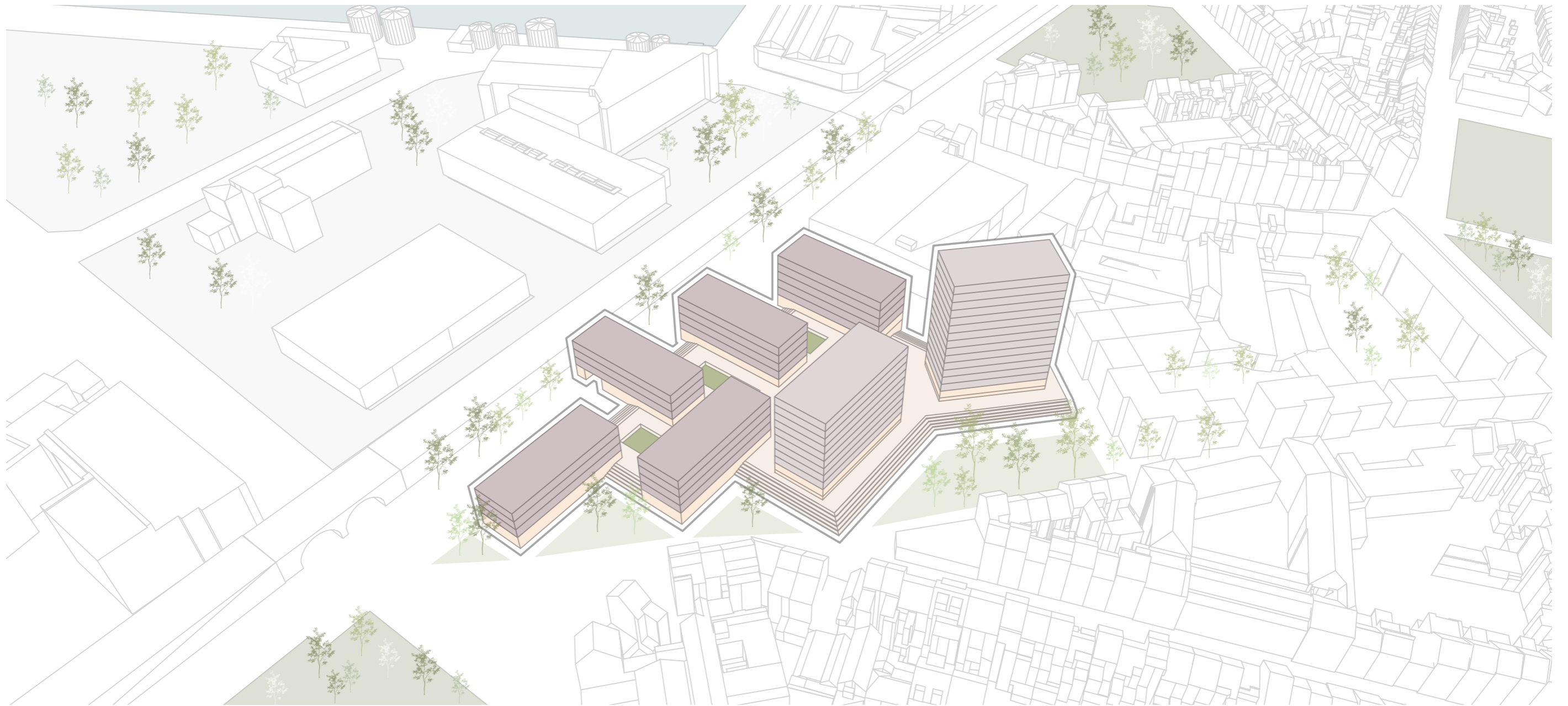


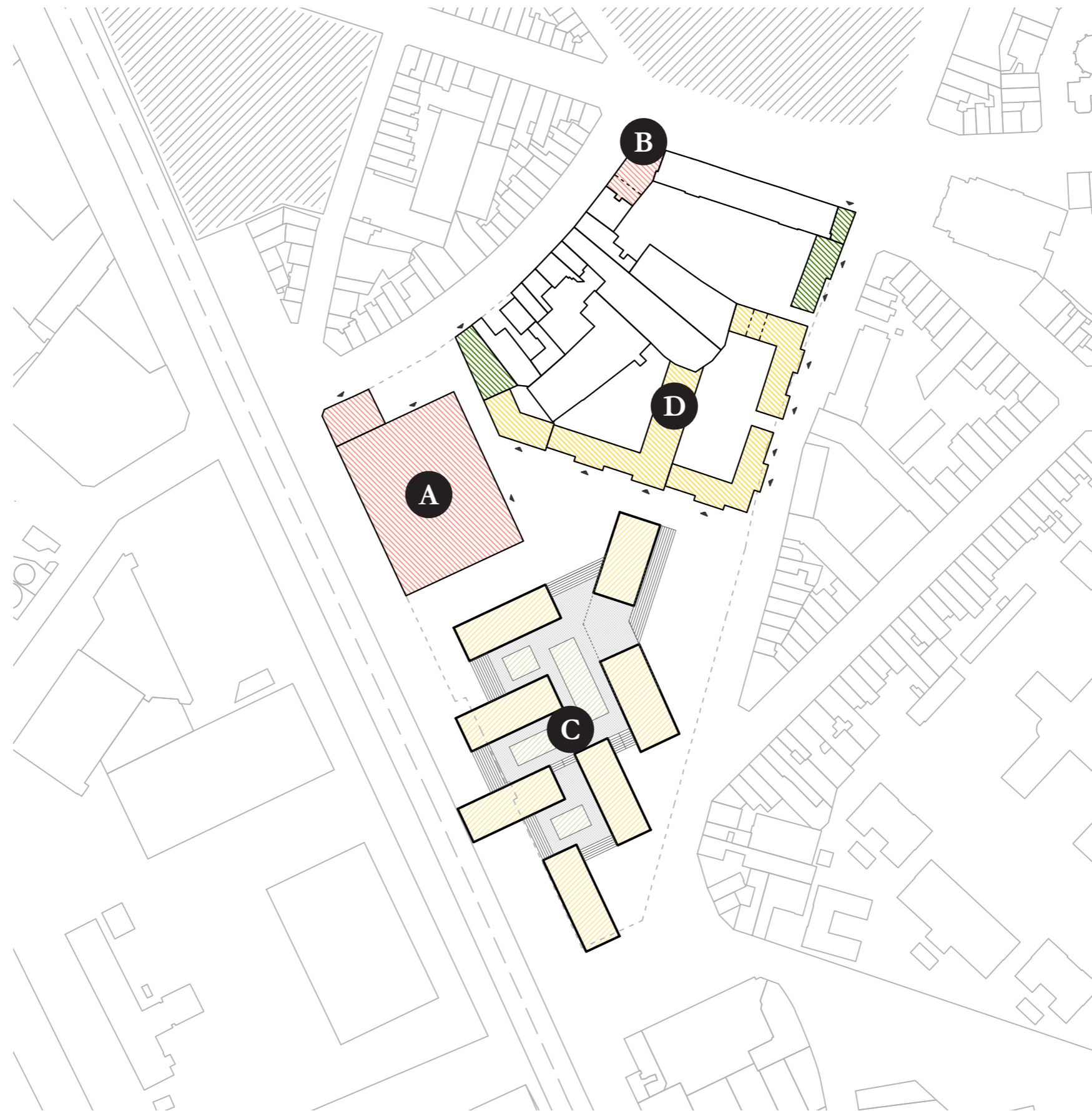
P5 DRAWINGS
30.10.2020




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Urban Architecture
2019/2020





COMPLEX PERSPECTIVE DRAWING



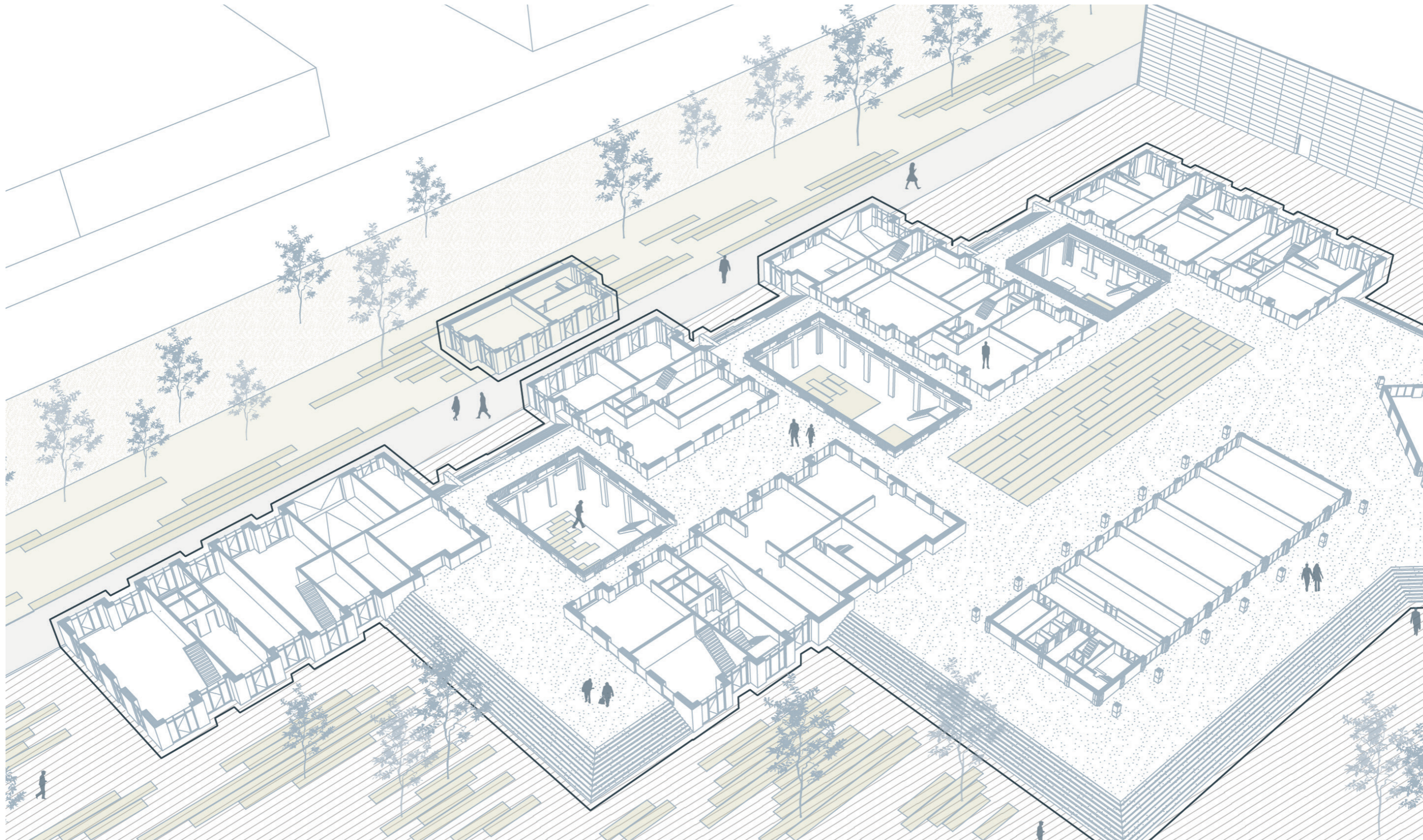
SITE PLAN



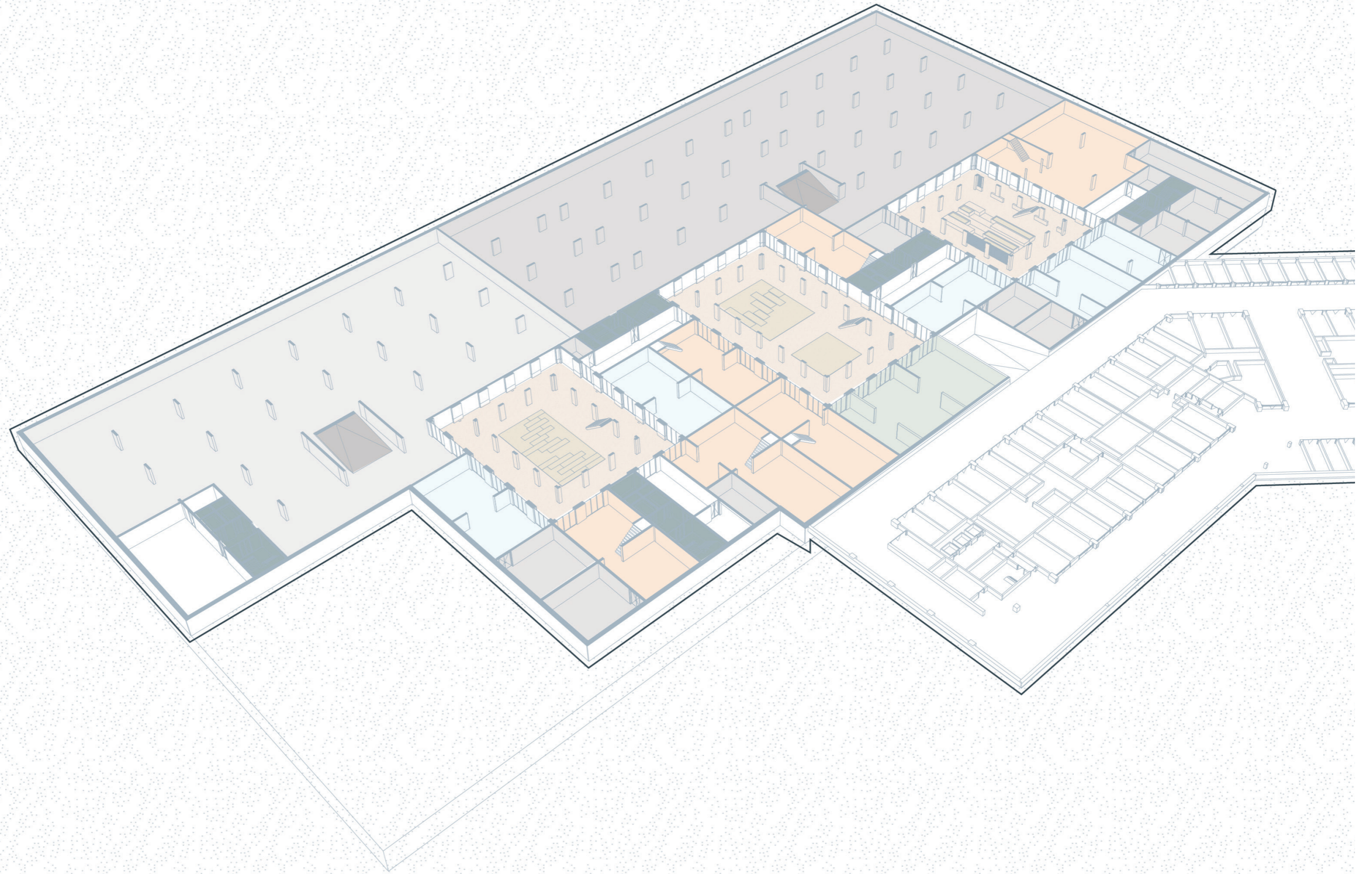
-  Predominantly residential function with active grounds.
-  Offices
-  Public buildings

-  **A** Craft school in altered Rotor building
-  **B** Public library
-  **C** New complex, social housing, supplemented with commerce, workshops and social functions
-  **D** New residential complex consisting of social and regular housing

