Design Booklet

Co-housing courtyards Tanthof

Sander Velsink

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Colophon
Delft University of Technology
MSc Architecture, Urbanism and Building Sciences
Track Architecture
MSc3 Dwelling Graduation Studio
AR3AD110 Designing for Health and Care

Student
Sander Velsink
4863739

Supervisors
Birgit Jürgenhake
Lex van Deudekom
Leo Oorschot

14-05-2024

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6. Final Design: Architecture
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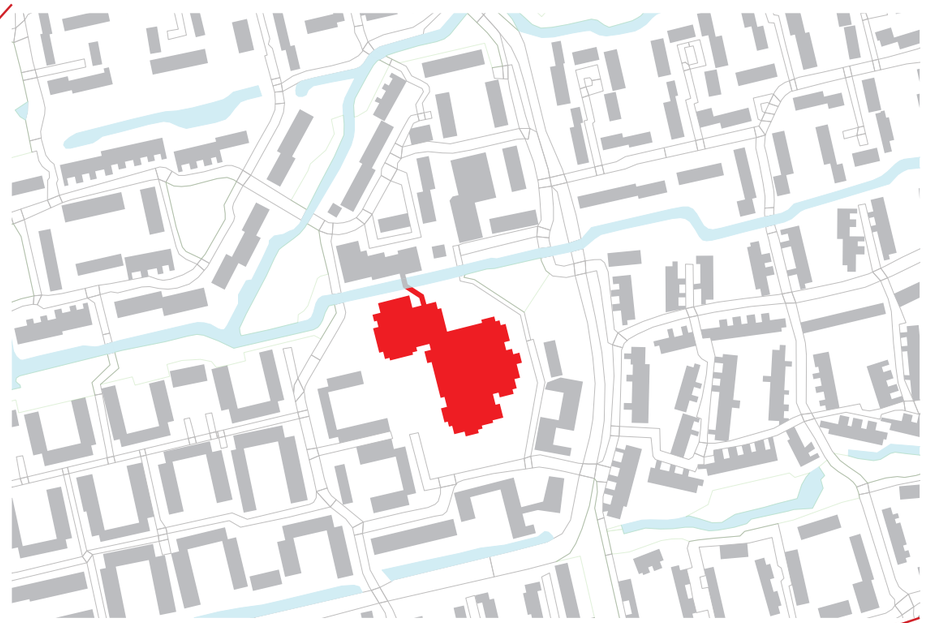
8. Final design: Climate design
9. Final design: Detailing

Co-housing courtyards Tanthof

Location Analysis

Location Analysis: Location



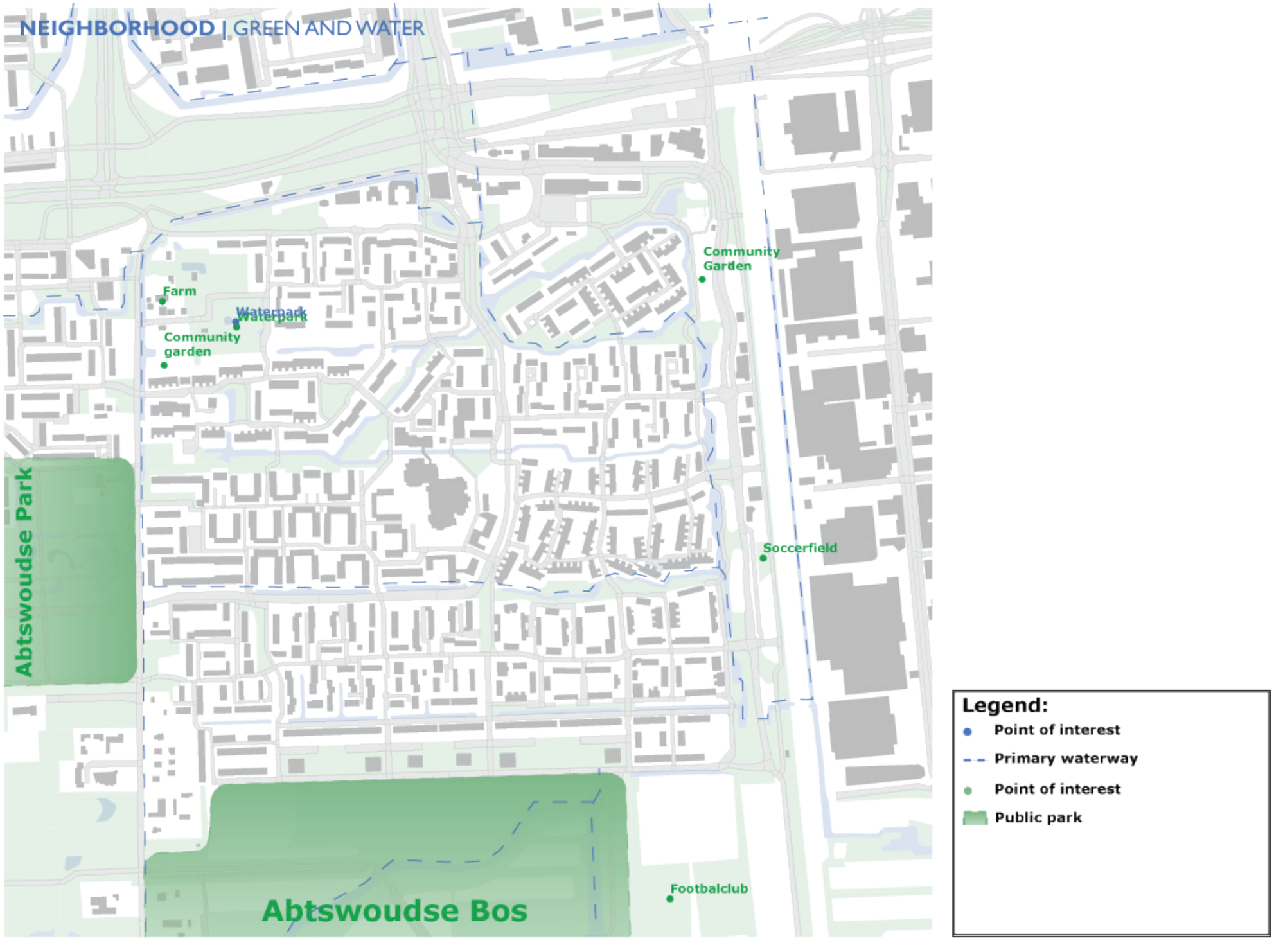




Location Analysis: Neighbourhood morphology



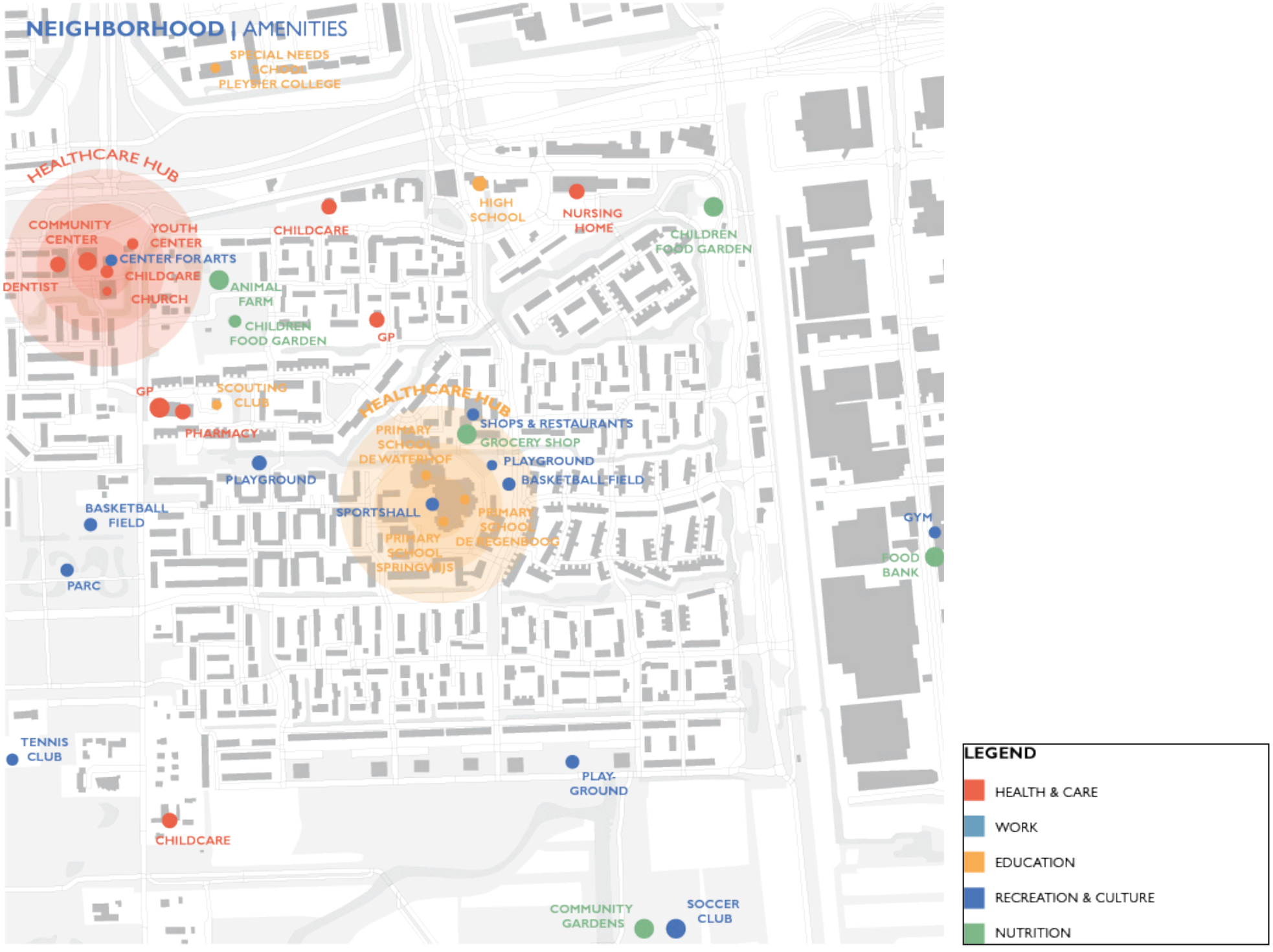
Location Analysis: Green and water



Location Analysis: Mobility



Location Analysis: Amenities



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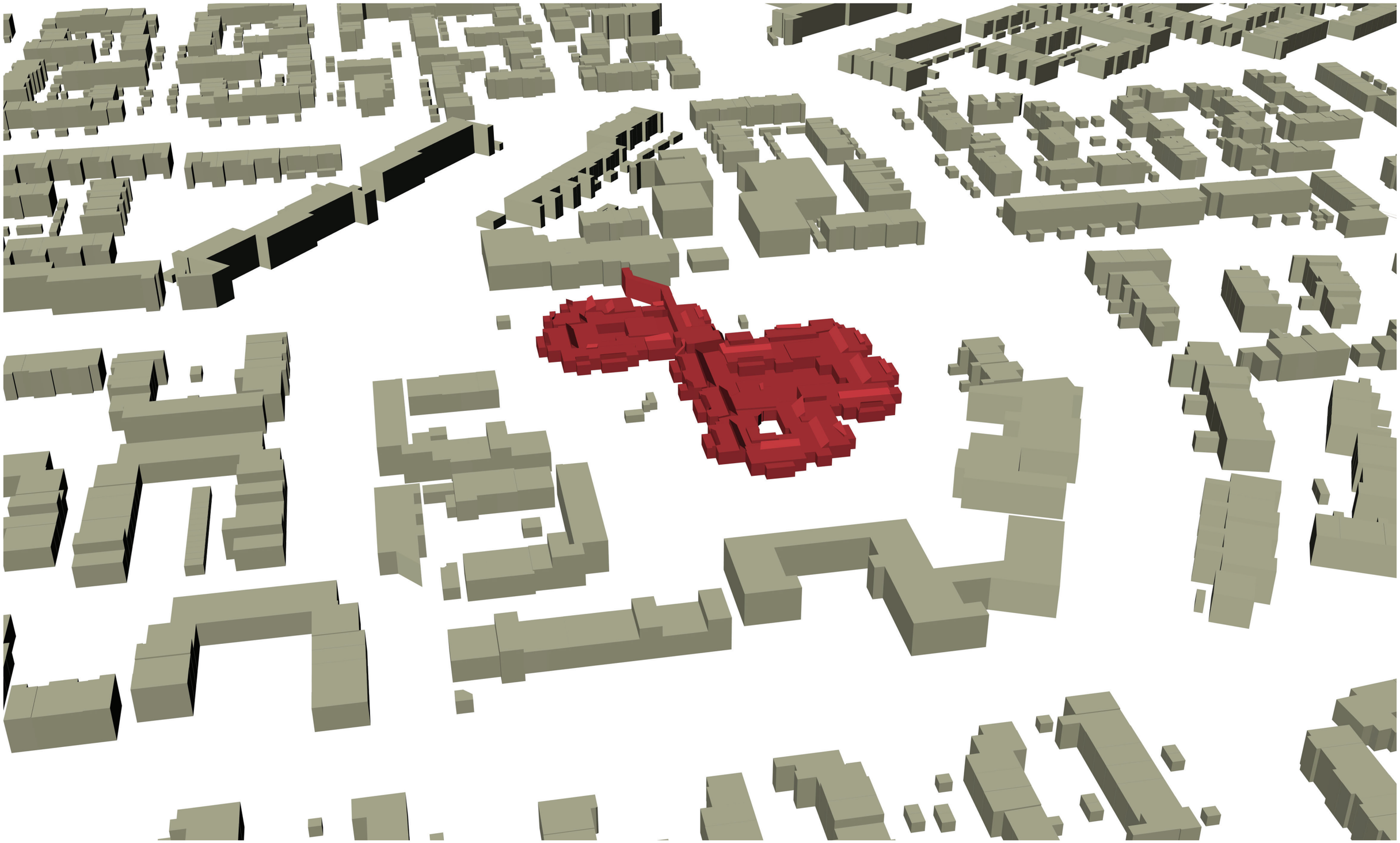
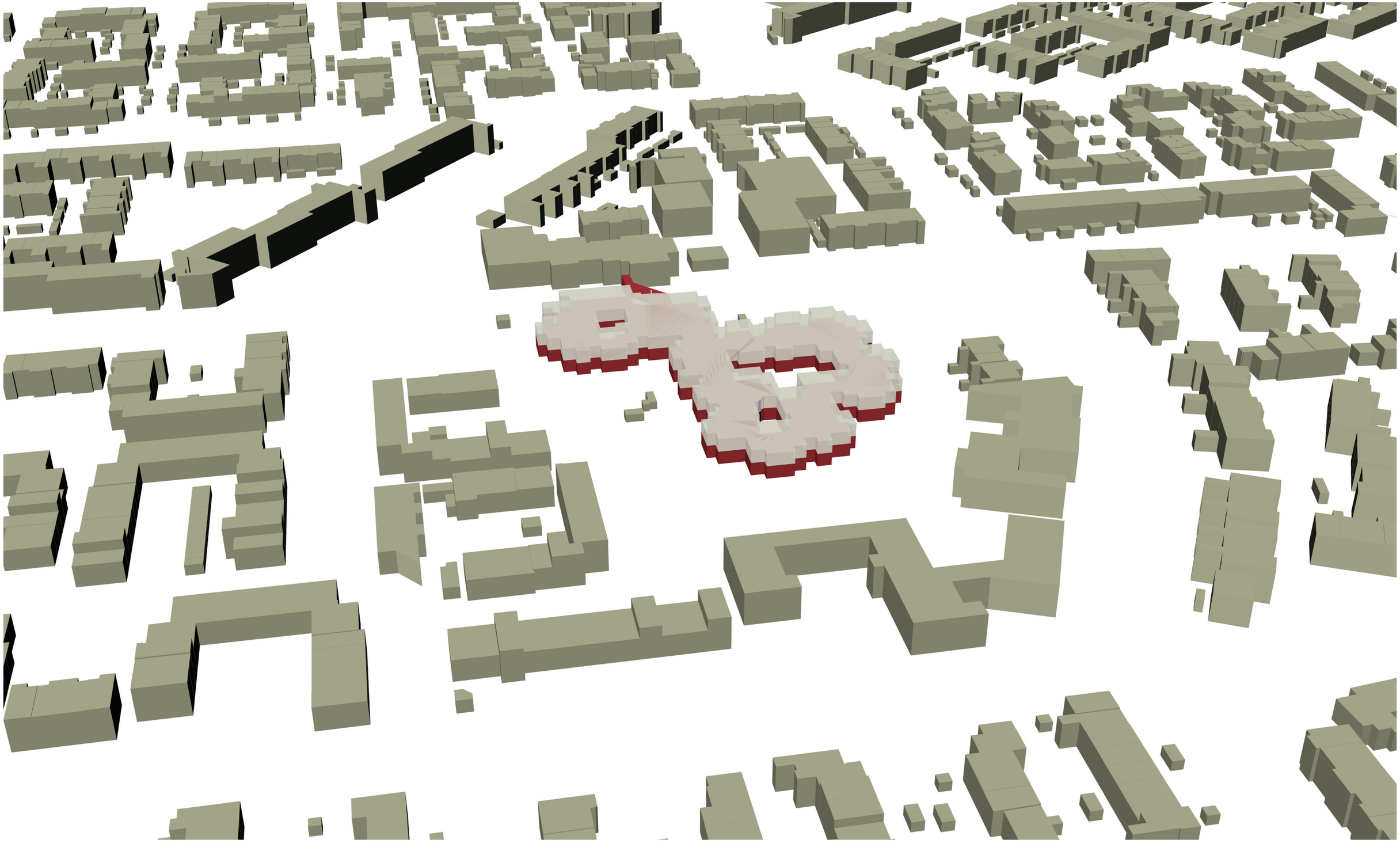
Mass studies

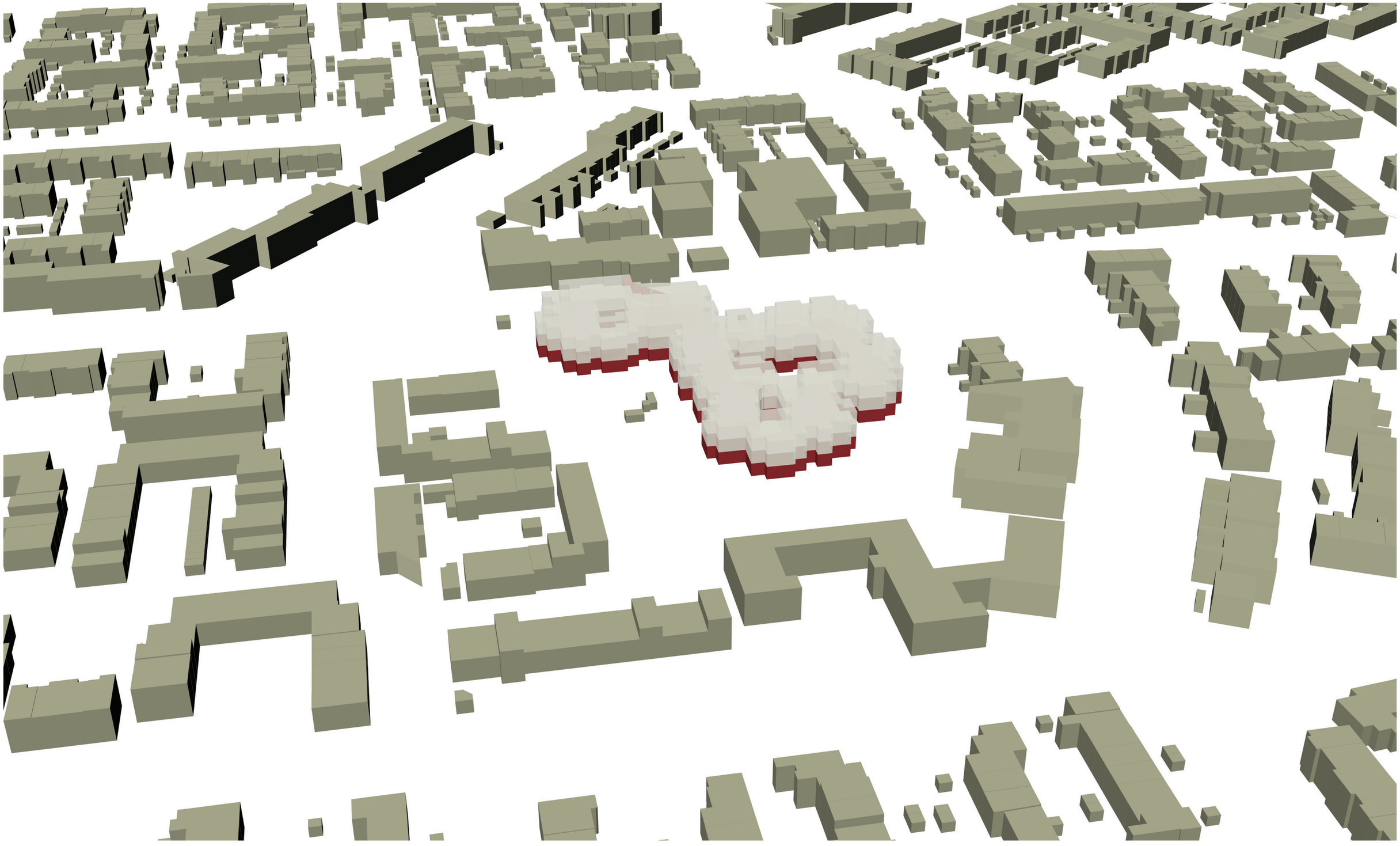
Mass studies: Existing building



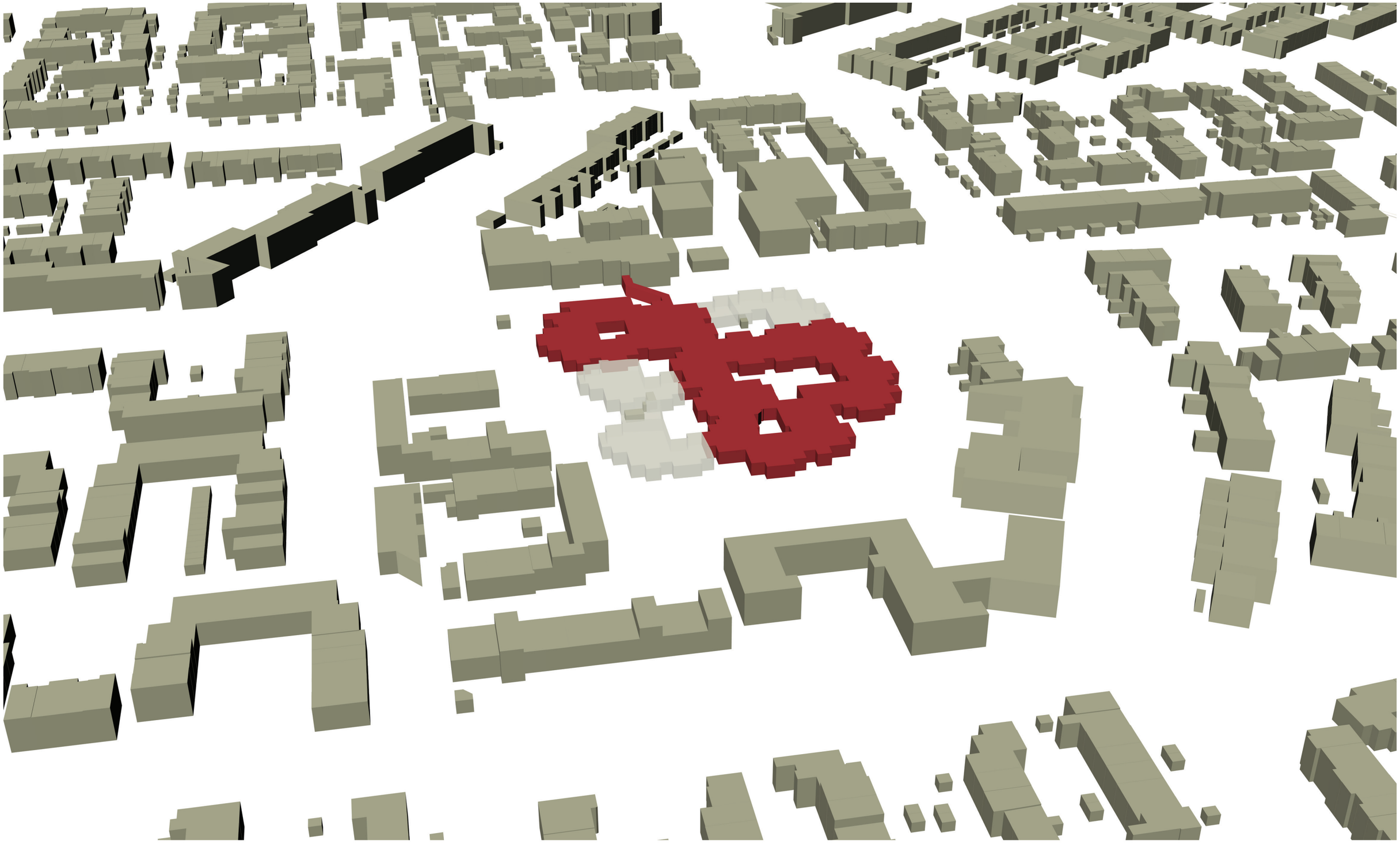
Mass studies: One floor added



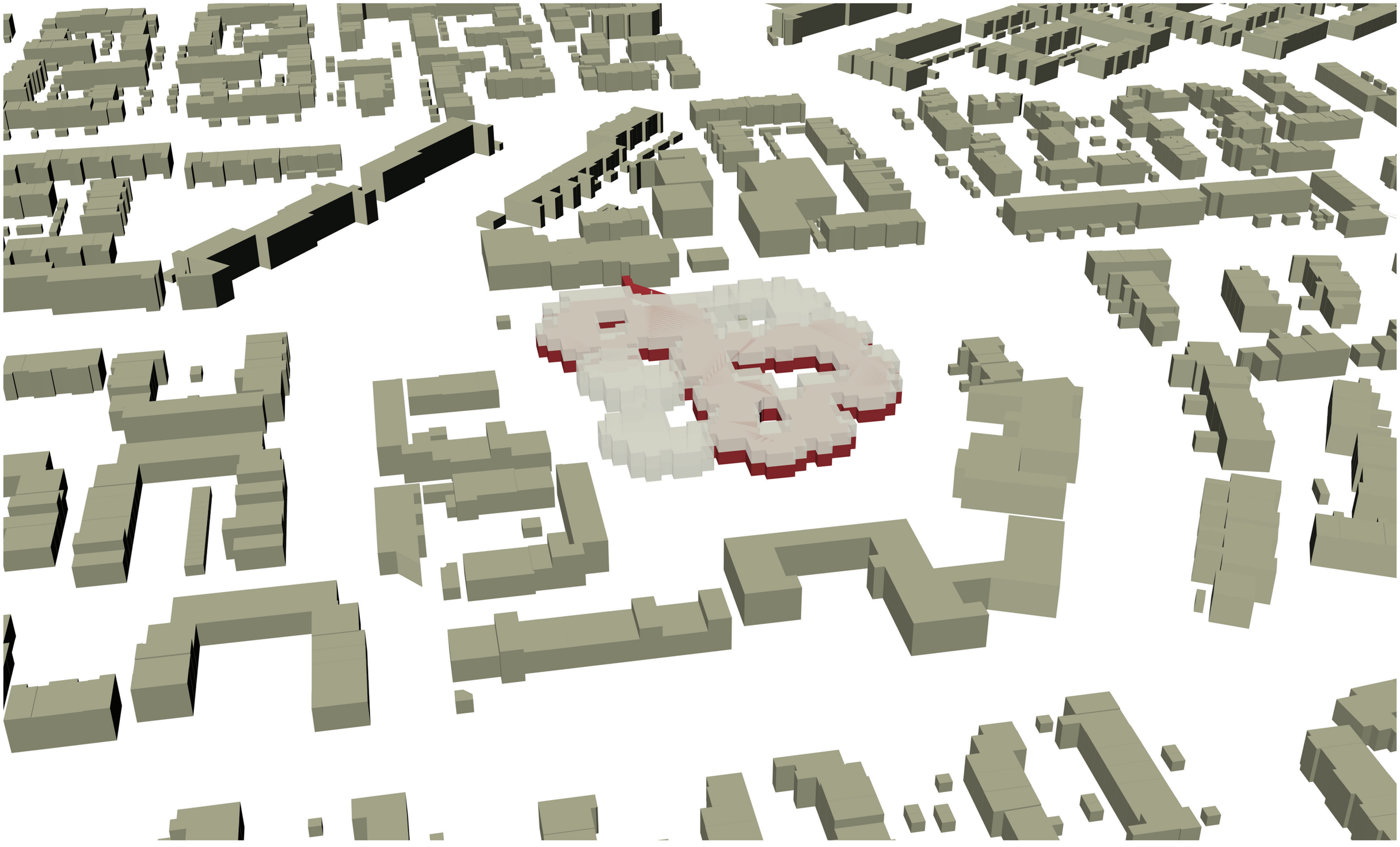
Mass studies: Two floors added



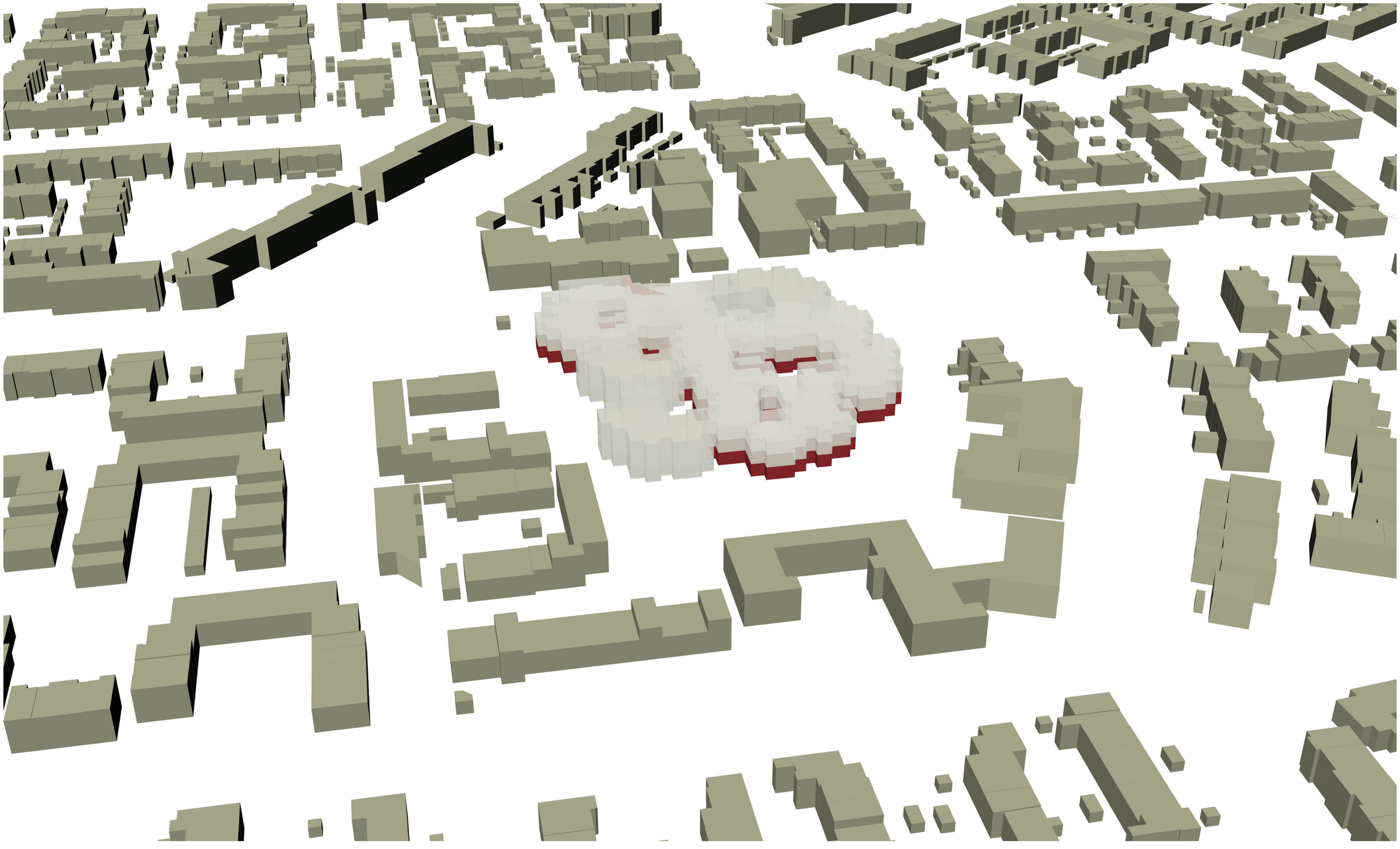
Mass studies: Courtyard expansion



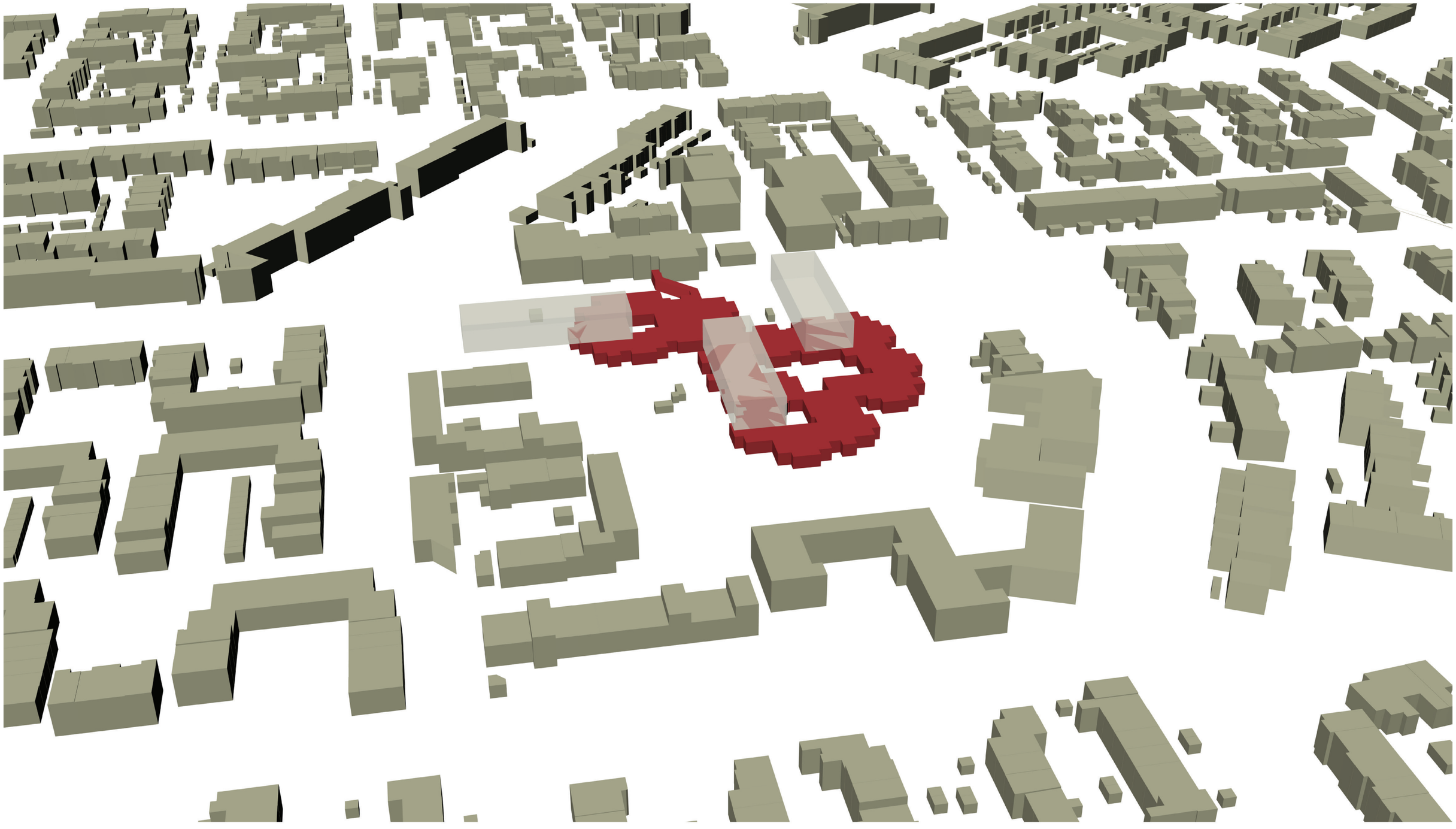
Mass studies: Courtyard expansion + One floor added



Mass studies: Courtyard expansion + 2 floors added



Mass studies: Wing extensions



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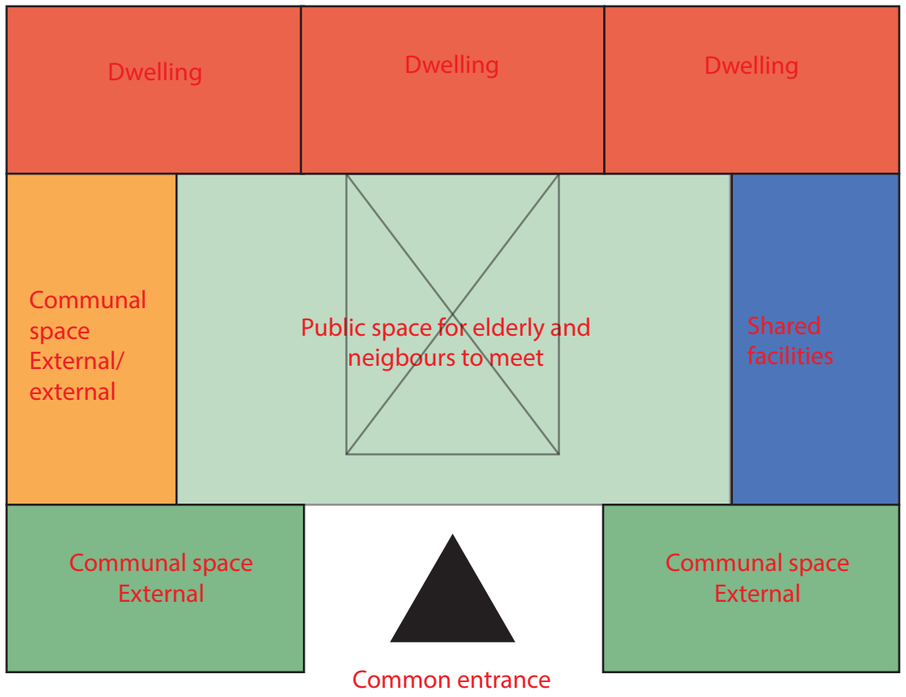
Design concept

Design concept: Neighbourhood masterplan

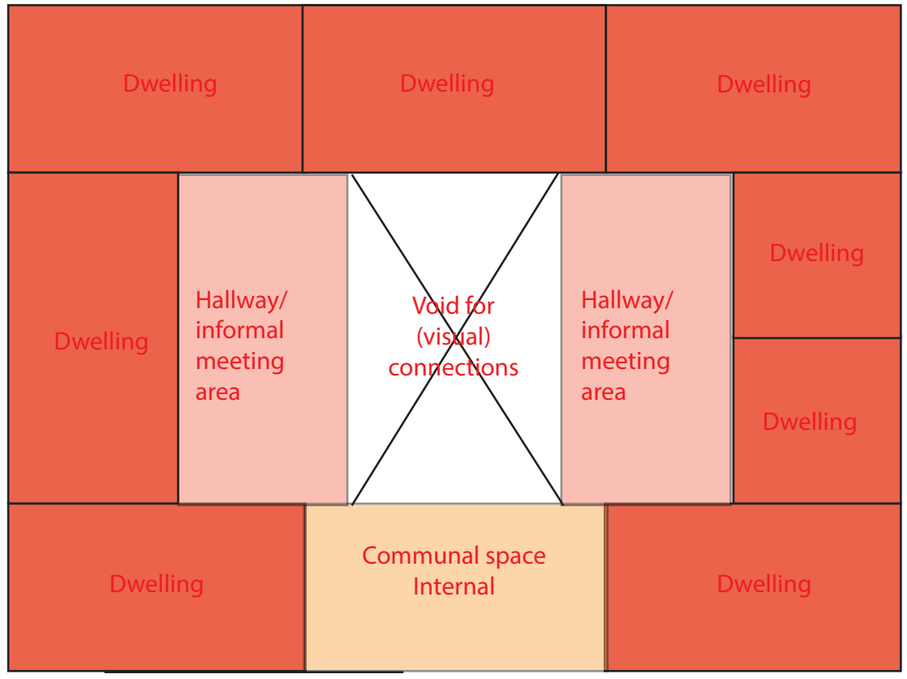


Design concept: Research Concept

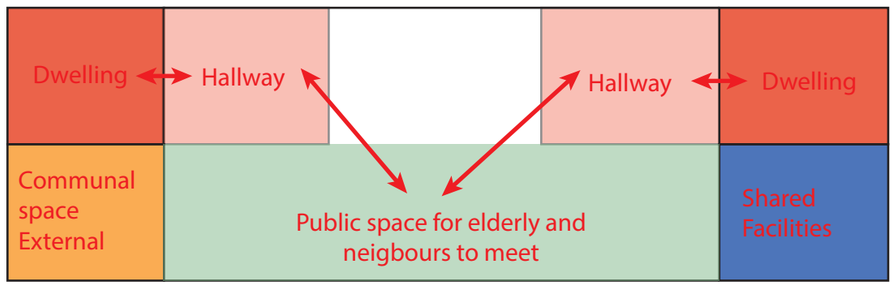
Typical Floorplan
Ground Floor



Typical Floorplan
First Floor



Typical Section

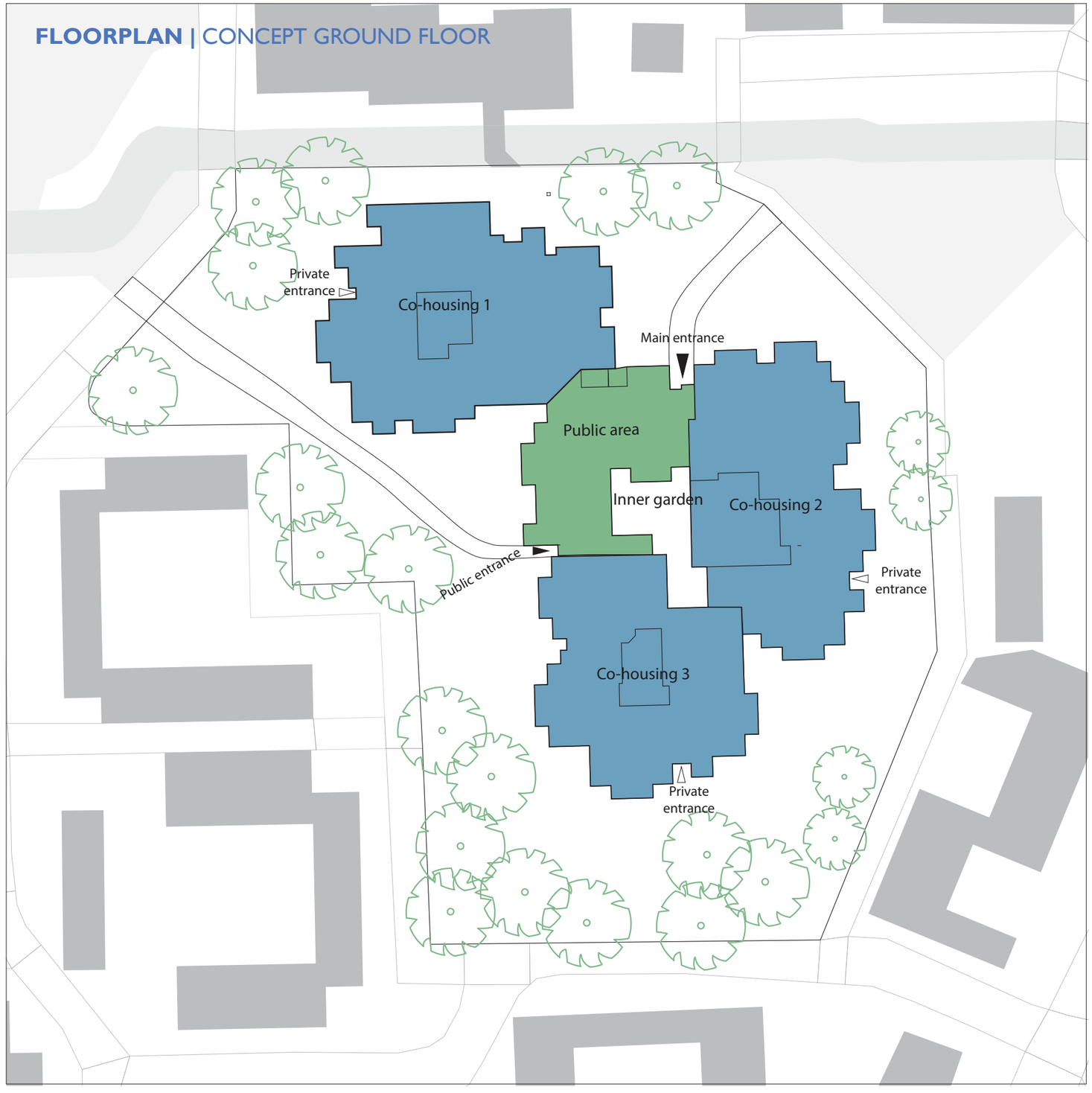


External spaces:
Children Daycare
Gym
Chapel/church
Shops
Nail salon
Hair dresser
Restaurant/cafe
Library

