




BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE

- GENERAL NOTES:**
1. All dimensions are in mm
 2. Depth of foundation may change due to subsoil condition
 3. Scale : Not to scale

Drawing Title	3D VIEW
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	

TAKIWAMA PROJECT
CONSTRUCTION AND REHABILITATION OF NSUMBU SATELLITE MONITORING CENTER

BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	
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Date	March 2026
Scale	1:85
Design by	
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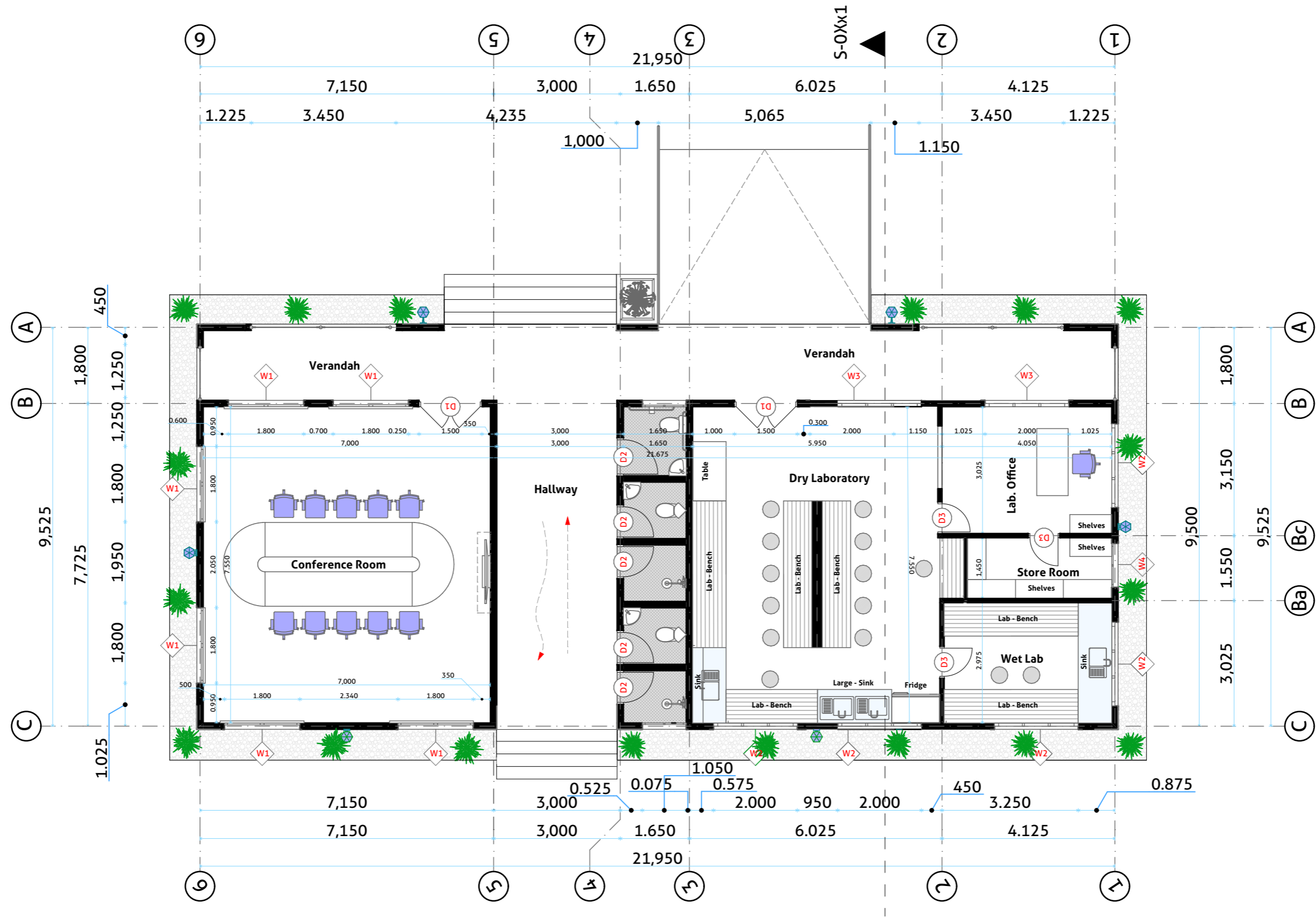


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DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE

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Drawing Title	SITE LAYOUT
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	

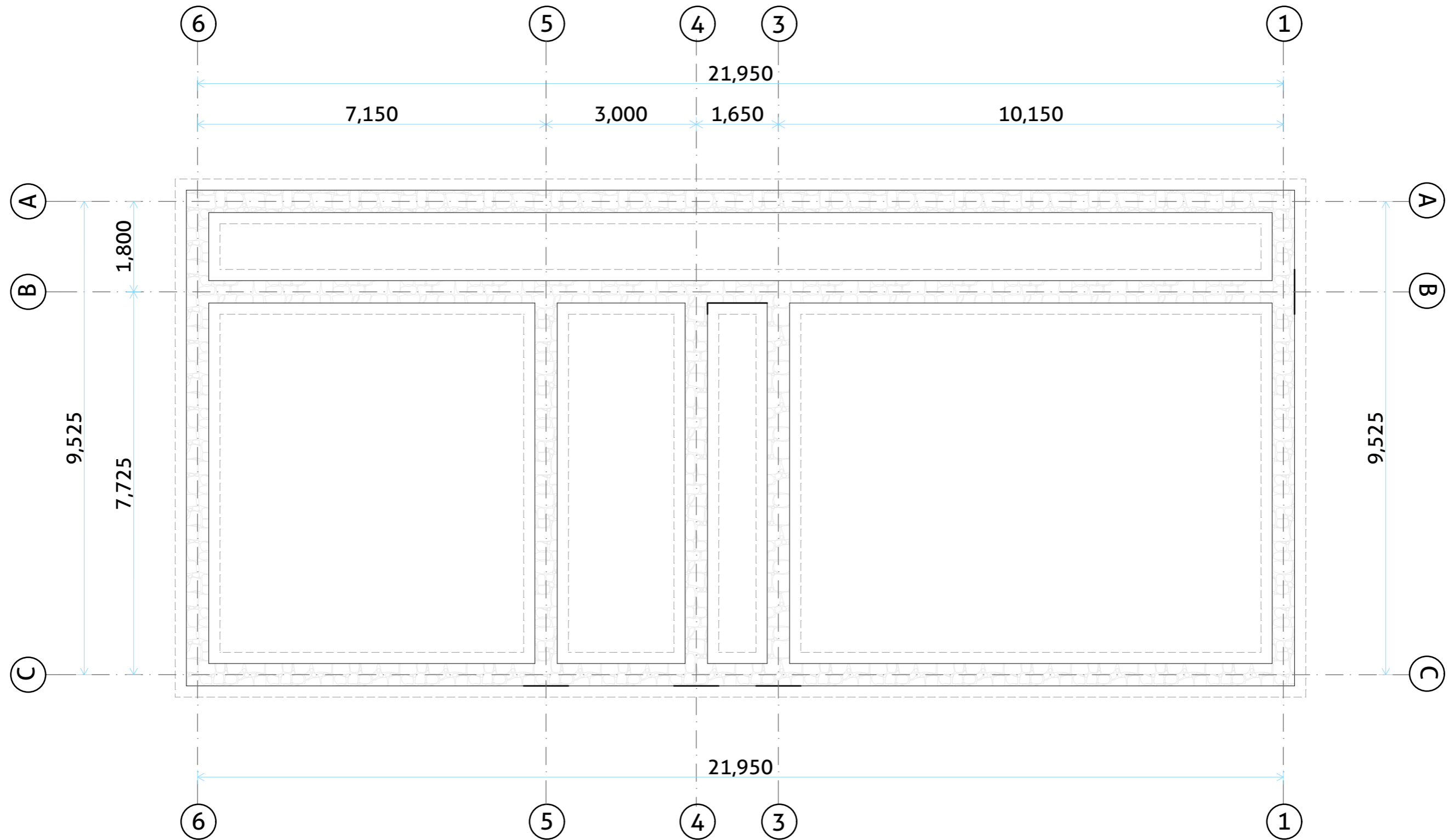


BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	LABORATORY & CONFERENCE ROOM
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GENERAL NOTES:	<ul style="list-style-type: none"> 1. All dimensions are in mm 2. Depth of foundation may change due to subsoil condition 3. Scale : Not to scale
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Drawing Title	3D VIEW
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



FOUNDATION LAYOUT





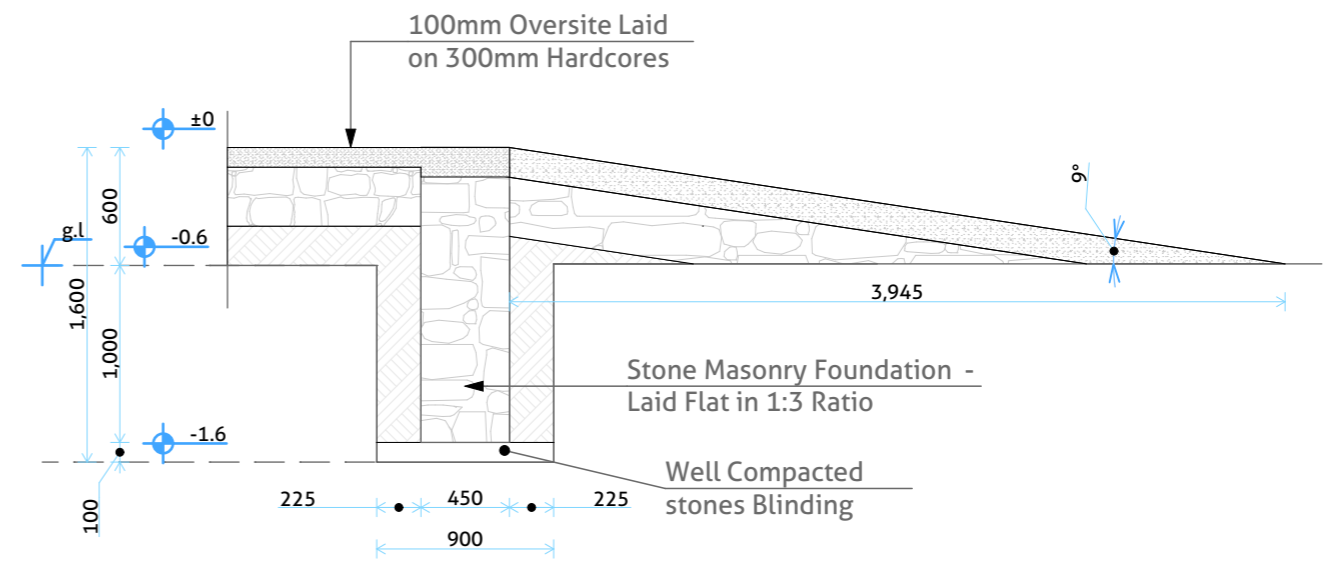
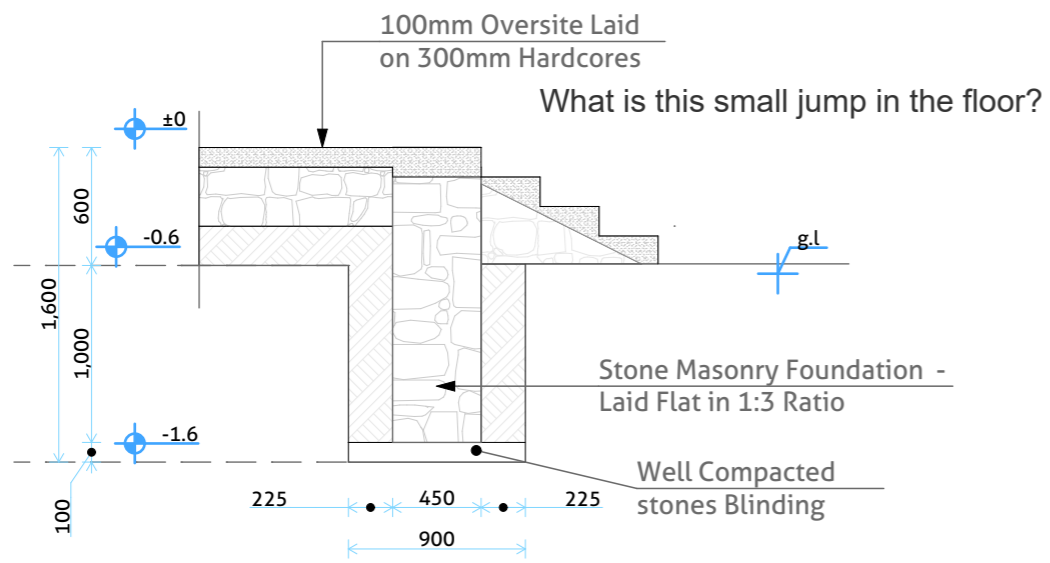
TAKIWAMA PROJECT
CONSTRUCTION AND REHABILITATION OF NSUMBU SATELLITE MONITORING CENTER

