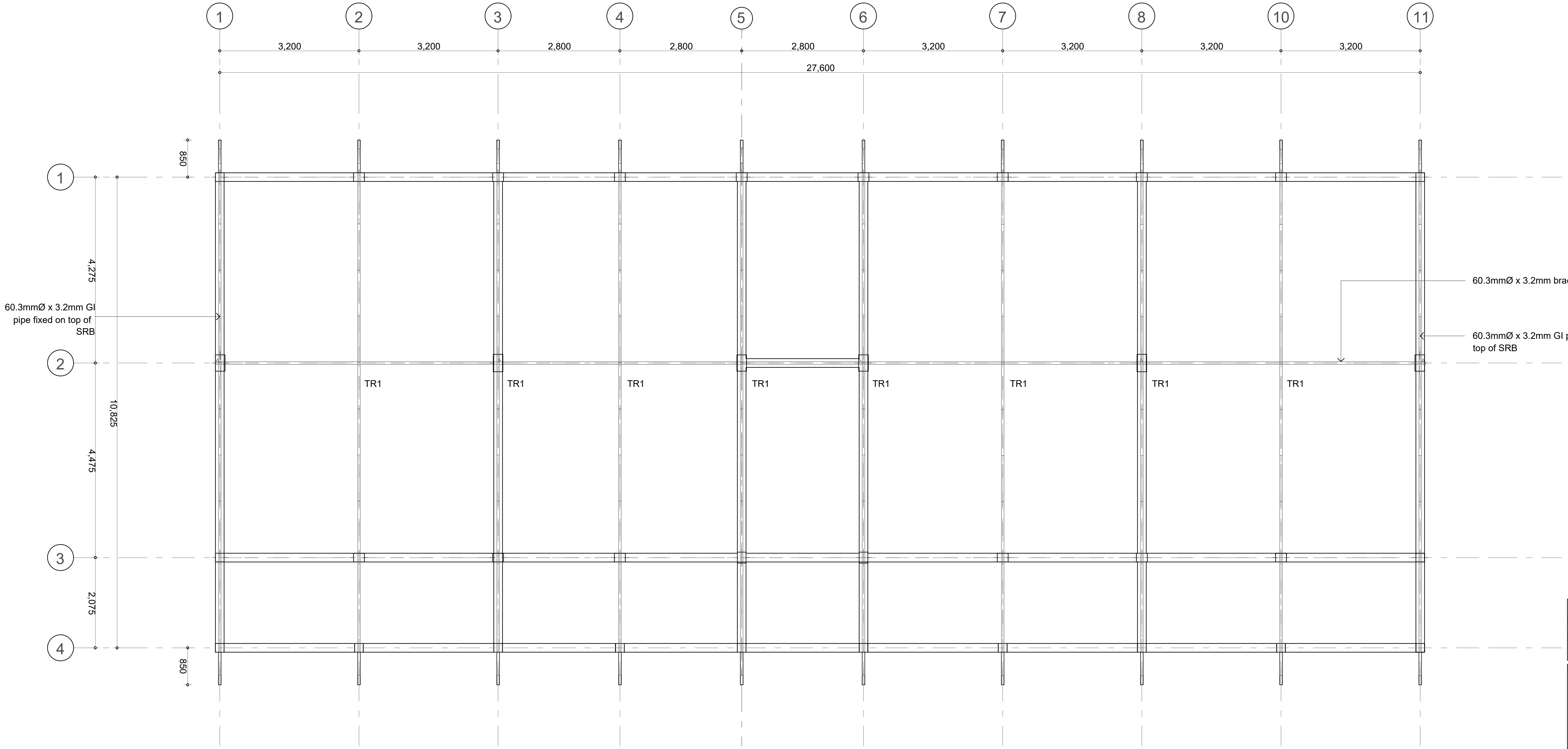
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3,200
3,200
27,600
850
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4,275
2
10,825
4,475
3
2,075
4
850
TR1
TR1
TR1
TR1
TR1
TR1
TR1
TR1

60.3mmØ x 3.2mm GI pipe fixed on top of SRB

60.3mmØ x 3.2mm bracing GI pipe

60.3mmØ x 3.2mm GI pipe fixed on top of SRB

ROOF TRUSS

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
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R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
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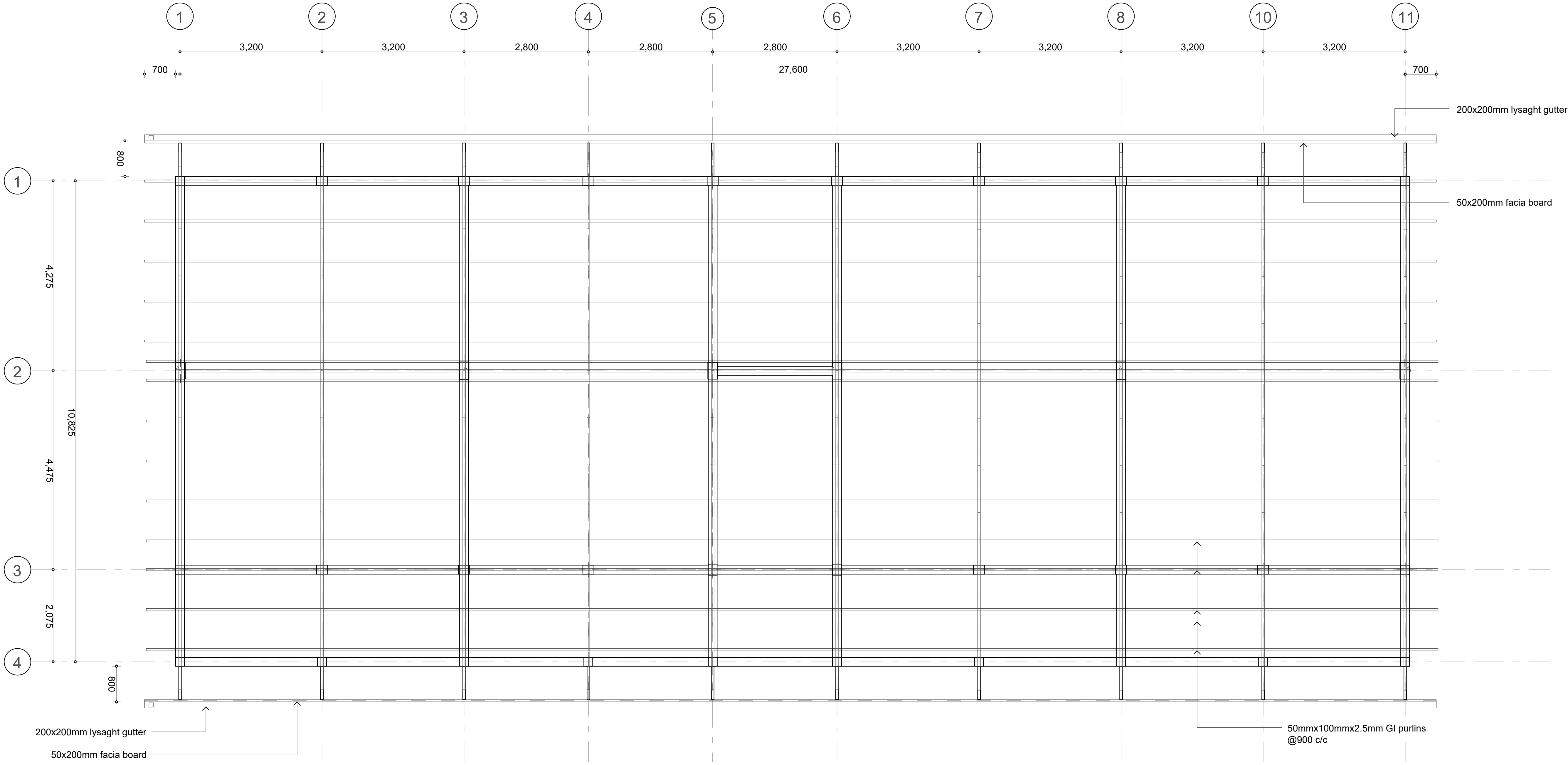
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3,200
700
27,600
700
200x200mm lysaght gutter
800
1
50x200mm facia board
4,275
2
10,825
4,475
3
2,075
4
800
200x200mm lysaght gutter
50x200mm facia board
50mmx100mmx2.5mm GI purlins
@900 c/c

ROOF FRAMING PLAN

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
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R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE

CLIENT MINISTRY OF EDUCATION

ARCHITECT :

ENGINEER :

DRAWN :

CHECKED :

SCALE : AS GIVEN

DATE : 13.10.2021

DWG NO : E-08 / 18

Foundation Details:

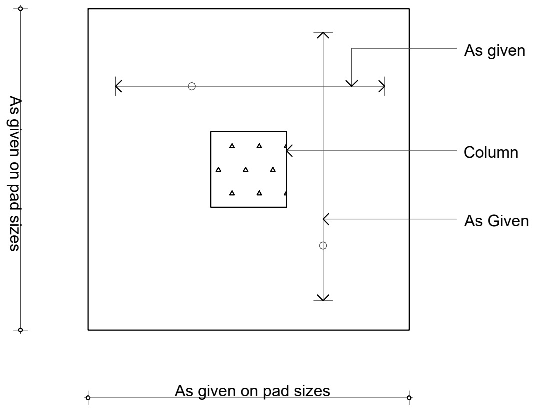
	Dimensions	Reinforcement	Foundation depth
F1	1900X1900X350	T12@125C/C B/W (B)	1200mm
F2	1700X1700X350	T12@150C/C B/W (B)	1200mm
F3	1450X1450X350	T12@150C/C B/W (B)	1200mm
F4	1300X1300X350	T12@150C/C B/W (B)	1200mm
F5	1150X1150X350	T12@150C/C B/W (B)	1200mm
F6	1000X1000X350	T10@150C/C B/W (B)	1200mm

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
Add waterproofing admixture and apply waterproofing to all substructure (below ground elements)

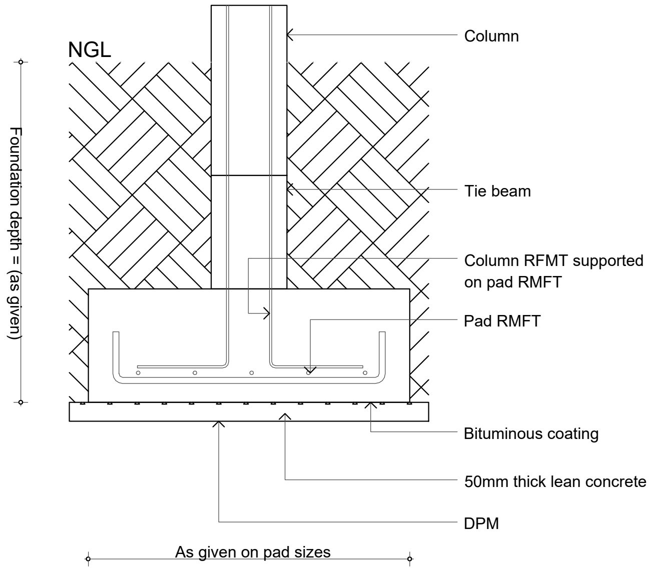
FOUNDATION DETAILS

Foundation Notes
1:100



As given on pad sizes
As given
Column
As Given
As given on pad sizes

Plan View



NGL
Column
Foundation depth = (as given)
Tie beam
Column RFMT supported on pad RMFT
Pad RMFT
Bituminous coating
50mm thick lean concrete
DPM
As given on pad sizes

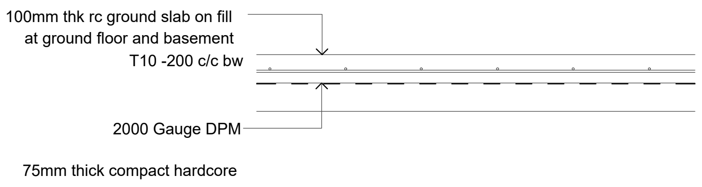
Sectional View

TYPICAL PAD FOOTING DETAIL

SCALE 1:20
0 0.1 0.2 0.4 0.6 0.8 1

STRUCTURAL DETAILS

SCALE 1:20
0 0.1 0.2 0.4 0.6 0.8 1



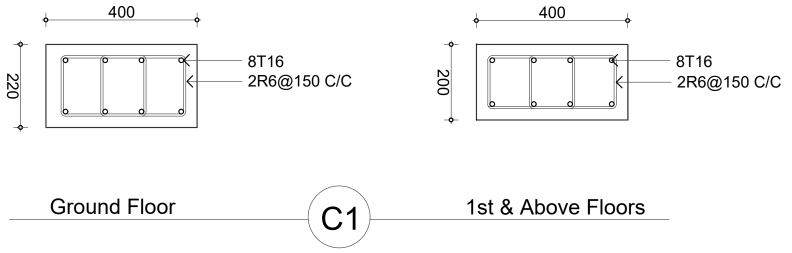
100mm thk rc ground slab on fill at ground floor and basement
T10 -200 c/c bw
2000 Gauge DPM
75mm thick compact hardcore

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

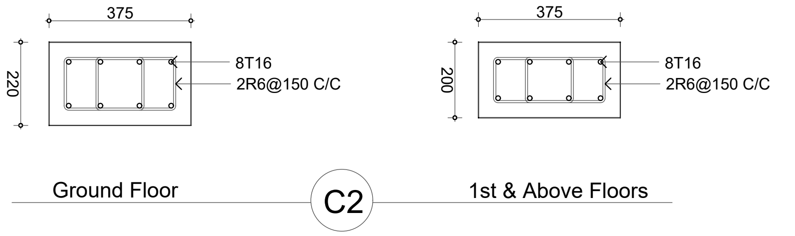
For slab, rebar spacer chairs spacing shall be minimum 1m spacing or 1 no. per 1 sqm

GROUND SLAB DETAIL

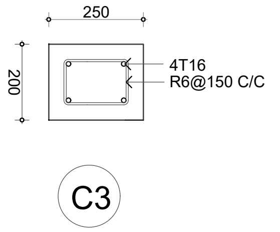
SCALE 1:20
0 0.1 0.2 0.4 0.6 0.8 1



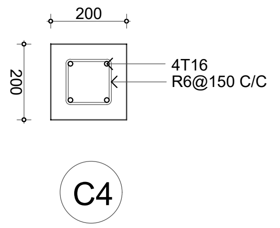
400
220
8T16
2R6@150 C/C
400
200
8T16
2R6@150 C/C
Ground Floor
C1
1st & Above Floors



375
220
8T16
2R6@150 C/C
375
200
8T16
2R6@150 C/C
Ground Floor
C2
1st & Above Floors



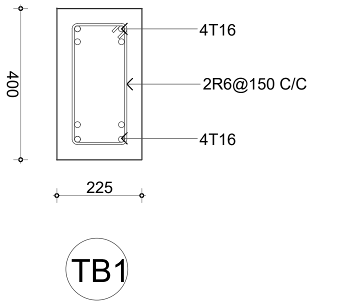
250
200
4T16
R6@150 C/C
C3



200
200
4T16
R6@150 C/C
C4

COLUMN DETAILS

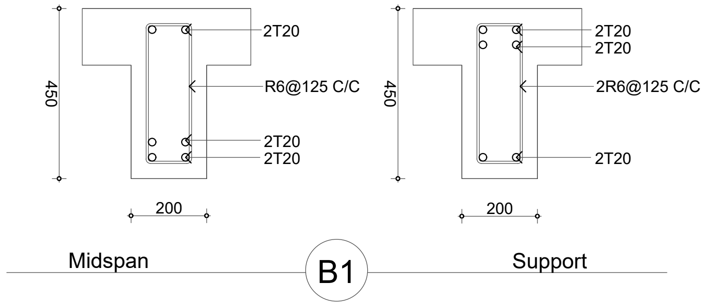
SCALE 1:20
0 0.1 0.2 0.4 0.6 0.8 1



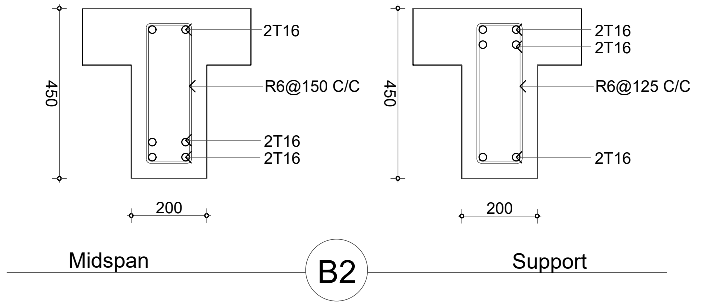
400
4T16
2R6@150 C/C
4T16
225
TB1

TIE BEAM DETAIL

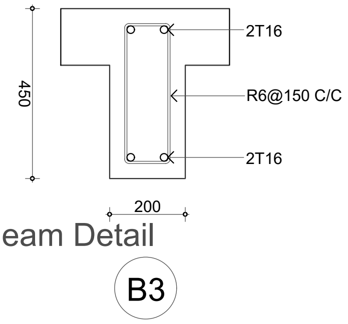
SCALE 1:20
0 0.1 0.2 0.4 0.6 0.8 1



450
2T20
R6@125 C/C
2T20
2T20
200
450
2T20
2T20
2R6@125 C/C
2T20
200
Midspan
B1
Support

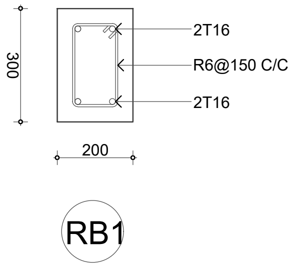


450
2T16
R6@150 C/C
2T16
2T16
200
450
2T16
2T16
R6@125 C/C
2T16
200
Midspan
B2
Support

