

Building Engineering (A.Y. 24-25)

Tutor: Marika Mangosio

Umberto Mecca

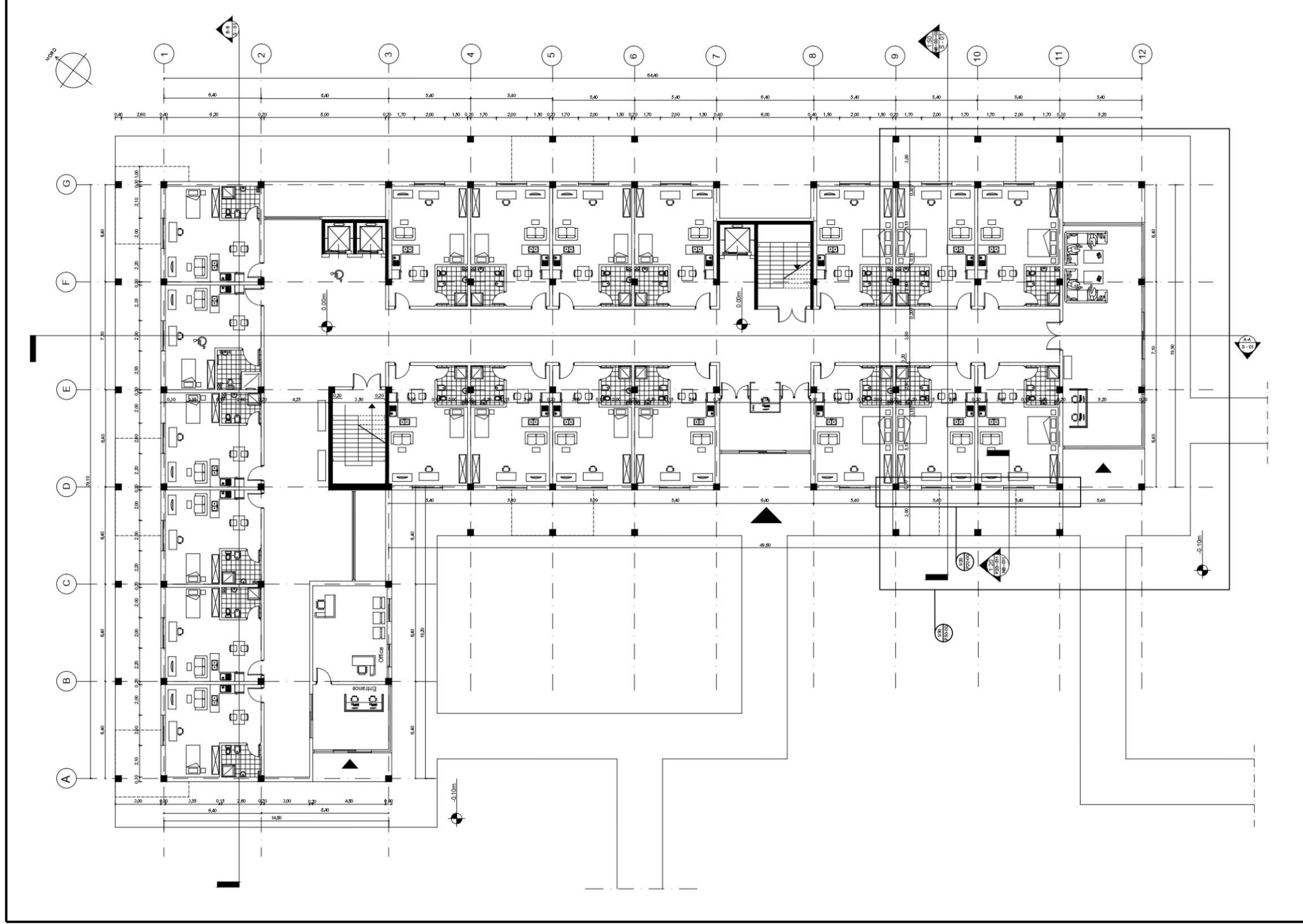
Candidate: Seyed Shahaboddin Ghiasi


Integrating cost estimation
analysis and design strategies
in the adaptive reuse of a
historical building:
the case study of ex-Perotti
Barracks in Bologna

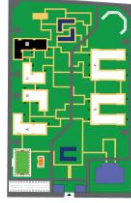


■ New building
■ Adoptive reuse
building

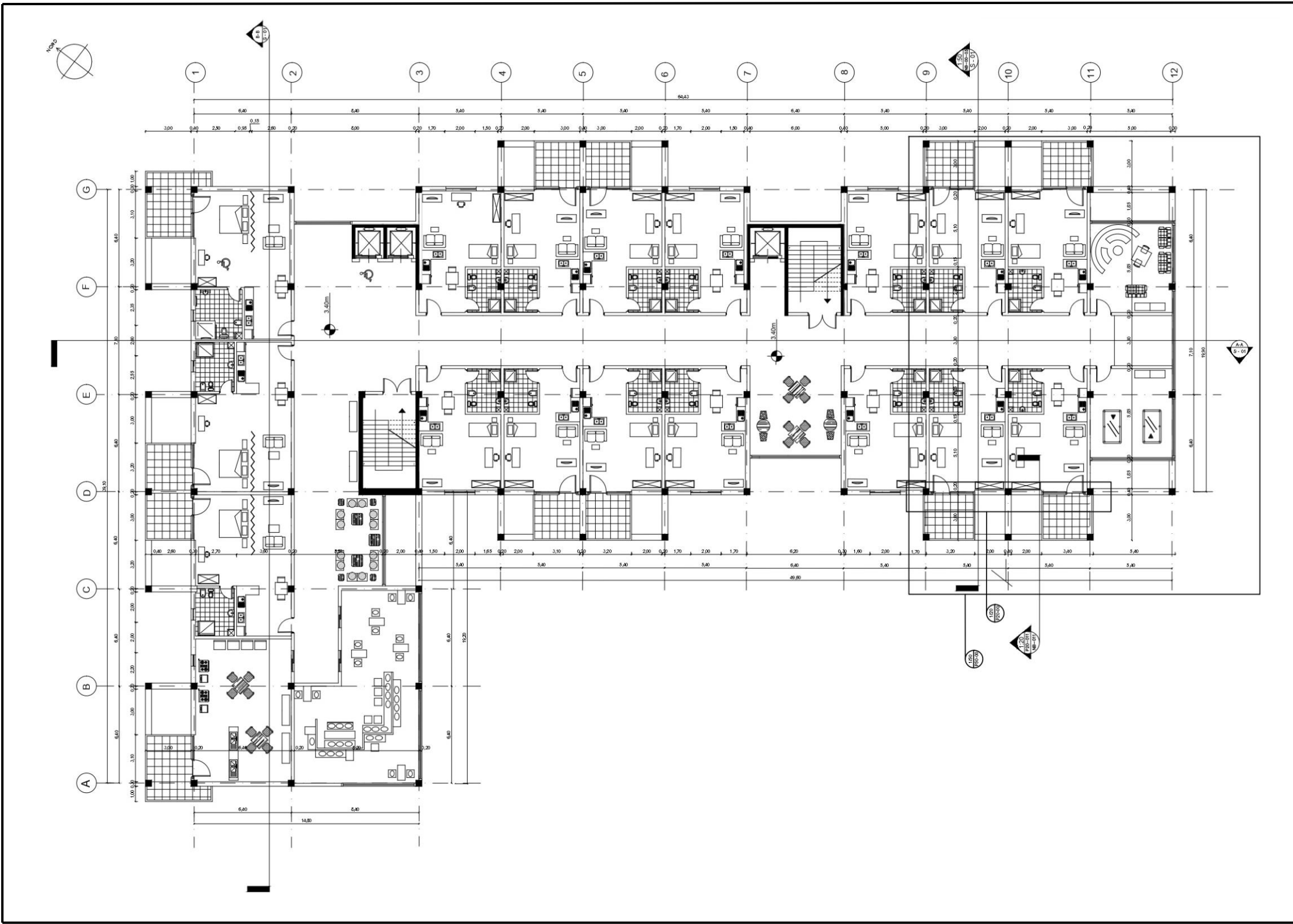
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Project number:	MP - 00
Date:	24.11.2025
	PM - 00
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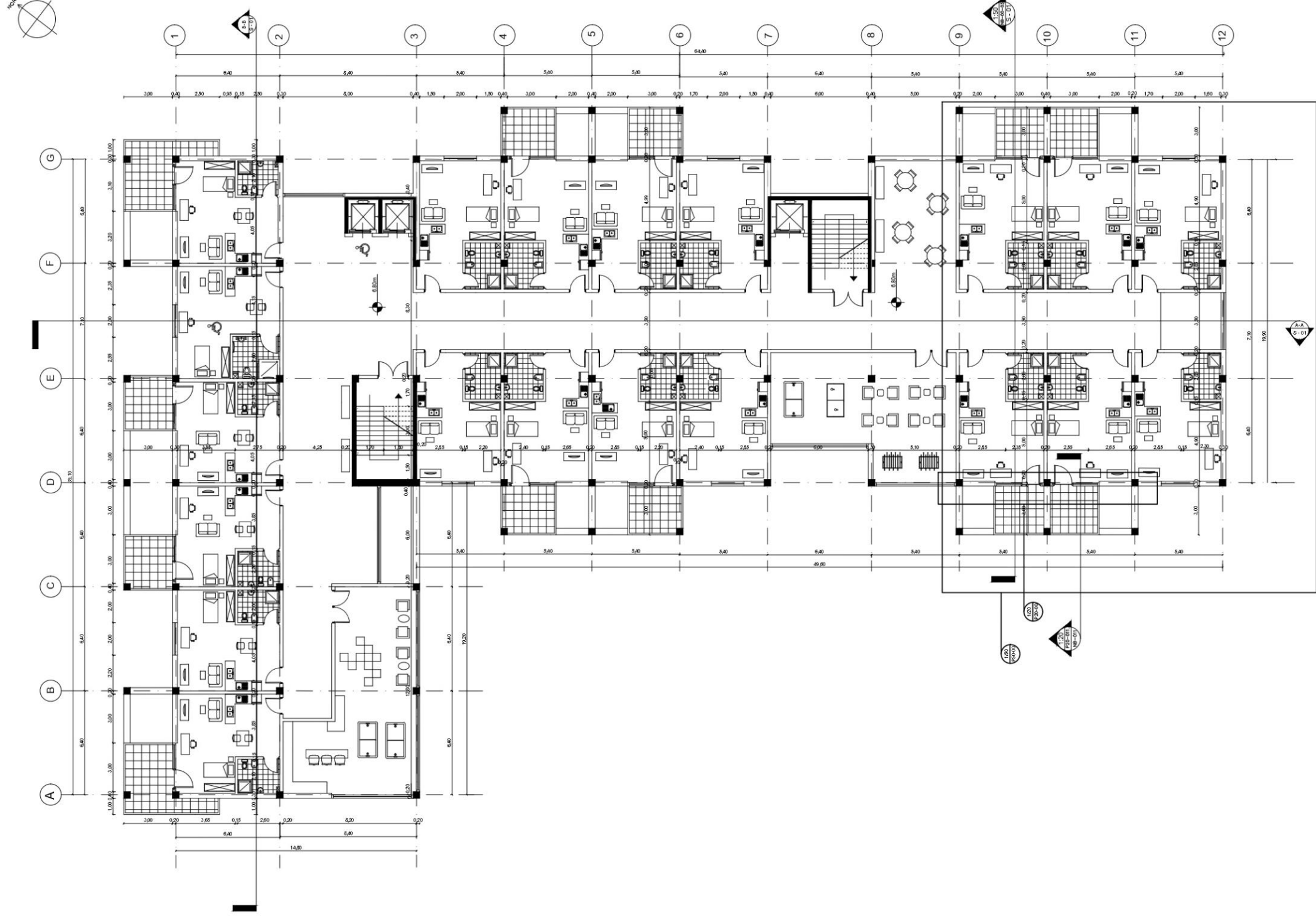


 Building Engineering (A.Y. 24-25) Tutor: Marika Mangosio Umberto Mecca Candidate: Seyed Shahaboddin Ghiasi	Title: Ground floor DIM	
	Project number:	NB - 00
	Date:	24.11.2025
	P - 00	
	Scale:	1:100



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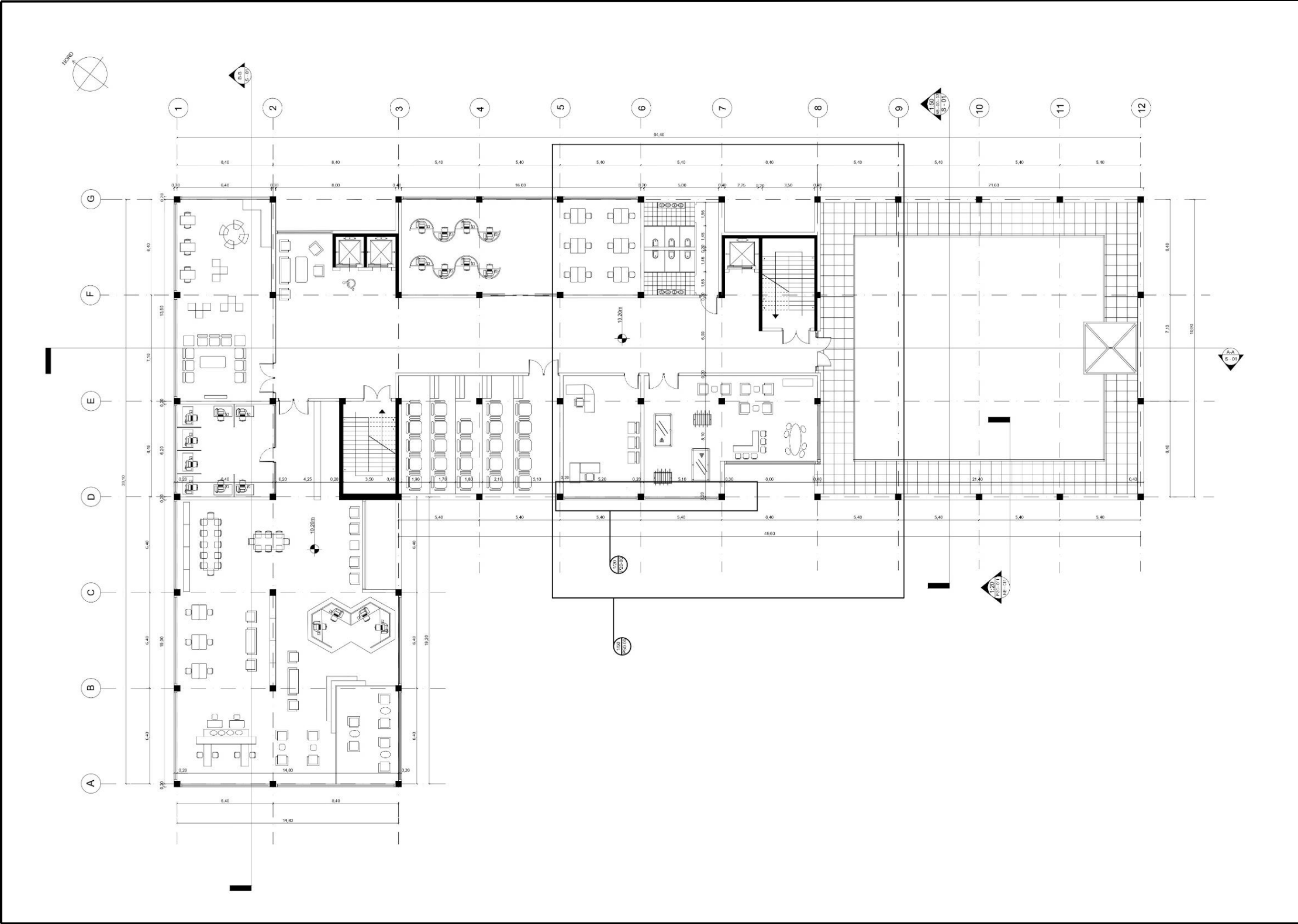





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Title:	Second floor DIM
Project number:	NB - 02
Date:	24.11.2025
	P - 02
Scale:	1:100



 Politecnico di Torino Building Engineering (A.Y. 24-25) Tutor: Marika Mangosio Umberto Mecca Candidate: Seyed Shahaboddin Ghiasi	<p>Integrating cost estimation analysis and design strategies in the adaptive reuse of a historical building: the case study of ex-Perotti Barracks in Bologna</p>	 	<table><tr><td>Title:</td><td>Third floor DIM</td></tr><tr><td>Project number:</td><td>NB - 03</td></tr><tr><td>Date:</td><td>24.11.2025</td></tr><tr><td></td><td>P - 03</td></tr><tr><td>Scale:</td><td>1:100</td></tr></table>	Title:	Third floor DIM	Project number:	NB - 03	Date:	24.11.2025		P - 03	Scale:	1:100
Title:	Third floor DIM												
Project number:	NB - 03												
Date:	24.11.2025												
	P - 03												
Scale:	1:100												



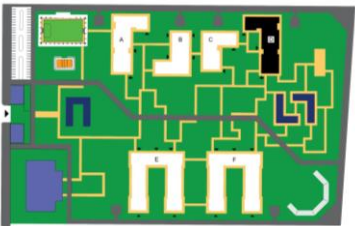
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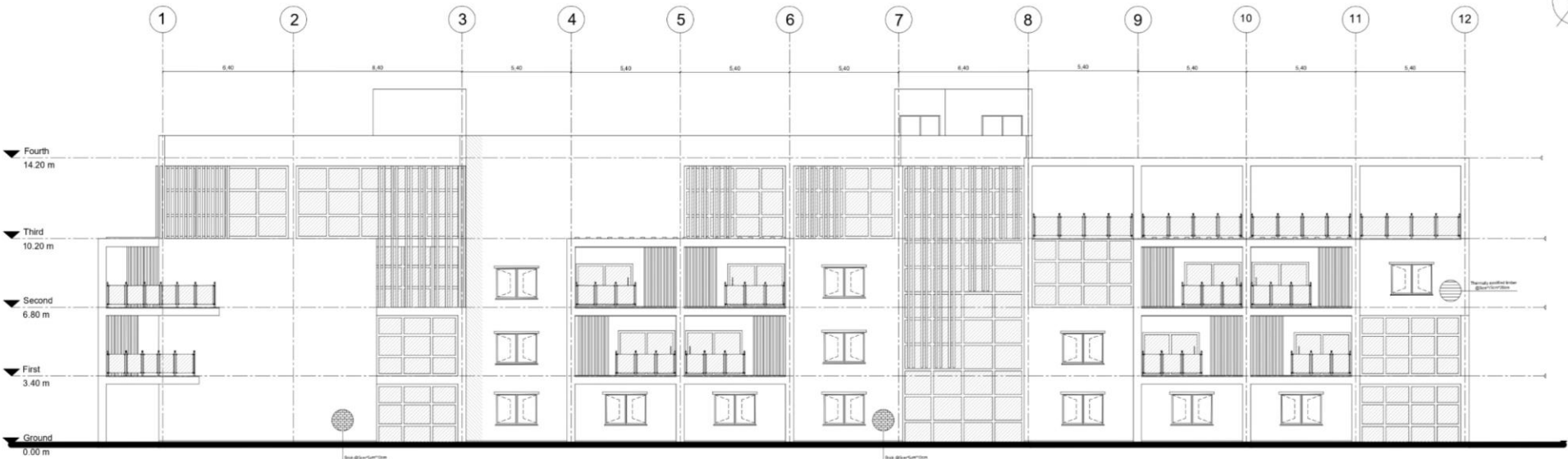
Title: Elevation DIM
West - East

