Advanced housing design - Master graduation project

Designing the explorative living environment for fledglings

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Designing the explorative living environment for fledglings

An architectural solution for starters on the housing market seeking to maintain their explorative lifestyle

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Abstract

This graduation project will focus on the dwelling design of the so-called 'fledglings': a specific type of starters on the housing market seeking to achieve an explorative lifestyle in their daily life. The current generation of starters in Rotterdam experiences several issues in housing, like the raising buying and renting prices of 40% over the last few years and a lack of suitable homes for the changing lifestyle of the residents. In order to tackle problems like this, the graduation project will identify and investigate on the notion of how a shared living economy can contribute to the explorative lifestyle of a fledgling. Within this research, several existing designs and scientific literature will be read and investigated to form a base for the design of an explorative living environment. Several case studies have been analyzed in this design process as well. Besides that, the concept of the Fun Palace by Cedric Price and Joan Littlewood has been used as an inspiration for the design for fledglings. It turns out that an explorative living environment should stimulate and facilitate the residents to do activities that range from a more leisure nature to a more educational or cultural nature. In the end, it is about developing yourself as an individual and achieving personal growth through both enjoying and learning at the same time.

Keywords
Architecture
Dwelling design
Fledglings
Explorative living environment
Rotterdam

Introduction

The lifestyle of different generations of starters has been changing throughout the decades, from a more settled life in the sixties of the previous century to an exploring lifestyle of the current generation of starters (Hoekman, 2019, p.8). This changing development of the lifestyle of starters results in a change in the way they desire to live and what needs they have for their homes. This asks for new concepts and ideas in order to supply and maintain a sufficient amount of houses for starters.

Those new concepts and ideas for the living environment of starters could be the base of a next generation of housing where not only the dwelling is the main point of the design, but also the opportunity to fulfil the desires of an exploring lifestyle. An explorative living environment - as this concept might be called - could offer such dwelling and exploring desires, by stimulating individual and personal growth for example. Starters that have such desires to keep on exploring in their life can be called a 'fledgling': young people that just left their natal home to live by themselves and try to keep on developing on many levels in life. The term 'fledgling' comes from the phenomenon where a bird leaves the mother: "a young bird fledgled from its nest." This metaphor will continue to be used in this design assignment.

In order to design a suitable living environment for starters - and in this case specifically for fledglings - this booklet will investigate and discuss several aspects of the life of this target group and how an explorative living environment might contribute to this lifestyle. Therefore, the main question that is discussed in this research is as follows:

"*How can the design for an explorative living environment contribute to the exploring and sharing lifestyle of fledglings?*"

As this research question shows, the notion of an explorative living environment is important for the development of the report. To properly continue designing on this concept, a solid base should be given first. Thus, a historical example project will be researched and investigated, which is called 'The Fun Palace': a concept by Cedric Price and Joan Littlewood established in the 1960's to build an innovative and creative space where people could gather and celebrate many forms of arts, science, culture combined with leisure (Mathews, 2005, p.73). Price and Littlewood their

dream was to develop a place for people to enjoy their spare time and leisures in combination with different forms of educational activities. This is mainly done as a reaction on the political and social developments in Britain for that time: after the Second World war and because of automated systems of working, people had more time for themselves to enjoy and perform leisure activities. However, having spare time was seen as a form of idleness, so people did not exactly know what to do in the given time. By giving the folk such a place to enjoy and learn new acts, the Fun Palace had the potential to offer many opportunities to combine these two. However, the concept of the Fun Palace has actually never been realised, the only remains of the ideas of Price and Littlewood are smaller communal events throughout Britain organised since 2014.

Although never being realised, the Fun Palace gives great inspirations for further designs seeking to combine personal development combined with joy. Likewise, the design for fledglings will use the Fun Palace as an inspiration to fulfil the needs and desires of this target group to keep on exploring and developing themselves in their living environment.

Besides the studies into the lifestyle of starters and the Fun Palace, a proper amount of research will be done into case studies and other examplary designs in order to understand the design assignment for the graduation project. After that, the location of the project is described, which is eventually followed by the principles and visions of the masterplan in which the design is situated. This will form the base of the design concept and principles. Likewise, the actual design will be presented after this complete research part of the booklet. This is done to properly understand what the design assignment actually is and how this eventually developed throughout the design process.

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Chapter 1
Research plan

The inspiration I discovered for my design topic actually comes from fellow generation peers and how they might be going to live in the near future. The rate of people in the age of 20-30 years old finding suitable homes decreased in the last years. For instance, several newspapers state that dwellings for people under the age of 35 raised at least by 40% in the bigger cities of the Netherlands. The Dutch government wants to invest into 15.000 to 25.000 dwellings extra for starters to tackle problems like this (Rijksoverheid, 2020).

Besides that, the lifestyle of starters in the Netherlands keeps changing from generation to generation, resulting in unstable demand and supply rates in dwellings for starters (Hoekman, 2019). Hoekman states in his article that the current generation of starters, Generation Z, focuses more on a flexible lifestyle rather than being fixed in a specific dwelling for a long period in your life. Having a flexible lifestyle demands being flexible in where and how you live in your dwelling. A shared living economy tends to provide the flexible needs and wishes of starters having a flexible lifestyle. Within this group of starters a sub-group can be found with even more specific lifestyle preferences, the so-called 'fledglings' (Boterman et al, 2013).

Target group

Within the group of starters, I would like to focus more on the 'fledglings' in my design research. The term 'fledglings' comes from the phenomenon where a young bird leaves the nest and flies out to the wide open world; "a young bird fledged from its nest". Within this research this metaphor stands for an individual leaving his or her family/natal home or student house to discover the 'real' world. Usually this happens between graduation and finding a full time job.

Fledglings tend to focus more on a flexible lifestyle rather than being fixed at one location for a long time. This group therefore tries to explore and travel within the boundaries of their obligations, for example their job. A dwelling that might suit them is one where no big investments are required and from time to time share collective amenities with neighbours. However, some cases may occur where fledglings need the possibility to settle and grow in this specific house, because the person may have found a husband/wife or children are expected within a few years.

Problem Statement

As already stated before, people in the ages of 20-30, the so-called starters on the housing market, keep having increasing difficulties finding suitable dwellings. Two main reasons are discovered: on one hand from a financial perspective and on the other hand from a demand/supply-perspective. The latter one is something that has to do with suitable designs for dwellings for starters. Because of that, I would like to dive deeper into suitable dwellings for this target group. To be even more specific, I would like to dive deeper into suitable dwellings for fledglings, including their explorative and travelling lifestyle in my design.

Research questions

The explorative lifestyle of these fledglings make it important to further investigate on how a possible 'explorative living environment' might be suitable for this type of starters. Therefore, the main research question that will be discussed in this research report is as follows:

How can the design for an explorative living environment contribute to the exploring and sharing lifestyle of fledglings?

The sub questions that will support this research question are the following:

- *What are the characteristics of the lifestyle of a fledgling?*
- *How can the concept of an explorative living environment best be described?*
- *What are the patterns of domestic use of people when they live in a shared living economy?*

Relevance and position

Given the current developments in the housing market in the Netherlands, for example the stated goal of an extra 15.000 to 25.000 dwellings for starters, it is important to come up with new, suitable ideas for this specific type of residents. Besides that, since starters - and specifically in my case the 'fledglings' - have changing needs and wishes concerning their lifestyle, it is important to give answers to these wishes in the most recent architectural solutions. In order to do so, this graduation project will focus on this target group and will try to find the most suitable dwelling types for the fledglings to live in.

Source Analysis

To start understanding the needs and wishes of fledglings, as well as framing the notion of an explorative lifestyle, literature review will be a starting point in this research. In order to do so, two parts will be further described within this report, which are: the target group and the explorative lifestyle. Two separate chapters will be dedicated to each topic. The following two articles will be used for this:

- Hoekman, R.P. (2019). *Research into housing preferences of starters on the housing market*. Eindhoven: Eindhoven University of Technology
- Boterman, W.R., C. Hochstenbach, R. Ronald, M. Sleurink (2013). *Sustainable Access for Starters on the Amsterdam Housing Market*. Amsterdam: University of Amsterdam

These two articles give an overall view on some objective characteristics which apply to the life of fledglings and their living preferences. During the investigation of these two articles, it became clear that these kind of residents desire to have an explorative lifestyle rather than being fixed at one location for a long period of time.

After investigating the needs and wishes of the target group it is necessary to define what an explorative lifestyle exactly is. In order to do so, a historic project will be used as main inspiration for the dwelling design for fledglings. This historic project is called 'The Fun Palace', a design by architect Cedric Price and theatre director Joan Littlewood. These two initiators of the Fun Palace came up with a new way of thinking about the use of spare time activities and leisure in the 1960's. Since leisure emerged as a major political, economic, social and architectural issue in Britain after an era of World Wars, Littlewood and Price thought of the Fun Palace as a creative and constructive outlet for this windfall of leisure (Mathews, 2005). Although never actually realised, the ideas and concepts for the Fun Palace remain inspiring for future designs seeking to actively incorporate leisure as an exploring motive into the design. The following article is used as a base of the research into an explorative lifestyle:

- Mathews, S. (2015). The Fun Palace: Cedric Price's experiment in architecture and technology. *Technoetic Arts: A Journal of Speculative Research, 3 (2), 73-91.*

Methodology

The following four research methods will be used in order to examine the target group and their design wishes. As a result, a developed design can be created to give an answer to the stated research questions in this graduation trajectory.

Literature research

To understand the needs and wishes of the target group, it is important to start with reading and examining the current literature on this specific type of users. Scientific articles and journal papers will be read to give a first look on what to expect when designing for fledglings.

Historical research

The historical research will focus on two separate issues within the research: on one hand the development of the target group's lifestyle and dwelling wishes and on the other hand the Fun Palace - as stated in the source analysis paragraph.

The historical research on the target group will give information on how this specific type of residents developed through the years, starting at already a few decades ago. This is done to give a meaningful expectation on the future situation of living, by understanding the developments of needs and wishes in the past.

The investigation on the Fun Palace will be done to give a historical inspiration to the design project. I see the ideas of Cedric Price as a meaningful source of information for my specific design assignment because of his solutions in a period of time where people demanded new ways of communities and leisure. In the end, I might link this inspirational design to my own design assignment for an explorative lifestyle, where leisure is an important factor in the daily life as well.

Target group observations and interviews

In order to further specify the needs and wishes of the target group, it is necessary to understand how they want to live. As a result of this, I become familiar with the people who are going to live in the designed building and the specific design assignment will become more clear in the end.

However, I expect to find relevant information for the design assignment through literature of the target group and the study on the Fun Palace by Cedric Price in the early stages of the research. I will therefore hold interviews and surveys in the later stages of the research, at the

point where the design becomes more specific, for example in the second semester of the graduation period. In this way the interviews and surveys will be more valuable than doing them in the early stages of the research.

Plan analysis

During the plan analysis in this research report, four case-studies that are dedicated to a similar target group will be explored and investigated. This is done to see how existing buildings and designs solve comparable questions regarding the intended users of the project.

Topics within this plan analysis will focus on dwelling typology, circulation systems and the use of collective areas and activities. This will result in an overall view of living patterns in similar situations as the design for fledglings is intending to achieve. The four case-study projects that will be investigated are the following:

- Lucien Cornil Student Residence, Marseille
- Stepstone, Amsterdam
- Nordbro, Copenhagen
- Niu Co-living, Mexico City

Chapter 2
Target group investigation

Literature review

As stated in the Research Plan, this report will focus on the design for fledglings - a specific group within starters on the housing market seeking to live an explorative lifestyle. To fully understand this group of fledglings, it is important to acknowledge the overarching type of residents, namely the general group of starters on the Dutch housing market. This part will focus on what their current housing situation is, discussing the (financial) issues they experience when finding a new home and mentioning the affordability of the desired homes. After that, a deeper investigation will be taken place to understand what a fledgling exactly is and how they differ from a 'general' starter on the housing market.

Starters in the Netherlands

Starters on the housing market don't form a monotonous group of people, since a 'starter' differs from others within the same group by (cultural) background, income and lifestyle. Therefore, the definition that will be used within this text is based on the fact how they live and what their dwelling patterns are. In that case, according to the government of the Netherlands, a starter is *someone who moves to a house where this person is the main occupant and lives independently, while before moving in this person was living dependently (Rijksoverheid, 2019, p.85).*

Usually starters find themselves within the ages of 20 and 30 years old. In this period of time, these people experience several changes in their lifestyle, such as graduating from their study or finding a partner where they are going to live with. Because of the graduation, starters often have (or are looking for) a full time job which means they have more means to find a home compared to students. However, some starters find themselves in a transition stage, where they don't have a full time job yet. So this proves again that the group of starters do not form a monotonous set of people.

While starters in the Netherlands are a wide and differing group of people, they have some significant common issues. For example the fact that nearly all of the starters experience problems when finding a suitable home. Two main reasons for these problems are pretty obvious, however still important to mention: too low supply of homes that are suitable for starters and too expensive homes.

The first problem mainly has to do with the fact that most starters are trying to stay in the same city they grew up in. They are looking for a

job in that city and after all, their daily life and friends are all located in their natal neighbourhood and city. Because of this, the demand for homes in these cities becomes too big and the amount of available houses diminishes. The second problem is shown through the current renting and buying prices of dwellings in the Netherlands and the lack of enough resources of starters trying to find a home. Although the interest for mortgages are at a relative low point at the moment, it is still hard for starters to qualify for a home of an average price of €333.000 (BNNVARA, 2020). This has to do with the fact that people have to add own money into the mortgage in order to get it. Since most starters do not obtain enough amount of money at the start of their career, they won't be able to get this mortgage. When trying to rent a home, comparable troubles are experienced. In the bigger cities apartments of only 30 m^2 are already being rented for €900 per month. As a result, the monthly costs for a single person becomes too high to afford.

The Dutch government is making plans to solve these issues for starters. As already stated before, plans are made to invest into 15.000 to 25.000 dwellings extra for starters to tackle problems like this (Rijksoverheid, 2020). Up until 2030 the government will reserve 100 million euros per year to realize the extra construction of these homes. Besides extra homes, the government wants to increase the financial stability of specifically starters by offering deals where they can make use of a decreased transfer tax ("overdrachtsbelasting" in Dutch) for purchased houses. Besides that, starters can get a decrease in renting prices. This will happen when it becomes clear that the renting price makes up such a big proportion of the income, usually happening at low-incomes. After all, these measures give the construction of homes more perspective when it comes down to affordable housing for starters.

Starters in Rotterdam

Given the fact that the graduation design project takes place in Rotterdam, it is wise to investigate the current housing situation for starters specifically in this city. While some issues are comparable to the national issues, there are problems in Rotterdam that exceed the national issues and are therefore interesting to discuss here.

In particular highly educated young people move to the bigger cities of Netherlands because of the diverse offer and high quality of job opportunities, leisure, culture and education (DeNederlandscheBank, 2017, p.8). Rotterdam belongs to one of these bigger cities, being the second biggest city of the country with 587.960 inhabitants (CBS, 2020). As a result

of this constant increase of popularity of Rotterdam, the housing prices increased with at least 40% over the last seven years (ING, 2018). This asks for a well-developed plan to make Rotterdam accessible and affordable for starters again.

According to the municipality of Rotterdam, the city wants to tackle these issues by the following two plans: a starters loan and obligated self-occupation.

For the purchase of new constructed homes, the municipality of Rotterdam offers starters an extra amount of loaned money. In the Netherlands, the maximum amount of mortgage is limited to a specific proportion of the total income of a household, creating some situations where people come €20.000 short, for example. In this case, the city of Rotterdam wants to help starters by giving this €20.000 as an extra loan to stimulate people to buy the house they desire.

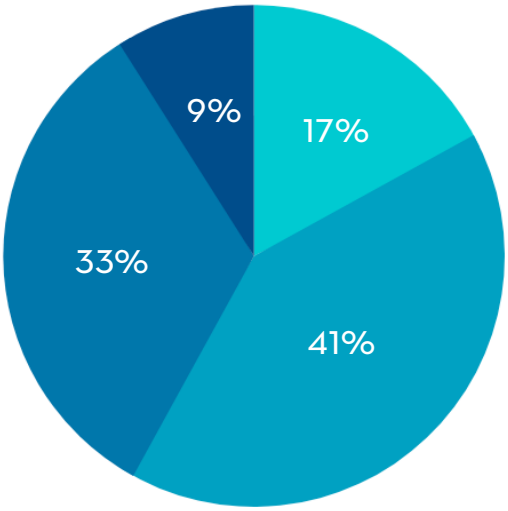
The second measure, where it is obligated to actually live in the house someone rents or purchased, prevents people to make financial advantages from something they do not live in. This measure applies to all new constructed buildings and existing houses on municipal ground.

Finances and affordability

In order to understand the affordability of starters it is wise to make an investigation on some general facts and figures about their current financial situation. This is done through some key numbers about the renting and buying position, as well as their wish in what kind of dwelling they would like to live. Obviously, a lot can be said about the financial situations of the current generation of starters. However, to prevent going into too detailed statistics and numbers, only a few general remarks will be made in order to understand the affordability of starters in the Netherlands.

Starters on the housing market mainly focus on renting an apartment or buying a single family house. In 2019, 41% of all the starters in the Netherlands were looking to rent an apartment, while 33% of the starters desired to purchase a single family house (see figure 1). This might show that the size of a dwelling influences the preference to either buy or rent a house: when a dwelling is bigger, starters prefer to purchase it, while they are more likely to rent it when it is smaller.

Figure 1
Demand of starters looking for a home

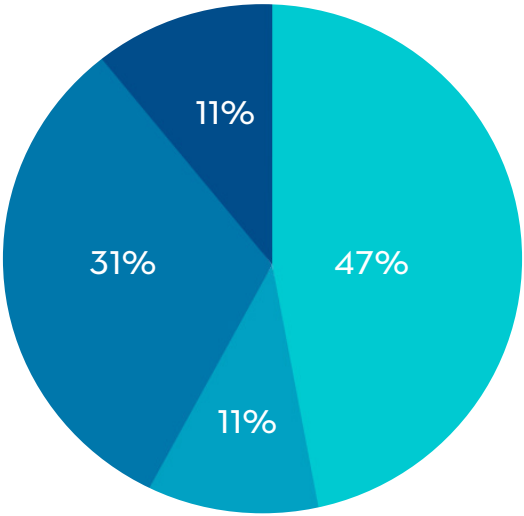


- Renting (single family house): 17%
- Renting (apartment): 41%
- Buying (Single family house): 33%
- Buying (apartment): 9%

Source: Rijksoverheid (2019)

The next step is to see what prices go along with the decisions to either buy or rent a dwelling. Numbers from the Dutch government show that the two biggest groups of starters can rent within the prices of social housing and can buy houses up until €250.000 (see figure 2). This actually shows that most starters are not able to afford average housing prices of the Netherlands, since the average price when purchasing is around €333.000, as the news article of BNNVARA (2020) showed. only a small amount of starters (11%) might be able to afford average housing prices. The same amount of starters (11%) are able to afford free market renting, but it can be questioned whether or not starters might find suitable dwellings in this price range, since the same article of BNNVARA showed issues in free market renting. For example, where a lot of people pay around €900 for a dwelling of only 30 m^2.