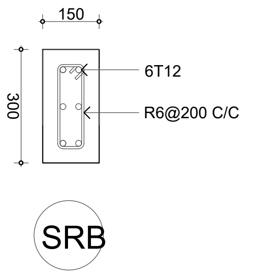


450
2T16
R6@150 C/C
2T16
200
B3

Lintel / Sill Beam Detail

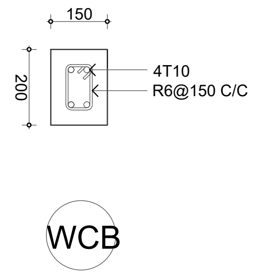


300
2T16
2R6@150 C/C
2T16
200
RB1



150
300
6T12
R6@200 C/C
SRB

SRB (Sloping roof beam cast on top of wall at gable level)



150
200
4T10
R6@150 C/C
WCB

(Cast on top of wall)

BEAM DETAIL

SCALE 1:20
0 0.1 0.2 0.4 0.6 0.8 1

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
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DRAWN :
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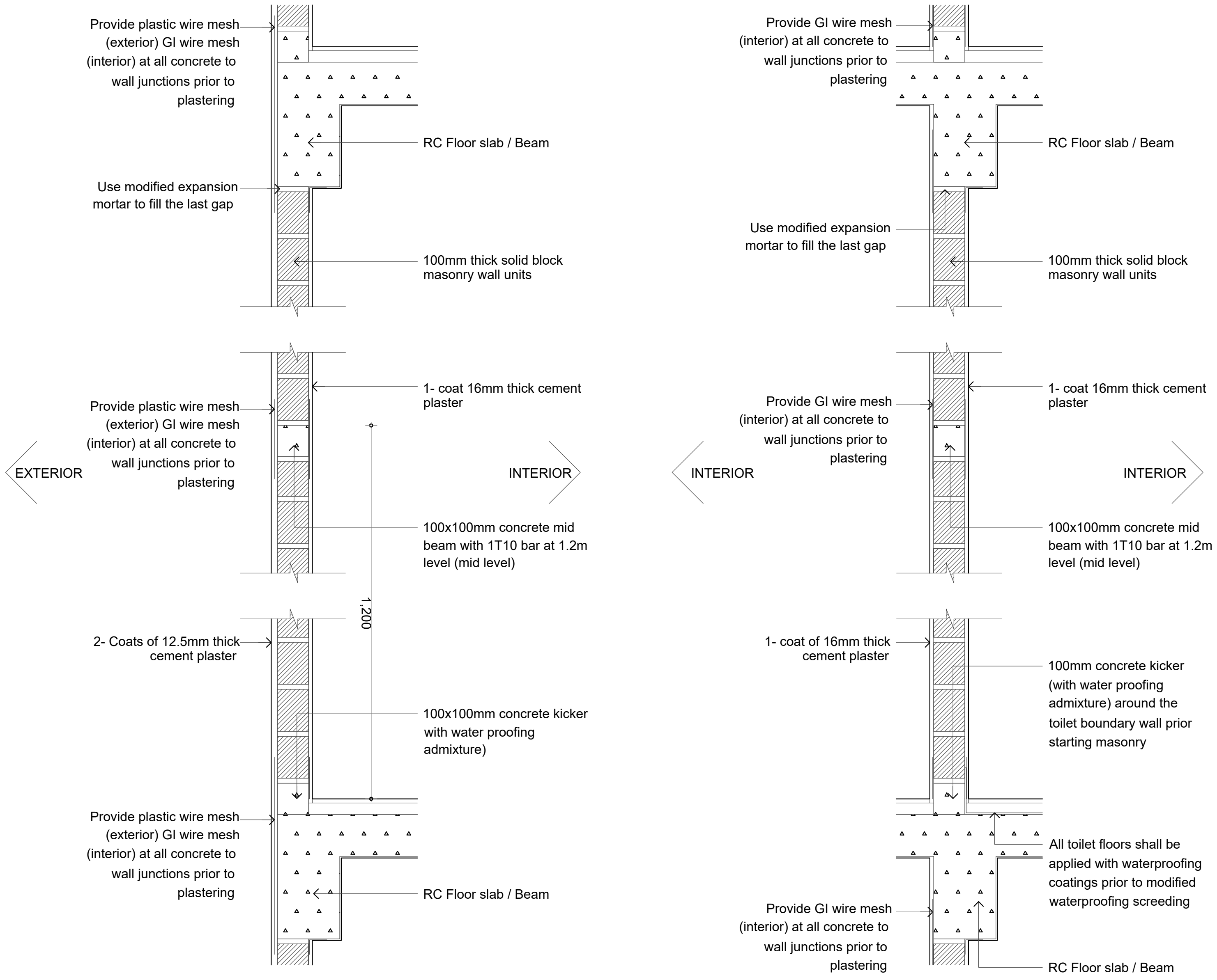
DWG NO : E-09 / 18


Provide plastic wire mesh (exterior) GI wire mesh (interior) at all concrete to wall junctions prior to plastering
RC Floor slab / Beam
Use modified expansion mortar to fill the last gap
100mm thick solid block masonry wall units
1- coat 16mm thick cement plaster
Provide plastic wire mesh (exterior) GI wire mesh (interior) at all concrete to wall junctions prior to plastering
EXTERIOR
INTERIOR
100x100mm concrete mid beam with 1T10 bar at 1.2m level (mid level)
1,200
2- Coats of 12.5mm thick cement plaster
100x100mm concrete kicker with water proofing admixture)
Provide plastic wire mesh (exterior) GI wire mesh (interior) at all concrete to wall junctions prior to plastering
RC Floor slab / Beam
Provide GI wire mesh (interior) at all concrete to wall junctions prior to plastering
RC Floor slab / Beam
Use modified expansion mortar to fill the last gap
100mm thick solid block masonry wall units
1- coat 16mm thick cement plaster
Provide GI wire mesh (interior) at all concrete to wall junctions prior to plastering
INTERIOR
INTERIOR
100x100mm concrete mid beam with 1T10 bar at 1.2m level (mid level)
1- coat of 16mm thick cement plaster
100mm concrete kicker (with water proofing admixture) around the toilet boundary wall prior starting masonry
All toilet floors shall be applied with waterproofing coatings prior to modified waterproofing screeding
Provide GI wire mesh (interior) at all concrete to wall junctions prior to plastering
RC Floor slab / Beam

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.

TYPICAL WALL CONSTRUCTION DETAIL

SCALE 1:20

0 0.1 0.2 0.4 0.6 0.8 1

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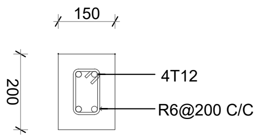
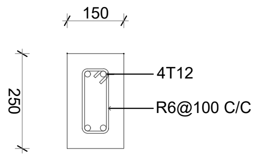

150
200
4T12
R6@200 C/C

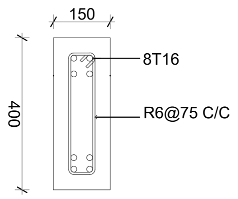
LT1

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


150
250
4T12
R6@100 C/C

LT2

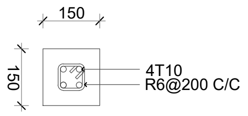
LINTELS OVER ALL DOORS, WINDOWS
(THAT DOES NOT RISE TO BEAM LEVEL)
LT2 FOR WINDOWS > 1.5M & <3.0M


150
400
8T16
R6@75 C/C

LT3

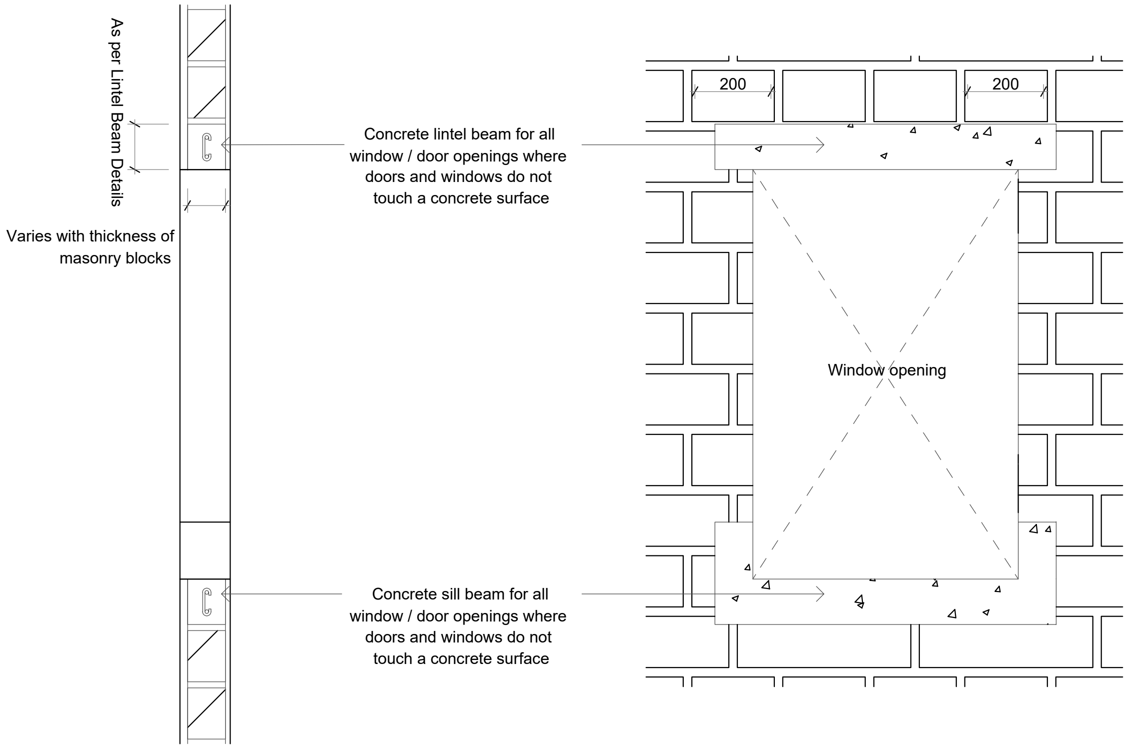
LINTELS OVER ALL DOORS, WINDOWS
(THAT DOES NOT RISE TO BEAM LEVEL)
LT3 FOR WINDOWS > 3.0M & <6.0M

Lintel Beam Detail
1:20


150
150
4T10
R6@200 C/C

LB1

Sill Beam Detail
1:20


As per Lintel Beam Details
200
200
Window opening

Varies with thickness of masonry blocks

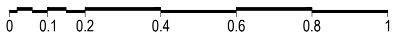
Concrete lintel beam for all window / door openings where doors and windows do not touch a concrete surface

Concrete sill beam for all window / door openings where doors and windows do not touch a concrete surface

Typical Window
Construction Detail

WINDOW CONSTRUCTION DETAIL

SCALE 1:20


0
0.1
0.2
0.4
0.6
0.8
1

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
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PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

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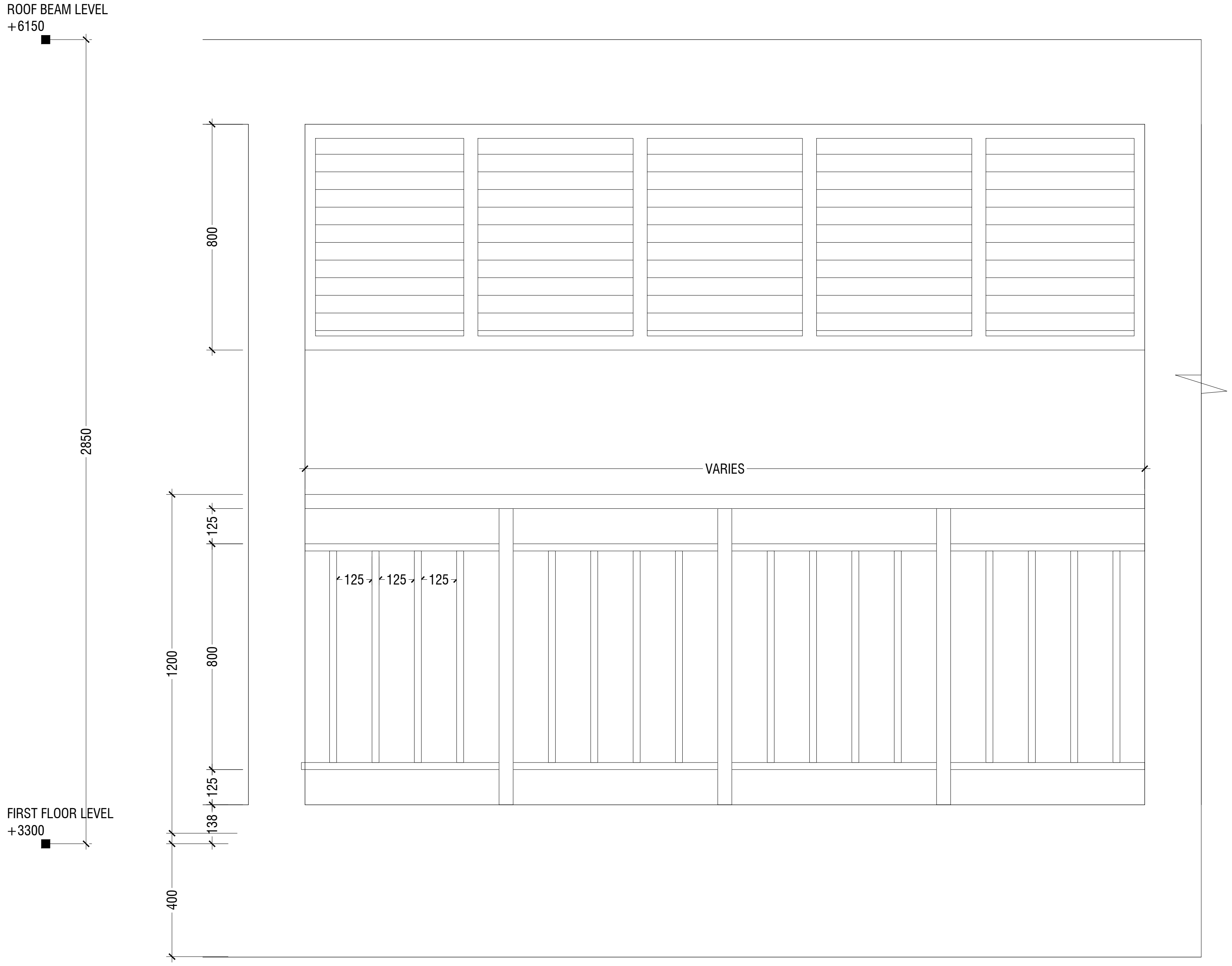
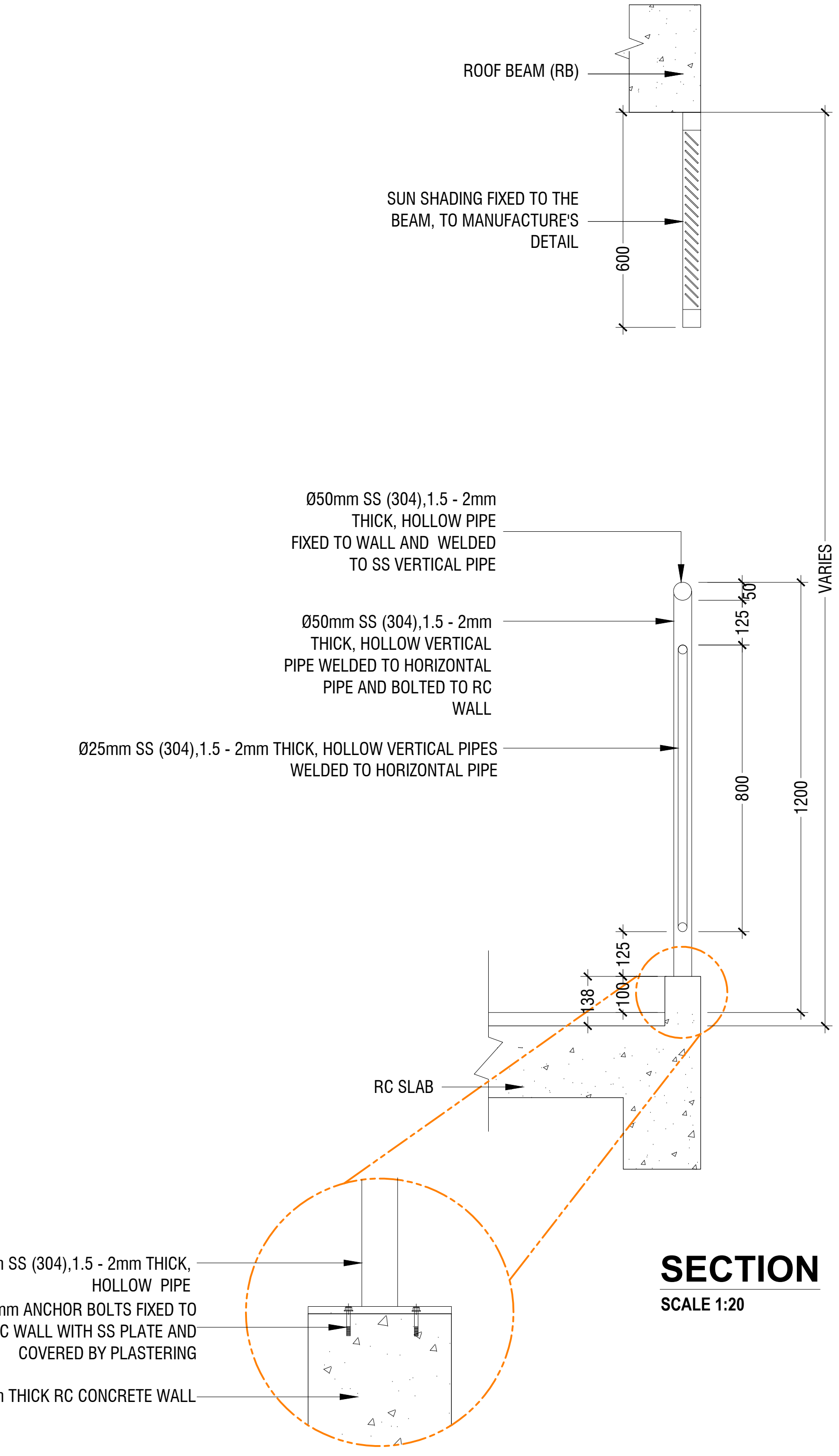

ROOF BEAM LEVEL
+6150
800
2850
VARIES
125
125
125
125
1200
800
125
138
FIRST FLOOR LEVEL
+3300
400

ELEVATION

SCALE 1:20


ROOF BEAM (RB)
SUN SHADING FIXED TO THE BEAM, TO MANUFACTURE'S DETAIL
600
VARIES
Ø50mm SS (304),1.5 - 2mm THICK, HOLLOW PIPE FIXED TO WALL AND WELDED TO SS VERTICAL PIPE
Ø50mm SS (304),1.5 - 2mm THICK, HOLLOW VERTICAL PIPE WELDED TO HORIZONTAL PIPE AND BOLTED TO RC WALL
Ø25mm SS (304),1.5 - 2mm THICK, HOLLOW VERTICAL PIPES WELDED TO HORIZONTAL PIPE
50
125
800
1200
125
138
100
RC SLAB
Ø50mm SS (304),1.5 - 2mm THICK, HOLLOW PIPE
4 NOS. 12mm ANCHOR BOLTS FIXED TO THE RC WALL WITH SS PLATE AND COVERED BY PLASTERING
100mm THICK RC CONCRETE WALL

SECTION

SCALE 1:20

NOTE:-
FLOOR TO FLOOR HEIGHT VARIES AND WILL BE SUBJECTED TO CHANGES

RAILING DETAILS

SCALE 1:20

0 0.1 0.2 0.4 0.6 0.8 1

Issue	Date	Description

AMMENDMENTS.