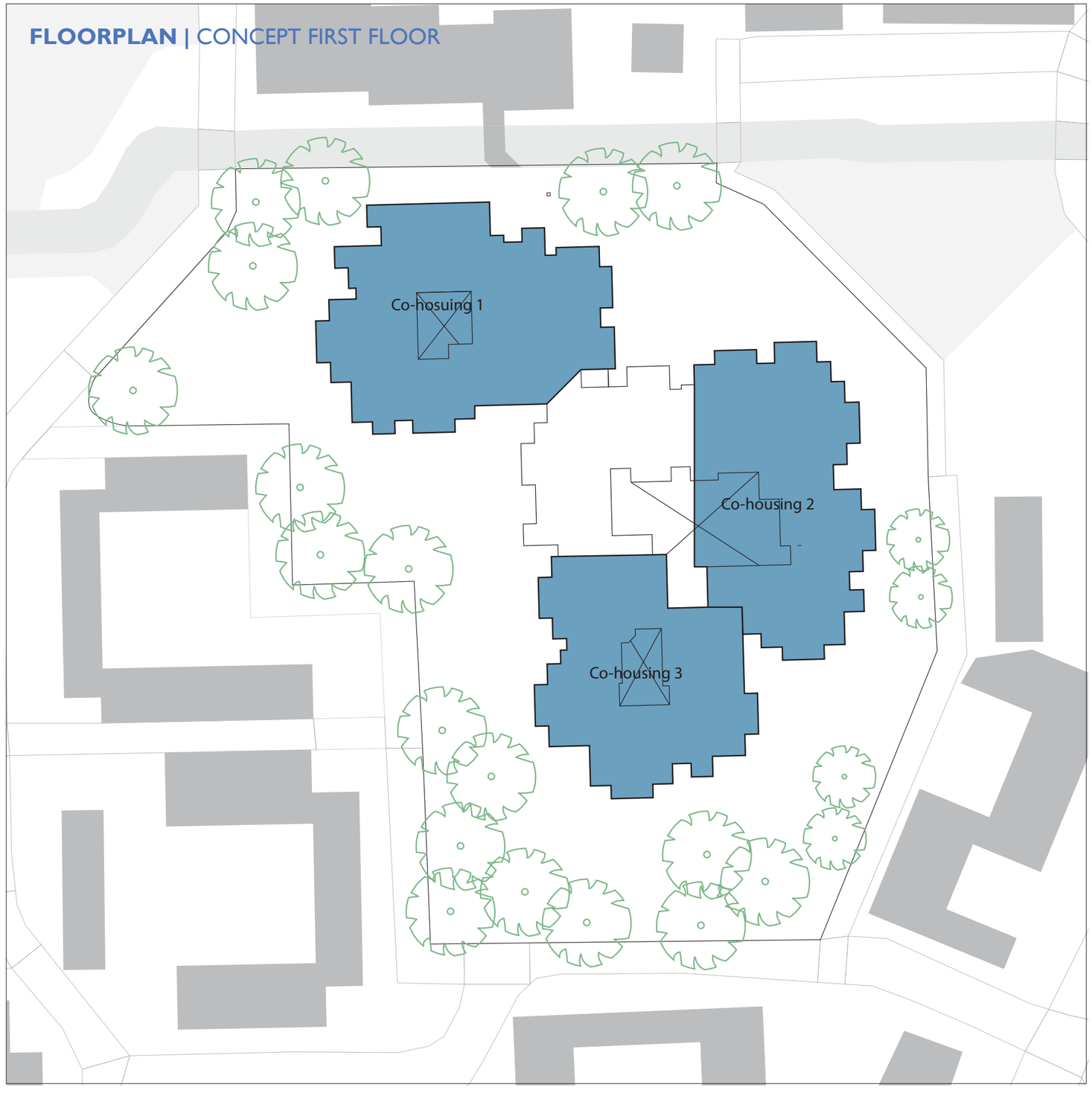
Internal spaces:
Communal living room
Communal kitchen
Laundry room
Indoor garden
Recreational rooms:
Hobby room
Pool/biljarts/darts room

Legend:
- PRIVATE DWELLINGS
- HALLWAYS
- COMMUNAL AREAS
- COMMON ROOMS
- SHARED FACILITIES
- PUBLIC FUNCTIONS

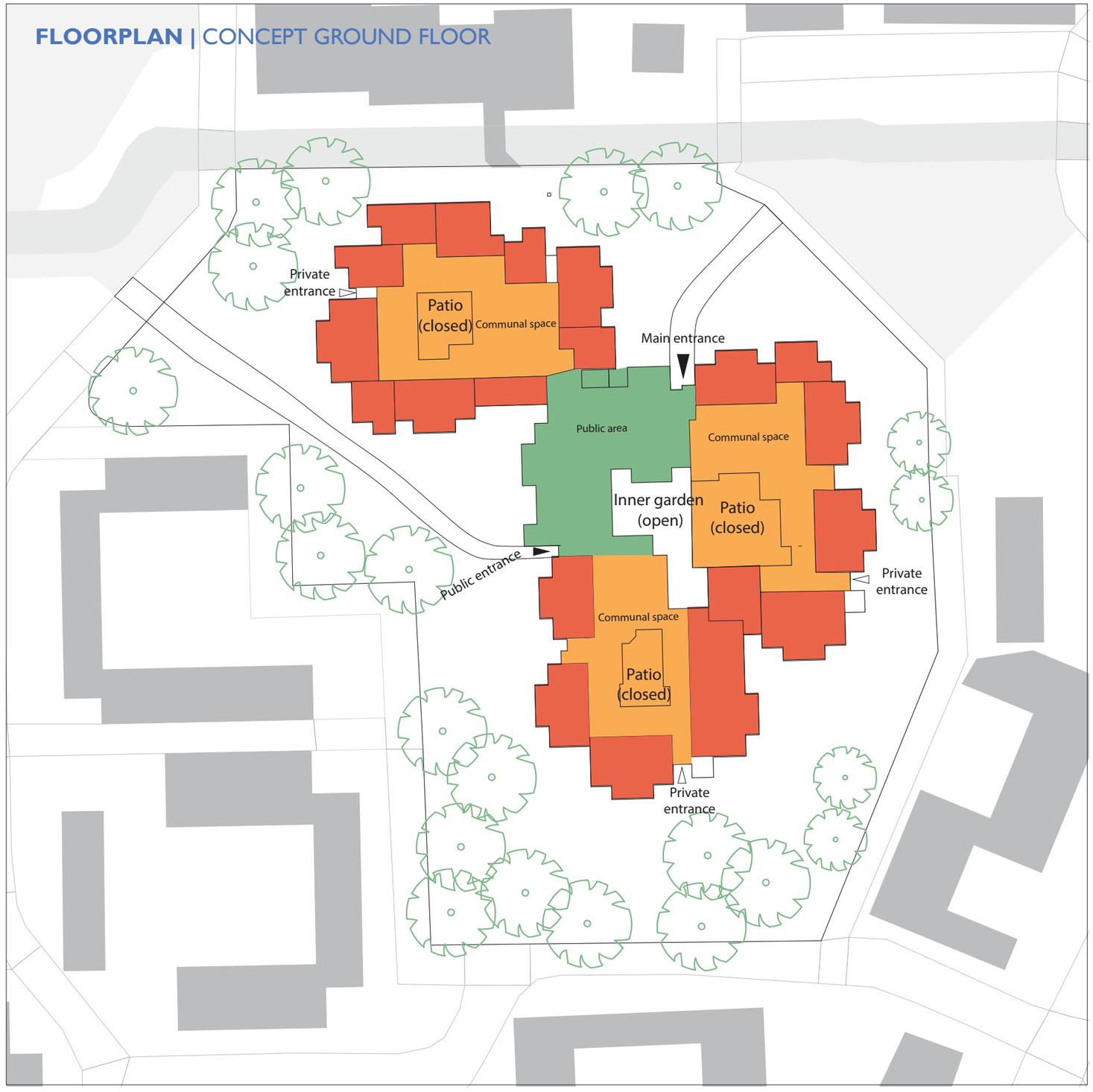
Design concept: Floorplan public/private ground floor



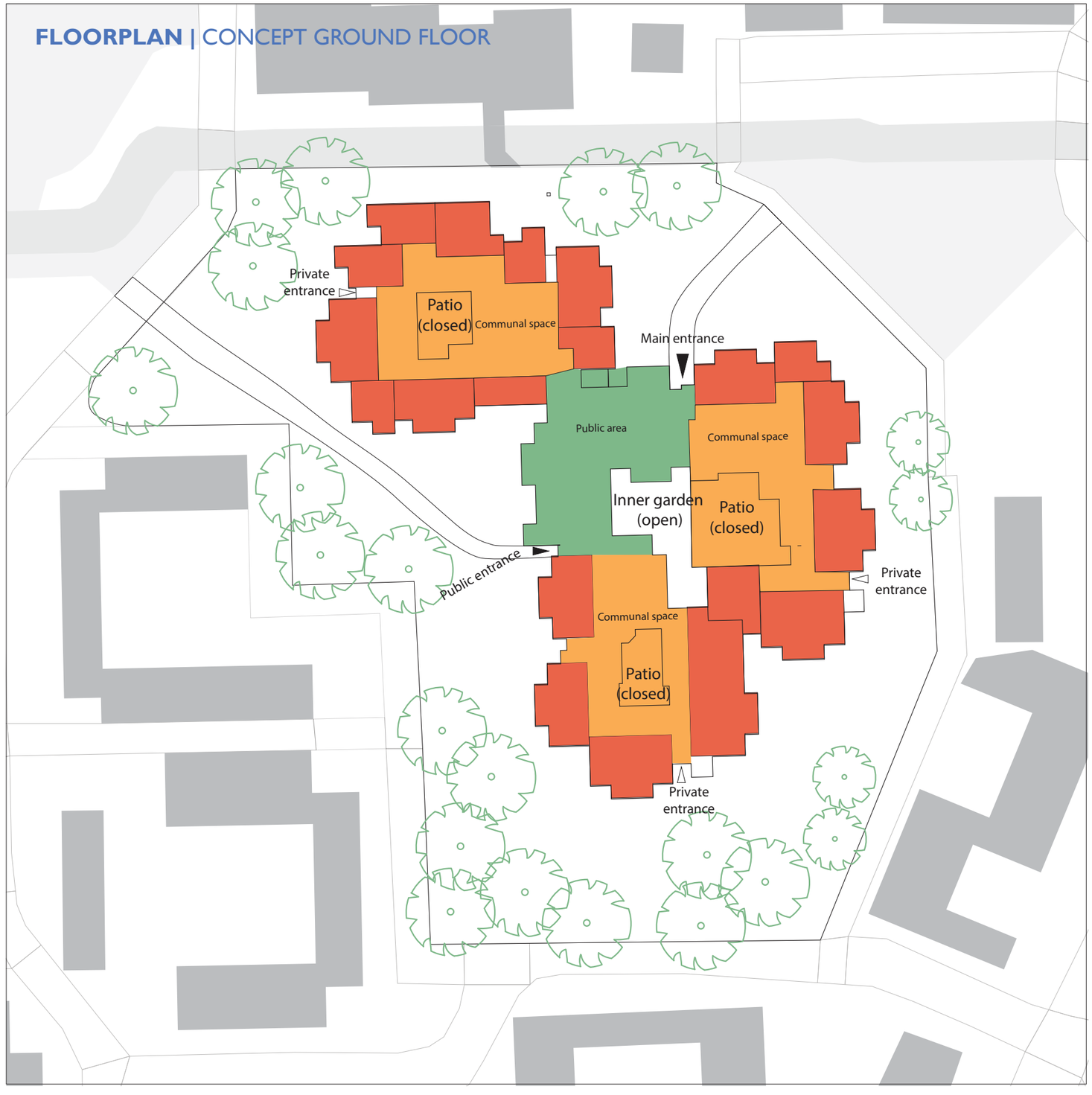
Design concept: Floorplan public/private first floor



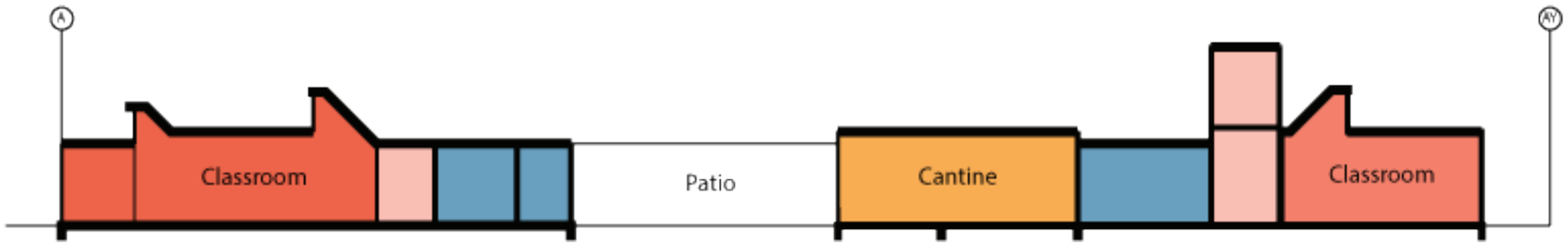
Design concept: Floorplan ground floor



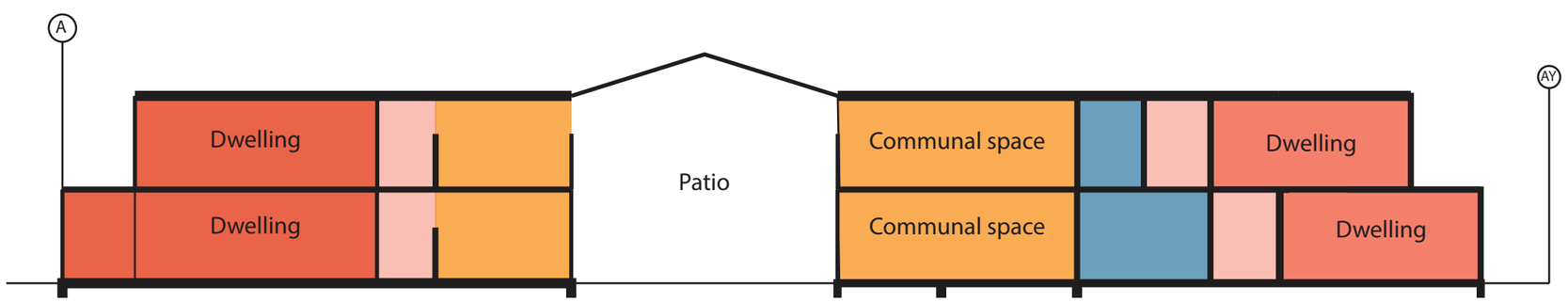
Design concept: Floorplan first floor



Design concept: Sections



Existing situation



Design concept



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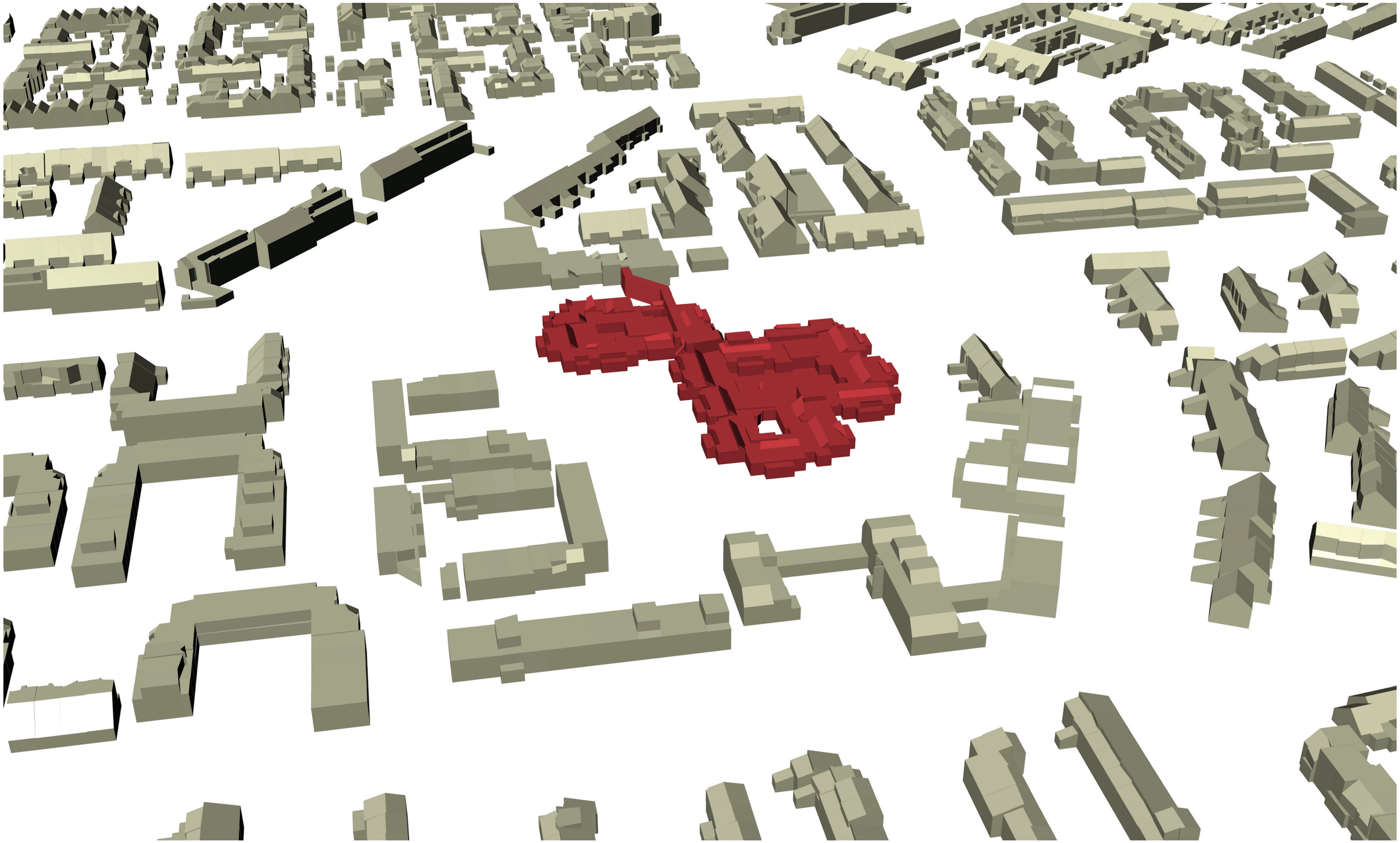
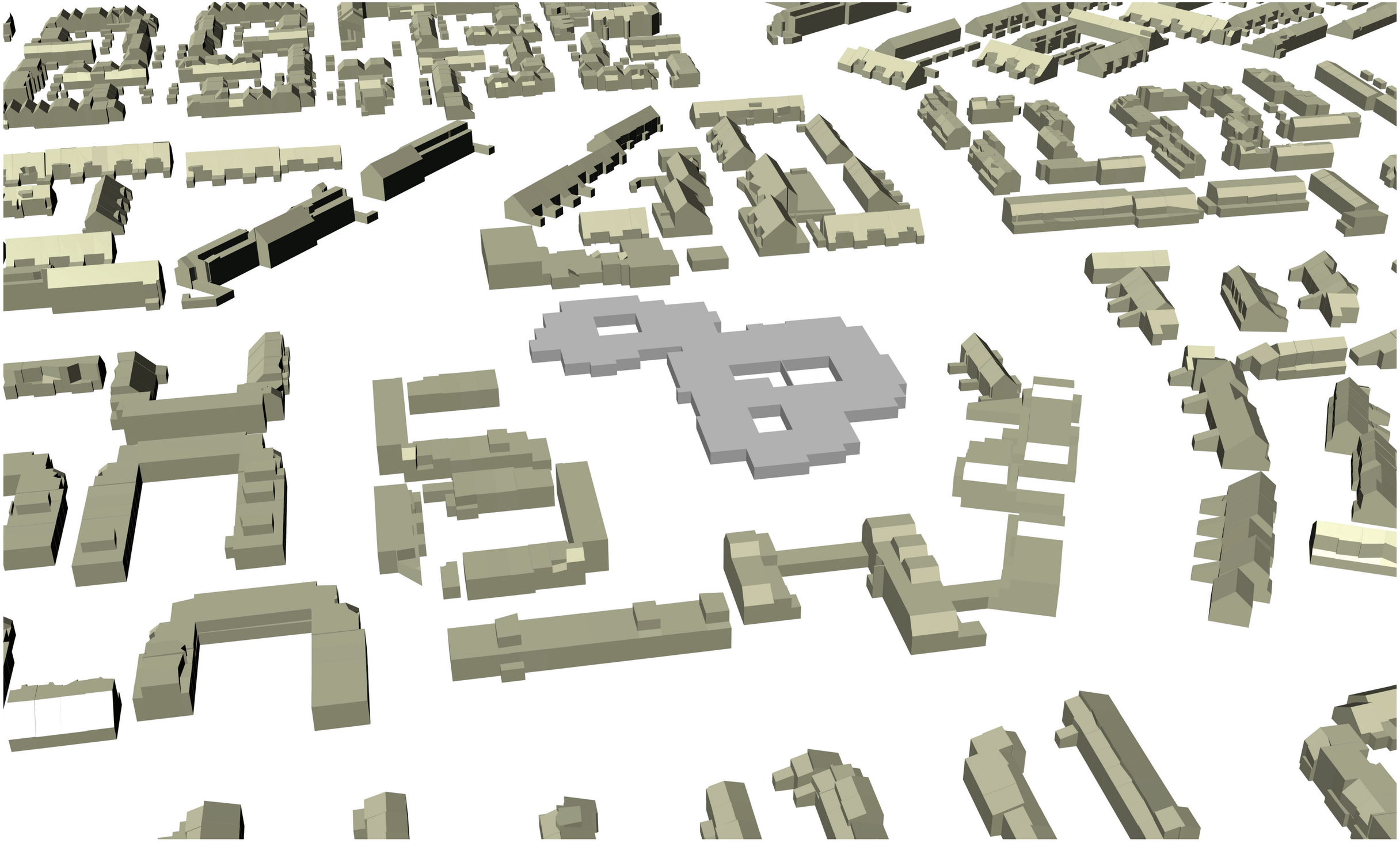
Transformation strategy

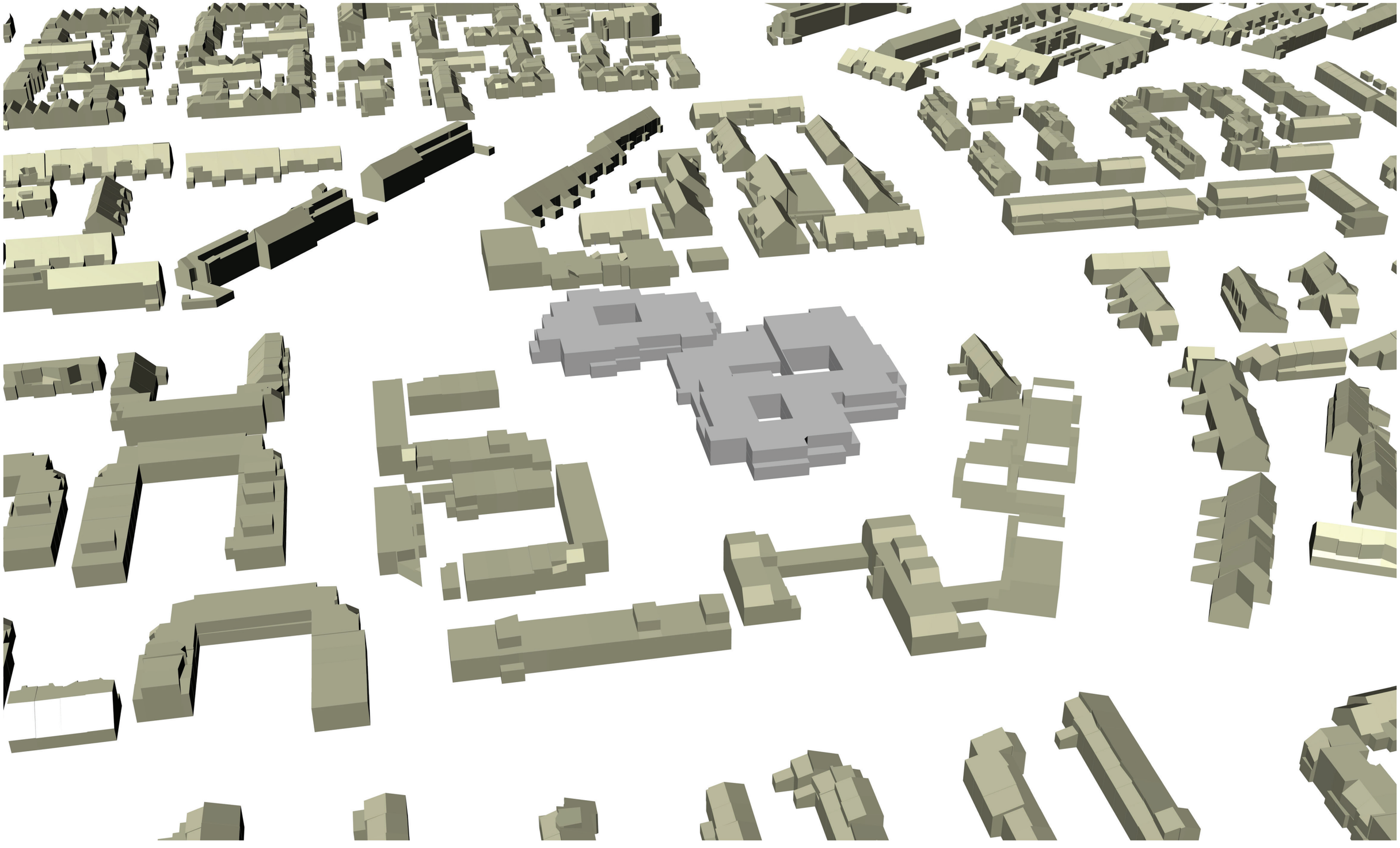
Transformation strategy: Existing situation



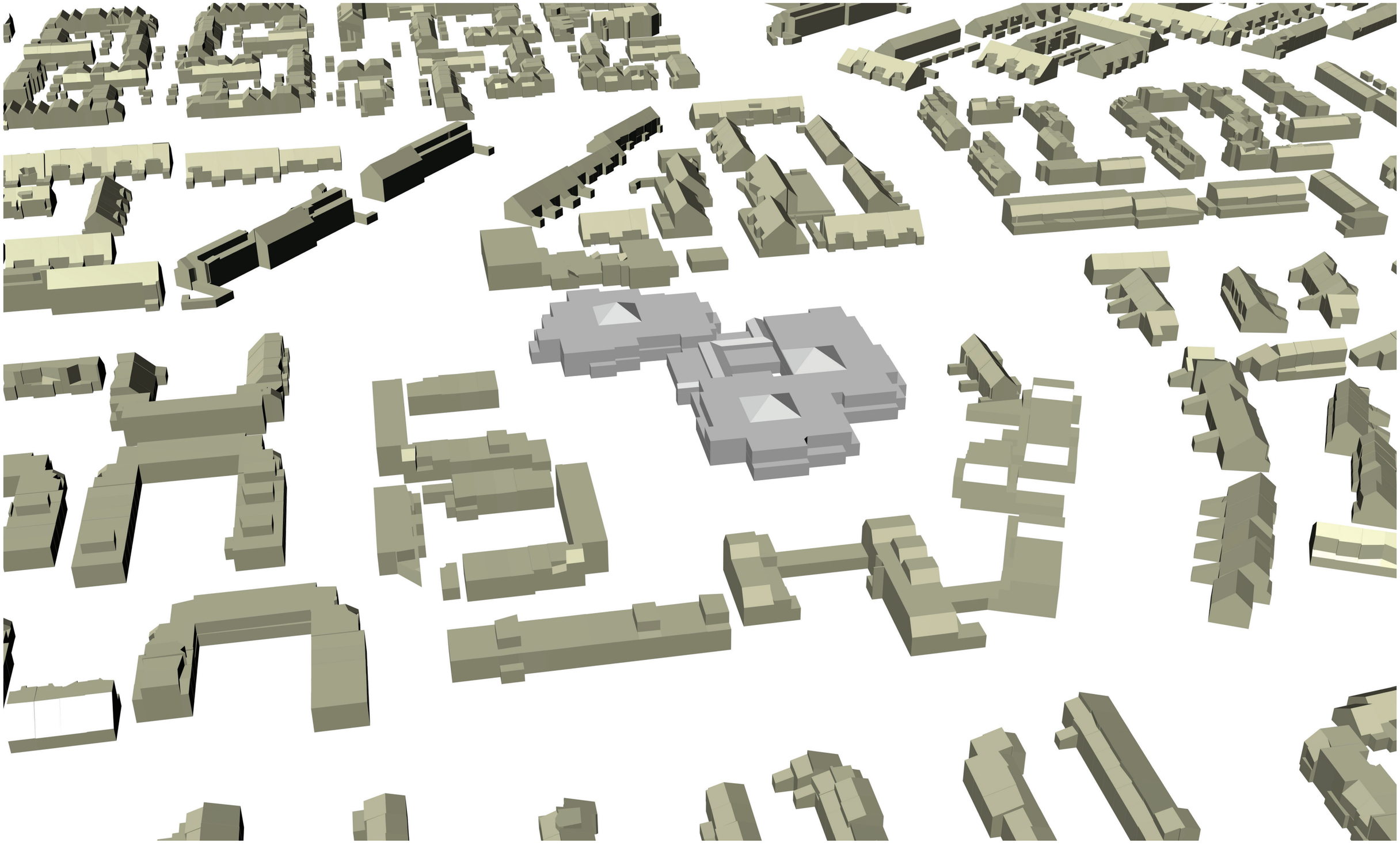
Transformation strategy: Even out roof and simplify courtyards



