

ARCHITECTURAL STUDY

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STUDIO III  
SUPERVOR: ATELIÉR VARGA / ŠÍP  
WINTER SEMESTER 2025/2026



# Roof City / Munich

EXTENSION OF THE HEALTHCARE  
AND ADMINISTRATIVE CENTRE



# 01 ASSIGNMENT

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The assignment of the project is to design a rooftop extension on an existing building complex at Candidplatz in Munich. Its aim is to create new forms of urban housing in response to the growing demand for affordable living and the shortage of compact urban development. The proposal should work with the potential of the existing structure from 1984 and complement it with a lightweight, sustainable timber extension that respects urban relationships, transport constraints and the preserved functionality of the healthcare services located on the lower floors. The result should be an architectural solution with a clear concept, combining economic efficiency, sustainability and the creation of new communities.



The brief concerns the design of a vertical densification of an existing building complex in Munich, with the aim of creating new residential spaces.

#### Location and Context

The site is located at Candidplatz in the Untergiesing-Harlaching district of Munich, an important transport node surrounded by various transport routes. The area is characterised by residential and commercial buildings, as well as extensive green spaces nearby.

From an urban point of view, the complex and the functional character of the surroundings make the site suitable for vertical densification, offering the potential for new housing without occupying additional land in the city.

#### Existing Building

The building complex dates from 1984 and currently serves as a healthcare centre with medical practices, as well as an administrative and counselling centre.

The building consists of nine structures with two to eight floors. Its structural system is based on a reinforced concrete frame with central access cores, allowing a high degree of flexibility in the organisation of the floor plans.

#### Specific Design Task

The aim is to develop a strategy for adding two to three additional floors to the existing building through a careful connection to the existing structure.

The new extension does not have to cover all nine existing buildings, but should complement the complex in a functionally understandable, restrained and coherent way.

#### Requirements for New Housing Units

The project should develop contemporary housing concepts with compact, well-designed layouts. The design should support self-sufficiency, minimise energy consumption and reduce dependence on the existing building infrastructure.

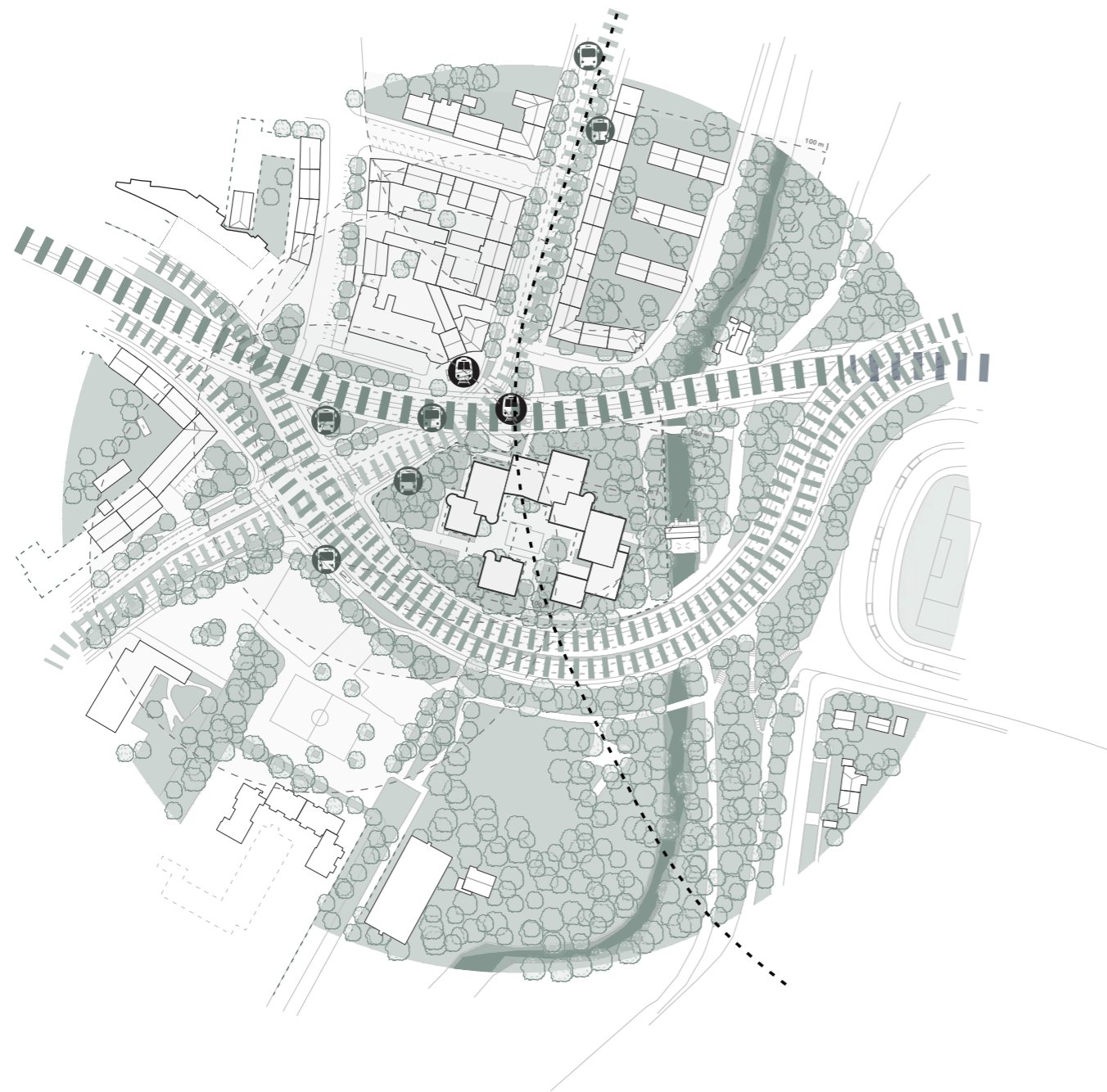
Particular emphasis is placed on flexibility, adaptability and the ability of the housing units to respond to changing user needs.



# 02 ANALYSIS

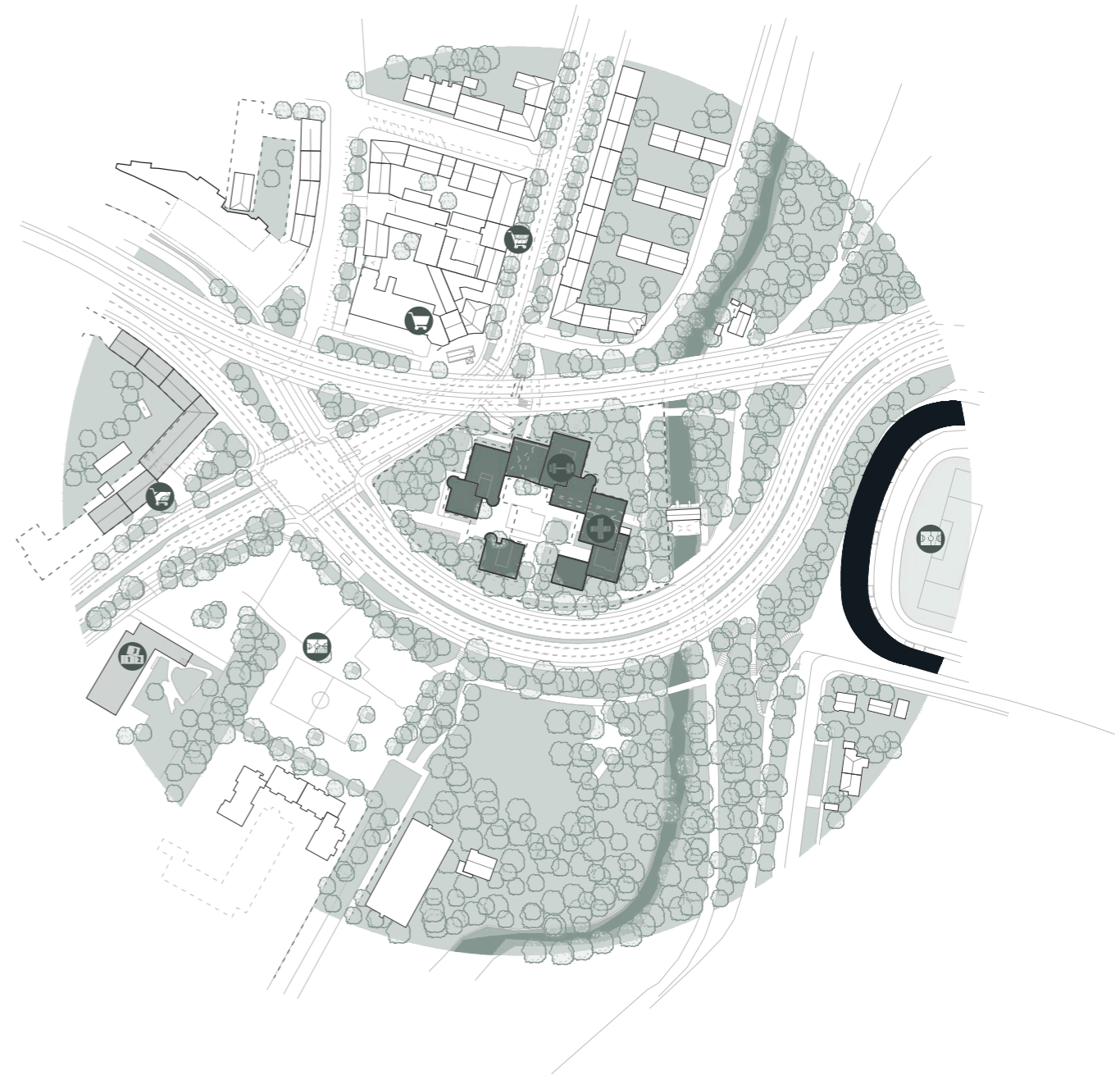
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The analytical section examines the broader urban context of Candidplatz, its transport load, prevailing functions and the existing architectural structure. A separate focus is placed on the renovation of the healthcare functions, the orientation of the buildings and the massing of the surrounding development on both sides of the river Isar. The analysis identifies the strengths and weaknesses of the site, critical constraints for the future extension, and potentials that can support the creation of a new layer of urban housing above the existing building.



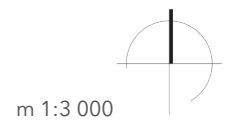
- metro
- |||| main urban radial road
- ||||| access ramp
- ||||| regular urban street

Analysis of Transport



- residential function
- mixed-use function
- civic amenities
- sport

Analysis of Functional Use



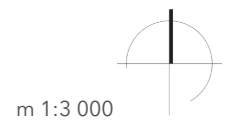
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Analysis of Building Heights



Analysis of Built-up Area





### **Analysis of the Existing Frame Structure and Structural Grid**

The analytical section focuses on the study of the existing load-bearing frame of the building and its spatial logic. The original reinforced concrete structure is relatively regular within the individual wings; however, significant changes in spans, shifts of axes and local irregularities occur around the vertical circulation cores. These differences result from the original administrative and healthcare function of the building and strongly affect the continuity of the structural grid.

The analysis examined the extent to which the existing grid could be used for modular residential units. It showed that although the basic structural grid allows a legible division of the floor plan, its local deformations around the cores make it difficult to achieve a simple and fully modular structure that would support the variability of residential layouts across the entire floor.

In the first phase of the analysis, an ideal module of approximately 4.3 m was therefore tested, corresponding to typical widths of living spaces and efficient spans for timber structures. Through comparison with the existing axes, tract widths and the logic of prefabrication, the module was later refined to a final grid of 4.2 × 4.2 m, which offers the highest degree of repetition and spatial neutrality.

The analysis confirmed that directly adopting the original frame would lead to limited flexibility and an uneven distribution of residential units. For this reason, the existing structure is understood primarily as a static and height framework, while the resulting analytical grid represents an optimised reference system for further development of the modular extension and for the clear separation of future functions and access routes.