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MINISTRY OF EDUCATION,
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PROJECT
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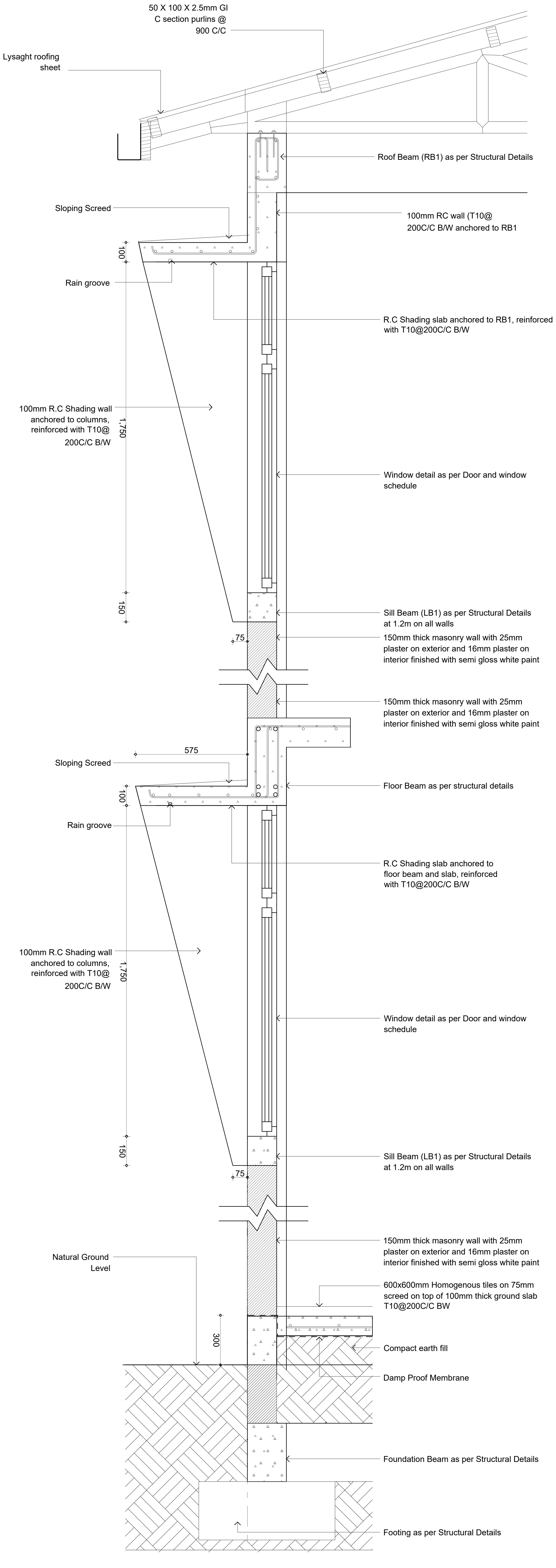
DWG NO : S-12 / 18


50 X 100 X 2.5mm GI
C section purlins @
900 C/C
Lysaght roofing
sheet
Roof Beam (RB1) as per Structural Details
Sloping Screed
100mm RC wall (T10@
200C/C B/W anchored to RB1
100
Rain groove
R.C Shading slab anchored to RB1, reinforced
with T10@200C/C B/W
100mm R.C Shading wall
anchored to columns,
reinforced with T10@
200C/C B/W
1,750
Window detail as per Door and window
schedule
150
Sill Beam (LB1) as per Structural Details
at 1.2m on all walls
75
150mm thick masonry wall with 25mm
plaster on exterior and 16mm plaster on
interior finished with semi gloss white paint
150mm thick masonry wall with 25mm
plaster on exterior and 16mm plaster on
interior finished with semi gloss white paint
575
Sloping Screed
Floor Beam as per structural details
100
Rain groove
R.C Shading slab anchored to
floor beam and slab, reinforced
with T10@200C/C B/W
100mm R.C Shading wall
anchored to columns,
reinforced with T10@
200C/C B/W
1,750
Window detail as per Door and window
schedule
150
Sill Beam (LB1) as per Structural Details
at 1.2m on all walls
75
150mm thick masonry wall with 25mm
plaster on exterior and 16mm plaster on
interior finished with semi gloss white paint
Natural Ground
Level
600x600mm Homogenous tiles on 75mm
screed on top of 100mm thick ground slab
T10@200C/C BW
300
Compact earth fill
Damp Proof Membrane
Foundation Beam as per Structural Details
Footing as per Structural Details

Issue	Date	Description

AMMENDMENTS.

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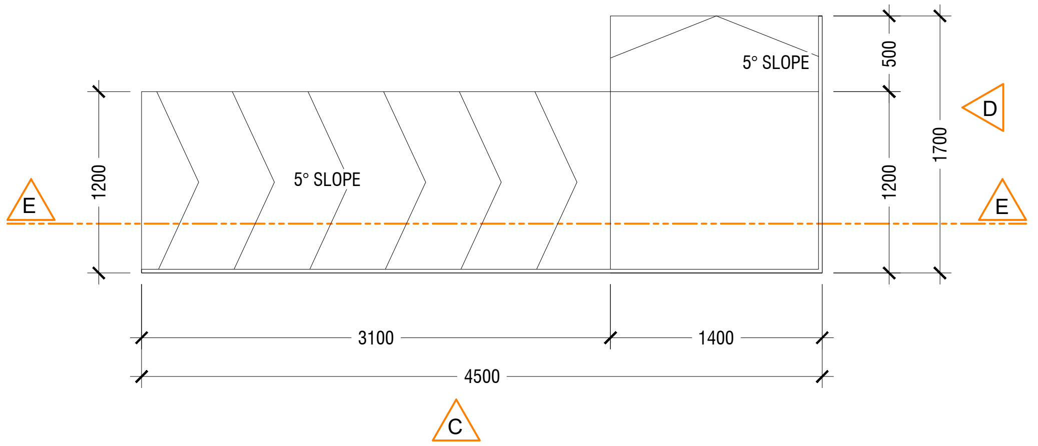
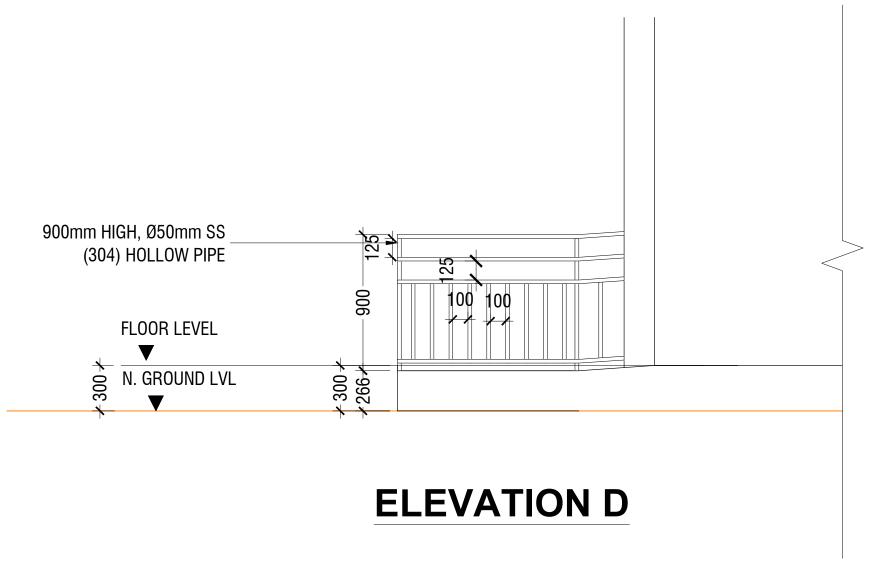
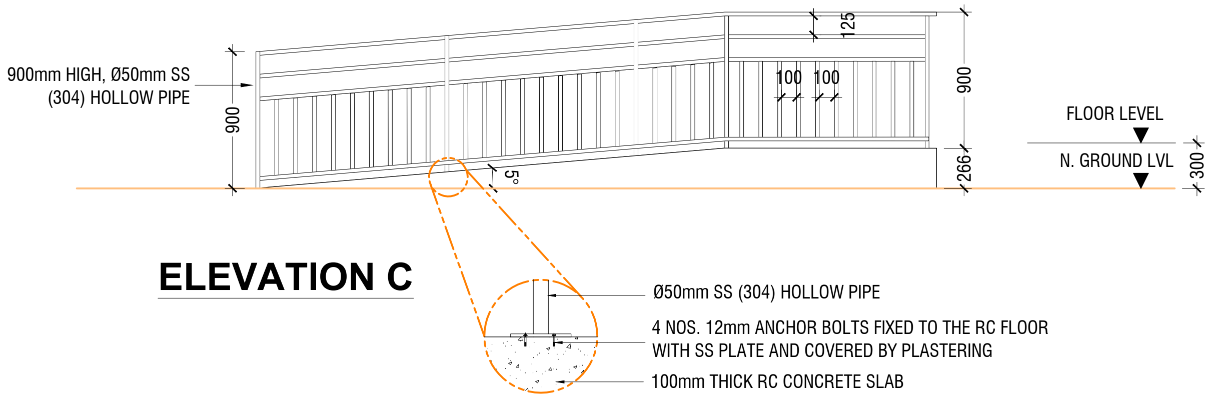
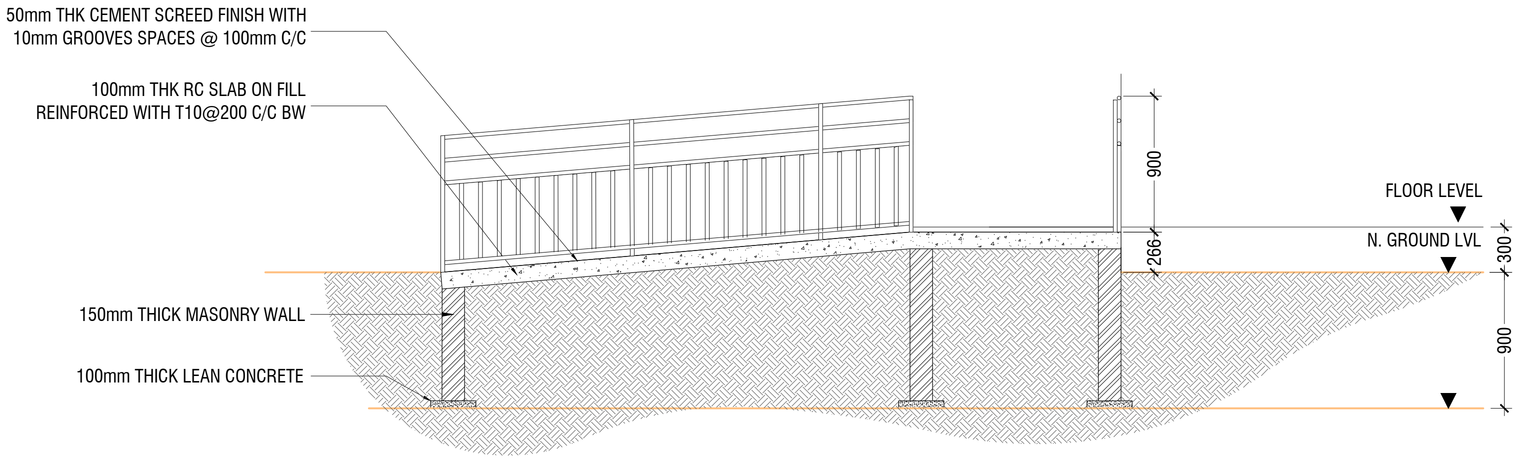

5° SLOPE
500
1700
D
5° SLOPE
1200
1200
E
E
3100
1400
4500
C


900mm HIGH, Ø50mm SS
(304) HOLLOW PIPE
125
125
100
100
900
FLOOR LEVEL
N. GROUND LVL
300
300
266

ELEVATION D


900mm HIGH, Ø50mm SS
(304) HOLLOW PIPE
900
125
100
100
900
5°
FLOOR LEVEL
N. GROUND LVL
266
300
Ø50mm SS (304) HOLLOW PIPE
4 NOS. 12mm ANCHOR BOLTS FIXED TO THE RC FLOOR
WITH SS PLATE AND COVERED BY PLASTERING
100mm THICK RC CONCRETE SLAB

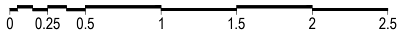
ELEVATION C


50mm THK CEMENT SCREED FINISH WITH
10mm GROOVES SPACES @ 100mm C/C
100mm THK RC SLAB ON FILL
REINFORCED WITH T10@200 C/C BW
150mm THICK MASONRY WALL
100mm THICK LEAN CONCRETE
900
266
FLOOR LEVEL
N. GROUND LVL
300
900