Transformation strategy: Added floor



Transformation strategy: Covering courtyards and passage



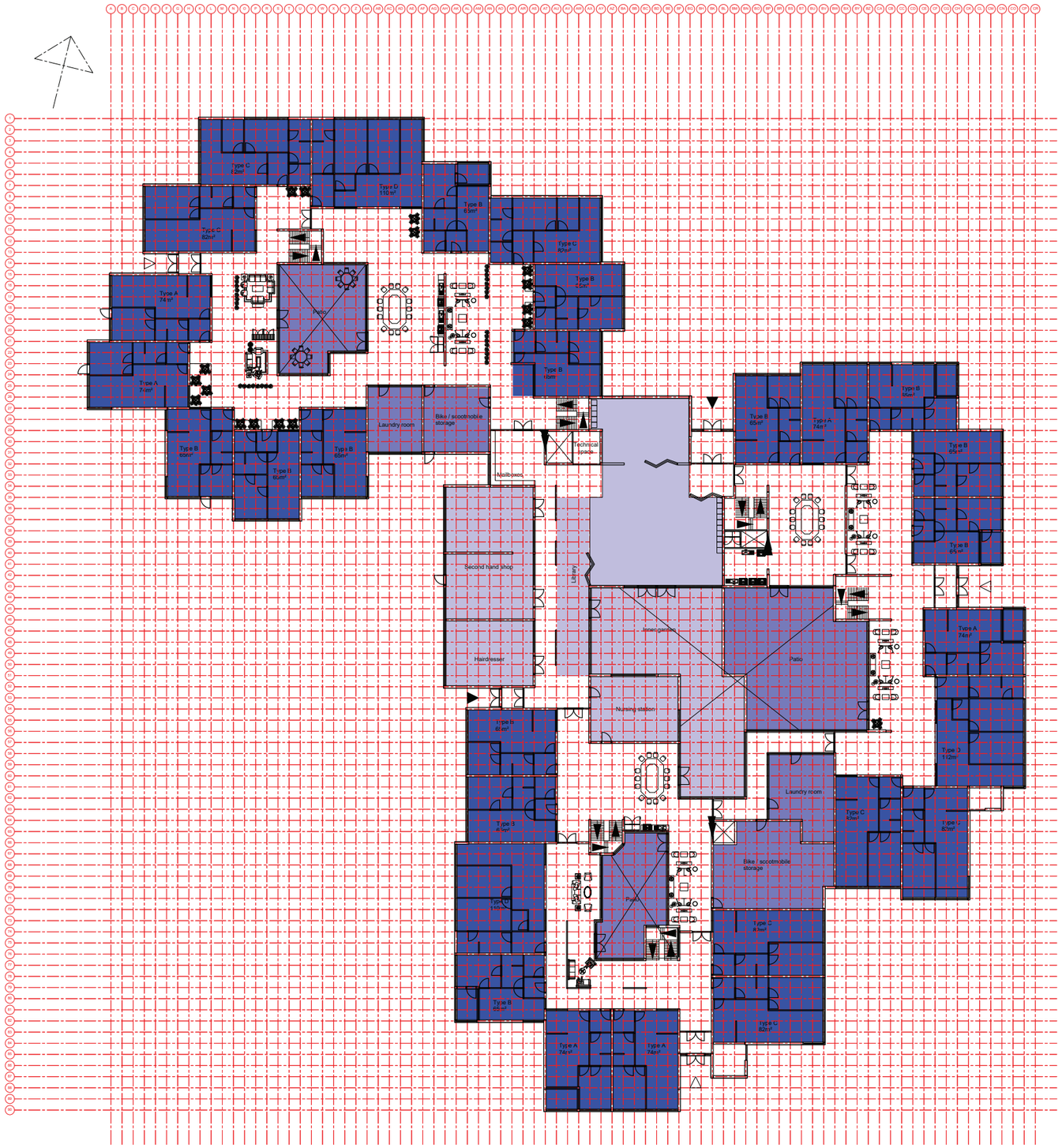
Co-housing courtyards

P3 products

P3 products: Sketch building plot

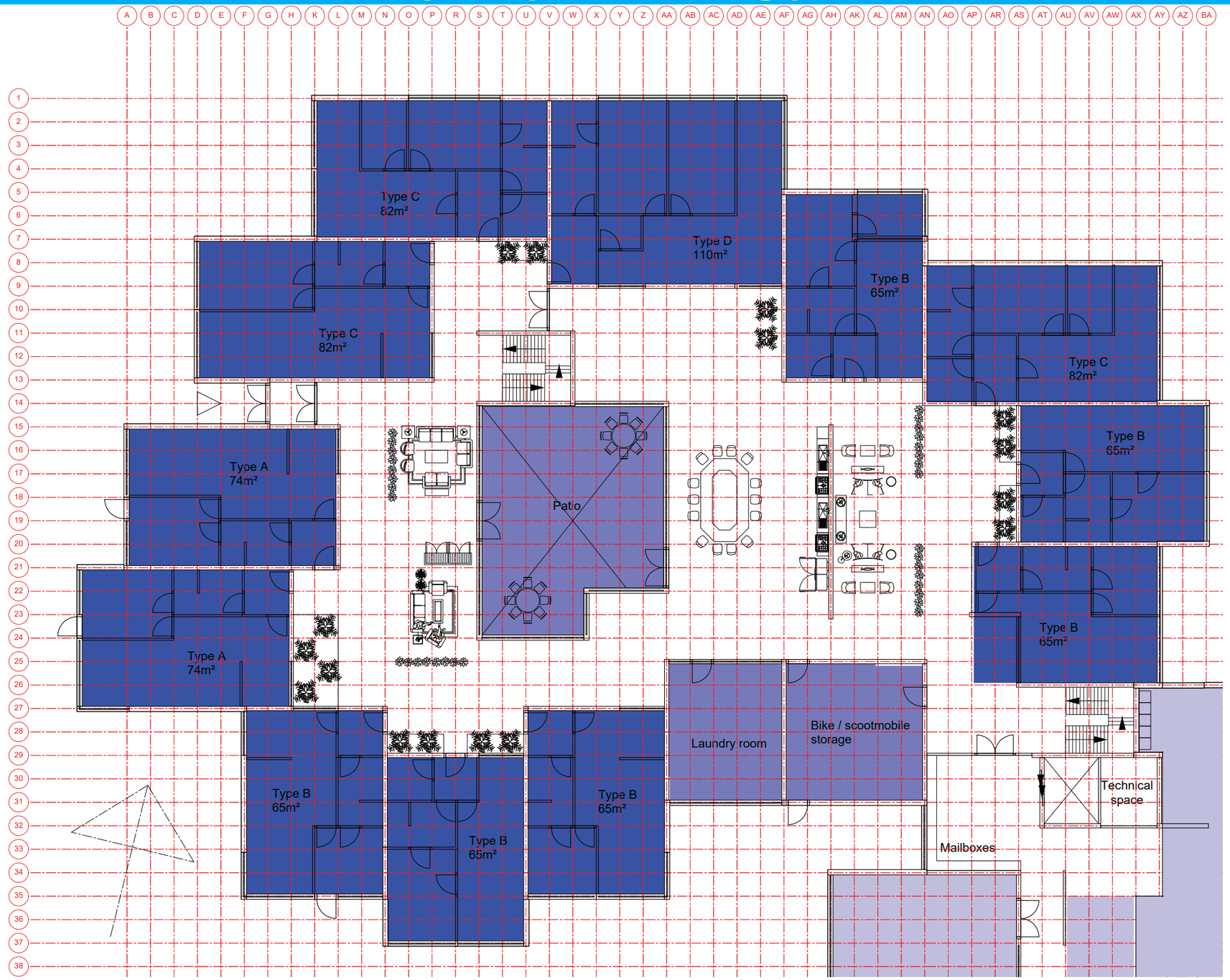


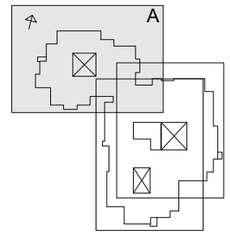
P3 products: Ground floor layout spaces



Ground Floor
1:500

P3 products: Ground floor layout spaces building part A

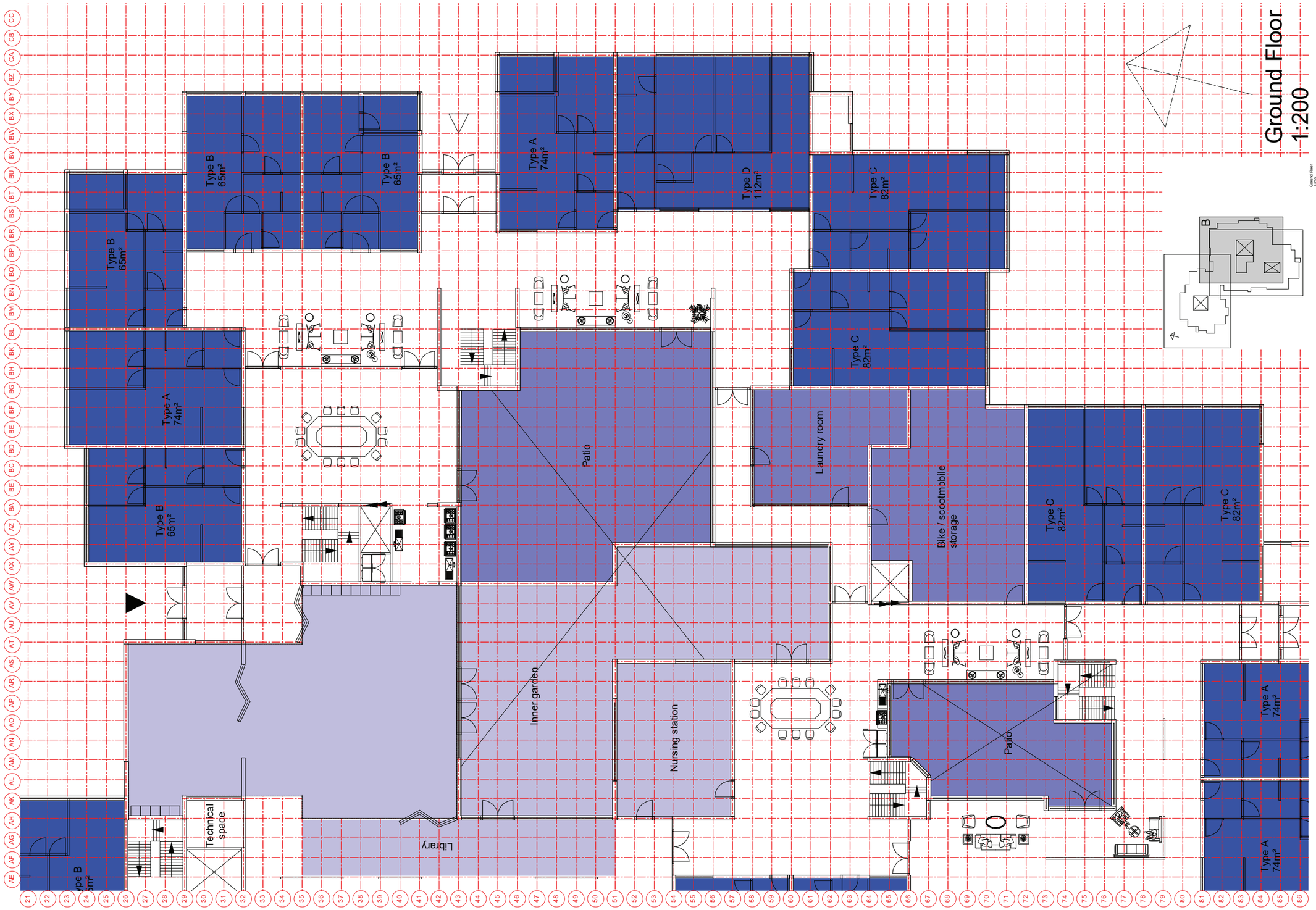




Ground Floor
1:500

Ground Floor
1:200

P3 products: Ground floor layout spaces building part B



P3 products: Ground floor layout spaces building part C

Ground Floor
1:500

Type A
74m²

Type B
65m²

Patio

Type C
82m²

Laundry room

Bike / scootmobile
storage

Type C
82m²

Type C
82m²

C

Inner garden

Nursing station

Patio

Type A
74m²

Technical
space

Library

Type A
74m²

Mailboxes

Second hand shop

Hairdresser

Type B
65m²

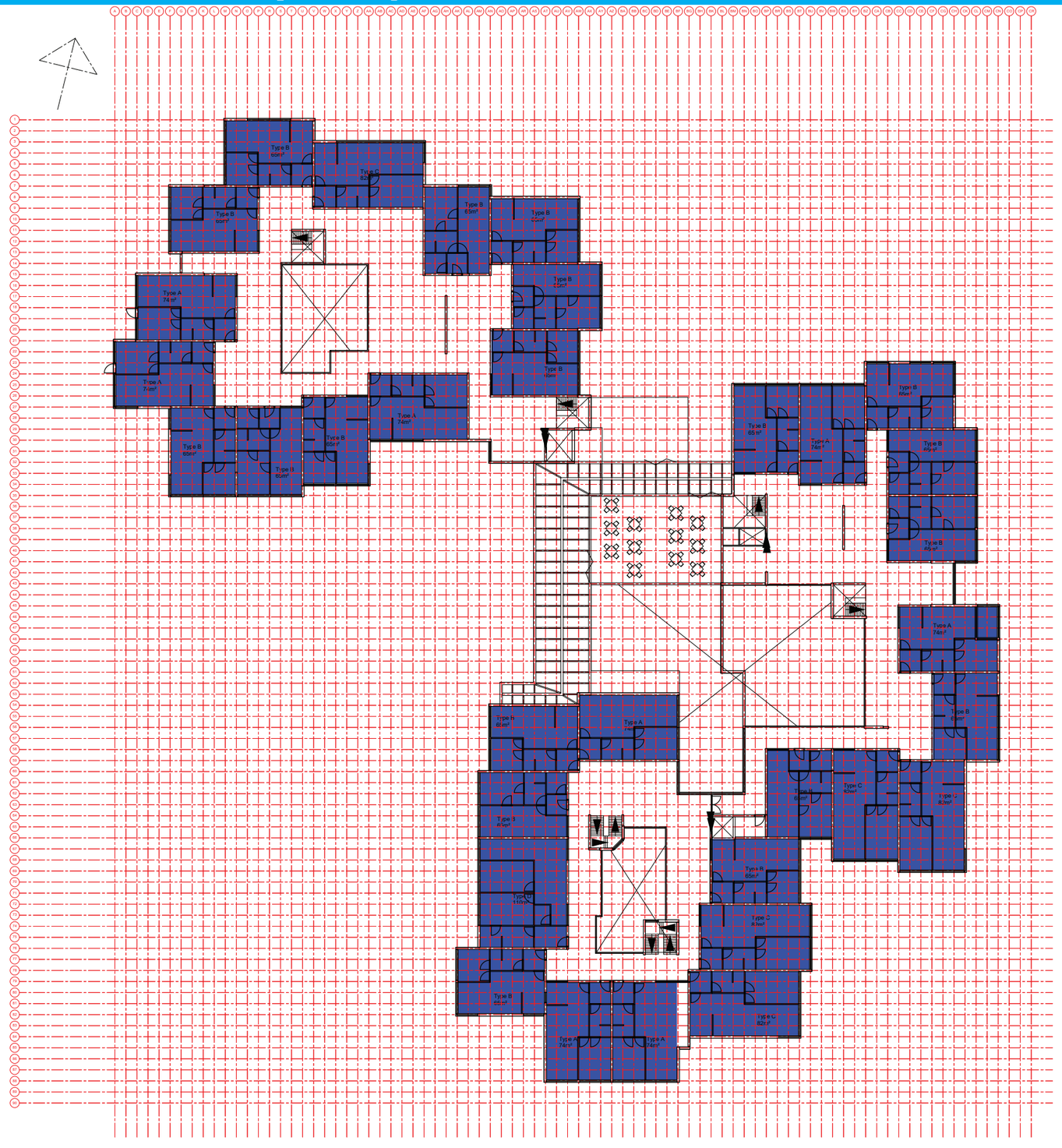
Type B
65m²

Type D
110m²

Type B
65m²

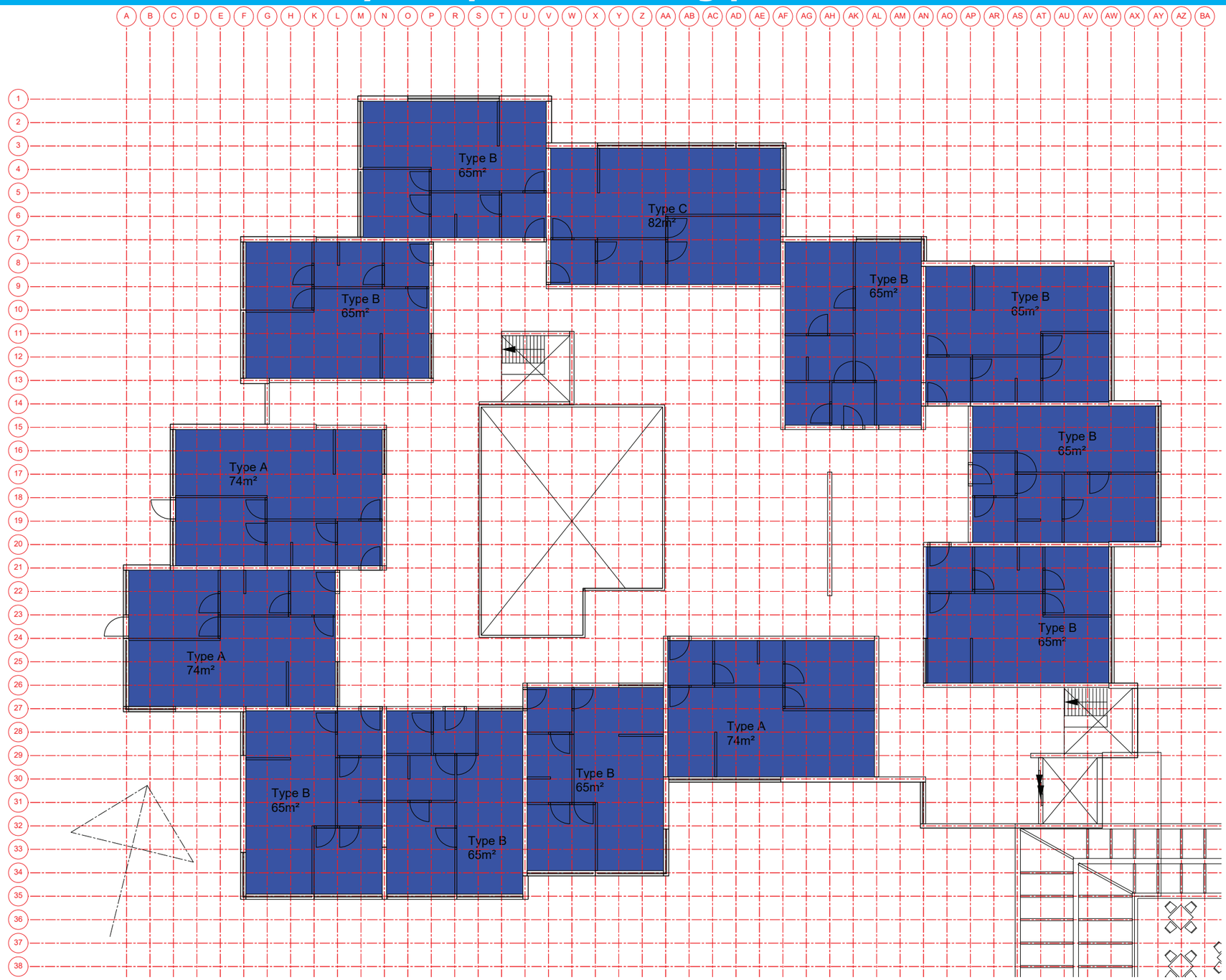
Bike / scootmobile
storage

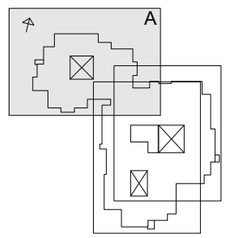
P3 products: First floor layout spaces



First Floor
1:500

P3 products: First floor layout spaces building part A

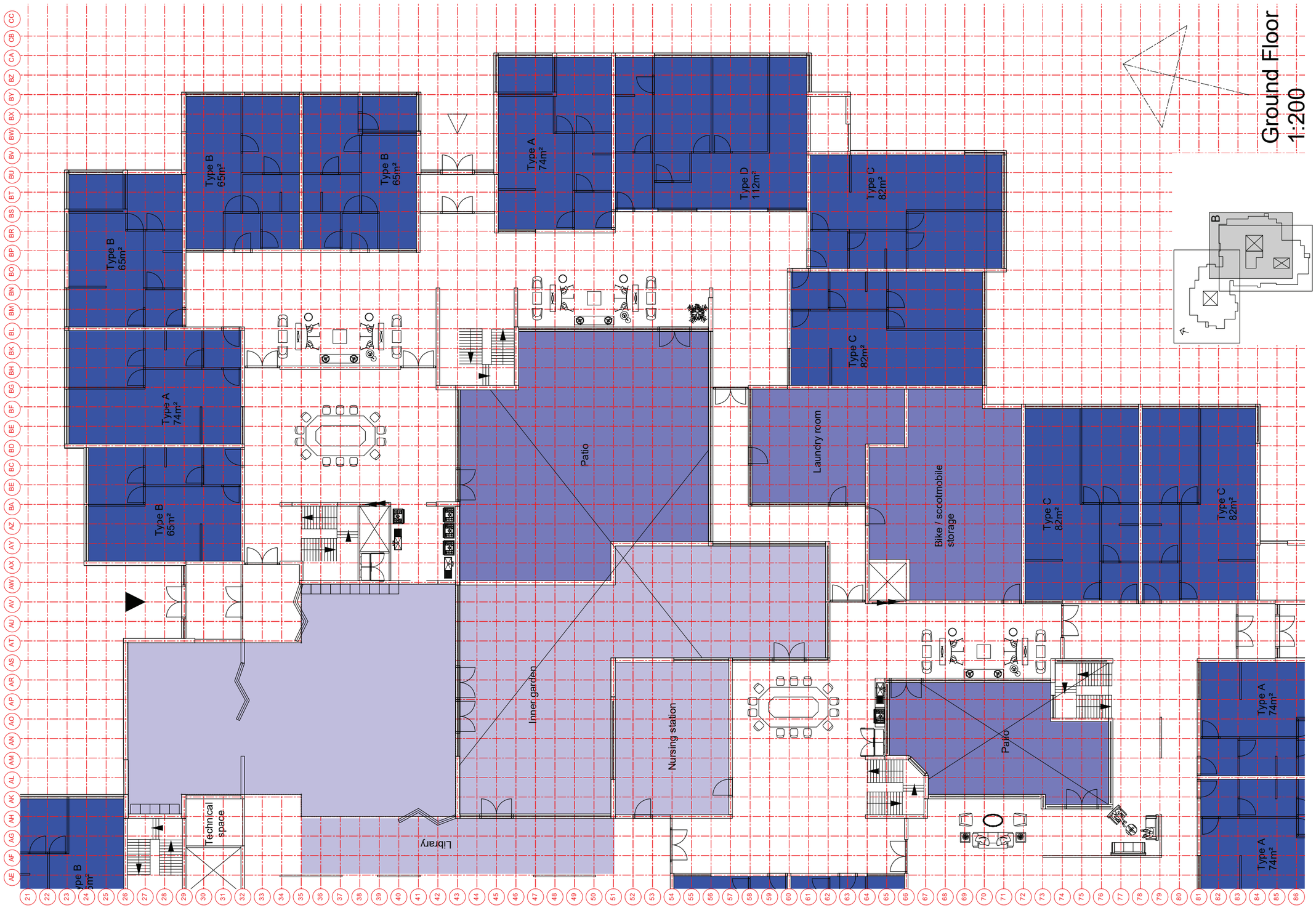




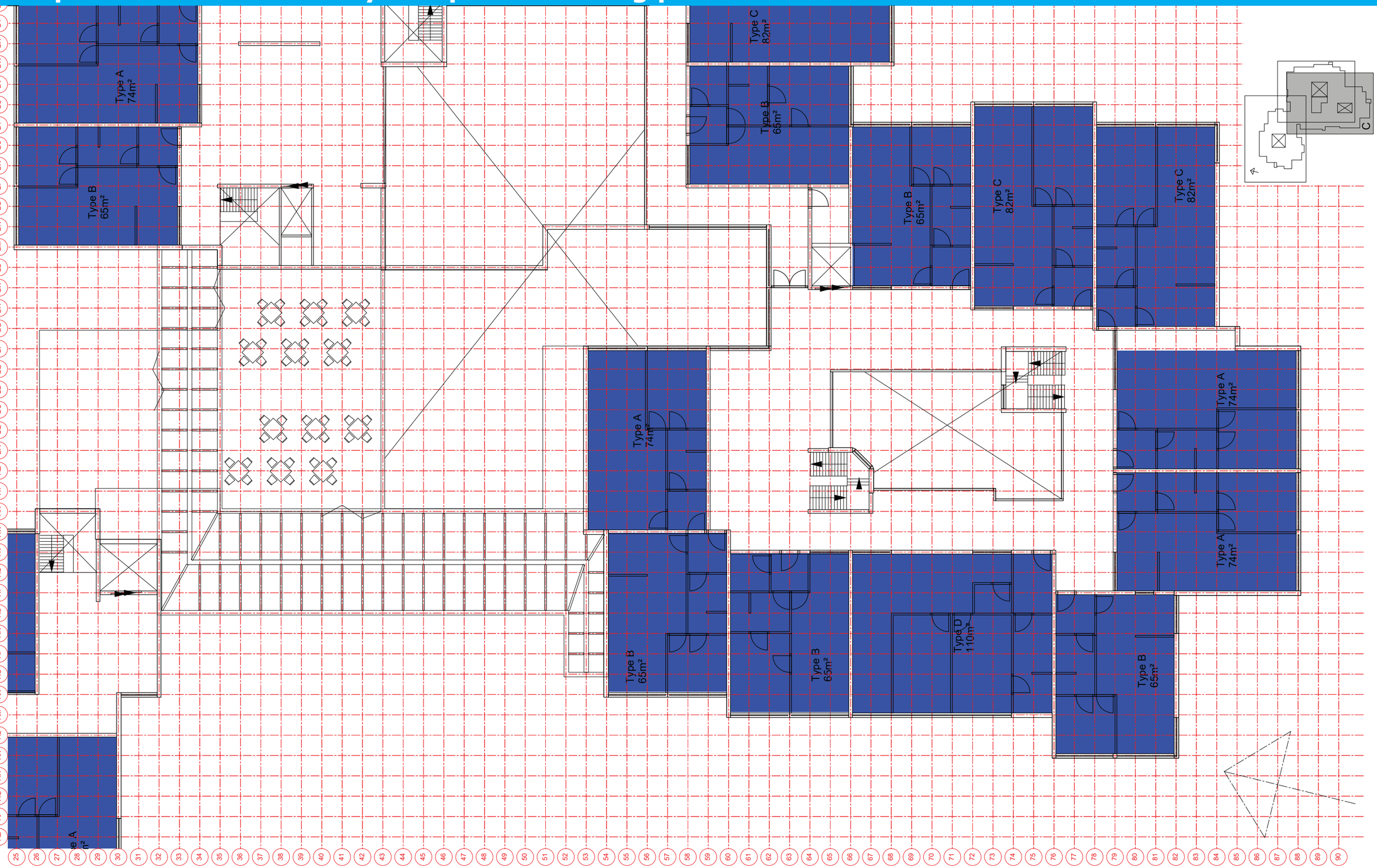
Ground Floor
1:500

First Floor
1:200

P3 products: First floor layout spaces building part B

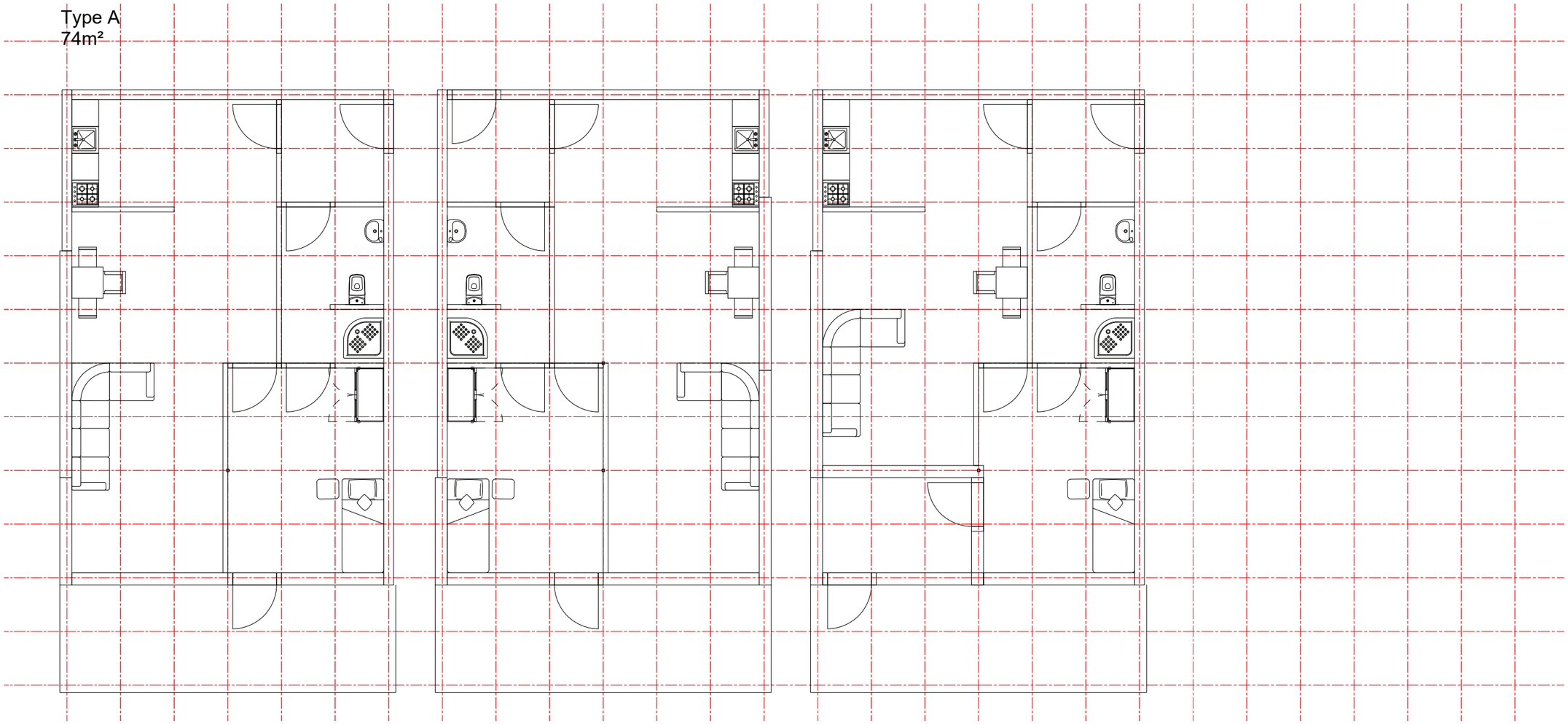


P3 products: First floor layout spaces building part C



P3 products: Room layout type A

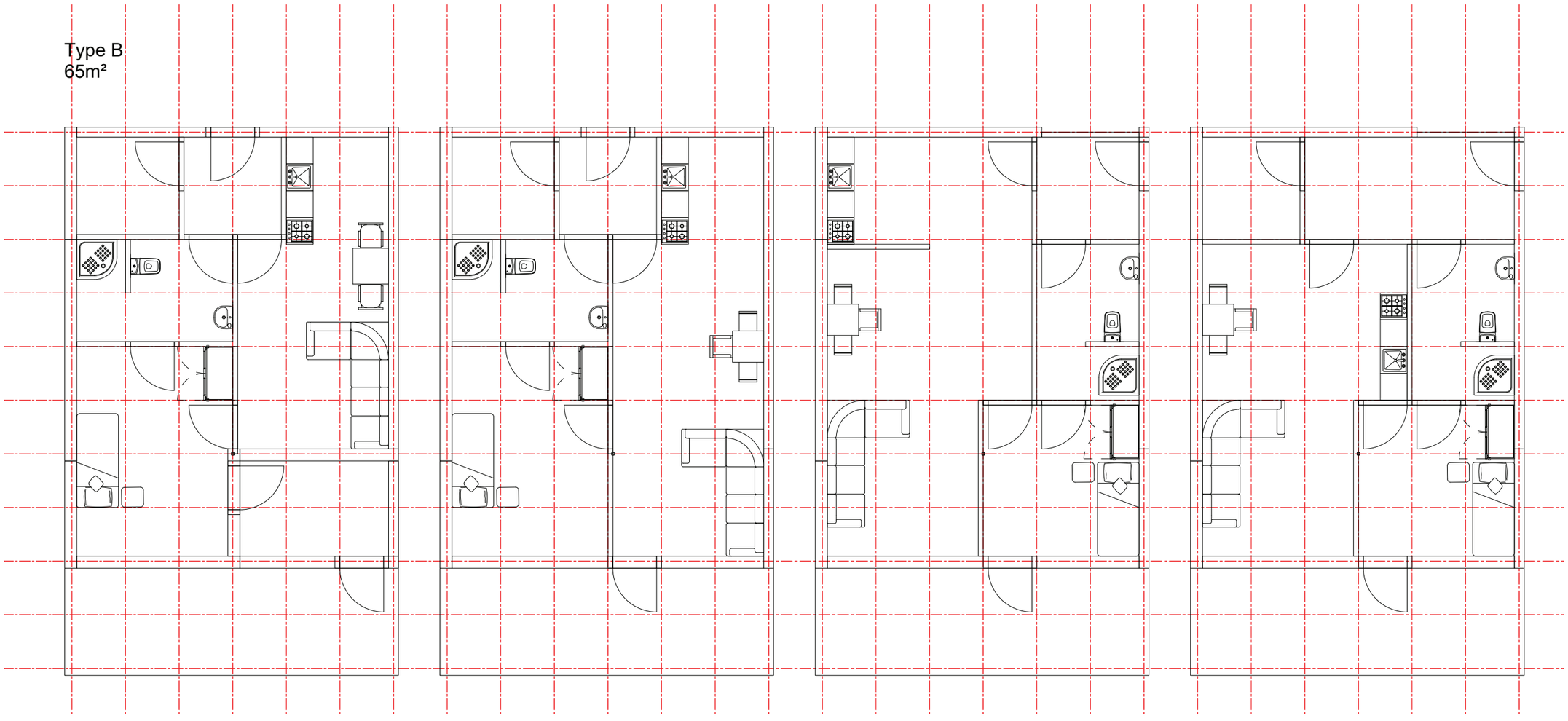
Type A
74m²



Type A
1:100

P3 products: Room layout type B

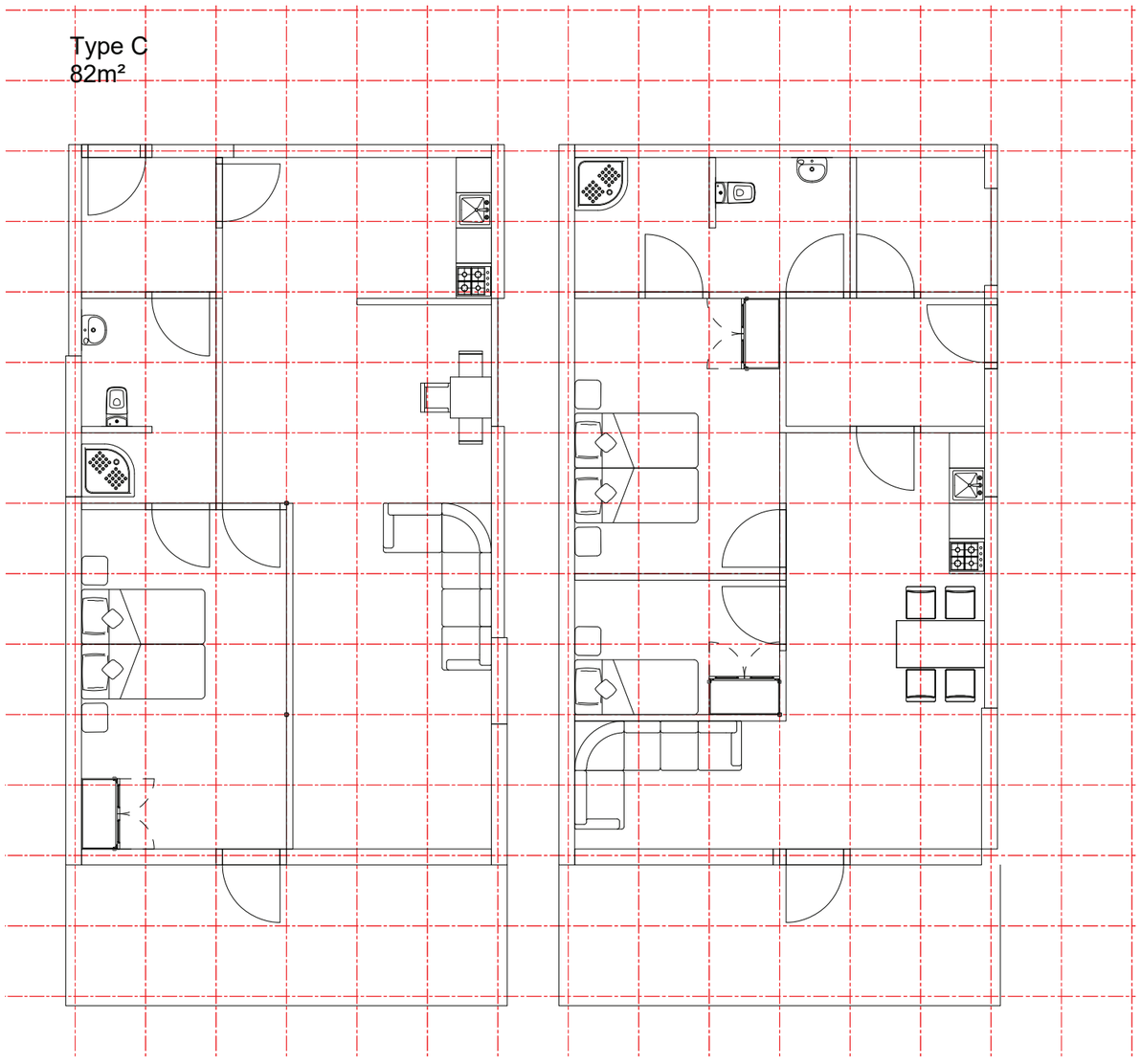
Type B
65m²



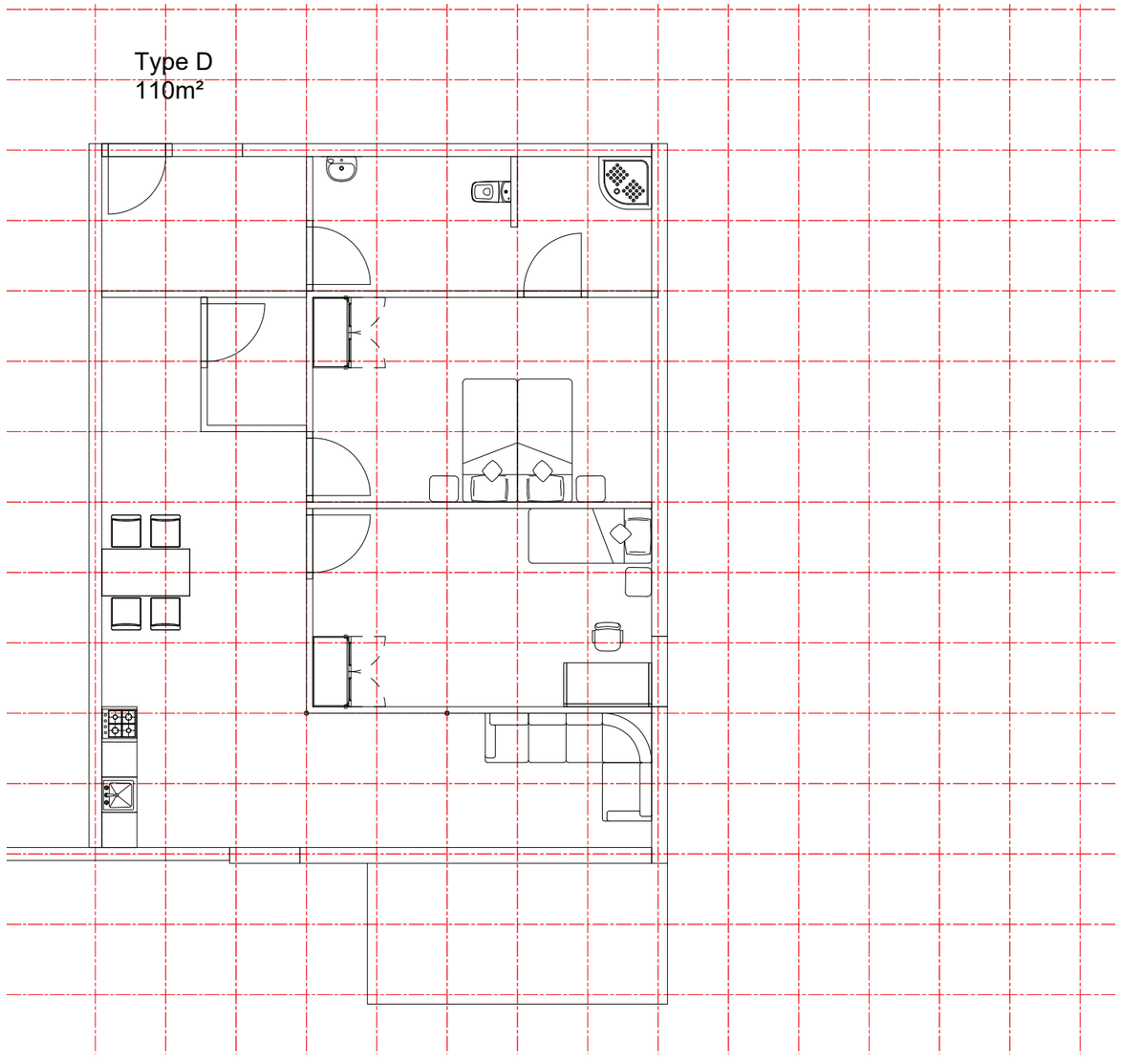
Type B
1:100

P3 products: Room layout type C

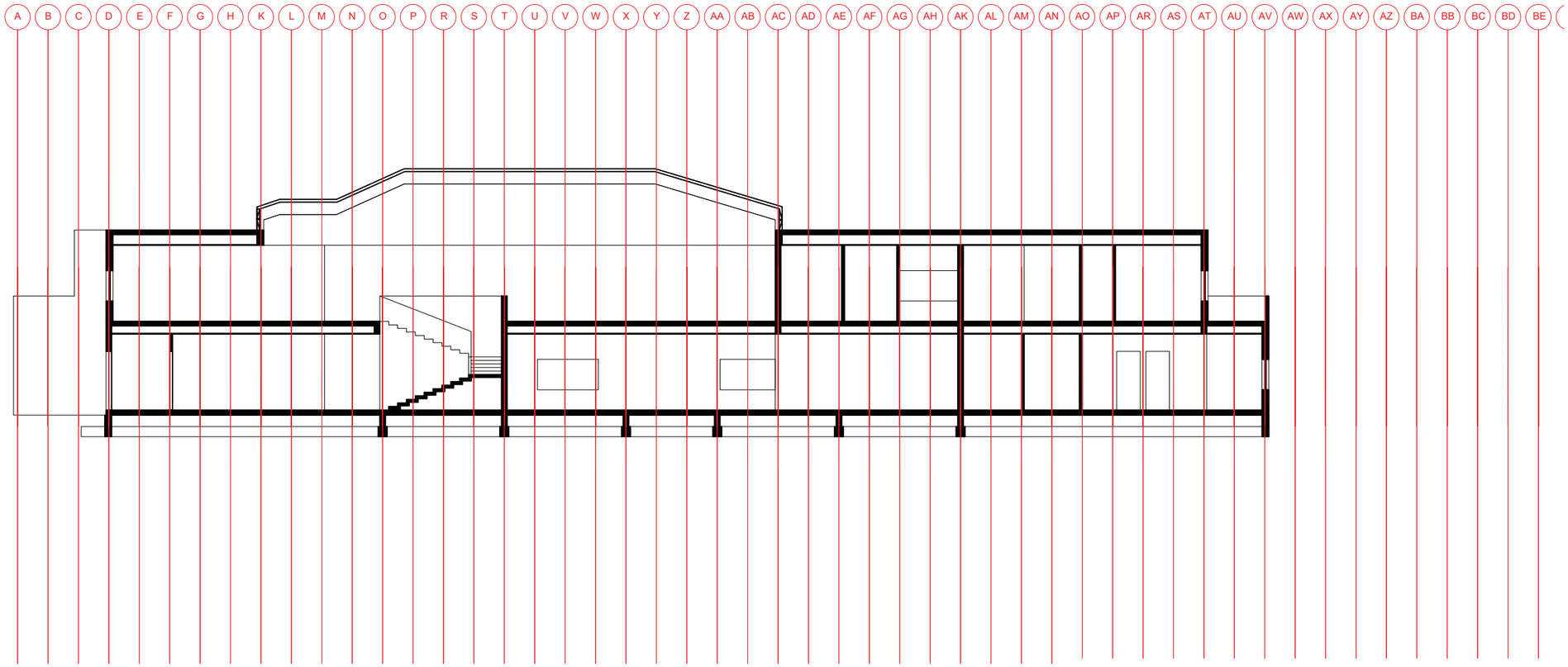
Type C
82m²

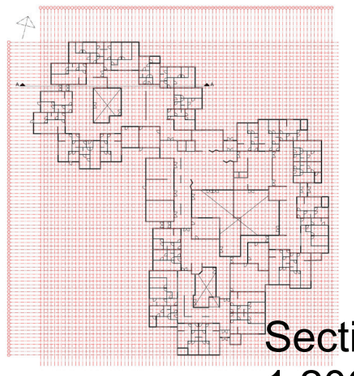


Type D
110m²



P3 products: Section AA

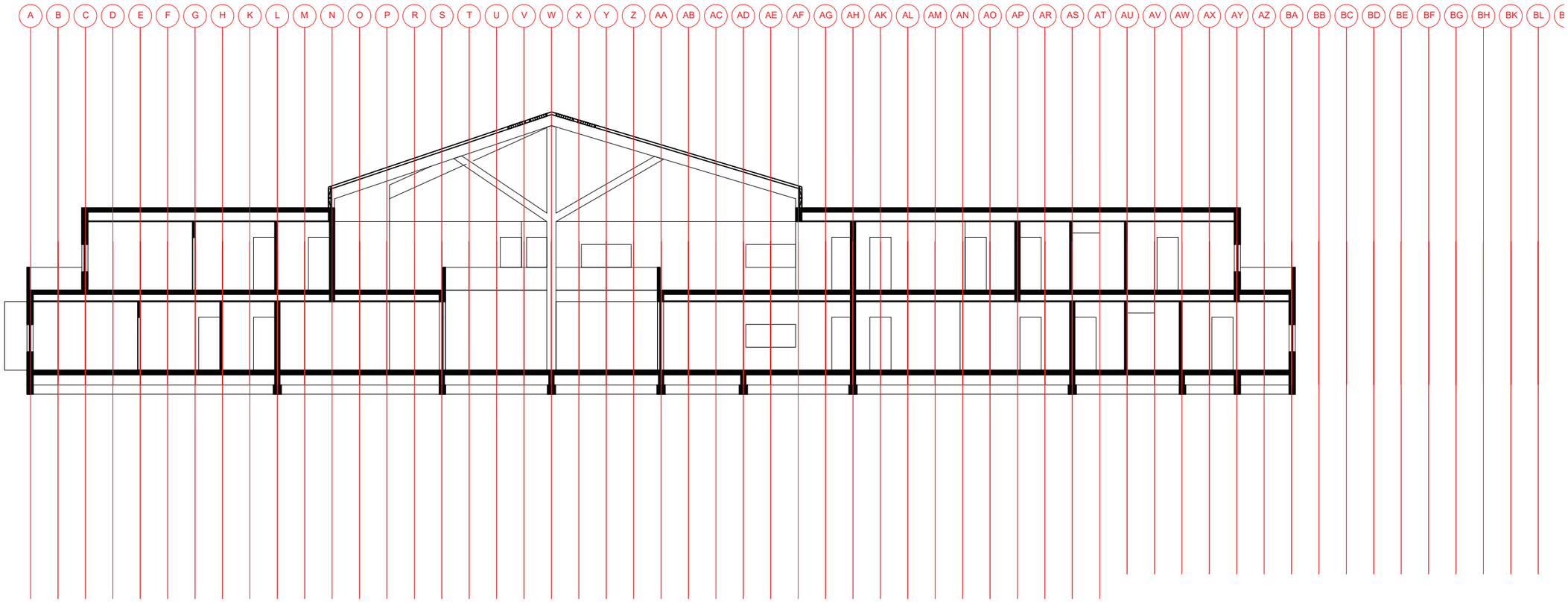


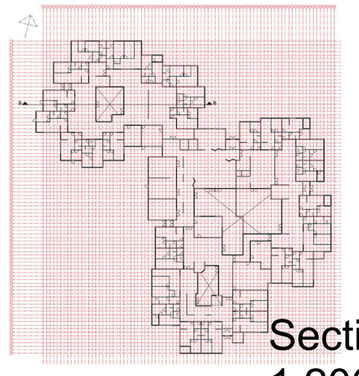


Section AA
1:200

Ground Floor
1:500

P3 products: Section BB

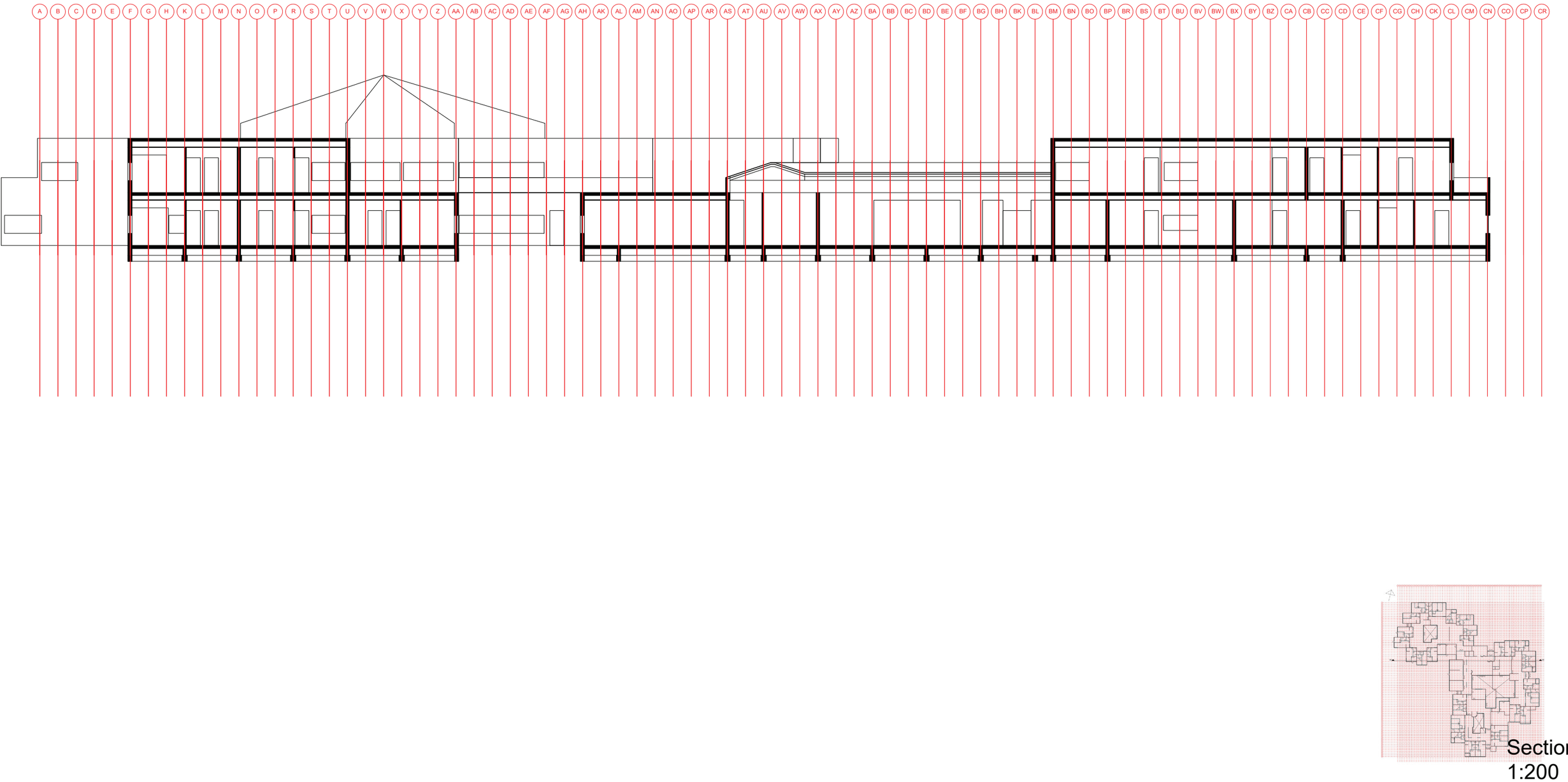




Section BB
1:200

Ground Floor
1:500

P3 products: Section HH

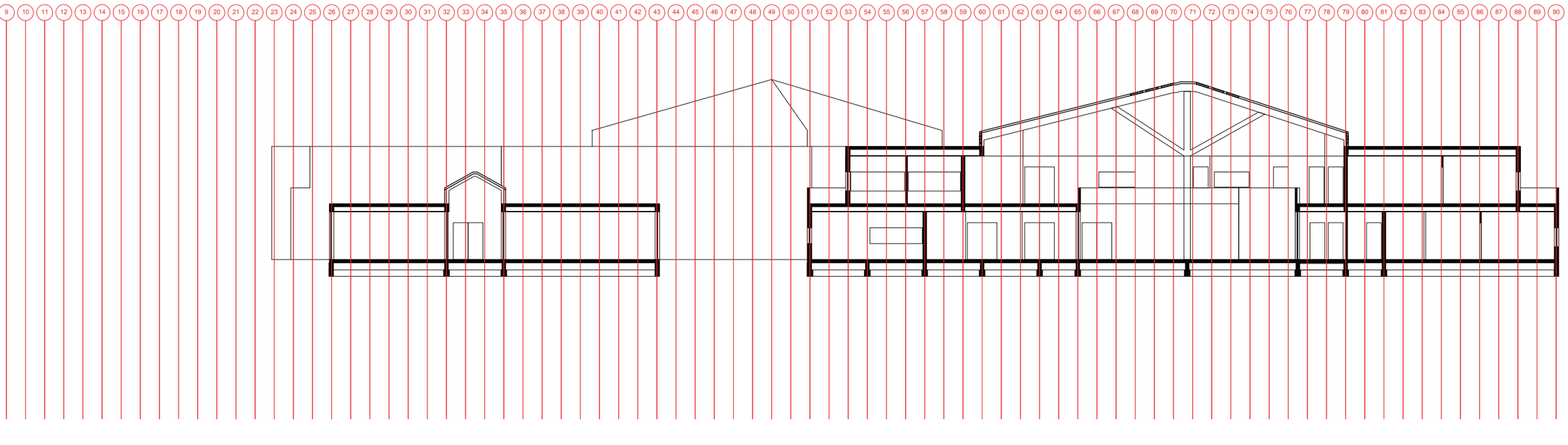


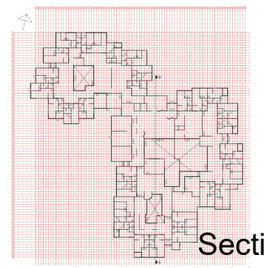
Section HH

1:200

Ground Floor
1:500

P3 products: Section SS





Section SS
1:200

Ground Floor
1:500

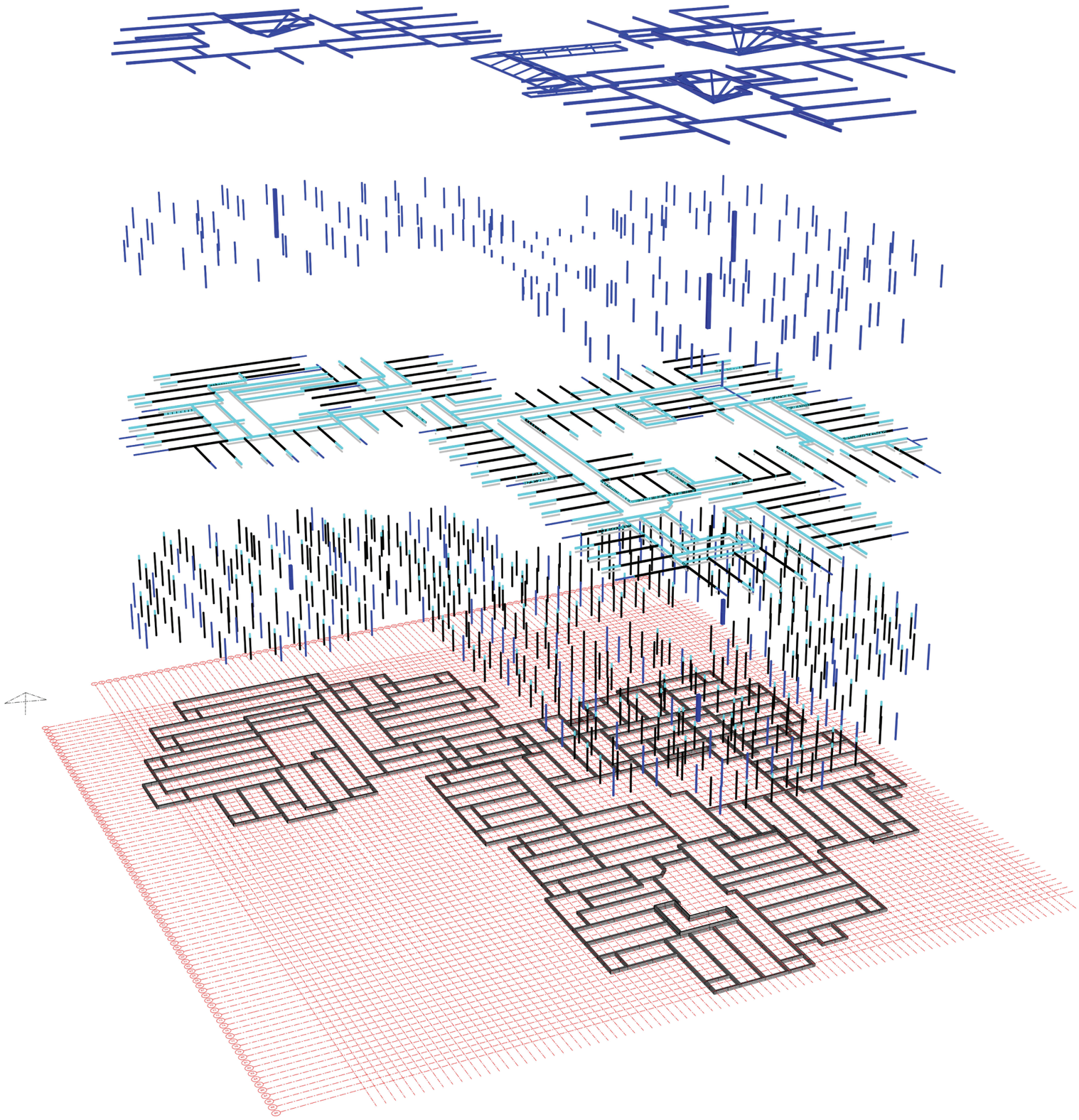
Structure (axonometric)

Columns

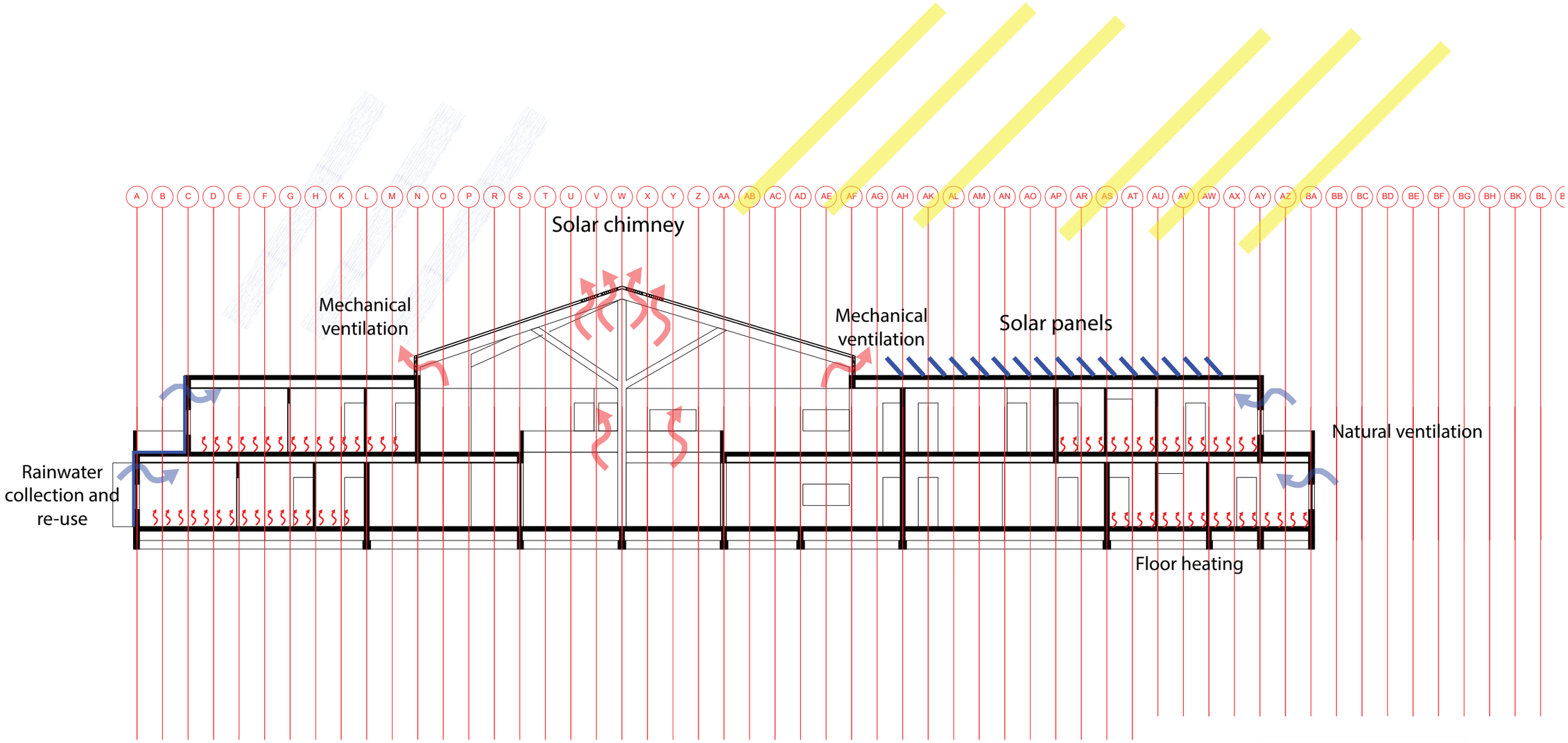
- New (Wood 160x160 mm)
- Extensions (Steel SHS-CF 60x60x3 mm)
- Existing (Steel 60x60x2,9 mm)

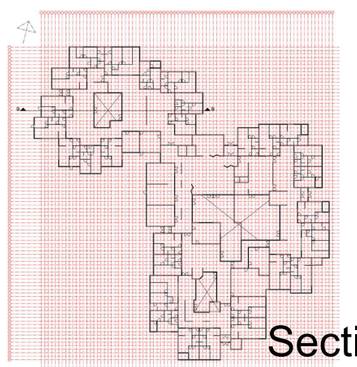
Beams

- New (Wood 200x60 mm)
- Raised (Steel various sizes)
- Old location (Steel various sizes)
- Existing (Steel various sizes)