Project number: NB - 04

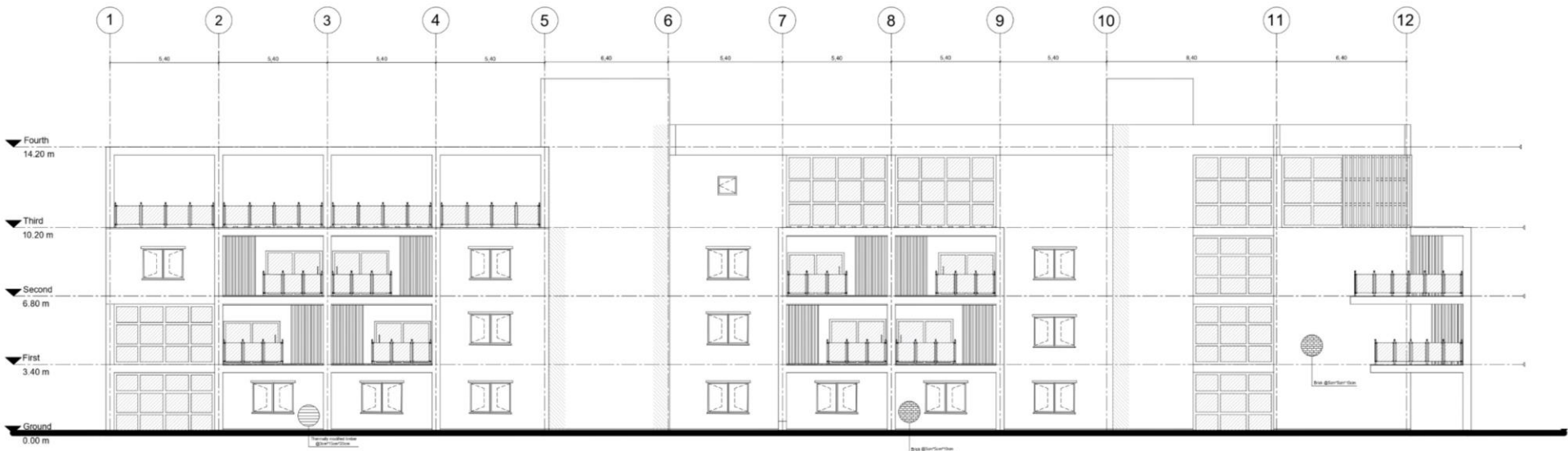
Date: 24.11.2025

E - 01

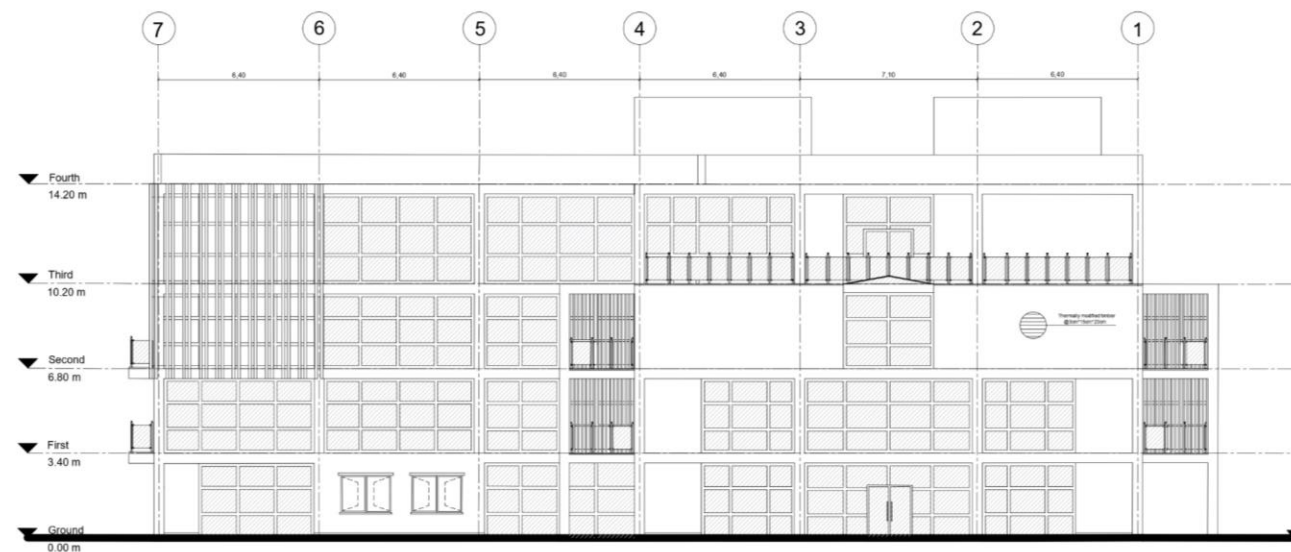
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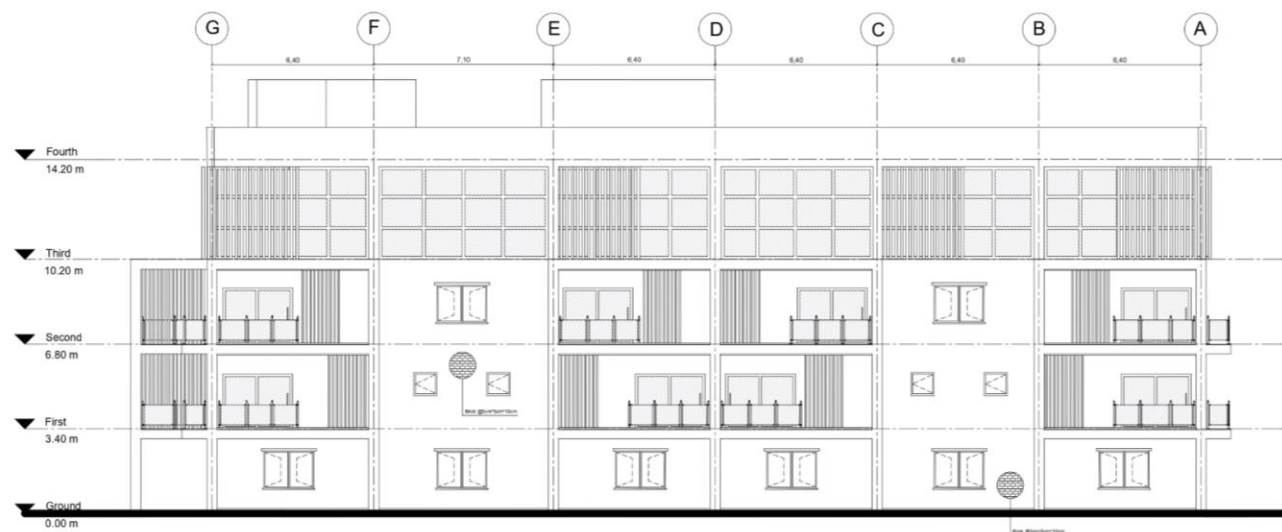
BUILDING A
ELEVATION WEST



BUILDING A
ELEVATION EAST



BUILDING A
ELEVATION SOUTH



BUILDING A
ELEVATION NORTH



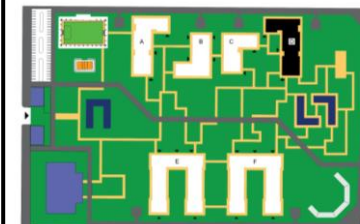
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Title: Elevation DIM
North - South

Project number: NB - 04

Date: 24.11.2025

E - 02

Scale: 1:100



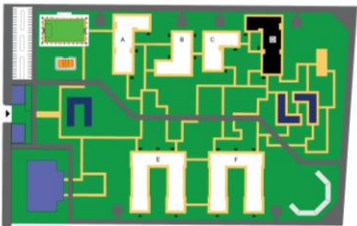
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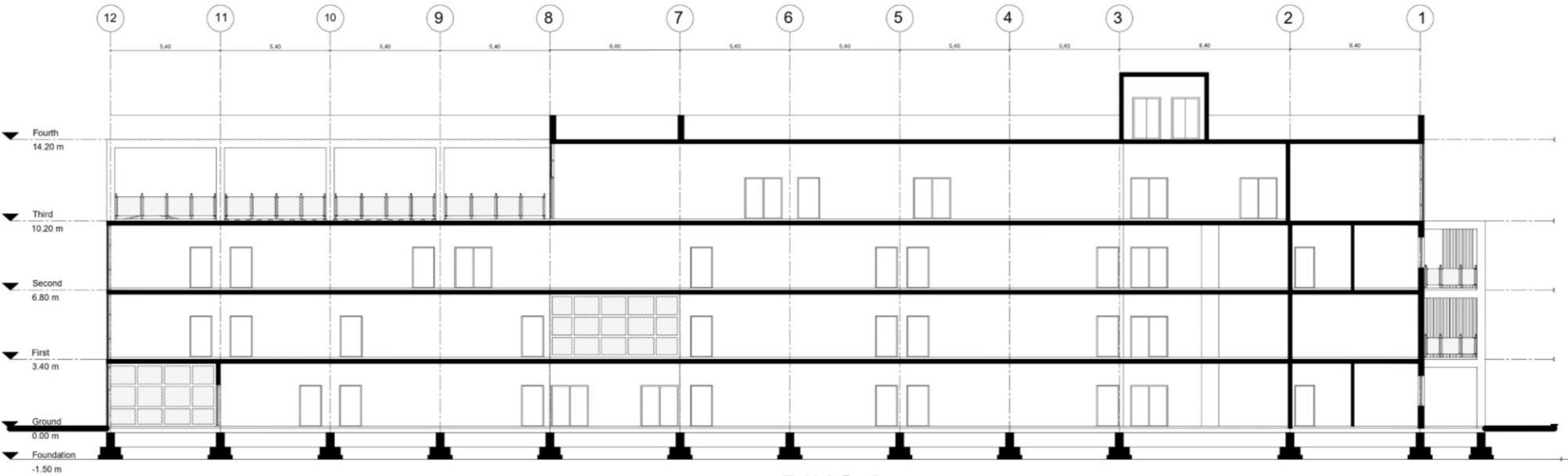
Title: Section DIM
(A- A) – (B – B)

Project number: NB - 02

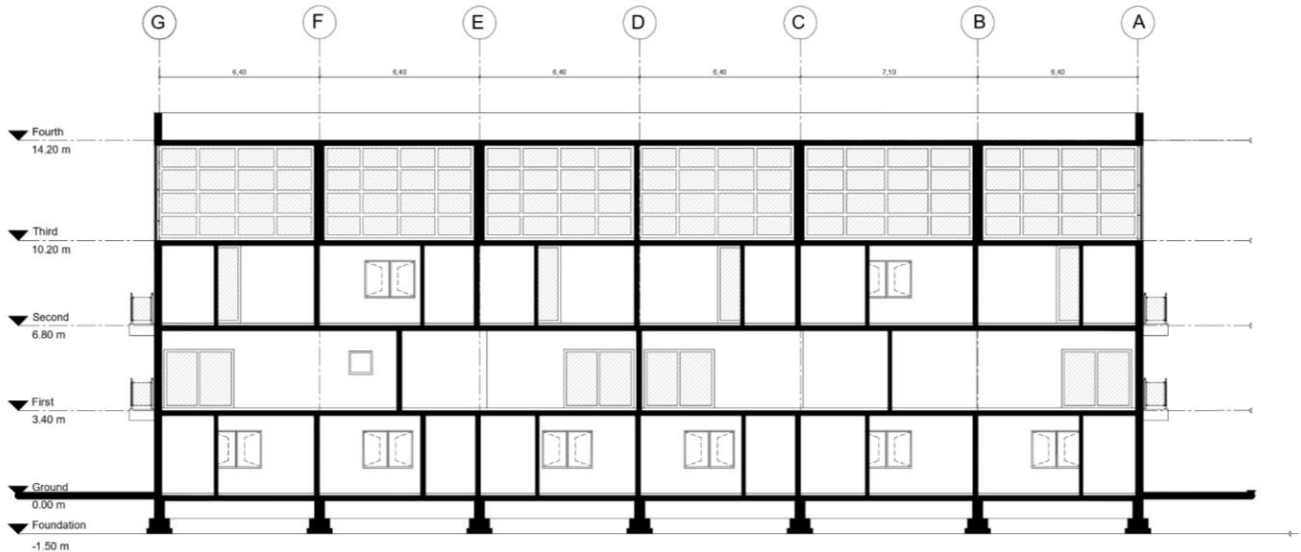
Date: 24.11.2025

S - 01

Scale: 1:100



BUILDING A
SECTION A-A



BUILDING A
SECTION B-B



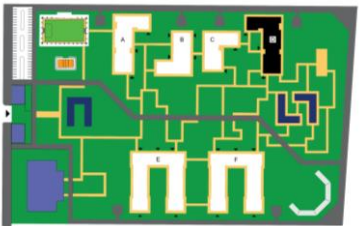
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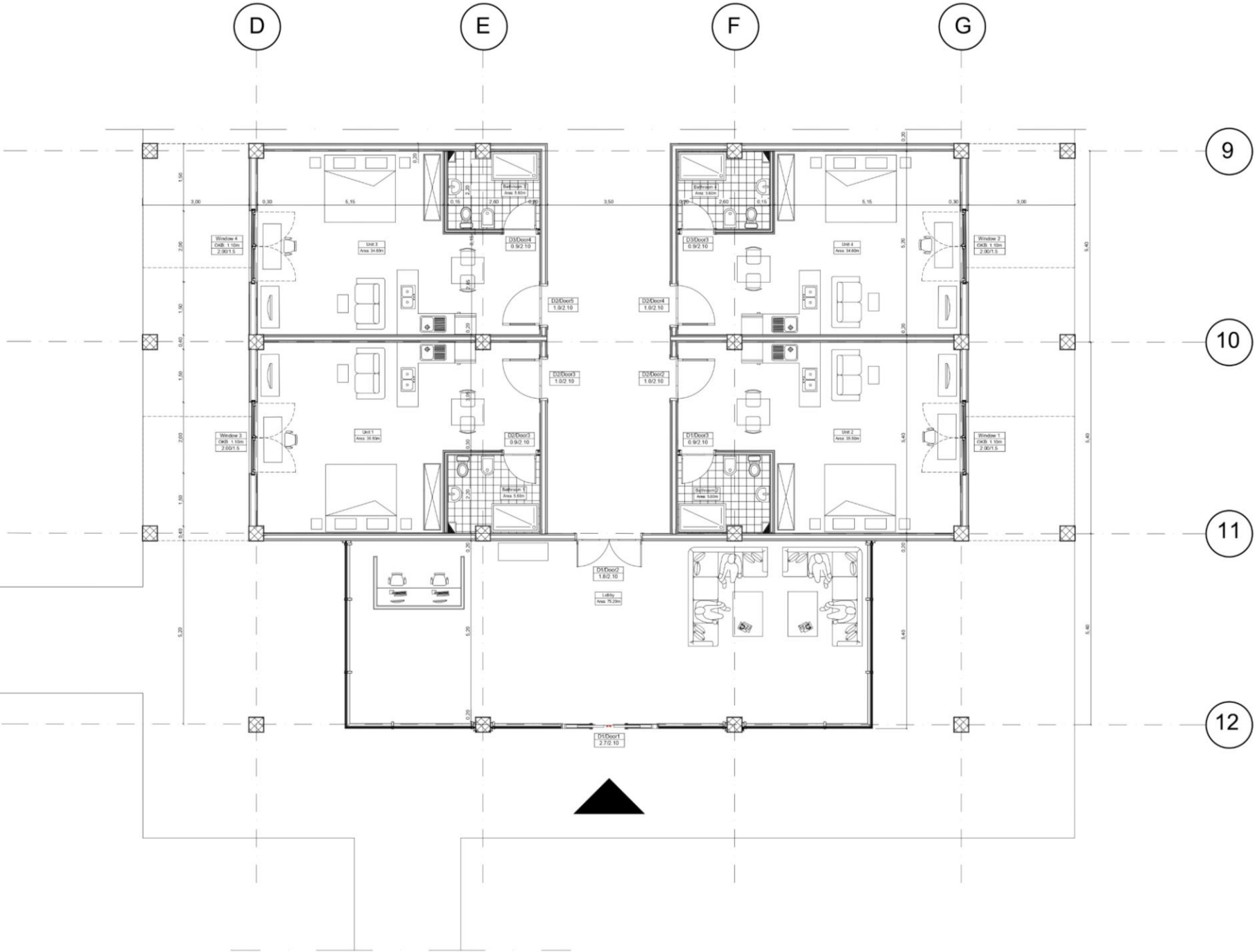
Title: Ground floor DIM

Project number: NB - 00

Date: 24.11.2025

P50 - 00

Scale: 1:50

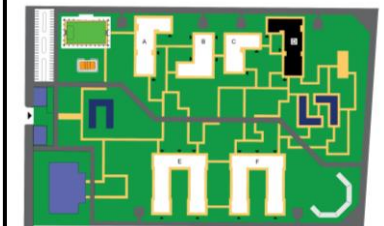




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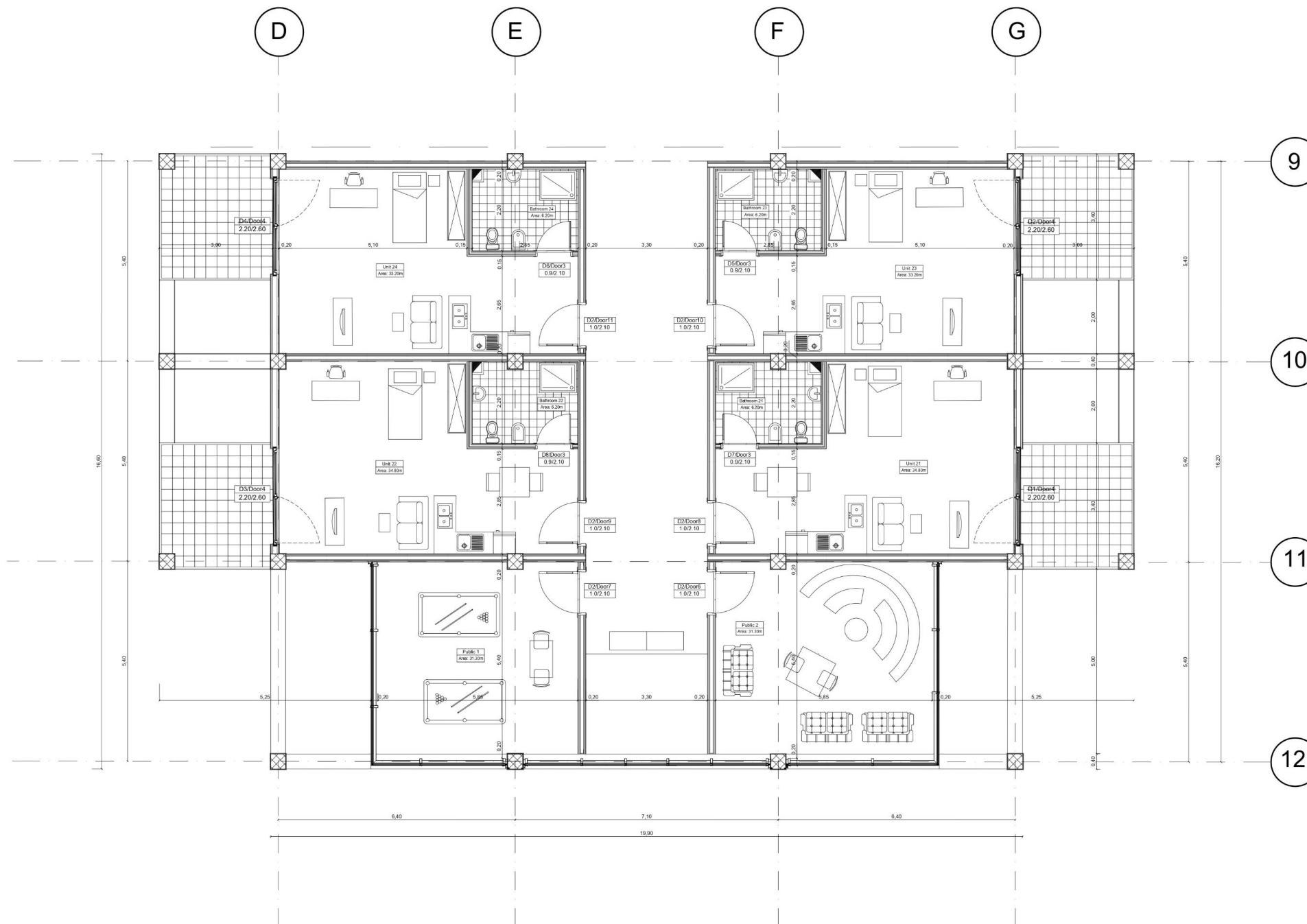
Title: First floor DIM