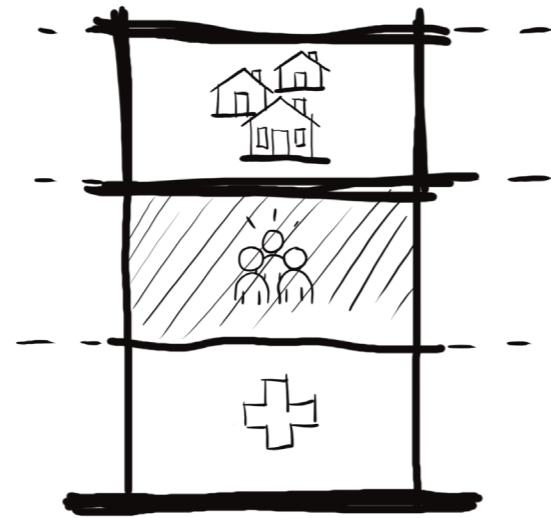
# 03 DESIGN

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The design presents an architectural solution that builds on the results of the analysis and transforms them into a spatial concept based on a lightweight modular timber extension. The volumetric solution works with the idea of layering and gradual stepping back, creating new residential units, community spaces and green roof terraces. The emphasis is placed on housing quality, flexibility of the modules, energy efficiency and minimal intervention in the existing building structure. The proposal aims to create a balanced, light and clearly organised extension that completes the urban structure and gives Candidplatz a new identity.

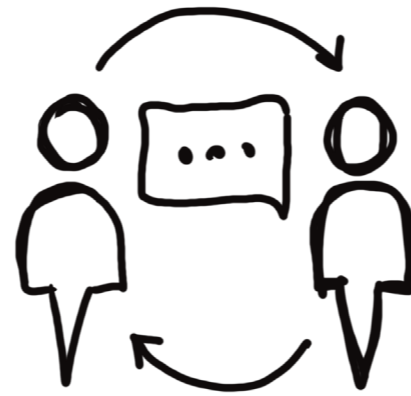






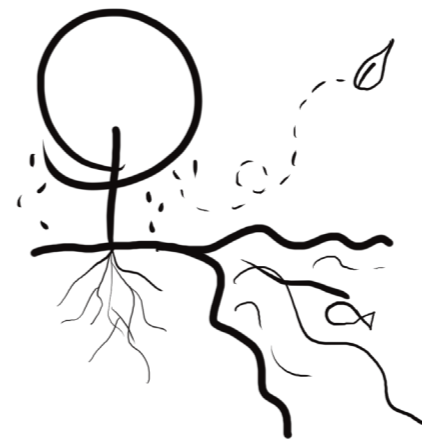
### VERTICAL INTEGRATION

combination of healthcare, housing, and social spaces in one building.



### COMMUNITY BOND

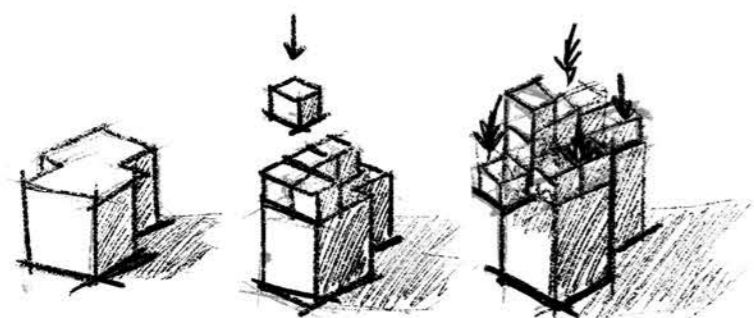
new shared spaces for residents and visitors.



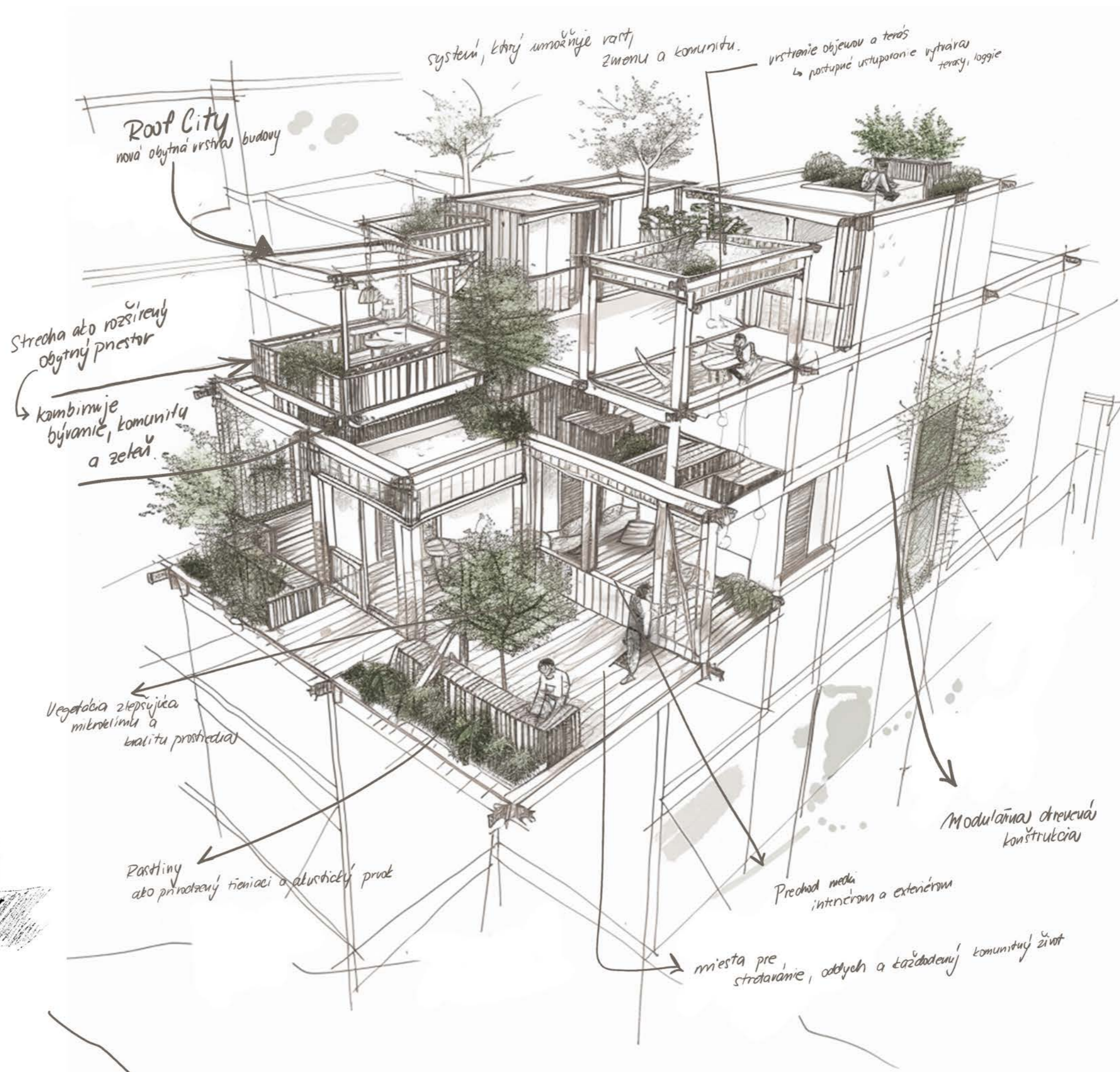
### ECOLOGICAL CONTINUITY

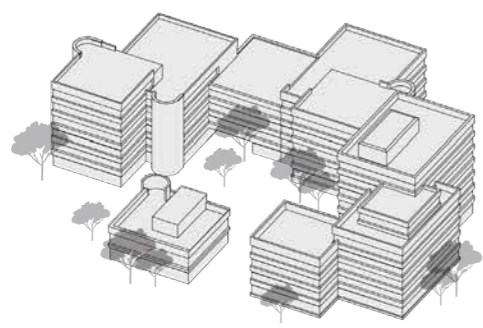
connection of the inner block with the river as a recreational belt.

"ROOF city"