P3 products: Climate strategy

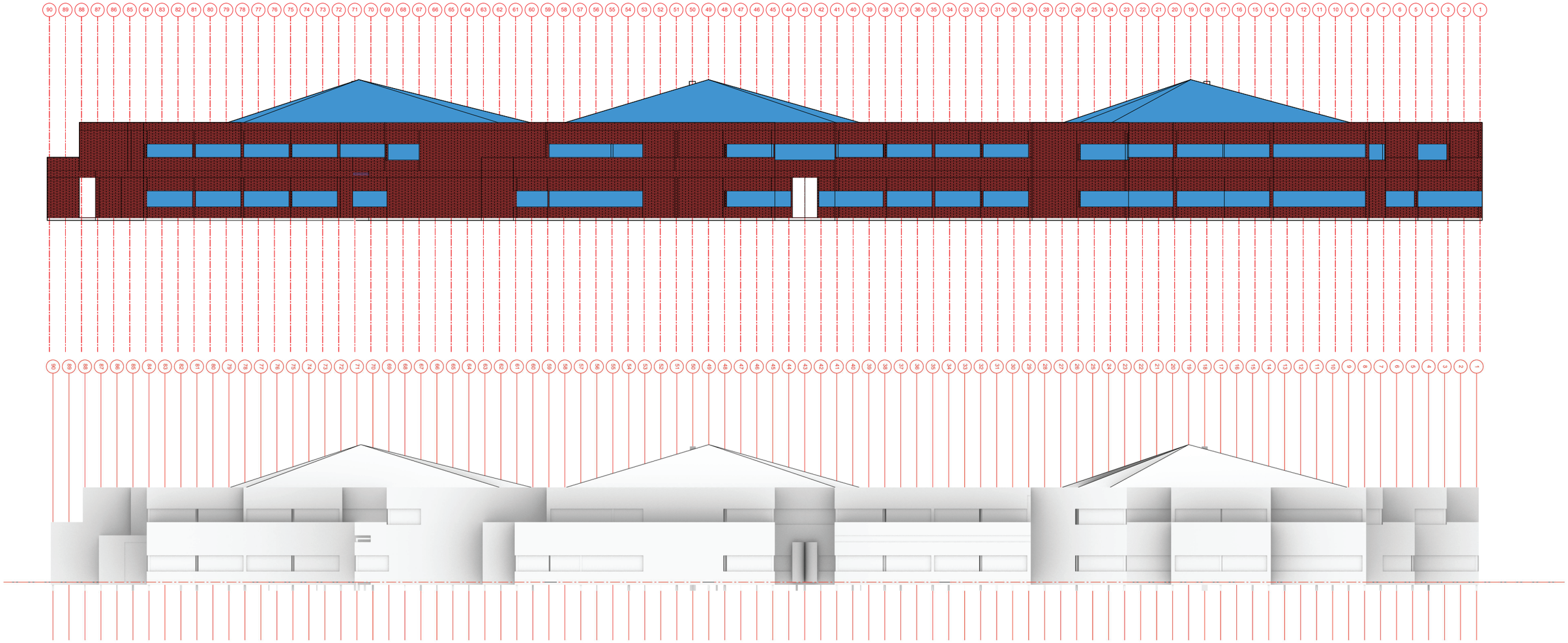




Section BB
1:200

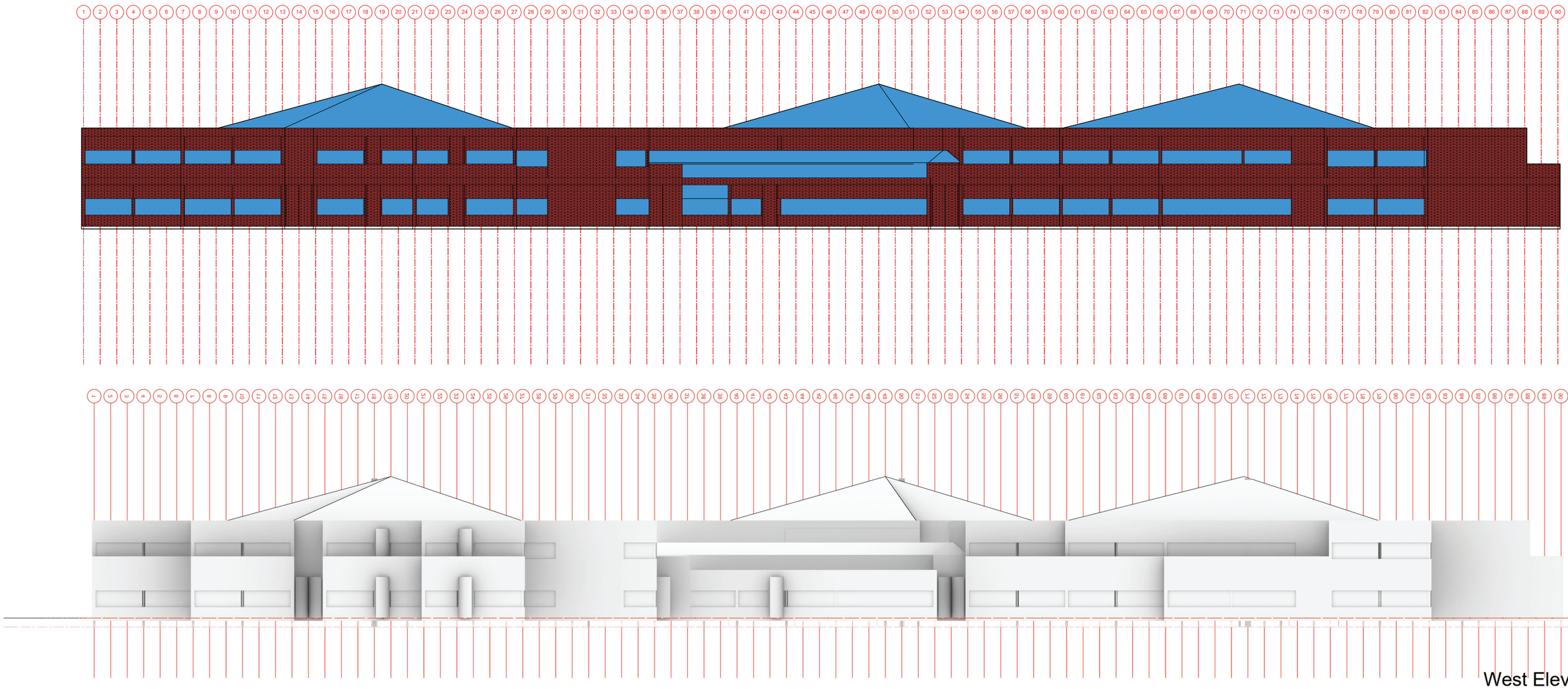
Ground Floor
1:500

P3 products: East elevation



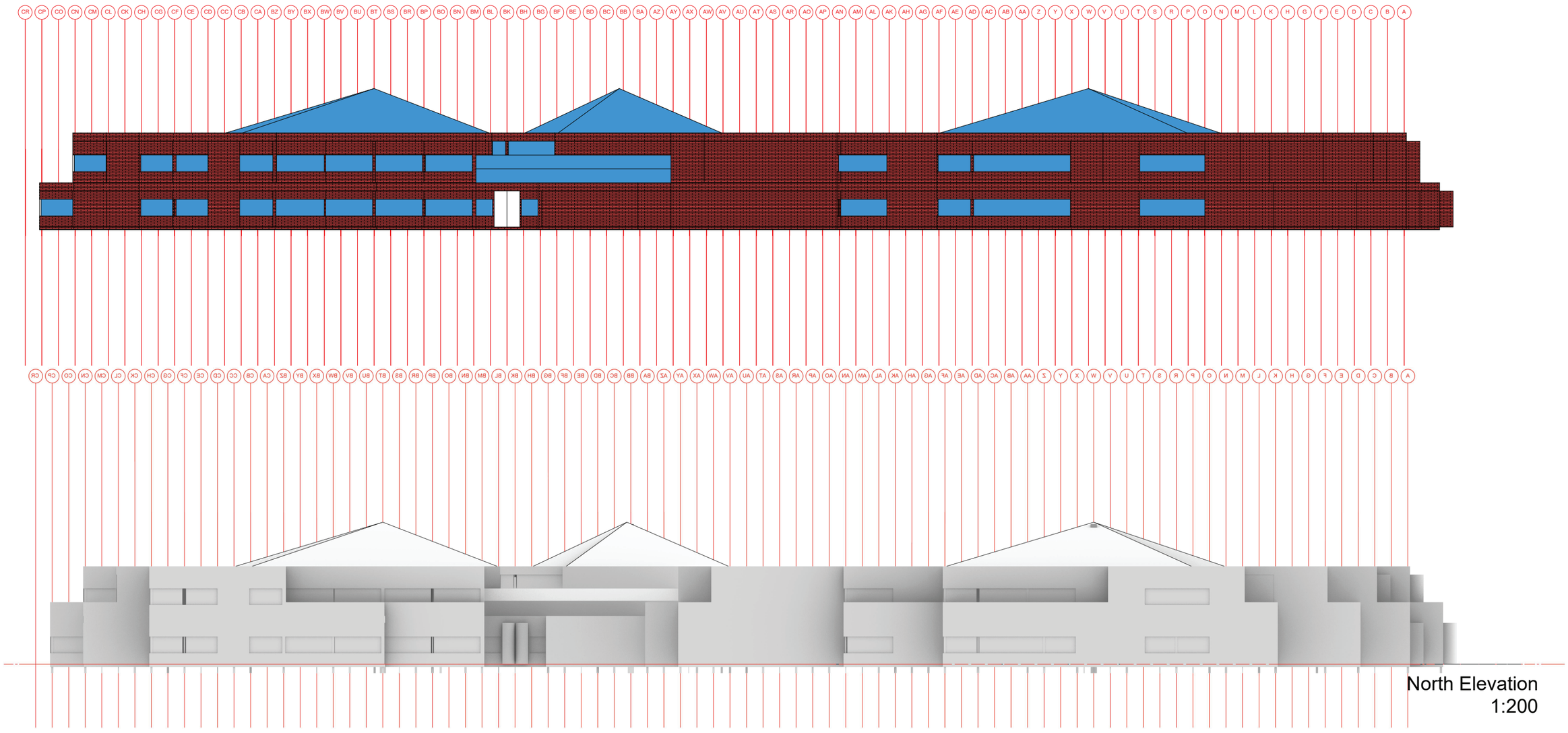
East Elevation
1:200

P3 products: West elevation



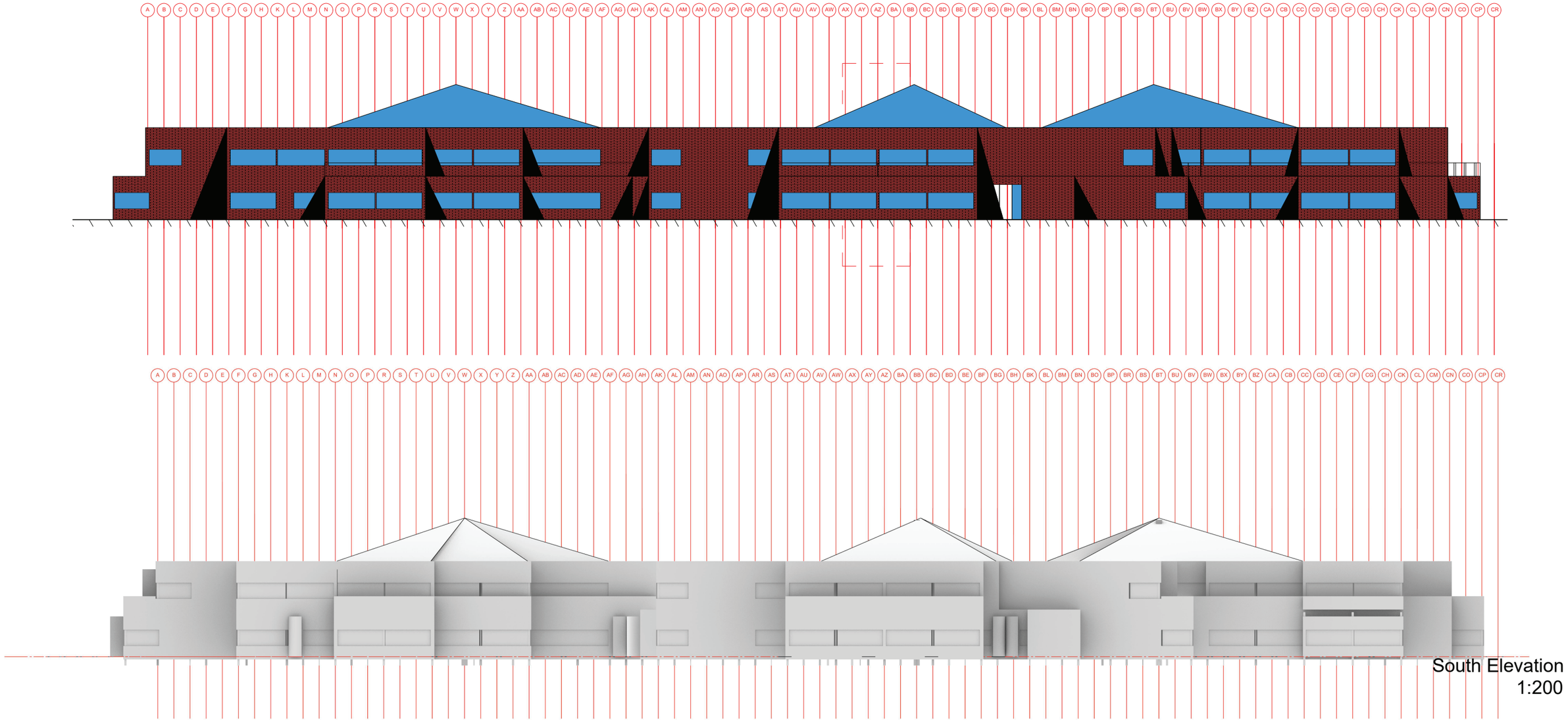
West Elevation
1:200

P3 products: North Elevation



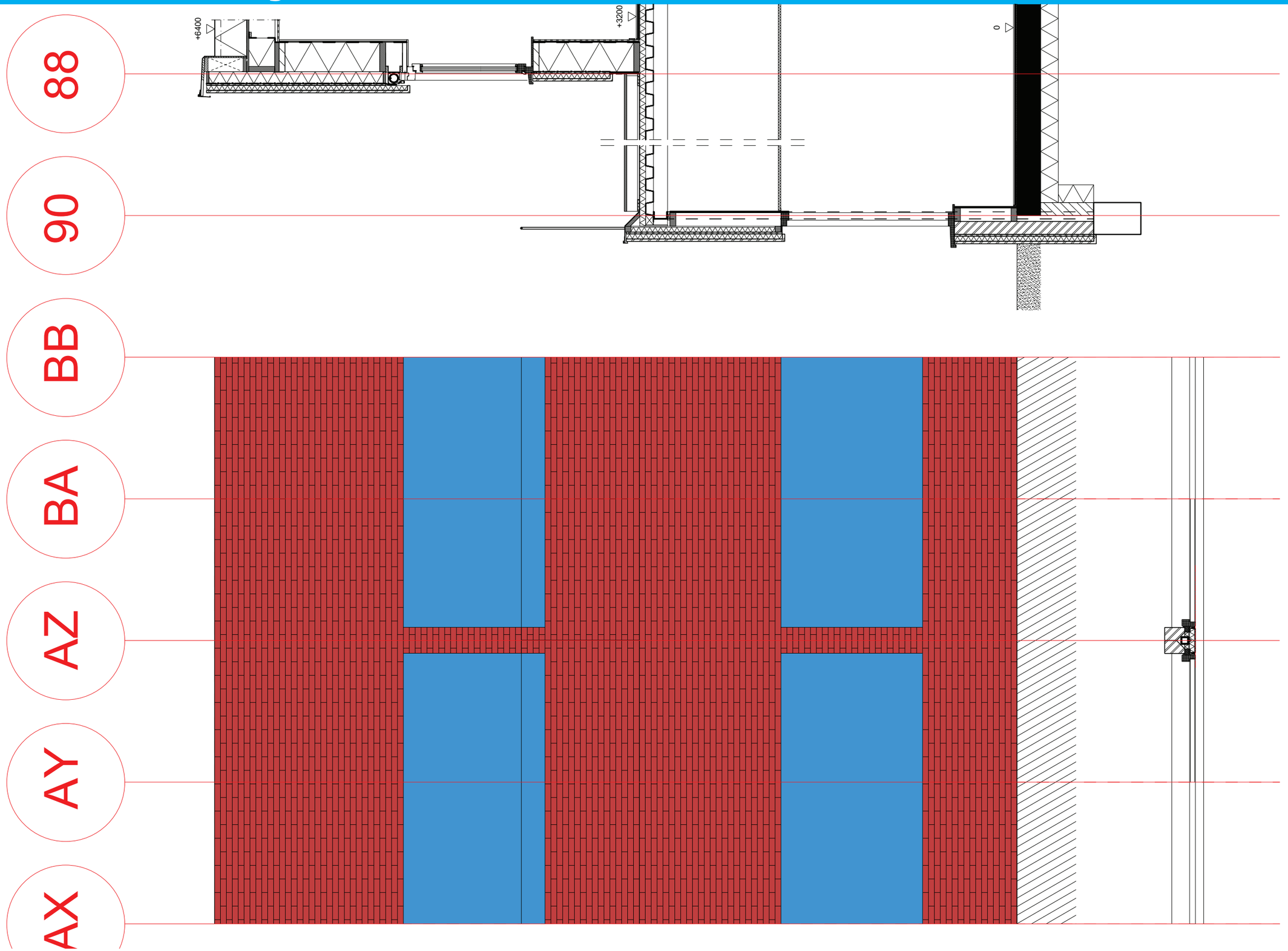
North Elevation
1:200

P3 products: South elevation

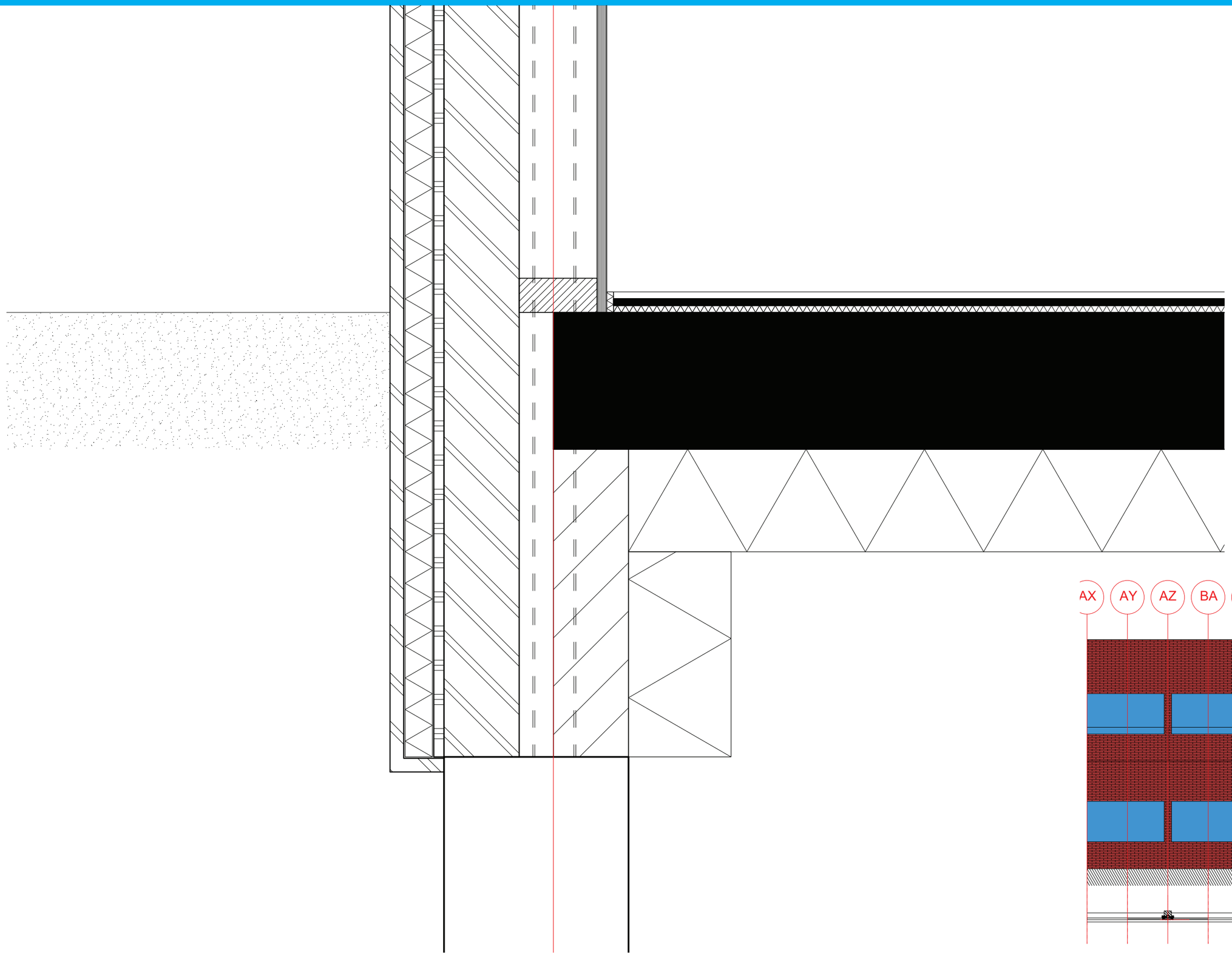


South Elevation
1:200

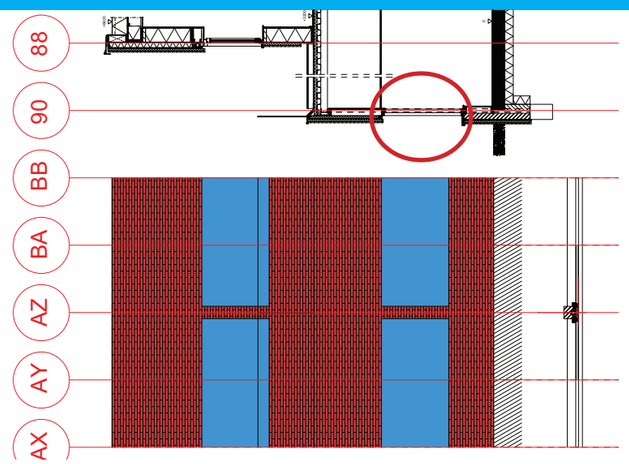
P3 products: Facade fragment



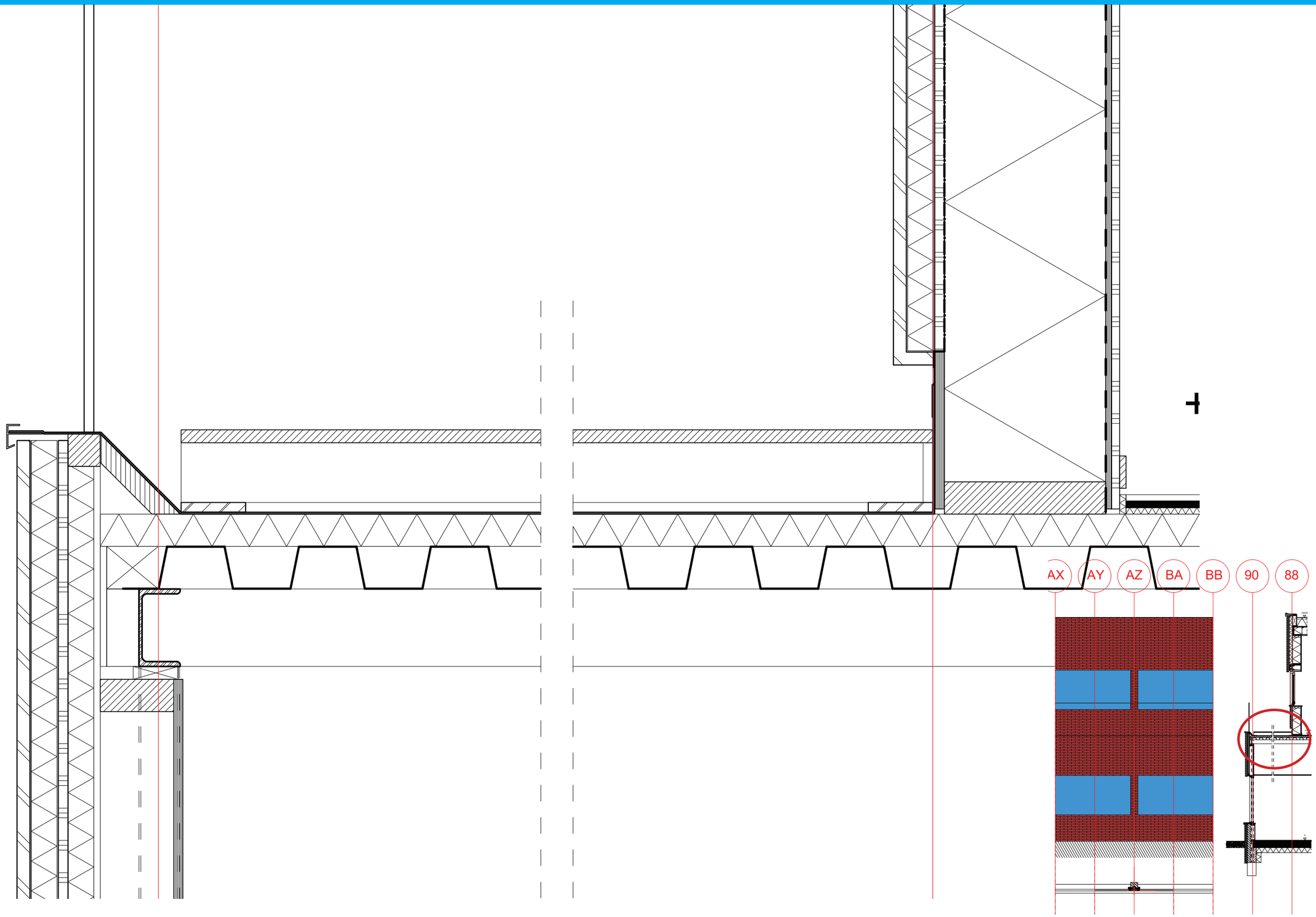
P3 products: Foundation detail



P3 products: Window detail ground floor



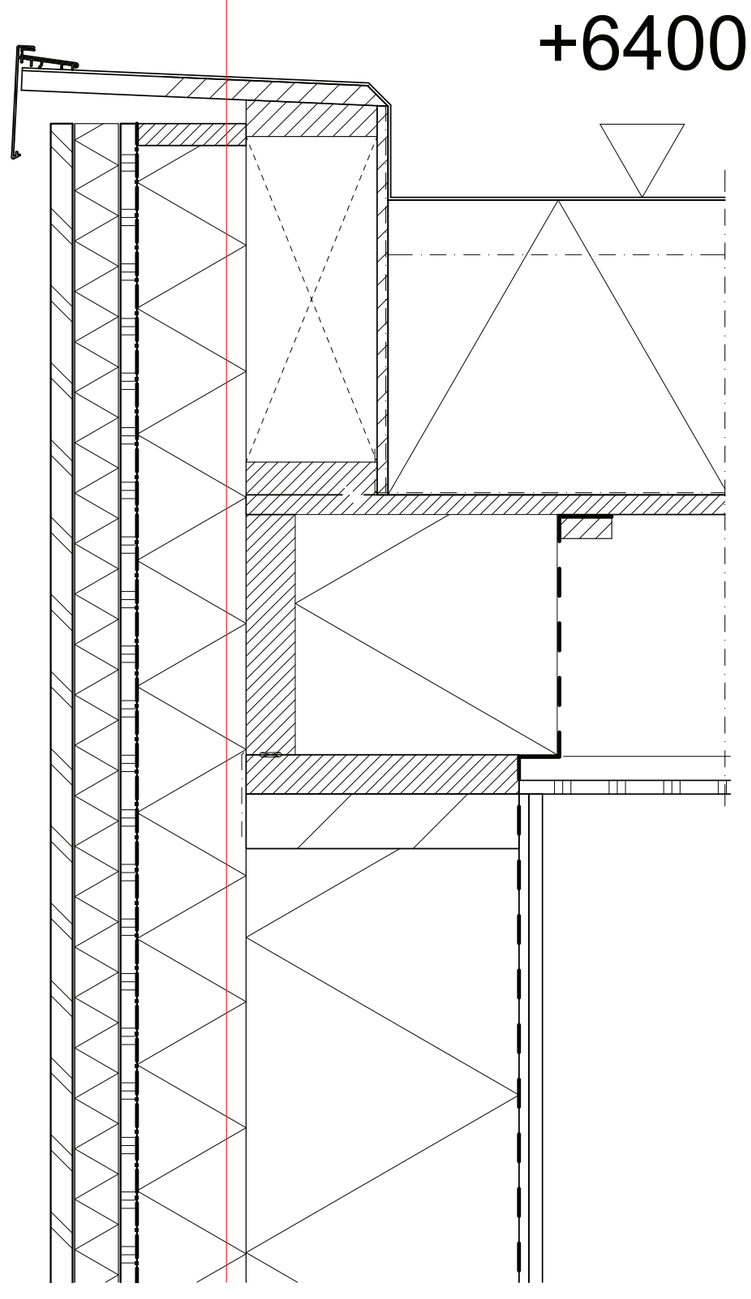
P3 products: First floor detail

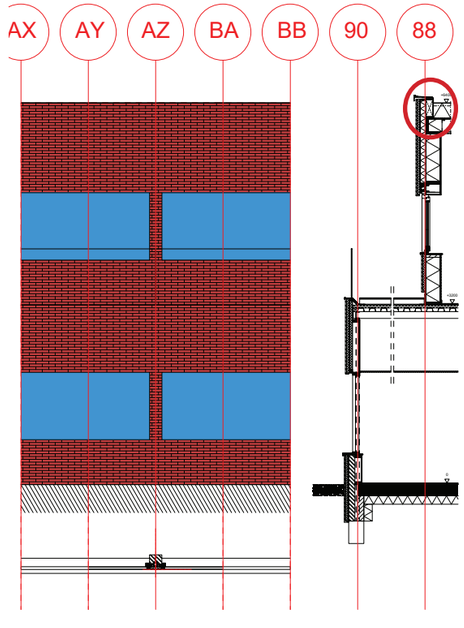


P3 products: Window detail first floor



P3 products: Roof detail

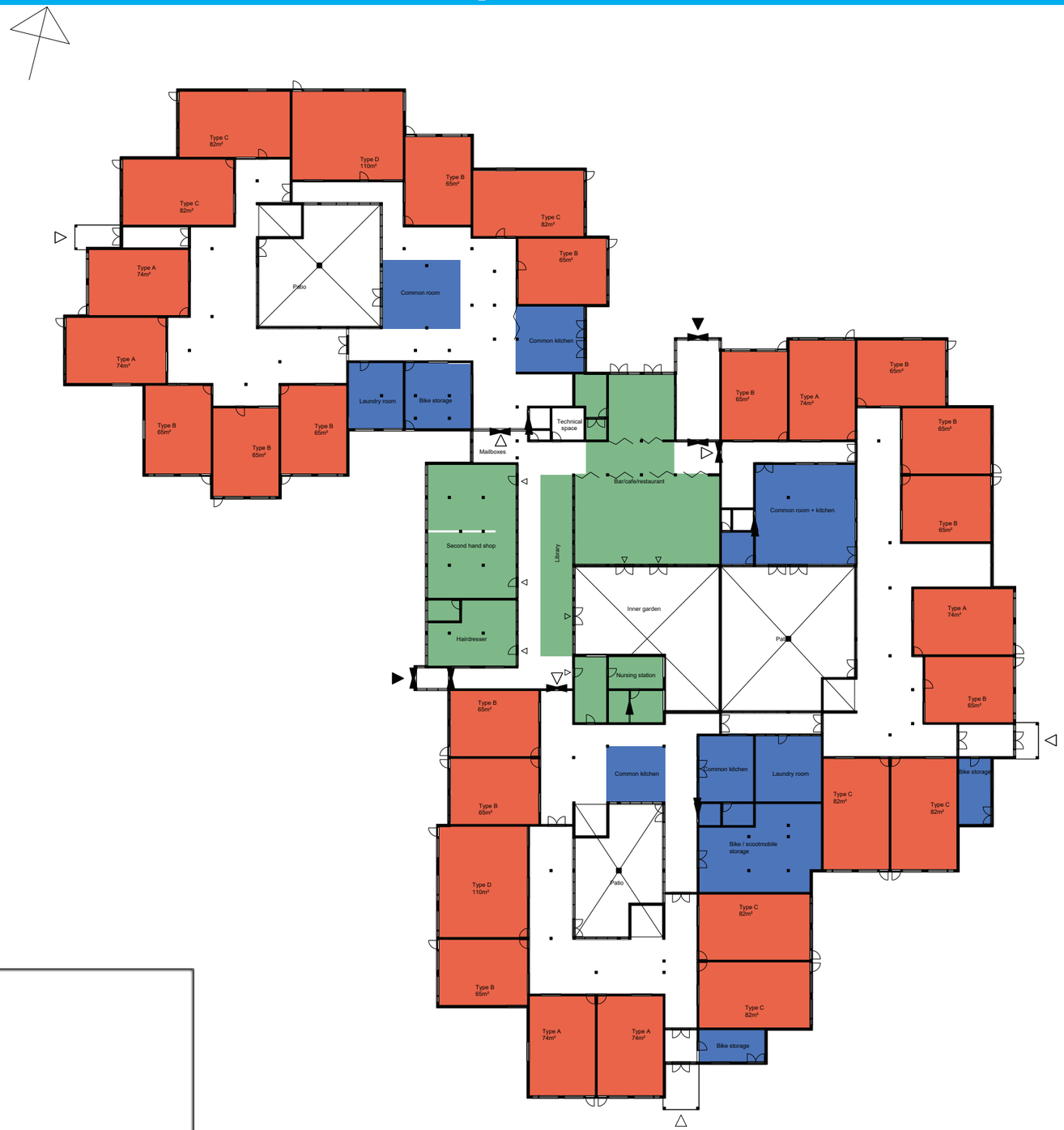




Co-housing courtyards Tanthof

Final design: Architecture

Architecture: Ground floor room layout

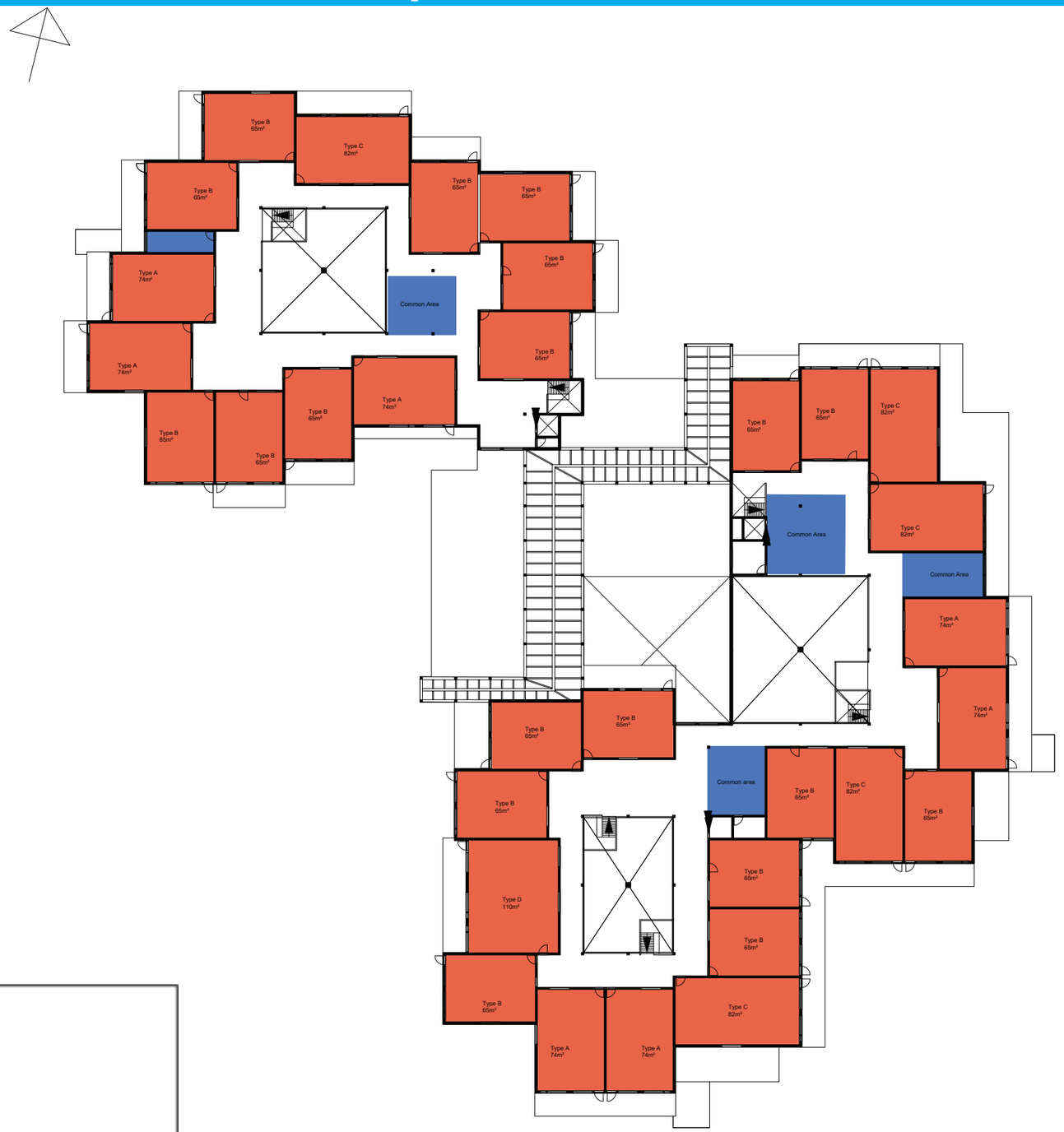


Legend:

- PRIVATE DWELLINGS
- HALLWAYS
- COMMUNAL AREAS
- SHARED SPACES
- SERVICE SPACES
- PUBLIC FUNCTIONS

Ground floor
1:500

Architecture: First floor room layout



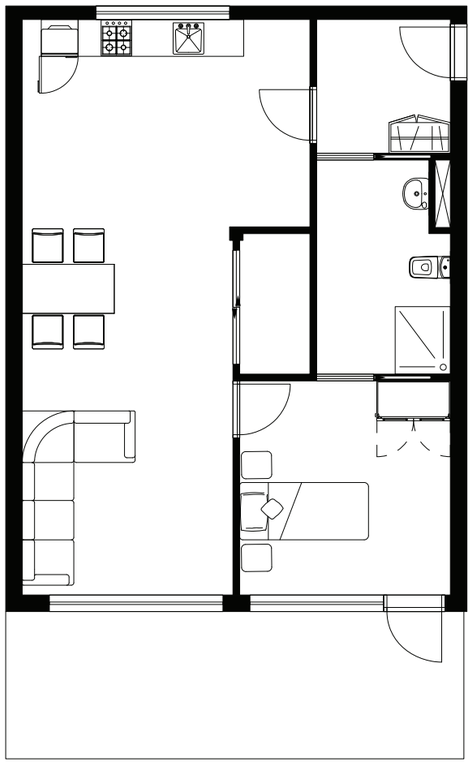
Legend:

- PRIVATE DWELLINGS
- HALLWAYS
- COMMUNAL AREAS
