Common space

Sharing spaces in the context of co-housing and production in the M4H area

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Structure

RESEARCH

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Abstract

Sharing takes place on different levels, and between different actors. In the context of the redesign of the M4H area, sharing between residents, but also between production and residents provides the city with new possibilities of social encounter. Sharing is bound to social, programmatic and physical factors. All of these factors need to be considered when designing shared spaces on any scale, to ensure that these spaces are actually used, and do not become the center of conflicts. This research offers an insight in all these factors, and how to deal with them when designing for sharing.

Keywords: Co-living, shared spaces, communal housing, shared living, production, M4H Rotterdam

Introduction

Personal Motivation and Research Theme

When I first moved to Delft, I lived in a shared apartment, where I shared the living room, kitchen and bathroom with 2 other students. During the COVID-19 pandemic, I found the real value in these common places: we would cook and eat together and do weekly yoga sessions in our living room, we painted the living room pink, and we DIY-ed artworks to hang on the walls. During this time, the living room that was first not really in use, became the beating heart of our apartment. However, at one point the tensions rose in the house, and the environment turned sour. The living room, which used to be a space of encounter, turned into a space we would avoid, to make sure we would not run into an unpleasant experience. This escalated until I saw no other option than to move houses, as I did not feel comfortable anymore in the shared spaces.
My new house is a studio apartment. While I do enjoy having my own space and not having to deal with flat mates, I do miss the easy contact: I have to go look for social interaction now outside of my house. There are common rooms in my building, but to use them you need a reservation. People only use them to invite their friends, but no new encounters between neighbors take place there.

This personal experience illustrates how the effect that a space has is not only dependent on the physical properties of that space, but also on the interpersonal relations between the people living there. Sharing a space can be an addition to your social life, or it can prevent you from expanding your social life if you do not feel comfortable inviting people over and spending time in shared spaces. One space can have opposite affective connotation and use patterns, depending on who uses it, and how the internal relations are between the people sharing it. These people, together with the space, can determine how a space works and is perceived. People, together with space, have agency over the lived experience.

Social interactions are important for building connections, and living a happy, healthy life (Klinenberg, 2018).
A way of creating these connections is through sharing (Belk, 2010). 'Sharing tends to be a communal act that links us to other people. It is not the only way in which we may connect with others, but it is a potentially powerful one that creates feelings of solidarity and bonding." (Belk, 2010)

In the context of architecture, sharing is often about sharing space. Conflicts are bound to arise when sharing spaces, and the way we deal with them can have huge impacts on our social lives. The way to coexist in harmony, while also gaining additional value form each other is thus dependent on both spatial as social factors. The spatial factors form the basis, in which the social factors can make a shared environment become inclusive and pleasant with thoroughly used shared spaces which cater encounter, or hostile, by excluding certain people and by doing so hindering the free use of shared spaces.

The spatial, architectural basis, wherein these social interactions can take place, does have to meet some standards to be attractive and motivating to use (Williams, 2005). These standards include visibility of the shared space, gradual transitions between public and private, and the positioning of 'key facilities'.
This research is done in the context of the redesign of the M4H area. This location has a long history as a harbor, and in the masterplan for future development the big harbor functions are moved away to make space for a combination of working and living.
With this combination, new forms of sharing can be explored, where residents share with residents, but also small industrial functions practice sharing with each other, and with the residents.
Combining this 'industrially minded' sharing with residential sharing, is the challenge which is created in the new Masterplan of the M4H area. (DELVA Landscape Architecture / Urbanism, 2019).

This context of sharing also opens doors for more intense ways of sharing, for example with co-living, where people share on different scales.

This balance between private and shared life in the context residential sharing is very important, as when a conflict arises, having the chance to privately reflect and reset makes it easier to deal with these conflicts. But this privacy should also not be too comfortable, as the chances of people living past each other after conflicts have arisen are big, resulting in a lack of social interaction.
The difficulty in designing shared spaces lies in the fact that architecture is often only sees an a physical, visual gesture. (Coleman, 2014) Designers cannot know how spaces will be used. Architects can make an idea of how the spaces will be used, but this is merely a fantasy. To find out how people appropriate spaces, real life studies need to be done to find out which spaces are used in which ways. (Coleman, 2014) If there is a lack of these studies, design for shared spaces can easily work out in other ways than the architect envisions, with a lack of social engagement as a result, despite the good intentions of the architect.

Common spaces, when used properly, can spark conversation and human interaction. However, when these spaces are not designed in a way that people can retreat to their own personal space and keep running into each other when that is not desired, this can cause irritation, and conflicts.

Problem statement

When sharing, people are to some extend depending on each other. Because of this, conflicts can arise, which often take place in the shared spaces, as that is where people interact and run into each other. However, the programming and design features of these common spaces have potential to bring people together instead of driving them apart.
There is a big gap between the big-scale production as currently present in the M4H area and living. Connecting these two can make safe, lively neighborhoods where people can profit of each other in a win-win

situation.
In this research I look into sharing on different scales, and how these scales relate between residential and productive functions.

Research Questions

During this research, I will investigate the impacts that the spatial and social aspects of shared spaces have on the users of said spaces. I will do this with the research question: W**hy are shared spaces vital to collaborative housing/ cohousing and how do they contribute to the added value for the city?**
Sub questions to be considered in this research are:
What benefits and problems can be found when sharing on different scales in a context of co-living?
How does sharing in productive functions relate to sharing happening in co-living?
How can production and co-living go together?

Research methods

In this research I use a combination of literature study, (auto) ethnography of my own lived spaces, a combined ethnographical and morphological analysis of Centraal Wonen Lismortel and the M4H area, and a precedent analysis of case studies.

With the literature study, I have gained insights in the concepts of sharing, shared living and common spaces. Through the ethnographical research I am shining light on the implications that shared living has on social life and interactions, and how shared spaces contribute to this. Through the typo-morphological analysis I will be able look into different spatial features of common spaces. I will compare the typological and morphological aspects of my own living experience with the plans of Centraal Wonen Lismortel and Haus M. These comparisons, in combination with the ethnographical and literature research will lead to

conclusions about the uses, strengths and weaknesses of shared housing, both in the general context of co-living, as in the specific case of the M4H area. 'The points of conflict do not devalue, but offer solutions for future well-informed design decisions.' (Khatibi, 2022)

Shared space definitions

In this research, I define different scales of sharing. This sharing can happen on the level of the neighborhood or even the entire city, but also within the more private scale of co-living, where people who are not part of one family of group of friends share parts of their housing (Izuhara et al., 2022).

Within all scales of sharing, two clear different categories can be defined: sharing out of necessity and sharing as extra.
The first type, 'sharing out of necessity', is the case if the shared space is actually needed, because individual residents of producers do not have the specific function in their personal space . Examples of this are shared kitchens and living rooms, where the residents only have a private bedroom and thus use the shared kitchen and living room in their daily life. Different motives for this type of sharing can be found, with the most important being the current crisis of affordability and availability, especially of housing (De Vos & Spoormans, 2022). When sharing specific spaces, there is less pressure on the availability, as fewer individual spaces are needed per person. This also translates into affordability, as less needed square meters and materials result in lower individual costs.

The second type, 'sharing as extra', is about sharing which is done for social reasons. In this type, individuals have a private space which is fully equipped with all needed amenities, and all the sharing that is happening is done mostly out of idealistic viewpoints, or to of the individual space. In dwellings, these additional spaces are often flexible rooms that can be used for activities that one would rather not have in their private apartment.

There are also many forms in between these two types, as there is often an overlap between the two.

The two extremities of sharing types do attract different target groups, as the sharing out of necessity often attracts people who do not have another choice because of financial reasons, while the people sharing as extra do make the choice to share with others out of their personal interest in building social bonds. However, there are many different people who fall somewhere on the spectrum between these two extremities.

Distinguishing between these two types is important, as this influences the intensity of the use of the space, and the kind of uses and user groups.

There are also multiple levels of shared space that can be distinguished. A space shared by a few people has a different impact than a space shared by an entire building, or even an entire neighborhood These different levels of 'privateness' are important to consider when researching the impact these spaces have, as this has a big impact on the use and the experience of the space.

Introducing Case Studies

To research the impact of sharing, I looked into different forms of sharing in case studies, mostly about co-housing. Because the combination of living and production, as proposed for the M4H area, is not widely implemented yet in the built environment, it this research I will be relating the outcomes of shared living with the spatial findings of the current and planned state of the M4H area.

The case studies in this project are:

Centraal Wonen de Lismortel, Eindhoven
Architect unknown
Completed in 1983.
Client: the collective de Lismortel
Figure 2 & 3

Centraal Wonen de Lismortel consists of 10 clusters of approximately 6 households per cluster. In this co-living project, the residents share a building per cluster with internal shared spaces, and they collectively share a bigger shared pavilion, owned by the collective, where they host weekly drinks and coffee meetings with all the 62 households living in the project. All residents have a fully equipped apartment, with a full-size kitchen, a bathroom, bedrooms and a big living room. The common spaces are merely additions to the living spaces in their own apartment.

Rotterdamseweg 139, Delft
Vera Yanovshtchinsky Architecten
completed in 2010.
Client: DUWO
Figure 4

The Rotterdamseweg 139 is my current student housing. The housing

is a mix of 220 studio apartments, and 15 shared apartments. I live in a studio apartment without housemates. The studio apartments have their own kitchen and bathroom, in the shared apartments these are shared with 4 people. There are shared facilities, as a shared laundry room and 'common' rooms which can be rented out for events by the residents.

Haus M, Zurich
Duplex Architekten
Completed in 2016
Client: Mehr Als Wohnen
Figure 5

Haus M is one of the 13 buildings in the Mehr Als Wohnen project. In this building, the ground floor is taken up by a children playground and a small-scale school, while the 5 stories on top of that are designed as co-housing. The 29 apartments are connected through a shared atrium, which is also used as social space. The simple details and construction leave room for the residents to appropriate space.

Target groups

The target group for co-living projects consists of people that willingly and deliberately join in a communal living group. This means that they are aware that they will be interacting more closely with their neighbors than in a conventional living arrangement which would consist of a nuclear family, or of living completely alone.
Personally, I like to focus on groups that can benefit to the biggest extend of the social implications that co-living offers, namely people that are at risk of loneliness.

Therefore, the target group I will focus on most is single people. This is a group that lives alone, and thus can truly benefit from having social interactions on a regular basis. They don't have easy contact within their own home, so entering into a co-living situation can drastically increase

the number of social interactions they have, as the proximity of people influences the amount of social interactions a person has, and therefor also the amount of social bonds (Williams, 2005), which in time lead to forming of support networks (Klinenberg, 2018). This group of single people can further be divided into subgroups: 'single starters', 'single parents' and 'single elderly'. These subgroups can benefit from living together with shared facilities, not only with each other, but also with other groups.

Apart from these solo-dwellers, I will include productive functions, and more specifically a shared industrial kitchen. This productive function attracts people that can be included in the shared spaces as well. On top of that, the inclusion of workers from the productive functions in the common spaces can lead to more interactions, and interactions between people that would otherwise not cross paths, and 'Food is a common need that unites us all' (Armborst et al., 2017).

People that live alone are more likely to go out to bars and other public places to meet up with friends, thus keeping the city more lively (Klinenberg, 2013). It is however important to be aware of who you exclude by designing for a specific target group. By designing with flexibility, spaces can in practice be used by different people, belonging to different groups.

1. Sharing the City

Figure 1 ⟶

In the analytical drawing on the next page, sharing in the current M4H area is made visible. This drawing shows that the area on the west of the design site is fairly closed off and inaccessible for slow traffic like bikes and pedestrians. This is mainly because of the industrial functions that are currently still present in the area, but with the redesign of the M4H area they will move out of the area. Because of this, connections to this West part of the M4H area can be made in the design. The East part of the location is more accessible for bikes and pedestrians. Here is also more sharing happening already, which can be built on for future sharing initiatives in the neighborhood.


brewery
closed facade
fenced off
fenced off
grass
high tower
fenced off
abandoned/ decayed
steur gebouw
silo
silo
fenced off
shared mopeds
P
grass
yellow
storage building materials
grass?
industrial closed-off
very empty
big space
sidewalk
fenced off
not
dead end
fenced off

big road
=barrier
businesses
furniture store
hardware store
(praxis)
bike repair station
colorful closed facade
P
+ storage
ferro dome
events
big road
art
art
art
'clubhouse' collective space
new road
old road
art & storage
closed facade
Voedseltuin
Planters
DESIGN
LOCATION
grass
tidal park/ water taxi plans
Keilepand
P
food bank
storage
?
visible
grass
boat
Co-working
event location
closed off
↳ focus on cars & trucks
open
↳ focus on bikes & pedestrian
closed off industry
activity

The design assignment, which lays the basis of this research, is located in Rotterdam, more specifically in the Merwe Vierhavens (M4H) area. This is a location which has been mainly developed as an industrial harbor during the industrial revolution. Industry in general has left a big footprint on the city of Rotterdam, especially in the harbor area. The new building styles which came into fashion because of the industrialization, are found in every city, even in places where the industry was not prevalent. (Coleman, 2014).
Since the harbor is moving further out of the city core of Rotterdam now, space is left behind, which will be repurposed as a mix of living and small-scale production (DELVA Landscape Architecture / Urbanism, 2019)

A harbor is always to some extend an area where sharing happens, as all kinds of different people and companies use it as a means to receive transport their goods. Ships that come in are filled with stock of multiple different stakeholders, and the workers that unload these goods are all part of the service that the harbor offers. Multiple companies ship their stock through the harbor and outsources the manual labor to the staff of the harbor, to be more efficient and cost-effective.

Now that the harbor activity is retracting from the M4H area, this form of sharing is declining. But new forms of sharing are emerging. This sharing of, for example, knowledge and material aspects, is already happening in the M4H area, where the Rotterdam Makers District is housed. Small makers exchange goods and services, to grow their knowledge, and also grow their companies. (Gebiedsontwikkeling, z.d.). Sharing is also a way to become more circular, as 'nobody can be circular by themselves. Because of that, collectivity lays the base of circularity in the M4H area. That means sharing. Sharing of space, facilities, systems, streams and networks.' (DELVA Landscape Architecture / Urbanism, 2019)

Initiatives like the Keilepand, a co-working space for makers, show us that co-working and co-making can take place in this former harbor area. It also shows us that different disciplines of businesses can coexist and lift each other up.

A smaller example of sharing in a small-scale industrial context is the Food Union, a shared commercial kitchen (Food Union, z.d.), located within the Keilepand. Food related makers can rent out a counterspace in this kitchen to product their own food/beverages. By paying a flexible monthly rent, depending on how often they use the kitchen, this is financially a good choice for starting entrepreneurs. Machinery, space and offices are available if needed. This type of sharing is more related to material goods, and not necessarily to social factors. But by being included in the Keilepand, the Food Union does connect the users of the kitchen to the other entrepreneurs in the Keilepand when they run into each other in the common entrance hallway, or in the shared lunch/ break area. Also, by being in the same room as other food professionals, exchange of knowledge and manpower is possible.

Food is a very relevant theme in the M4H area. Not only because it is currently a theme that can be found, with the Voedelstuinen (an initiative where biological fruit and vegetables are grown by volunteers), voedselbank (were food is supplied to low-income households), and the forementioned Food Union, but also because the area was, during the thriving days of the harbor, mostly in use for the shipment and storage of fruits and juices. The area was known as 'the most vitamin heavy part of Rotterdam'.

Because of this, in my design proposal for the M4H, I mix co-living with shared industrial kitchens. The scale of the shared kitchen that I am proposing is bigger than what is already on the market. By combining the shared kitchen with a make/sell space, where customers (both residents of the building and people from the neighborhood) can buy these products made by local makers, this will be an attractive space where the neighborhood comes together, and added value is created, both for the residents as the businesses.

These kitchens can provide the area with additional value when they go together with living. The working hours of these kitchens, for example, do vary, creating a lively plinth during all hours of the day, and thus increasing social safety.

By combining these kitchens with co-living, a form of shared housing where people share on different levels within and outside the building, the area will become lively.

Shared housing is gaining interest again, both by academics as by people who want to explore new ways of housing (Schmid et al., 2019), and with the rising housing prices and diminishing size of households, it is plausible that this interest will keep growing.
Social and political factors are also part of the reason why shared housing is becoming more popular. During COVID people were bound to their house, and loneliness rose. With shared living, more close contacts are made around the home, expanding social circles.
Additionally, housing costs, including gas and electricity prices, rose, making it more cost-effective to live together. On top of that, people are living alone more often, as it is not the standard anymore to get married and move in together straight after leaving your parents place, or to move back in with family or get quickly remarried if your partner passes away (Klinenberg, 2013).
Since 1960, eight times more people are part of a one-person household in the Netherlands, according to the CBS (CBS, 2022). 21% of the people live alone or are a single parent.

Before the recent increase in living alone, living alone was mostly done by migrant workers, as a temporary way of living, until 'a more conventional domestic life' came along (Klinenberg, 2013). Now that over 20% of the population lives alone, room for a new type of household, opposed to the nuclear family of 2 parents with kids, is introduced. An emerging type of household is co-living, where people who are not part of one nuclear family decide to share a house. This is especially relevant in the context of the M4H area, as sharing is one of the spearpoints proposed in the masterplan.
These changes of households over time show that the way we live is dependent on the era that we live in. Discussions about merely the form of a building are easy, but the real value lies in understanding the era and political climate it was created in and the influence that that has had on the physical aspects (Coleman, 2014).

2. Sharing the Street

Figure 2 ⟶

In the analytical drawing on the next page, the sharing between clusters of the Centraal Wonen de Lismortel is explored. The drawings shows the difference between the use of the public road (dark pink) and the gardens which are shared within the clusters (light pink).

Figure 4 ⟶⟶

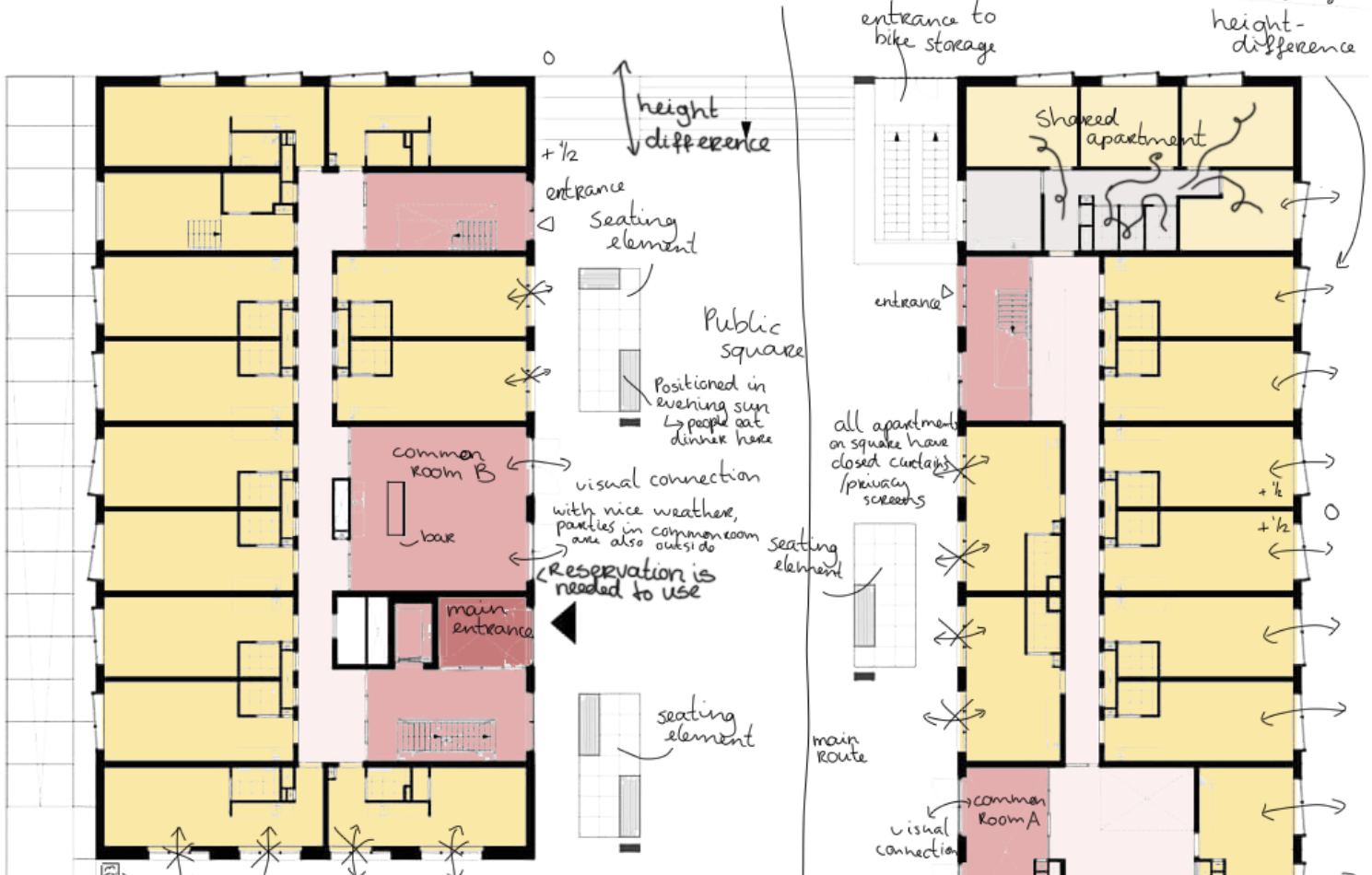
In the analytical drawing on page 22-23, the sharing in the Rotterdamseweg, both happening outside on the square (white) as inside (dark pink for sharing with the entire building, light pink for sharing with all residents of that specific corridor) is illustrated.