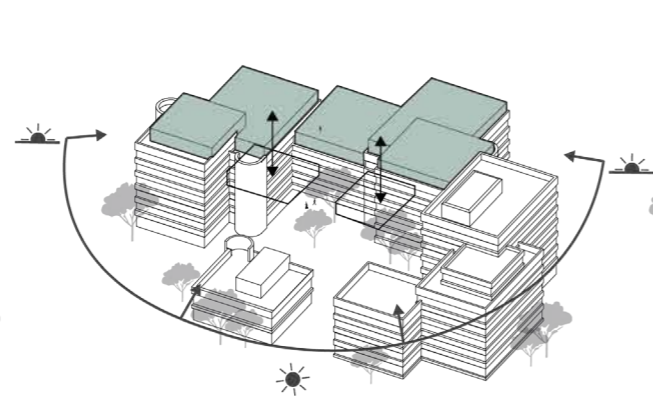


mass composition



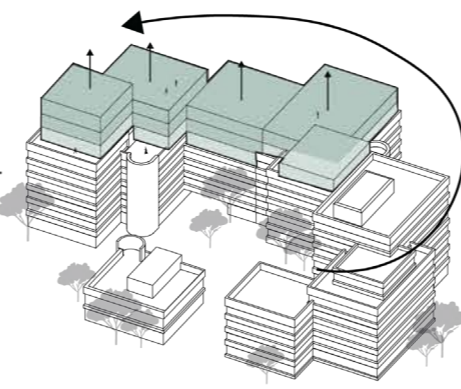


Original mass



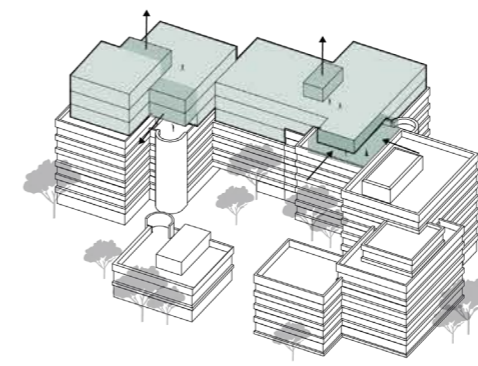
Parts with extension

/ ground floor connection, illuminated facades

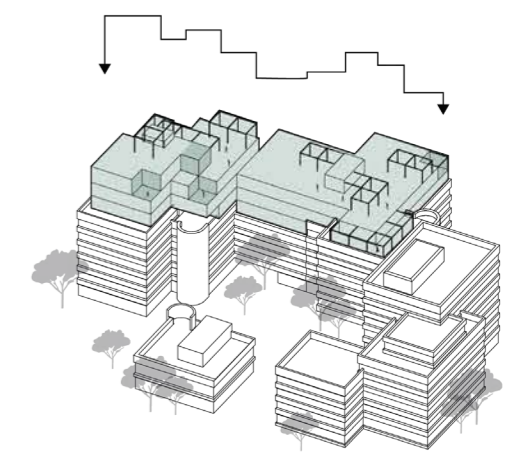


Mass gradation

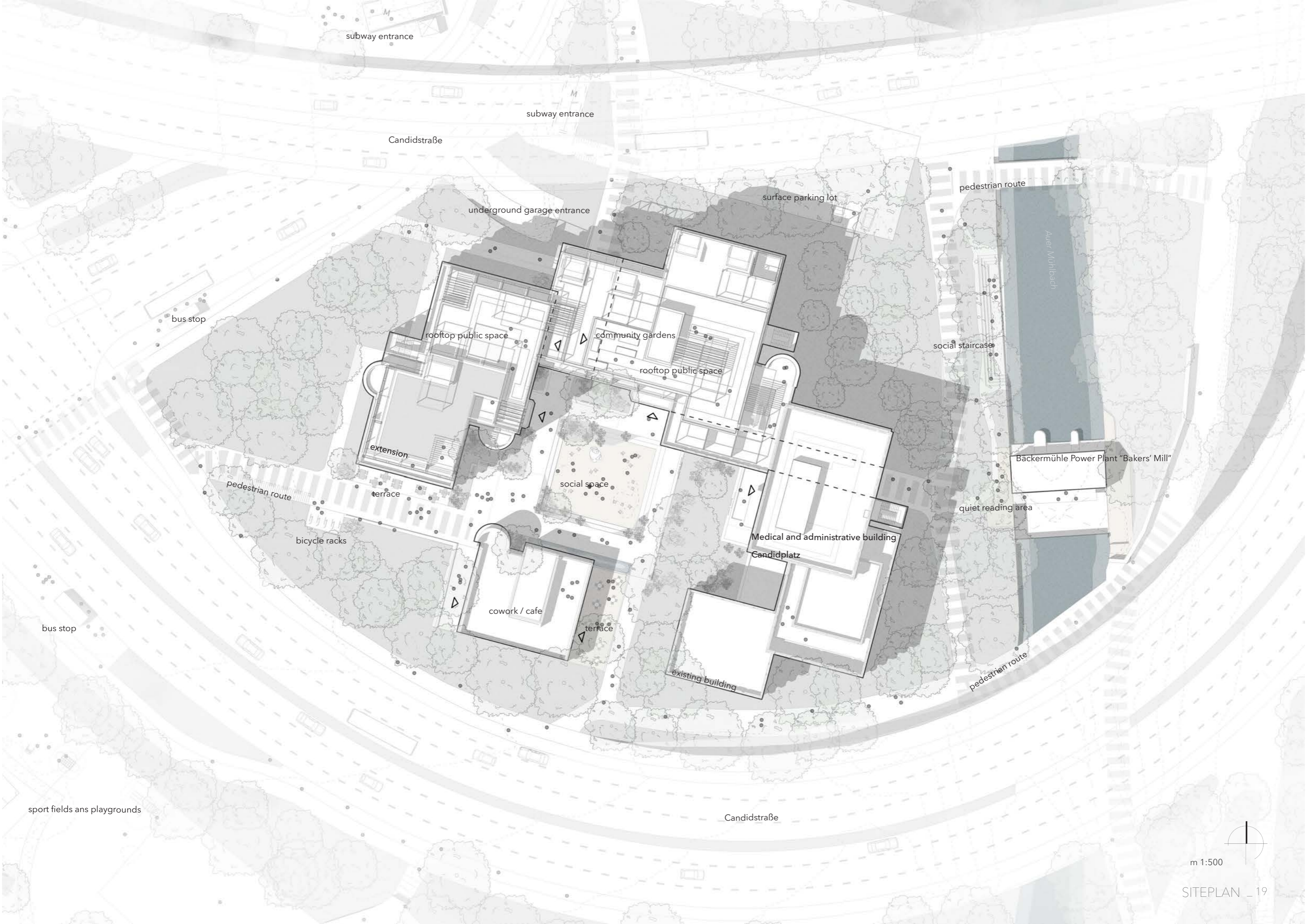
/ permission to add a maximum of 3 floors



Creation of residential roofs



Extracting and adding masses



subway entrance

subway entrance

Candidstraße

underground garage entrance

surface parking lot

pedestrian route

bus stop

rooftop public space

community gardens

rooftop public space

social staircase

extension

social space

Bäckermühle Power Plant "Bakers' Mill"

pedestrian route

terrace

quiet reading area

bicycle racks

cowork / cafe

terrace

Medical and administrative building

Candidplatz

pedestrian route

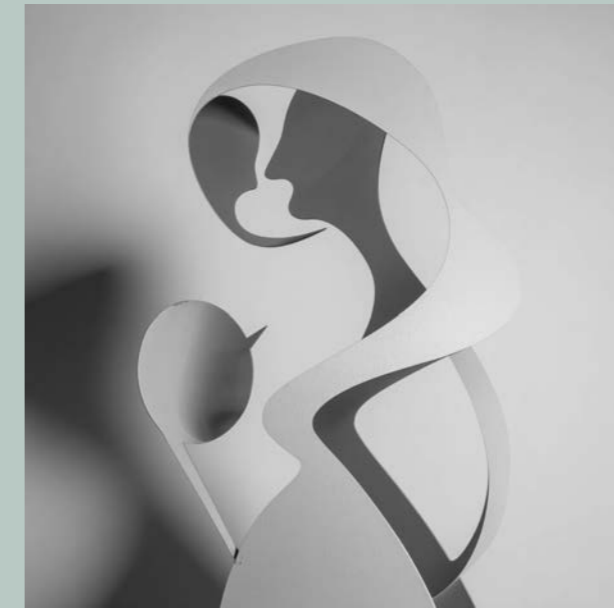
existing building

sport fields and playgrounds

Candidstraße

m 1:500

SITEPLAN \_ 19



### Allegory of Vanity (Reinterpreted)

*temporary public installation, lightweight sheet metal, approx. 3 m*

This work is a contemporary, abstract reinterpretation of the Renaissance painting *Allegory of Vanity* by Peter Candid, a significant painter active in Munich at the turn of the 16th and 17th centuries. Candid's work moved between the late Renaissance and early Baroque, and often worked with allegories that reflected the moral, social and psychological themes of its time.

The original *Allegory of Vanity* uses figurative language and rich symbolism – a female figure, a mirror, jewellery, fruit, insects and motifs of transience – to point to the fleeting nature of beauty, the illusion of self-worth and the deception of the surface image. It is precisely this theme that Candid's work translates into a contemporary and more abstract context.

In this reinterpretation, the historical symbols are reduced to minimalist, abstract forms made of lightweight sheet metal. The female figure is transformed into a flowing silhouette with a double profile, which suggests the contrast between what a person presents outwardly and their inner identity. The mirror is transformed into a simple circular surface cut into a continuous line that connects the individual parts of the object into one flow.

The monochrome finish and subtle construction reflect the lightness and temporariness of the installation – qualities that directly correspond to the original idea of vanity and transience. The object responds to light, shadow and the movement of viewers, causing its meaning to constantly change and update in space.

The work refers to a historical visual tradition, but at the same time shifts it into the context of today's culture of image, self-presentation and the illusion of value. The abstract form allows viewers to read it intuitively – as a silent, contemporary memento that connects Renaissance moral allegories with today's visual reality.

## Greenery Catalogue

The planting strategy builds on the existing vegetation on the site, which is considered an important part of the place's identity. The preserved tree canopy forms the basis of the spatial and microclimatic quality of the courtyard and gallery spaces. The concept treats these trees as the primary framework of the design and complements them by densifying the lower vegetation layers, strengthening both the continuity of the existing greenery and its ecological and social functions. The additional planting respects the original species composition and the character of the site, softening the transition between architecture and terrain while supporting a natural and unobtrusive spatial expression. The aim is not to create a new landscape composition, but rather to sensitively cultivate and develop the existing vegetation in order to improve microclimate, shading, and the overall environmental quality of the space.

### Trees



**Fraxinus excelsior / Fraxinus angustifolia**  
*European ash / Narrow-leaved ash*



**Carpinus betulus 'Fastigiata'**  
*European hornbeam (columnar)*



**Acer campestre / Acer platanoides**  
*Field maple / Norway maple*

### Grasses and Perennials



**Miscanthus sinensis**  
*Chinese silver grass*



**Calamagrostis acutiflora 'Karl Foerster'**  
*Feather reed grass*



**Pennisetum alopecuroides**  
*Fountain grass*

### Shrubs



**Cornus stolonifera**  
*Red osier dogwood*

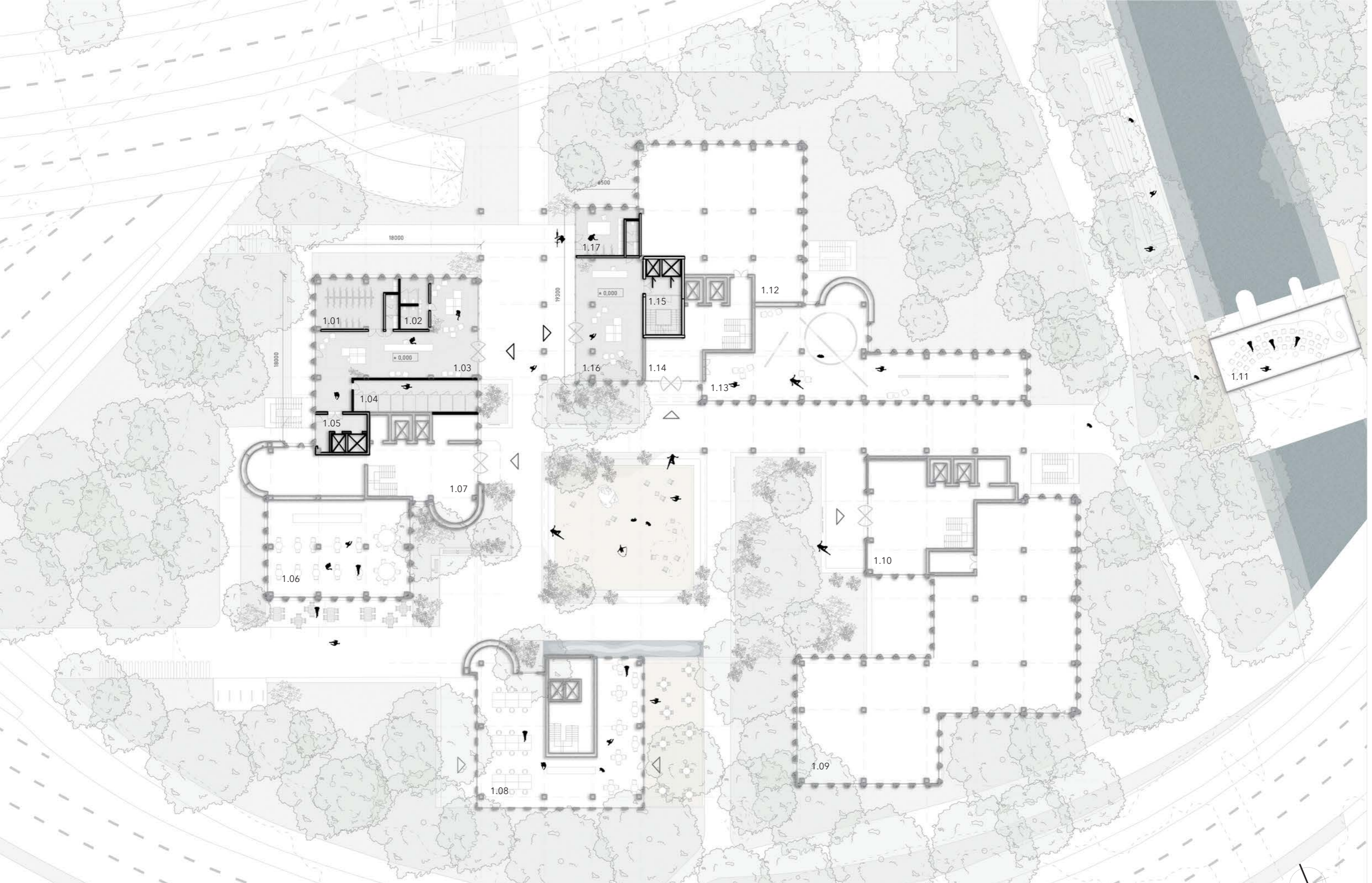


**Hydrangea paniculata**  
*Panicle hydrangea*



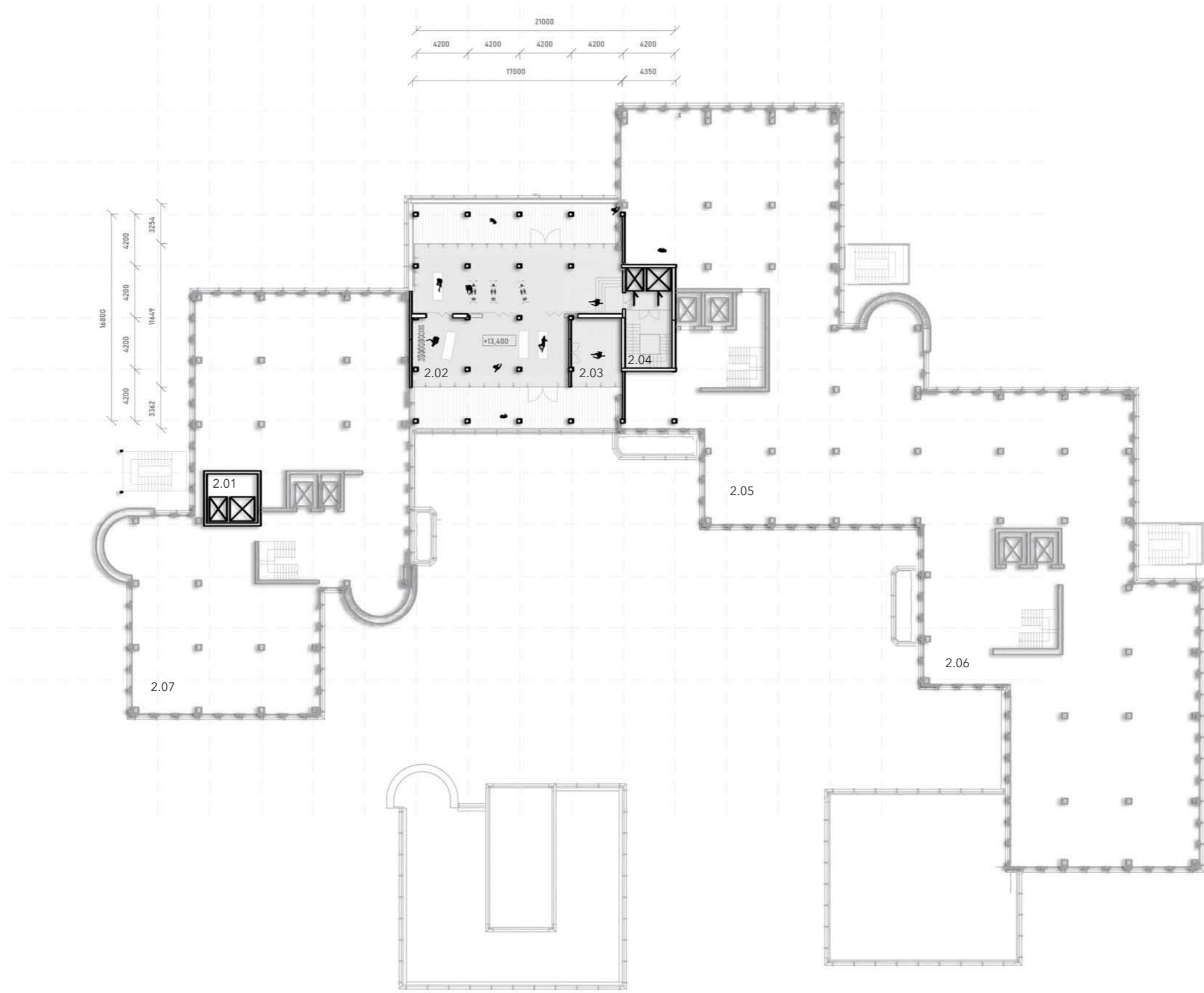
**Euonymus fortunei**  
*Wintercreeper euonymus*





