

ROOF PLAN

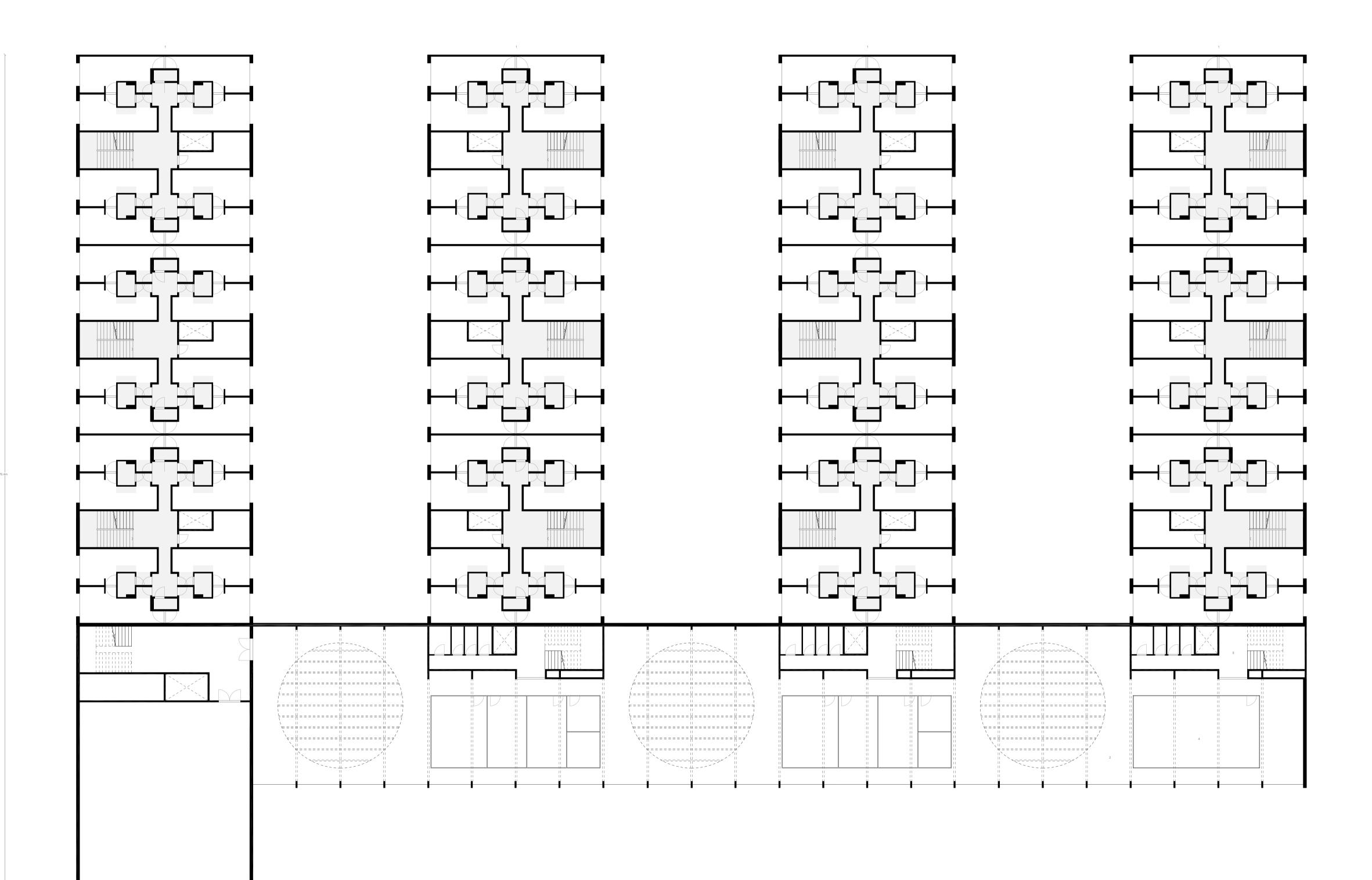
Technical solutions 1:200

By utilizing the roof space for power production, the complex can produce energy to cut its own electricity costs.

4000 sqm of PV panels are able to produce ... Kwh

The roof construction over the office building is a compact blue-green roof, with local fauna. A roof like this is capable of absorbing rainwater, stalling the water before the storm-water net. The local fauna gives life to plants, insects and birds, and is naturally costumed for the local climate.





PRINCIPLE FLOOR PLAN

Apartments 1:200

The complex houses 288 residents. They are divided between four buildings. Each building contains three staircases, each leading to 24 units. One unit contains four owner-apartments, and four rental-apartments.

Self-owner-apartments are equipped with a bathroom and a kitchen. Its supposed to work as an autonomous apartment. Alone, or as a base in an extended unit.

The size is based on what is necessary space, and is divided in four zones. Entrance area, kitchen area, and a main area. The zones are related to the movement within the apartment.

Function of the main area can differ from each plan configuration. In a single unit it has space for a bed and wardrobe. In a double or triple unit, the owner apartment becomes the base, containing the kitchen, while other programs get moved to another part of the apartment.

