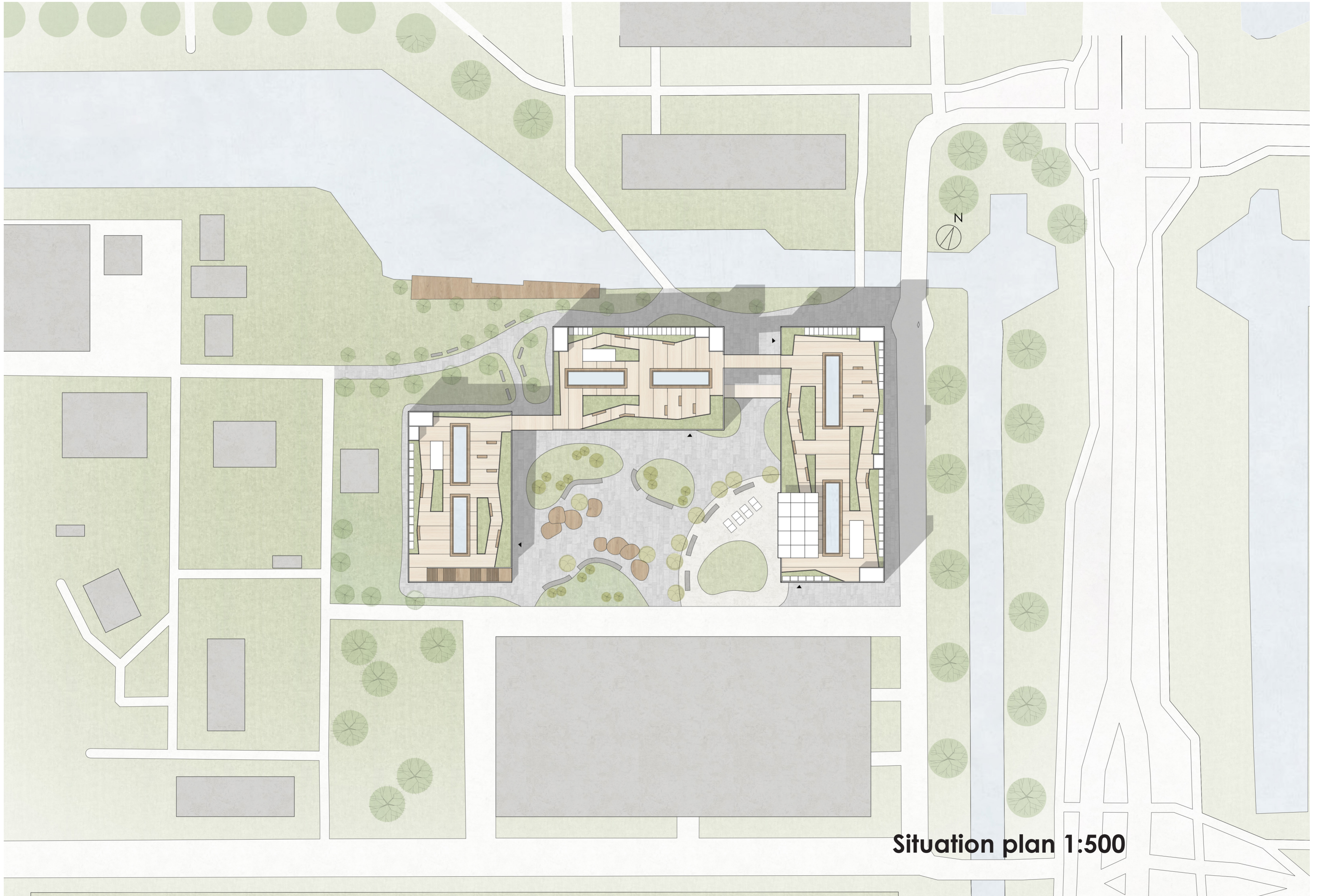


Drawings

Happy living environment for university students

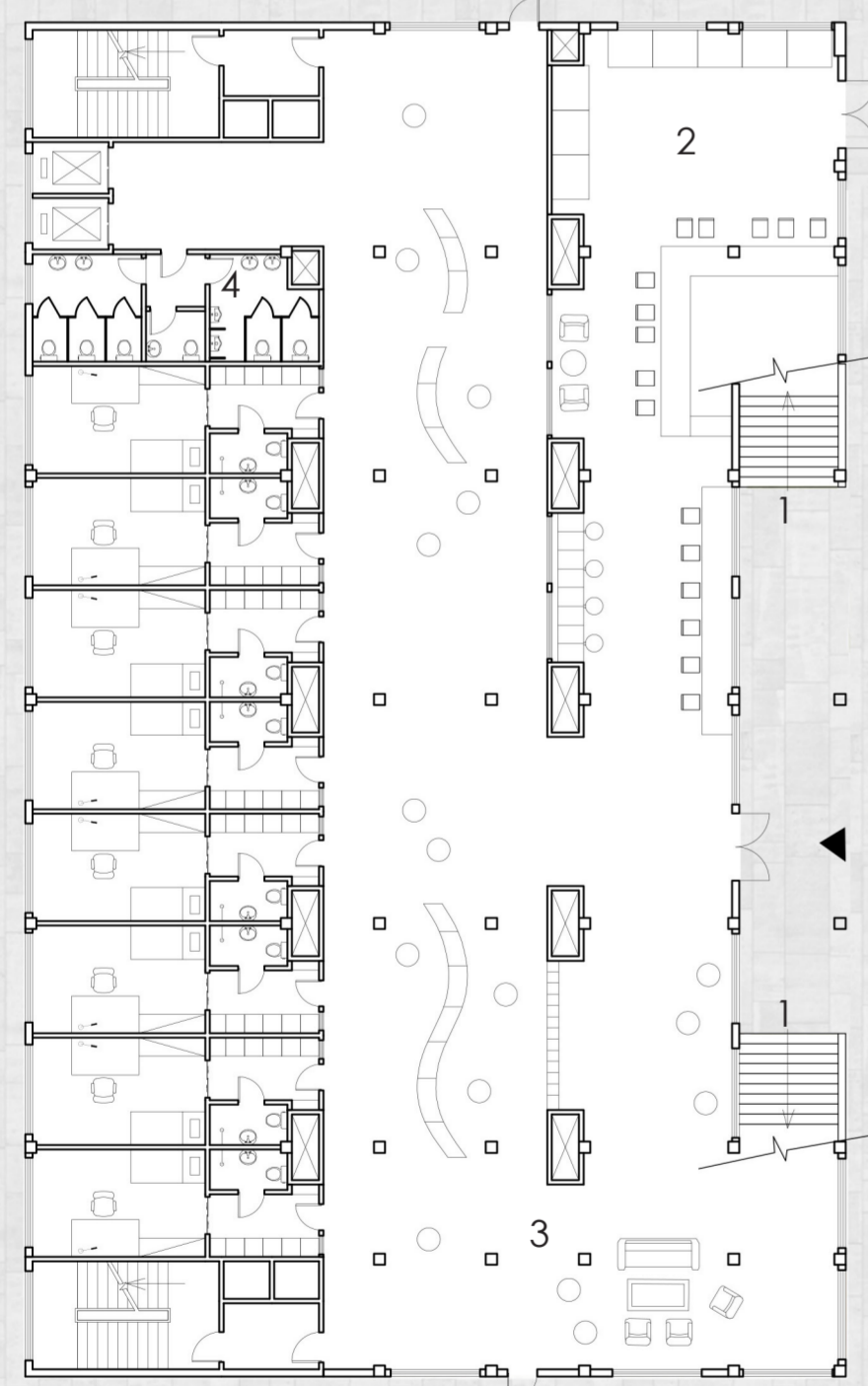
Ying Shen 5792371
Research Mentor: Leo Oorschot
Design Mentor: Birgit Jürgehake
Building Technology Mentor: Lex van Deudekom



Situation plan 1:500

- 1 Vertical walking path
- 2 Laundry cafe
- 3 Lounge
- 4 Toilets
- 5 Grocery shop
- 6 Offices
- 7 Bicycle parking
- 8 Sports ground
- 9 Courtyard

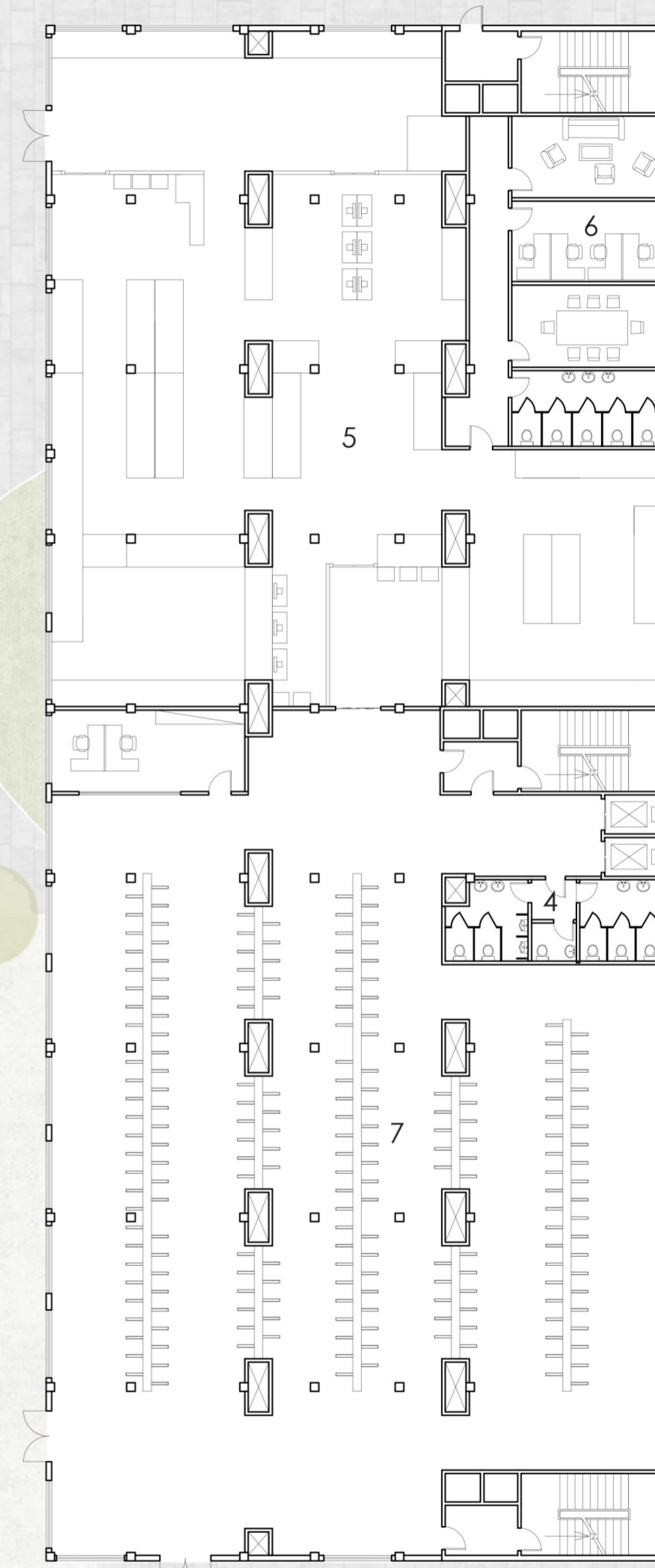
Building A



Building B



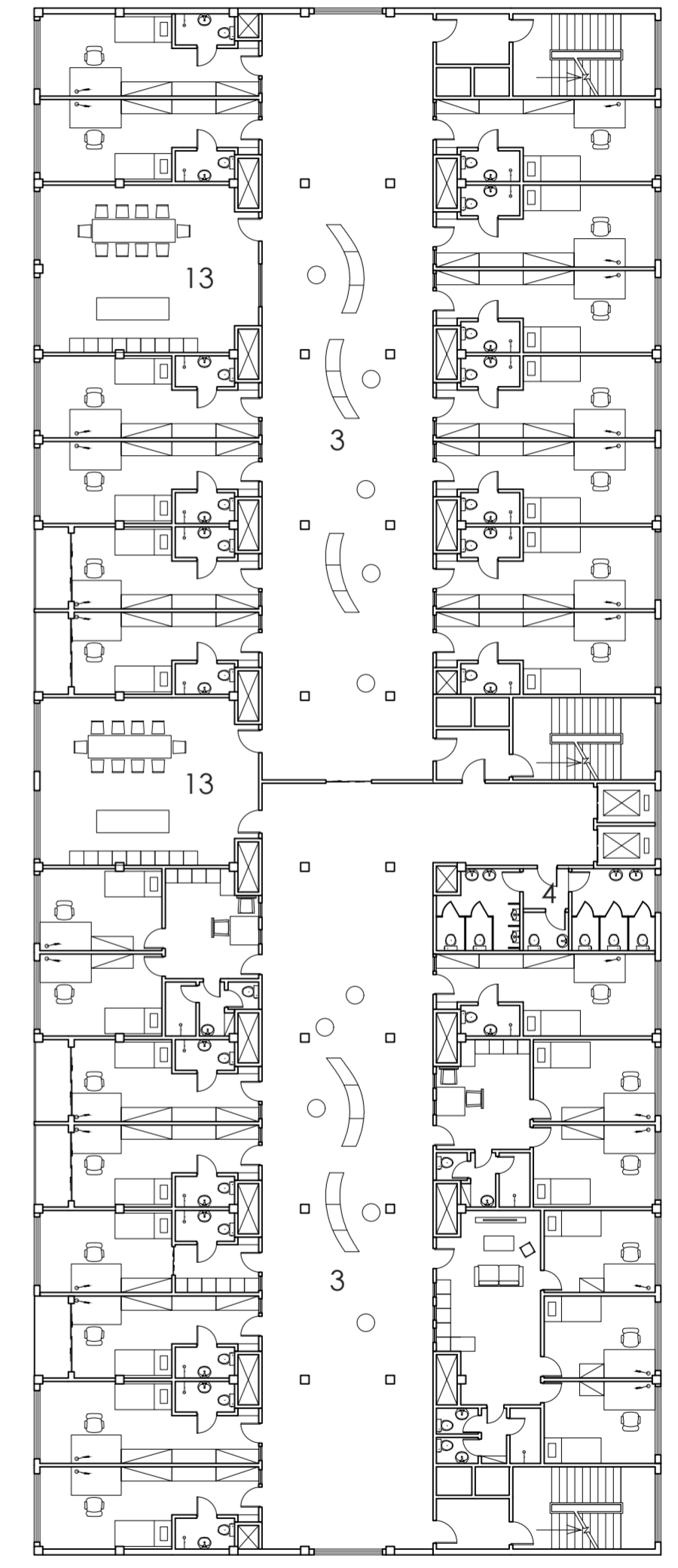
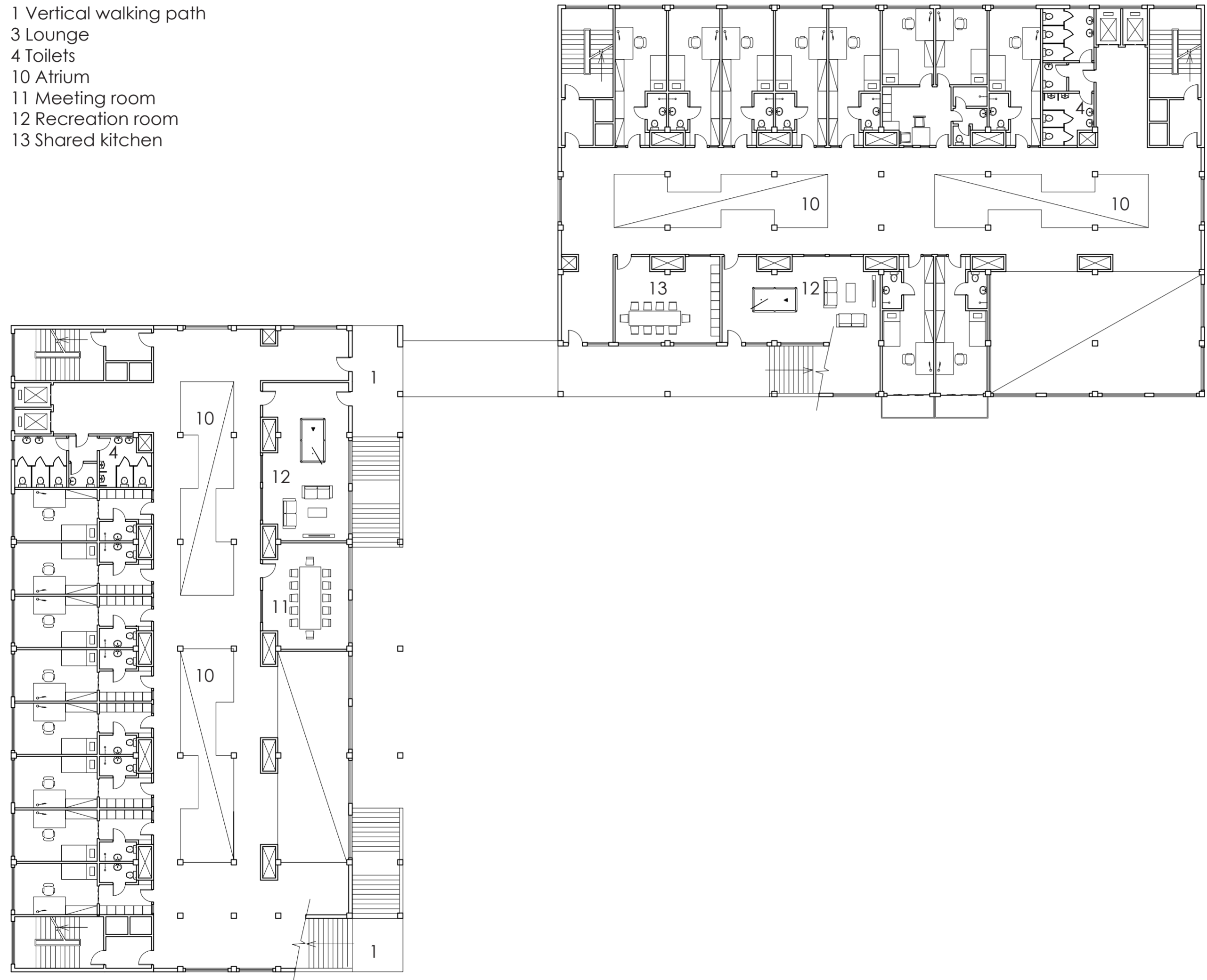
Building C