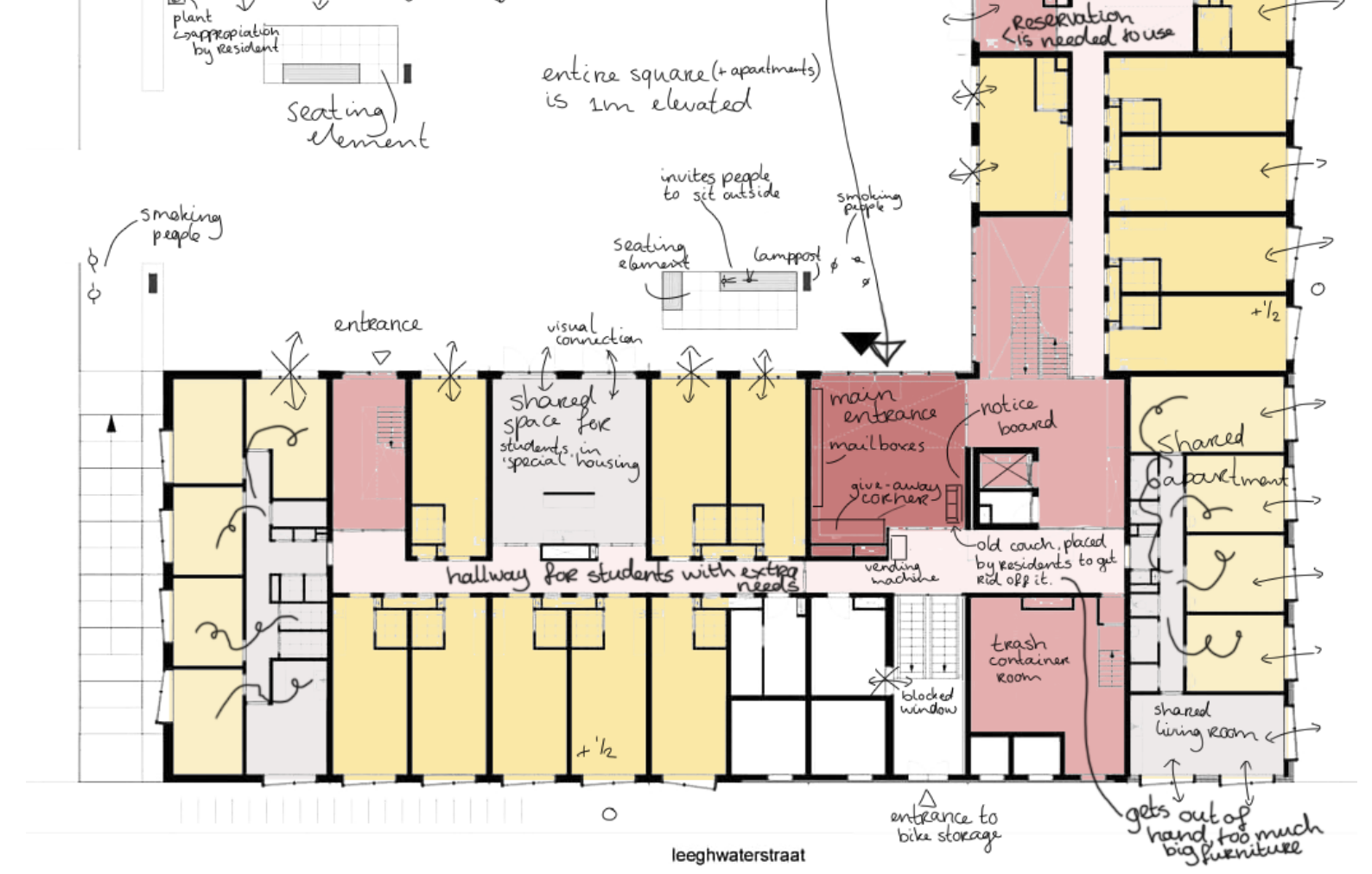

cluster 1 (43)
Parking
end of centeral women
small wall
free pit?
'tree' house?
outdoor shower (made by cluster 2 during lockdown)
fence
Cluster 2
shared garden cluster 2
traffic bump
fence
Painted bird-houses
appropriated shared garden - only in use by 1 household
Parking
shared storage cluster 2
bike (repair) shop
interactions
cluster 10
trash containers
parking
coffee meetings every week
Drinks every month
common room is point of interest
brings people together
pizza oven
tumble bars
this side of the square feels more private
hop step jump tiles
active square where interactions happen frequently
interactions
Pergola
cluster 9
Parking
vegetable garden tubs
'outsider' child gets spotted
football target
Signpost
Path to stream
Parking
Parking


cluster 4
quotes are spray painted on the tiles
'together bar away always close by'
signpost
traffic bump
hindering fast/big traffic
fence
interaction
parking
streetparking brings people outside
↳ meeting
cluster 8
parking
signpost
shared storage cluster 6
bike storage cluster 6
cluster 5
cluster 6
shared garden cluster 6
parking
parking
cluster 7
hand-painted Colorful signpost
↳ tells you the cluster number
end of centraal wonen
Path to stream
play-ground
Similar architecture to CW, but no shared housing
initiatives made by the residents on 'national neighbors day'
big amount of street parking on square
↳ shared path to cars
↳ interaction
Parking is 'point of interest'
stream
N

rotterdamseweg

visual connections
↳ privacy because of height-difference




plant
appropiation by resident
seating element
entire square (+ apartments) is 1m elevated
reservation is needed to use
invites people to sit outside
smoking people
seating element
lamppost
smoking people
entrance
visual connection
shared space for students in special housing
main entrance
mailboxes
notice board
give-away corner
vending machine
old couch, placed by residents to get rid off it.
hallway for students with extra needs
shared apartment
trash container room
blocked window
shared living room
+ 1/2
+ 1/2
entrance to bike storage
gets out of hand, too much big furniture
leeghwaterstraat

On the street of the Centraal Wonen de Lismortel project, social interactions happen frequently. When I was visiting there during their weekly coffee meeting, which is held in the shared pavilion owned by the collective, I saw multiple people running into each other, and making casual small talk. As an outsider who had never been there, I did feel that it was obvious that I did not belong, as everyone else seemed to know each other well.
This personal observation shows that inclusion and exclusion can exist next to each other. When including a specific group in a social life (in this case the residents who share their street, the pavilion and all the programs housed there), people that do not belong to that group (in this case me) can feel less welcome.

This observation is supported by the theory of Armborst et al. (2017), who argue that access to urban spaces, such as the street going through de Lismortel, 'is governed by a diverse, contingent, and often contradictory set of policies, practices and physical artifacts.'.
There is a fine line between inclusion and exclusion, because a measure implemented to include one person or group, can exclude another. (Armborst et al., 2017). This means that to make a place more inclusive for the bigger group, smaller groups which can be seen as undesirable (e.g., Loitering youths) are often excluded. This is often not done through active policies, but by disincentivizing specific groups from entering and lingering in the area.

In Centraal Wonen de Lismortel, as seen in figure 2, there are no outspoken disincentivizers, but there are some hidden physical design choices that do affect the inclusivity of the area.
For example, the traffic bumps keep out fast traffic, but can also causes irritation for residents who have to cross them every day (Graham & Jones, 2018). These speedbumps can also disincentivize traffic from going through a neighborhood, making the neighborhood more inclusive for the pedestrians and residents, but less inclusive for outsiders.
This shows that the street is a public space, but it is not accessible for everyone. Pedestrians often do not have a place on the road, while cars do not have a place on the sidewalk. This shows that sharing is not only

something that happens when specific people have access or no access, it also depends on the scale and the speed of the parties involved. Sharing between different scales can cause issues, as is visible in the current state of the M4H area. This is visible in figure 1, where you can see that a big part of the area has a closed off character. This character is caused by be the industrial functions, who do not call for an inviting outlook for pedestrians and cyclist as they are mostly focused on trucks, and on destination traffic, not casual passerby's.

Heavy industry does generally not mix well with living, because of noise, smell and general safety, but smaller industry that, according to the masterplan, remains in the area after the big industry has moved away will be able to go together, as long as both the industry as the dwellings are considered in the new design for the area.

The sharing of public space between residential and (small scale) production) is nothing new. In the historical Garden City, a model of housing which started to gain traction in the late 1890's, people shared outdoor spaces (Schmid et al., 2019). These spaces included gardens for recreation, but also possibilities of growing plants meant for consumption. Groups of housing also shared additional shared facilities, like shared external bathrooms, laundry facilities, educational facilities, libraries and community centers. These shared spaces were often located outside of the home. The focus of these agglomerations was on the nuclear family, and how to provide for their needs.

In these historical garden cities, there was space for small scale production, in for example gardens where produce was grown. This production was however directly linked to and run by the inhabitants of the dwellings.

In residential sharing of the public road and green, the layout of housing is important for the number of interactions that people have. An important aspect of interactions is proximity. If other people are close by interactions happen more often than when people are further apart (Williams, 2005). Because of this, interactions happen more often in high density projects

than in projects with less people per square meter.

In the case study of Centraal Wonen de Lismortel in Eindhoven, sharing takes place on different levels in the outside space. In figure 2 all of these levels of sharing are made visible. Firstly, there is the road, which is a publicly accessible low-speed traffic road, making it a safe space for bikes and pedestrians. Then there is the 'square', which is the central area of the project. This is the space, which is used mostly by pedestrians, both as a traffic space to go to parked cars or points of interest located in shared outdoor space. The shared pavilion, owned by the collective and shared by the inhabitants of all the clusters combined, is located on this square. Here there are weekly tea meetings organized for the residents, and annual parties. This pavilion is also used by residents for their own small-scale events, on the condition that residents of the project are invited. There is also a more private garden for every cluster, shared by only the members of that specific cluster.

The specific location within a project matters for the number of interactions, as people living on the edge of a neighborhood are less likely to interact than people living in the middle. People living in the corner house are interacting less with the neighbors than people living in the middle of a row of houses. (Williams, 2005)
This is visible in the case study of Centraal Wonen de Lismortel (figure 2), where most of the interactions happen around the social square in the middle of the project. On the ends of the project, less interactions happen. This is because of two reasons: because of the theory that Williams introduced, where the middle dwellings have the most interaction, but also because there are points of interest located on the square, like the pizza oven, football target, and the shared pavilion. These amenities make shared spaces used more often than spaces without these (Kleeman et al., 2022).

These points of interest do, however, need to be kept up. If these spaces are not kept up, they are not used and their benefits in the shared outside space is nullified.

Not only these shared points of interest, but also the pathways towards them can be points of interaction. If a big number of neighbors have to pass the same path to a specific activity, like parking the car, there is a big chance at encounter and social interaction.
This is for example visible in the Lismortel (figure 2), were the residents who were on their way to the coffee meeting already ran into each other on the street.

But these interactions on shared pathways are more common if the people taking these pathways have similar ways of life, and thus take the same pathways on similar times. People that have similar habits are more likely to run into each other on these pathways than people that have different habits. (Williams, 2005)

However , communities which are too homogeneous do increase prejudice and fear of people who do not belong to that specific group, which causes a decline in social inclusion for groups that do not fit in (Armborst et al., 2017). The more people know each other and are similar to each other and feel like they are part of a community, the less open they are to outsiders. Including the neighborhood into a shared housing project can therefore be difficult, as people who are not directly part of the community can feel excluded.

The presence of productive functions on the plot can counter this, as there will be many different people who work on the plot, in addition to the smaller communities of co-living. The presence of these people does make it more accepted that 'outsiders' are also taking part in public life in and around the building. Also, the scale of the building does help with this aspect, as the amount of people, and with that also the amount and variety of communities living in the building will be big.

In the M4H area there are no social groups established yet, as the area is still in transition. Because of this, the redesign can make a big impact on group forming and therefore on inclusion and exclusion. In the current state, the street is scaled in a way where it is mostly accessible for cars, and not for pedestrians and bikes. To create a shared street, scaling down

in necessary, so that pedestrians and other forms of slow traffic can find a place between the needed infrastructure for the productive functions in the area.

The big size of the project in the design assignment, and the amount of 'outsiders' who come there to work for only a few times per week helps keep the area inclusive, while the intense forms of sharing make group bonding happen on different scales.

In the case study of the Rotterdamseweg (figure 4), a problem is that people with apartments facing the central shared square on the ground floor keep their curtains closed for privacy reasons. Everyone walking on the square is able to look inside their rooms otherwise. Because of these closed curtains, the sides of the square do not look very welcoming. On the sides of the building this is less of a problem, as there is a height difference of 1 meter there. This height difference makes the people inside feel more sheltered, and thus they feel less need to close their curtains. When designing a public space around a building, this aspect of privacy for the people living around it should be considered.

At the Rotterdamseweg, the square itself does not have any points of interest, apart from the benches placed on it. Because of this the square is not a destination, but mostly a pathway to the front door. The only people that use it as a space to stay for a period of time are people smoking a cigarette, the incidental person eating their meal outside, or the guests to a private party hosted on one of the common rooms. Because of this, there are not a lot of high-quality interactions happening on the square.

The combination of no activities happening, and no people on the ground floor seeing interactions happening because of visual barricades (curtains) is a double reason for the lack of interactions, as the visual connection to activities and gatherings taking place, does make people inclined to join them (Williams, 2005).

Conclusion:

Shared routes enhance the number of social interactions. Proximity to others, and similarity to others in the field of schedule and habits also increase the amount of social interactions.
But sharing an outside space with a tight-knit group of people can exclude people from outside of that community, even though the spaces are technically also open for them.
Important points to keep in mind when designing a shared outside space are made visible in figure 6. Here you can see that the density of residential fabric, placement of individual dwellings, creation of points of interest, and creation of shared pathways do all have a positive effect on interactions and social bonds between residents. However, there is a risk of creating a homogenous neighborhood, where people who do not fit into the tight knit communities are excluded.

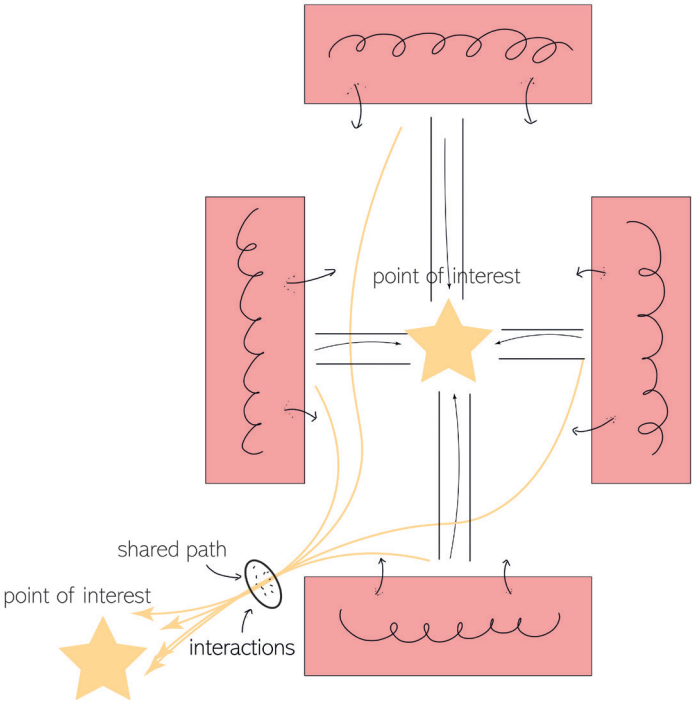


Figure 6: *Sharing the Street design principles*

3. Sharing the Entrance

In my current housing, at the Rotterdamseweg, the entrance hall houses different functions. Next to it being the point of entrance for residents and visitors, there are also mailboxes, a bulletin board as a communication hub between residents and the building facilitators, and a dedicated give-away corner where people leave things they don't longer need so another person can take them.

The sharing of an entrance is common in current high-rise buildings, but sharing an entrance has not always been normalized. Especially before the building of high-rise structures, it was norm for households to have their own individual front door.

Entrance halls can house different functions, as illustrated in the findings at the Rotterdamseweg.
In general, an entrance zone is expected to do three things, according to Charytonowicz (2018): 'Connect the inside with the outside, provide functional comfort and safety' and serve as a 'token of prestige' and thus be the visiting card of a building.

The entrance is where working and living intersect in the least intensive way, their paths collide, without being dependable on each other. Depending on the type and the scale of sharing, the entrance hall can be a place of meeting and interaction, or a no man's land where no one feels truly at home or responsible, resulting in a decline in the feelings of comfort and safety.

The coming together of different functions in the entrance hall can create value, but without clear rules and consequences it can also get out of hand. For example, in the case of Rotterdamseweg, a big number of big pieces of furniture are placed in the give-away corner, almost on a weekly basis. Because of the size and often poor quality of these objects, and the frequency in which they are placed, they are often not repurposed by other residents, and they stay there, blocking mailbox access and fire safety roads until they are removed by the cleaning crew.

Because the entrance is shared with a big amount of people, it is not always clear who is responsible for these pieces of furniture, and no one feels accountable/inclined to remove them.

In places where the density of inhabitants is very high, people feel like they have less impact on who they interact with (Williams, 2005). Because of this they tend to interact less in general with their neighbors and are less involved in the community, which might even feel 'invasive and beyond their control' (Williams, 2005). The entrance is often shared with the complete building, making it a spac e that is shared by many. This can make it feel impersonal, and even invasive because there is no way of monitoring or controlling who accesses it. Entrance halls are also often not designed for qualitative interaction, but merely to get in and out of the building.

To step down this big scale of sharing, into smaller and more intimate forms of sharing, which give people more opportunity for appropriation and social interaction, imposing a hierarchy of sharing is important. Clustering, which is often done in co-housing can be a good way to do this. Also organizing a building in a way that different floors and different functions have dedicated areas can help with the feeling of being in control of the users. The stepping down in size of the entrance itself can also help with introducing the scale of the human body into a building, which is desirable in the M4H area where this smaller scale is not sufficiently present for a residential function.

Because of big differences in scale, it can be difficult to generalize 'the entrance' as one term. For example, in de Lismortel is the entrance shared with only 6 households, while in the Rotterdamseweg, the main entrance is shared with around 200 households. This has a big influence on the amount and on what kind of interactions take place in these entrance spaces. The amount of people using the space affects the ideal design of an entrance hall.

People use a shared entrance multiple times each day, so there is a big potential for encounters and interaction, especially for people with similar

lives, who leave the house around the same time. Also, since the entrance is part of the walkway to point of interest, like the bike storage, or the university, people that are going to the same point of interest will run into each other there (Williams, 2005)

Conclusion:

Entrance halls can feel invasive if residents feel like they have no control over the space. This can happen when there is no hierarchy in sharing, and no one feels responsible for keeping these halls safe and clean. In figure 7, some design principles are laid out which can help with making a shared entrance hall be an inclusive place, where qualitative social interactions happen. One important aspect here, is implementing the hierarchy of sharing into the entrance, with a main entrance hall for all the users of the building, which is them split in separate halls for residential and productive. However, these halls should still be visually connected through windows, as that increases the social safety of these spaces. In this figure I also included the difference between the 'fast route' from door to door, and the functions which require some time, which allow people the choice to simply pass by or to linger.

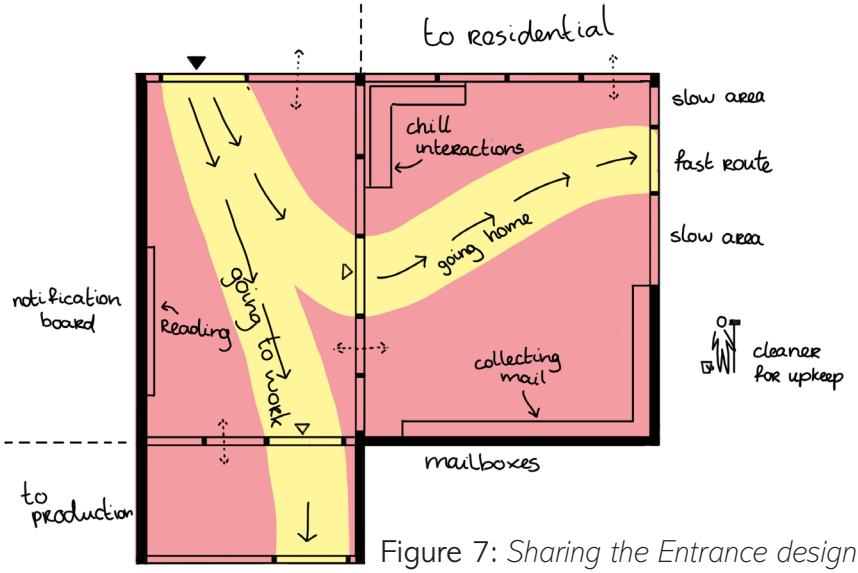
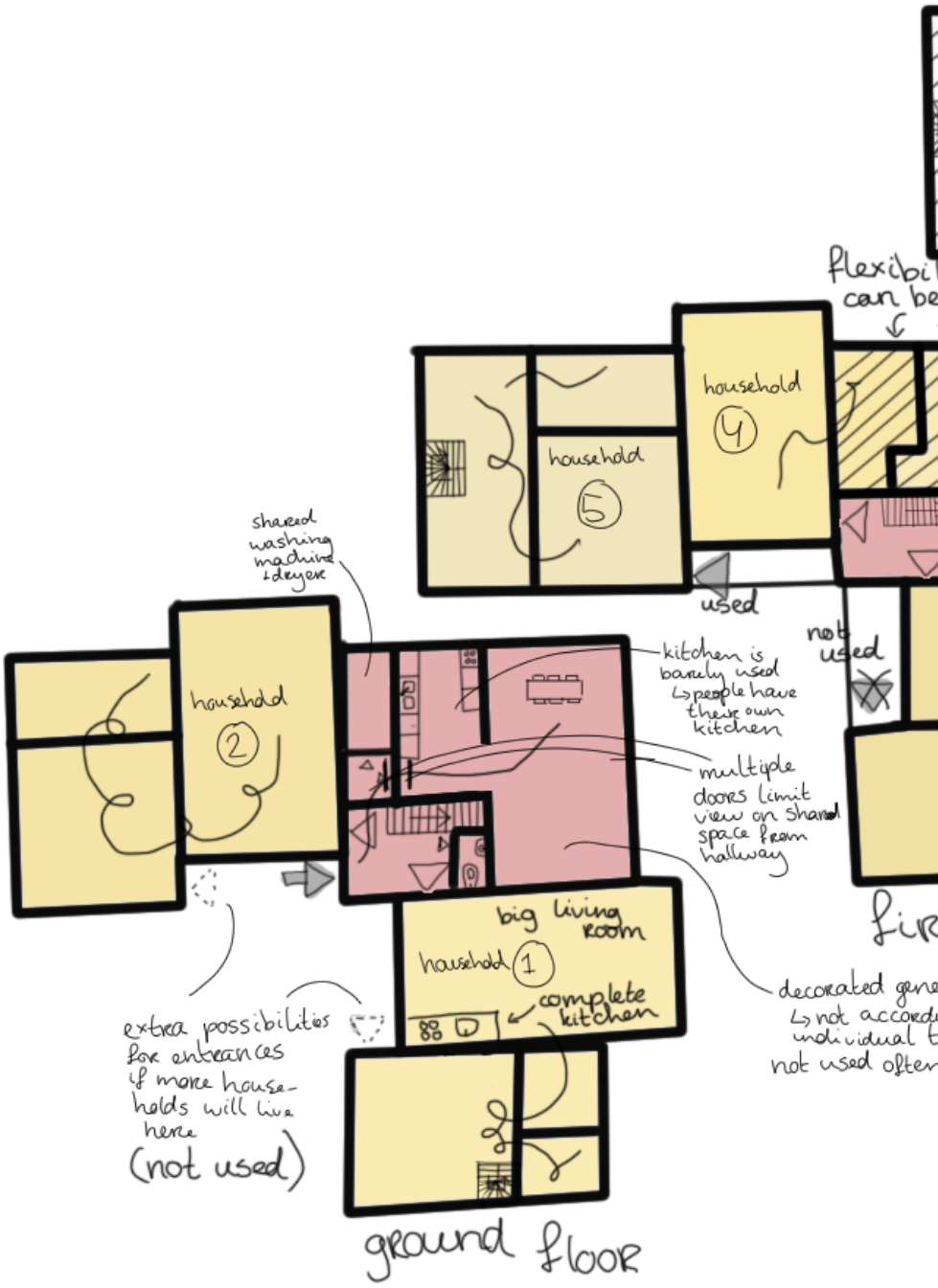
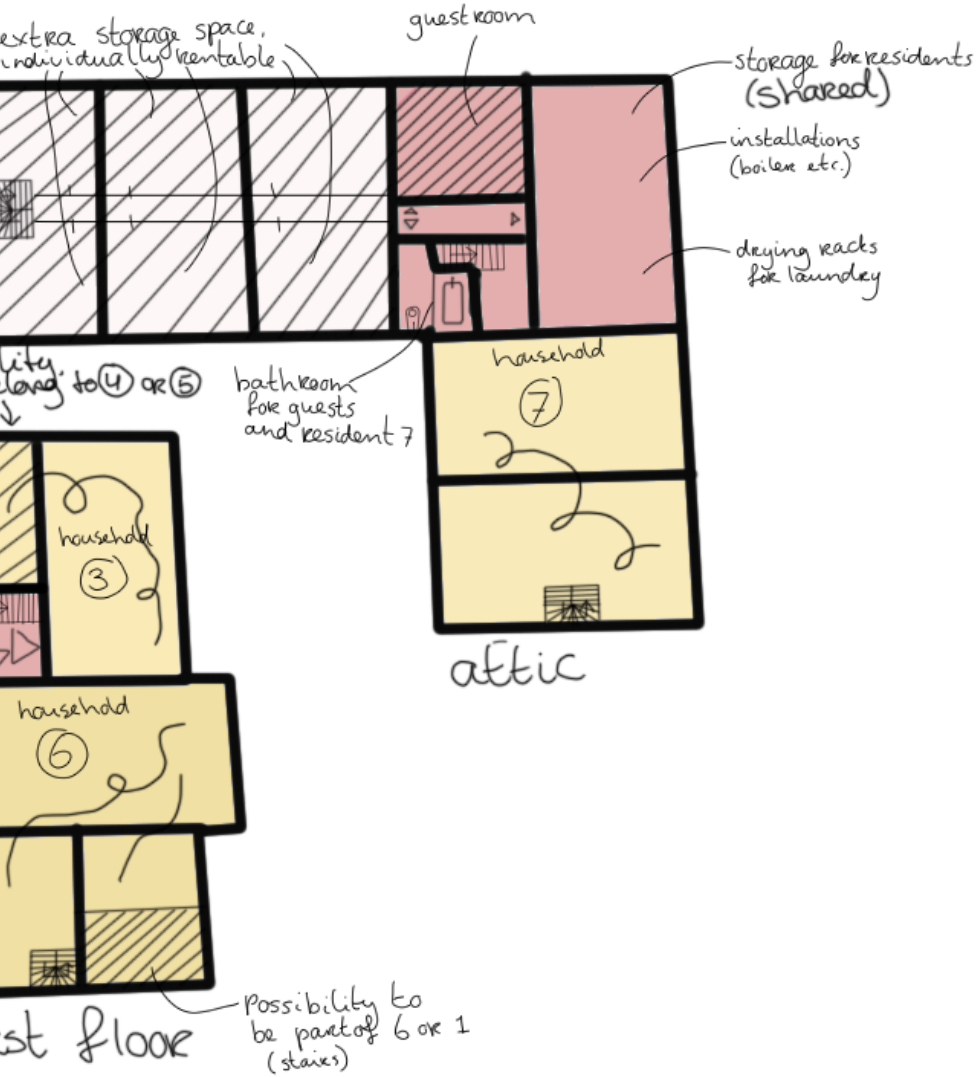


Figure 7: *Sharing the Entrance design principles*

4. Sharing the Multipurpose Room

Figure 3 ⟶
In the analytical drawing on the next page, the internal sharing within the clusters of Centraal Wonen de Lismortel is explored. In this drawing, a difference between the private apartments (yellow) and the shared spaces (pink) is made. The area's with a diagonal hatch have options for flexibility.


flexibi
can be
household
4
household
5
used
not
used
shared
washing
machine
+dryer
household
2
kitchen is
barely used
↳people have
their own
kitchen
multiple
doors limit
view on shared
space from
hallway
big living
room
household
1
complete
kitchen
decorated gene
↳not accordi
individual t
not used often
extra possibilities
for entrances
if more house-
holds will live
here
(not used)
ground floor


extra storage space, individually rentable
guest room
storage for residents (shared)
installations (boilers etc.)
drying racks for laundry
household 7
bathroom for guests and resident 7
to 4 or 5
household 3
household 6
attic
possibility to be part of 6 or 1 (stairs)
st floor

In the building on the Rotterdamseweg, there are two 'common rooms' which can be rented out or reserved for private events of the residents. In these common rooms no new connections are made, as they are only used by people to invite people over that they already know. It is, however, a nice addition to the living unit of the residents, as it allows them to invite more people that would fit into their small studio apartment.