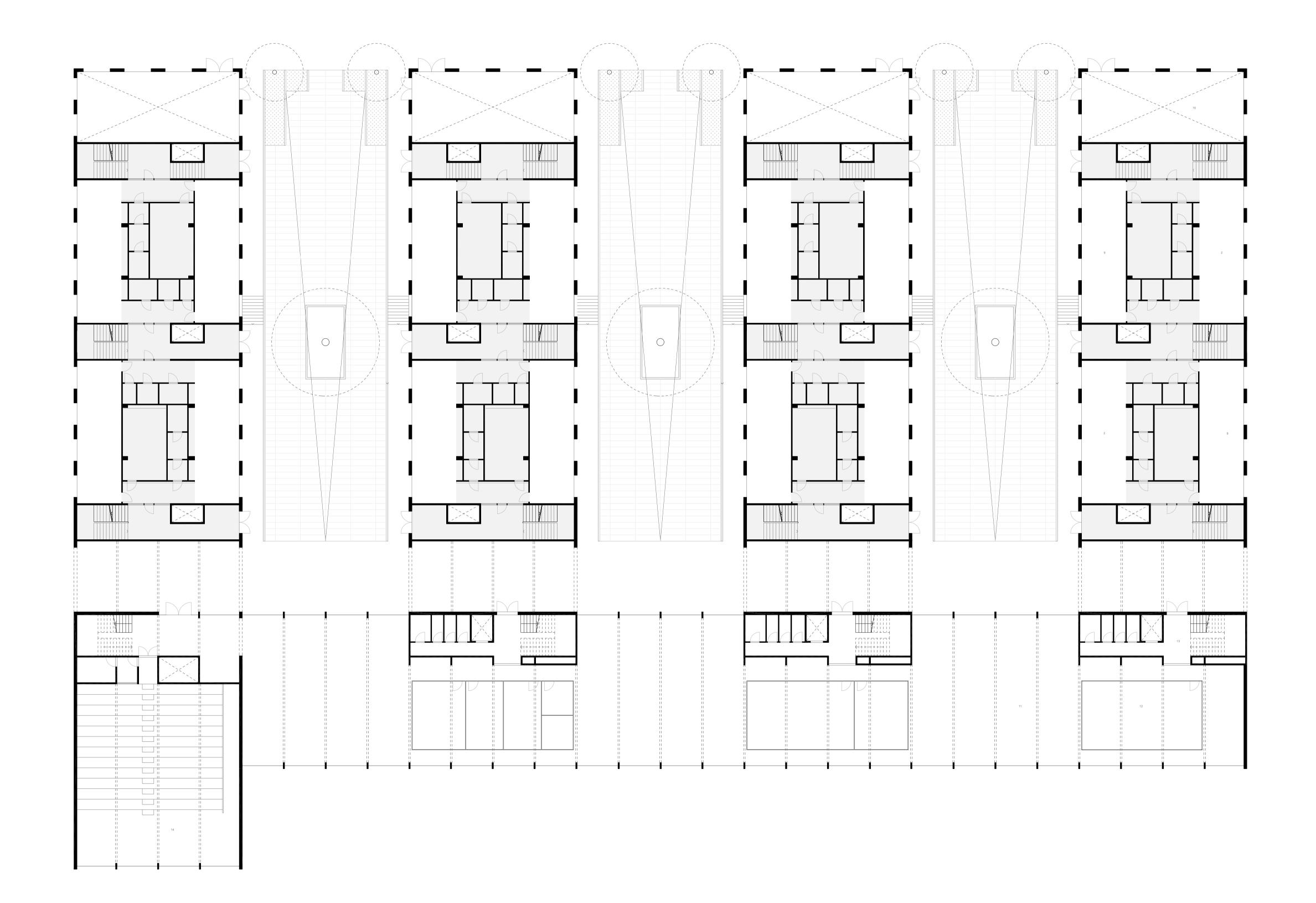
around. The central placement of the door between the units give a visual contact between the rooms. When connecting two or more units, the extra entrances becomes storage room.

Bathroom and kitchen core creates a room division and a central element which the movement is happening

Rental apartments are smaller and equipped with a sink for basic hygiene or for some simple cooking. Two rental apartments share a small bathroom.

- 1. Housing units
- 2. Office area
- 3. Auditorium
- 4. Meeting rooms
- 5. Staircase, bathrooms and technical room