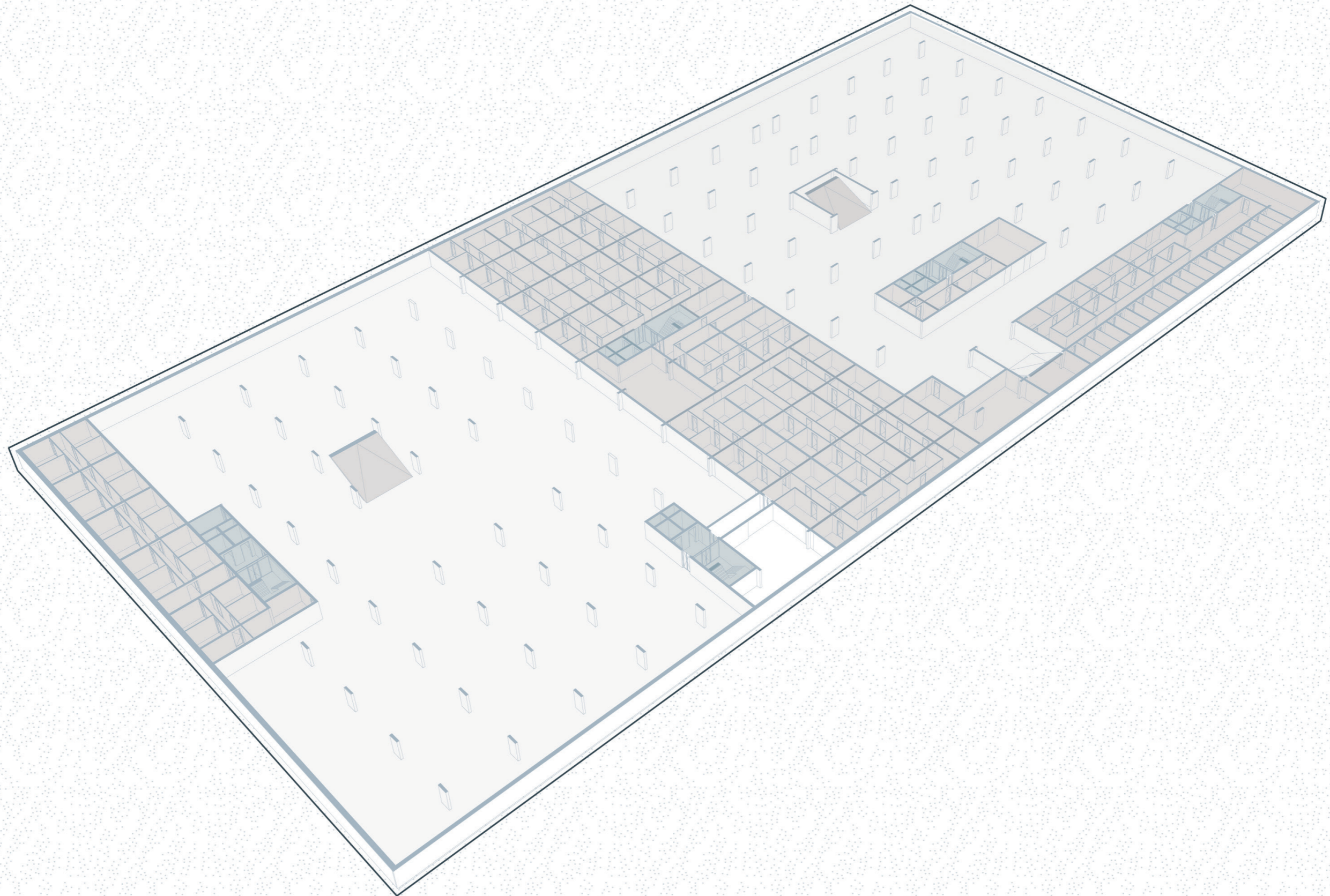
CLOSE UP



LOWER LEVEL



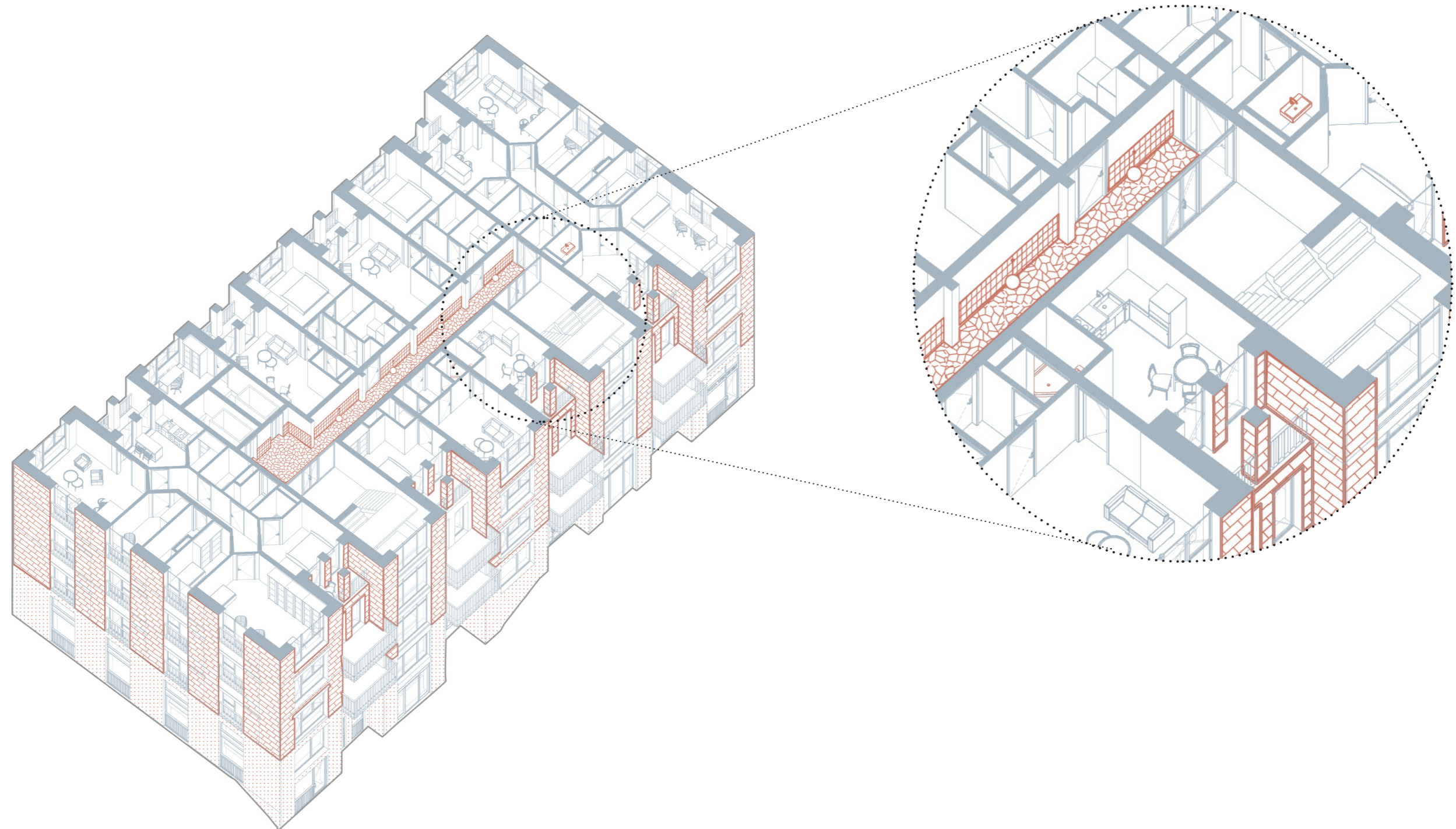
UNDERGROUND PARKING



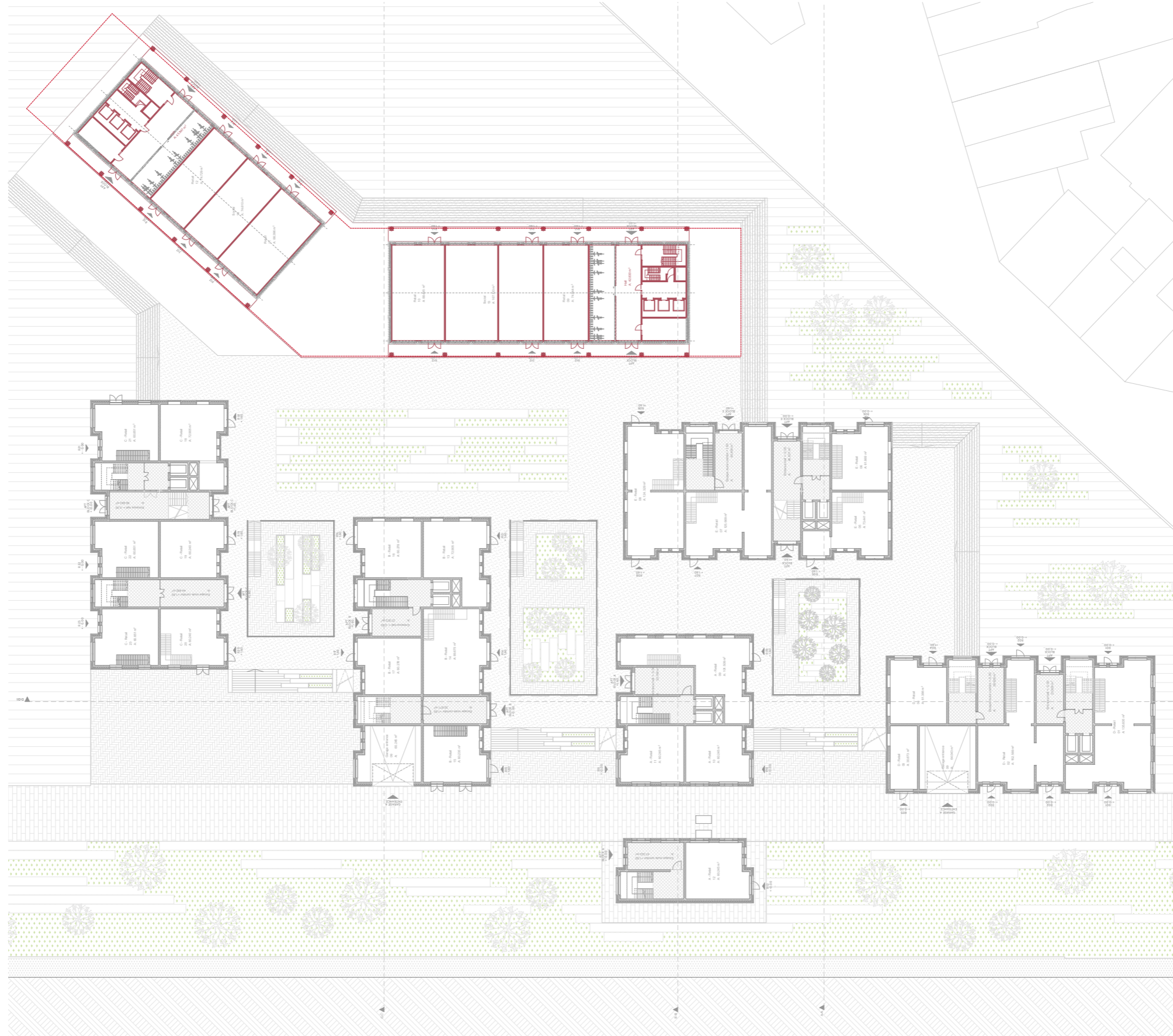
STAIRCASES - UPPER FLOORS OF RESIDENTIAL PART



NEW RESIDENTIAL PART CLOSE-UP
RECYCLED ELEMENTS



GROUND FLOOR / ELEVATED PLATFORM FLOOR

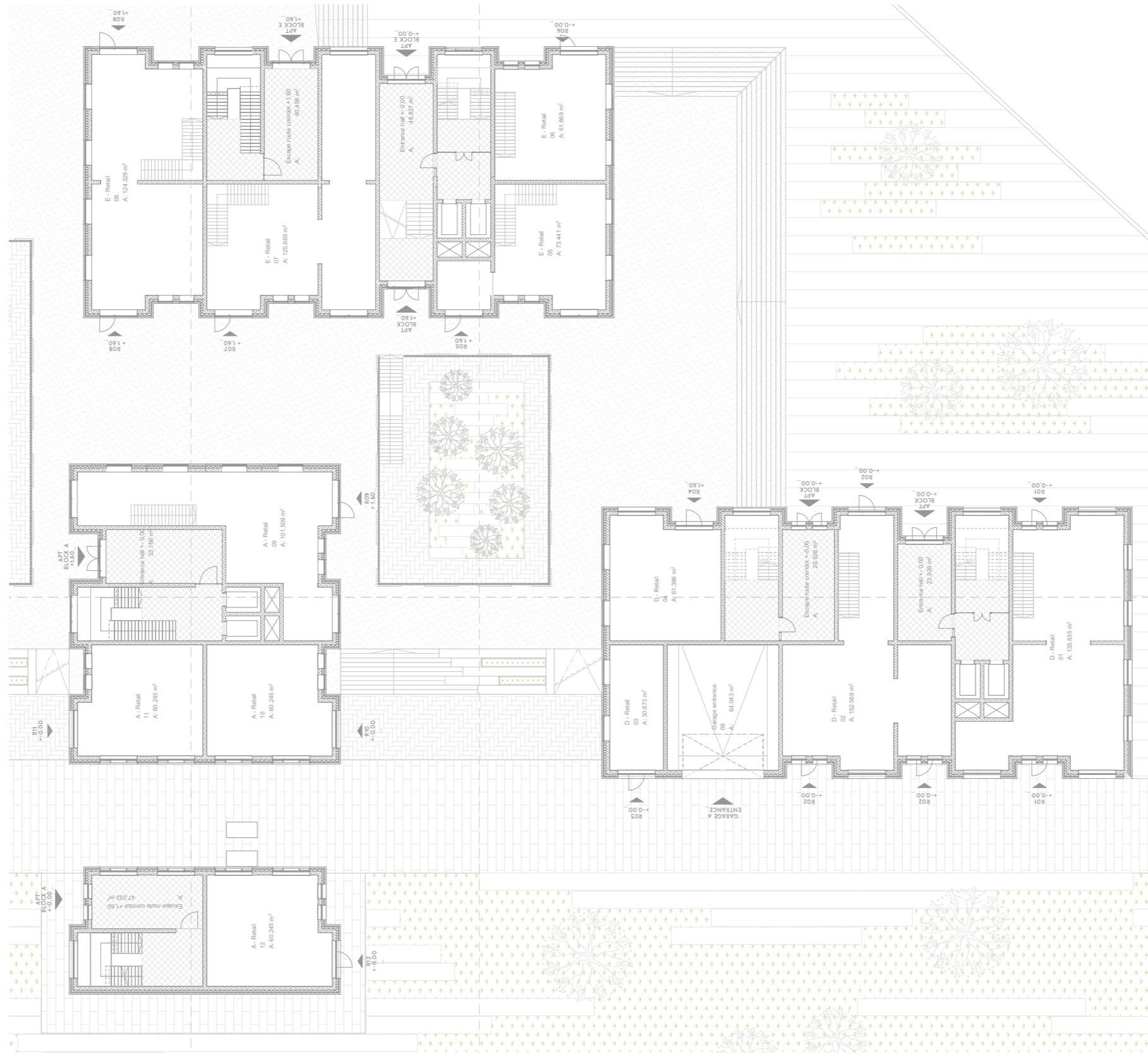


— Pre-existing walls

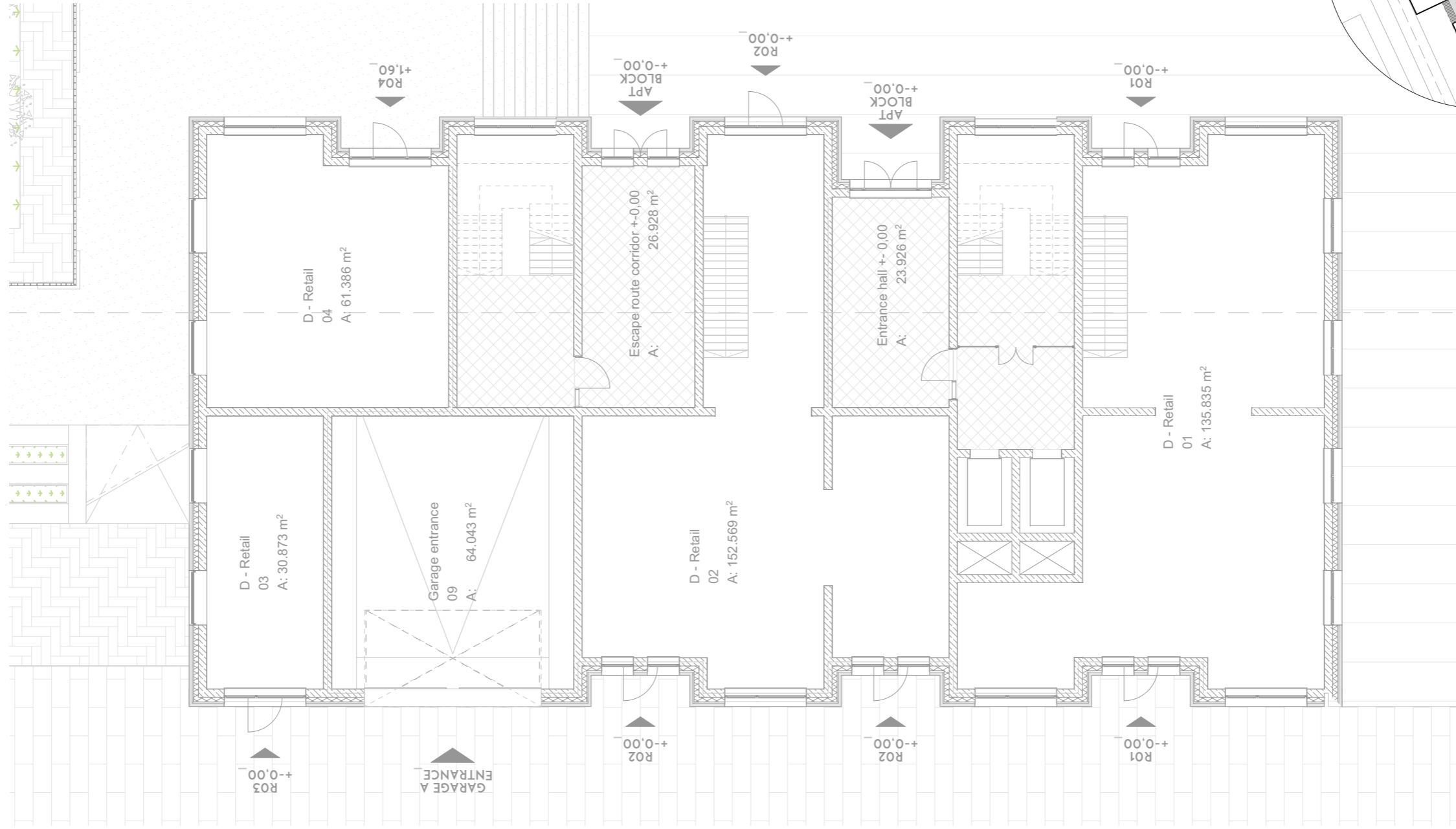
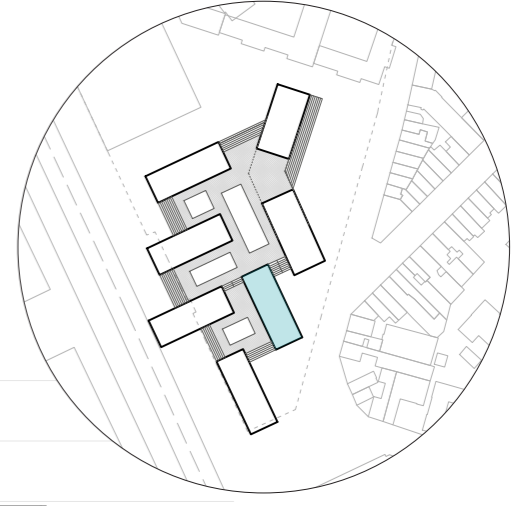
- - - Removed parts
outline