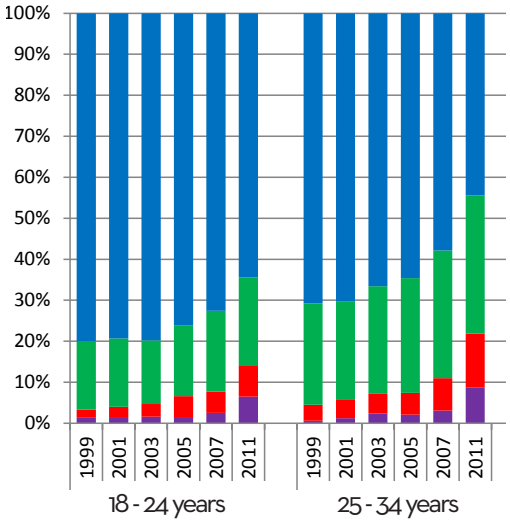
Figure 2
Type of ownership and affordability



Source: Rijksoverheid (2019)

Since starters form a wide range of people, it is hard to see this group of people as one. To give a look into some differences within the group of starters, some statistics will be discussed that focus on the affordability along with age (see figure 3). During the development of this research report, unfortunately statistics of this kind were not found of the situation in Rotterdam. However, renting prices along with age were found of the situation in Amsterdam, so these numbers are used to give a quick overview on how age might influence the renting affordability of starters. Around 65% of younger starters can afford cheap renting prices, while at the older segment of starters this amount decreased to 45%. The amount of starters that can pay for affordable housing increases: 20% of young starters and 35% of older starters. So we can actually see a development taking place here, where 20% of younger starters are shifting from low affordable financial situations to affordable renting prices in Amsterdam. Some of the starters are even able to afford semi-expensive and expensive renting prices: the total of these two groups increases through time from 12% to 21%.

Figure 3
Renting classes along with ages in Amsterdam



Source: Boterman et al (2013)

Historical development of starters

Buildings are not made for only a couple of years - the longer it functions, the better it is for the greater good. A building, and in this case a house, has to meet several housing preferences of generations over time. Young people who are still living at their natal home now, will be starters on the housing market in a few years. These future starters have to like the designs of houses which are made nowadays. Because of that, the overall trend in housing preferences through time and among different generations are investigated.

The next part of the research will focus on the characterics of starters and how these have changed through time, starting to investigate at already a few decades ago. In the end, a descriptive prediction will be given to sketch future demands of starters in the Netherlands. This is done to give extra support to the specific design assignment of the target group.

Four generations are to be found and further investigated in this research: the Babyboomers (1945 – 1960), Generation X (1961 – 1980), the Millennials (1981 – 1995) and the Generation Z (1995 – Now) (Hoekman, 2019, p.8). According to Hoekman (2019) each generation has its own specific characteristics and wishes, being developed over time based on economic and technological advancements. *(This research uses the periods of time for the different generations as used in the article of Hoekman. Awareness of different divisions and names is present, but for a clear understanding, these years are used here.)*

Past (1945 - 1995)

When looking at the first generation discussed here, it is noticed that 'Babyboomers' - born between 1945 and 1960 - preferred to possess an own home, instead of renting one, when they were younger. After a few years, this preference actually changed though, since they actually wanted to sell their house when the kids left the home. They replaced their purchased home by a rental home when they moved. They preferred this rental home to be close to restaurants, shops and leisure activities. This phenomenon is usually called an 'empty nest', where parents leave a bigger house and move to a smaller one when all the children have left the natal home.

The next generation that began to develop is called the 'Generation X'- born between 1960 and 1980. Compared to the generation before, Generation X tends to rent more instead of purchasing a house. This is

because of the high renting prices
of houses which make it harder for starters to save extra money to eventually buy an own house - an issue occurring nowadays as well. However, people in this generation did not rent more than purchasing only because they were not able to, but also because in some cases they actually preferred to keep on renting for a longer period of time. This had to do with the fact that they desired a faster and fancier lifestyle, where a rental home made it possible for them to be more flexible. Next to that, starters from Generation X wanted to explore different job opportunities at different locations. After all, a purchased home would only be a burden in their financial situation.

The third generation is called the 'Millennials' - born between 1981 and 1995. The home ownership of this group of people has decreased at even a higher speed as the previous generation. According to the article of Hoekman (2019), nearly half of the Millenials would rather save money to spend on travelling than to put it towards buying a house. He also stated that the same amount of the Millenials would prefer renting a house if that would mean they could still afford small luxuries like going to a restaurant every now and then. To compare, one-third of the Generation X and only a quarter of the Babyboomers had this reason for renting a house instead of buying it. So an overall trend of Millenials is that they prefer a flexible and fancy lifestyle over having a fixed life in a purchased house. This is expressed in travelling and small luxuries like going to a fancy restaurant every now and then.

Within this generation of the Millennials, most people already left the stage of being a starter on the housing market. However, since the youngest people of the Millenials are still in their twenties, we currently find ourselves in a shifting era where the next generation of starters are already 'waking up' and starting some developments on the housing market. This currently shifting era is crucial in order to understand what is going to happen in the future of starters in the Netherlands.

Present (1995 - now)

The current generation of young people, called Generation Z, contains people born after 1995. The first people of this generation is already starting to become a starter on the housing market, but a considerable amount of the 'Gen Z' are still growing up. Therefore, what is going to be built now and in the near future will most likely be for these people.

The just mentioned shifting stage from having mostly Millennial starters into having the Generation Z starters becomes visible through the similar housing interest these two generations have. They prefer having a

flexible and fancy lifestyle as well, but now flexibility is often expressed in having shared goods with other people. These shared goods range from having collective facilities in the dwelling blocks to sharing cars and other vehicles for example. On the other side, a travelling and exploring lifestyle tends to be important for this new generation as well. So we actually see a mix here, where flexibility and exploring is going to become the standard.

It is noticeable that through these discussed generations, the flexibility within the lifestyles of the starters became more and more important. Besides that, exploring and travelling is something the new generations tend to do more than before, where renting a house is being preferred in order to accomplish this exploring lifestyle. Generation Z, the generation that is going to deliver most of the starters on the housing market, shares the values of flexibility and exploring, but they add that having shared goods is an important factor to accomplish their lifestyle desires and wishes as well. To meet such wishes, it is wise to consider this in the design for starters. A city like Rotterdam might offer great opportunities to share several amenities close to the starter's living location.

Near future

Based on the developments of generations through the decades, an overall growth in importance of flexibility can be seen. Most recently, this flexibility is expressed through the desire of an explorative lifestyle and sharing goods. This shows that starters in the near future will most likely try to benefit from this as well. As is expected for now, being a starter in the near future means being an individual who tries to keep on exploring and using shared goods and facilities to remain independent on several levels.

For the specific housing needs this might mean that this group of starters will not invest in purchasing a house. Instead, they will keep on renting for a longer period of time compared to other generations. For them it is important to have shared goods and facilities as well, since big investments are not desired.

As discovered during the research, Boterman (2013) called young individuals leaving their natal home a 'fledgling'. Although Boterman tried to focus more on younger starters when talking about a fledgling, an interesting notion can be made when talking about this group of 'fledglings'.

The word 'fledgling' comes from the phenomenon where a younger bird leaves its nest and flies out to the wide open world: "a young bird fledged from its nest." Usually, it may be very exciting for such a young bird to start flying and start exploring the open world. Through the process this bird might sometimes fall down or hurt itself, but that is all fine after all.

Because in the end, it teaches itself to discover how to cope with all the challenges life has in store for the young bird.

I think this metaphor perfectly symbolizes the new generation of starters where exploring and discovering might be a new way of living for this group of young people. When young people leave their natal or family home, usually in their twenties, the wide open world lies in front of them. It is up to them to start exploring what life has in store for them. Their living environment can offer great opportunities to overcome such challenges and help them in discovering what they want to do in life. Therefore, my design project will focus on this new kind of starters: the fledglings.

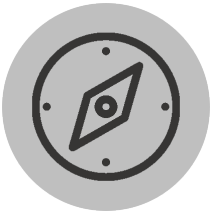
The development of generations starters throughout the decades

1945 - 1960
Babyboomer

- Preferred to buy own house
- Empty nesting

1960 - 1980
Gen X

- More renting and flexibility
- Faster, fancier, exploring



1980 - 1995
Millennials

- More renting and small luxuries
- Rather exploring than settling

1995 - 2015
Gen Z

- Mainly renting to achieve explorative lifestyle
- Sharing and discovering

The Fledgling

Now that it is clear what a fledgling's position can be in this society, it is important to discover how they desire to live. In order to do so, some general notions on their lifestyle will be made. The investigation of their lifestyle and housing preferences for example, will eventually lead into a suitable living environment which can be used in the design project. The idea of 'Homo Ludens' - where play and spare time is seen as an important factor in the daily life of mankind - will be discussed here as well. Because of the importance of spare time activities for fledglings, such as their desire to keep on exploring, the idea of Homo Ludens can be interesting in a way to understand a fledgling's daily needs and wishes.

While most fledglings have a lot of things in common with most starters on the housing market, they differentiate themselves in the way they think about using spare time in relation to their professional career. Besides that, having an explorative lifestyle is something they fancy more than settling themselves at just one location for a longer period of time. To accomplish such an explorative lifestyle, it is desired to share daily goods and facilities. In this way, they prevent to spend a lot of money for some things they might not use in the end and therefore save some more money to do stuff they like to do in their spare time.

Start on the housing market

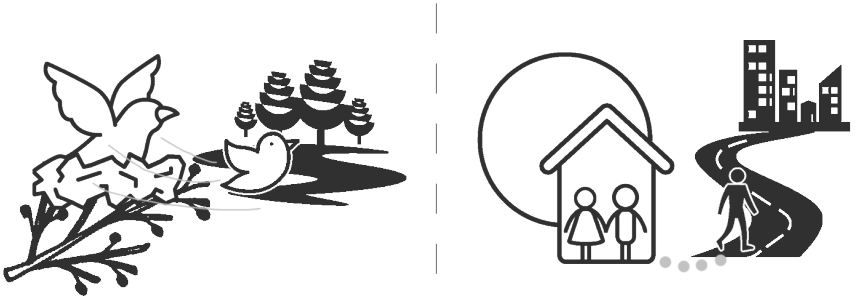
Fledglings find themselves in a shifting stage between graduation and obtaining a full-time job. Because of this, they are still in development of having a fixed lifestyle in a couple of years later, for example when they start a family and have settled with a husband or wife. Likewise, they are more likely to go for a rental home instead of a purchased. As has been found in the *finances and affordability chapter* of this report, most starters on the housing market can afford renting prices up until €720.

The main reason for starters to leave their natal home after graduation is that they just want a place for themselves to live in. From a survey by Rijnmond (2020), a regional broadcasting corporation that contains the city of Rotterdam, it turns out that fledglings do not necessarily need a fancy or luxury dwelling. They rather have at least the basics, like a seperate bedroom and a private toilet. Something that is called in the survey as "not too much to ask".

Explorative lifestyle

The fact that fledglings don't need fancy and luxury dwellings confirms the idea that life for them is more than just a fixed house. Because from the article of Hoekman (2019) it has been found that starters through the decades began to desire an explorative lifestyle more and more as well. The amount of people in the ages of 18-29 years old living in the bigger cities in the Netherlands - including Rotterdam among others - keeps on increasing, as is seen in a study of De Nederlandsche Bank (2017, p. 28). In conversations with this age group, held by researchers within the study, it turned out that they desire to have a good distribution of their professional job career as well as time for leisure activities. A big city like Rotterdam can offer those opportunities. Eventually, fledglings try to seek what kind of divisions between job and leisure suits them best: they explore career opportunities in the given world and establish themselves into a settled professional having a job, but for the time being they still fancy some interesting leisure activities every now and then.

This notion of an explorative lifestyle can be very important for the further development of the design assignment, since living an explorative lifestyle can be quite an interesting design theme for the housing of fledglings. The metaphor of the young bird leaving its nest can be a good starting point for designing for fledglings. However, a statement has to be made about what architecture can do to accomplish an explorative lifestyle. In the end, an architectural design for fledglings has to be given in this graduation process. To accomplish this, the concept of The Fun Palace by Cedric Price will be used as an inspiration for the design. An elaborate investigation and some design guidelines from the Fun Palace will be given in the next chapter of his report.



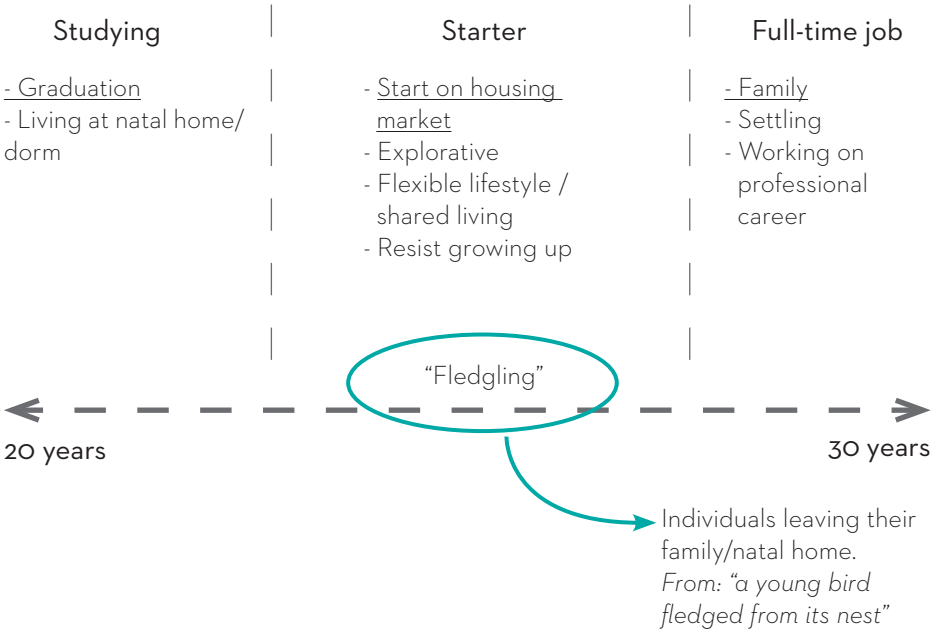
The metaphor of a bird leaving its nest characterizes the life of this currently developing type of starter

Shared living economy

A shared living economy can contribute to several facets in the daily life of fledglings (Van den IJssel, 2018, p. 26). It has a positive impact on the financial situation, as well as the social freedom it can offer when sharing goods and facilities. For example, through the flexibility of renting contracts shared living usually comes along with: shared living offers accessible and affordable (social) housing, generally of good quality, to people who usually lack sufficient income or job experience to afford more expensive homes. Most fledglings will classify within this group of lower incomes. Besides that, the changing lifestyle patterns in both career and social field when living a "fledgling life" are taken care of when living in a shared economy. And to add to that, shared living can provide personal and social advantages among people living with each other, since an individual lives in a collective with several other people. In this way, people can develop social relationships, a community feeling and personal growth according to Van den IJssel. In the end, for fledglings it is all about developing themselves through an explorative lifestyle and a shared living economy seems to offer them these opportunities. Recent generations are more interested in making experiences with other people instead of owning stuff for themselves. This can be seen in the way current fledglings think about connecting

themselves in a global subculture as well (De Nederlandsche Bank, 2017, p.30). It turned out that 'cosmopolitan' young people like to live and work in a multicultural living environment. At first hand it was a common thought that only some global big cities like New York, London and Paris offered such a living environment. However, Dutch cities are becoming more popular to accomplish this desire, thanks to the growing globalization. Cities like Rotterdam and Amsterdam offer such a living environment thanks to its big variety of opportunities in the fields social, leisure and career. The figure below shows how the life of a fledgling characterizes itself in comparison to its lifestyle before and after this period of being a starter. In general, it is a period between graduating and settling in a home with your family. A fledgling's lifestyle expresses itself through having an explorative lifestyle in order to develop yourself on many fields like social, career and leisure. Living in a shared economy can contribute to being an explorative individual by the many opportunities it offers when living collectively with other people.

The characteristics of a fledgling's life, compared to the period of studying and having a full time job



Chapter 3
'The Fun Palace' by Cedric Price and Joan Littlewood

Initiation and concept

The concept of the Fun Palace from 1961 can be an interesting inspiration for the design of a fledgling's explorative lifestyle. This has to do with the fact that Cedric Price and Joan Littlewood, respectively an architect and a theatre maverick and the initiators of the Fun Palace, wanted to create a place where people in a community could come together to celebrate arts, science and culture, on so many levels of a society (The Guardian, 2014). As their original manifesto quotes:

> *Choose what you want to do – or watch someone else doing it. Learn how to handle tools, paint, babies, machinery, or just listen to your favourite tune. Dance, talk or be lifted up to where you can see how other people make things work. Sit out over space with a drink and tune in to what's happening elsewhere in the city. Try starting a riot or beginning a painting – or just lie back and stare at the sky.*
> - Cedric Price and Joan Littlewood (From the Guardian, 2014)

This quote shows that Price and Littlewood tried to facilitate spaces where you choose what to do; from more intellectual nature to activities where you just relax. This stimulating and facilitating of personal choices within a given architectural environment inspires people to explore what kind of things they would like to do, for example learning a craft or having a drink with friends.

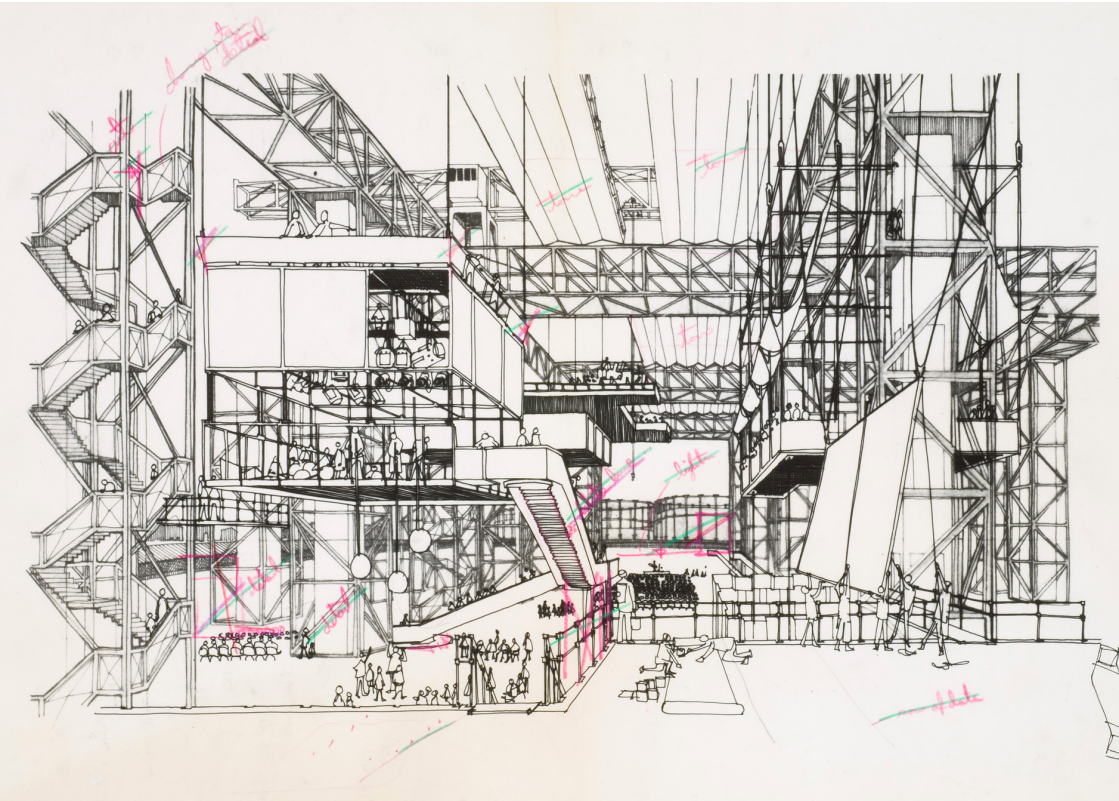
In the 1960s, after eras of war and political tensions, leisure emerged as a major political, economic, social and architectural issue in Britain (Mathews, 2005, p. 77). Politicians in Britain sought to channel spare time of the working class away from futility and other unacceptable forms of leisure -for example crime and alcoholism - towards new, constructive and useful activities. People should enjoy newly organized recreational and educational opportunities or consumental adventures during times where the rise of an automated workplace took place and the fear of 'over' spare time had increased. Leisure was then still confused with idleness and sin, so a changed mindset about spare had to be made. As a result, people questioned: "what do we have to do with all this spare time?"