Sharing that goes one step further than merely sharing the entrance hall, is one of the forms that is described by Schmidt et al. (2019) as cooperative living. In this model of living, people have their own personal apartment, but they share common facilities, such as a laundry room, or a multi-function room. This form of living started to gain traction in the mid 1970's (Schmid et al., 2019).

The Rotterdamseweg (figure 4) can be seen as cooperative living. With it's shared 'common rooms' and laundry rooms, there is sharing happening outside of the private apartments, which are all equipped with a full kitchen and bathroom.
These common rooms are an example of sharing as extra. These spaces are not a necessary part of day-to-day life, but a nice extra luxury to have in specific situations.

In Centraal Wonen De Lismortel (figure 3), the amount of sharing is slightly higher than in the Rotterdamseweg. Here, all residents have a fully equipped private apartment, but also an additional shared living space per cluster. Some shared facilities, like a laundry room, an additional storage, and guest rooms can be found outside these apartments.
The type of sharing discussed in this chapter connects people on the scale of the entire building. Spaces shared on this scale include (among others) laundry rooms, multipurpose rooms which can be reserved by residents, and joker rooms, which are rooms that can be rented out for a longer period of time for a home office, or temporary bedroom. On top of this form of sharing, the sharing of the entrance (and mailboxes, trash room etc.) is often also part of program in this typology of living.

The sharing of spaces like laundry rooms is often done because of economic reasons., and thus necessity. Sharing a washing machine is cheaper than buying your own, and on top of that is more sustainable to share a washing machine with your neighbors than to all have your own personal machine. But sharing makes people feel less responsible and thus considerate for the equipment.
Other facilities, like pools, gyms and cafes are not essential parts of day to day life in a dwelling, but they are the most used functions in common spaces (Kleeman et al., 2022). This shows that spaces do not necessarily need to have an indispensable function, as long as their function can be used by many.

Not only the programmatic infill of these shared spaces matters in the amount of use that residents get out of them and the number of social interactions that happen in there, also spatial and social factors have an impact.

Social influences can create tensions, or unwillingness to interact with fellow residents and thus diminish the use of common spaces. Spatial factors are also important, as just the presence of a shared space does not stimulate its use, without needed design characteristics or resources (Kleeman et al., 2022). An example of a design characteristic that influences the use of a shared space is visibility. Being able to see others using a shared space has a positive influence on the sense of community, and use of these shared spaces(Williams, 2005). Also, shared spaces located adjacent to shared pathways are used more often than isolated spaces that people do not pass regularly (Williams, 2005). Additionally, a visual connection from inside of a shared space to a green outside space, with trees and plants, increases the use of a shared space. (Kleeman et al., 2022).

As visible in figure 3, in the Centraal Wonen de Lismortel, there is a visual connection from inside the shared spaces to green, but there is no visual connection from outside of these spaces into the shared space. The shared living room and kitchen are also additional to the fully equipped private apartment that the residents have, and the combination of these

factors results in a lack of use of these shared facilities.
For shared spaces, also design choices regarding flexibility in use are important. Spaces should be able to become what the residents need them to be. A design choice that helps with this, and which prevents conflicts from happening, is the possibility to close off certain spaces (Khatibi, 2022), for example by closing a door. This way these spaces can be used by individual people, without being disturbed by other people making use of adjacent shared spaces. This flexibility and possibility for privacy can come in handy during unexpected situations, as was visible during the COVID-19 lockdowns, when these spaces could temporarily be used as home-offices(Khatibi, 2022).

Sharing on a building level can also take place within individual dwellings, if these private spaces switch owners over time. This is the case in de Lismortel (see figure 3), where certain rooms can be seen as a version of joker rooms, which can be assigned to different households. Internal connections can be made between specific rooms, so these rooms can be attached to different apartments throughout the years. In practice, this flexibility does not work as expected, as regulations make it difficult to vary a lot over time in apartment size per household, as this has repercussions for the rental contracts, social rent limit and rental allowance.

Sharing within the building does not only happen with residential functions, but also productive functions can also share on the level of the building. This can for example be seen in the Keilepand, where multiple entrepreneurs and makers work together under one roof. In this project the sharing only happens between productive functions, and not with also a sharing link to the residential scale.
With the combination of living and production, it is possible to have a space that is shared between both. A multi-purpose space that can be used for professional events during the day, and for personal parties (or parties of specific clusters or floors) during the night/ on weekends. A schedule needs to be made on who is allowed to use it when, but when there are clear regulations in place sharing between working and living is possible.

The combination of working and living can also increase the social safety of a building, as it will be used more spread out during the day. Residents have other time schedules than productive functions, resulting in a use of the building 24/7.

Conclusions

Sharing non-essential living spaces with neighbors does not necessarily lead to more community forming, but it does increase the number of encounters. External spaces that are shared out of need, for example laundry rooms, do not increase the interactions, apart from giving people shared pathways to these spaces. Extra spaces, which provide the residents with some extra luxury, also do not increase the social interactions, as they are usually only used by one person at a time, and no new meetings take place. Sharing these functions can have a positive financial impact, as it reduces the space needed (and therefore the costs of living) per individual.

To create spaces that can be shared and do not cause irritation, options for flexibility and privacy need to be included in the design.

5. Sharing the Living Room

Figure 5 ⟶

In the analytical drawing on the next page, the internal sharing within the Haus M (part of the Mehr als Wohnen collective) is explored. In this drawing, a difference between the private apartments (yellow), shared living spaces (light pink) and the central atrium which is used for circulation (dark pink) is made.


no bathroom
Room
Room
Room
studio apartment
shared
• balcony
(no private outdoor spaces)
Shared living room + kitchen
(no individual kitchens)
open connection to atrium
studio apartment
studio apartment
shared living room
2 apt. enter through here
?
studio apartment
Room
no bathroom


no bathroom
room
room
room
room
shared living room
office
studio apartment
space for interaction
mi-public' trium
circulation
studio apartment
all offices are situated bordering the atrium
↳ shared by everyone on floor
office
shared living room
studio apartment
bedroom
bedroom
room
no bathroom

While I was living in a student house with flat mates during the height of the COVID pandemic, the pressure of having to quarantine while sharing a living room, bathroom and kitchen proved to be too much pressure and ended up ruining the bond between me and one of my flat mates. The forced interactions which happen when running into each other every time we needed to use the bathroom, and the lack of a buffer zone ended up being the breaking point in the personal relationship. That living together and the spaces that you share can have an impact this big, is the main reason that I conducted this research, is search for design principles to help me design a shared space where people can have valuable interactions, with less, and most importantly less intense conflicts.

Sharing a living room is the most small-scale form of sharing that I will discuss in this paper. Next to the living room, in this form of sharing people often also share a kitchen, and in some instances also a bathroom. By doing so, there is a big number of interactions happening between residents, and a big part of their life becomes intertwined. When sharing a living room in the context of cohousing, the people sharing are coming together in a 'supportive social framework', and they are not part of the same family of friend group (Izuhara et al., 2022).

Close sharing of living spaces is nothing new. Before the industrial revolution, people used to live together with their families, employees and servants. (Schmid et al., 2019). This was called the 'Whole House', where everyone that worked together or was in any other way dependent on each other lived together in one house. In this Whole House, production of goods, like the making of tapestries or woodcarving, went hand in hand with the reproductive functions, like taking care of household tasks and taking care of the elderly.
During the industrial revolution, the production got moved out of the house, into factories. Because of this, the Whole House concept disappeared.

With co-living, the general idea of the Whole House is brought back, just without the production inside the living spaces. People are living together again and sharing the reproductive tasks with the other members of the

co-living cluster. The absence of production within the co-living makes the residents less dependent on each other; there are no shared economies between residents, where the labor of one resident directly influences the income of the others. (Schmid et al., 2019)

In the design assignment in the M4H area, there is production taking place within the same building as the living. However, the production does not penetrate into the clusters of housing, thus keeping the production and housing separated on the level of the household.
Different intensities and degrees of sharing can still be determined within the co-living context. These different degrees depend on the necessity of actually using the shared space.

In de Lismortel (figure 3), this necessity is quite low, as all the residents have their own living room, kitchen and bathroom. Because of this, the shared living room and kitchen are merely extras that are used when they have big groups of friends coming over, or for their monthly cluster dinner. This results in the shared living room and kitchen being rarely used.

In the final case study, Haus M in Zurich (figure 5), the shared spaces are bordering on or part of the circulation of the building, allowing for visibility into the shared spaces. The visibility of these spaces is an important aspect of the actual use (Williams, 2005). If the residents are able to see who is using the space, they can decide to join, or to retreat to their private quarters.

However, having the actual main circulation through shared spaces does force interactions, instead of merely facilitating them. In Haus M, there are some apartments that can be reached through the central atrium circulation space, while some can only be reached through the shared living room. For the inhabitants of these units, there is no possibility to take a more private route,

When sharing a living room with kitchen, without having an additional private kitchen, this can be seen as sharing out of necessity. People often choose for this type of living when they have no monetary means to be able to rent a complete apartment, so they opt for a room in a shared facility. In the context of co-living, there is also a social factor, where people actively choose to live shared life to expand their social network. To reduce the chances on conflicts, it is important that these shared spaces are fully equipped, and for example the kitchens are adequate for the amount of people using them (Khatibi, 2022)
When people have less private space they are more inclined to socialize in shared spaces, but there do need to be qualitative shared spaces then. (Williams, 2005)

Spatial factors have some effect on the use of shared spaces, but social factors also play a very important role.
It is important that people feel equal in a co-living situation. Once one person or household is overrepresented, the other residents feel less at home and are less inclined to join in shared activities and interactions. To make sure this is in balance, agreements need to be made between the residents. This also ties in with flexibility, as all residents need to be able to use the shared spaces in a way that fits their standard of living, without marking the room as their personal possession, and excluding others from using these spaces.

However, it is important for residents to be able to 'make the space their own', as otherwise people feel less at home and are more inclined to move houses (Osborne, 2018).

To increase the chances of a co-housing project being successful, 'minor communities' can be created, which can choose their own regulations regarding the demographic facets of the people that live in them (Khatibi, 2022). This way, the current residents of a community do have a say in who moves in with them, and the chances of there being a match on grounds of lifestyle is increased, decreasing the chance of conflicts.
As mentioned in an earlier chapter, this runs the risk of producing homogeneity in the residents of the project, which in turn excludes

people that do not fit in with the dominant group.

This can be prevented by creating different minor-communities, with different people, and thus their own requirements and wishes for their inhabitants. This way not the entire building becomes monochromatic, while the social wants and needs of people in individual clusters are met. The requirements that people put on new members of their clusters, also influence the use and success of the shared spaces. If groups of people actively look for inhabitants who are willing to cook and eat together, the chances of there actually being shared meals are a lot bigger then when this is not the case (Khatibi, 2022). People who are willing to actually live together, can 'make something out of this [shared] space and make the space functional' (Khatibi, 2022).

Co-living requires more organization than conventional living, because the common spaces need to be maintained. Cleaning, but also reparations need to be taken care of by a third party, or the users should have clear rules about who is responsible for what, both labor wise and cost wise. (Osborne, 2018).

Within the realm of production, a shared industrial kitchen has some characteristics of a shared living room. Every tenant has their individual (private) kitchen counter and private access to a stove, while the space around these kitchen counters is shared. The washing up facilities are shared, and there is a communal space that can be used for events. In the redesign of the M4H area, the residential living room is not sharing on the same scale as the interior of the shared kitchen, so no interactions take place between the two on this scale.

Conclusions

When sharing on a small scale, balance is key. Balance between social and private life, with possibilities to step away from the shared life for a bit and retract into your own space, but also balance between appropriation and neutrality in these shared spaces, so everyone feels equally represented. Social behaviors and relations are important in maintaining socially healthy living environment. Rules are needed to make sure that the social structure is maintained and balanced. When sharing out of necessity, when key functions of living are placed in a shared space, these shared spaces should be fully equipped and functional for the amount of people they are shared by.

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REFLECTION

Iris van Gorkom 4593545

Relation of my graduation project to the Master Track Architecture, and to the Master Programme Architecture, Urbanism and Building Sciences

My graduation project topic is related to the Master Track of Architecture, as it explores the design of shared spaces within a physical building. It explores the impact that the design of a physical building can have on the behaviour and interactions of its users. Within the Master of Architecture, Urbanism and Building Sciences, my graduation topic ties in with the programme's emphasis on human centred design, and in specific on community, sustainability and affordability.

Influence of the research on the design and vice versa

In my research on architecture and the sharing of spaces, I looked into ways that design can encourage social interactions, community building and collaboration. I discovered that there are several design strategies can be used to increase the use of and the social engagement happening in these shared spaces. Among these design strategies are the incorporation of flexible spaces, attention to the user groups and how their lives fit together, and the ordering of the hierarchy of sharing within a building. The research also found that shared spaces like kitchens and living rooms do play a big role in creating social interactions and a sense of community.
The research also showed through the exploration of case studies, how some design choices do work, while others fail to increase the number of interactions and community forming. In my research I found that shared spaces only work when they are visible, and when the people sharing them have a similar life. Because of that, in my design I placed dwellings of a similar typology around a shared space, and these dwellings are accessible through this shared space, creating a visual connection towards the shared space when entering.

The design has also influenced the research, by introducing new

questions and obstacles, mostly when combining productive functions with living. The productive functions do have a completely different use than the dwellings, and therefore also a different user group with different needs. Because of that, sharing between these two functions can cause difficulties. Also, the technical aspects of production, like their size requirements and ventilation, air quality and safety requirements can be difficult to go together with living. Because of that, I chose to design the building in such a way that the production is separated form the dwelling, with an atrium in the middle connecting the two functions. The lower part of this atrium functions as a transitional one between both dwelling as production, where interactions between these two functions happen.

The relation between the research and design is symbiotic. Research provides the foundation which can be designed upon, while the design process generates new questions and areas for investigation. The combination of these two can help provide outcomes, resulting in better architectural spaces, which are innovative, sustainable and user centred. The combination of productive functions and living provides us with challenges, which can also be seen as opportunities for innovation. In my design and research, I strive to create a building that meets the requirements of the target groups, while also taking into account experiences gained in the case studies and literature studies.

Value of my way of working

Through case studies, I was able to examine how different design strategies did or did not work in creating qualitative shared spaces, which are actually used and the playfield for social interactions and community forming.
My literature studies enhanced these findings and formed a foundation within which I was able to execute these case studies, as they showed me the main design principles that have been proven to work, and where the difficulties lie in creating social interactions.
By placing my own lived experience in the framework created by

literature and the case studies, I was able to gain a better sense of the effect of spatial iterations, and how they can influence human behaviour. However, all human experiences are subjective to personal beliefs, and personal backgrounds. Because of this, it is possible that a studies with different people would give different results, as what works for a specific group of people does not necessarily have to work for everyone. More research on a bigger scale is necessary to come to any hard conclusions about the use, social interaction and community forming in shared spaces. Also, the lack of precedent in combing productive functions with living, creates difficulties in predicting how this combination will actually work.
The process of combining design and research in this graduation project was helpful, as it helped me make better informed design decisions. However, more thorough research, including more case studies, on the impact of shared spaces on social interactions would further increase the reasoning behind the design.

Academic and societal value, scope and implication of my graduation project

My graduation project offers academic value, as the combination for living and productive functions, and how sharing can happen between these two functions, is a new subject which has not been researched a lot. The societal value of my project lies in the insights in community forming through shared spaces which is uncovered in my project.
From an ethical standpoint, it is important to keep an eye on some aspects, mostly based on the use of the space. An example of this is the question of who is able to use what and why. It is also important to prevent one group or individual from being overrepresented in a space, resulting in others to feel excluded and underrepresented.
Another ethical aspect lies within the combination of production and living, as it is important to find a balance between the two where both can flourish, without hindering each other.

My project has the potential to inform future projects about the

combination of production and living, and lived experiences in the building can give new insights for future designs.

Value and transferability of my project results

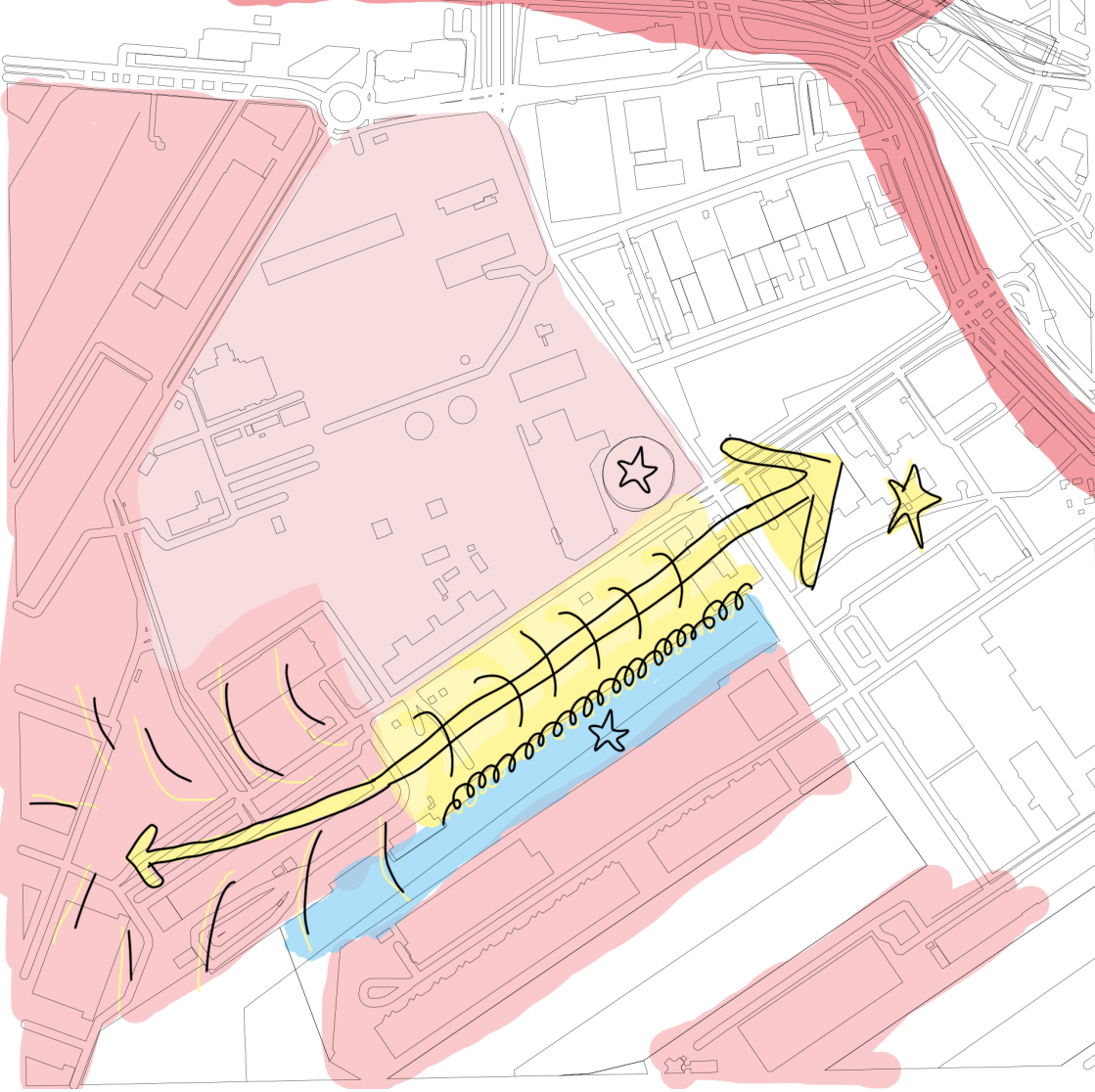
My graduation project could provide a model for future project which combine productive functions with living, and also for projects that emphasize sharing on different levels. The lessons learned from my research, combined with the design choices I made can be used in other projects, also outside of the M4H area.

However, the m4H area in Rotterdam provides my graduation project with a unique context. It's history as a harbour and industrial site, combined with its current maker's hub is intertwined with the proposed programme of my project. This context might not be there in different cities, resulting in the specific design choices not being relevant or effective in different urban environments. Also, the legal possibilities of combining living with production might be difficult in locations which are now primarily used for living, mostly regarding noise regulations and difficulties to change the zoning of areas.
Also, implementing my project in a different location might require additional recourses, as the project needs to be reshaped and redesigned to fit the local urban context, and the locally needed programme.
Because of this, some aspects of the design are easy to be implemented elsewhere, especially the parts about co-living and sharing, but the full design does need to be significantly adapted and reshaped to be applicable in different locations.