SECTION E-E

DETAIL - 2
MAIN ENTRANCE RAMP DETAILS

SCALE 1:50


0
0.25
0.5
1
1.5
2
2.5

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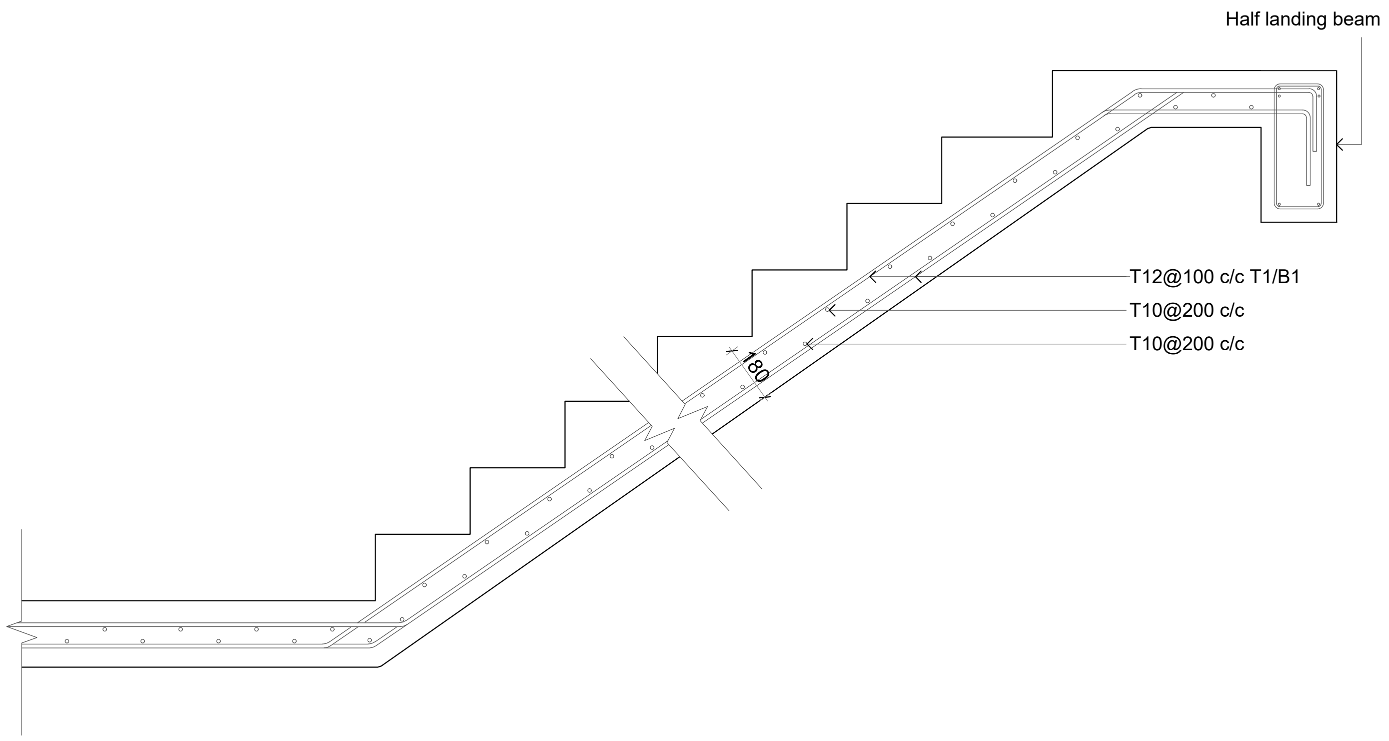
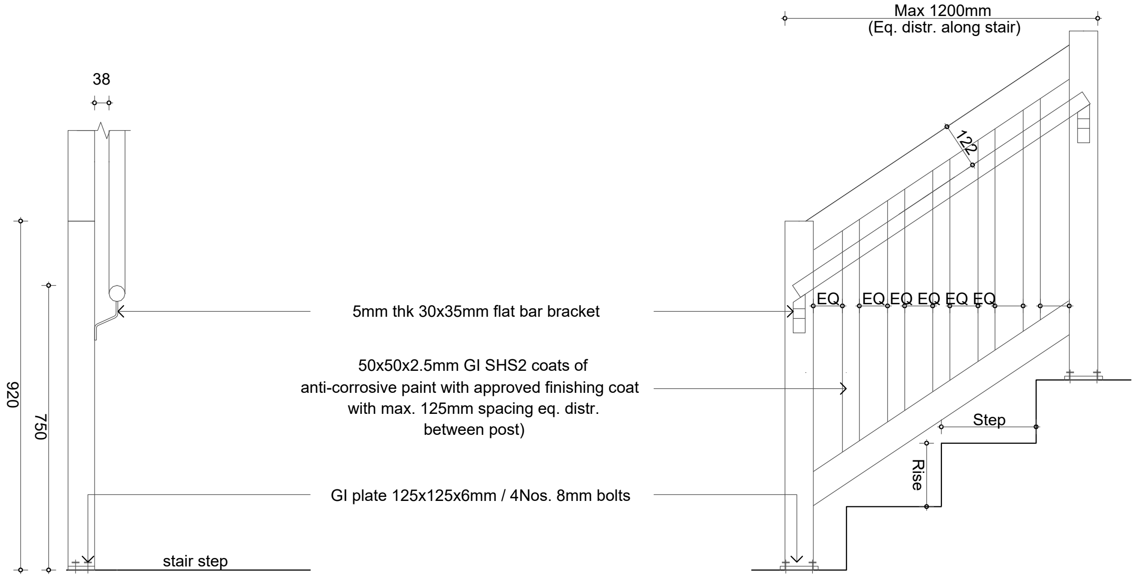

Half landing beam
T12@100 c/c T1/B1
T10@200 c/c
T10@200 c/c
180

STAIR REINFORCEMENT DETAIL

SCALE 1:20

0 0.1 0.2 0.4 0.6 0.8 1


38
920
750
stair step
5mm thk 30x35mm flat bar bracket
50x50x2.5mm GI SHS2 coats of
anti-corrosive paint with approved finishing coat
with max. 125mm spacing eq. distr.
between post)
GI plate 125x125x6mm / 4Nos. 8mm bolts
Max 1200mm
(Eq. distr. along stair)
122
EQ
EQ EQ EQ EQ EQ
Step
Rise

1. Post top, bottom&1.2m vertical support members to be75x75x2.5mm thick GI SHS(2 coats of anti corrosive paint with approved finishing color coat

2. Handrail material to be50mm Ø 2.5mm thick GI CHS with2 coats of anti-corrosive paint and approved finishing coat

3. Step: 300mm

4. Raise:152mm

STAIR RAILING DETAIL

SCALE 1:20

0 0.1 0.2 0.4 0.6 0.8 1

Issue	Date	Description

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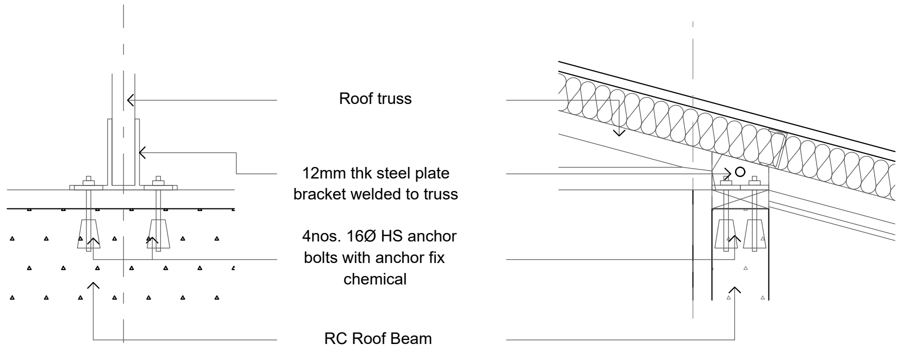
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

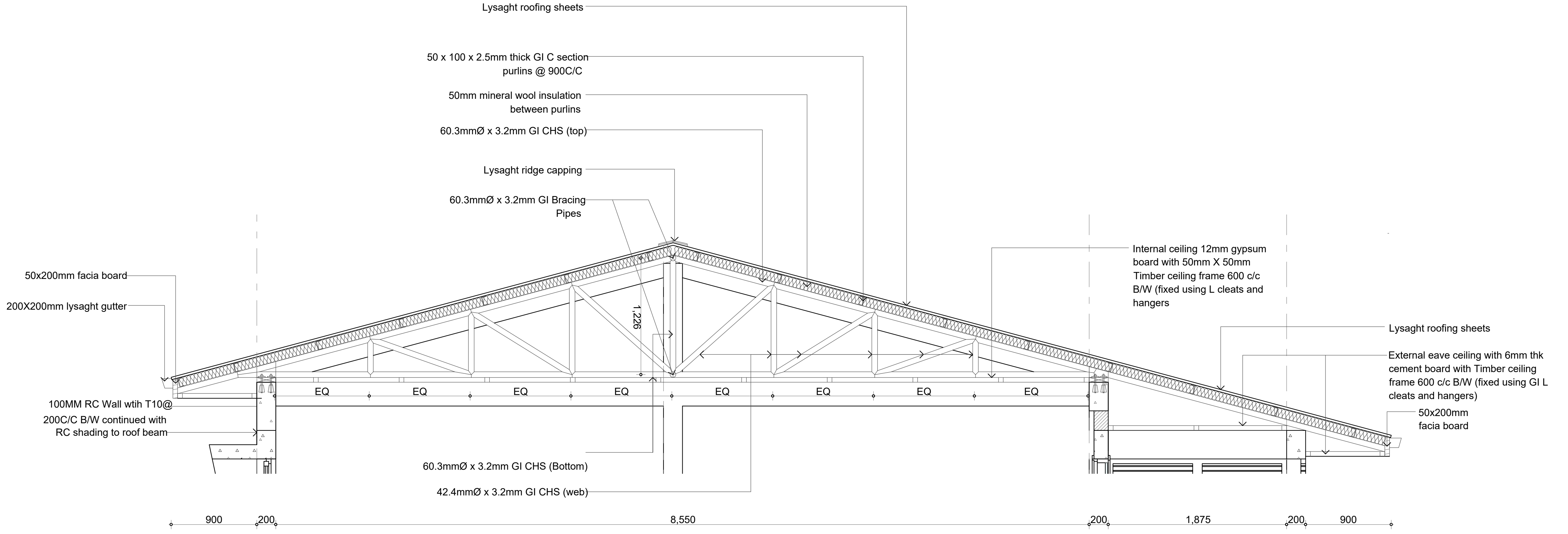
PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : E-15 / 18


Roof truss
12mm thk steel plate
bracket welded to truss
4nos. 16Ø HS anchor
bolts with anchor fix
chemical
RC Roof Beam

TRUSS FIXING DETAIL

SCALE 1:20

0 0.1 0.2 0.4 0.6 0.8 1


Lysaght roofing sheets
50 x 100 x 2.5mm thick GI C section
purlins @ 900C/C
50mm mineral wool insulation
between purlins
60.3mmØ x 3.2mm GI CHS (top)
Lysaght ridge capping
60.3mmØ x 3.2mm GI Bracing
Pipes
50x200mm facia board
200X200mm lysaght gutter
1,226
Internal ceiling 12mm gypsum
board with 50mm X 50mm
Timber ceiling frame 600 c/c
B/W (fixed using L cleats and
hangers
Lysaght roofing sheets
External eave ceiling with 6mm thk
cement board with Timber ceiling
frame 600 c/c B/W (fixed using GI L
cleats and hangers)
50x200mm
facia board
EQ
EQ
EQ
EQ
EQ
EQ
EQ
EQ
100MM RC Wall wtih T10@
200C/C B/W continued with
RC shading to roof beam
60.3mmØ x 3.2mm GI CHS (Bottom)
42.4mmØ x 3.2mm GI CHS (web)
900
200
8,550
200
1,875
200
900

TRUSS DETAIL

SCALE 1:20

0 0.1 0.2 0.4 0.6 0.8 1

Notes:

All the CHS shall have minimum yield stress of 275MPa
All welds shall be 6mm thick full parameter fillet welds
All truss ends shall be capped with 6mm plates
All truss members shall be protected with anti corrosive coatings

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

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CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
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CHECKED :
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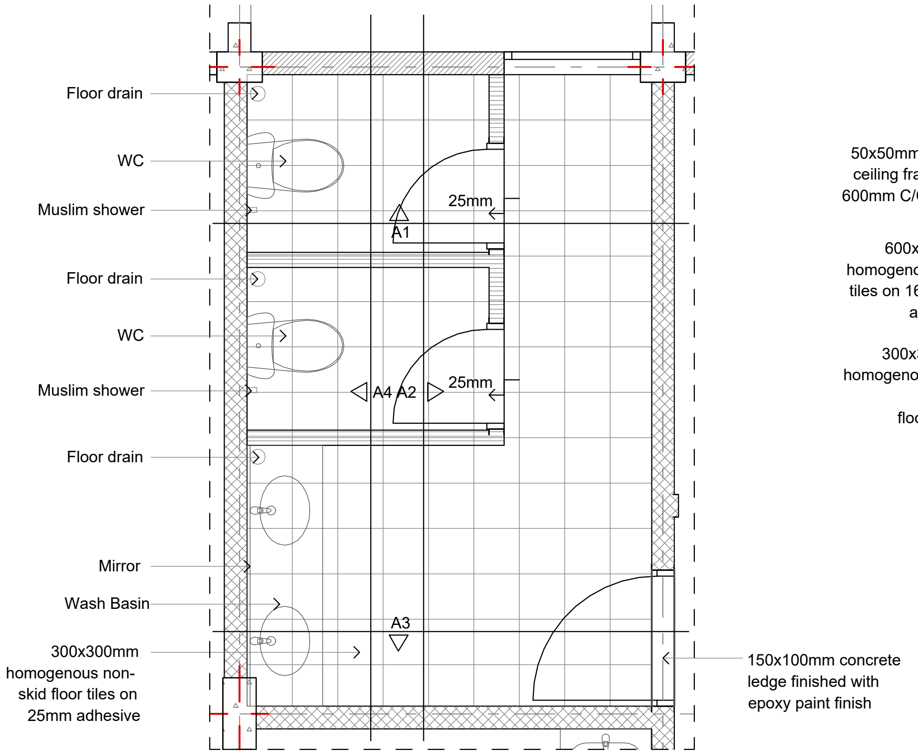
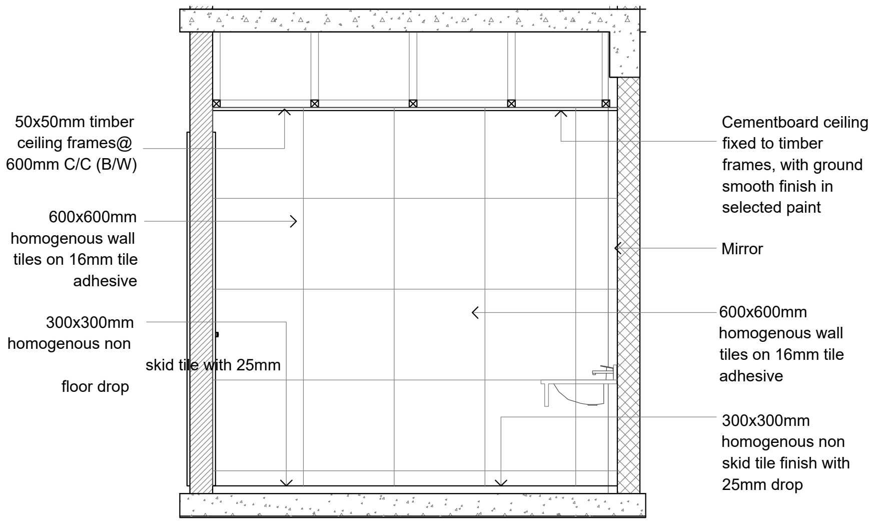
DATE : 13.10.2021
DWG NO : E-16 / 18


Floor drain
WC
Muslim shower
Floor drain
WC
Muslim shower
Floor drain
Mirror
Wash Basin
300x300mm homogenous non-skid floor tiles on 25mm adhesive
25mm
A1
25mm
A4 A2
A3
150x100mm concrete ledge finished with epoxy paint finish

TOILET PLAN (MALE & FEMALE)

SCALE 1:50

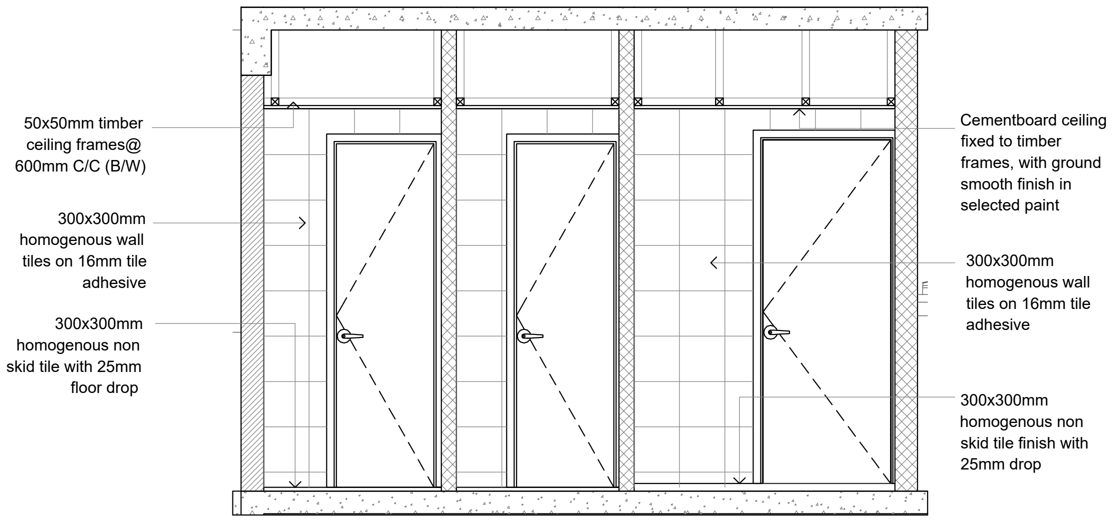
0 0.25 0.5 1 1.5 2 2.5


50x50mm timber ceiling frames@ 600mm C/C (B/W)
600x600mm homogenous wall tiles on 16mm tile adhesive
300x300mm homogenous non
skid tile with 25mm
floor drop
Cementboard ceiling fixed to timber frames, with ground smooth finish in selected paint
Mirror
600x600mm homogenous wall tiles on 16mm tile adhesive
300x300mm homogenous non skid tile finish with 25mm drop

ELEVATION A3

SCALE 1:50

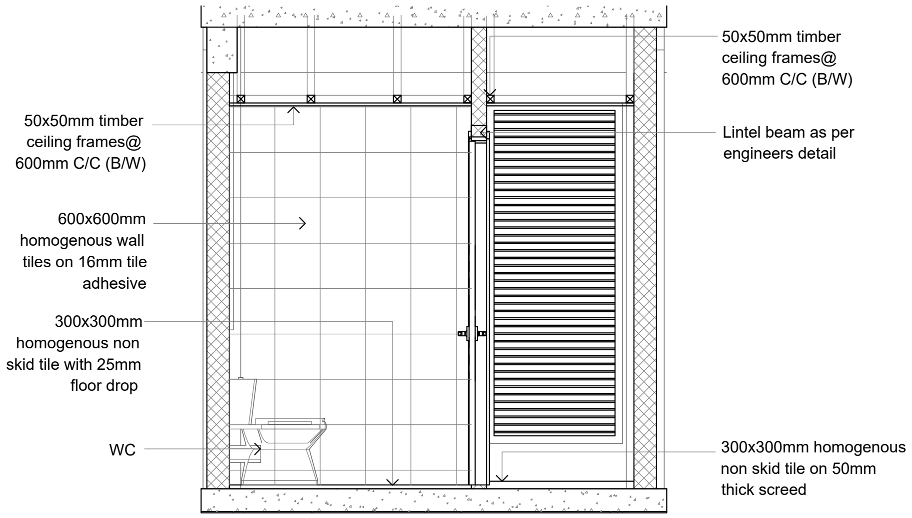
0 0.25 0.5 1 1.5 2 2.5


50x50mm timber ceiling frames@ 600mm C/C (B/W)
300x300mm homogenous wall tiles on 16mm tile adhesive
300x300mm homogenous non skid tile with 25mm floor drop
Cementboard ceiling fixed to timber frames, with ground smooth finish in selected paint
300x300mm homogenous wall tiles on 16mm tile adhesive
300x300mm homogenous non skid tile finish with 25mm drop