Joan Littlewood thought that the Fun Palace could be a creative and constructive way of dealing with this expected windfall of leisure and she saw it as a way to open up Britain to new experiences. Besides that, it could be a possibility for lifelong education and discoveries. And this is where the collaboration between Price and Littlewood began.

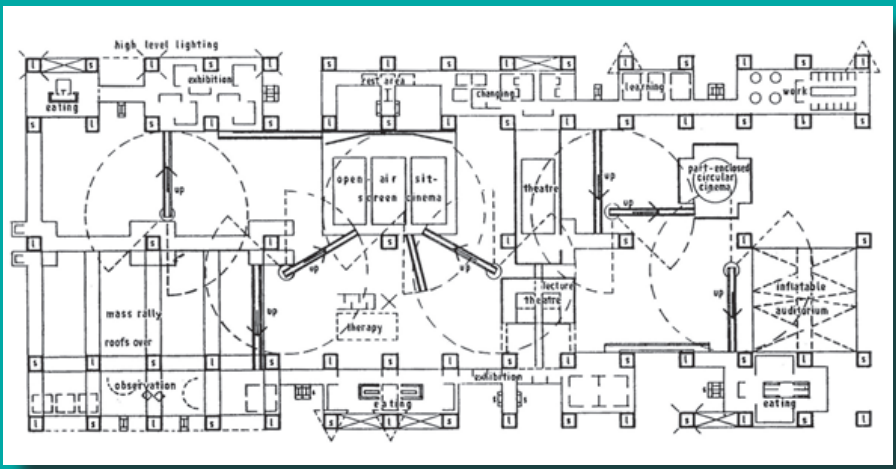
The many drafts and ideas Price and Littlewood came up with expressed the intention of the Fun Palace to be a response to the social and economic developments Britain was facing in that era. The main focus here was on the way technique and other inventions were changing the division of work, education and leisure.

"Automation is coming. More and more, machines do our work for us. There is going to be yet more time left over, yet more human energy unconsumed. We need, and we have a right, to enjoy the totality of our lives. We must start discovering now how to do so."

- Cedric Price (From Mathews, 2005)



◀ Figure 1
Perspective drawing of the Fun Palace as Cedric Price had it in mind
Source: Lawther (2016)



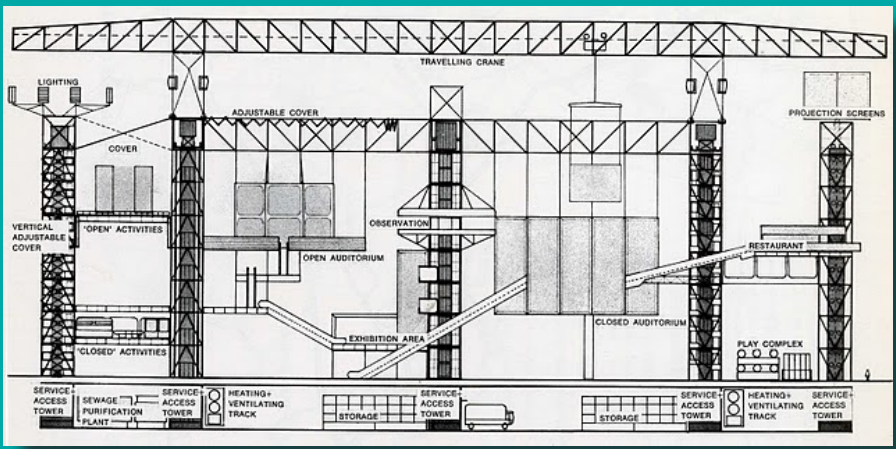


Figure 2
Plan view (above) and a section (below) of the initial ideas of Cedric Price. It shows the meandering pattern inside the row of towers as well as the fixed and open structure where flexible activities could be placed around.

Source (plan): Mathews (2005);
Source (section): Mehta (2014)

Cedric Price initiated the idea of a new kind of active and dynamic architecture that could allow several uses and would be able to adapt and change every now and then depending on the use (Mathews, 2005, p.79). As a result, there would be a building consisting of a network of events, which alternates between activities being held at perhaps the same time. The spaces here should be infinitely varying in size, shape, lighting and accessibility.

According to Mathews (2005) the designs described an improvisational architecture of constant activity, which found itself in a continuous process of construction, dismantling and (re)assembly. The building would contain a fixed framework where people could use their own educational and leisure environments, or where people could escape from daily routines, or begin an own adventure of new creative and personal insights - there would be so much to choose from. In the end it doesn't matter whether you learn something or not, it is about having fun and enjoying the time you spend there.

With his friend Frank Newby, a structural engineer, Price designed a constructional system of fourteen rows of service towers, all parallel placed along with each other. This resulted in a plan of meandering patterns with squares of different sizes (see figure 2). The plan shows a meandering grid where there is not one particular main entrance; people could enter at any point. The fixed and open structure allows activities to be placed flexibly around the place. There would be two overhead portal cranes as well, to travel the entire length of the structure and to move modular elements towards the correct place. Users of the project would be able to improve and move their own spaces, using the cranes to assemble prefabricated structures like walls, platforms, floors, stairs and ceilings. The circulation was designed as follows. In the center cores, pivoting stairs and escalators give access to the upper floors, while there were stair towers to the sides of the plan as well.

Overall, the plan was an open structure where people could wander around and do activities on many levels. The feeling of strolling in a park, looking at other people doing things, do activities for yourself or settling down for working by yourself are all sort of things that can be done in such a design. Therefore, the ideas of Cedric Price and Joan Littlewood to create explorative spaces for people trying to develop and at the same time enjoy themselves has been made clear through the design for the Fun Palace; it stimulates people to do activities which range from more cultural to a leisure level.

Inspiration for the design

Although the project was never realised, it gave many inspirations to further develop such ideas about giving people the opportunity to discover what the division between work and play meant to them. Much can be learnt for the design for the fledglings from this as well, since fledglings seek to achieve personal developments through leisure.

Given the cultural background of the ideas by Cedric Price, it can be seen that the demand of spending spare time useful increased through political and economic reasons. However, this is not entirely the case with the lifestyle of fledglings. They are mainly starters on the housing market and look for an interesting place to live, where the development of personal growth is accomplished through the collectiveness with others. Nevertheless, by living along and close to fellow peers, they can explore what kind of developments they are looking for. To stimulate and facilitate this, it is important that the direct surroundings and living environment offer them these opportunities. And this is where the plans of the Fun Palace can be very useful: Cedric Price came up with the idea to design an open structure where not one specific activity has a dedicated location or fixed function in the building.

The plan of the Fun Palace was designed in such a way that functions did not exclude other functions, however it was a flexible network of functions placed around a fixed structure (see figure 3). The design interacted and responded to the different wishes of the user. It facilitated and stimulated people to go and discover what kind of activity they desired to do, where the educational level of that specific activity might be. In the end, it is about personal growth along with personal joy.

In order to achieve a suitable housing design, it is the task to discover how such an idea can go along with the function of a dwelling. In the end, it is a housing design for a specific type of residents. Through the process of the graduation design project that follows from this concept, it should become clear how and where such leisure functions suit the housing of fledglings best. For example, design decisions may be made where both functions are intertwined, mixed, seperated or anything in between. But in the end it should contribute to a common goal of personal growth in combination with leisure.

An explorative living environment facilitates and stimulates people to do activities which range from more cultural to a leisure level. It is a place where you decide what kind of nature you would like to explore.

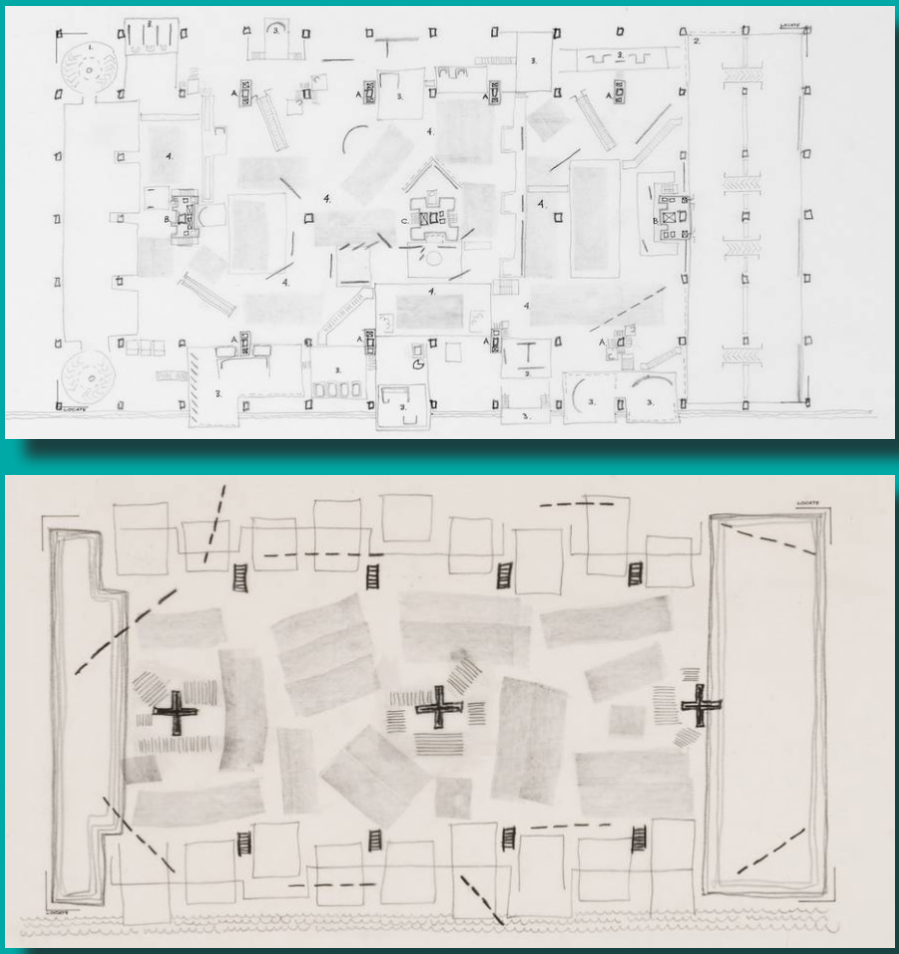


Figure 3
Schematics of organisation of several functions and activities in the Fun Palace. Functions did not exclude eachother. However, it was a broad network of systems where activities strengthen the collaboration of personal growth and leisure.
Source: Mehta (2014)

Conclusive take-aways for the design assignment

Profile of a fledgling

Aged between 20-30 years old

Recently graduated

Developing themselves for professional career

Fledglings find themselves in the ages of 20 - 30 years old, where they are in a shifting stage of being a student to preparing for their full time job.

Finances and affordability

47% social housing rentals (until €720)

31% purchase under €250.000

Usually, starters on the housing market are not able to afford a lot for their home, since they do not have lots of money to invest. However, this is not necessarily a problem for them, since they do not really need a luxury home; they just want a place for themselves with at least a separate bedroom and a private toilet and bathroom.

Lifestyle

Start on housing market

Explorative

Shared living economy

The lifestyle of a fledgling is usually characterized by exploring in life, sharing several amenities with others.

Fun Palace

Developing through communities

Leisure combined with arts and sciences

Stimulate and facilitate exploring

The Fun Palace was a solution to fulfil the windfall of leisure and spare time in Britain. To give activities both education and pleasure, Cedric Price and Joan Littlewood accomplished to facilitate and stimulate people to keep on exploring and developing themselves in the given circumstances.

Chapter 4
Case studies

Housing for young adults and starters

Since it turned out that having a lifestyle of a fledgling is being in a period between graduation and a full time job, this broad spectrum between student and professional is represented in the four chosen case studies as well. In this chapter, four designs which range from student housing to starters dwellings will be discussed and analyzed. This will be done according to the following four themes.

Typical floor plan

The typical floor plans of the projects are being investigated to see how the layout for this target group is designed in general ways. As a result, some notions and conclusions could be drawn about how to set up dwellings plans in relation to the overall structure of the building.

Dwelling typology

After investigating the overall plans of the projects, the specific dwelling types will be further discussed. This is done to see how the target group might desire their functions in their own home, or even to see what kind of functions or spaces they do not actually need. Besides that, a view can be given about the way the dwelling sizes of fledglings and other starters influence the composition of the rooms and vice versa.

Circulation

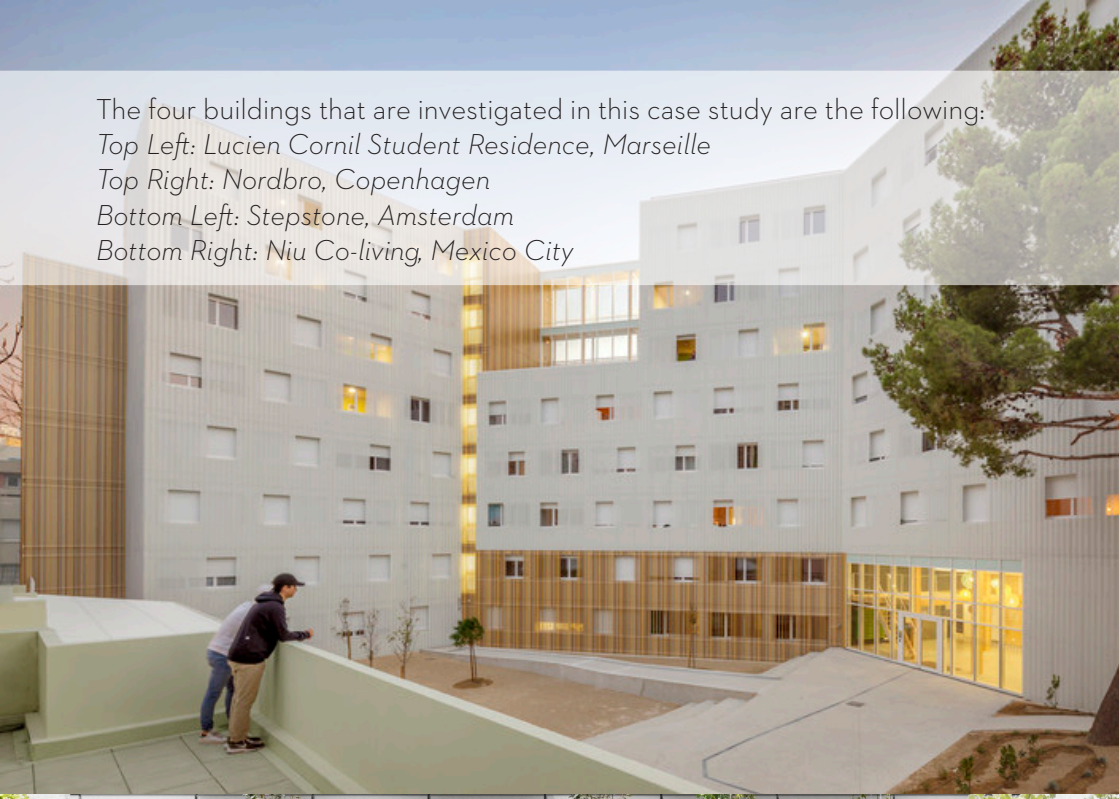
The circulation and routing can give insights on how - and if - the dwellings are connected to other functions. Corridors, hallways, galleries and lobbies seem to be reasonable systems to go from one place to another, but by investigating how the case studies work with these circulation systems, some interesting inspirations might be concluded from this as well.

Collective activities

Finally, the collective spaces and functions are investigated to see what kind of activities are common for this specific target group. It can both work as an inspiration and a 'checklist' to decide what kind of spaces are required in such a building. In the end, fledglings tend to give value to a shared living and having collective facilities close to them to stimulate their explorative lifestyle.

The four buildings that are chosen for this case study are not strictly bound to be in a specific location or country. It might even be very interesting to use projects from different countries and regions to see how regional regulations or cultures might influence the design.

The four buildings that are investigated in this case study are the following:
Top Left: Lucien Cornil Student Residence, Marseille
Top Right: Nordbro, Copenhagen
Bottom Left: Stepstone, Amsterdam
Bottom Right: Niu Co-living, Mexico City



Lucien Cornil
Student Residence

Factsheet

Location	Marseille, France
Architect	A+ Architecture
Number of dwellings	200
Completed in	2017
Collective facilities include	reading room, roof garden

The Lucien Cornil Student Residence in Marseille is designed by A+ Architecture and is a student housing project for CROUS, a regional organisation for students providing activities, bursaries, residences and so on. While the project focuses on a suitable design for students by the use of collective rooms and spaces, the design is the result of an environmental approach where the main structure is mainly constructed in wood. As a result, this student residence finds itself in one of the highest wooden buildings in France.

Situated in a dense urban area, the design achieved to make several open and 'breathing' spaces in and on the building, for example the wide courtyard between the surrounding buildings and the high ground floor containing meeting rooms and an entrance lobby. Besides that, thanks to the use of two rooftop gardens, the dwellings on the upper floors can benefit from greenery as well.

The building consists of three wings all containing the student dorms of around 18 m^2. At the points where the wings meet each other, slightly bigger dwellings are found of around 30 m^2.

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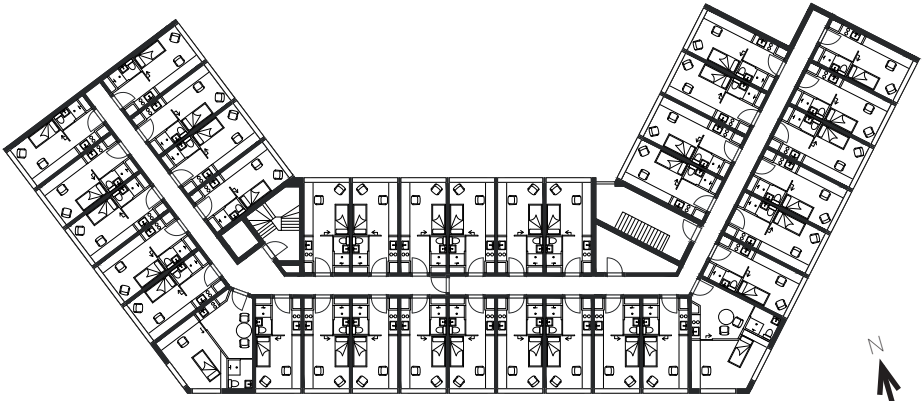


Scale 1 : 500

Typical floor plan

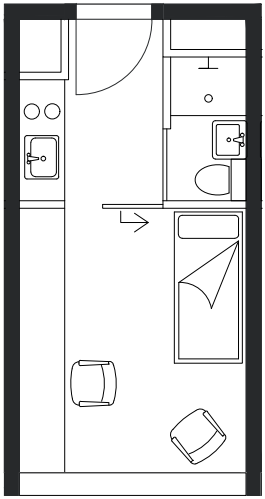
The dwellings are all distributed over the three wings of the building. The standard blueprint for the floorplans consists of two dorms with circulation area in between, which make up for the width of the wings. While half of the dwellings are directed towards the courtyard, the other half of the dwellings open up to the city on the 'outside' of the wings.