1.01 bike hub, 1.02 sanitary facilities, 1.03 reception I, 1.04 storage units, 1.05 vertical core, 1.06 restaurant, 1.07 original entrance, 1.08 coworking café, 1.09 dental clinic, 1.10 original entrance, 1.11 reading room, 1.12 psychology clinic, 1.13 street art gallery, 1.14 original entrance, 1.15 vertical core, 1.16 reception II, 1.17 bike point

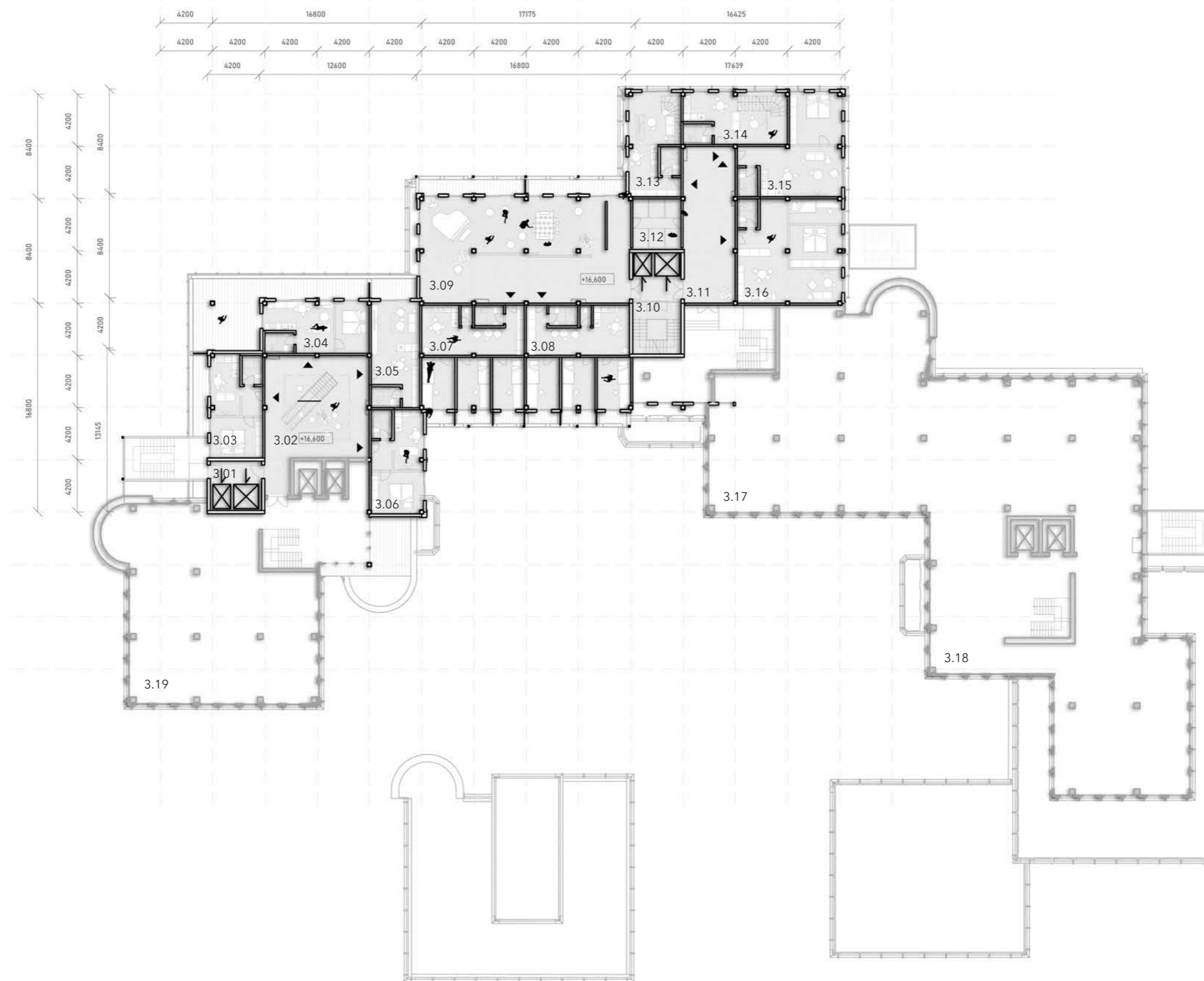
m 1:350



2.01 vertical core, 2.02 multifunctional hall, 2.03 storage, 2.04 vertical core, 2.05 fitness centre, 2.06 caregiving service, 2.07 orthopaedics, chiropractic



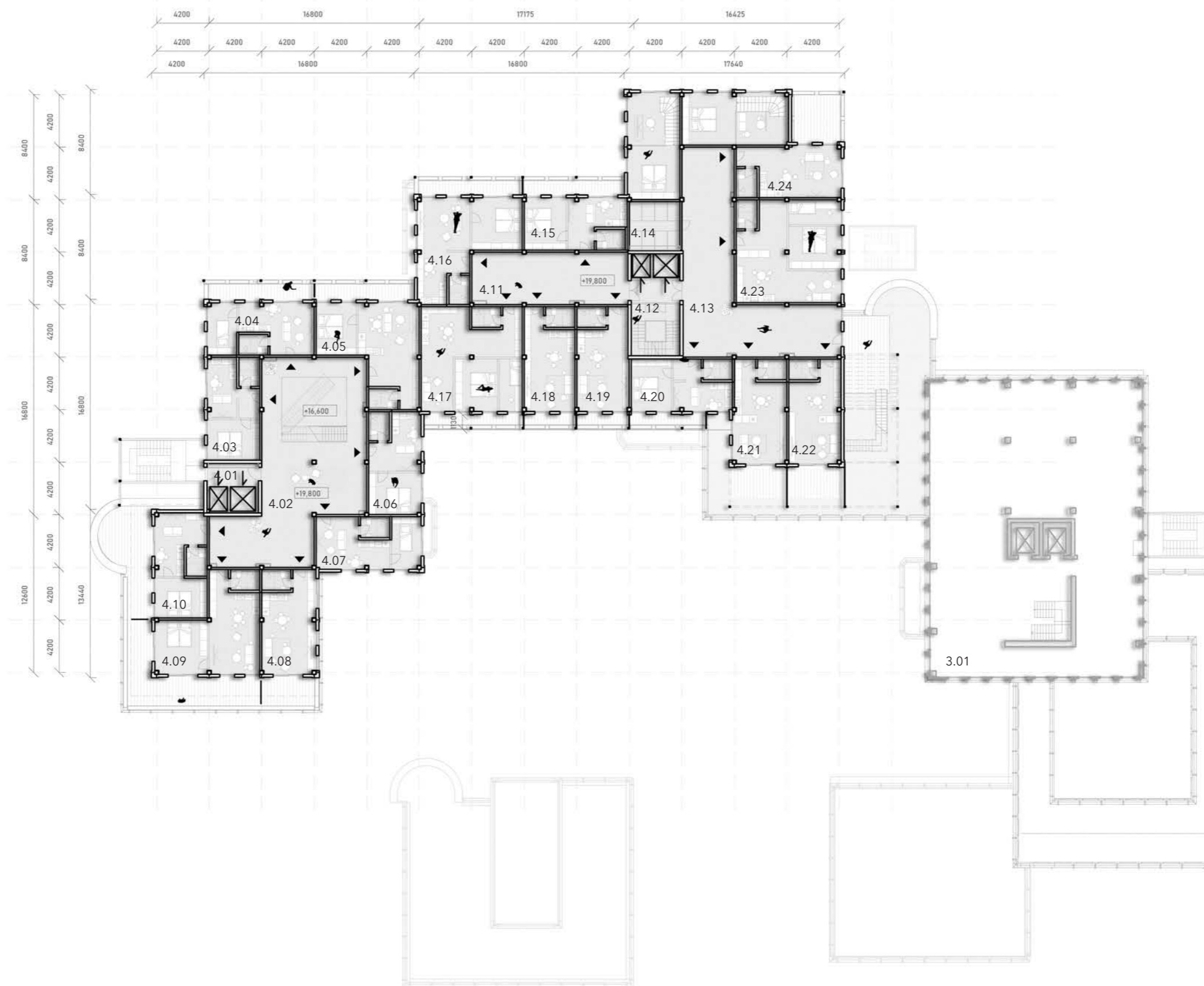
m 1:350



3.01 vertical core, 3.02 corridor space, 3.03-3.08 short-term residential units, 3.09 common room, 3.10 vertical core, 3.11 corridor space, 3.12 storage units, 3.13-3.16 long-term residential units, 3.17 rehabilitation, 3.18 unspecified, 3.19 advertising agency