N

PLATFORM / GROUND FLOOR PLAN CLOSE-UP



PLATFORM / GROUND FLOOR PLAN CLOSE-UP



NA

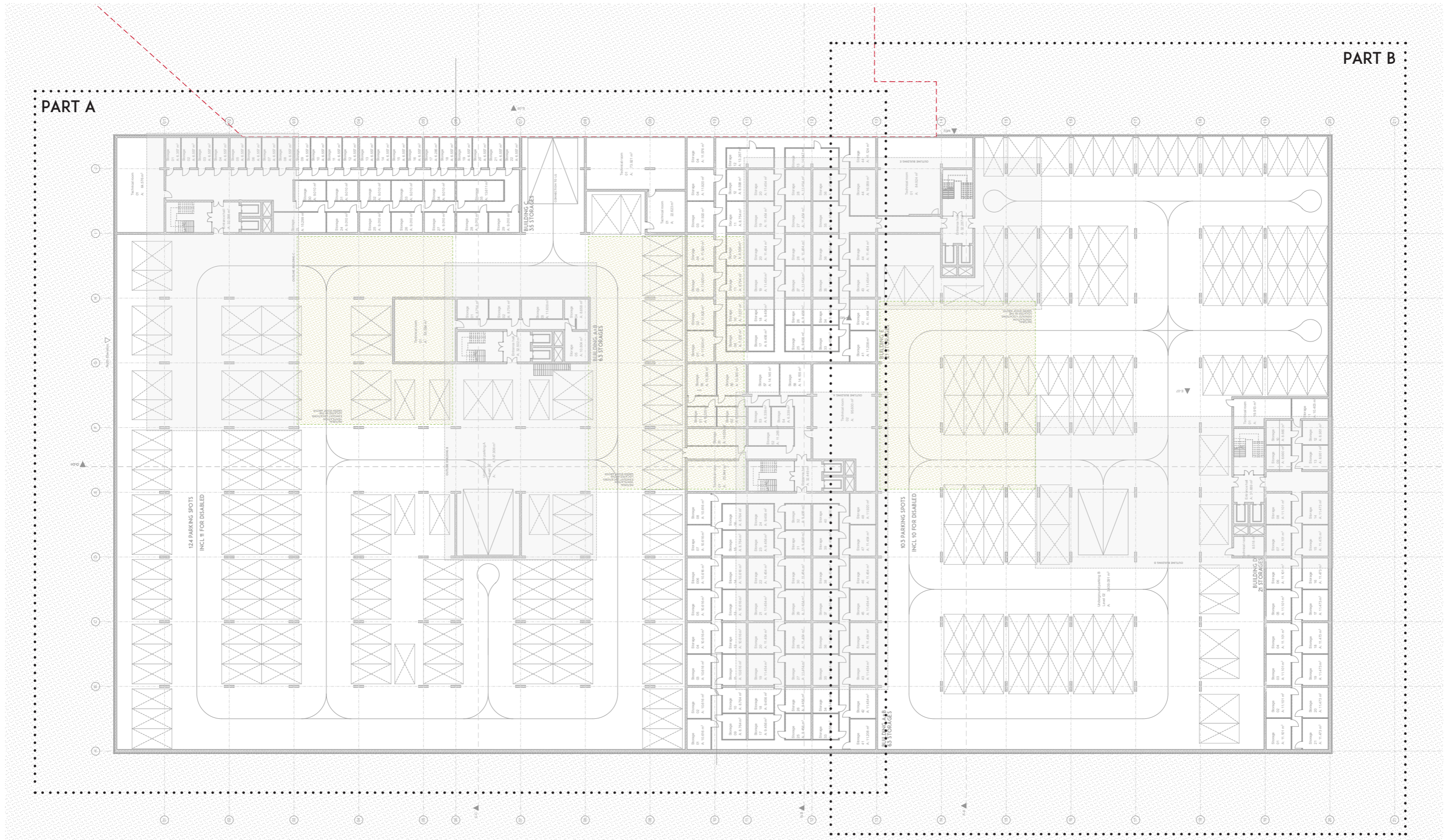
LEVEL BELOW THE PLATFORM



- Pre-existing walls
- - - Removed parts outline



NEW PARKING



PART B

PART A



RESIDENTIAL FLOORS

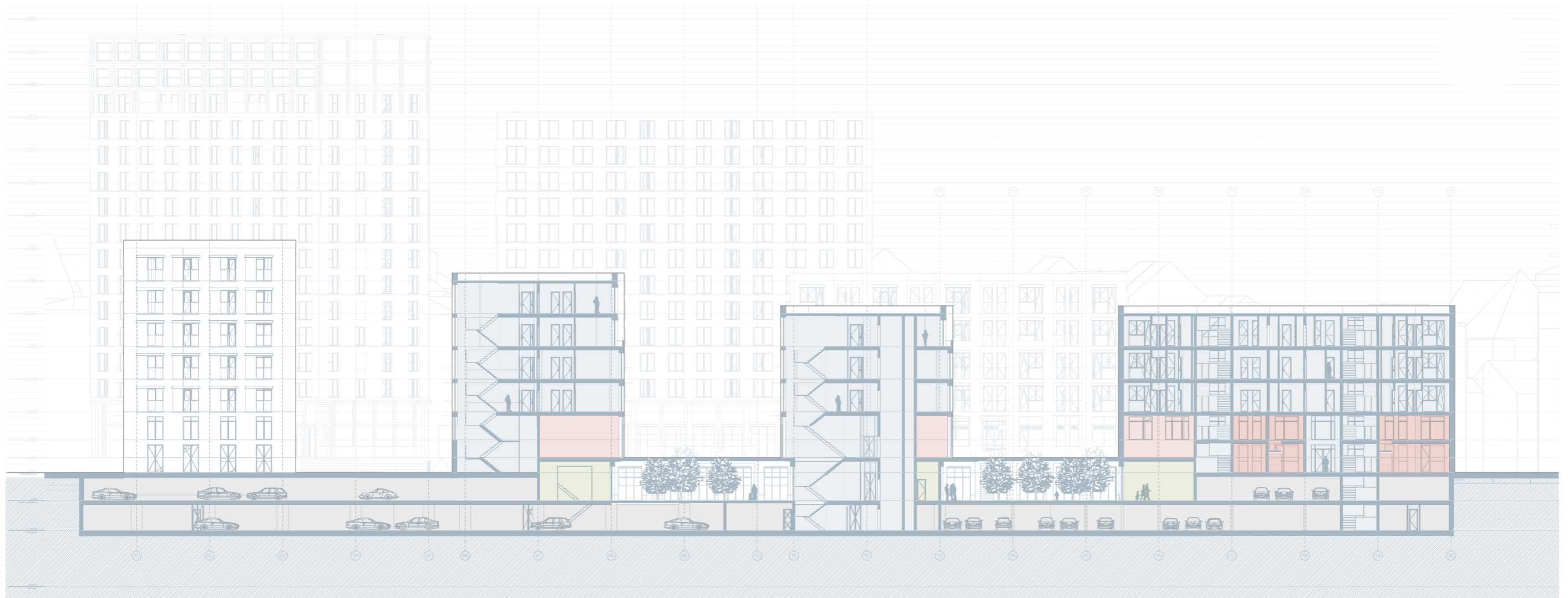
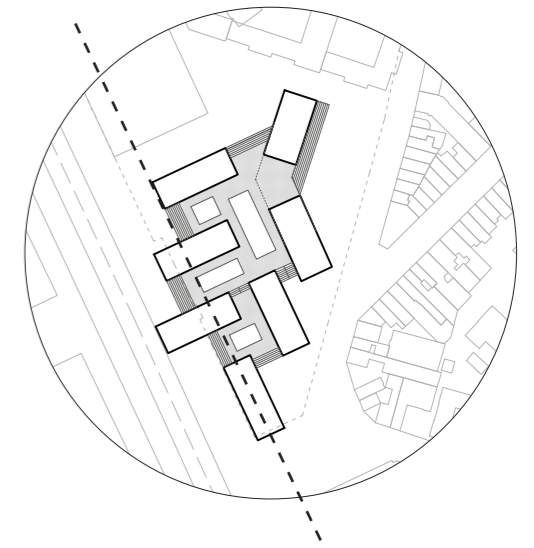


- Pre-existing walls
- - - Removed parts outline

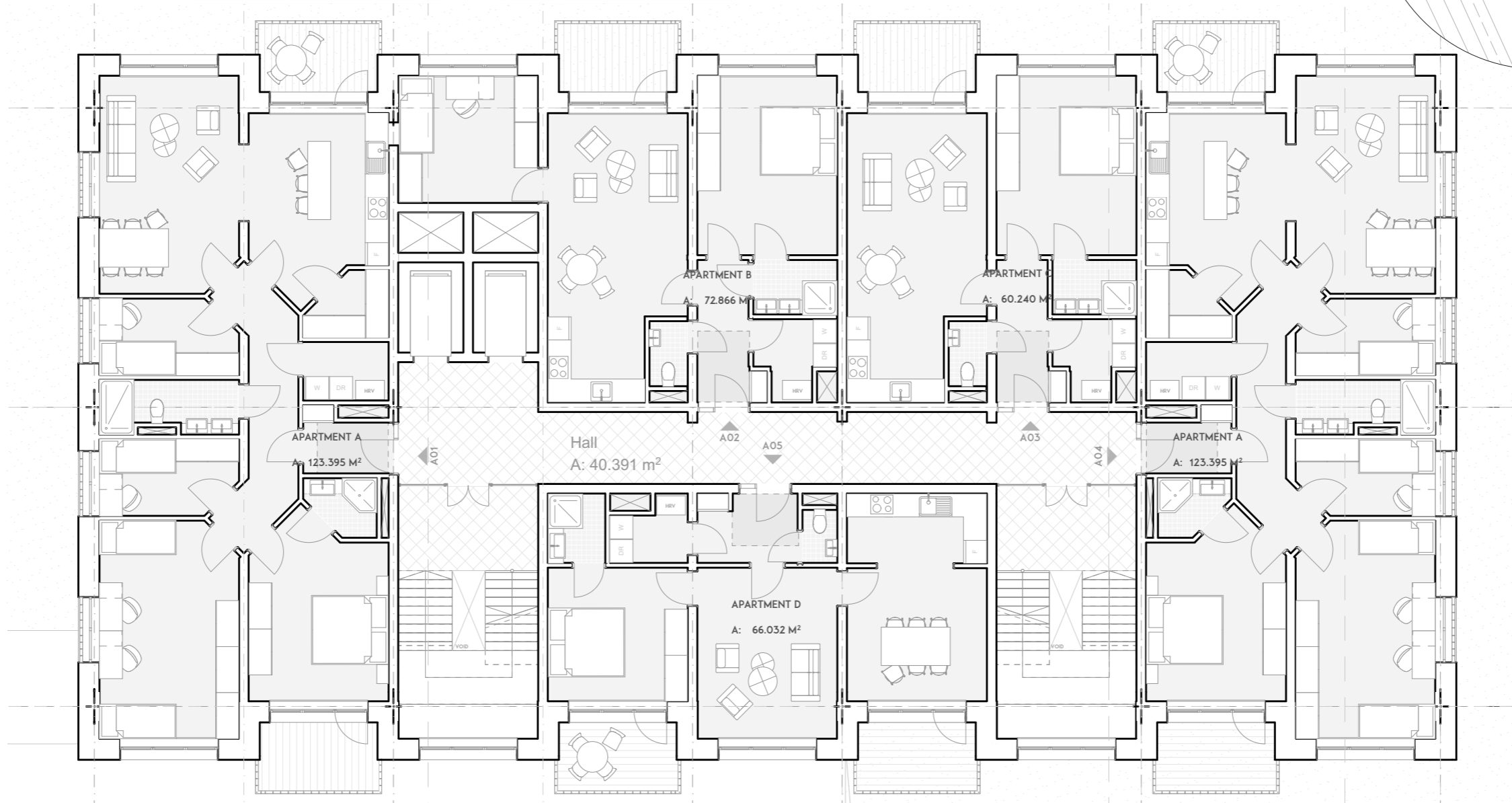
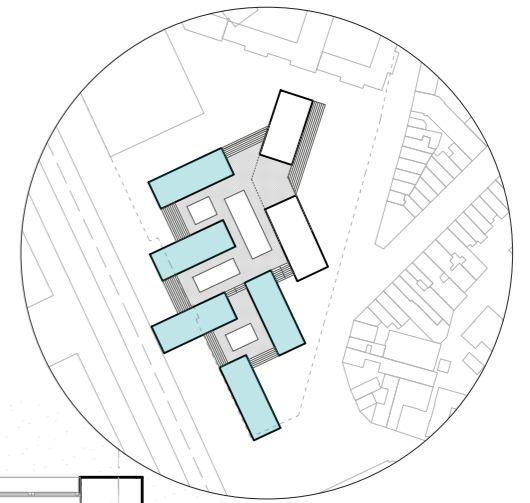