ELEVATION A2

SCALE 1:50

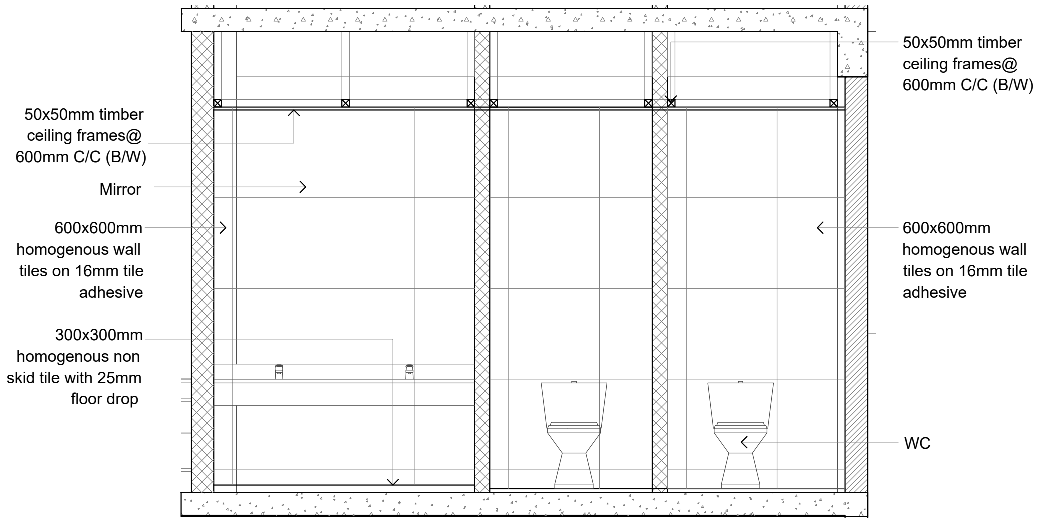
0 0.25 0.5 1 1.5 2 2.5


50x50mm timber ceiling frames@ 600mm C/C (B/W)
600x600mm homogenous wall tiles on 16mm tile adhesive
300x300mm homogenous non skid tile with 25mm floor drop
WC
50x50mm timber ceiling frames@ 600mm C/C (B/W)
Lintel beam as per engineers detail
300x300mm homogenous non skid tile on 50mm thick screed

ELEVATION A1

SCALE 1:50

0 0.25 0.5 1 1.5 2 2.5


50x50mm timber ceiling frames@ 600mm C/C (B/W)
Mirror
600x600mm homogenous wall tiles on 16mm tile adhesive
300x300mm homogenous non skid tile with 25mm floor drop
50x50mm timber ceiling frames@ 600mm C/C (B/W)
600x600mm homogenous wall tiles on 16mm tile adhesive
WC

ELEVATION A4

SCALE 1:50

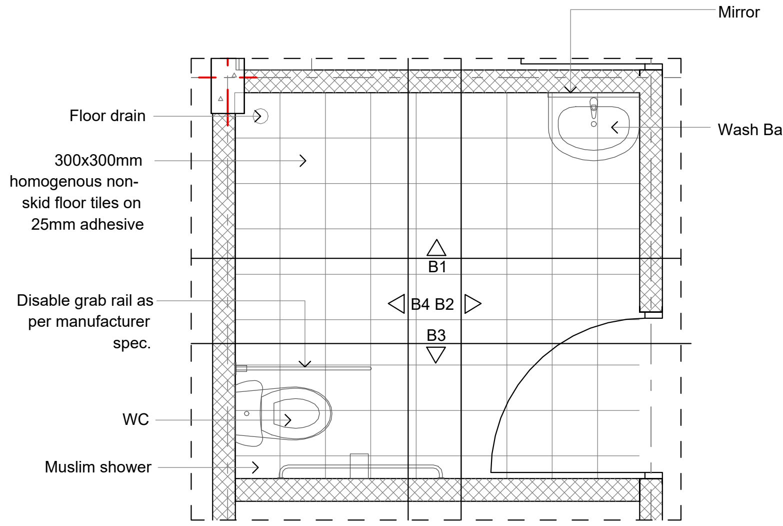
0 0.25 0.5 1 1.5 2 2.5

Issue	Date	Description
AMMENDMENTS.		

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

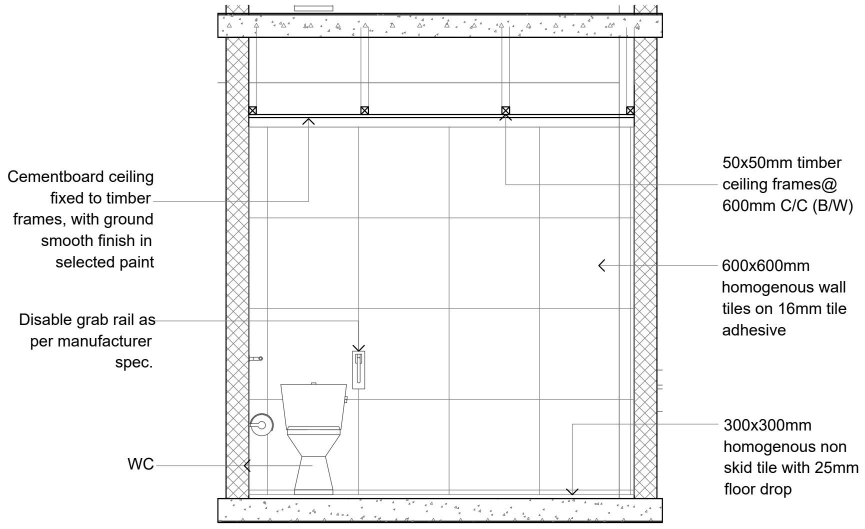
PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : E-17 / 18


Mirror
Floor drain
Wash Basin
300x300mm homogenous non-skid floor tiles on 25mm adhesive
B1
B4 B2
B3
Disable grab rail as per manufacturer spec.
WC
Muslim shower

DISABLE TOILET FLOOR PLAN

SCALE 1:50

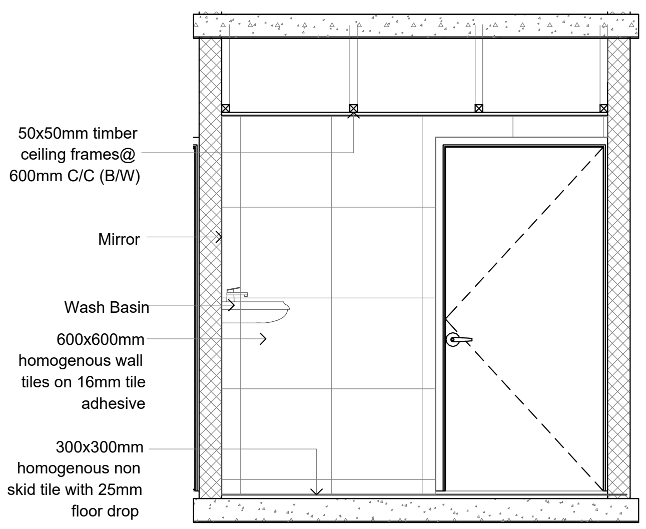
0 0.25 0.5 1 1.5 2 2.5


Cementboard ceiling fixed to timber frames, with ground smooth finish in selected paint
Disable grab rail as per manufacturer spec.
WC
50x50mm timber ceiling frames@ 600mm C/C (B/W)
600x600mm homogenous wall tiles on 16mm tile adhesive
300x300mm homogenous non skid tile with 25mm floor drop

ELEVATION B4

SCALE 1:50

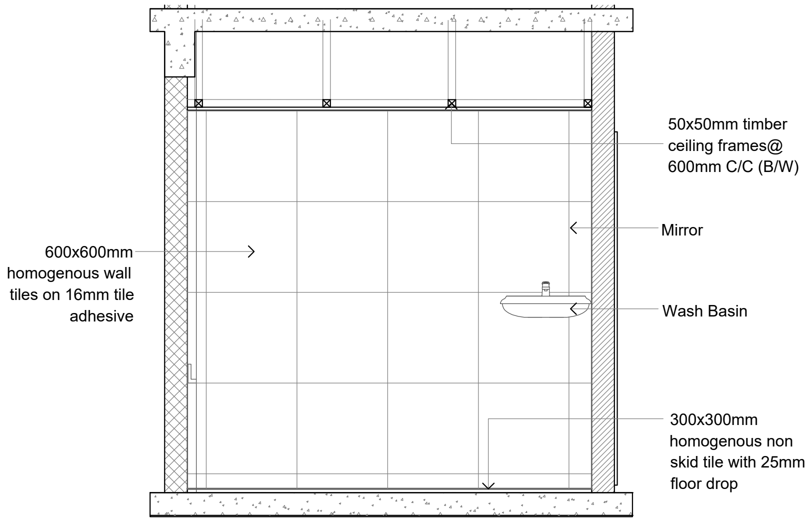
0 0.25 0.5 1 1.5 2 2.5


50x50mm timber ceiling frames@ 600mm C/C (B/W)
Mirror
Wash Basin
600x600mm homogenous wall tiles on 16mm tile adhesive
300x300mm homogenous non skid tile with 25mm floor drop

ELEVATION B2

SCALE 1:50

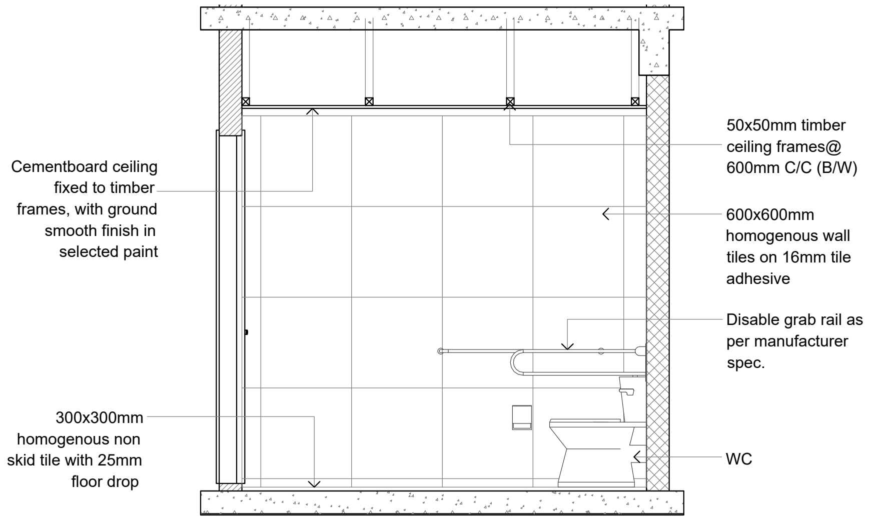
0 0.25 0.5 1 1.5 2 2.5


600x600mm homogenous wall tiles on 16mm tile adhesive
50x50mm timber ceiling frames@ 600mm C/C (B/W)
Mirror
Wash Basin
300x300mm homogenous non skid tile with 25mm floor drop

ELEVATION B1

SCALE 1:50

0 0.25 0.5 1 1.5 2 2.5


Cementboard ceiling fixed to timber frames, with ground smooth finish in selected paint
300x300mm homogenous non skid tile with 25mm floor drop
50x50mm timber ceiling frames@ 600mm C/C (B/W)
600x600mm homogenous wall tiles on 16mm tile adhesive
Disable grab rail as per manufacturer spec.
WC

ELEVATION B3

SCALE 1:50

0 0.25 0.5 1 1.5 2 2.5

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
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MALE',
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PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
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CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : S-18 / 18

BUILDING SERVICES DRAWINGS OF

PROPOSED 02 STOREY BUILDING

R. ATOLL EDUCATION CENTRE
2 STOREY BUILDING

Ministry Of Education

TABLE OF CONTENTS

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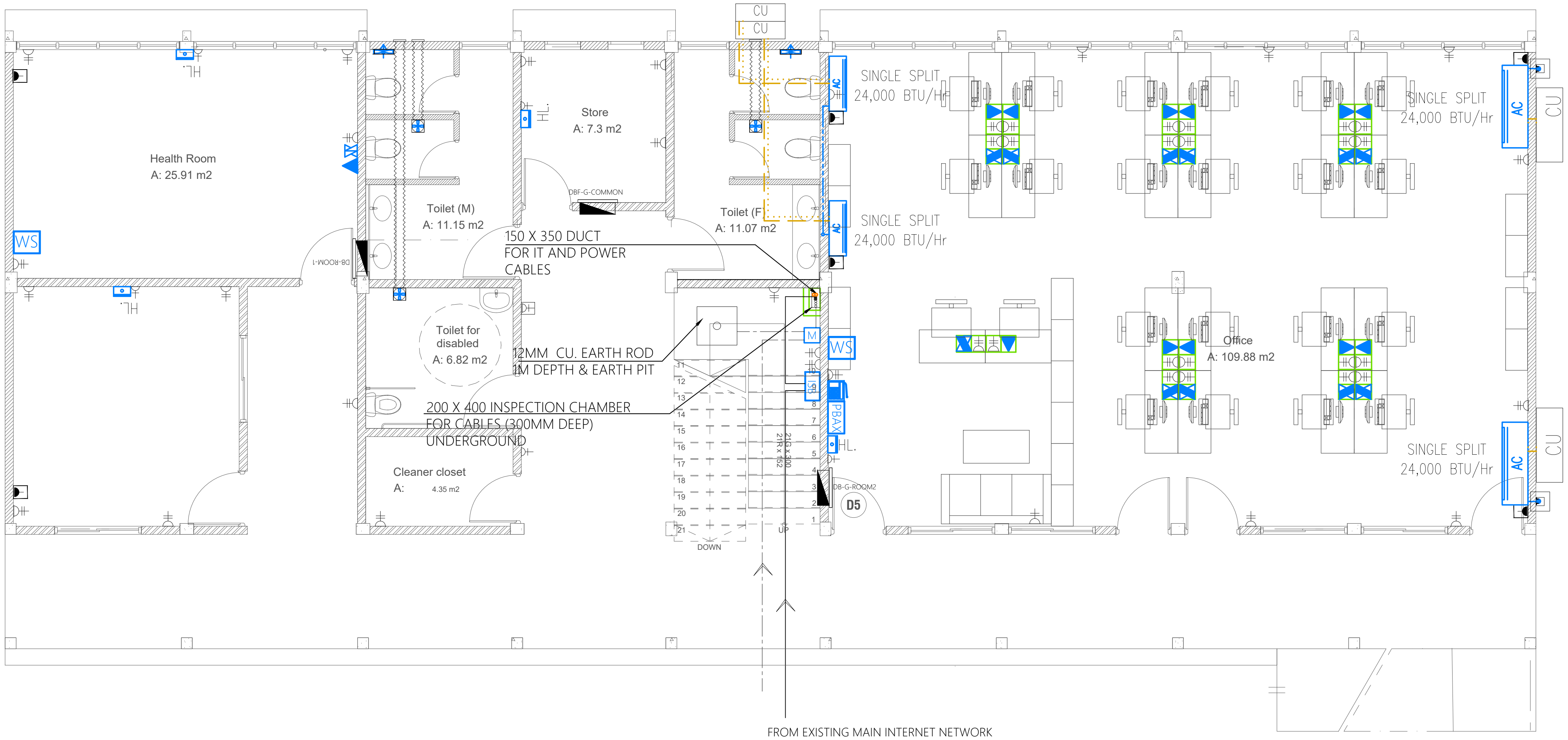
S - 02 /11	FIRST FLOOR POWER & ACV LAYOUT	---	---	---
S - 03 /11	GROUND FLOOR FDP LAYOUT	---	---	---
S - 04 /11	FIRST FLOOR FDP LAYOUT	---	---	---
S - 05 /11	GROUND FLOOR LIGHTING LAYOUT	---	---	---
S - 06 /11	FIRST FLOOR LIGHTING LAYOUT	---	---	---
S - 07 /11	GROUND FLOOR PLUMBING LAYOUT	---	---	---
S - 08 /11	FIRST FLOOR PLUMBING LAYOUT	---	---	---
S - 09 /11	GROUND FLOOR DRAINAGE LAYOUT	---	---	---
S - 10 /11	FIRST FLOOR DRAINAGE LAYOUT	---	---	---
S - 11 /11	ROOF DRAINAGE LAYOUT	---	---	---


CU
CU
Health Room
A: 25.91 m2
WS
HL
Toilet (M)
A: 11.15 m2
Store
A: 7.3 m2
DBF-G-COMMON
Toilet (F)
A: 11.07 m2
SINGLE SPLIT
24,000 BTU/Hr
AC
150 X 350 DUCT
FOR IT AND POWER
CABLES
DB-ROOM-1
Toilet for
disabled
A: 6.82 m2
12MM CU. EARTH ROD
1M DEPTH & EARTH PIT
200 X 400 INSPECTION CHAMBER
FOR CABLES (300MM DEEP)
UNDERGROUND
Cleaner closet
A:
4.35 m2
M
ISB
PBAX
HL.
DB-G-ROOM2
D5
Office
A: 109.88 m2
DOWN
UP
FROM EXISTING MAIN INTERNET NETWORK