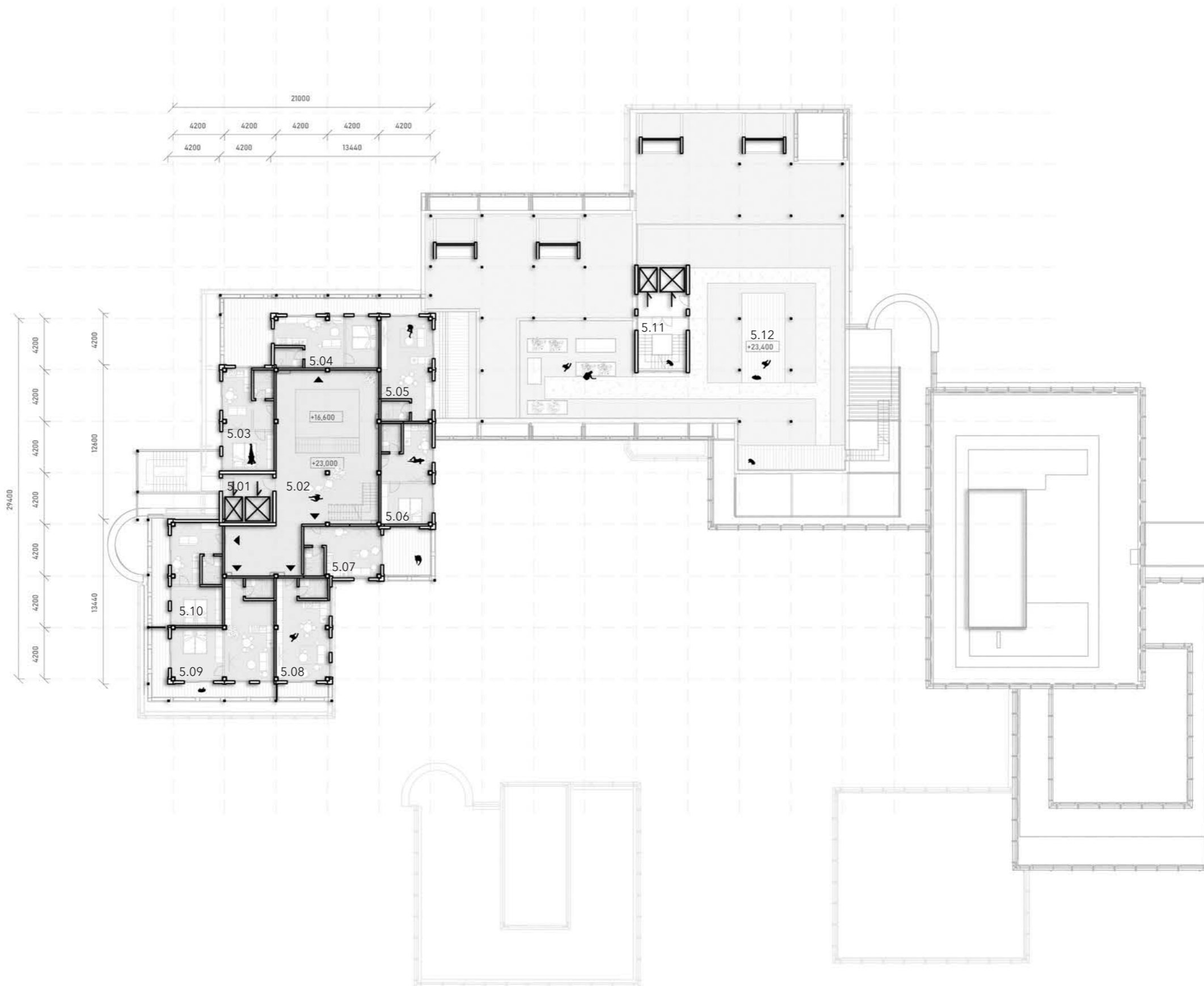
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4.01 vertical core, 4.02 corridor space, 4.03-4.04 long-term residential units, 4.05 short-term residential unit, 4.06-4.10 long-term residential units, 4.11 corridor space, 4.12 vertical core, 4.13 corridor space, 4.14 storage units, 4.15-4.24 long-term residential units



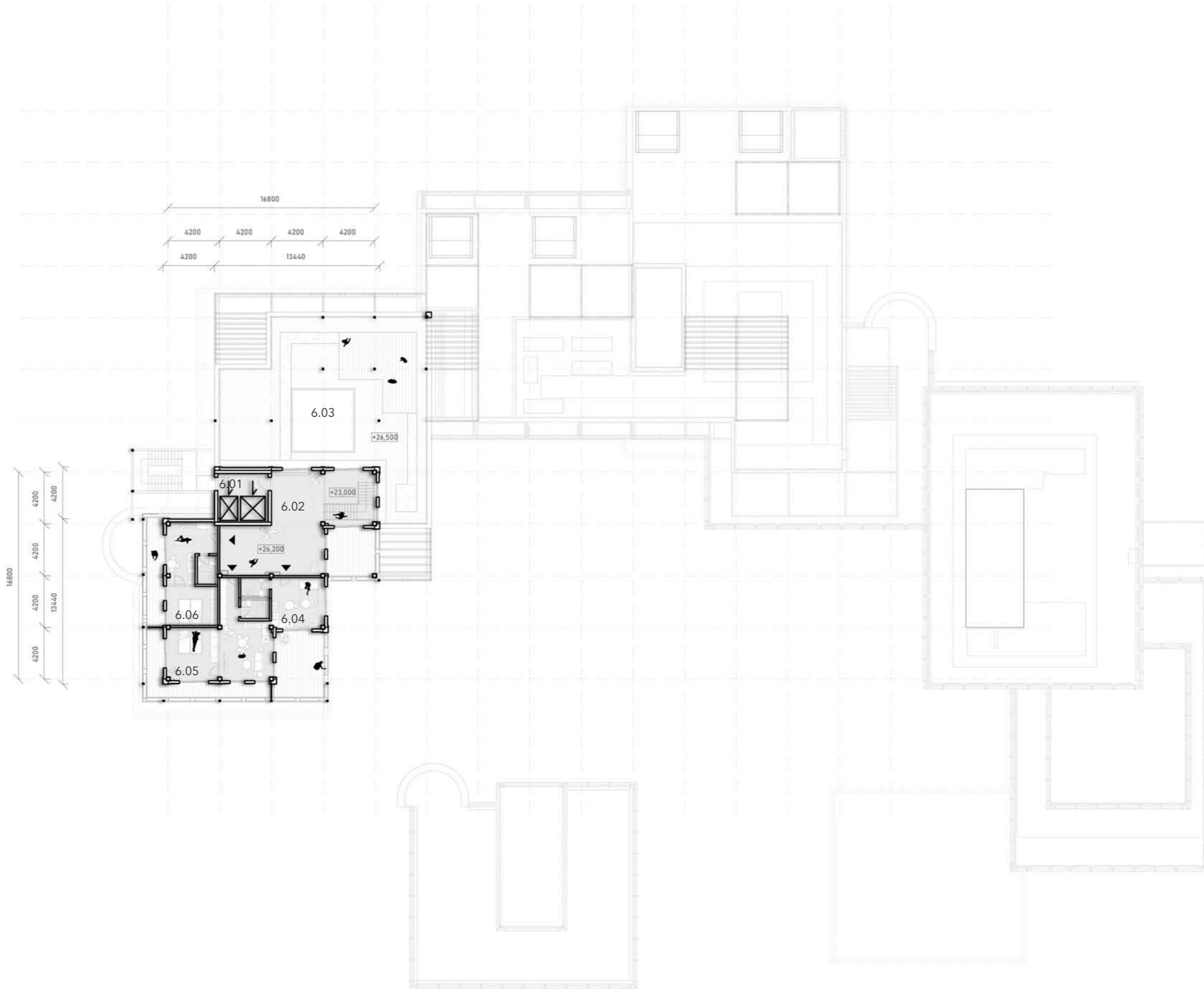
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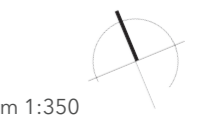
5.01 vertical core, 5.02 corridor space, 5.03-5.10 long-term residential units, 5.11 vertical core, 5.12 accessible rooftop terrace



m 1:350



6.01 vertical core, 6.02 corridor space, 6.03 accessible rooftop terrace, 6.04-6.06 long-term residential units



m 1:350









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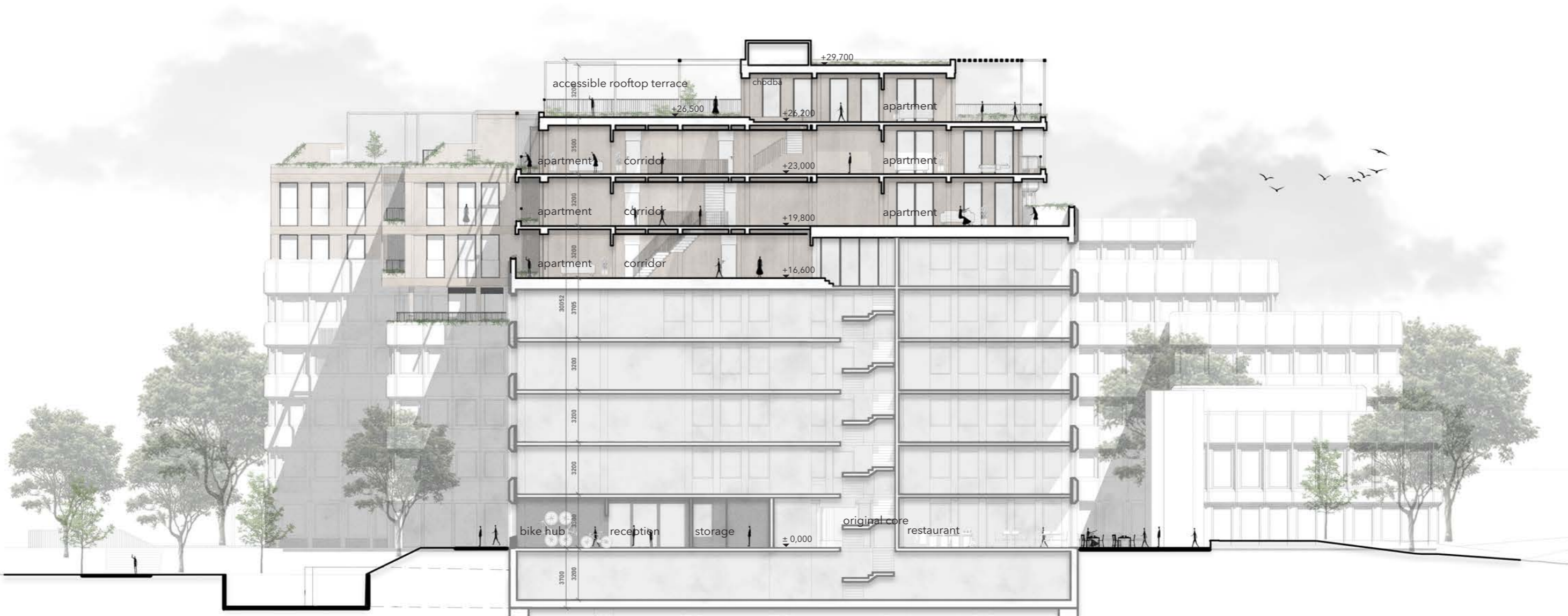


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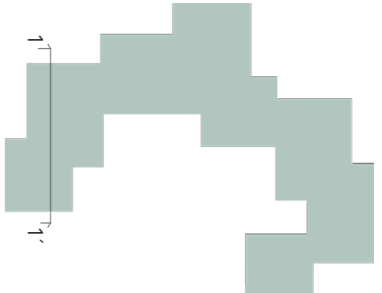