SECTION D-D

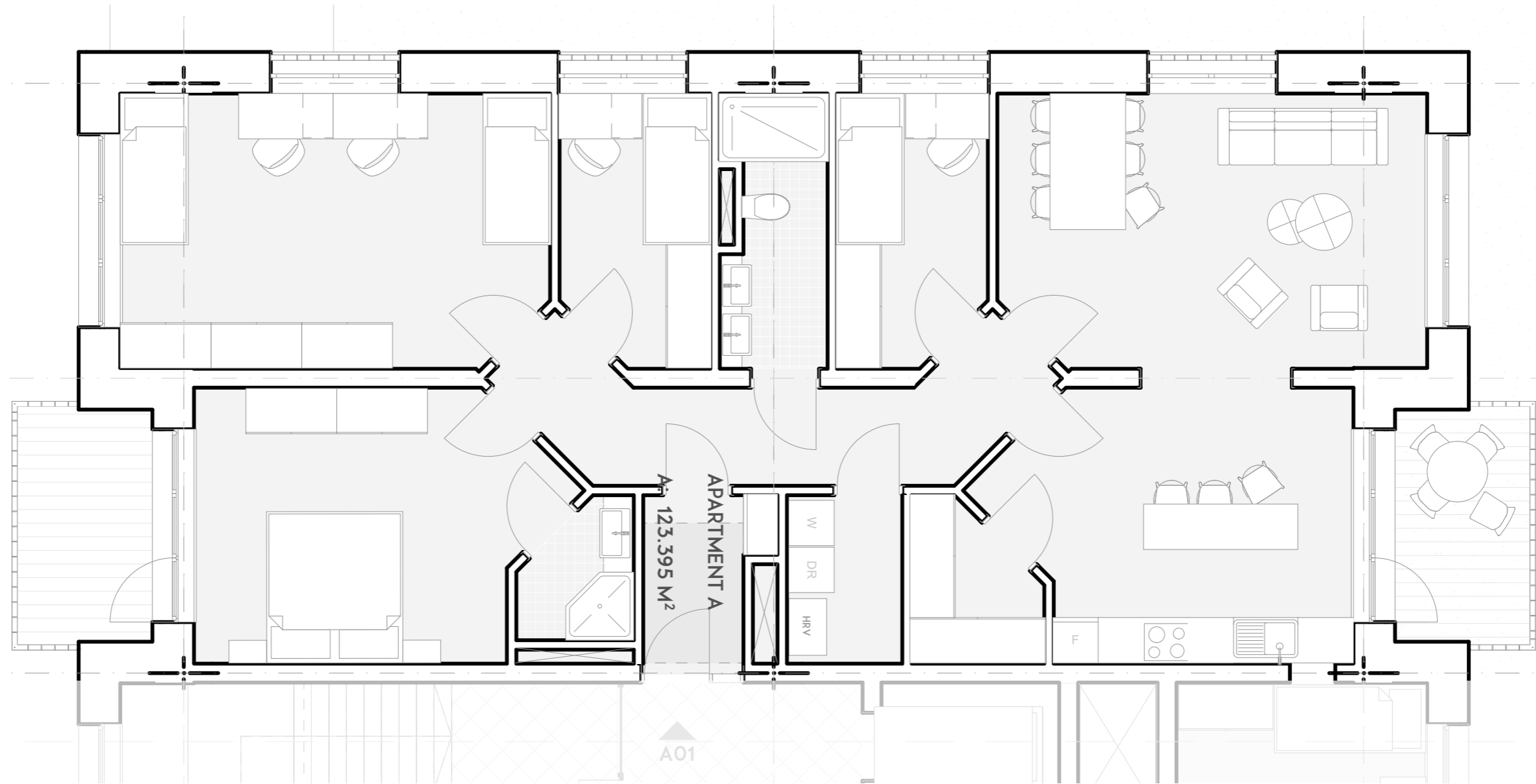
- Residential function
- Commerce
- Workshops
- Parking / technical function



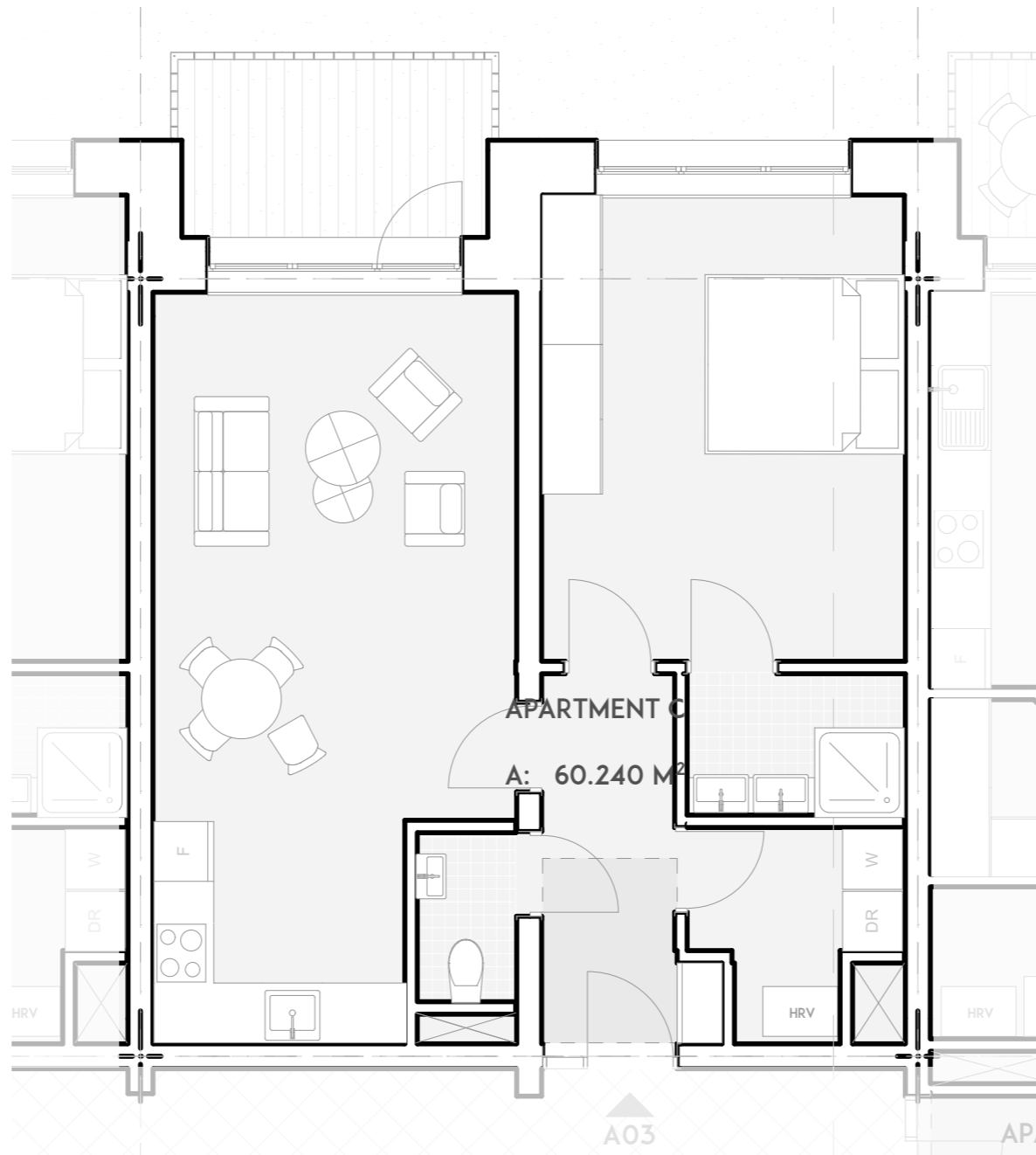
NEW RESIDENTIAL PART CLOSE-UP



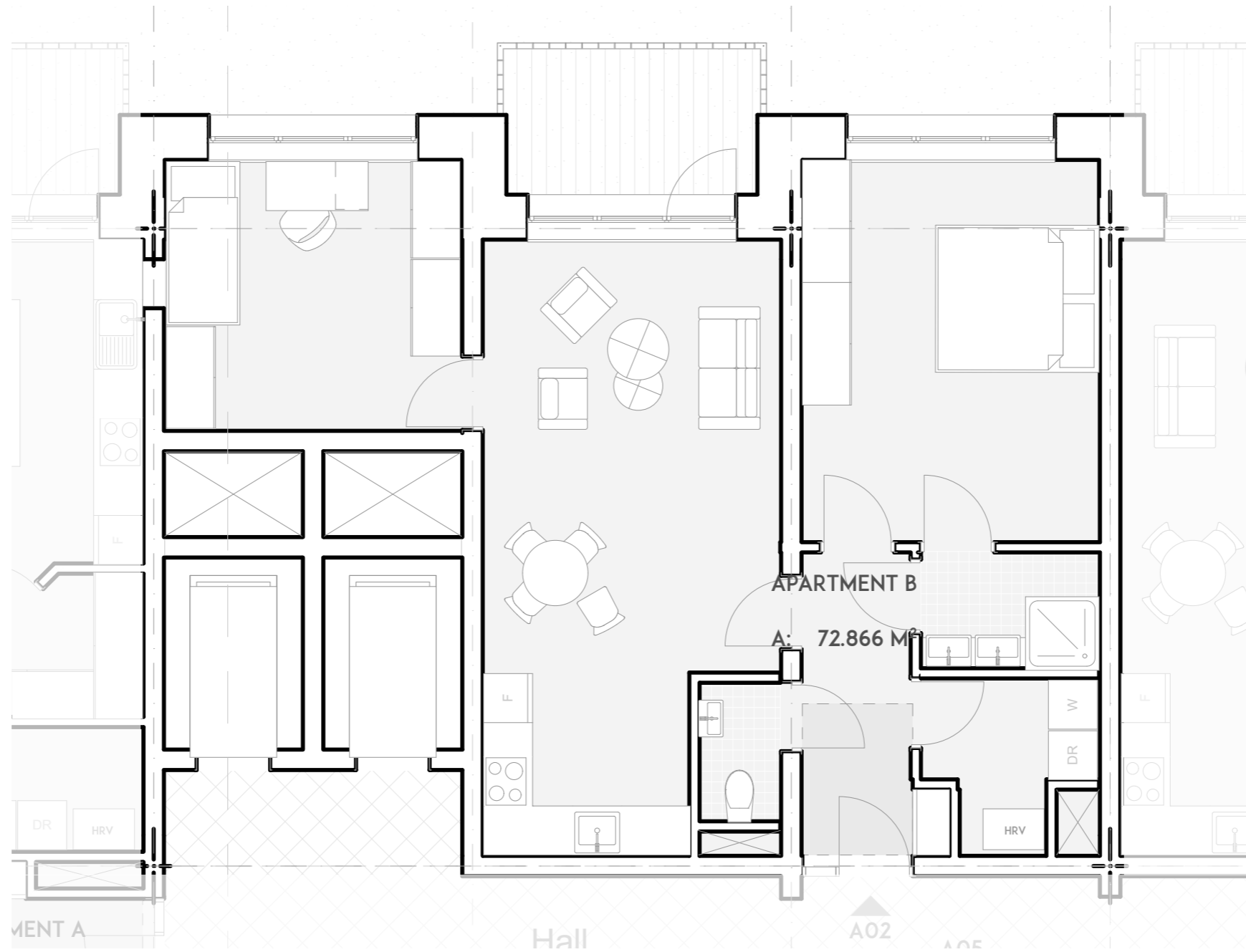
NEW RESIDENTIAL PART CLOSE-UP
APARTMENT 01



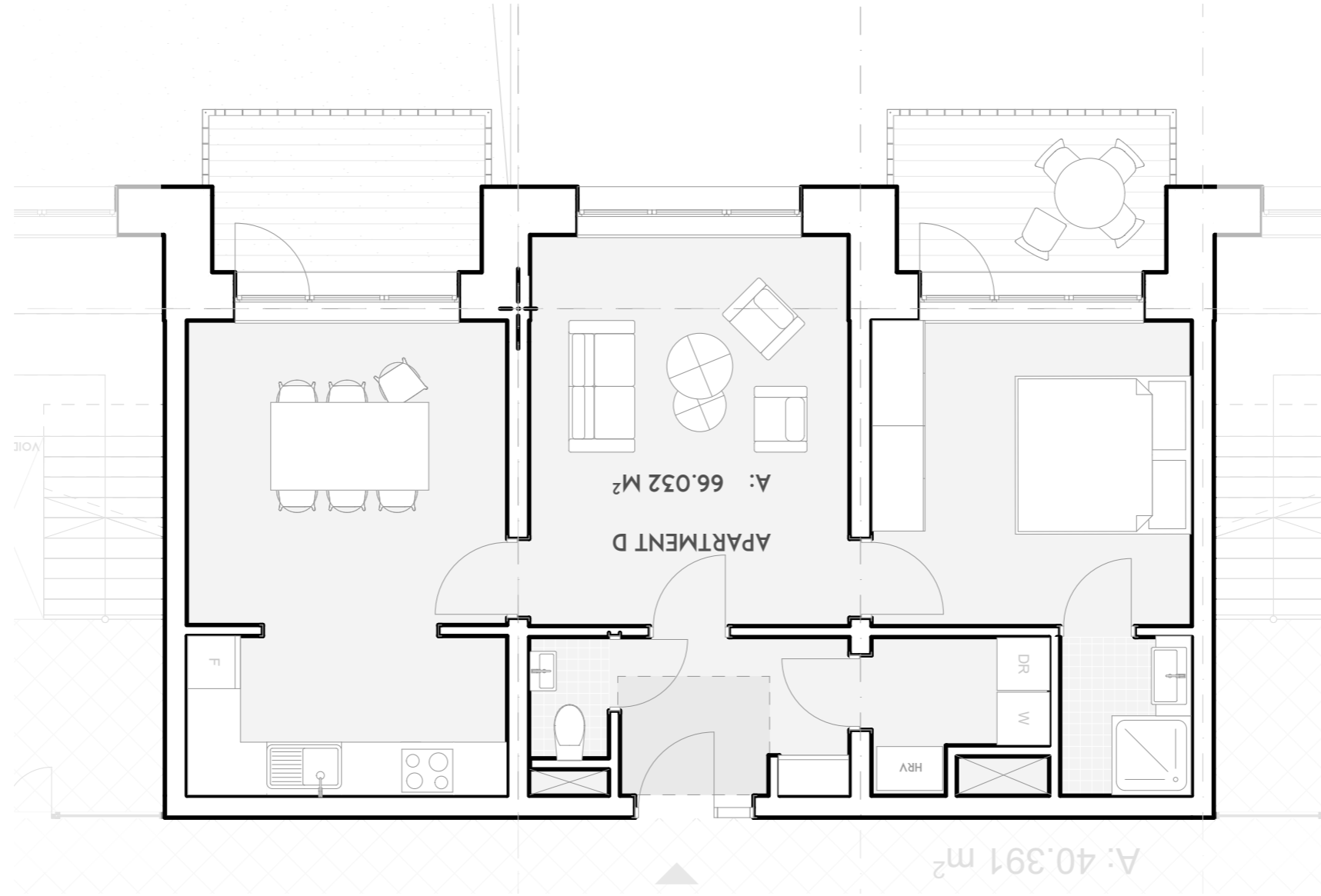
NEW RESIDENTIAL PART CLOSE-UP
APARTMENT 02



