

ensemble

an exploration of reciprocity and the act of giving to reinvent the elderly home

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Technical University Delft, 2020

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It is not about how old you get.
It is about how you get old.

the goal

The goal of this design is to offer a place where elderly with and without care can live together with others, which takes into account the wishes and needs of elderly and gives them something to look forward to. A place that does not exclude elderly from society, but makes them part of it again. One that stimulates them, encourages them to participate and contribute, enjoy, laugh. In which people look after each other and take care of each other. A social net. A place they can transfer their knowledge gathered throughout life, tell their stories, and one in which they can in turn learn from others.



research

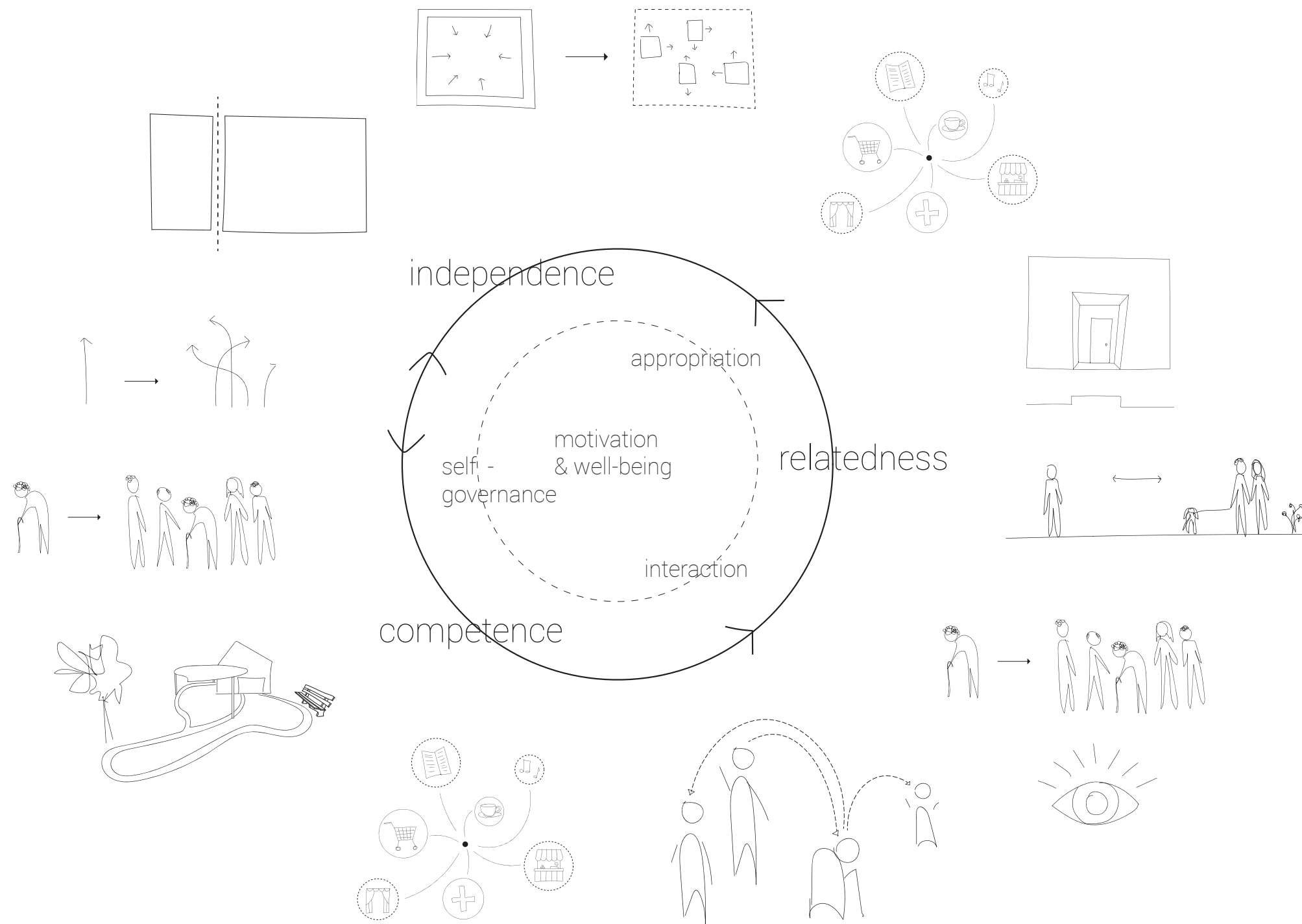
From the research it becomes clear that there are actually three psychological needs that if paid attention to could stimulate elderly to stay engaged and enhance their intrinsic motivation for life in general, mental health and well-being. These are ***independence, relatedness and competence***.

The main focus points are:

- self-governance
- mixed generations
- nearby and easy accessible facilities
- privacy, a place for one's own

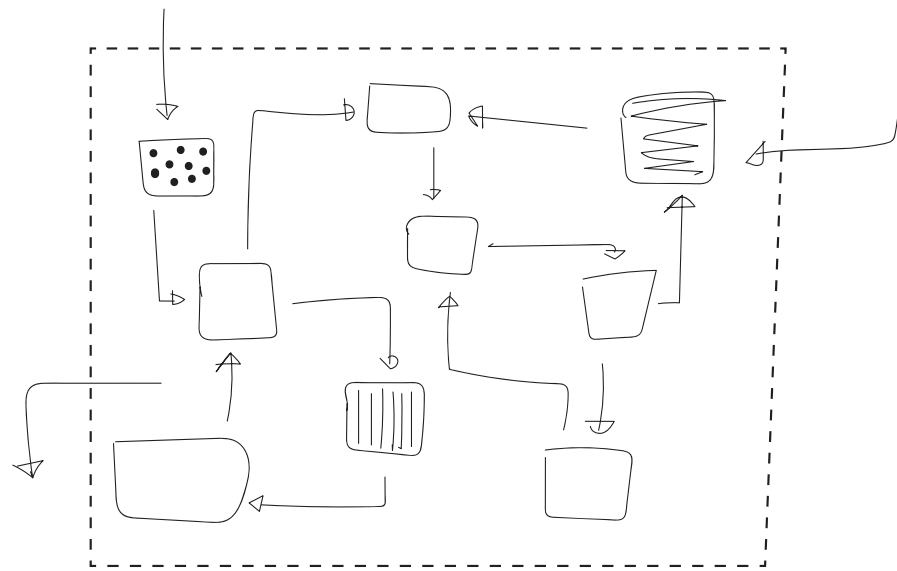
- planned and unplanned encounters
- small informal groups
- room for appropriation to create a feeling of home
- visibility

- design that enables the execution of daily tasks
- stimulation through intergenerational activities

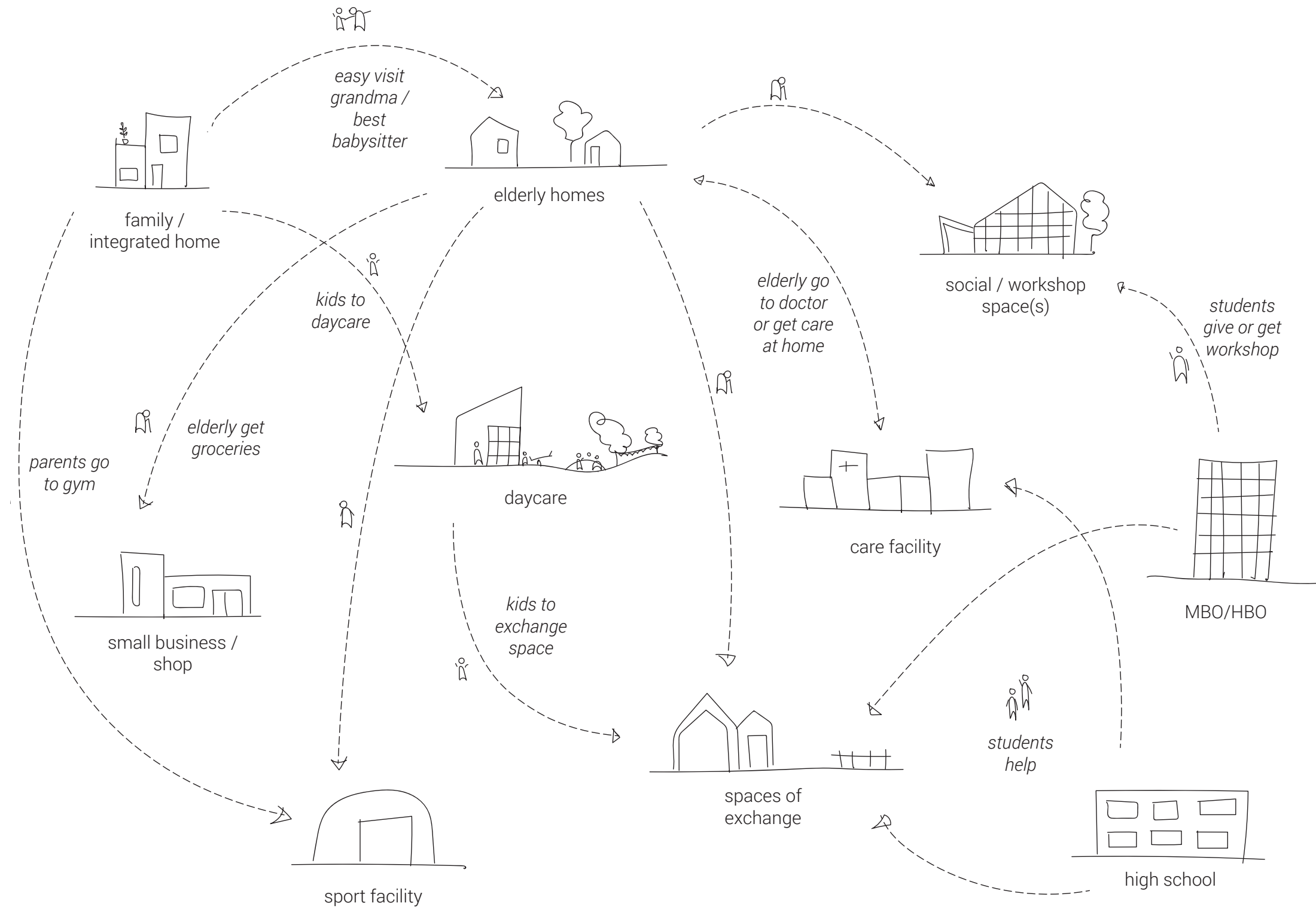


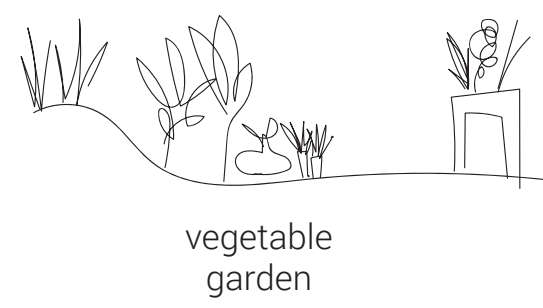
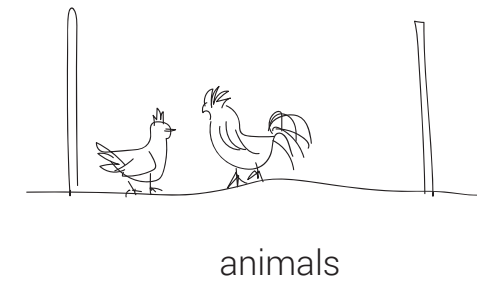
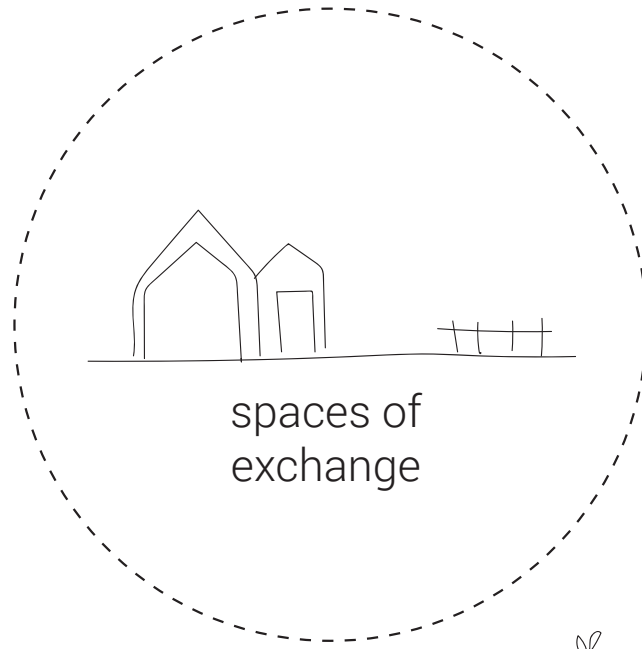
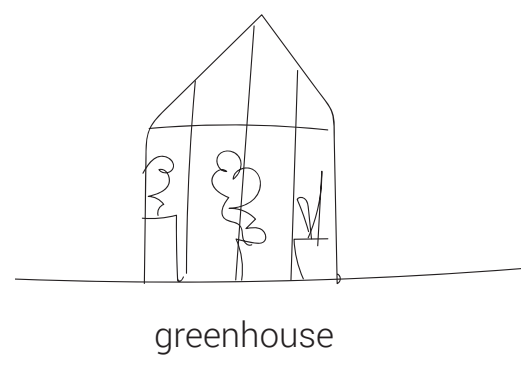
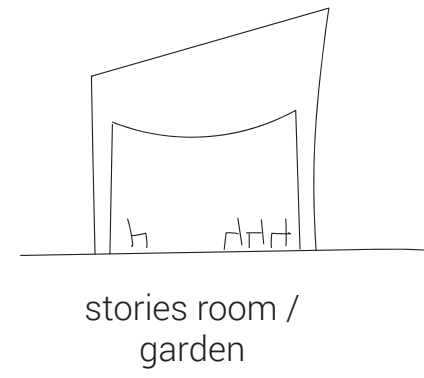
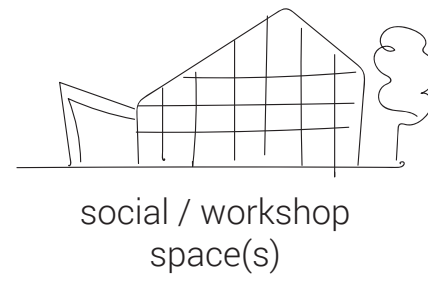
concept

There was one thing that stood out from the research: the fact that people want to stay part of something, or add to society, be useful, do things and are very willing to give. To give some of their time, their experience, their stuff, their knowledge, etc. This really touched me, since I think it is a very beautiful thing and it is actually the reason why I chose this studio in the first place: the possibility to do something for someone. It appears I am not the only one who thinks this is something that gives purpose to life. For that the design will be based on the act of giving, or said differently: **reciprocity**. A community based on reciprocity is one that is about giving and getting in return, which will enhance the notions that came from the research: independence, relatedness and competence. How? Well: getting something extra from others in the form of informal support networks increases independence, in the form of attention will increase relatedness and in the form of knowledge will increase competence. And giving will have the exact same effect.



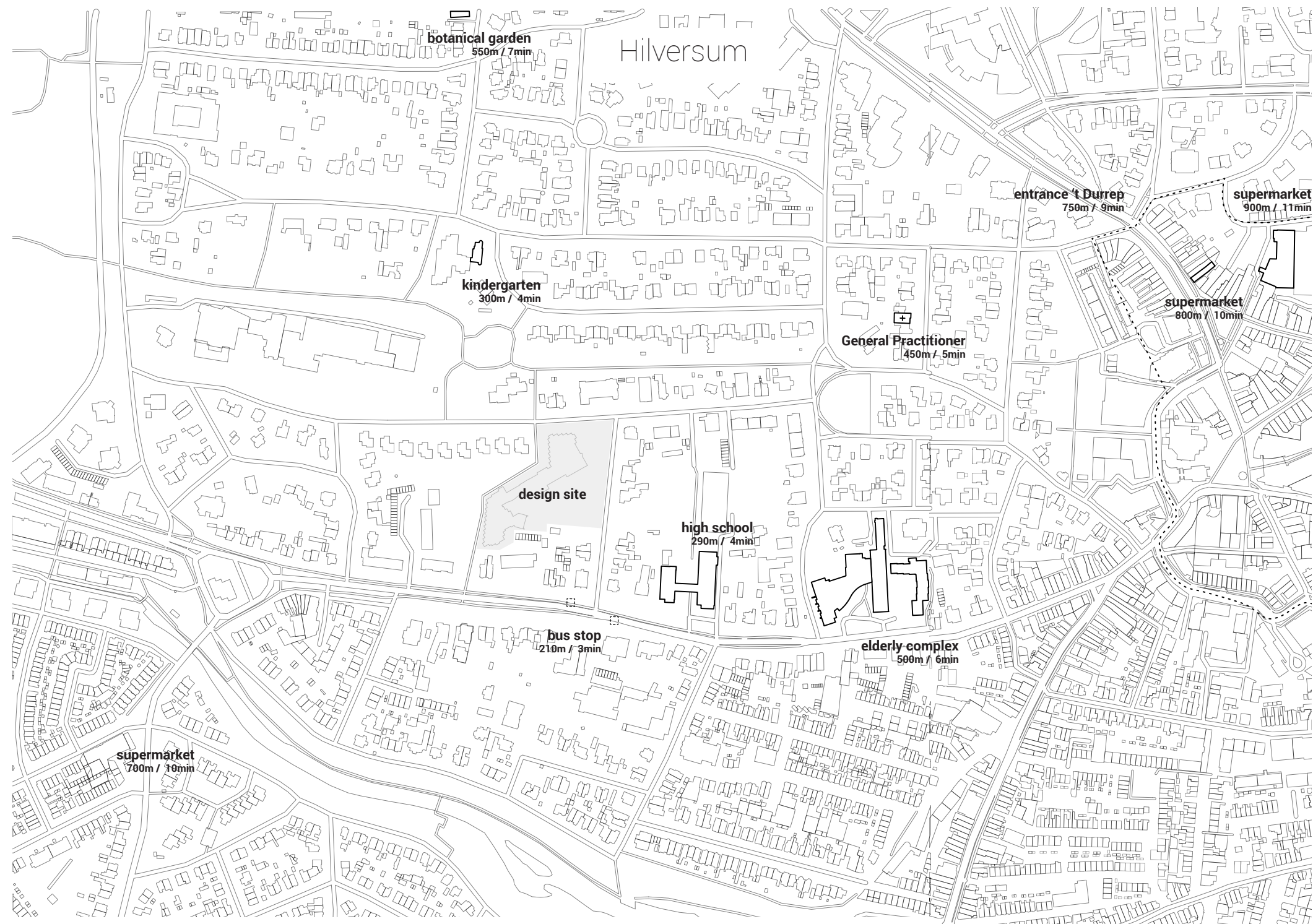
reciprocity

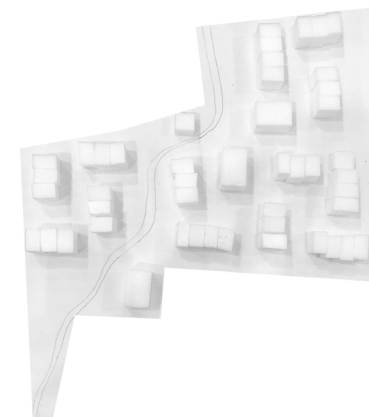
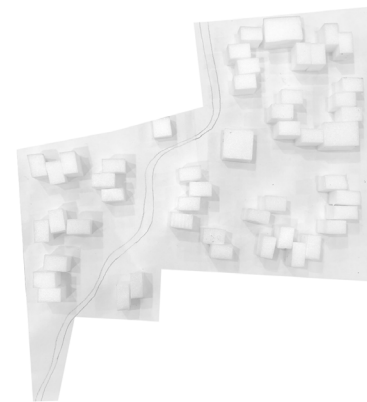
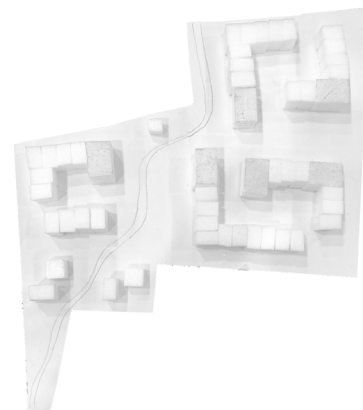


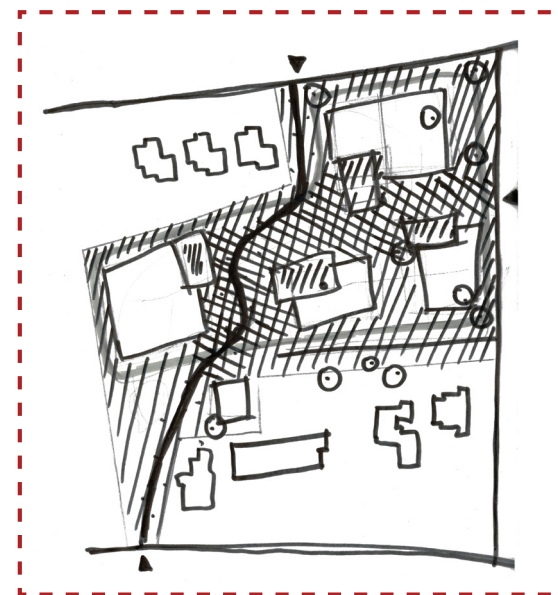
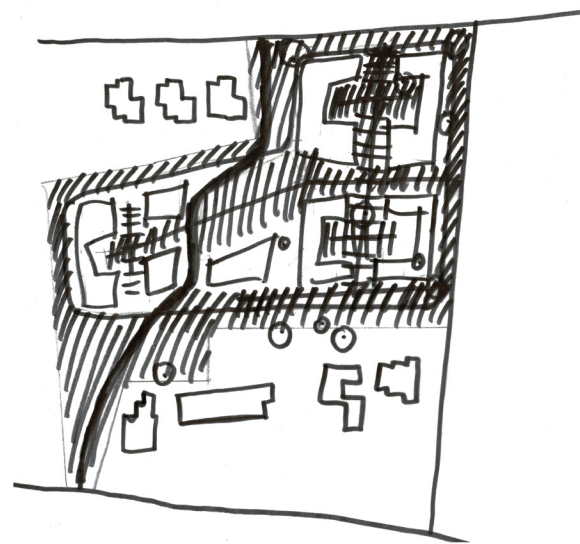
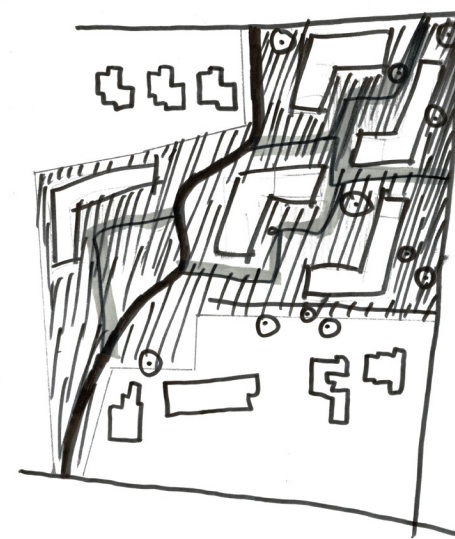
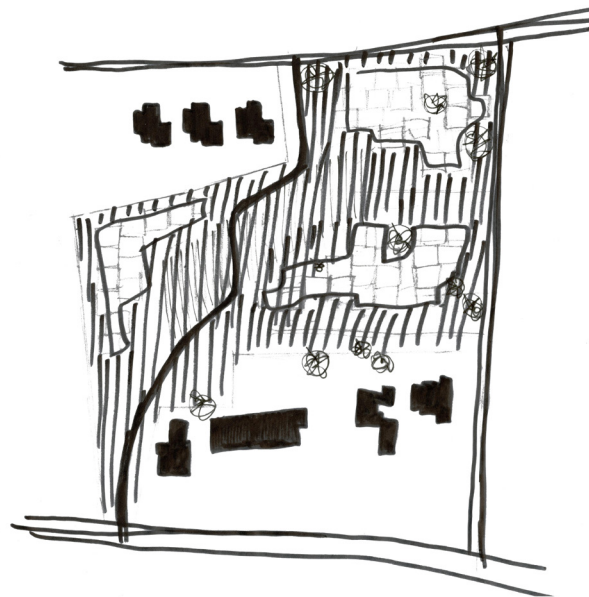


the masterplan

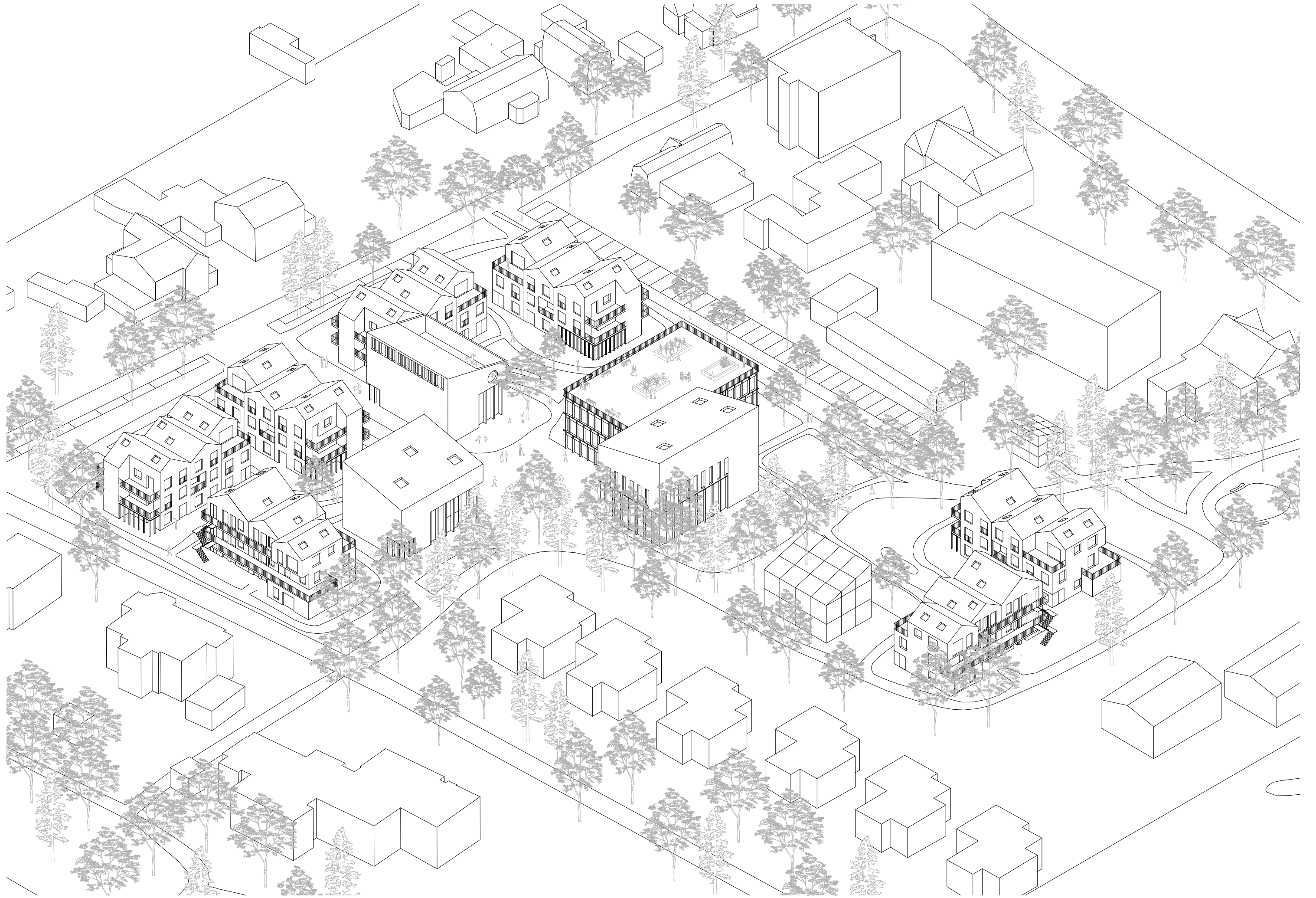
The design of the masterplan is a direct result of the research. The program and composition, the relation between the different functions and the open space all enhance the three main themes: independence, relatedness and competence. The plan allows elderly to live independent, while being part of a larger community that encourages them to go out and participate, be active and engaged. Is give them the opportunity to enjoy the beautiful green surrounding, to overlook life that happens around them and be part of that whenever they want to.