Ground floor plan 1:200



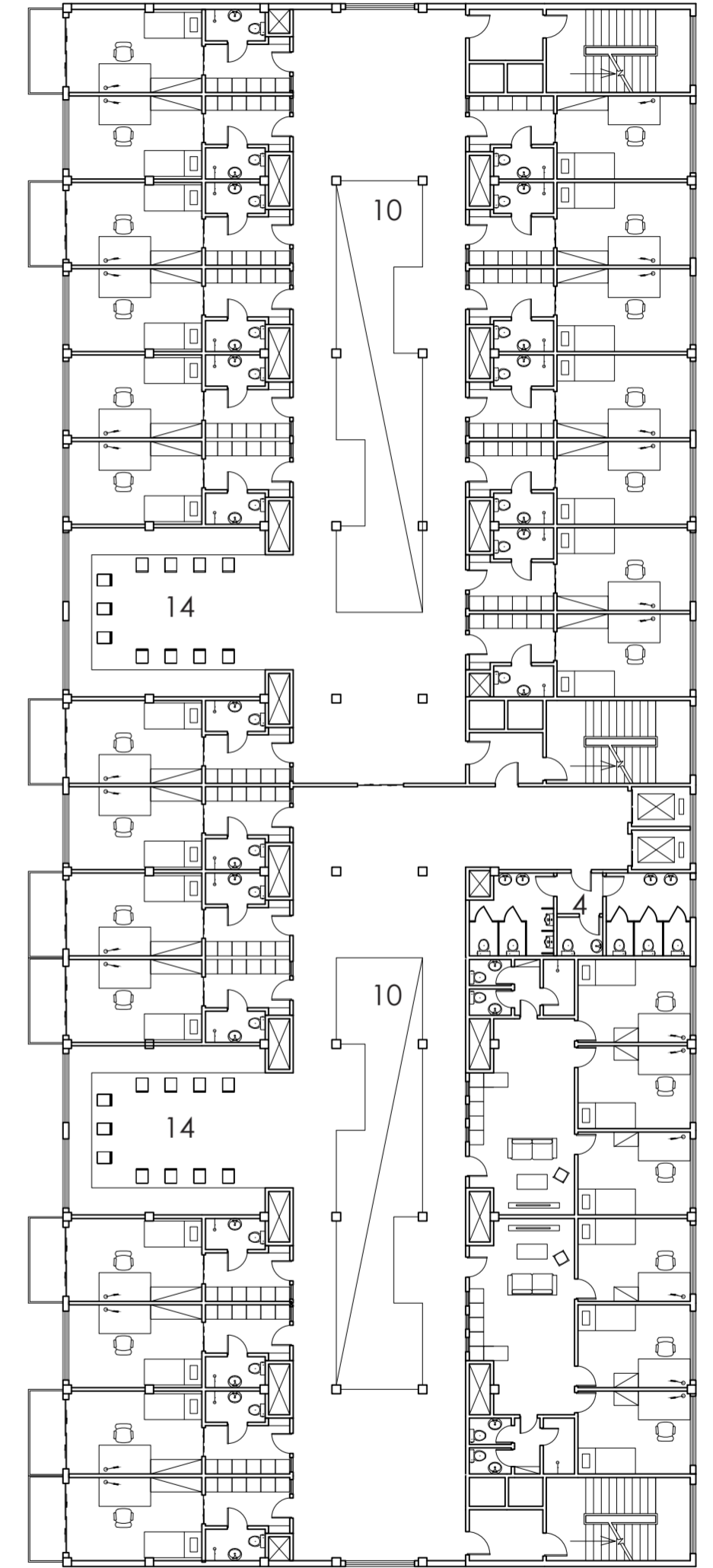
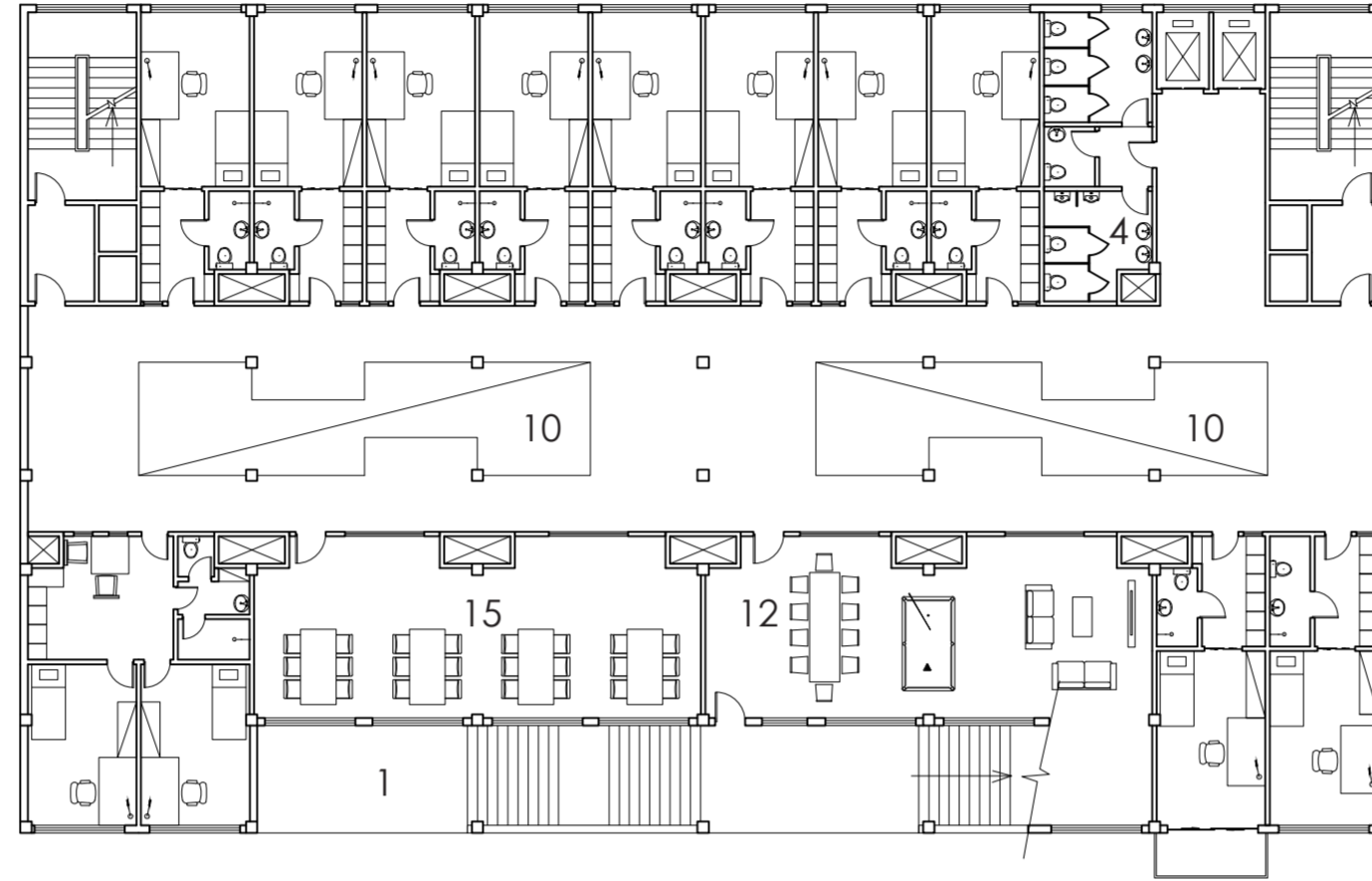
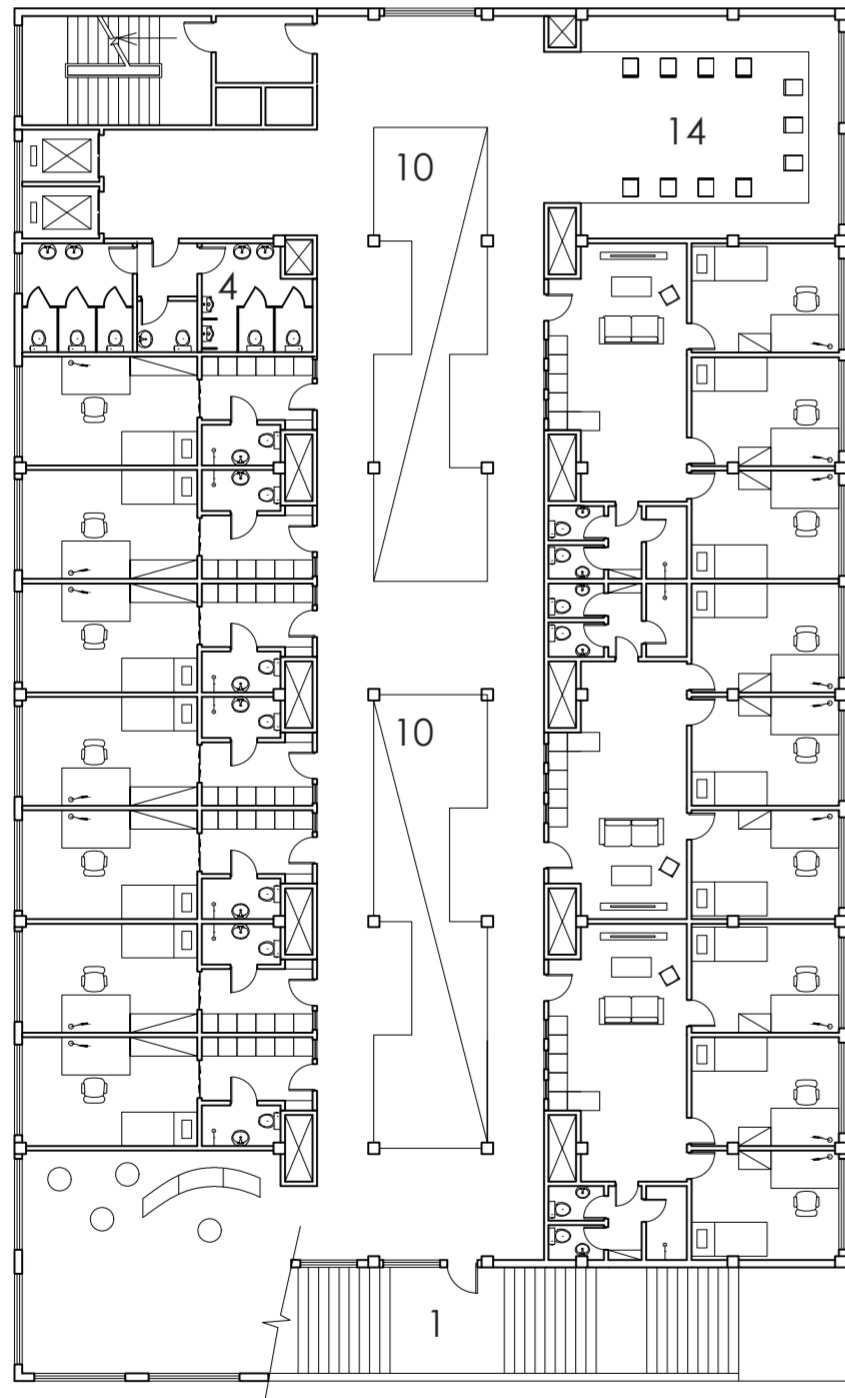
- 1 Vertical walking path
- 3 Lounge
- 4 Toilets
- 10 Atrium
- 11 Meeting room
- 12 Recreation room
- 13 Shared kitchen



First floor plan 1:200



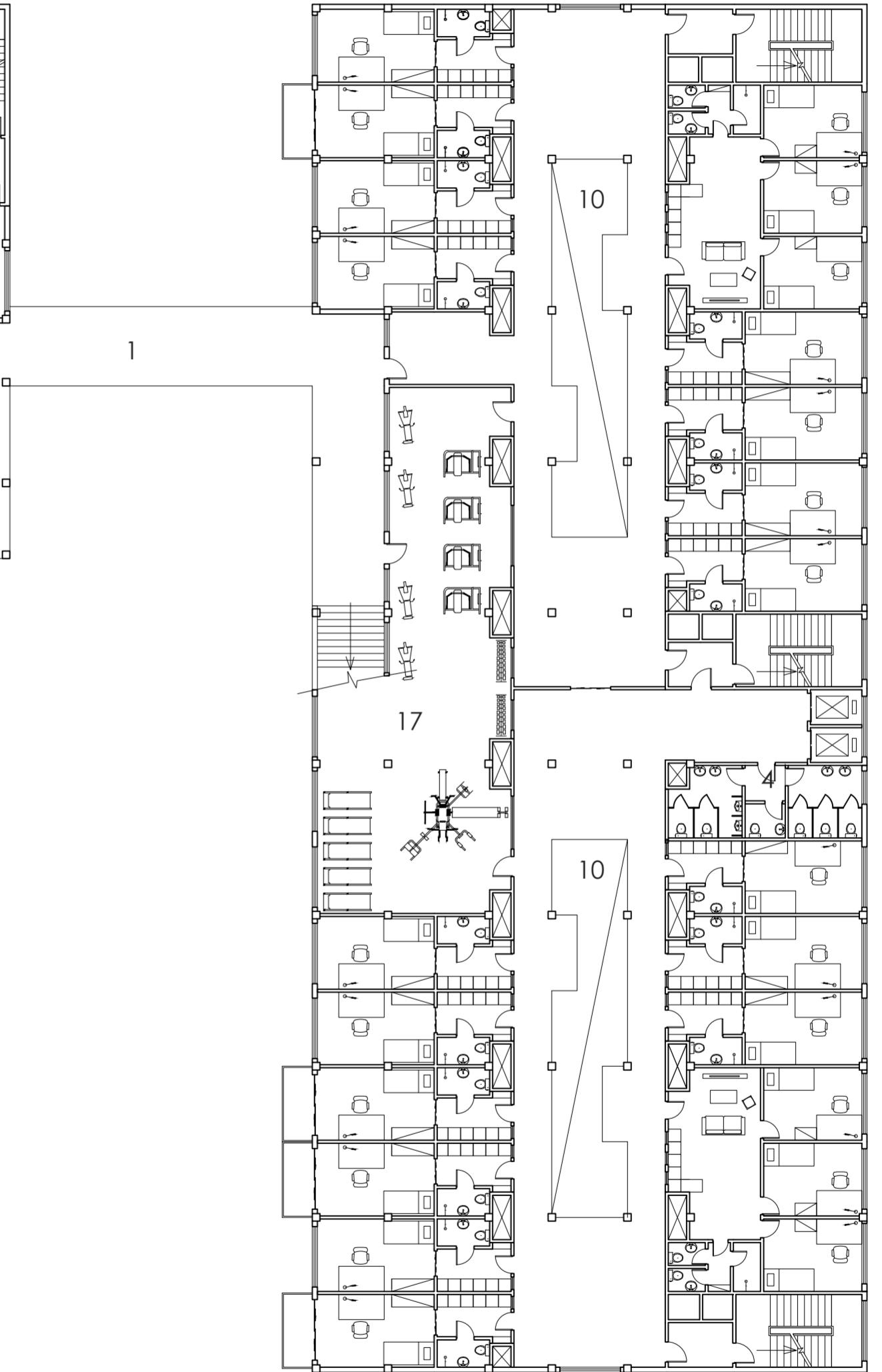
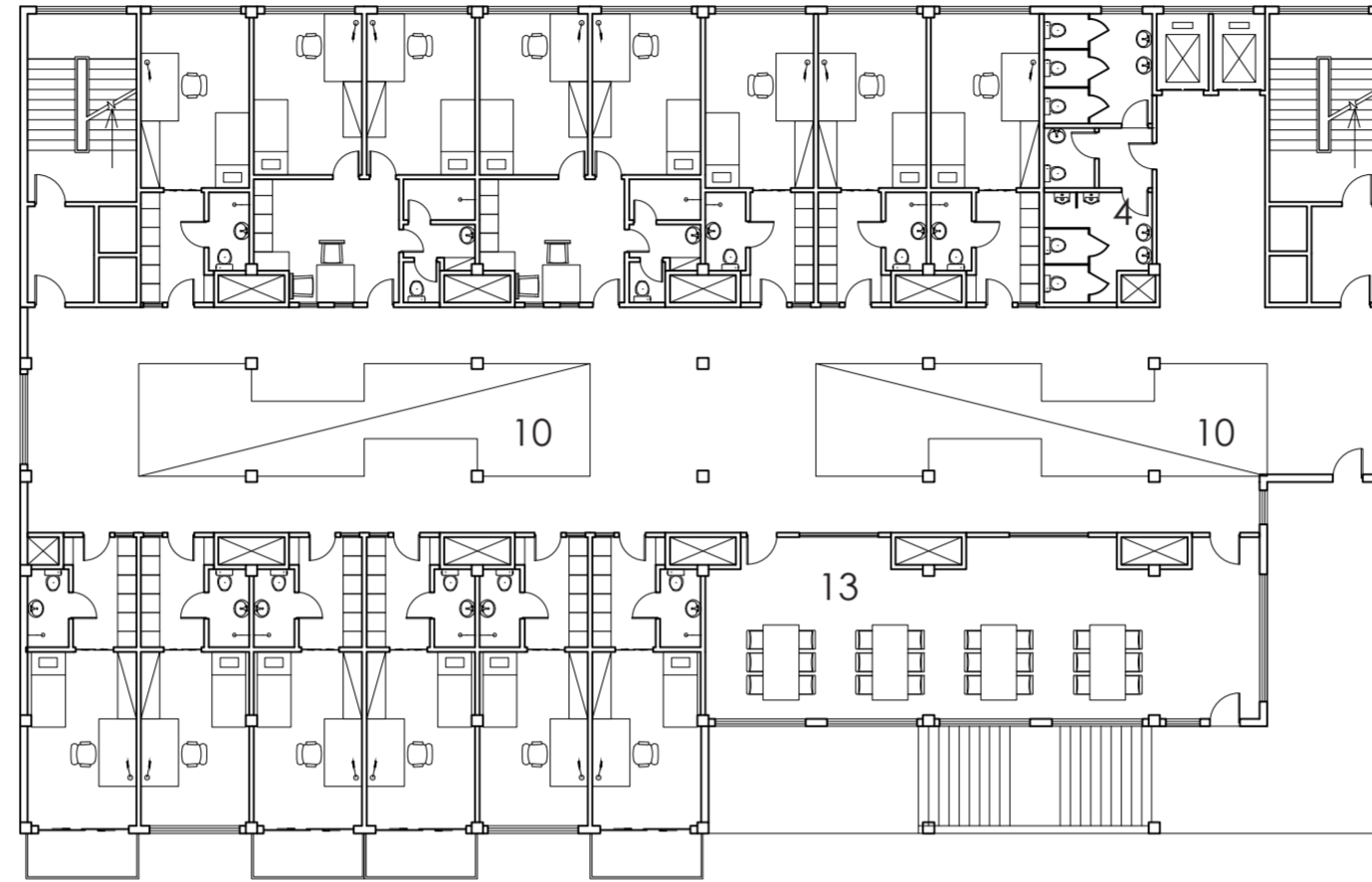
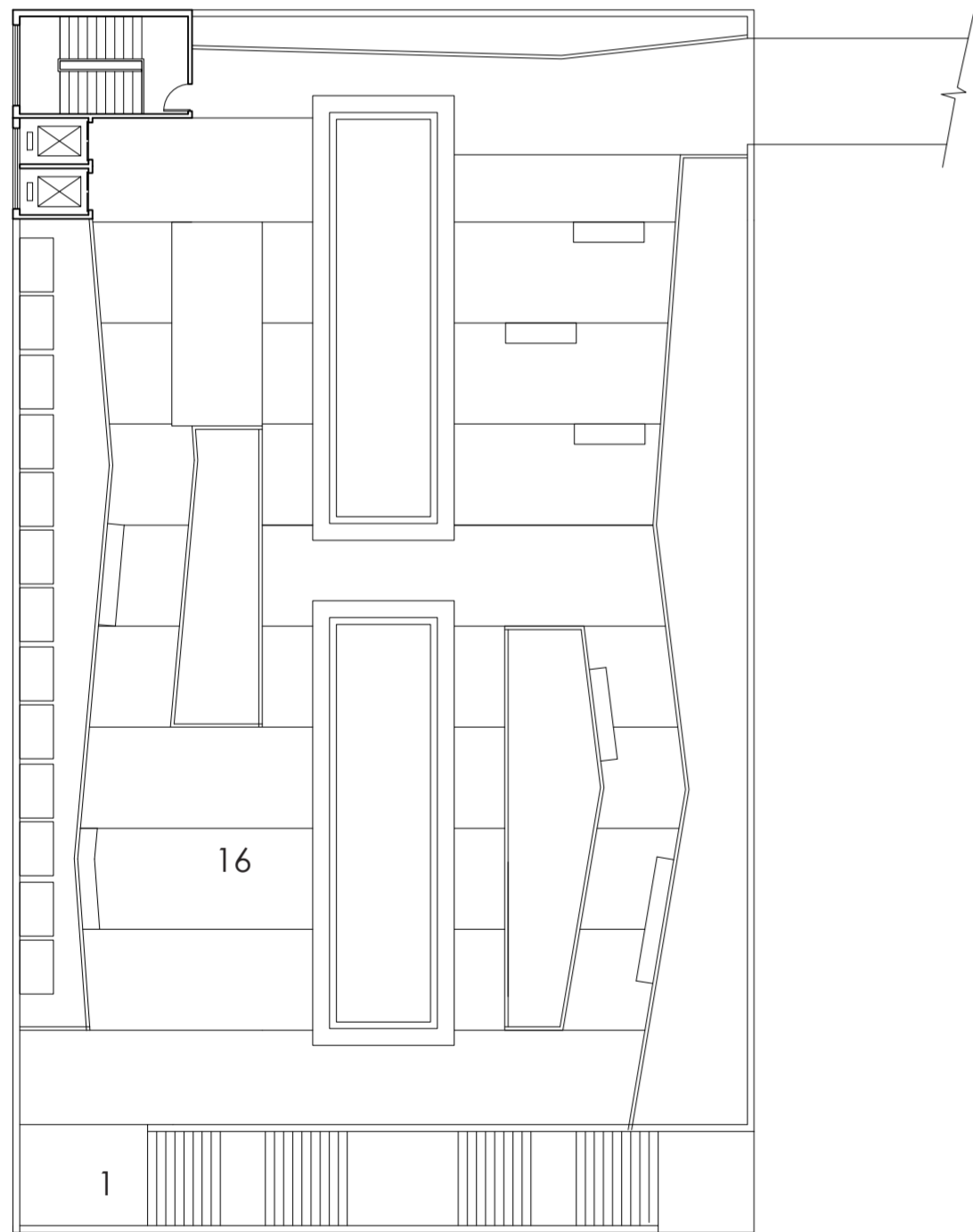
- 1 Vertical walking path
- 4 Toilets
- 10 Atrium
- 12 Recreation room
- 14 Open study room
- 15 Group study room