DESIGN

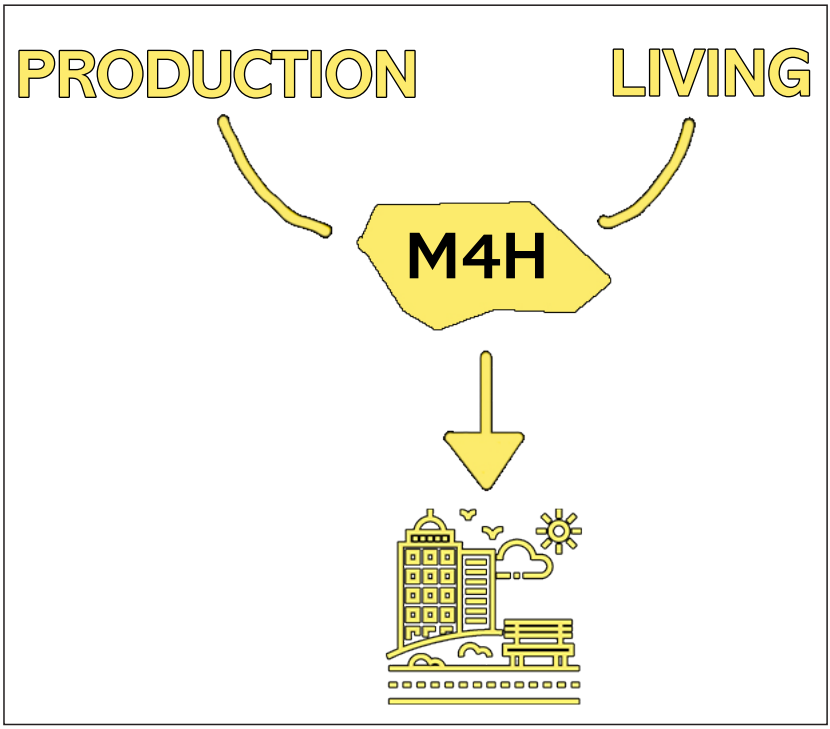
Common space

Sharing spaces in the context of co-housing and production in the M4H area



Gate function

The plot in the M4H area is located in between the closed off west, and the more lively east part of the harbor. Because of this, the plot can serve as some sort of gate, pulling people through to the other side and activating the west side of the area, which will be reshaped to become a working/living area as well in the future. The plot also offers possibilities to open up towards the water, and thereby restore the connection to the water.

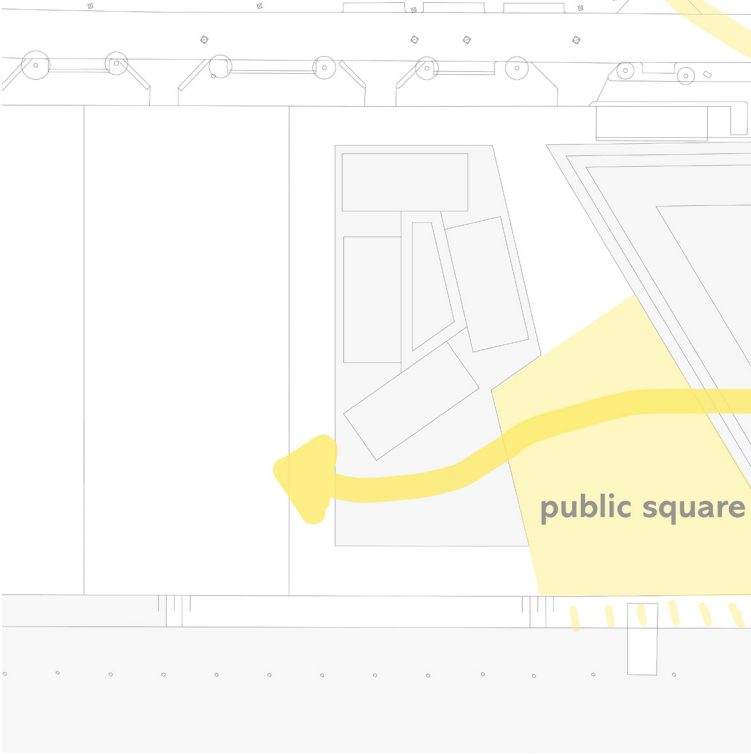


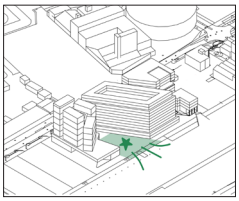
Working and living

In the future plans for the M4H area, living and prodution will be going hand in hand. Within the plot, these functions will be able to work together and bring out the best in eachother.
The productive function, in this case an industrial kitchen, helps activate the plot because of the influx of workers and the selling of products on the site in the commercial space, which attracts neighbors and other visitors. The living happening next to the production is focussed on sharing, not only sharing a space with the production, but also with other residents in a context of coliving.

Masterplan

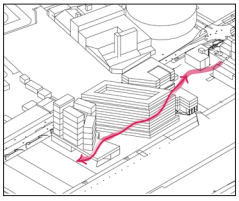
In a small group, we created a masterplan for the plot. With this masterplan we strive to introduce the scale of the human body to the site, and to connect people and create social ties in the area. These wishes brought us to the core design strategies that can be found on this overview





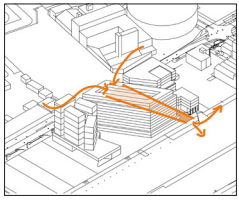
Public square

meeting space, where residents, workers and neighbors can come together



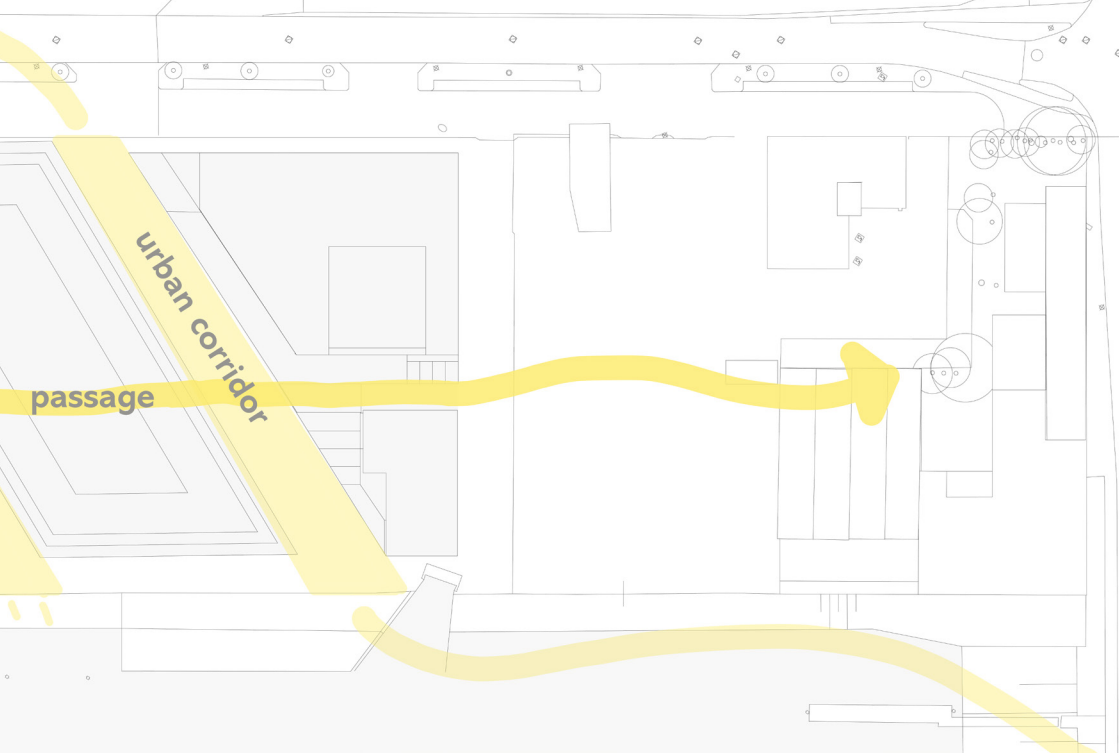
Passage

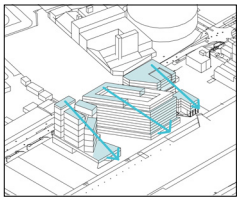
connecting the already lively East area to the closed of industrial West area



Urban corridor

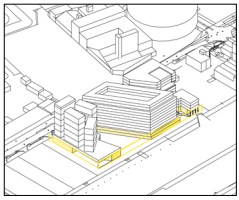
connection from city to the waterfront, giving residents and neighbors access to the water





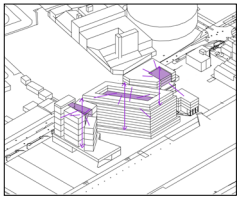
Stepping down towards the water

connection from building to the waterfront



Public plinth

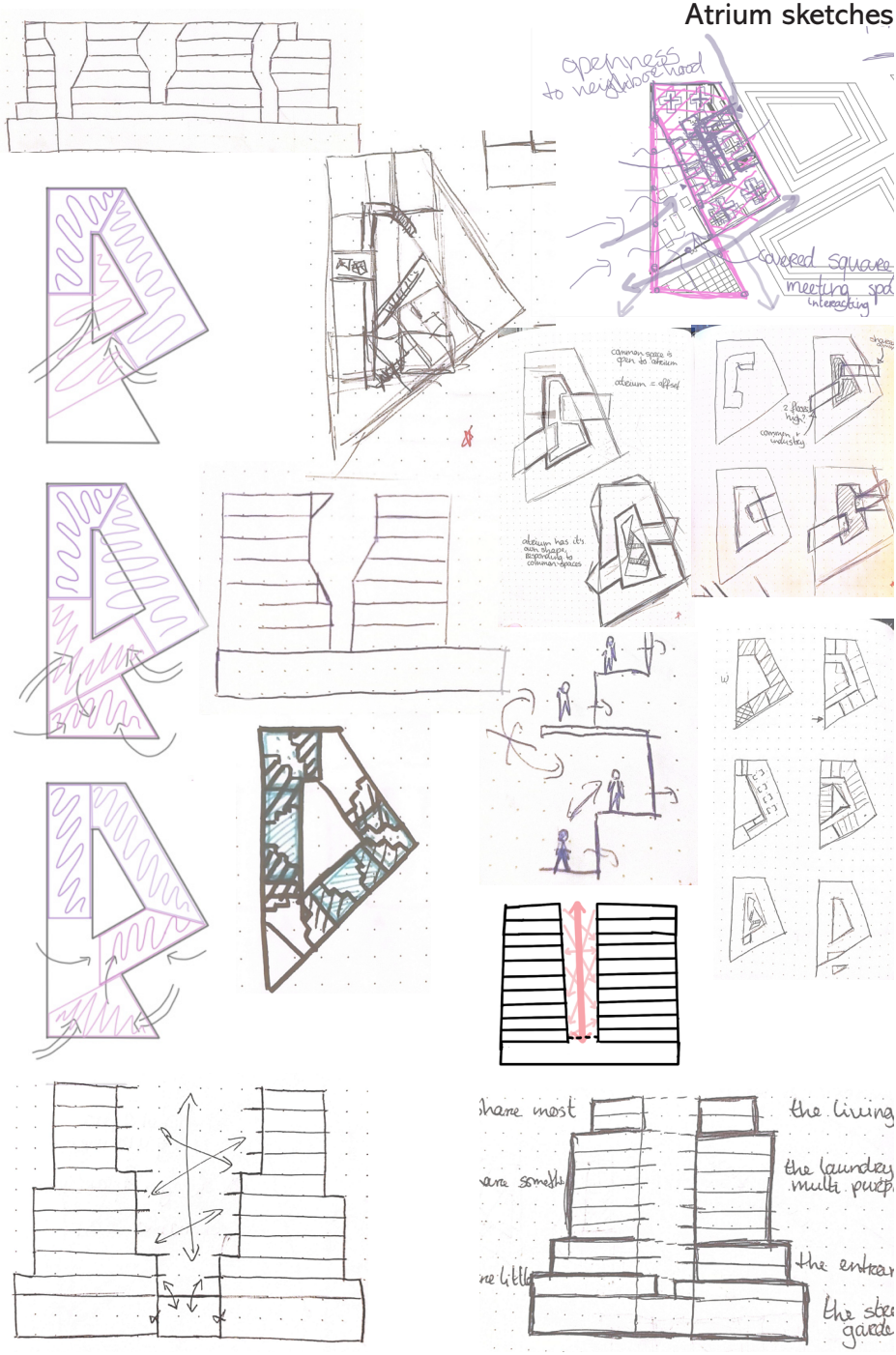
active plinth with (semi) public functions, activating the lower floors and introducing the scale of the human body into the neighborhood

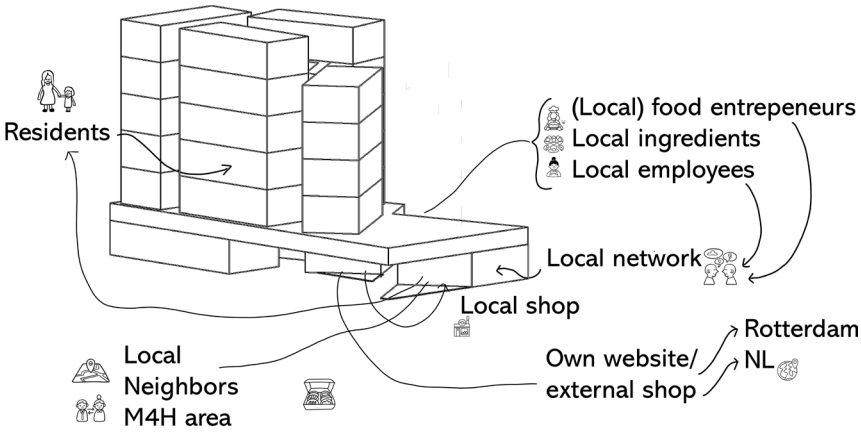


Activated core

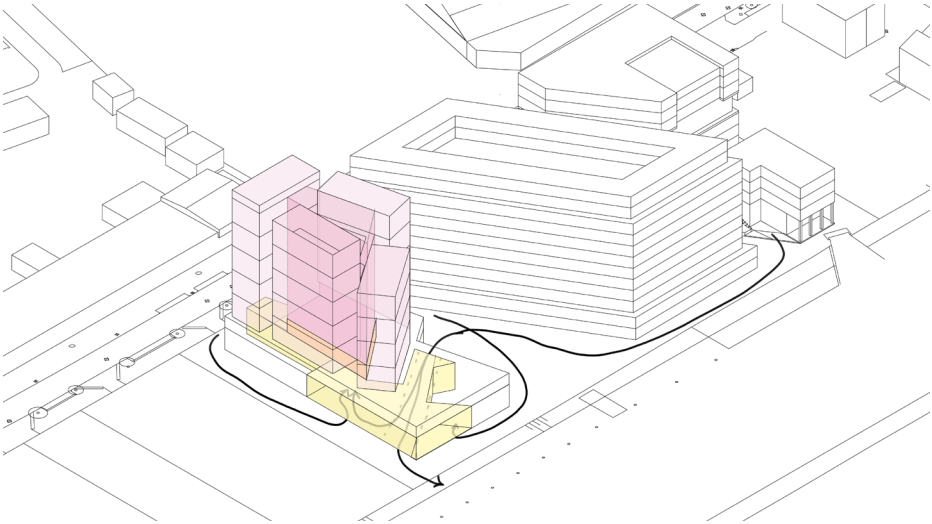
programmatic activation of the core, with productive functions placed in the middle

Atrium sketches

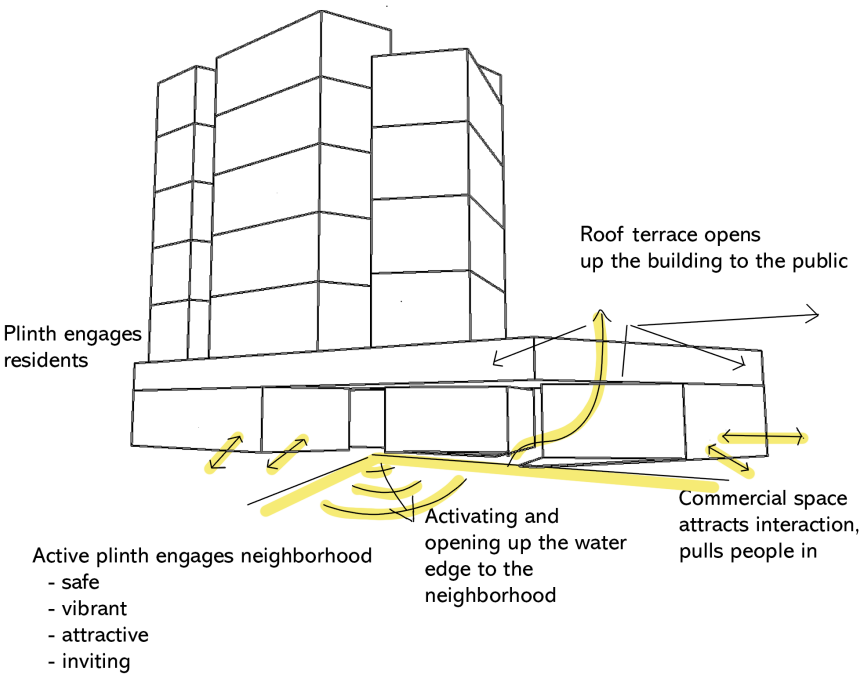




Impact of the program

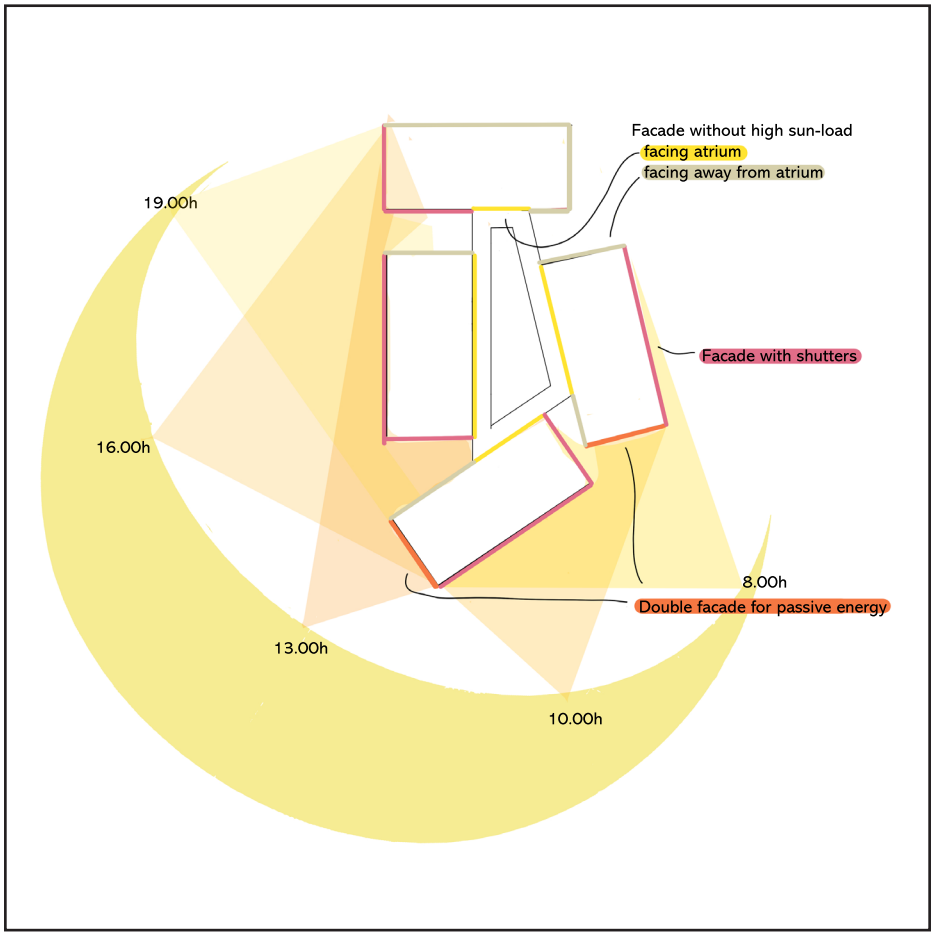


Connection to surroundings



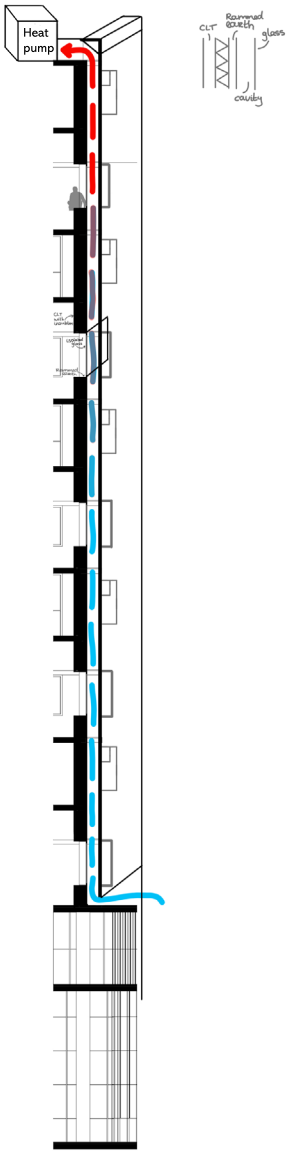
Impact of the volume

The volume, with the atrium that opens up towards the square underneath, and with a public roofterrace up top, becomes an extension of the public space. The volume invites visitors onto the plot, while the activated plinth provides the area with social security and liveliness. The volume also allows open access to the waterfront.



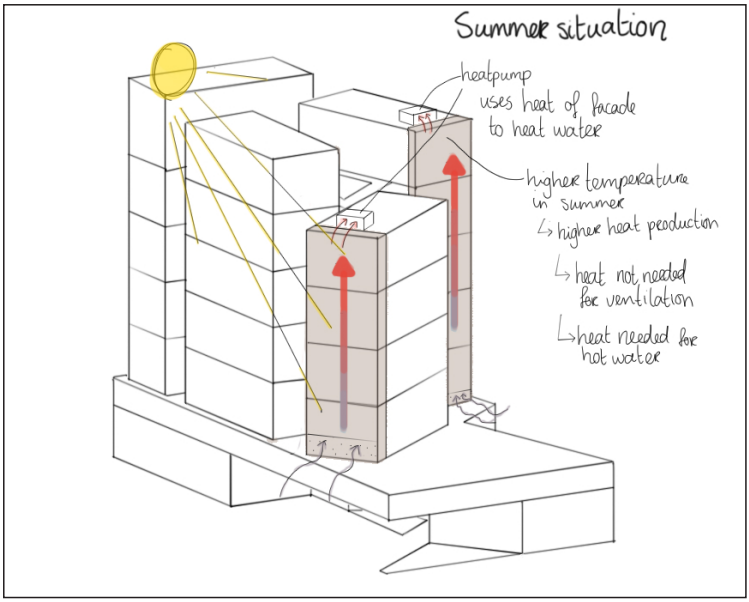
Sun orientation of the volume and facades

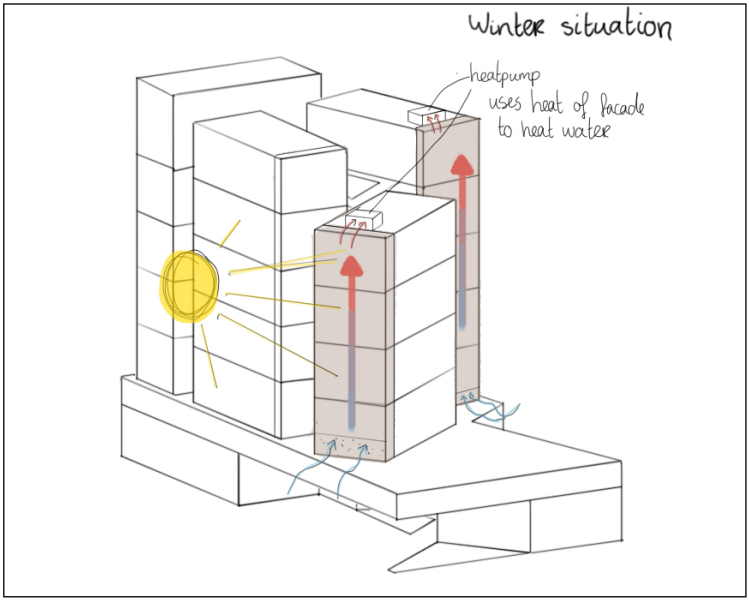
Because of the location next to the water, there are no building volumes blocking the sun on the south side of the plot. Because of that, there is a lot of direct sunlight hitting the building volume.
This figure shows which parts of the facade recieve direct daylight on multiple momens during the day on June 21st. The amount of direct sunlight and the size of the facade is then what determines which facade type is used where. In this figure there are 4 facade types determined, namely the double facade for passive energy collection, which are placed on the narrow facades which recieve the most direct sunlight, the facade with shutters which is placed on the other facades which are facing the direct light, and two types of facades without direct light.