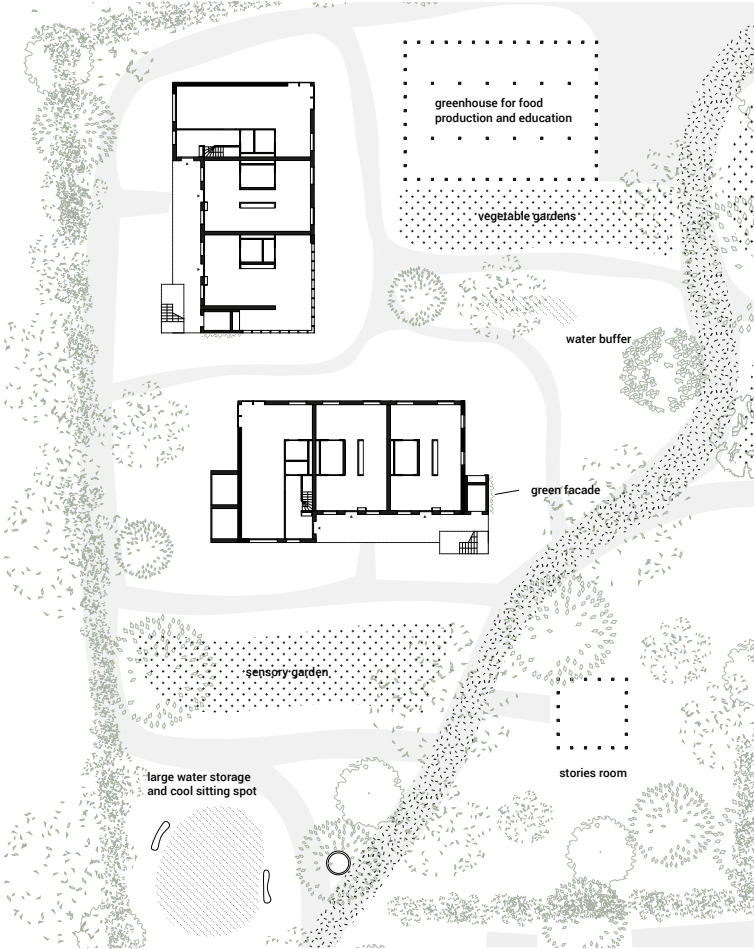


the other way around: a search for what spaces to leave open in stead of what to build. Hatched is what is meant as open public space, the place where life happens and where nature and life intersect.



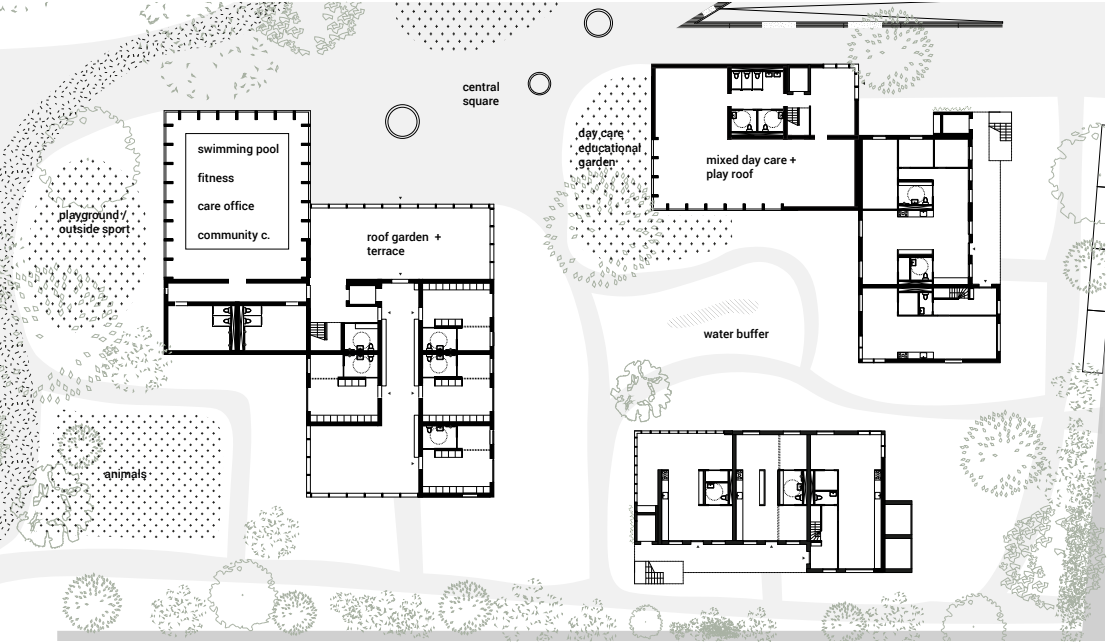


green ensemble



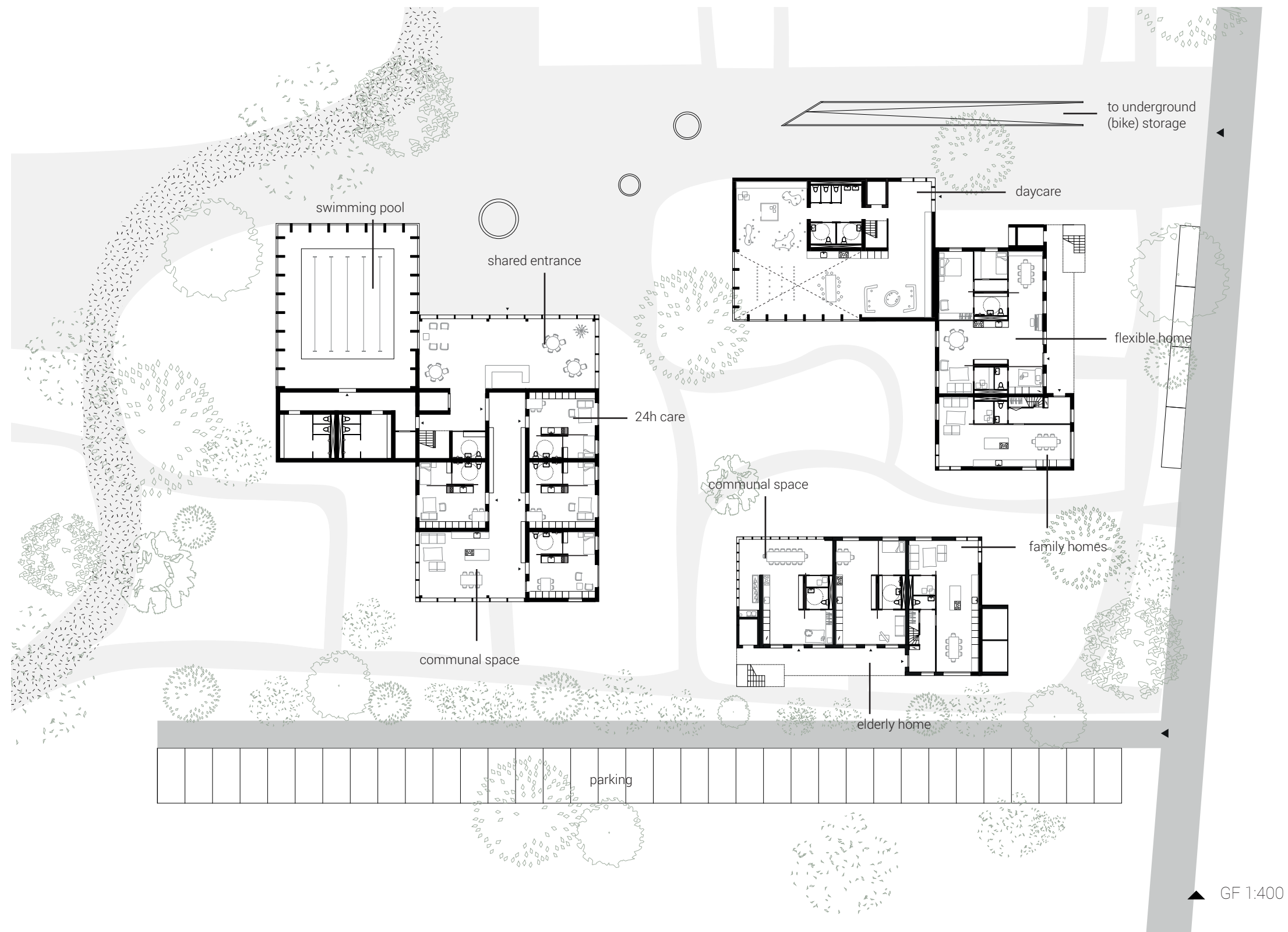
social ensemble

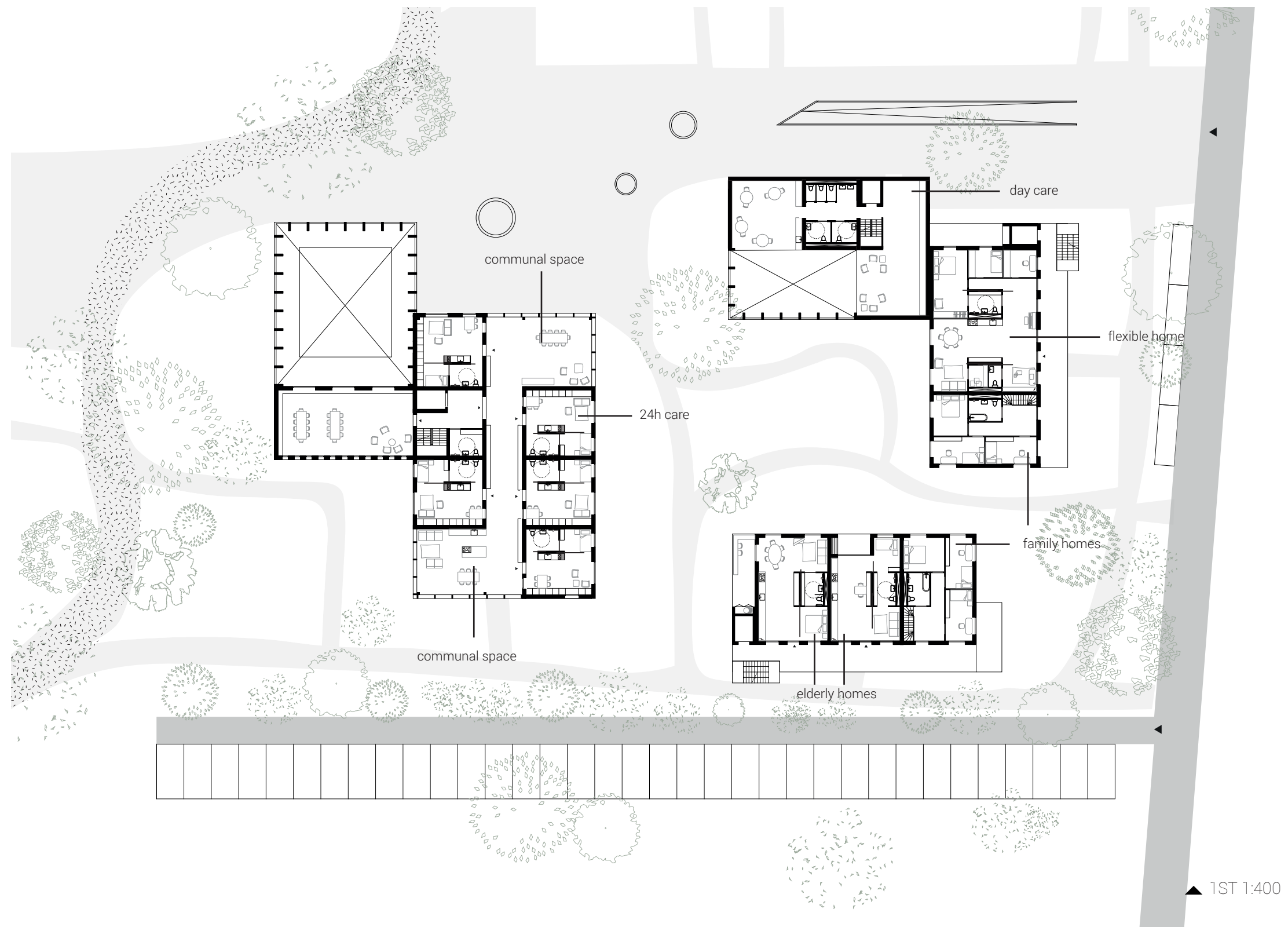
active ensemble

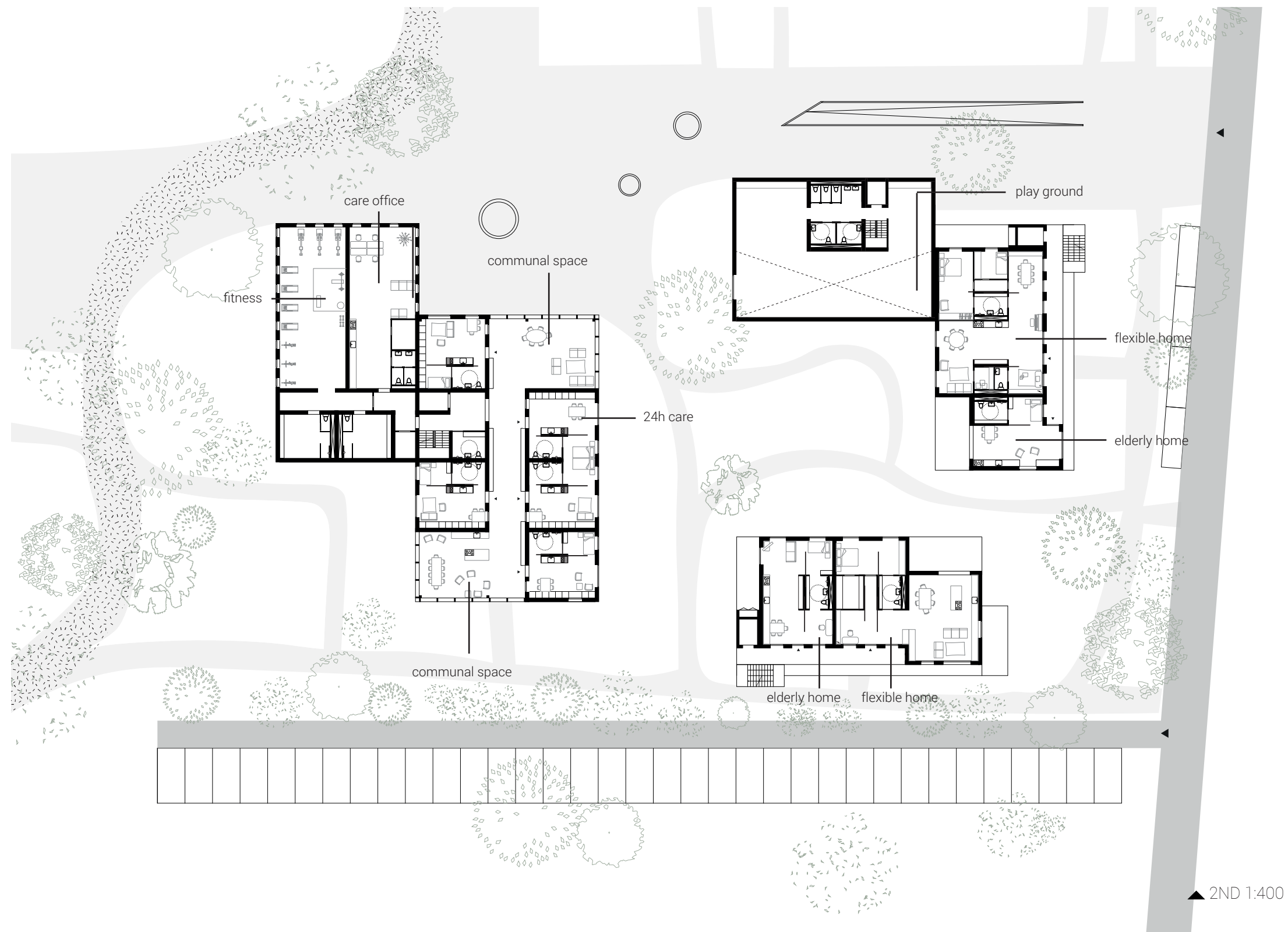


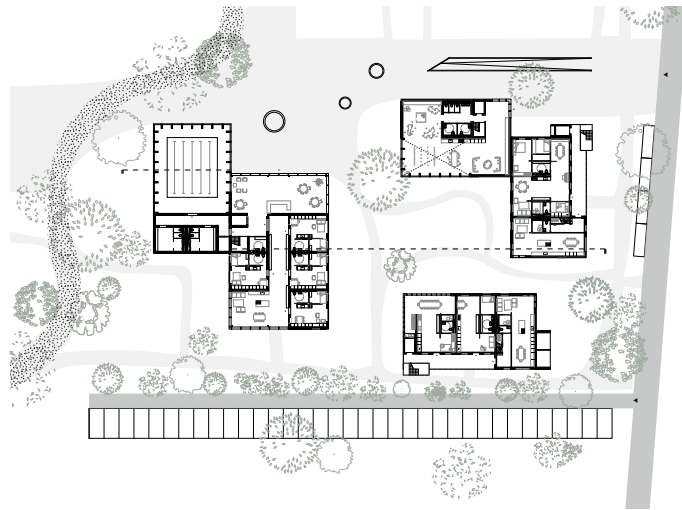
the ensemble

The ensemble that the project focusses on is the active ensemble. Here the most vibrant functions of the plan are located, encouraging elderly to really participate. It is a place where all ages come together, to live, learn, sport, relax and most important, to exchange. To exchange stories, knowledge, a helping hand, and smiles. Where care at a more intense level is possible, but independent living is still the focus. The garden connecting all the buildings, overlooked by the residents surrounding it, gives the possibility to meet, go for a walk or just see life happening from a safe and dry home.

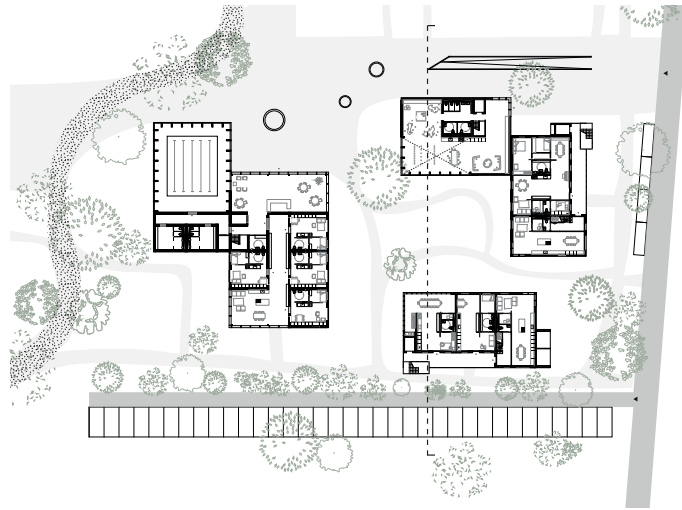




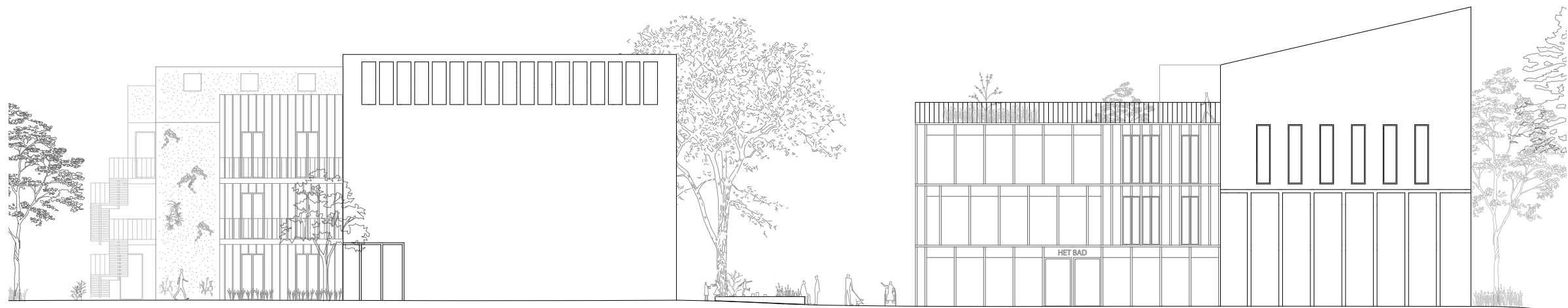




sections 1:300



sections 1:300



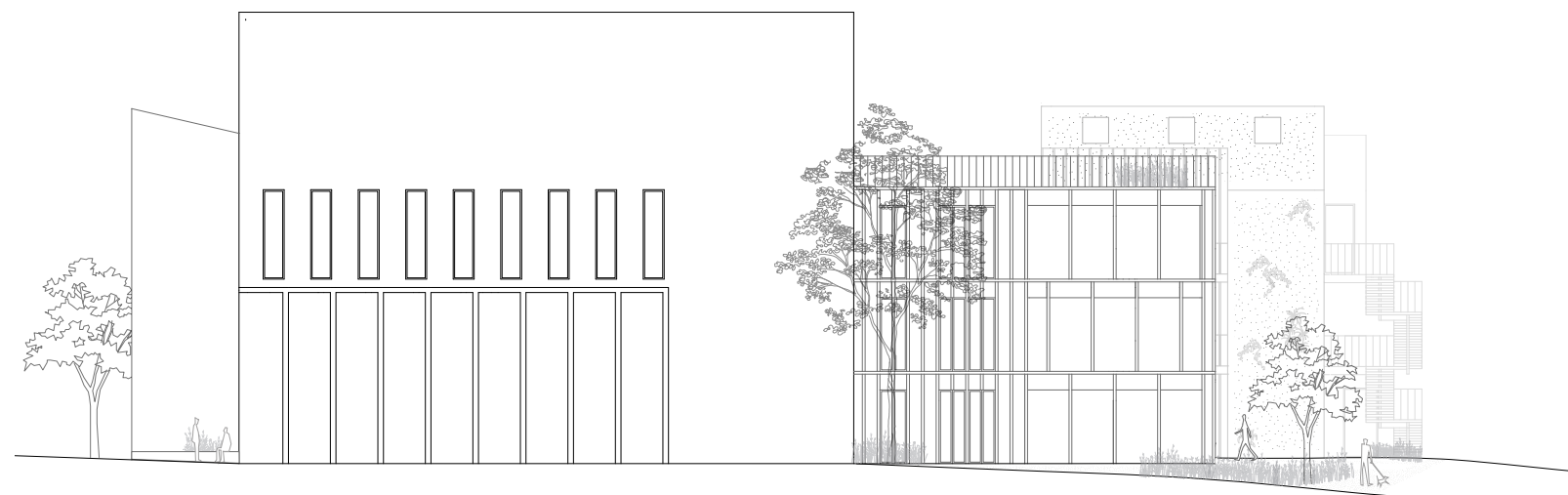
north facade 1:300



south facade 1:300



east facade 1:300



west facade 1:300

climate

The green character of the neighbourhood and the historical walking path have been leading throughout the design. Visible water collection and storage, a greenhouse, vegetable gardens, flower beds and the use of natural and reused materials contribute not only to the biodiversity of the plan, but also add an educational character to it. This way people become and children grow up being more conscious about our natural environment and resources.



energy

1. triple solar panels (PVT) in combination with a heat pump and boiler generating
 - electricity (lamps and charging stations (cars))
 - warm water (floor heating and shower)
2. low temperature floor heating
3. heat recovery of exhausted air (HRV) to preheat fresh ventilation air.
4. triple glazing
5. integrated solar shading south facade

sustainability / biodiversity

1. Circular materials
 - laminated timber (CLT) and HSB structure
 - Moso Bamboo facade material
 - Hempflax (hemp insulation)
2. re-use of old materials
 - bricks of old building
3. green facades
4. trees, wild flowers and grasses for insect
5. re-use of rain water & natural water storages

(social) well-being

1. green surrounding
2. social control
3. acoustic control
 - insulation
 - curtains
4. a social network: shared spaces and possibilities for spontaneous encounters



rainfall in Hilversum is 804 mm / year = **804 L/m²**
 1 mixed housing block has a roofscape of 240m²
 that means $280 \times 804 = 225.120$ L / year

a single person household uses an average of 46000 L per year.
 50 - 80 % of this is used for grey water.
 That means that the rainwater can be used by **6 to 9,7** single person households which is about the number of people living in one block.

the rest of the water (falling on the ground) will be collected in a natural storage and could be used for watering the plants of the greenhouse and in case there is an extreme drought.