Second floor plan 1:200



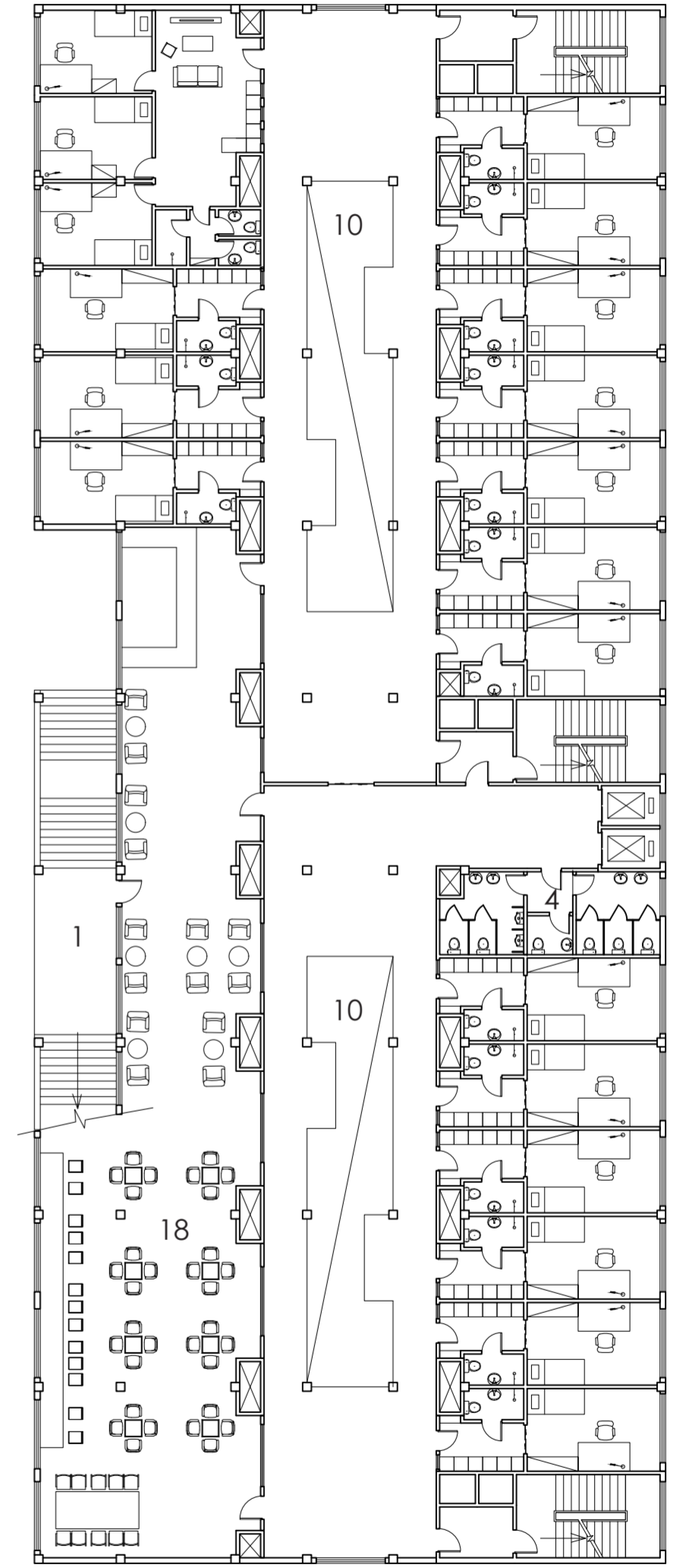
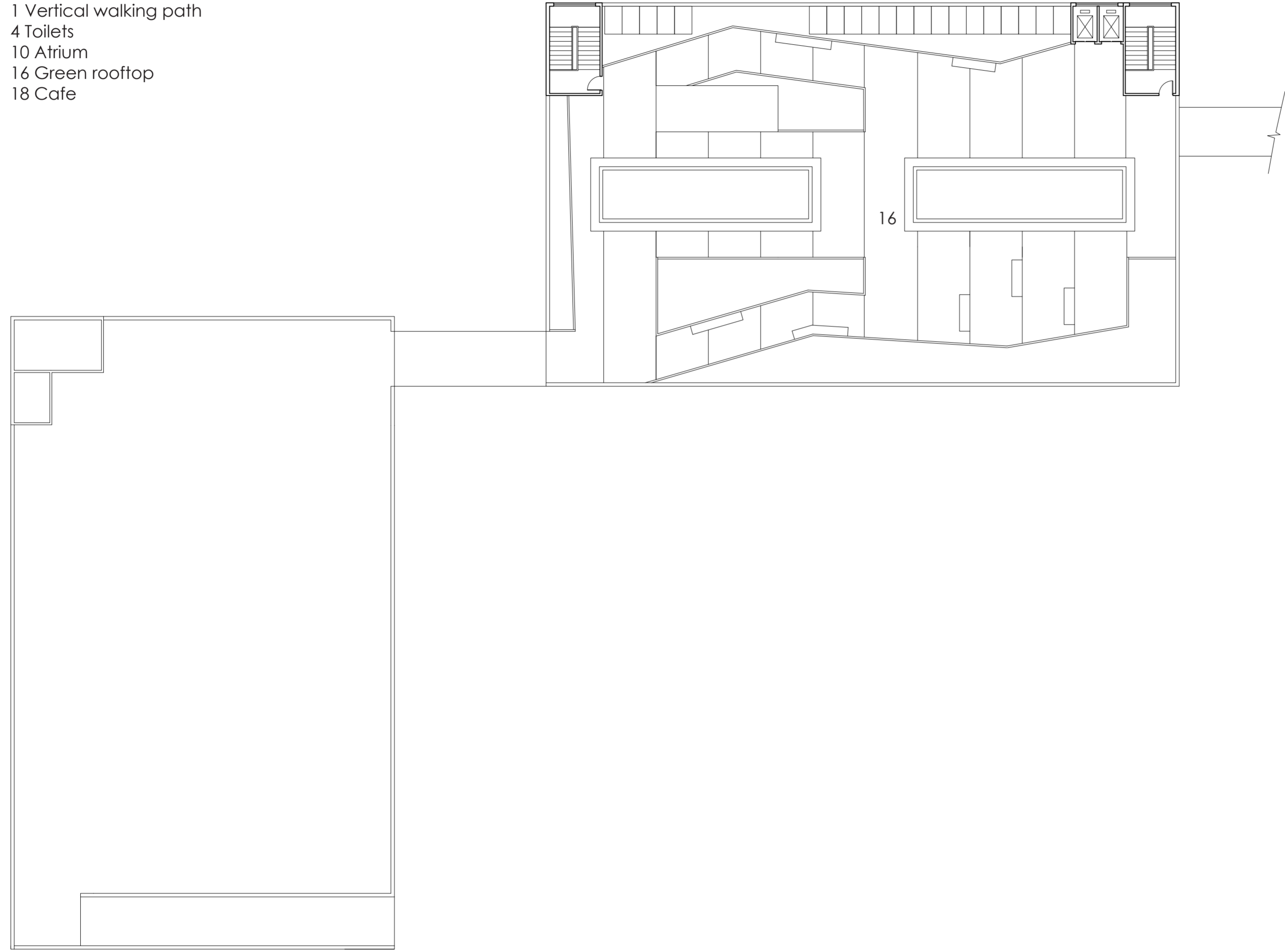
- 1 Vertical walking path
- 4 Toilets
- 10 Atrium
- 15 Group study room
- 16 Green rooftop
- 17 Gym



Third floor plan 1:200



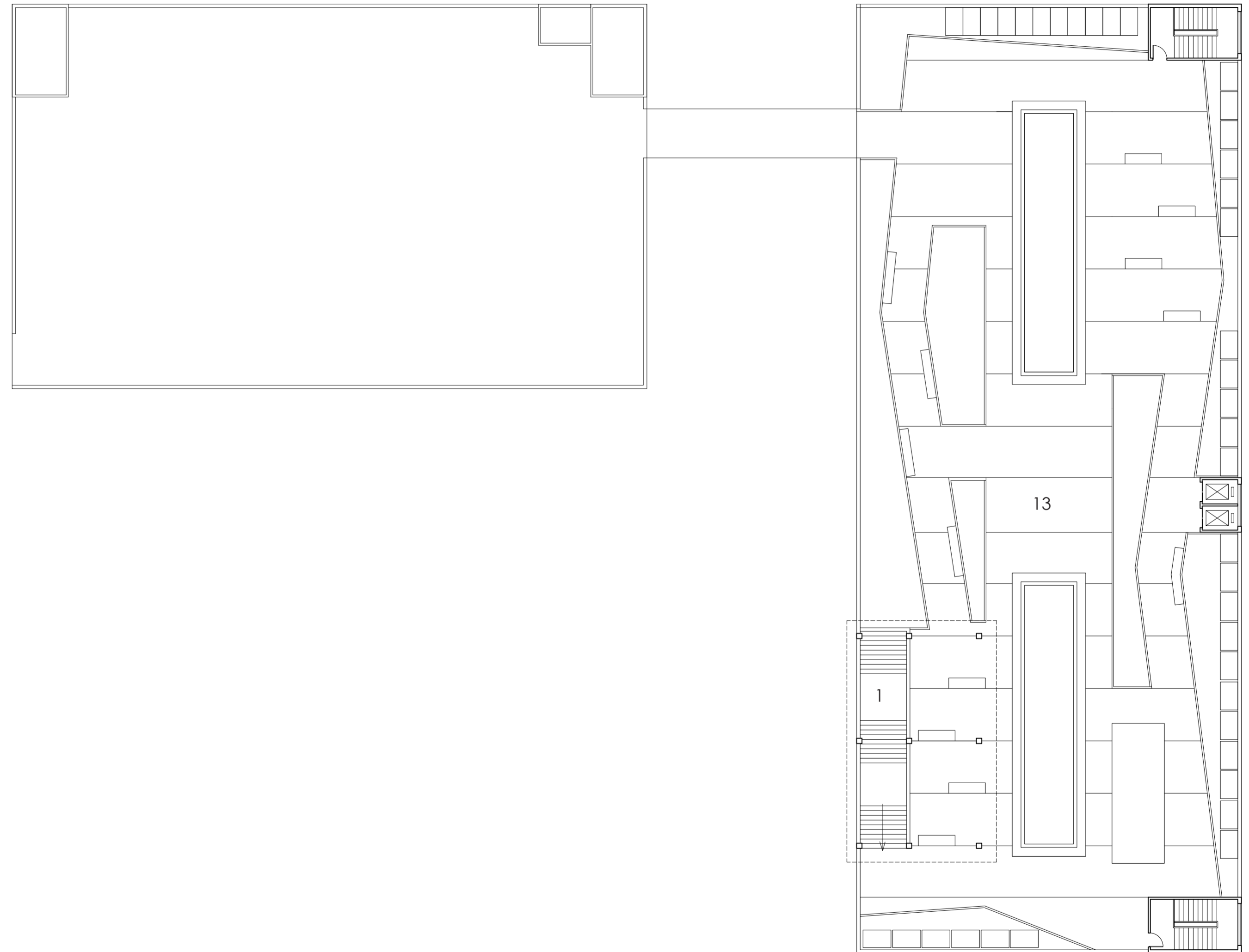
- 1 Vertical walking path
- 4 Toilets
- 10 Atrium
- 16 Green rooftop
- 18 Cafe



Fourth floor plan 1:200

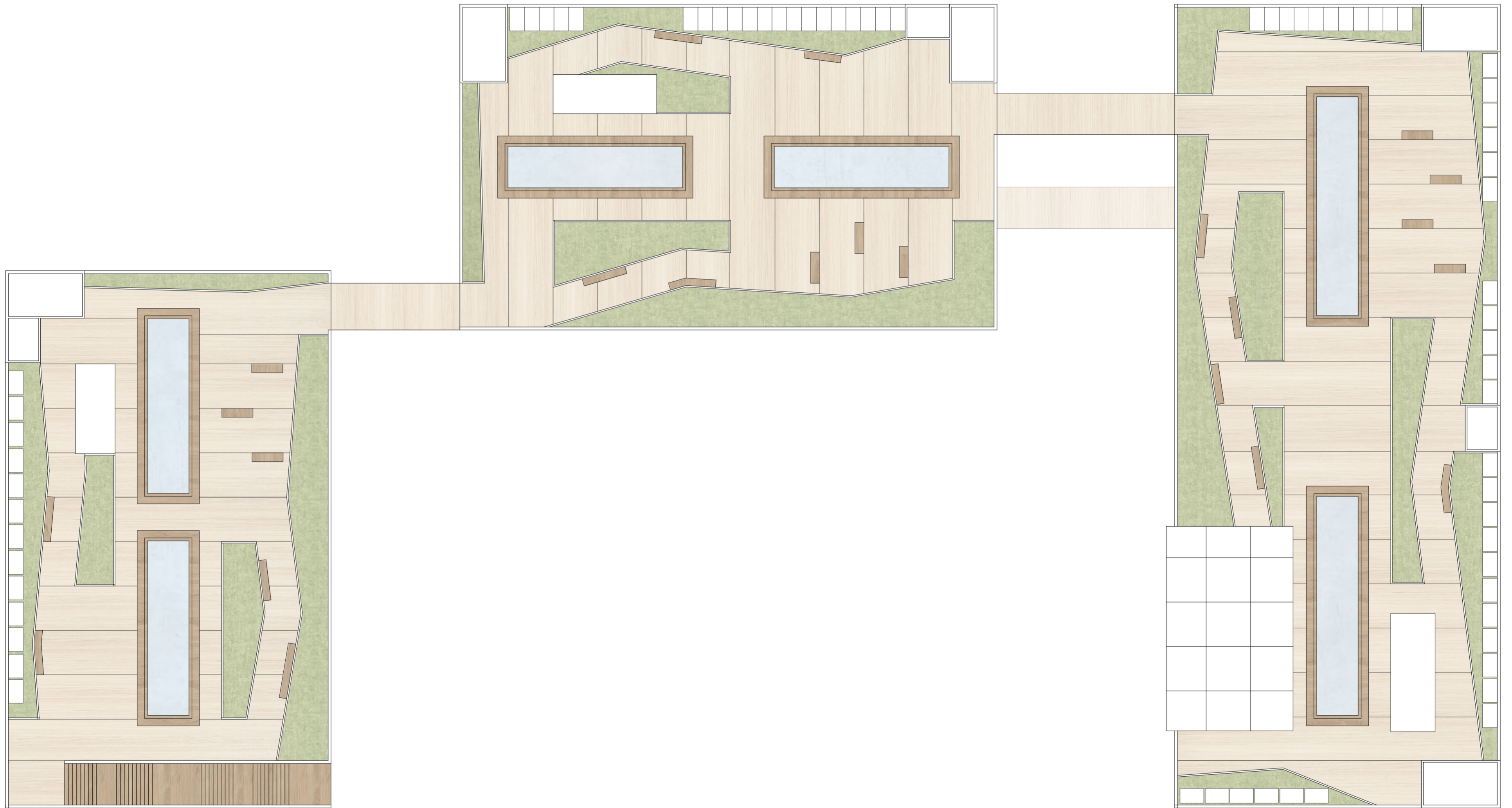


1 Vertical walking path
16 Green rooftop



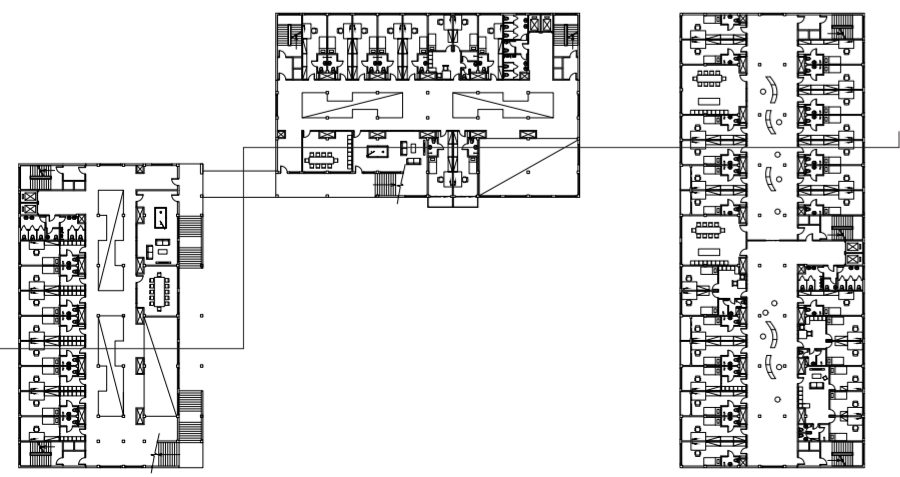
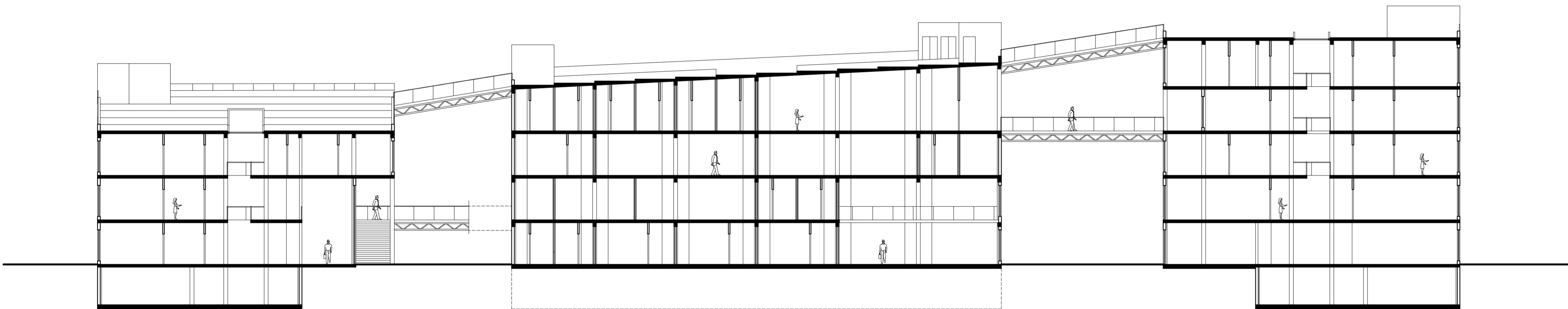
5th floor plan 1:200