NEW RESIDENTIAL PART CLOSE-UP
APARTMENT 03

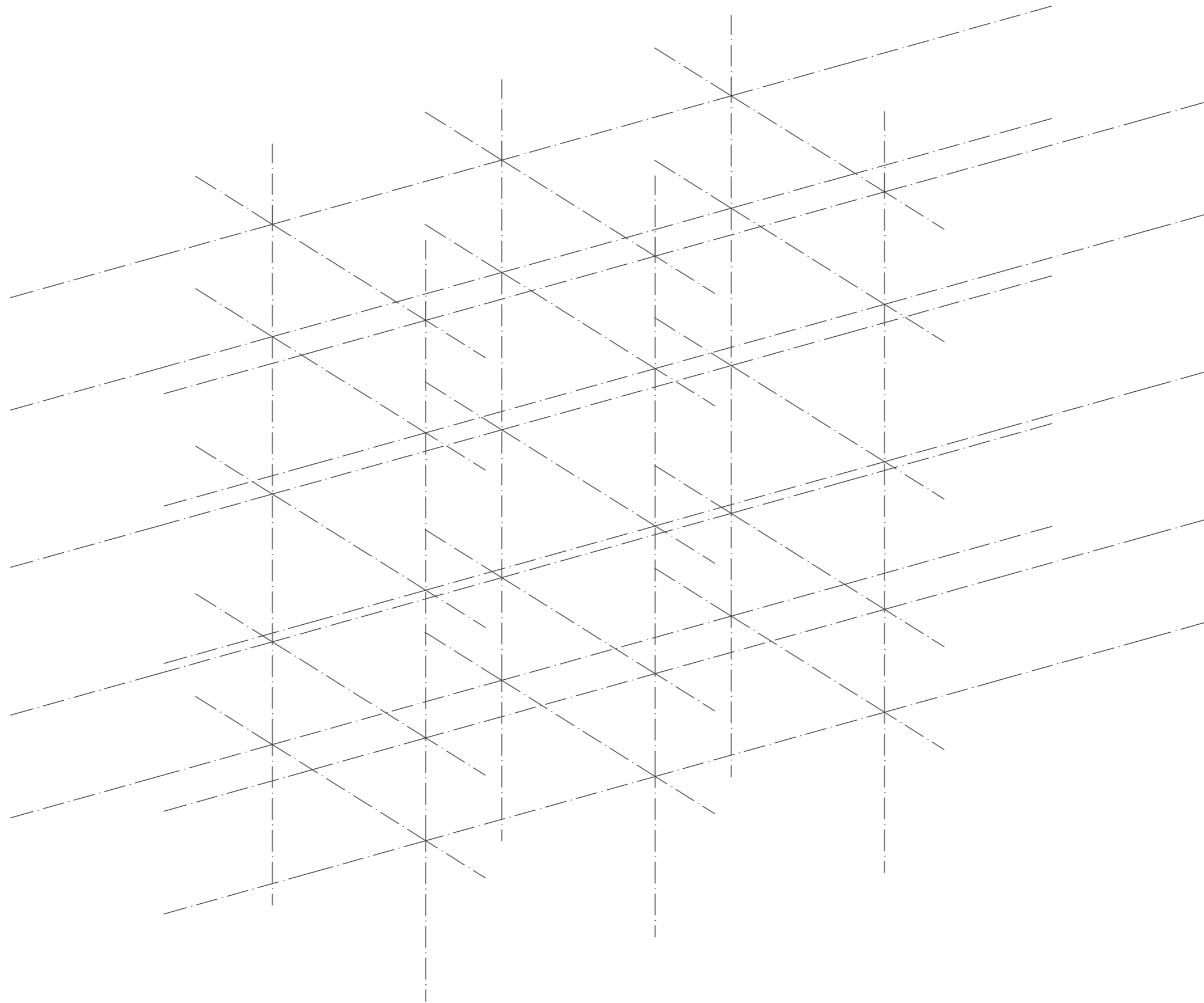


NEW RESIDENTIAL PART CLOSE-UP
APARTMENT 04

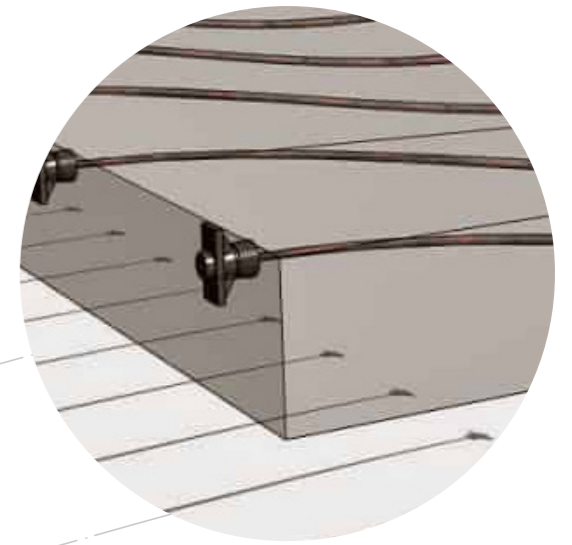
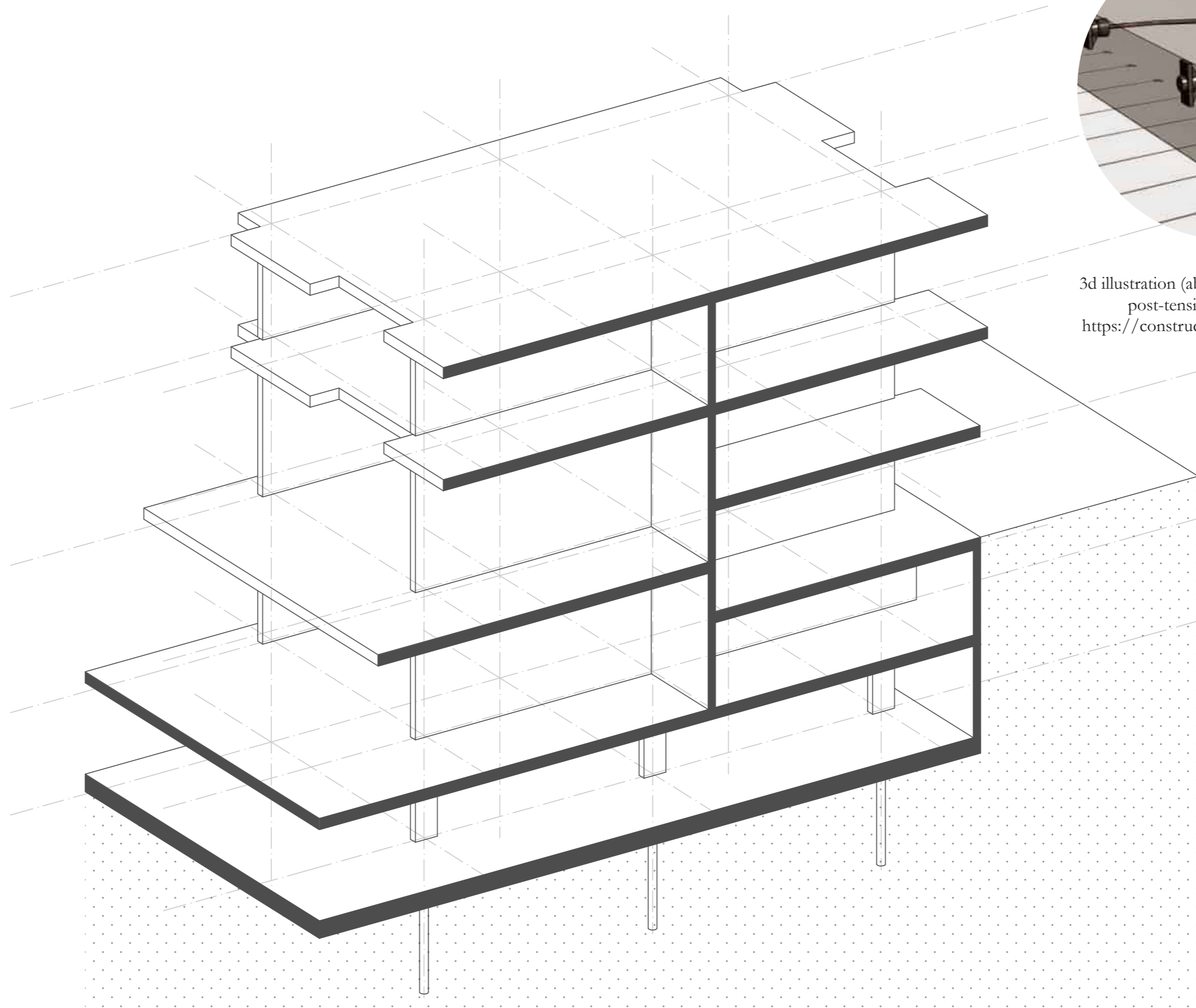


BUILDING TECHNOLOGY

THE MAIN GRID
7.8 M X 7.8 M

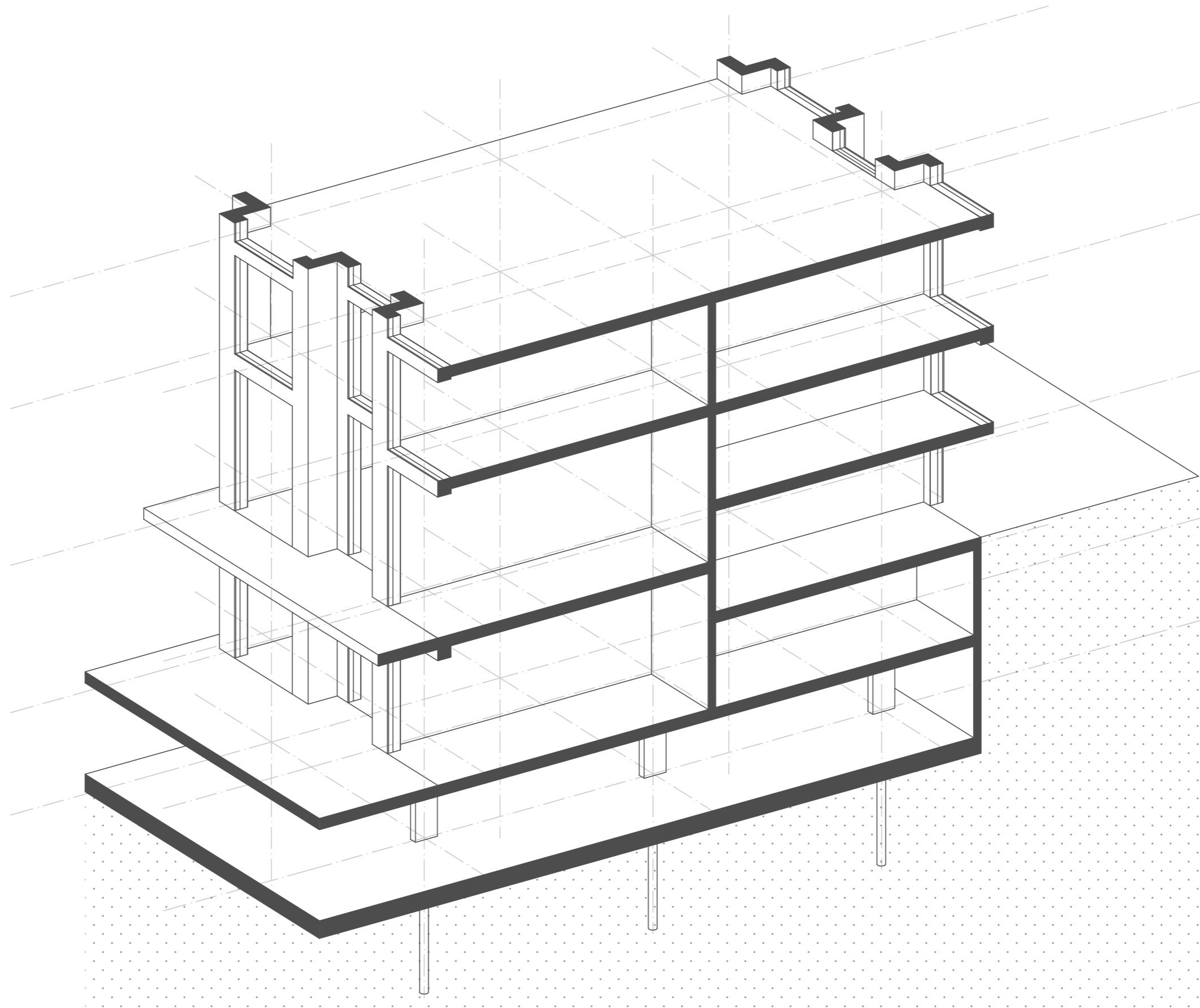


STRUCTURAL WALLS, COLUMNS AND SLABS POST-TENSION CONCRETE

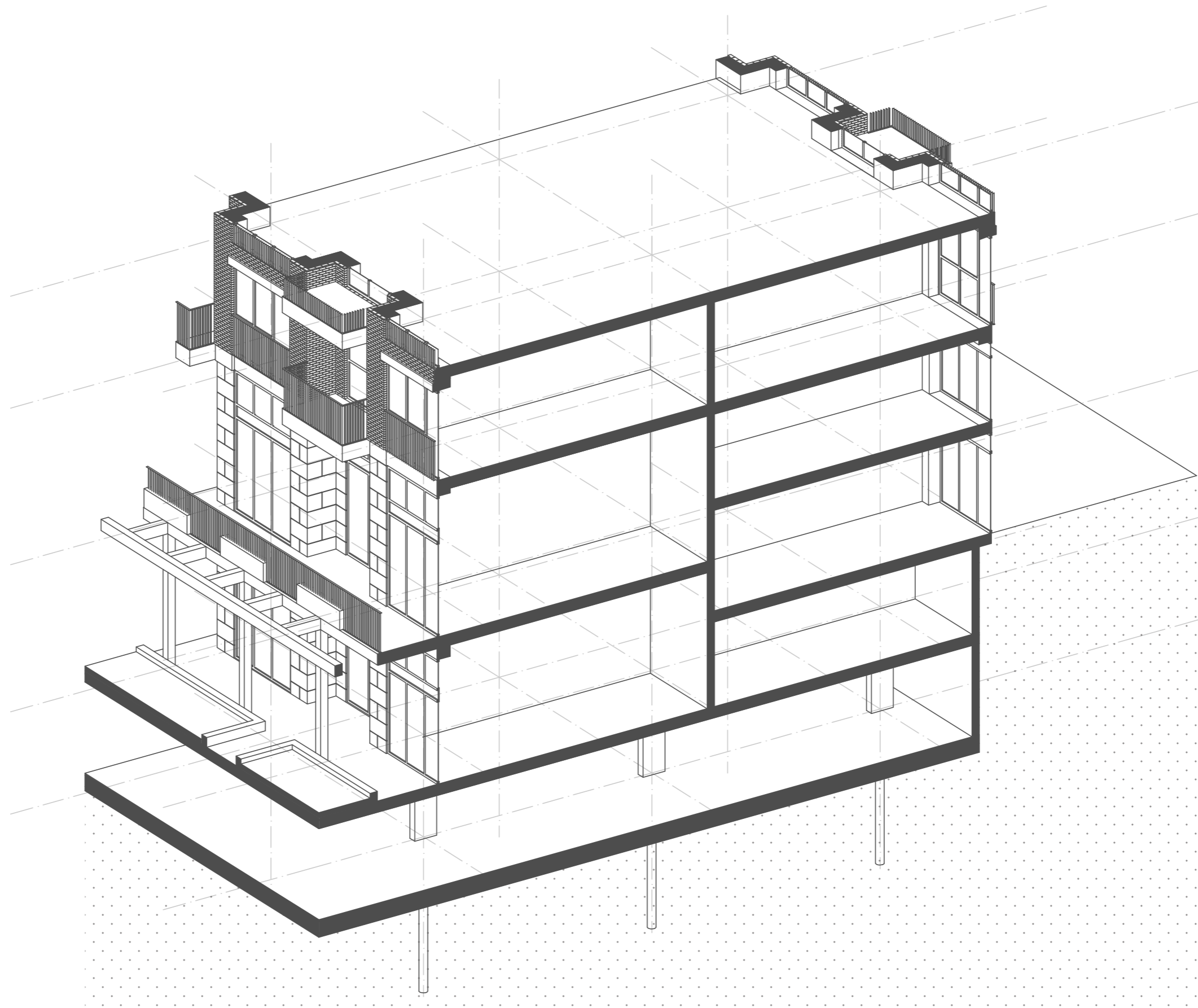


3d illustration (above) depicting tendons in
post-tensioned slab was taken from:
[https://constructionor.com/post-tension-
slab/](https://constructionor.com/post-tension-slab/)
[Accessed 26.06.2020]