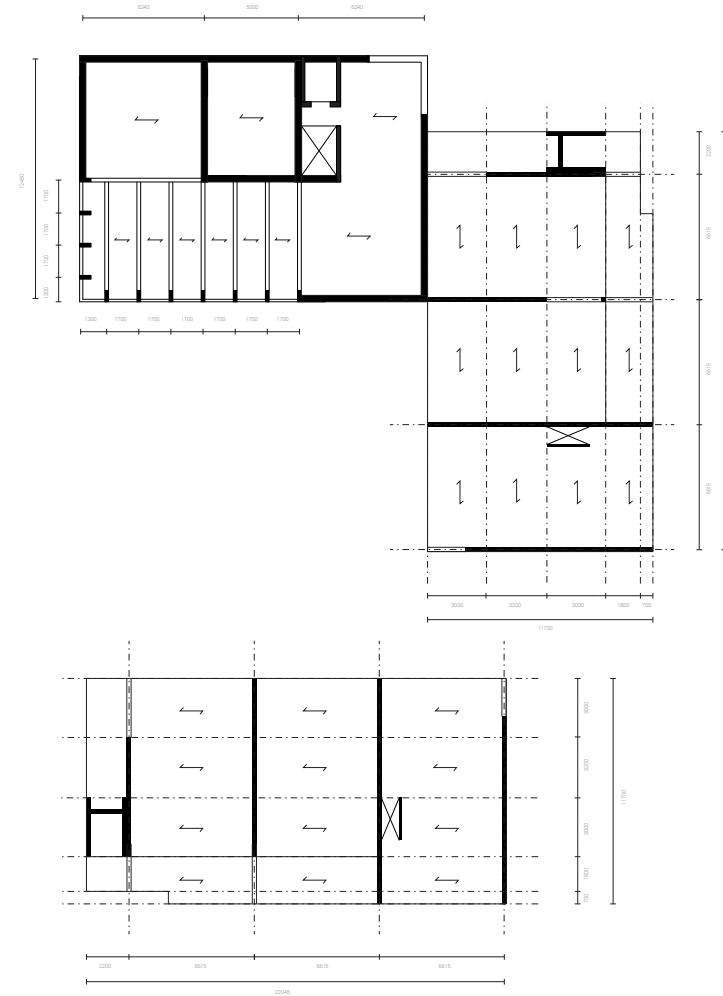
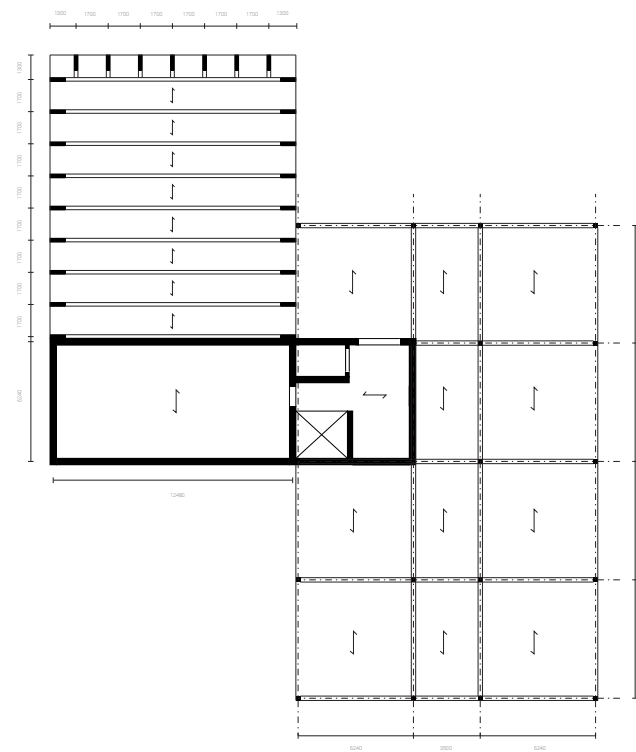
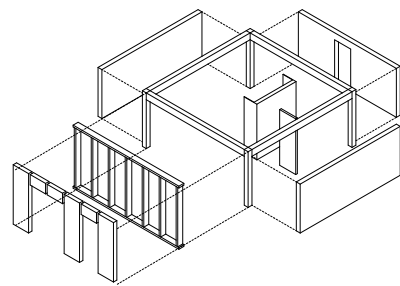
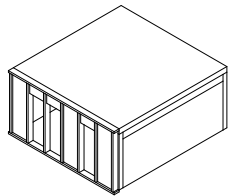
construction

The construction of the buildings reflects the permanency of their purpose. The public buildings have a more flexible construction, allowing other uses in the future, while the dwellings have a more permanent construction, making them suited for living. Though the structure of the dwellings is more permanent, the infill is still flexible to be able the house different types of dwellers. The choice for wood in both cases again was a logical one, reflecting the green surrounding and contributing to the biodiversity of the whole.



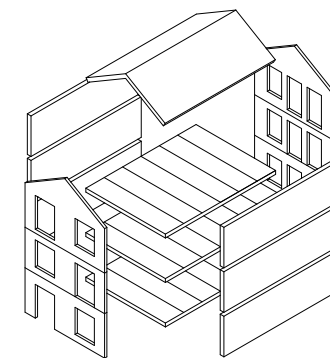
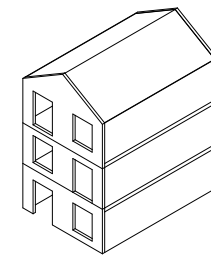
flexible timber construction:

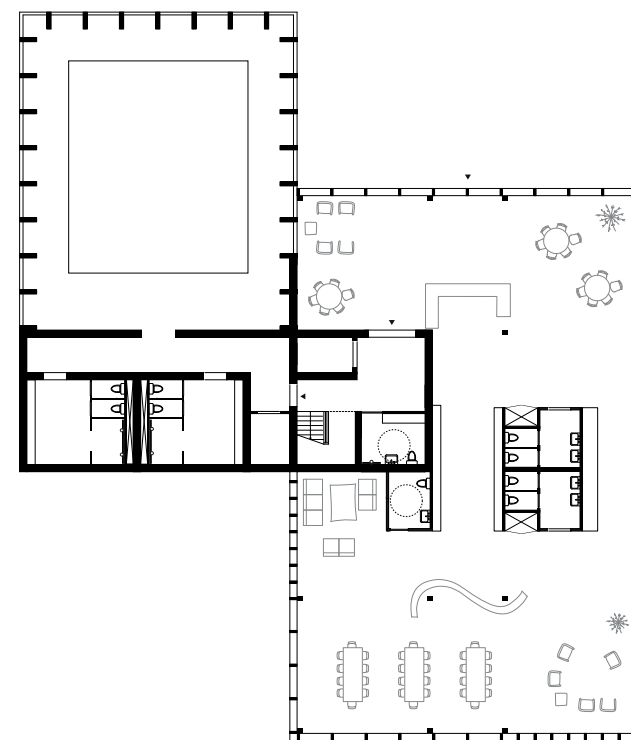
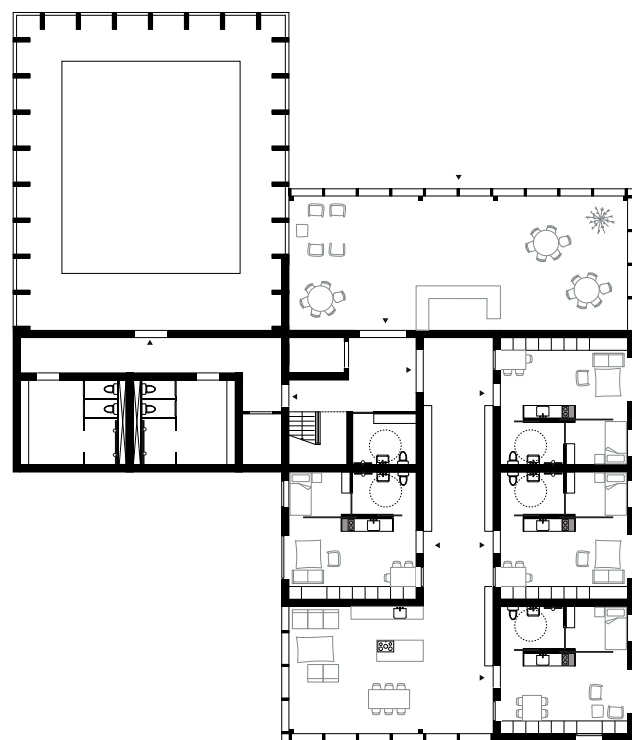
- laminated collums and beams
- CLT core



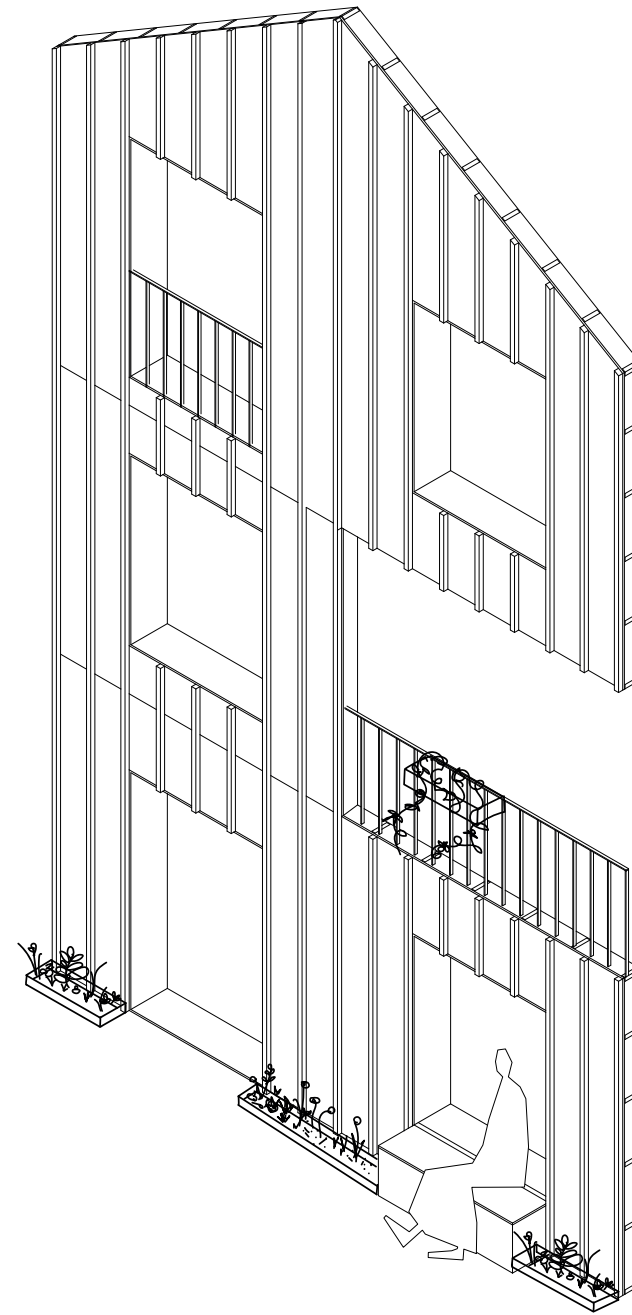
more permanent timber construction:

- HSB (timber frame) prefab panels





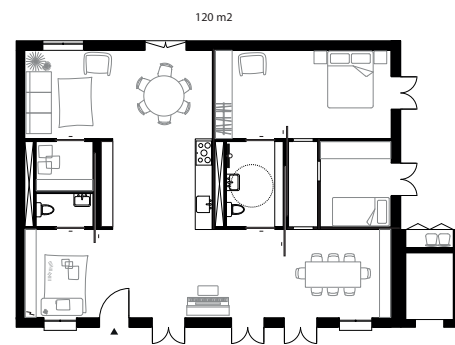
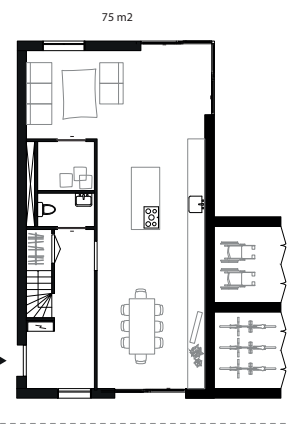
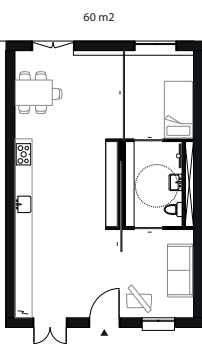
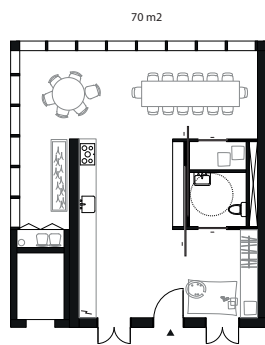
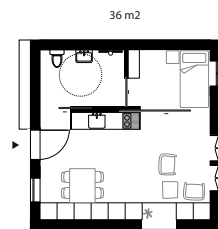
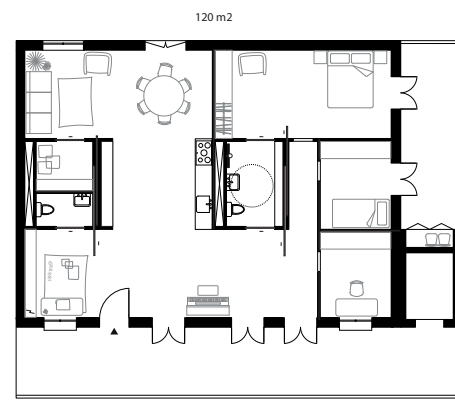
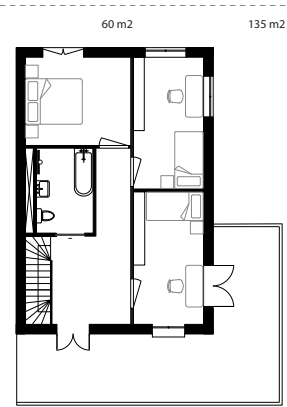
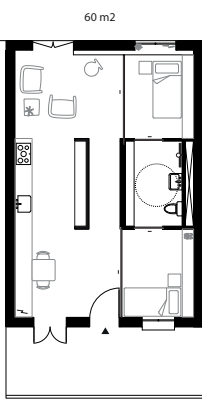
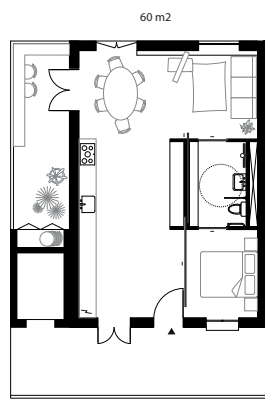
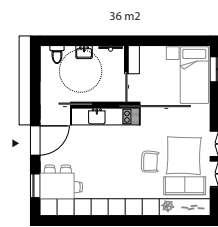
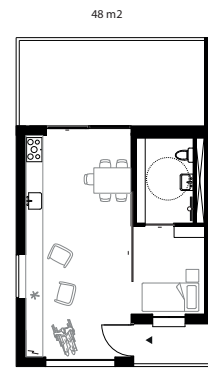
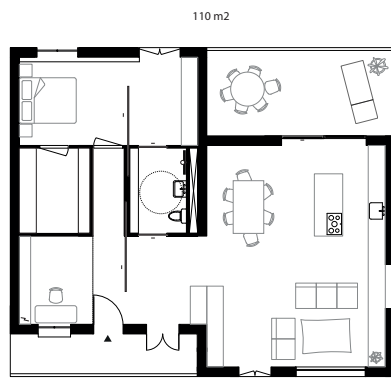
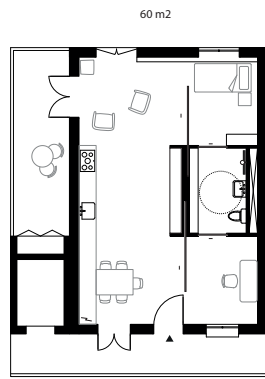
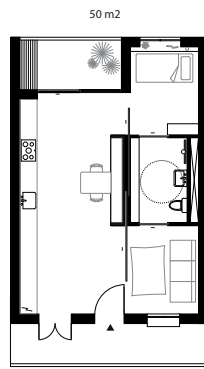
flexibility of the plan



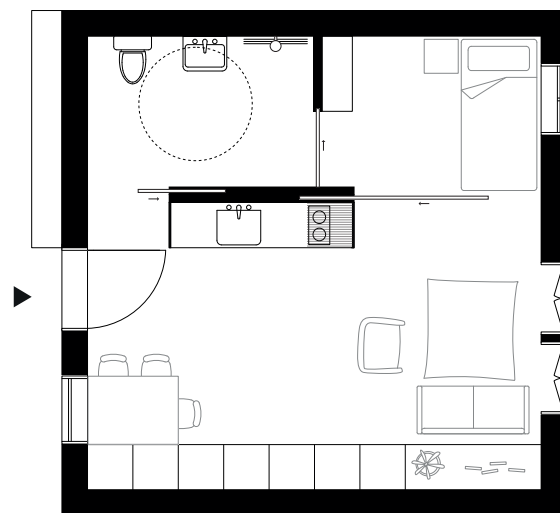
The facade is built up of prefabricated HSB panels, finished with wood stressing the verticality of the green surrounding (trees).

the home

The home is where the residents can live the way they want to. Where they can retreat if they like, but also invite others or open their doors and windows and be part of public life. The different types of apartments offer a perfect fit for everyone, from young to old and from singles to families. Smart solutions, like moving closets and walls, allow the residents to adapt the home to their wishes.

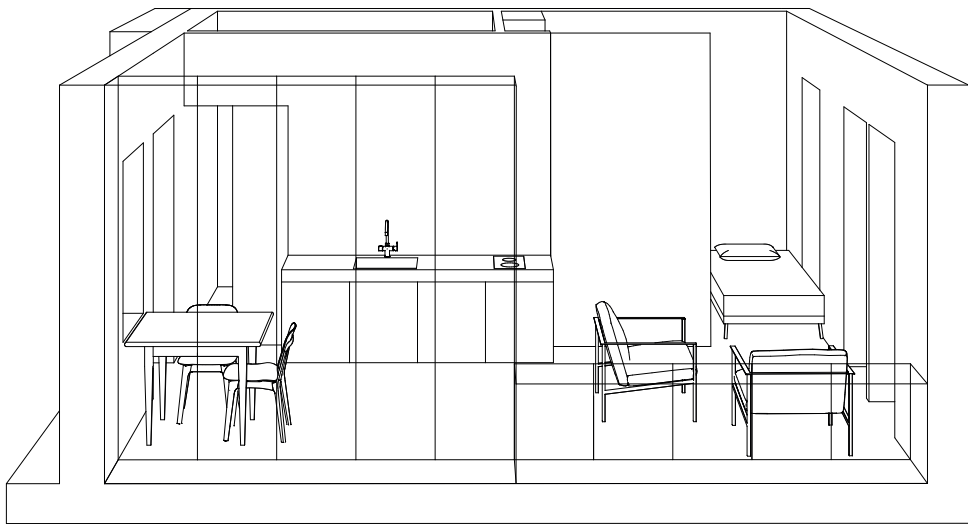
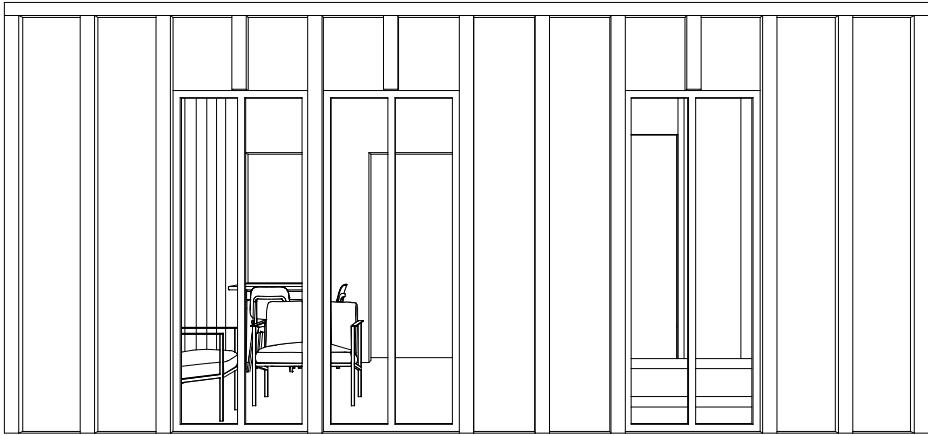


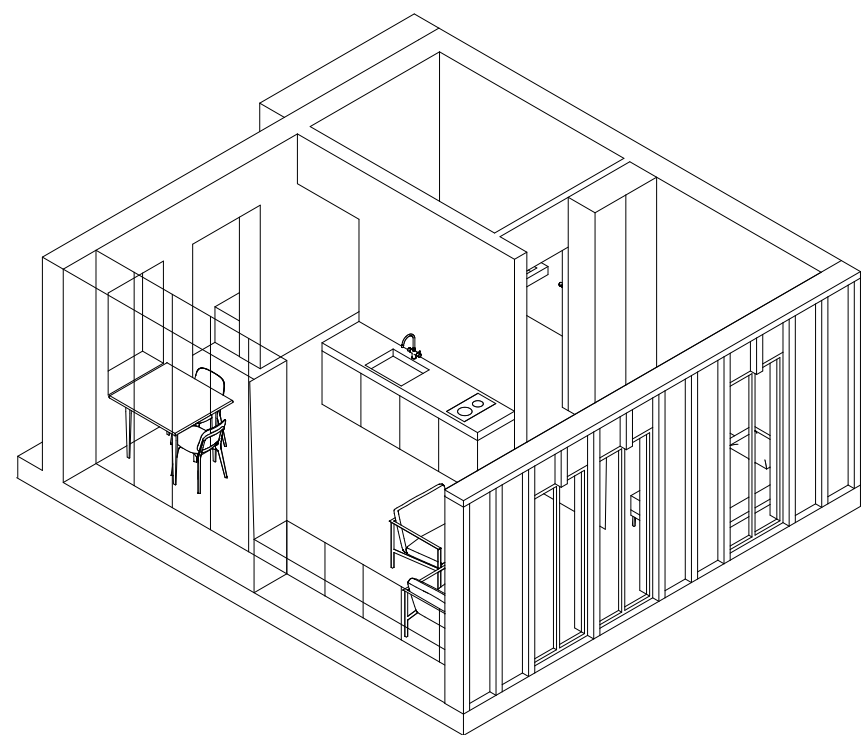
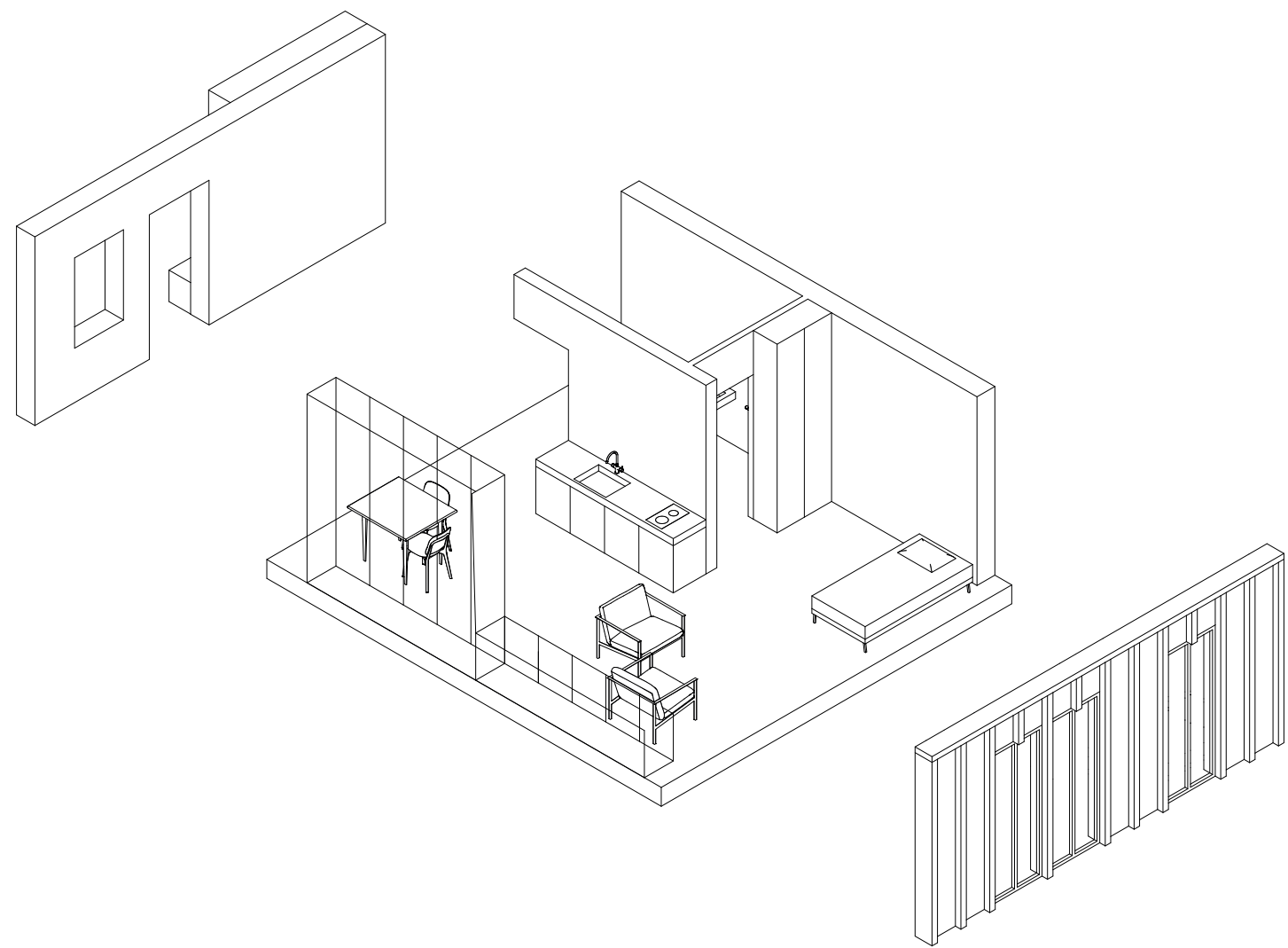
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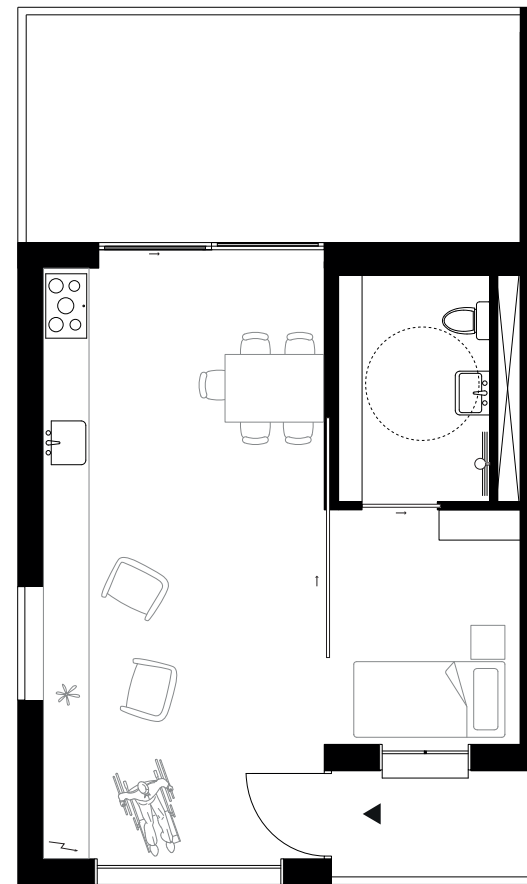
15 x 36 m2