- SHARED SPACES
- SERVICE SPACES
- PUBLIC FUNCTIONS

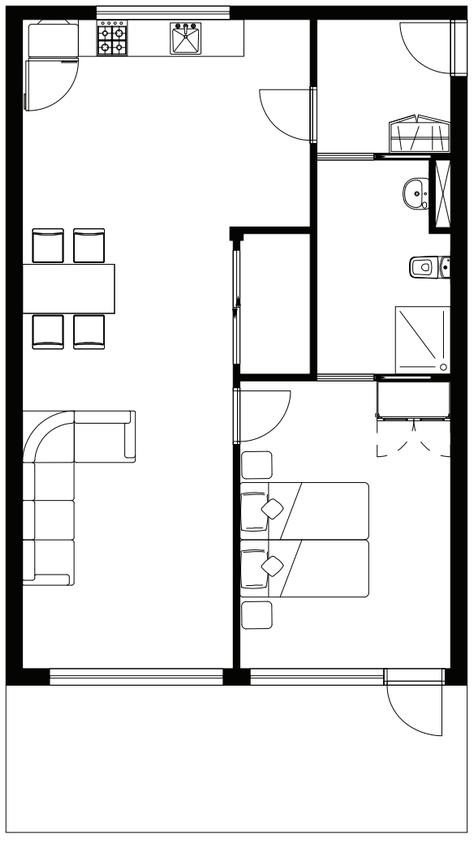
First floor
1:500

Architecture: Room types

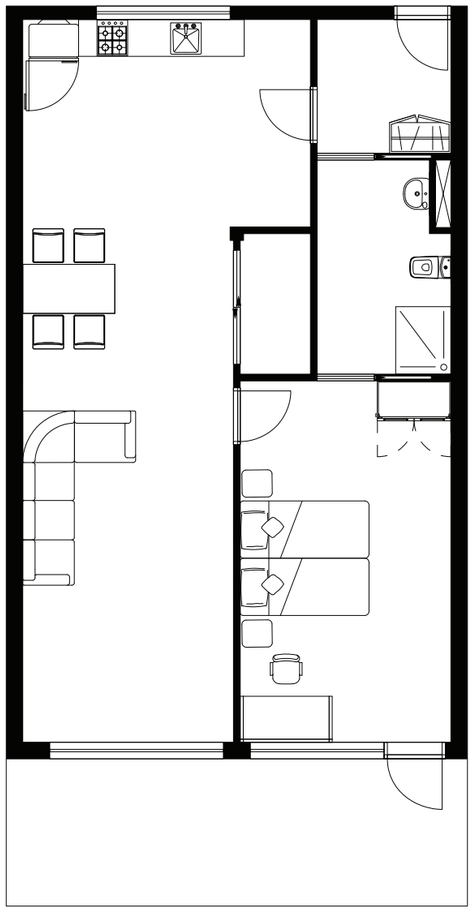
Type A (32 dwellings)
65m²



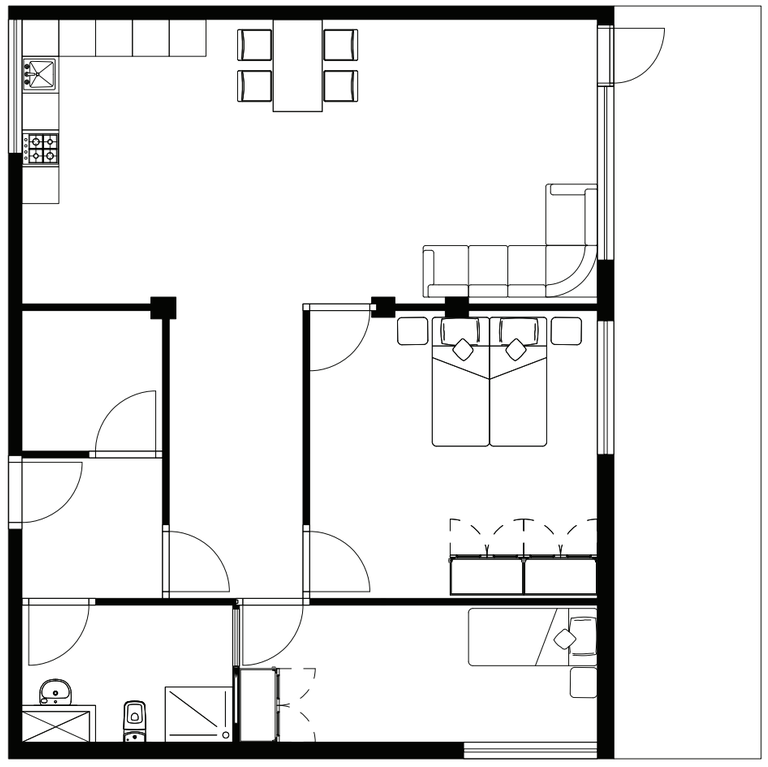
Type B (13 dwellings)
74m²



Type C (12 dwellings)
82m²



Type D (3 dwellings)
110m²



Architecture: Living room render type A



Architecture: Kitchen render type A



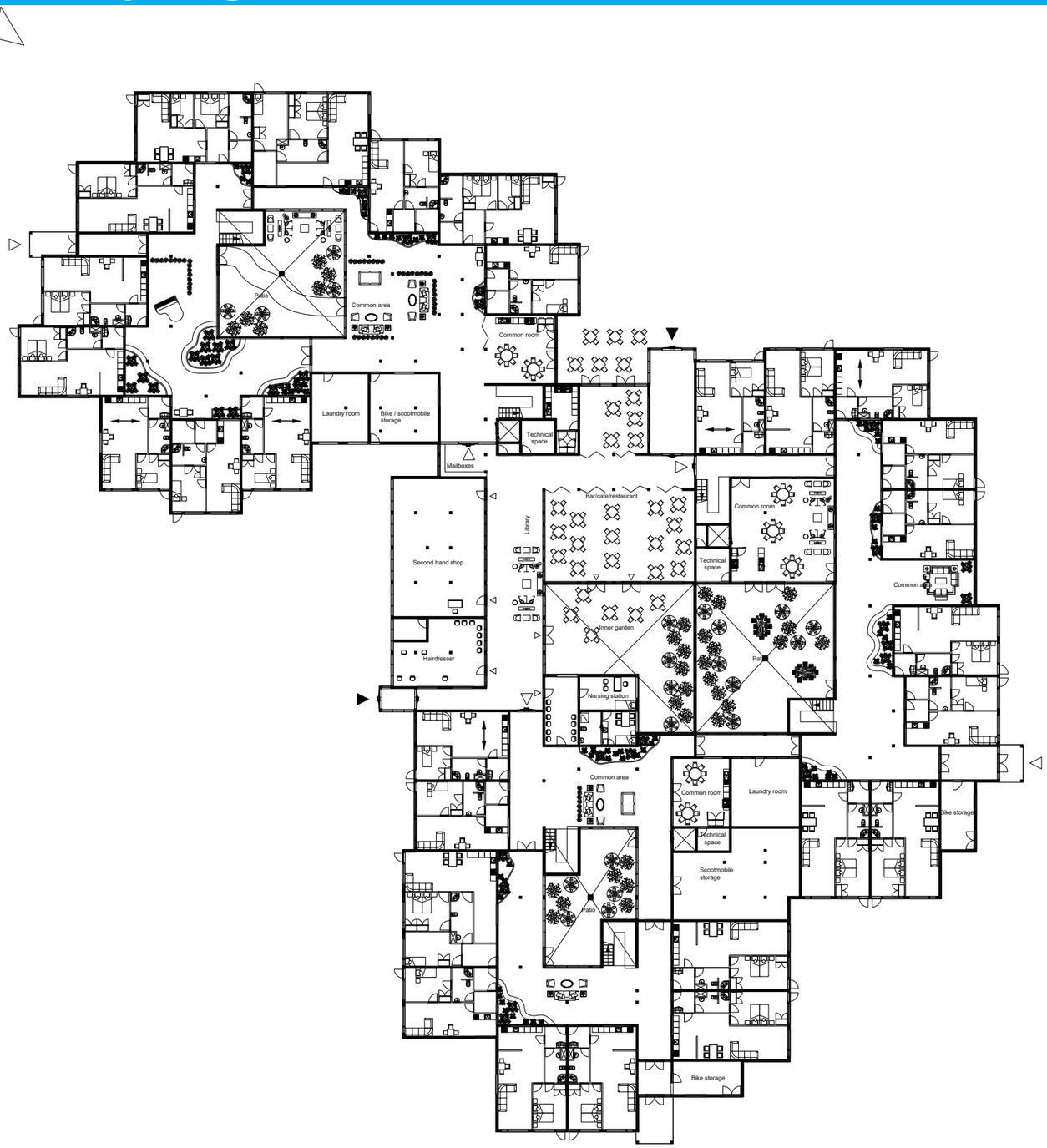
Architecture: Bedroom render type A



Architecture: Kitchen render type A



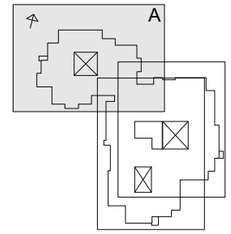
Architecture: Floorplan ground floor



Ground floor
1:500

Architecture: Floorpla ground floor part A

Ground Floor
1:200



Ground Floor
1:500

Patio

Common area

Common room

Laundry room

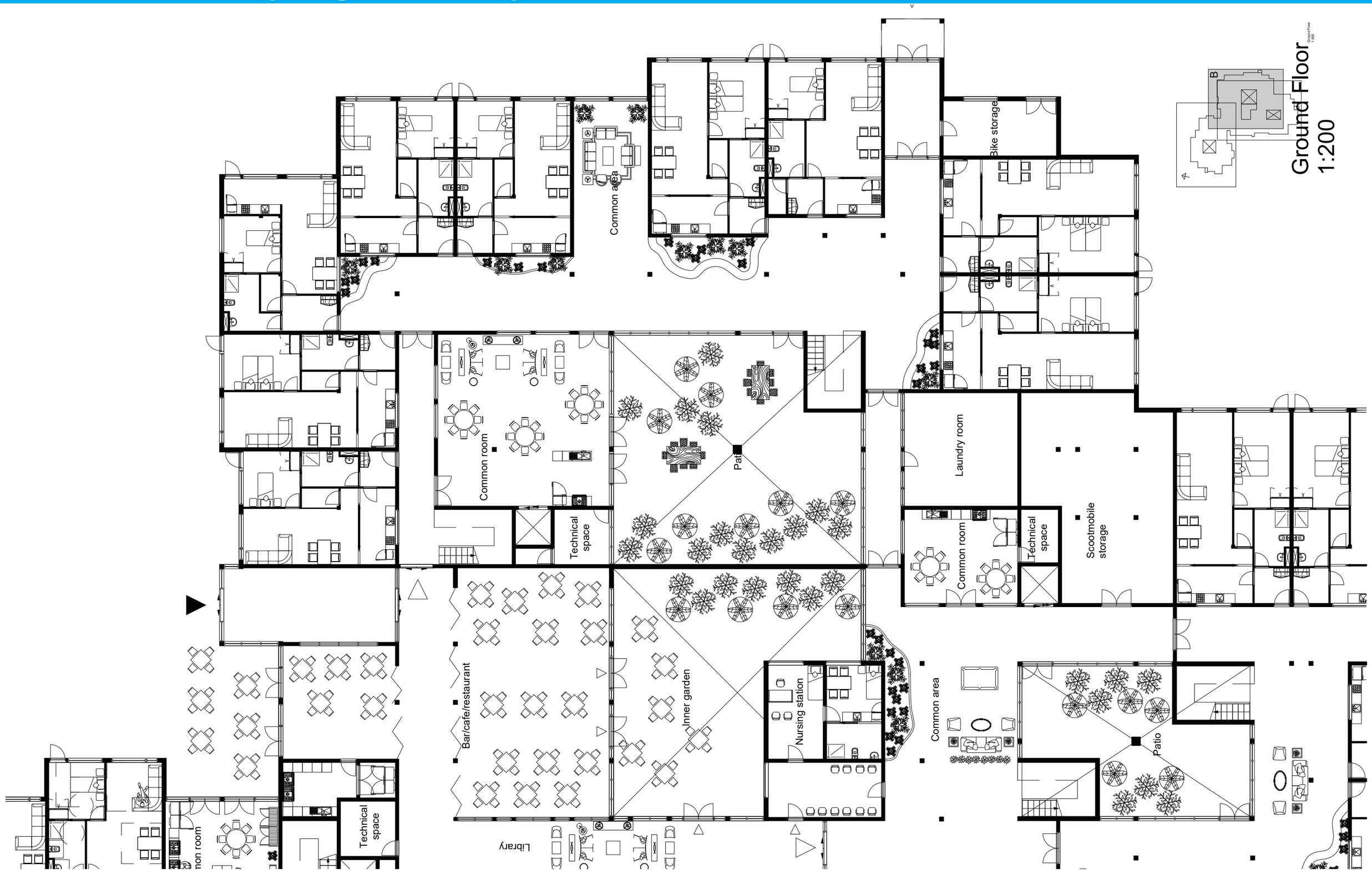
Bike / scootmobile storage

Technical space

Mailboxes

Bar/cafe/restaurant

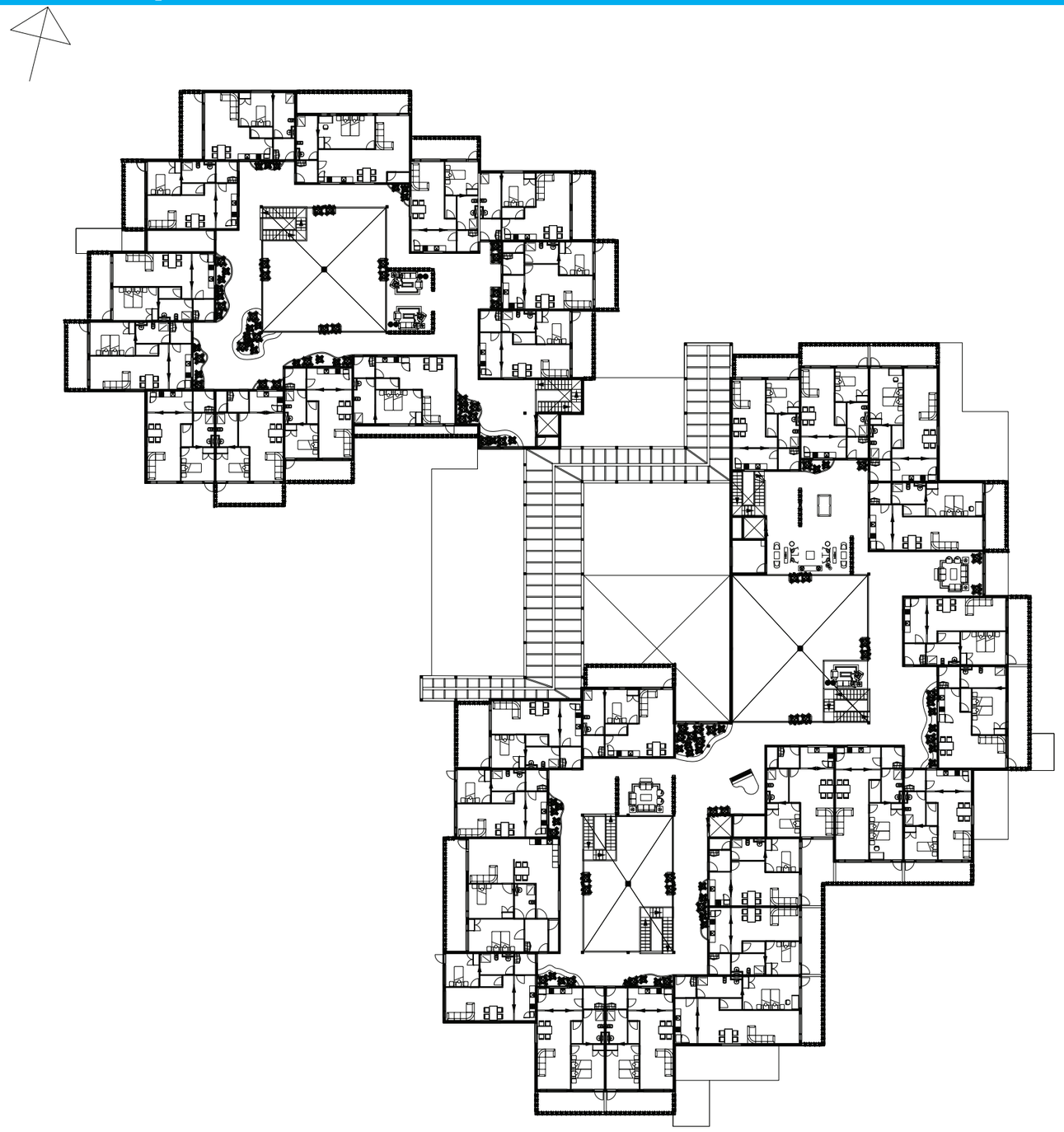
Architecture: Floorplan ground floor part B



Architecture: Floorplan ground floor part C



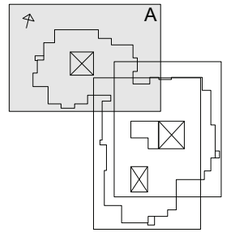
Architecture: Floorplan first floor



First Floor
1:500

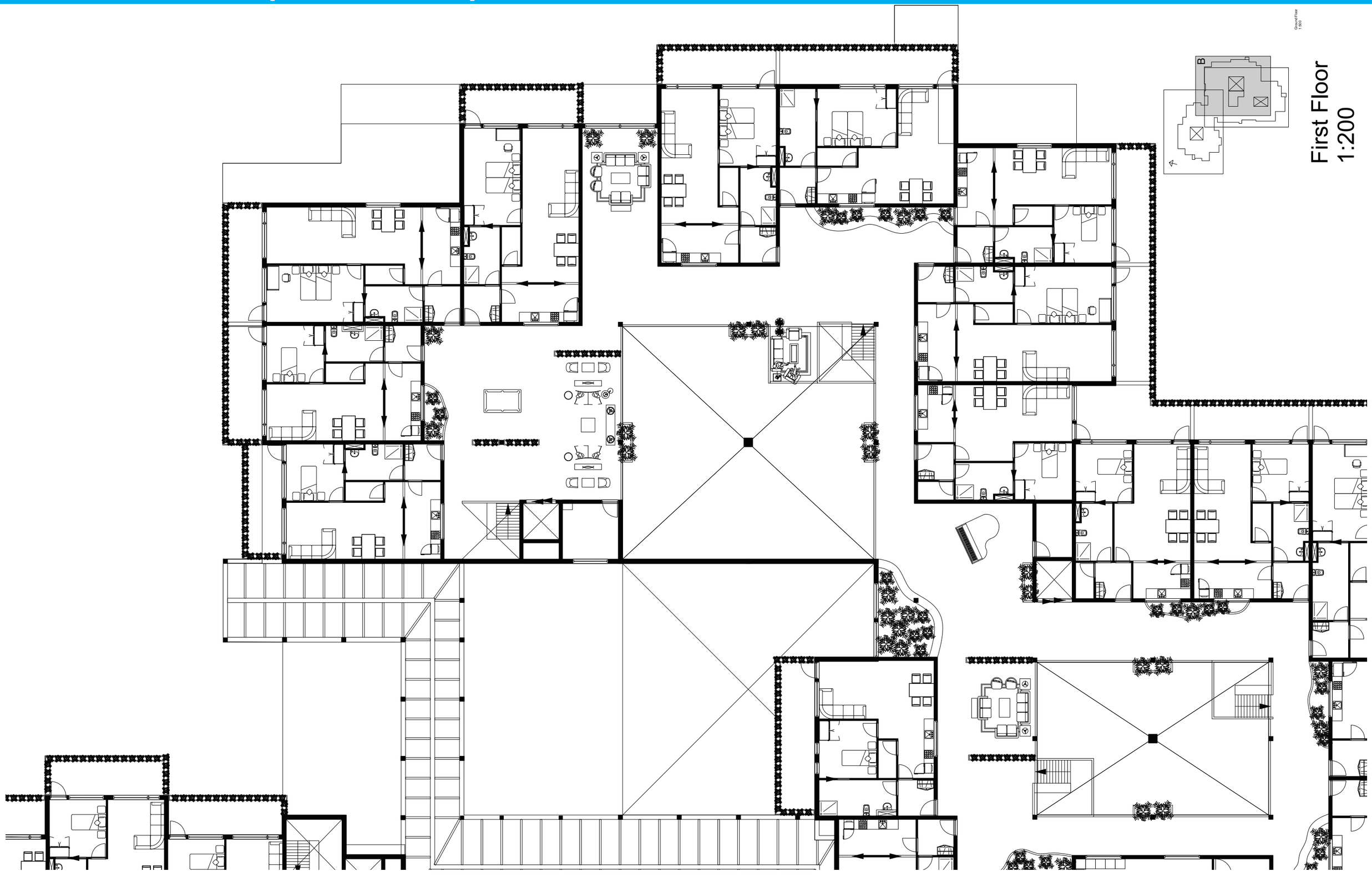
Architecture: Floorplan first floor part A

First Floor
1:200

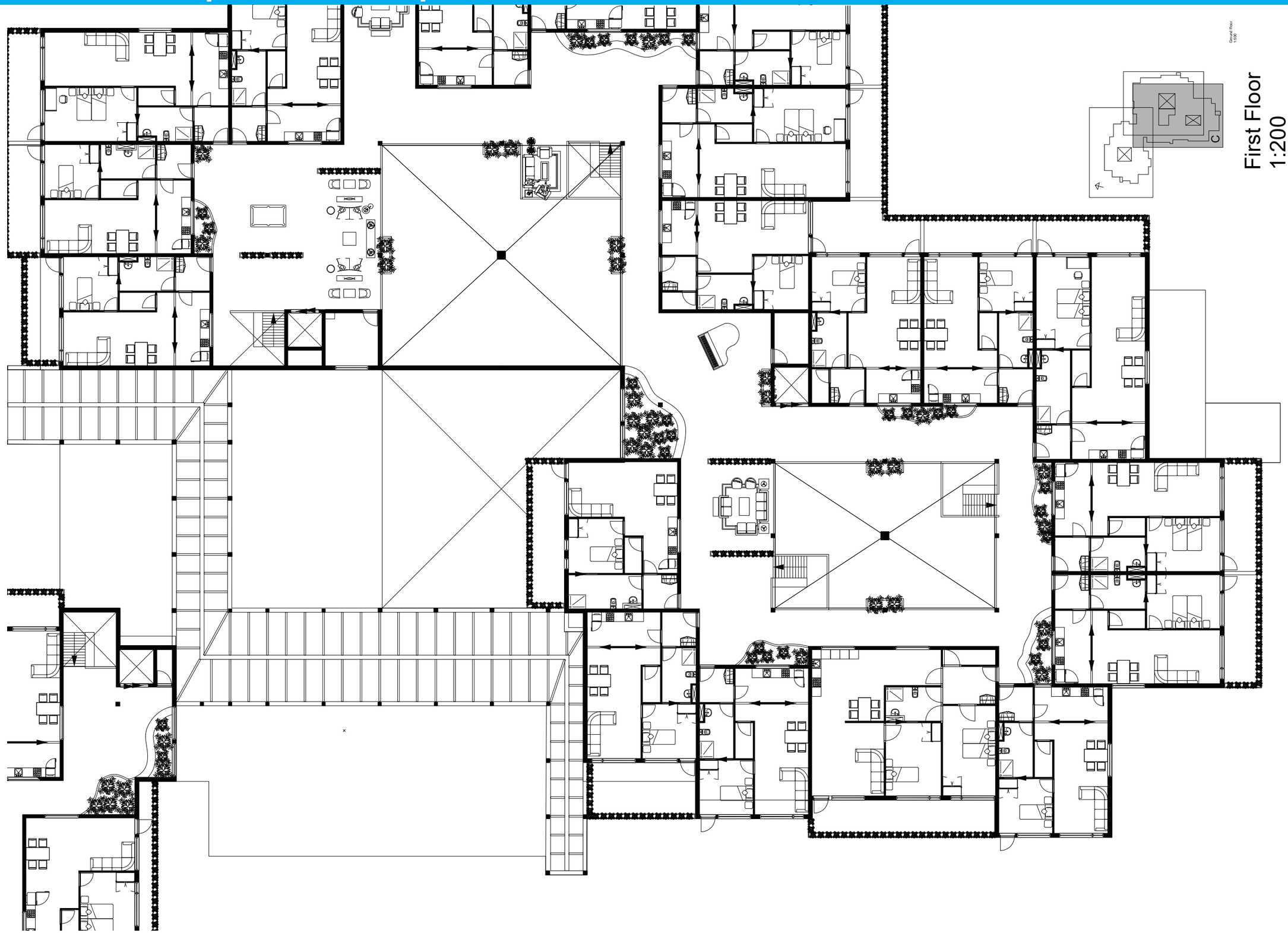


Ground Floor
1:500

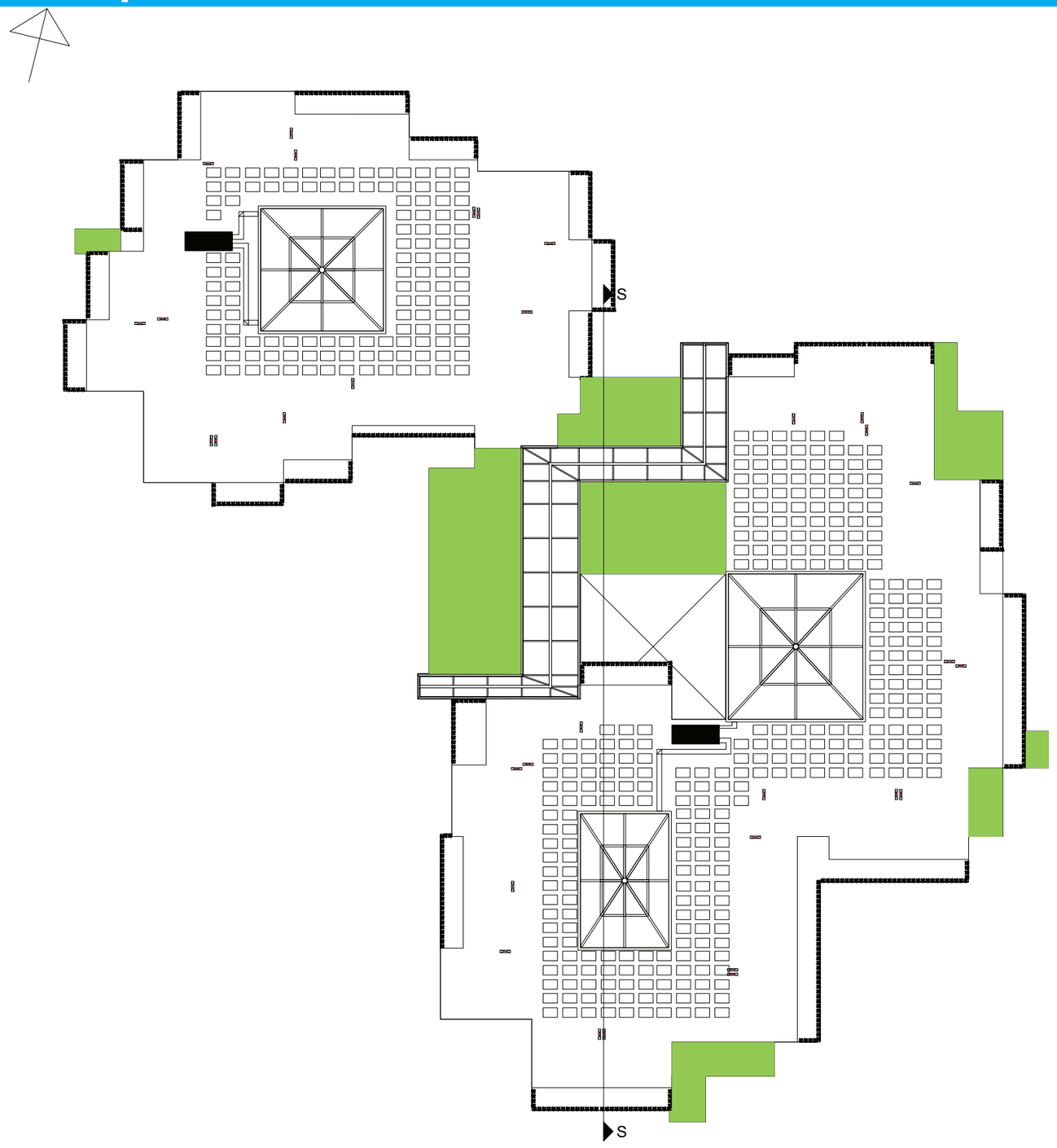
Architecture: Floorplan first floor part B