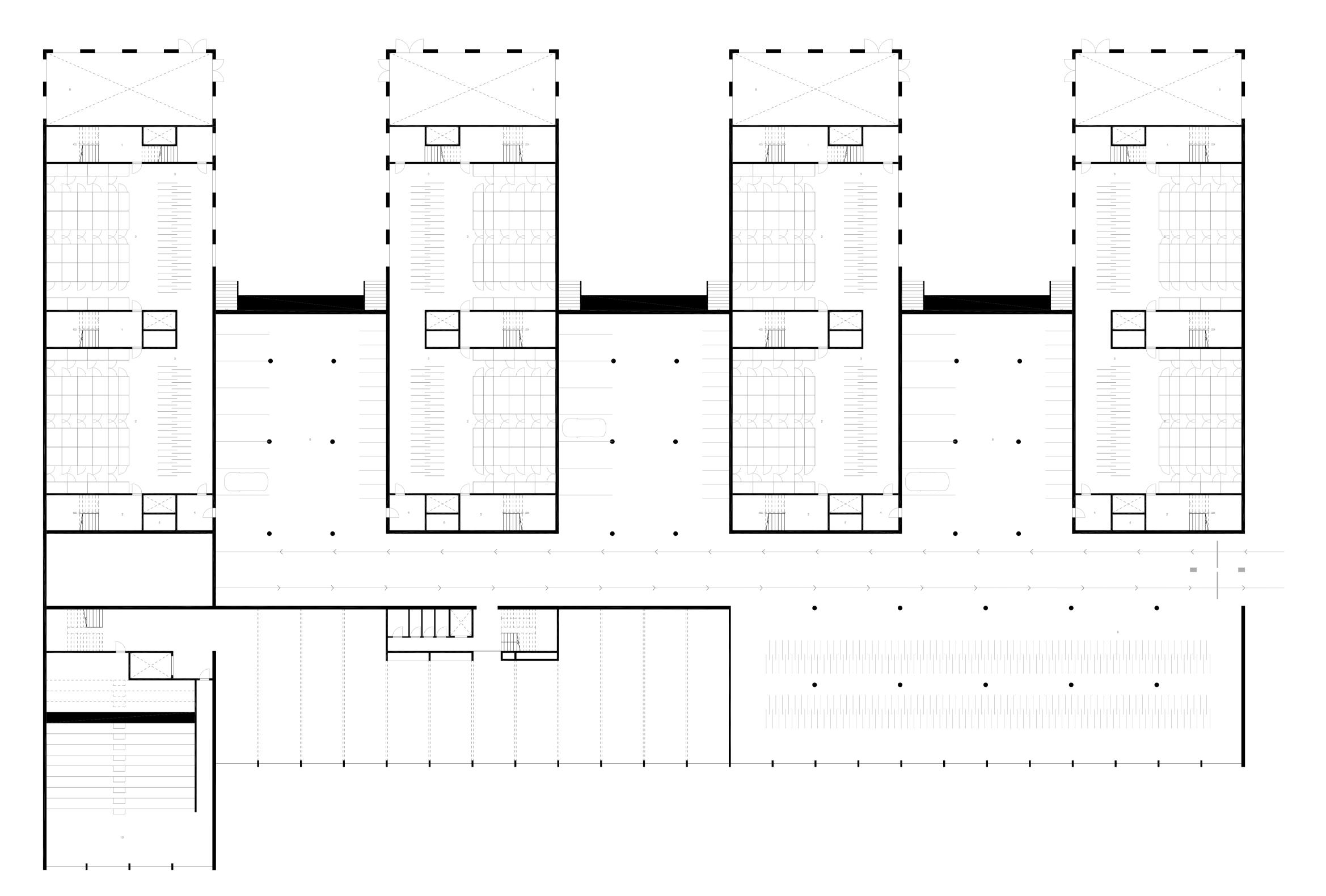




FIRST FLOOR PLAN Shared area 1:200

The first floor is entered from the west side of the complex. A pathway along the office building can be entered on the same level as the bridge. It connects the housing units together and allows for a convenient entrance towards south of Grorud.





GROUND FLOOR PLAN

Transport and storage 1:200

We commute different today than we did before. We realize that there isn't enough space for everyone to drive their own car. Collective transport, shared transport, bicycling or walking is sustainable, economical and more social. A new housing project should reflect this.

To accommodate for a smarter communication, the resident or worker enter the complex according to where they come from and by what transport method.

The east entrance to the complex connects the building to R4 and the bicycle route along R4. It minimizes the car traffic further in towards the centre around Grorud mall. The bicycle entrance is placed close to the main bicycle route along R4 to give a convenient parking to those working and living in the complex.

The ground floor under the housing units connects the building hallways together so residents can enter the car and bicycle parking form any point in the building.

Four smaller retail- or office locals towards Romsåsveien allows small businesses to be established outside Grorud mall. It brings activity to the street and gives income to the building society.

- 1. Entrance
- 2. Storage
- 3. Residents bicycle parking
- 4. Garage buffer
- 5. Techical room
- 6. Car pool parking
- 7. ?
- 8. Bicycle parking
- 9. Retail locals 104 sqm.
- 10. Auditorium
- 11. Office space



TECHNICAL PLAN

One unit 1:50

- 1. Hallway
- 2. Owner-apartments
- 3. Rental-apartments
- 4. Technical room
- 5. Elevator
- 6. Private bathrooms
- 7. Shared bathrooms
- 8. Secondary circulation

9. Cross laminated timber walls
The interior walls are exposed structural clt walls 60 mm CLT

30 mm mineral insulation

60 mm CLT

10. Windows

The windows to each apartment gives good lighting conditions as well as functioning as the second fire escape,

11. Water shaft

Containing:

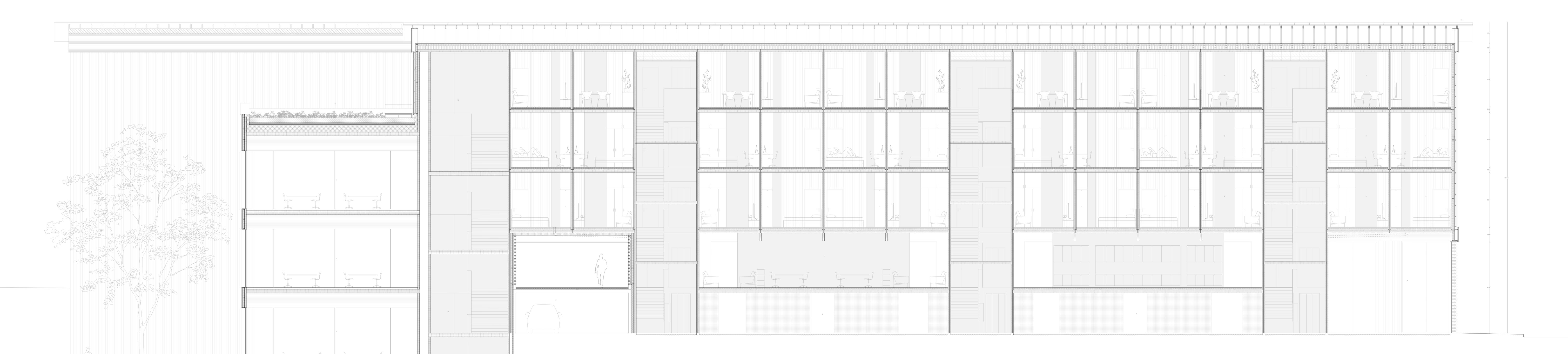
Waste water Cold water

Hot water

Sprinkler Roof drainage

12. Ventilation system
The ventilation system provides air to eight units. The horizontal system ensures a stable air distribution independent on the apartment configurations.





TECHNICAL SECTION

The main construction is built up by prefabricated CLT-elements. The choice of material is based on a fast and economical mounting process and a low carbon footprint. CLT is a suited material for small apartment units, since the spans are limited to a few meters. Regarding fire safety, the limited number of floors allows the construction to be exposed.