Legend

±	13A Twin Socket
±	13A Power Socket
◣	Distribution Board
⊞	13A Power Socket in Weatherproof Polycarbonate Enclosure
◼	15A Switched Socket @ H.L.
ISB	Internet Switchboard
▭	Emergency Light
WS	Wall Mounted Speaker
M	Electricity Meter
⧖	Computer Network Twin Outlet
▣	HDMI Socket
⊞	Ceiling Mounted Exhaust Fan 90m3/hr
⊕	Wall Mounted Exhaust Fan
HL.	High Level
▲	Computer Network Outlet

——	82Ø PVC Duct For Tel./Internet Cable Lead In Below Ground Slab
——	Main Incoming Cable For Power In 110Ø PVC Duct Below Ground Slab

Notes:
- All Twin Sockets At 300mm From F.F.L. Except Stated Otherwise
- All Computer, Telephone Points At 300mm From F.F.L.
- All electrical components shall be connected to respective Distribution Box in the same area as the component.
- All electrical components in common areas, corridors and staircase should be connected to Common Area DB
- Wall Speaker shall be connected to Public address system of school

GROUND FLOOR POWER & ACV LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

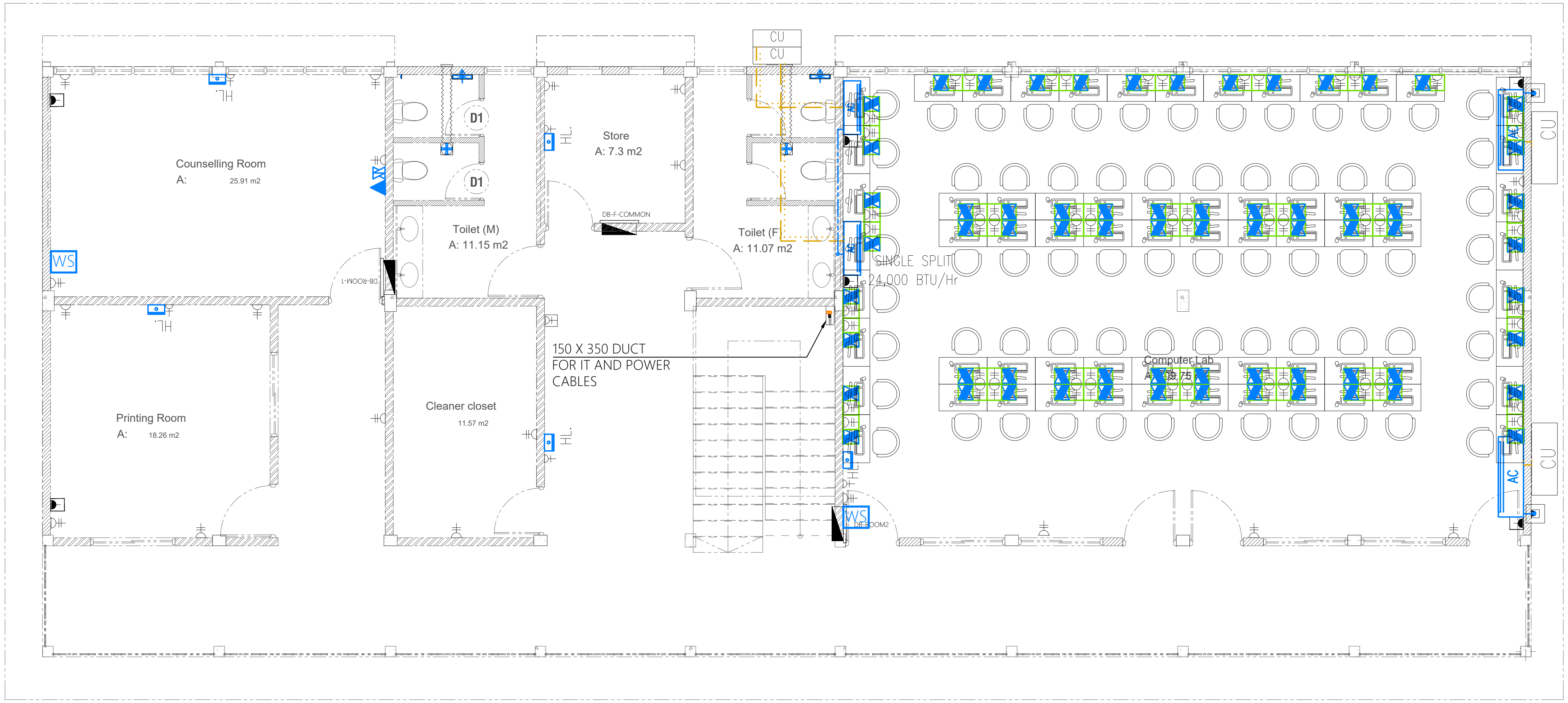
Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : S-01 / 11


CU
CU
Counselling Room
A: 25.91 m2
D1
D1
Toilet (M)
A: 11.15 m2
Store
A: 7.3 m2
DB-F-COMMON
Toilet (F)
A: 11.07 m2
DB-ROOM-1
WS
HL.
SINGLE SPLIT
24,000 BTU/Hr
AC
CU
Computer Lab
A: 09.75
150 X 350 DUCT
FOR IT AND POWER
CABLES
Printing Room
A: 18.26 m2
Cleaner closet
11.57 m2
DB-ROOM2

Legend

⏚	13A Twin Socket
⏚	13A Power Socket
◣	Distribution Board
⊡	13A Power Socket in Weatherproof Polycarbonate Enclosure
◙	15A Switched Socket @ H.L.
ISB	Internet Switchboard
▭	Emergency Light
WS	Wall Mounted Speaker
M	Electricity Meter
⧖	Computer Network Twin Outlet
⊡	HDMI Socket
⊞	Ceiling Mounted Exhaust Fan 90m3/hr
⊕	Wall Mounted Exhaust Fan
HL.	High Level
▲	Computer Network Outlet
—	82Ø PVC Duct For Tel./Internet Cable Lead In Below Ground Slab
—	Main Incoming Cable For Power In 110Ø PVC Duct Below Ground Slab

Notes: -
- All Twin Sockets At 300mm From F.F.L. Except Stated Otherwise
- All Computer, Telephone Points At 300mm From F.F.L.
- All electrical components shall be connected to respective Distribution Box in the same area as the component.
- All electrical components in common areas, corridors and staircase should be connected to Common Area DB
- Wall Speaker shall be connected to Public address system of school

AC	Wall Mount Air Conditioner
CU	Outdoor Condensing Unit
- - -	Refrigerant Pipes
— - —	25Ø Condensate Drain Pipe
▸	40Ø Condensate Drain Riser Pipe
⊞	Ceiling Mounted Exhaust Fan 90m3/hr
⊕	Wall Mounted Exhaust Fan

Notes: -

Where Condensate Drain Pipes Are Connected To Wash Basin Or Kitchen Sink, 25 Ø Condensate Drain Pipe Is Extended In 32 Ø Flex Conduit Into 40 Ø Waste Pipe Of Respective Basin Or Sink

FIRST FLOOR POWER & ACV LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
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PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
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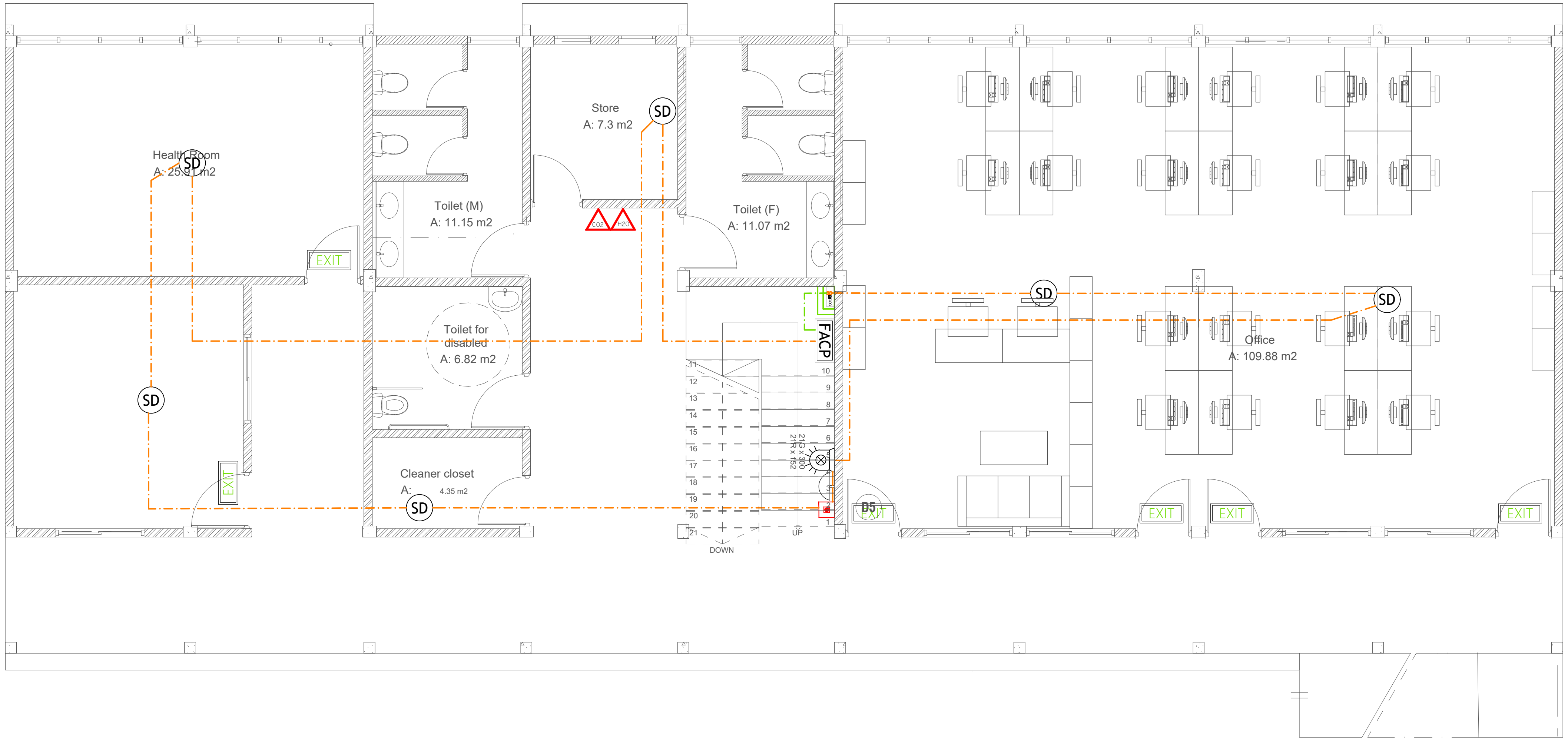
DATE : 13.10.2021
DWG NO : S-02 / 11


Health Room
A: 25.91 m2
SD
EXIT
SD
EXIT
Toilet (M)
A: 11.15 m2
Toilet for disabled
A: 6.82 m2
Cleaner closet
A:
4.35 m2
SD
Store
A: 7.3 m2
SD
CO2
H2O
Toilet (F)
A: 11.07 m2
FACP
21G x 300
21R x 152
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
DOWN
UP
D5
EXIT
SD
SD
Office
A: 109.88 m2
EXIT
EXIT
EXIT

GROUND FLOOR FDP LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

Legend

CO2	CO_2 Extinguisher (load: 2kg) In Polycarbonate Enclosure
H2O	H_2O Extinguisher (load: 9L) In Polycarbonate Enclosure
▣	Manual Call Point
SD	Smoke Detector
⊗	Beacon
◠	Sounder Bell
-·-·-	2.5mm^2 Fire Retardant Low Smoke (FRLS) Cables In FRLS Conduits running through screed
-·-·-	2.5mm^2 Fire Retardant Low Smoke (FRLS) Cables In FRLS Conduits running at ceiling level
EXIT	Exit Sign
FACP	Fire Alarm Control Panel

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
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PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

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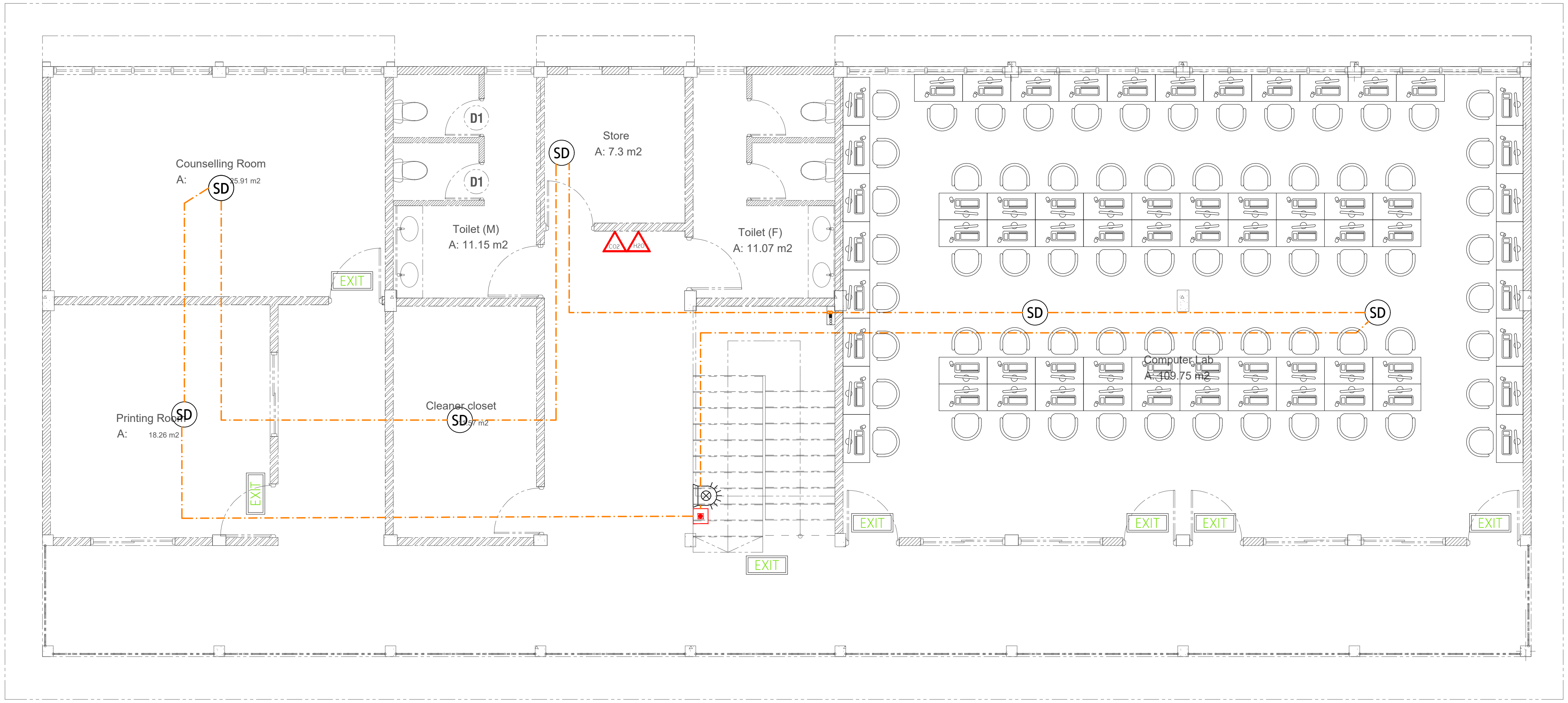
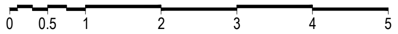
DWG NO : S-03 / 11


Counselling Room
A: 25.91 m2
SD
D1
D1
Toilet (M)
A: 11.15 m2
Store
A: 7.3 m2
SD
CO2
H2O
Toilet (F)
A: 11.07 m2
EXIT
Printing Room
A: 18.26 m2
SD
Cleaner closet
SD
1.57 m2
SD
SD
Computer Lab
A: 109.75 m2
EXIT
EXIT
EXIT
EXIT
EXIT
EXIT
EXIT

FIRST FLOOR FDP LAYOUT

SCALE 1:100



Legend

CO2	CO_2 Extinguisher (load: 2kg) In Polycarbonate Enclosure
H2O	H_2O Extinguisher (load: 9L) In Polycarbonate Enclosure
■	Manual Call Point
SD	Smoke Detector
⊗	Beacon
⌓	Sounder Bell
-·-·-	2.5mm^2 Fire Retardant Low Smoke (FRLS) Cables In FRLS Conduits running through screed
-·-·-	2.5mm^2 Fire Retardant Low Smoke (FRLS) Cables In FRLS Conduits running at ceiling level
EXIT	Exit Sign
FACP	Fire Alarm Control Panel

Issue	Date	Description

AMMENDMENTS.