Architecture: Floorplan first floor part C

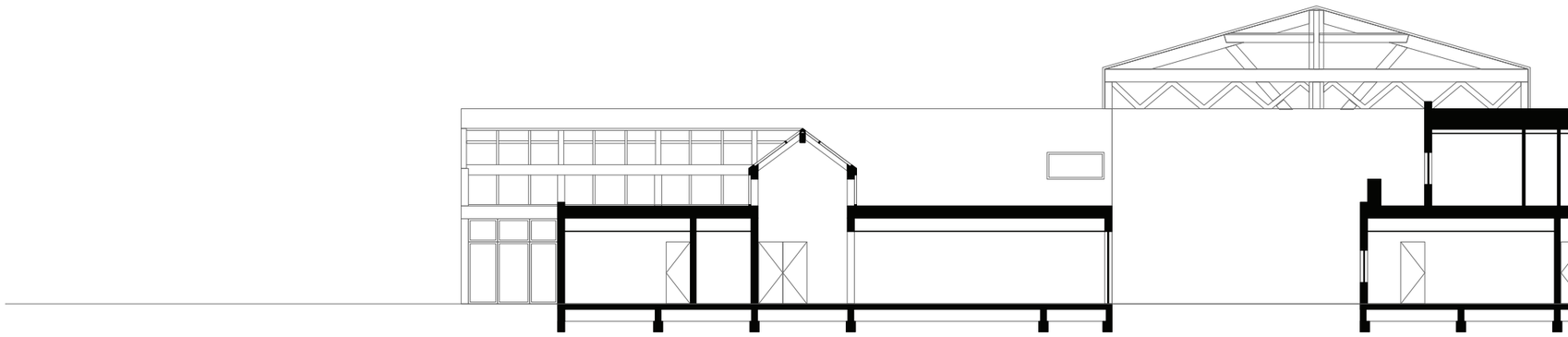


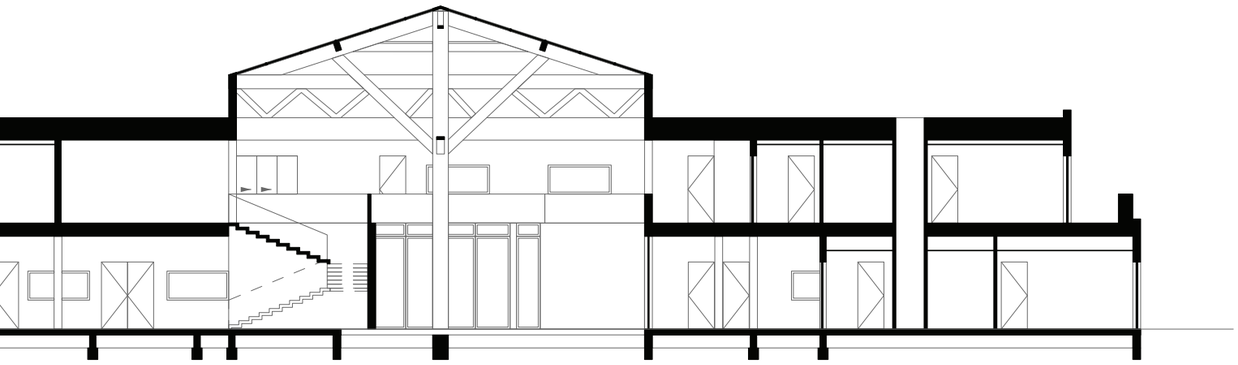
Architecture: Floorplan roof

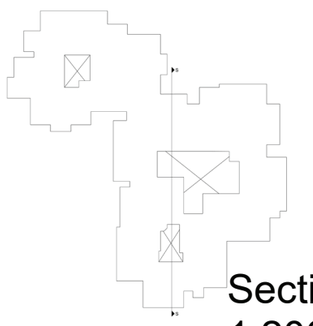


Roof
1:500

Architecture: Section SS

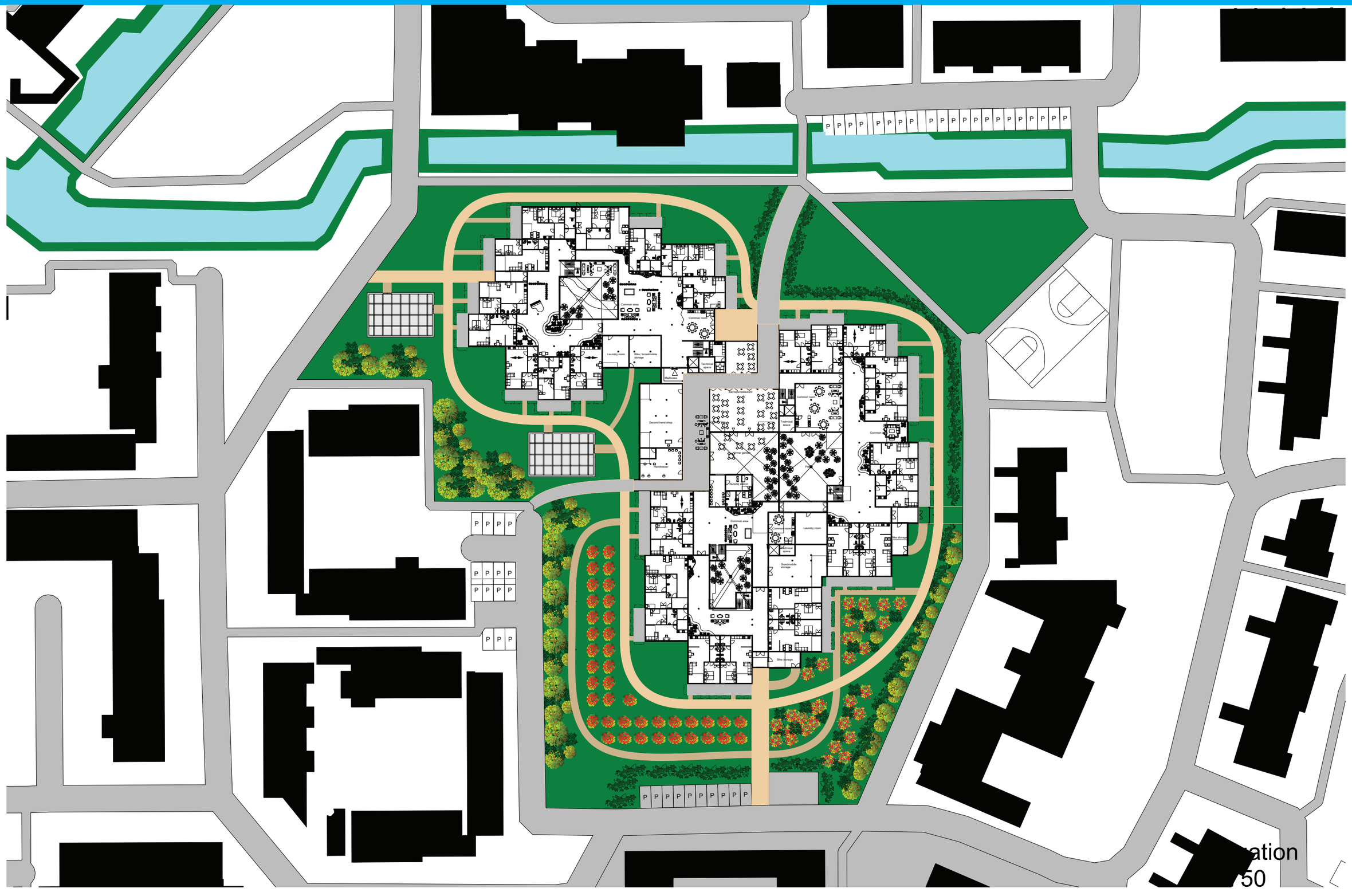




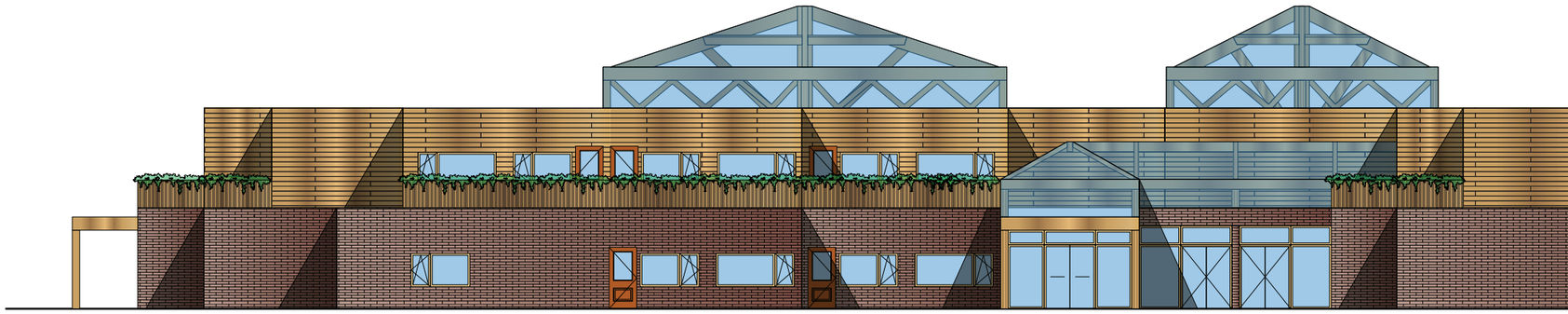


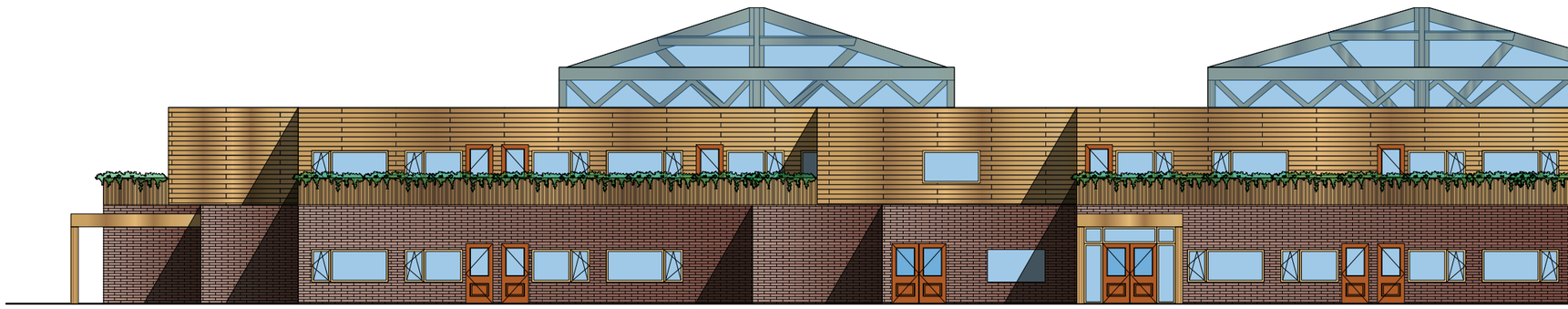
Section SS
1:200

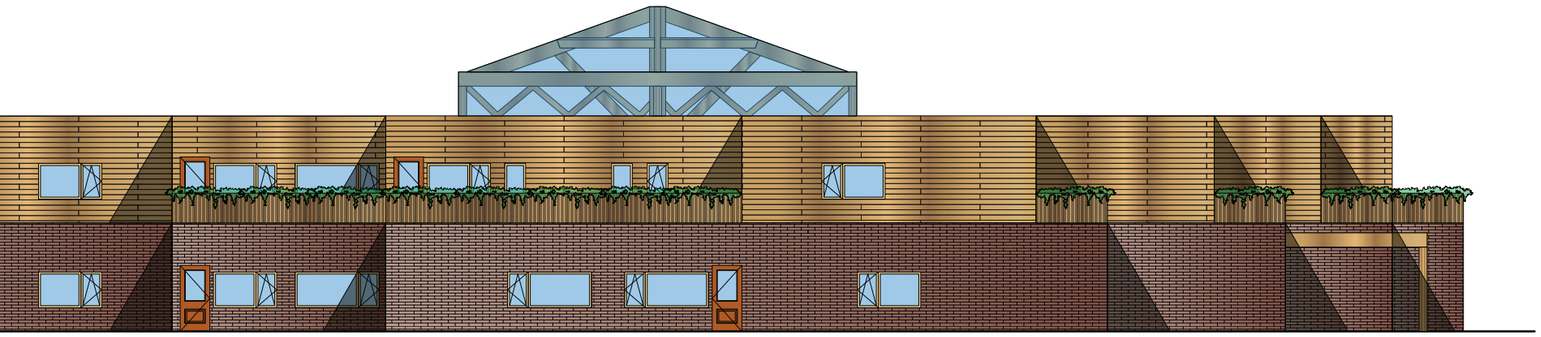
Architecture: Situation



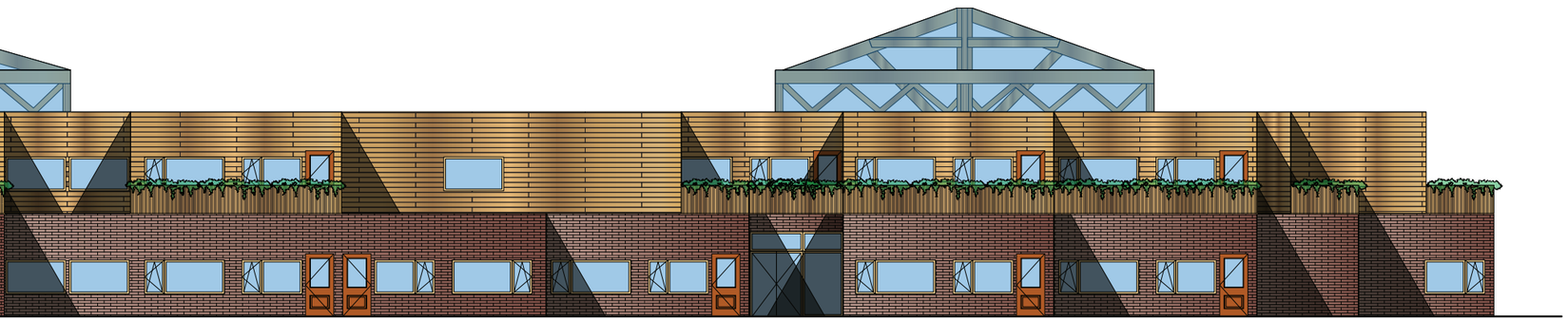
Architecture: North and east elevation





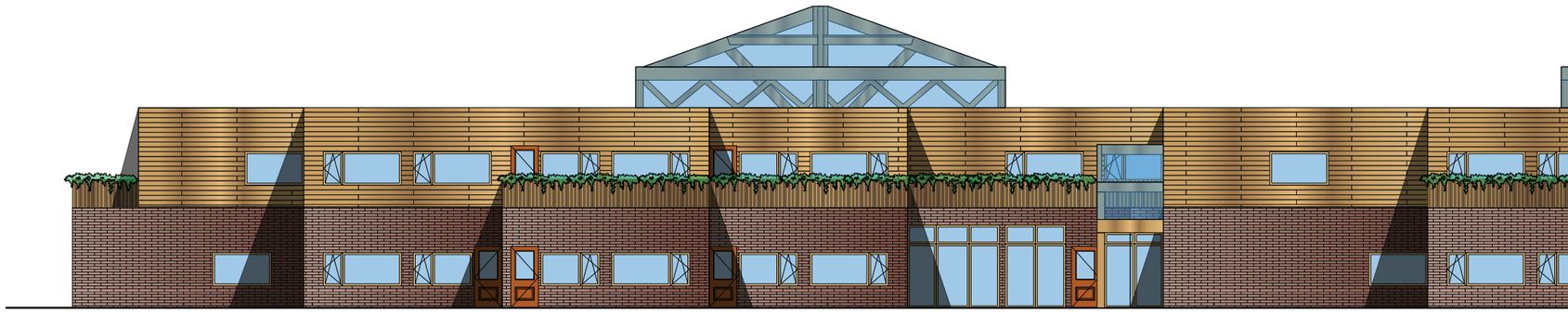


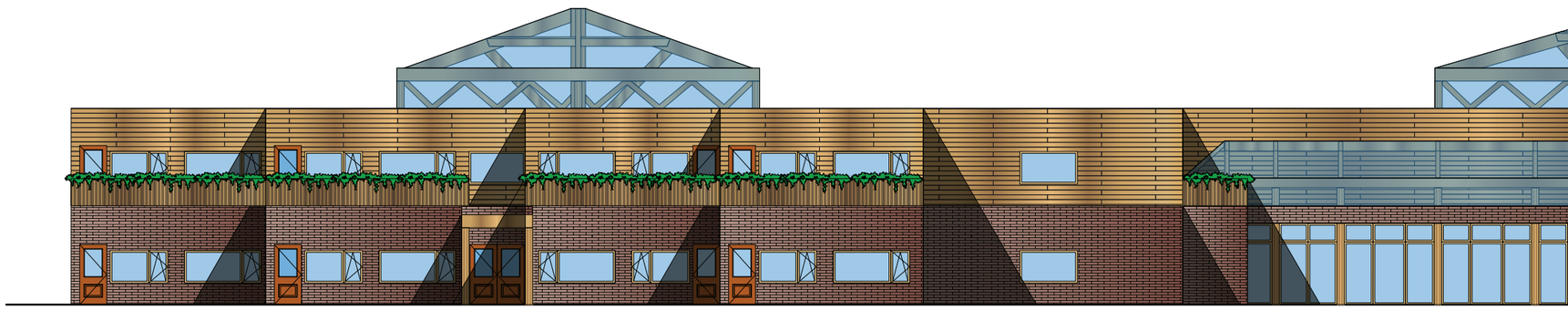
North Elevation
1:200

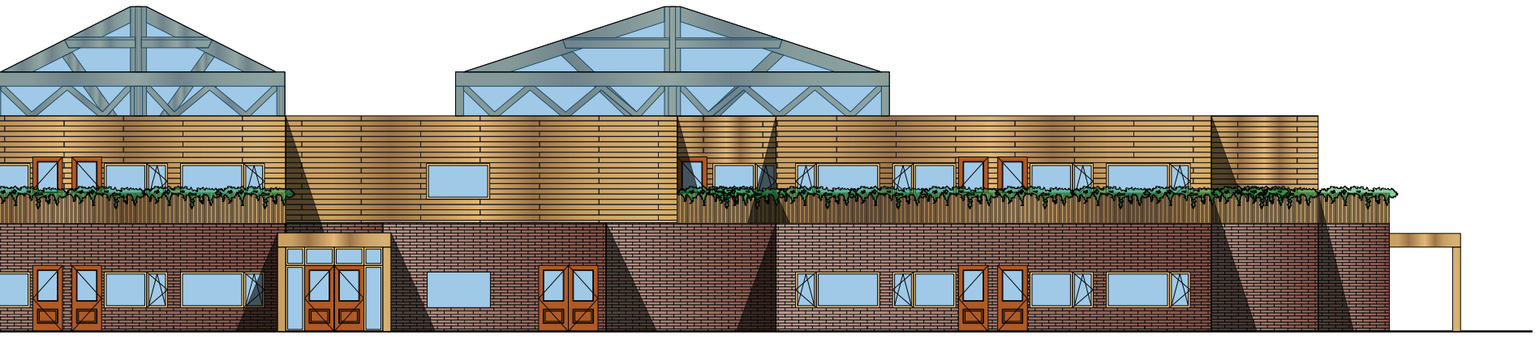


East Elevation
1:200

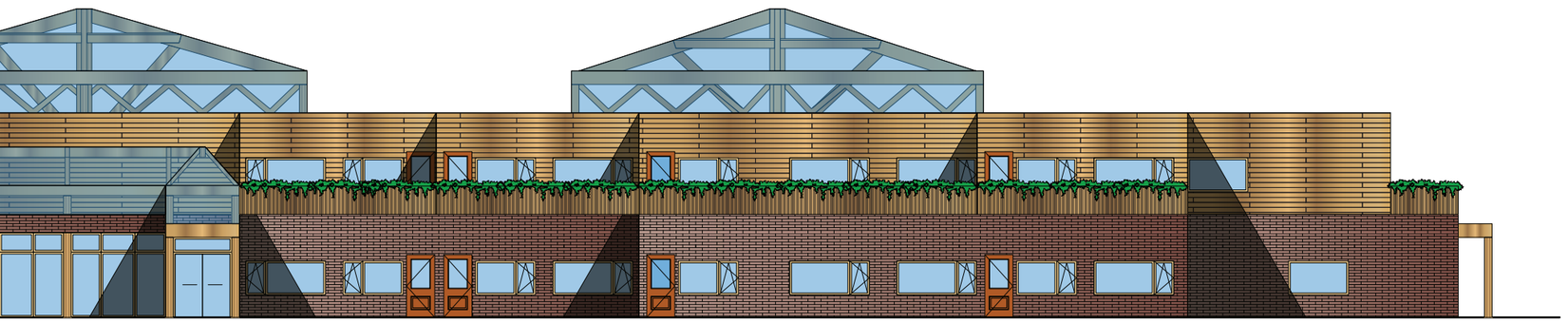
Architecture: South and west elevation







South Elevation
1:200



West Elevation
1:200

Architecture: Main entrance render



Architecture: Private entrance render



Architecture: Courtyard garden render



Ground Floor
1:500

Architecture: Open hallway render



Architecture: Common area render



Ground Floor
1:500

Architecture: Common room render

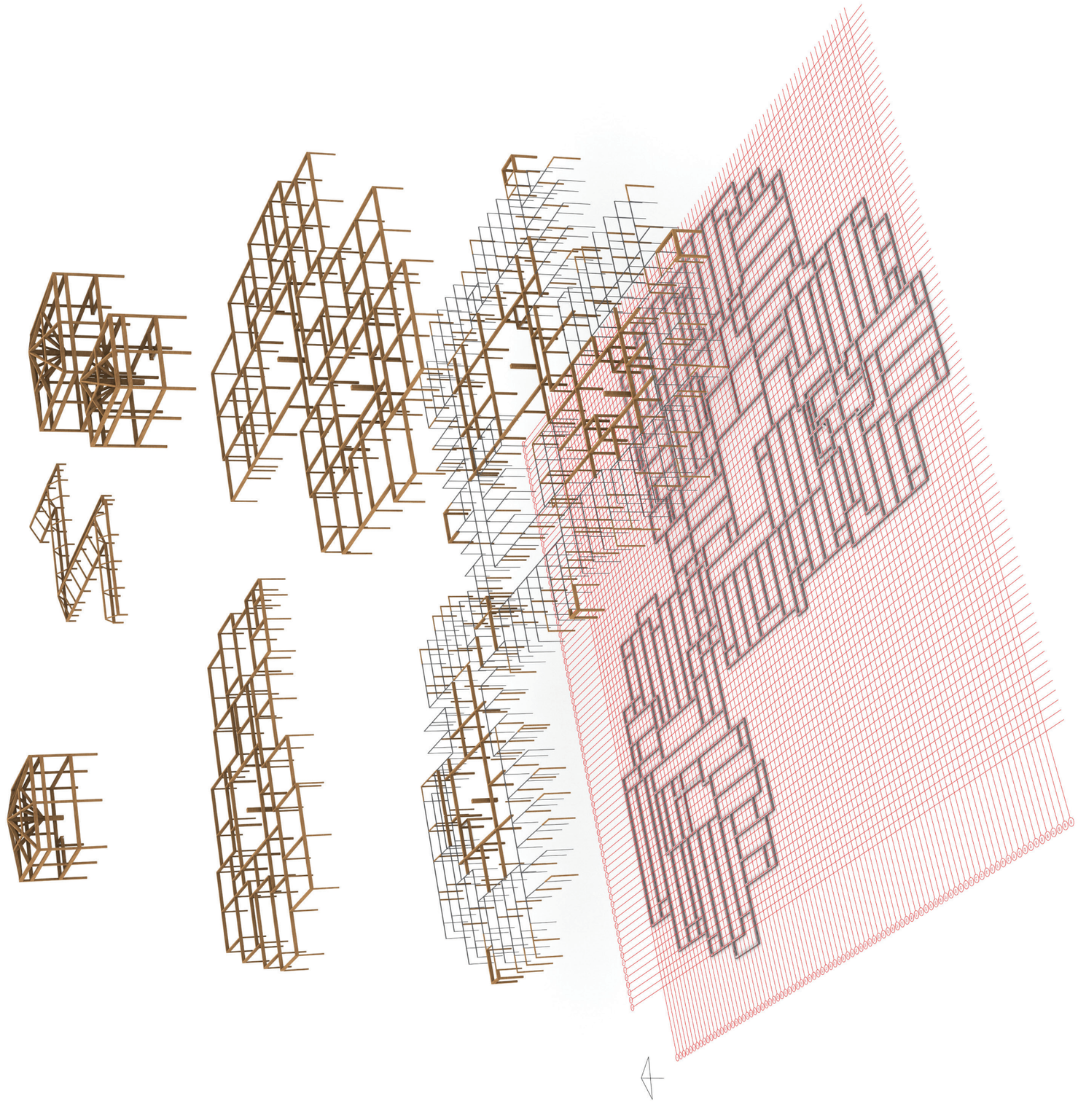


Ground Floor
1:500

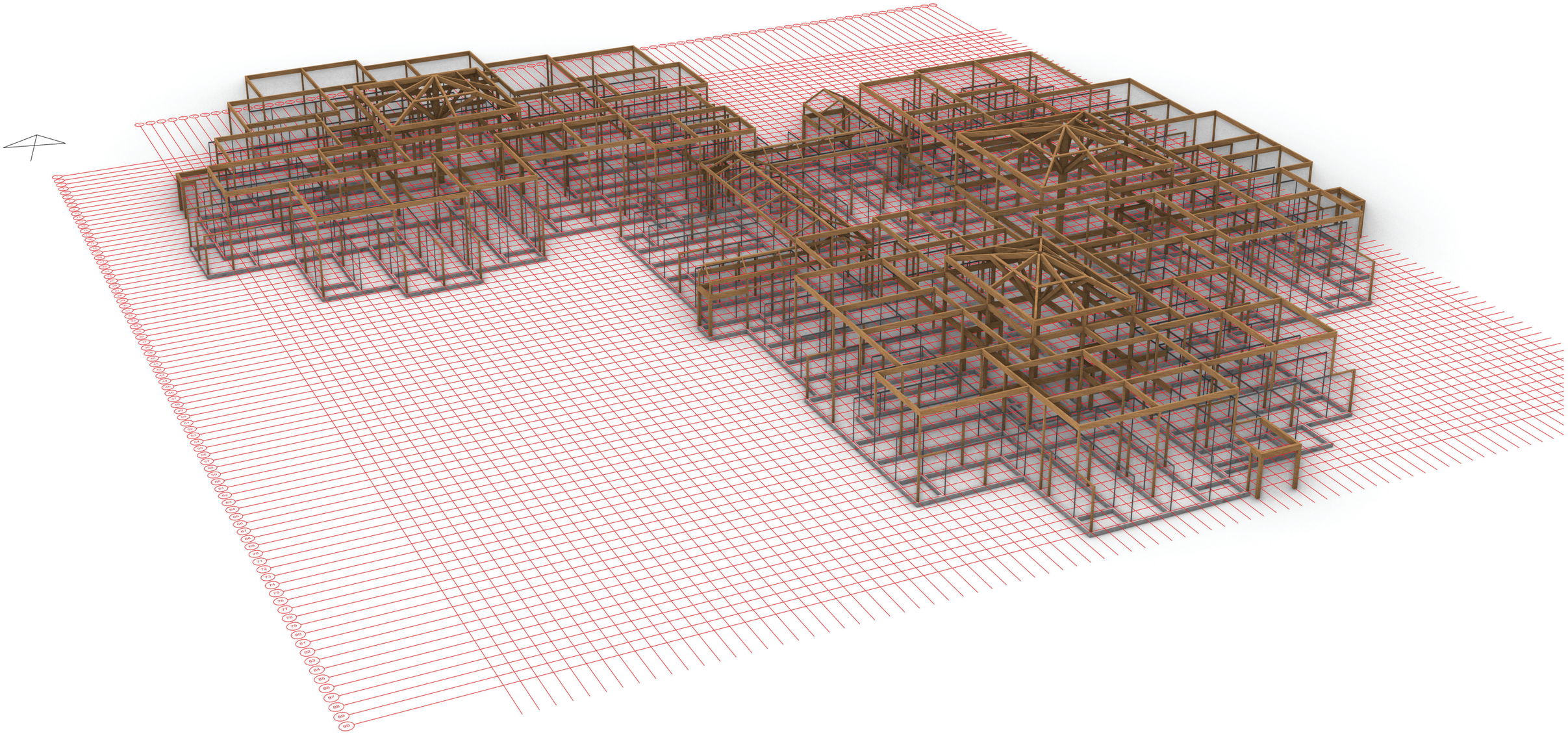
Co-housing courtyards Tanthof

Final Design: Building Structure

Building structure: Axonometric

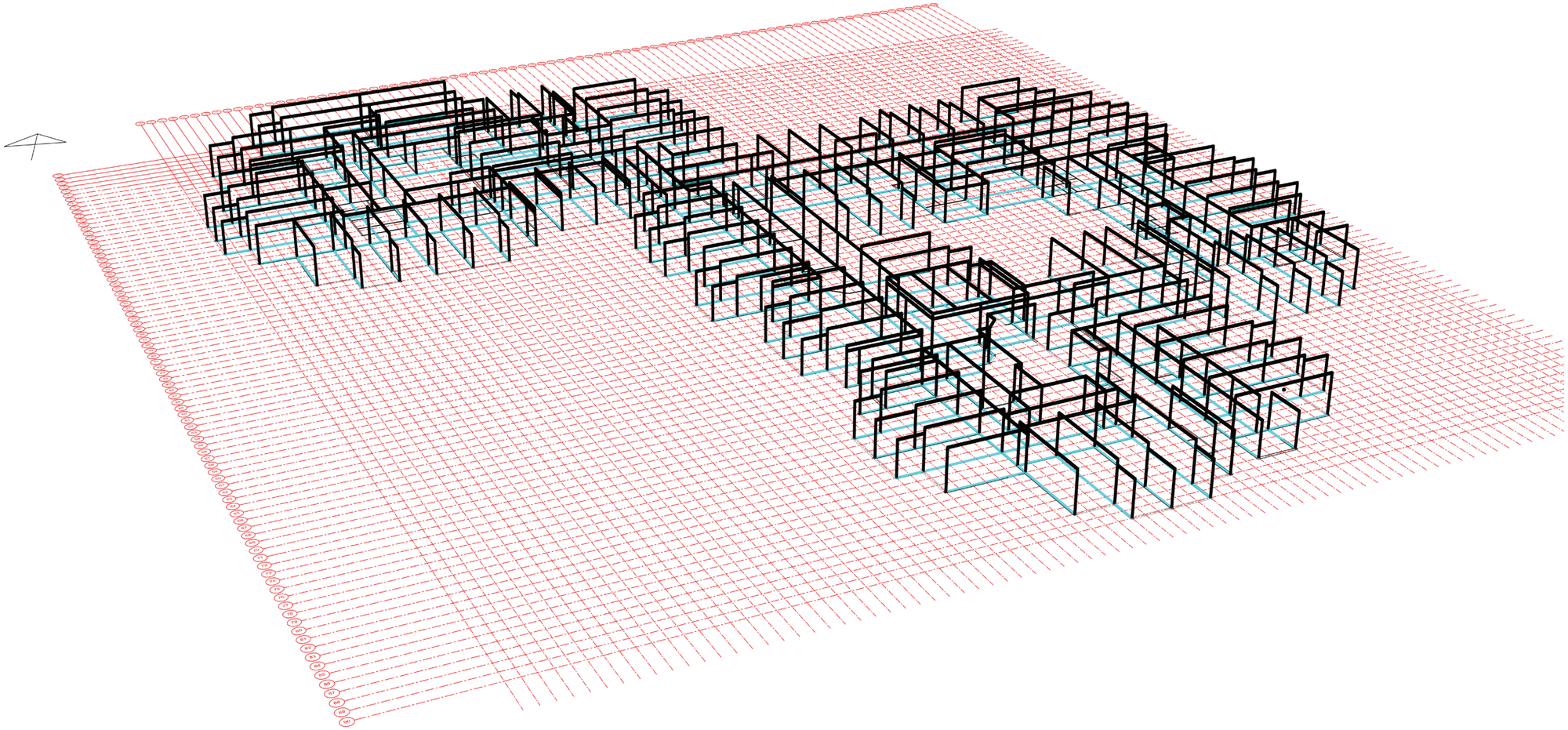


Building structure: 3D rendered

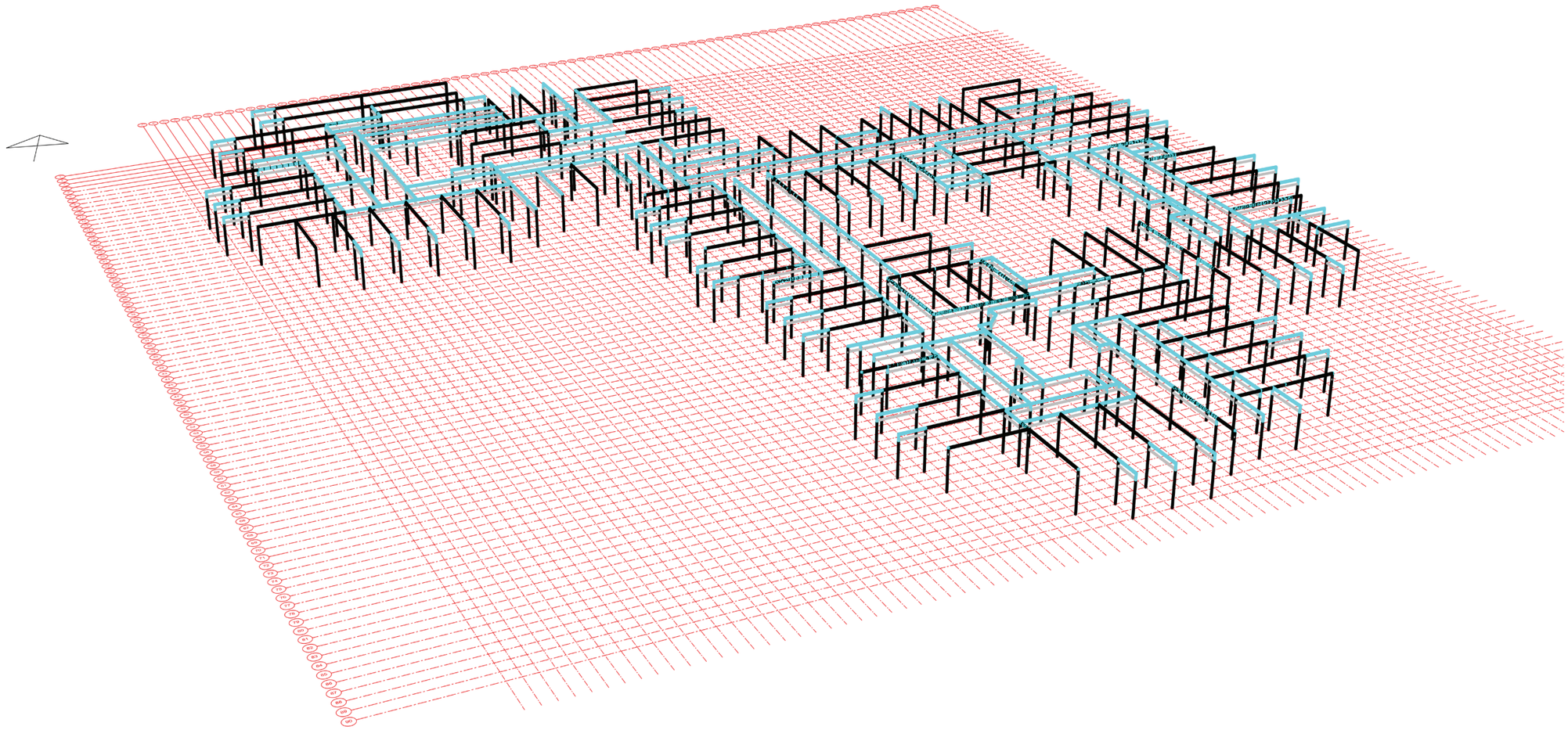


Building structure

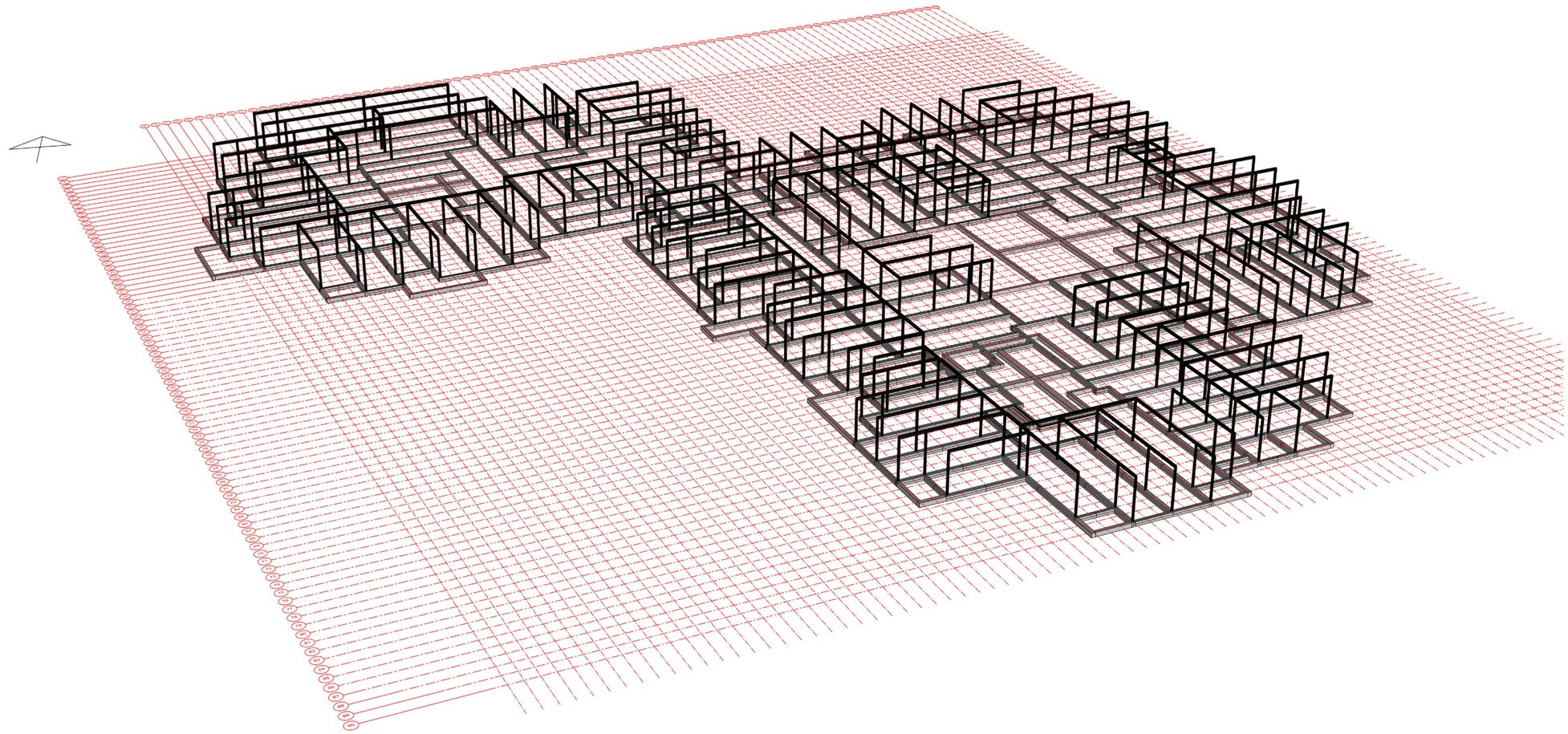
Building structure: Existing structure



Building structure: Raised beams and extended columns

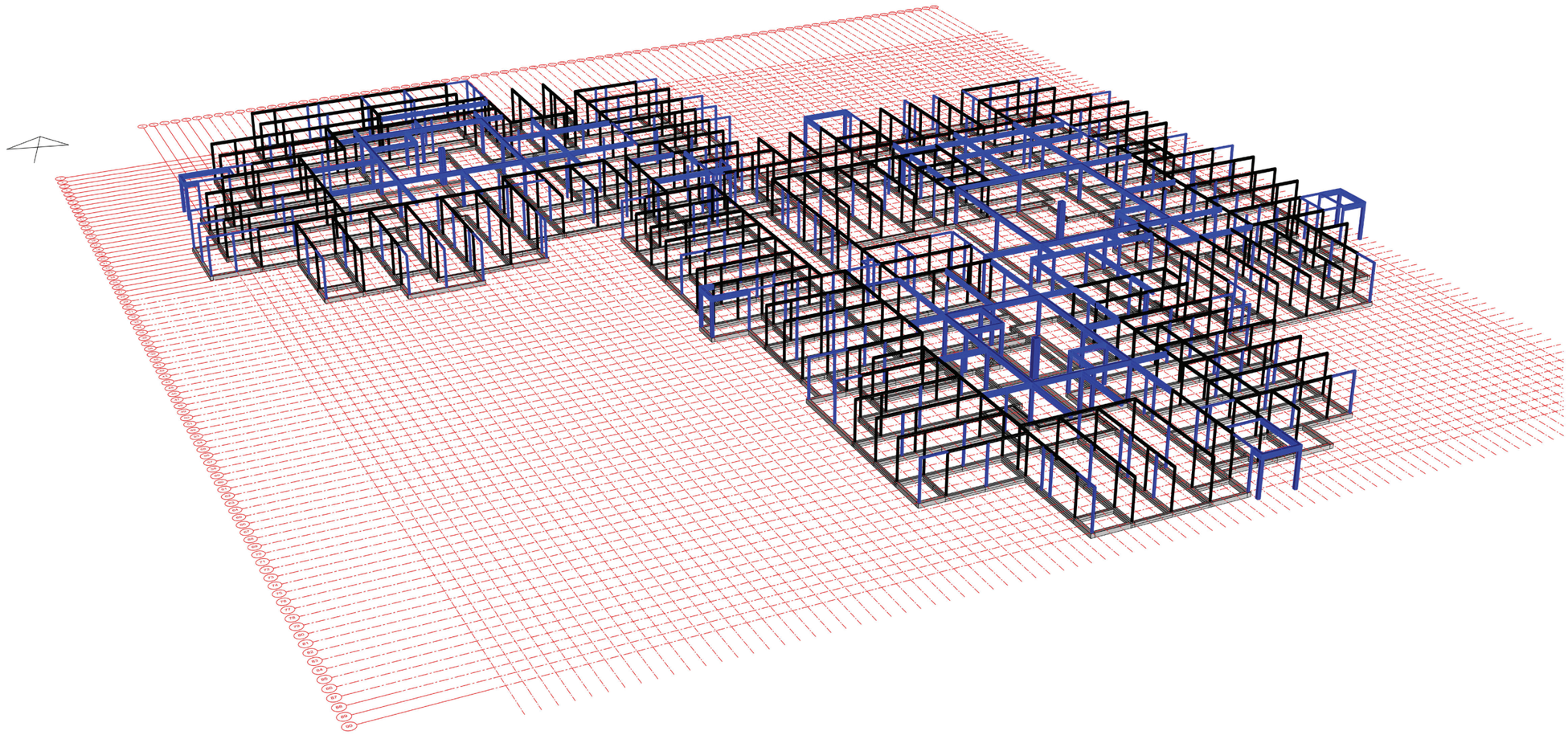


Building structure: Removed structure