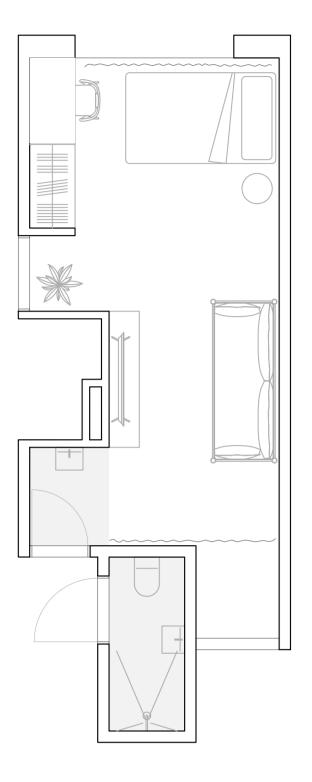
The walls between the units consists of two CLT-elements with insulation in between. This is to satisfy the sound requirements between the apartments. By dividing the walls, the sound won't transmit through the walls,

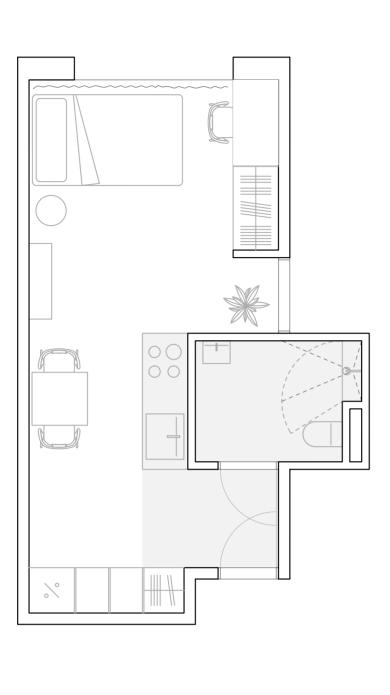
Floors are also constructed in CLT elements. Because of the low weight of the timber, sand or gravel is placed on top to stop low frequent sounds to transmit to the apartments below.

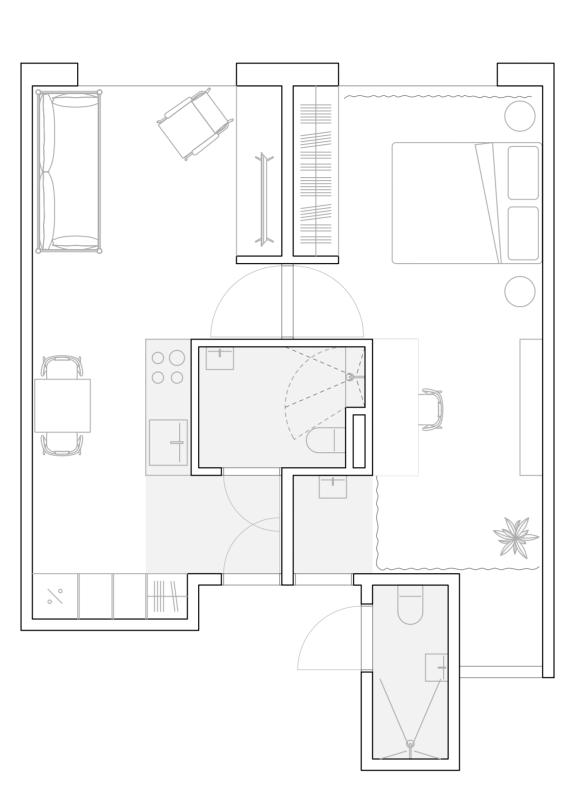
The roof construction over the housing is aired, with a 5 degree inclination. 4000 sqm. of standard PV-panels are mounted on top to produce energy.

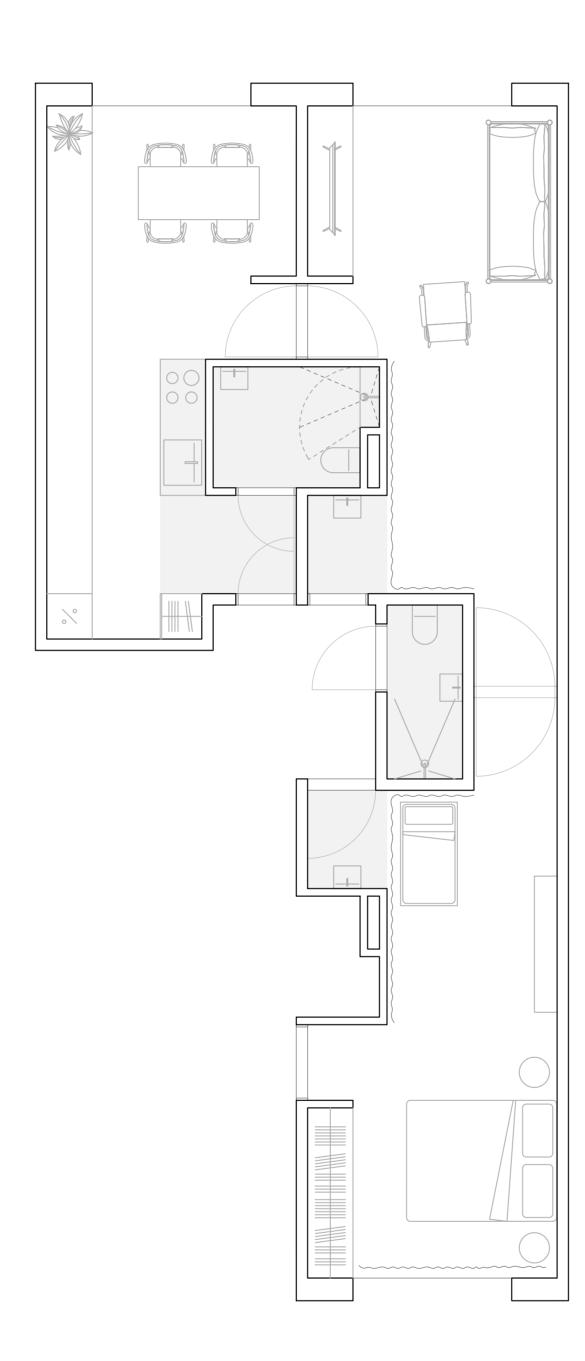
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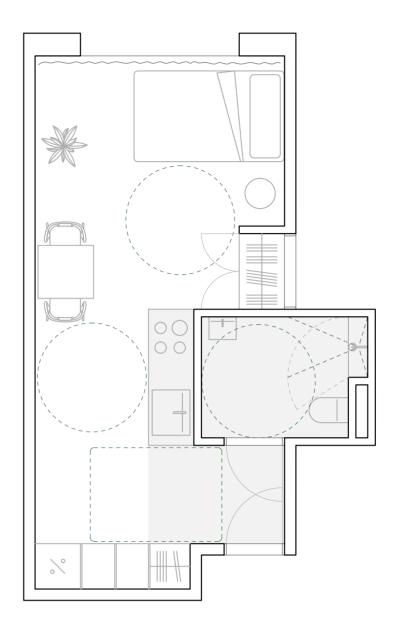
- ay
- Owner-apartments
- 3. Rental apartments
- 4. Technical room
- 5. Elevator
- 6. Retail locals
- 7. Shared kitchen
- 8. Shared gym
- 9. Storage and bicycle parking
- 10. Garage buffer
- 11. Office space
- 12. Office bathrooms
- ___
- 14. Technical room