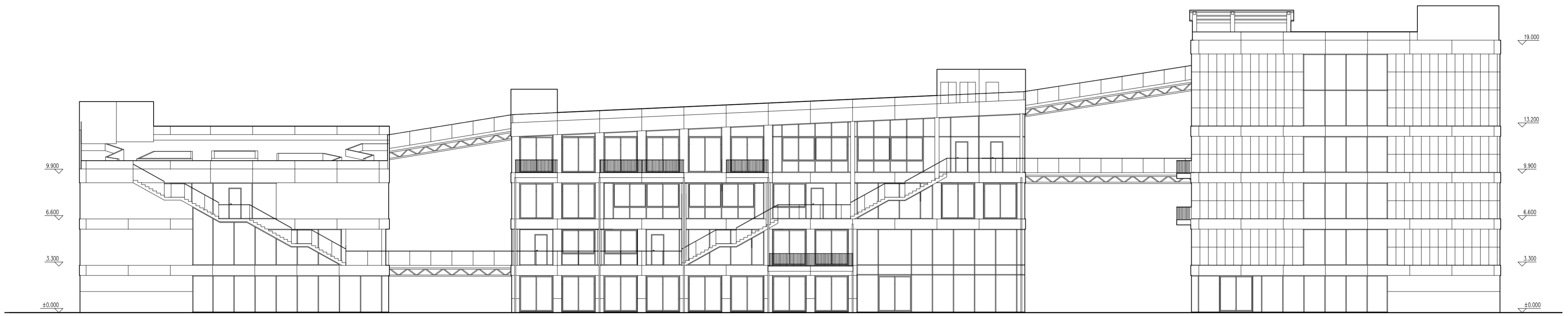


Rooftop floor plan 1:200

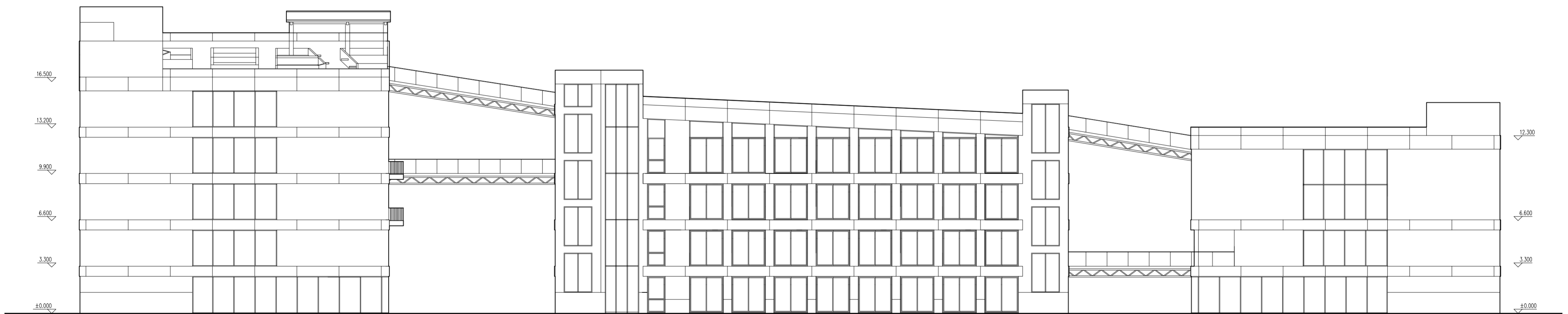




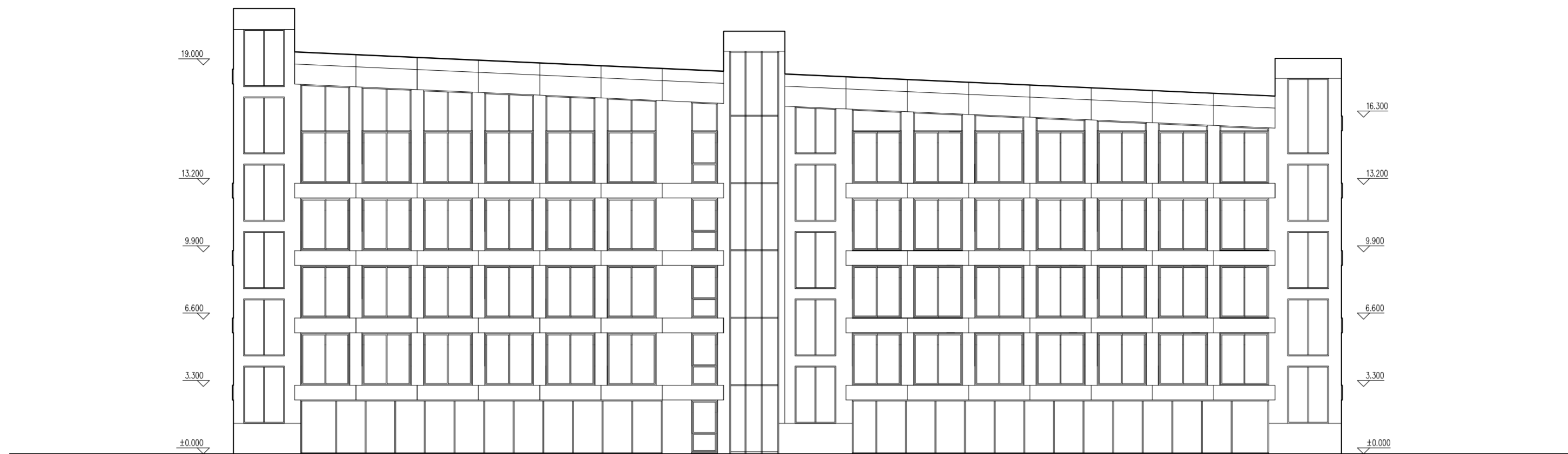
Section A-A 1:200



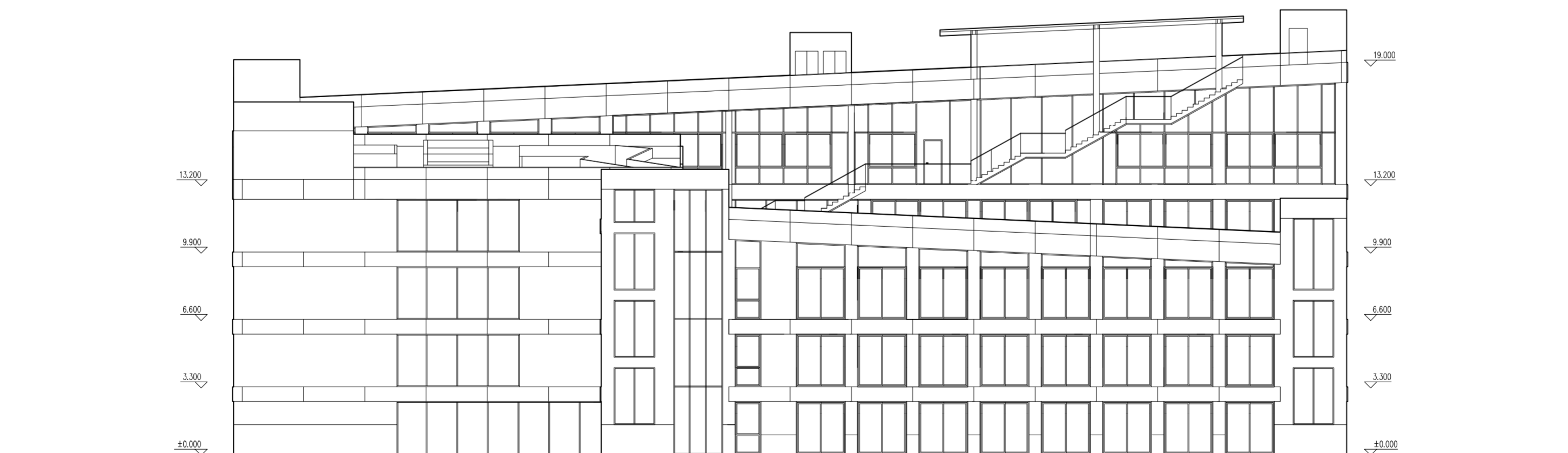
South elevation 1:200



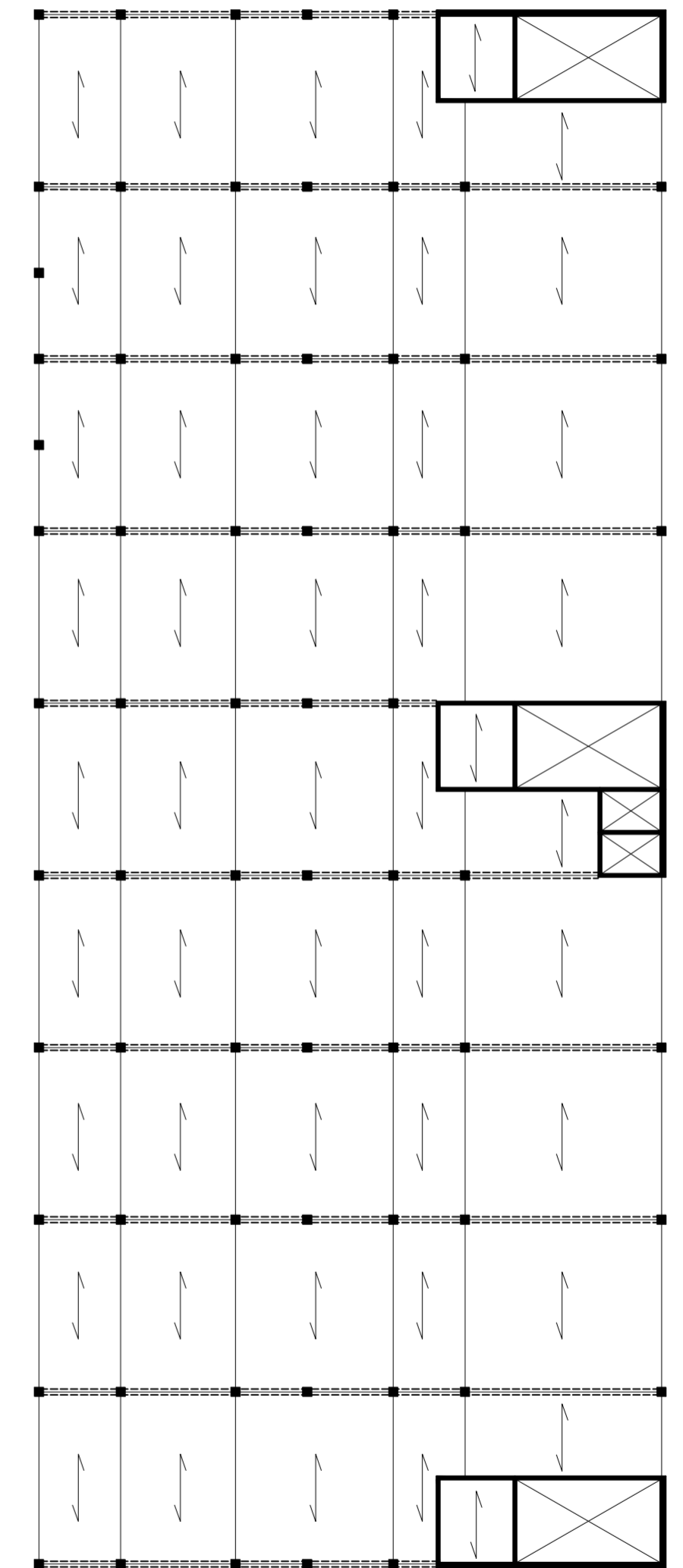
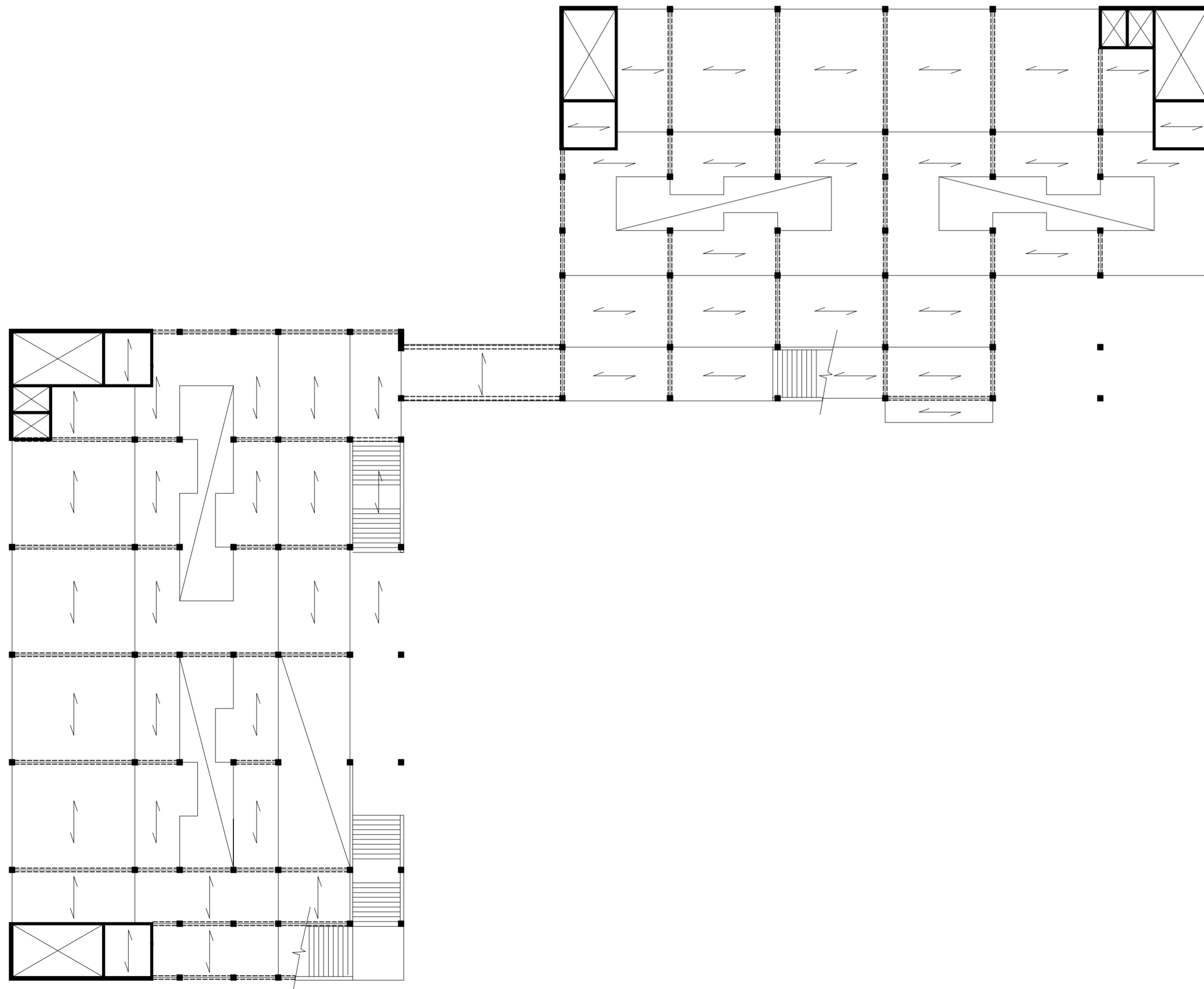
North elevation 1:200