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DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

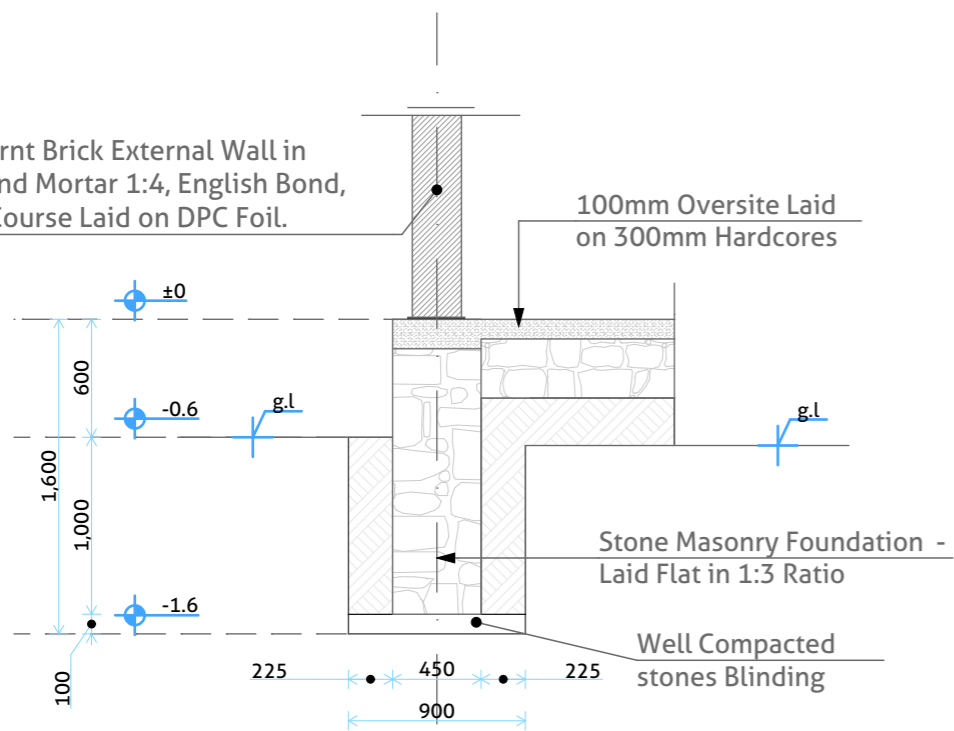
BUILDING TYPE	LABORATORY & CONFERENCE ROOM
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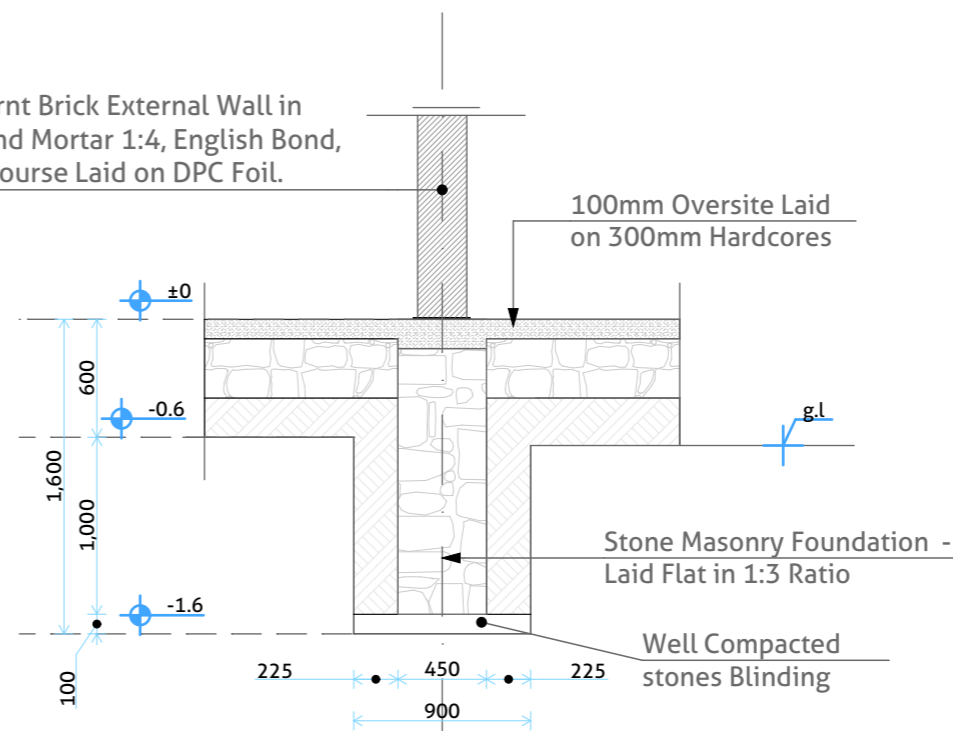
Drawing Title	FOUNDATION LAYOUT
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



250mm Burnt Brick External Wall in Cement:Sand Mortar 1:4, English Bond, with First Course Laid on DPC Foil.



250mm Burnt Brick External Wall in Cement:Sand Mortar 1:4, English Bond, with First Course Laid on DPC Foil.



Enabel

Wallonie

TAKIWAMA PROJECT

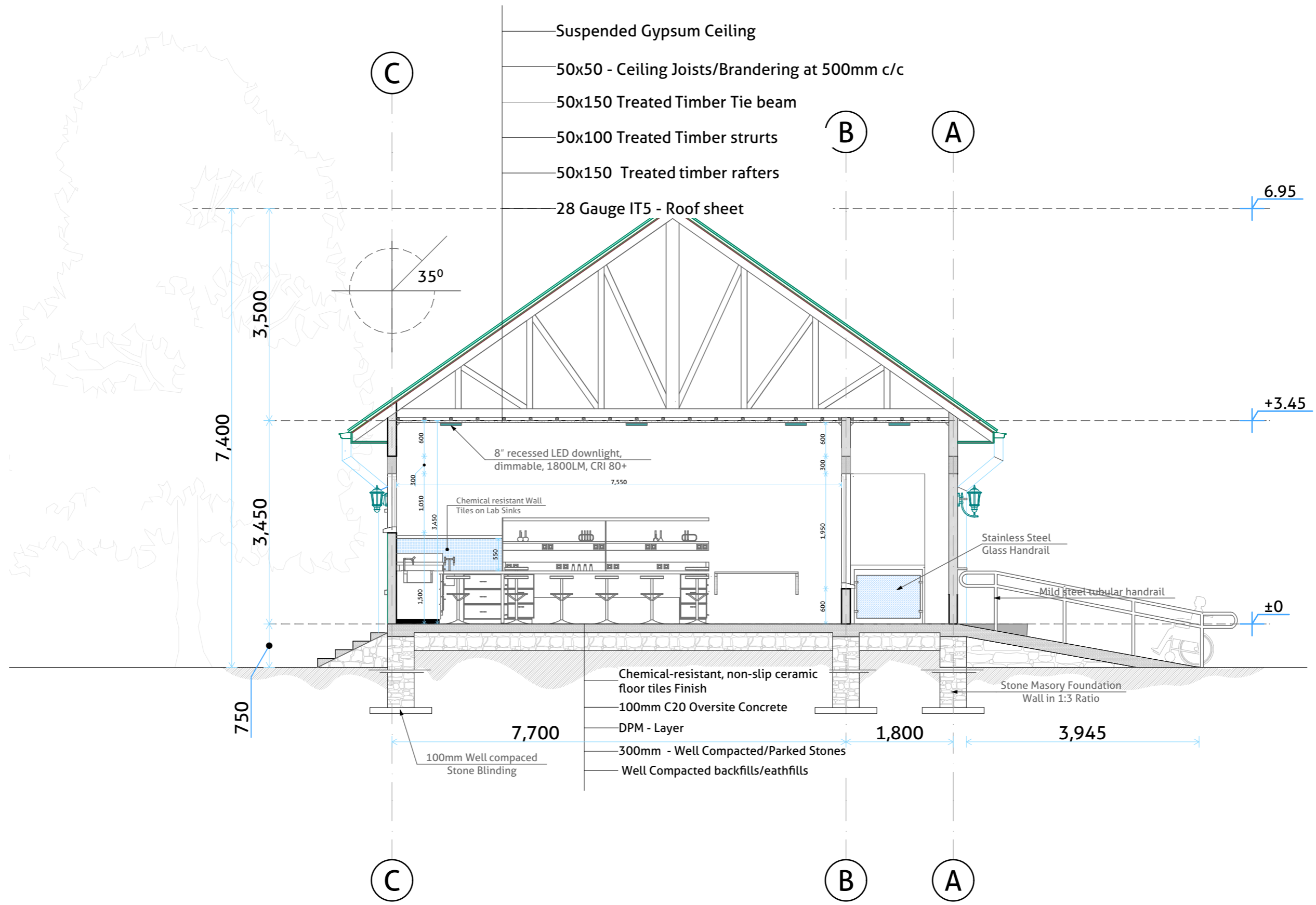
CONSTRUCTION AND REHABILITATION OF NSUMBU SATELLITE MONITORING CENTER

BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	ALL BUILDINGS
----------------------	---------------

- GENERAL NOTES:**
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Drawing Title	FOUNDATION DETAILS
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

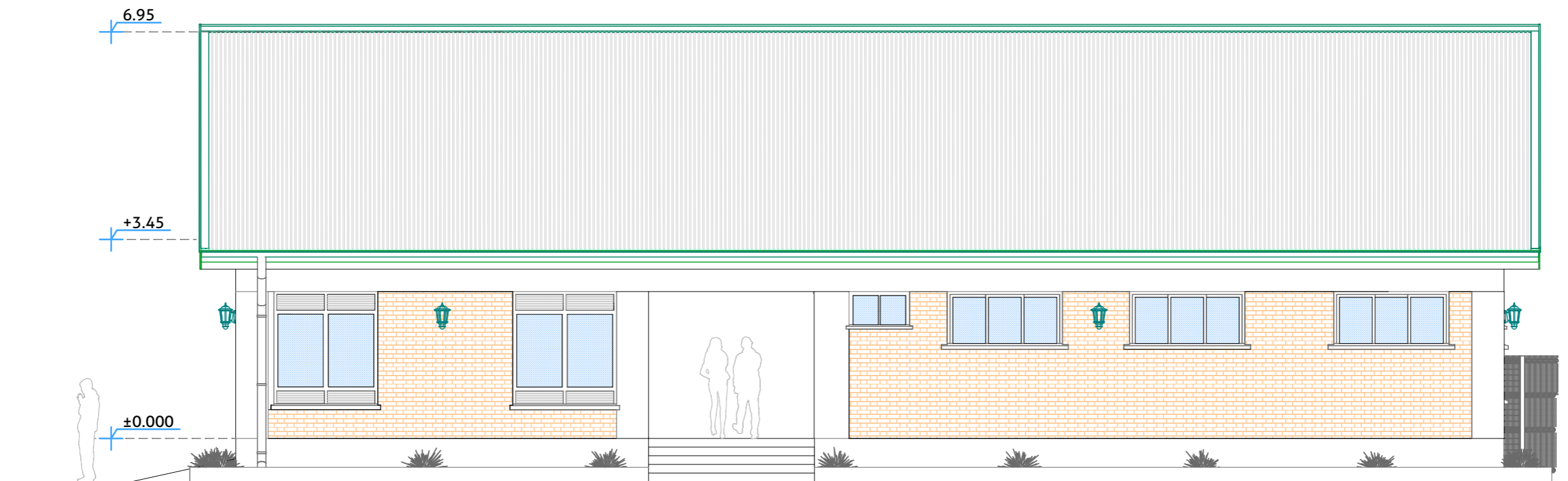
BUILDING TYPE
CONFERENCE & LAB BLOCK

- GENERAL NOTES:**
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 - Scale : Not to scale

Drawing Title	BUILDING SECTION XX-XX
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