Project number: NB - 01

Date: 24.11.2025

P50 - 01

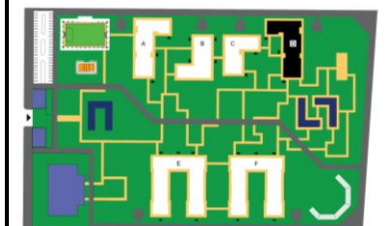
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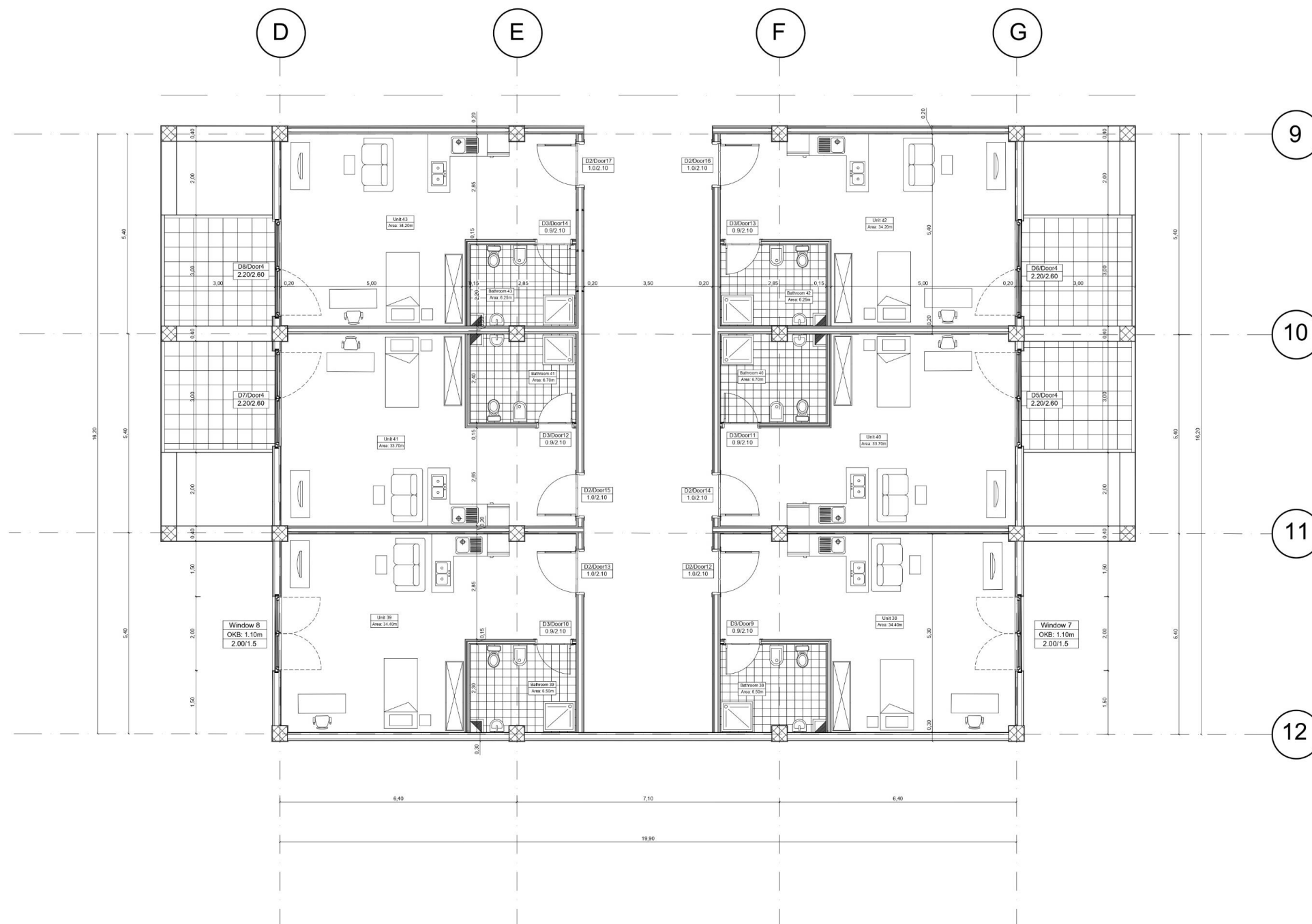
Title: Second floor DIM

Project number: NB - 02

Date: 24.11.2025

P50 - 02

Scale: 1:50





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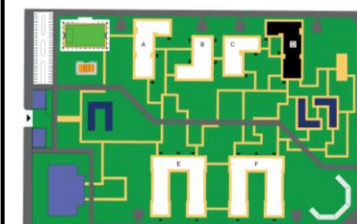
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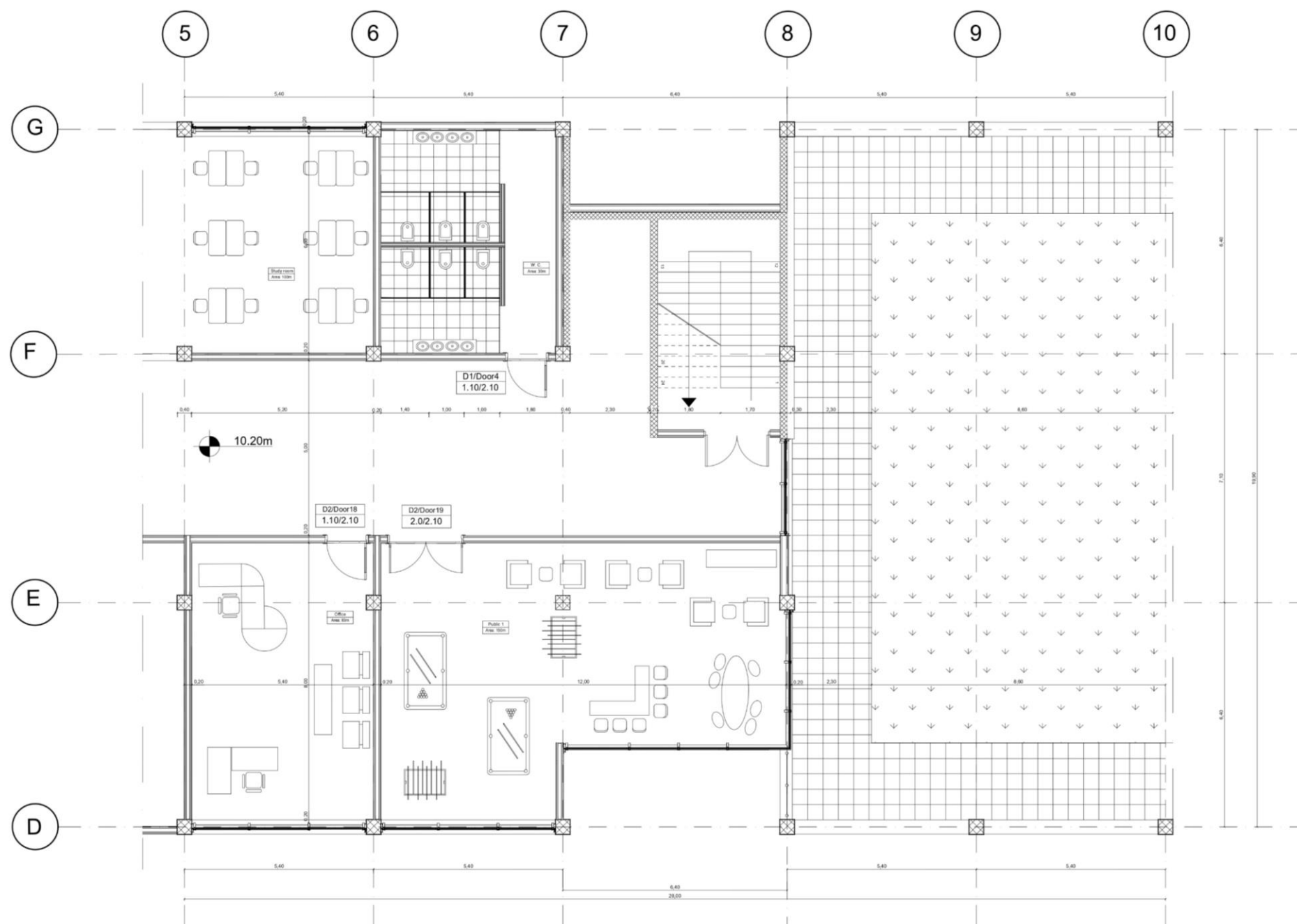
Title: Third floor DIM

Project number: NB - 03

Date: 24.11.2025

P50 - 03

Scale: 1:50





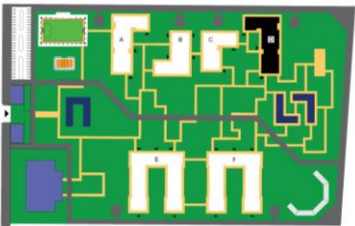
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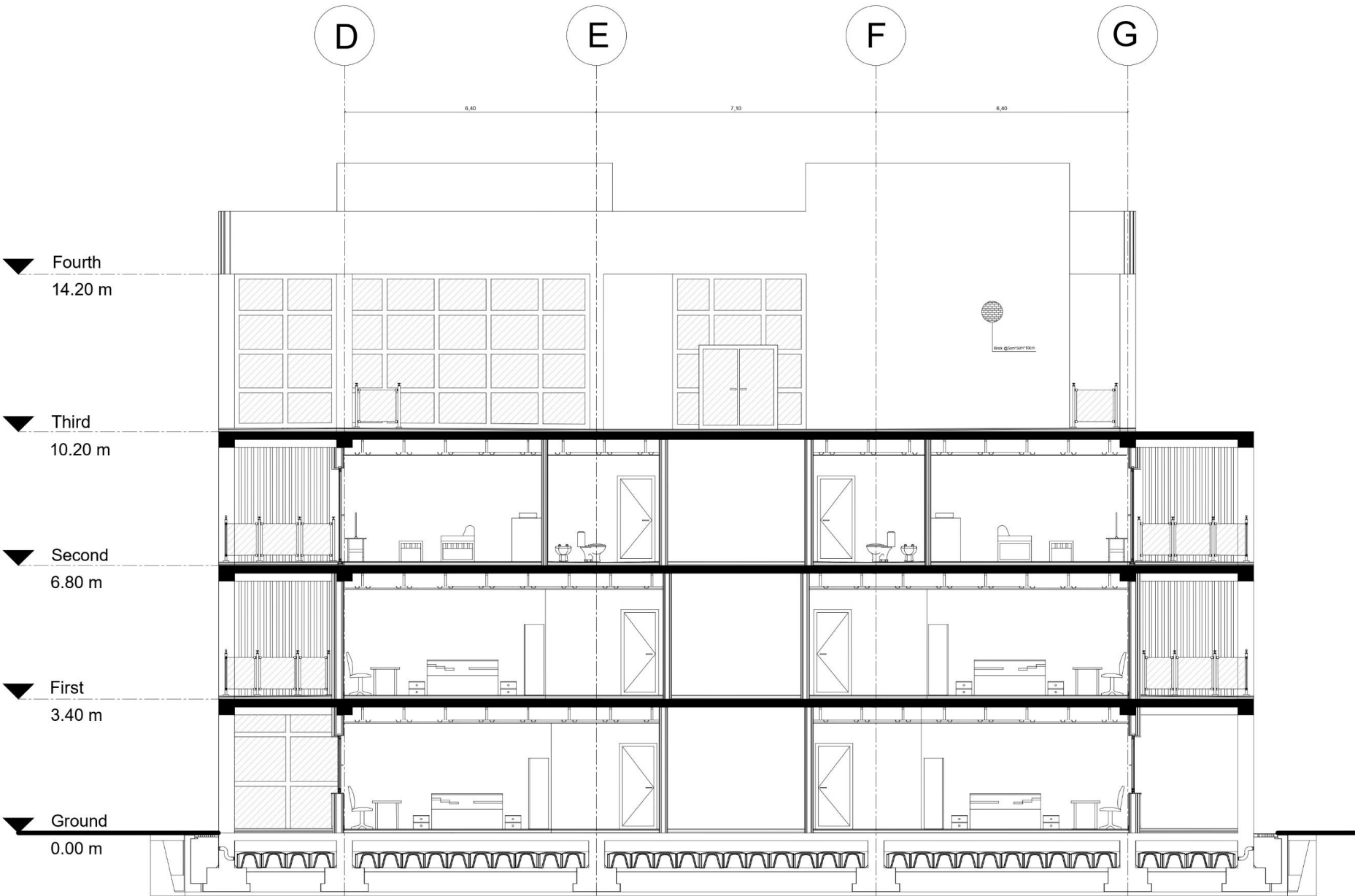
Title: Section DIM

Project number: NB – 00 - 03

Date: 24.11.2025

S - 01

Scale: 1:50





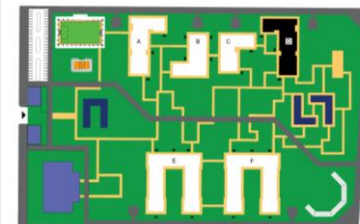
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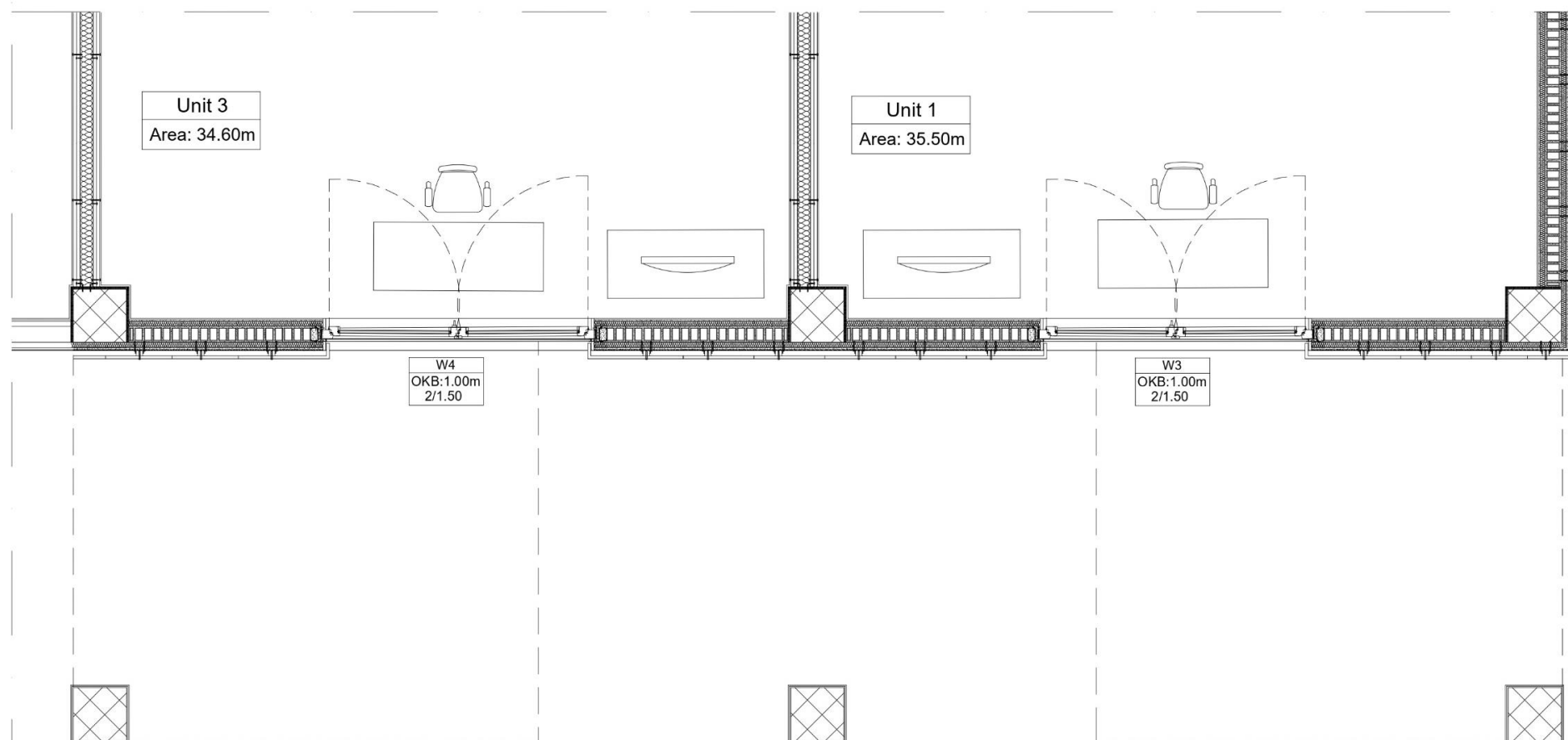
Title: Ground floor DIM

Project number: NB – 00

Date: 24.11.2025

P20 - 00

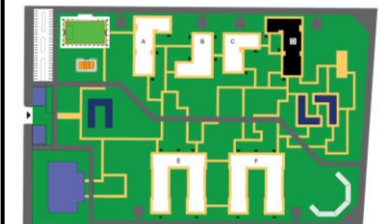
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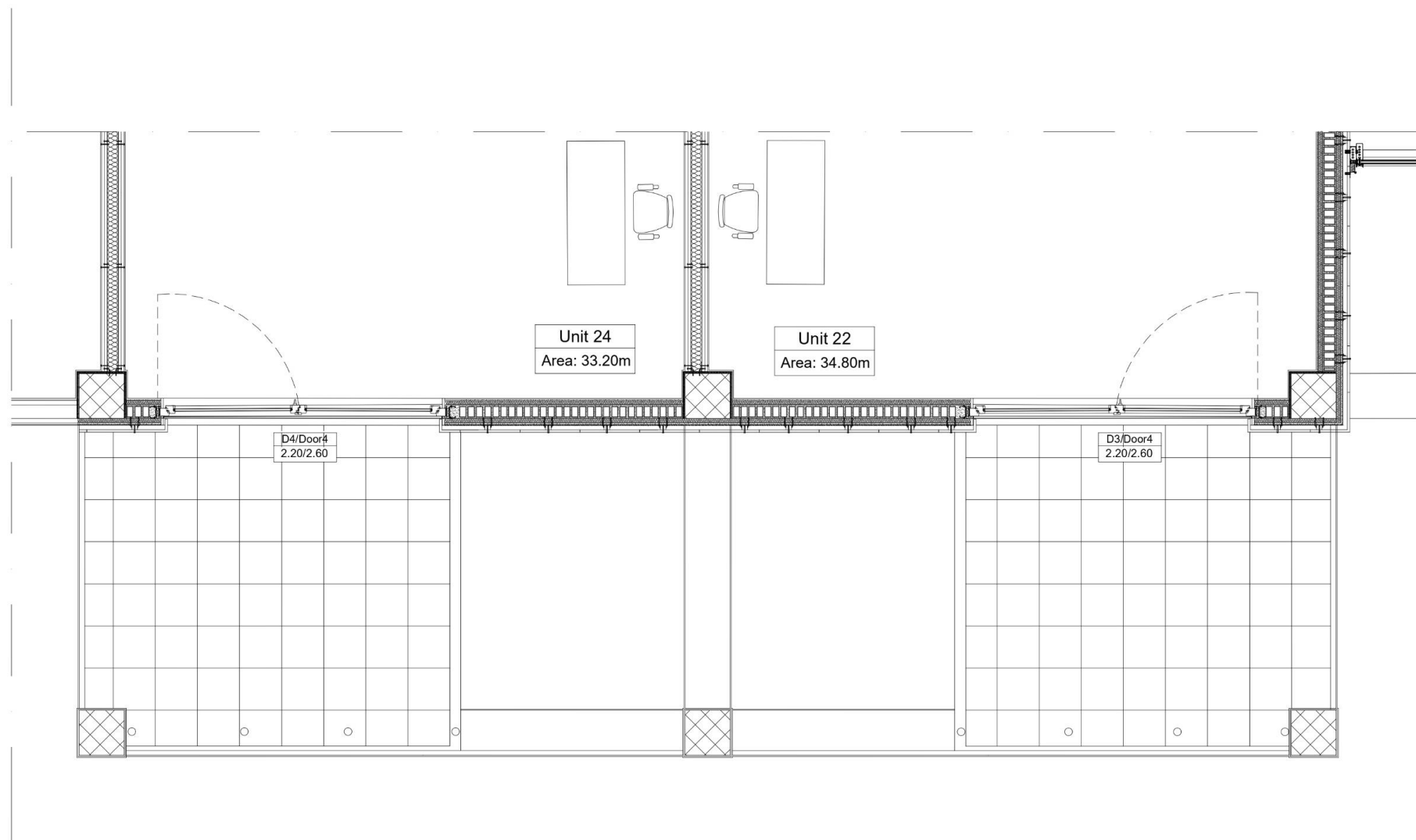
Title: First floor DIM