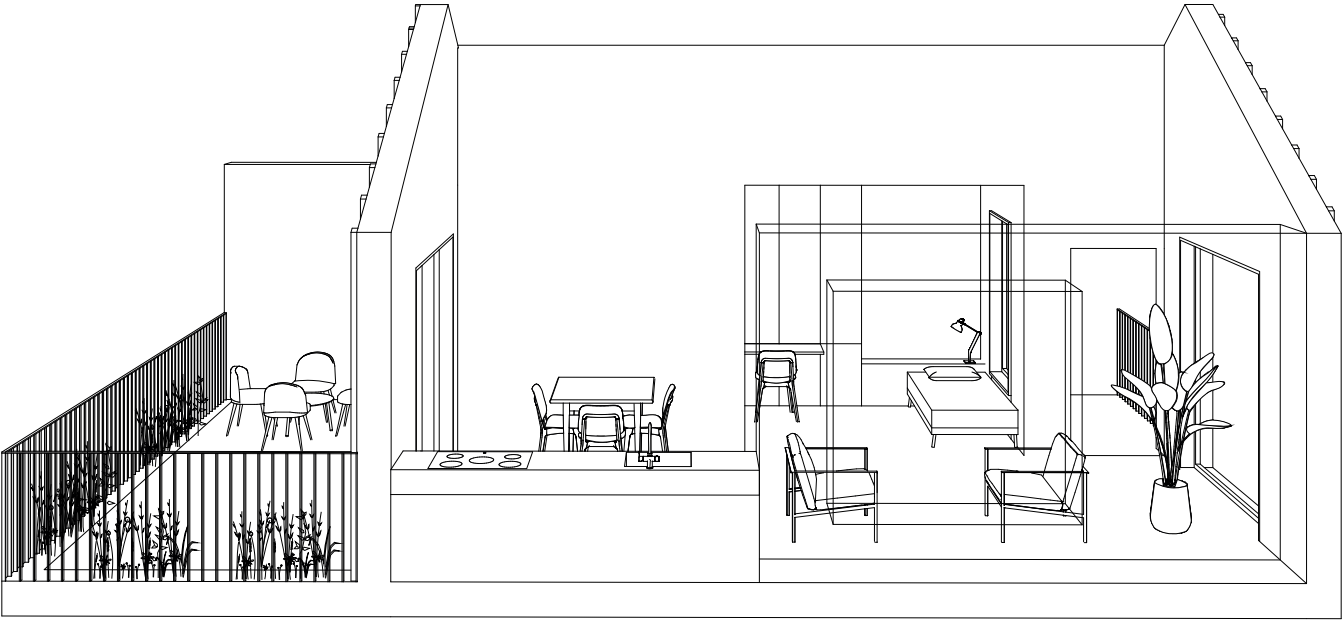


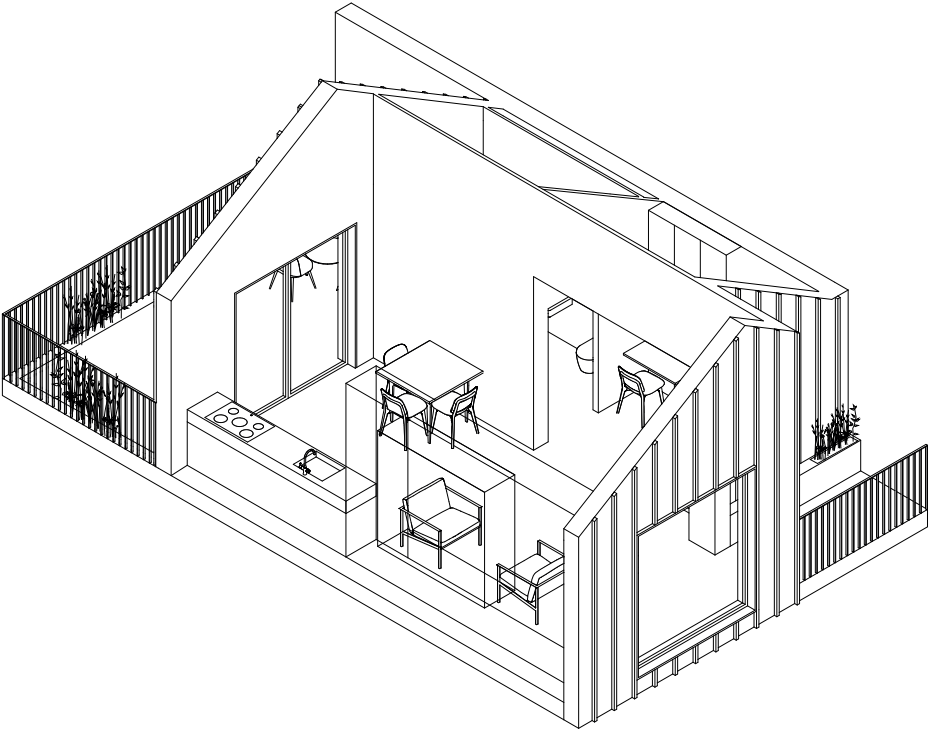
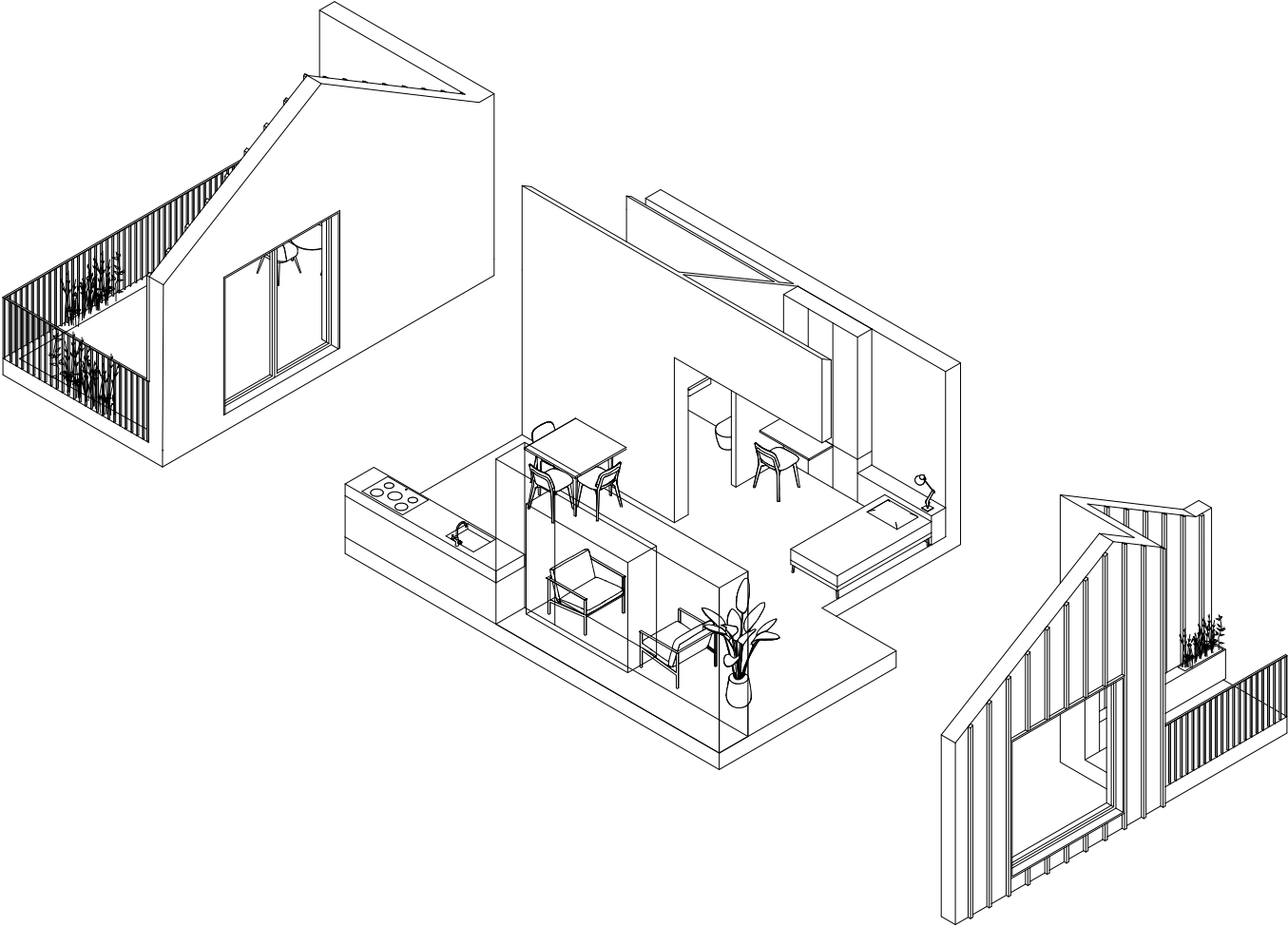
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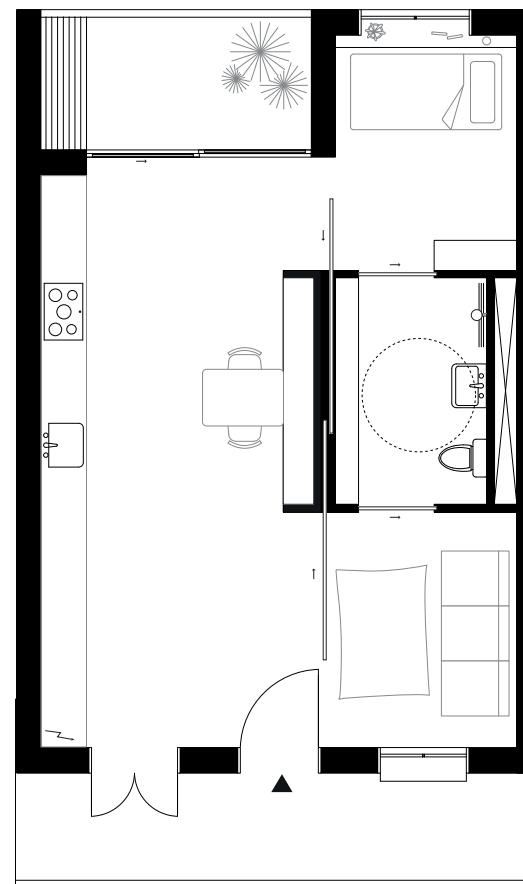
1 x 48 m2





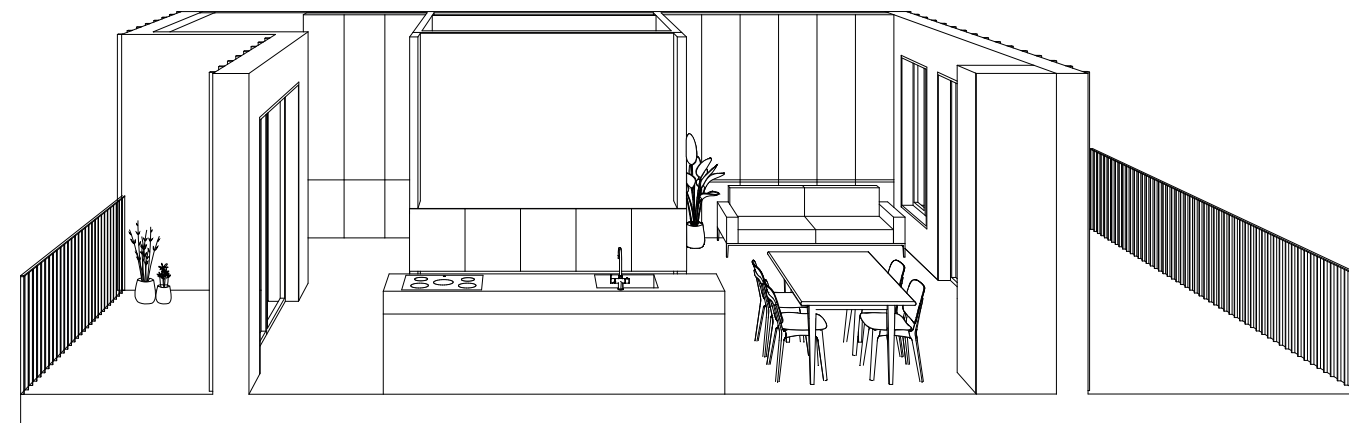
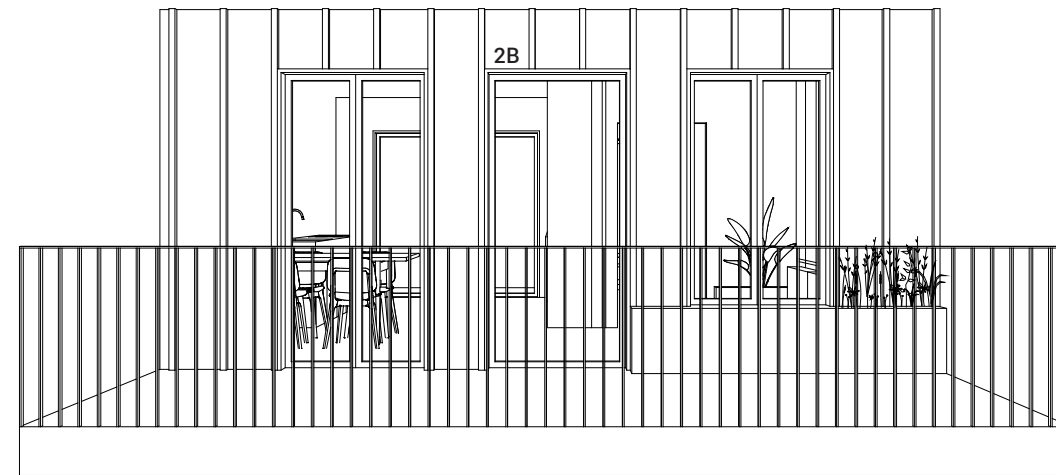


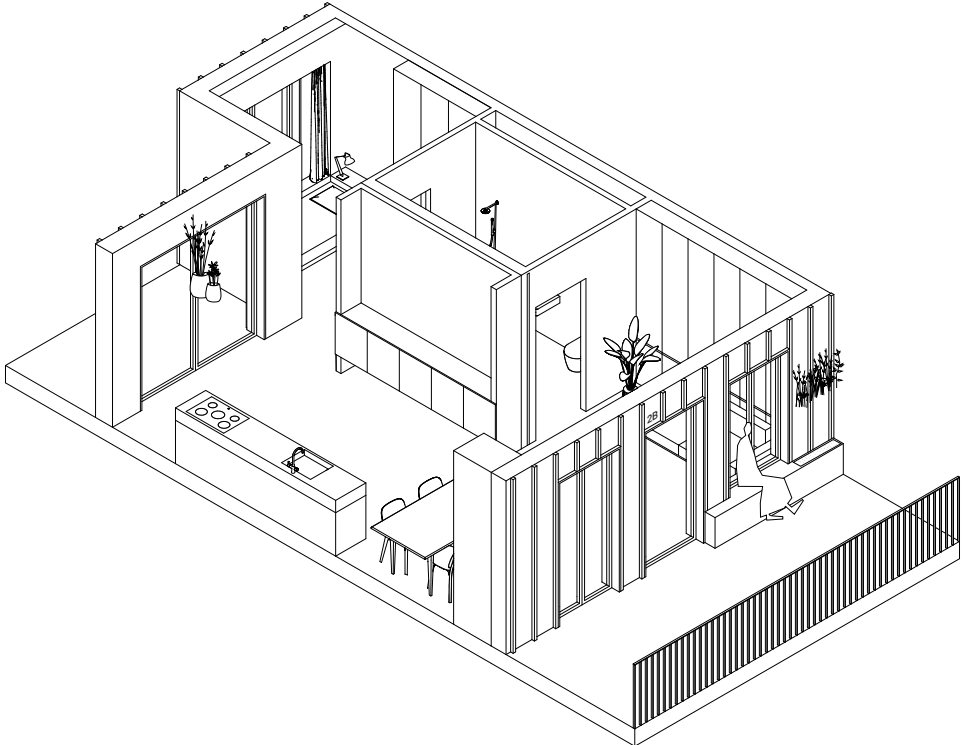
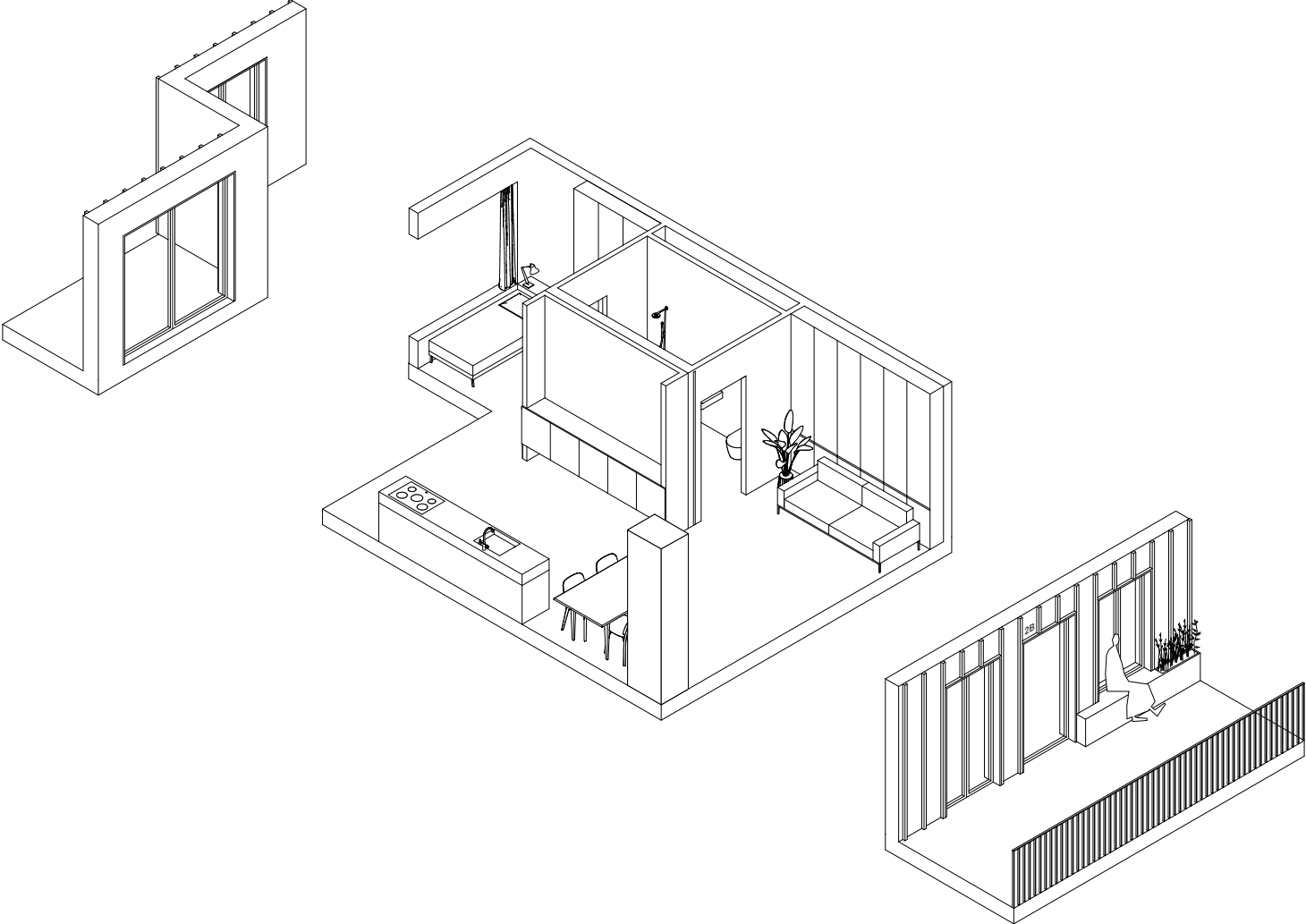
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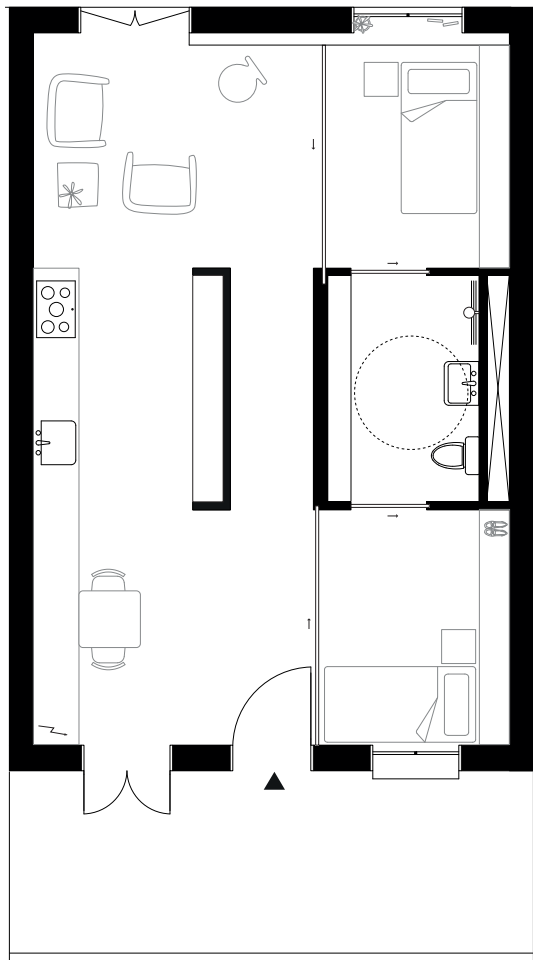
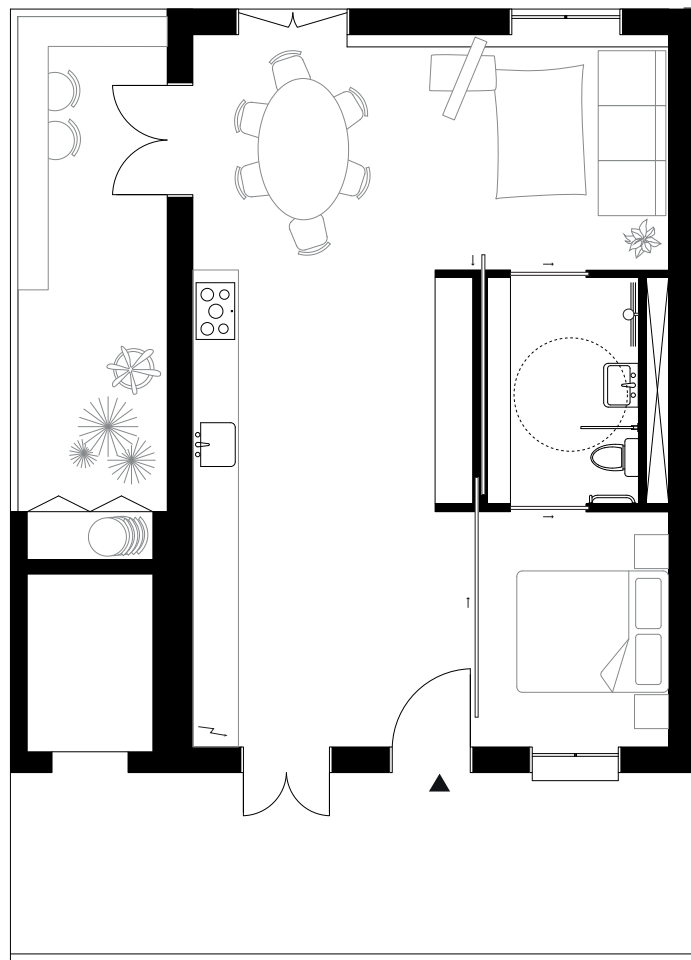
6 x 50 m²