On the upper floors of the building, two rooftop gardens are found, one on the fourth floor and one on the fifth floor. Both have the size of three dwellings combined.

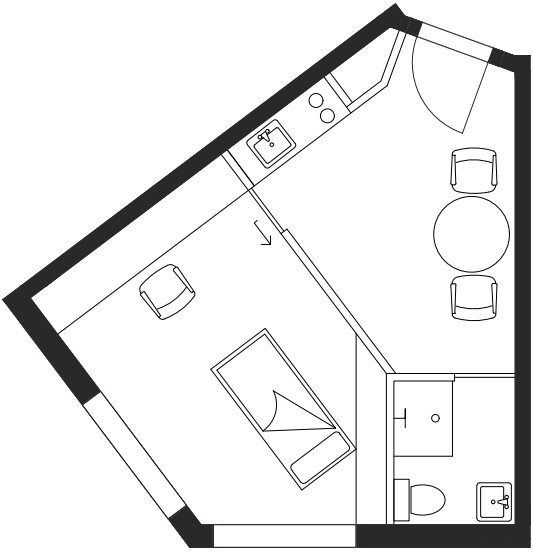
Dwelling typologies

The building contains one type of dwelling, a studio of 18 m^2. Where almost all the studios have the same kind of measurements, there is an exception in the corners of each floor plan. Here, the dwellings are around 30 m^2, in the shape of a pentagon.

The dwellings are divided into two segments: a sleeping segment and a kitchen/bathroom segment. These two segments are separated with a sliding door. There is space for a desk in the sleeping area, giving the residents the opportunity to study in their own dwelling. However, the total space of this is rather small, so if the residents want to have more space while studying, they can go downstairs in the communal meeting and reading rooms.



Studio (18 m²)



Pentagon studio (30 m²)

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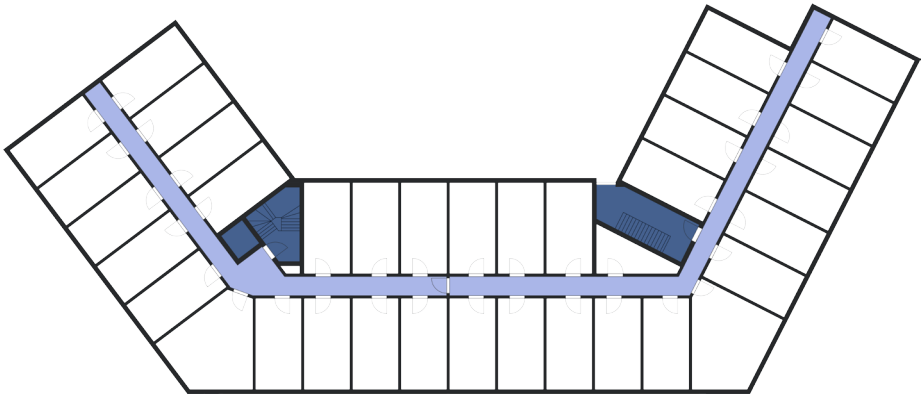
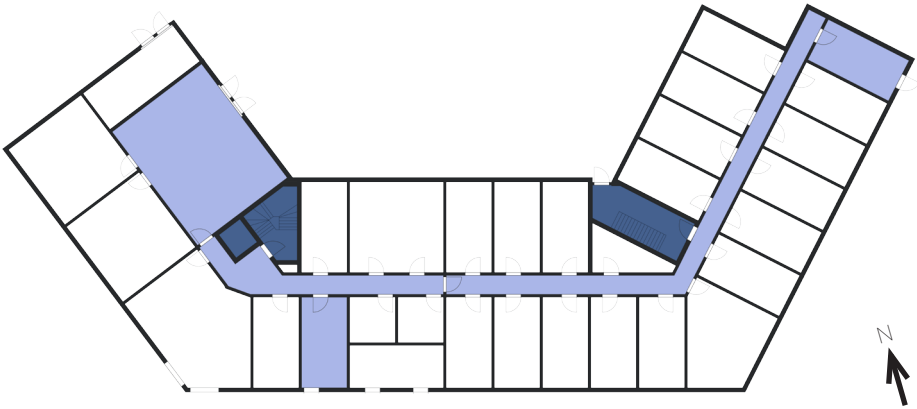


Typical floor plan

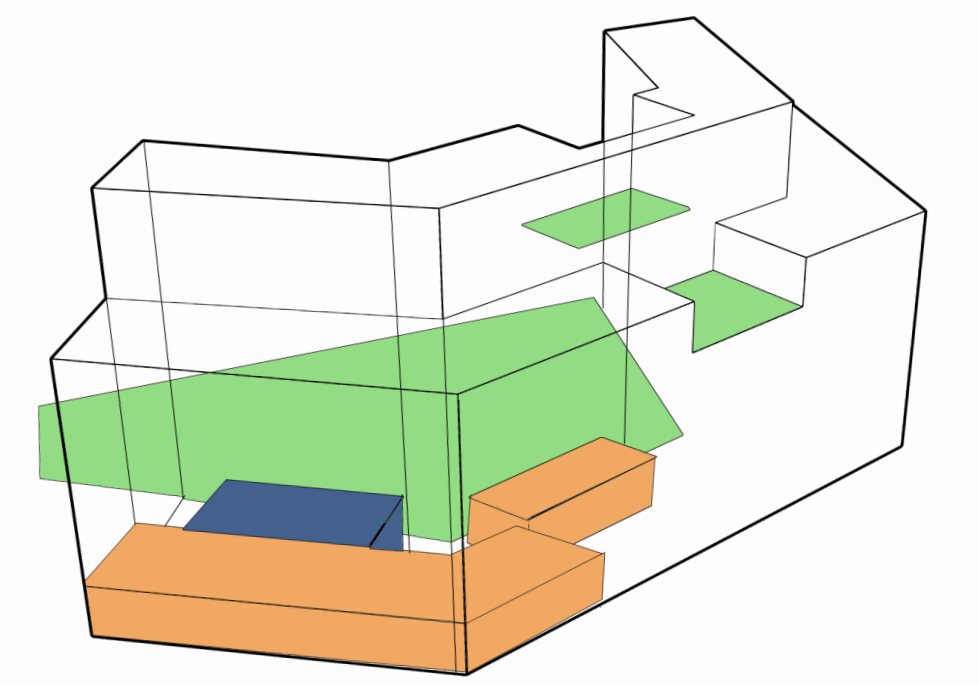


Ground floor plan

Scale 1 : 500

Circulation

The circulation is mainly characterized by a long corridor through the middle of the building and two staircases in the middle wing. On the ground floor, the building can be accessed at three points. The bigger entrance area on the north side functions as a lobby from which the residents could either access the meeting rooms or go to their dwelling. The corridor is at almost all points 1,3 meters wide.



Courtyard / roof garden
Reading / meeting rooms
Lobby

Nordbro

Factsheet

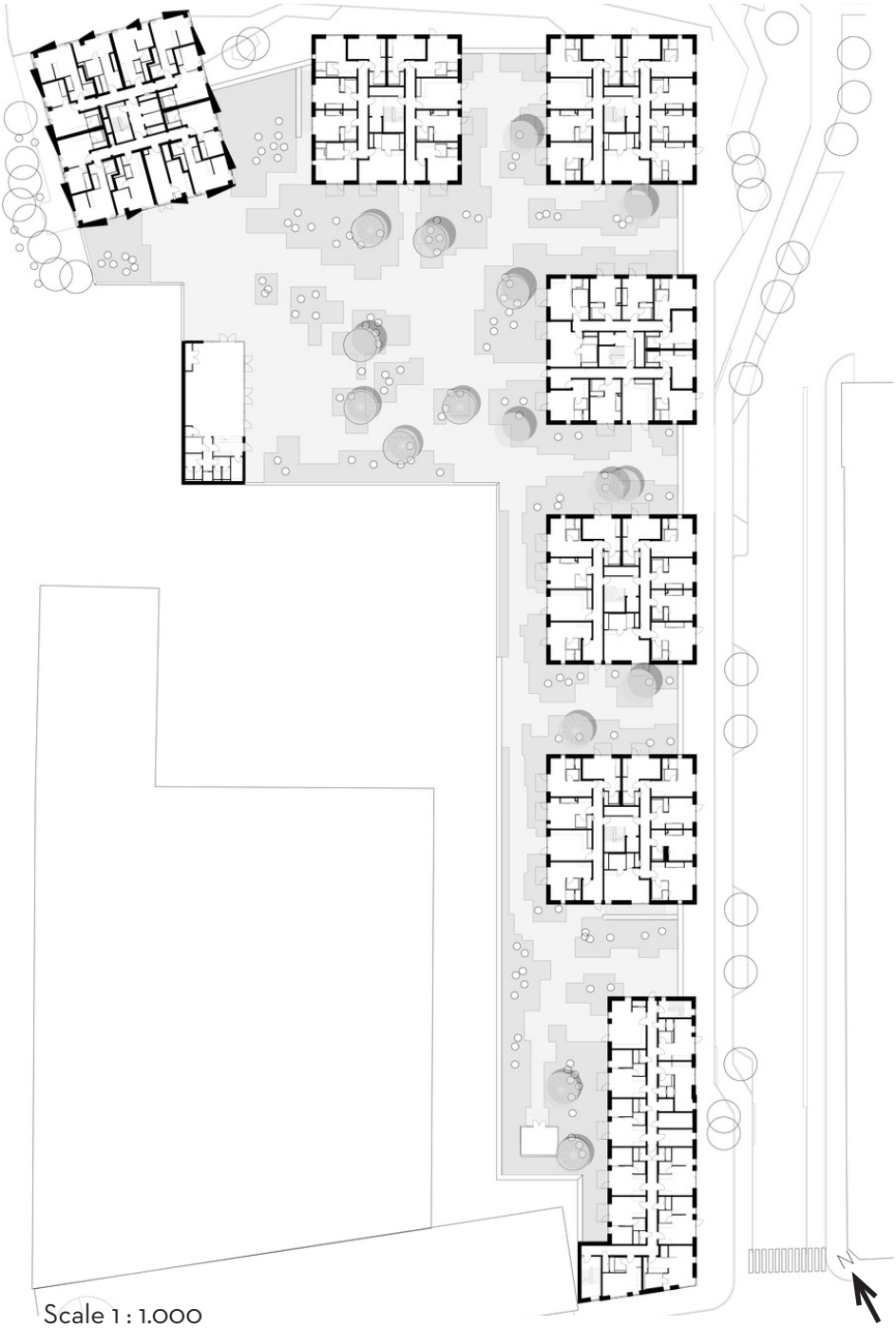
Location	Copenhagen, Denmark
Architect	Arkitema
Number of dwellings	516
Completed in	2019
Collective facilities include	Living rooms, roof garden

This project in Copenhagen, Denmark tries to represent the dynamic and mixed character of the neighbourhood by housing both residences and public functions in the design. By creating this dynamic image, the project becomes attractive for young people trying to contribute to a vibrant scene of living and community.

Nordbro contains around 500 social houses, mainly designed for students, but also suitable for young singles, couples or larger groups living collectively. The project consists of 6 dwelling-blocks and a 100-meter high tower rising up above the city. All these blocks and the tower are connectected by a plinth containing the entrances to the homes, parking and commercial spaces. This plinth creates an elevated courtyard on the second floor of the project, giving the residents an opportunity to meet fellow students and people in the same age group close to home.

The lower blocks of Nordbro are designed for students only. The levels are mostly divided into 8 or 10 housing units with a common living area and shared kitchen facilities. However, the dwellings do have a private kitchenette and bathroom.

The tower consists of dwellings for a bit more different kind of users, for example for student groups or couples and range in sizes from 36 m^2 to 115 m^2.



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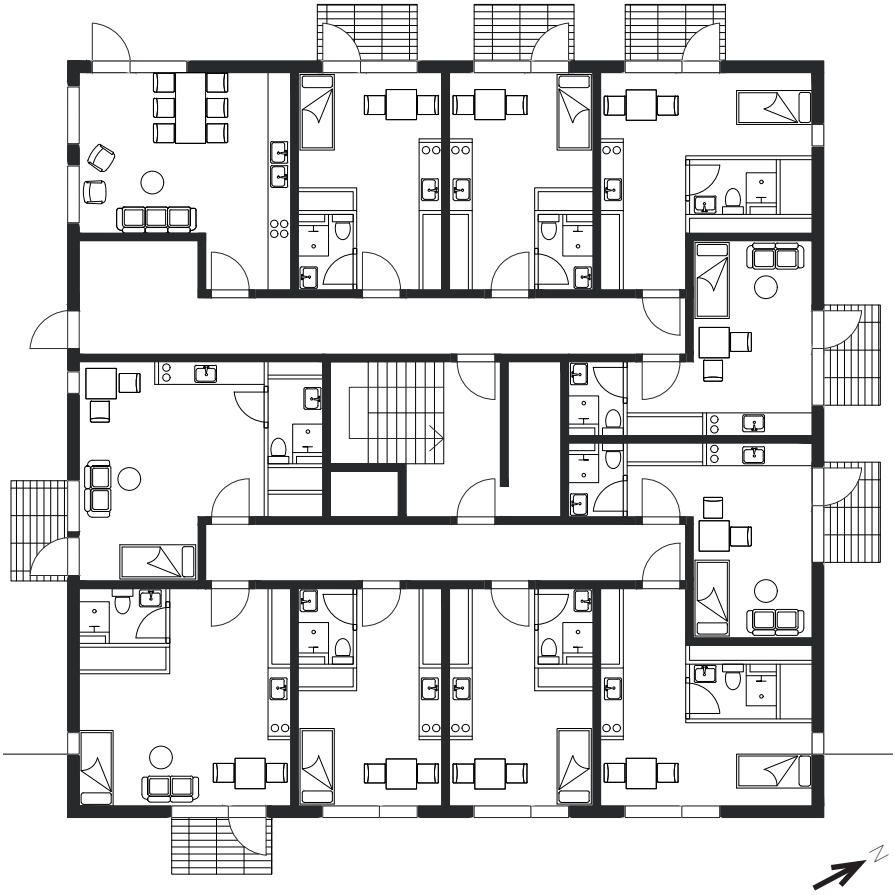


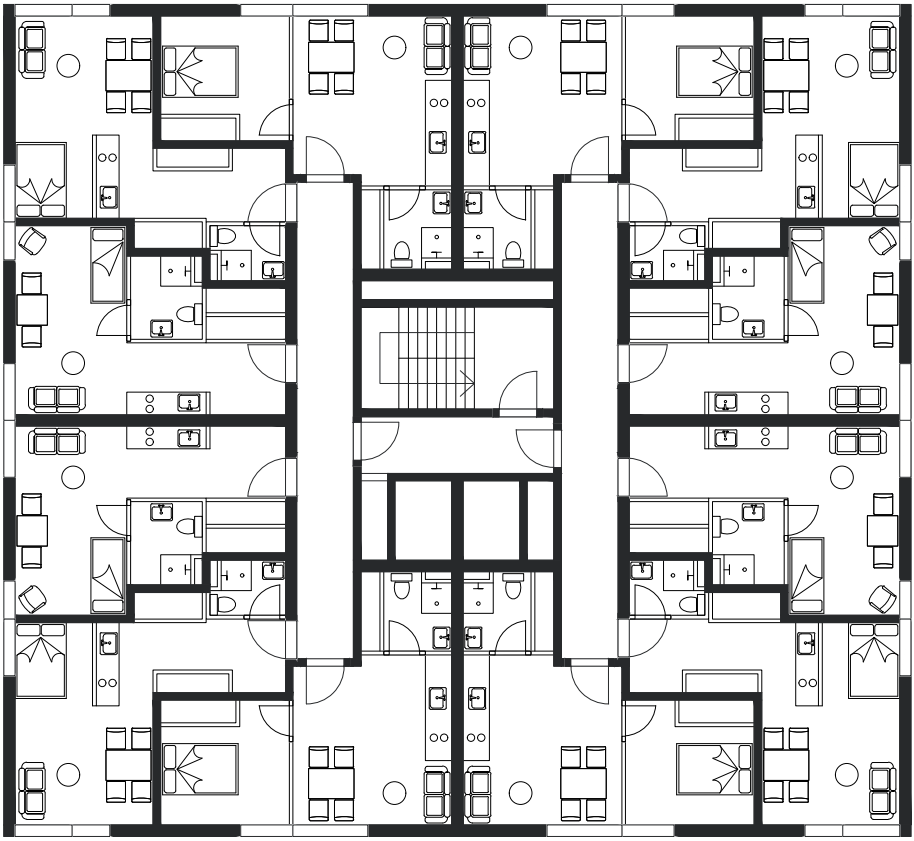
Dwellings blocks

Scale 1 : 200

Typical floor plans

The floor plans of the dwelling blocks are characterized by 8 or 10 small housing units for students and a communal living area. Not all dwellings have balconies or other forms of outside space, but this is compromised by the large elevated courtyard garden that is found on the second floor of the project. In this courtyard, the residents can meet people of other building blocks and gather around.

The tower contains a central core, where the vertical circulation takes place. The dwellings are located around this central core connected by a hallway. Although the houses vary in form and size, the main layouts are roughly the same throughout the total height of the tower.



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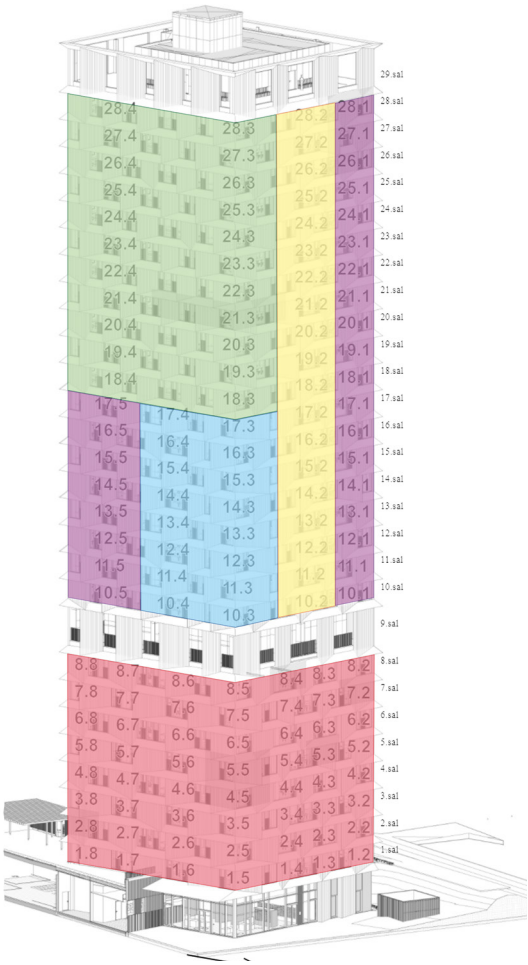
Tower

Scale 1 : 200

Netto floor area per dwelling unit

- 36 m²
- 55 m²
- 68 m²
- 98 m²
- 115 m²



Dwelling typologies - Tower

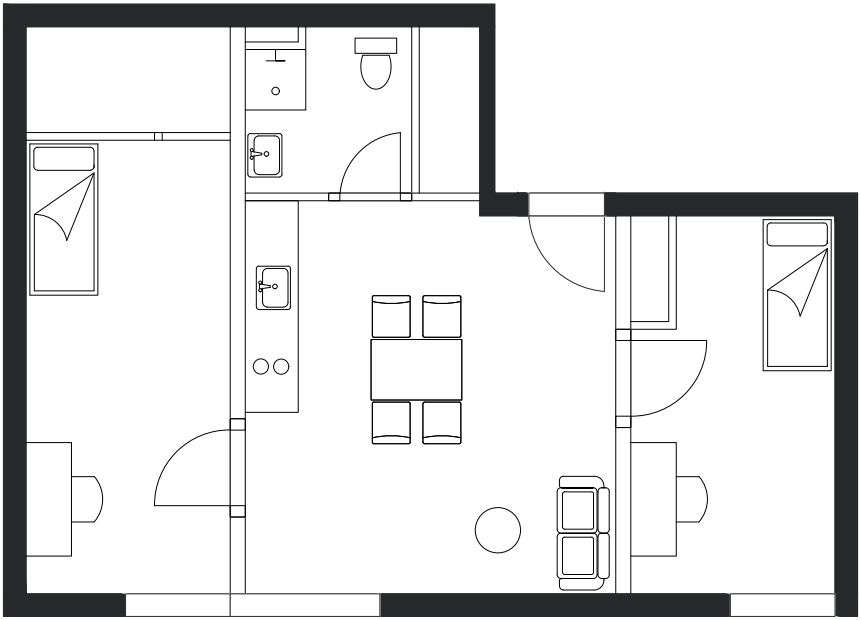
In the lower part of the tower, the smaller dwellings of around 36m² are found. These apartments are suitable for one person-households and for couples. However, at least one person in these dwellings has to be a student, so only when you live here as a couple, one person could not be a student. The smaller dwellings differ in layout, but the main principle is that the houses have a separate bedroom and living room.