+29,700  
+26,200  
+23,000  
+19,800  
+16,600  
± 0,000

m 1:350

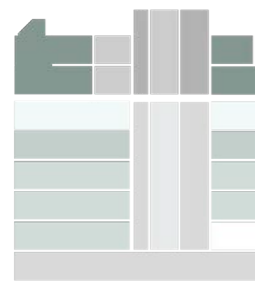


functional diagram

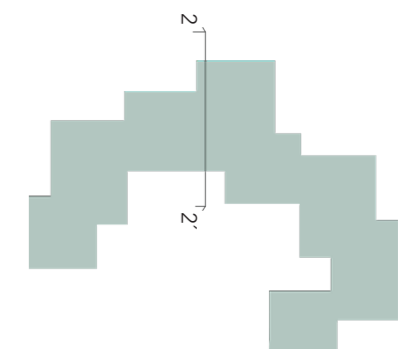


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section



functional diagram

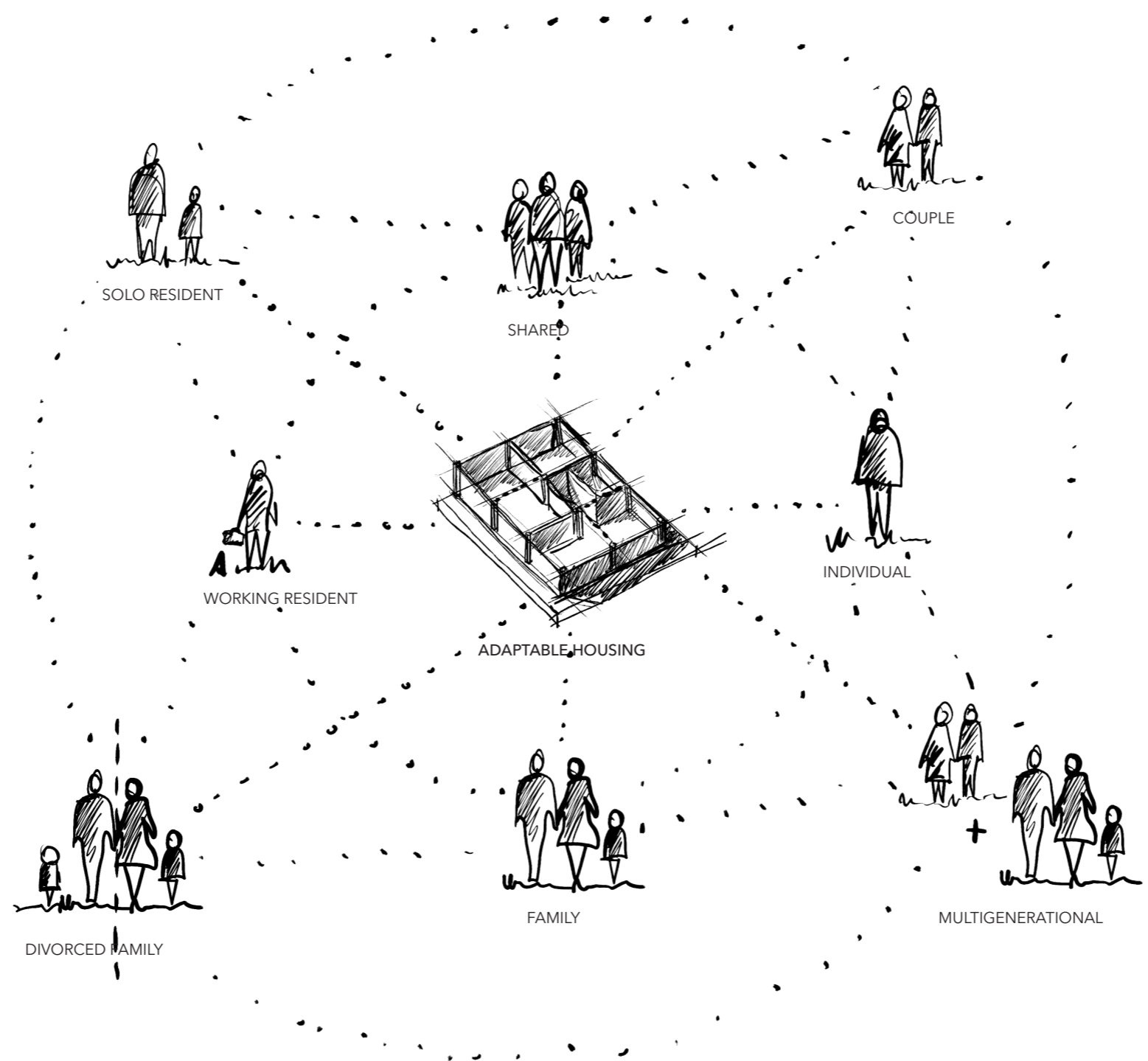


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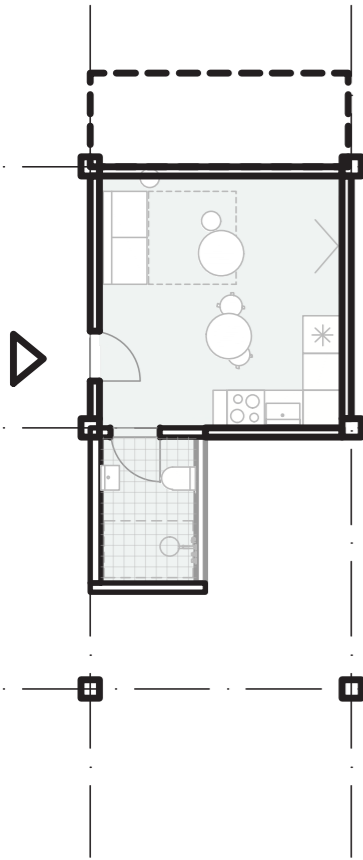
section

SECTION 2-2'\_35

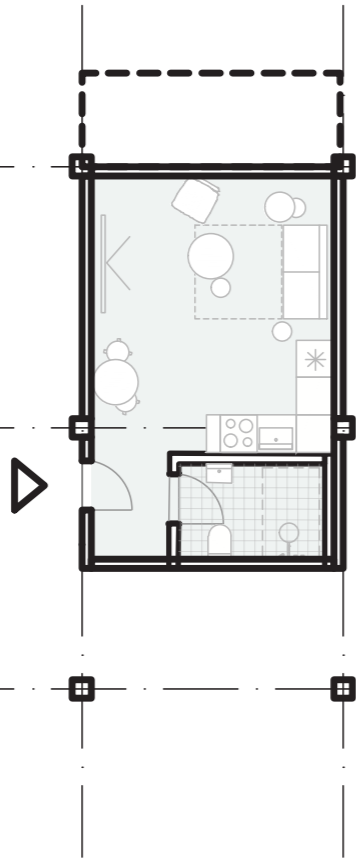




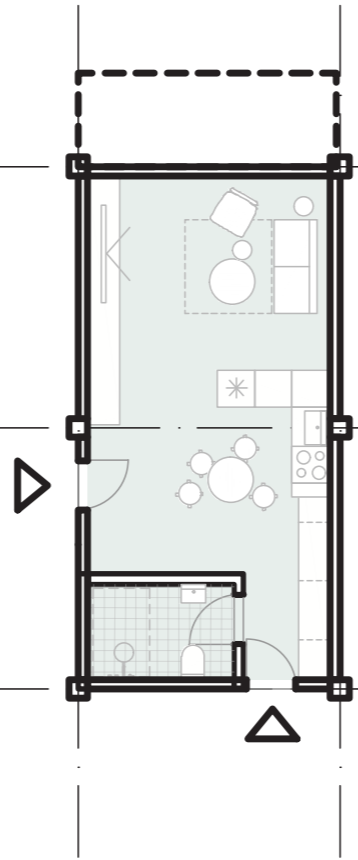
20 m<sup>2</sup> studio



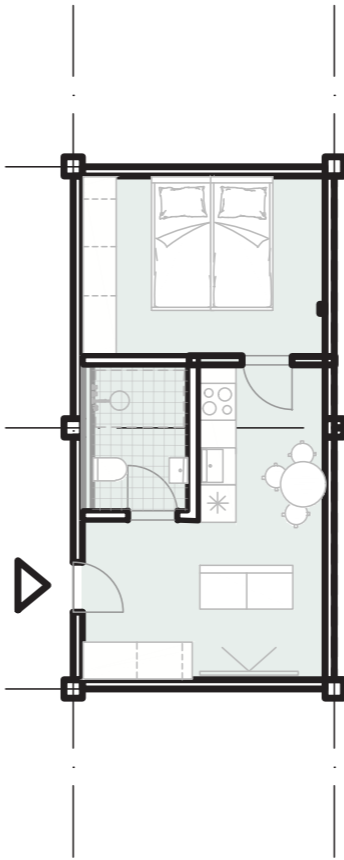
24 m<sup>2</sup> studio



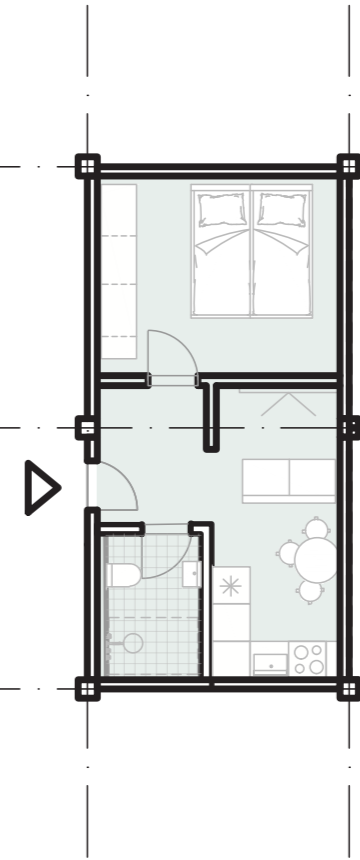
32 m<sup>2</sup> studio



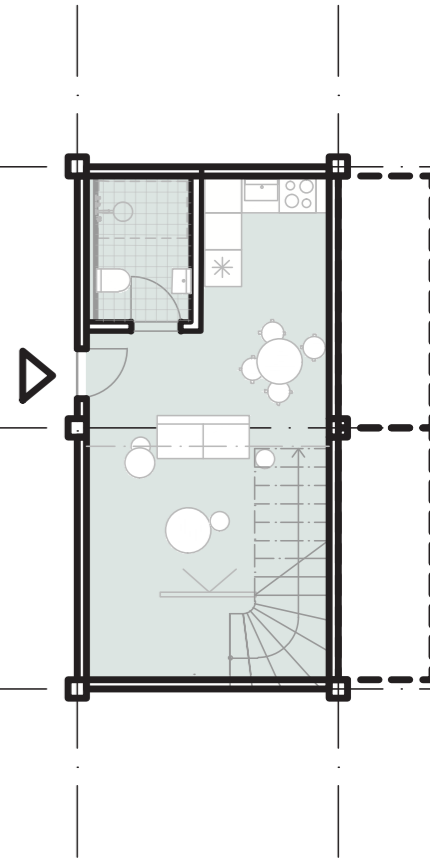
32 m<sup>2</sup> 1-bedroom



32 m<sup>2</sup> 1-bedroom



49 m<sup>2</sup>



duplex

48 m<sup>2</sup>

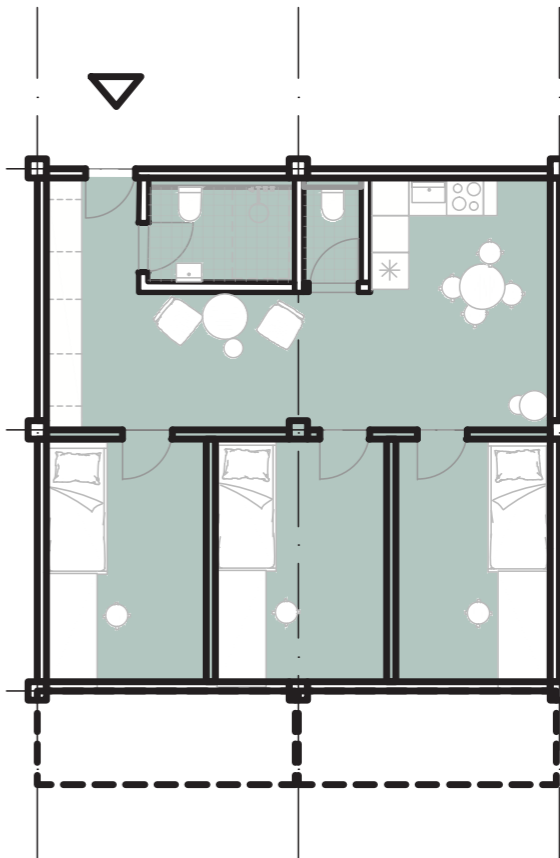
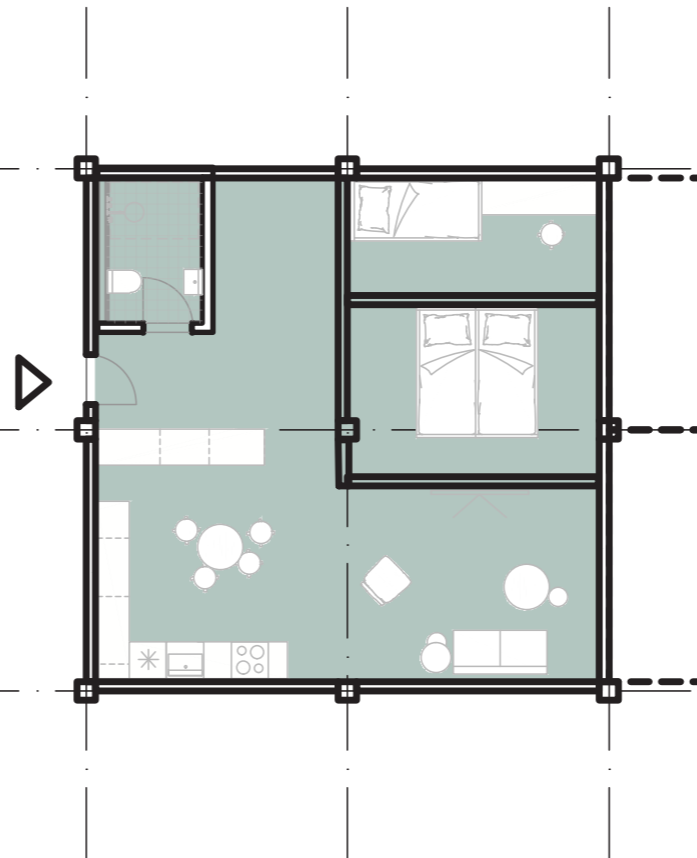
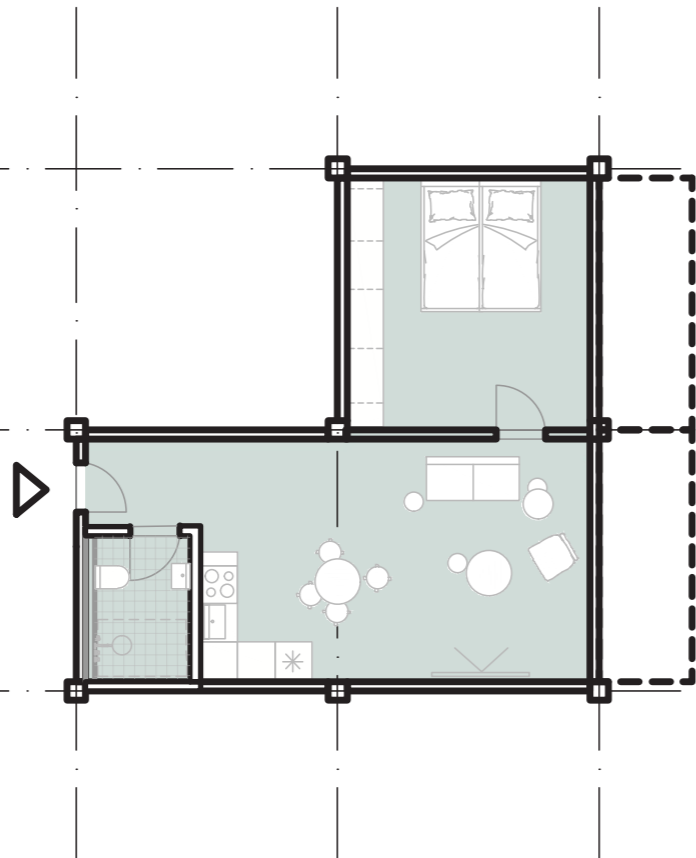
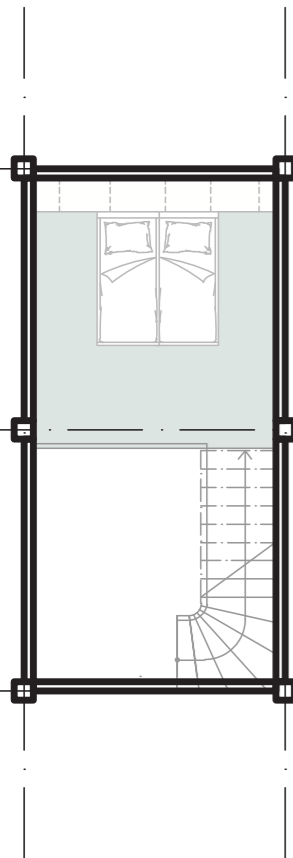
1-bedroom