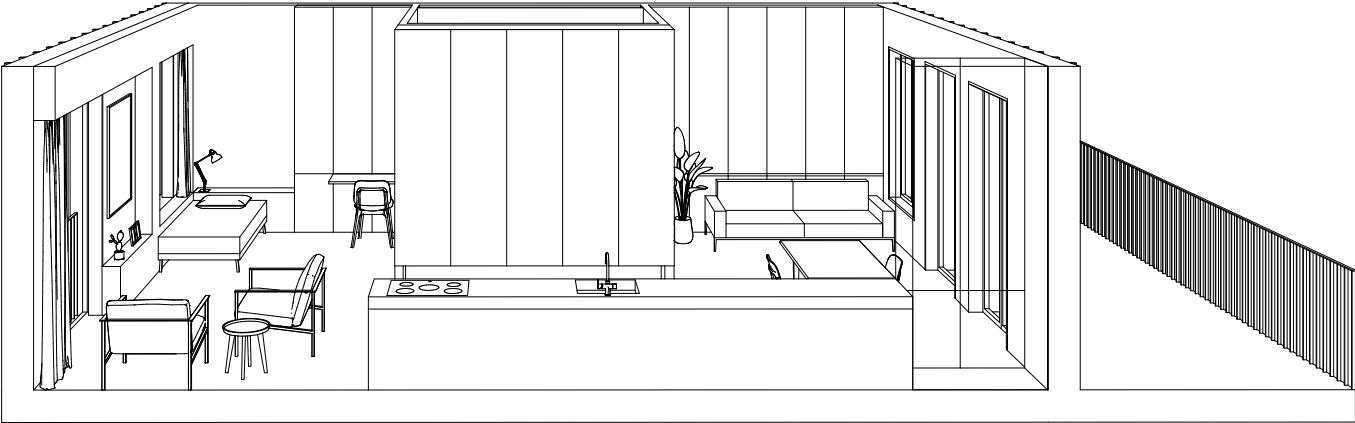


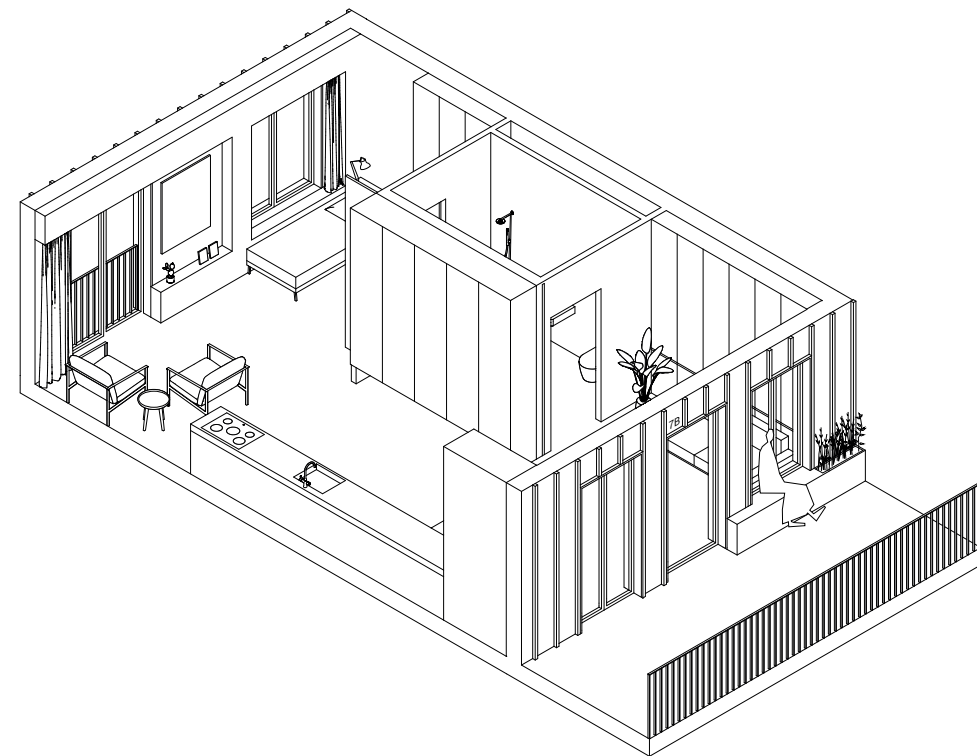
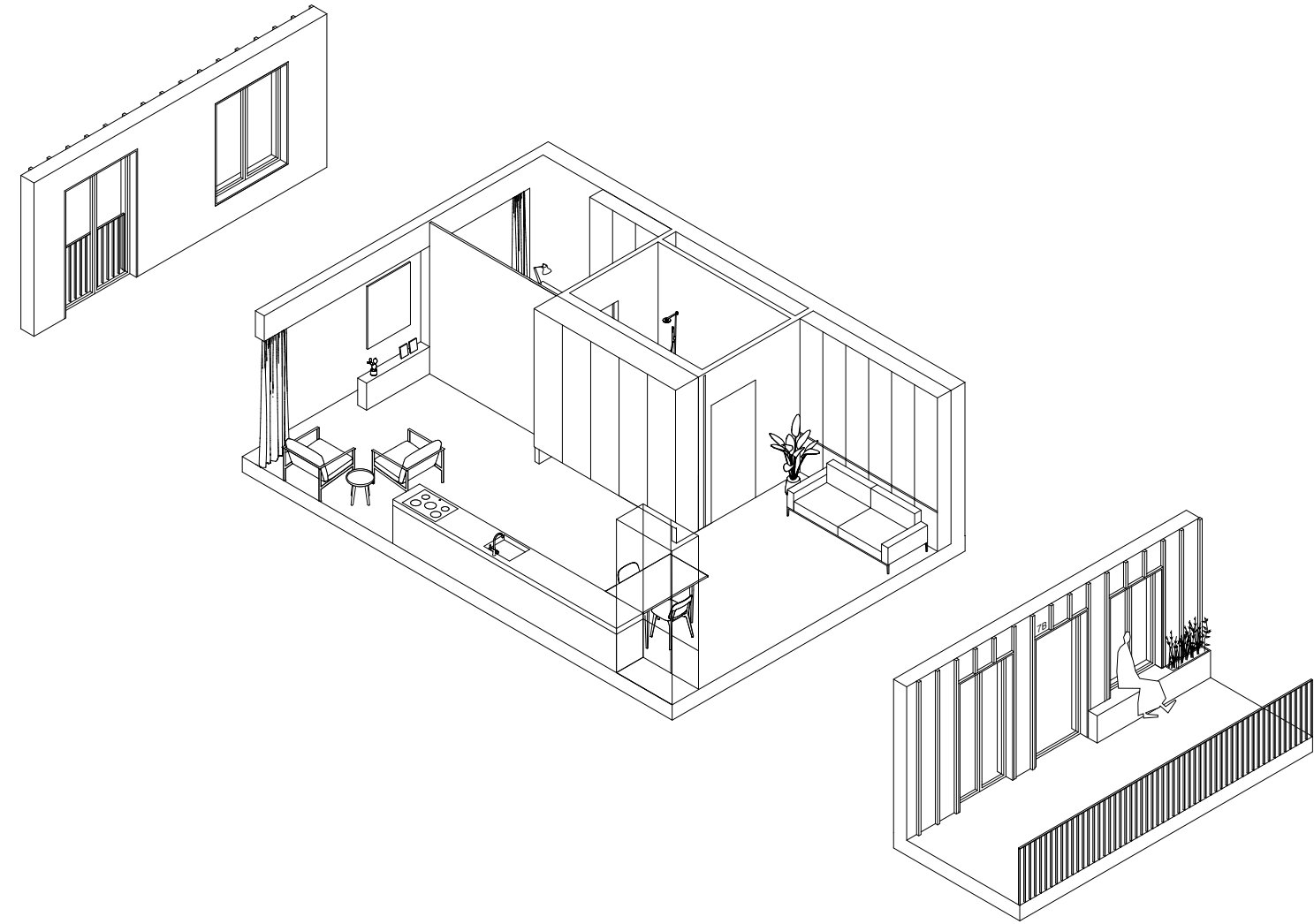
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24 x 60 m²





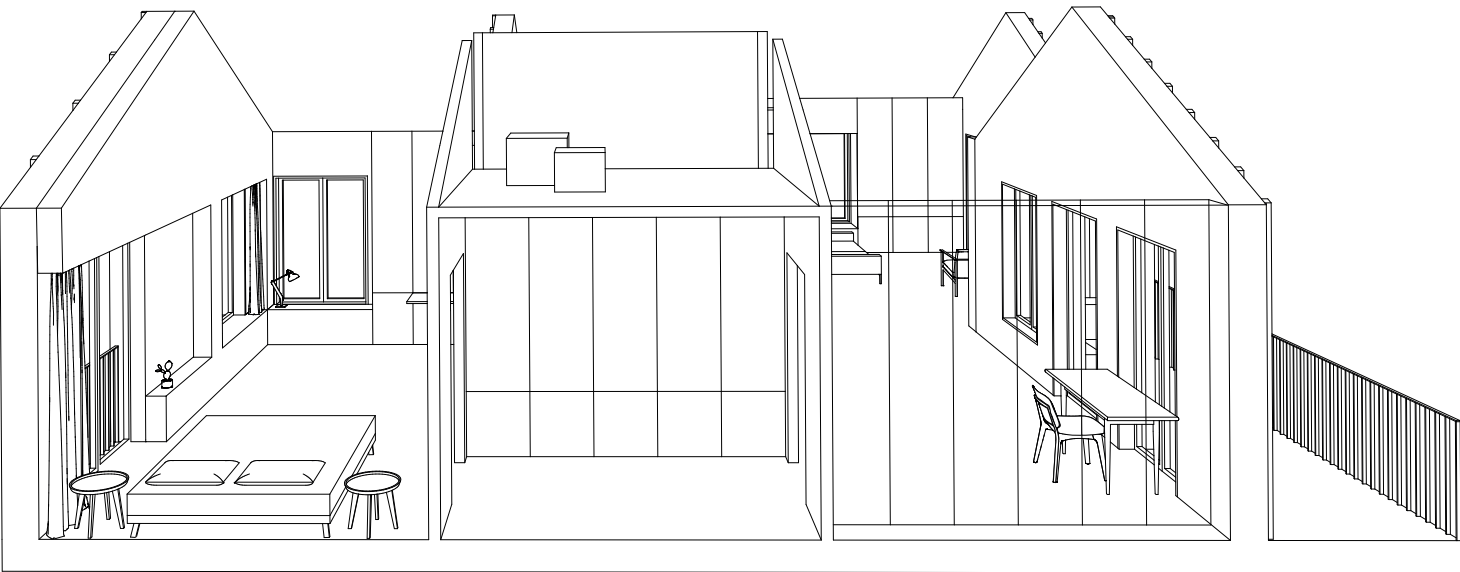


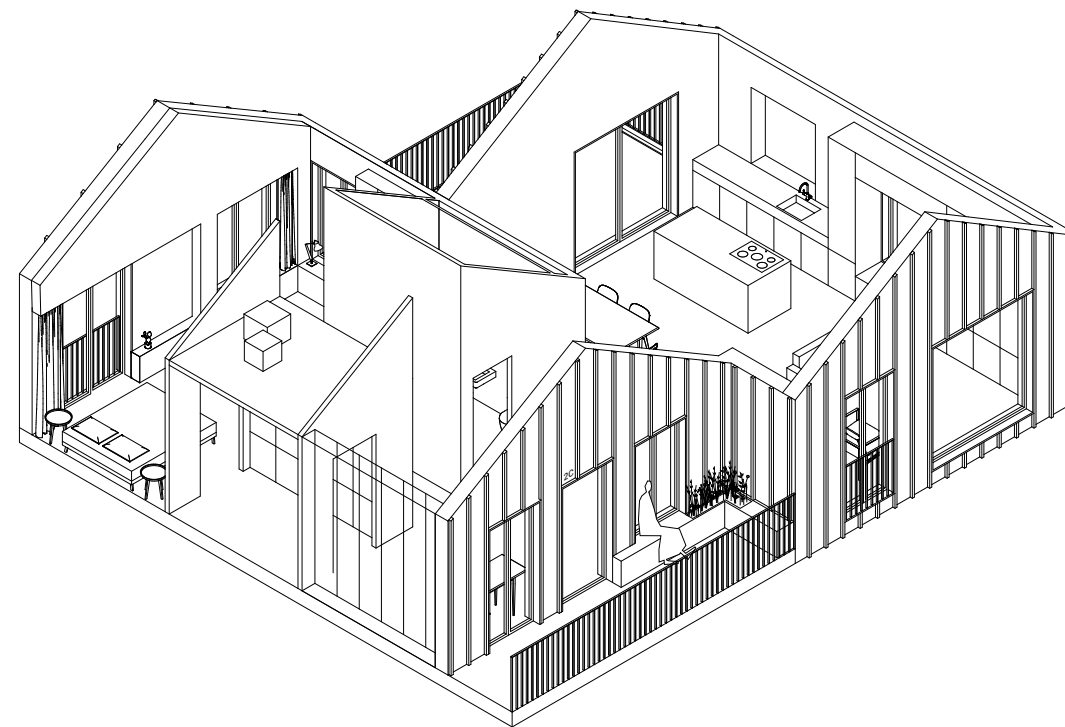
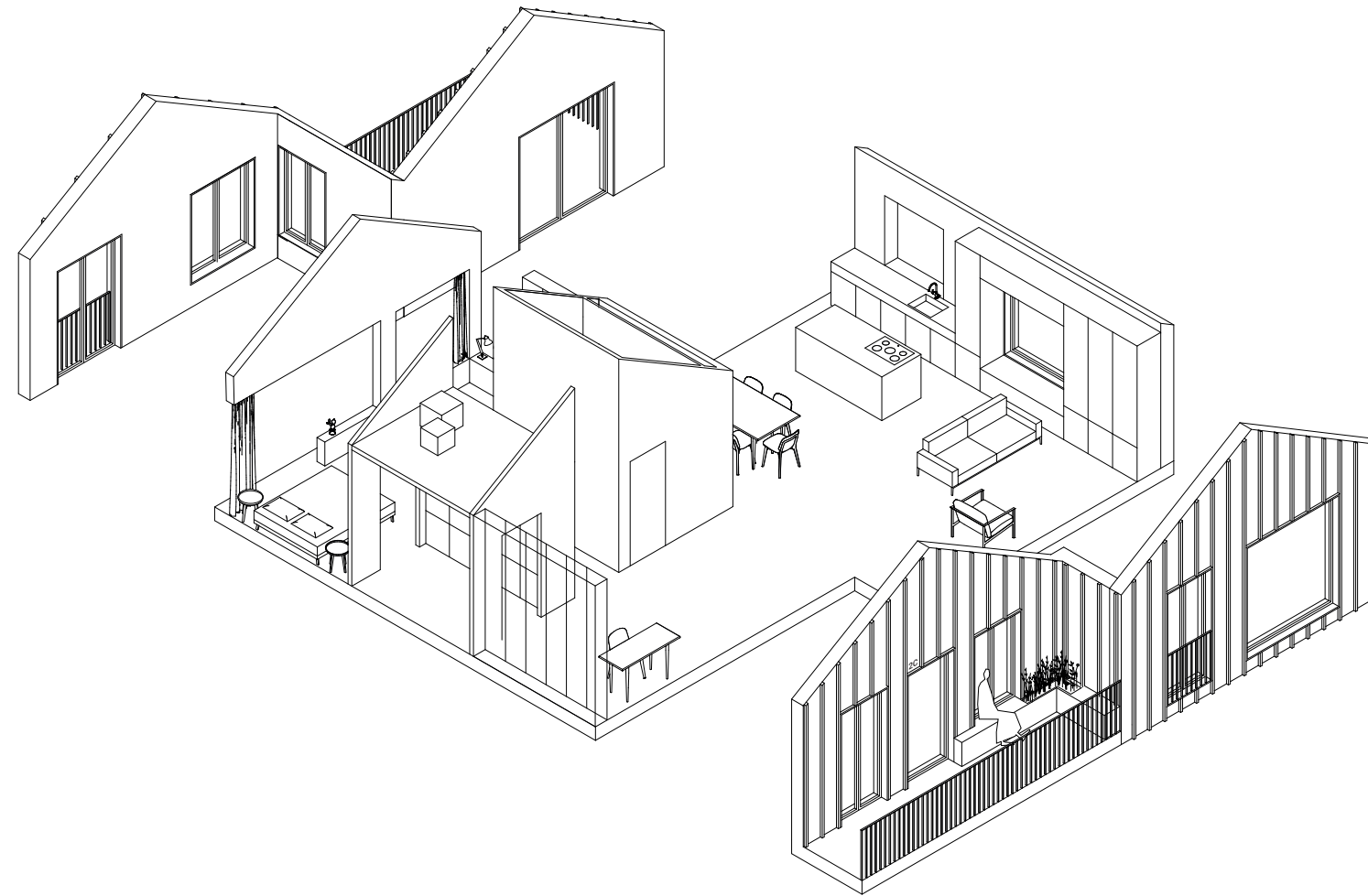
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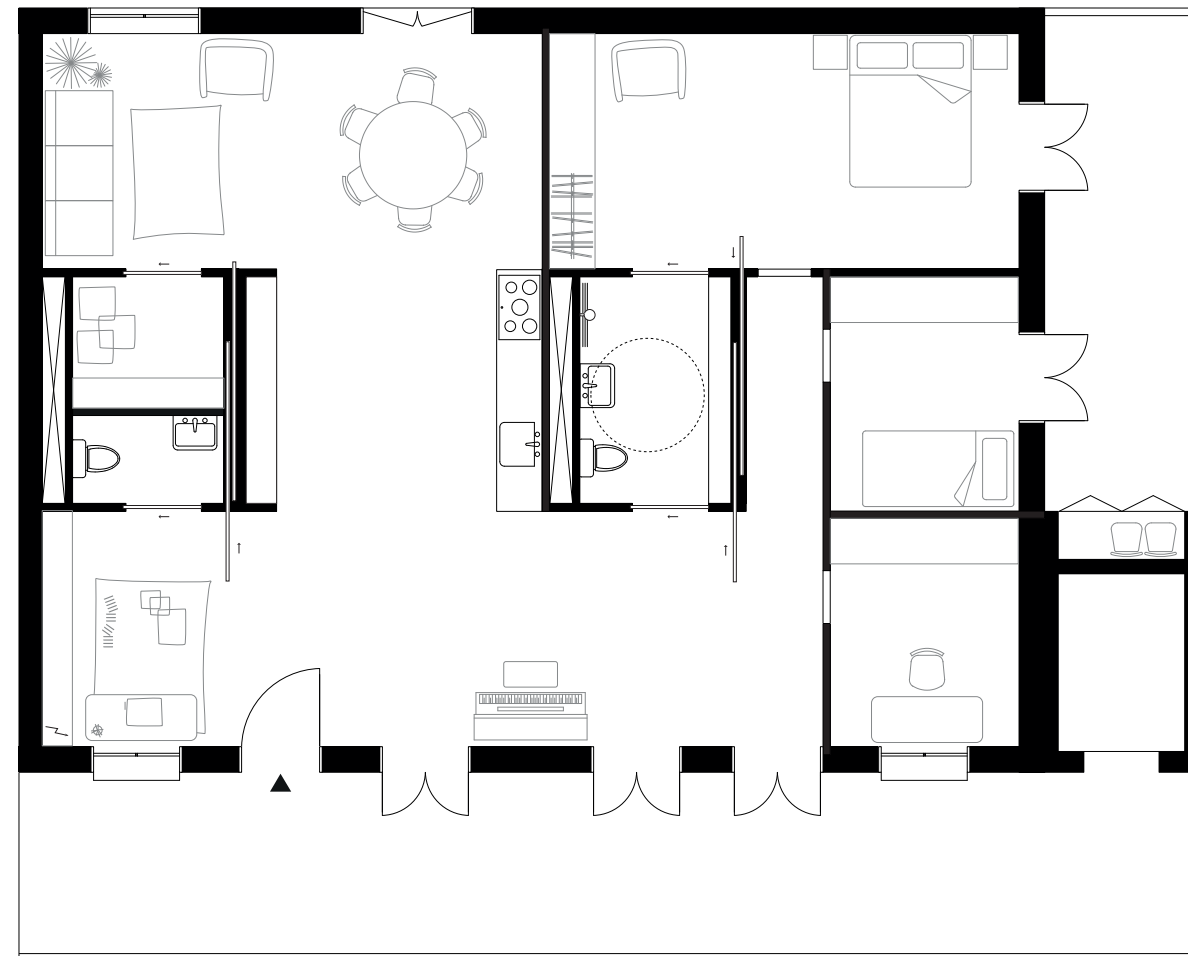
6 x 110 m²





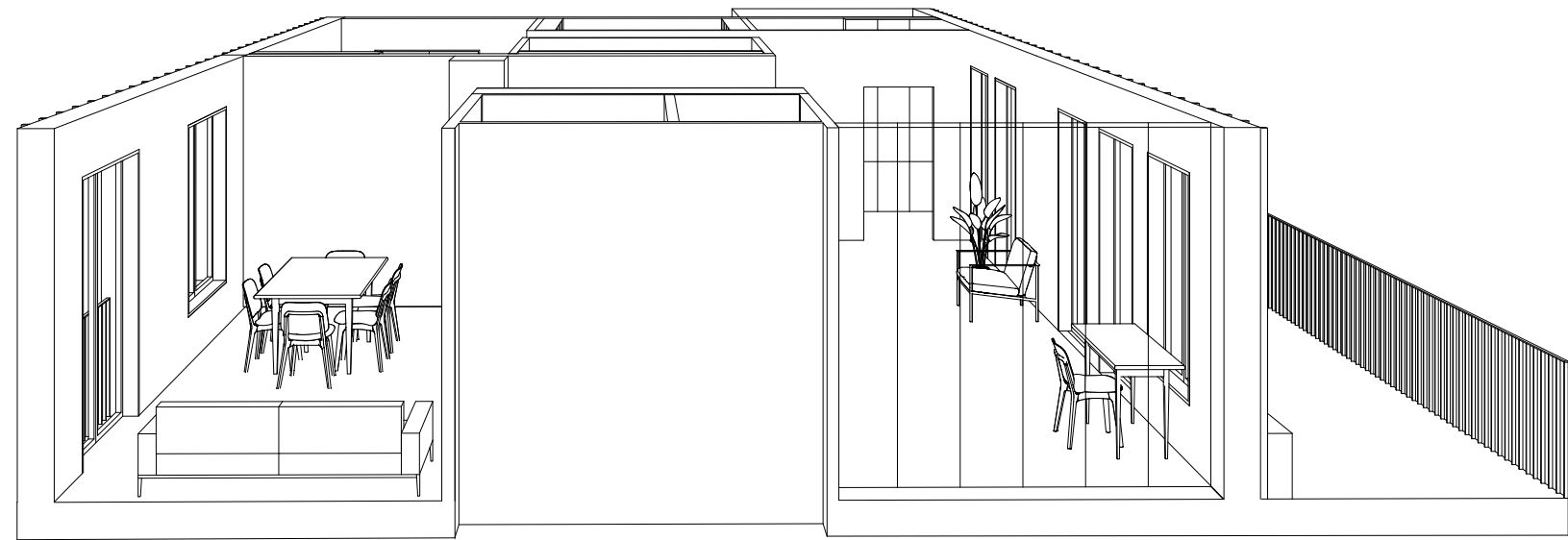
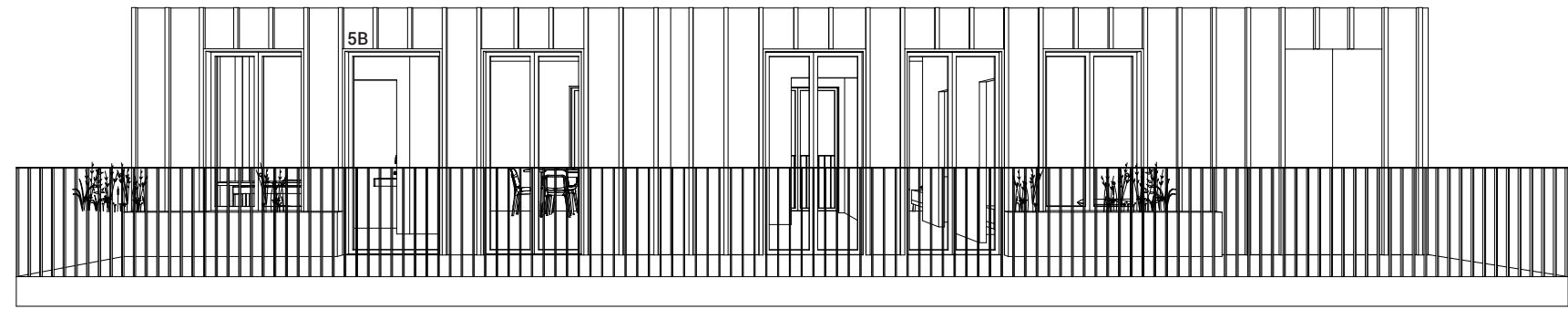