The upper parts of the tower has a wide mix of dwelling sizes, but the typology is roughly the same in all these houses. The main layout is to have a larger living room than the lower parts of the tower. Each time the dwelling size increases, a bedroom is added to the layout giving the opportunity to have three bedrooms in the largest dwelling.

Two-room apartment (36 m²)

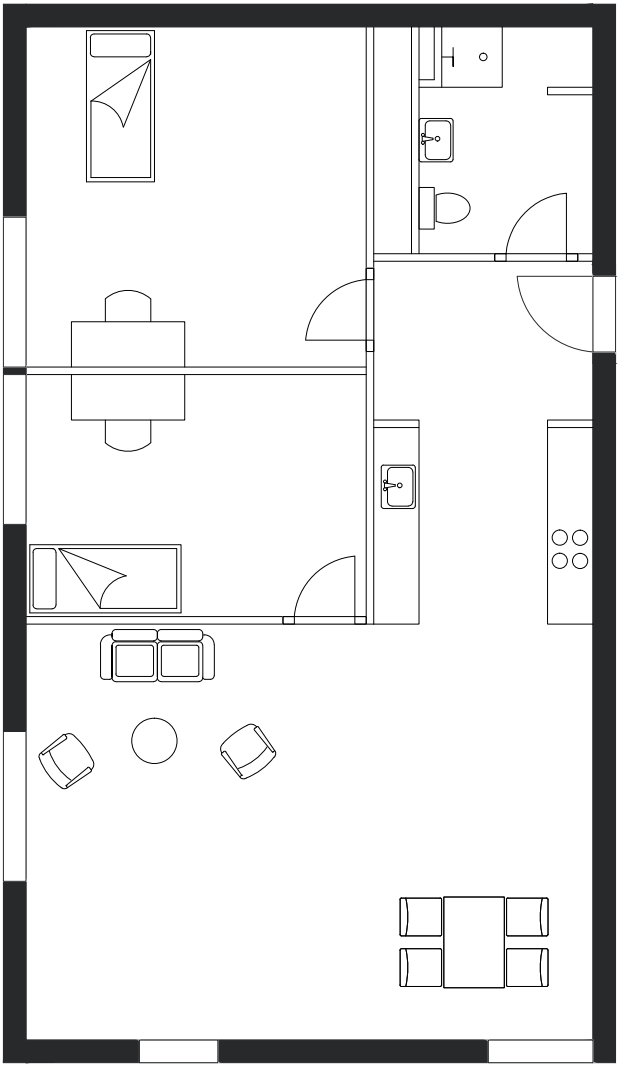
Two-room apartment (55 m²)

Scale 1 : 100



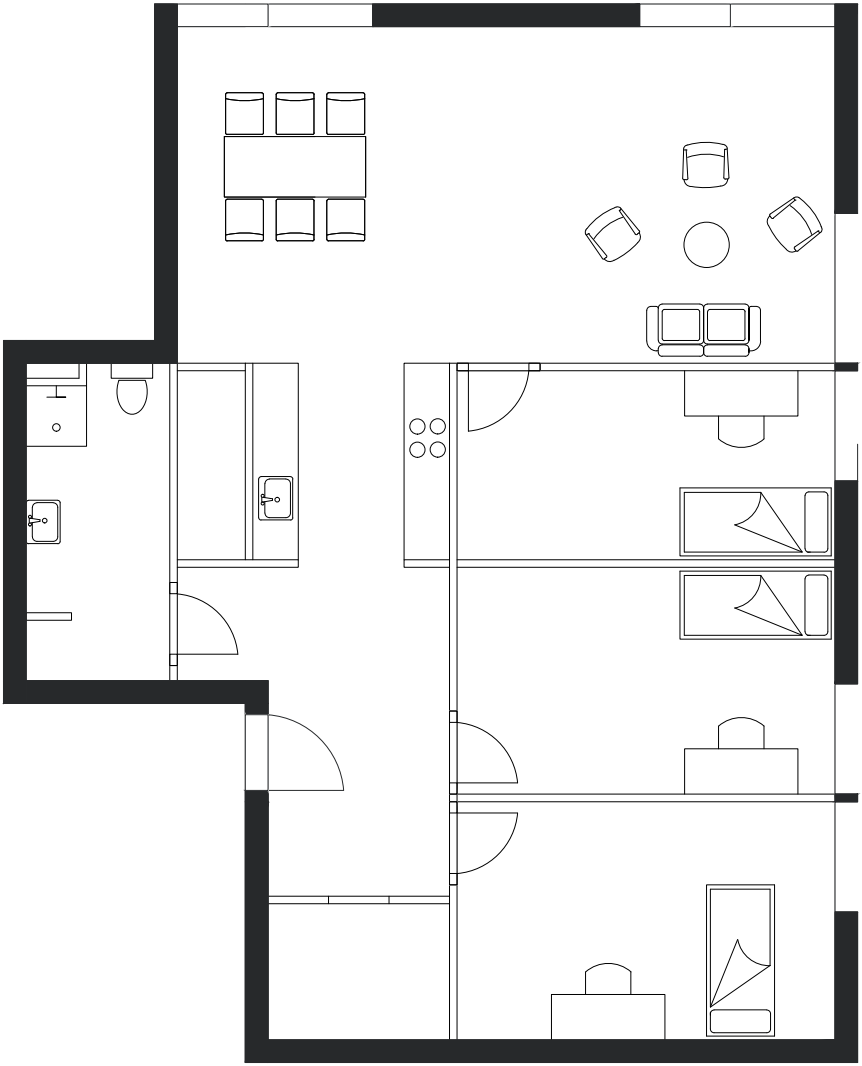
Three-room apartment (68 m²)

Scale 1 : 100



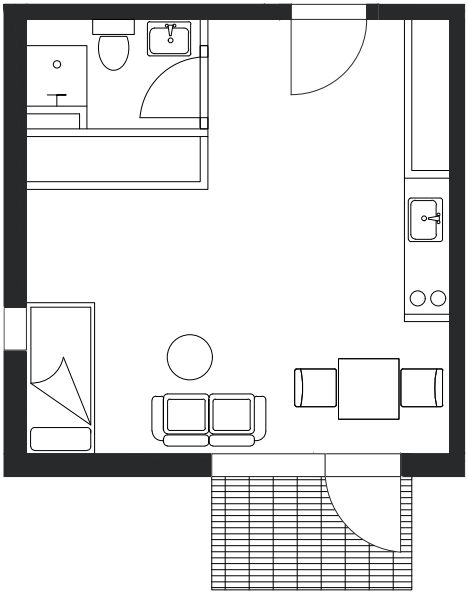
Three-room apartment (98 m²)

Scale 1 : 100

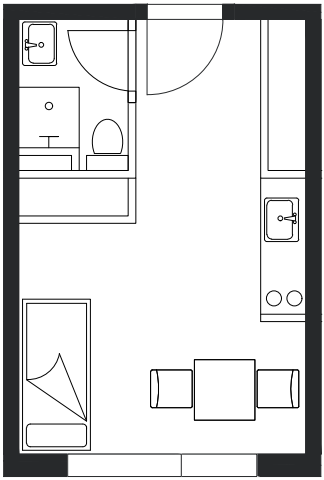


Four-room apartment (115 m²)

Scale 1 : 100



Studio with balcony (32 m²)

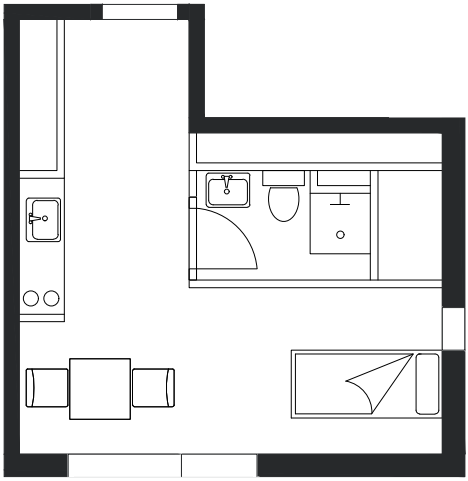


Studio without balcony (22 m²)

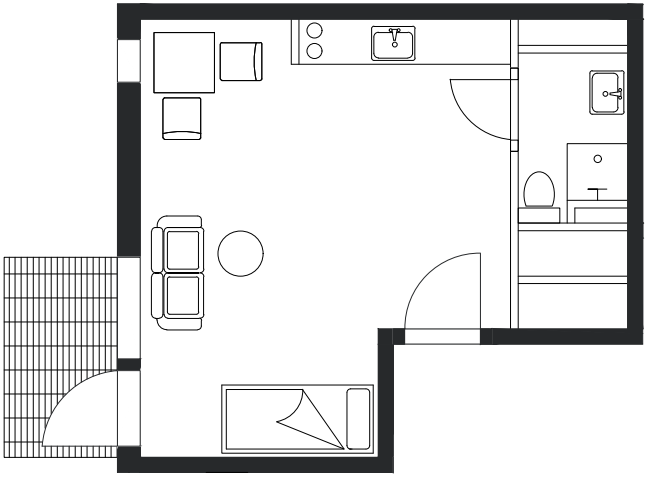
Scale 1 : 100

Dwelling typologies - dwelling blocks

The smaller dwellings of the project are found in the dwelling blocks, where the sizes range from 22 m² to 32 m². Similar to the project of Lucien Cornil, there is space for yourself to work in your own dwelling. However, these spaces are rather small, so opportunities are given to work in a communal living room. For these smaller houses it is important to create this feeling of a community, since the dwellings are rather small.

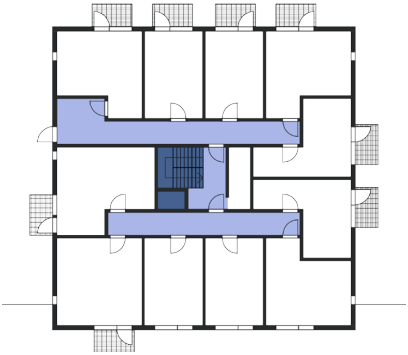


‘Cornered’ studio without balcony (27 m²)

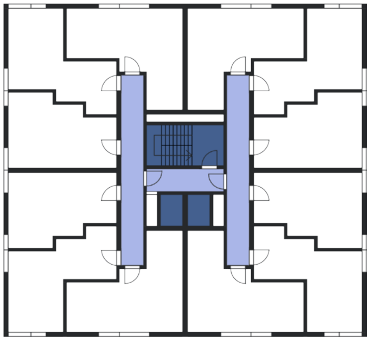


‘Cornered’ studio with balcony (27 m²)

Scale 1 : 100



Dwelling block



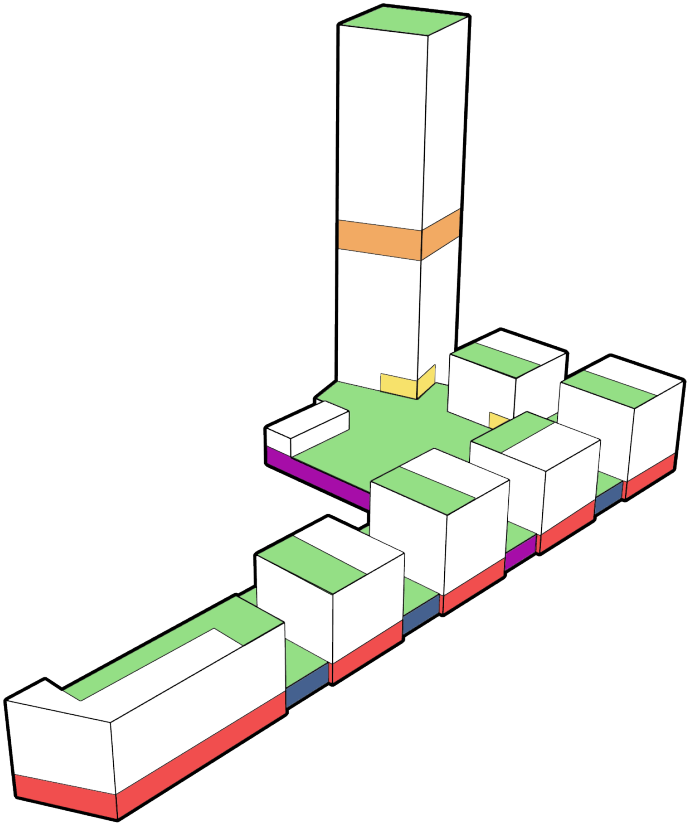
Tower

Scale 1 : 500

Circulation

The circulation in the tower and dwelling blocks are somewhat the same. The central cores house two elevators in the tower and one in the dwelling blocks. The stairways are found in these central cores as well.

Where the tower has mainly east-west direction of the hallways, the direction of the dwelling blocks are shifted to result in both a north-south and east-west direction of the hallways. The hallways are almost everywhere 1,5 meters wide.



Courtyard / rooftop garden
Reading / meeting rooms
Collective living room
Lobby
Shops / offices
Parking

Collective activities

Given the dynamic and mixed character of the neighbourhood, the project tried to offer many different shared and collective functions throughout the building. The plinth is mainly used for the entrances to the houses and public functions like a shop or an office. Throughout the whole complex, several collective reading rooms and living rooms are found to contribute to the shared living of both students and young people living here.

Stepstone

Factsheet

Location	Amsterdam, Netherlands
Architect	Levs Architecten
Number of dwellings	216
In development	2020 -
Collective facilities include	Rooftop gym, courtyard

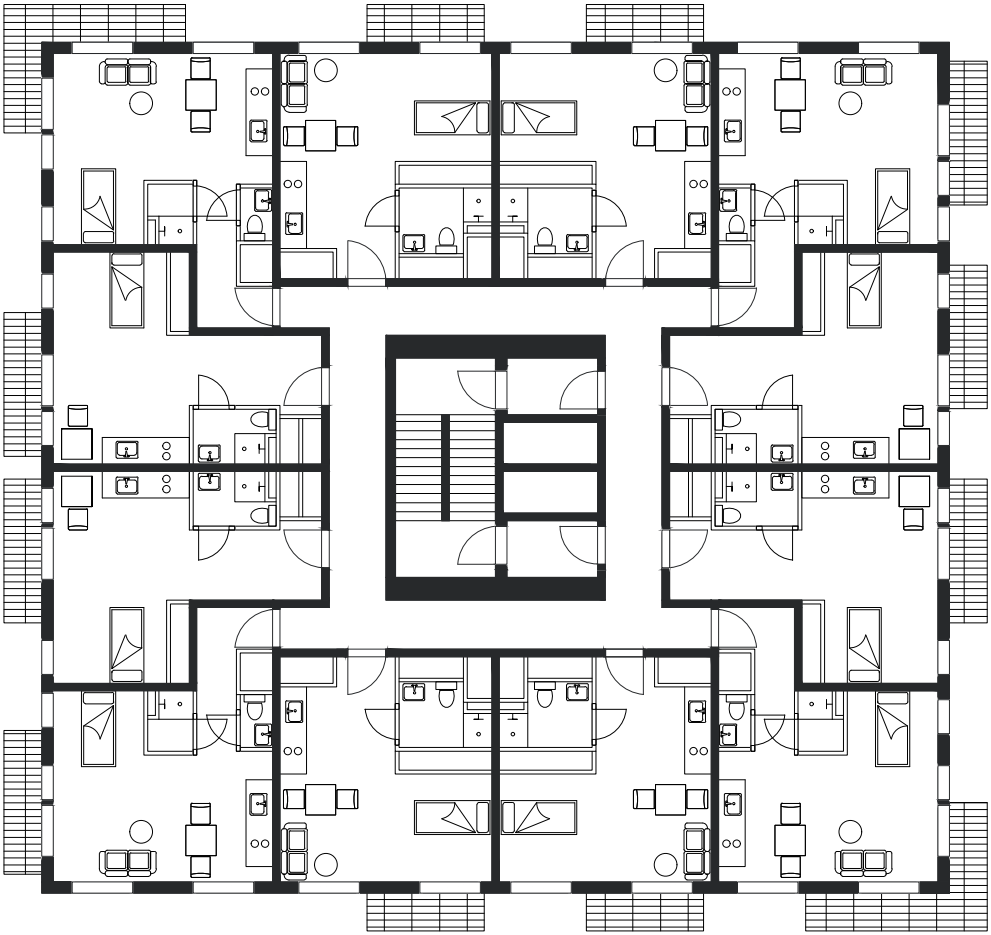
Stepstone is part of a to-be-developed U-shaped building plot containing several towers and apartment blocks in Southern Amsterdam. This U-shape embraces a courtyard for the adjacent buildings and gives space to several outdoor activities dedicated for the residents here. While the projects are all placed close to each other and collaborate on several urban scales, each building has its own character to distinguish from each other.

Situated in the Zuidas of Amsterdam, where the general standard is to live in luxury homes, the design of Stepstone manages to create nice and affordable social housing in the middle of high end apartments. The project counts 216 social housingunits for starters under the age of 28. The layout of the building gives space to dwellings ranging in sizes from 25 m^2 to 60 m^2.

The building connects the street side with the courtyard by using a double-height ground floor. On this ground floor, a lobby feeling is creating by mixing several uses in and around the entrance area. For example, meeting rooms and bike parking can be found close to the entrance. On top of the building, a rooftop gym is located where the residents can perform sports.