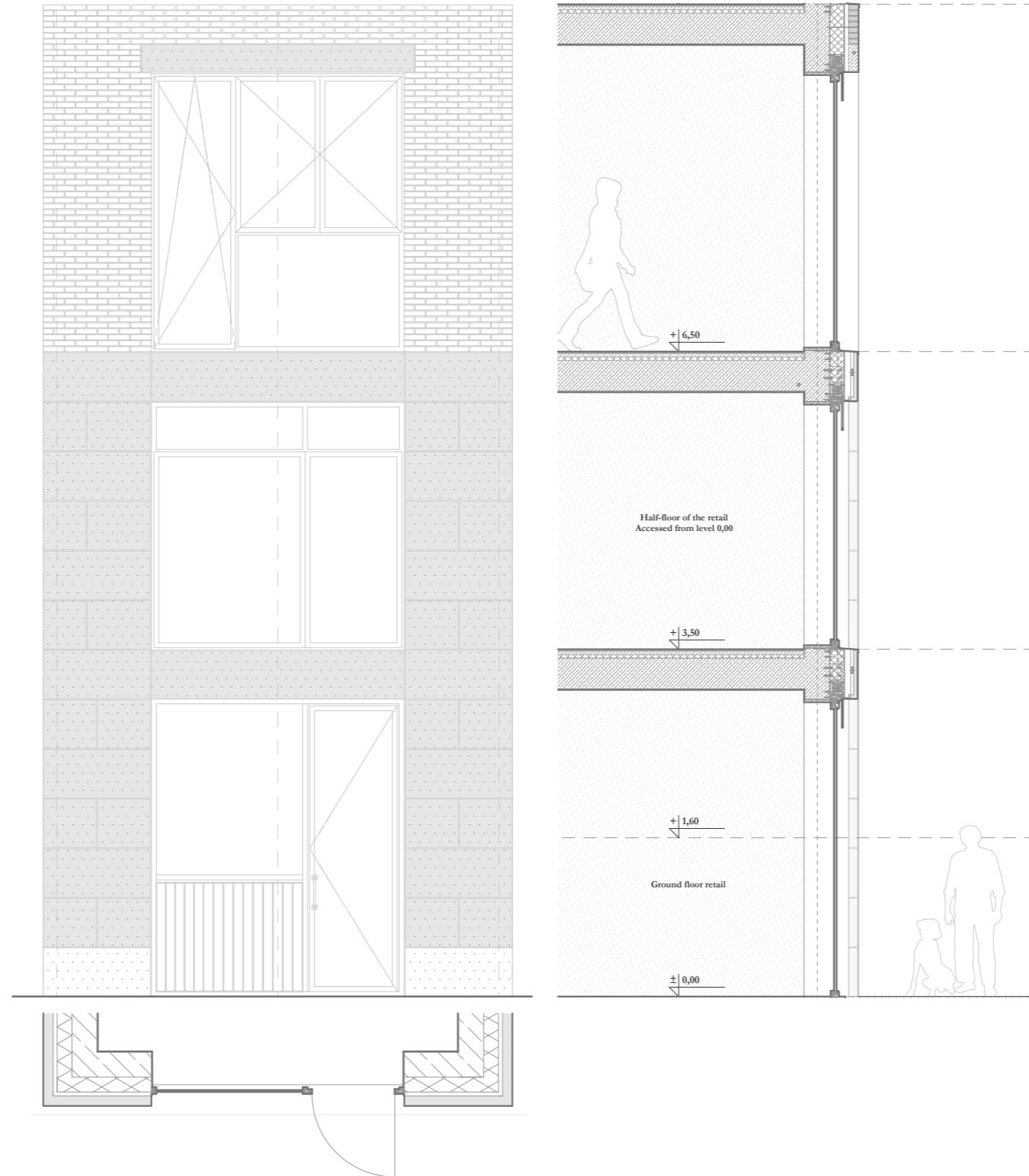
EXTERNAL WALLS



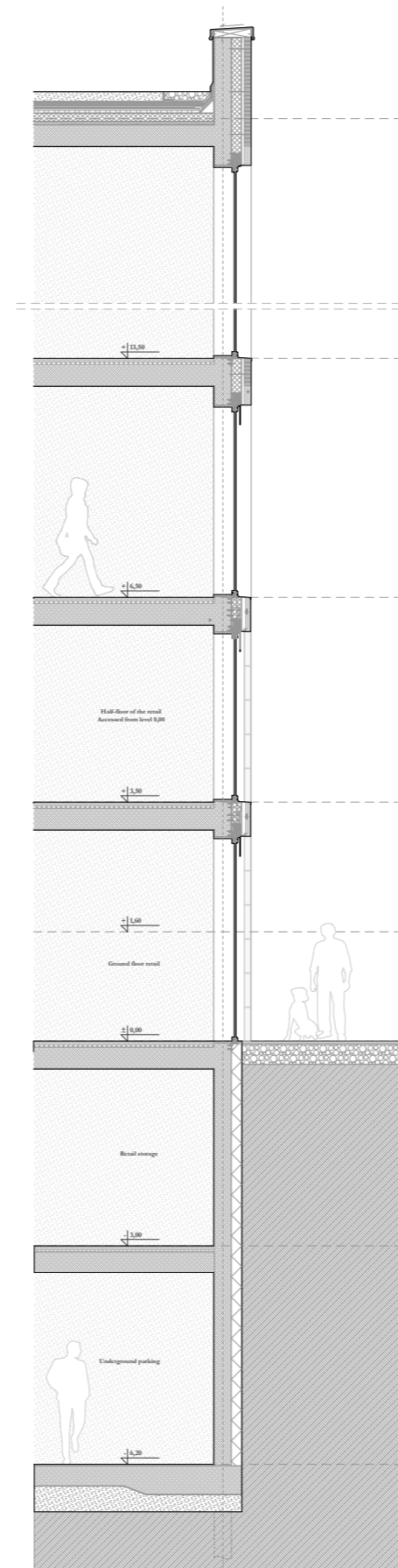
FACADES



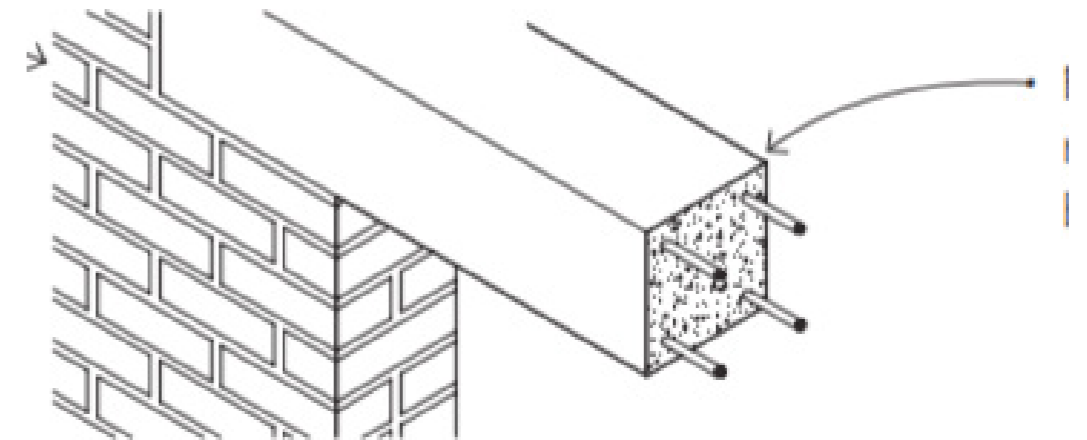
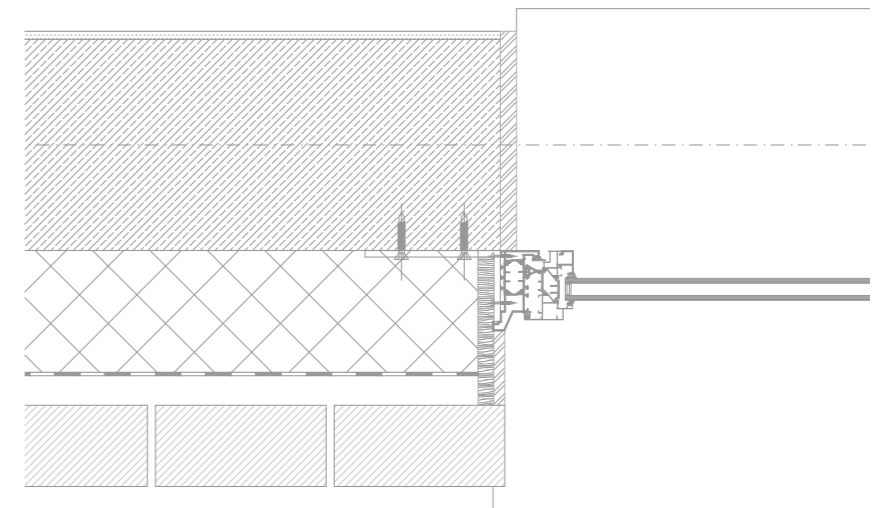
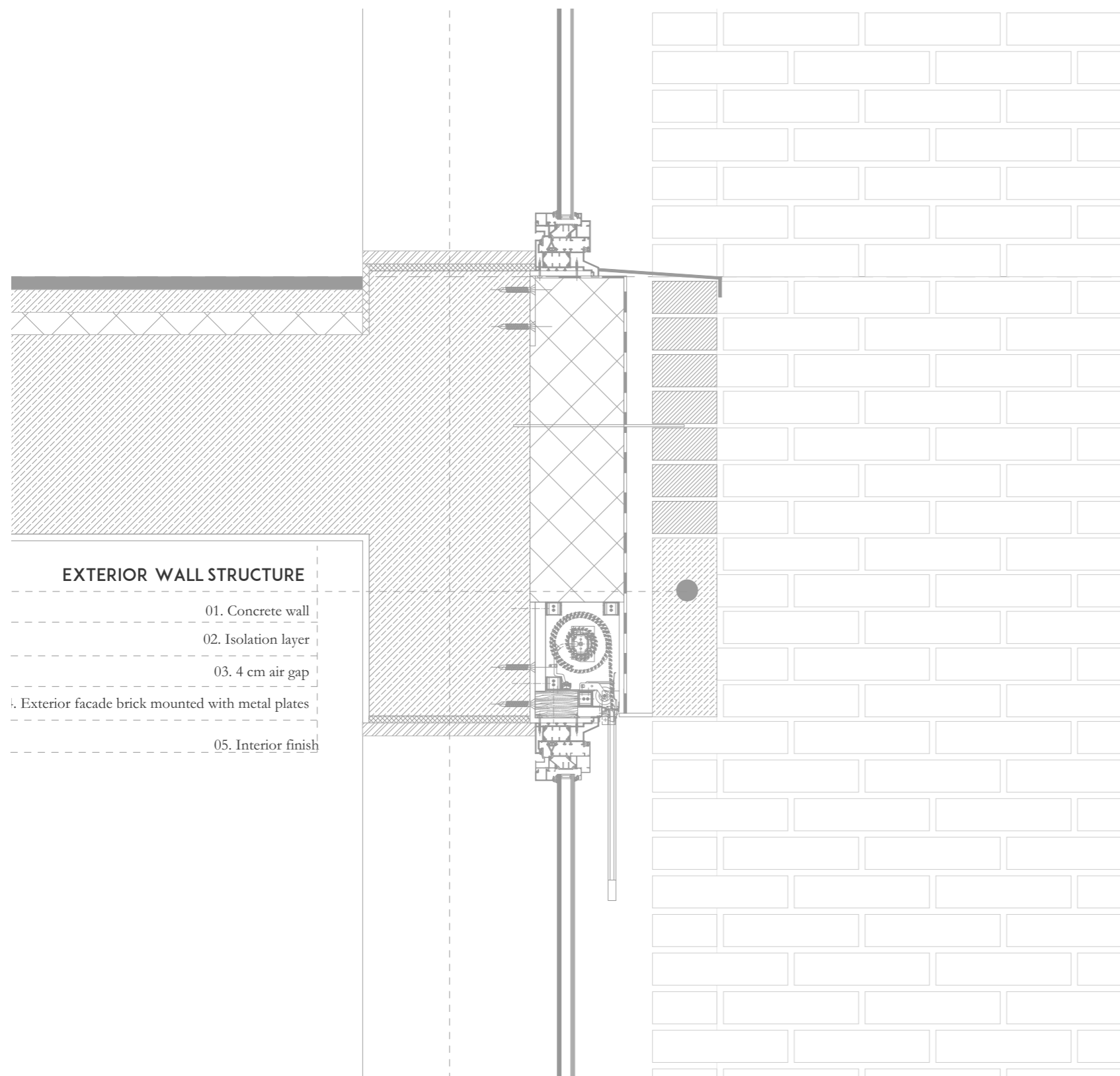
FACADE REPETEABLE LAYOUT



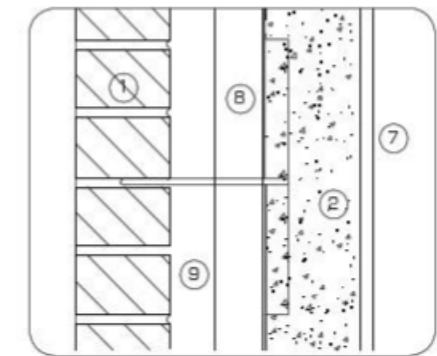
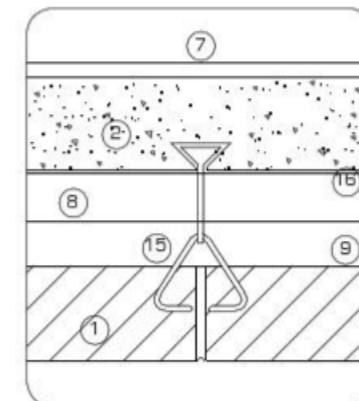
SECTION B-B CLOSE-UP



DETAIL A&B:
BRICK ATTACHEMENT / WINDOW DETAIL



Precast-Concrete Lintels

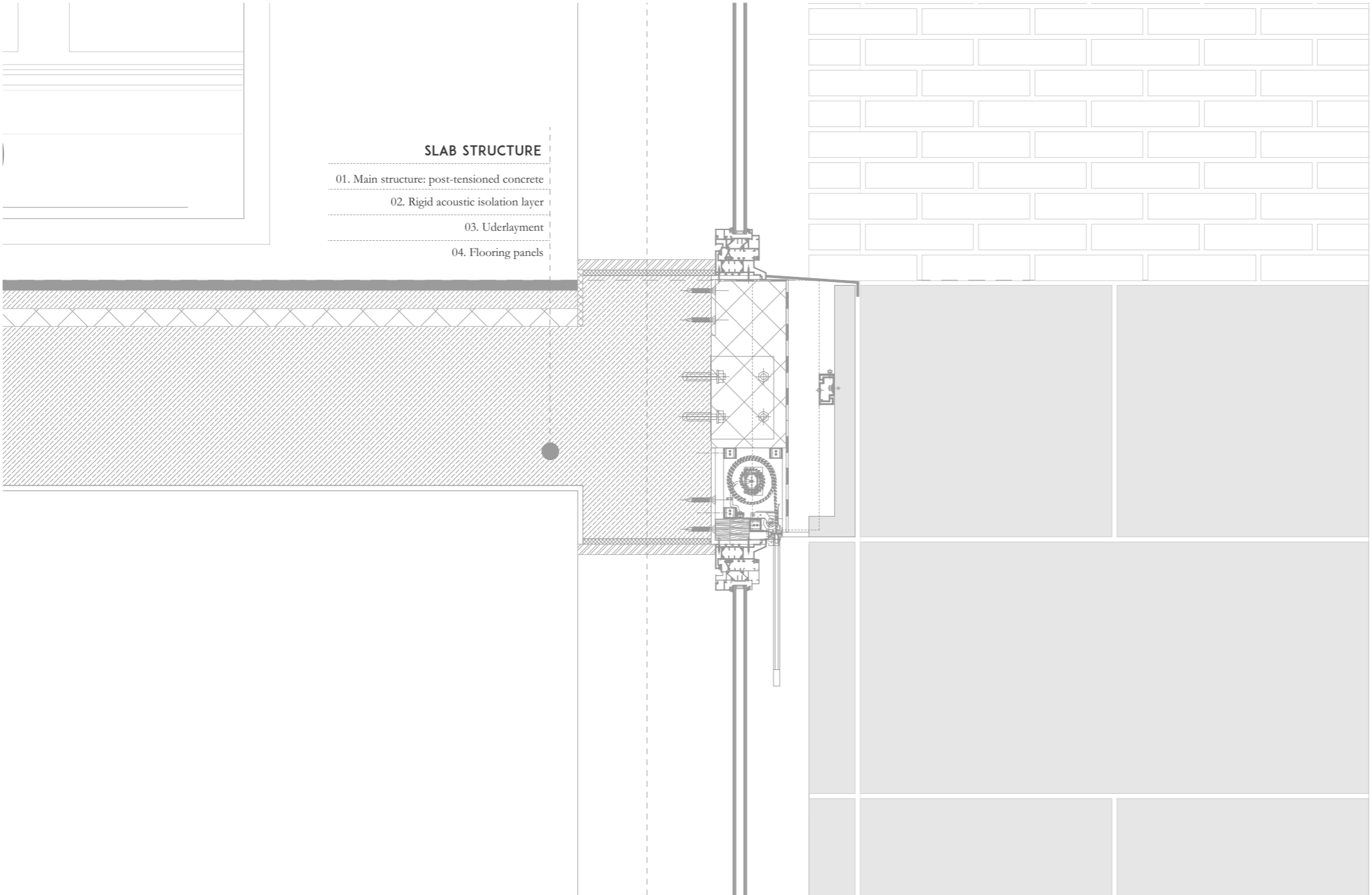


Horizontal and vertical section 1:10. Typical connection or restraint to primary structure