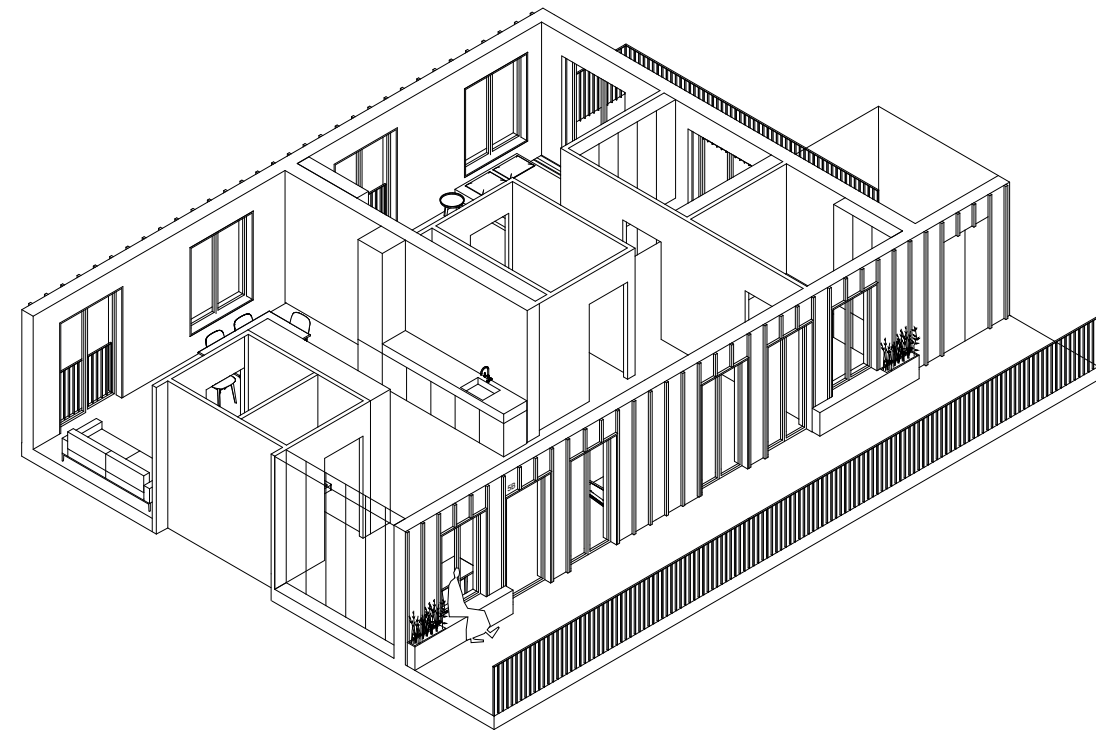
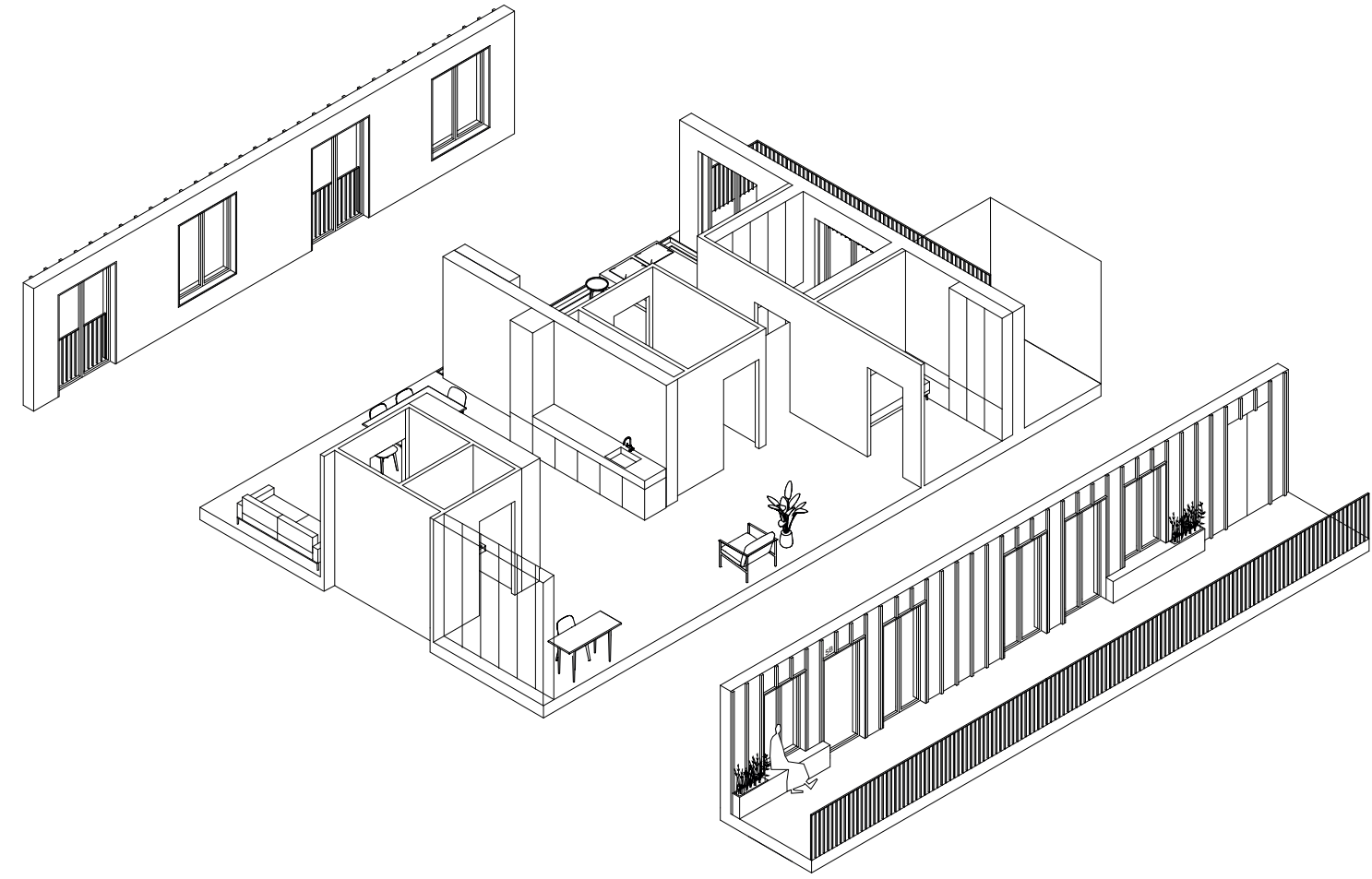
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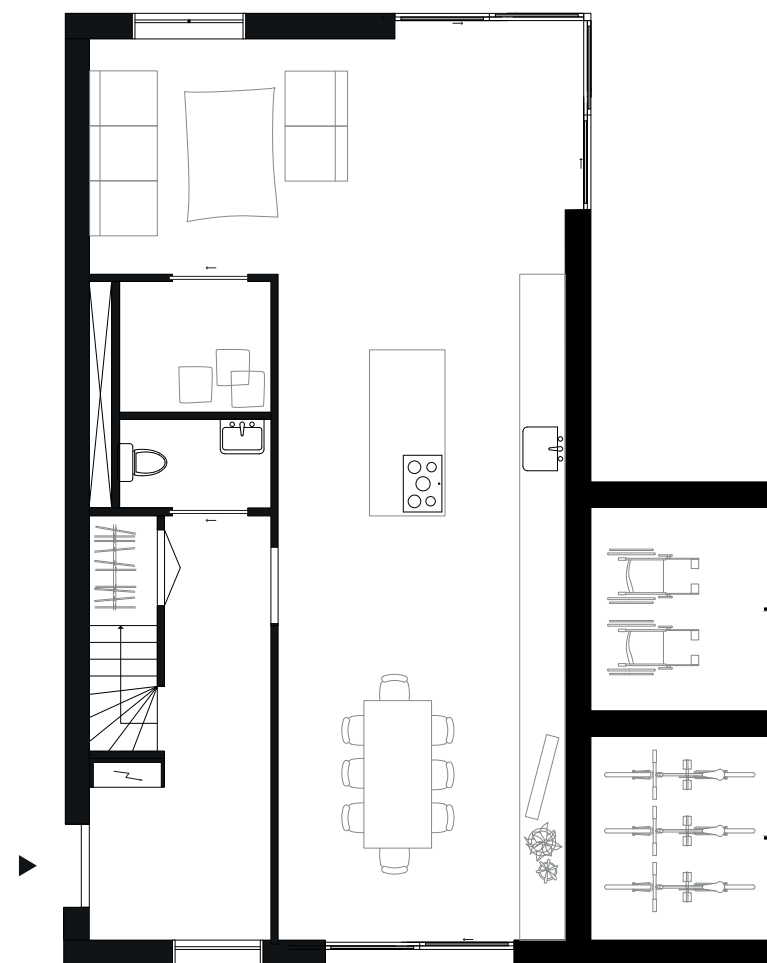
3 x 120 m2



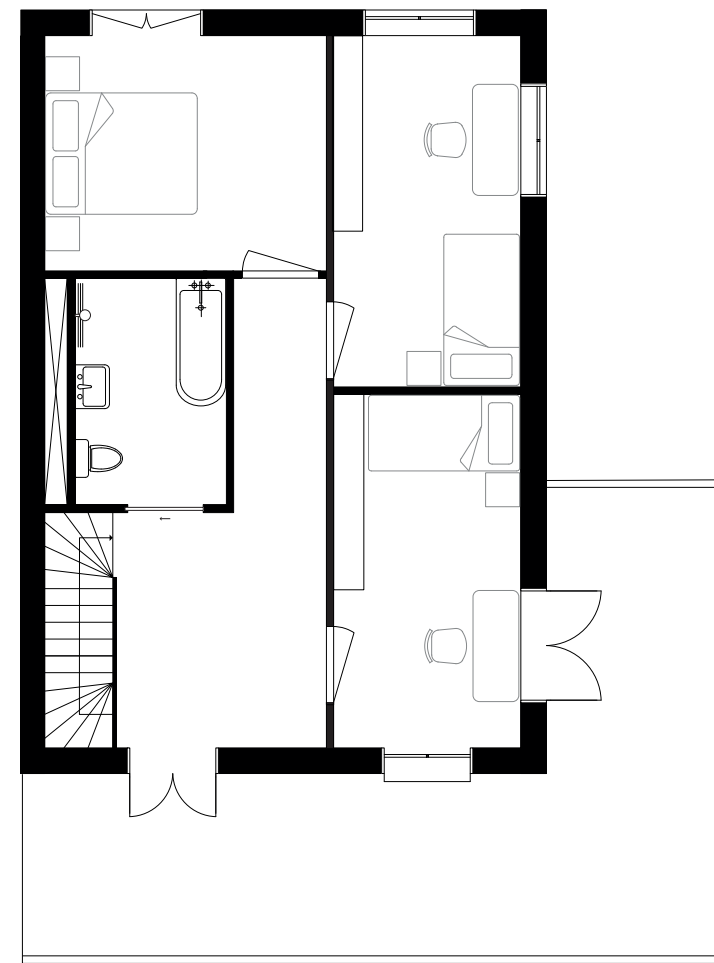




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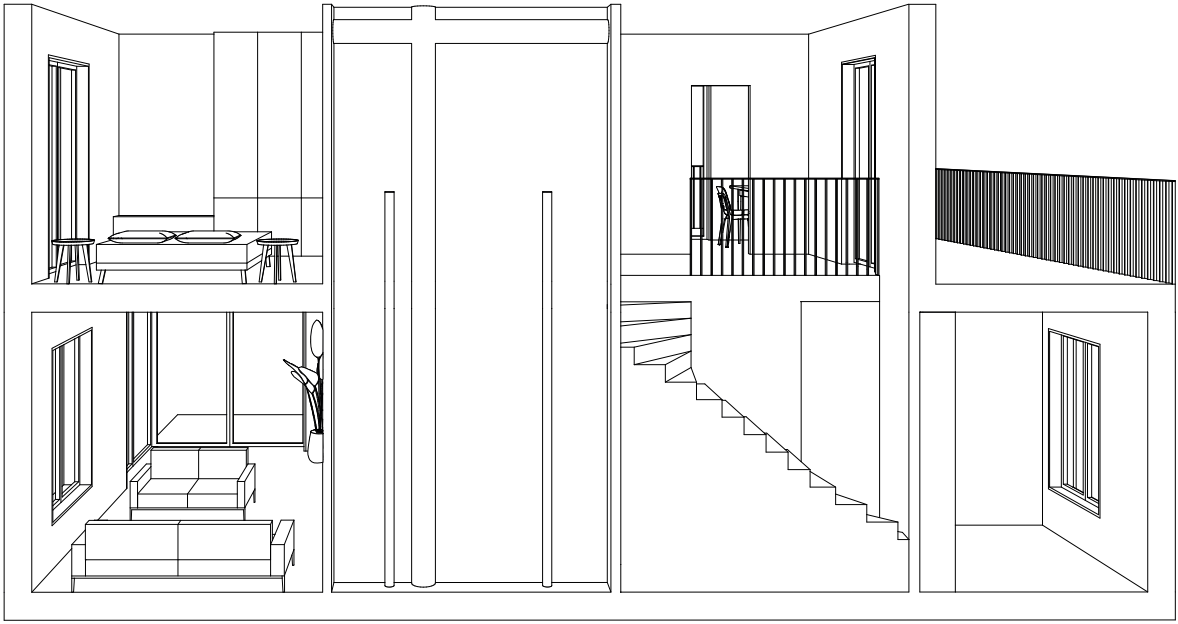
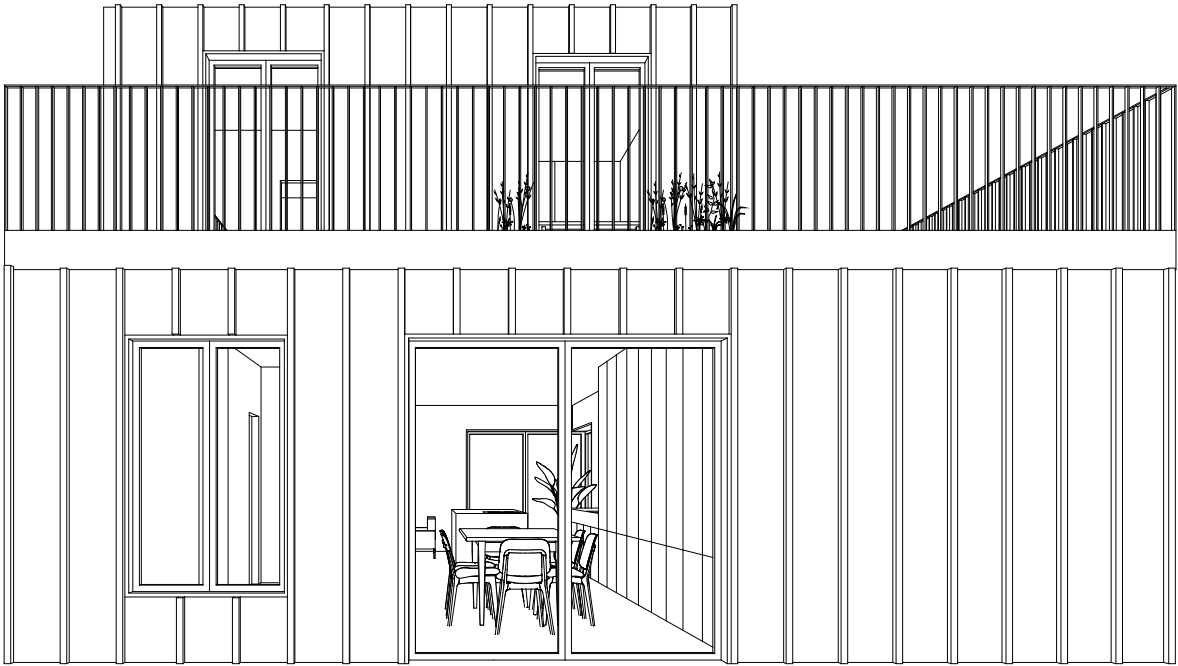
ground floor

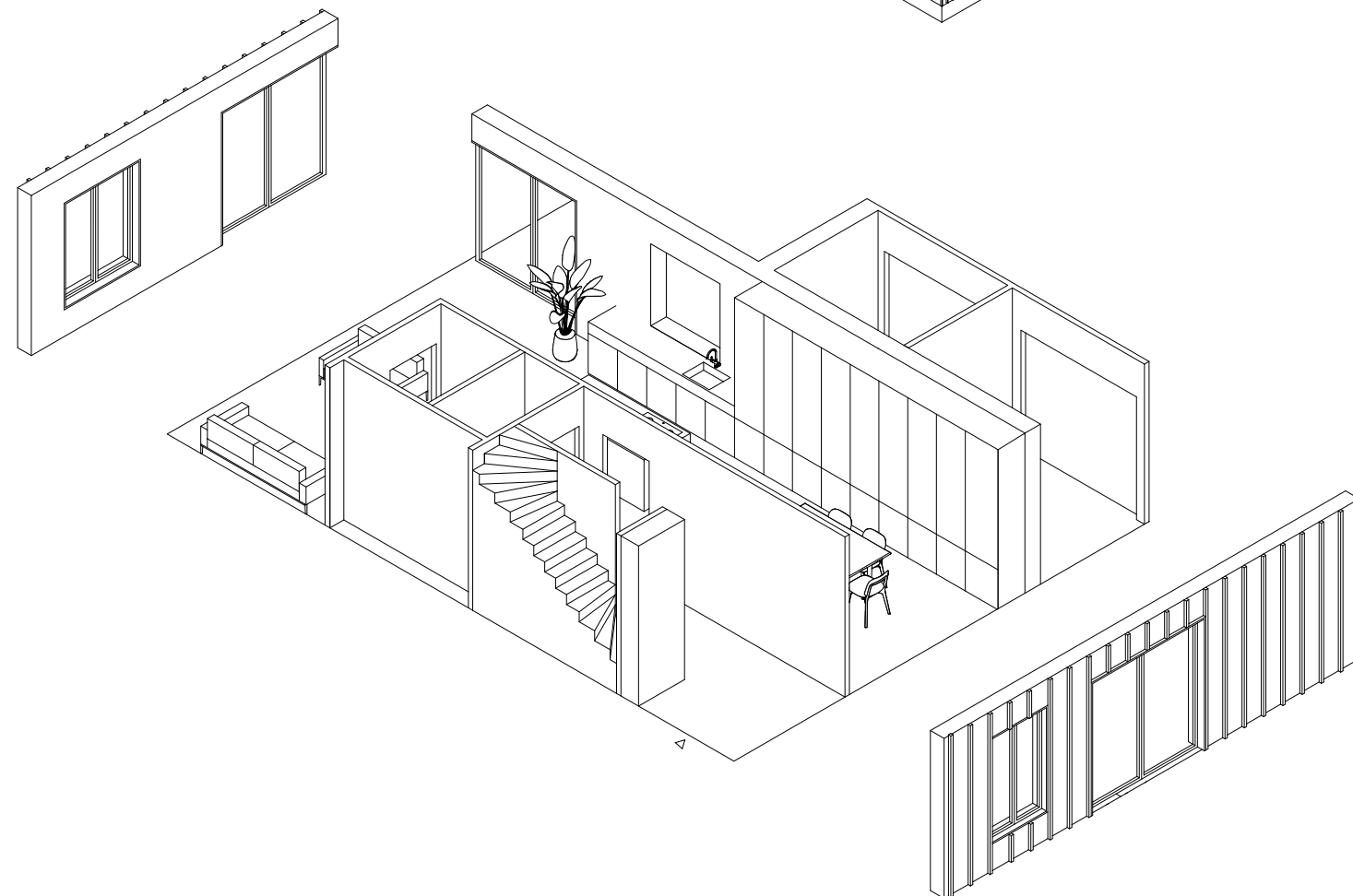
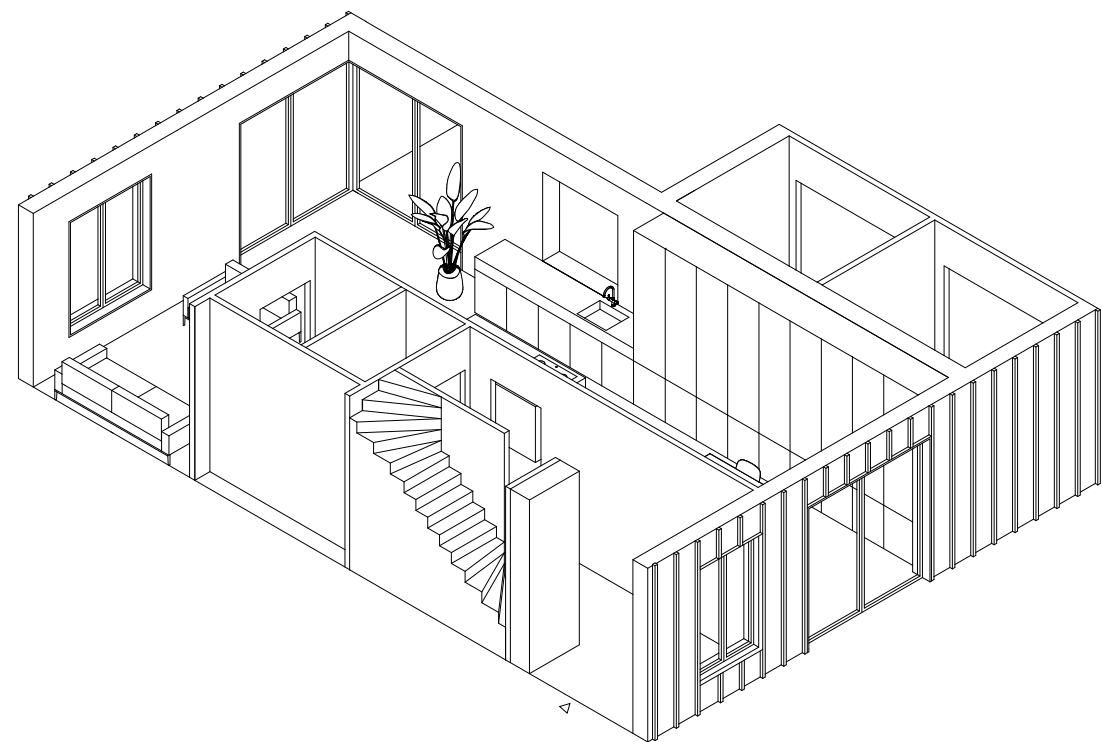
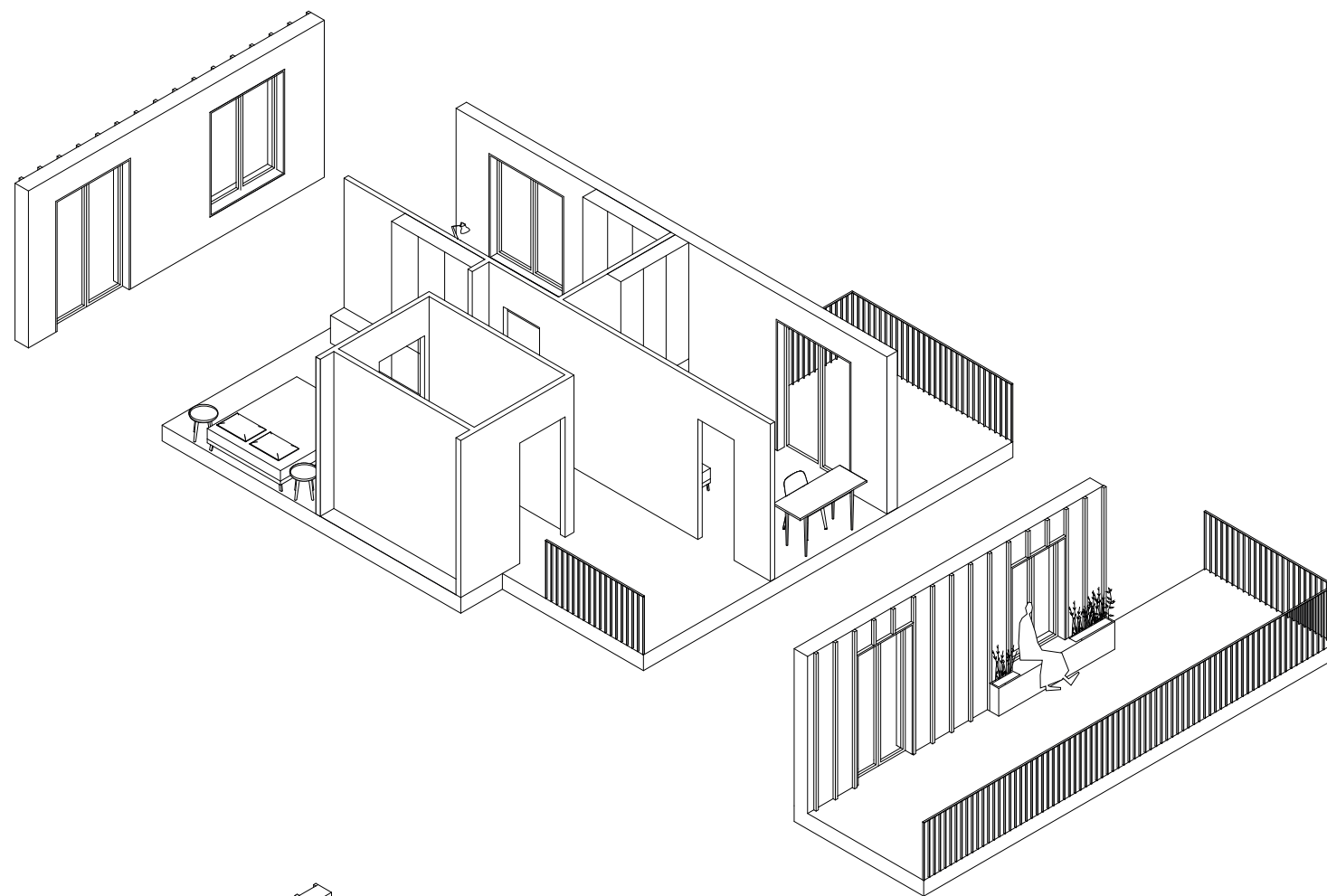
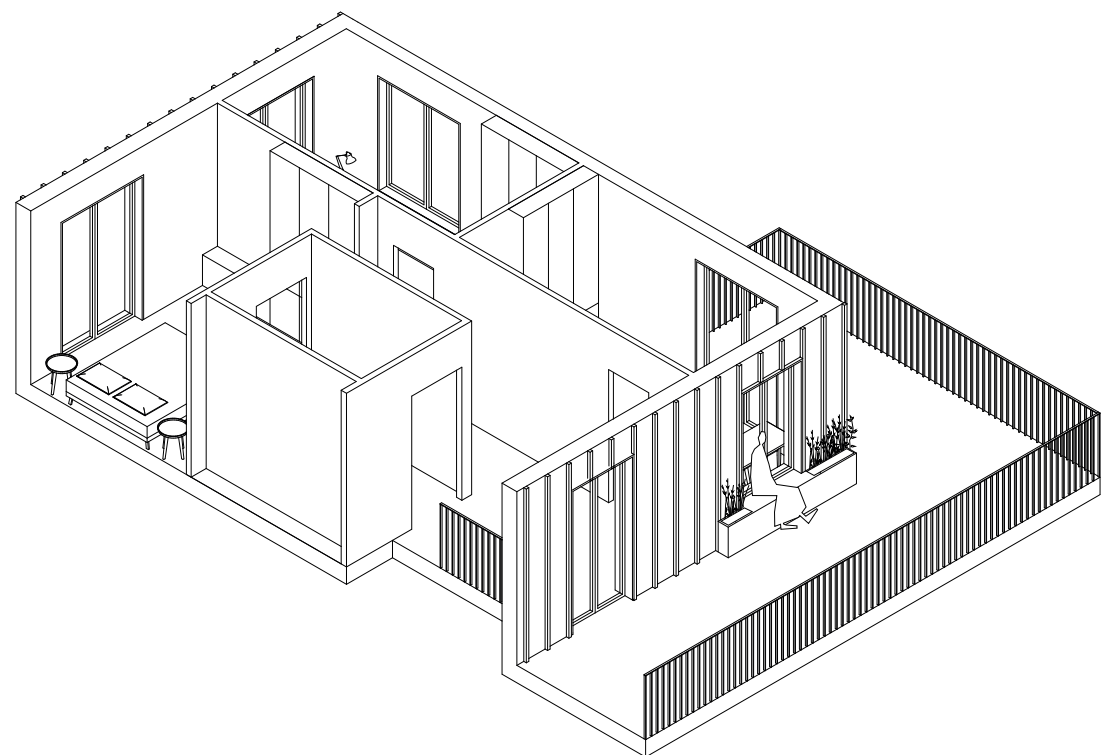