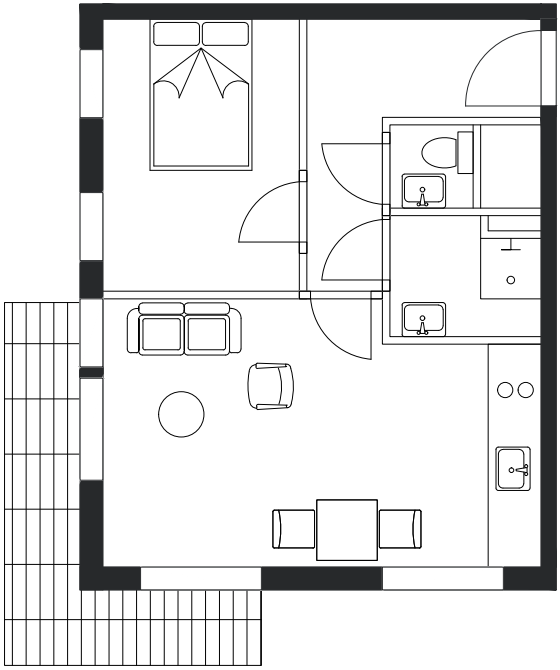
N

Scale 1 : 500

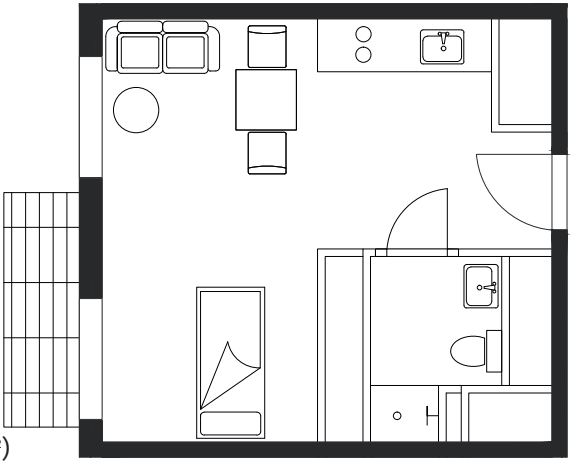


Typical floor plan

The tower contains a central core, where the vertical circulation takes place. The dwellings are located around this central, core connected by a circular hallway. Nearly all dwellings have access to an outdoor space, such as a loggia or a balcony.



Two-room apartment (42 m²)

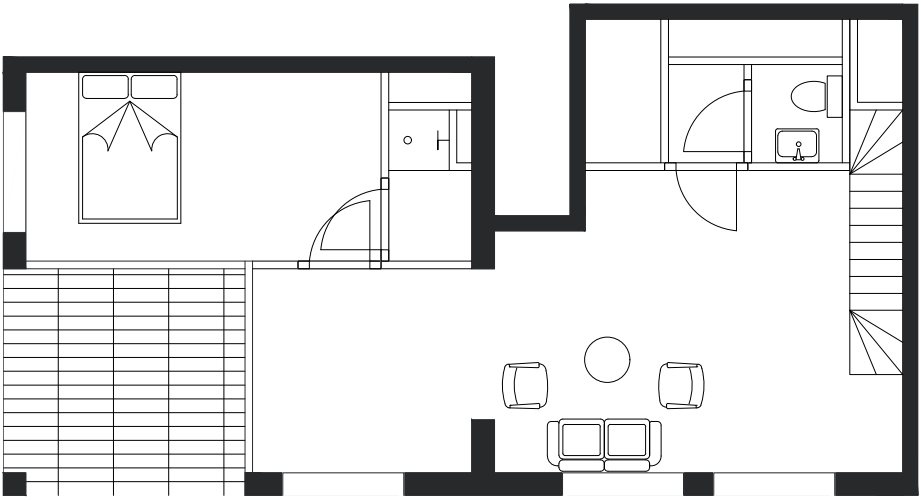


Studio (34 m²)

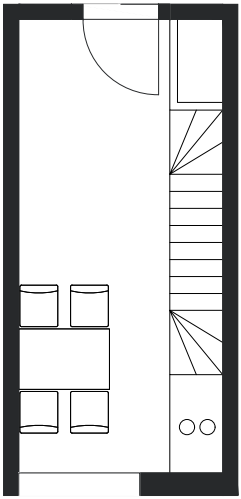
Scale 1 : 100

Dwelling typologies

The building has studios, as well as two-room apartments and even some maisonettes in the top floors of the building. By mixing these types of dwellings in one building, the character of the tower is dynamic and this contributes to many different lifestyles. Thus, singles, couples and other young people are attracted to find a home in one of the dwellings.



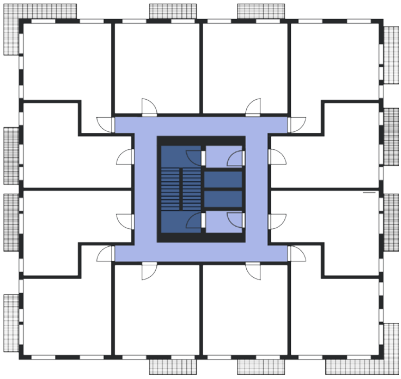
Upper floor



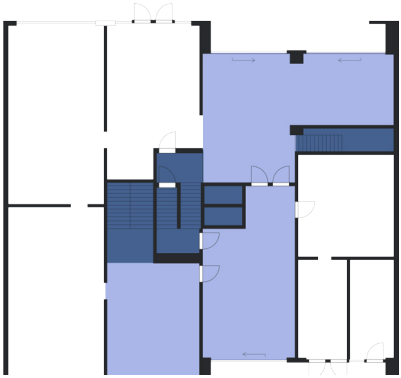
Lower floor

Maisonette (68 m²)

Scale 1 : 100



Typical floor plan



Ground floor plan

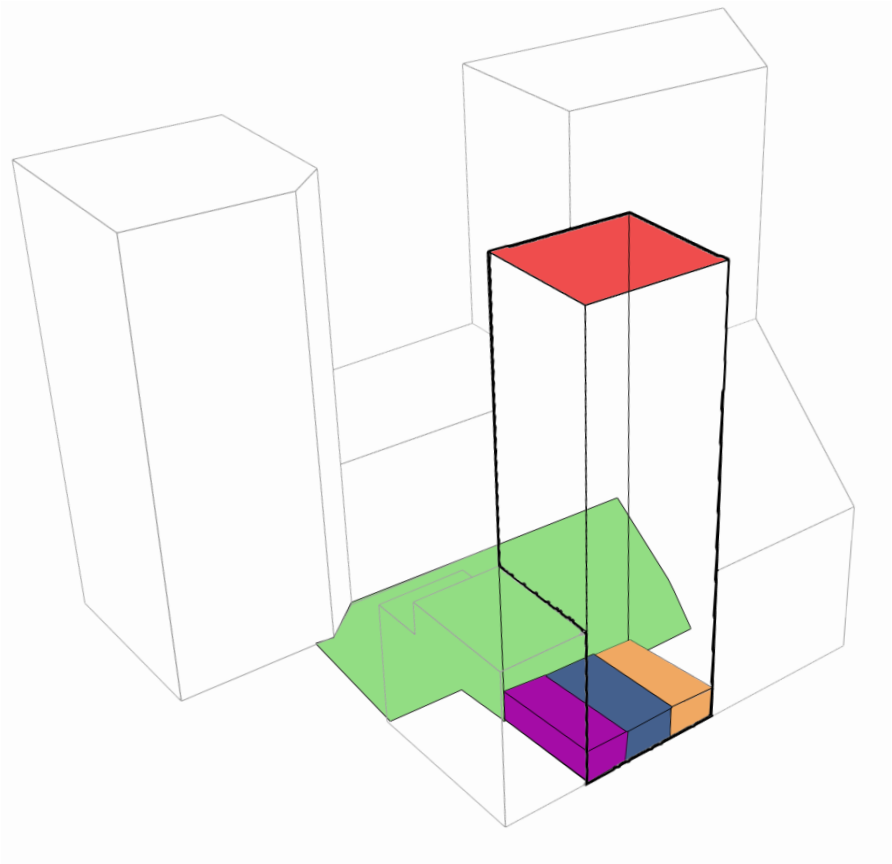
N

Scale 1 : 500

Circulation

The circulation in this tower is managed through a central core where two elevators are found and a helix-staircase to give two separate routes up and down. Around this central, a hallway is designed ranging from 1,3 meters to 1,5 meters wide.

The entrance area is designed in a lobby character to give people the opportunity to choose where to go. They can either go to the courtyard behind the building, enter one of the reading rooms and so on.



Courtyard
Reading / meeting rooms
Lobby
Rooftop gym
Bikes and scooters parking

Collective activities

Most of the collective spaces in the building are found on the first two floors and on the rooftop. By placing collective spaces on the first two floors, where at some point voids are placed between the ground floor and second floor, the connection with public life and outside is achieved. This gives the building extra dynamic in the daily life of the residents. The courtyard behind the building connects Stepstone with the surrounding projects.

Niu Co-living

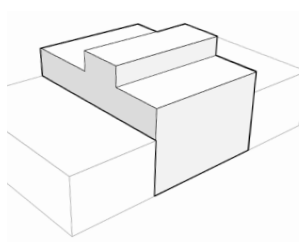
Factsheet

Location	Mexico City, Mexico
Architect	Craft Arquitectos
Number of dwellings	54
Completed in	2020
Collective facilities include	meeting rooms, roof garden

The project Niu-coliving focuses on the concept of shared living and cohabitation for young people looking to develop themselves both socially and personally. By offering housing units along with several collective and shared activities the residents are stimulated and facilitated to create a communal feeling among eachother.

Situated in a former residential building from the 1960's, the project not only has the challenge of creating the communal feeling among residents, but also the fact that several construction aspects should be remained. By remaining the original longitudinal directions of the structure within the building, a plan of longitudinal dwellings resulted from this. The dwellings in the original situation were roughly 90 m^2 big, while in the new situation the dwellings are around 40 m^2: the old homes are split up into two separate units of the same size.

Niu responds to global sustainability issues by excluding parking spaces in the project for example. It prefers the use of shared means of transport; Niu tries to prove itself not only to be collective in the dwellings for people, but even on the level of their daily life like travel.



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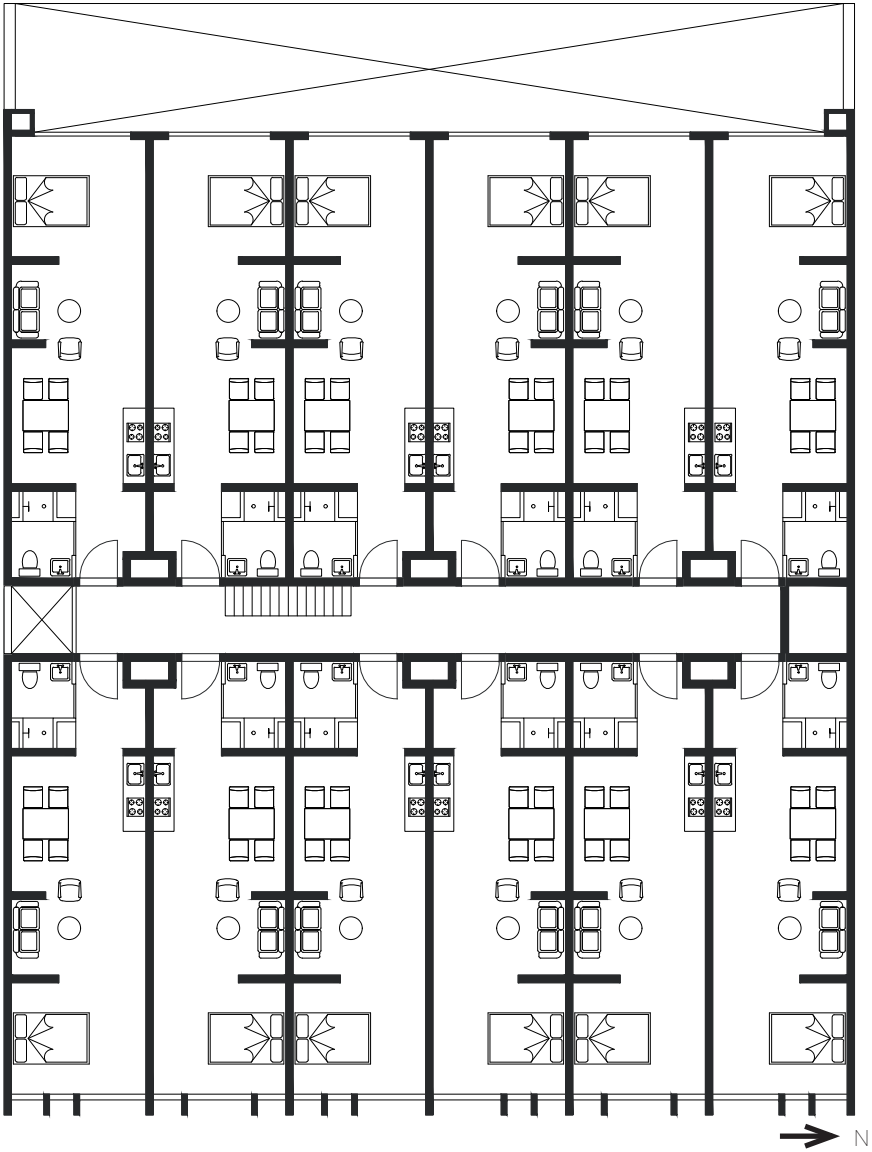
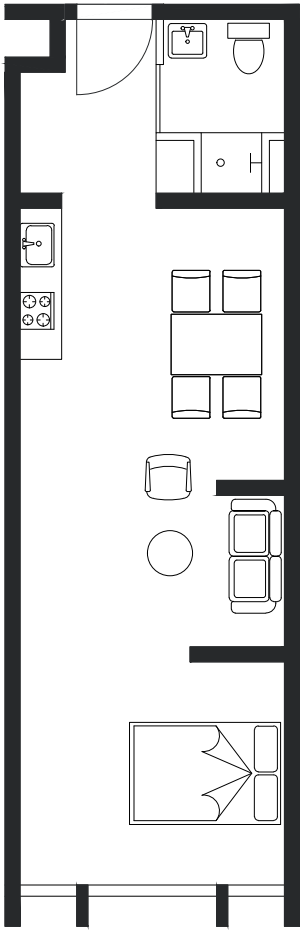


N

Scale 1 : 200

Typical floor plans

As mentioned before, the original longitudinal layout is remained in the project, creating a corridor in the middle of the plan where the dwellings are adjacent to. The dwellings have this longitudinal layout represented in them as well; the functions shift inside from entrance area, kitchen and dining, living to sleeping.

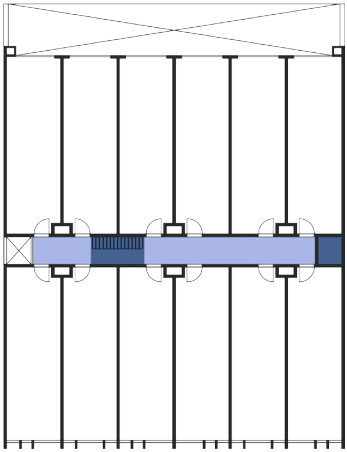


Studio (40 m²)

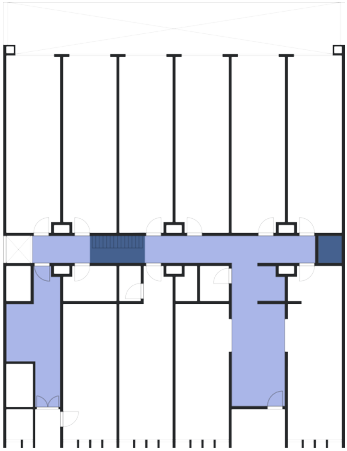
Scale 1 : 100

Dwelling typologies

All dwellings in the project have the same layout in them; in fact they are all the same. Sleeping areas are placed towards the windows, while the bathroom is placed in the beginning of the dwelling, where it is the darkest. The units all contain sufficient space for several functions to be separated from each other through the structure that divides the plan.



Typical floor plan



Ground floor plan

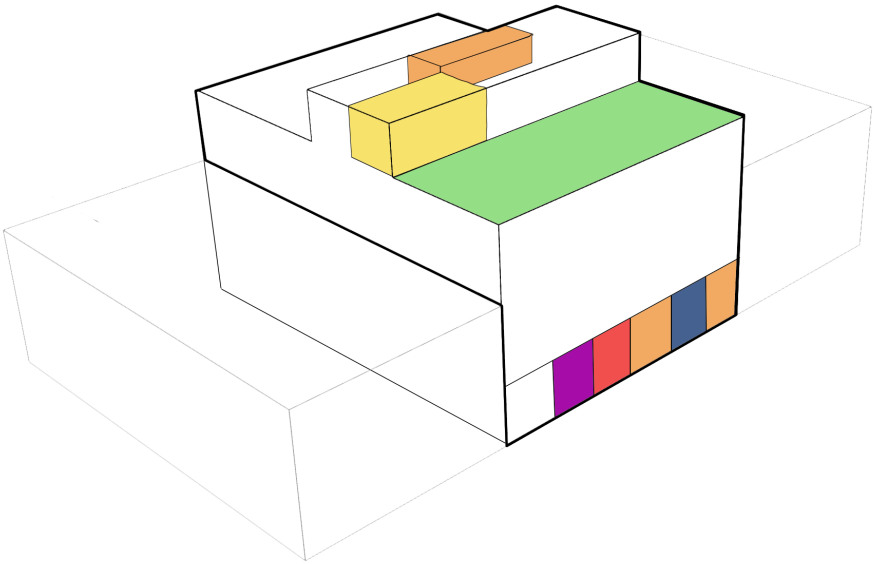
N

Scale 1 : 500

Circulation

The corridor on the floors go from one side to the other, which connects all the dwellings by just one hallway. On one hand of the corridor an elevator is placed, while on the other hand a void is placed to give daylight access into this hallway.

On the ground floor, the building can be accessed at two spots. Where one entrance is directly next communal functions like meeting rooms, the other entrance is placed next to functional spaces like installation rooms. This gives the feeling that the entrance with communal functions might be more of a main entrance.



Roof garden
Reading / meeting rooms
Lobby
Gym
Laundry facility
Bike parking

Collective activities

On the street side of the building, some indoor spaces on the ground floor are dedicated for communal functions and meeting areas. This makes the plinth more public for the residents.

On the top level of the building, both indoor and outdoor spaces are designed to give several options of activities, ranging from meeting people inside to having a chat outdoors on the rooftop garden.

Conclusive take-aways for the design

Composition of households

Single

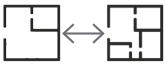
Couple

Group

The case studies made it clear that a project dedicated to starters - and in this case fledglings - should contain at least dwellings suitable for these three compositions of households.

Dwelling typologies and size

Studio (from 20 m^2 to 35 m^2)



Multiple-room apartment (from 40 m^2 to 115 m^2)

Maisonette (around 70 m^2)

Lucien Cornil and Niu Co-living contained studios only, while Nordbro and Stepstone had a wide range of dwelling types like studios, apartments and maisonette. The bigger dwellings, for example 115 m^2 can only be suitable for groups.

Outdoor space

Balcony / Loggia

Roof garden

Courtyard

Several private and shared outdoor spaces were seen in the case studies, some bigger than the others. A mix is suitable too.

Circulation systems

Lobby

Central core

Corridor

The most common circulation system in the case studies seemed to be a central core with a circular hallway around it. This hallway connected the core with the dwelling entrances

Meeting and reading rooms

In all of the case studies investigated here, spaces were assigned for the use of group meetings or reading rooms. This shows that the desire for such rooms, where the residents can either work for themselves or in a group, is high among starters on the housing market.

Communal living room

Shared spaces were placed around the smaller dwellings of the projects. This is mainly done to compromise the small area inside each separate home. Besides that, adding communal areas will contribute to the notion of a collective living among the residents.

Others

Gym

Although at first hand sport facilities might not be expected to be a necessary function around the housing for people, in two of the four case studies (Stepstone and Niu), rooms were assigned for doing sports.