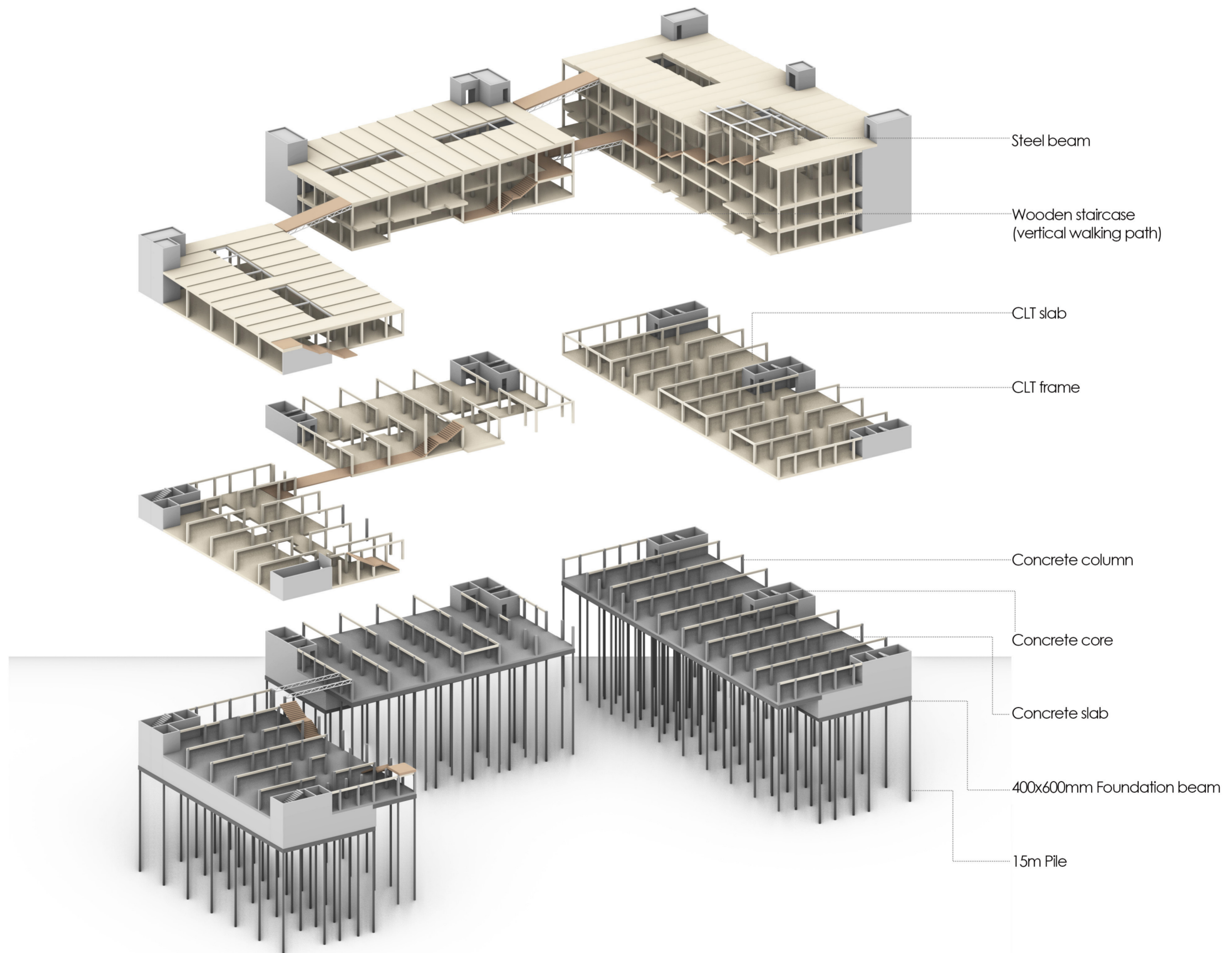
East elevation 1:200



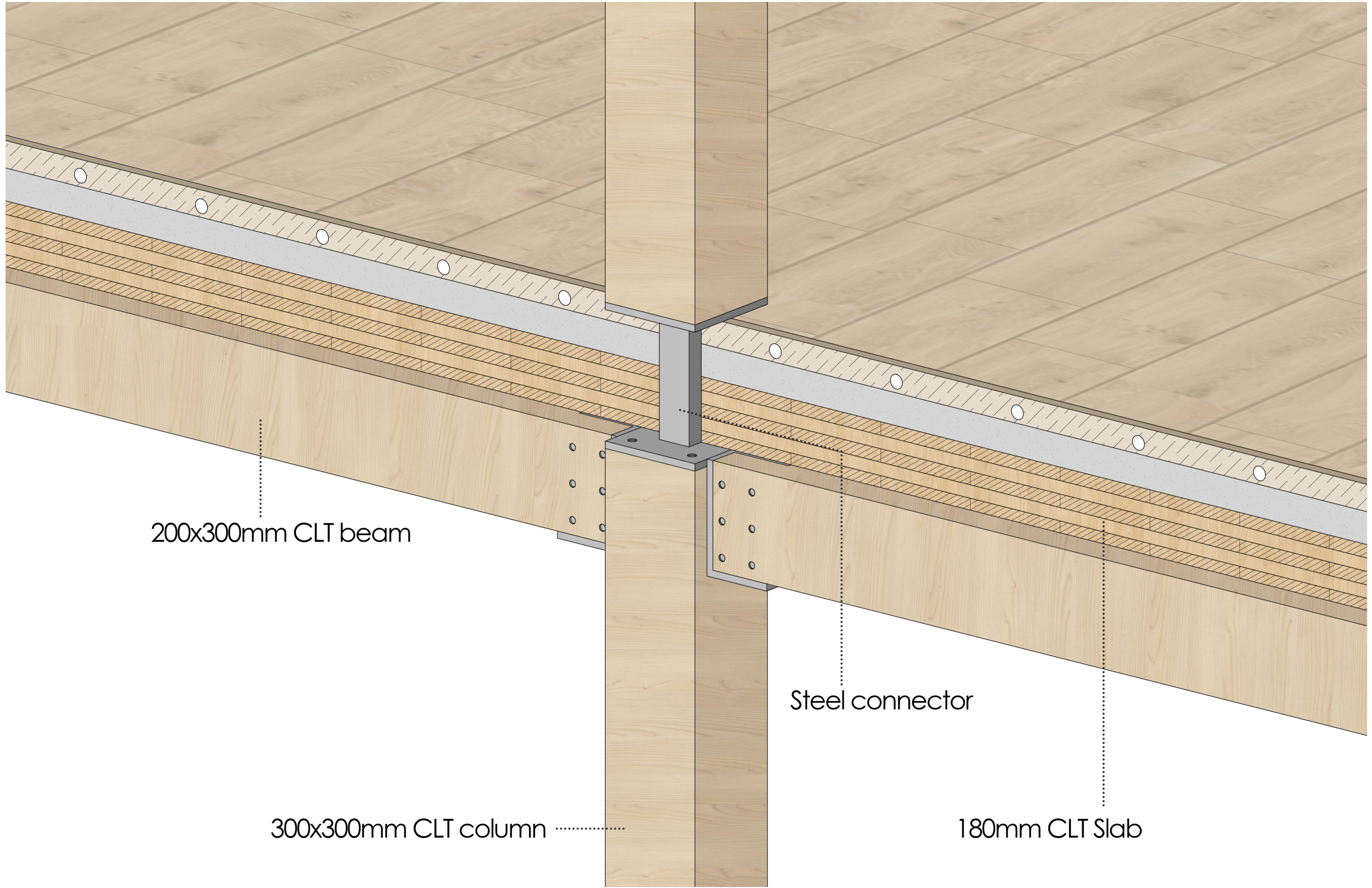
West elevation 1:200



Structure floor plan 1:200



Structure



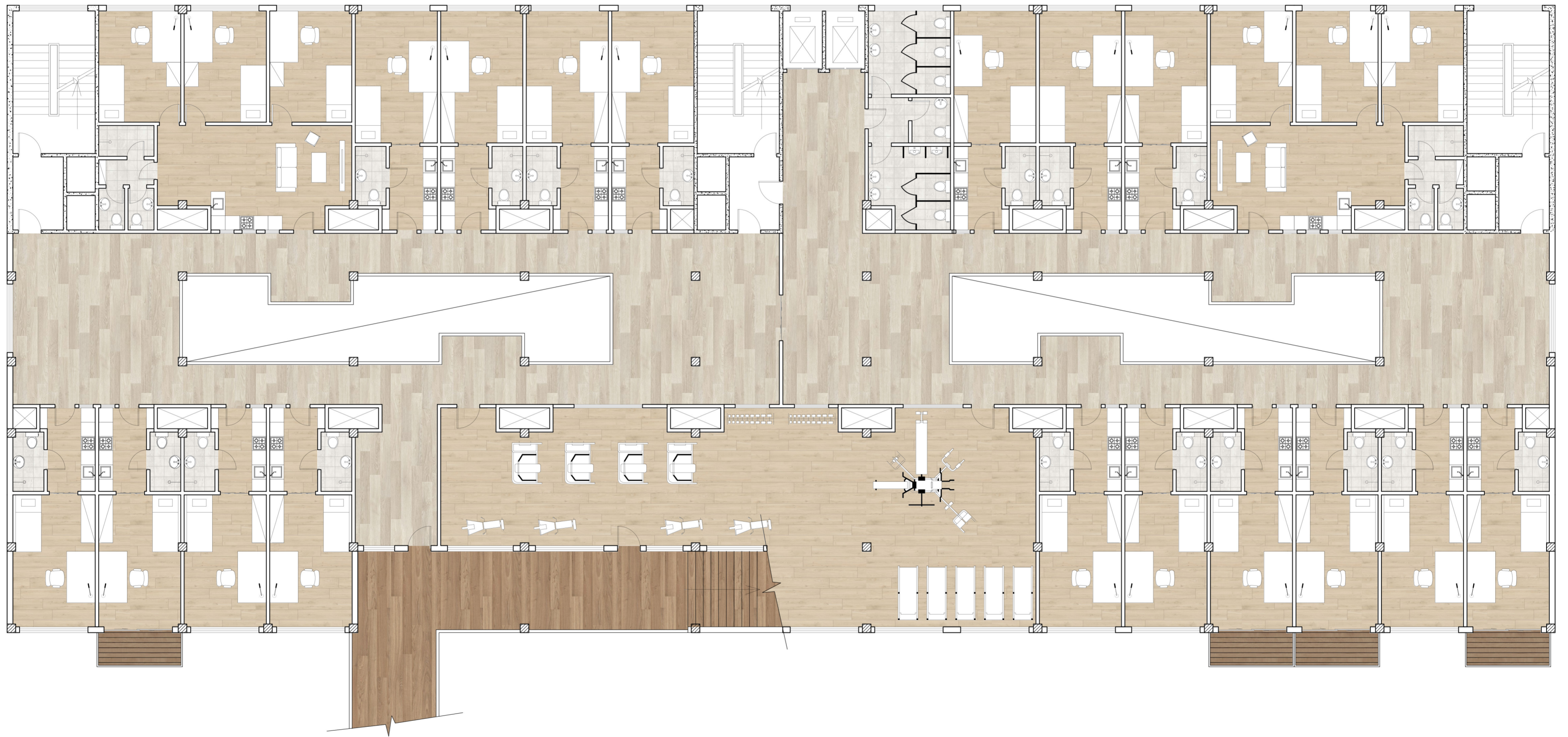
200x300mm CLT beam

300x300mm CLT column

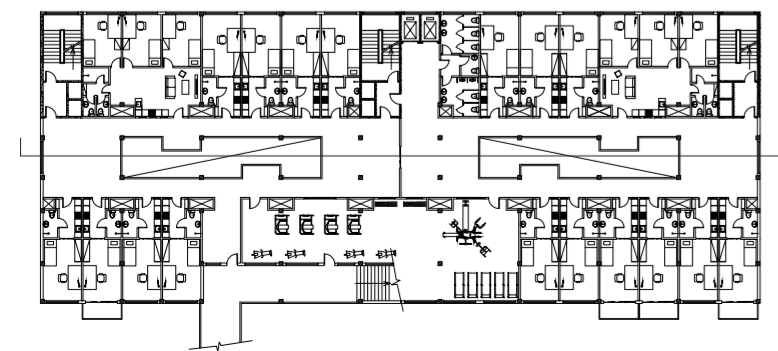
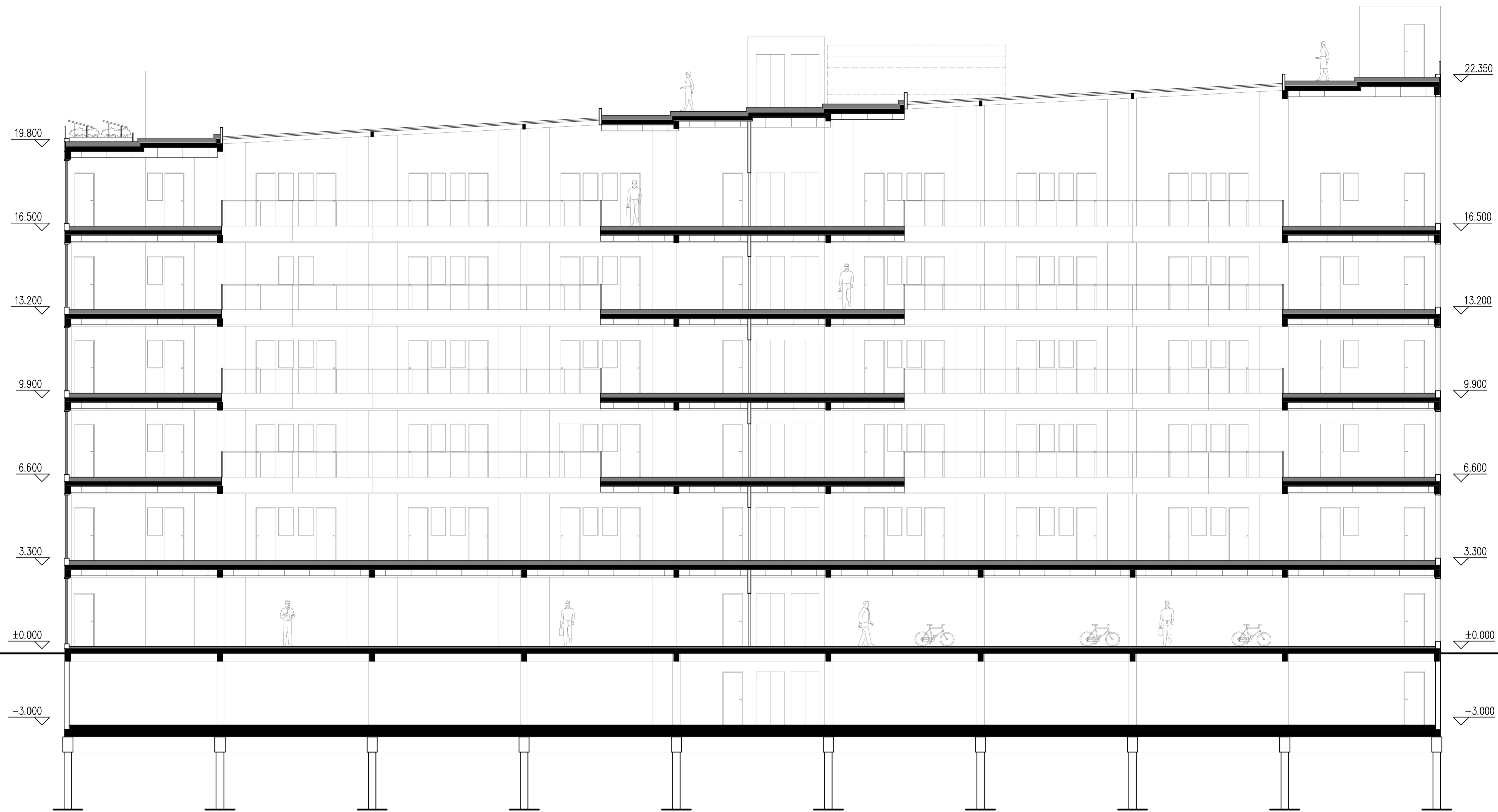
Steel connector

180mm CLT Slab

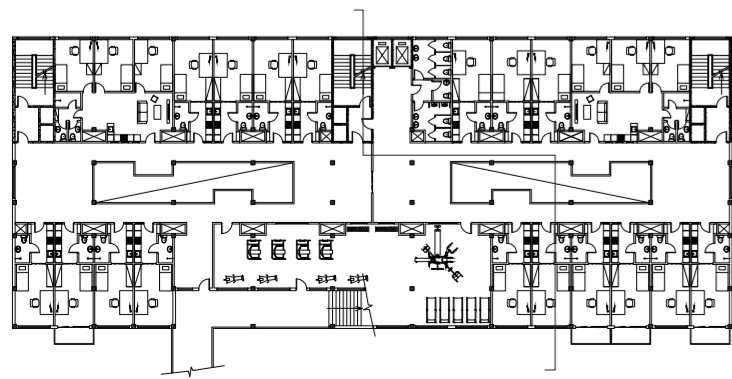
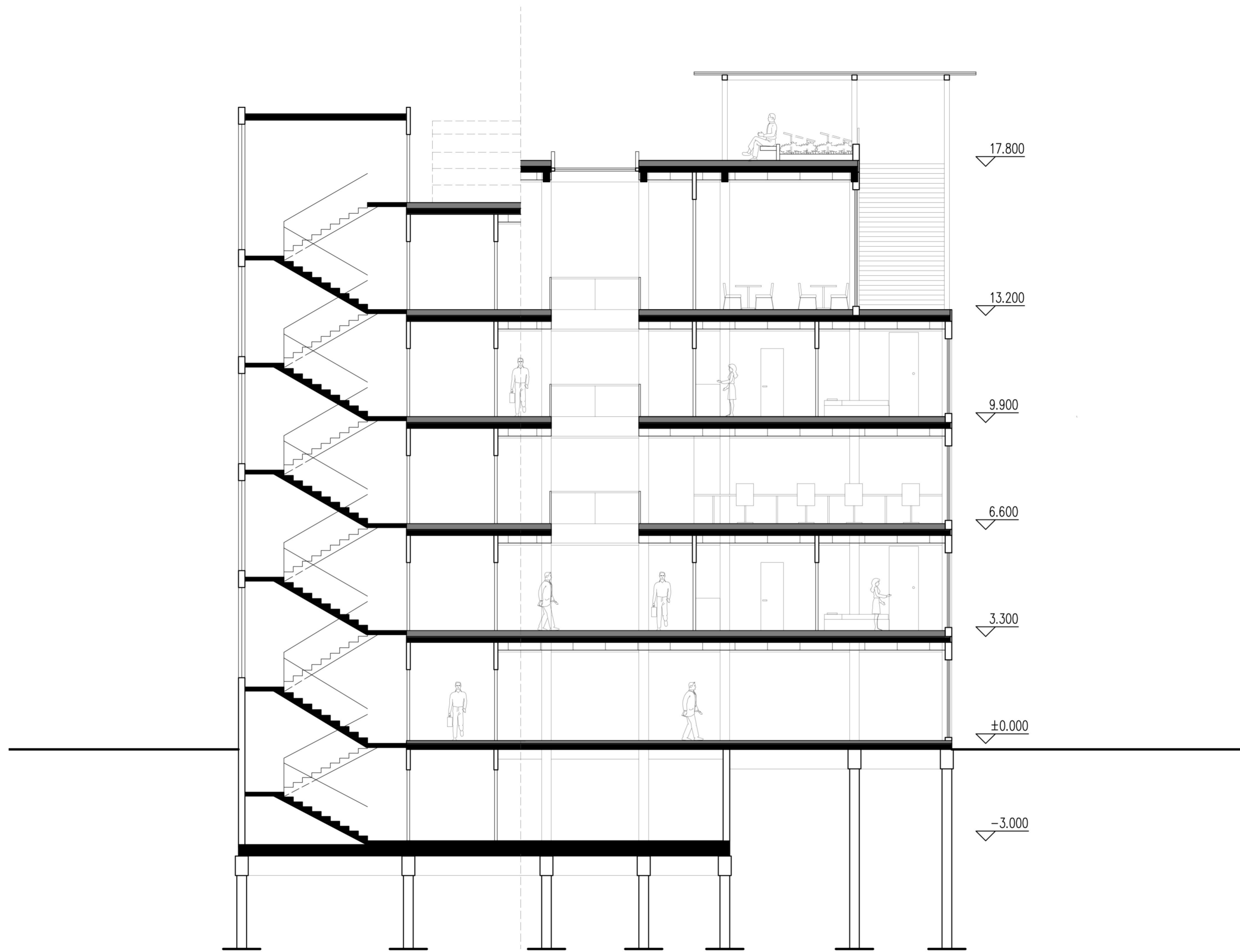
Beam and column connection



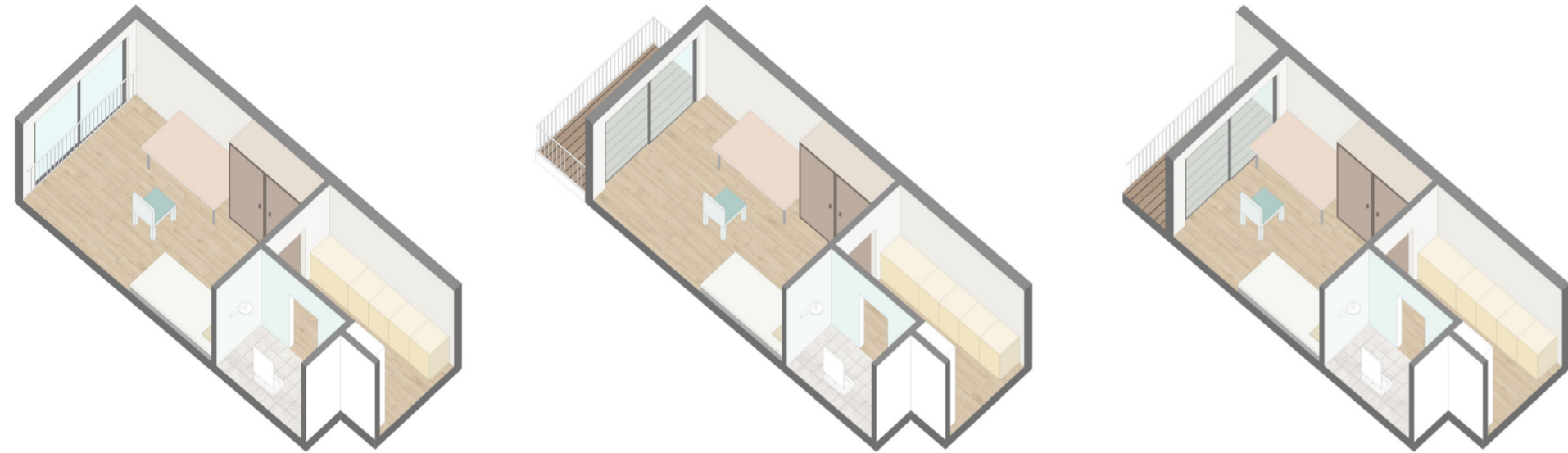
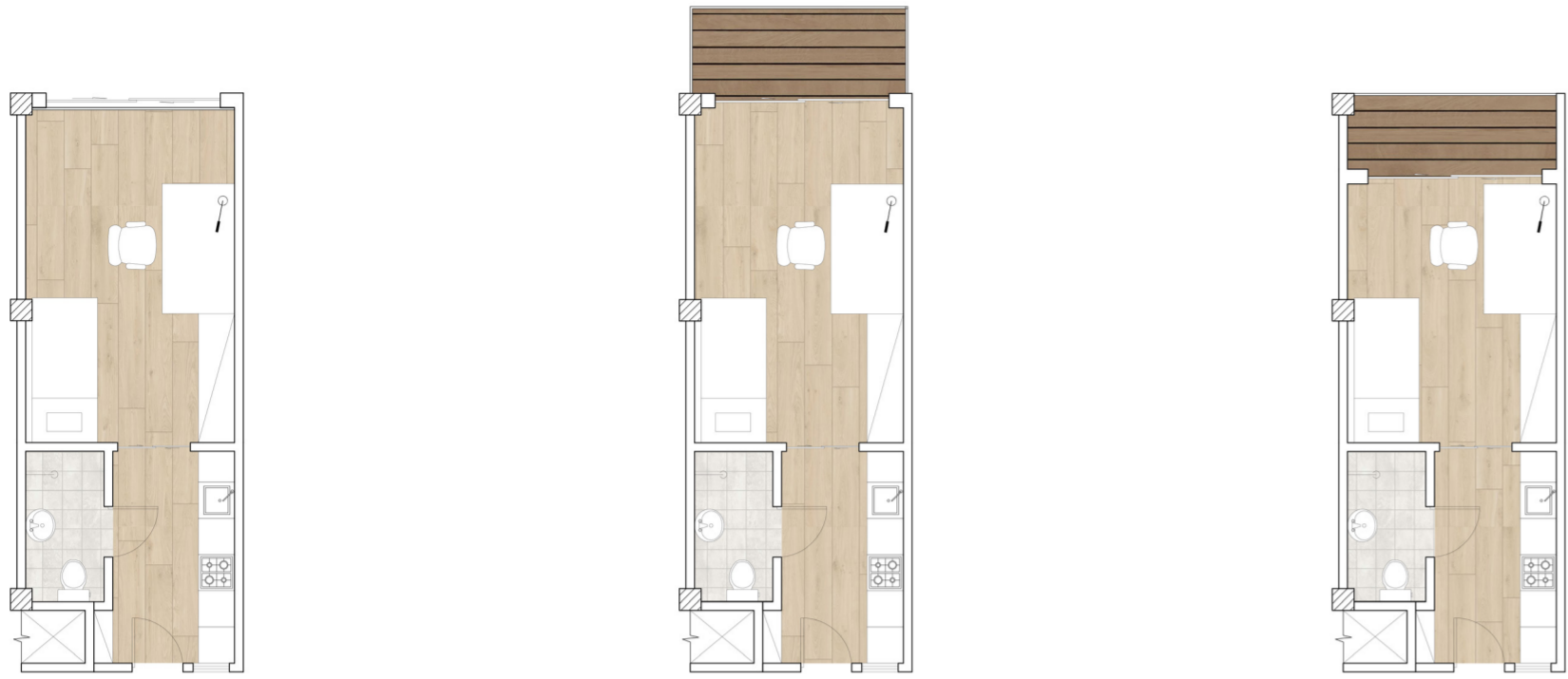
Building C
Third floor plan 1:100



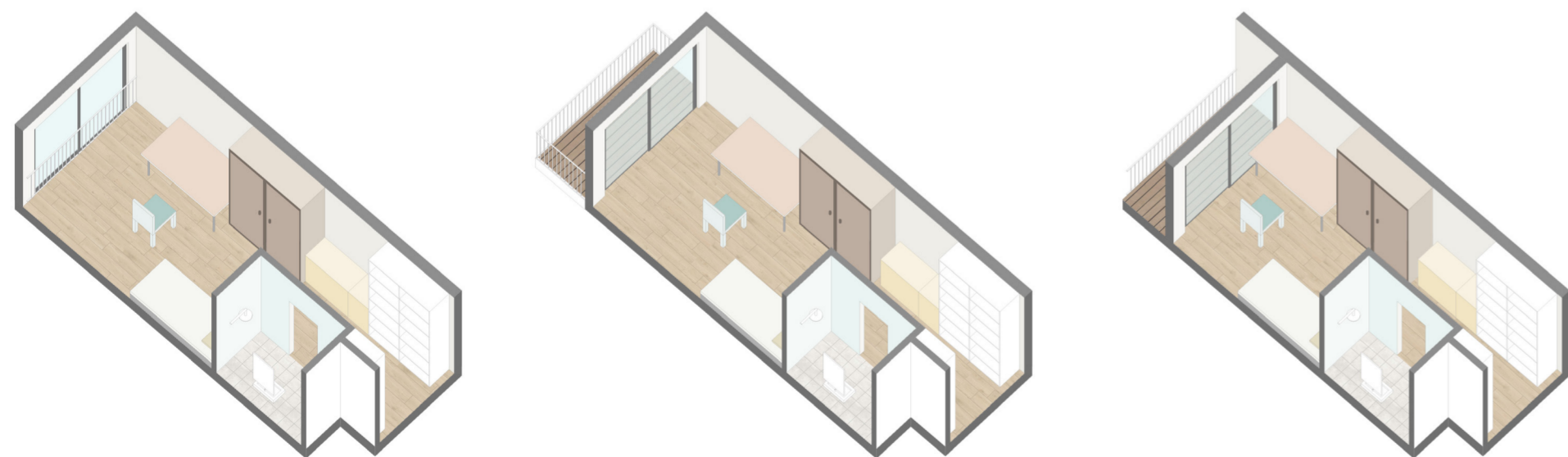
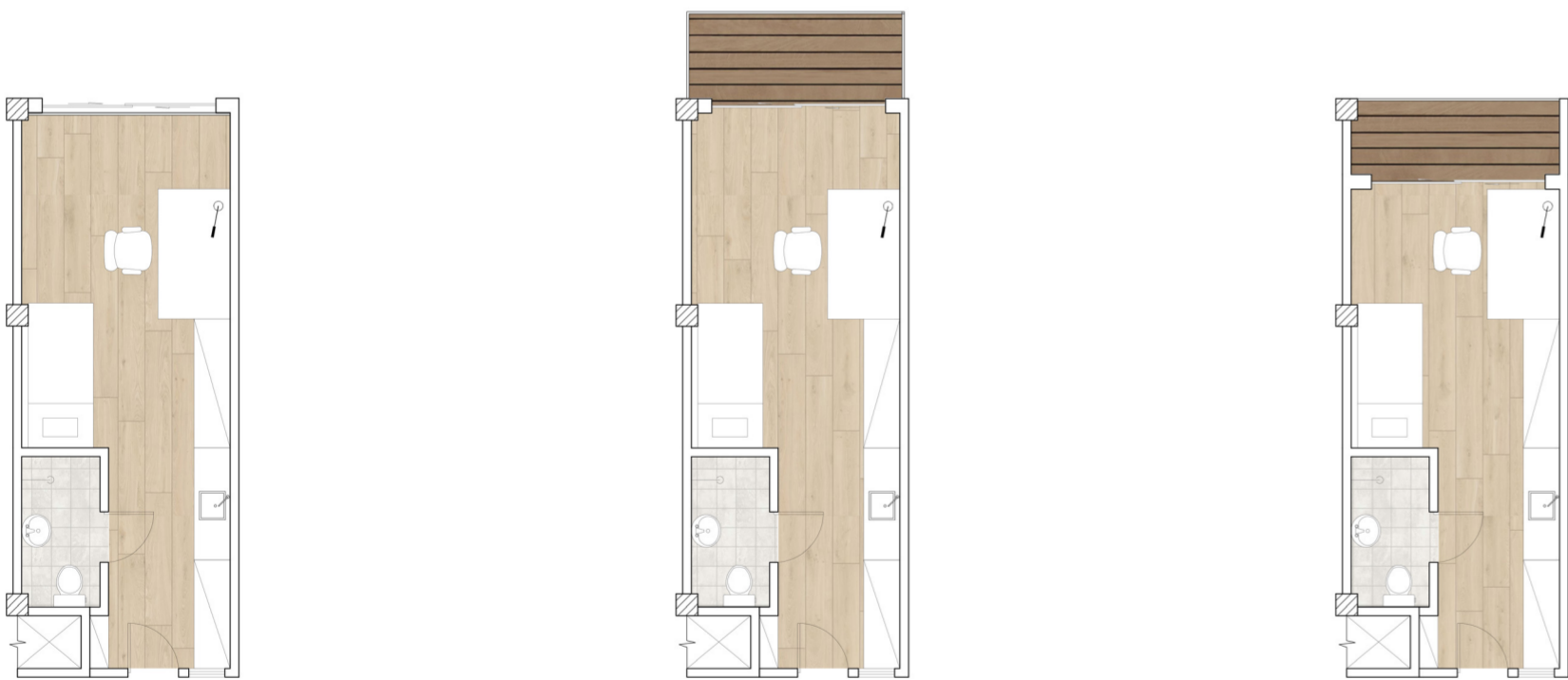
Building C
Section B-B 1:100