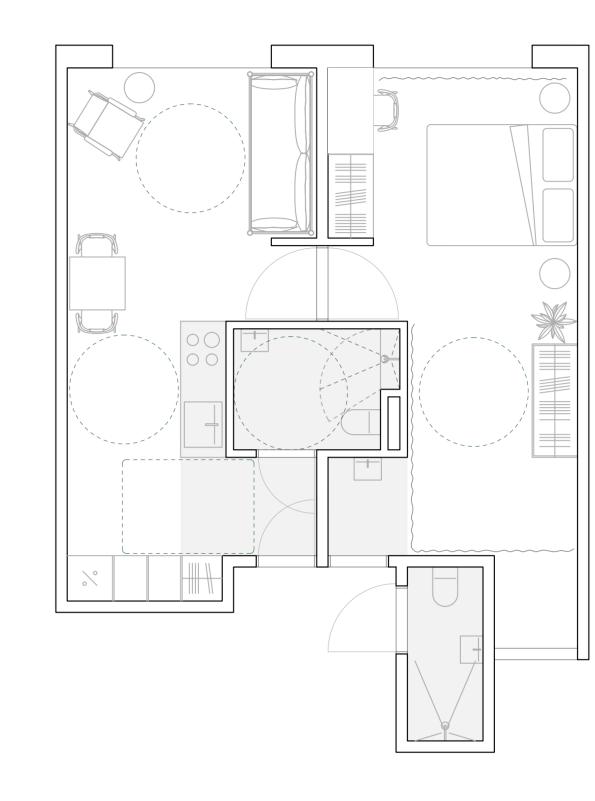












PLAN CONFIGURATIONS

A circular, secondary circulation between the units, allows the apartments to be connected. The apartments become a buffer, absorbing the changes in the residents economy and life situation.

Rental-apartment One Person 20sqm 1. Main room

- 2. Entrance 3. Storage room
- 4. Shared bathroom

Owner apartment One Person 24sqm 1. Main room

- 2. Kitchen area
- 4. Bathroom
- 3. Entrance

Double apartment 44 sqm

- Lounge area
 Kitchen area
- 3. Bedroom
- 4. Entrance 5. Bathroom
- 6. Storage room7. Storage room