Case Study-Images source

Introduction pictures of the four projects
Lucien Cornil: Benoit Wehrlé
Nordbro: Jens Lindhe
Stepstone: Levs Architecten
Niu Co-living: Carlos Figueroa

Lucien Cornil pictures
Situation plan: A+ Architecture
Outdoor picture: Benoit Wehrlé
Interior picture: Benoit Wehrlé

Nordbro pictures
Situation plan: Arkitema Architects
Outdoor picture 1: Jens Lindhe
Outdoor picture 2: Arkitema Architects

Stepstone pictures
Situation plan: Levs Architecten
Outdoor picture: Levs Architecten
Interior picture: Levs Architecten

Niu Co-living pictures
Situation plan: Craft Arquitectos
Outdoor picture: Jaime Navarro
Interior picture: Carlos Figueroa

Chapter 5
Design location

Rotterdam and M4H

The design plot of this graduation project is situated in the M4H-area in Rotterdam, a harbour area that will soon be transformed into a creative and innovative live-work environment. The municipality's goal is to mix creativity, innovativity and a communal feeling among the future inhabitants of this area. The city of Rotterdam has a sufficient base for such a transition from harbour area to residential functions mixed with creativity and innovation. According to the municipality, the city has proven itself to give lots of young people the opportunity for cultural, educational and entrepreneurial growth. Besides that, Rotterdam houses Europe's biggest harbour and is home to many different multinationals and research institutes (Programmabureau Stadshavens Rotterdam, 2017, p.2). This combination makes the M4H-area so powerful, since a successful and innovative live-work environment arises from the collaboration between all these different parties of companies, residents and researchers.

The Makers District, as the city of Rotterdam wants to call the M4H-area in the future, will be a place where the transition from harbour becomes reality: starting entrepreneurs can develop themselves into an established company and young people become acquainted with technique and science. By making all these ideas practical and visible, the area will become an accessible neighbourhood for many different people and stakeholders.

Next to all the innovation and companies, there should be a place for dwelling, horeca and other urban functions. As a result, the area should become pleasing and attractive for both residents and companies: a dynamic atmosphere will be created. Where the former harbour and the location directly next to water will characterize the area, this dynamic atmosphere will be even more realised and maintained through the years. In the end, residential, business and leisure functions will all contribute to and profit from this.

◀ Figure 1
Map of Rotterdam with M4H-area highlighted in purple
Source: DELVA Landscape Architecture & Urbanism

- *Innovative, creative businesses and industries - from start-up to established firm -, along with their necessary facilities;*

- *Employment in the broadest sense of the inhabitants of Rotterdam and its surroundings;*

- *An open innovative environment with a mix of companies, education and research;*

- *An urban living environment on and around the piers of the area;*

- *The makers district as an 'experimental garden' and 'showcase' for the future of circularity of city and harbour.*

Rotterdam's vision and goals for the new M4H-area, as stated in their report of the Makers District (2017)

Keilekwartier

The specific spot within the Makers District, where our design project is situated, is called the Keilekwartier. Within the studio group, all students had to work together to create an urban masterplan for the Keilekwartier. To do this, the Keilekwartier has been divided into four quarters of roughly the same size. The design for the fledglings is located in quarter A, on the north-east end of Keilekwartier.

Quarter A has a good potential to connect to the overall ideas of the M4H-area, given the existing buildings and companies that are here already. A selection of these buildings:

- Studio Roosegaarde, a design lab by artist/innovator Daan Roosegaarde;
- Soundport, a renovated industrial building now hosting creative media and music.

To create and accomplish a suitable urban environment for both the residents and business within the area, four bullet points are set up:
- Maintaining creative appearance
- Accommodate flexible workings spaces
- Formal hard edge vs creative soft edge
- Public space working as a catalyst in the daily life

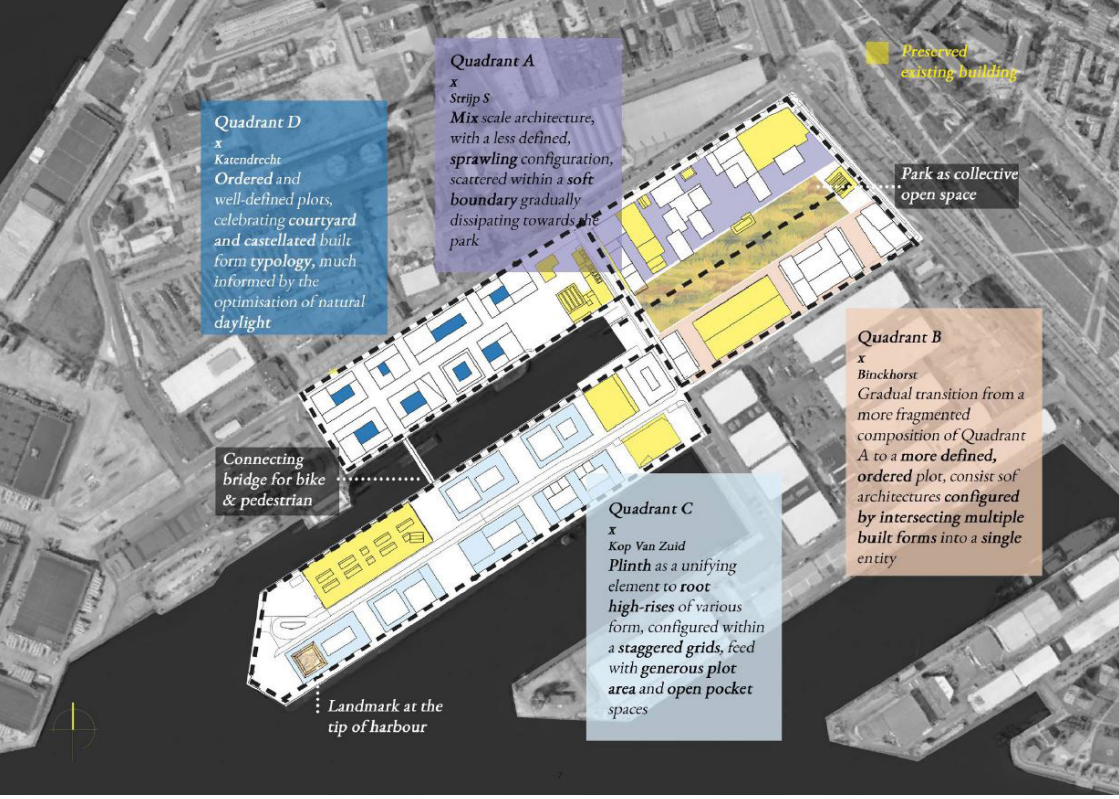


Figure 2
Masterplan of Keilekwartier in M4H, as intended during the group work
Source: Made by Sharon Lim Yu Jung during group work for the master-plan

As becomes visible through these four bullet points for quarter A, the focus is put on mixing the creative atmosphere of the M4H-area with facilities and urban interventions to make this former harbour area a successful project for all parties involved.

An urban regulation that is important for the character of the quarter focuses on the distinction of hard and soft edges. Where the Keileweg has to be an entrance place for the whole M4H-area, the decision has been made to create a hard edge of the building blocks adjacent to this street. The Keileweg has to be a place for many different users: pedestrians, bikes, cars and so on. On the other side of the quarter, a green area can be found. This public space has to work as a catalyst for many activities in the daily life of residents, workers and anyone that uses this place. Because of that, the edge of the buildings that connect to this open green space has to be designed in a 'soft' way. As a result, the public spaces on this side of the quarter remain accessible from many sides and becomes a spine of green.

To continue on this notion of accessible green, the public park will host many temporary artworks. This is done to contribute to the ideas of the municipality to design M4H as a showcase for different kinds of techniques and crafts. The open green space will therefore be a point where many different users can come together to enjoy different activities. The combination between the soft edges of the buildings and the different artworks in the open space makes this place an interesting and attractive location for everyone that is housed around: the residents, the companies and the young, creative artists developing their work here.

Most of the public plinth of the buildings should contain public functions, such as meeting areas, shops or working spaces. This is mainly done to create a buzzing place for visitors, as well as the opportunity for the residents to connect with people and activities from outside the area.

The building masses are designed in a way to create a flowing pattern of building volumes through the quarter (see figure 3). This results in two towers on each end of the quarter, while the buildings between these towers shift in height. The hard and soft edges as just has been described are kept in mind as well when designing these volumes.

The complete slides and drawings of the urban masterplan of quarter A can be found in the appendix of this booklet.

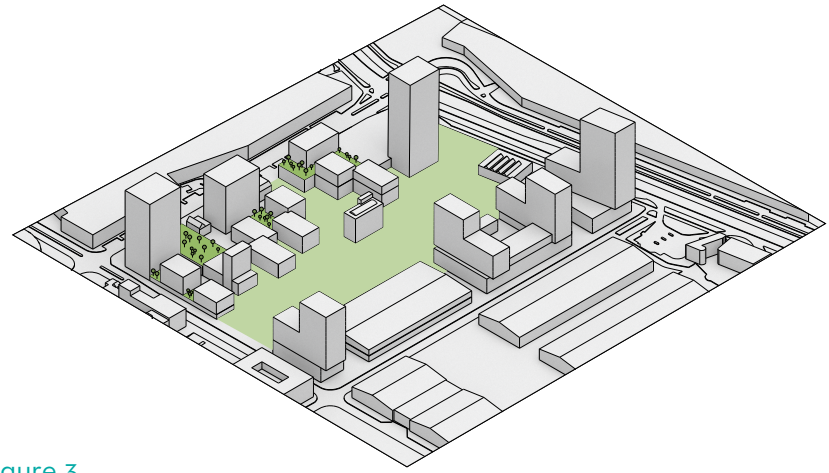
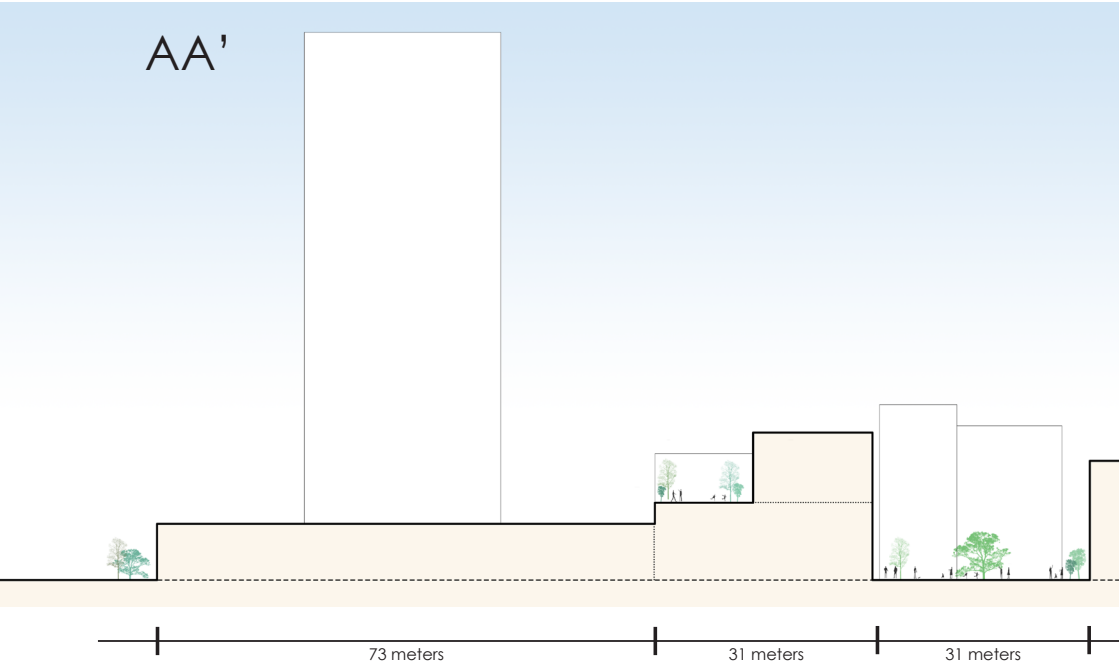
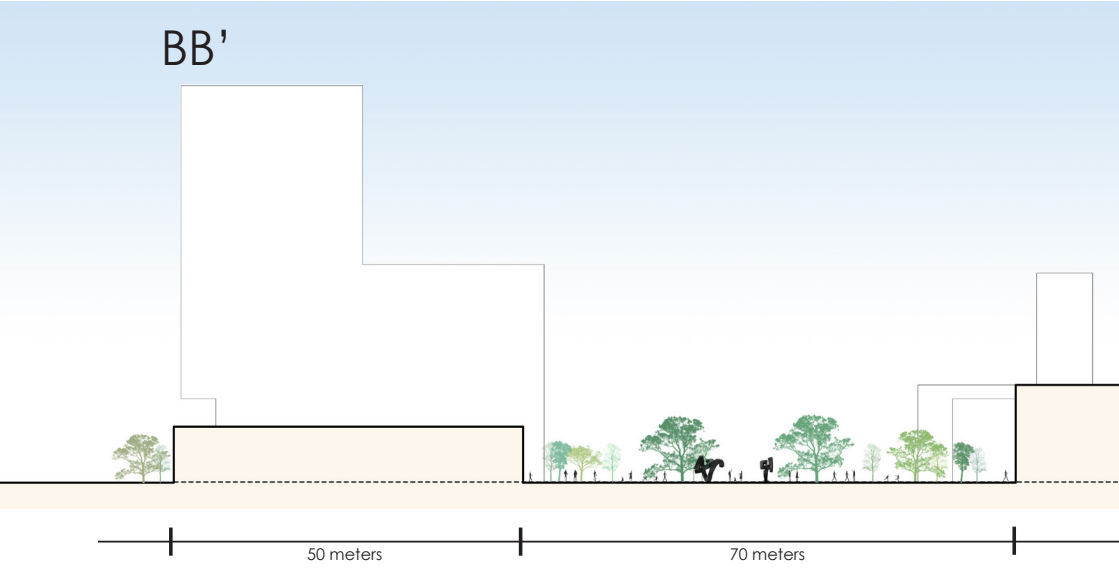


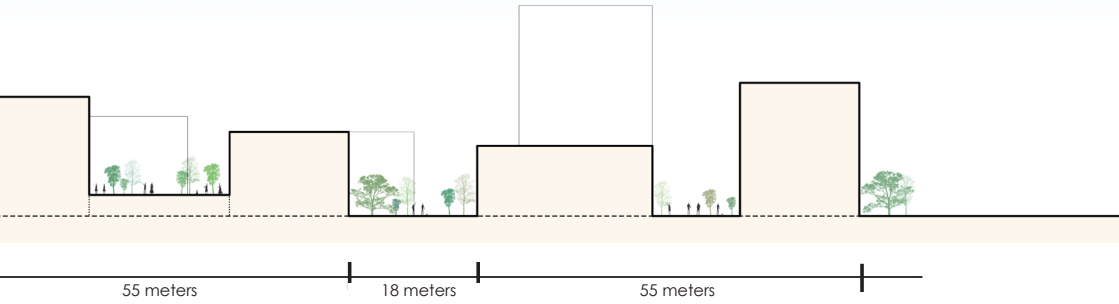
Figure 3
Quarter A and B according to the proposed building volumes
Source: Made by Daryna Chernyshova during group work for the urban plan

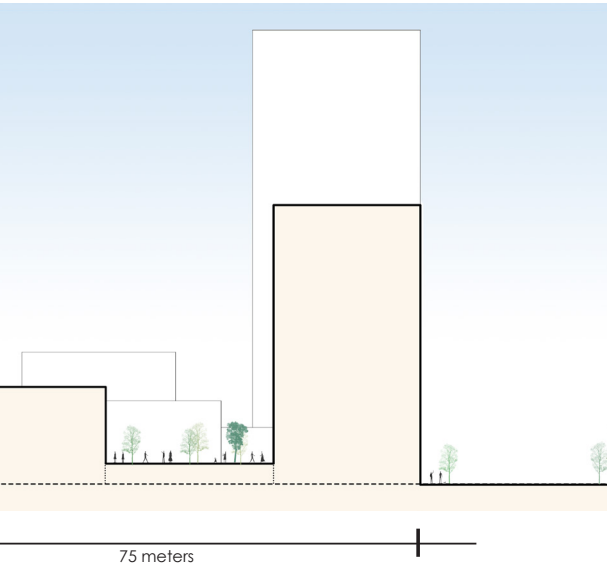
Figure 4
Masterplan of quarter A, which shows the proposed building plots
Source: Made by Daryna Chernyshova during group work for the urban plan

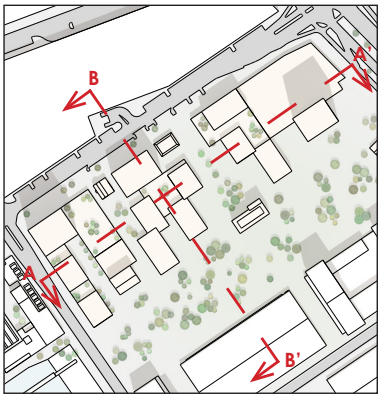
Urban sections






55 meters
18 meters
55 meters


75 meters


A
A'
B
B'

Preserved buildings in the masterplan

As already said, the quarter is currently characterized by bold and industrial-looking buildings. However, only some of the current buildings are being preserved, so a choice has to be made what buildings to keep in the new situation. To decide this, an investigation has been made on what kind of character is desired in the area.

This resulted in keeping creative companies inside the area, to connect to the notion on having a creative and innovative living environment in the area of M4H. As is seen on the pictures on the next pages, all these buildings have their own identity when it comes to scale of the building and use of materials. For example, the AVL Mundo building is a large warehouse made out of bricks and concrete with a tower and container connected to it, while the Studio Roosegaarde is way smaller and uses more steel and daylight access light in its design.

To successfully connect to this difference of materials and scale, it may be wise to consider different identities in all the separate building designs as well.

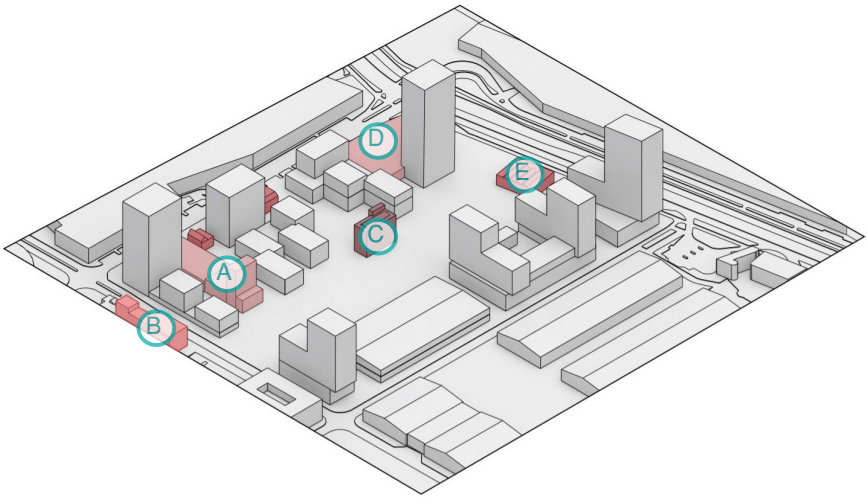


Figure 5
Preserved buildings in and around the proposed masterplan
Source: Made by Daryna Chernyshova during group work for the urban plan

A.
AVL Mundo

B.
Kunst en Complex

C.
Soundport

D.
Keilewerf

E.
Studio Roosegaarde

AVL Mundo

A quite important building character for quarter A is found directly next to the building plot, which is the AVL Mundo warehouse. AVL Mundo is a creative warehouse that focuses on the design of contemporary art and performance. Founded in 2008 by the Dutch artist Joep van Lieshout, the foundation commits itself to connecting local and international interests by creating amibitious and cultural events.

When looking at the activities that are organised here, two distinctive categories are found; on the one hand the warehouse focuses on the display of art, while on the other hand every now and then events are held that attracts many different kinds of people. This duality of different events makes up for the character of the plot and even for a big part of the quarter. Cultural events are important for the future of the M4H-area and the goal for the new design is to at least maintain these two distinctive character. This will enable several possibilities for the people living and visiting the area; on one hand they can enrich themselves with cultural exhibitions and on the other hand they can organise and perform events to meet new people and gather.