66 m<sup>2</sup>

2-bedroom

66 m<sup>2</sup>

shared





two-room apartments



one-room and three-room apartment



two-room duplex apartments



four-room apartment



shared apartment



common spaces



work and sleep / studio



work and sleep / care



Larger one bedroom apartment



Typical studio



Duplex



Duplex



One bedroom apartment with terrace



Shared students apartment





Candidstraße

subway entrance

rooftop public space

community gardens

rooftop public space

bus stop

pedestrian route

bicycle racks

terrace

social space

cowork / cafe

terrace

existing building

Medical and office building  
Candidplatz

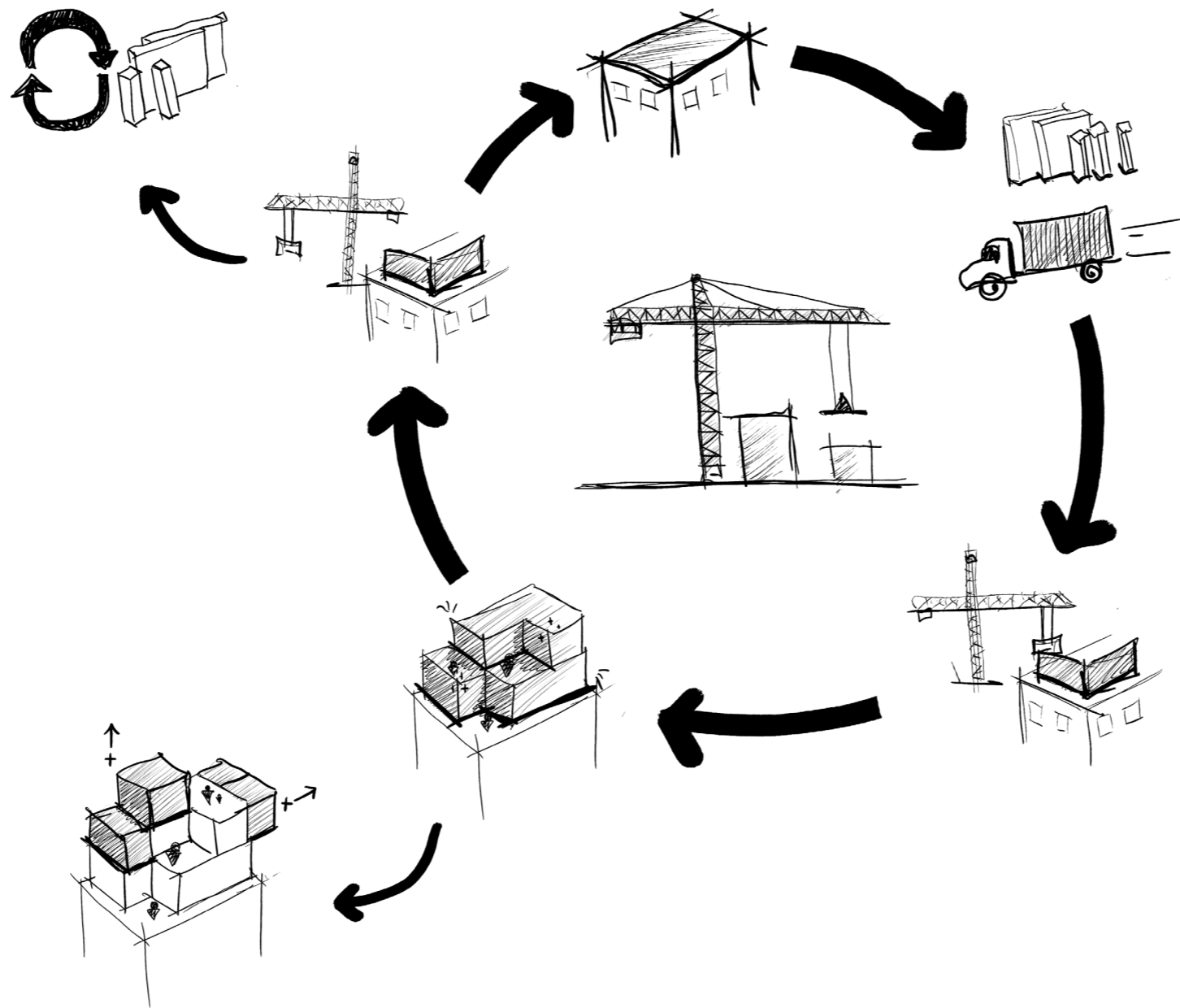
arcaded walkway

pedestrian route

social staircase

Bäckermühle Power Plant "Bakers' Mill"  
the possibility of use for small-scale community events  
quiet reading area

pedestrian route





Substrate, 50mm  
 drainage layer, 100mm  
 geotextile  
 root resistant waterproofing  
 tapered layer, 50mm  
 th. insulation, 100mm  
 vapour barrier  
 load-bear. str. (CLT) 250mm  
 timber cladd., 40mm

non-walkable green roof

timber decking on pedestals  
 tapered layer (2%)  
 waterproof membrane  
 th. insulation, 60mm  
 load-bearing str., 60mm  
 th. insulat., 100mm  
 vapour barrier  
 interior timber cladd., 40mm

flooring of terrace

balconies

optional suspended ceiling

wall panel

railing

integr. planter

poured floor, 70mm  
 separation foil  
 sound insul., 60mm  
 load-bear. str. (CLT) 70mm  
 interior cladding, 40mm

interior floor

poured floor, 70mm  
 sound insulation, 60mm  
 load-distribution grid, 380mm  
 original structure, 200mm