Triple apartment 64 sqm *I. Kitchen*

- 2. Living room
- 3. Bedroom 4. Entrance
- 5. Bathroom
- 6. Storage rooms

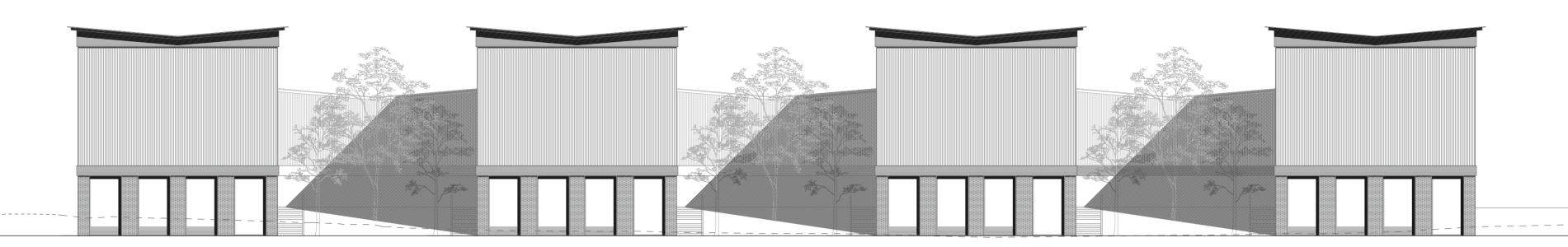
Single room disabled resident 24sqm

- 1. Main room
- 2. Kitchen area
- 3. Entrance 4. Bathroom

Double room disabled resident 44 sqm

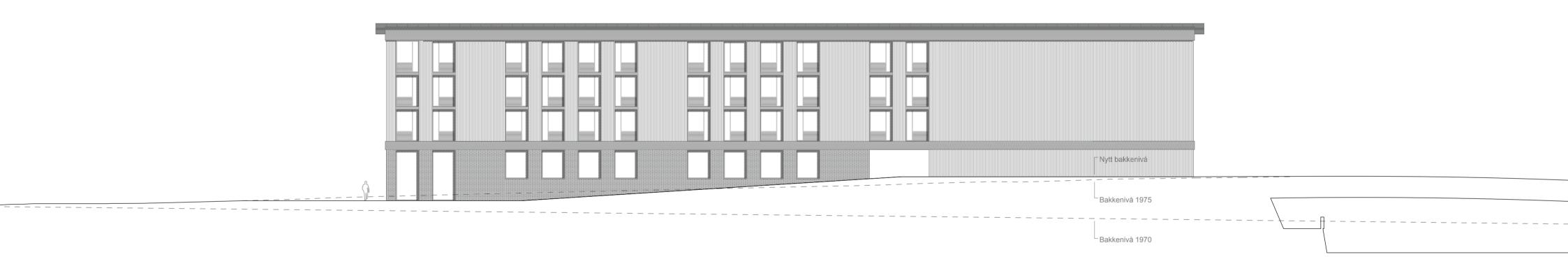
- Lounge
 Kitchen area
- 3. Bedroom 4. Entrance
- 5. Bathroom
- 6. Storage7. Storage





FACADE WEST

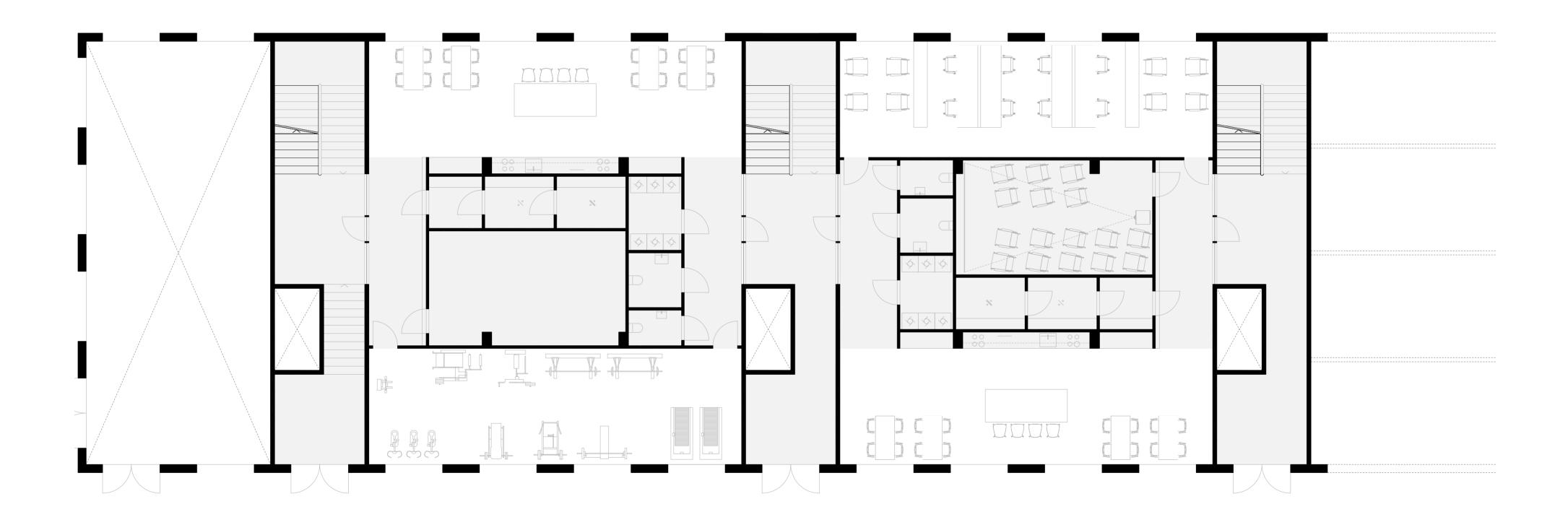
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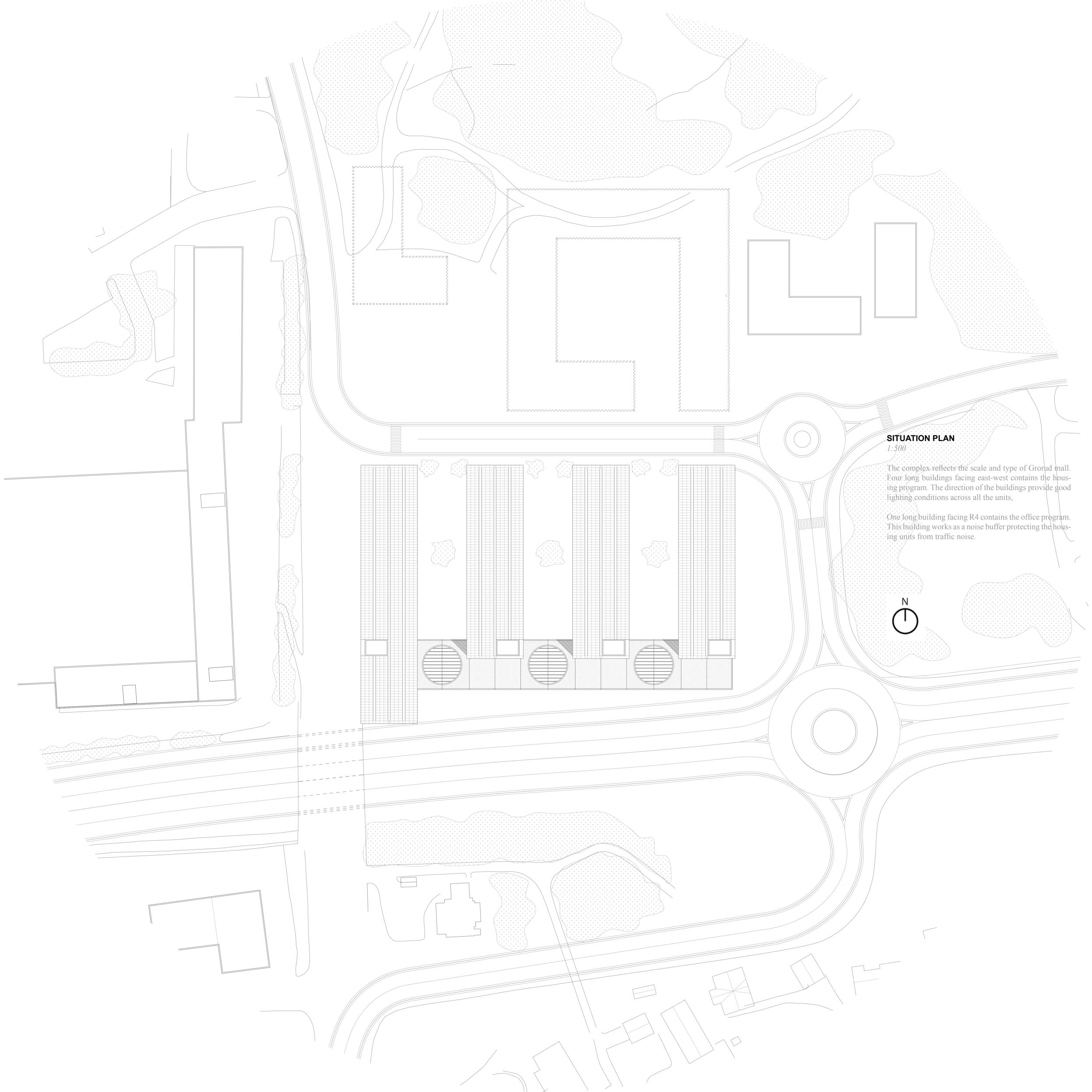