FRONT ELEVATION



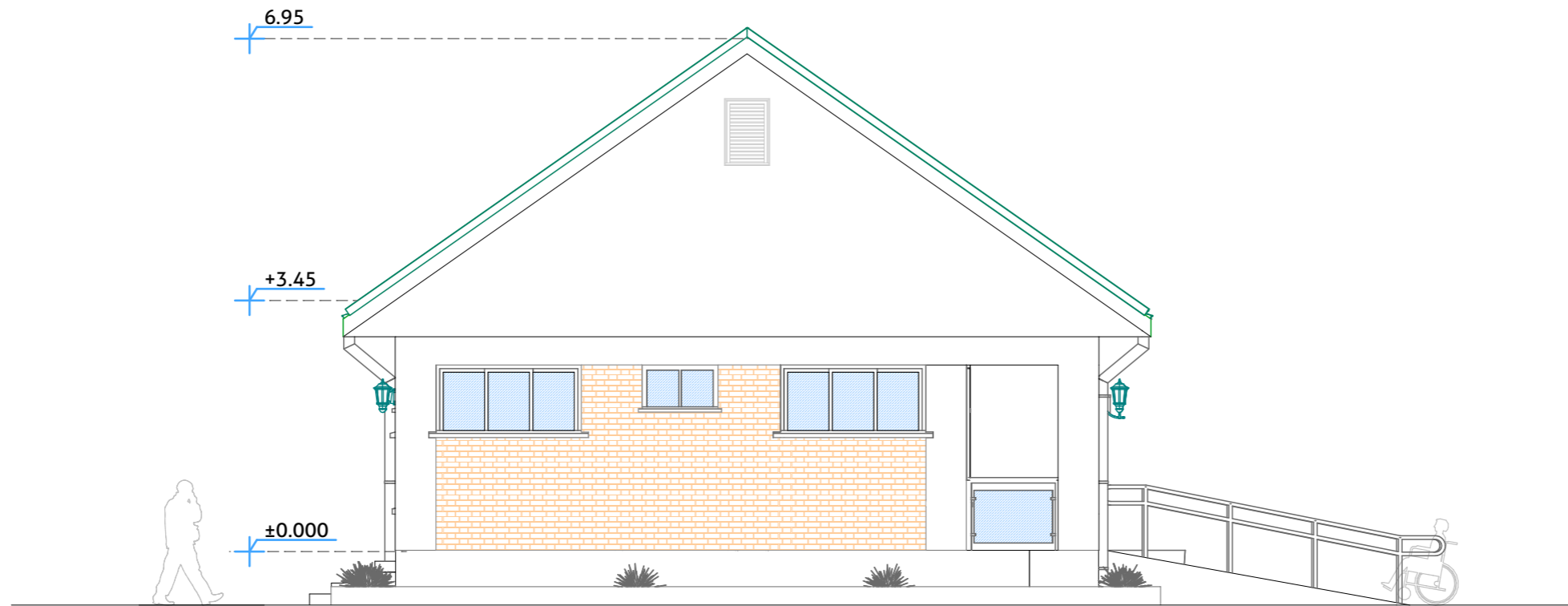
REAR ELEVATION

BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

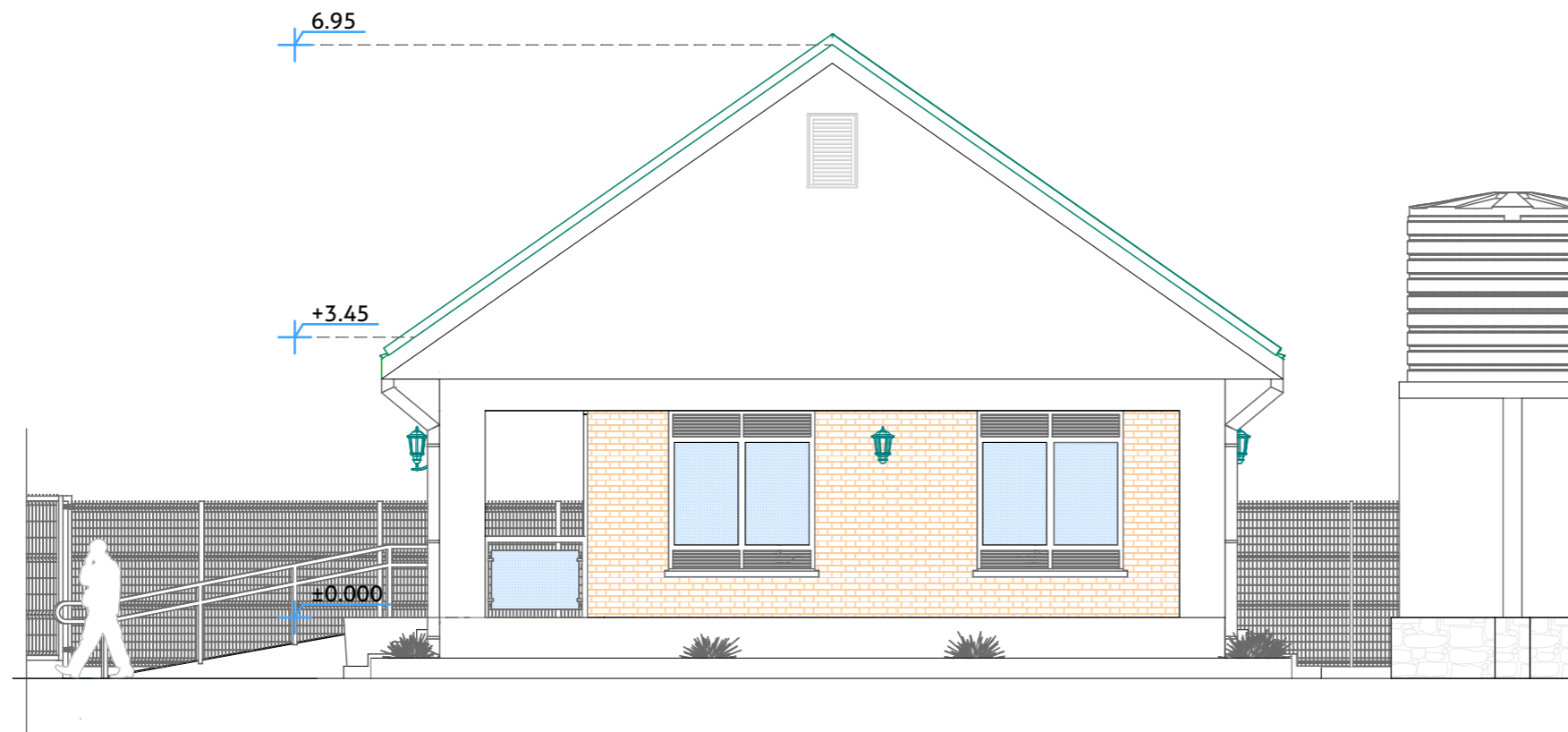
BUILDING TYPE	LABORATORY & CONFERENCE ROOM
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- GENERAL NOTES:**
1. All dimensions are in mm
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 3. Scale : Not to scale

Drawing Title	FRONT & REAR ELEVATION
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



SIDE ELEVATION



SIDE ELEVATION

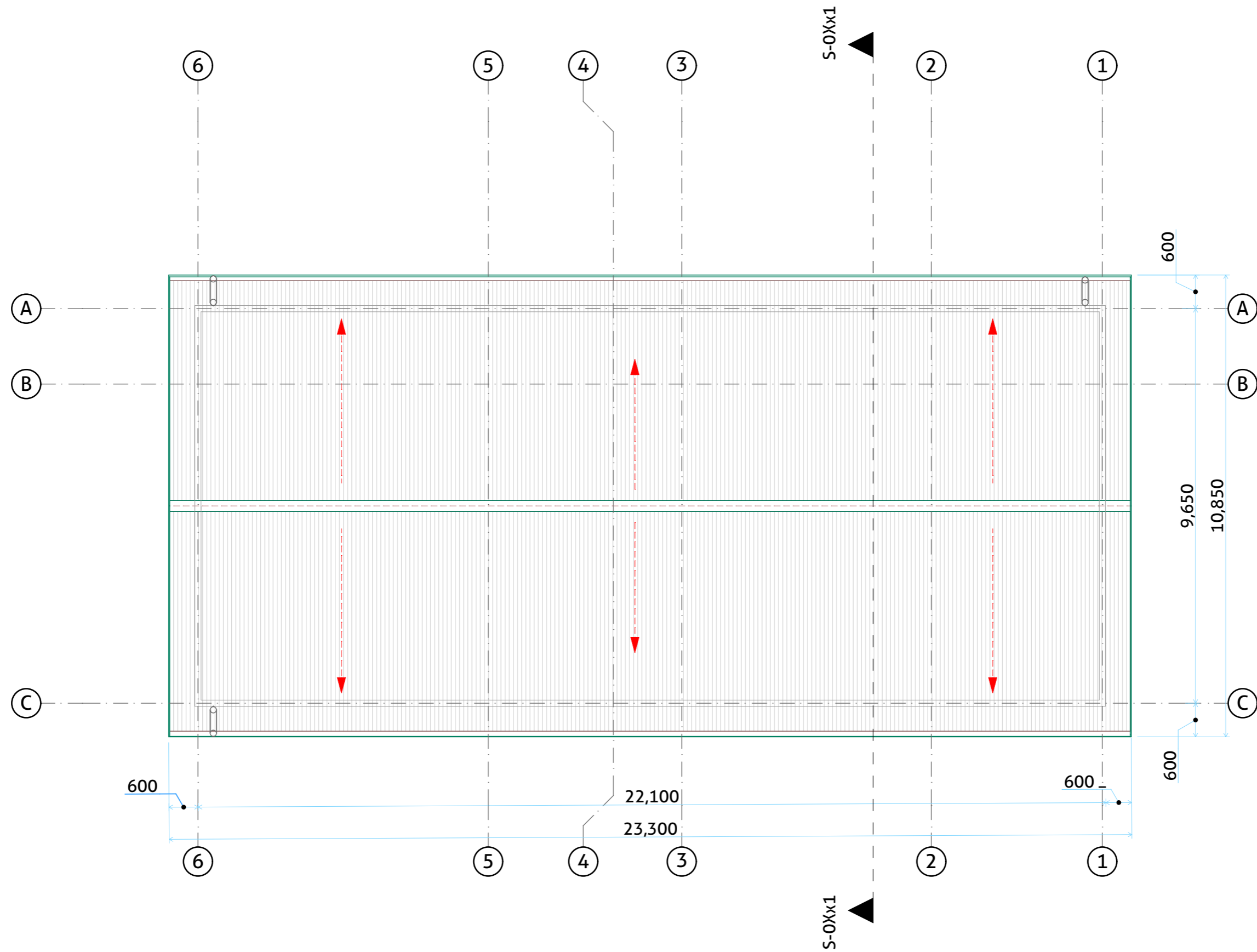
BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	LABORATORY & CONFERENCE ROOM
----------------------	------------------------------

GENERAL NOTES:

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- Scale : Not to scale

Drawing Title	SIDES
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	

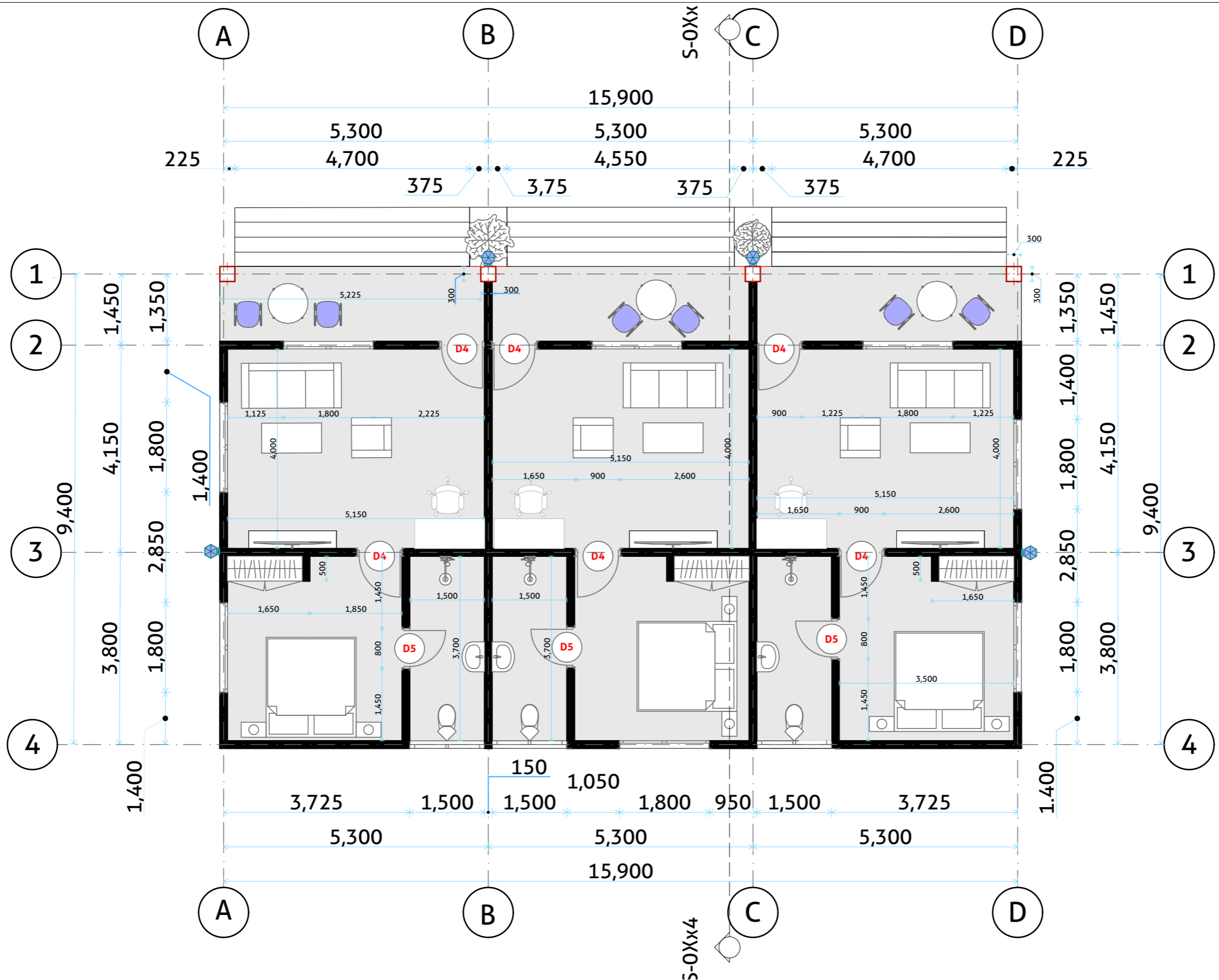


BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE
CONFERENCE & LAB BLOCK

- GENERAL NOTES:**
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 - Scale : Not to scale