EXTENSION

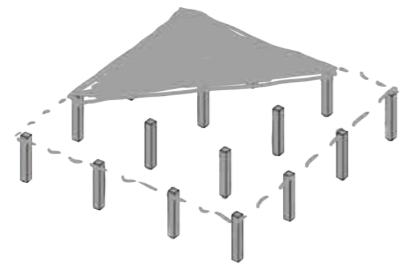
integr. planter

load distribution layer

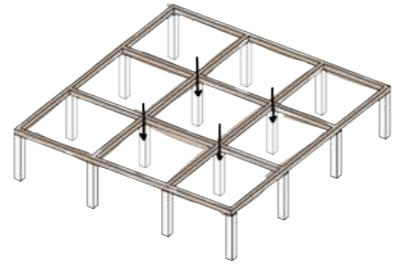
original cladding

original skeleton

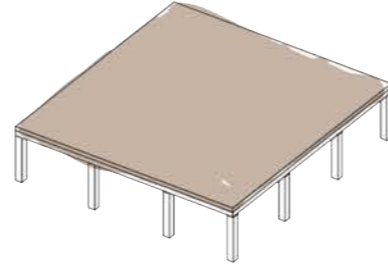
EXISTING BUILDING



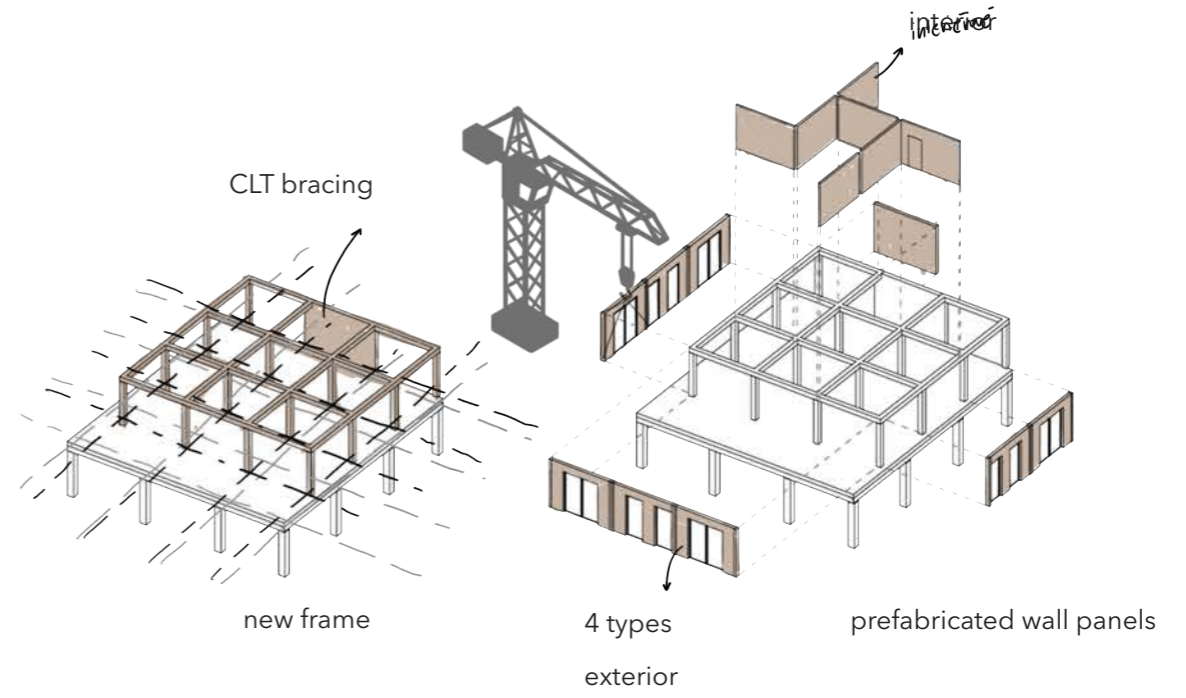
existing frame



load-distribution grid



slab



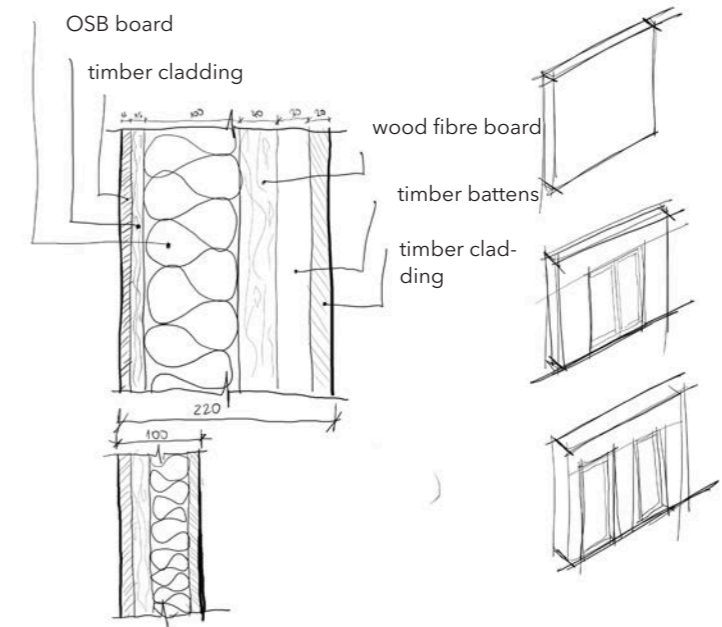
CLT bracing

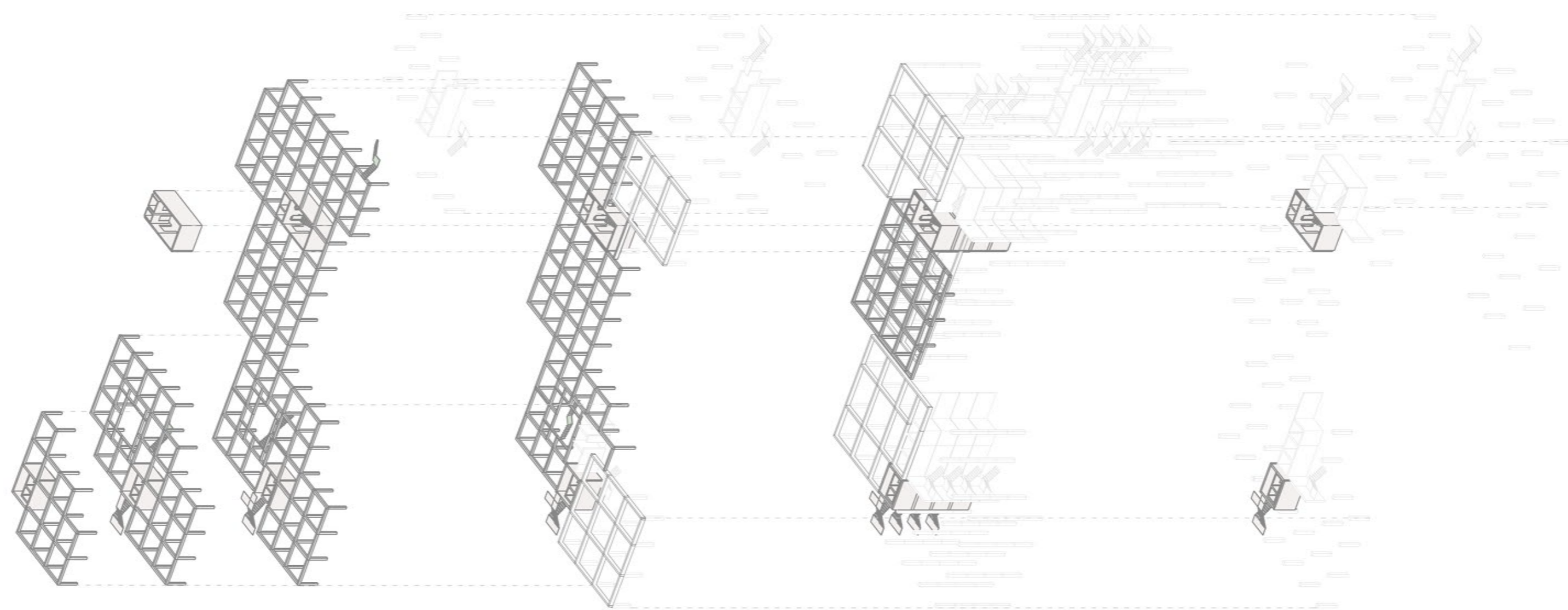
new frame

4 types exterior

prefabricated wall panels

timber studs with insulation





PRIVATE SPACES  
Housing  
Accessible rooftop terrace

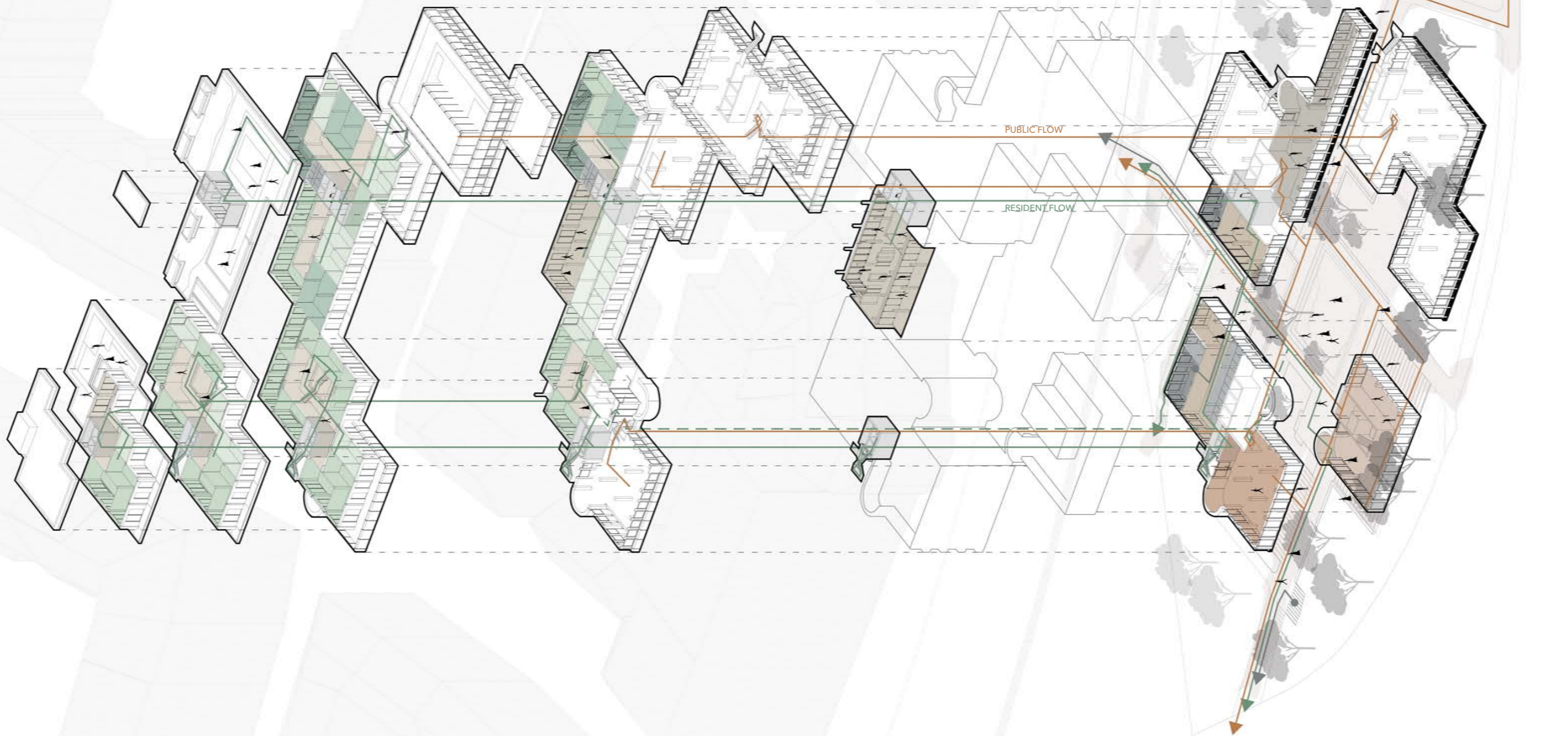
PRIVATE SPACES  
Housing  
Accessible rooftop terrace

PRIVATE SPACES  
Housing

PRIVATE SPACES  
Housing  
Community spaces

SEMI-PUBLIC SPACES  
Multipurpose hall

PUBLIC SPACES  
Exterior  
Entrances  
Restaurant  
Coworking café  
Gallery  
Reading room  
Reception  
Bike hub





Community forecourt of the apartments in the western part



Multifunctional hall



Community roof terraces



# 04

## CONCLUSION

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The rooftop extension, as a new urban layer, has the potential to enrich the site with high-quality housing, community activities and ecological solutions while respecting the existing structure and context. The project demonstrates that even in demanding traffic conditions, it is possible to create a sustainable, modular and aesthetically expressive architecture that responds to the current challenges of Munich and contributes to its long-term transformation.

### **Starting Points, Location and Existing Building**

The project deals with the transformation of an existing administrative and healthcare complex from 1984 at Candidplatz in Munich through a vertical extension and the cultivation of its immediate surroundings. It responds to the long-term shortage of affordable housing in the city, rising housing costs and the need for sustainable development without further expansion of the built-up area into the landscape. Candidplatz is located south of Munich's historic centre, in a heavily traffic-loaded area with excellent public transport accessibility and, at the same time, in close proximity to the Isar River and its recreational belts. This contrast between intensive infrastructure and a high-quality natural environment forms the fundamental starting point of the project.

The existing complex consists of several volumes of different heights, which currently accommodate medical practices, healthcare facilities and administrative functions. The load-bearing structure is formed by a reinforced concrete frame, which was analysed in detail. The analysis showed that the frame is relatively regular in the main parts of the building; however, around the original vertical cores there are significant changes in spans and shifts of axes. These irregularities, resulting from the original function of the building, make it impossible to directly adopt the existing grid for modular residential units and limit the achievement of maximum flexibility.

### **Analytical Grid, Structure and Flexibility**

In the analytical phase, an ideal residential module independent of the irregularities of the existing structure was therefore sought. In the first phase, a grid of approximately 4.3 m was tested, corresponding to typical widths of living spaces. Through subsequent optimisation in relation to prefabrication, efficient spans of the timber structure and the repeatability of layouts, the module was refined to a final grid of 4.2 × 4.2 m. The existing building is thus perceived primarily as a static and height framework, while the extension works with its own autonomous modular logic.

Structurally, the extension is designed as a lightweight frame system with non-load-bearing partitions, optimised for long-term adaptability. The exception consists of the new vertical cores, which are designed from CLT panels and also provide bracing for the entire extension. The frame principle allows a free internal arrangement, the merging and division of residential units and changes of function over time without intervention in the load-bearing structure. Flexibility is understood in the project as a fundamental quality of architecture and as a tool for affordable and sustainable housing.

### **Roof City Concept, Functions and Housing**

On this analytical basis, the project develops the concept of Roof City – a new residential layer of the city situated on the roof of the existing building. The extension is not conceived as one compact volume, but as a set of smaller modular masses, between which terraces, atria and semi-public spaces are created. The roof is transformed from a technical surface into an actively inhabited territory, creating a calm environment above the traffic load of the city and supporting community life.

The project combines both short-term and long-term housing and offers a wide range of typologies. The building contains approximately nine different apartment layouts: 21 two-room apartments, 11 one-room studios, two shared three-room dormitory-type units, two maisonette apartments and three three-room apartments. The shared apartments are complemented by communal spaces that support social interaction and the community character of housing. The ground floor and the surroundings of the building are activated by public and semi-public functions such as a restaurant, coworking café, street-art gallery, seating staircases and a multifunctional hall, which build on Munich's cultural context and its relationship to public space.

### **Public Space, Greenery, Art and Safety**

Part of the public space is the temporary art installation *\*Allegory of Vanity (Reinterpreted)\**, which abstractly refers to the Renaissance work of Peter Candid. Its minimalist form made of lightweight sheet metal responds to light, shadow and the movement of viewers, functioning as a contemporary memento of transience and the illusion of value, thus connecting the city's historical visual tradition with today's culture of image.

The concept of greenery is based on the existing vegetation, which is regarded as an important part of the identity of the place. Preserved tree stands form the basis of the microclimatic quality of the courtyard and gallery spaces and are sensitively complemented by lower vegetation layers that respect the local species composition. The aim is to cultivate and develop the existing greenery in favour of shading, microclimate and the quality of staying, rather than creating a new landscape composition.

The highest residential floor is located at approximately 26 m, which classifies the building as a high-rise according to Bavarian building regulations. The project therefore respects increased fire-safety requirements, including two independent internal escape routes, a safety staircase with a separate smoke-proof lobby and a clear separation of the operational routes of the individual functions.