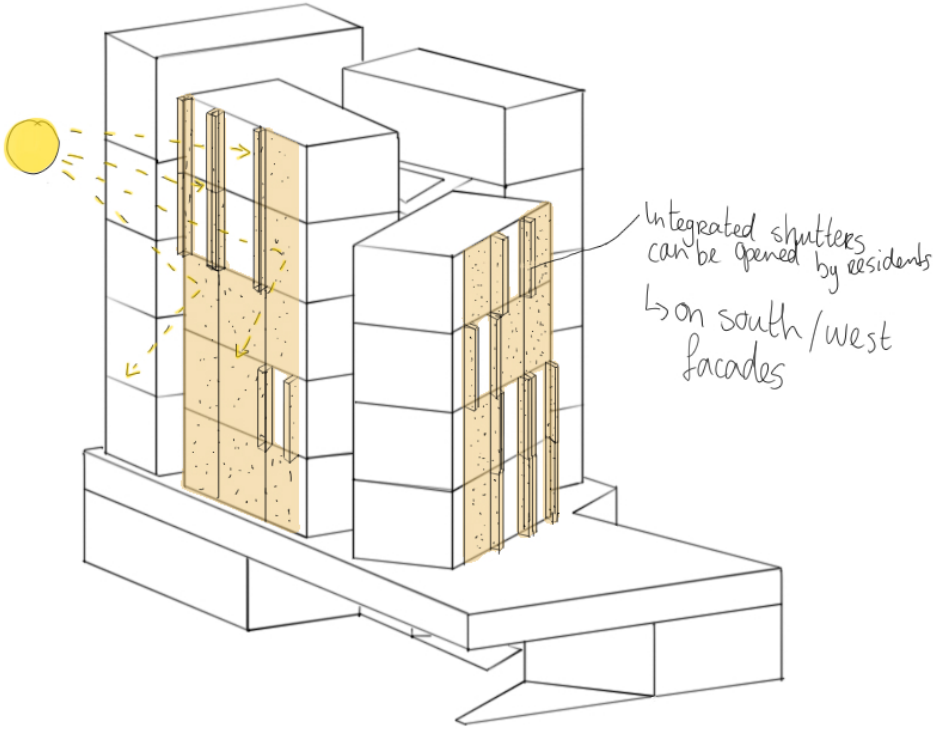
Double facade for passive energy

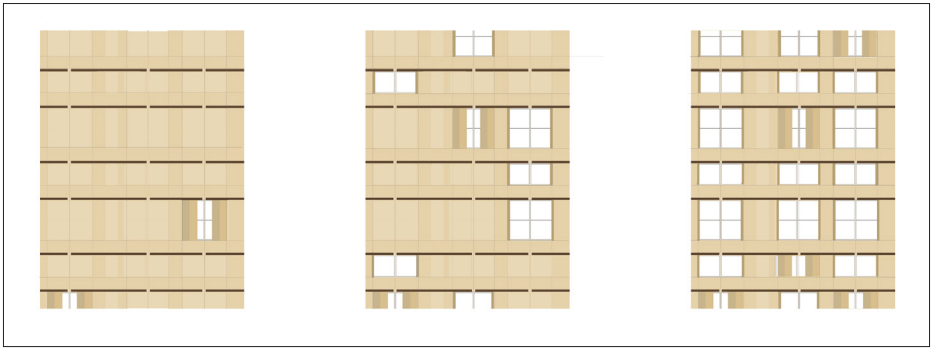
A double facade, consisting of a load bearing wall, insulation, rammed earth, an air cavity and a glass panel, can be used to harvest energy, that can be used for warming up the hot water in the building. The sun shines on the glazed panel, trapping the heat underneath. The rammed earth has a big thermal mass, soit will heat up and keep the warmth for a long time. The heat causes an upward draft, and cool air is sucked into the lower part of the facade. The hot air at the top part of the facade is captured and the heat is extruded with a heat pump.





Concept of double facade for passive energy

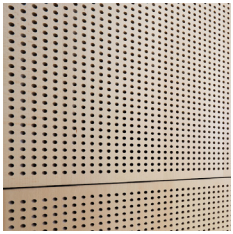


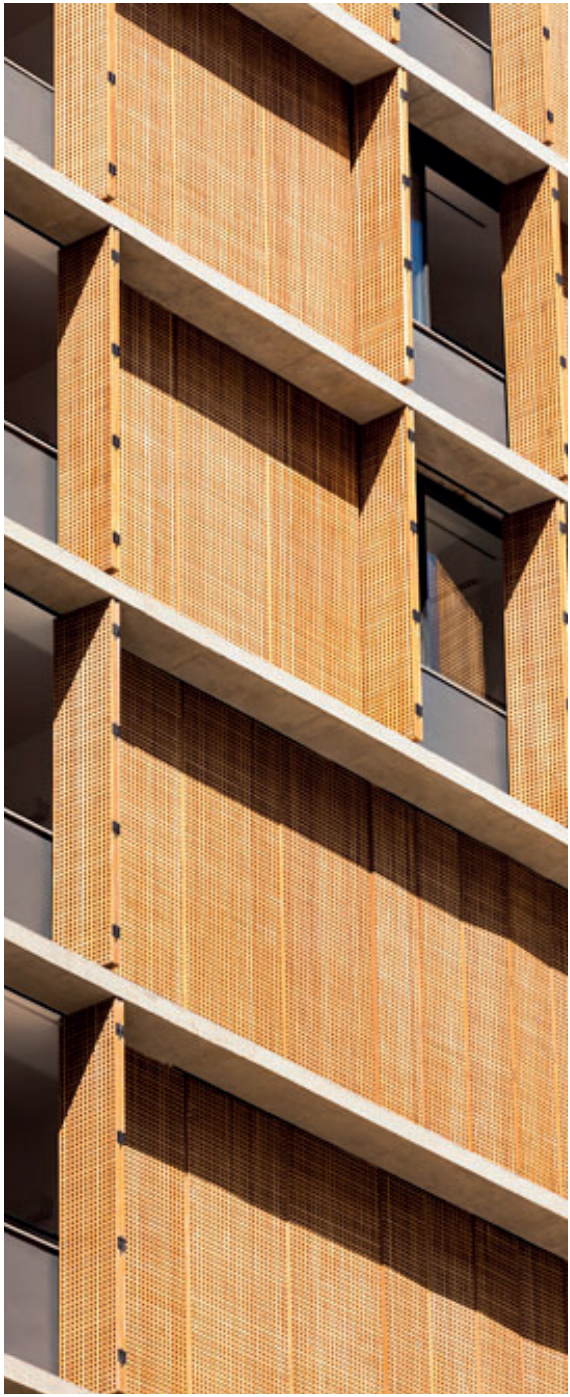


Facade with shutters

Facade with shutters

materialisation references

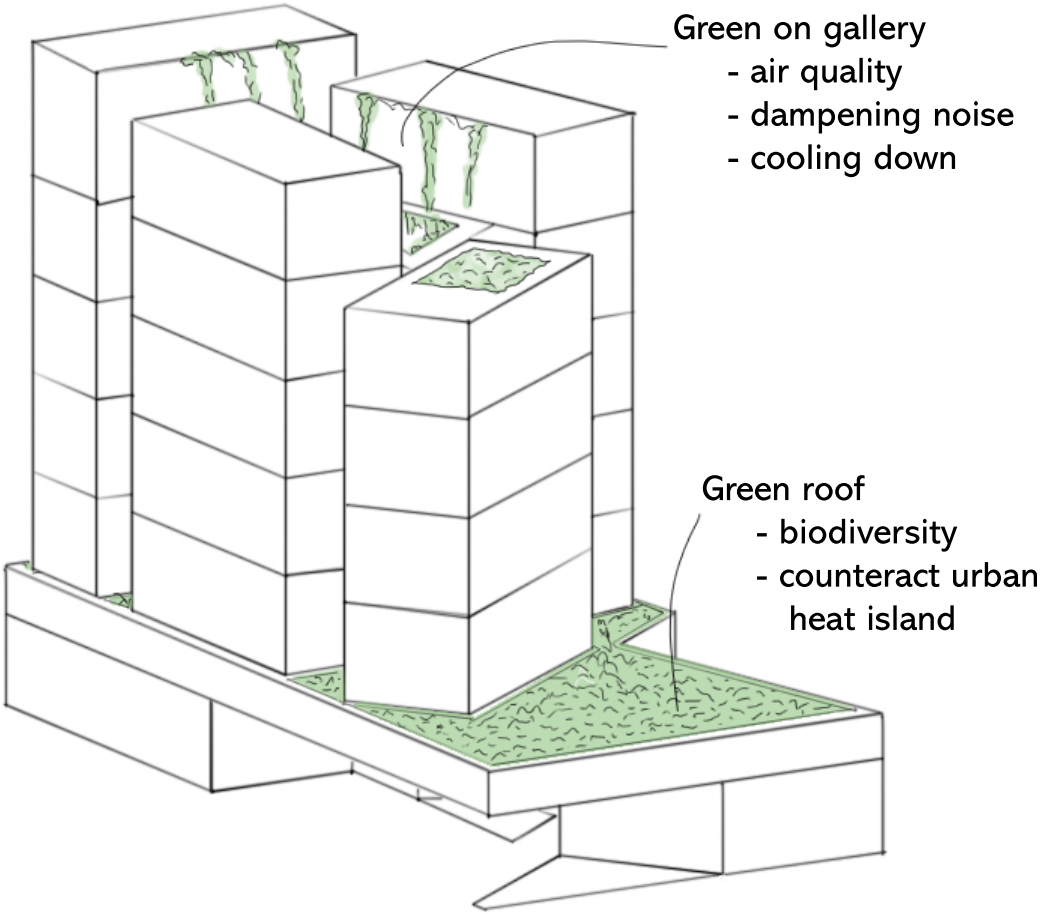




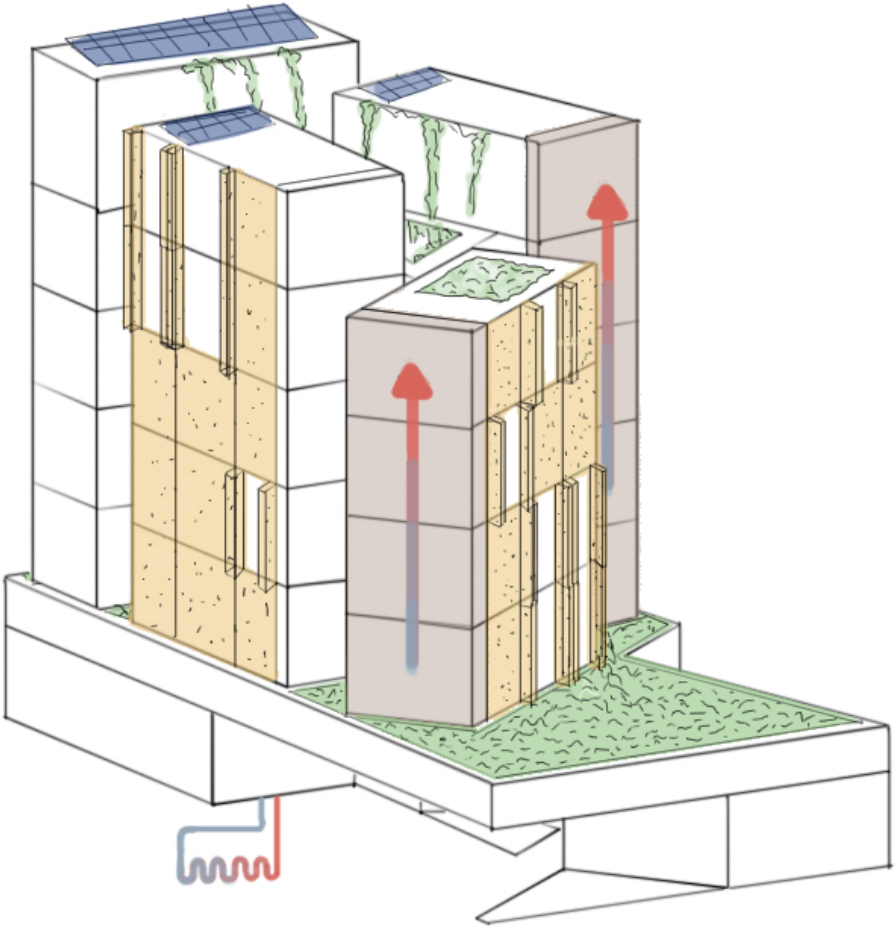
Exterior facade

Interior facade

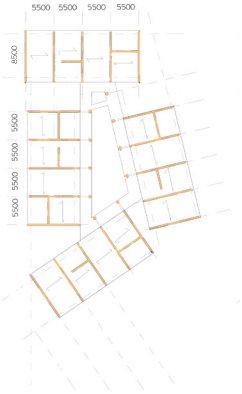
Section



Greenery concept



Climate summary

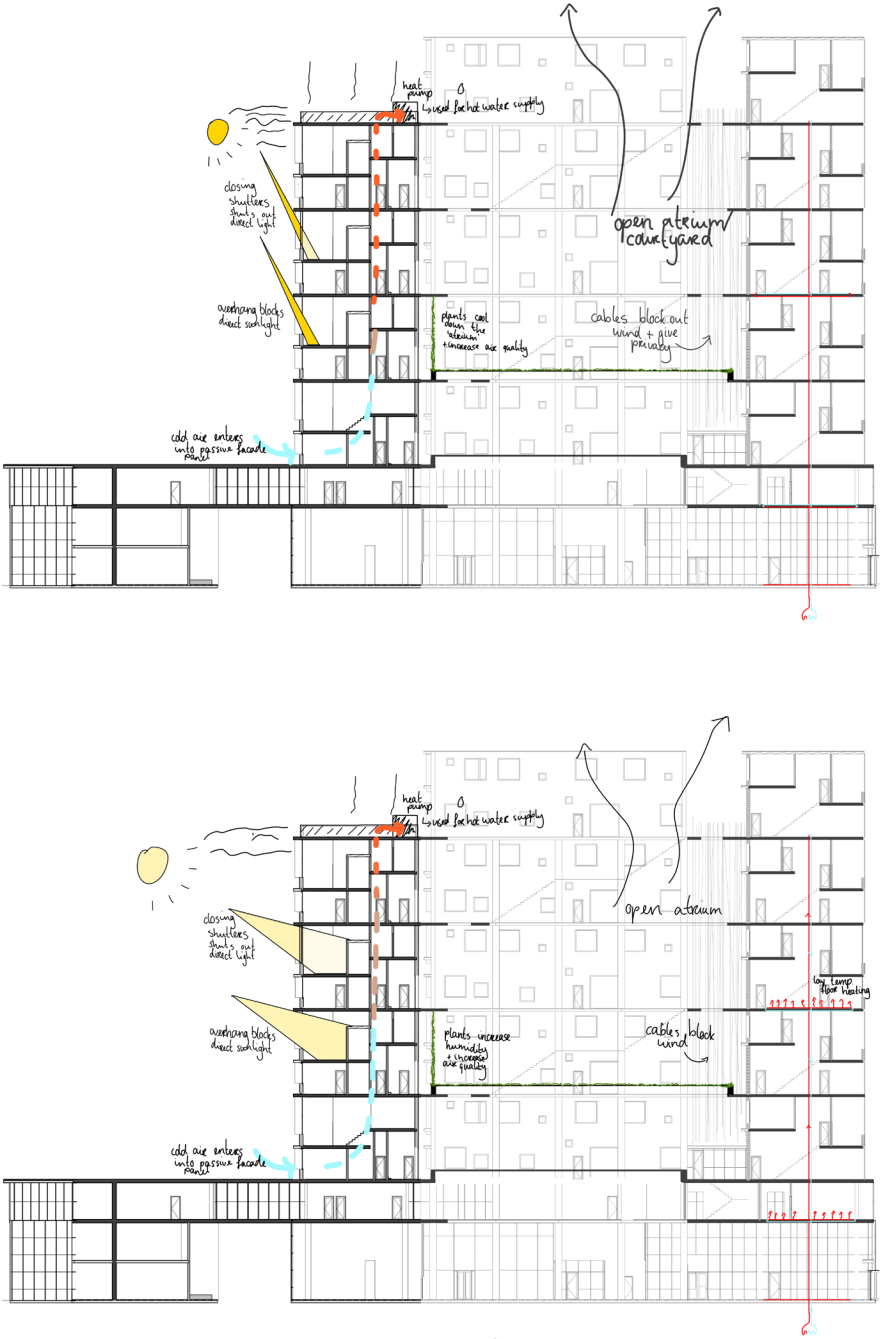


The load bearing construction on the lower floors is concrete. This is the best choice when taking into account the flood-risk of the location. The concrete base also provides stability for the structure.

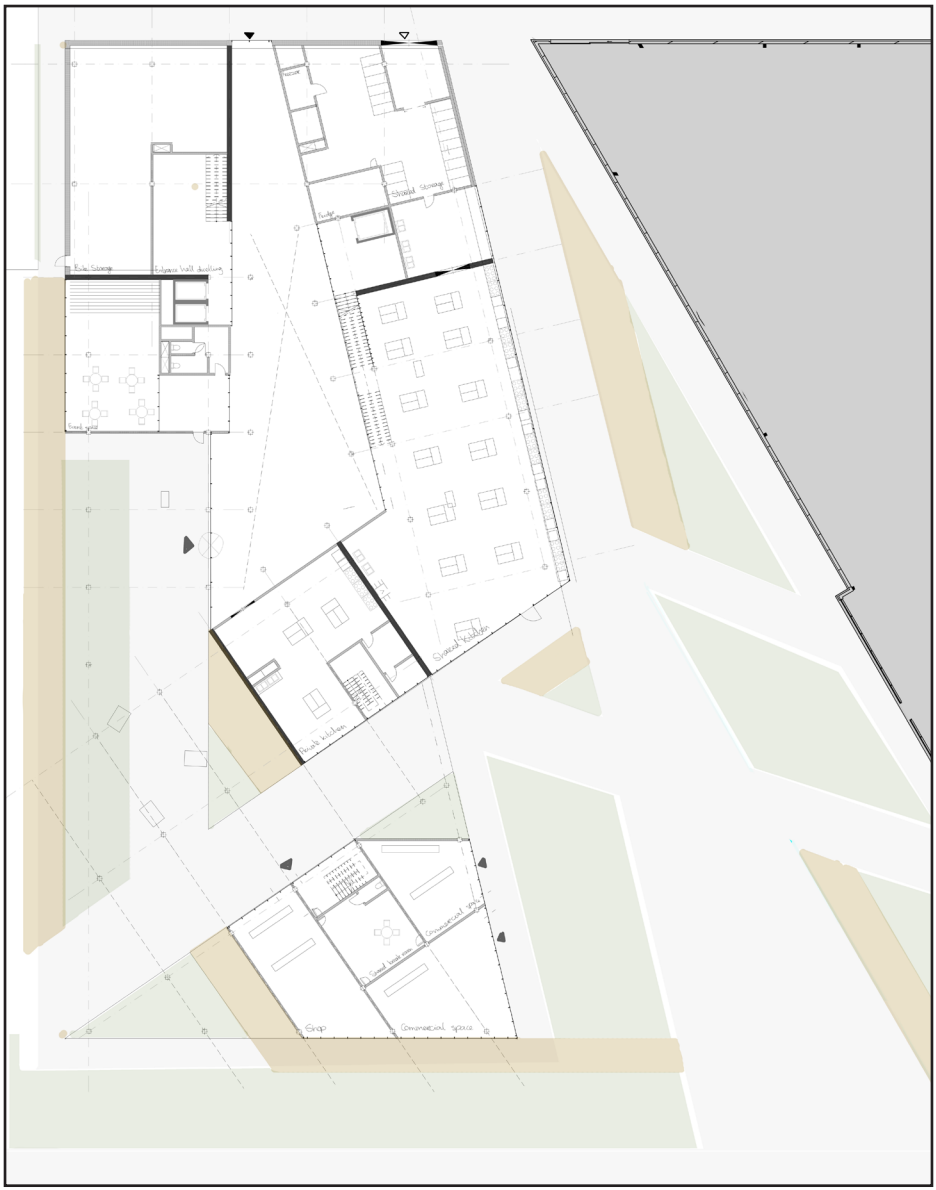
Concrete base

The load bearing construction of the upper floors consists of CLT walls, in cobination with Lignatur wooden hollow-slab floors. CLT is made out of wood and therefor stores CO^2, is reusable, and light.