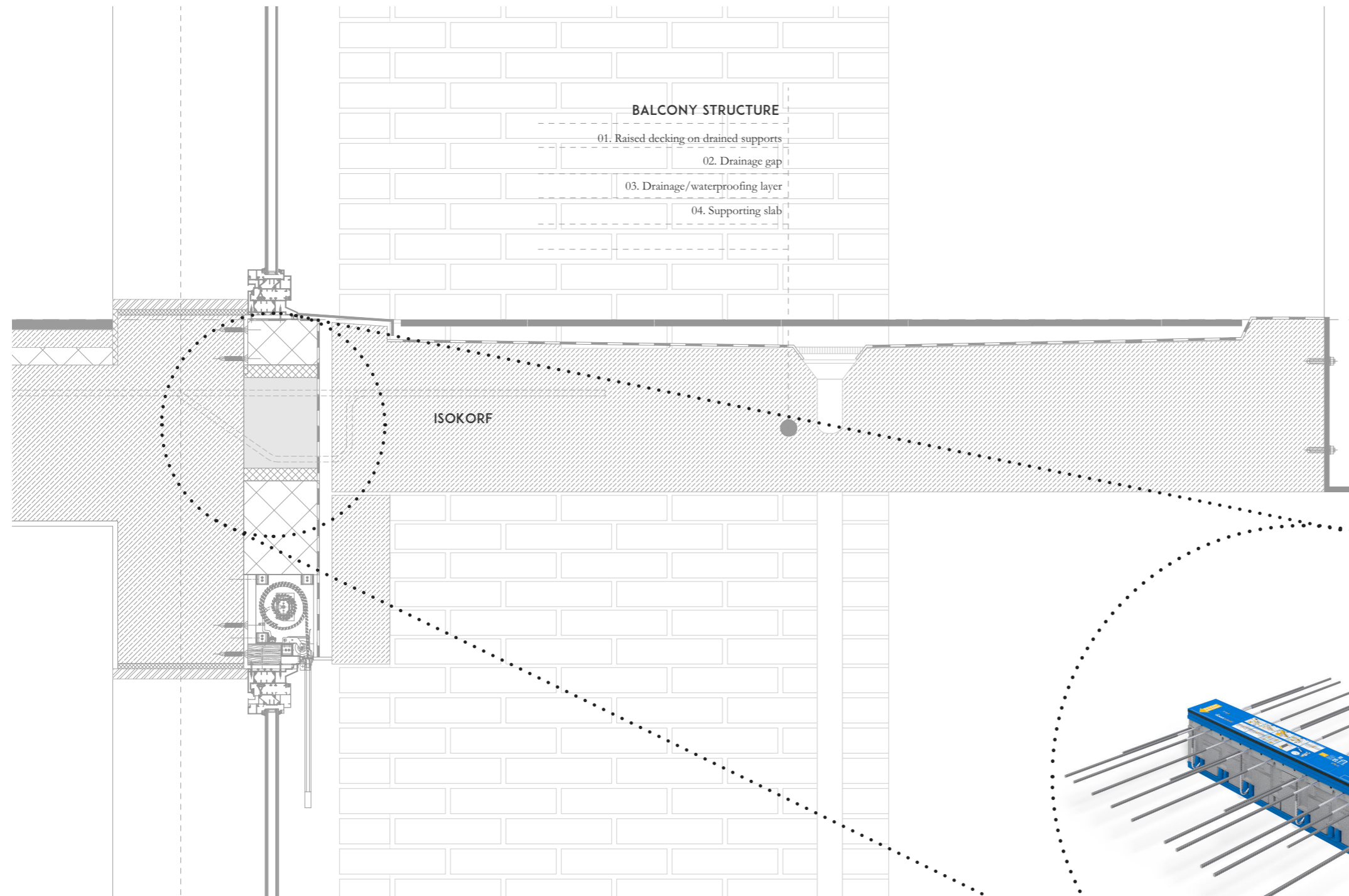
MCH_169

3d illustrations depicting lintel and brick attachment (above) from:
Watts, A., *Modern Construction Handbook*.

DETAIL C:
CONCRETE PANEL MOUNTING



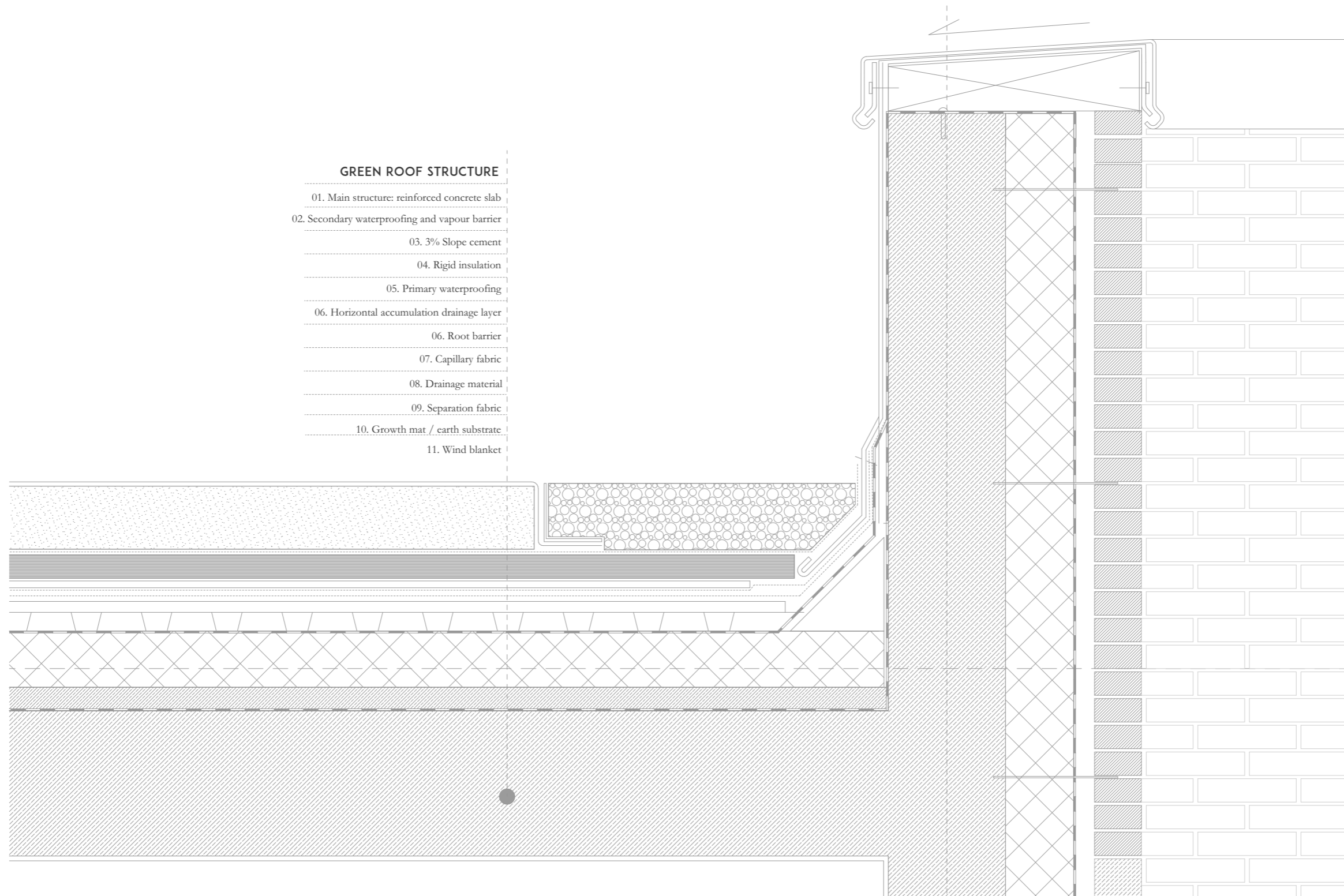
DETAIL D: BALCONY DETAIL



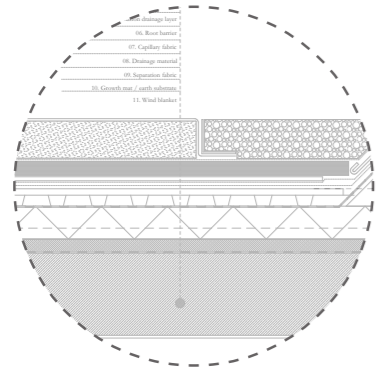
3d illustration depicting isokorf (below) from:
<https://www.schock.nl/nl/isokorf-t-type-k>
[Accessed 26.06.20]

Schöck Isokorf® XT type K is a structural anchoring system for interrupting thermal bridges at balconies and galleries. The element is KOMO certified and available in fire resistant version (REI120). Schöck Isokorf® XT type K absorbs moments and transverse forces with cantilevered concrete elements.

DETAIL D: GREEN ROOF

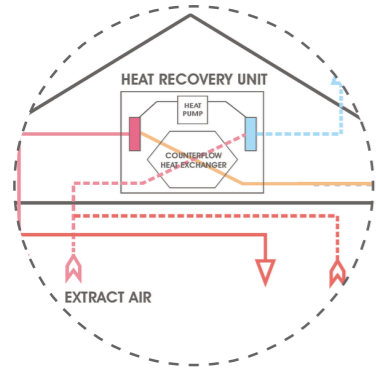


CLIMATE SCHEME



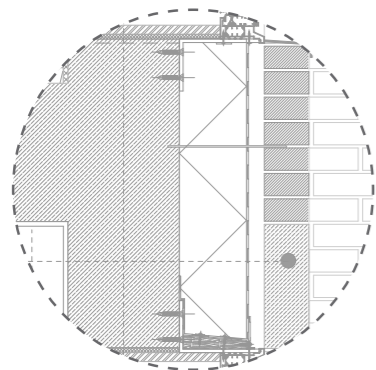
01. Green roof

Green roof reducing urban heat island with rain water collection system



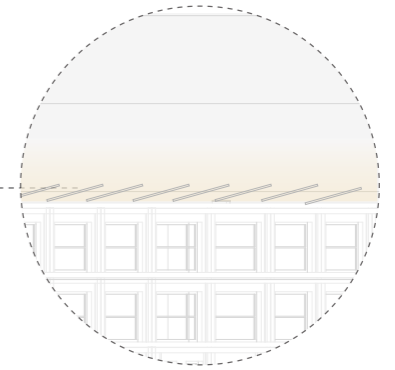
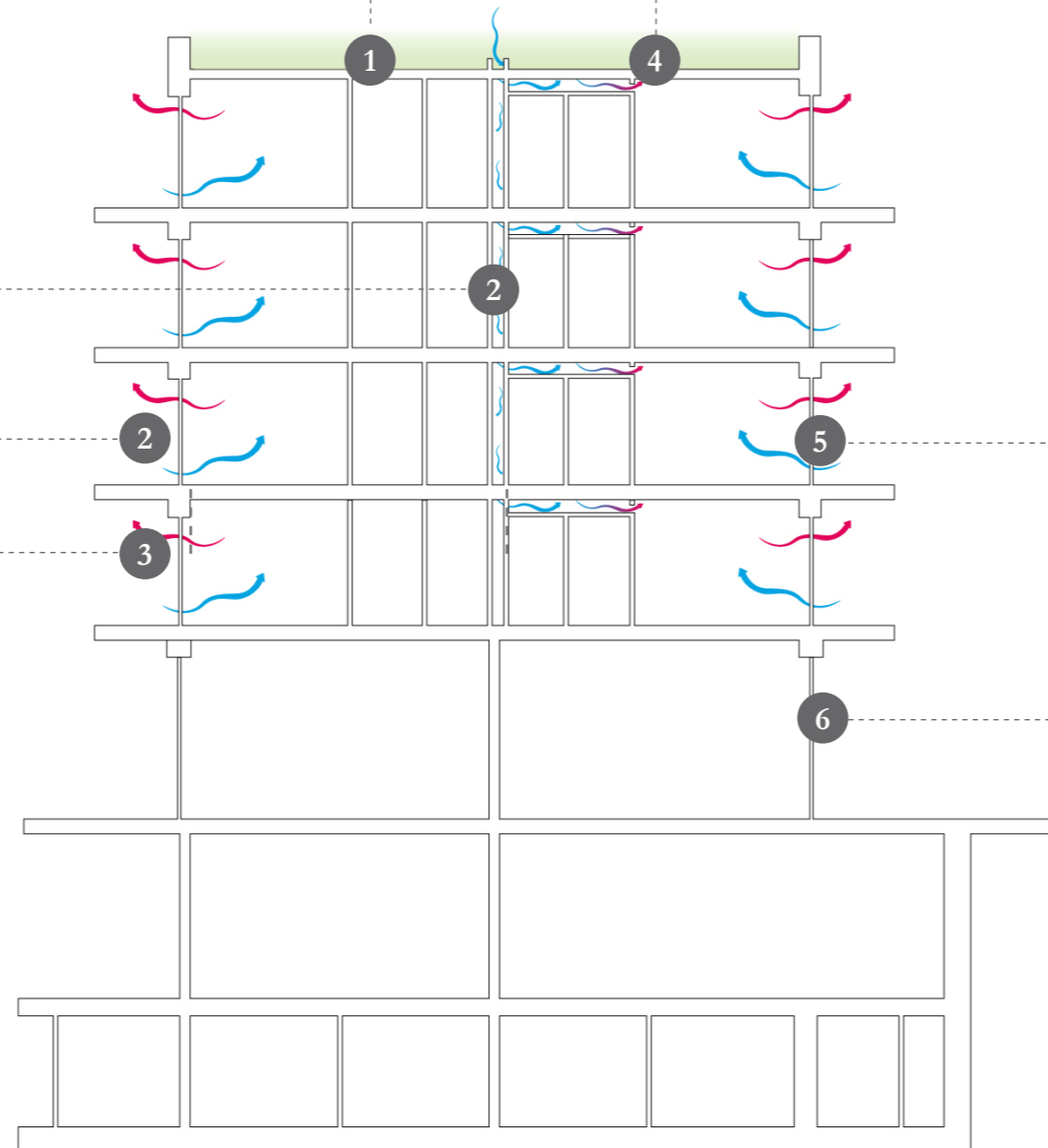
02. Hybrid ventilation

Natural ventilation as deominant system, supported with mechanical heat recovery ventilation