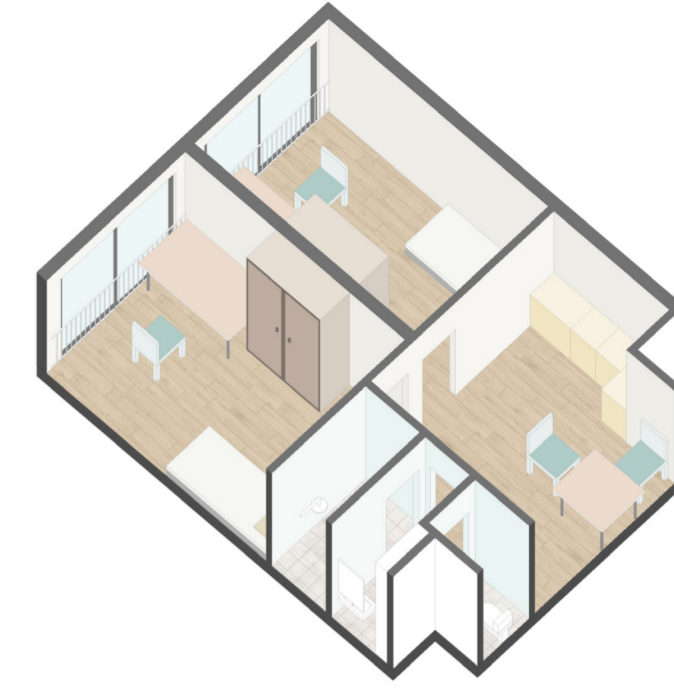
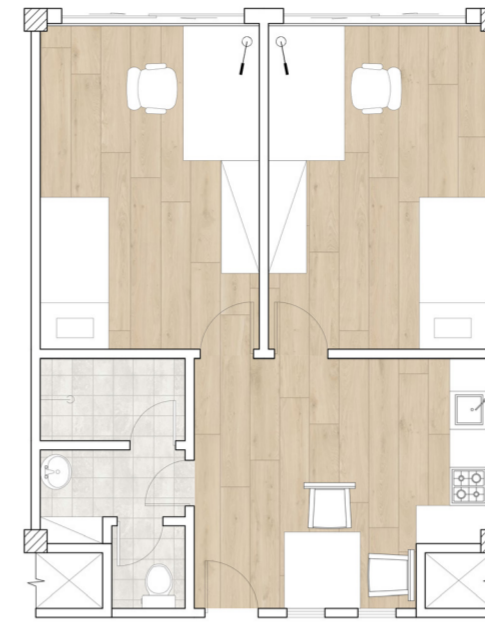
Building C
Section C-C 1:100



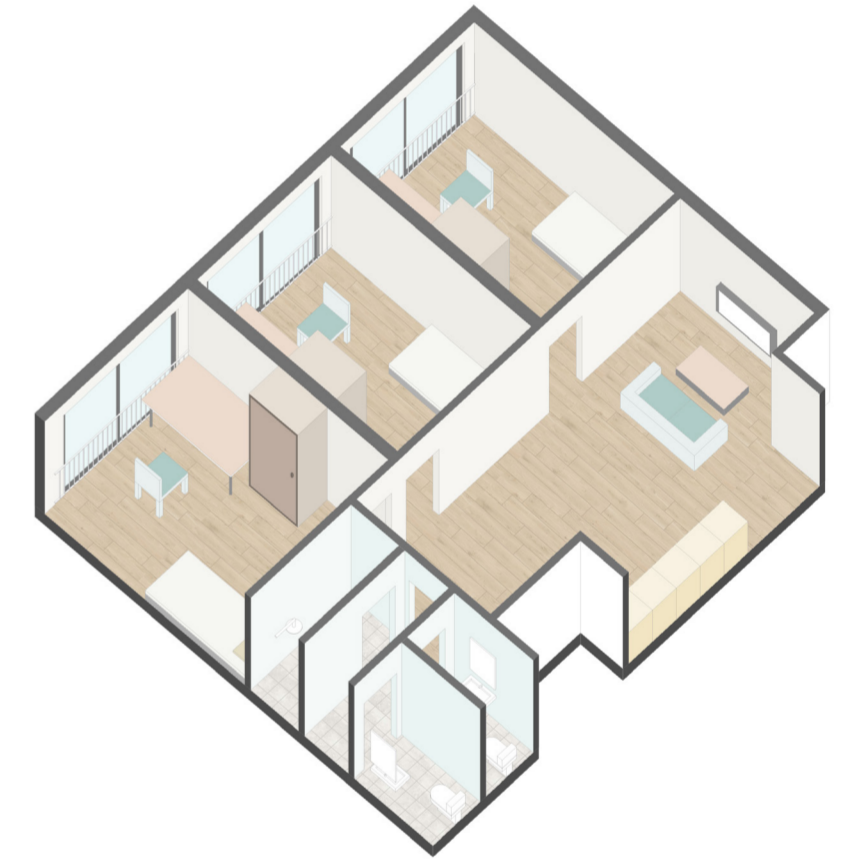
Type A: 105
 Individual studio with studio



Type B: 27
 Individual studio without studio

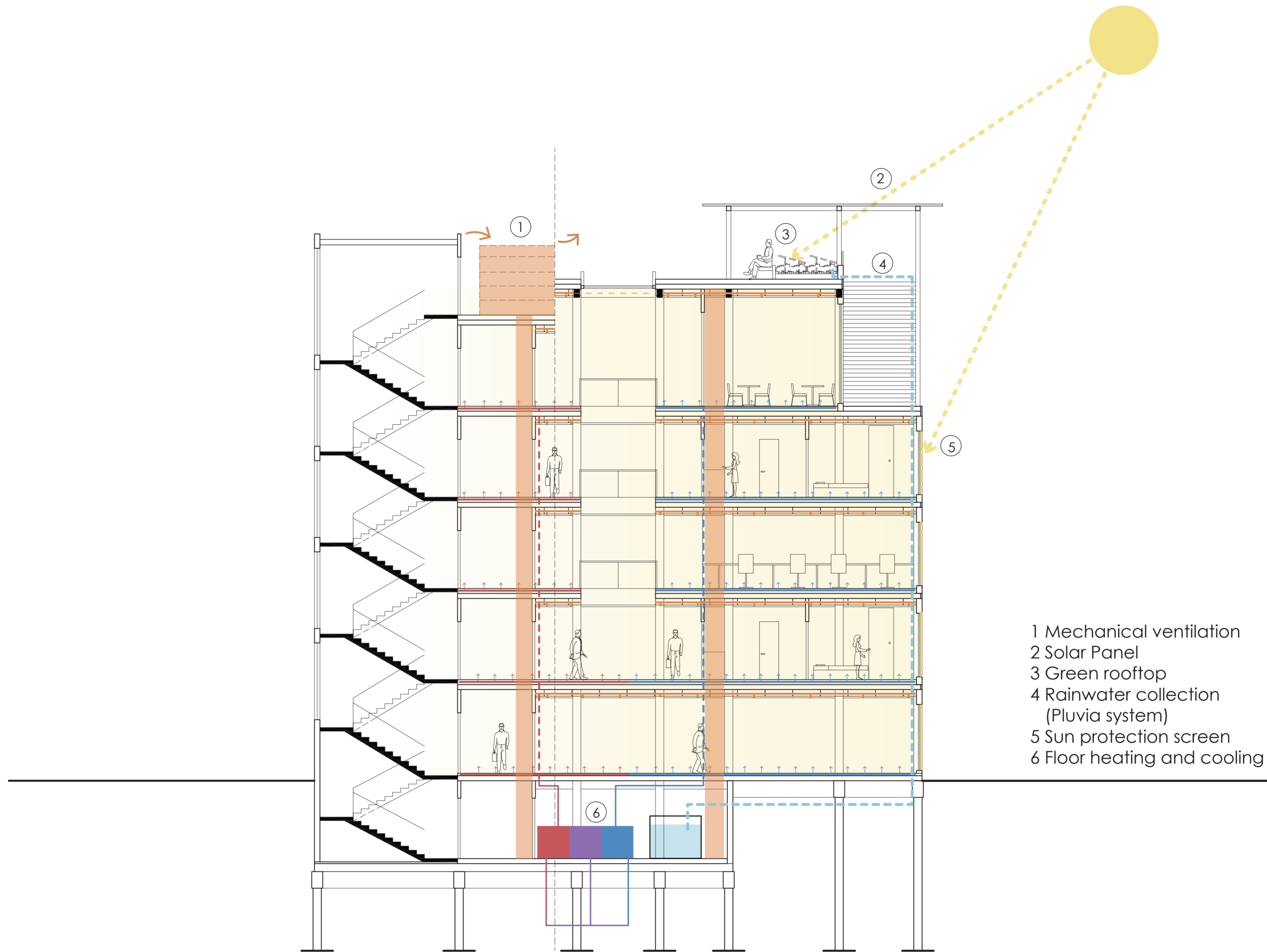


Type C: 9
 2 bedrooms



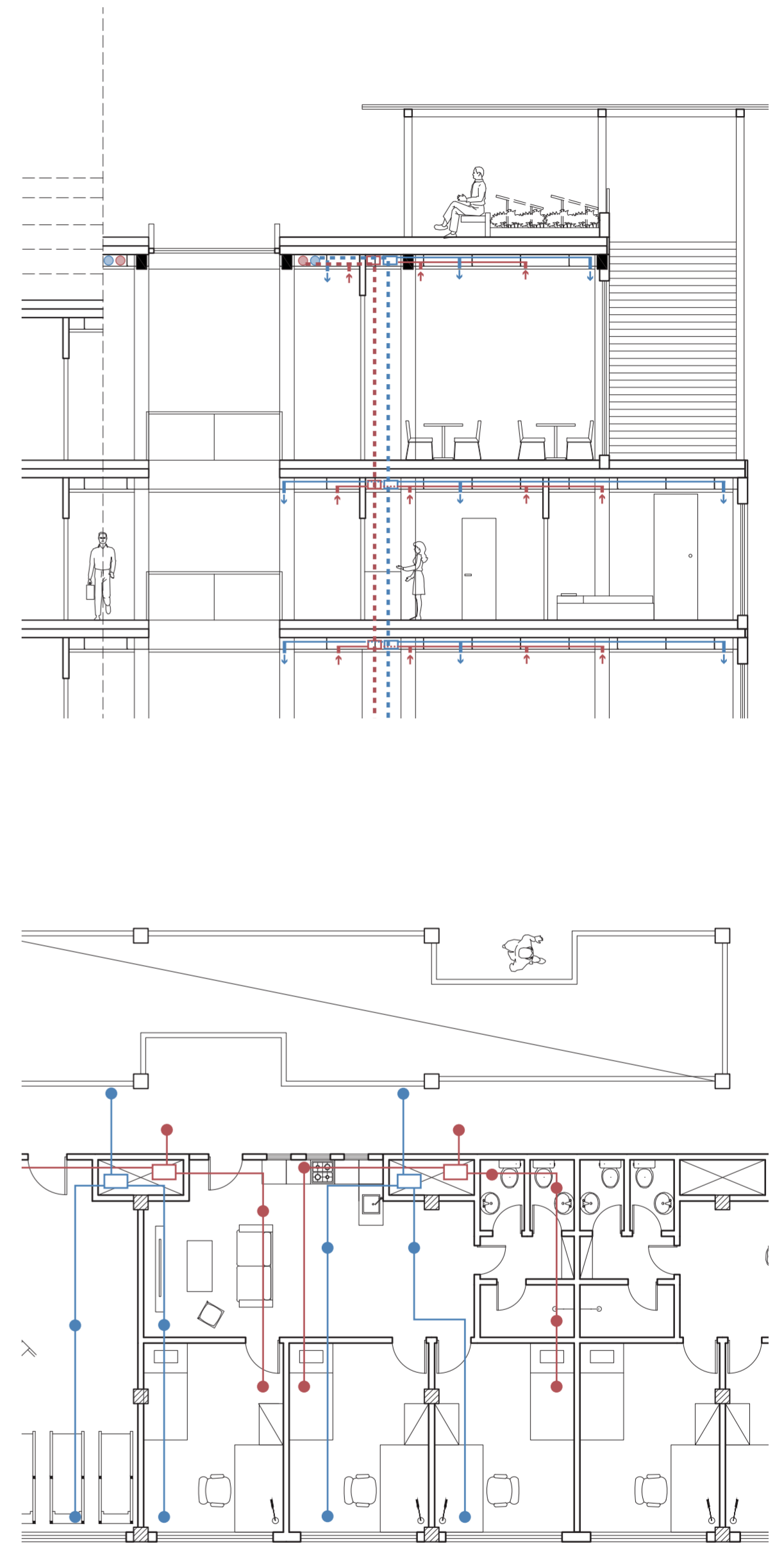
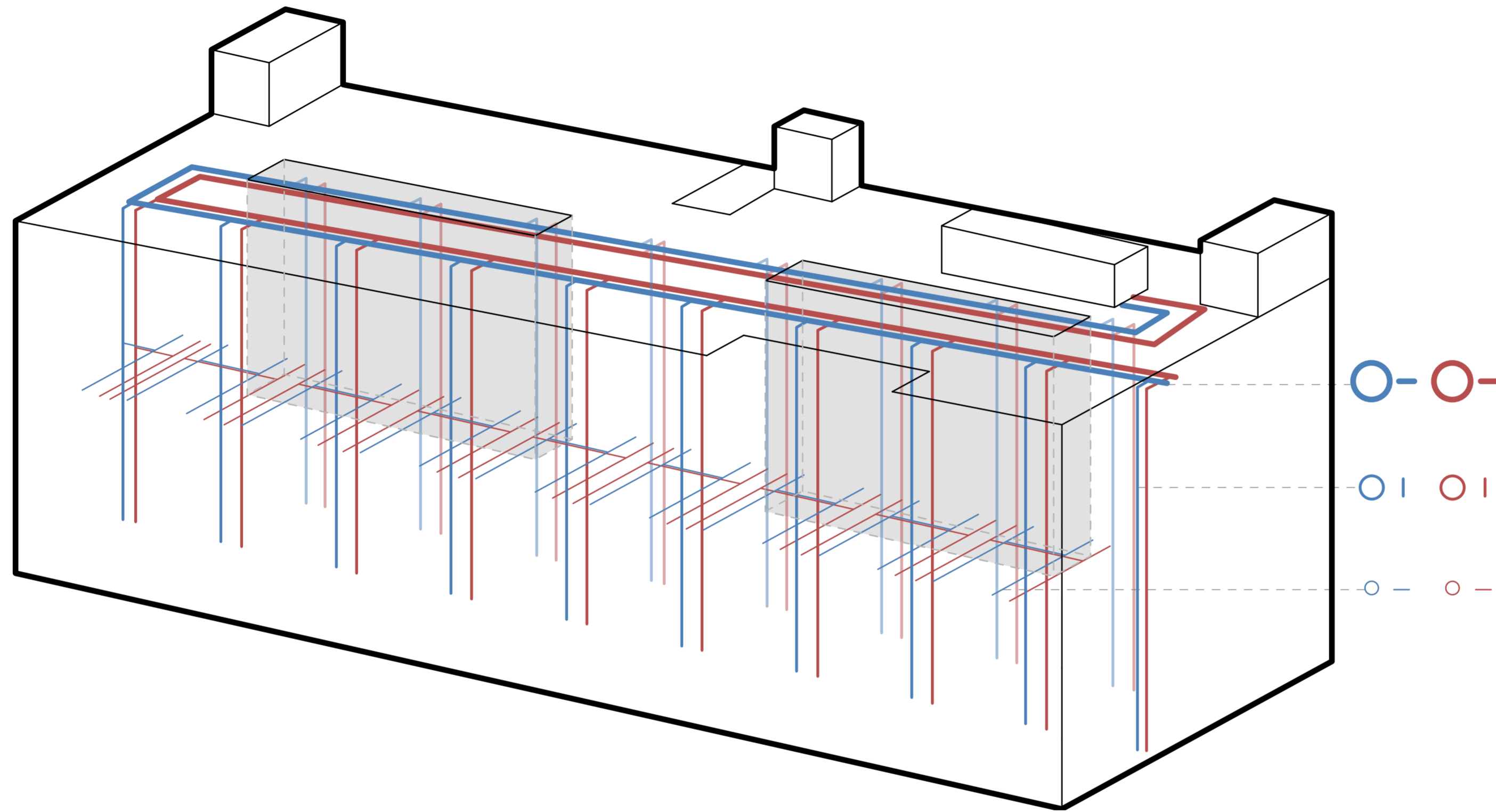
Type C: 9
 3 bedrooms

Housing typologies 1:100

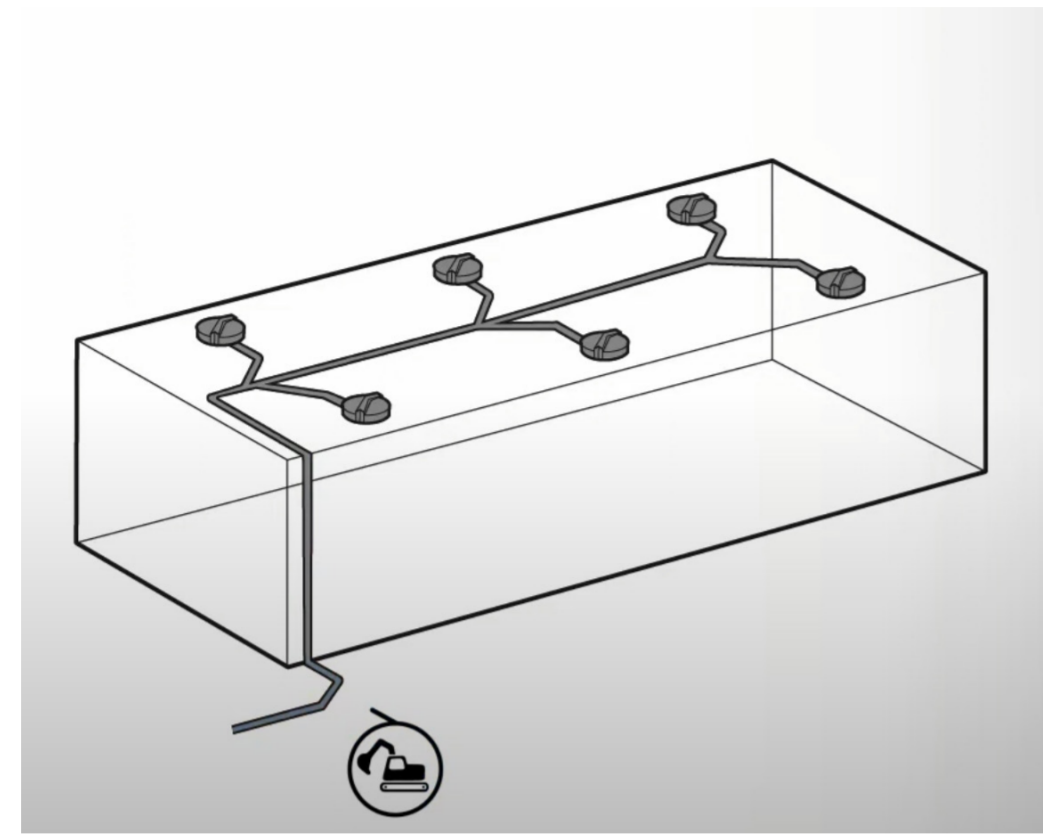


- 1 Mechanical ventilation
- 2 Solar Panel
- 3 Green rooftop
- 4 Rainwater collection
(Pluvia system)
- 5 Sun protection screen
- 6 Floor heating and cooling

Climate design

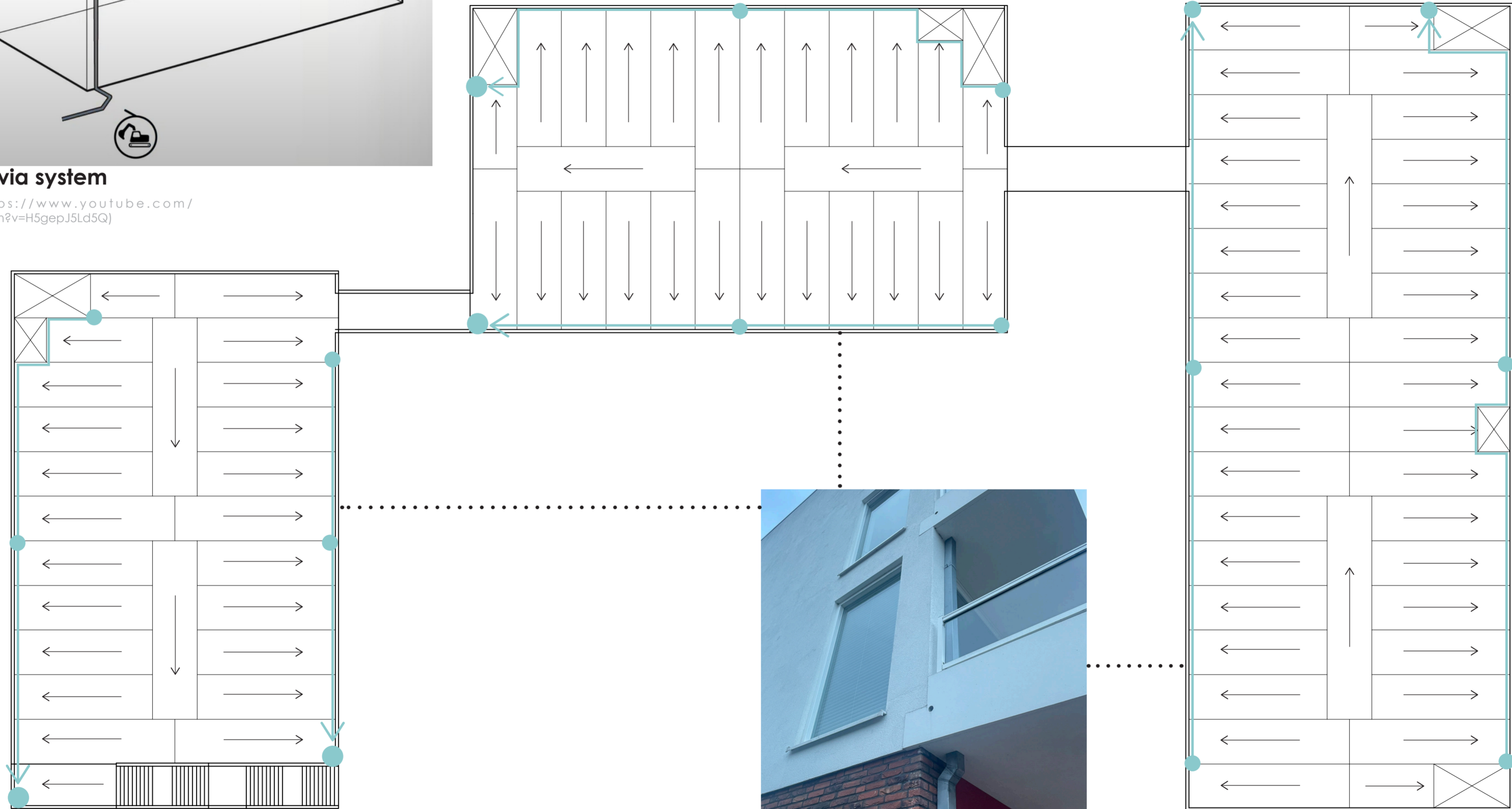


Mechanical ventilation



Pluvia system

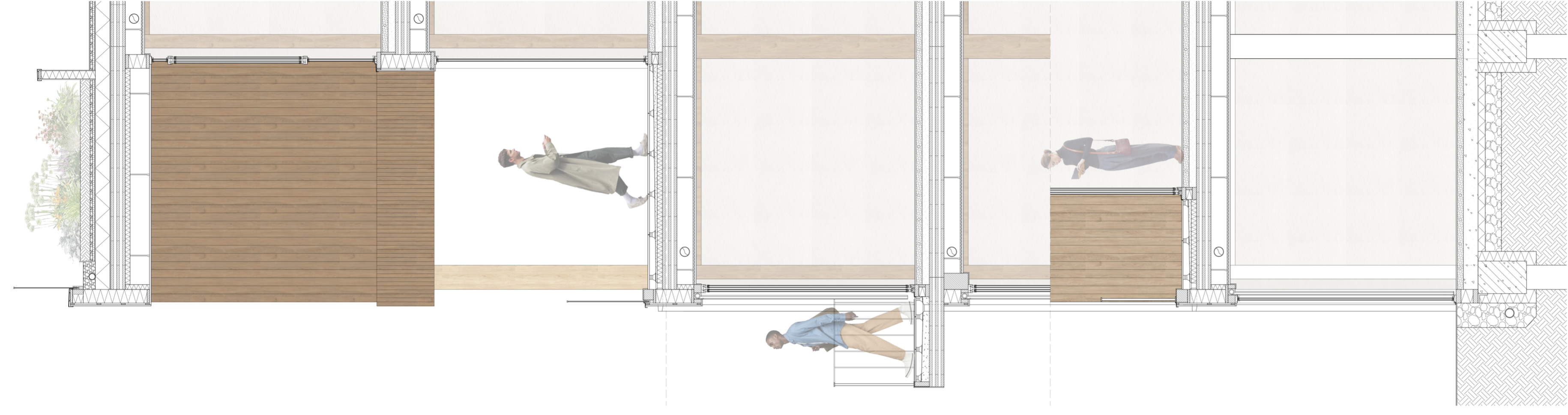
(<https://www.youtube.com/watch?v=H5gepJ5Ld5Q>)