Drawing Title	ROOF LAYOUT
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	

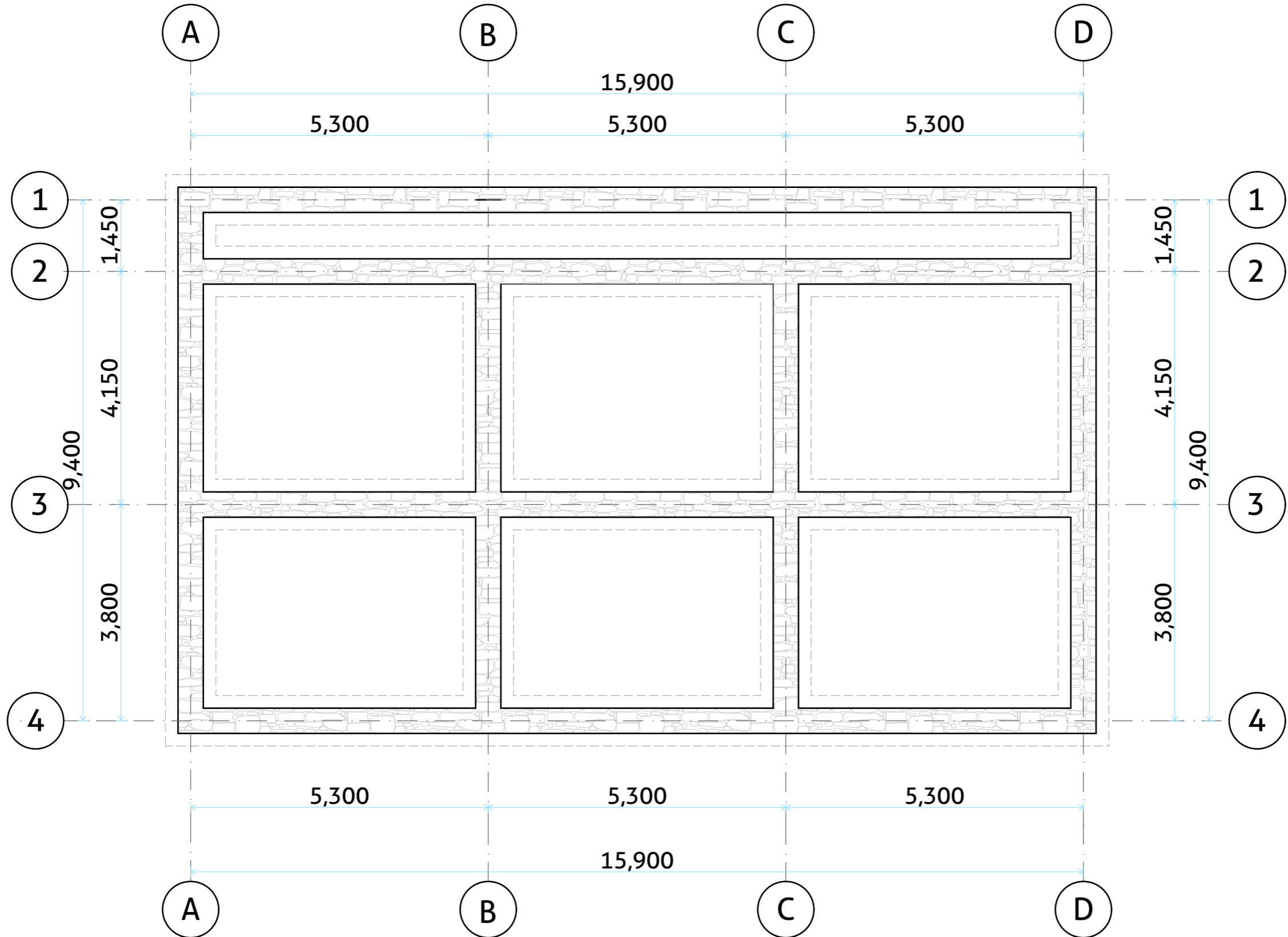


BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE
STAFF HOUSE BLOCK

- GENERAL NOTES:**
- All dimensions are in mm
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 - Scale : Not to scale

Drawing Title	FLOOR PLAN
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

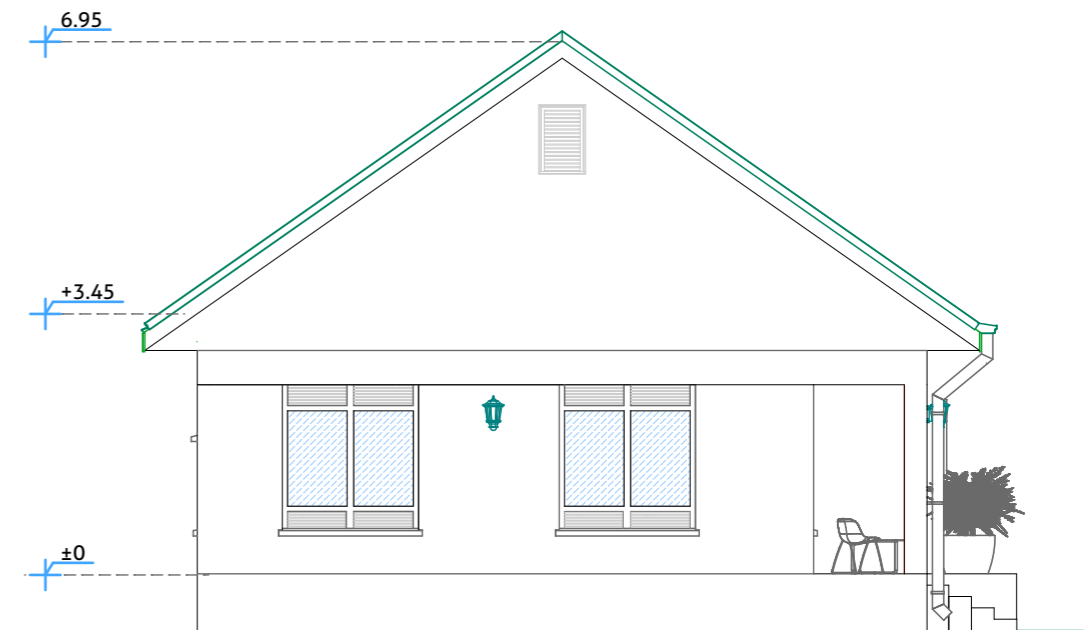
BUILDING TYPE
STAFF HOUSE BLOCK

- GENERAL NOTES:**
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 - Scale : Not to scale

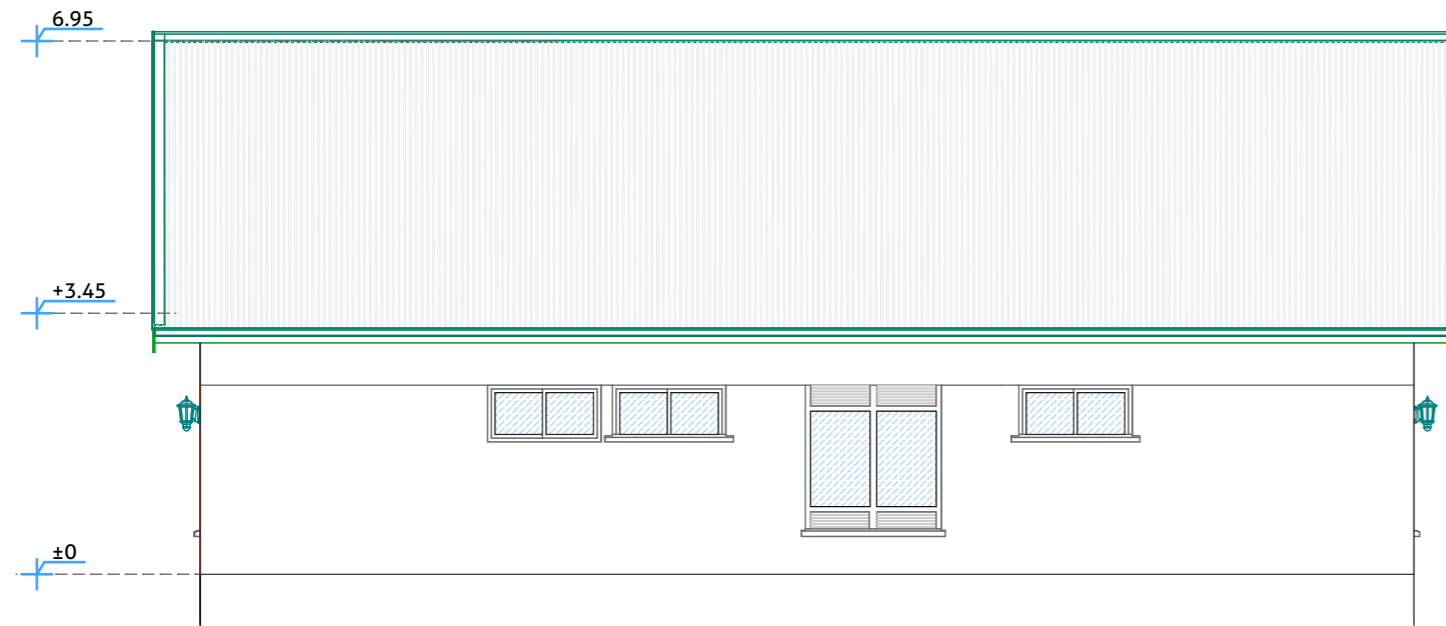
Drawing Title	FOUNDATION LAYOUT
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