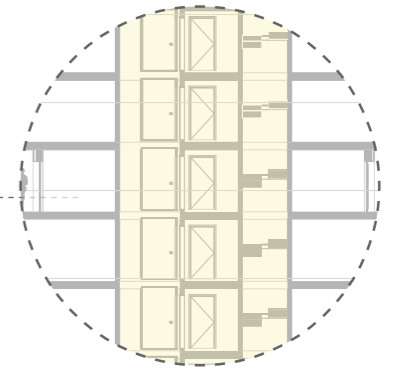
03. Exterior wall structure

Well isolated exterior walls, lowering the space heating/cooling energy demand



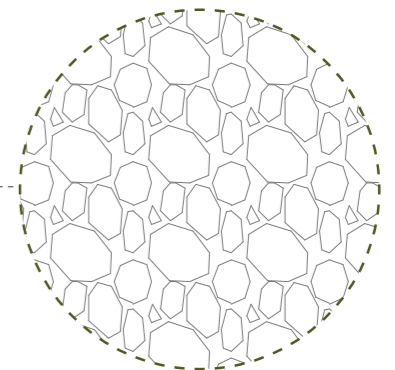
06. Solar panels

Providing renewable source of energy



05. Natural light

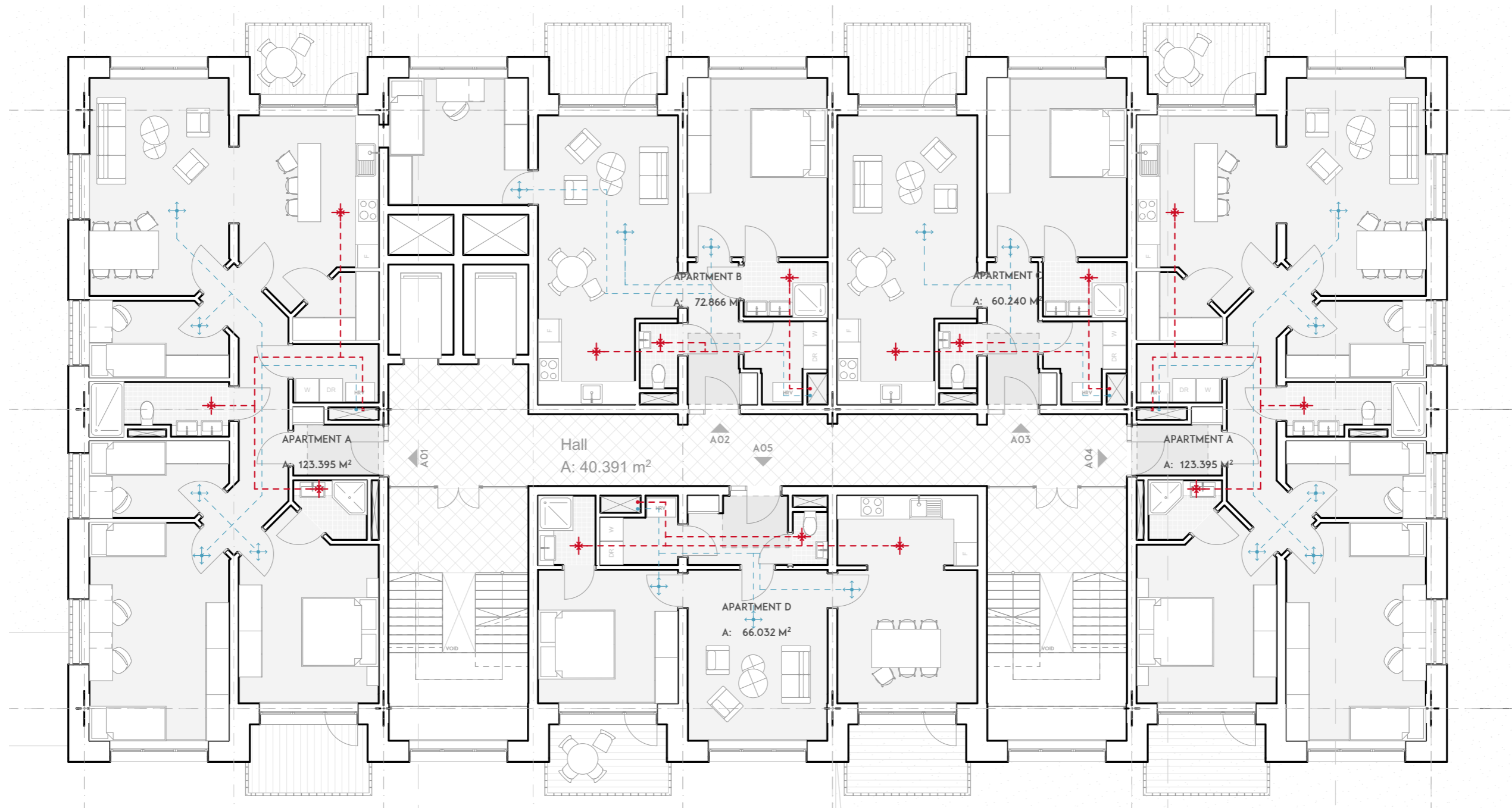
Well lit apartments, with public corridors with access to daylight, decreasing amount of artificial light needed, rolling sunshades



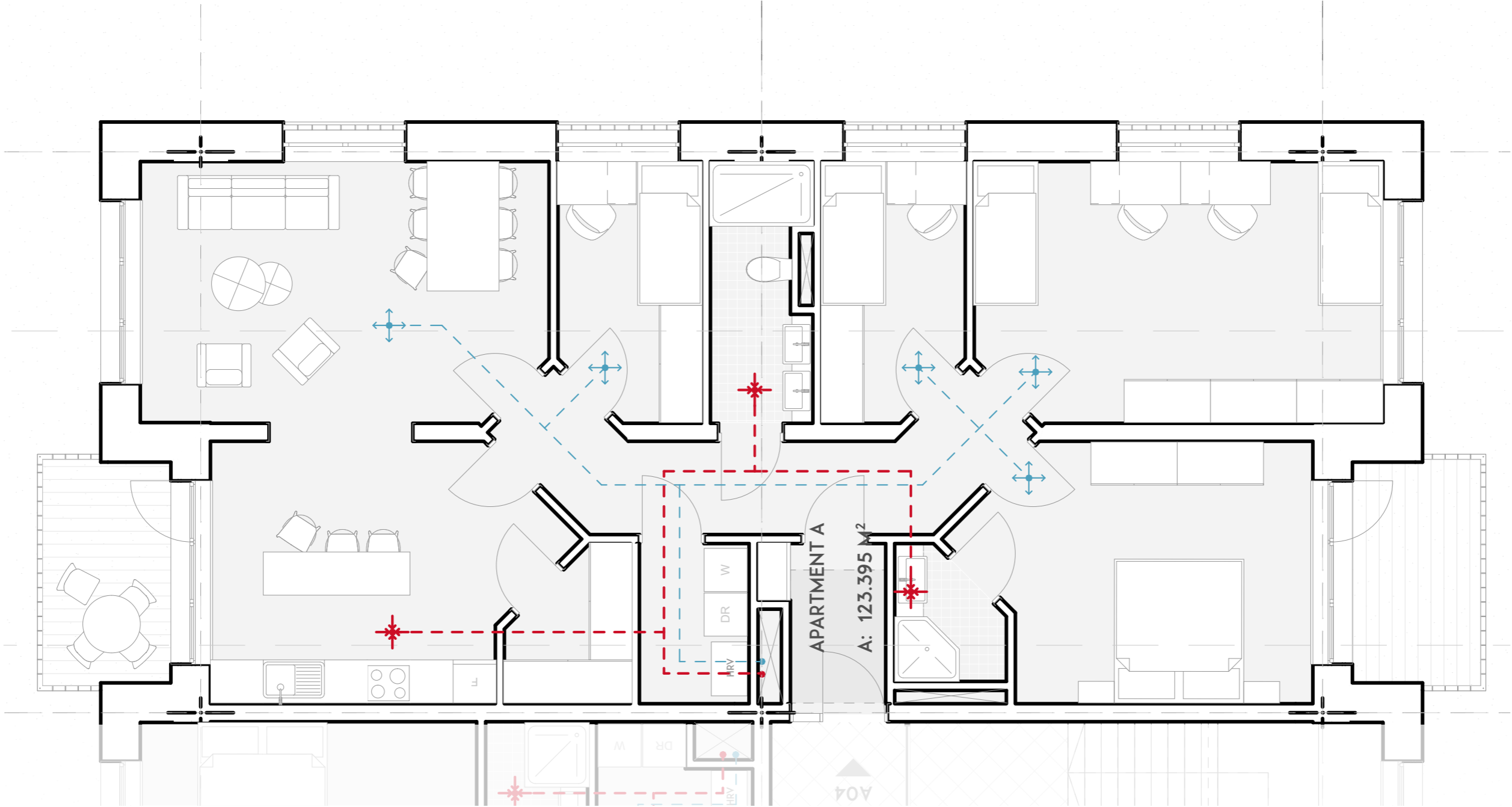
06. Exterior wall structure

Re-used materials - brick and concrete

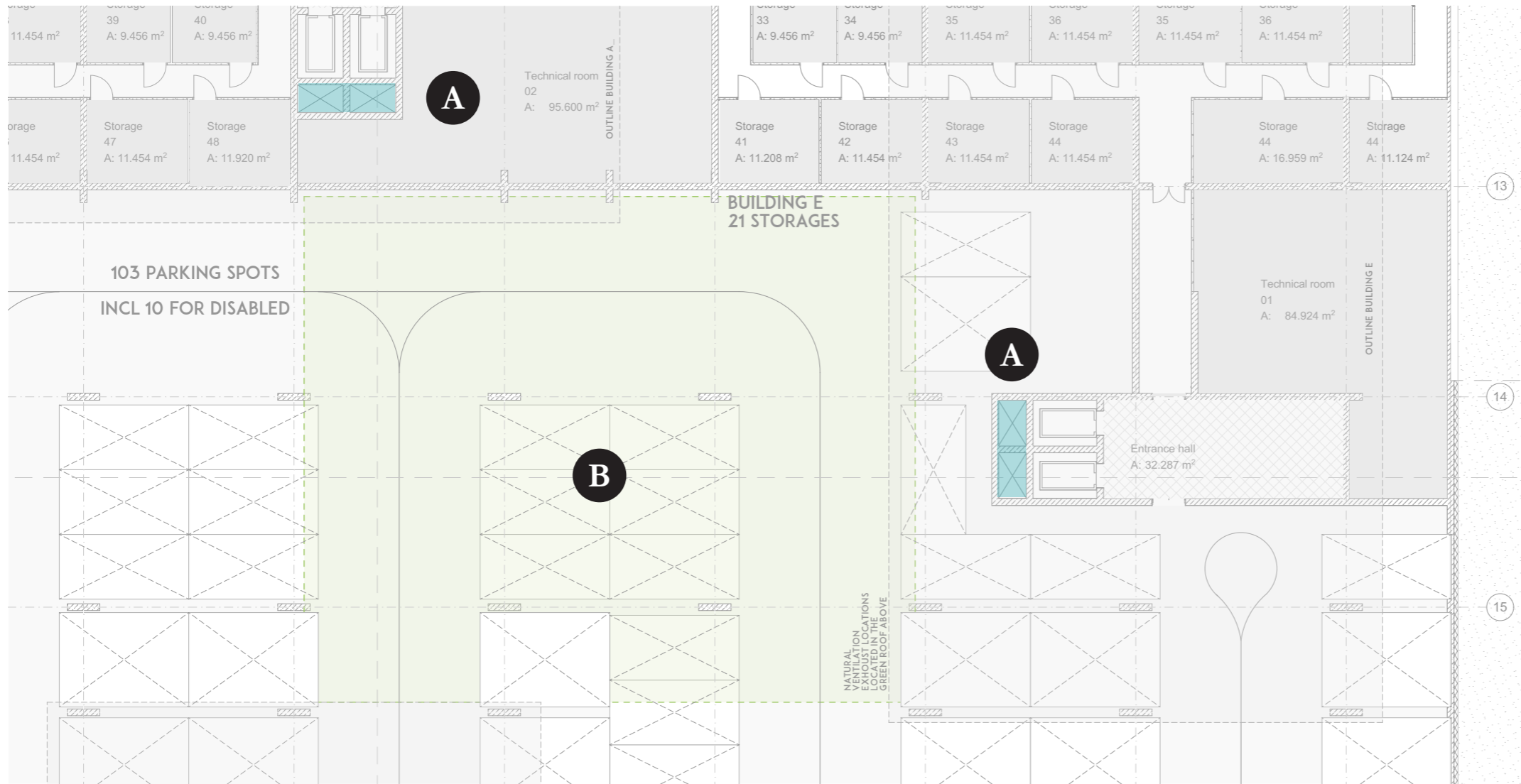
MECHANICAL VENTILATION AS PART OF HYBRID VENTILATION



MECHANICAL VENTILATION AS PART OF HYBRID VENTILATION



UNDERGROUND PARKING VENTILATION



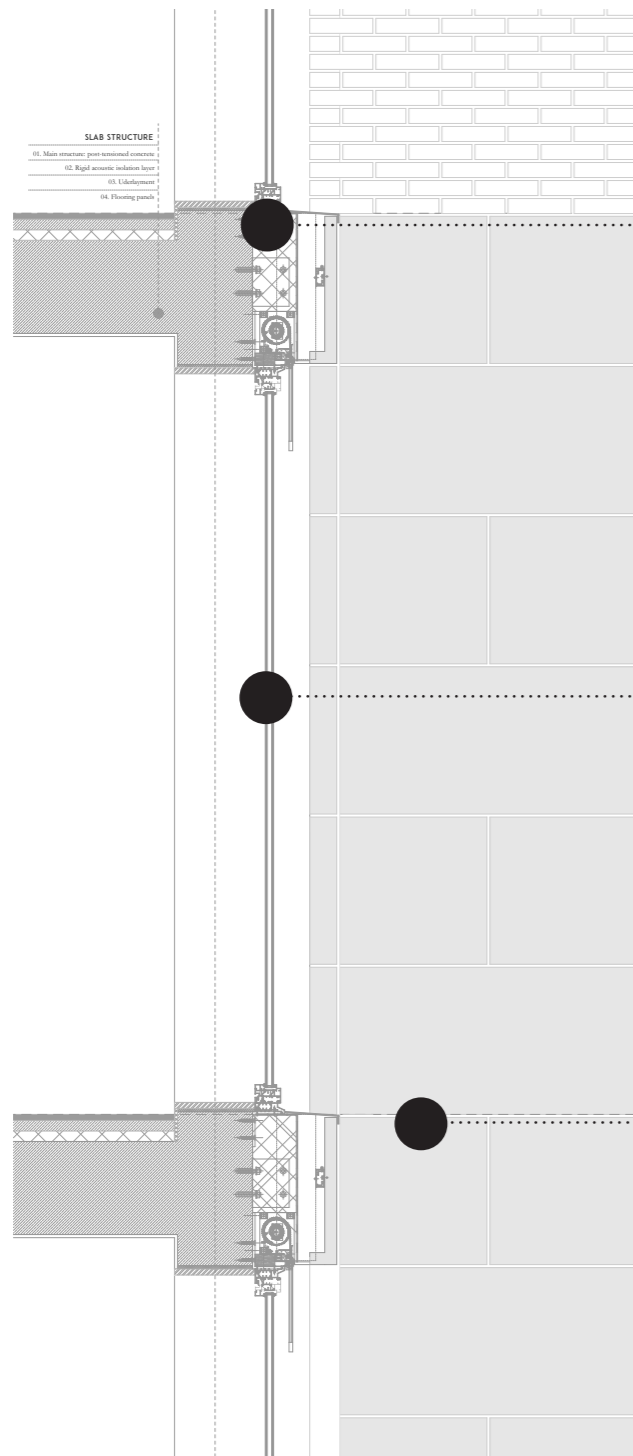
A Natural ventilation through shafts leading through the building up to the roof outside

B Natural ventilation through special inlets leading through the green roofs of the building courtyard



NOISE MANAGEMENT

01. NOISE ISOLATING PROPERTIES OF CHOSEN MATERIALS AND ELEMENTS



01. **Stone wool** has proven acoustic capabilities that allow it to isolate and control vibrations, thus efficiently absorbing sound and reducing noise.

02. **Triple glazed windows**, with varied glazing thickness, a laminated middle glazing and proper weather-stripping; window blinds.

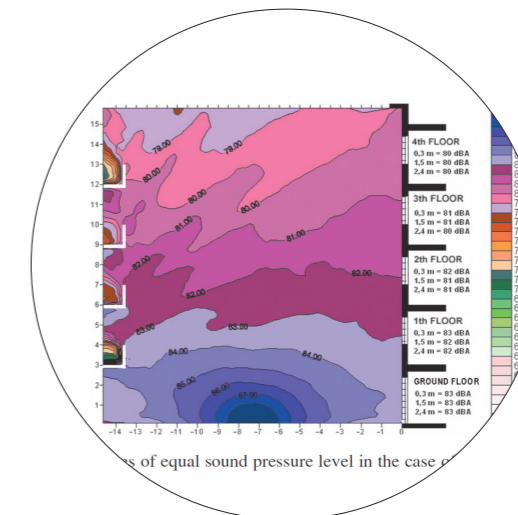
03. - Porous lightweight **concrete façade panels** offer good sound absorption properties, however their sound isolation properties are low. This can be mitigated with proper stone wool isolation

02. GREENERY AS A NOISE BARRIER



(A properly designed buffer of trees and shrubs can reduce noise by about five to ten decibels — or about 50 percent as perceived by the human ear, according to the USDA National Agroforestry Center) dense layers of plants to provide optimum noise protection, with use of broadleaf evergreens providing all-year noise reduction.

03. FACADE DESIGN



- Staggered façades with full window sills, produce a great positive effect on level difference; with staggers of at least 3 m, the level difference may be greater than 10 dB, but this effect is partially due to the increased distance between the façade plane and the traffic line.
- Balconies shielding the windows from noise source

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