first floor

7 x 130 m²

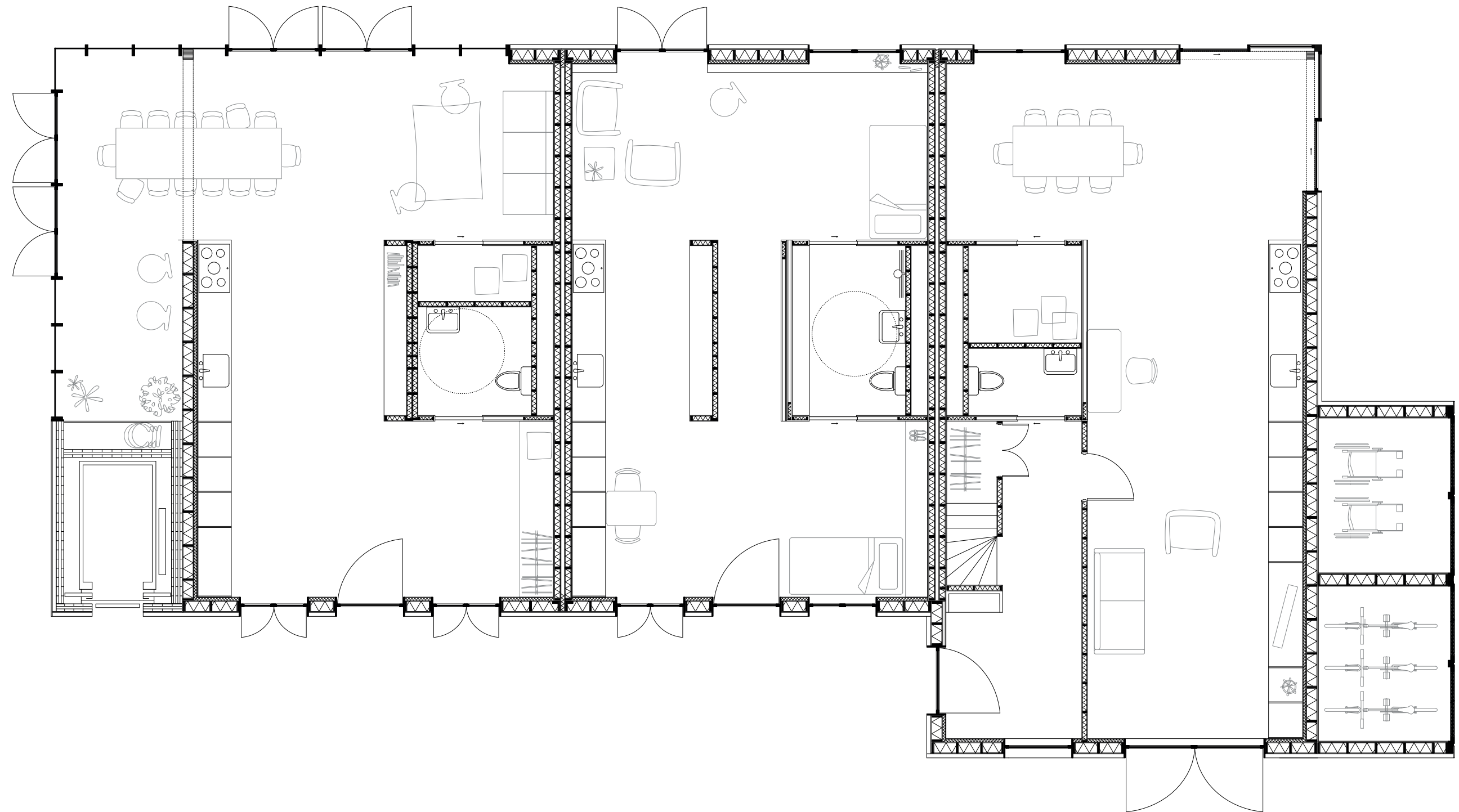




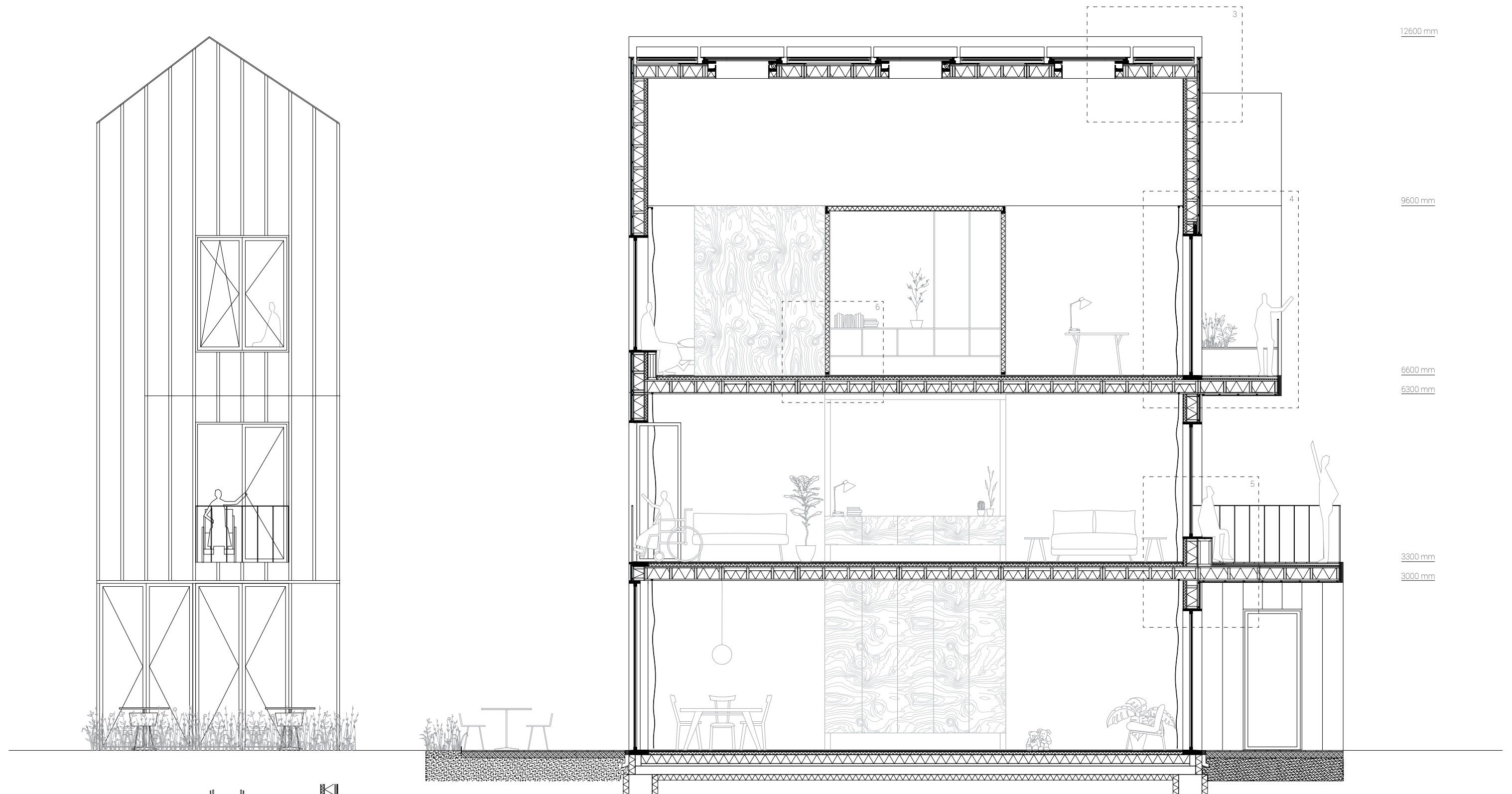


details

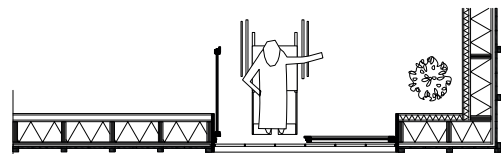
Simplicity is what characterizes the plan. Soft tones, wood for in- and exterior, a vertical line in the facade responding to the trees, integrated wall cupboards, sliding doors, low window sills and French balconies and integrated window seats and planters create a balance and link between the private and the public sphere. They make it possible to live here in all stages of life and grow along with one's needs.



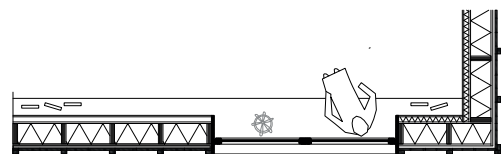
ground floor plan 1:50



2nd floor



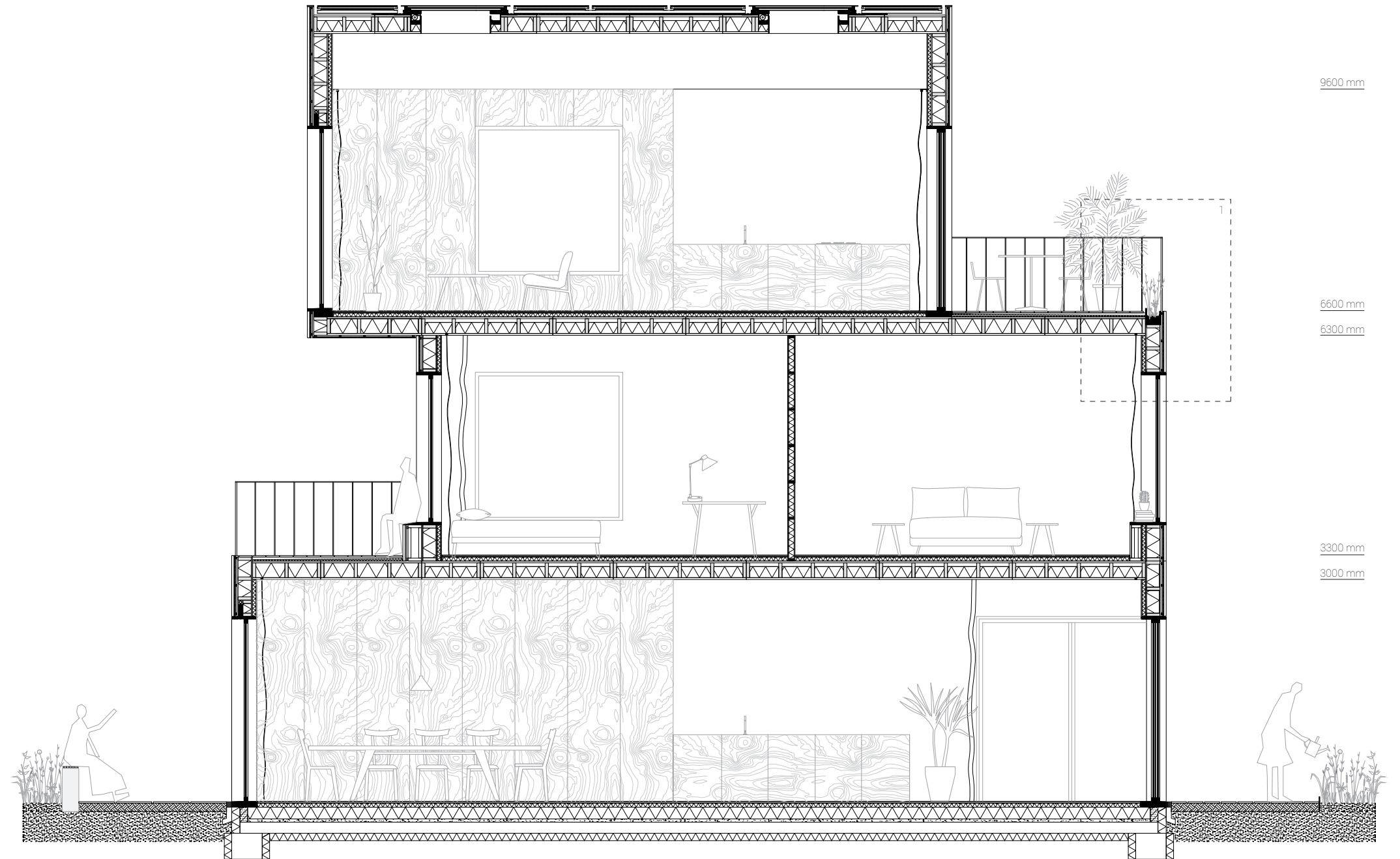
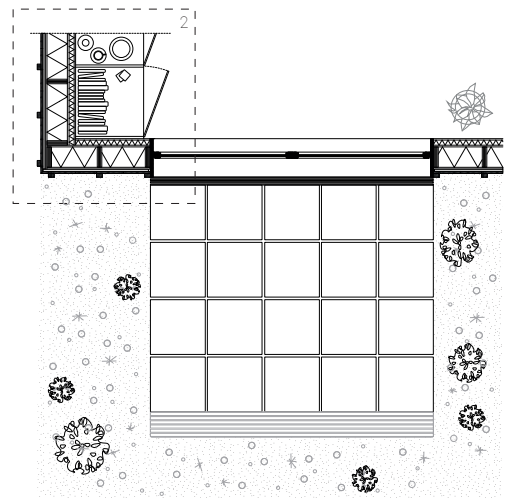
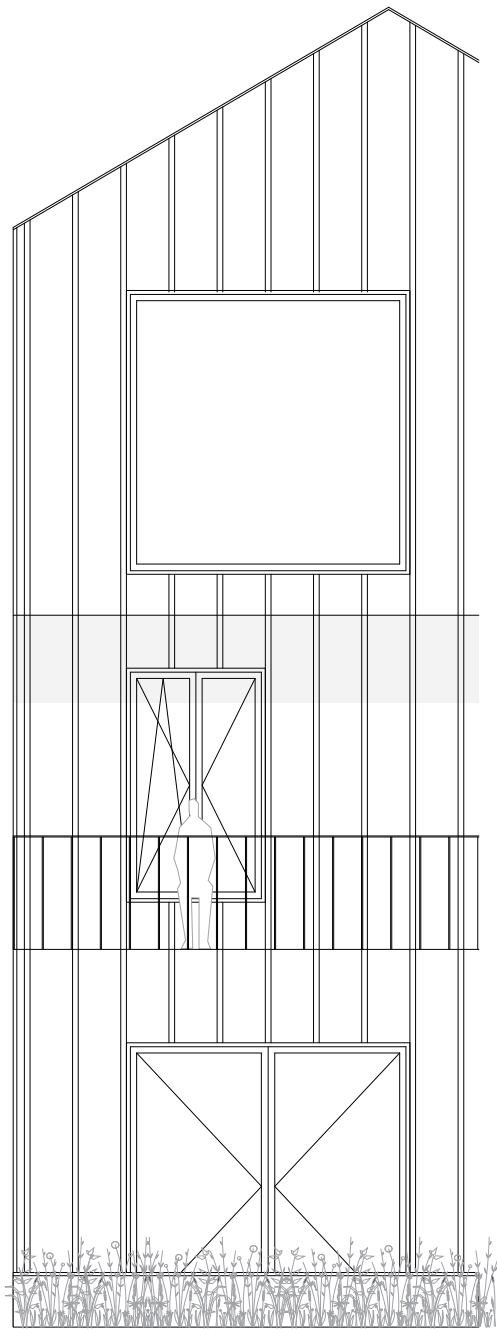
1st floor



ground floor

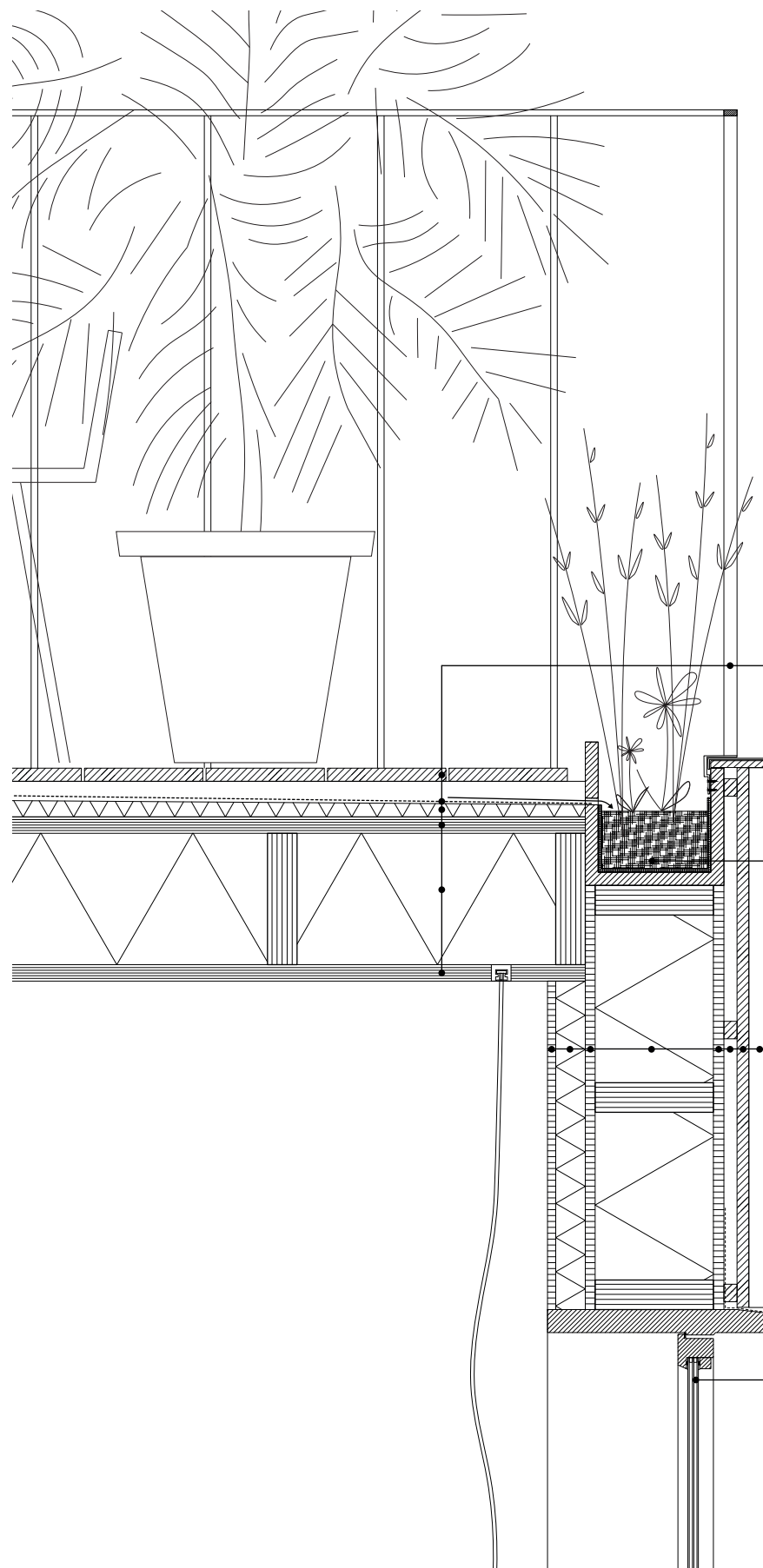


facade fragment 1:20



facade fragment 1:20

1



Balcony

steel railing
wooden planks anti-slip (Moso Bamboo X-treme) 20 mm
wooden battens
water proof foil
hard insulation on slope
Kerto Ripa closed floor element 250 mm

Planter

functions as water buffer and is connected to drainage system to prevent from flooding

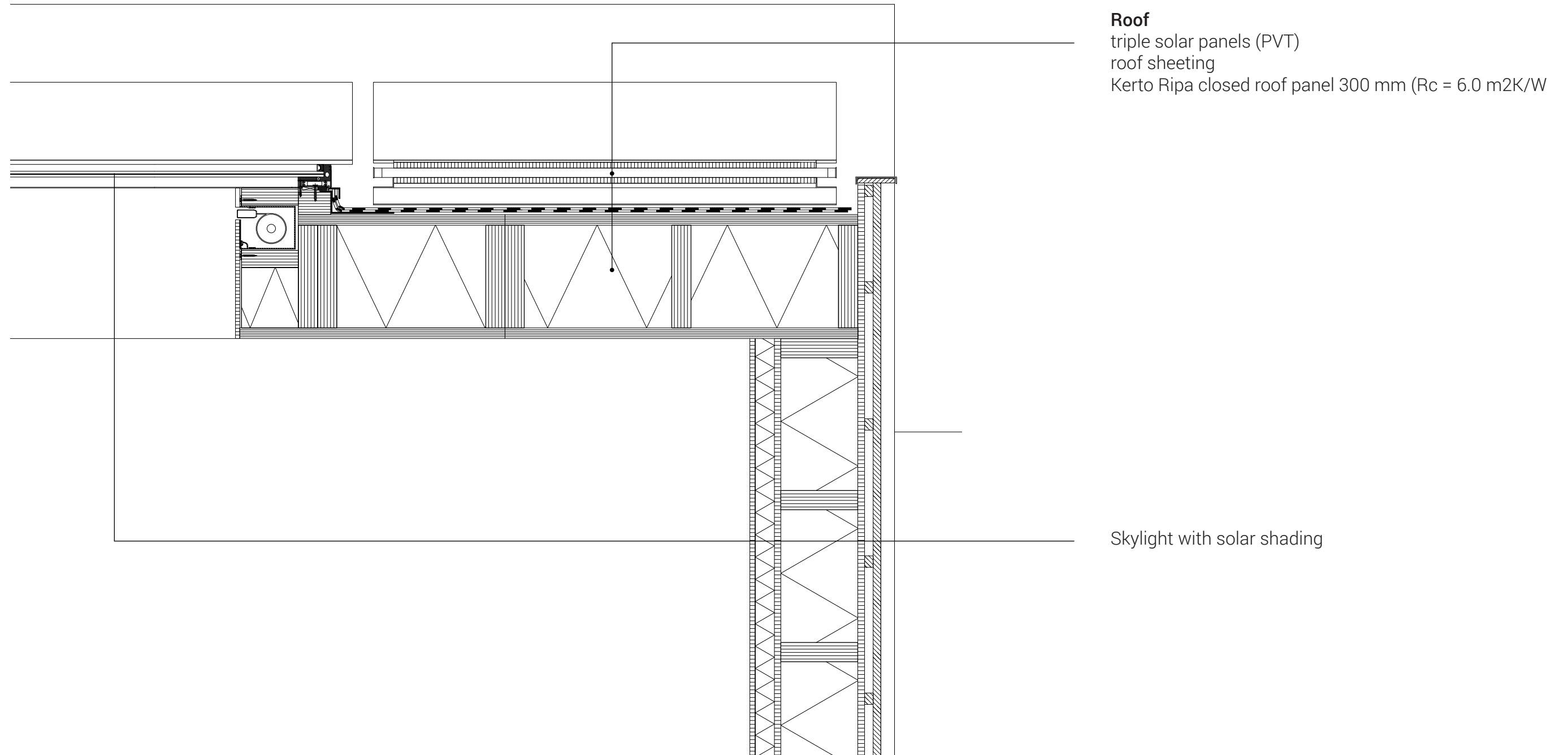
HSB prefab facade

plasterboard 12.5 mm
insulation zone for installations 45 mm
OSB panel 15 mm
insulation (HempFlax) 180 mm $R_c = 4,5 \text{ m}^2\text{K/W}$
between wooden frame (45x180 mm)
water resistant fiberboard 16 mm
ventilated cavity with wooden battens 20 mm
vertical timber facade (Moso Bamboo N-finity) 20 mm
vertical slats 30x50 mm h.o.h. 425 mm