Project number: NB – 01

Date: 24.11.2025

P20 - 01

Scale: 1:20





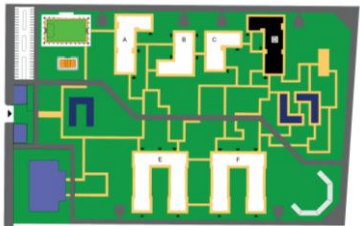
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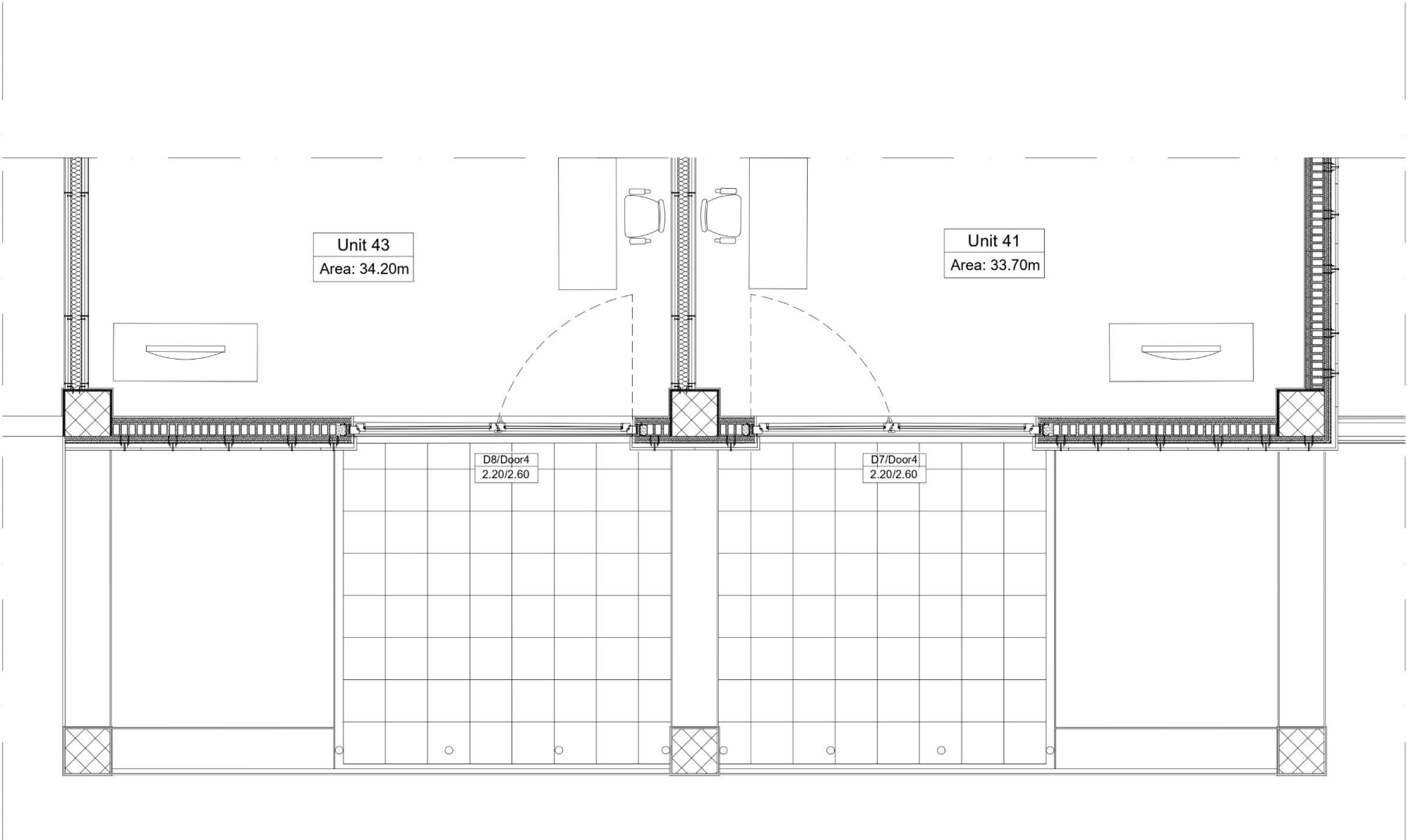
Title: Second floor DIM

Project number: NB – 02

Date: 24.11.2025

P20 - 02

Scale: 1:20

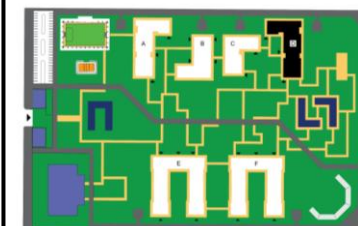




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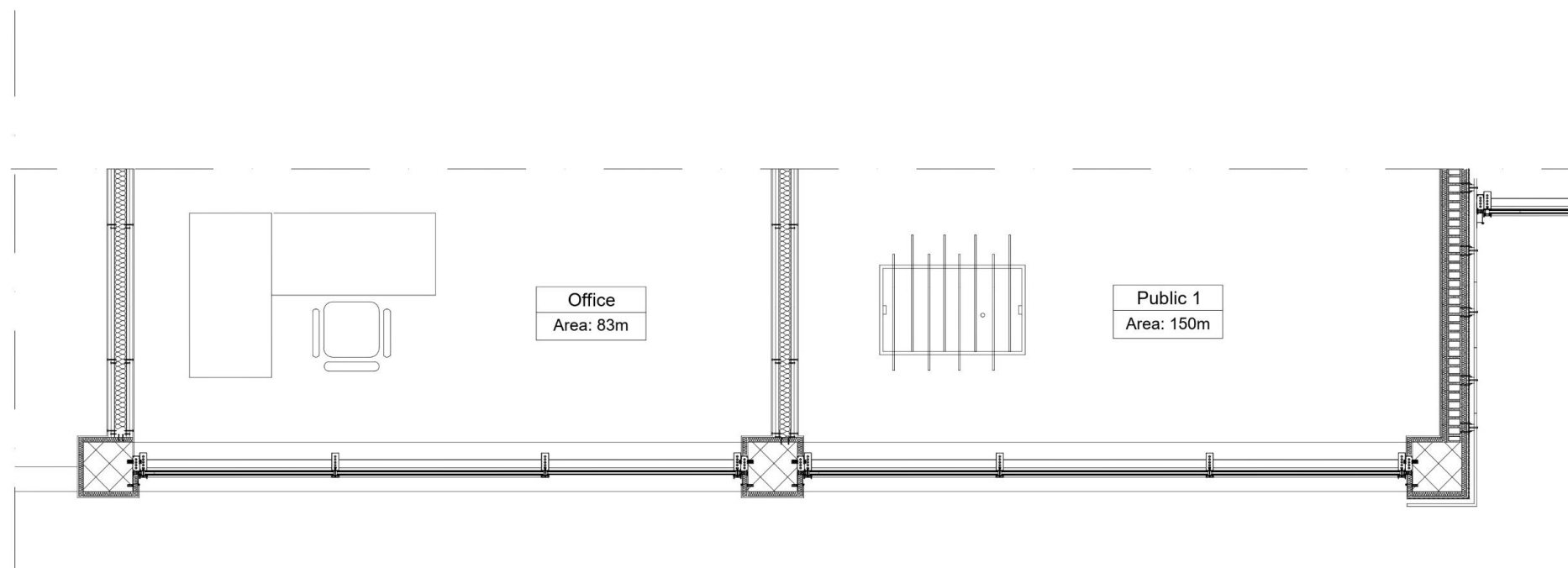
Title: Third floor DIM

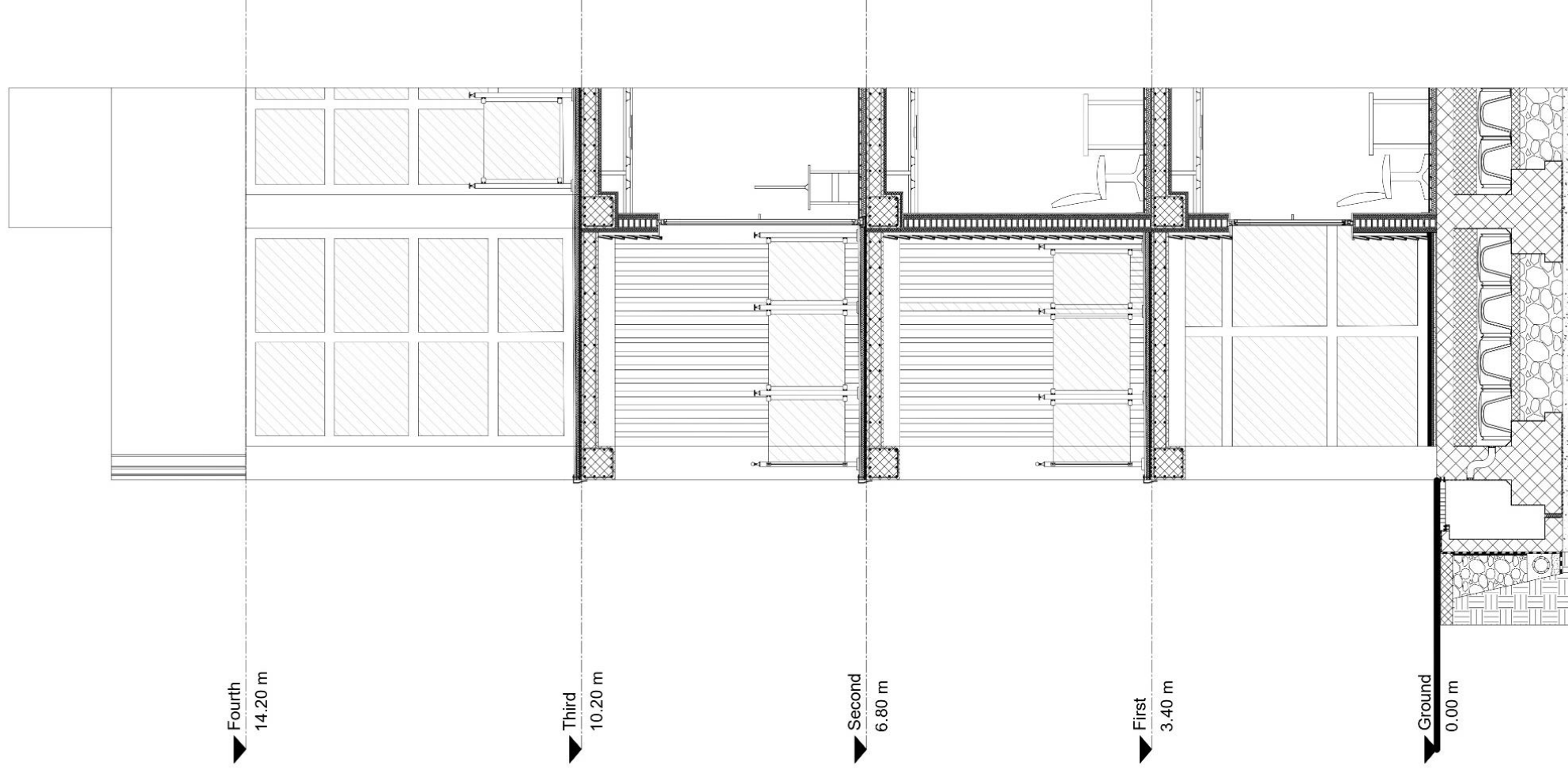
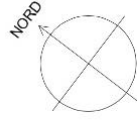
Project number: NB – 03

Date: 24.11.2025

P20 - 03

Scale: 1:20





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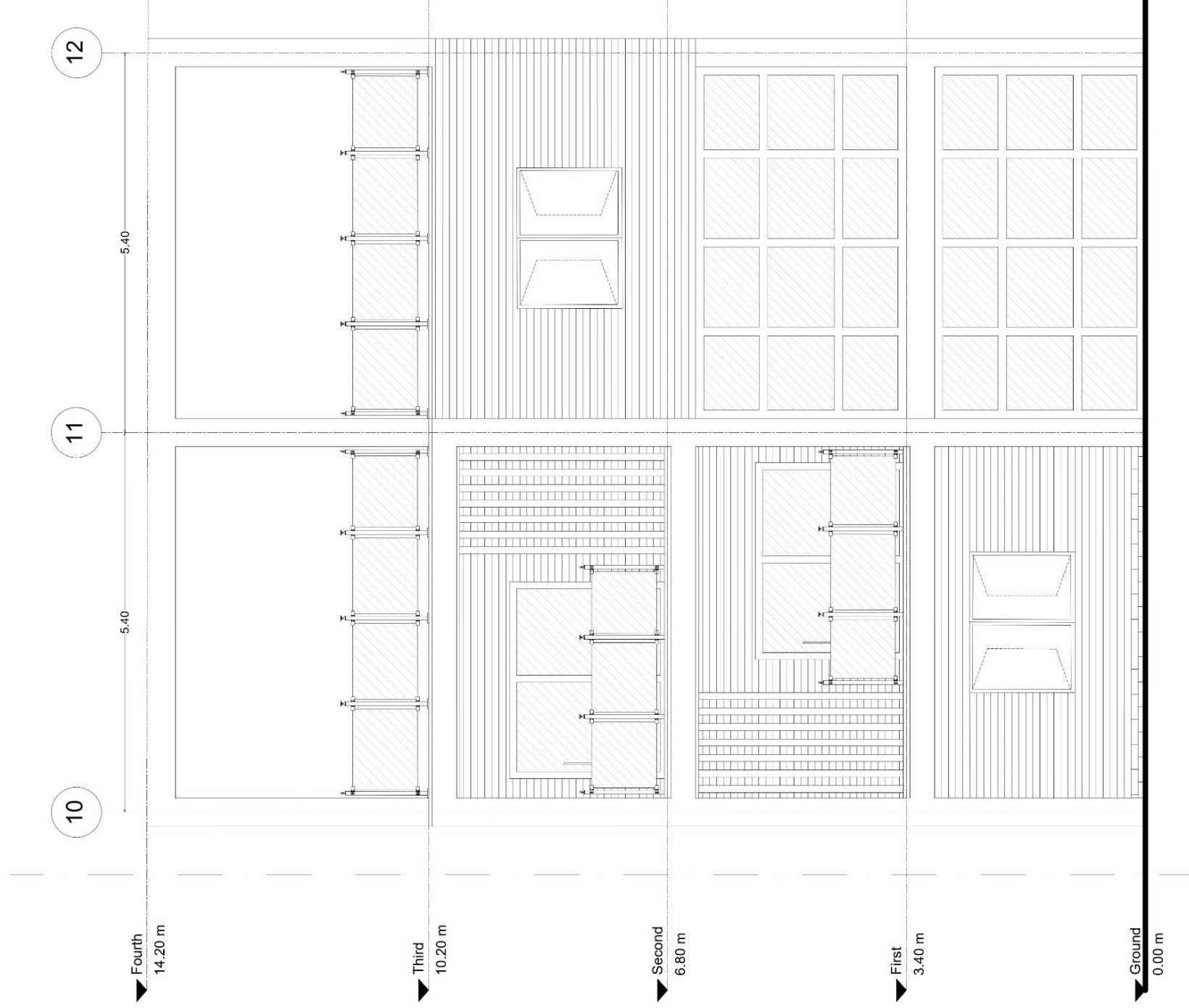
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Title:	Section DIM (West)
Project number:	NB - 011
Date:	24.11.2025
	P20 - 011
Scale:	1:20



Tutor: Marika Mangosio

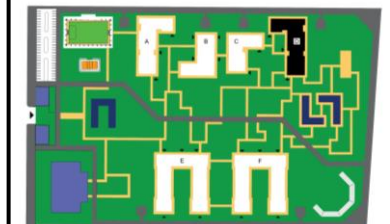
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1:20

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Title: Detail DIM

Project number: DB – 02

Date: 24.11.2025

D - 02

Scale: 1:5

A - Node3

DET: Balcony

- 1A Ceramic tile 20mm
- 2A Mortar 20mm
- 3A Light concrete 30mm
- 4A Thermal insulation 20mm
- 5A Waterproofing membrane 10mm
- 6A Steel bolt

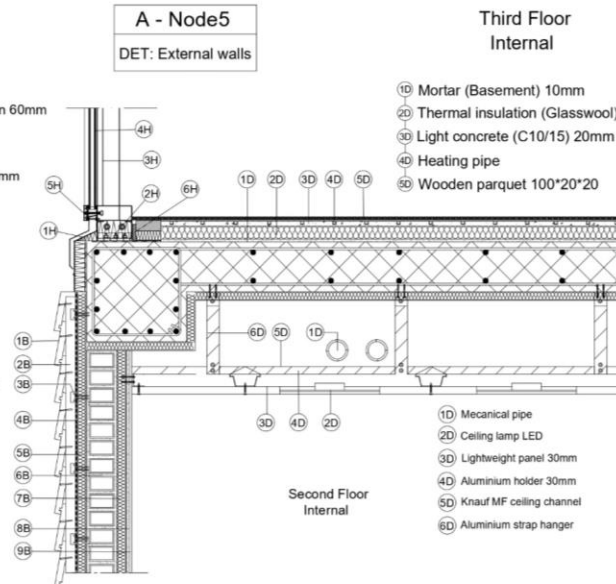


A - Node5

DET: External walls

- 1H Thermal bridge insulation 60mm
- 2H Steel bolt (connection)
- 3H Holder 20mm
- 4H Double glazing glass 40mm
- 5H Mullion 200mm
- 6H Steel stud 20mm

- 1B Wood panel (TMT) 30mm
- 2B Wooden stud substructure 40mm
- 3B Steel angle bar 20mm
- 4B Waterproofing membrane 10mm
- 5B Polystyrene insulation 40mm
- 6B Light concrete block 120mm
- 7B Rockwool insulation 40mm
- 8B Mortar 10mm
- 9B Plaster 10mm

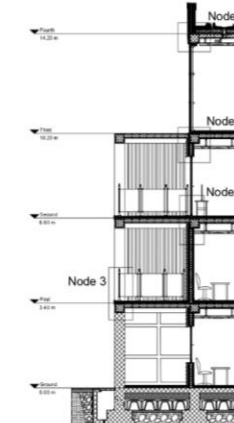


Third Floor
Internal

- 1D Mortar (Basement) 10mm
- 2D Thermal insulation (Glasswool) 55mm
- 3D Light concrete (C10/15) 20mm
- 4D Heating pipe
- 5D Wooden parquet 100*20*20

Second Floor
Internal

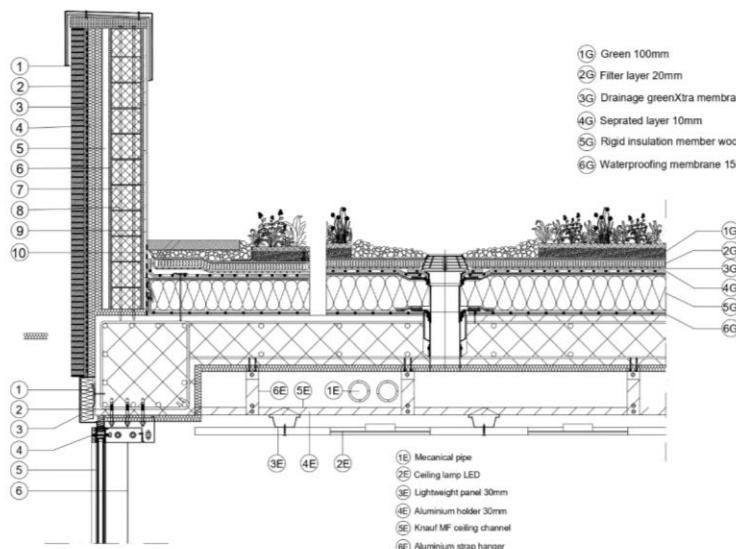
- 1D Mecanical pipe
- 2D Ceiling lamp LED
- 3D Lightweight panel 30mm
- 4D Aluminium holder 30mm
- 5D Knauf MF ceiling channel
- 6D Aluminium strap hanger