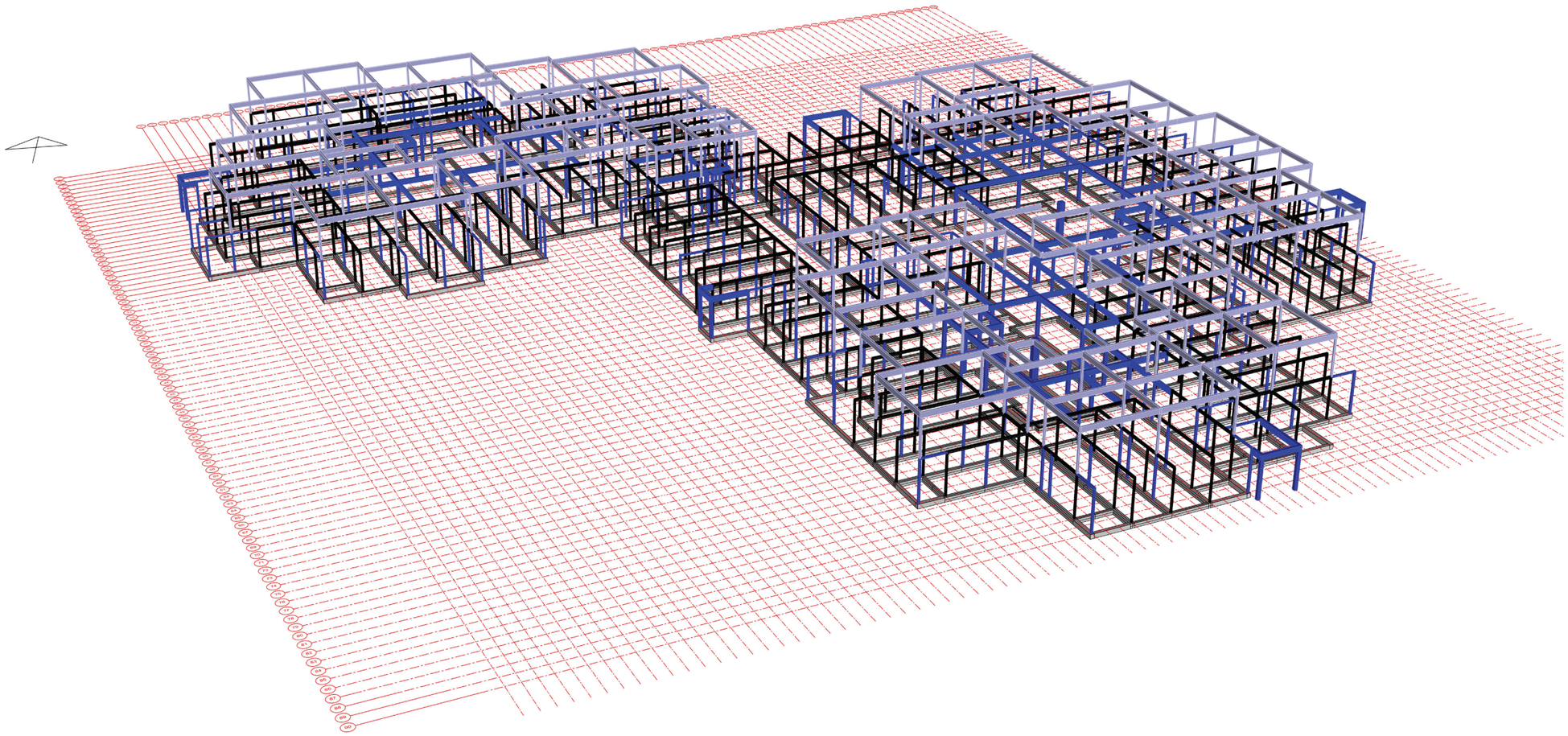
Building structure

Building structure: Added structure



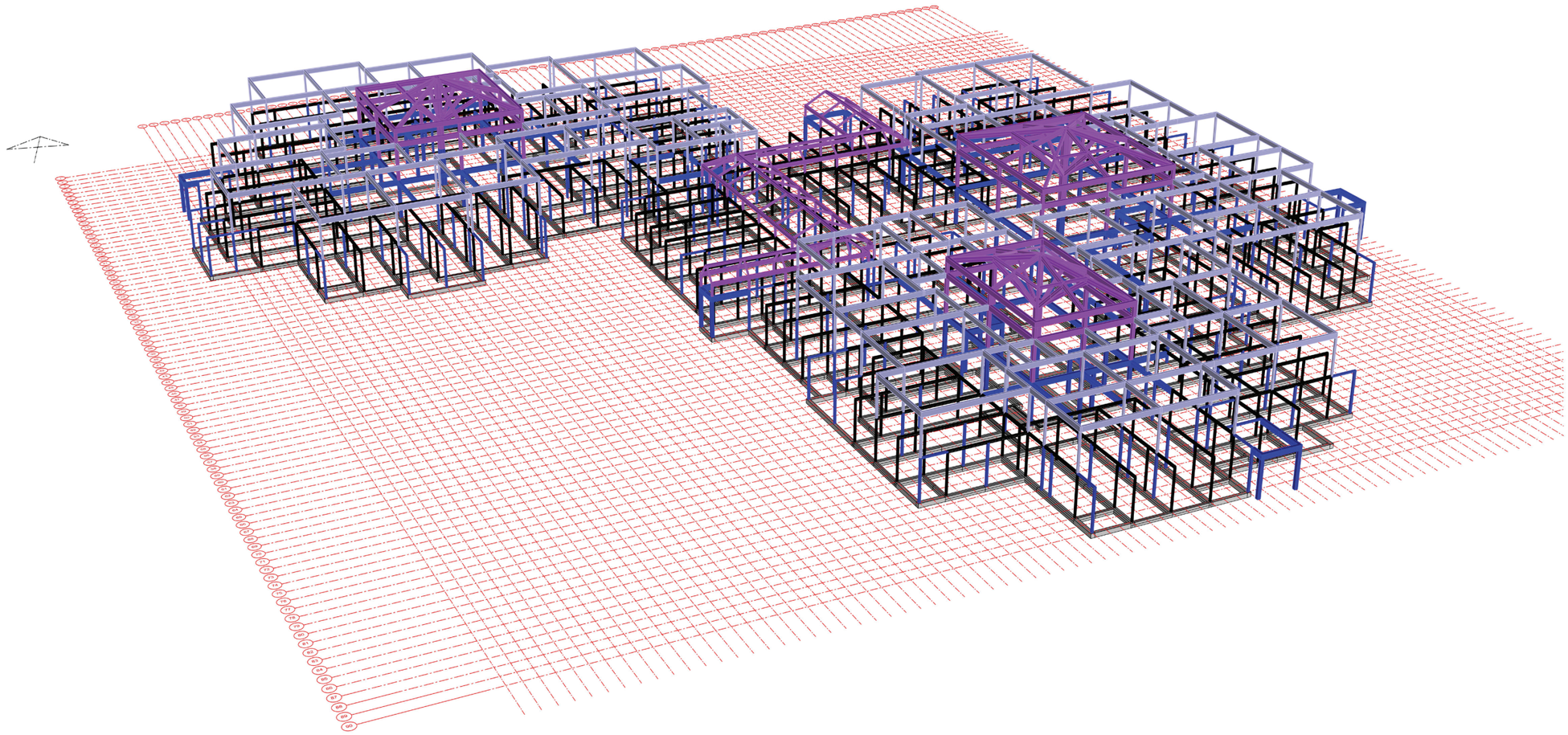
Building structure

Building structure: Added floor structure



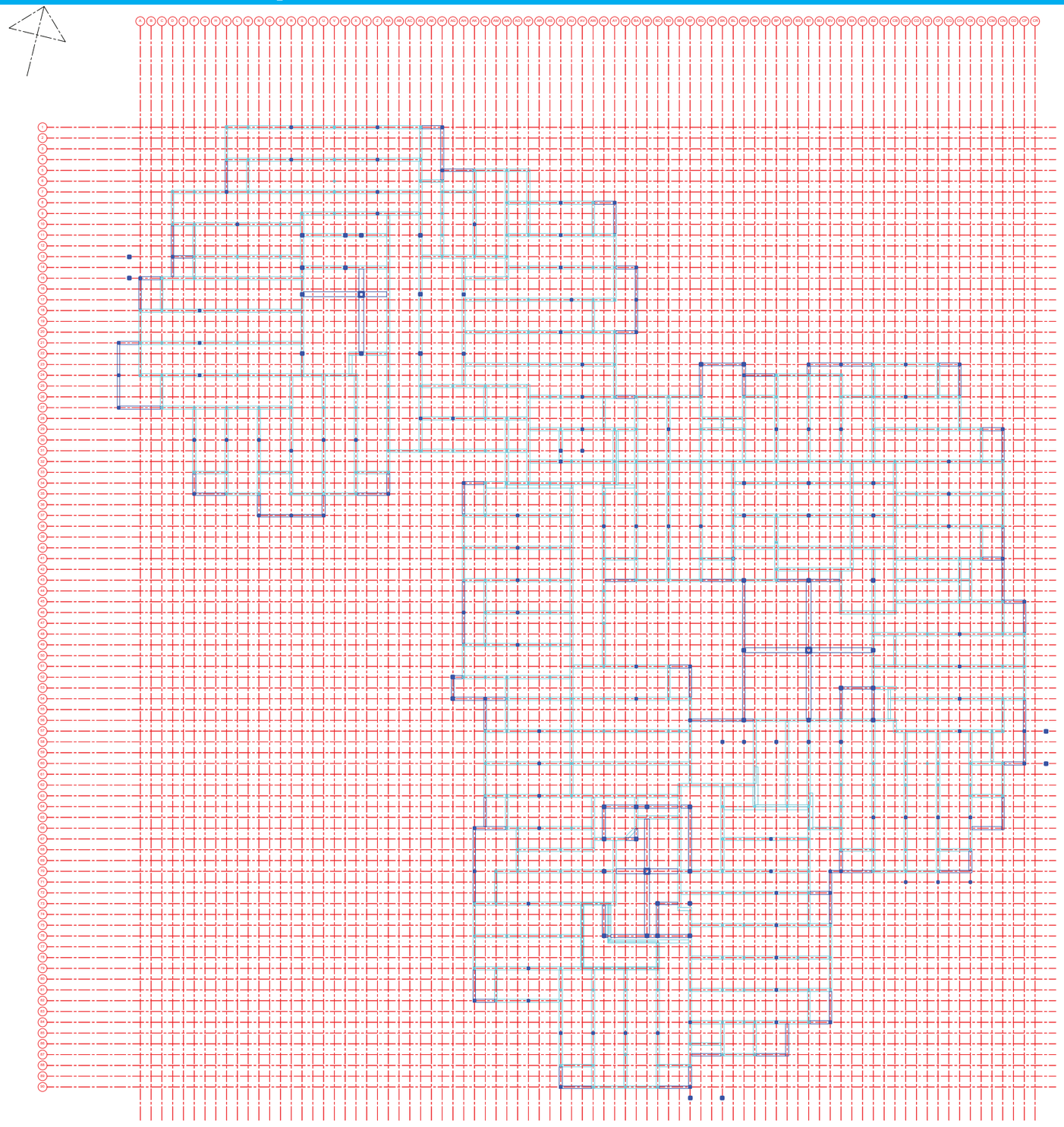
Building structure

Building structure: Courtyard coverings and passage structure



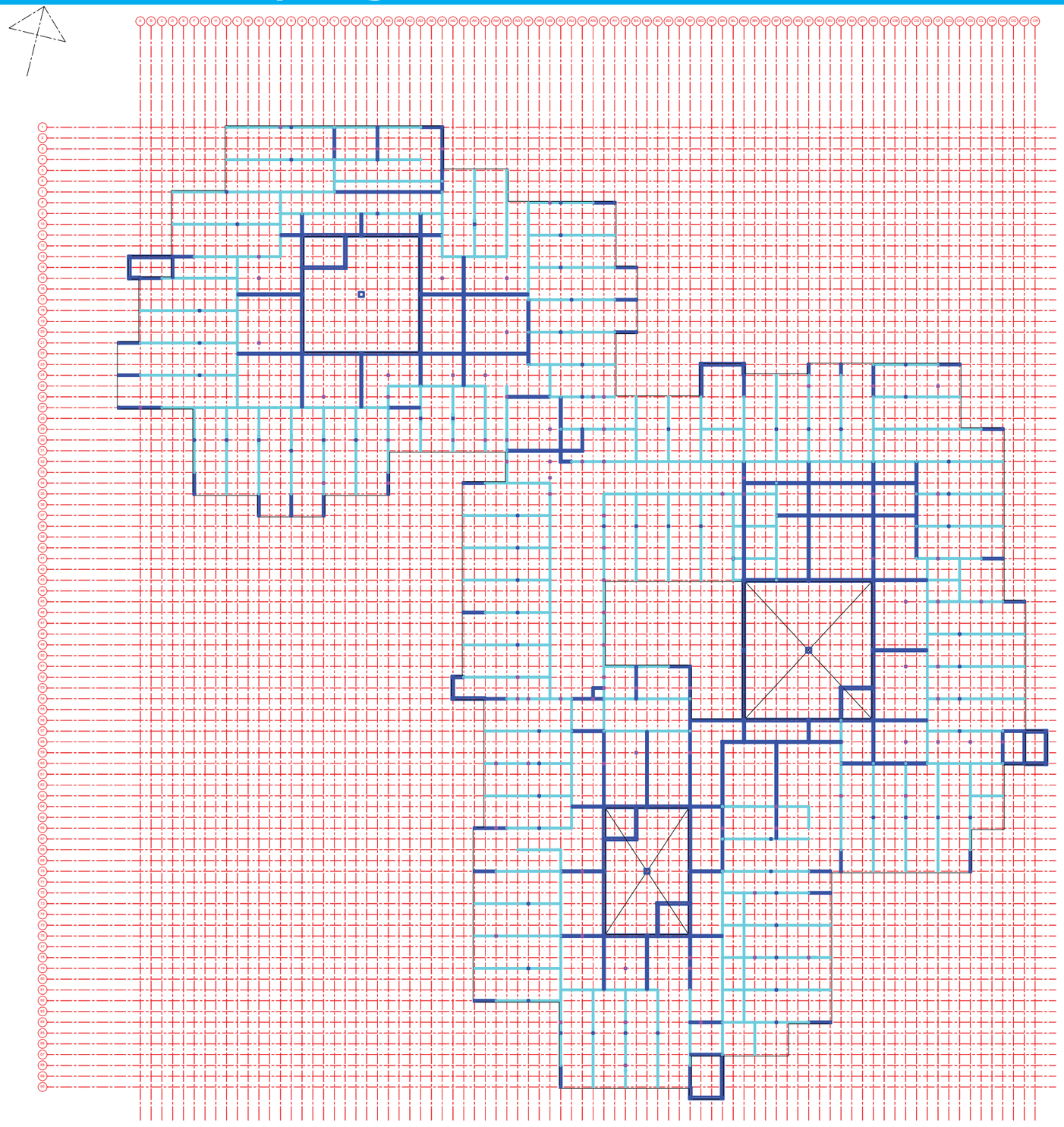
Building structure

Building structure: Floorplan Foundation



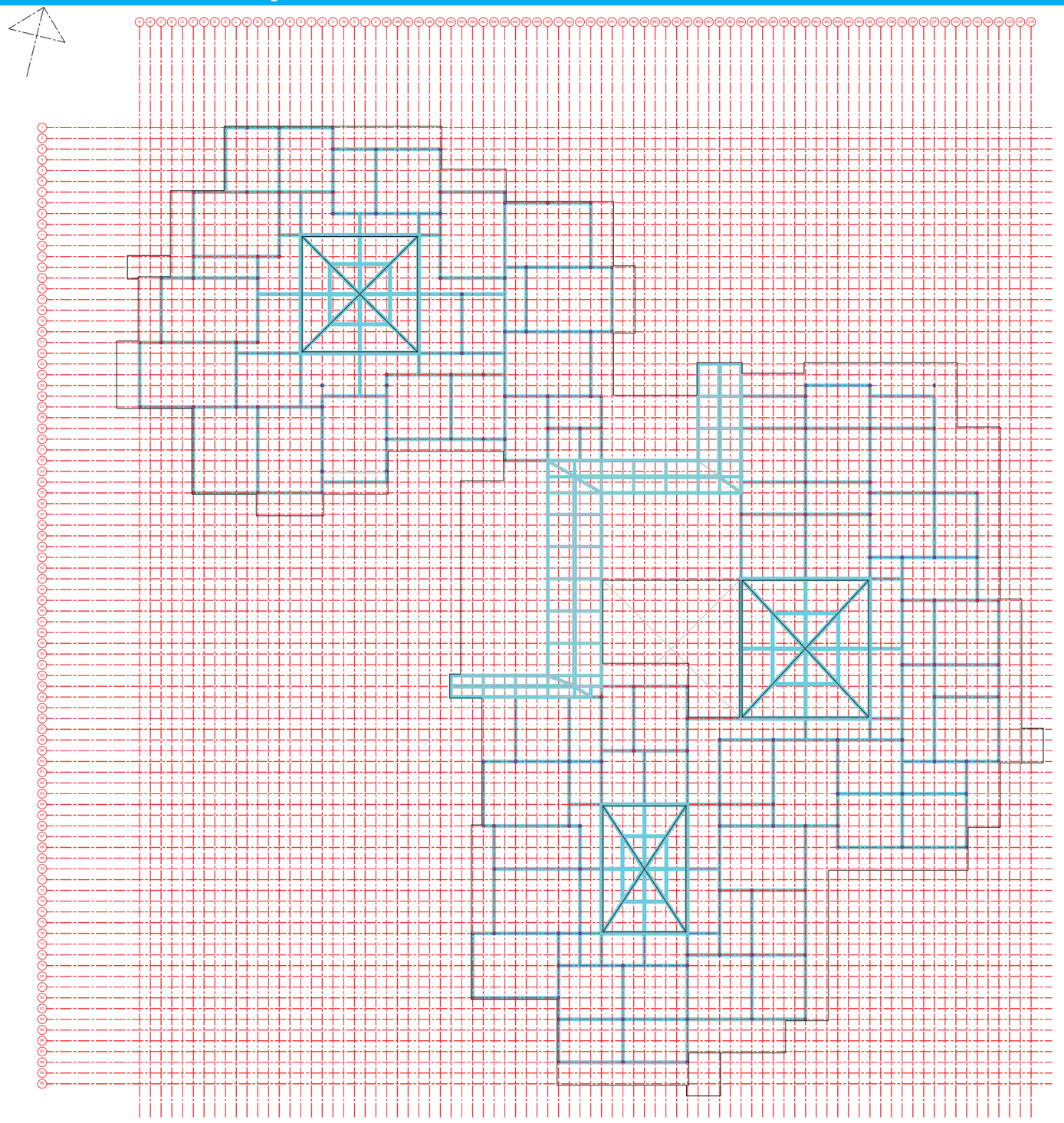
Foundation
1:500

Building structure: Floorplan ground floor



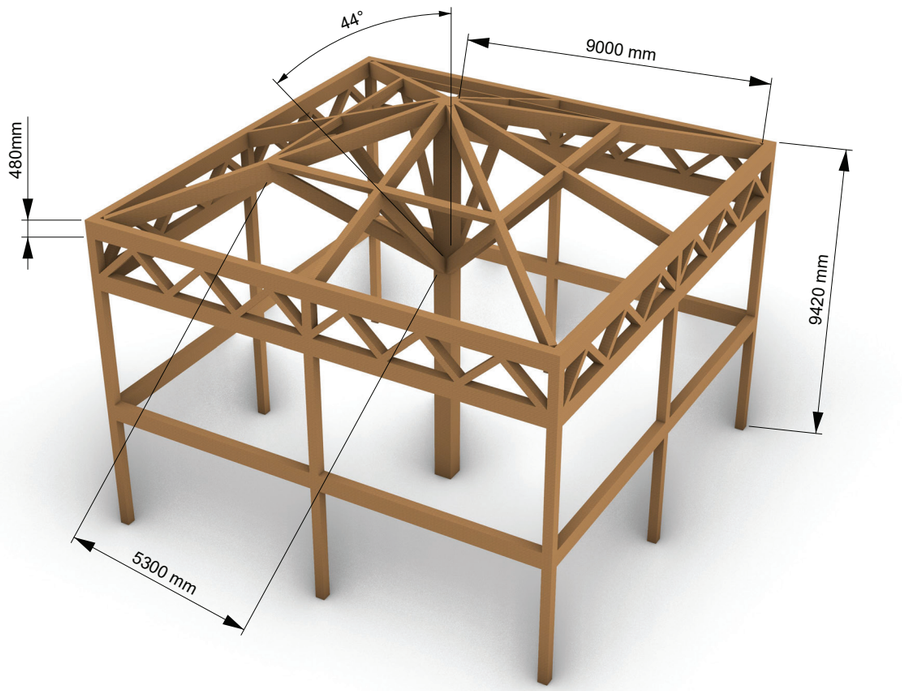
Ground Floor
1:500

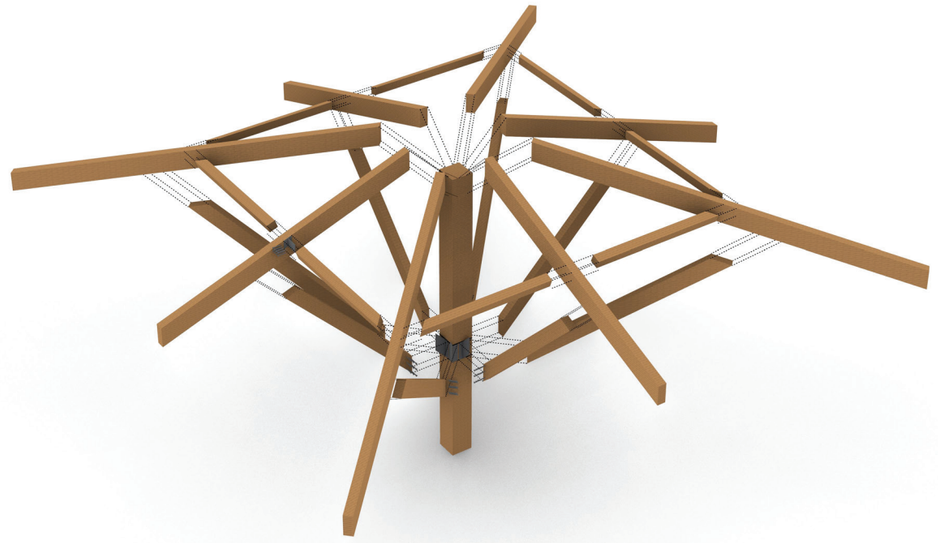
Building structure: Floorplan First floor



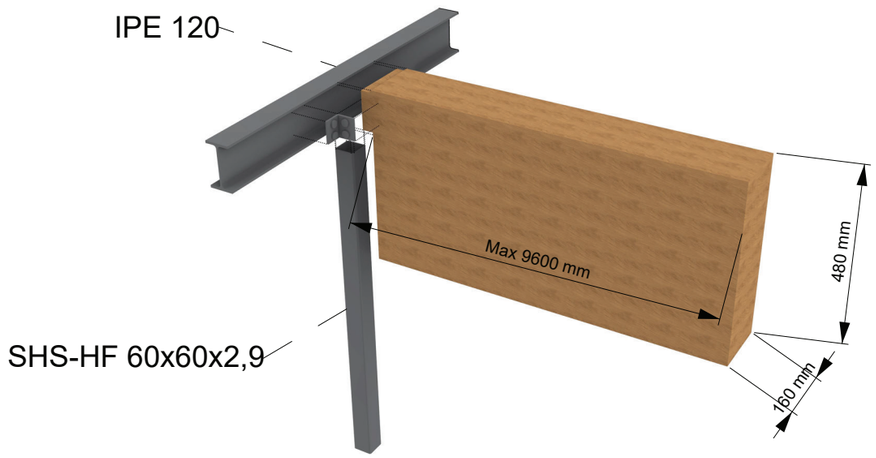
First Floor
1:500

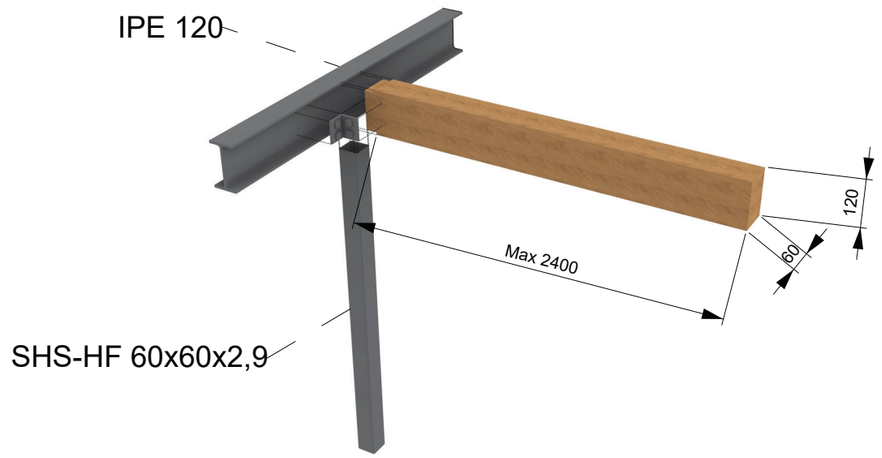
Building structure: Atrium construction dimensions and technique

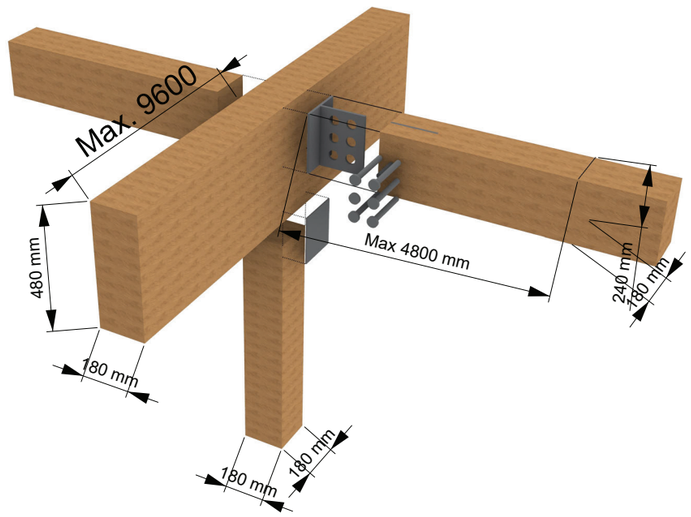




Building structure: Construction details



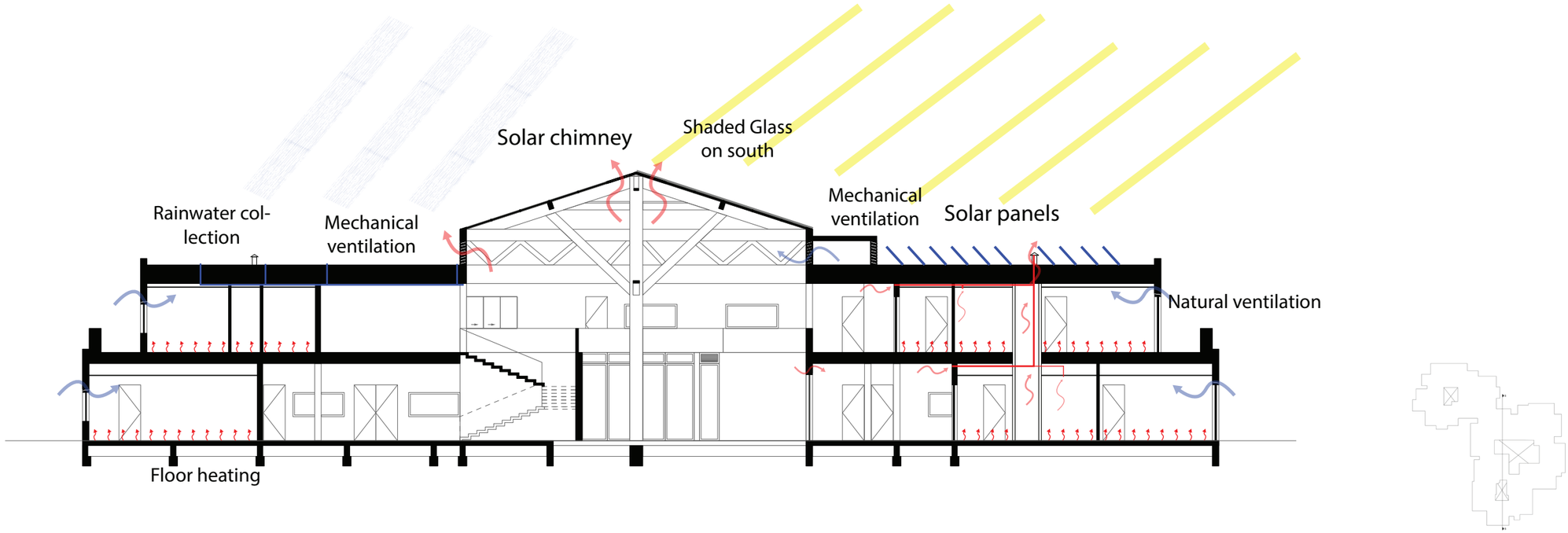




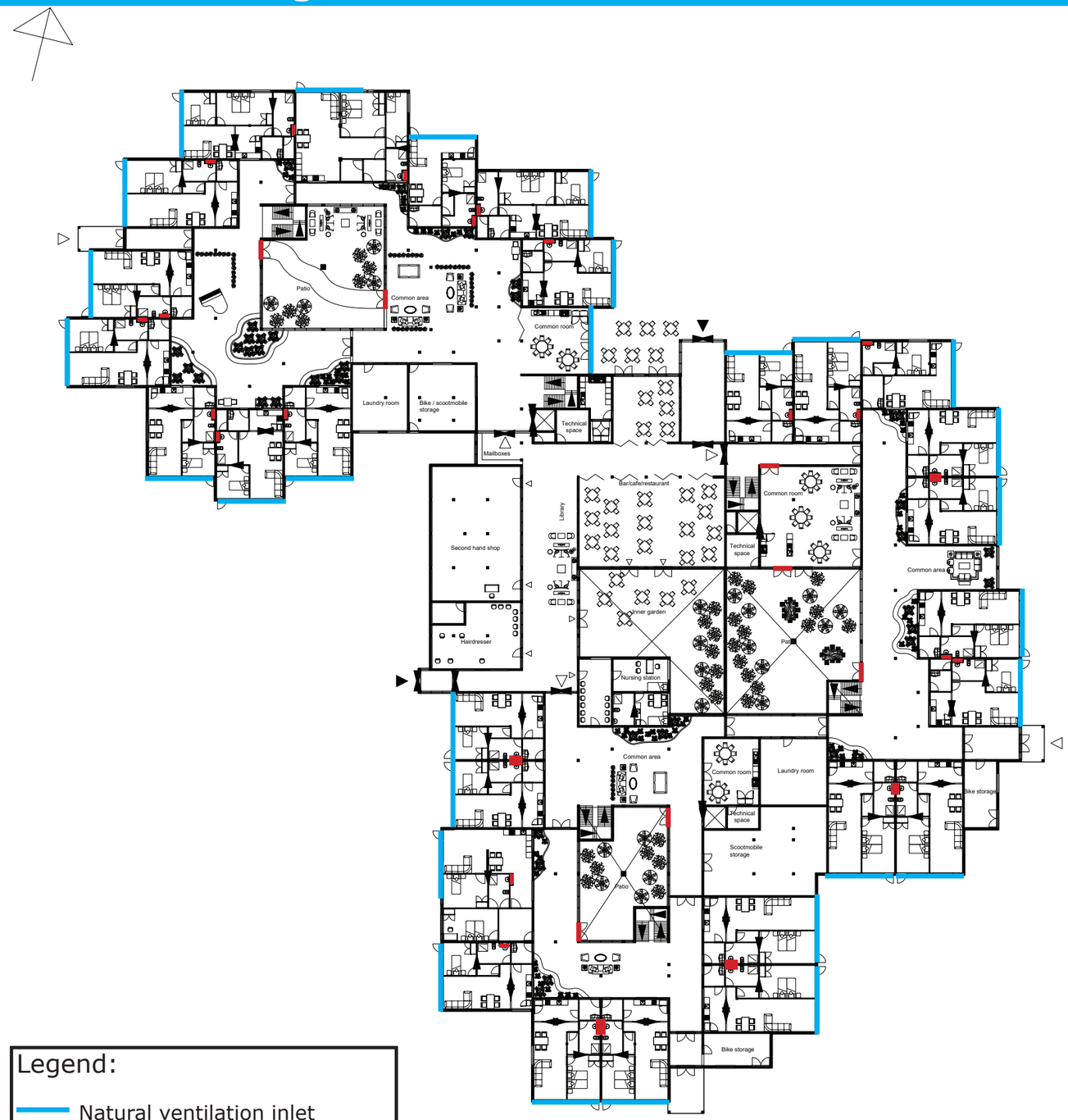
Co-housing courtyards Tanthof

Final Design: Climate design

Climate design: Section climate concept



Climate design: Ventilation scheme ground floor

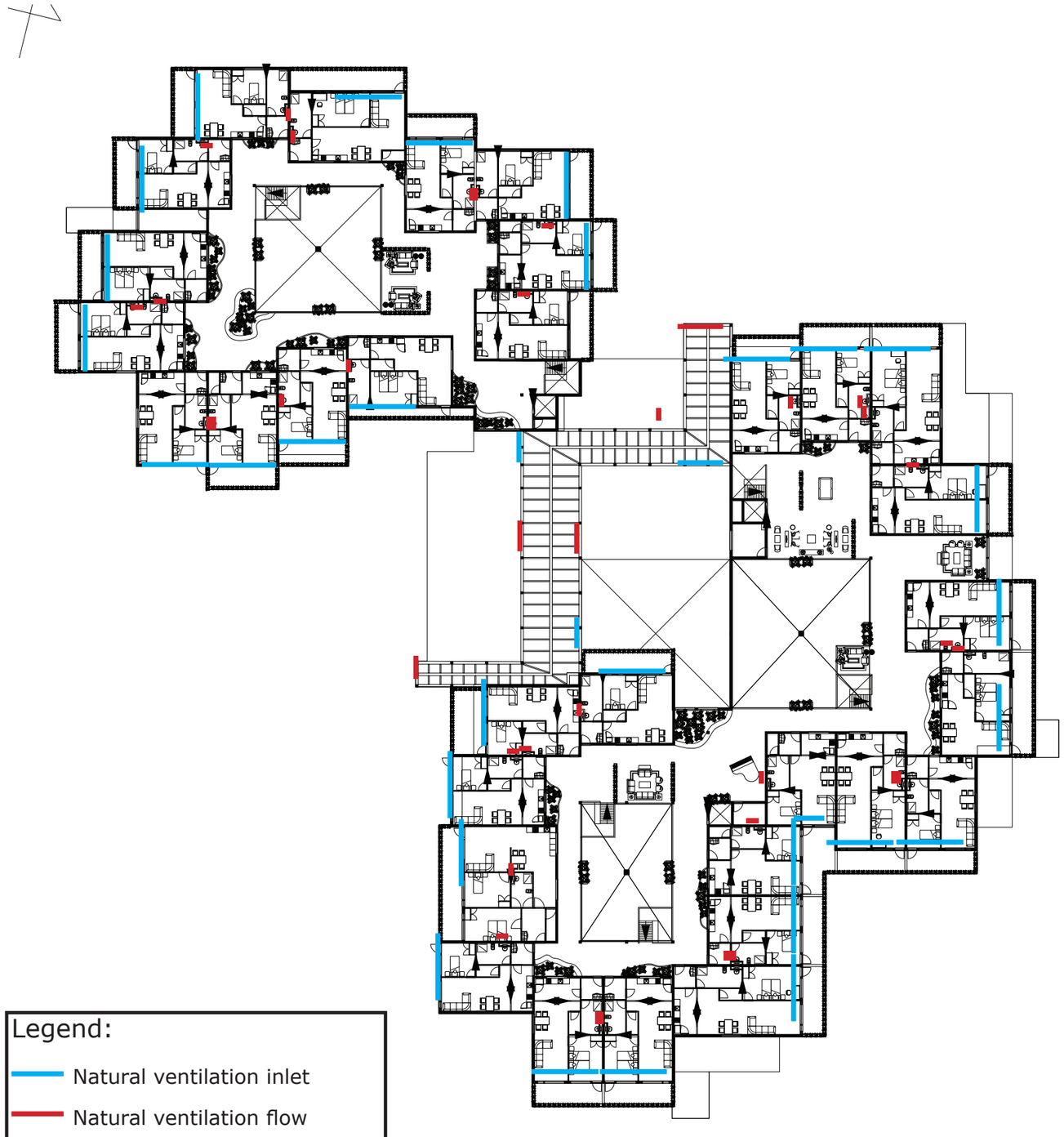


Legend:

- Natural ventilation inlet
- Natural ventilation flow
- Vertical ventilation shaft
- Technical space

Ground floor
1:500

Climate design: Ventilation scheme first floor

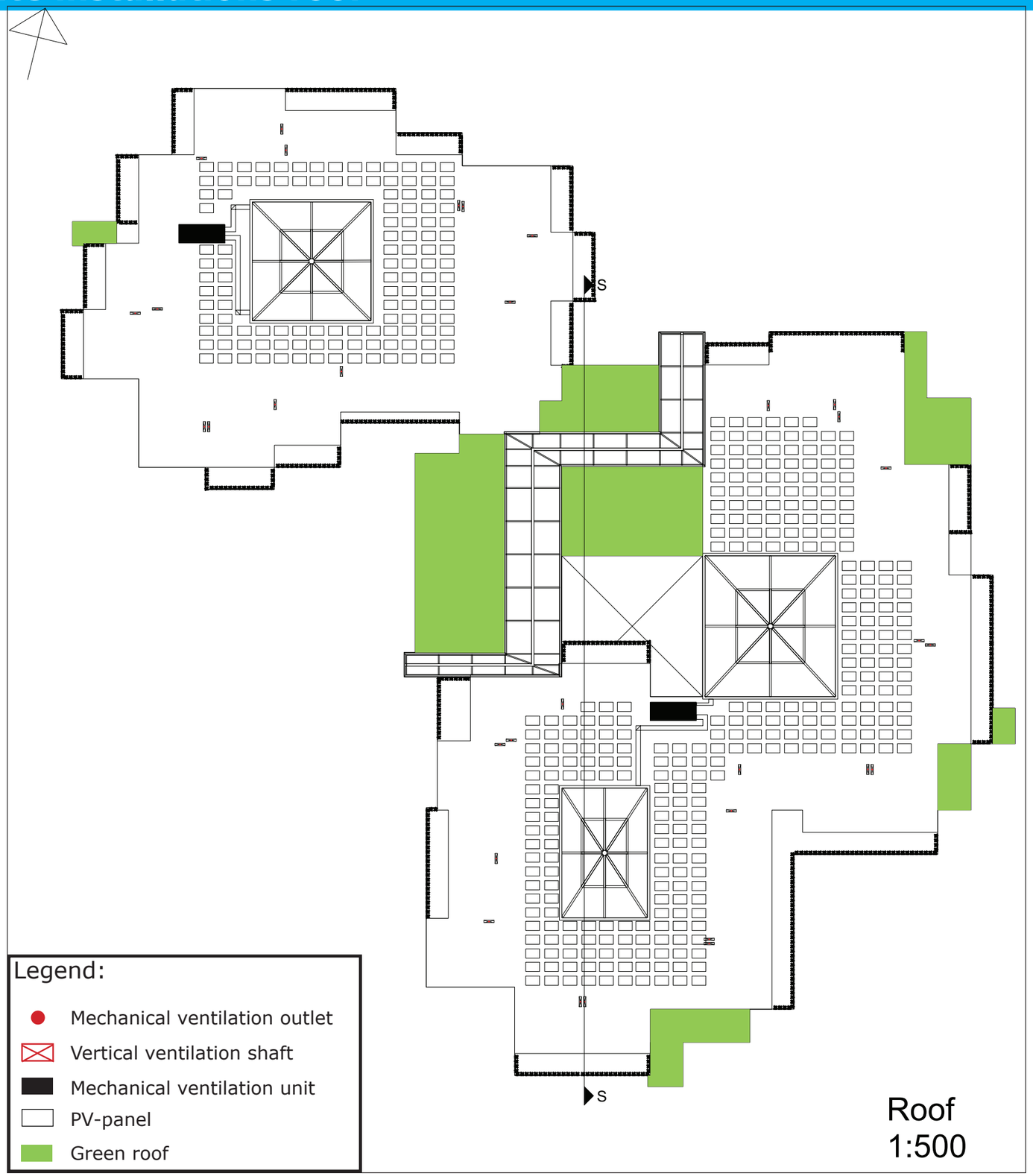


Legend:

- Natural ventilation inlet
- Natural ventilation flow
- Vertical ventilation shaft
- Technical space

First floor
1:500

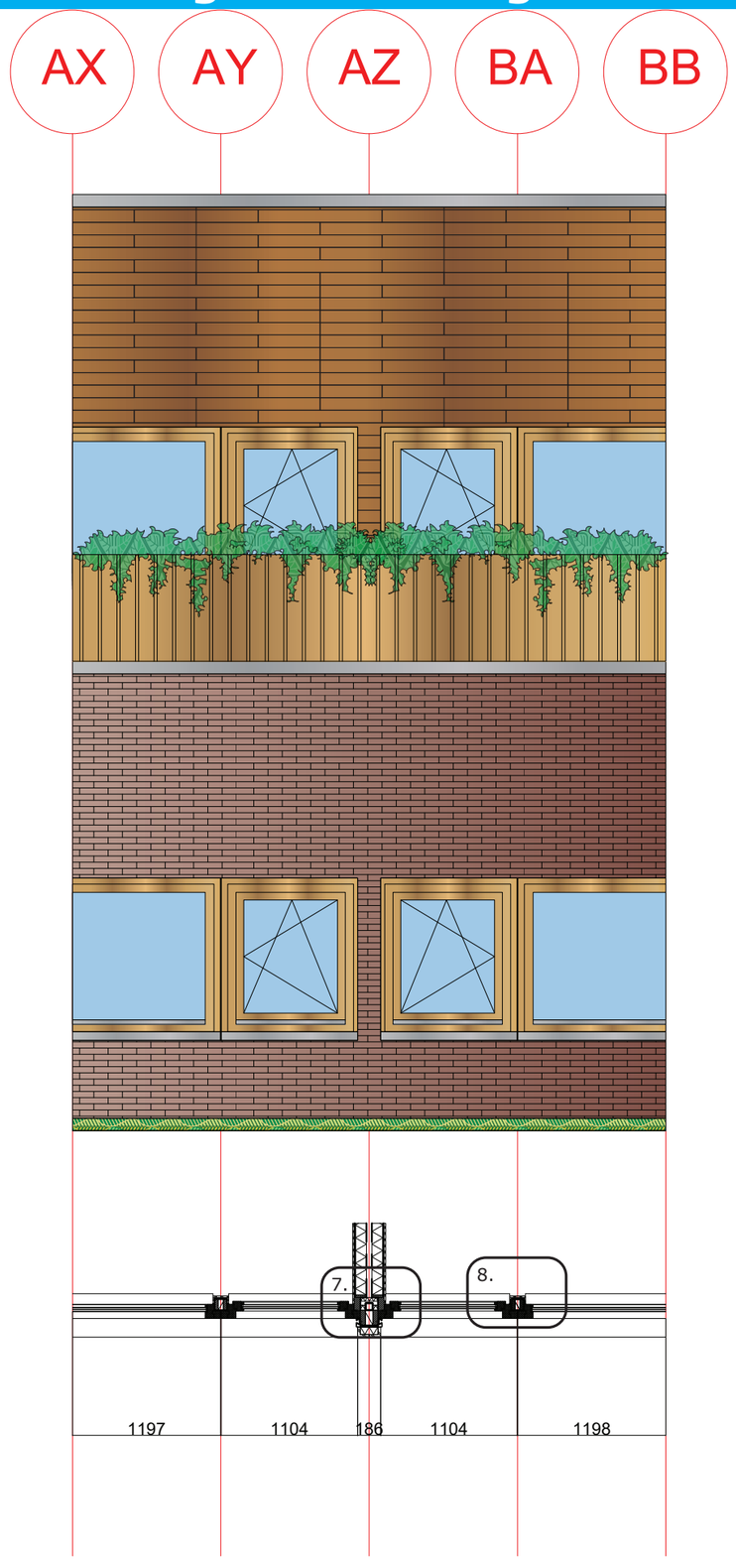
Climate design: Climate installations roof