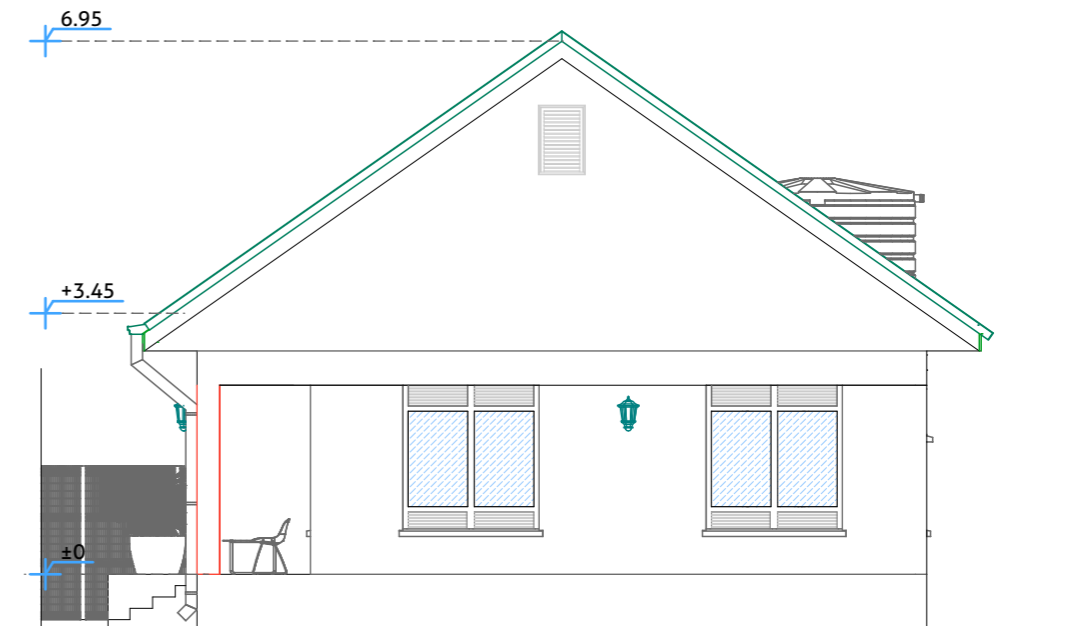
FRONT ELEVATION



SIDE ELEVATION



REAR ELEVATION



SIDE ELEVATION

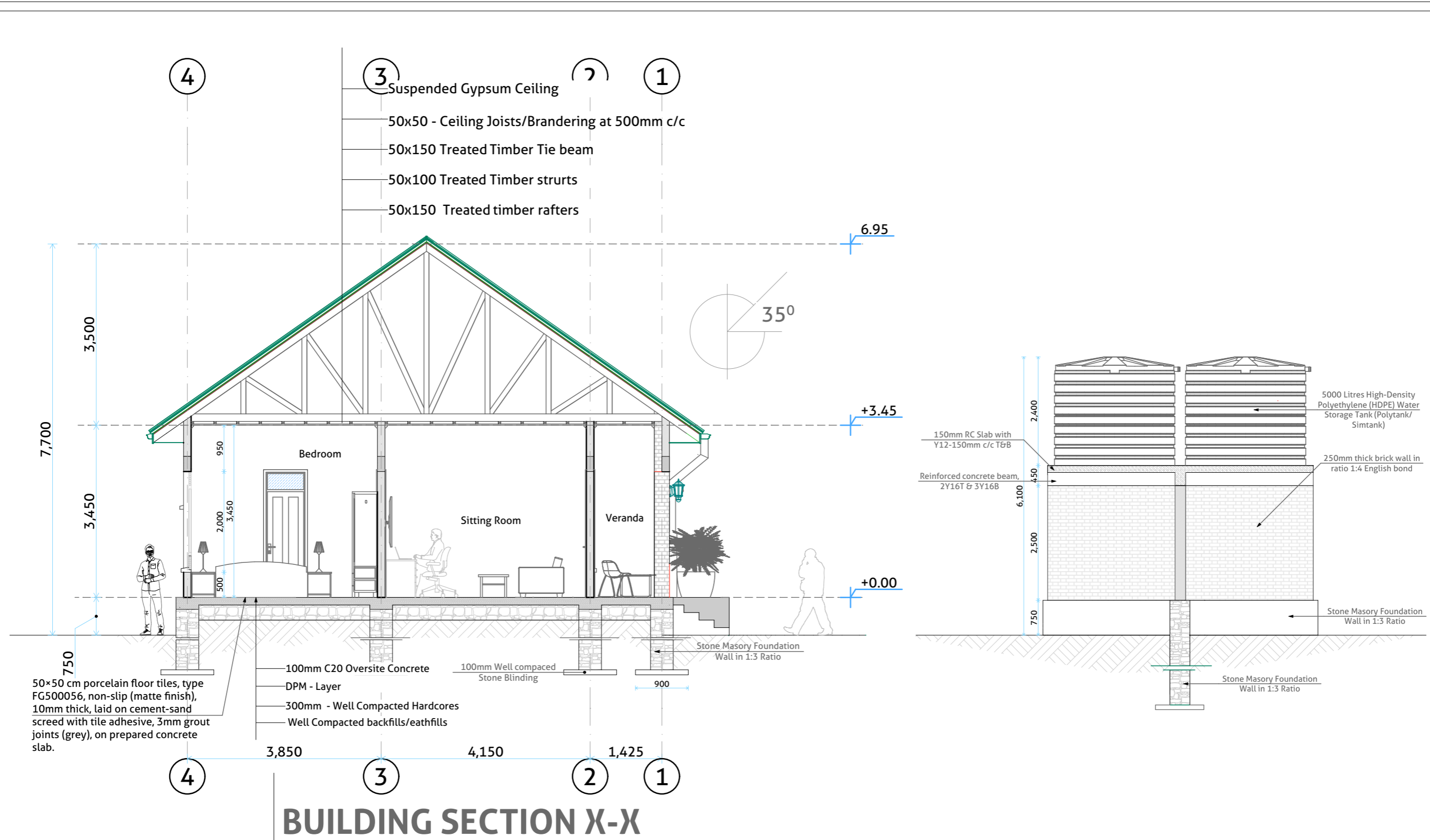


BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	STAFF HOUSE BLOCK
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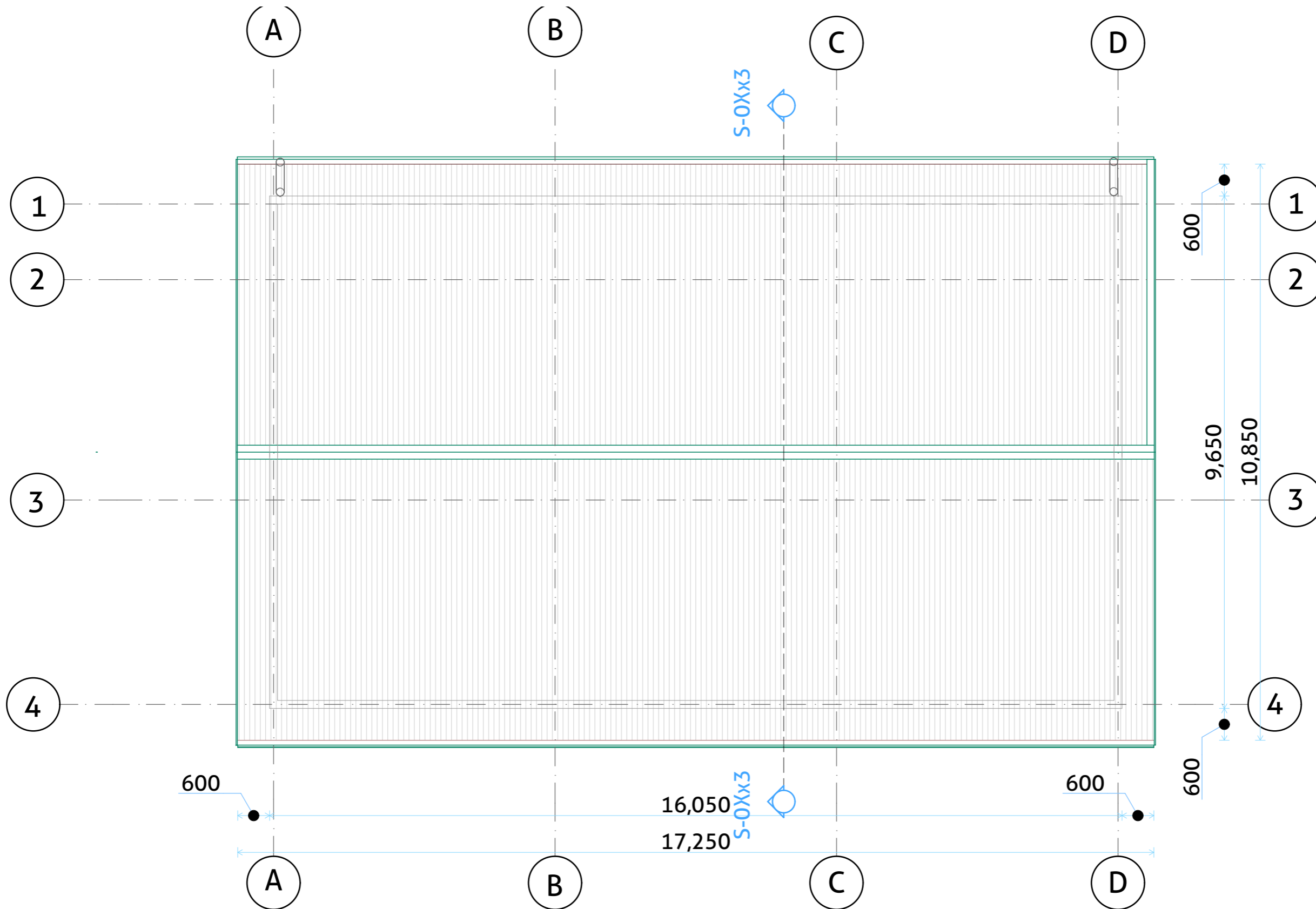
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1. All dimensions are in mm	
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3. Scale : Not to scale	

Drawing Title	ELEVATIONS
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



Do we need tiles in the rooms?
This is an expensive and not durable finish...

<p>TAKIWAMA PROJECT CONSTRUCTION AND REHABILITATION OF NSUMBU SATELLITE MONITORING CENTER</p>		BENEFICIARY DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU	BUILDING TYPE STAFF HOUSE BLOCK	GENERAL NOTES: 1. All dimensions are in mm 2. Depth of foundation may change due to subsoil condition 3. Scale : Not to scale	Drawing Title SECTION DETAIL
	DONOR FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL	Date March 2026			
				Scale 1:85	Design by
				Checked by 	Approved by



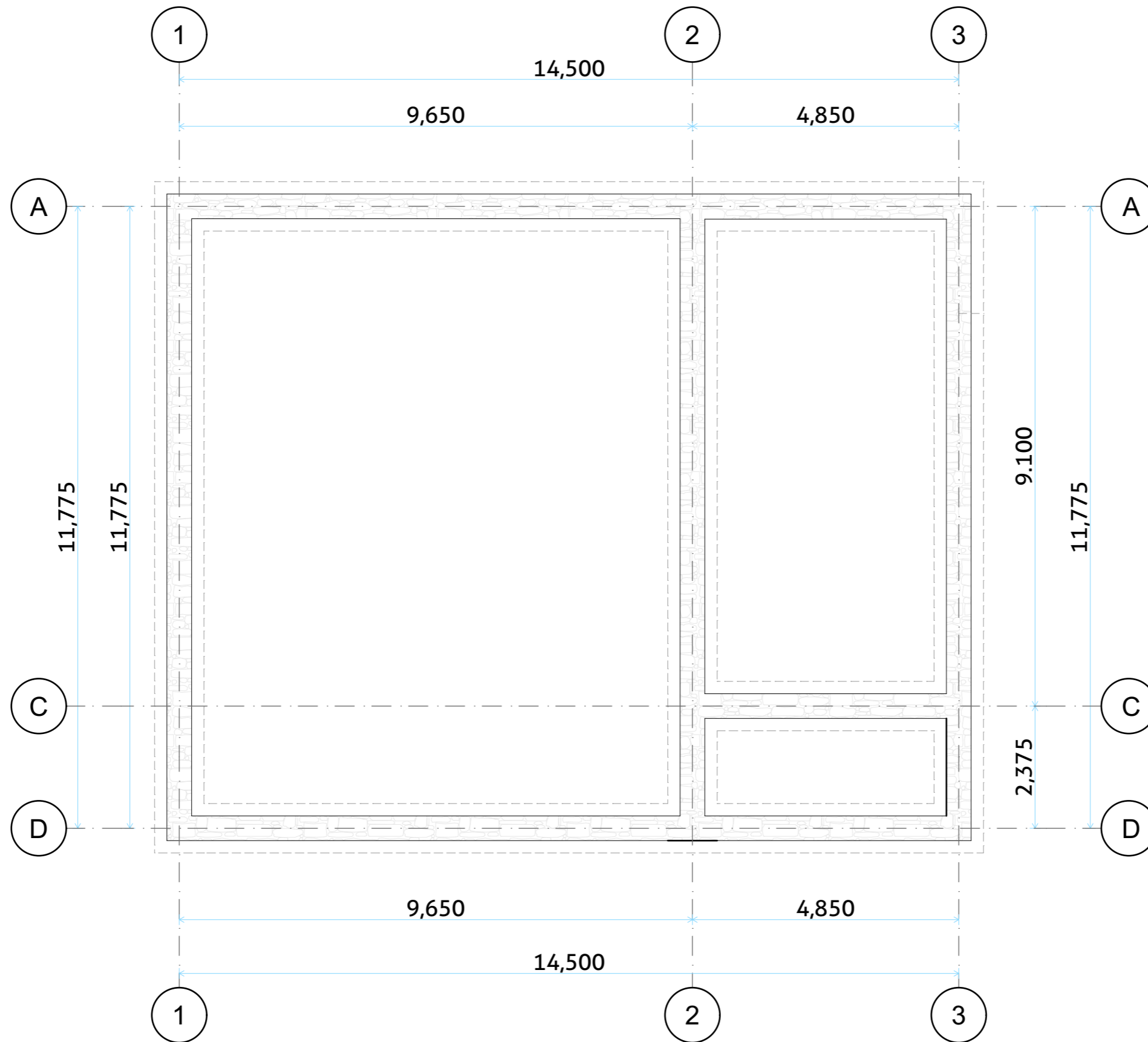
BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE
STAFF HOUSE BLOCK

GENERAL NOTES:

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Drawing Title	ROOF LAYOUT
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