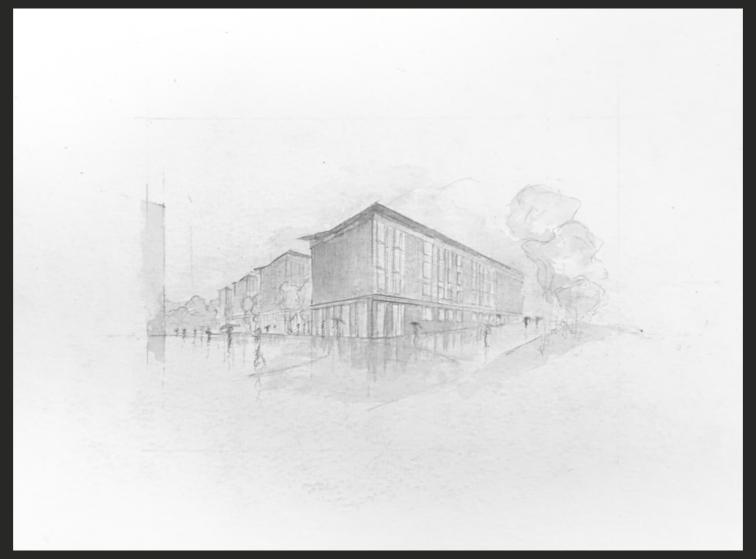
FACADE EAST

1:250









Exterior illustration



Interior illustration

HOUSING

AS HOME AND INVESTMENT FOR THE PRECARIAT

PRECARIAT /priˈkɛːriət/

people whose employment and income are insecure, especially when considered as a class. "most of those in the precariat are just trying to create a meaningful life for themselves"

most of those in the presumer are just trying to ereate a meaningran me for themserves

Housing investments has since the post-war period in Norway been at the heart of our private economy and a social success story. 80 percent of Norwegians own their own houses, giving them economic security. However, in urban areas, and particularly in Oslo, high prices now make it extremely difficult for many people to make their first housing investment. People with low or unpredictable income easy to the necessary mortgage and are relegated to an expensive rental market.

At the same time, the number of people with an unpredictable income is rising. Self-employment and temporary contracts are on the rise and have created a new social class, the precariat. While not necessarily being poor, the unpredictability or precariousness of their situation make them victims of the traditional housing concept. Housing as home and investment for the precariat is a project that through architecture reacts to a specific need for a specific group in a specific place at a specific time. It offers a predictable investment to those living unpredictable lives.





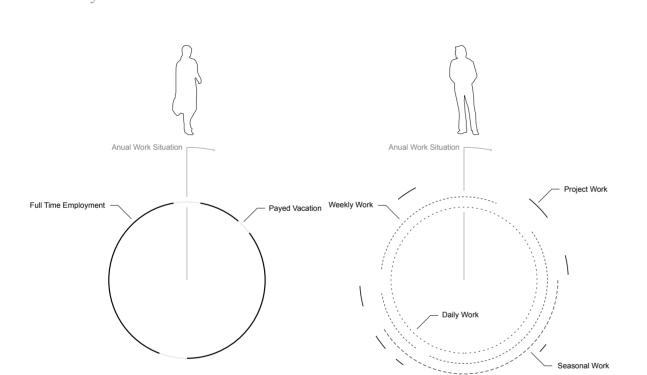
WHO THE PRECARIAT

future and settling down

The precariat is a new social class that is growing throughout the western world. It is a result of a changing labour market where long-term and stable employment is becoming rare. The group is characterized by having unpredictable careers; being self-employed or working on short term contracts. Thus their economy will vary greatly from one month to another.

It is an exhausting situation, where the time between jobs is used to search and apply for new assignments. Moreover, a constant change of workplace or living quarters make it difficult to expand one's social circles and have close personal relations. The uncertainty of the situation prevents people from planning their

The unstable income does not only affect the daily economy. Without a stable income, banks are reluctant to provide a mortgage. This excludes the group from the housing market. This is not only a problem for the individuals. It has an impact on the city.



To reach a fair salary, the precariat often needs many jobs, the result is a heavy schedule with a number different employers, while time between work gets used to find and apply for new jobs.