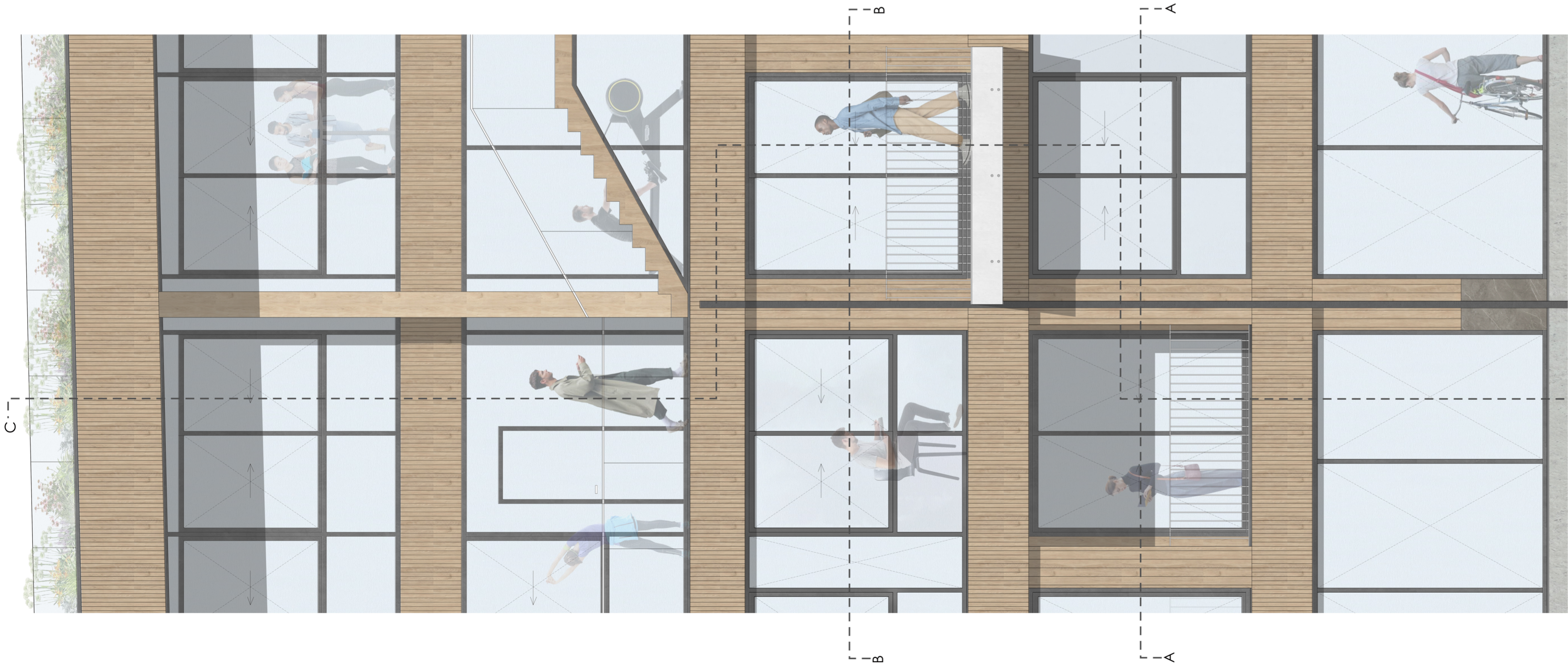
Pipes on the facade

(photo by author)

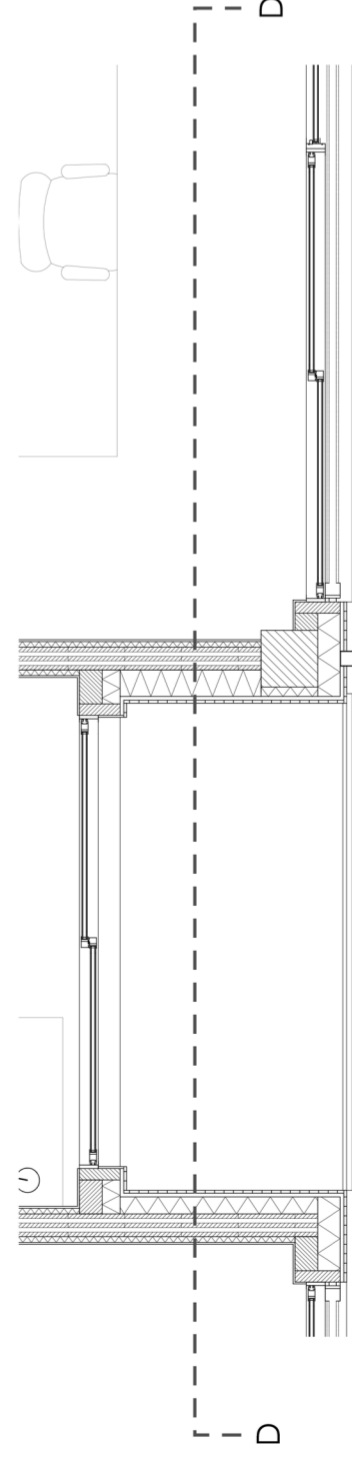
Rainwater collection



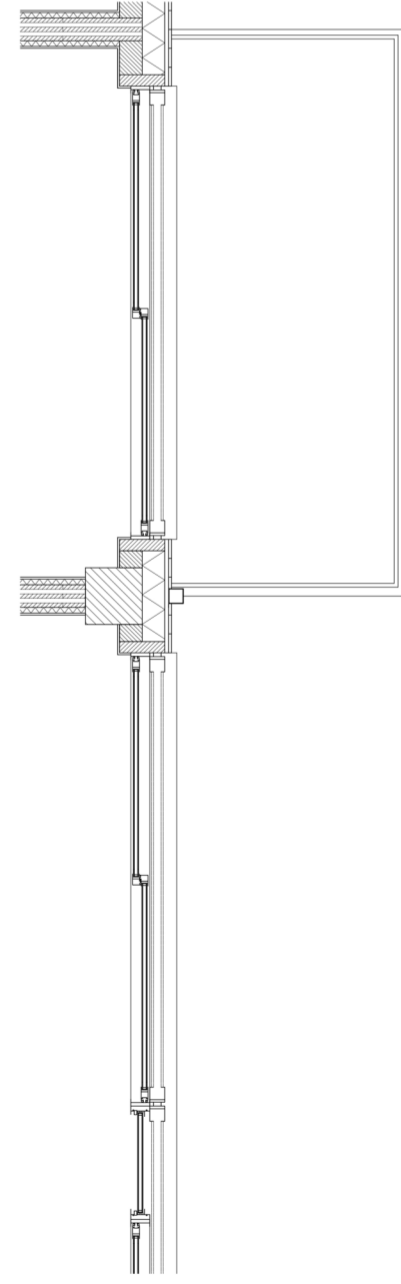
Section C-C



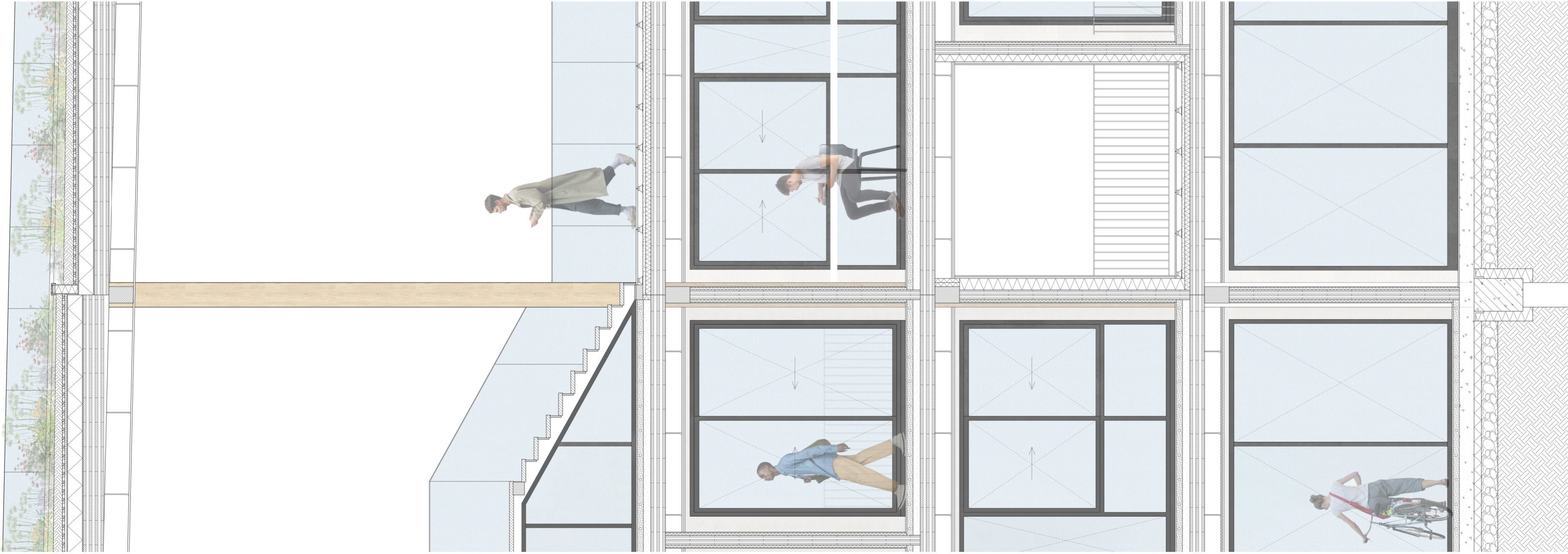
Facade



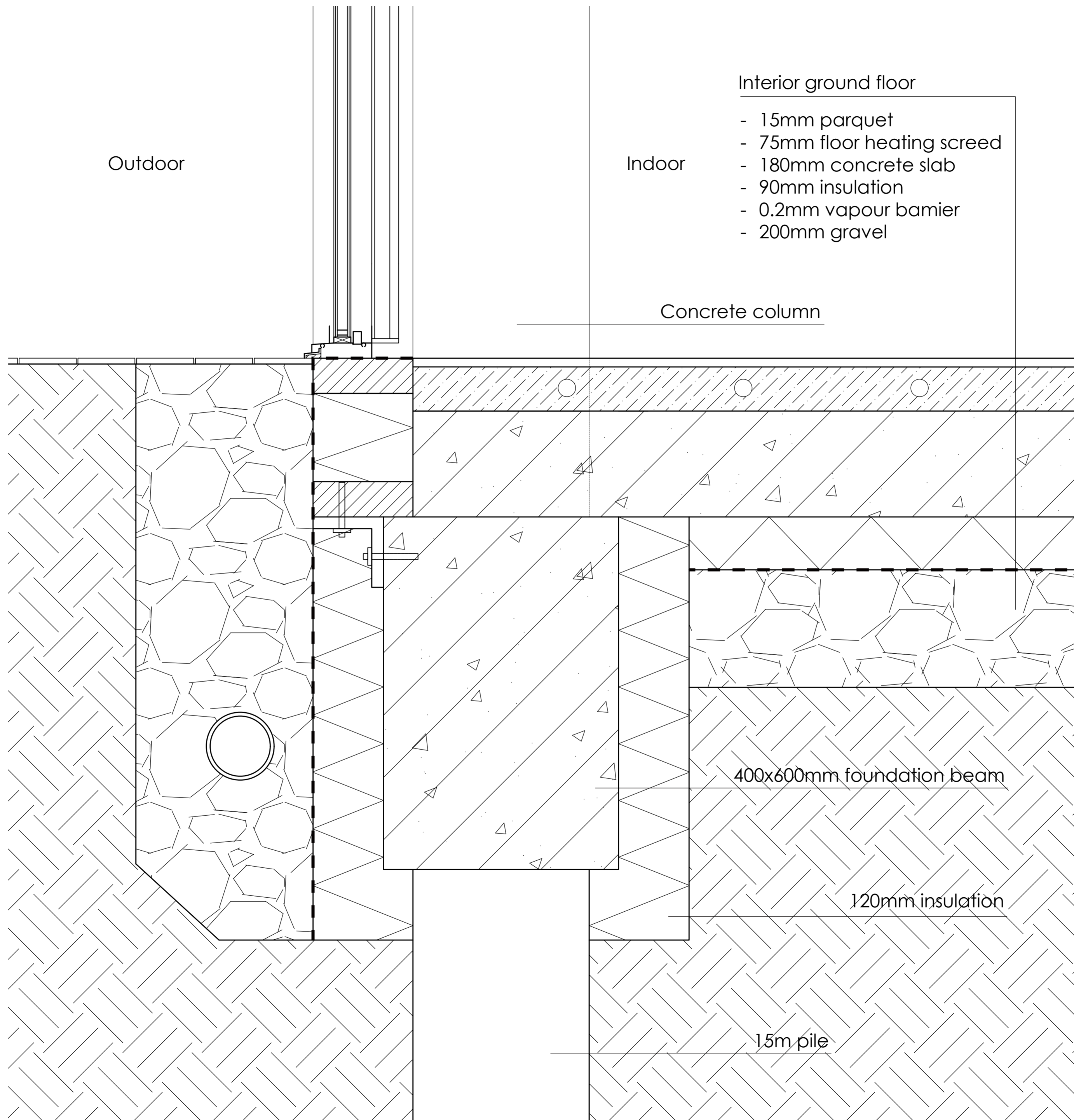
Plan A-A



Plan B-B



Section D-D



Interior ground floor

- 15mm parquet
- 75mm floor heating screed
- 180mm concrete slab
- 90mm insulation
- 0.2mm vapour barrier
- 200mm gravel