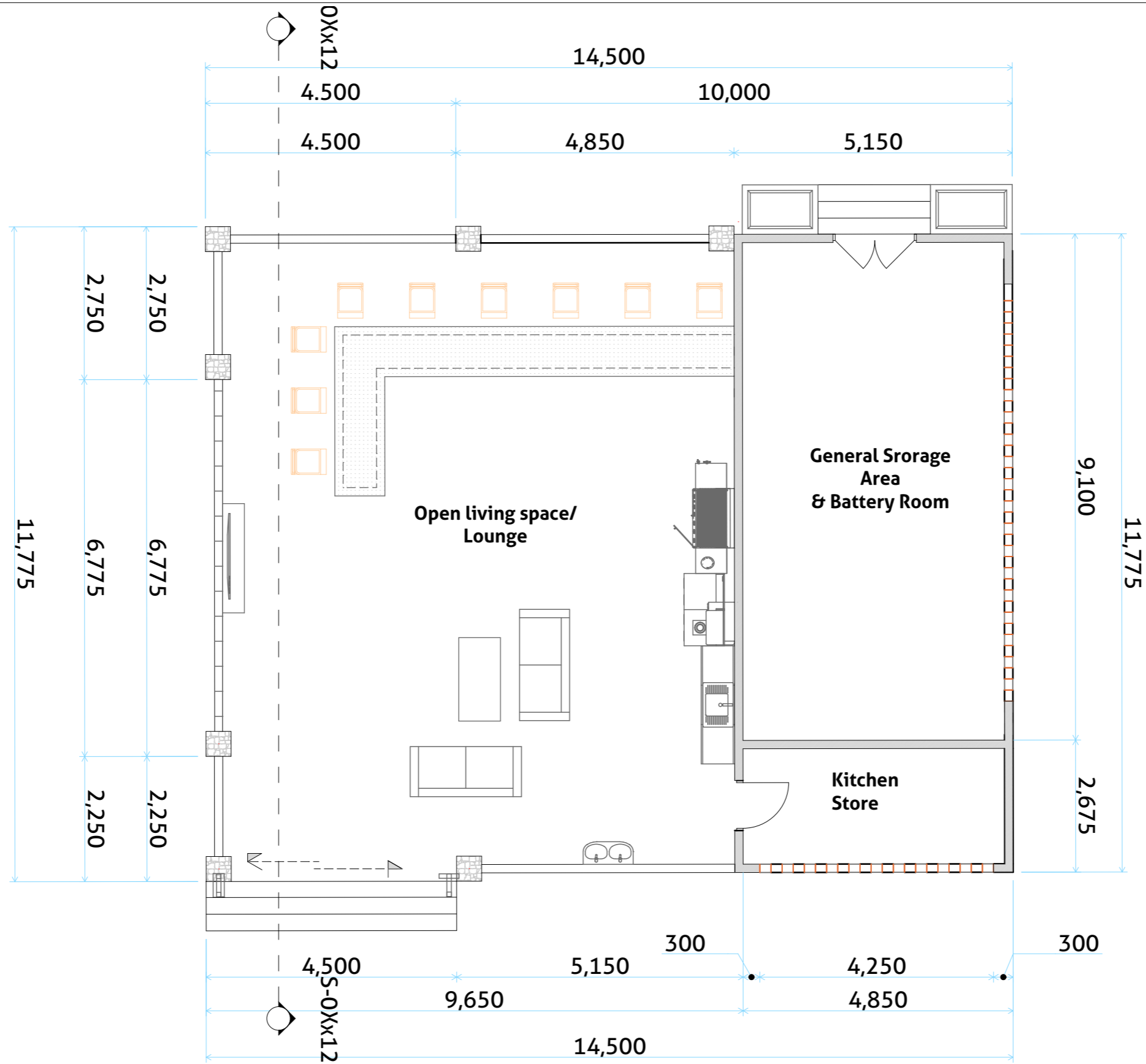
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TAKIWAMA PROJECT
 CONSTRUCTION AND REHABILITATION OF NSUMBU SATELLITE MONITORING CENTER

BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	LIVING AREA/KITCHEN
----------------------	---------------------

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3. Scale : Not to scale

Drawing Title	FOUNDATION LAYOUT
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	







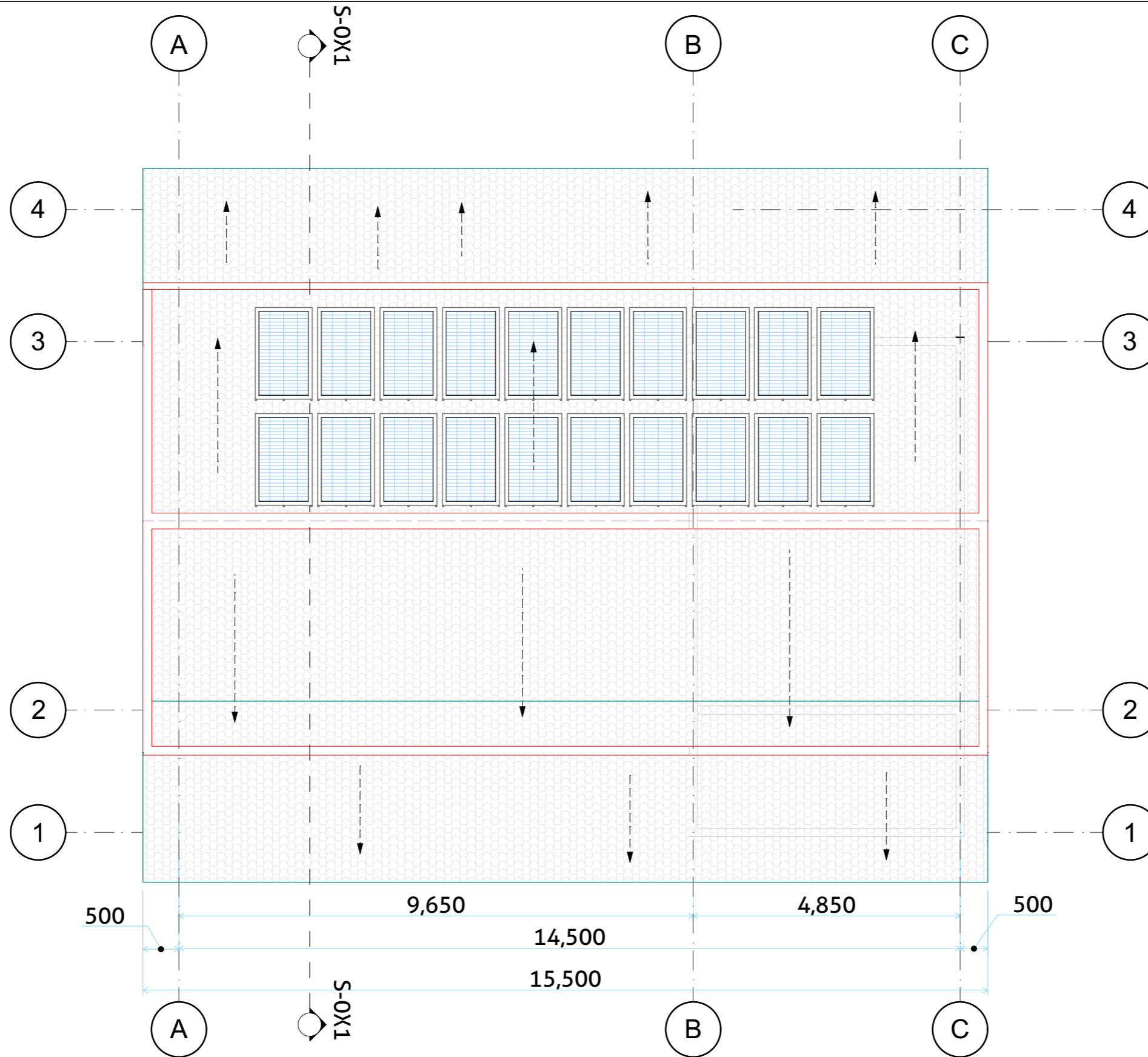
TAKIWAMA PROJECT
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BUILDING TYPE	LIVING AREA/KITCHEN
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Drawing Title	FLOOR PLAN
Date	March 2026
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Design by	
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Approved by	

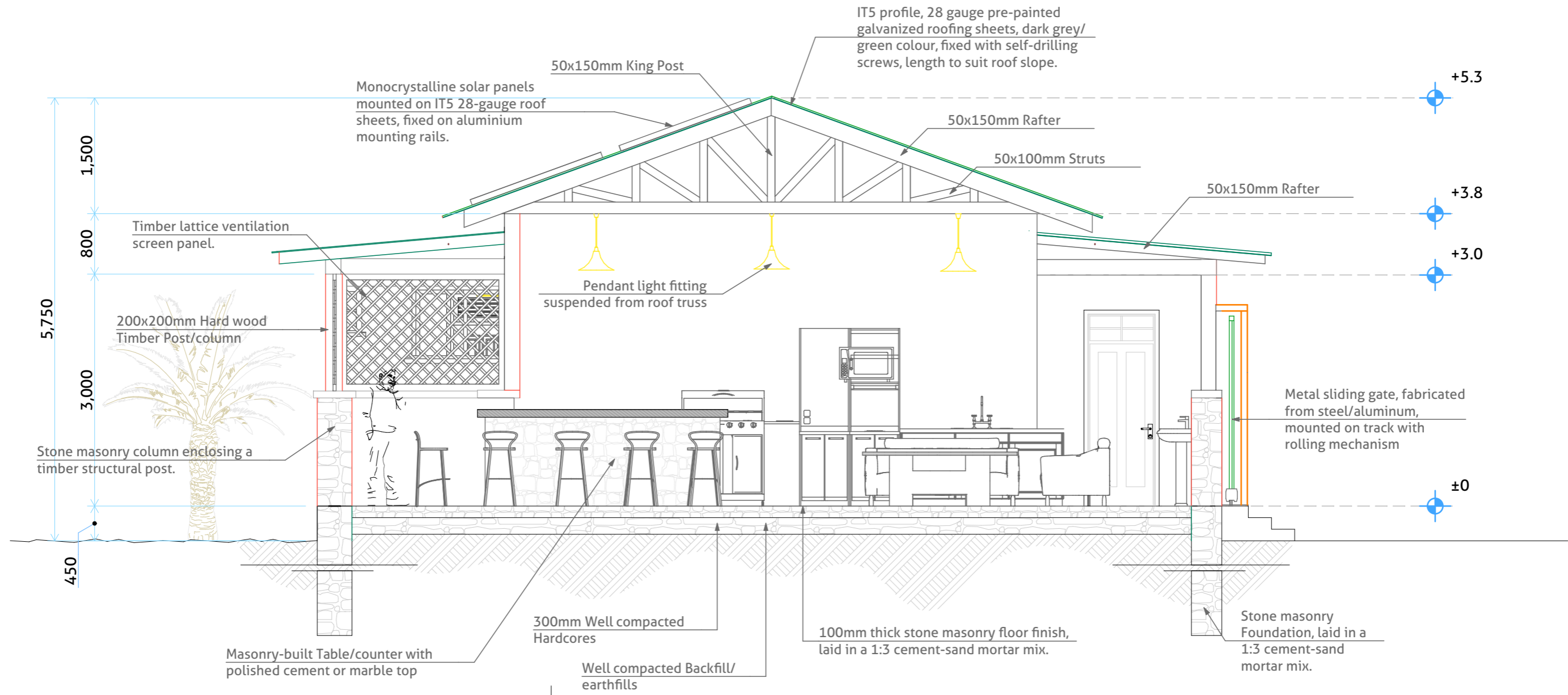


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DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	LIVING AREA/KITCHEN
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Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	