A - Node6

DET: Parapet

- 1 Outer brick 50mm
- 2 Mortar 10mm
- 3 Waterproofing membrane 10mm
- 4 Insulation (Rockwool) 60mm
- 5 Cavity 20mm
- 6 Mortar 10mm
- 7 Light concrete block 120mm
- 8 Rebar (6)
- 9 Mortar 10mm
- 10 Plaster 10mm



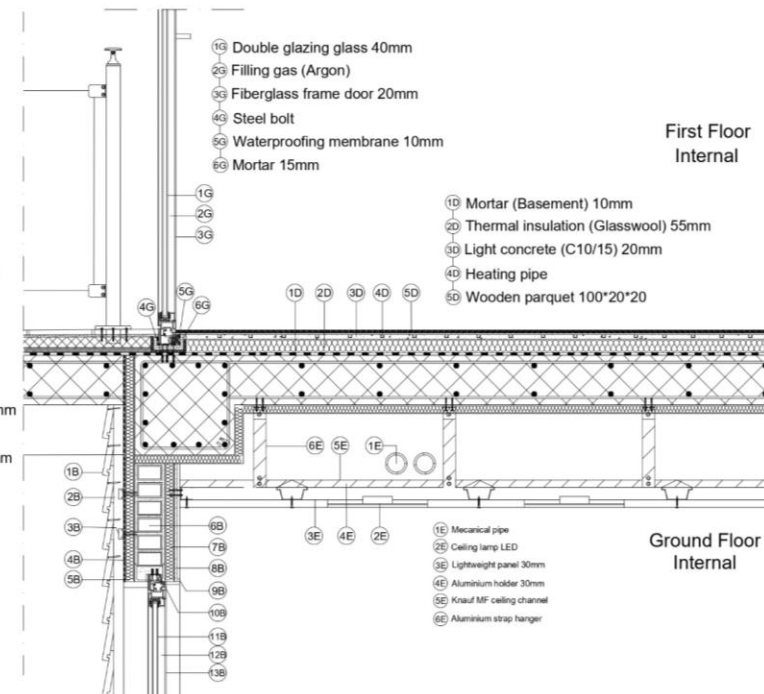
A - Node4

DET: Upper
window and Wall

- 1G Green 100mm
- 2G Filter layer 20mm
- 3G Drainage greenXtra membrane 30mm
- 4G Seprated layer 10mm
- 5G Rigid insulation member wood fiber 70mm
- 6G Waterproofing membrane 15mm

- 1B Wood panel (TMT) 30mm
- 2B Wooden stud substructure 40mm
- 3B Steel angle bar 20mm
- 4B Waterproofing membrane 10mm
- 5B Polystyrene insulation 40mm
- 6B Light concrete block 120mm
- 7B Rockwool insulation 40mm
- 8B Mortar 10mm
- 9B Plaster 10mm
- 10B Steel bolt
- 11B Double glazing glass 40mm
- 12B Filling gas (Argon)
- 13B Fiberglass frame door 20mm

External



First Floor
Internal

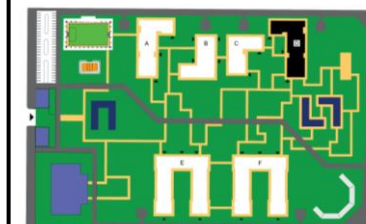
- 1G Double glazing glass 40mm
- 2G Filling gas (Argon)
- 3G Fiberglass frame door 20mm
- 4G Steel bolt
- 5G Waterproofing membrane 10mm
- 6G Mortar 15mm

- 1D Mortar (Basement) 10mm
- 2D Thermal insulation (Glasswool) 55mm
- 3D Light concrete (C10/15) 20mm
- 4D Heating pipe
- 5D Wooden parquet 100*20*20

Ground Floor
Internal

- 1E Mecanical pipe
- 2E Ceiling lamp LED
- 3E Lightweight panel 30mm
- 4E Aluminium holder 30mm
- 5E Knauf MF ceiling channel
- 6E Aluminium strap hanger

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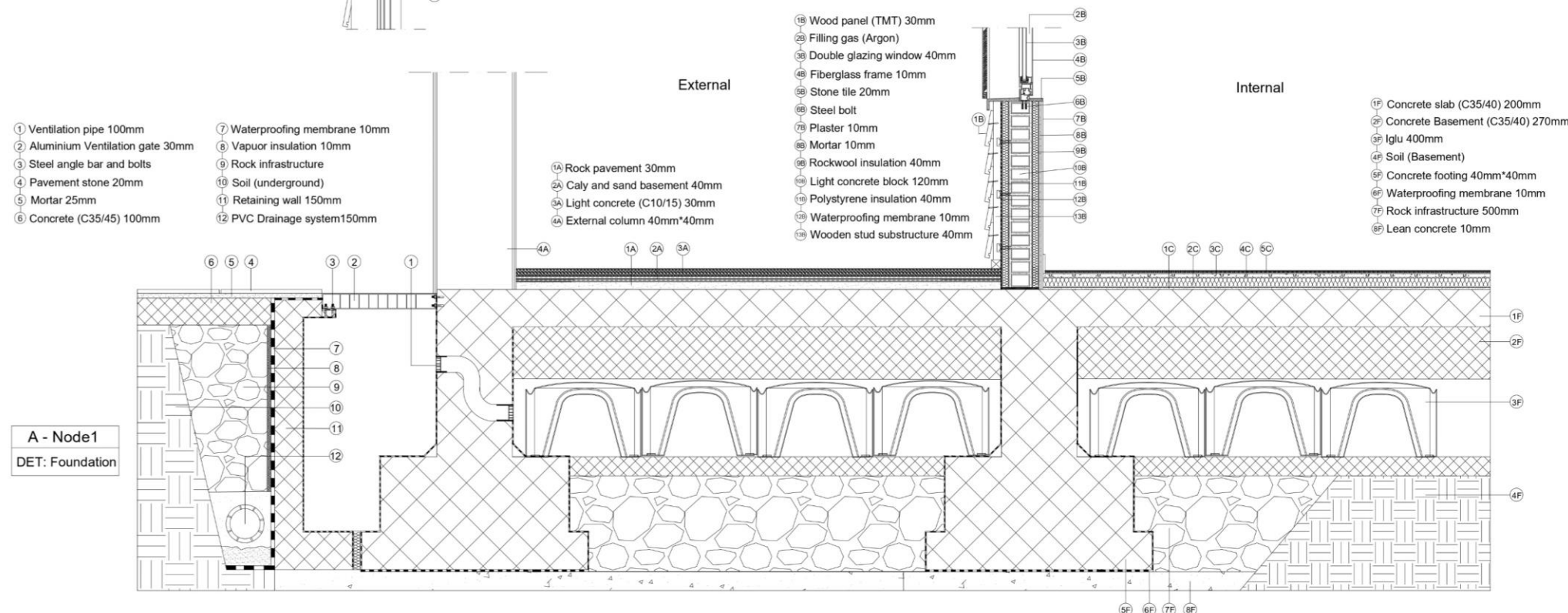
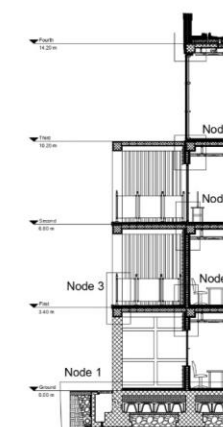
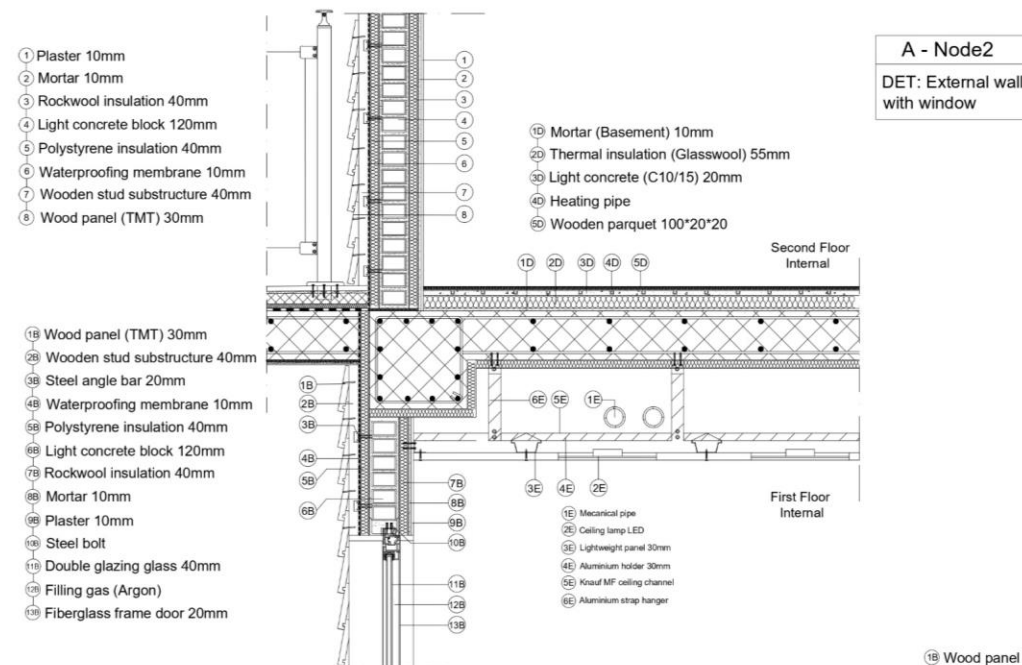
Title: Detail DIM

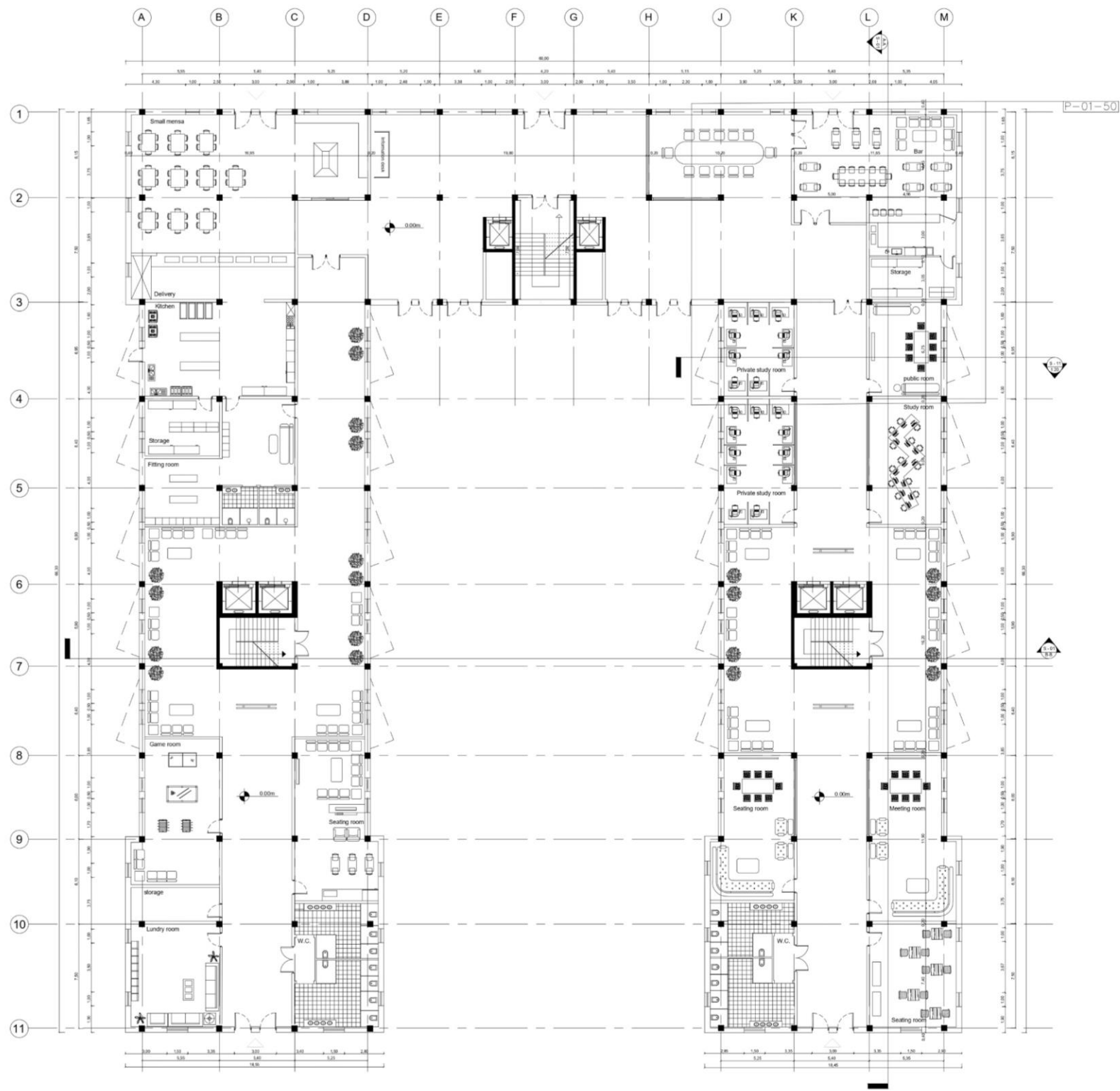
Project number: DB – 02

Date: 24.11.2025

D - 02

Scale: 1:5





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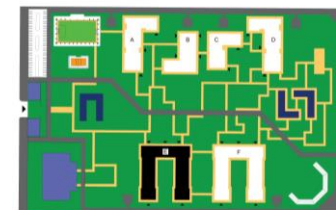
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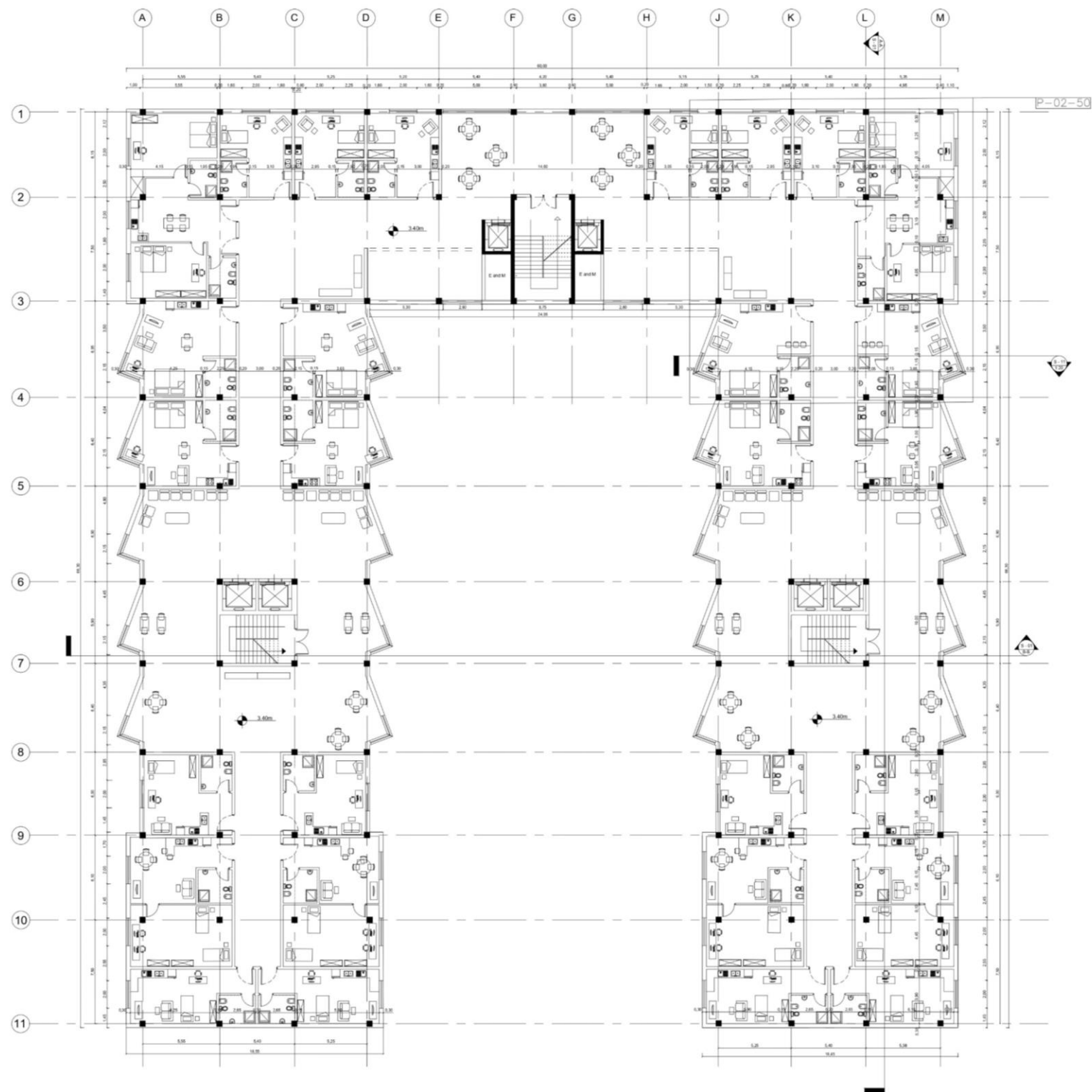
Title: Ground floor DIM

Project number: RB – 01

Date: 24.11.2025

PR - 01

Scale: 1:100

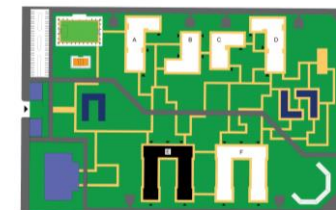


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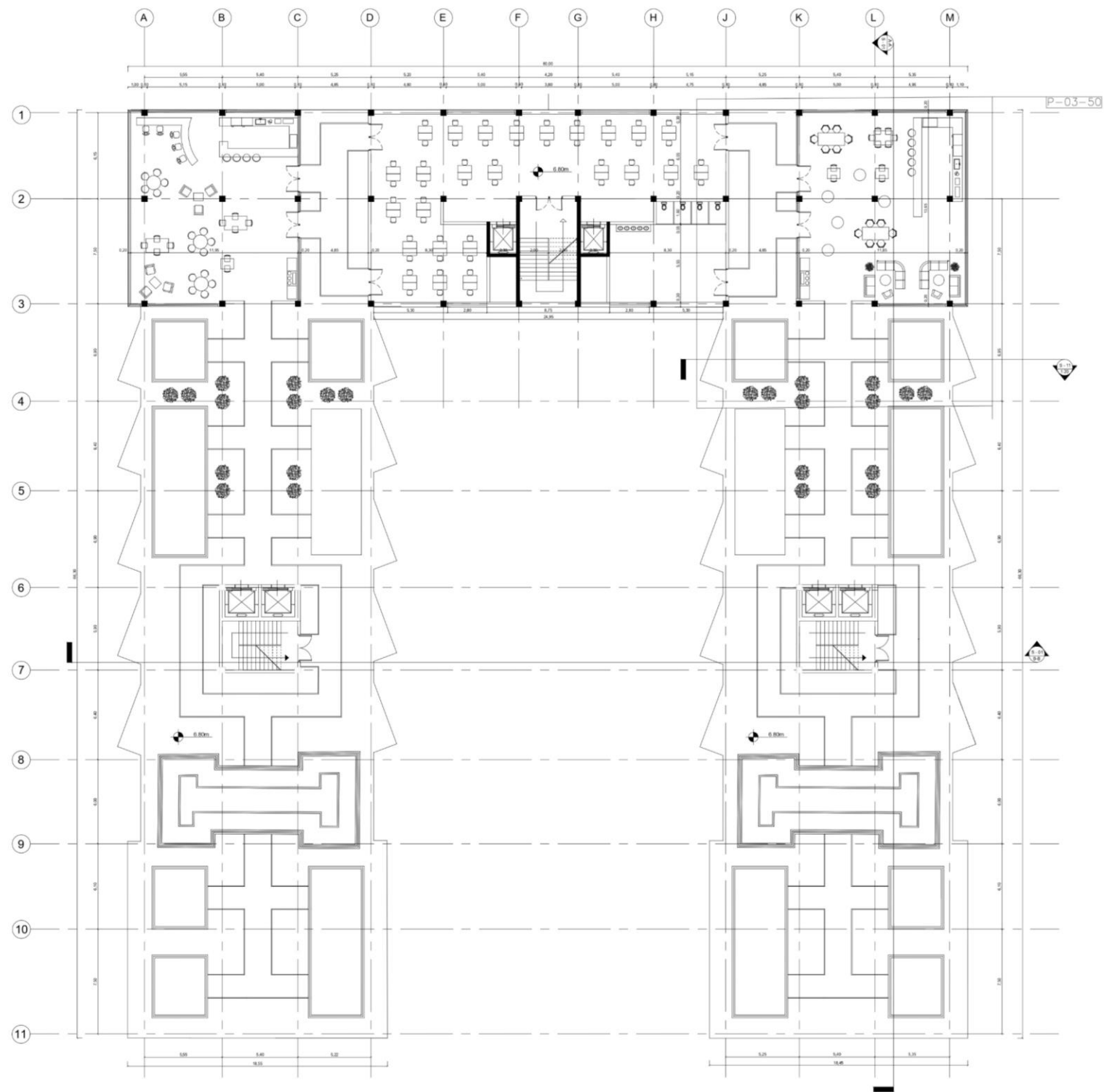
Title: First floor DIM