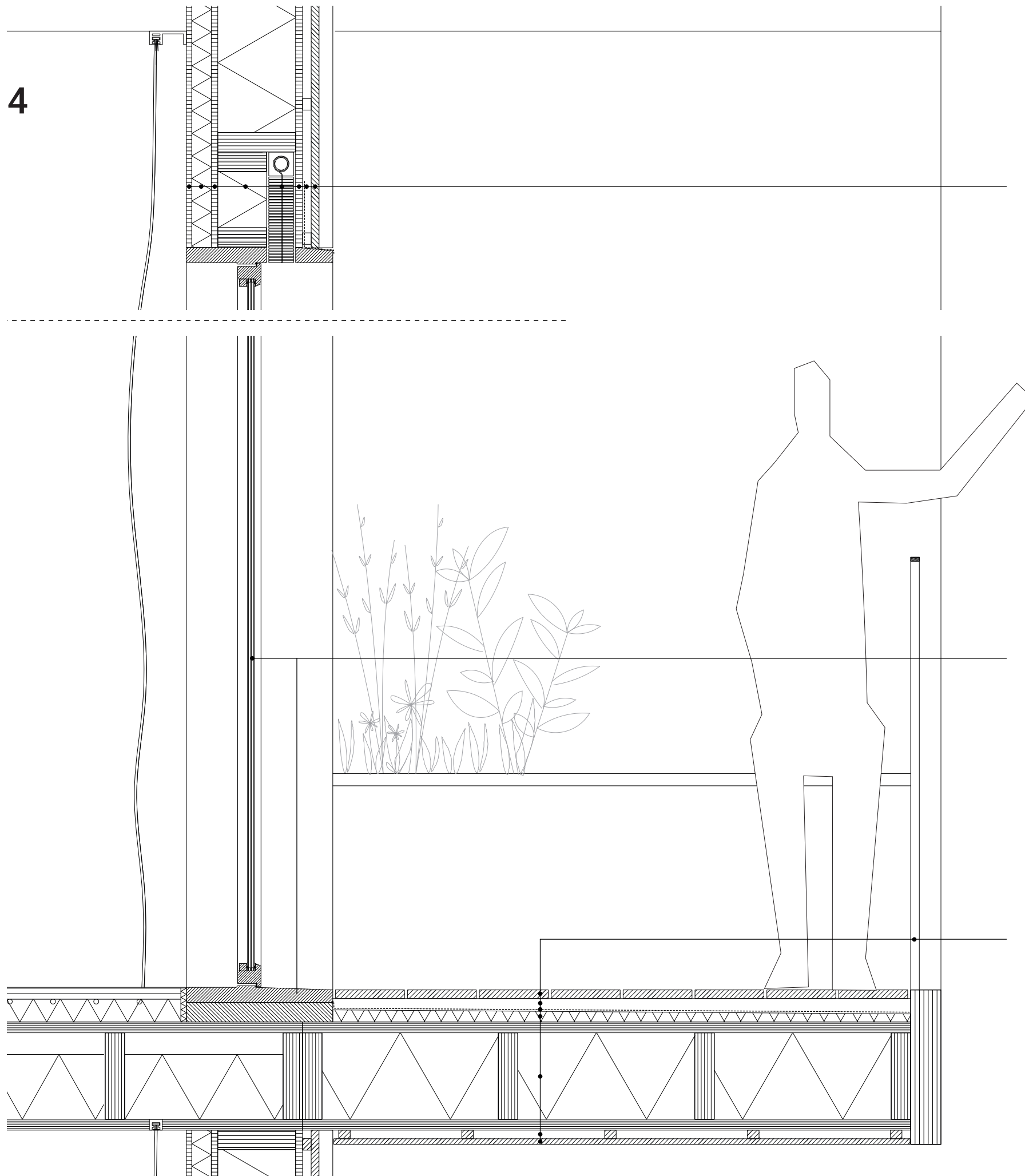
Window

triple glazing in wooden frame

3



4



Timber (HSB) prefab facade with solar shading

plasterboard 12.5 mm
 insulation zone for installations 45 mm
 OSB panel 15 mm
 insulation (HempFlax) 180 mm $R_c = 4,5 \text{ m}^2\text{K/W}$
 between wooden frame (45x180 mm)
 horizontal solar shading
 water resistant fiberboard 16 mm
 ventilated cavity with wooden battens 20 mm
 vertical timber facade (Moso Bamboo N-finity) 20 mm
 with vertical slats 30x50 mm h.o.h. 425 mm

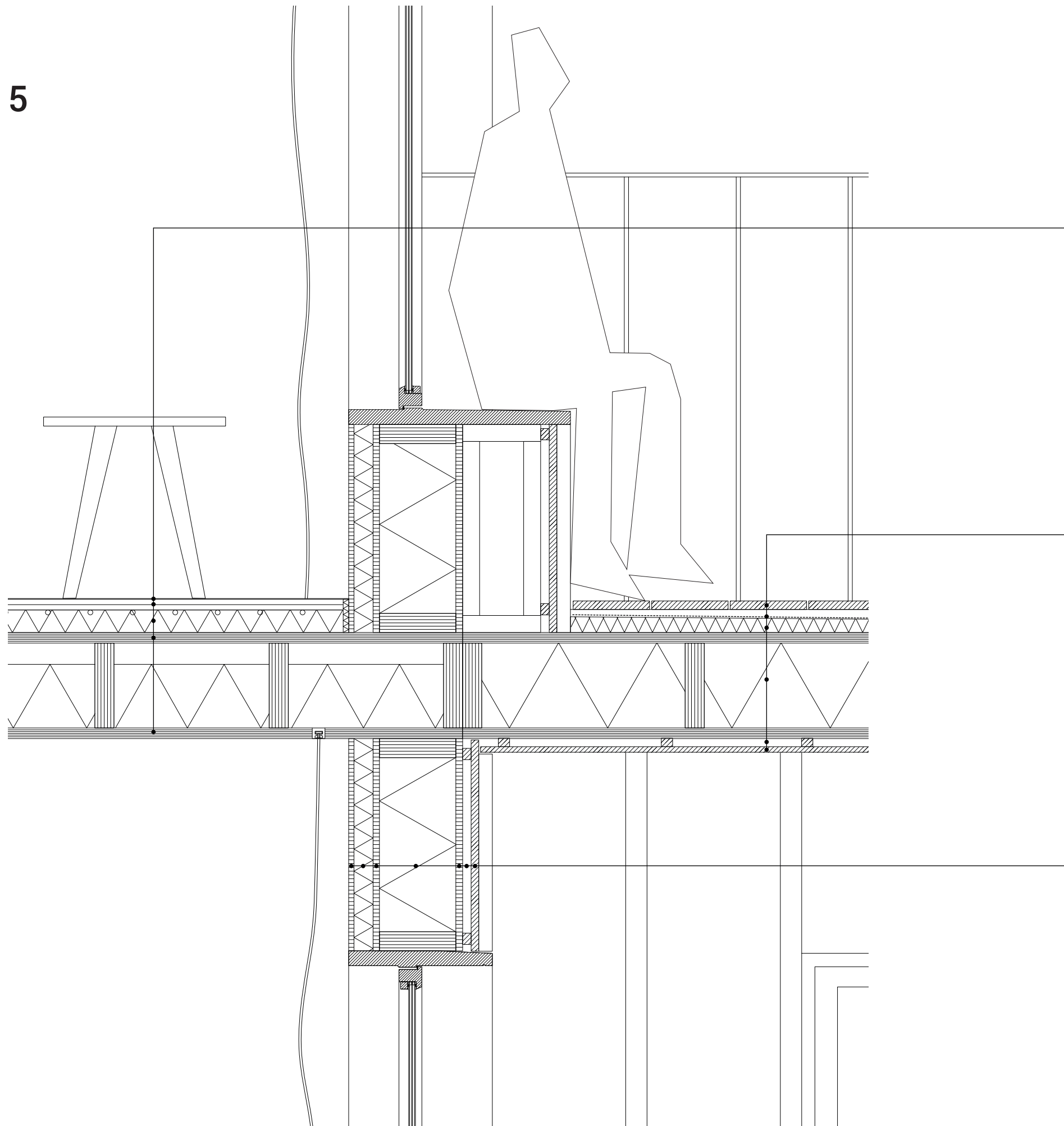
Door

triple glazing in wooden frame
 easy accessible for wheelchair because of no height
 difference when going outside

Balcony

steel railing
 wooden planks anti-slip (Moso Bamoo X-treme) 20 mm
 wooden battens
 water proof foil
 hard insulation on slope
 Kerto Ripa closed floor element 250 mm
 wooden battens 20 mm
 wooden planks (Moso Bamboo N-finity) 20 mm

5



Floor (dry system)

marmoleum floor finish (Forbo) 2 mm
Fermacell floor element 2x 12.5 mm
insulation with floor heating 50 mm
Kerto Ripa closed floor element 250 mm

Balcony

wooden planks anti-slip (Moso Bamoo X-treme) 20 mm
wooden battens
water proof foil
hard insulation on slope
Kerto Ripa closed floor element 250 mm
wooden battens 20 mm
wooden planks (Moso Bamboo N-finity) 20 mm

Timber (HSB) prefab facade

plasterboard 12.5 mm
insulation zone for installations 45 mm
OSB panel 15 mm
insulation (HempFlax) 180 mm $R_c = 4,5 \text{ m}^2\text{K/W}$
between wooden frame (45x180 mm)
water resistant fiberboard 16 mm
ventilated cavity with wooden battens 20 mm
vertical timber facade (Moso Bamboo N-finity) 20 mm
with vertical slats 30x50 mm h.o.h. 425 mm

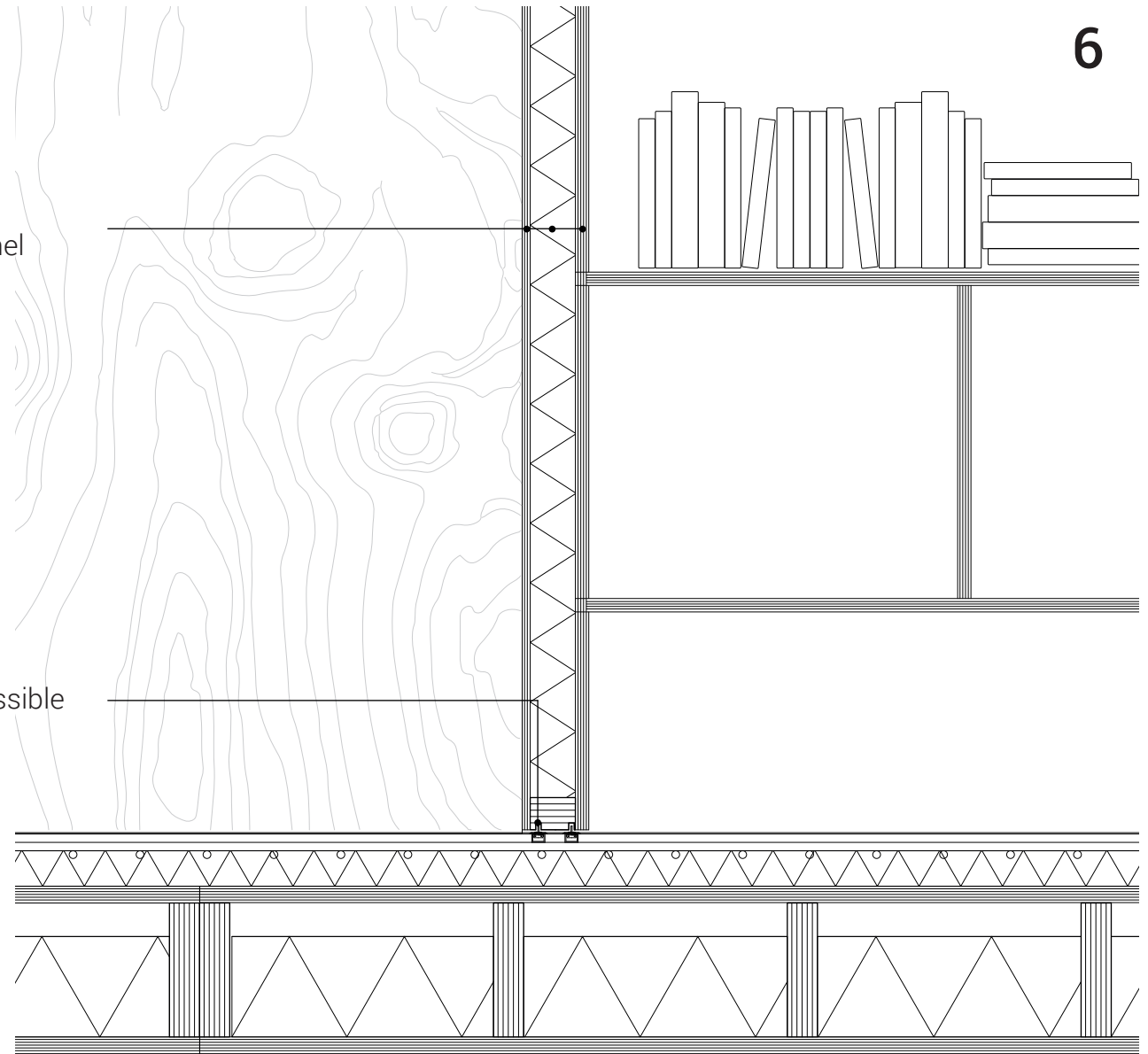
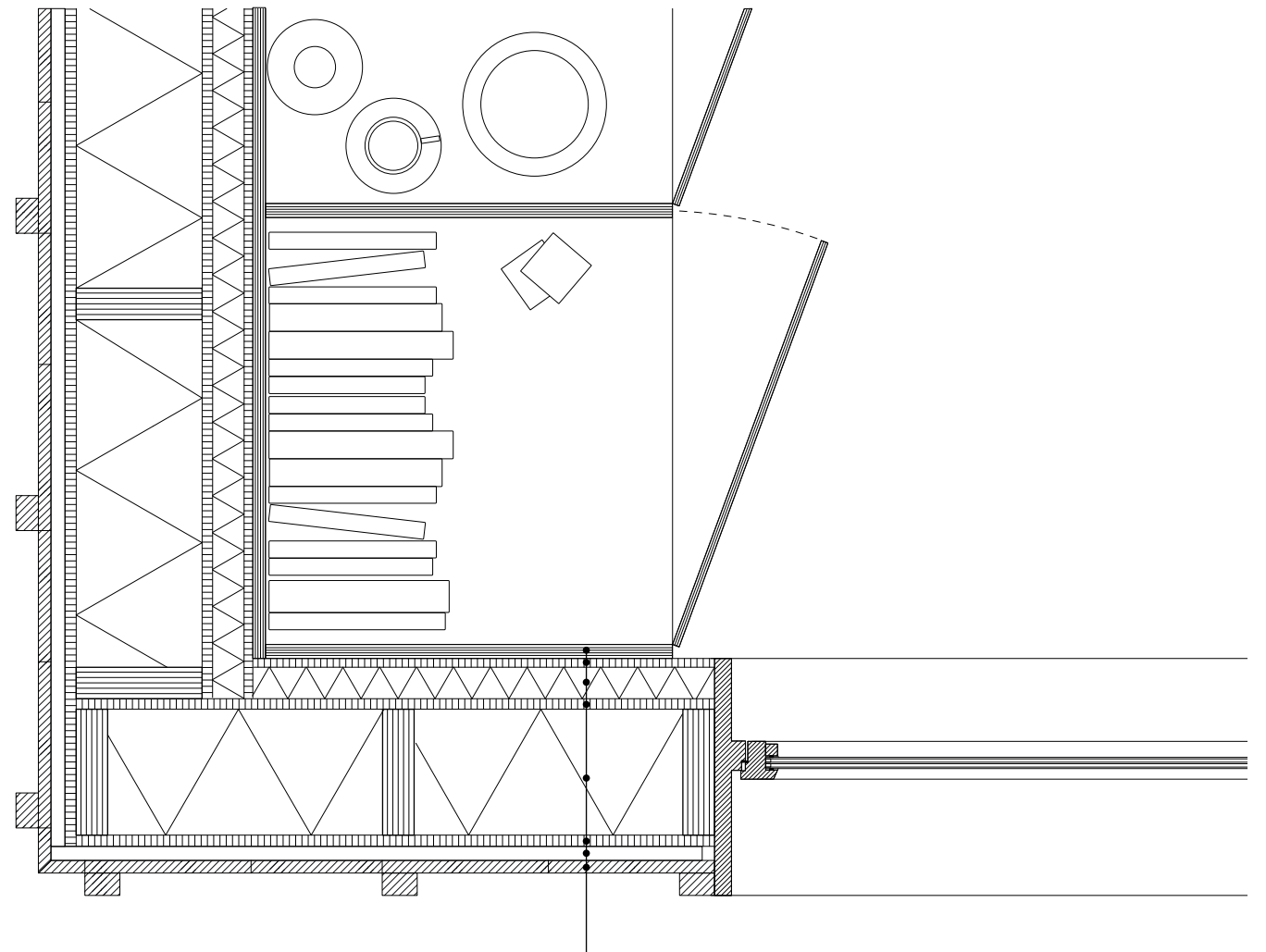
detail 1:5

6

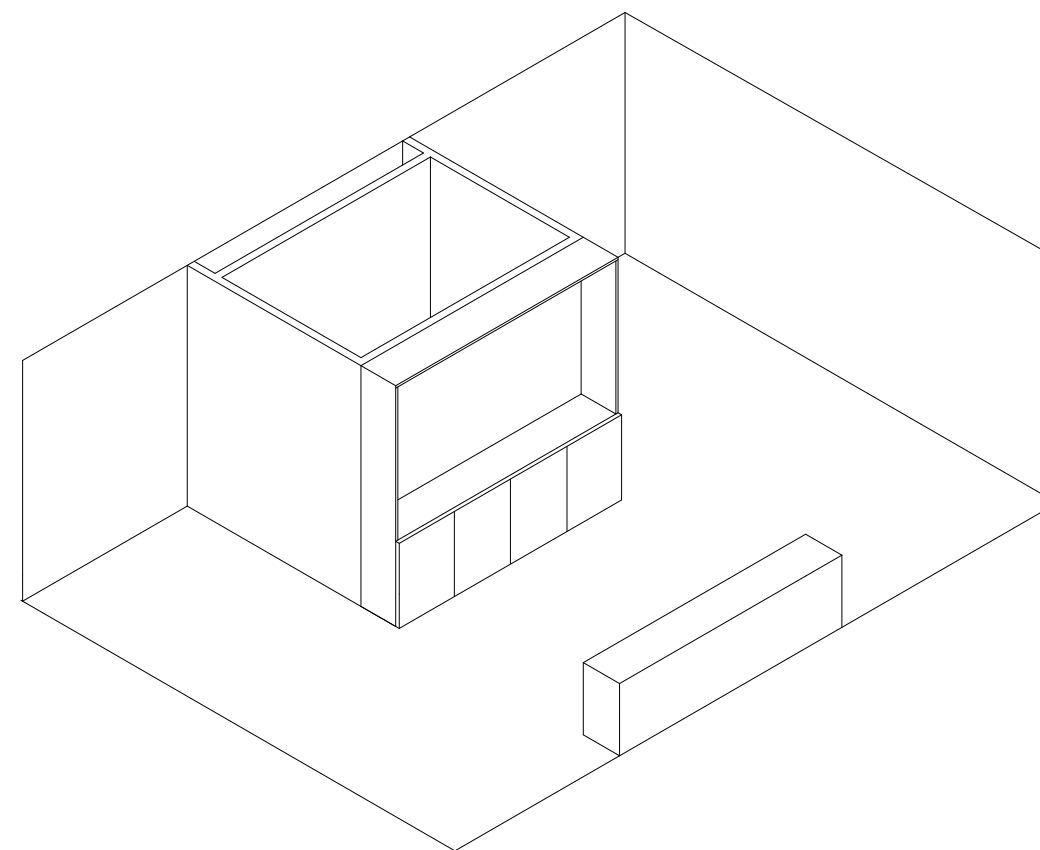
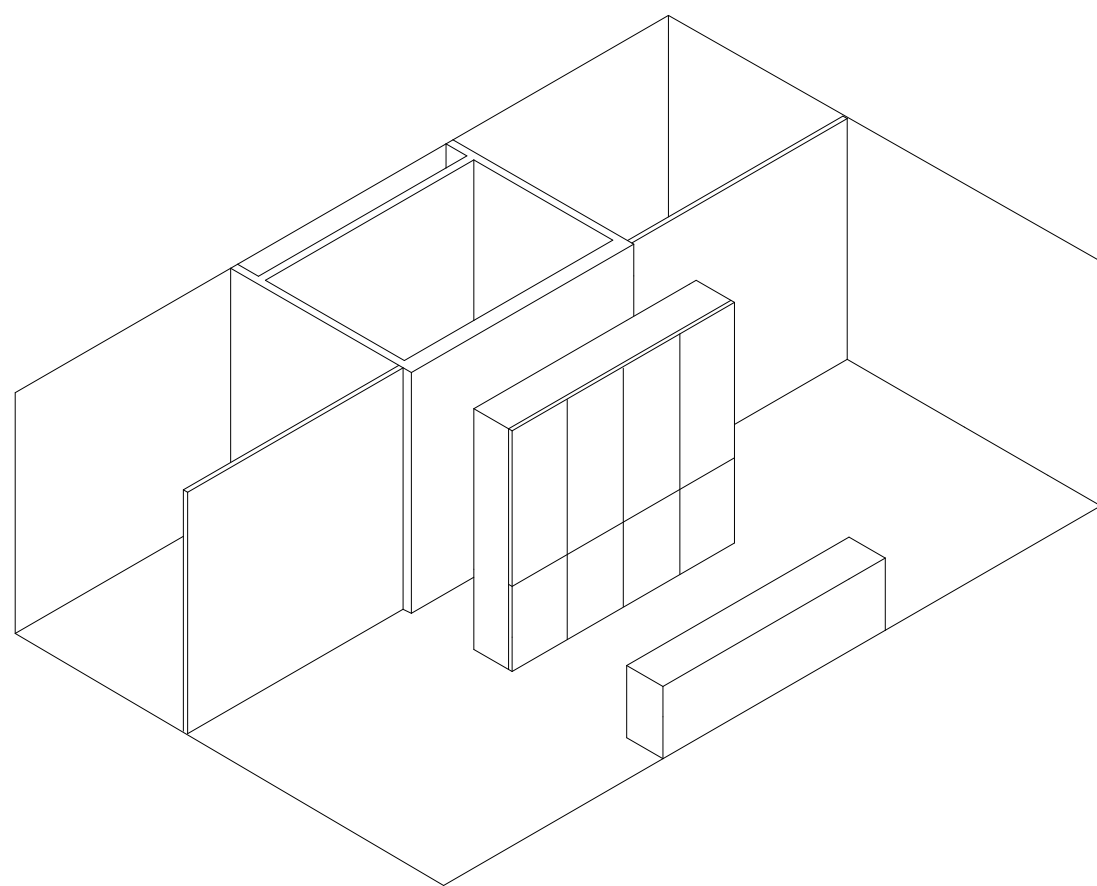
Moving closet
plywood 12 mm
Kerto LVL T-stud panel
filled with insulation
plywood 20 mm

rails that make it possible
to move the closet

2



Timber (HSB) prefab facade and built in closet
plywood 20 mm
plasterboard 12.5 mm
insulation zone for installations 45 mm
OSB panel 15 mm
insulation (HempFlax) 180 mm $R_c = 4,5 \text{ m}^2\text{K/W}$
between wooden frame (45x180 mm)
water resistant fiberboard 16 mm
ventilated cavity with wooden battens 20 mm
vertical timber facade (Moso Bamboo N-finity) 20 mm
with vertical slats 30x50 mm h.o.h. 425 mm



smart solutions that make the home adaptable
and suited for different uses and kind of residents

atmosphere

It is about feeling, seeing, hearing, smelling. It is about being alive.



view from the path



view from central square



view from the street



view to communal space



communal space