BUILDING SECTION XX-XX

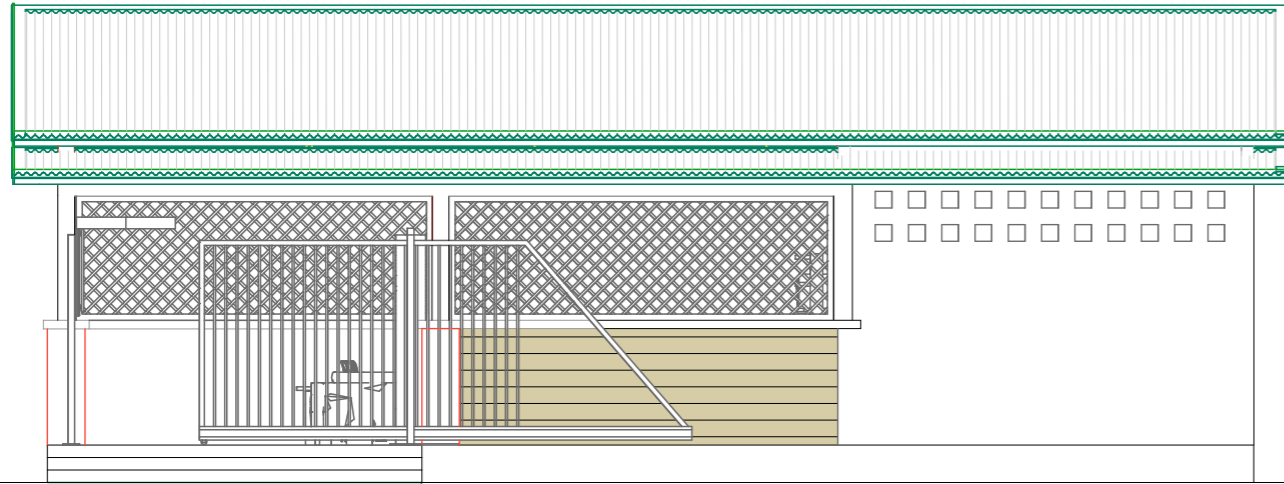
BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	KITCHEN
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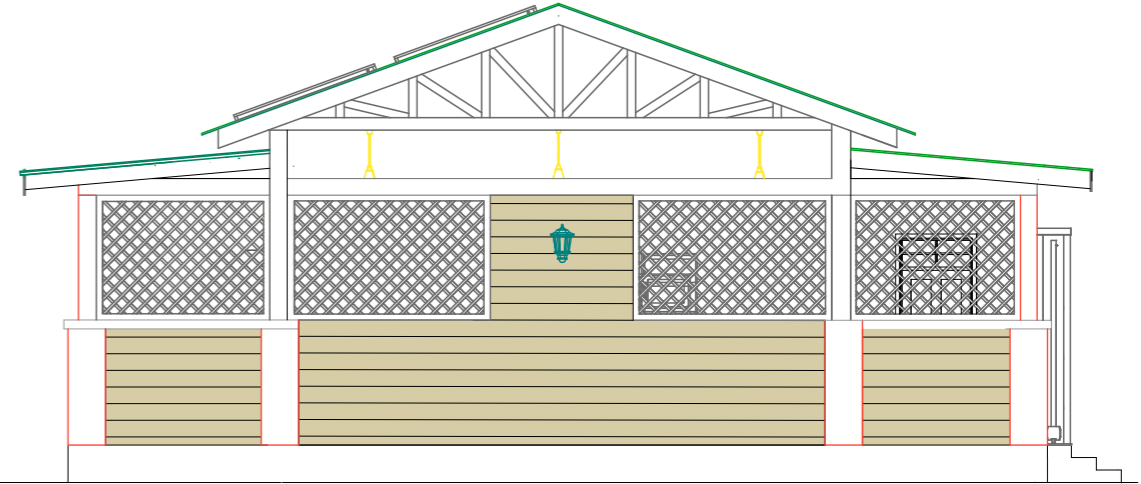
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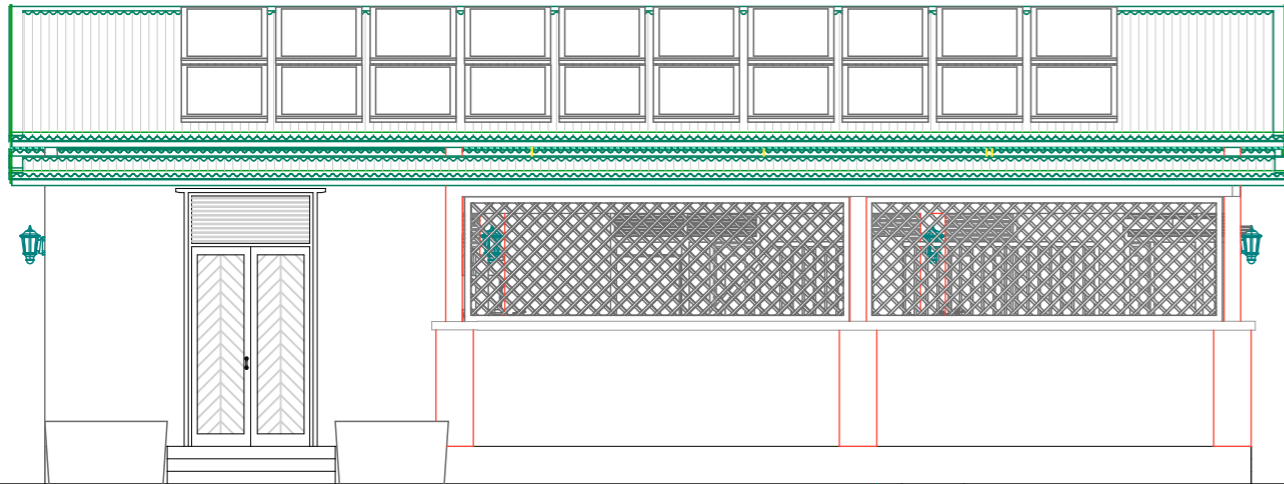
Drawing Title	BUILDING SECTION
Date	March 2026
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Checked by	
Approved by	



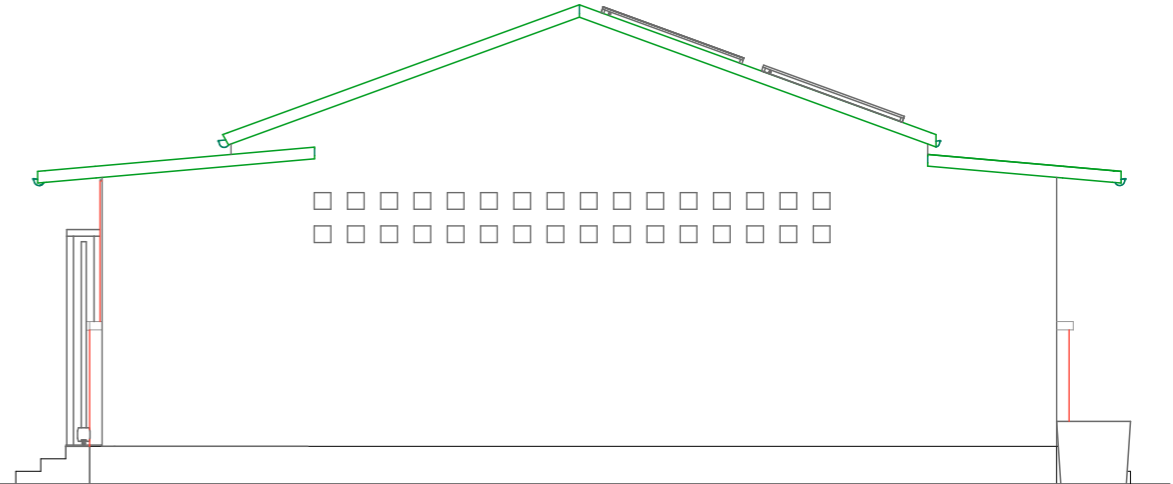
FRONT ELEVATION



SIDE ELEVATION



REAR ELEVATION



SIDE ELEVATION



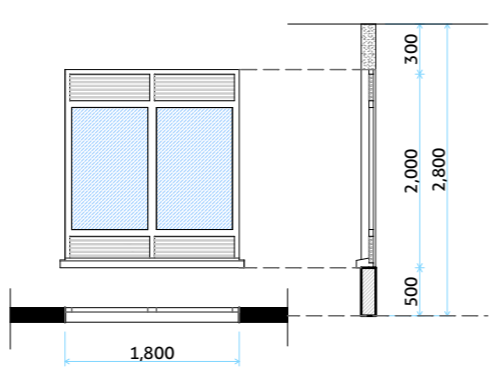
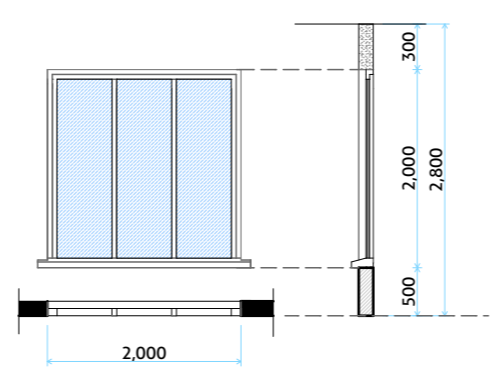
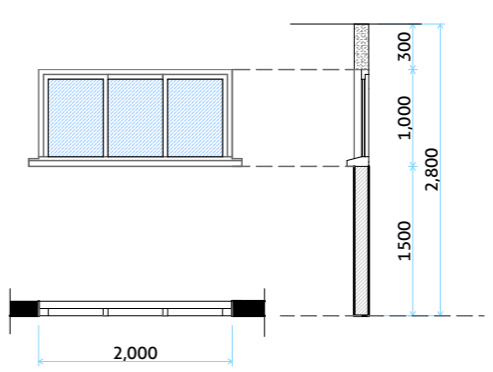
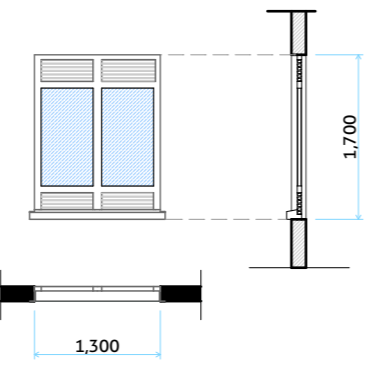
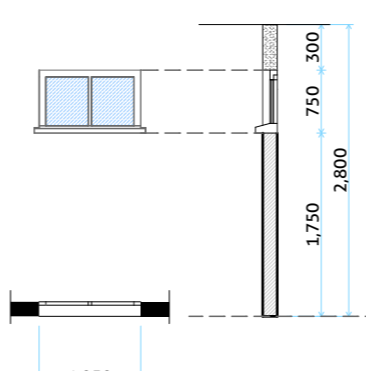
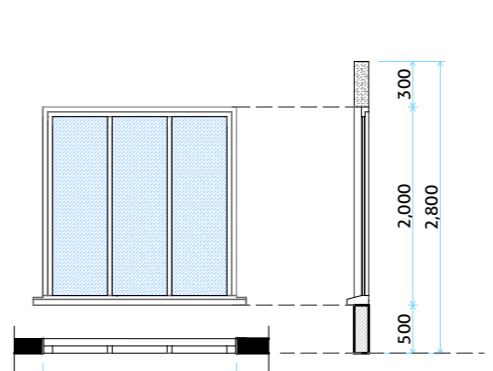
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DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE	LIVING AREA/KITCHEN
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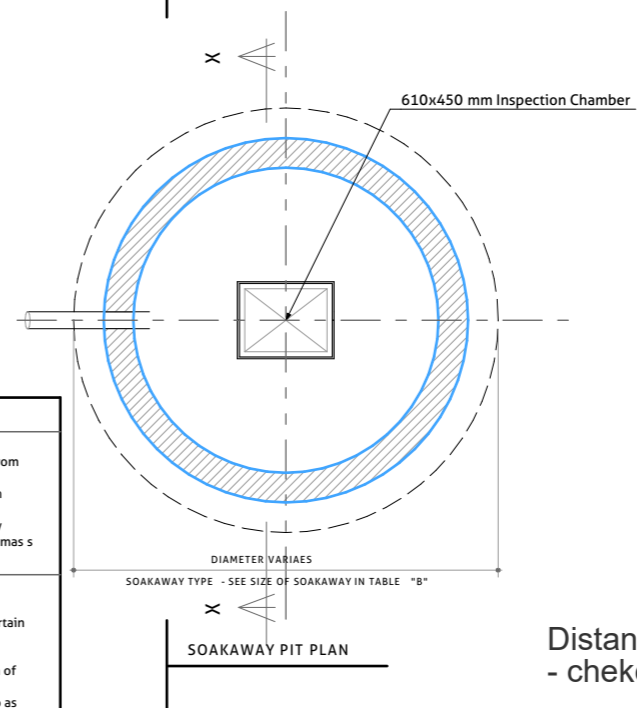
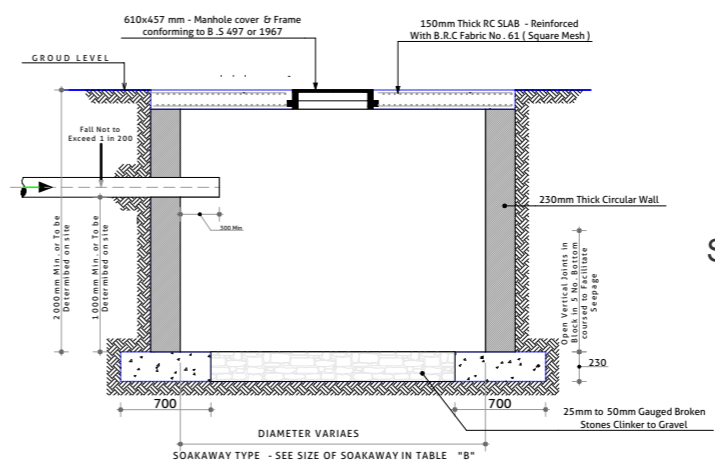
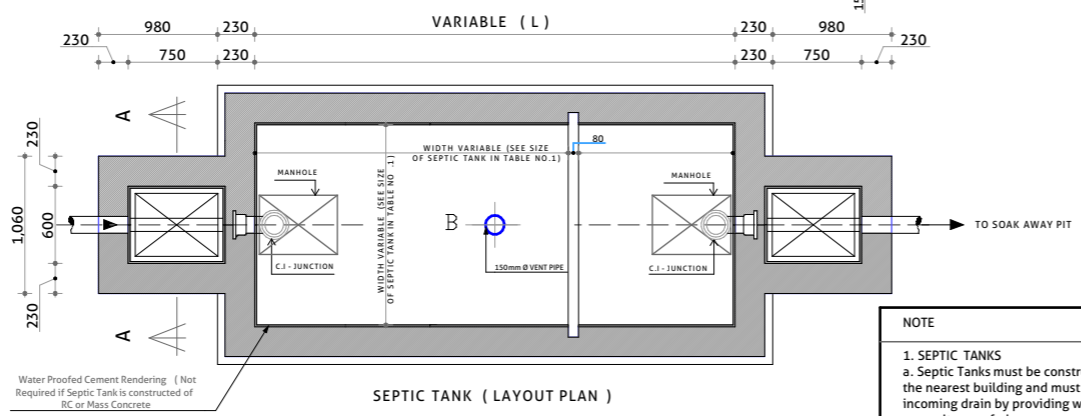
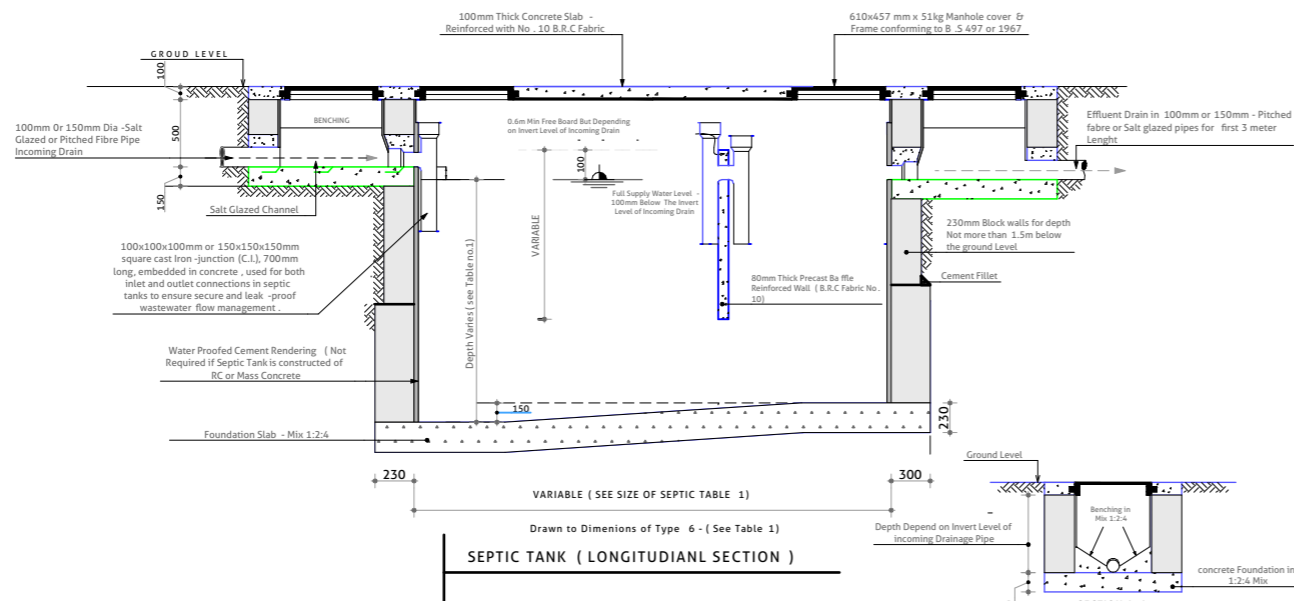
Drawing Title	ELEVATIONS
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	