CLT upper floors



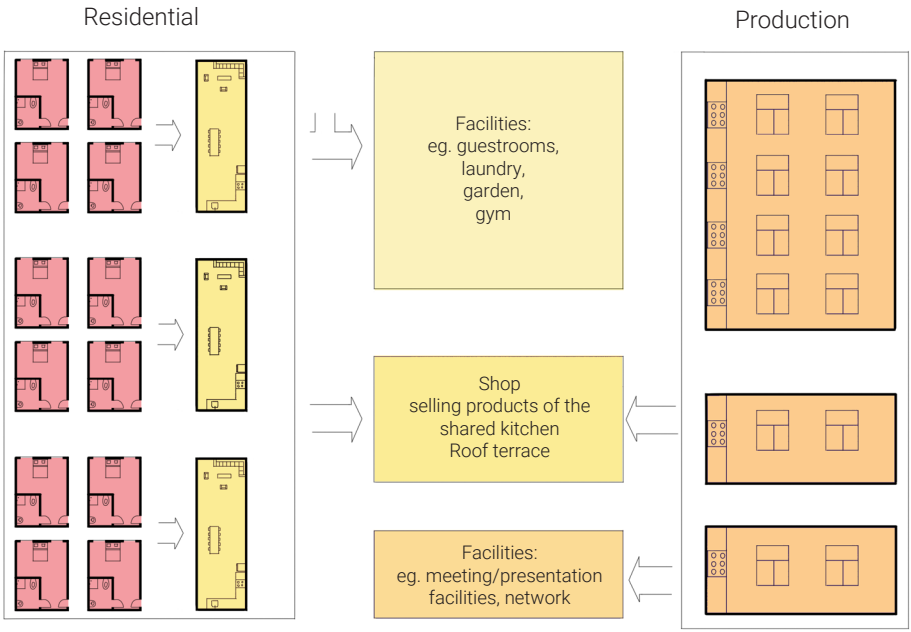
Climate section winter situation

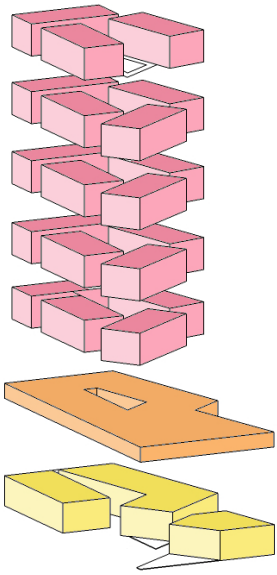


Ground floor in surroundings

Accessibility

Impressions public space





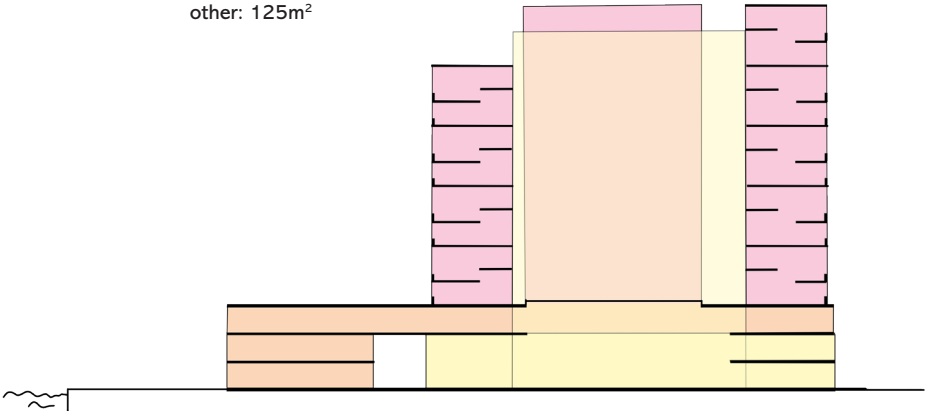
SHARED
WORKING
LIVING

Levels of sharing

Shared (total: ~600m²)
- atrium: 300m²
- event space: 100m²
- commercial space: 175m²

Working (total: ~2000m²)
- Industrial kitchen: 625m²
- Office: 760m²
- Break/ chill area: 400m²
- Traffic space: 240m²

Living (total: ~6600m²)
- Shared functions (laundry/guestrooms/trash etc): 250m²
- Storage: 475m²
- Collective living rooms: 950m²
- Private apartments/rooms: 4150m²
- Traffic space
  - atrium: 625m²
  - other: 125m²