Project number: RB – 02

Date: 24.11.2025

PR - 02

Scale: 1:100



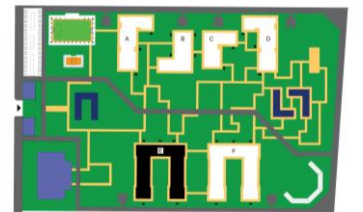
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Barracks in Bologna



Title: Second floor DIM

Project number: RB – 03

Date: 24.11.2025

PR - 03

Scale: 1:100



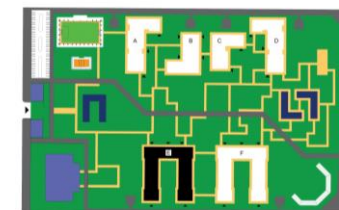
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di Torino**

Building Engineering

Tutor: Marika Mangosio
Umberto Mecca

Candidate:
Seyed Shahaboddin Ghiasi
A.Y. 2024/2025

Integrating cost estimation
analysis and design strategies
in the adaptive reuse of a
historical building:
the case study of ex-Perotti
Barracks in Bologna



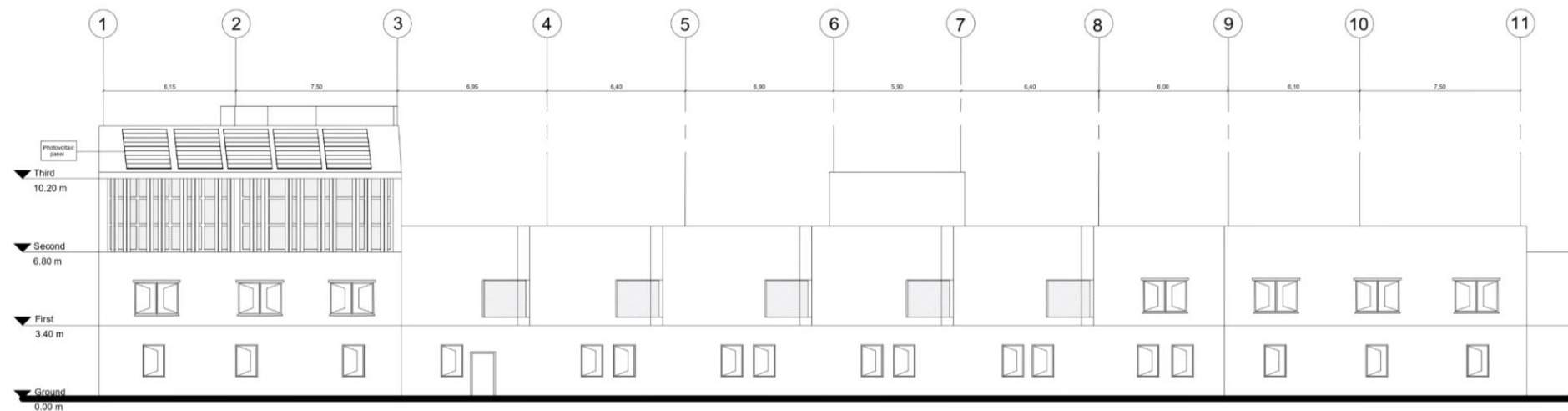
Title: Elevation DIM
East - West

Project number: RB – 02

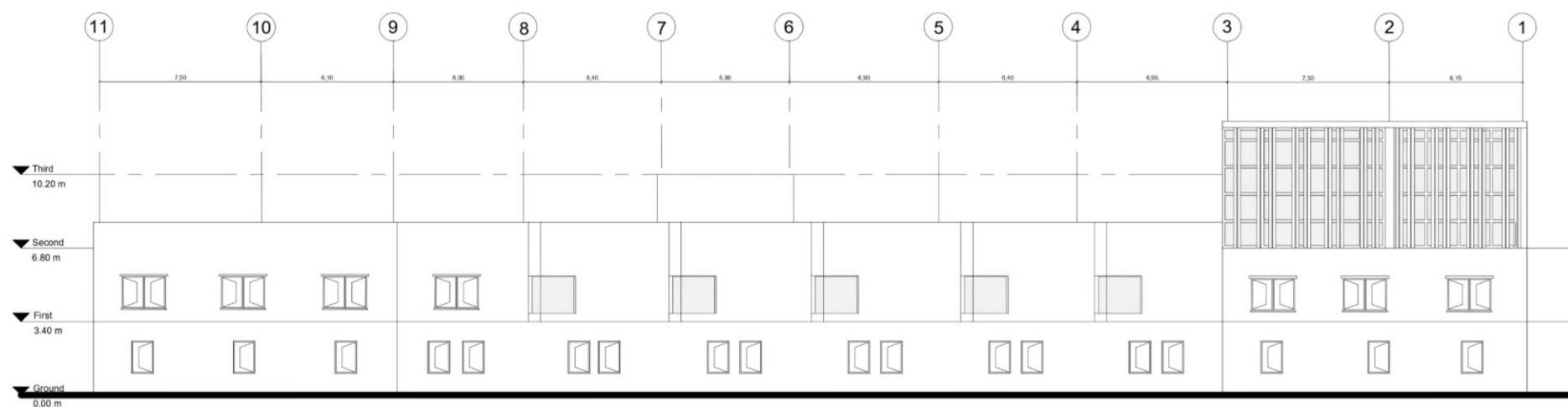
Date: 24.11.2025

E - 01

Scale: 1:100

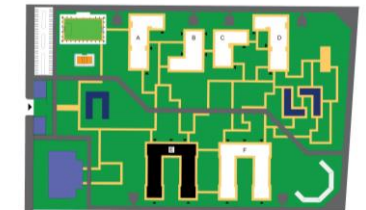


BUILDING E
Elevation West



BUILDING E
Elevation East

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Barracks in Bologna



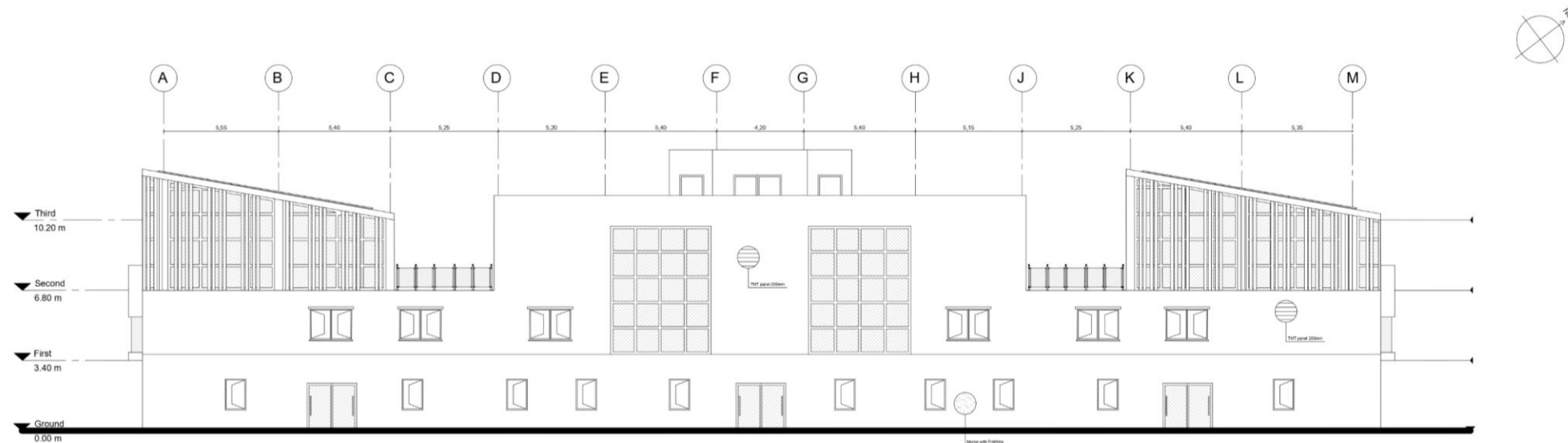
Title: Elevation DIM
North - South

Project number: RB – 02

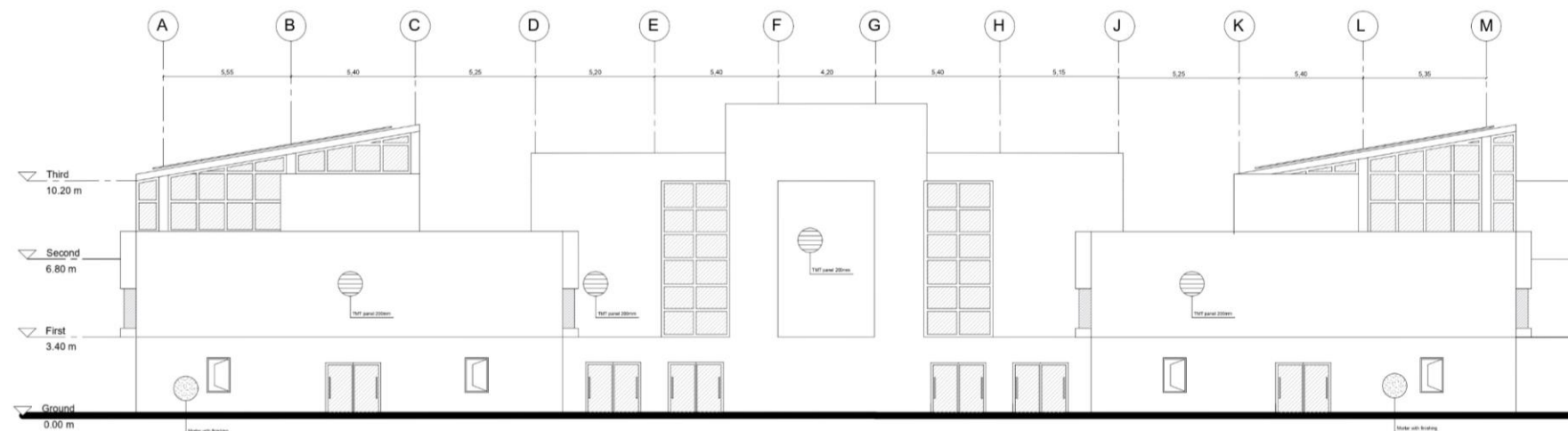
Date: 24.11.2025

E - 02

Scale: 1:100



BUILDING E
Elevation North



BUILDING E
Elevation South

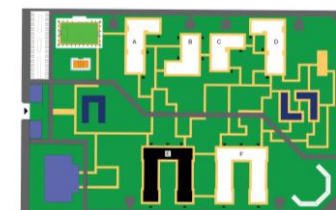


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Umberto Mecca

Candidate:
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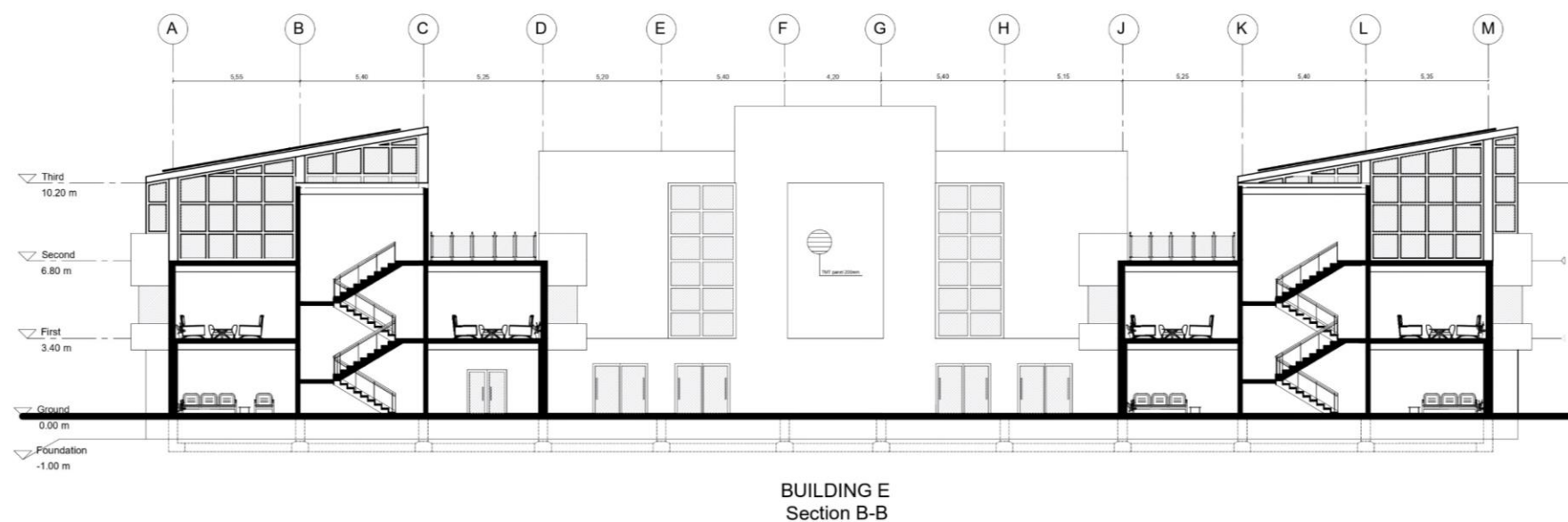
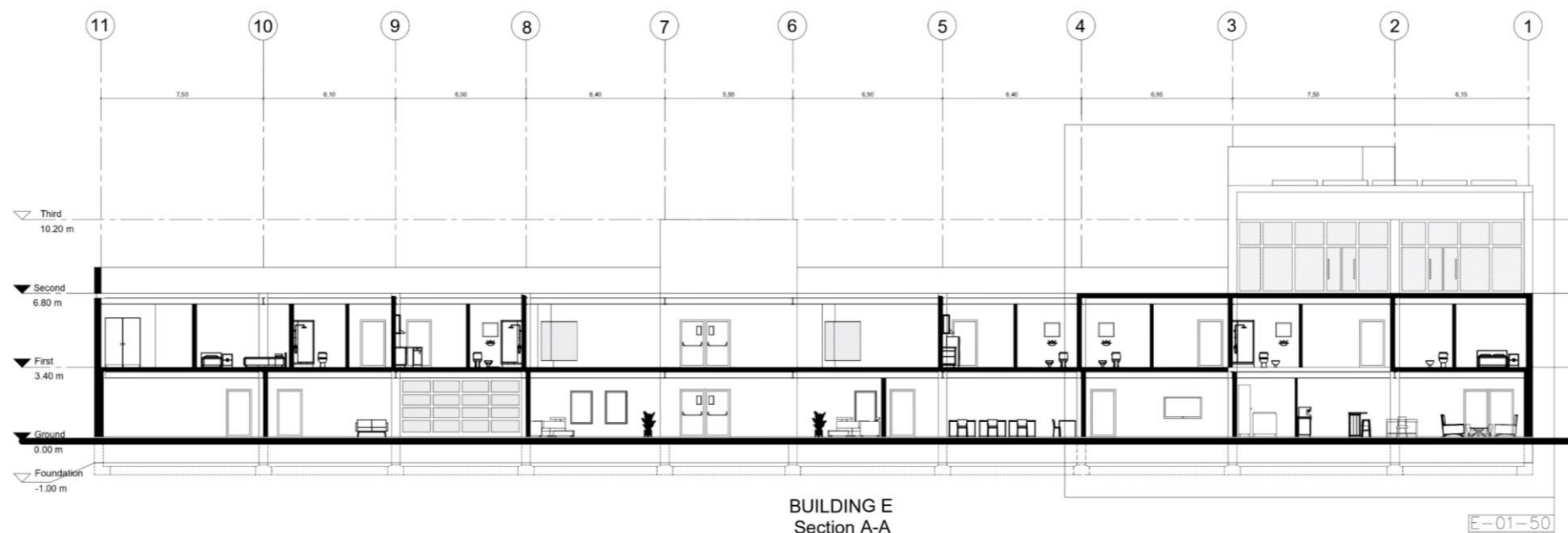
Title: Section DIM
(A - A) - (B - B)

Project number: RB - 01

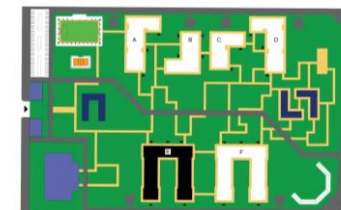
Date: 24.11.2025

S - 01

Scale: 1:100



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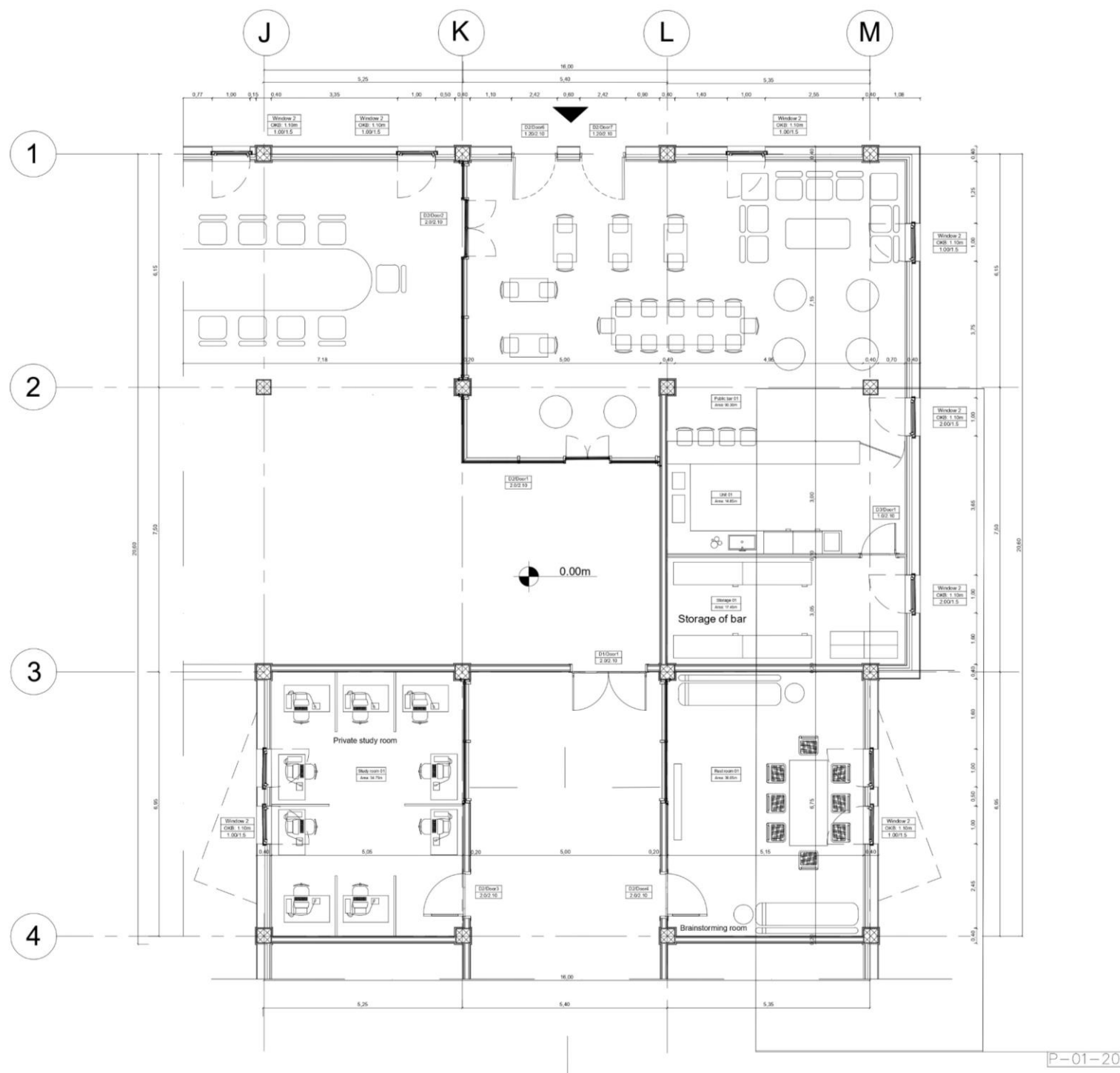
Title: Ground floor DIM