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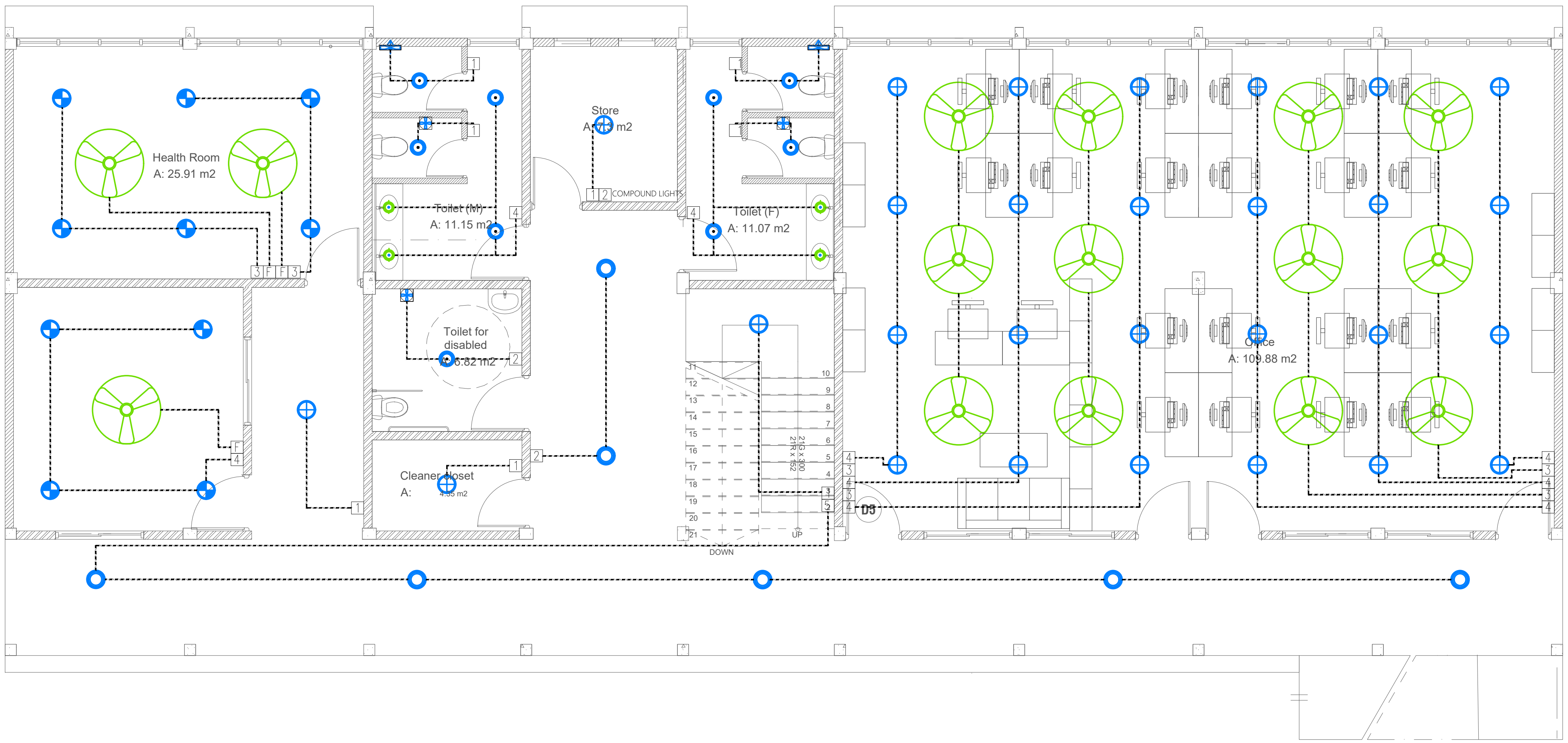
DWG NO : S-04 / 11


Health Room
A: 25.91 m2
Toilet (M)
A: 11.15 m2
Store
A: 7.3 m2
1 2 COMPOUND LIGHTS
Toilet (F)
A: 11.07 m2
Toilet for disabled
A: 6.82 m2
Cleaner closet
A: 4.35 m2
Office
A: 109.88 m2
21G x 300
21R x 152
UP
DOWN
D5

GROUND FLOOR LIGHTING LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

Legend

●	Ceiling Light (18W)
⊕	Ceiling Light (12W)
⊙	Recessed Ceiling Light (12W)
○	Ceiling Down Light (18W) - Weather Proof
▭	100W, HPS, Wall Mounted Light,IP 65
━	3 Ft Led Tube Light
⊙	Ceiling Recessed Spot Light (3W)
1 2 3 4 5	Light Switch (1 Gang - 5 Gang)
F	Ceiling Fan Switch With Controller
⊞	Ceiling Mounted Exhaust Fan 90m3/hr
╋	Wall Mounted Exhaust Fan
✲	42" To 48" Ceiling Fan

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
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R.ATOLL EDUCATION CENTRE
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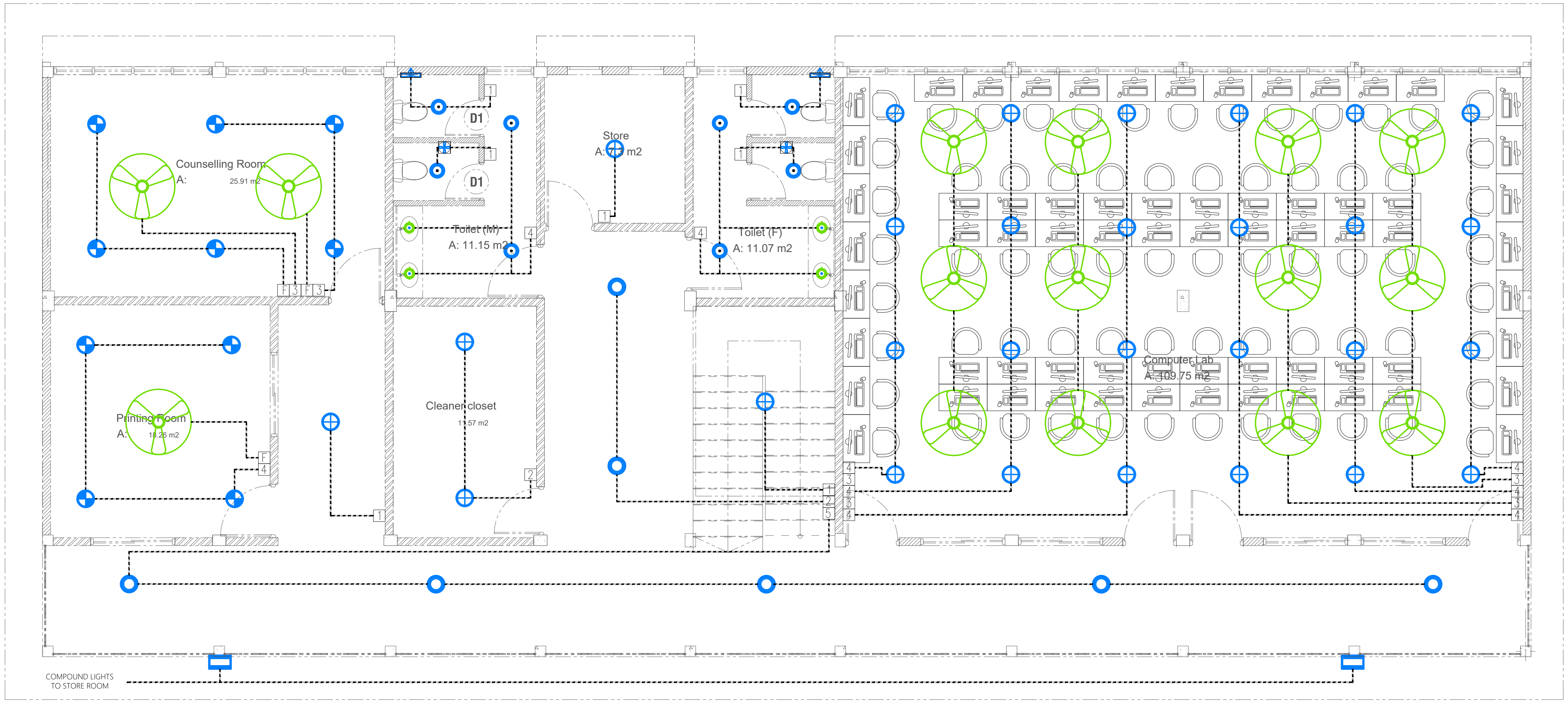
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : S-05 / 11


Counselling Room
A: 25.91 m2
D1
D1
Store
A: 7.3 m2
Toilet (M)
A: 11.15 m2
Toilet (F)
A: 11.07 m2
Printing Room
A: 18.26 m2
Cleaner closet
11.57 m2
Computer Lab
A: 109.75 m2
F 3 F 3
F 4
1 2 3 4 5
COMPOUND LIGHTS
TO STORE ROOM

FIRST FLOOR LIGHTING LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

Legend

⊕	Ceiling Light (12W)
⦿	Recessed Ceiling Light (12W)
○	Ceiling Down Light (18W) - Weather Proof
▭	100W, HPS, Wall Mounted Light,IP 65
━	3 Ft Led Tube Light
◎	Ceiling Recessed Spot Light (3W)
1 2 3 4 5	Light Switch (1 Gang - 5 Gang)
F	Ceiling Fan Switch With Controller
⊞	Ceiling Mounted Exhaust Fan 90m3/hr
⊣	Wall Mounted Exhaust Fan
⊛	42" To 48" Ceiling Fan

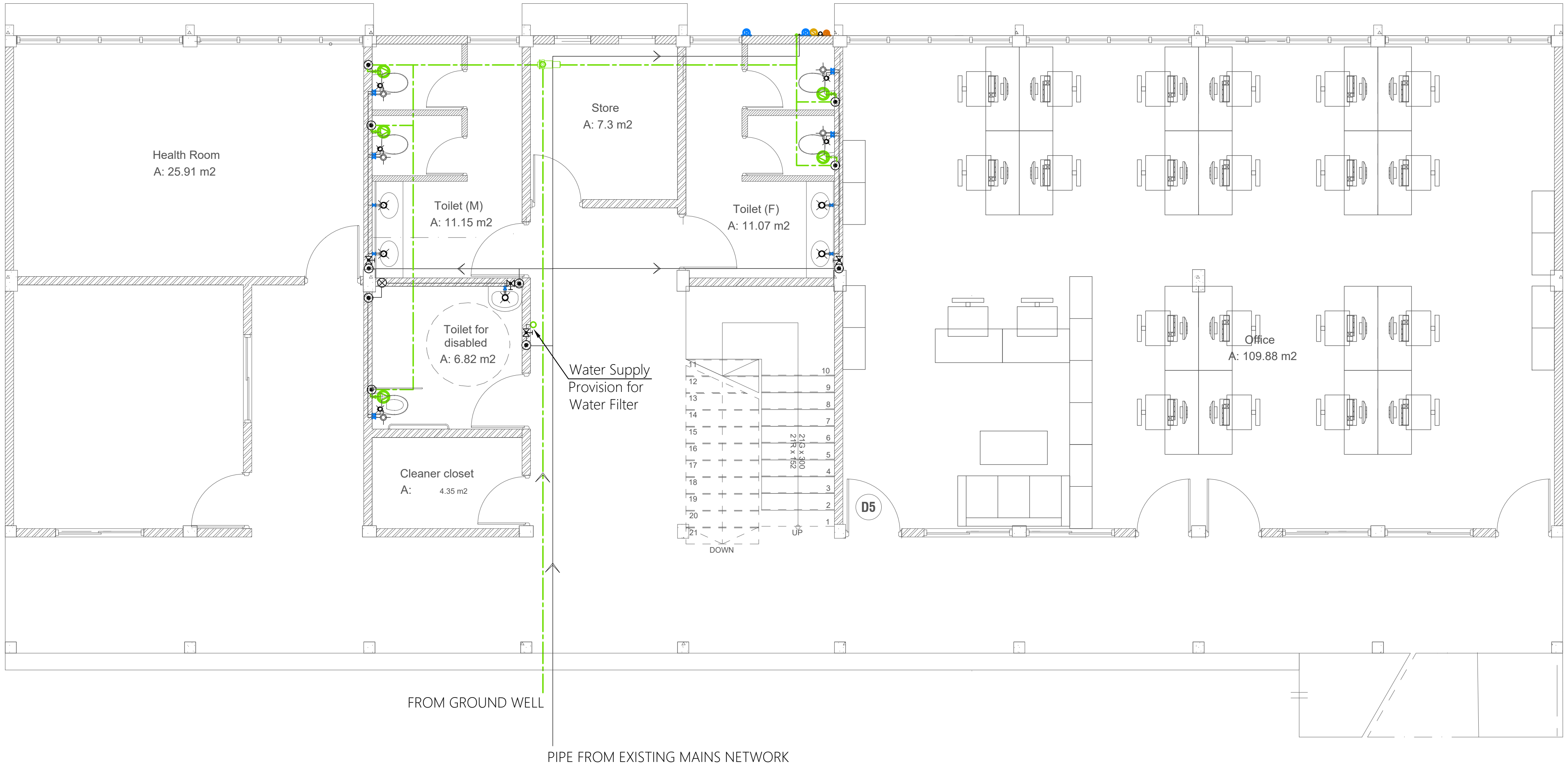
Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : S-06 / 11


Store
A: 7.3 m2
Health Room
A: 25.91 m2
Toilet (M)
A: 11.15 m2
Toilet (F)
A: 11.07 m2
Toilet for disabled
A: 6.82 m2
Water Supply Provision for Water Filter
Cleaner closet
A: 4.35 m2
Office
A: 109.88 m2
D5
21G x 300
21R x 152
UP
DOWN
FROM GROUND WELL
PIPE FROM EXISTING MAINS NETWORK

GROUND FLOOR PLUMBING LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

Legend

——→	25Ø Cold Water Supply Pipes Running Underground
——	20Ø Cold Water Supply Pipes Running In Wall
— · — · —	20Ø Cold Water Supply Pipes Running Above False Ceiling
—— ——	20Ø Cold Water Supply Pipes Running Underground
— · — · —→	25Ø Ground Water Supply Pipes
⊗	16Ø Cold Water Supply To Basin Faucet
⊕	16Ø Cold Water Supply To Bidet Shower
⊗	16Ø Cold Water Supply To Cistern
⋈	Gate Valve
⊙	Rise In Wall
⊗	Drop In Wall
▷	Angle Valve with cap for Ground Water Supply
- - - - -	False Ceiling

Notes: -

-All Cold Water Pipes Should Be PVC
-All Hot Water Pipes Should Be PPR

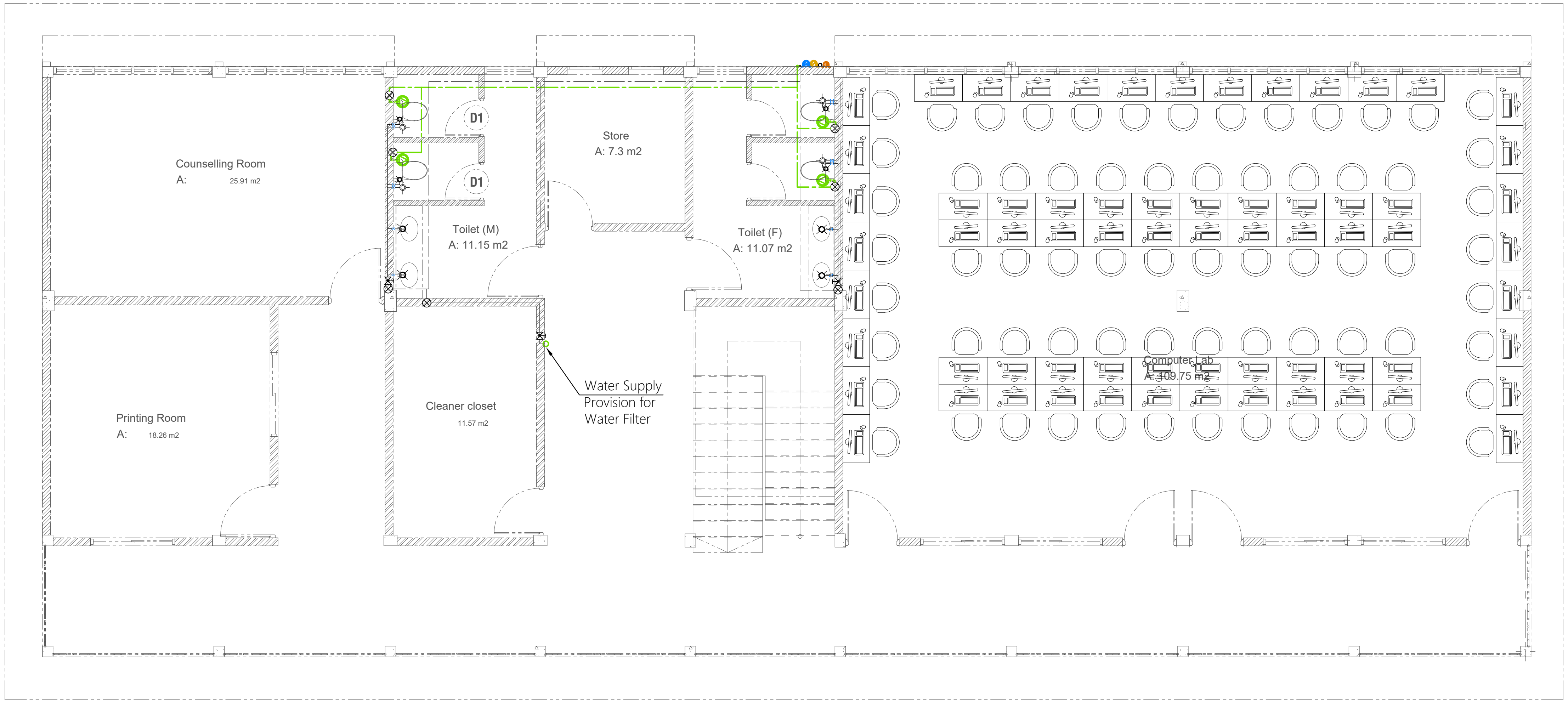
Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : S-07 / 11