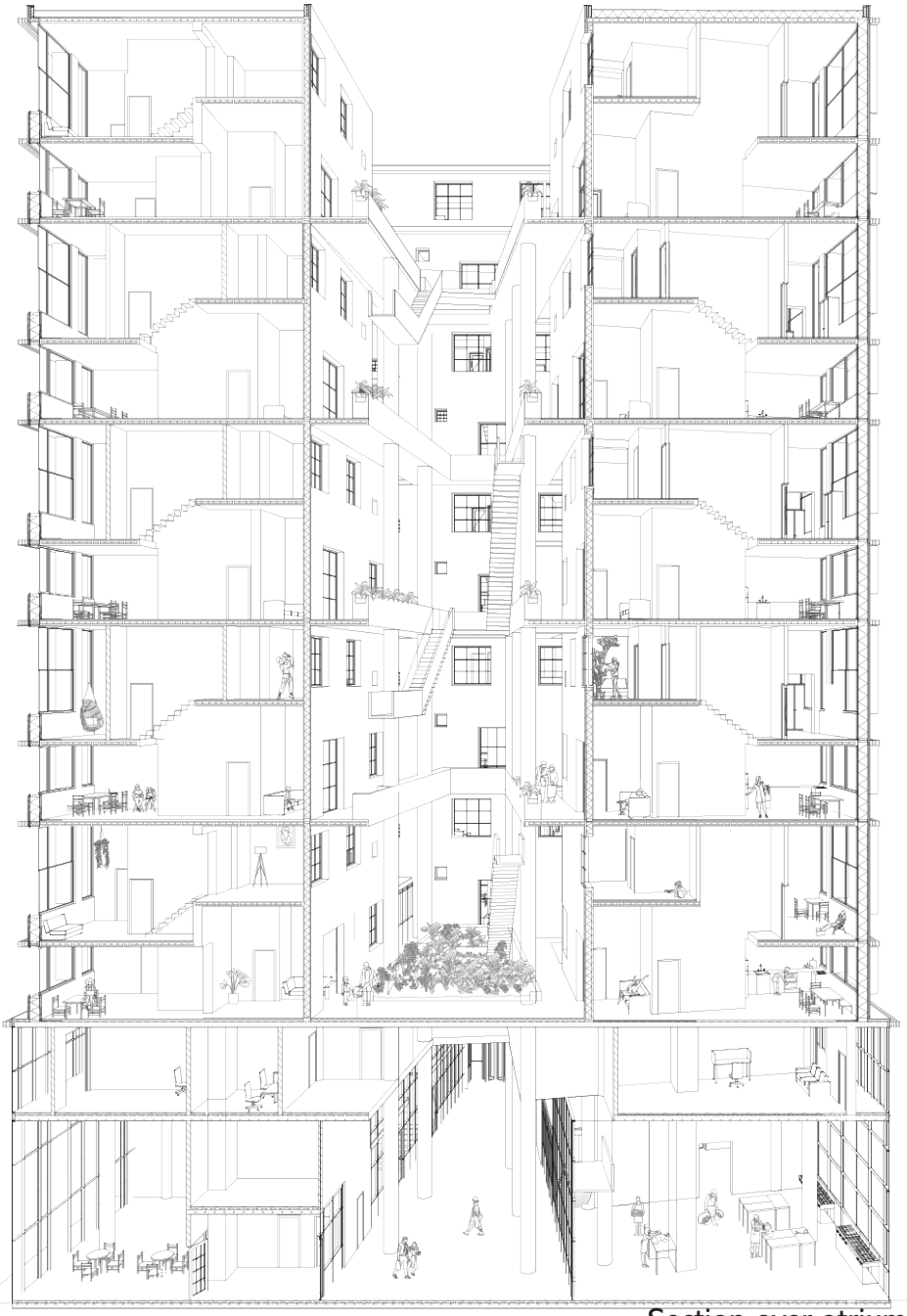


SHARED

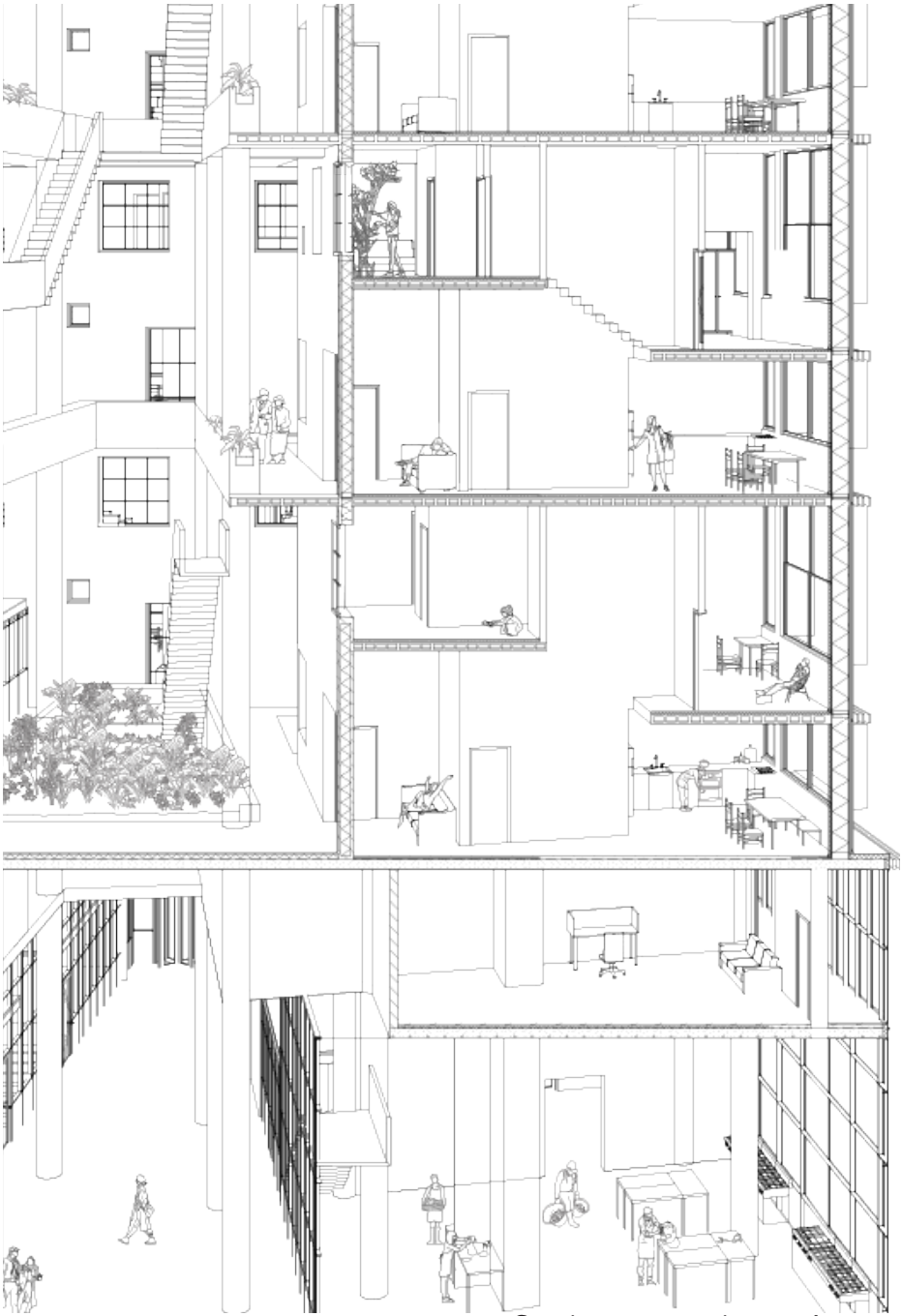
WORKING

LIVING

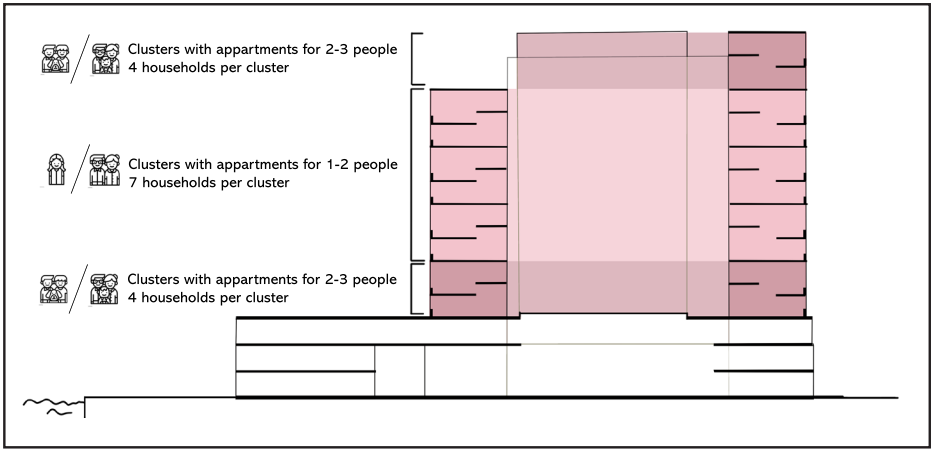
Programmatic division

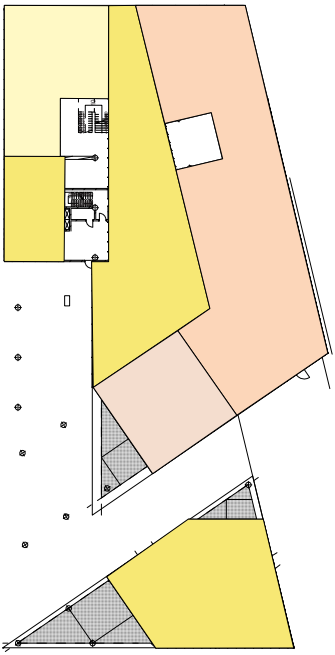


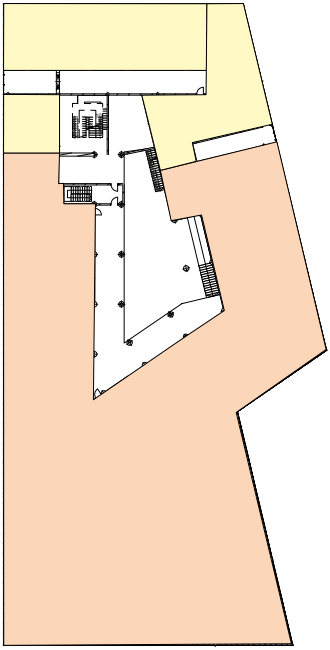
Section over atrium



Section over atrium - closeup



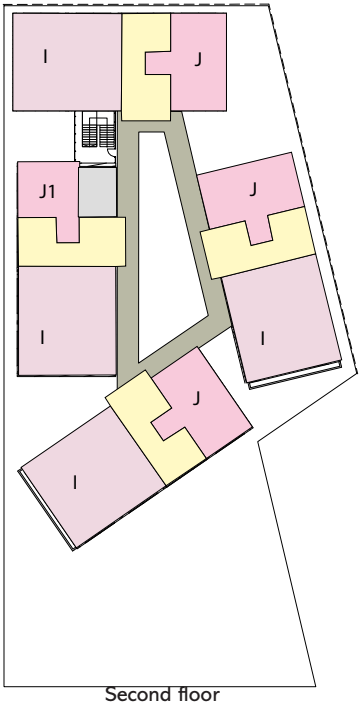




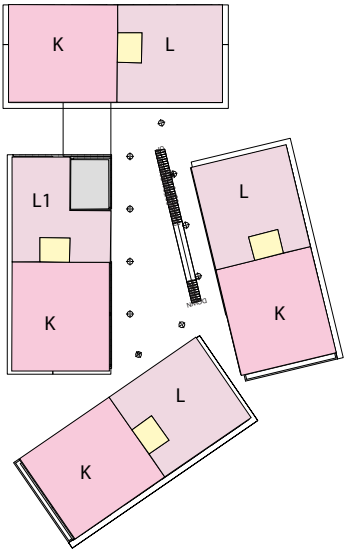
Ground floor

SHARED
WORKING
LIVING

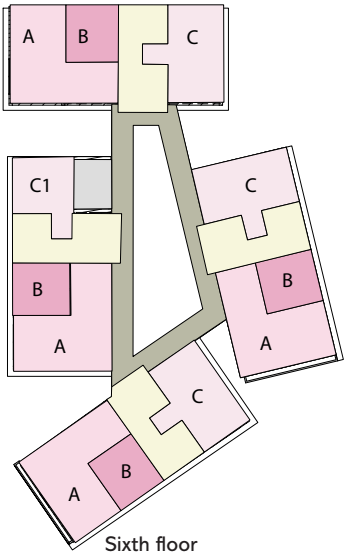
Programmatic division



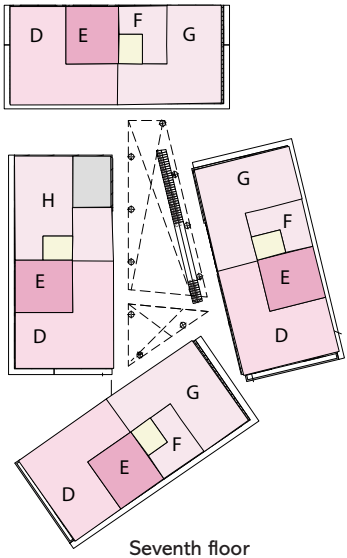
Second floor



Thrid floor

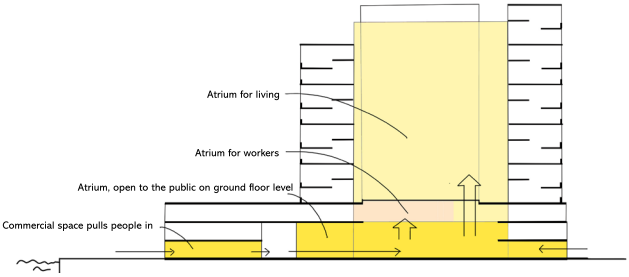


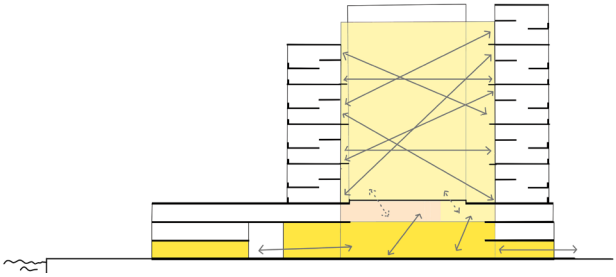
Sixth floor

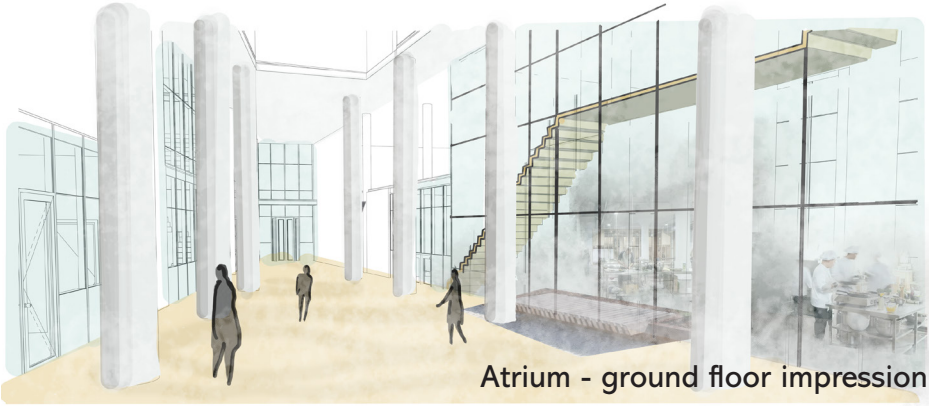


Seventh floor

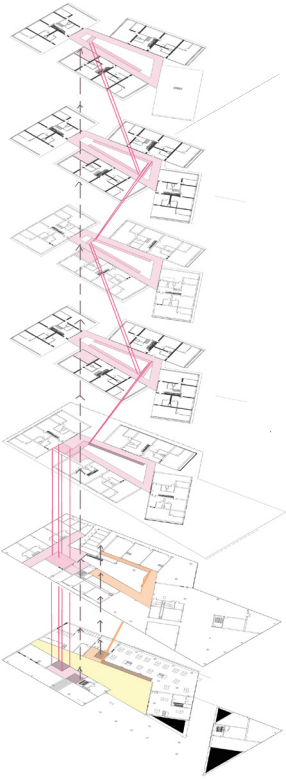
Programmatic division







Atrium - ground floor impression



SHARED

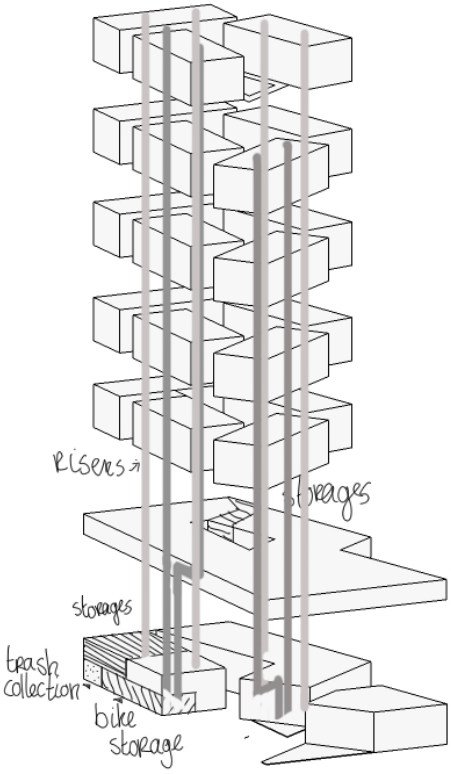
WORKING

LIVING

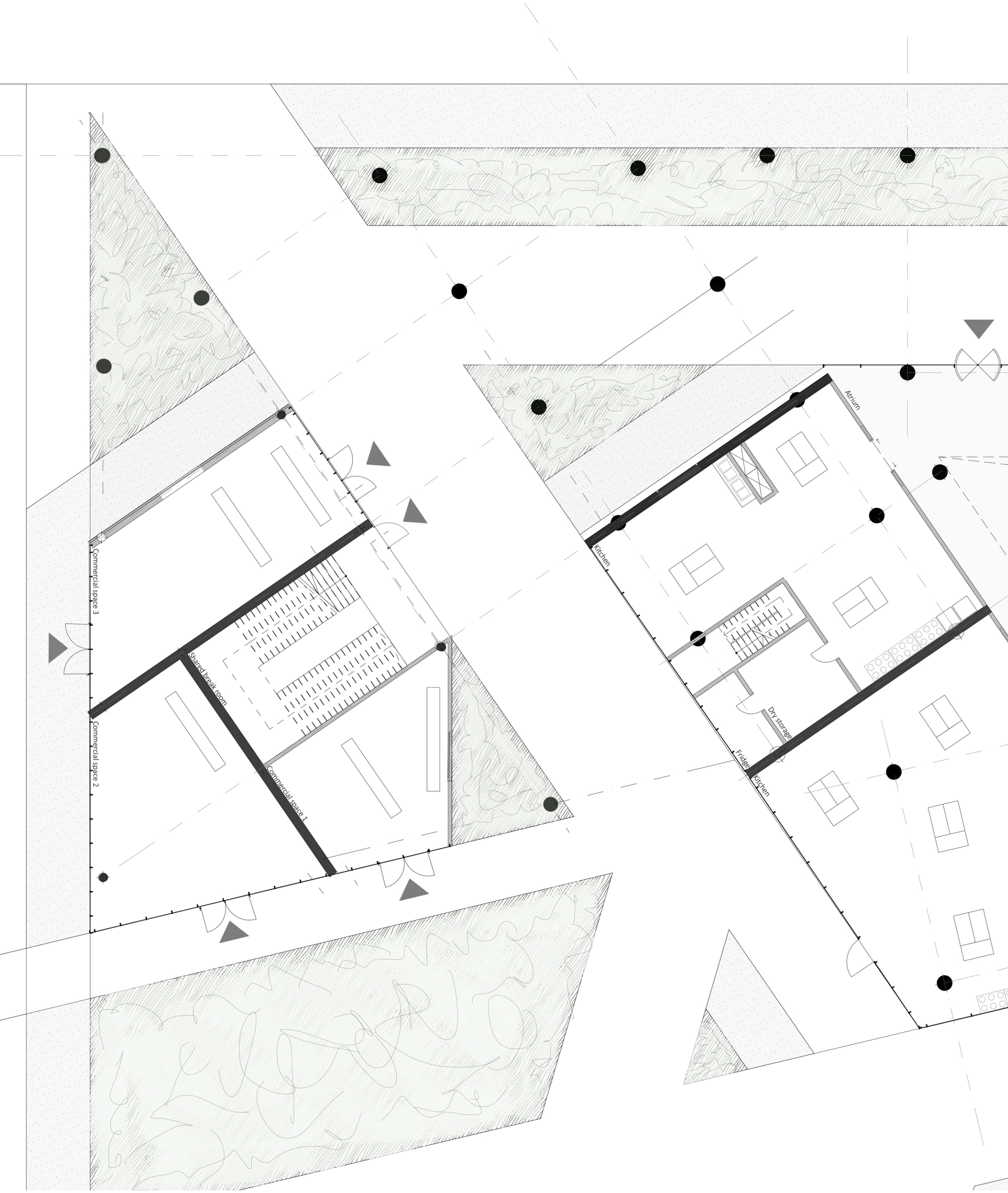
Routing

Atrium - sixth floor impression

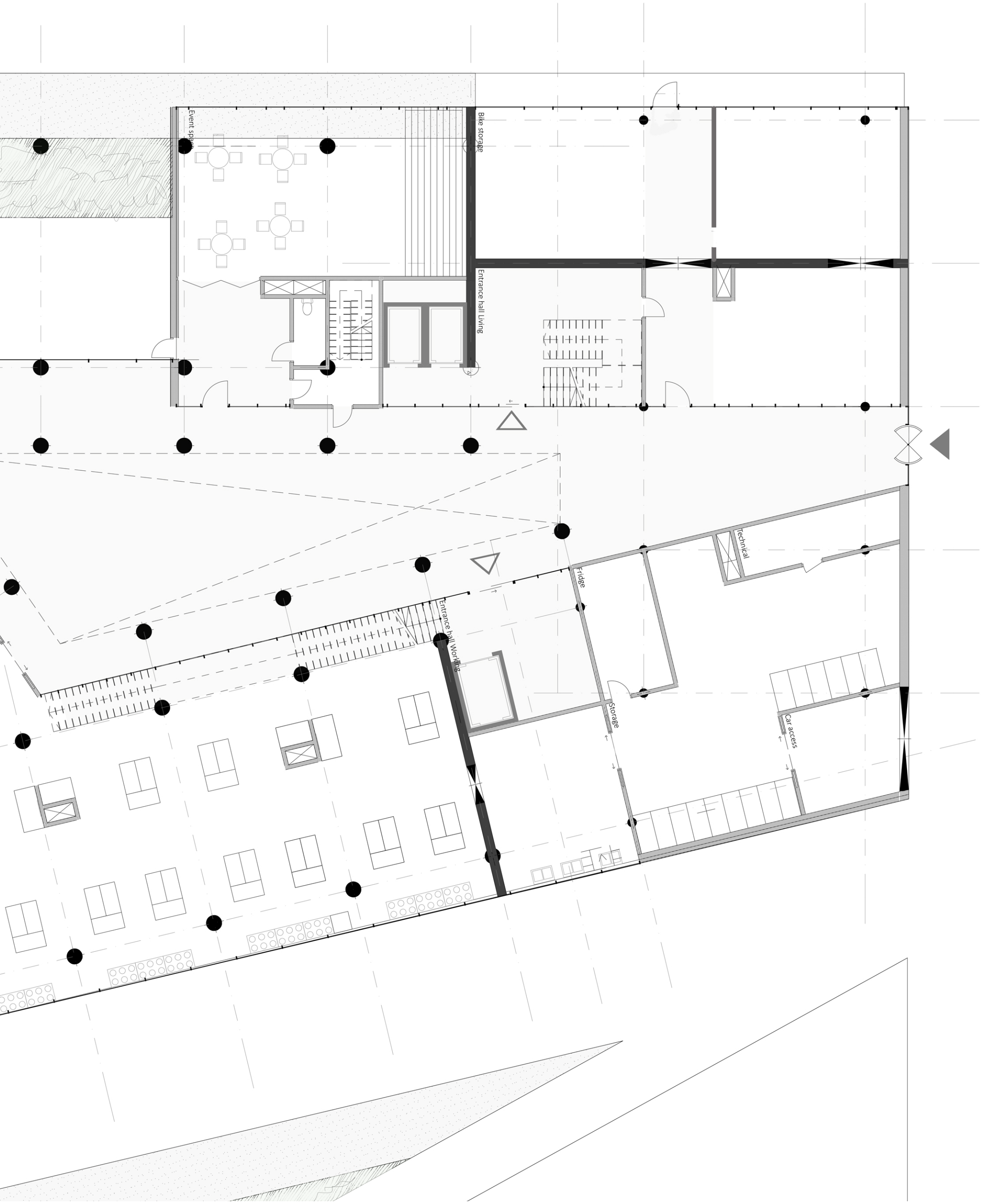
Emergency routing



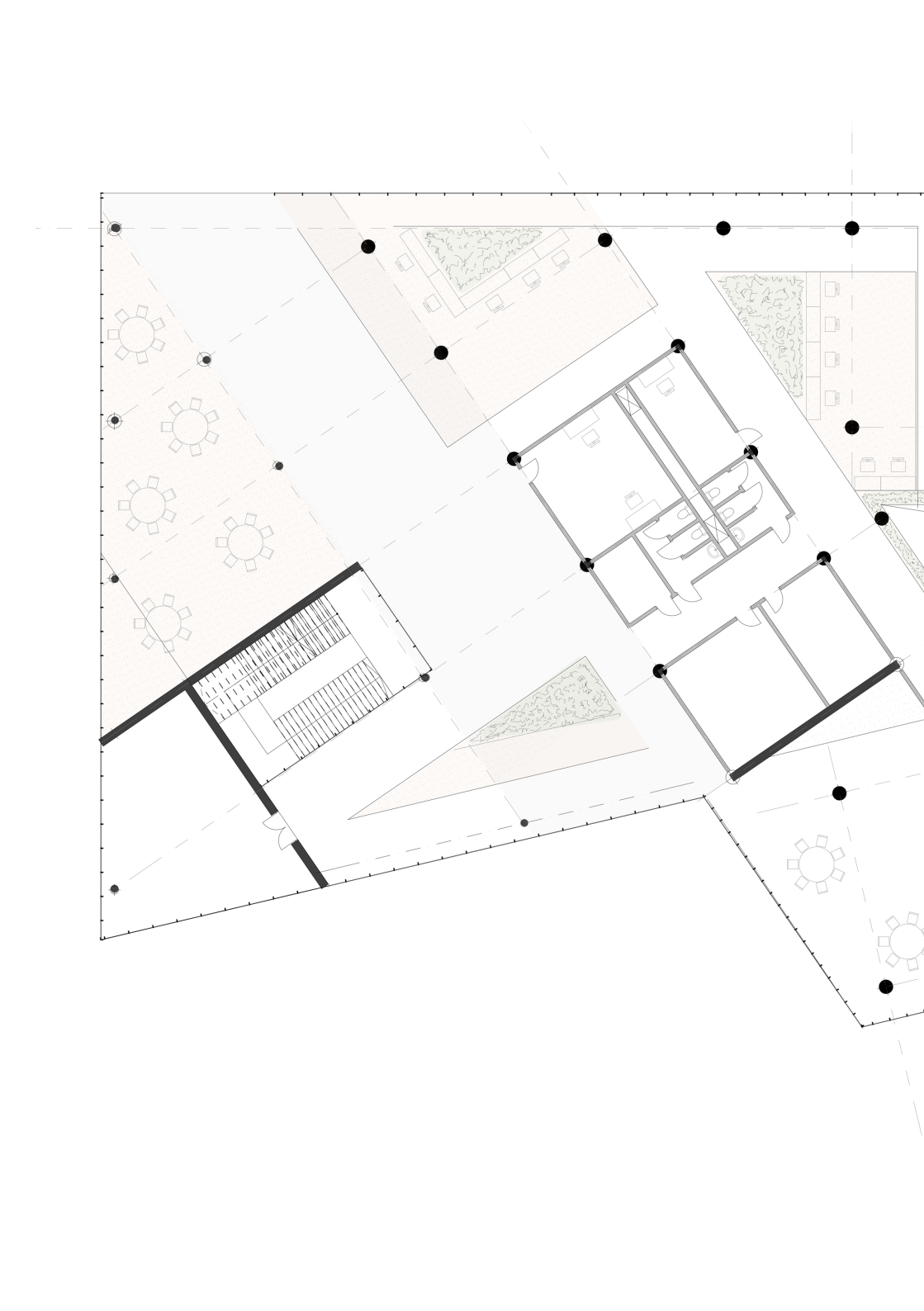
Storages, trash , ect.

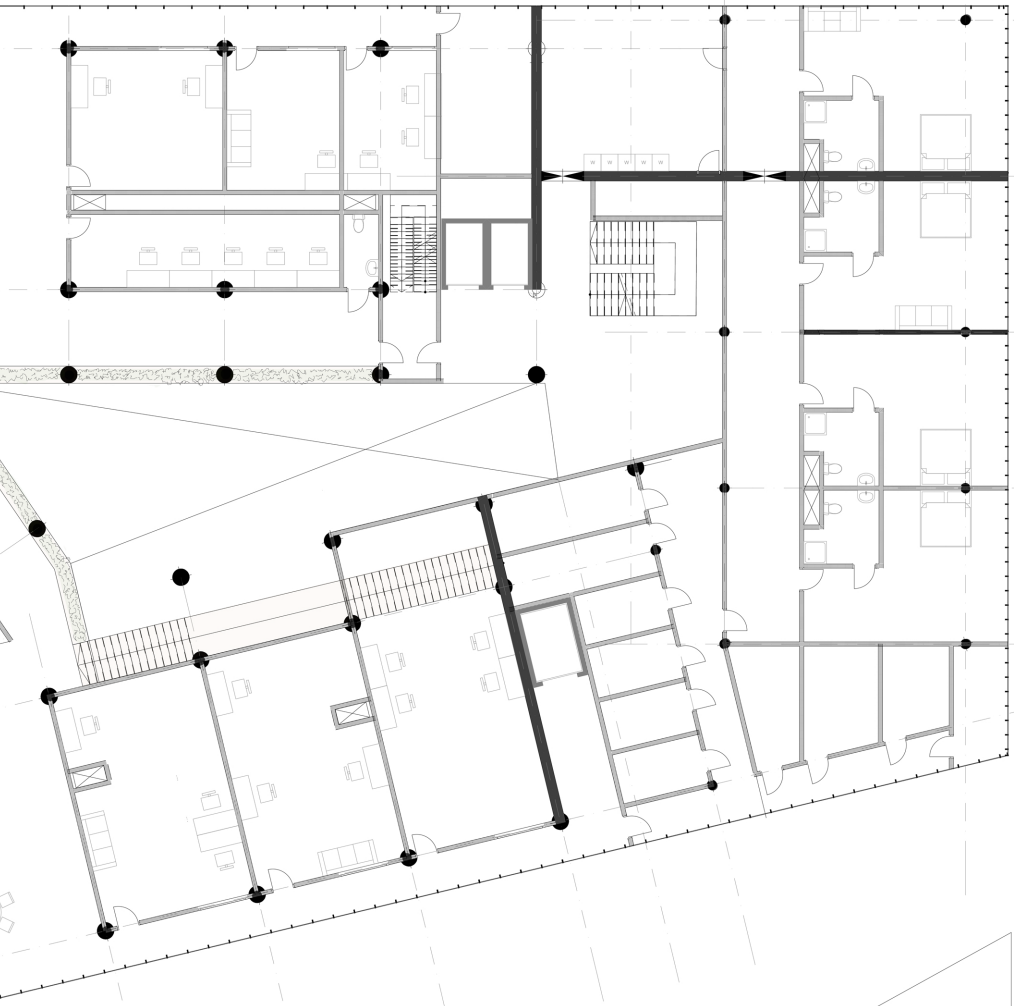


Commercial space 3
Shared break room
Commercial space 2
Commercial space 1
Atrium
Kitchen
Dry storage
Fridge
Kitchen

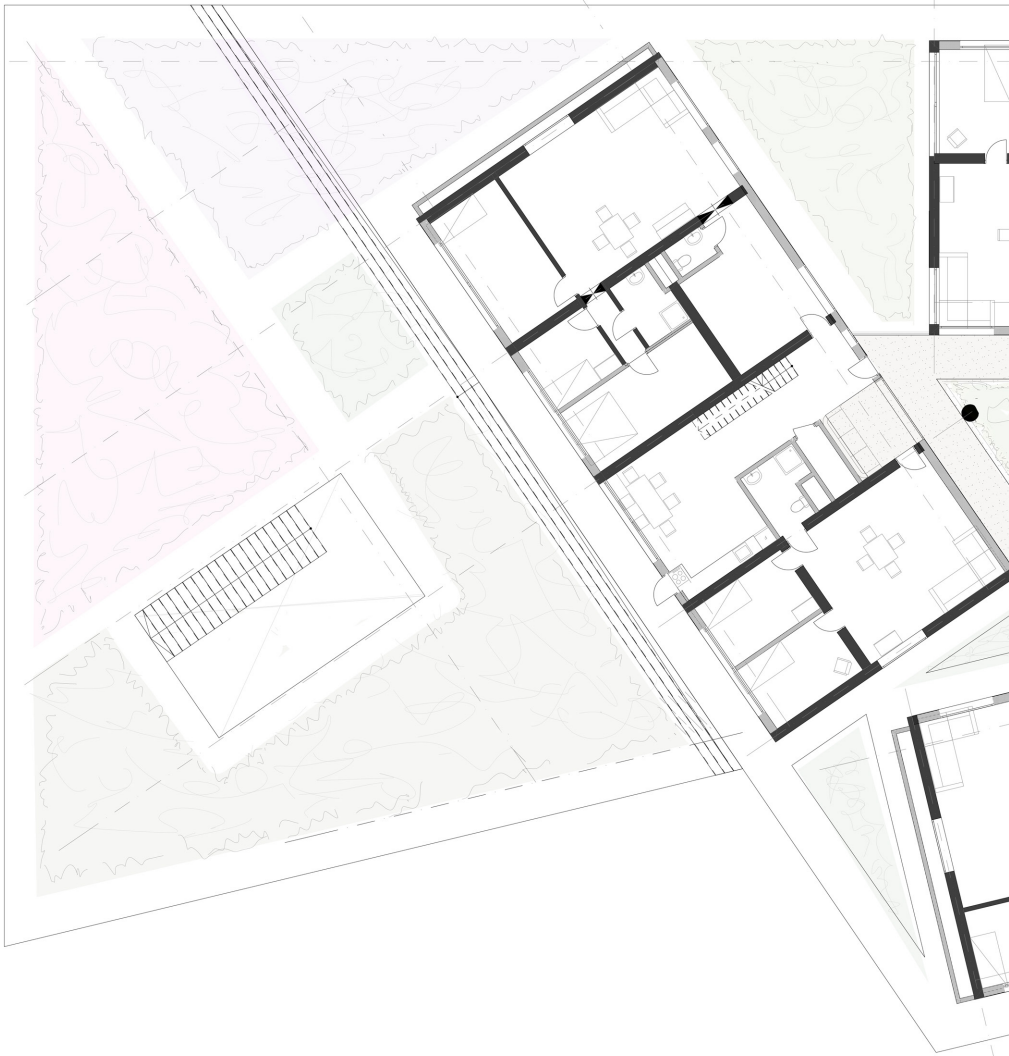


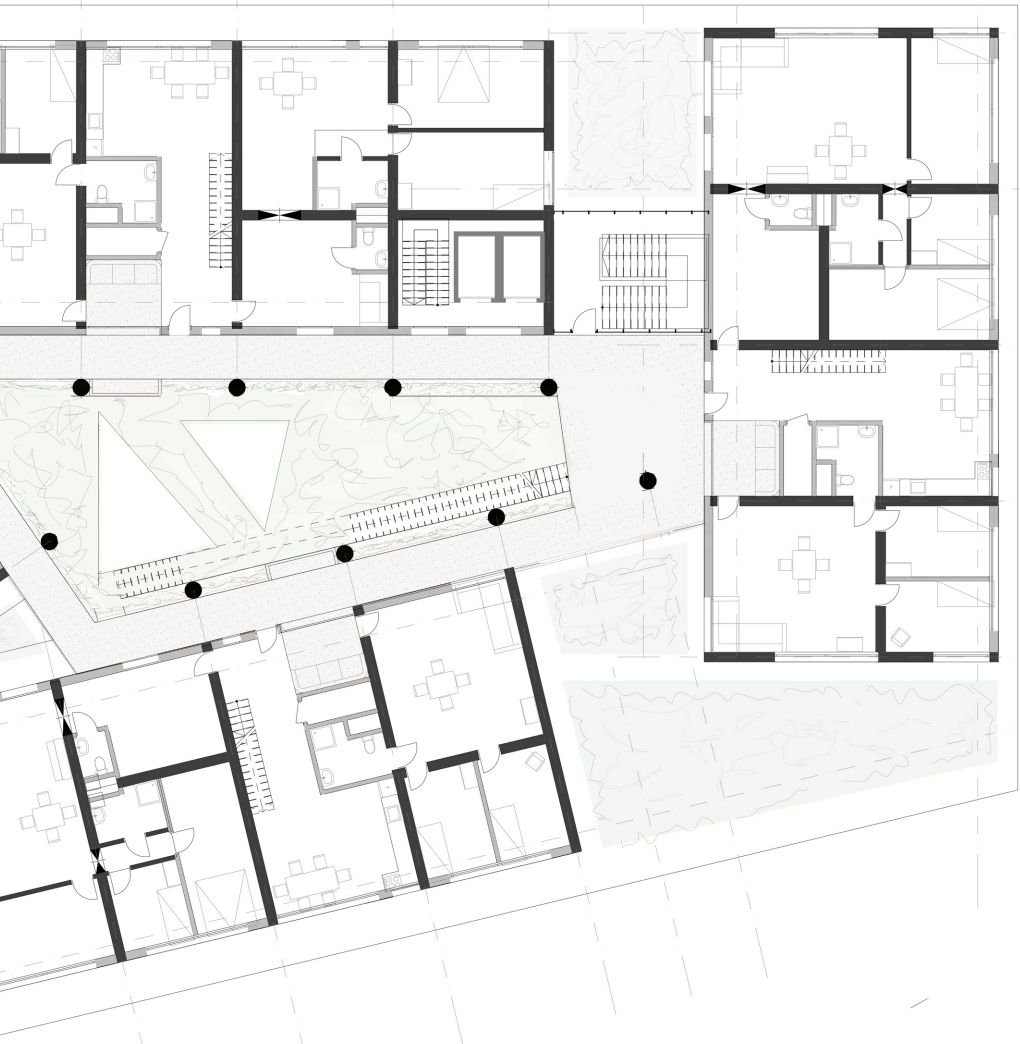
Event space
Bike storage
Entrance hall Living
Technical
Fridge
Entrance hall Working
Storage
Car access