Project number: RB – 01

Date: 24.11.2025

P – 01 - 50

Scale: 1:50





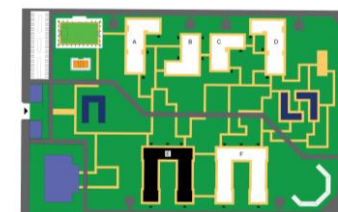
Politecnico
di Torino

Building Engineering

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Umberto Mecca

Candidate:
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A.Y. 2024/2025

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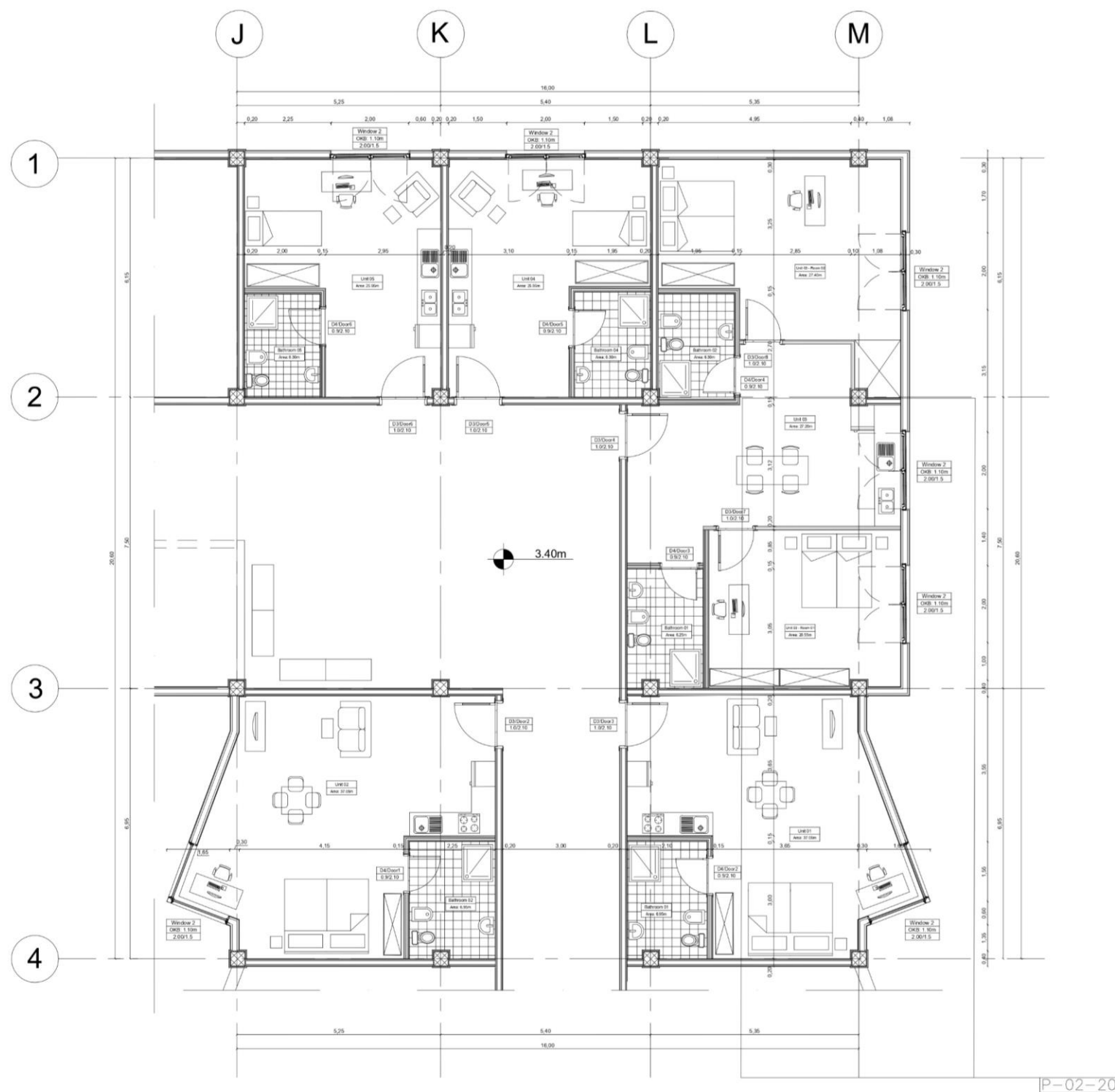
Title: First floor DIM

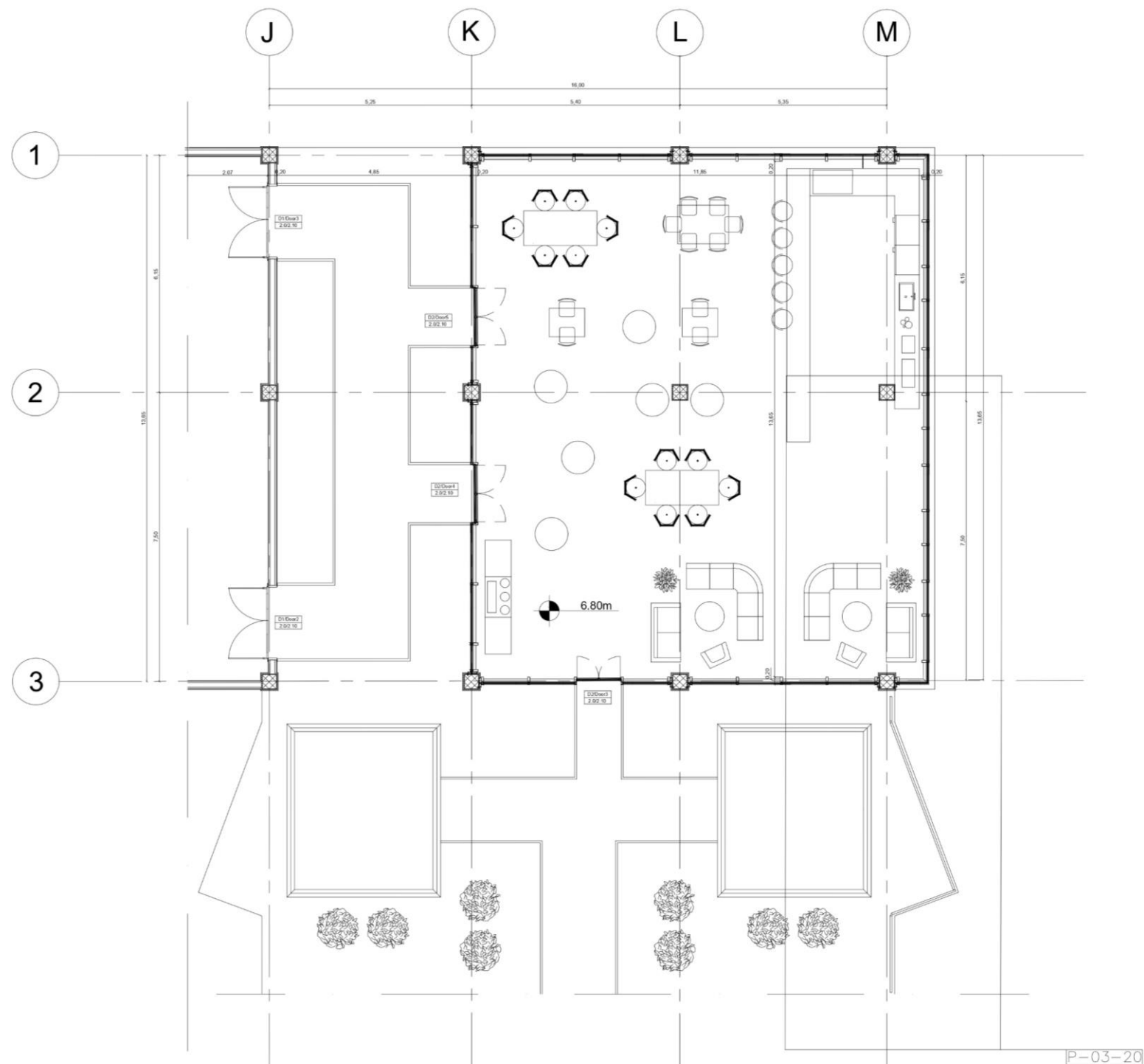
Project number: RB – 02

Date: 24.11.2025

P – 02 - 50

Scale: 1:50





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Tutor: Marika Mangosio

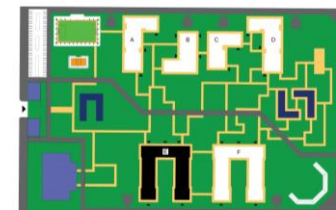
Umberto Mecca

Candidate:

Seyed Shahaboddin Ghiasi

A.Y. 2024/2025

Integrating cost estimation
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Title: Second floor DIM


Project number: RB – 03

Date: 24.11.2025

P – 03 - 50

Scale: 1:50

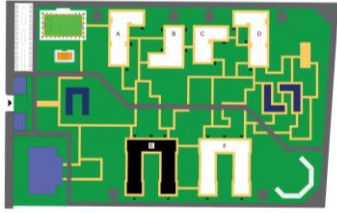





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Umberto Mecca
Candidate:
Seyed Shahaboddin Ghiasi
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historical building:
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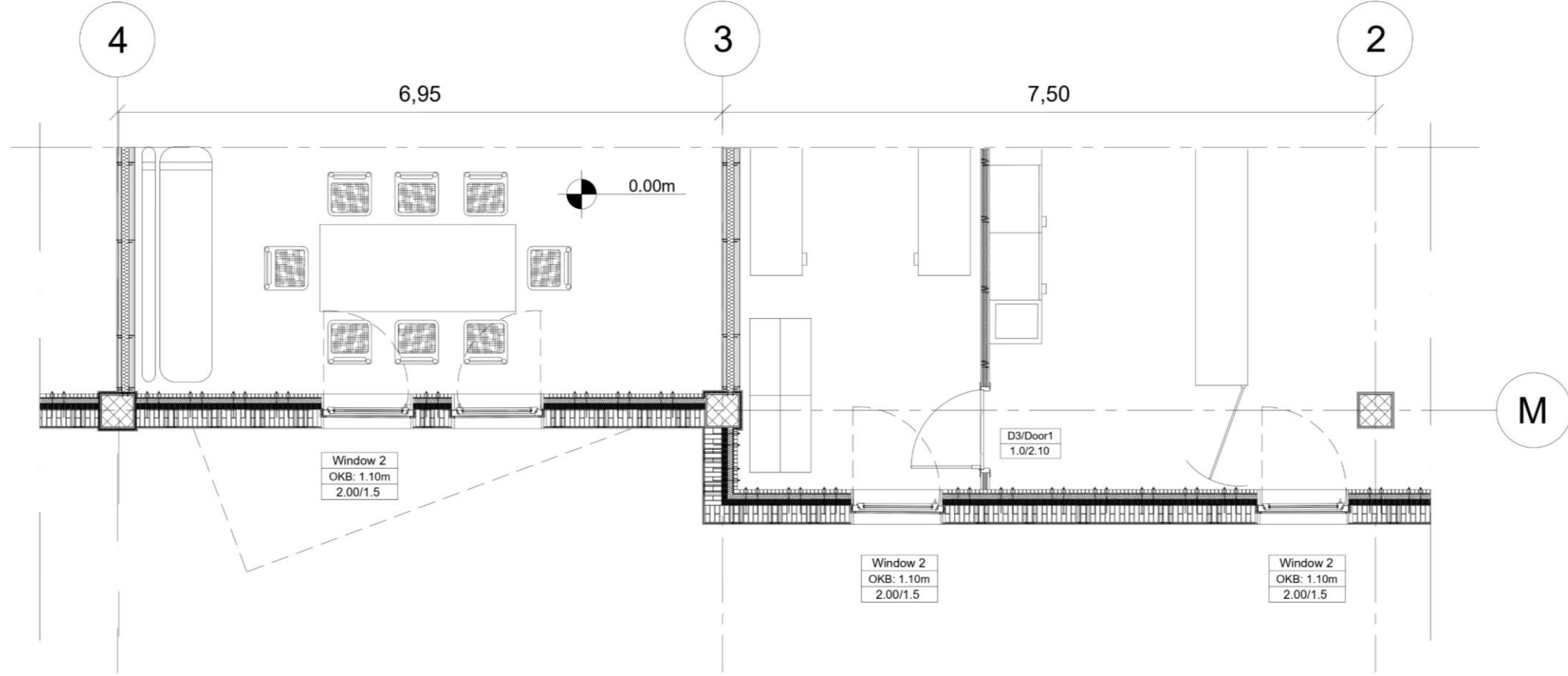
Title: Section DIM


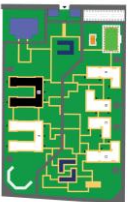

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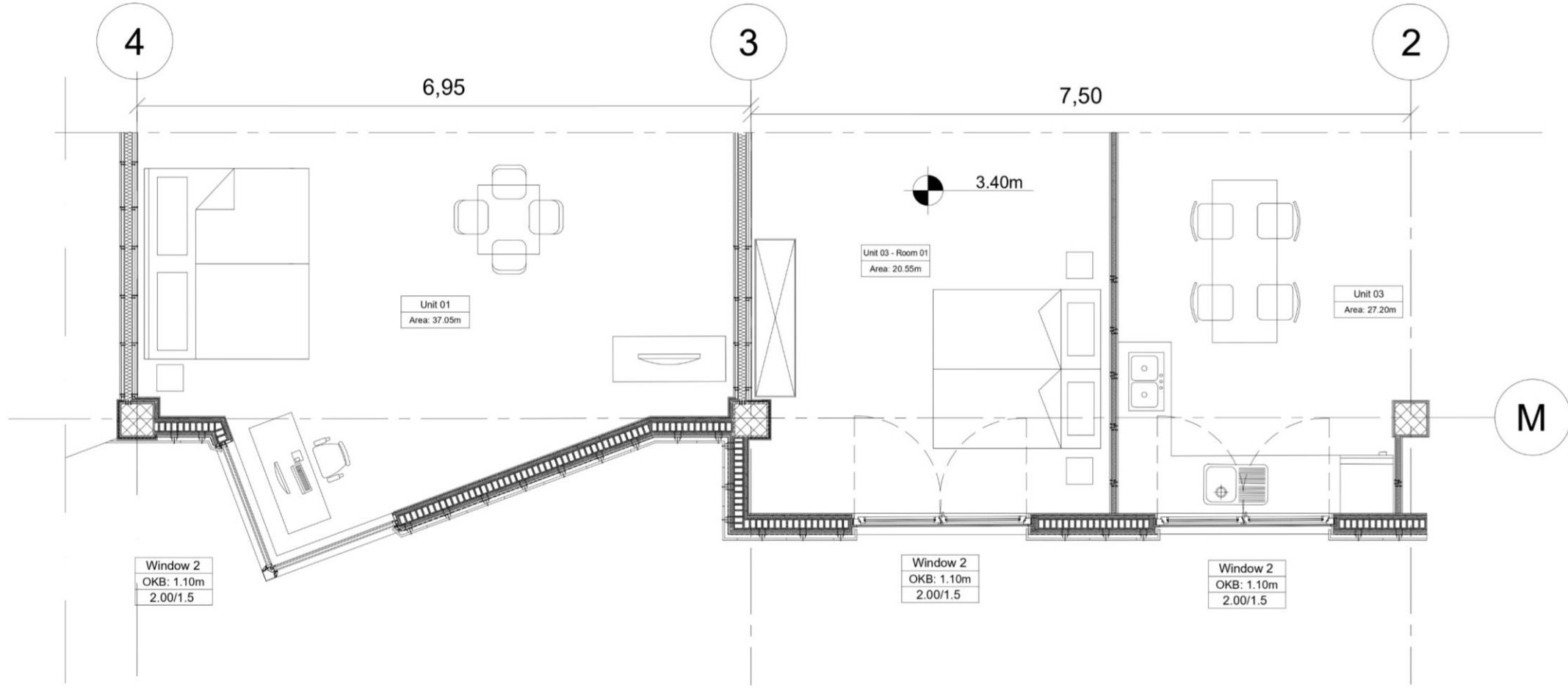
Date: 24.11.2025