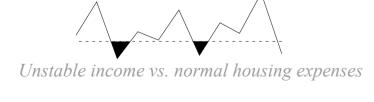
THE HOUSING MARKET IN OSLO

The housing market in Oslo as we know it today is a result of decades of political decisions. In the post-war period, housing was a need that had to be fulfilled. The housing structure was based on a regulated, self-ownership market. The residents would therefore be offered a housing mortgage subsidized by the state in order for to own their own apartment.

As the political winds changed in the 1970s, government housing policies got drastically changed in the 1980s. The market was liberated and opened for private investments. After a fall the 1990s, housing prices in urban areas have raised dramatically. As a result, and despite state subsidies, more and more people are today left out of the housing market in the urban areas.

Today, we see a new public debate about housing policies in Norway and there is a renewed interest in alternative investment models. While architecture is a result of housing policies, it can also play an active role by designing housing for specific groups.

Stable income vs. normal housing expenses



Unstable income vs. adaptive housing expenses



The adaptivity is accomplished by combing rental and self-ownership apartments

WHAT HOUSING

The project aims to create housing that benefits the precariat economically and socially. The architecture can through specific physical interferences within the regulations of today enable people without a stable economy to invest in their own home.

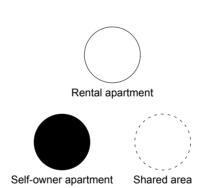
AFFORDABLE

Three factors help reducing the costs. First, the location of the project is within an area in Oslo with relatively low sqm. prices. Secondly, the construction consists of repeated prefabricated elements which lower the production costs. Expensive elements such as elevators and car parking are limited. Thirdly, the size of the apartments have been minimized, giving room for a higher number of apartments and thus lower costs per resident.

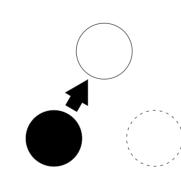
ADAPTIVE

To cater for the residents' changing economic situation, the apartment units have been made adjustable. A person with an unpredictable income should have the opportunity to adapt the living space and thereby the living costs according to what he or she can afford at any given time. This added flexibility is worked through the program and communication. The technical solutions are designed to accommodate the program with a similar flexibility.

The self-owner units are accompanied by the same number of units for rent and a shared area. The combination of these three elements is what creates the flexibility of the project.

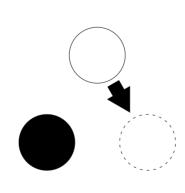


The self-owner apartments are the basis for the investments. The owner has the possibility to extend the apartment's floor area by renting the neighbouring unit(s).



When this unit is not used by one of the homeowners, it will be rented out externally. The flexibility of the program is further enhanced with a shared area on the first floor for all residents.

Rather than multiplying the number of facilities to adapt to any given situation, some facilities will be shared. This opens up for more adaptable rooms, and it is a cost saving element.



SOCIAL

The three entrances to each of the housing units are connected to the shared kitchen and hangout area on the first floor. The placement of the shared area allows informal and spontaneous meetings between the residents, increasing their social interferences.

Each building works as a co-live/co-housing unit where 73 people share the common area. The closest reference would be a medium office. Studies show that a number below 150 makes it possible for residents to get to know each other. By combining all the shared facilities in one area, the shared space will be an area with life, there will always be people there to hang out with.

WHERE GRORUD CENTRE

Grorud became one of the most important areas for Oslo's expansion in the post war period, and has since been carrying the social and economic consequences of the rapid growth. Grorud centre was supposed to function as the local community centre providing space for retail and being a social meetings place, with Grorud mall, which today has a protection status, as the centrepiece.

In the 1970s, the road R4 was upgraded to highway standard. With this, the local centre ended up as an intersection with heavy traffic, a shopping mall, a few apartments and a petrol station.













The area is now part of Oslo municipality's plans for transformation, focusing on creating a more compact centre around the metro- and bus station. The plans are closely connected to the future downscaling of the R4 from highway to a city street. This will reduce the traffic and the noise levels in the area. As a result, more properties along the road will be available for housing. This project will contribute to the positive development of the area by offering housing for young

people that takes part in its transformation.

The chosen site is well suited for the project. It allows a large housing construction and is well connected to the rest of the city by metro and buses. The site requires a mixed-use building, with a fairly high degree of utilization.

The site covers roughly 9 400 sqm. Few tall neighbouring buildings in the area ensures good light conditions throughout the year. Today's petrol station has intoxicated parts of the ground and will have to be treated before new construction can take place.

The topography of the site is dominated by a flat area at 190,0 m a.s.l. This is the original level from before the highway was built and the same level as Grorud mall. The bridge in the south west corner of the site tangents the site at 192,5 m a.s.l. The site also has an inclination down towards the R4 at 188,5 m a.s.l that lets the traffic under the bridge. A large building complex on the site must deal well with the topography. The three main levels became important for how the complex meet the surroundings.

KEY NUMBERS

Sqm. Site	9 400
Sqm. Building Footprint Utilization Built area	6 930 73%
Sqm. GFA Utilization GFA Sqm. Total Housing Sqm. Total Shared space Sqm. Total Storage Sqm. Total Office space Sqm. Total Retail Sqm. Total Parking	19 190 204% 8 510 2 740 1 200 4 000 400 2 340
Number of Apartments	288

WHY OWN?

- 1. DISTRIBUTION OF WEALTH
- 2. ECONOMICAL SECURITY
- 3. INCREASING FORTUNE
- 1. BETTER CARE OF HOUSE AND SURROUNDINGS

There are many reasons for letting people own their homes; personal as well as social. First, a home owner is more likely to save money. Since the mortgage requires a monthly payment, it is a forced saving. Secondly, home owners care for their property and its surroundings because any negative or positive change in and around it will affect its value and thereby the owners' personal economy. Thus, there is a huge social and environmental potential in an ownership structure. Thirdly, ownership of homes contributes to a more economically equal society. As 80 percent of the population in Norway are home owners, a great deal of the national fortune is spread out among the population, to some extent balancing out differences in income.