Outdoor

Indoor

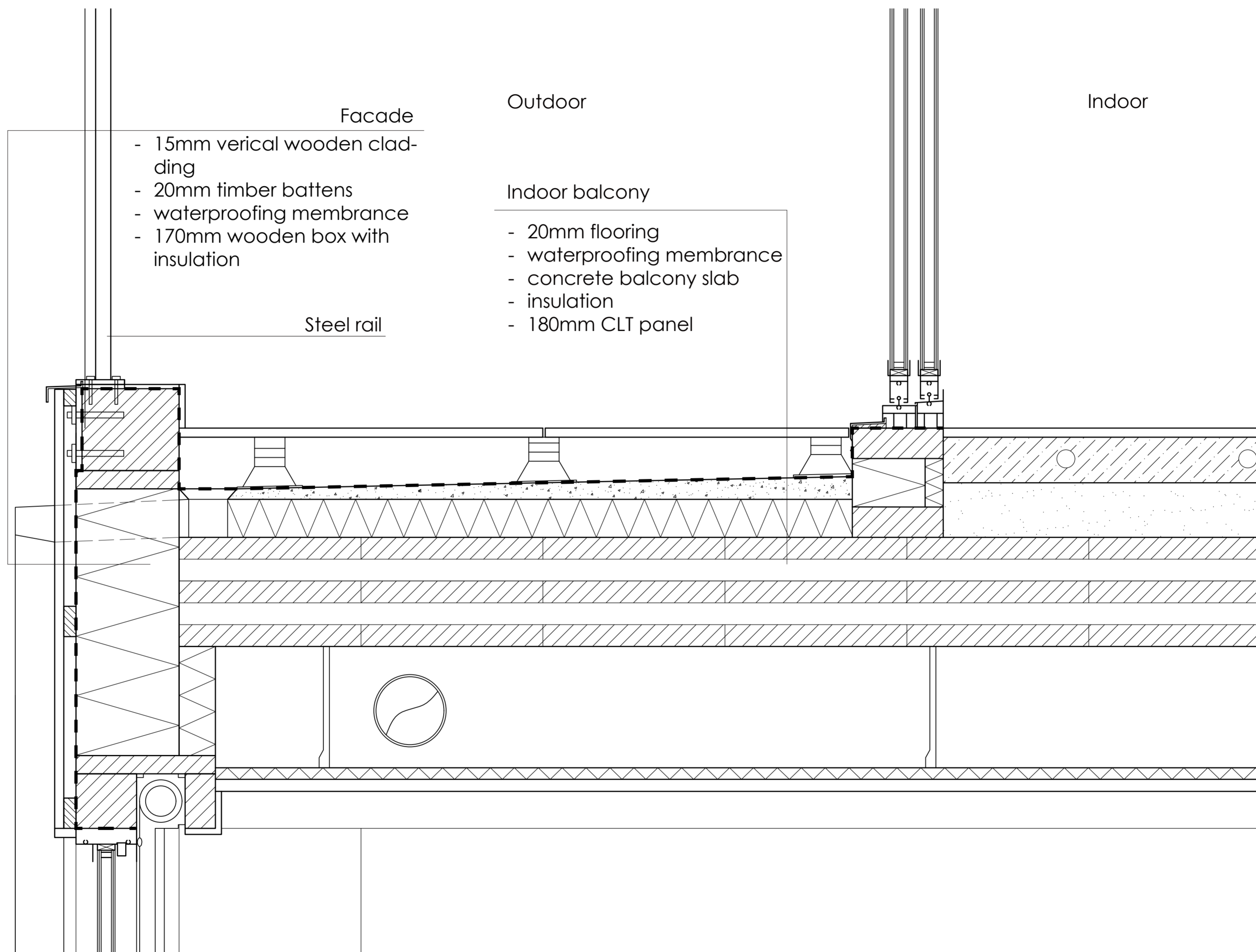
Concrete column

400x600mm foundation beam

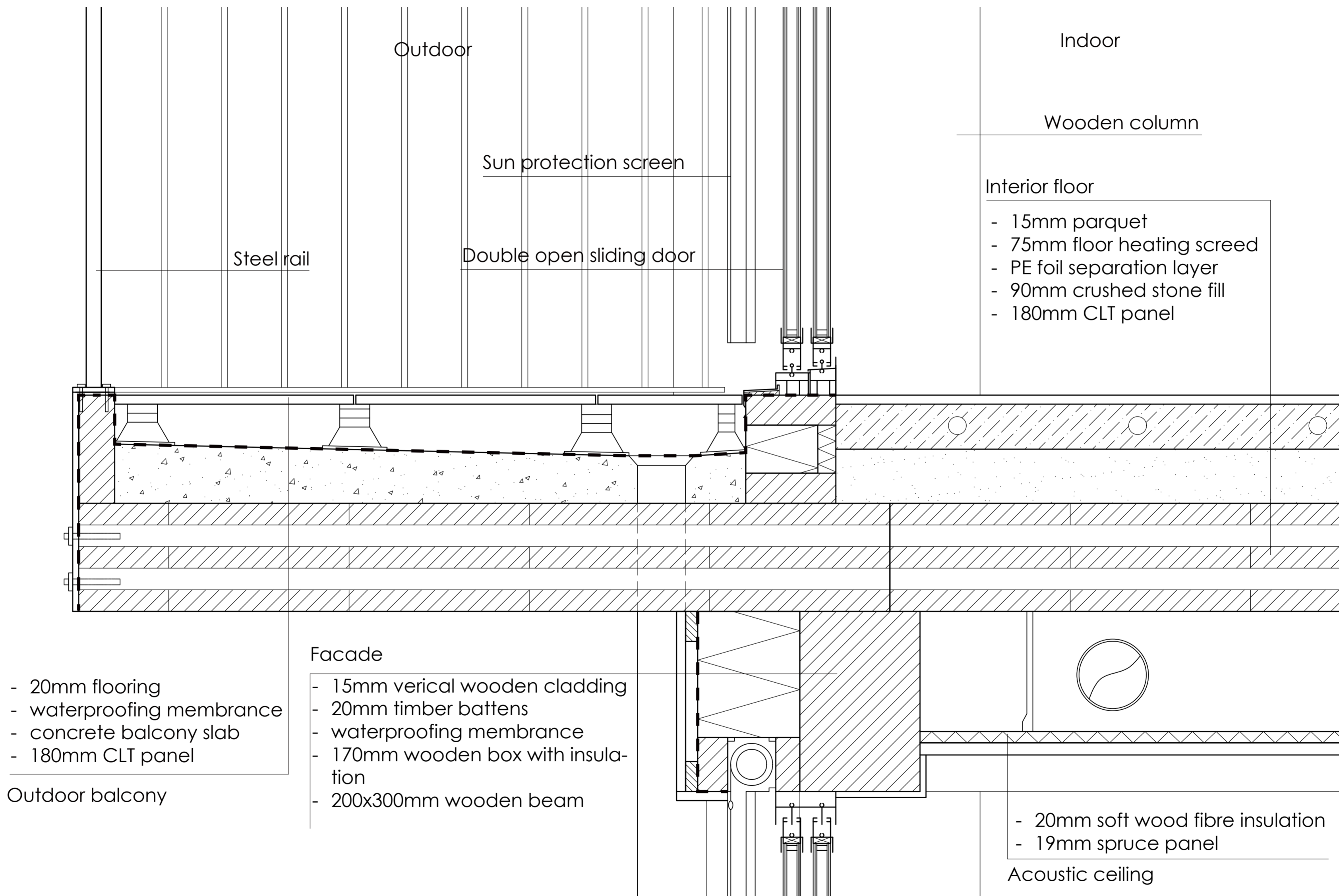
120mm insulation

15m pile

Detail1: Foundation 1:5



Detail2: Indoor balcony 1:5



Detail3: Outdoor balcony 1:5

Outdoor

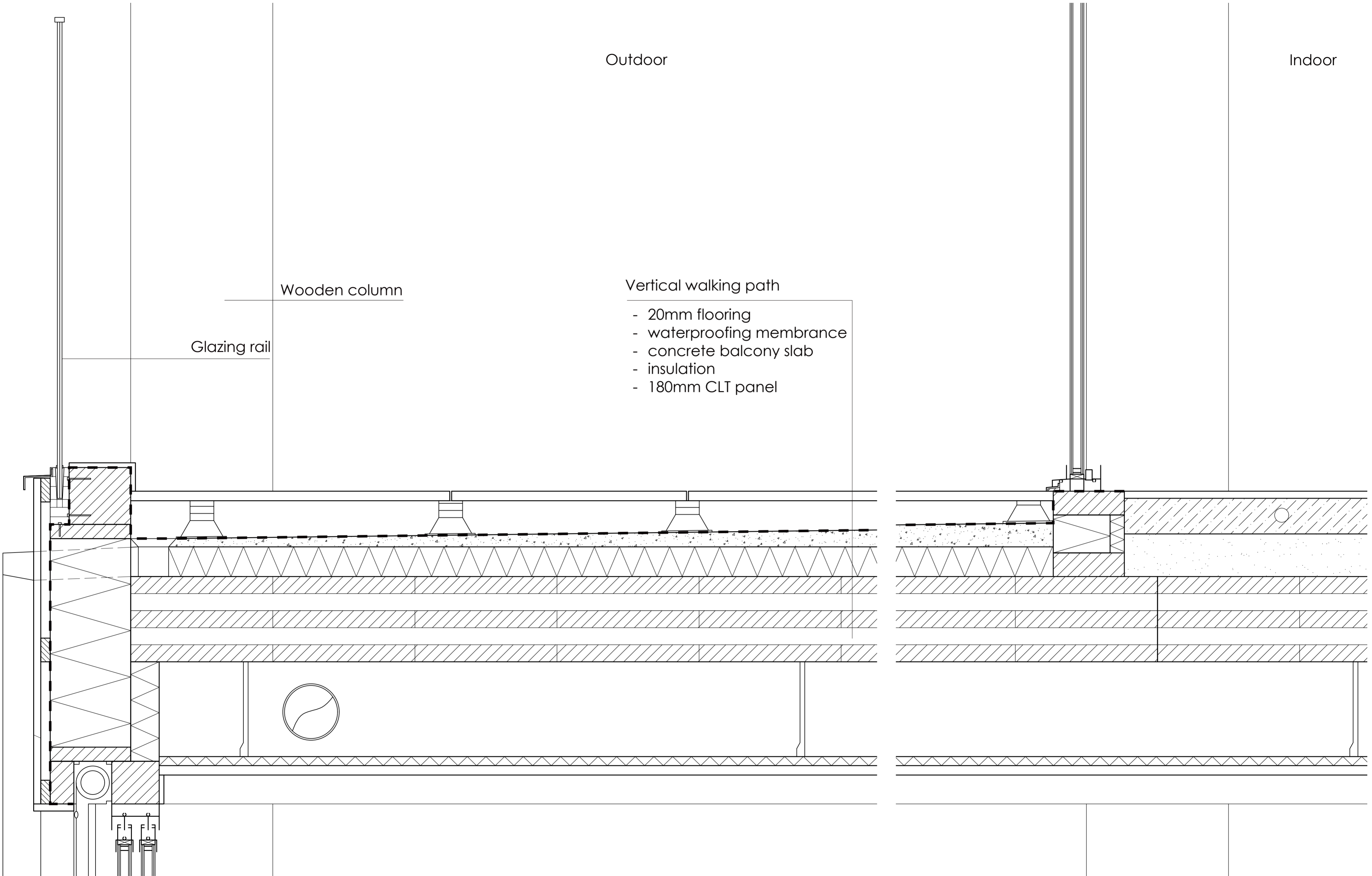
Indoor

Wooden column

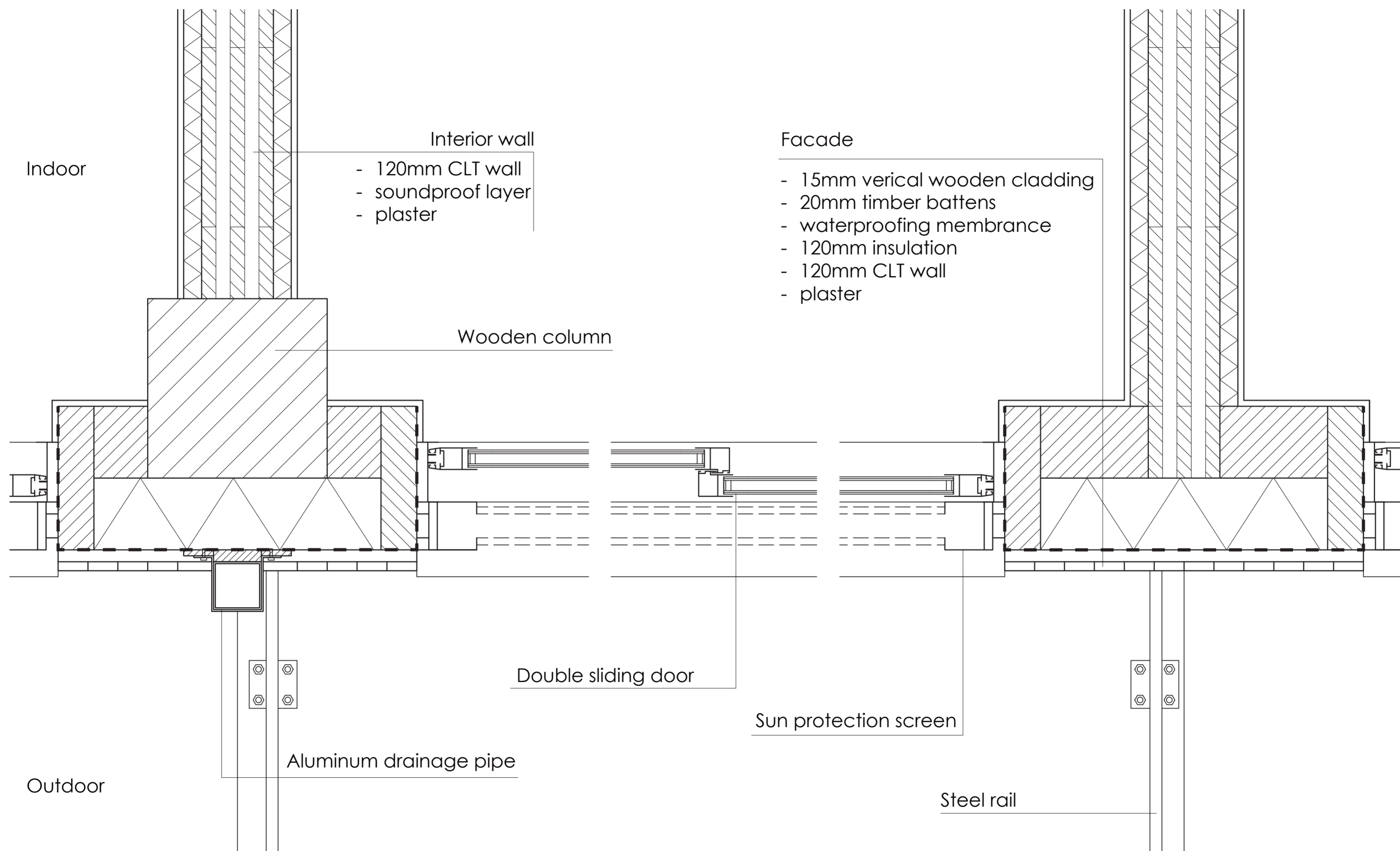
Glazing rail

Vertical walking path

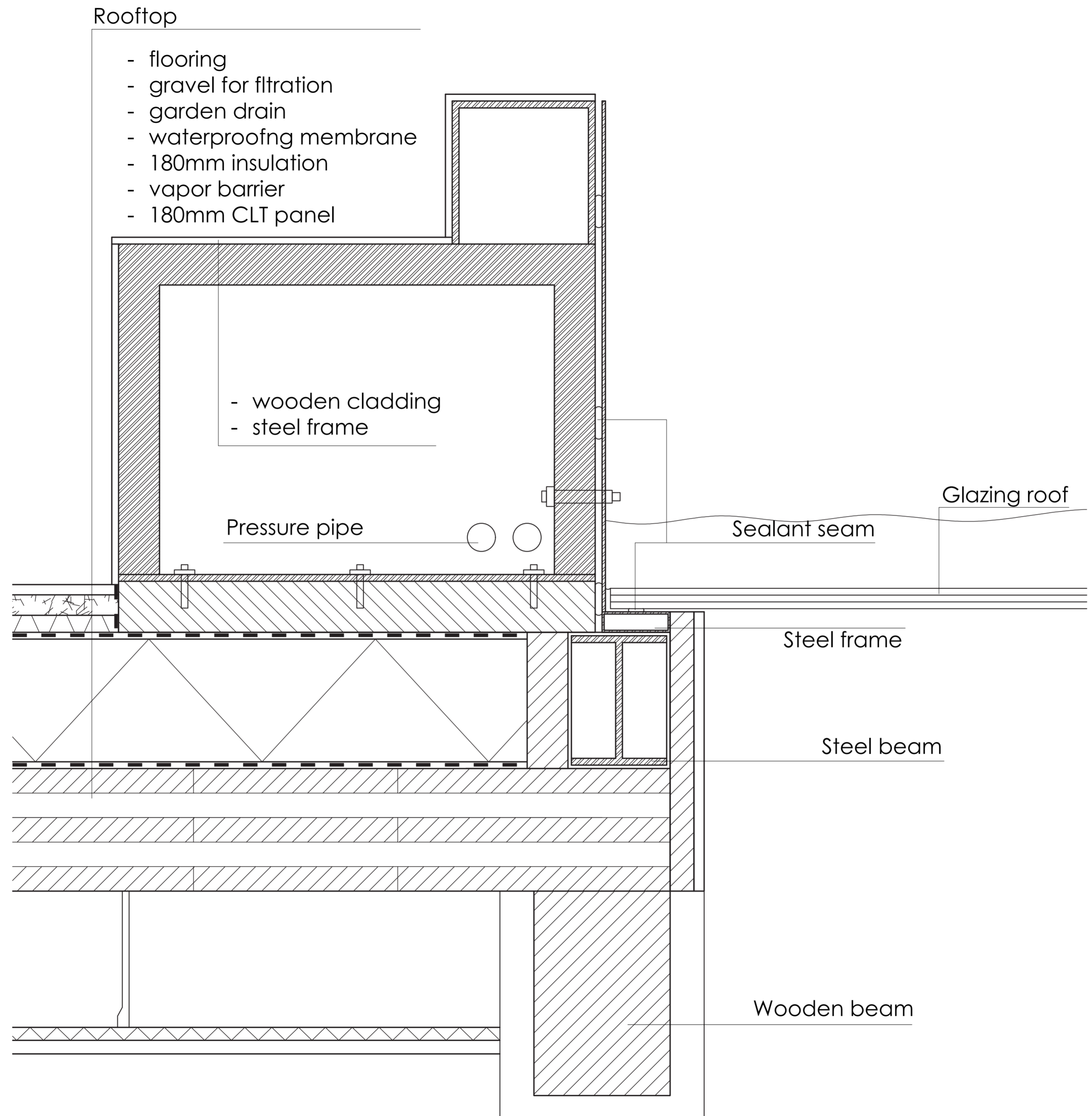
- 20mm flooring
- waterproofing membrance
- concrete balcony slab
- insulation
- 180mm CLT panel



Detail4: Vertical walking path 1:5



Detail5: Double sliding door 1:5



Rooftop

- flooring
- gravel for filtration
- garden drain
- waterproofng membrane
- 180mm insulation
- vapor barrier
- 180mm CLT panel

- wooden cladding
- steel frame

Pressure pipe

Glazing roof

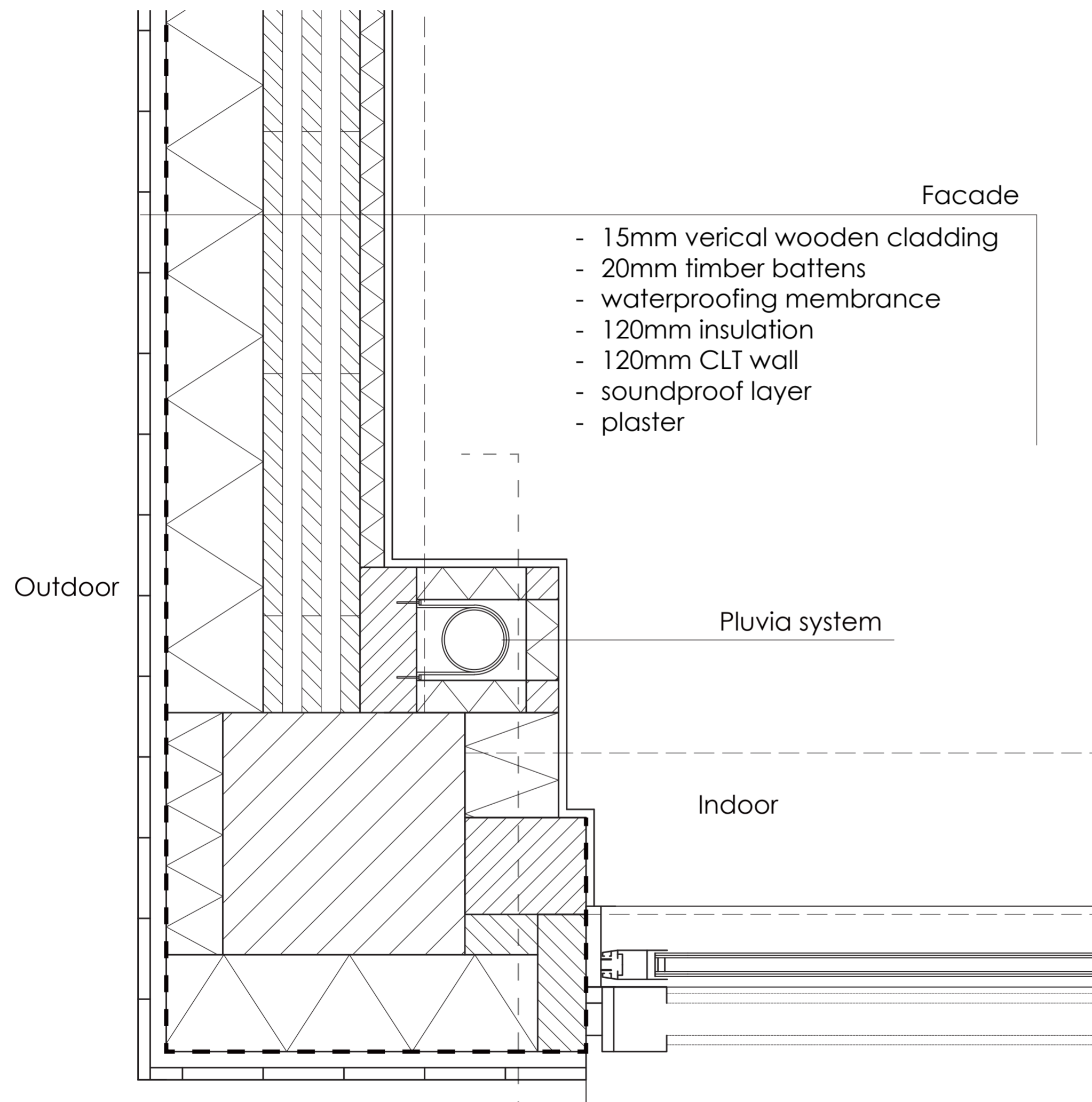
Sealant seam

Steel frame

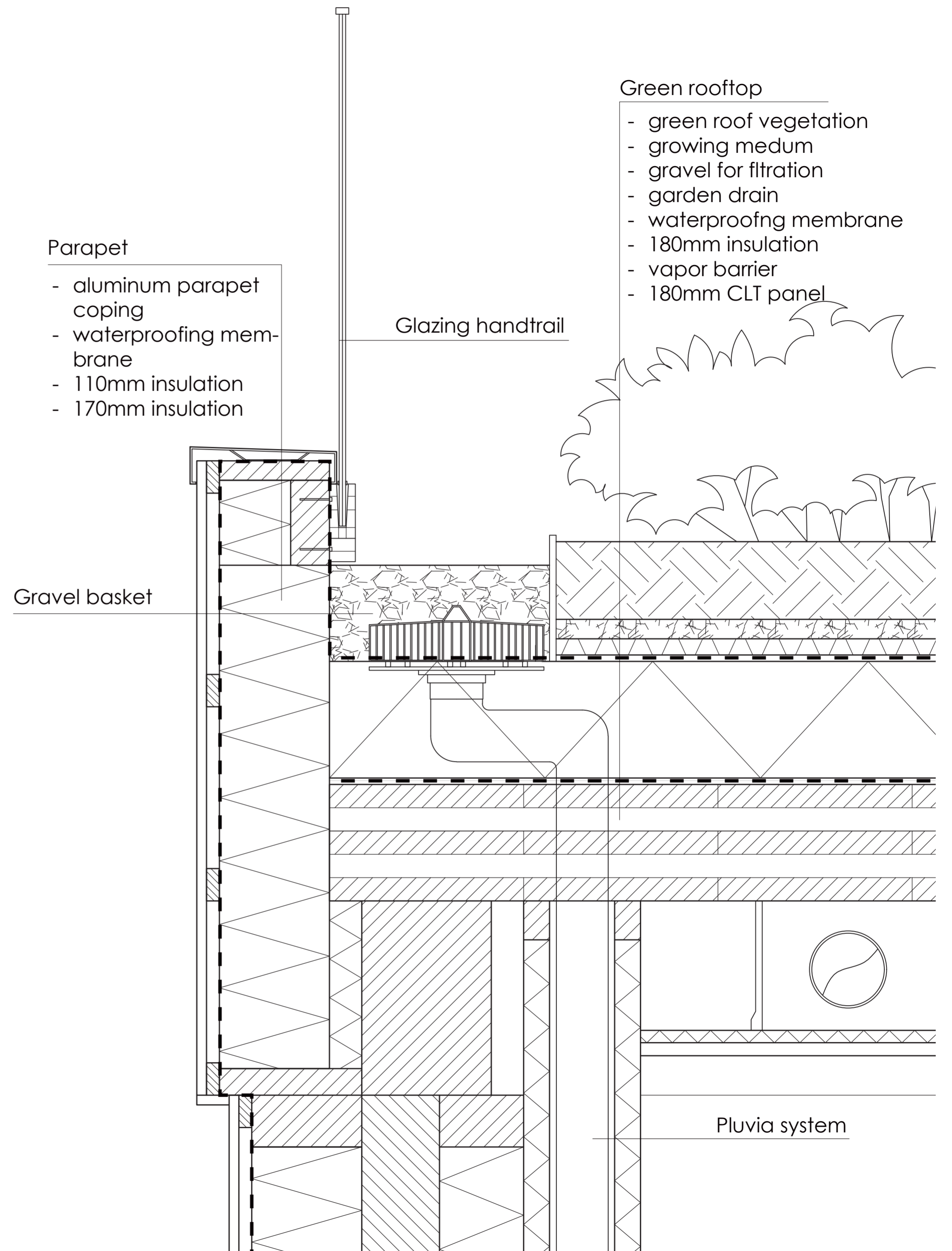
Steel beam

Wooden beam

Detail6: Glazing roof 1:5



Detail7: Roof drainage(horizontal) 1:5



Detail8: Roof drainage(vertical) 1:5