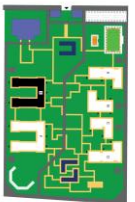
S – 01 - 50

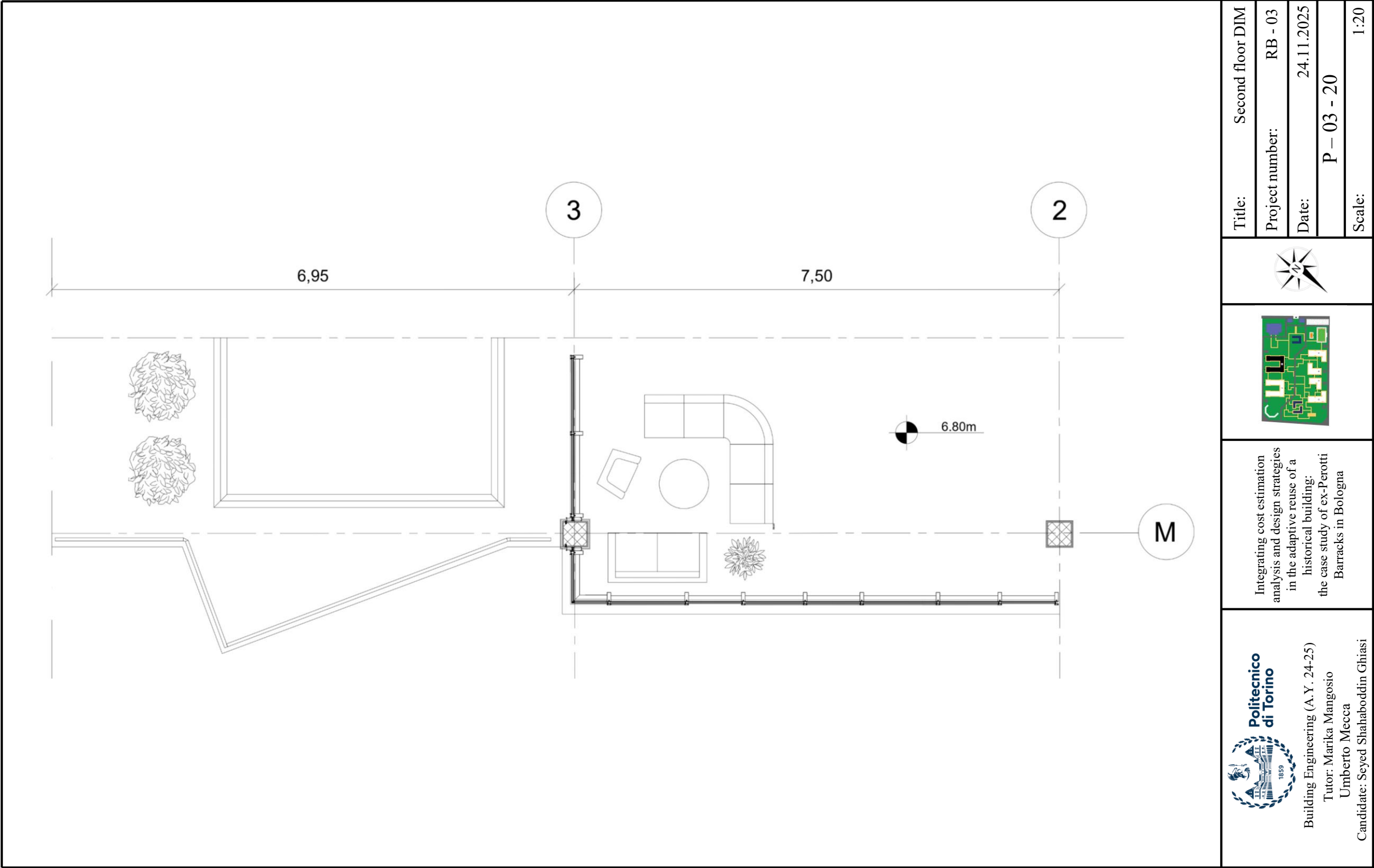
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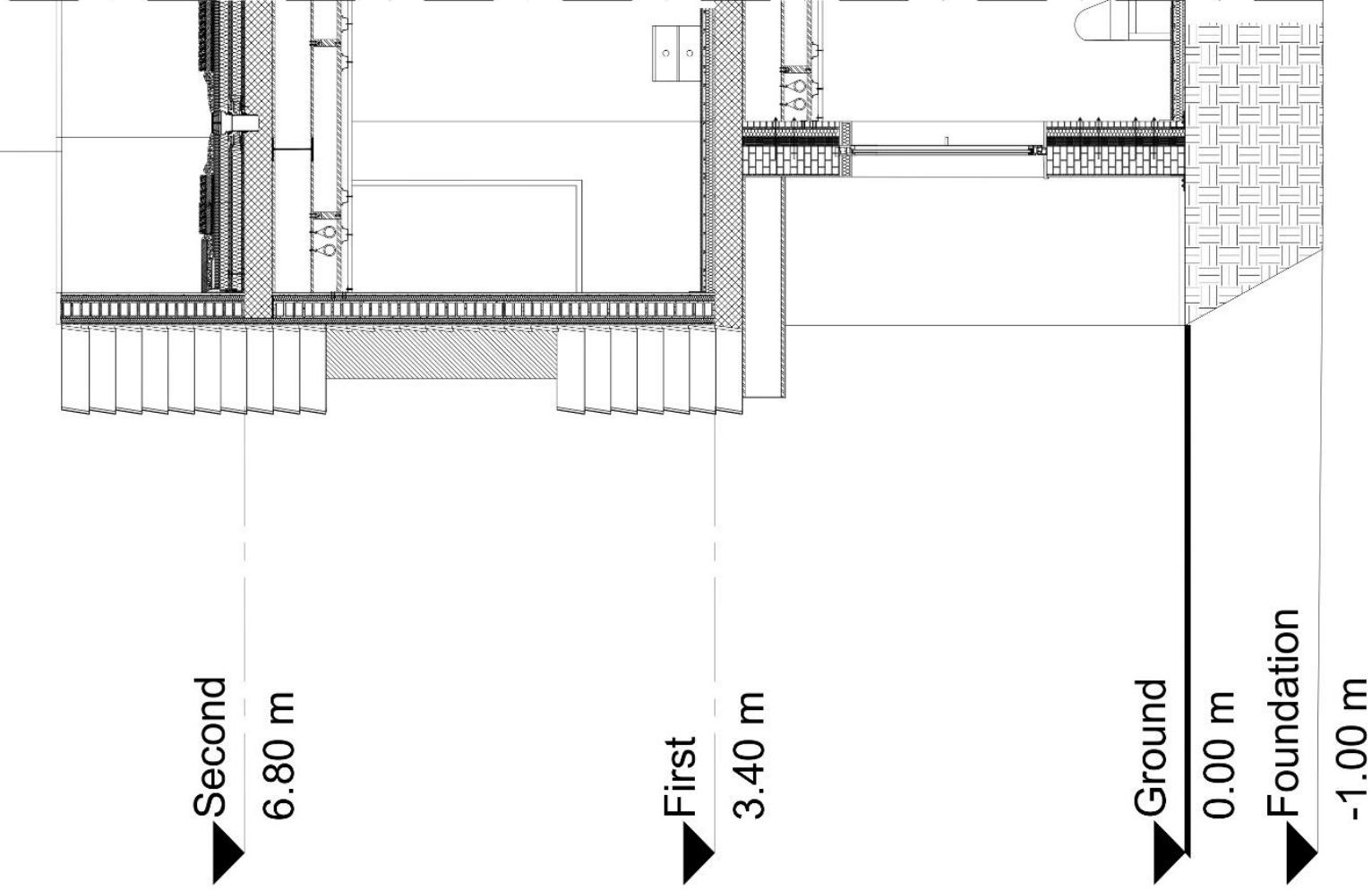
 Building Engineering (A.Y. 24-25) Tutor: Marika Mangosio Umberto Mecca Candidate: Seyed Shahaboddin Ghiasi	Integrating cost estimation analysis and design strategies in the adaptive reuse of a historical building: the case study of ex-Perotti Barracks in Bologna	 	Title: Ground floor DIM
			Project number: RB - 01
			Date: 24.11.2025
			P - 01 - 20
Scale: 1:20			



	Title:	First floor DIM
	Project number:	RB - 02
	Date:	24.11.2025
	Scale:	1:20
		
		
Integrating cost estimation analysis and design strategies in the adaptive reuse of a historical building: the case study of ex-Perotti Barracks in Bologna		
Politecnico di Torino Building Engineering (A.Y. 24-25) Tutor: Marika Mangosio Umberto Mecca Candidate: Seyed Shahaboddin Ghiasi		

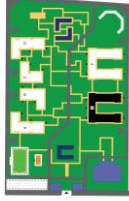


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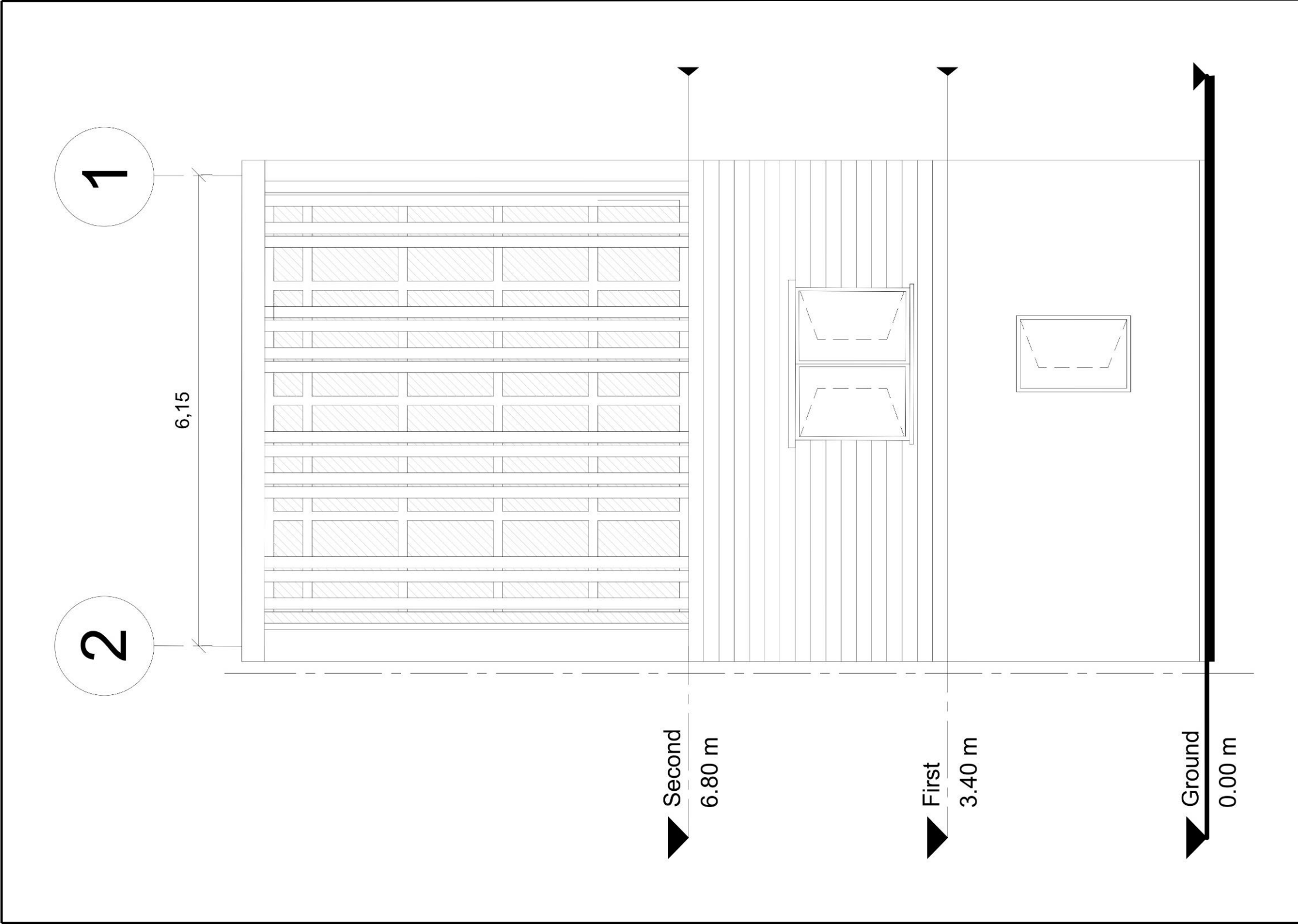



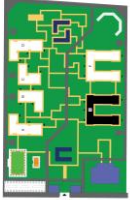

Building Engineering (A.Y. 24-25)
Tutor: Marika Mangosio
Umberto Mecca
Candidate: Seyed Shahaboddin Ghiasi

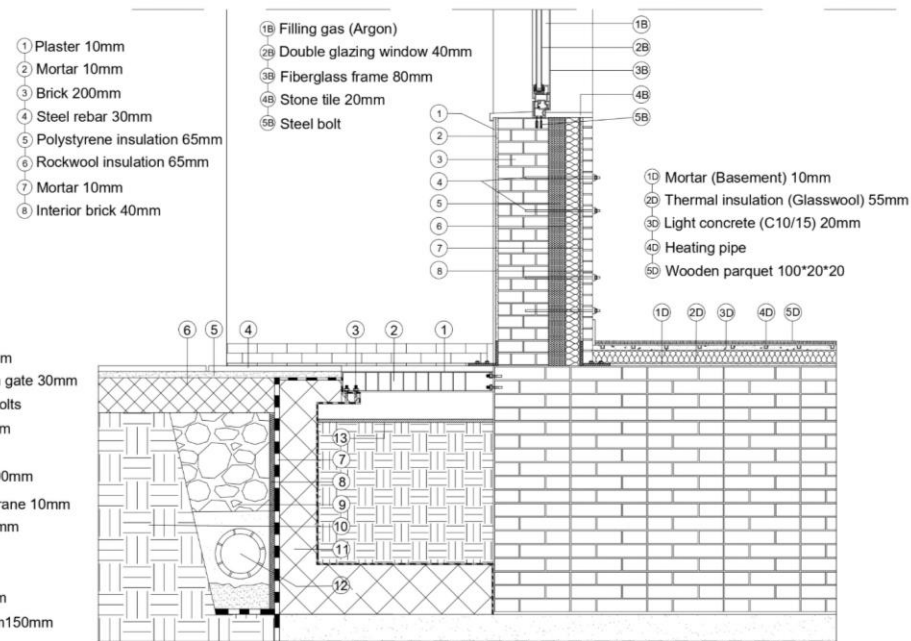
Integrating cost estimation
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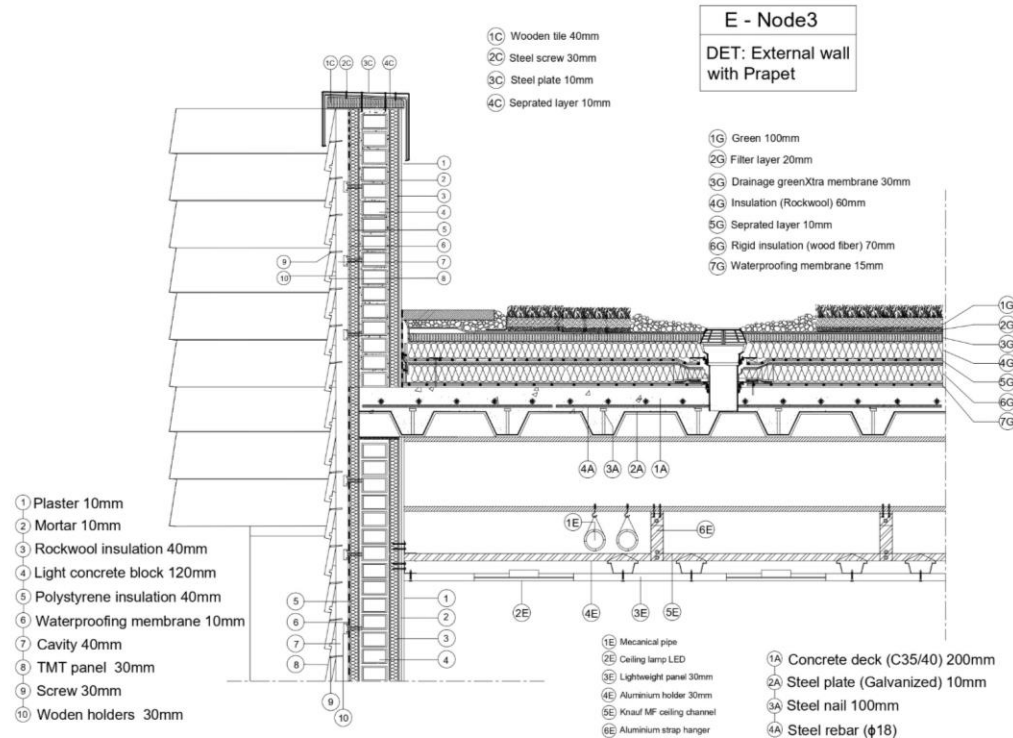
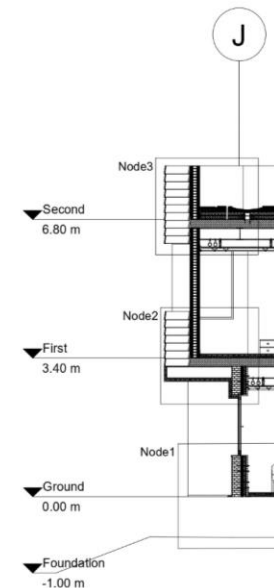
Title:	Section DIM
Project number:	RB - 11
Date:	24.11.2025
	S – 11
Scale:	1:20



 Building Engineering (A.Y. 24-25) Tutor: Marika Mangosio Umberto Mecca Candidate: Seyed Shahaboddin Ghiasi		
		
	Title:	Elevation DIM
	Project number:	RB - 11
	Date:	24.11.2025
	E - 11	
	Scale:	1:20



E - Node1
DET: Foundation



E - Node3
DET: External wall with Prapet

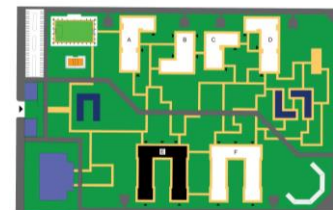


Building Engineering

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Candidate:
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A.Y. 2024/2025

Integrating cost estimation
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Title: Detail DIM

Project number: RB – 02

Date: 24.11.2025

D - 02

Scale: 1:5



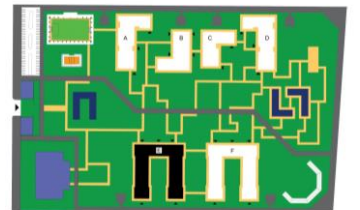
**Politecnico
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Integrating cost estimation
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historical building:
the case study of ex-Perotti
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Title: Detail DIM

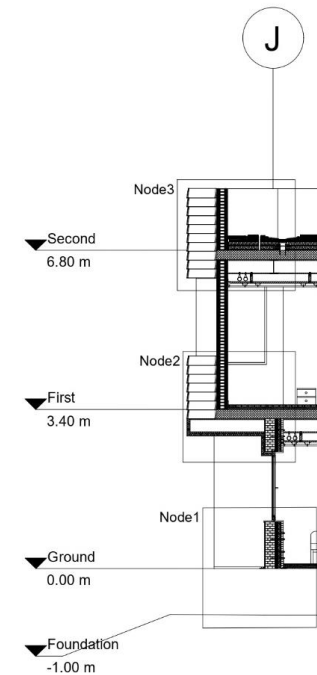
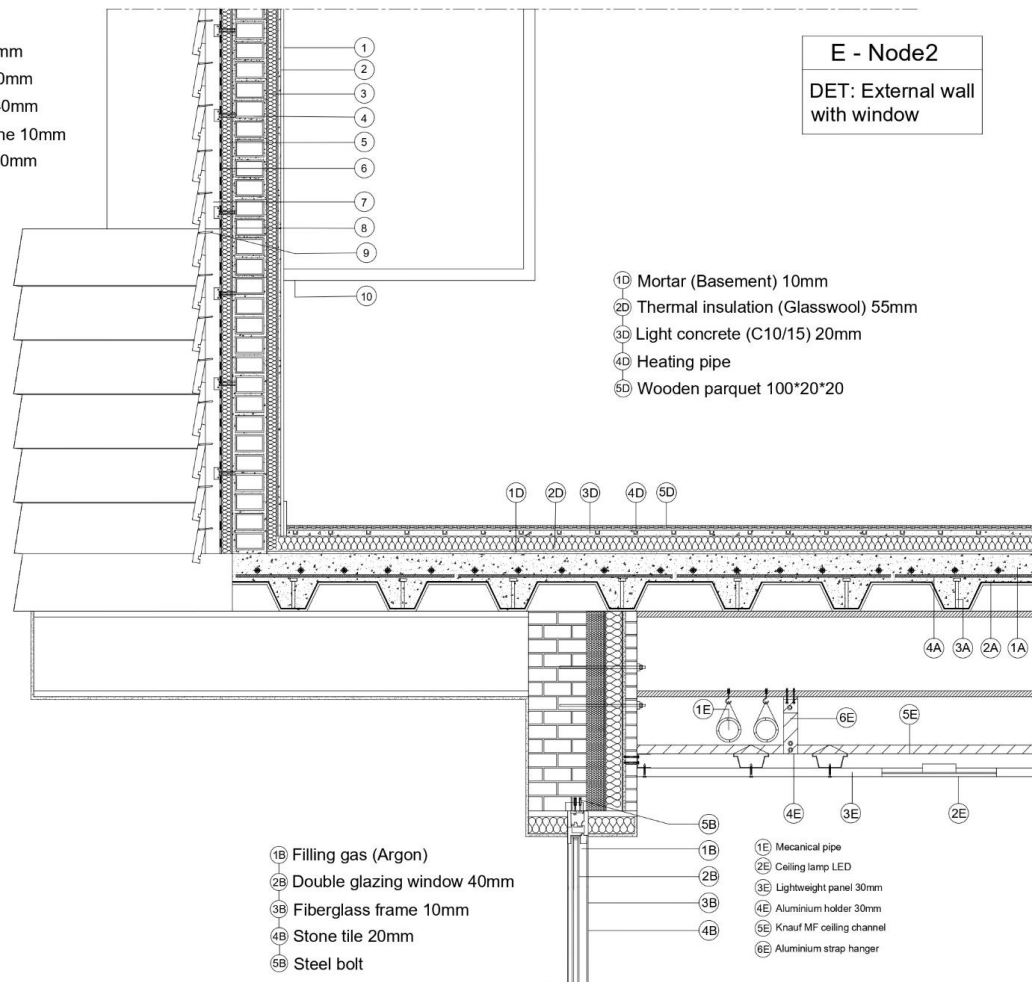
Project number: RB – 01

Date: 24.11.2025

D - 01

Scale: 1:5

- ① Plaster 10mm
- ② Mortar 10mm
- ③ Rockwool insulation 40mm
- ④ Light concrete block 120mm
- ⑤ Polystyrene insulation 40mm
- ⑥ Waterproofing membrane 10mm
- ⑦ Wooden substructure 40mm
- ⑧ TMT panel 30mm
- ⑨ Screw 30mm
- ⑩ Window



- 1A Concrete deck (C35/40) 200mm
- 2A Steel plate (Galvanized) 10mm
- 3A Steel nail 100mm
- 4A Steel rebar (φ18)