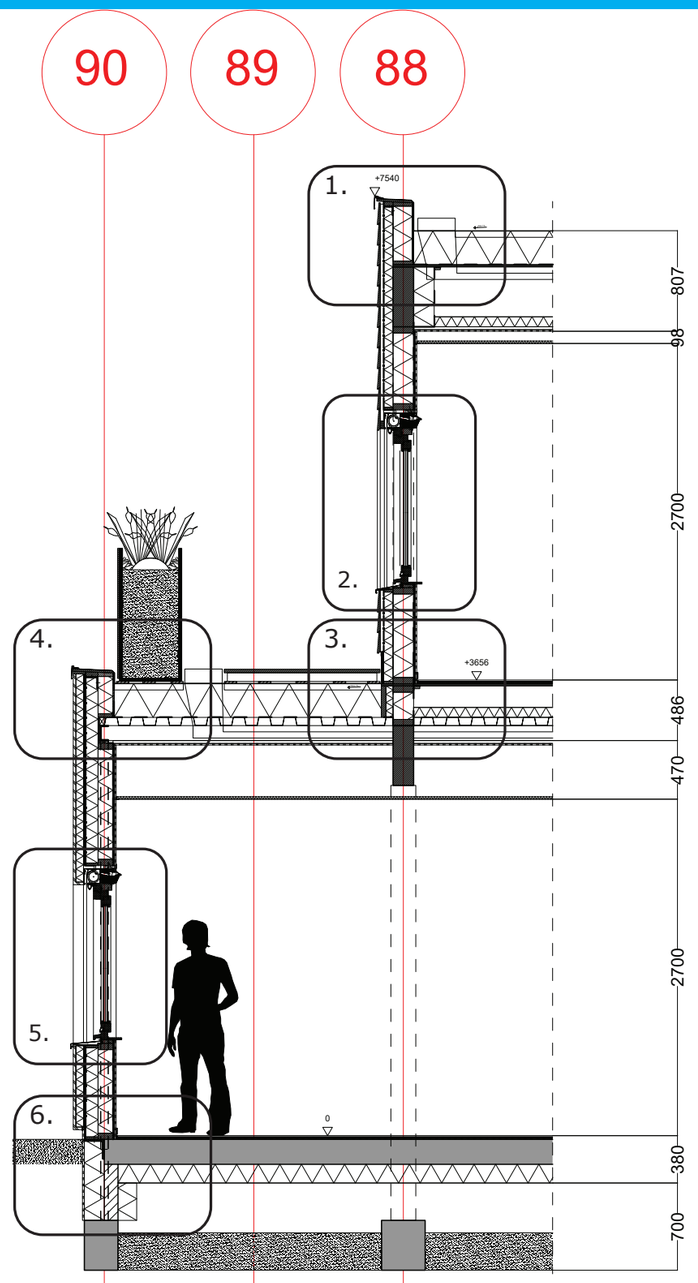


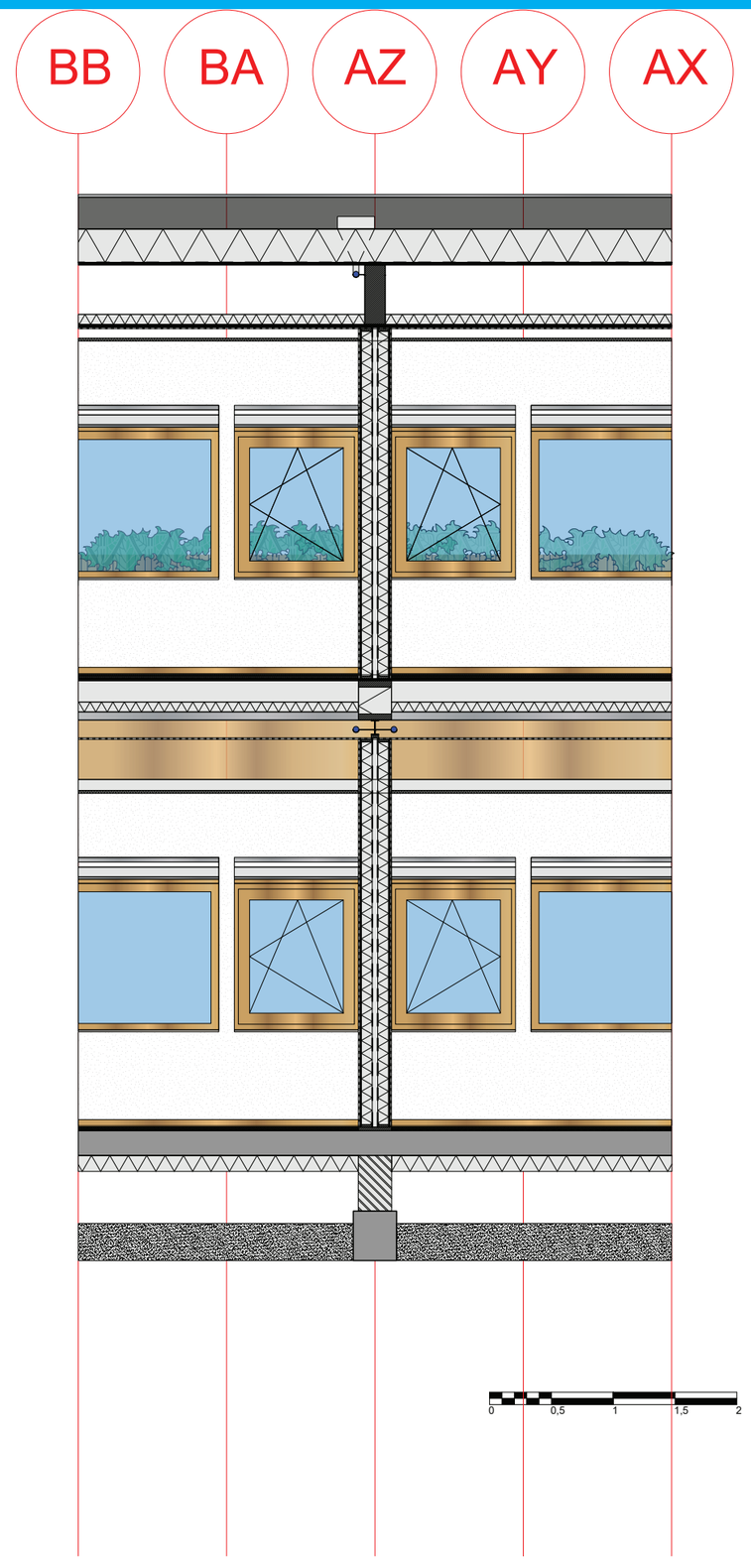
Co-housing courtyards Tanthof

Detailing

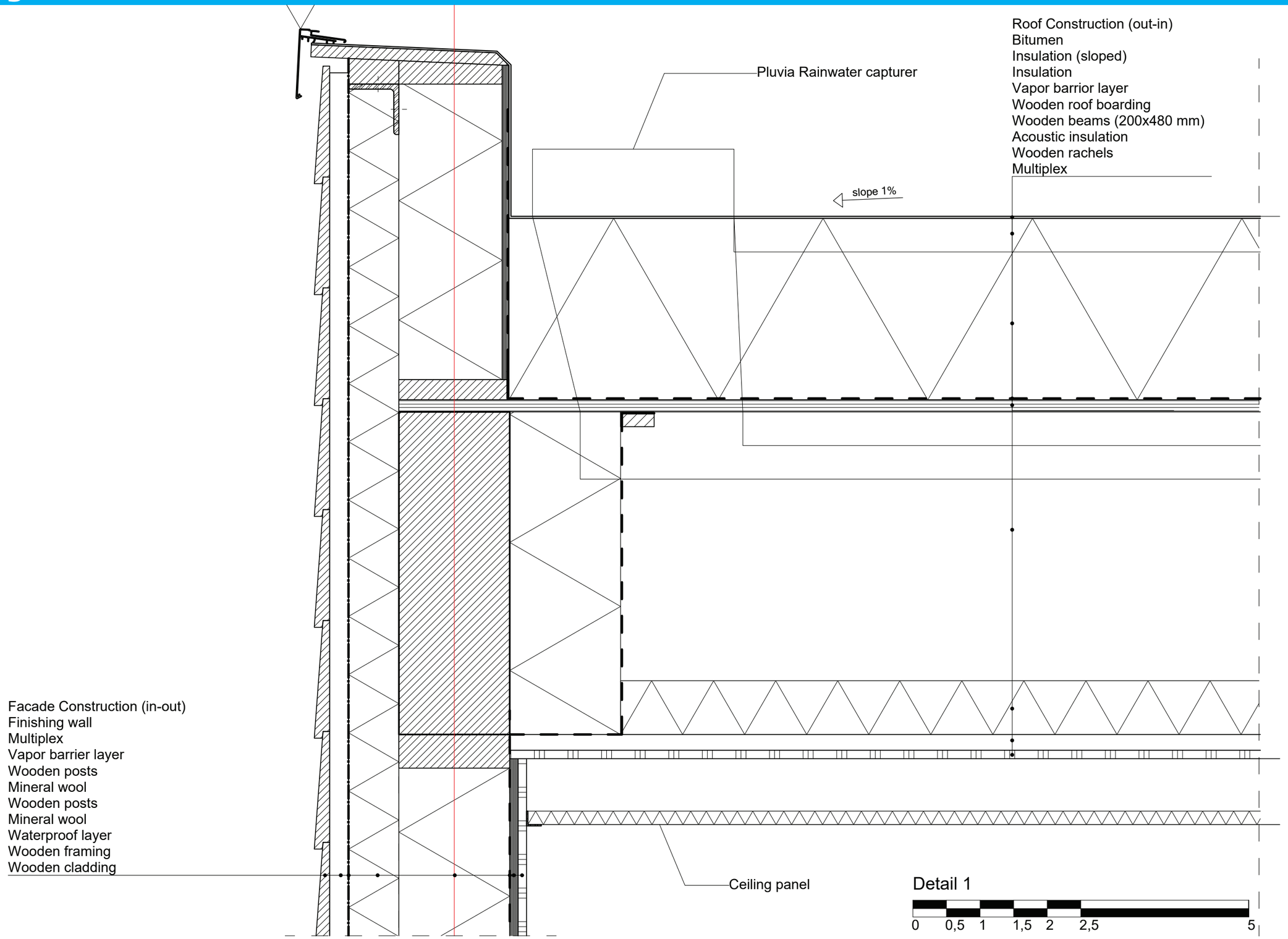
Detailing: Facade fragment





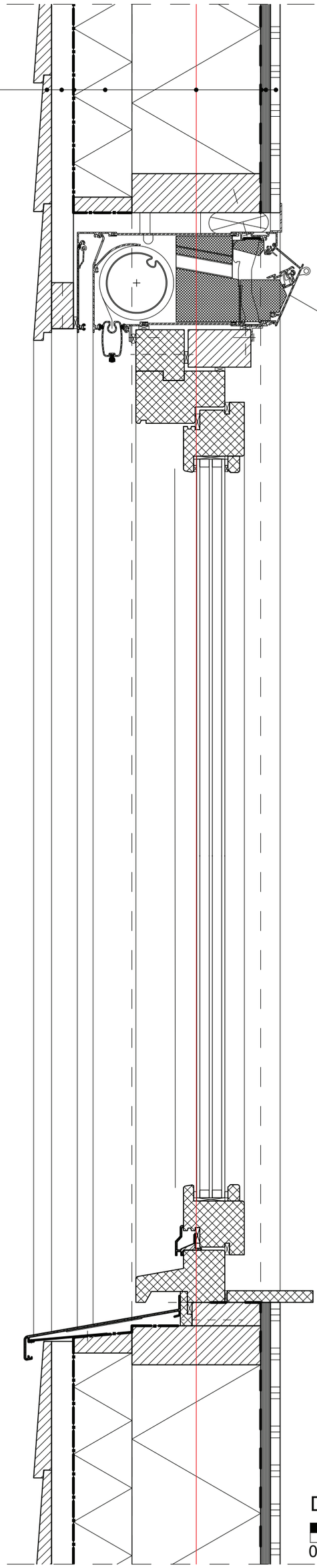


Detailing: Roof



Detailing: Ground floor window

Facade Construction (in-out)
Finishing wall
Multiplex
Vapor barrier layer
Wooden posts
Mineral wool
Wooden posts
Mineral wool
Waterproof layer
Wooden framing
Wooden cladding

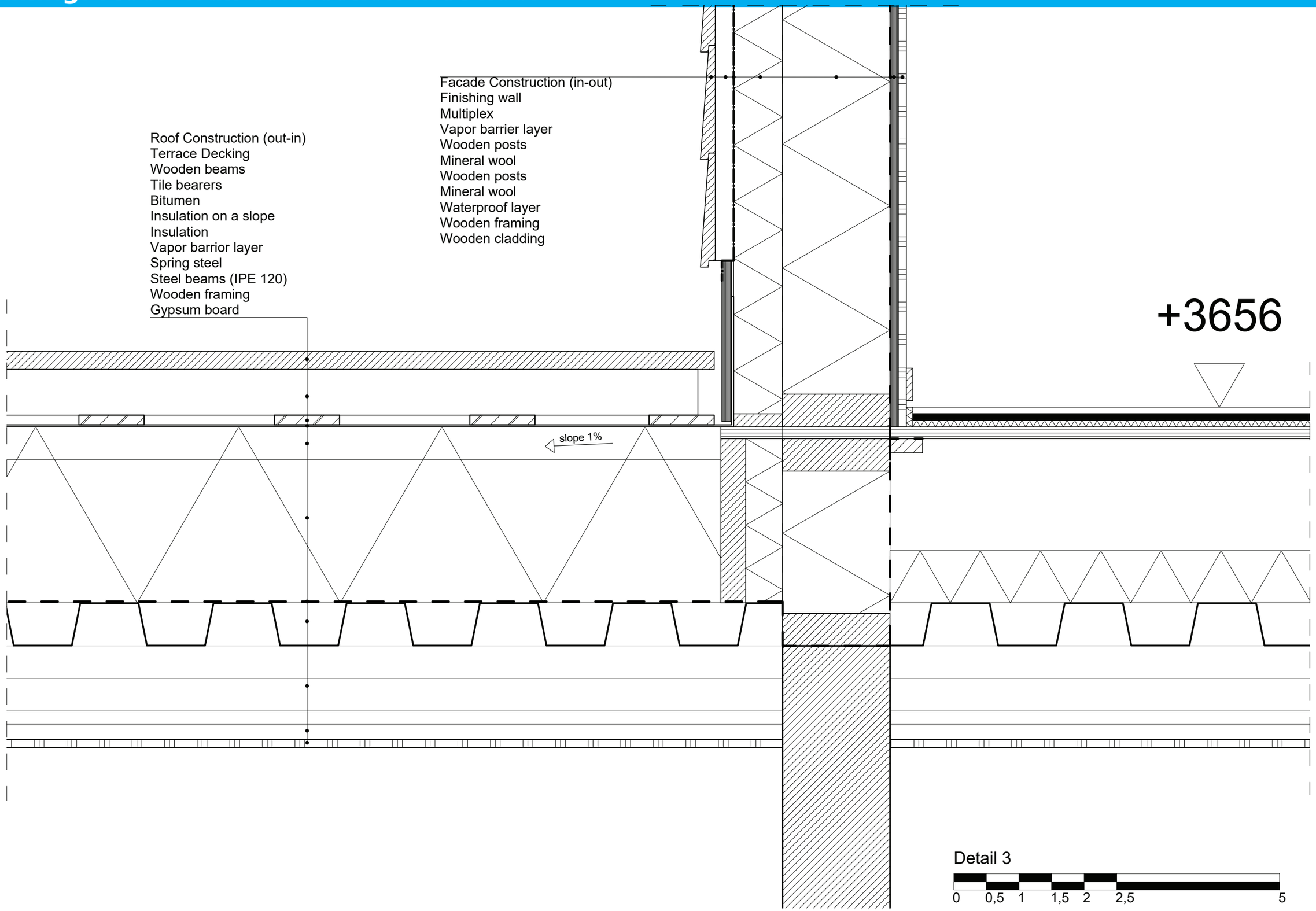


Duco TronicTwin - 120
Intergated solar screen and ventilation

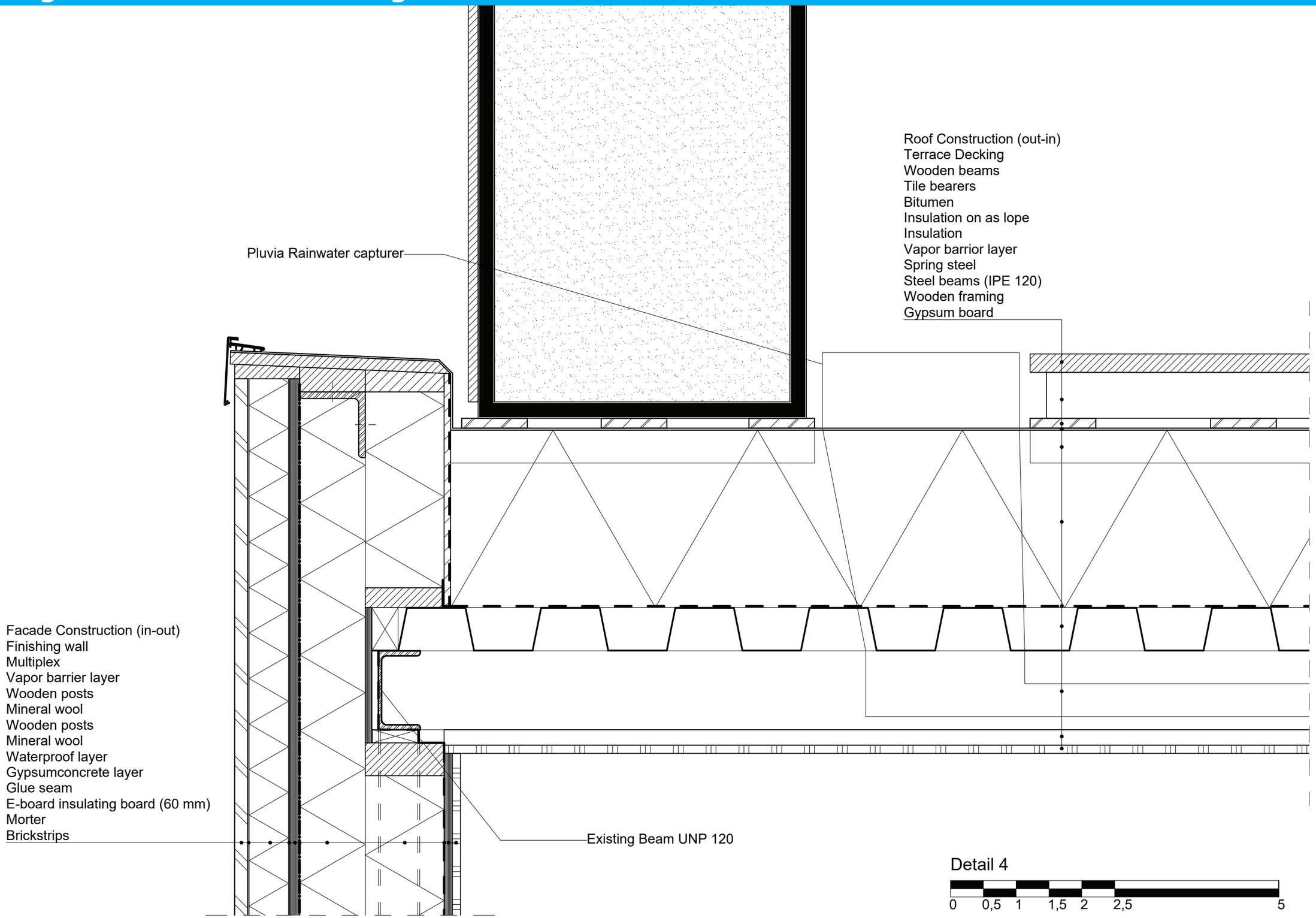
Detail 2

0 0,5 1 1,5 2 2,5 5

Detailing: Floor-wall connection first floor



Detailing: Wall-roof connection ground floor



Detailing: Window detail first floor



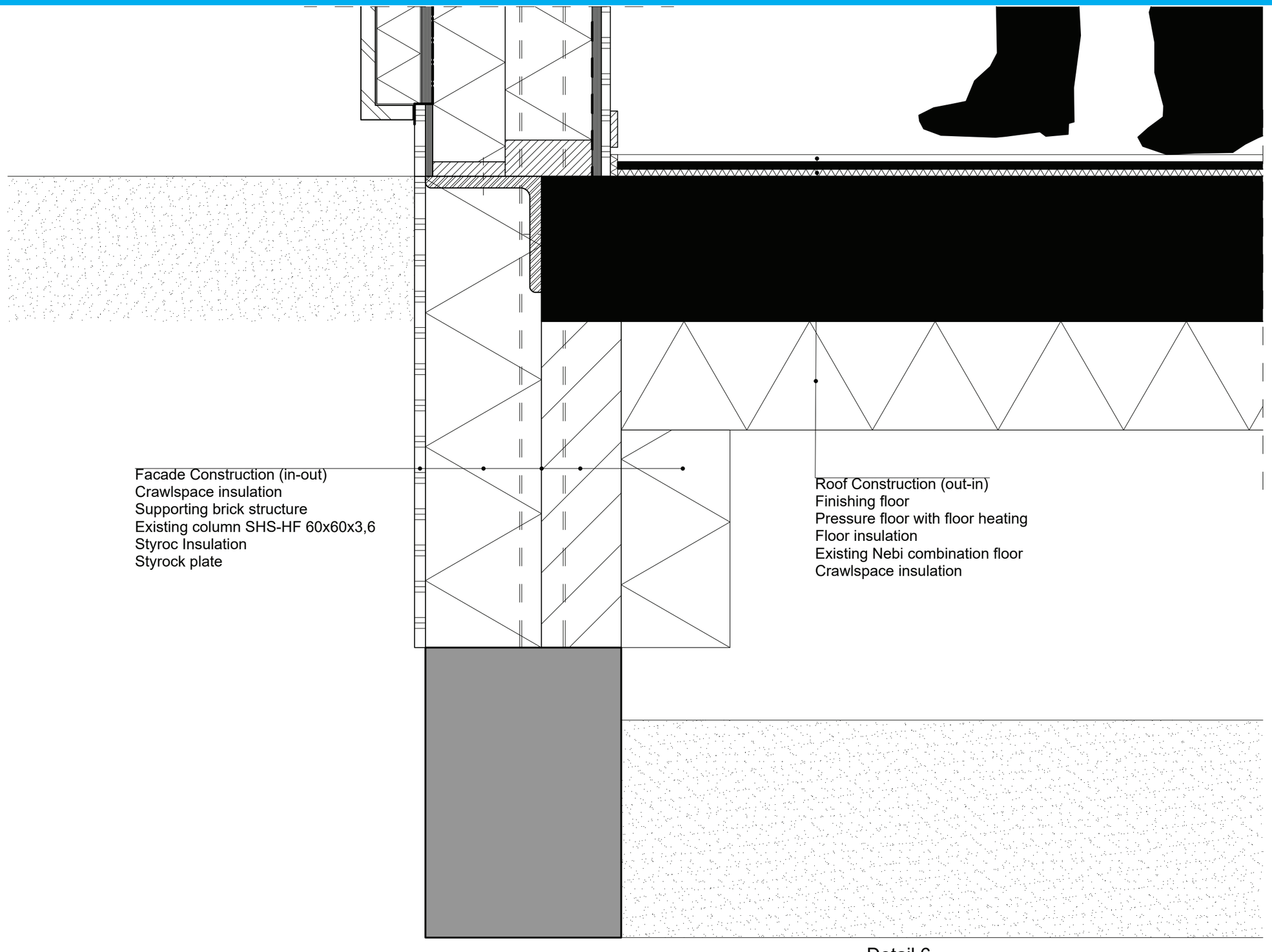
Facade Construction (in-out)
Finishing wall
Multiplex
Vapor barrier layer
Wooden posts
Mineral wool
Wooden posts
Mineral wool
Waterproof layer
Gypsumconcrete layer
Glue seam
E-board insulating board (40 mm)
Morter
Brickstrips



Detail 5

0 0,5 1 1,5 2 2,5 5

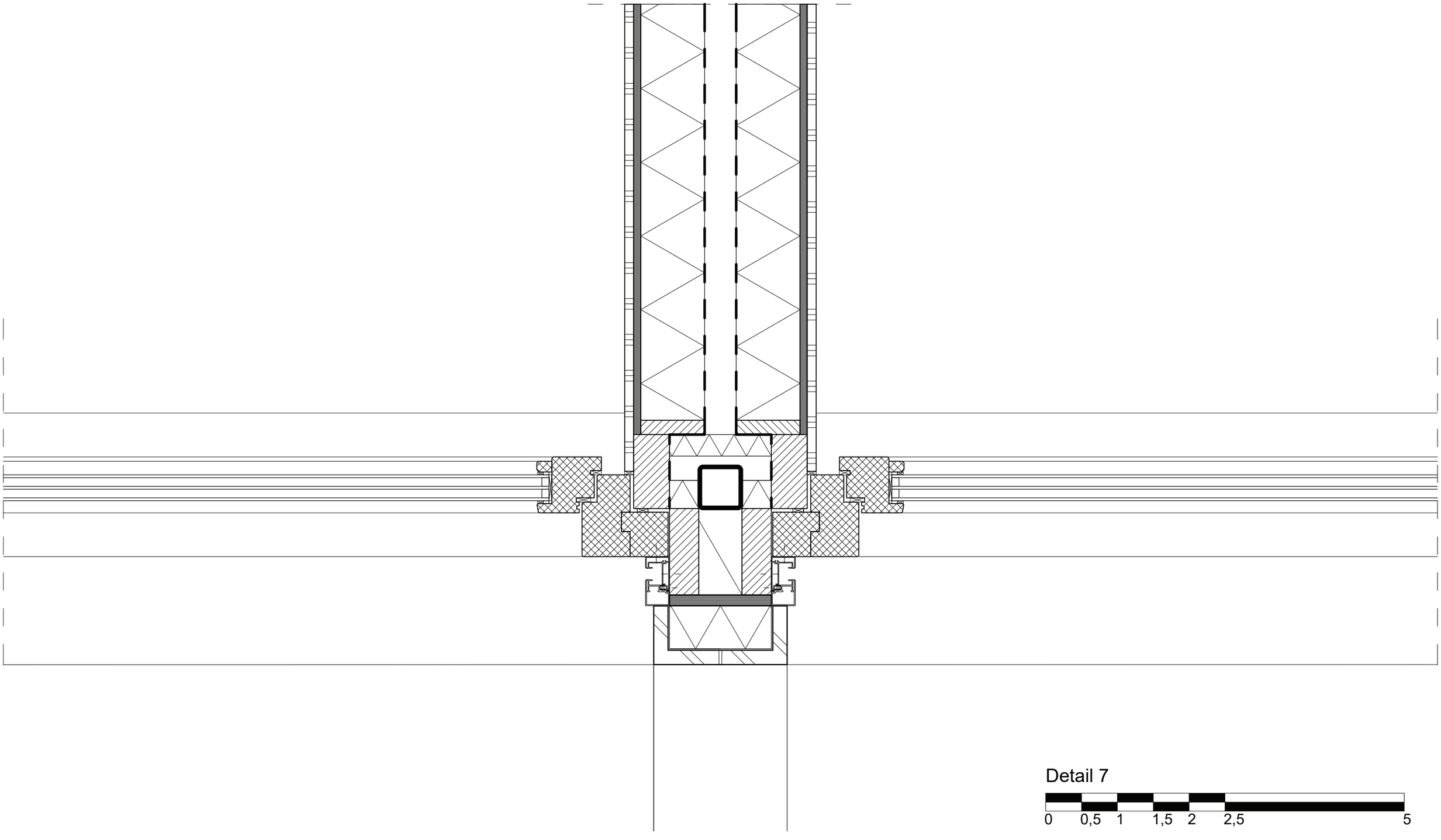
Detailing: Foundation



Detail 6

0 0,5 1 1,5 2 2,5 5

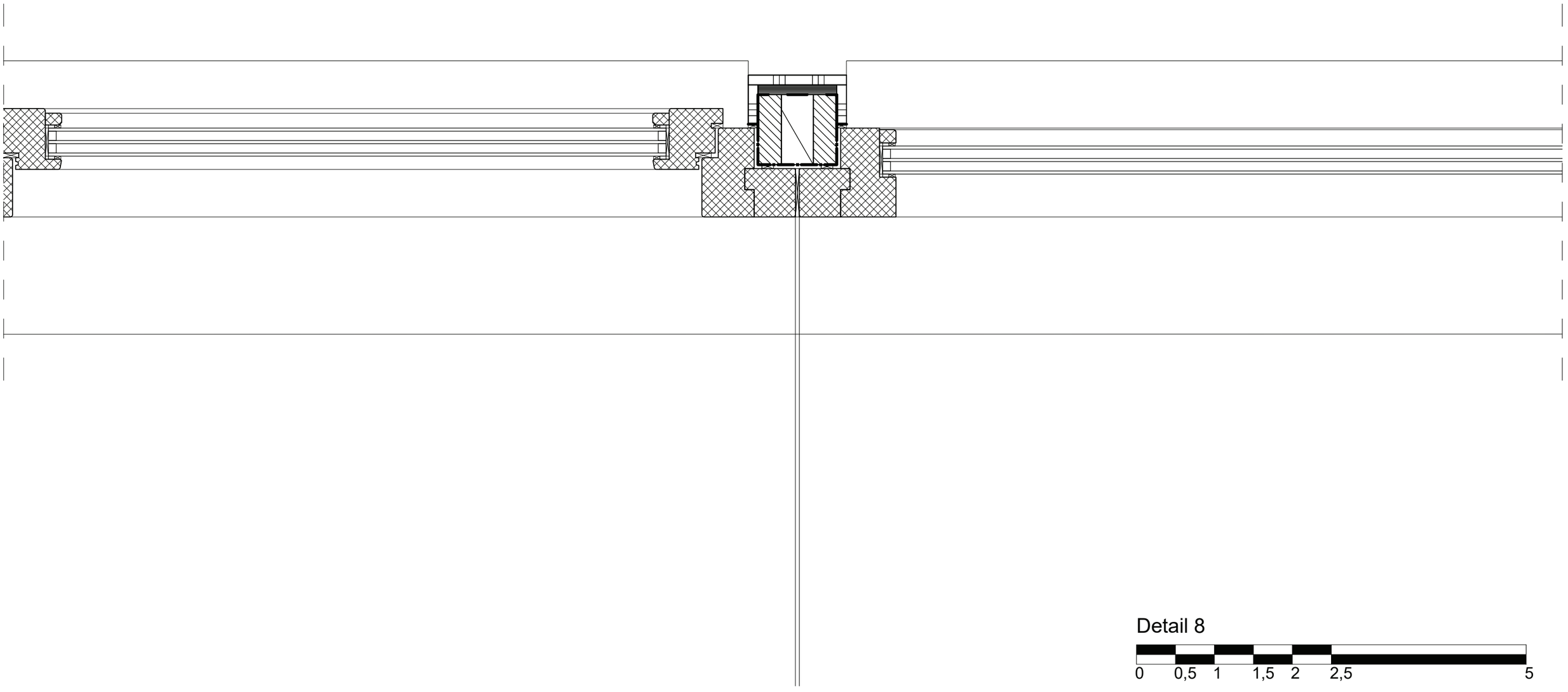
Detailing: Horizontal window detail ground floor



Detail 7

0 0,5 1 1,5 2 2,5 5

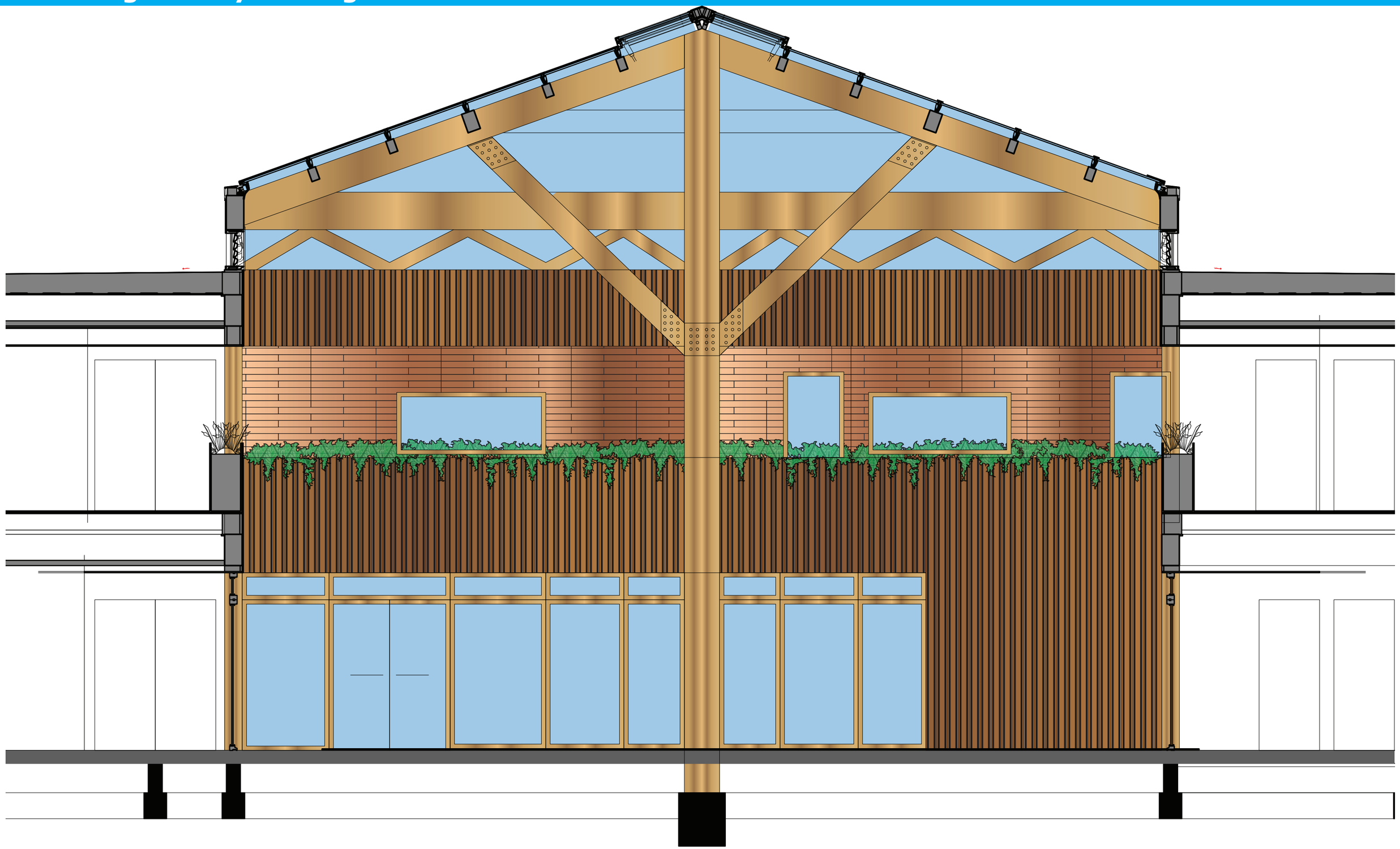
Detailing: Openable window detail ground floor



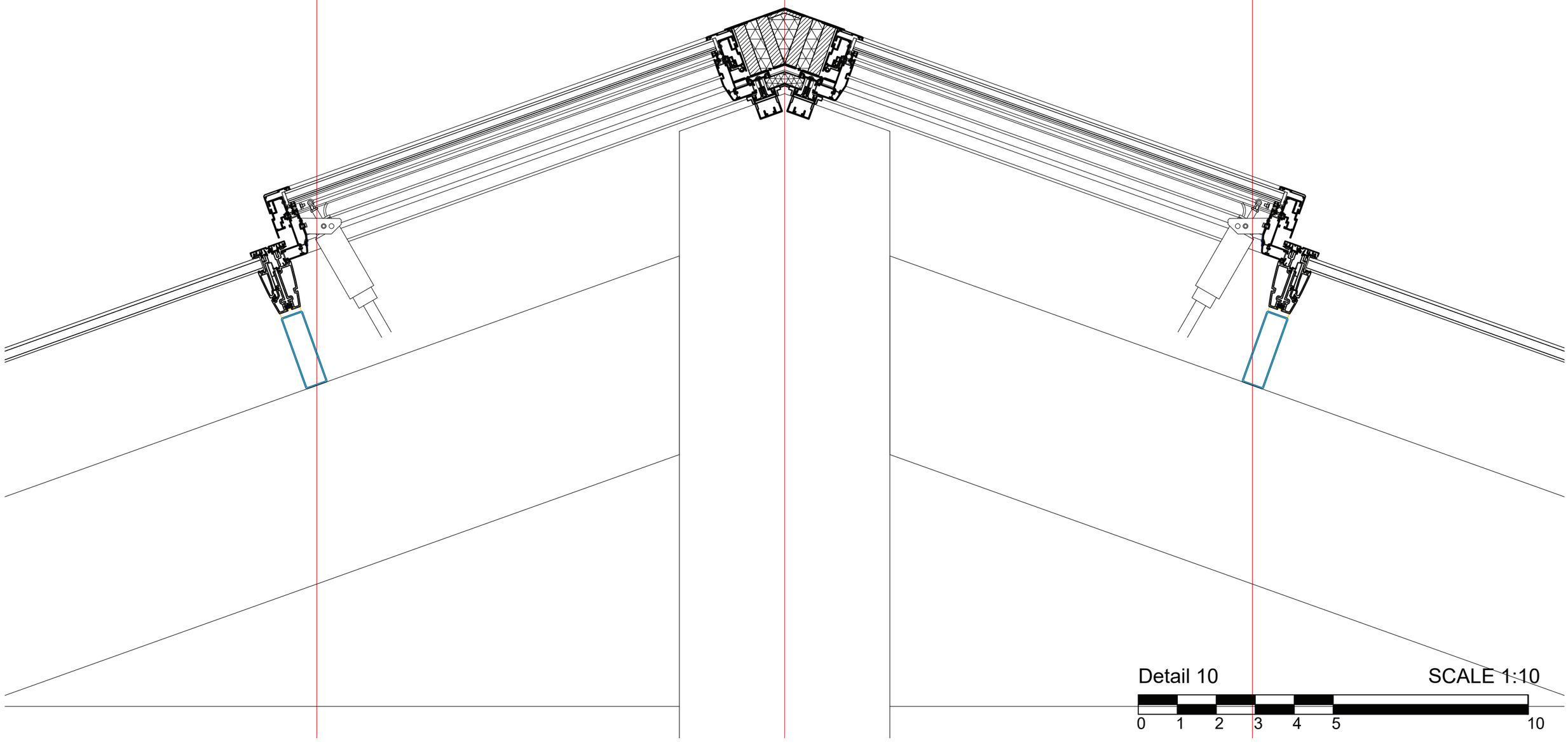
Detail 8

0 0,5 1 1,5 2 2,5 5

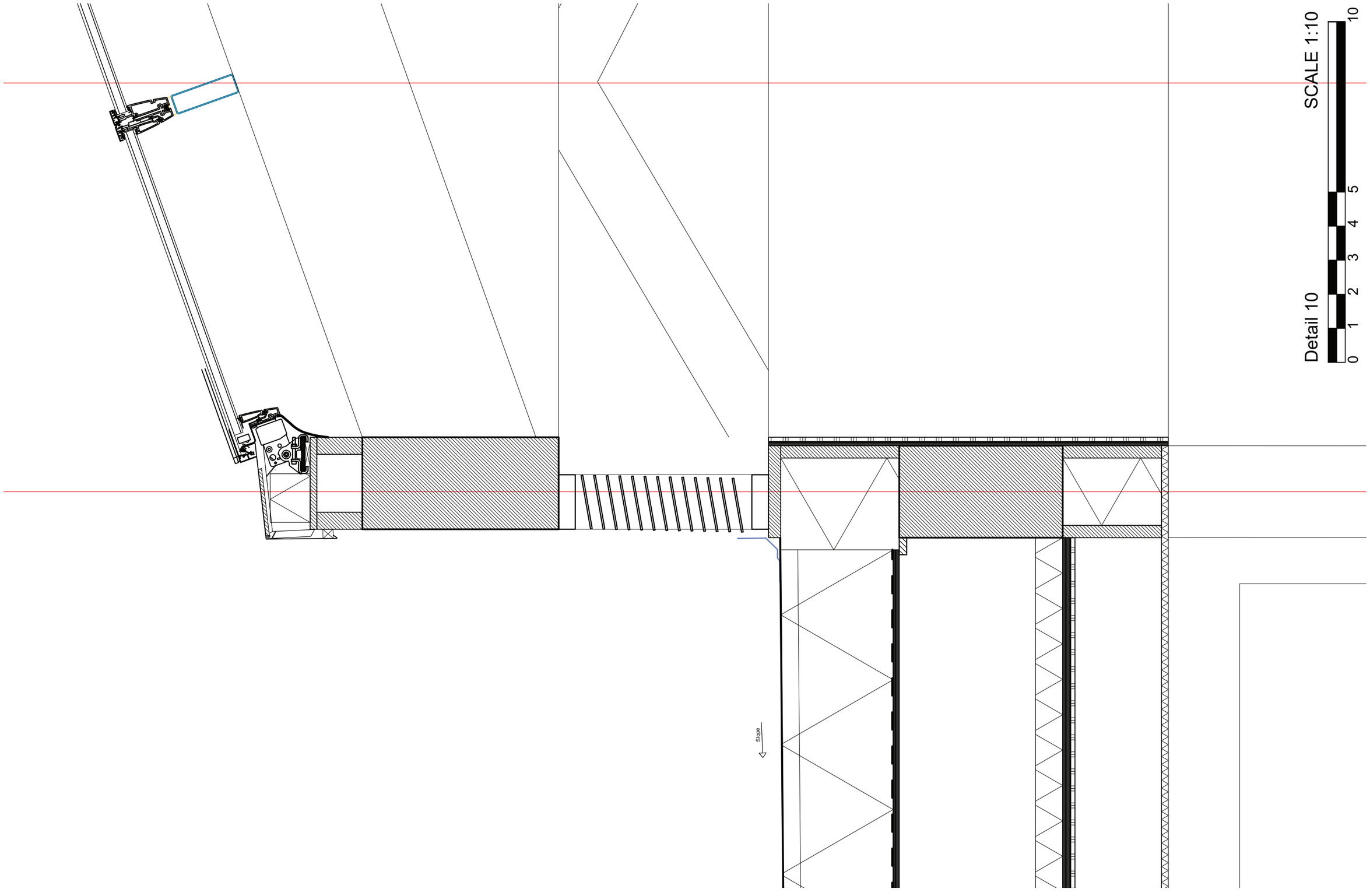
Detailing: Courtyard fragment



Detailing: Solar chimney courtyard roof



Detailing: Connection courtyard roof-flat roof



Detailing: Window detail ground floor