Counselling Room
A: 25.91 m2
D1
D1
Store
A: 7.3 m2
Toilet (M)
A: 11.15 m2
Toilet (F)
A: 11.07 m2
Printing Room
A: 18.26 m2
Cleaner closet
11.57 m2
Water Supply Provision for Water Filter
Computer Lab
A: 109.75 m2

Legend

- 25Ø Cold Water Supply Pipes Running Underground
- 20Ø Cold Water Supply Pipes Running In Wall
- 20Ø Cold Water Supply Pipes Running Above False Ceiling
- 20Ø Cold Water Supply Pipes Running Underground
- 25Ø Ground Water Supply Pipes
- 16Ø Cold Water Supply To Basin Faucet
- 16Ø Cold Water Supply To Bidet Shower
- 16Ø Cold Water Supply To Cistern
- Gate Valve
- ⊙ Rise In Wall
- ⊗ Drop In Wall
- Angle Valve with cap for Ground Water Supply
- False Ceiling

Notes: -

-All Cold Water Pipes Should Be PVC
-All Hot Water Pipes Should Be PPR

FIRST FLOOR PLUMBING LAYOUT

SCALE 1:100

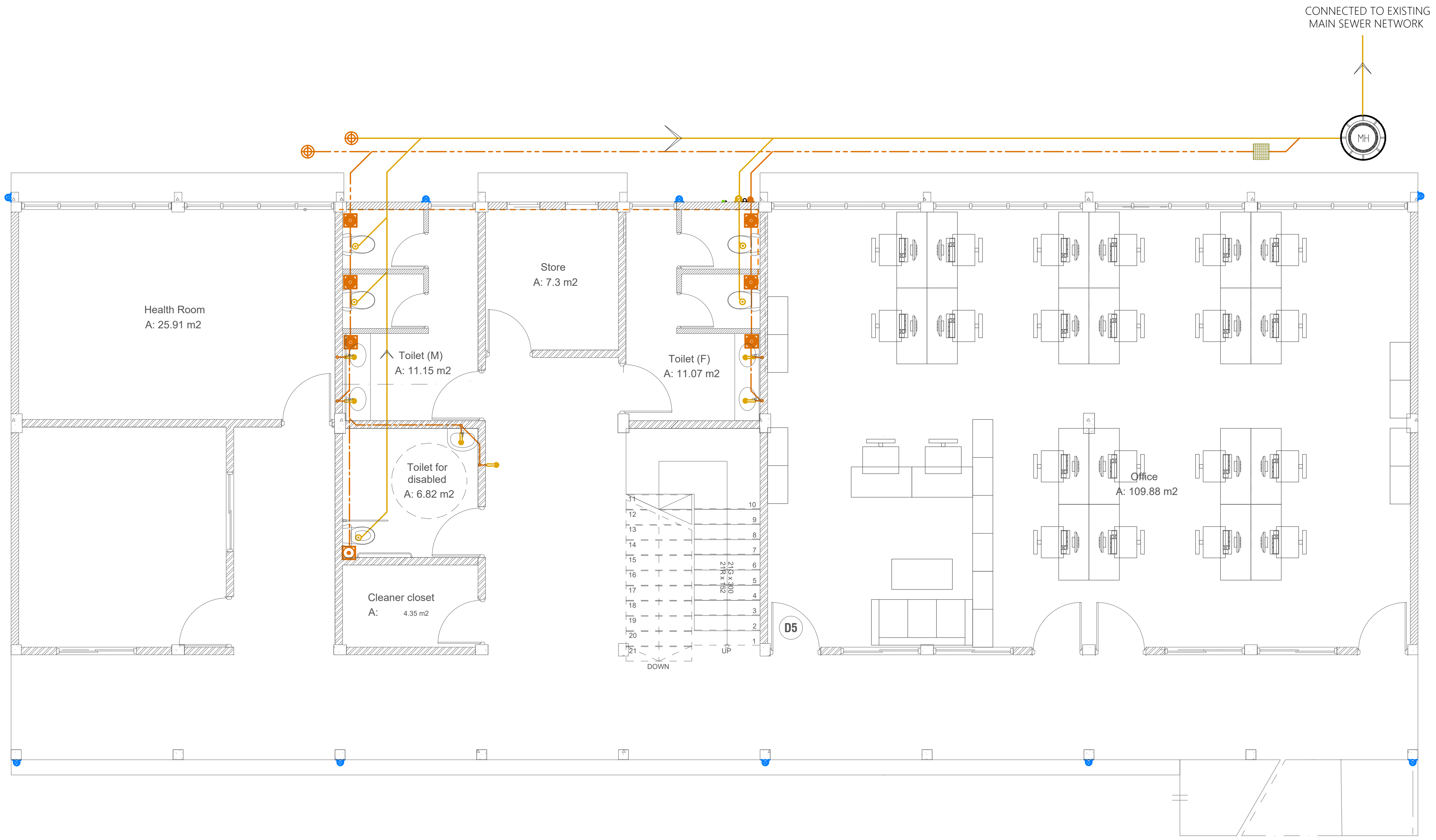
0 0.5 1 2 3 4 5

Issue	Date	Description
AMMENDMENTS.		

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
REPUBLIC OF MALDIVES

PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : S-08 / 11


CONNECTED TO EXISTING
MAIN SEWER NETWORK
MH
Health Room
A: 25.91 m2
Toilet (M)
A: 11.15 m2
Store
A: 7.3 m2
Toilet (F)
A: 11.07 m2
Toilet for
disabled
A: 6.82 m2
Cleaner closet
A: 4.35 m2
Office
A: 109.88 m2
21G x 300
21R x 152
UP
DOWN
D5

Notes: -

-All Drainage Pipes Should Have At A Slope Of 1/150
-All Floor Drains Should Have 'P' Traps

Legend

- ▣ Floor Drain
- ■ Floor Gully
- ─── 110Ø Soil Pipe (uPVC Pipe)
- ● 110Ø Soil Vent Pipe (uPVC Pipe)
- ─ - ─ 82Ø Waste Pipe (uPVC Pipe)
- ● 82Ø Waste Vent Pipe (uPVC Pipe)
- ─ · ─ 40Ø Waste Pipe (uPVC Pipe)
- ─── 63Ø Manhole Vent Pipe (uPVC Pipe)
- - - - 110Ø Rain Water Pipes (uPVC Pipe)
- ○─● Bottle Trap
- ⊕ Rodding Eye
- ▨ Gully Trap
- ◎ Manhole
- - - - False Ceiling

GROUND FLOOR DRAINAGE LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
MINISTRY OF EDUCATION,
MALE',
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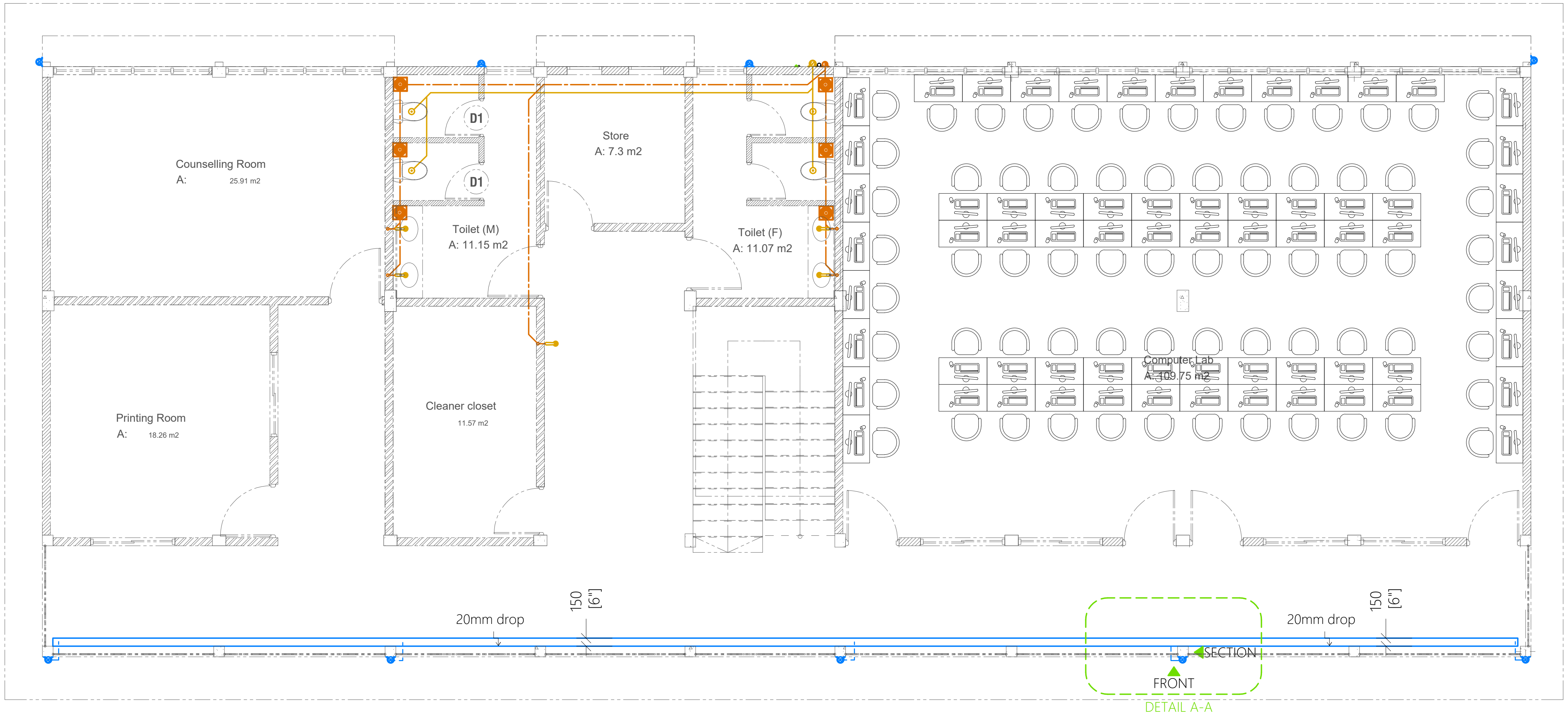
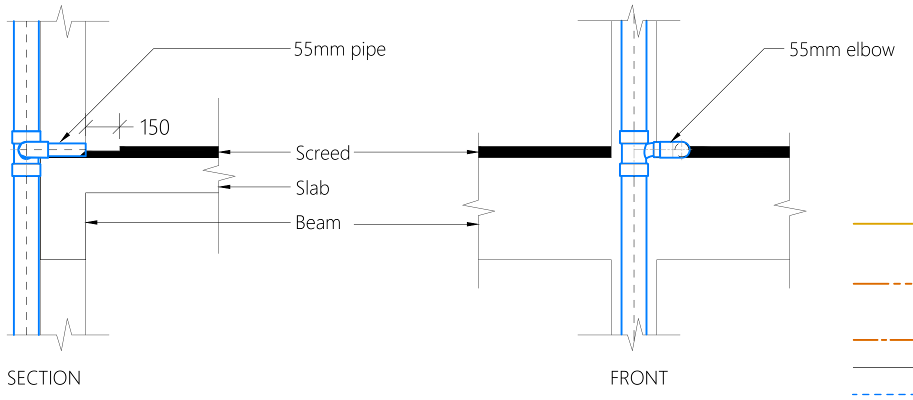
PROJECT
R.ATOLL EDUCATION CENTRE
02 STOREY BUILDING

PROJECT REFERENCE
CLIENT MINISTRY OF EDUCATION
ARCHITECT :
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : S-09 / 11


Counselling Room
A: 25.91 m2
D1
D1
Store
A: 7.3 m2
Toilet (M)
A: 11.15 m2
Toilet (F)
A: 11.07 m2
Printing Room
A: 18.26 m2
Cleaner closet
11.57 m2
Computer Lab
A: 109.75 m2
20mm drop
150 [6"]
20mm drop
150 [6"]
SECTION
FRONT
DETAIL A-A


55mm pipe
150
Screed
Slab
Beam
55mm elbow
SECTION
FRONT

DETAIL A-A

Legend

- ▣ Floor Drain
- ▣ Floor Gully
- → 110Ø Soil Pipe (uPVC Pipe)
- ▸ 110Ø Soil Vent Pipe (uPVC Pipe)
- → 82Ø Waste Pipe (uPVC Pipe)
- ▸ 82Ø Waste Vent Pipe (uPVC Pipe)
- → 40Ø Waste Pipe (uPVC Pipe)
- → 63Ø Manhole Vent Pipe (uPVC Pipe)
- → 110Ø Rain Water Pipes (uPVC Pipe)
- ⊸ Bottle Trap
- ⊕ Rodding Eye
- ▨ Gully Trap
- Ⓜ Manhole
- - - - False Ceiling

Notes: -

-All Drainage Pipes Should Have At A Slope Of 1/150
-All Floor Drains Should Have 'P' Traps

FIRST FLOOR DRAINAGE LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

Issue	Date	Description

AMMENDMENTS.

PHYSICAL FACILITIES DEVELOPMENT SECTION
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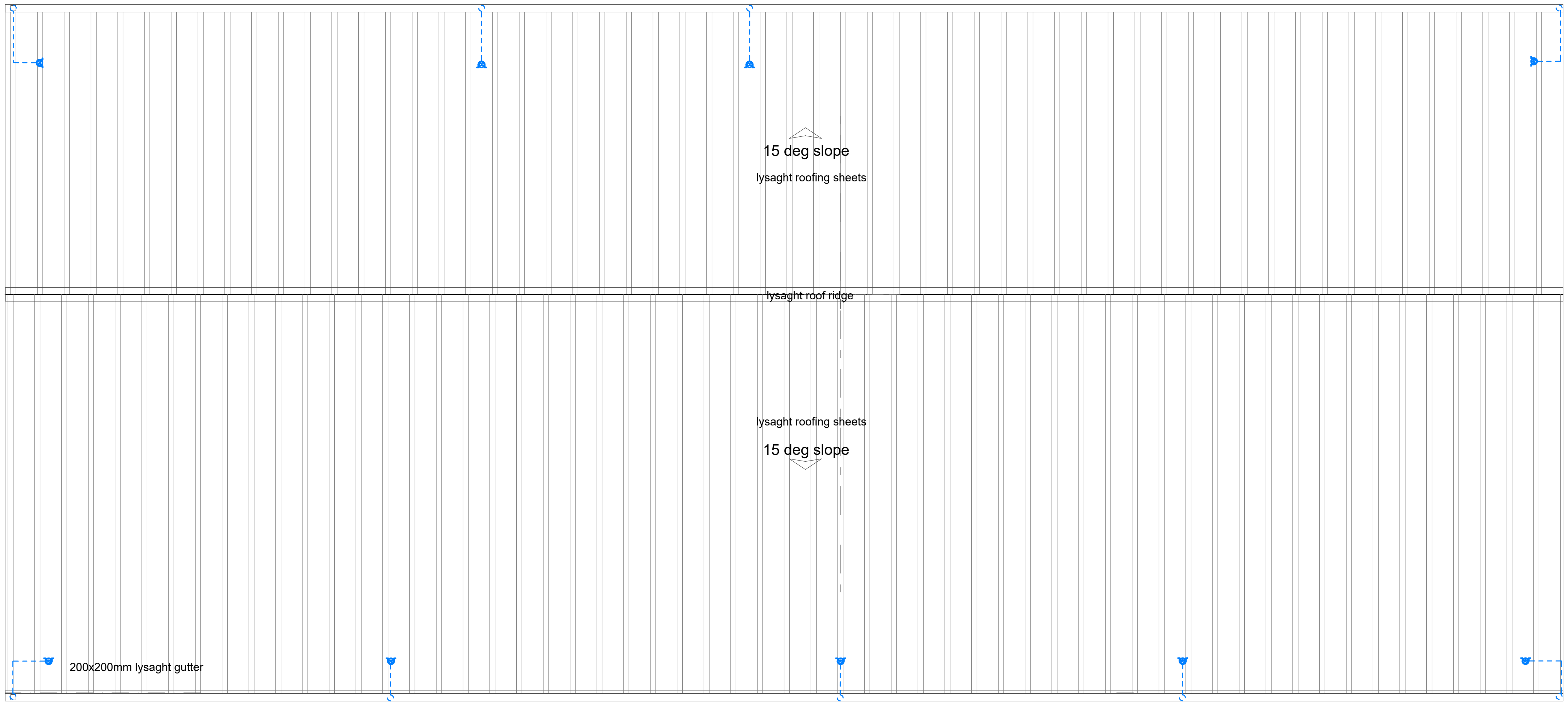
ENGINEER :
DRAWN :
CHECKED :
SCALE : AS GIVEN
DATE : 13.10.2021
DWG NO : S-10 / 11


15 deg slope
lysaght roofing sheets
lysaght roof ridge
lysaght roofing sheets
15 deg slope
200x200mm lysaght gutter

ROOF DRAINAGE LAYOUT

SCALE 1:100

0 0.5 1 2 3 4 5

Legend

- Floor Drain
- Floor Gully
- 110Ø Soil Pipe (uPVC Pipe)
- 110Ø Soil Vent Pipe (uPVC Pipe)
- 82Ø Waste Pipe (uPVC Pipe)
- 82Ø Waste Vent Pipe (uPVC Pipe)
- 40Ø Waste Pipe (uPVC Pipe)
- 63Ø Manhole Vent Pipe (uPVC Pipe)
- 110Ø Rain Water Pipes (uPVC Pipe)
- Bottle Trap
- Rodding Eye
- Gully Trap
- Manhole
- False Ceiling

Notes: -

-All Drainage Pipes Should Have At A Slope Of 1/150
-All Floor Drains Should Have 'P' Traps

Issue	Date	Description

AMMENDMENTS.

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DWG NO : S-11 / 11