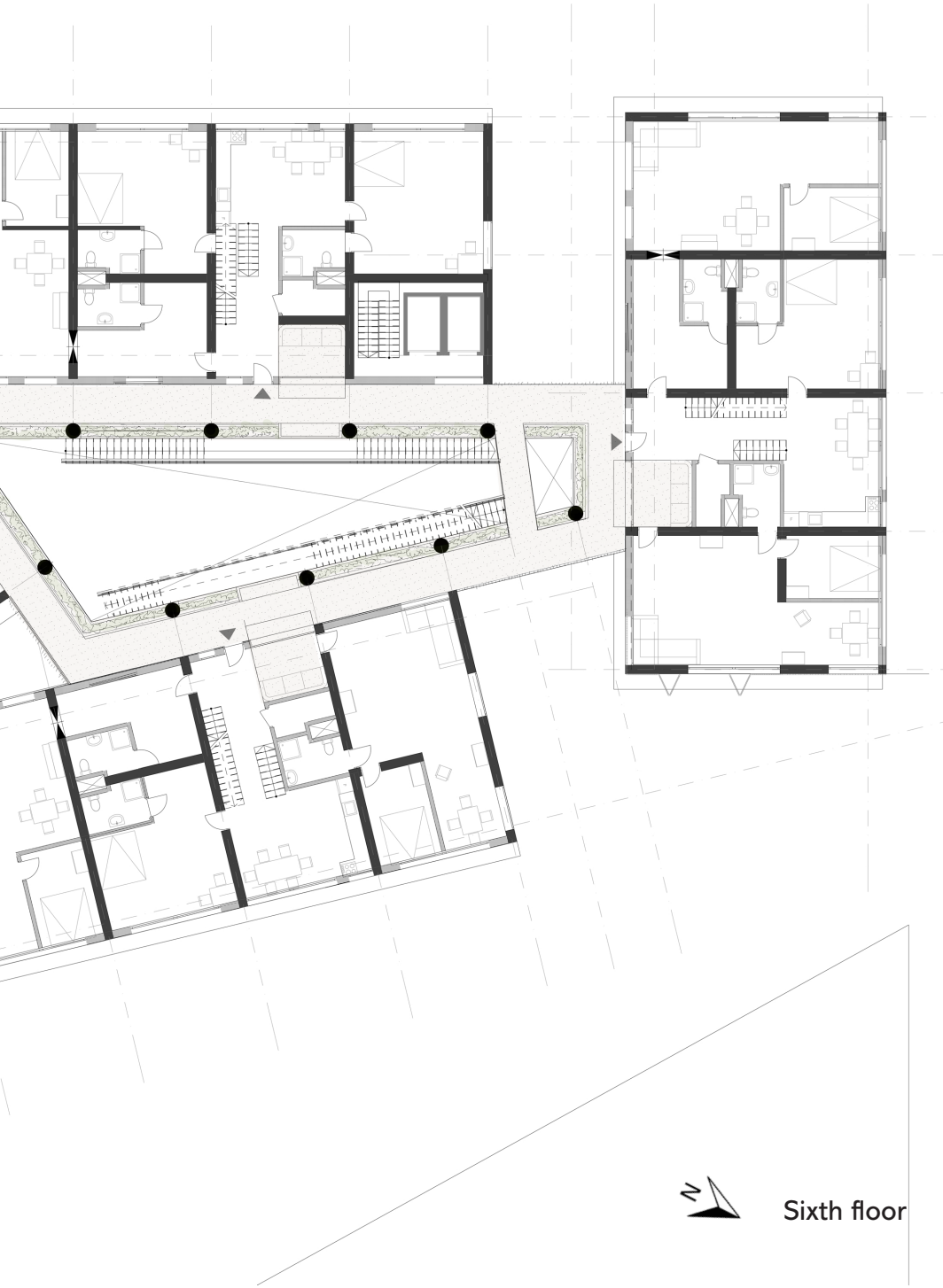


First floor



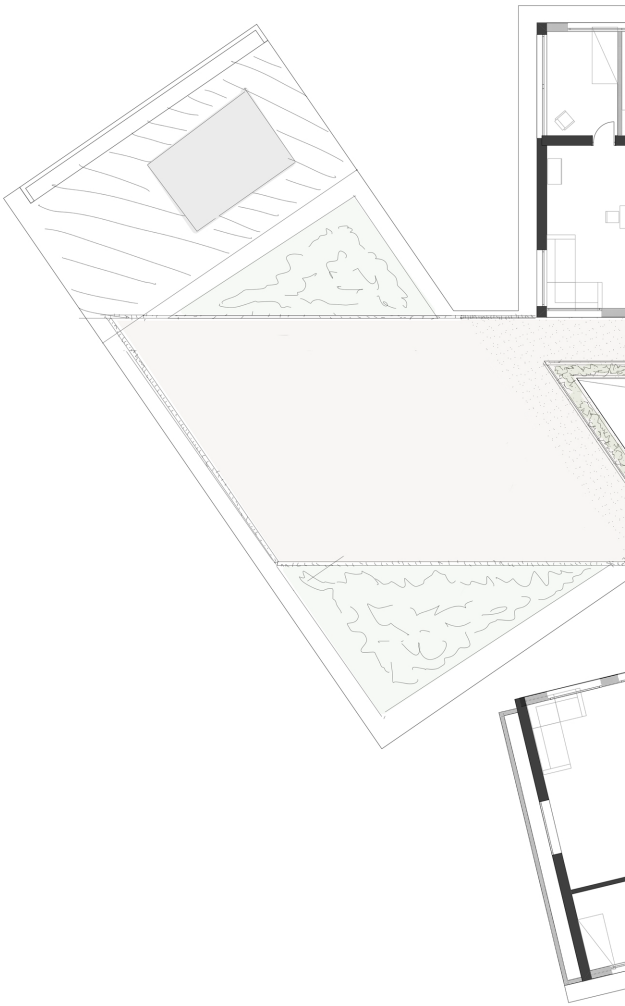


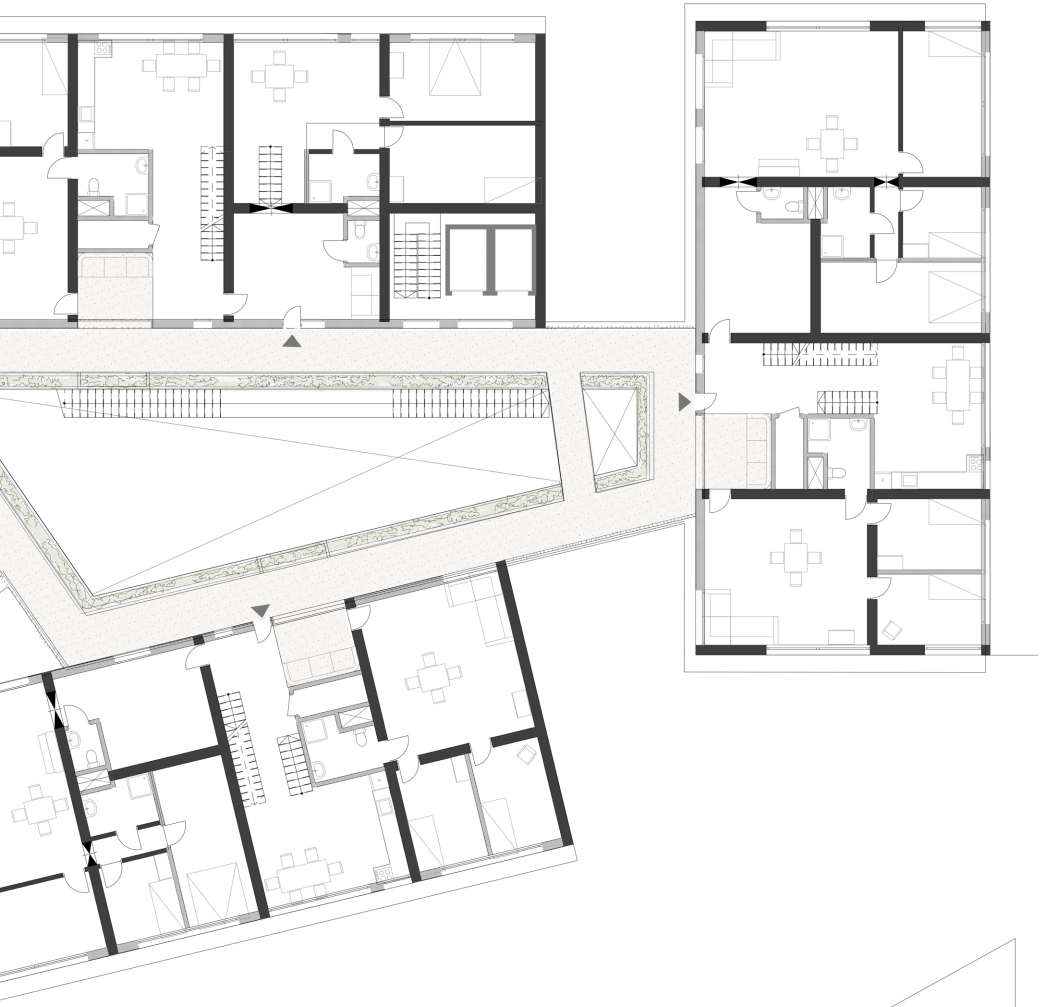
Second floor



Sixth floor

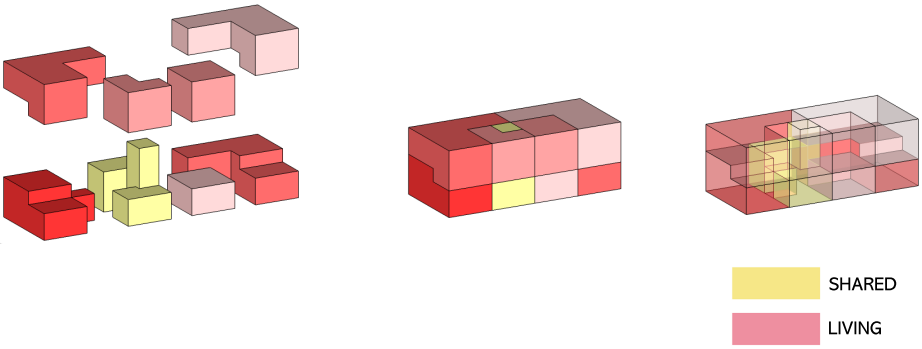
Seventh floor





Tenth floor

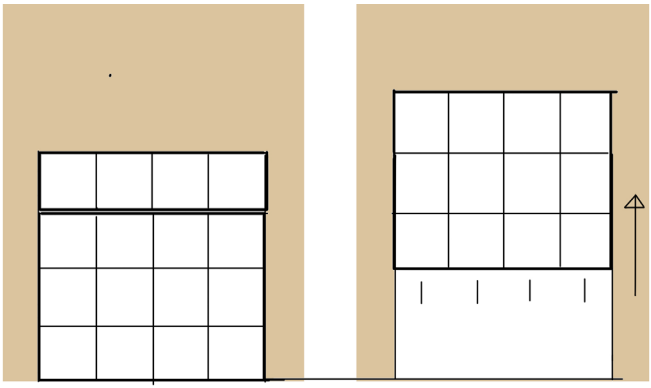
Atrium gallery



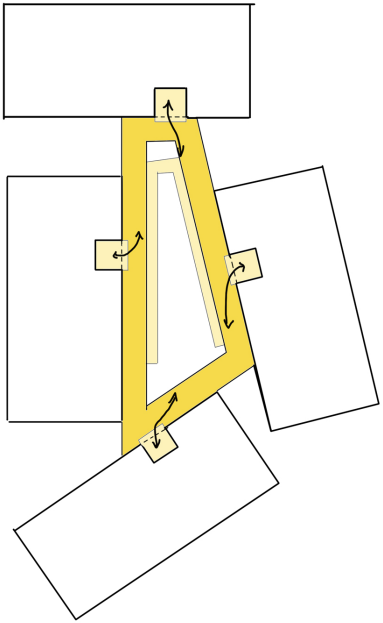
Shared living

Every household consists of a cluster, a group of people living together. These cluters all have a number of private apartments, which are grouped around a shared living room and kitchen. In the figure above, it is visiblle that the appartments have unexpected corners, height differences and partial heigh ceilings. These appartments are all homes, not just straight rooms. The shape of the space invites the inhabitants to appropriate, and to make the space their own.

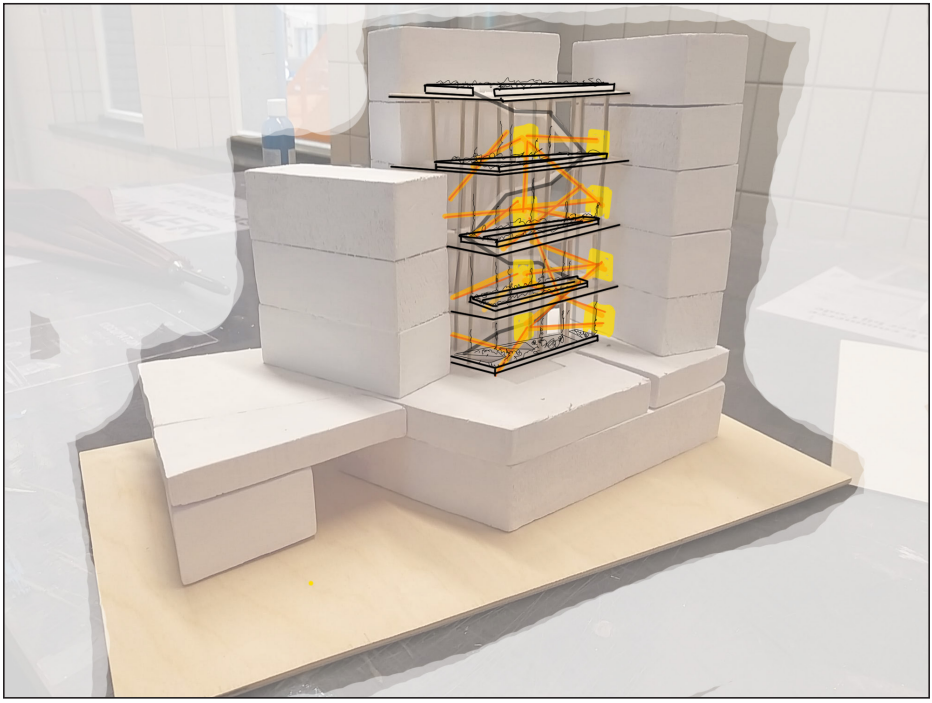
Cluster apartments



opening facade to atrium

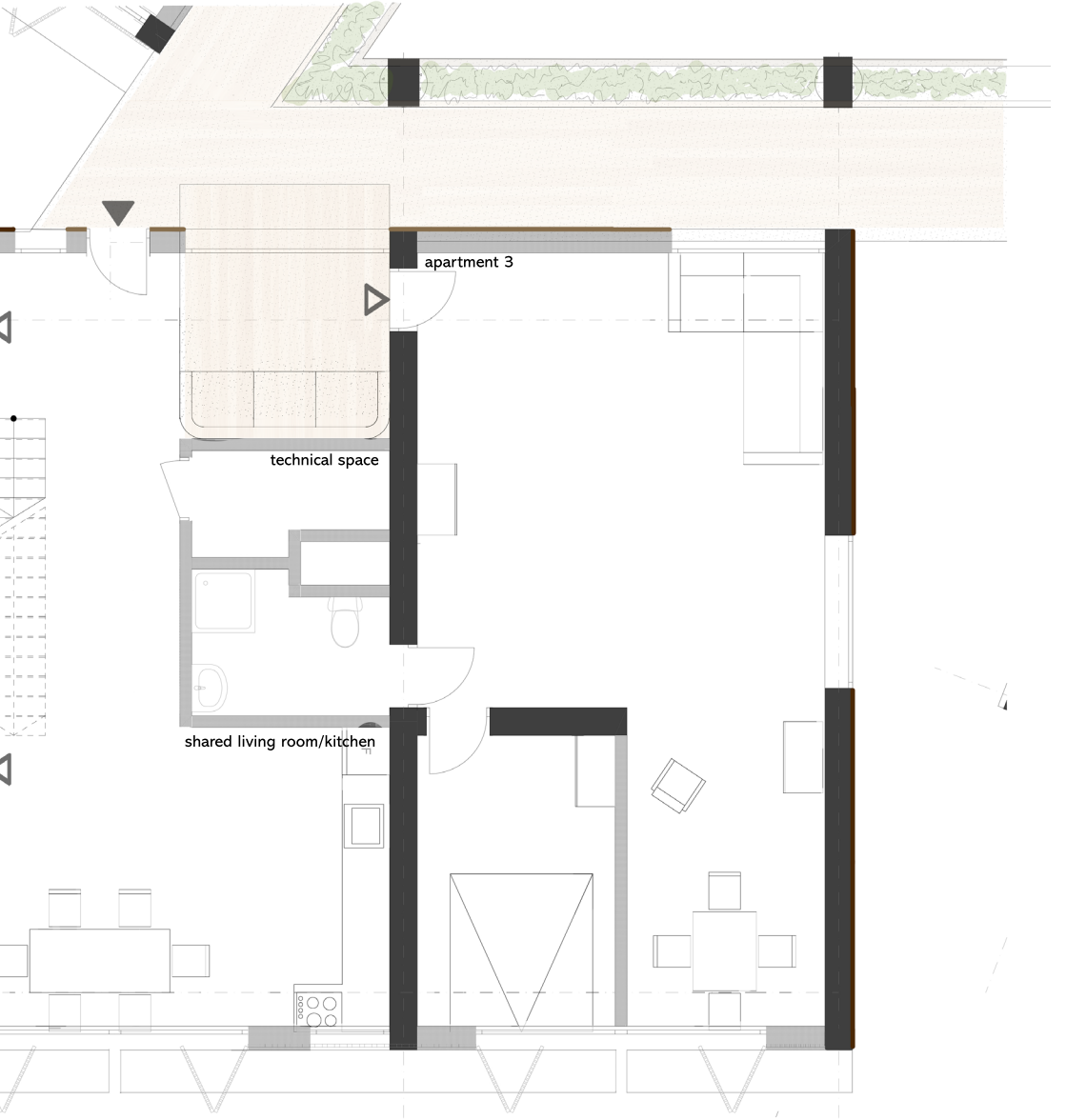


Connection facade - atrium

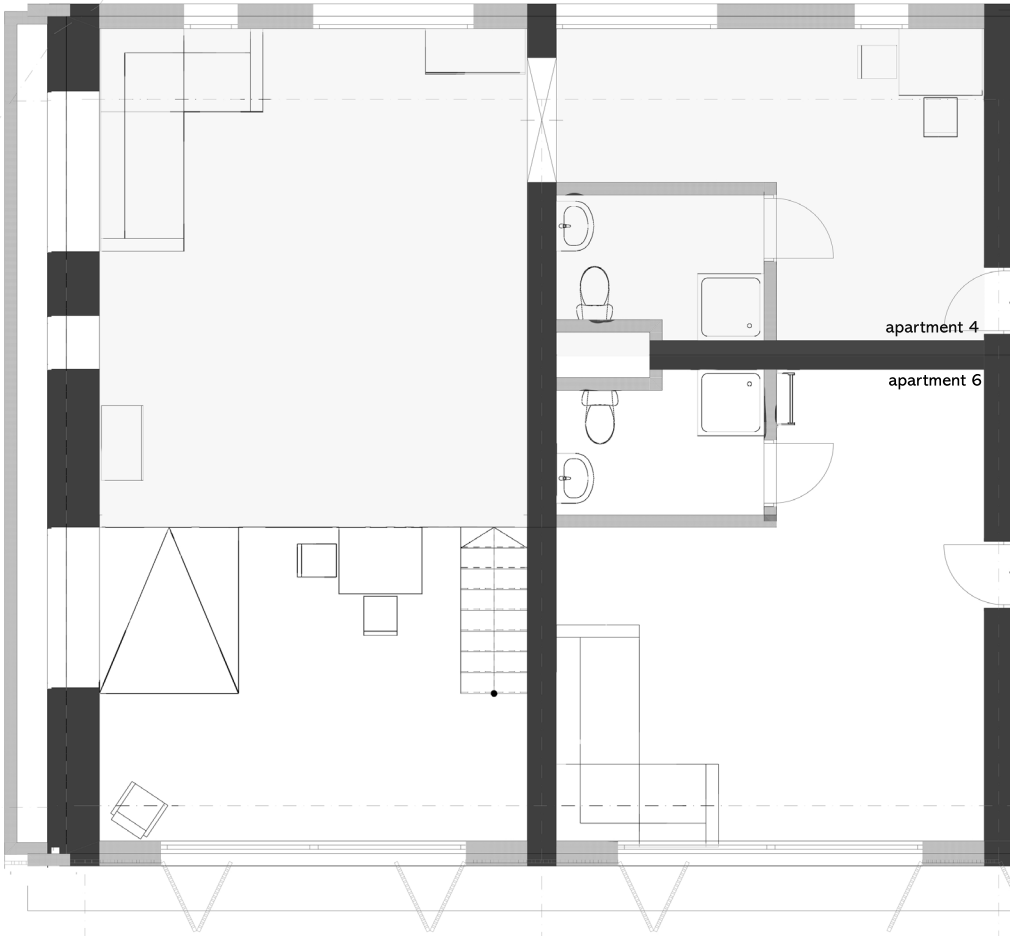


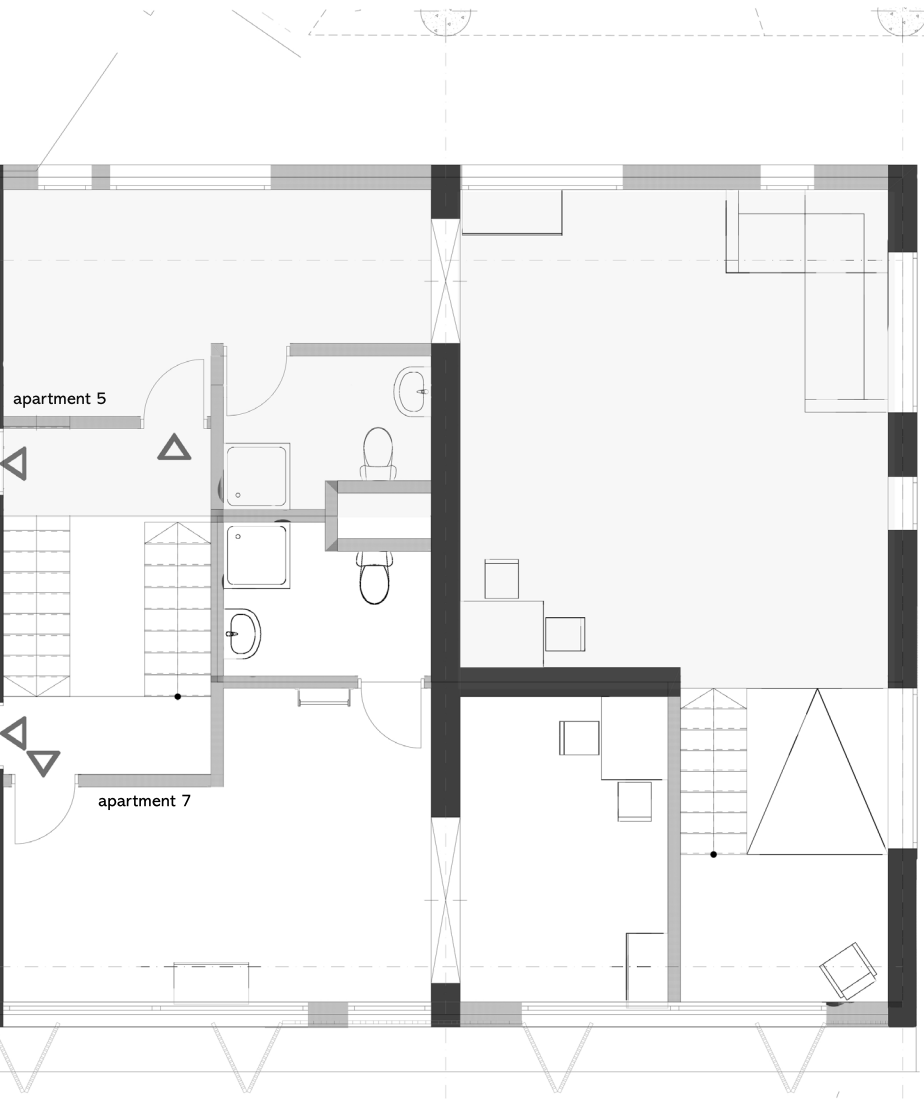
Connection facade - atrium


apartment 1
apartment 2



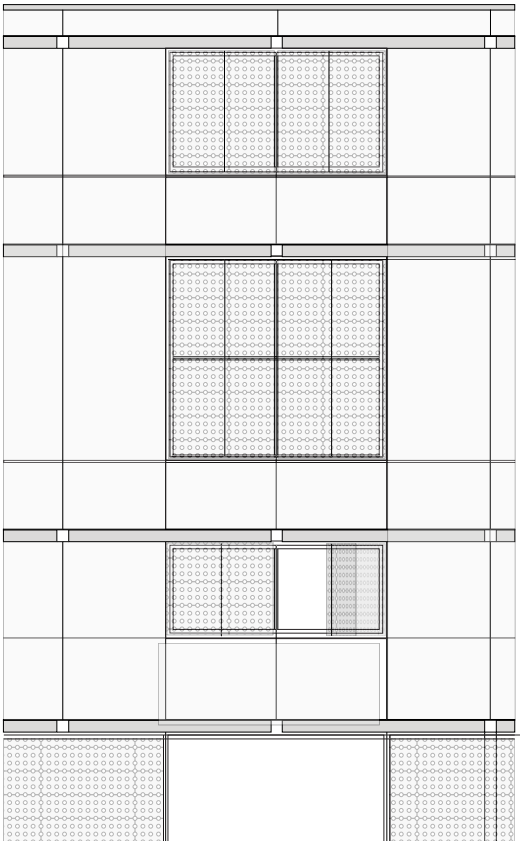
Cluster sixth floor

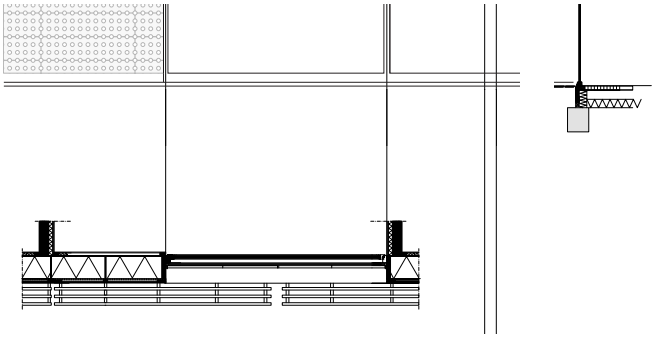

apartment 4
apartment 6



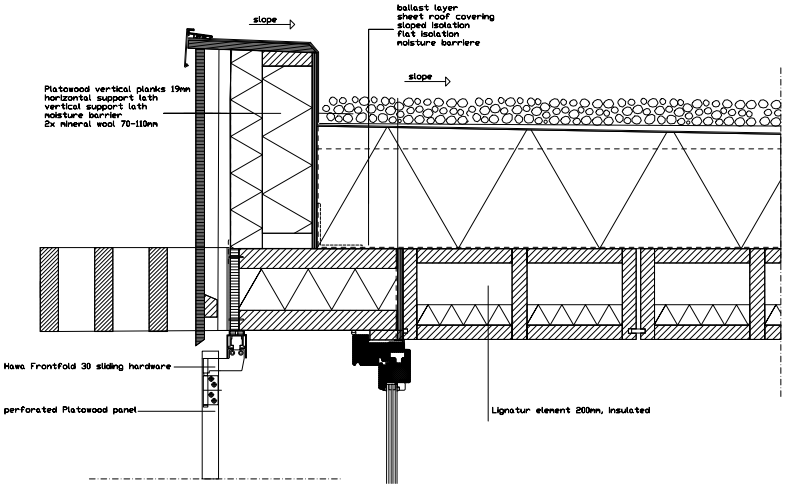
Cluster seventh floor

Apartment - model

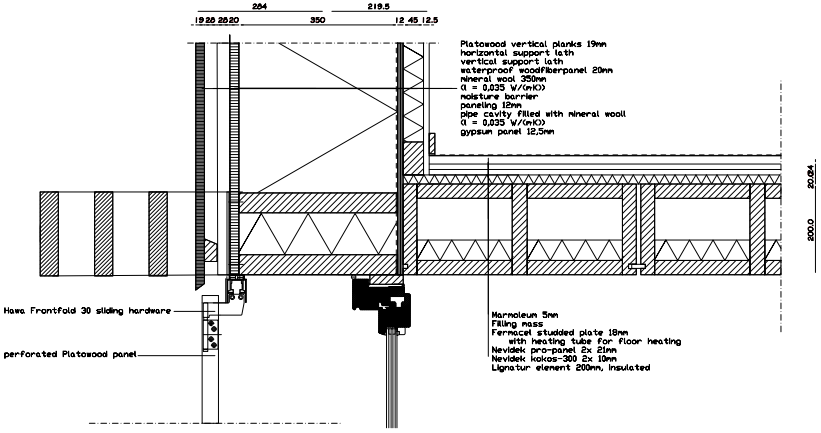




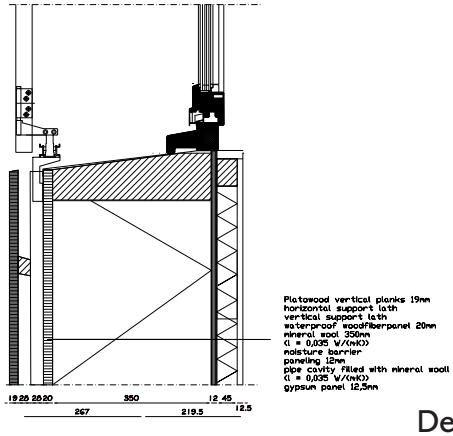
Fragment



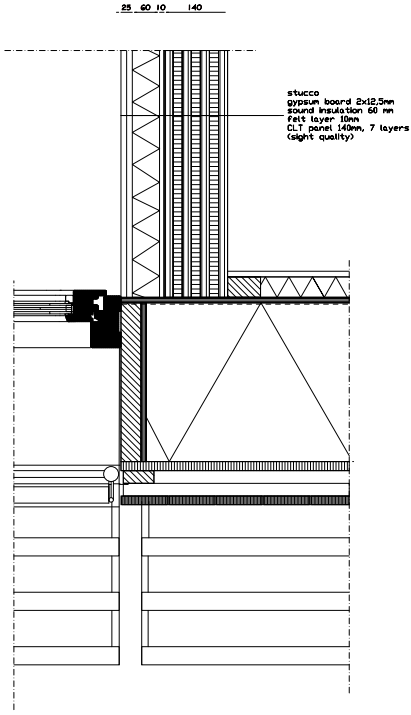
Detail roof



Detail floor



Detail window



Detail horizontal