TYPE	W1	W3	W2
ELEVATION			
WINDOW SIZE	2000mm High by 1800mm Wide	2000mm High by 2000mm Wide	2000mm High by 1000mm Wide
LOCATION	Conference Room & Staff Houses	Laboratory Office	Wet Lab & Dry Lab
QUANTITY	20 Numbers	2 Numbers	4 Numbers
SPECIFICATIONS	<p>Aluminum Glazed Sliding Window with Vent Louver Sections</p> <p>Heavy-duty aluminium sliding window with integrated top and bottom ventilation louvers; main frame 100×50×1.8 mm; sliding shutter frame top 26×50×1.8 mm and bottom 26×50×1.8 mm; C-section interlock 26×50×1.8 mm; fixed dense aluminium louvers with blades 1.6–2.0 mm thick, set at 12°–15° downward angle, with 18–22 mm pitch, 18–20 mm blade height and 30–35 mm depth; powder-coated aluminium finish, 60–80 microns, in approved grey color; glazed with 8 mm clear float glass, machine-polished edges, fitted with EPDM gaskets and structural silicone; complete with heavy-duty stainless steel rollers, crescent lock, aluminium handle, EPDM weather seals and stainless-steel fasteners; installed to blockwork or concrete with stainless steel anchor screws, backer rod and weather-resistant perimeter sealant, ensuring plumb, level and square installation and smooth sliding operation.</p>	<p>Aluminum Glazed Sliding Window</p> <p>Heavy-duty aluminium sliding window; main frame 100×50×1.8 mm; sliding shutter frame top 26×50×1.8 mm and bottom 26×50×1.8 mm; C-section interlock 26×50×1.8 mm; powder-coated aluminium finish, 60–80 microns, in approved grey color; glazed with 8 mm clear float glass, machine-polished edges, fitted with EPDM gaskets and structural silicone; complete with heavy-duty stainless-steel rollers, crescent lock, aluminium handle, EPDM weather seals and stainless-steel fasteners; installed to blockwork or concrete using stainless-steel anchor screws with backer rod and weather-resistant silicone perimeter sealant; installation to be plumb, level and square ensuring smooth, free sliding operation.</p>	<p>Aluminum Glazed Sliding Window</p> <p>Heavy-duty aluminium sliding window; main frame 100×50×1.8 mm; sliding shutter frame top 26×50×1.8 mm and bottom 26×50×1.8 mm; C-section interlock 26×50×1.8 mm; powder-coated aluminium finish, 60–80 microns, in approved grey color; glazed with 8 mm clear float glass, machine-polished edges, fitted with EPDM gaskets and structural silicone; complete with heavy-duty stainless-steel rollers, crescent lock, aluminium handle, EPDM weather seals and stainless-steel fasteners; installed to blockwork or concrete using stainless-steel anchor screws with backer rod and weather-resistant silicone perimeter sealant; installation to be plumb, level and square ensuring smooth, free sliding operation.</p>
TYPE	W4	W5	W3
ELEVATION			
WINDOW SIZE	1,700mm High by 1300mm Wide	750mm High by 1050mm Wide	2000mm High by 2000mm Wide
LOCATION	Existing Office building	Store Room, Toilets (Staff Houses & Lab block)	Laboratory Office
QUANTITY	12 Numbers	09 Numbers	2 Numbers

Same window 2 times?

- All dimensions are in mm
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- Scale : Not to scale

TYPE	D1	D4	D5
ELEVATION			
DOOR SIZE	2500mm High by 1500mm Wide	2500mm High by 900mm Wide	2500mm High by 800mm Wide
LOCATION	Conference Room & Laboratory	Staff Houses (Main Entrance & Bedroom)	Toilet (Staff Houses & Laboratory)
QUANTITY	2 Numbers	12 Numbers	12 Numbers
SPECIFICATIONS	Panelled door manufactured from selected Mninga hardwood or other equally approved hardwood, complete with frame, fillets, glazing beads, grounds, ironmongery and door closer, fixed and finished ready for use. The door shall have a 45 mm x 145 mm polished hardwood frame, two 40 mm thick panels, with 275 mm wide top and bottom rails and 300 mm wide intermediate rails, and a fanlight fitted with 8 mm clear glass and 150 mm x 50 mm architraves. It shall be fitted with a cylinder mortice lock with escutcheons as per Häfele or equal approved, stainless steel pull handles 800 mm long on back plates, three pairs of 100 mm x 75 mm stainless steel ball bearing hinges, two 38 mm diameter rubber door stoppers floor mounted, two stainless steel flush bolts, and a medium-duty door closer. All to be properly installed and finished to the approval of the Engineer/supervisor	Panelled door manufactured from selected Mninga hardwood or other equally approved hardwood, complete with frame, fillets, glazing beads, grounds, ironmongery and door closer, fixed and finished ready for use. The door shall have a 45 mm x 145 mm polished hardwood frame, two 40 mm thick panels, with 275 mm wide top and bottom rails and 300 mm wide intermediate rails, and a fanlight fitted with 8 mm clear glass and 150 mm x 50 mm architraves. It shall be fitted with a cylinder mortice lock with escutcheons as per Häfele or equal approved, stainless steel pull handles 800 mm long on back plates, three pairs of 100 mm x 75 mm stainless steel ball bearing hinges, two 38 mm diameter rubber door stoppers floor mounted, two stainless steel flush bolts, and a medium-duty door closer. All to be properly installed and finished to the approval of the Engineer/supervisor	Sliding/rolling gate overall size 2100 mm high x 4050 mm wide, fabricated from mild steel square hollow sections, complete with frame, infill members, guide rails, rollers, stoppers, locking arrangement and all necessary ironmongery, assembled, fixed and finished ready for use. The gate shall be constructed with a 75 mm x 75 mm x 3 mm thick outer frame, with internal vertical and horizontal members of 40 mm x 40 mm x 2 mm thick square hollow sections, including intermediate stiffening members as required to prevent deflection. The gate shall be mounted on heavy-duty rollers running on a steel track with top guide rollers for stability, and provided with suitable locking system, end stops and handles. All steelwork shall be cleaned, treated with anti-rust primer and finished with two coats of approved paint, complete and properly installed to the approval of the Architect.
TYPE	D6	D3	D7
ELEVATION			
DOOR SIZE	1,700mm High by 1300mm Wide	850mm High by 2100mm Wide	2100mm High by 4050mm Wide
LOCATION	StorageRoom	Wet Lab & Lab office	Kitchen
QUANTITY	1 Number	02 Numbers	1 Number



Stone masonry

Distance lake-soakaway - chekc regulations

NOTE

1. SEPTIC TANKS
 a. Septic Tanks must be constructed not less than 6m from the nearest building and must be vented back through incoming drain by providing with stack duly fitted with mosquito proofed screens
 b. Septic Must be constructed proofed (Water Tight) by adding "PUBLO" or some other water proofing agent or mas s concrete and rendering

2. SOAKAWAY PIT
 a. PERCOLATION FACTOR
 Is the time (In min) taken by clear water to seep in a certain soil in a depth of one centimeter
 To ascertain a percolation factor
 1.) Dig a hole about 30x30cm size to the required depth of trench
 2.) Keep the wall filled with clear water for four hours so as to saturate the surrounding soil
 3.) Pour in clear water to fill the hole to a depth about 20cm
 4.) Note the time taken by the water to soakaway
 5.) To calculate the percolation factor , Divide the time period in (Min) by the depth of water in (cm)

3. GENERAL NOTE
 a. All dimensions are in mm except where mentioned otherwise
 b. All house hold and solid wastes are to be taken to septic tanks where connections to main sewers have been planned normally the soil wastes only are taken by the septic tanks except in the case as above while all other household wastes are dealt with separately and disposed of directly into soakage pit

4. CONCRETE WORKS
 a. For all reinforced concrete works the mixing shall be 1:2:4 by volume
 b. For all mass concrete the mixing shall be 1:3:6 by volume except mass concrete in septic tank where it shall be 1:2:4 by volume

5. PERCOLATION FACTORS
 Values less than 1.5 use sizes of soakage trenches , soakage pits and soakaways are given for percolations factors equal to greater than 1.5

type	all wastes no. of users	no. of soil wastes users	dimension (m)			volume m ³	capacity litres
			L	W	D		
1		10	2.00	1.00	1.30	2.60	2.00
2	7	20	2.20	1.00	1.50	3.30	3.30
3	15	30	2.50	1.20	1.70	5.10	5.100
4	30	45	3.00	1.30	1.80	7.02	7.020
5	40	60	3.40	1.50	1.80	9.18	9.180
6	50	75	3.70	1.60	1.80	10.66	10.66
7	60	90	4.20	1.70	1.80	12.85	12.85
8	75	105	4.50	1.80	2.00	16.20	16.200
9	85	120	4.80	1.80	2.00	17.28	17.280

type	all wastes no. of users	soil wastes no. of users	diameter of soakaway (metres)					
			percolation factors					
			1.5	3.5	6.5	10	13	20
1		10						
2	7	20	2.80	3.10	3.50	3.80	4.00	4.80
3	15	30						
4	30	45	3.10	3.70	4.30	4.80	5.30	5.70
5	40	60						
6	50	75	3.40	4.10	4.70	5.30	6.00	6.30
7	60	90						
8	75	105	3.70	4.40	5.10	5.70	6.30	6.70
9	85	120						

Enabel

Wallonia

TAKIWAMA PROJECT

CONSTRUCTION AND REHABILITATION OF NSUMBU SATELLITE MONITORING CENTER

BENEFICIARY	DEPARTMENT OF FISHERIES & LIVESTOCK MPULUNGU
DONOR	FUNDED BY THE REGION OF WALLONIA THROUGH ENABEL

BUILDING TYPE

KITCHEN

GENERAL NOTES:

1. All dimensions are in mm

2. Depth of foundation may change due to subsoil condition

3. Scale : Not to scale

Drawing Title	SOAK PIT & SEPTIK
Date	March 2026
Scale	1:85
Design by	
Checked by	
Approved by	