The sculpture park of AVL Mundo is mainly used as a place to display art and sculptures, but every now and then events are organised which attract many different people from across the city.

Design plot

The design for the fledglings is located on the eastern end of quarter A, where it functions as one of the two 'heading' towers: its an end of the flowing pattern by its height and volume. However, the soft side of the plot should connect properly to the open green space on its south.

Urban regulations that define the design plot:

- The north-west side of the plot should connect to the hard edged facades of the urban masterplan, while the south-east side should contain a 'soft edge' facade to connect to the public green spaces of the masterplan.

- The design plot contains a tower on the hard edged facade, which is part of the volume pattern of the quarter. This tower should be around 65 meters high.

- On the ground floor, spaces should be assigned to connect to the public life of M4H. This can be done through facilitating activities dedicated to one specific target group, or several different target groups for example.

- AVL Mundo is located directly next to the design plot, creating a courtyard between the warehouse of AVL Mundo and the design. This creative warehouse focuses on designing contemporary art and performance in The Netherlands.

- There should be a passageway between the courtyard and Keileweg, to maximize the connection of both the courtyard itself and the green open space behind it with Keileweg.

When putting this into the perspective of the design for fledglings, some interesting opportunities to accomplish an explorative lifestyle in the M4H-area arise.

First, the notion of a public plinth where activities should take place where people can gather or perform collectively is a good connection to the life of fledglings. Since fledglings seek to connect with other people in their daily life to fulfil both personal growth and leisuring needs, this might be an interesting thing to work out during the development of the design.

Besides that, fledglings could perform these kind of activities outdoors as well, since the design plot offers a courtyard and a soft connection with the public green spaces on the south. In the design this connection to outside might be further elaborated to see how these activities will be realised.

Figure 5
Plot number 1 of Keilekwartier, highlighted in red, in preliminary situation
Source: Made by Daryna Chernyshova during group work for the urban plan

Finally, an interesting connection can be made with the AVL Mundo warehouse, since fledglings try to develop themselves on educational and cultural level. By connecting with the AVL Mundo warehouse, such desires can be accomplished, for example by collaborating with some of the exhibitions that are usually held.

All in all, this specific design plot offers some interesting connections between the goals of the urban masterplan for M4H (and Keilekwartier) and the life of fledglings. Where fledglings seek to develop themselves on many levels in their daily life, the urban design gives them these opportunities by facilitating a varying mix of activities, users and spaces. While on the other hand, fledglings could contribute to this dense mix to fulfil the city's goal to establish a creative and innovative urban environment out of the harbour area.

Chapter 6
The design

Situation drawing of the final design for plot number 1


N
1 : 1.000

Overview

Factsheet

Location	Rotterdam, The Netherlands
Number of dwellings	37 tower apartments 32 collective dwelling units 6 maisonnettes
Collective facilities include	meeting rooms, roof garden, exhibition spaces, shared living rooms
Plot size	2.580 m^2
Built area on plot	1.210 m^2 (47%)

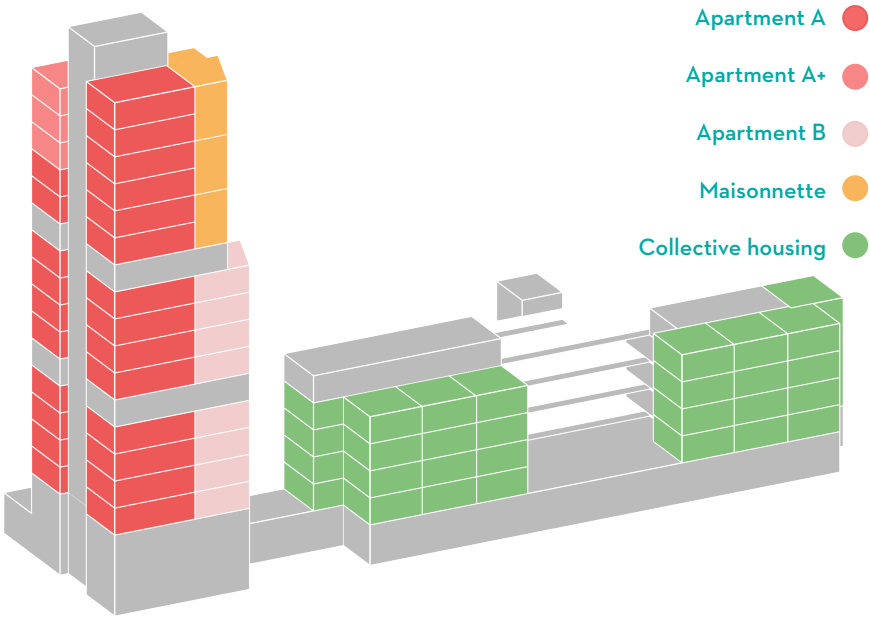
The design showcases a dynamic character where a wooden tower and two dwelling blocks are stacked upon a concrete plinth. Besides that, the tower consists of a concrete circulation core to complete the overall composition of wood and concrete.

In total, 75 dwellings are designed, ranging from individual tower apartments to collective dwelling units in the lower blocks. Besides that, collective facilities are spread around the whole design to create accessible activities for all the residents. To connect to its direct surroundings, including AVL Mundo, the design has a large exhibition space accessible for both residents and the public.

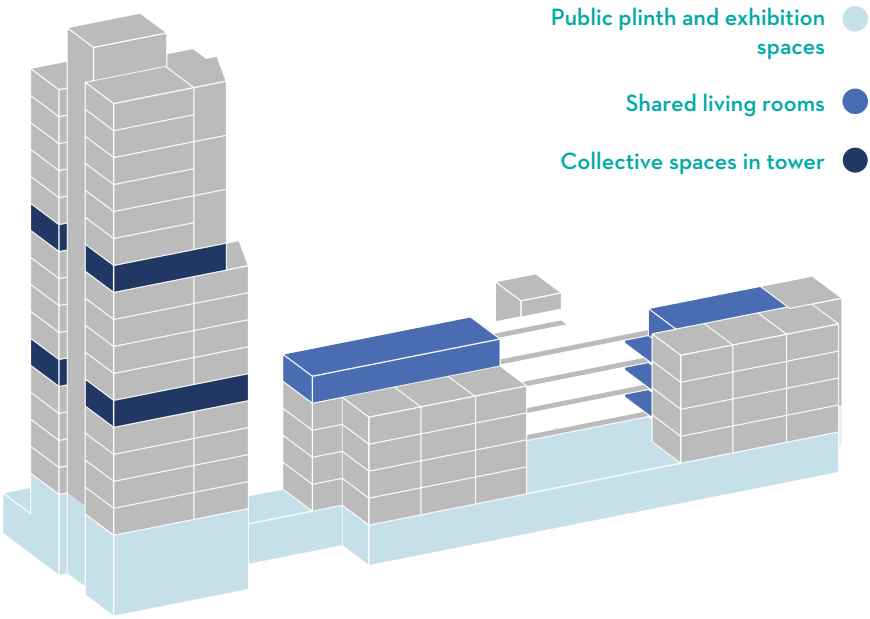
The design for fledglings consists of two distinctive characters; a concrete plinth and wooden facades for the tower and dwelling blocks. This difference in character has been used in the overall principle for the construction of the building as well, where a hybrid construction of concrete and Cross Laminated Timber is designed. The reason for this mainly has to do with sustainability principles: Cross Laminated Timber makes it possible to significantly reduce building emissions in both the circularity as well as the construction process of the design. However, issues arise when making such tall towers exclusively in wood, for example issues in the stability of the tower. To solve this, a concrete plinth and a concrete core are used.

▲ View from the street side of the building

▼ Bird's eye view of the design, with the direct surroundings visible



Configuration of the dwellings in the design.
It shows the three different dwelling typologies in the building: apartments and maisonnettes in the tower and collective housing in the dwelling blocks.



Configuration of the collective spaces in the design.
The collective spaces are spread across the building, so communal and shared areas can be accessed at different points and by different residents and/or visitors. As a result, the whole design functions as a place where people can meet, display arts, share dinners and enjoy outside spaces and so on.

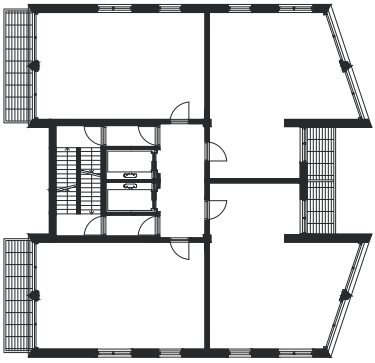

A
B
A
B
A

Collective floors combined with dwellings in the tower

The tower's configuration is designed with three dwelling 'compartments' which are at their turn divided by two collective floors. This is done to make the collective spaces accessible and approximate for all the residents living in the tower.

The dwellings are placed around the central core of the tower, to make a clear circulation system visible. Each hallway connects in most of the times 3 or 4 dwellings.

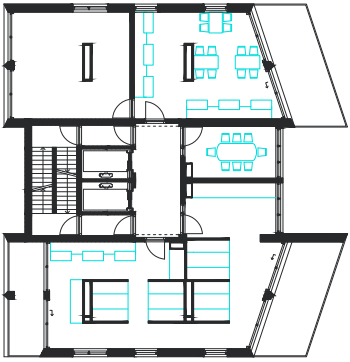
The collective floors are highlighted in the facade by using other materials than the dwellings; where the dwellings have black balustrades, the collective floors use structural glass balustrades to represent the open and shared character of these spaces.



A

Floors with dwellings

- Tower apartments and maisonnettes
- 3 or 4 dwellings per floor



B

Collective floors

- Shared working spaces and meeting rooms
- Open living rooms and kitchen for residents
- Loggias, terraces and winter garden

Dwelling units adjacent to several collective functions

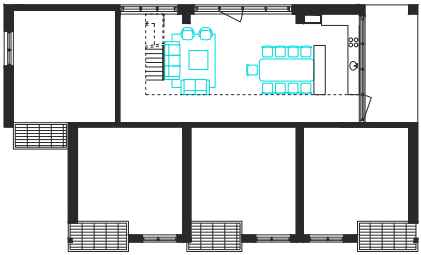
When looking at the dwelling blocks, the configuration of the collective and shared spaces are done horizontally; the roof garden is facilitated in the middle of the two dwelling blocks to stimulate and enhance a communal feeling among the residents. To compromise the smaller indoor living space of the dwelling units, the shared living room and outdoor spaces can be used as a place to gather and meet with fellow residents.

As has been discovered during the research process, living in a shared economy offers great opportunities for younger people to develop themselves in the person they would like to become. Besides that, by performing and doing activities together, the residents are able to continue to explore what life has to offer them in such a dynamic living environment.

A

Dwelling units

- Smaller, collective housing
- 8 units per shared living room



B

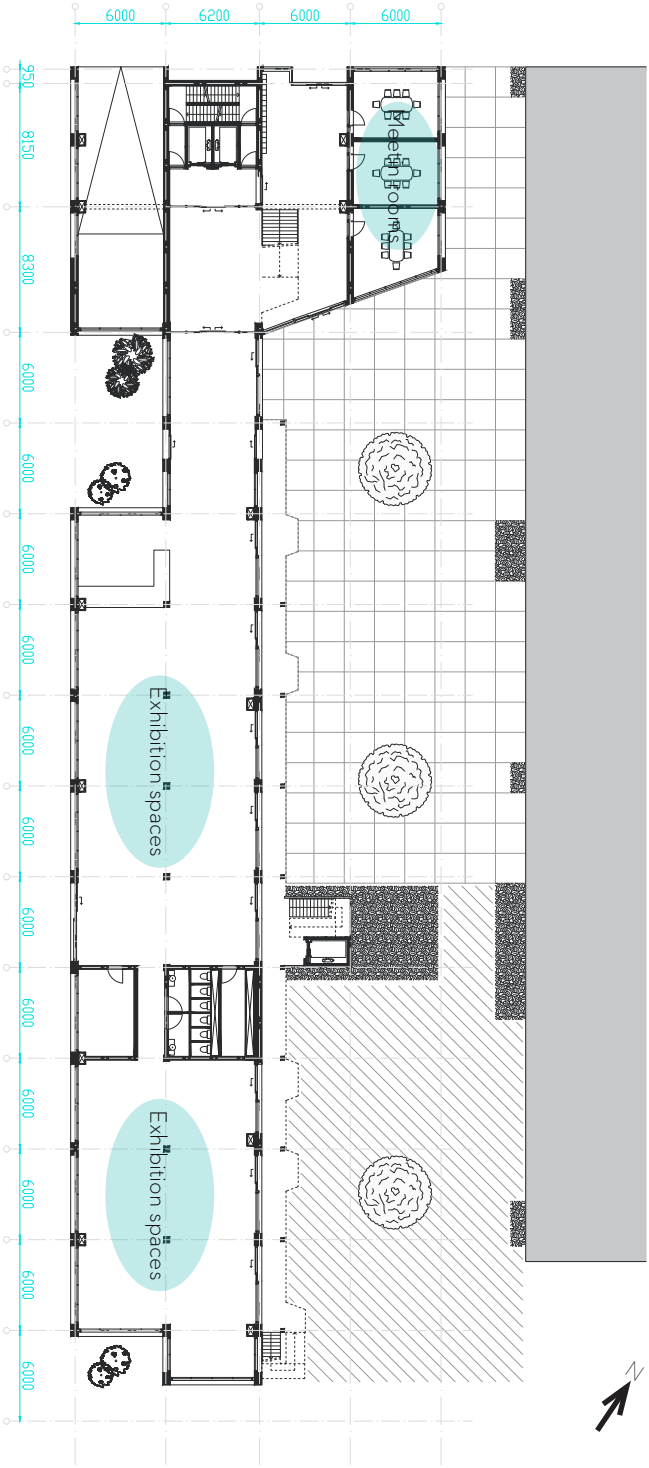
Shared living room

- 4 shared living rooms for the residents
- Open kitchen, lounge area and a balcony

C

Collective outdoor area

- Rooftop community garden
- Rooftop terrace



Ground floor plan
Scale 1 : 500

▲ The entrance hall of the tower functions as a lobby where people can move around, sit down and go to meeting rooms or their dwellings

▼ Exhibition space in the plinth connects both the AVL and the building to the public

Section

0 5 10

All in all, the dynamic lifestyle of the fledglings is represented in a building with the dwellings, collective and shared spaces spread across the building.

The entrance area in the plinth is designed as a lobby area where people can gather and meet each other before going to their dwellings. Besides that, meeting rooms are facilitated in this entrance area to connect to the (public) working environment in the M4H-area. The whole M4H-area is desired to be a creative and innovative living-working-environment so it should be expected that several offices and companies can be located close to the building. To respond to this development and to attract visitors into the building - besides only having residents walking around - these meeting rooms can facilitate gatherings or other formal events.

The rest of the plinth is an open structure designated for exhibition spaces. The main reason for this is the direct link to the AVL Mundo; by facilitating spaces to display arts and sculptures an interesting cooperation can be accomplished with one of the (cultural) catalysts of the M4H-area.

The dwelling blocks and tower on top of the plinth have the dynamic configuration as already described before; two collective floors in the tower and shared living rooms and rooftop spaces for the dwelling blocks.

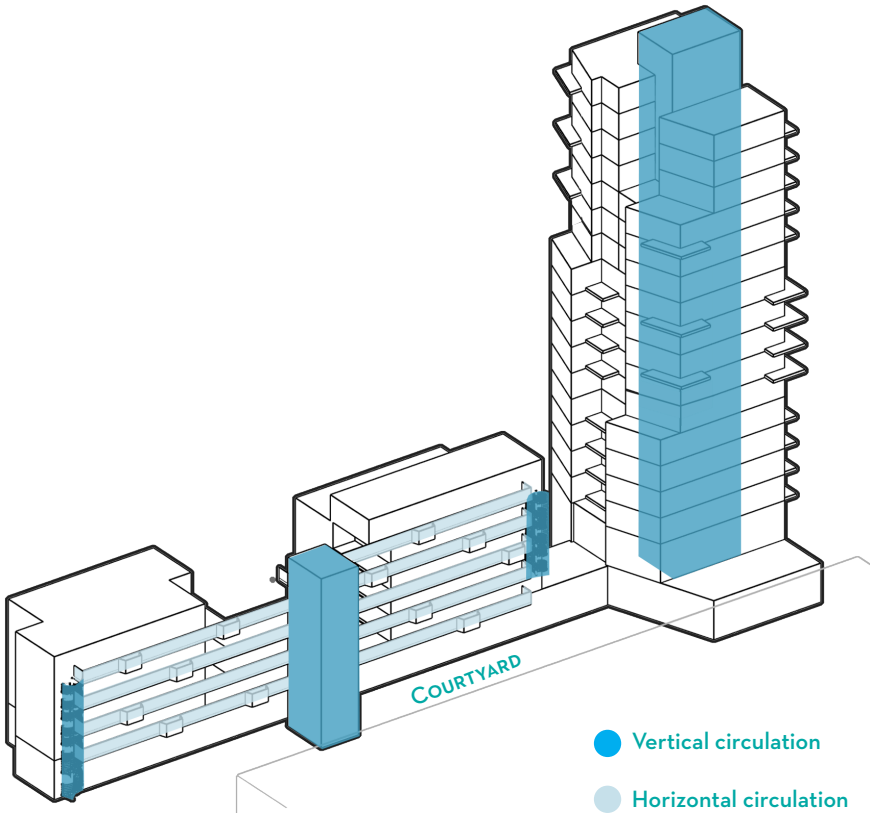
Functional spaces like parking, storage and technical rooms are placed in the basement. Here, the residents can make use of a shared car system.

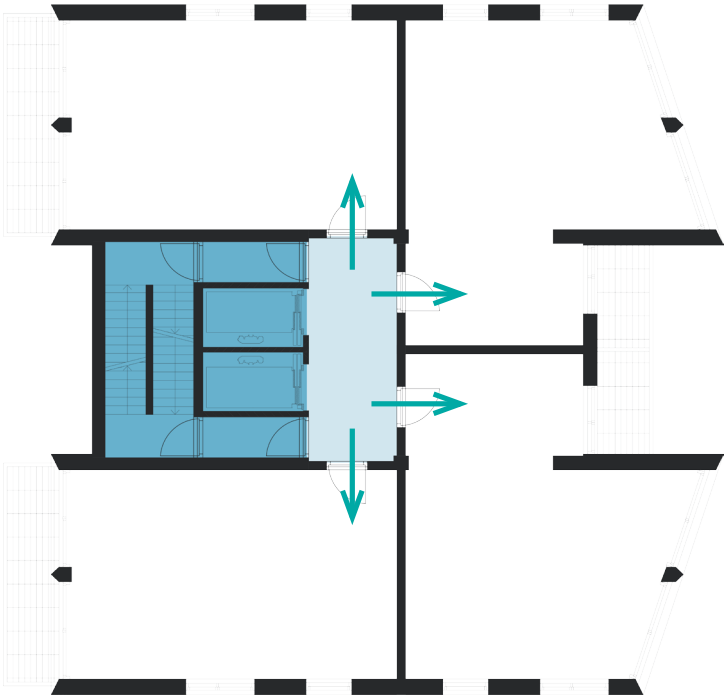
Circulation and accessibility

The design consists of several circulation typologies. In the tower the circulation through the floors is accomplished with a central core for stairways and elevators, while the dwelling blocks contain one centralized core with an elevator and a staircase and two (emergency) staircases to the sides.

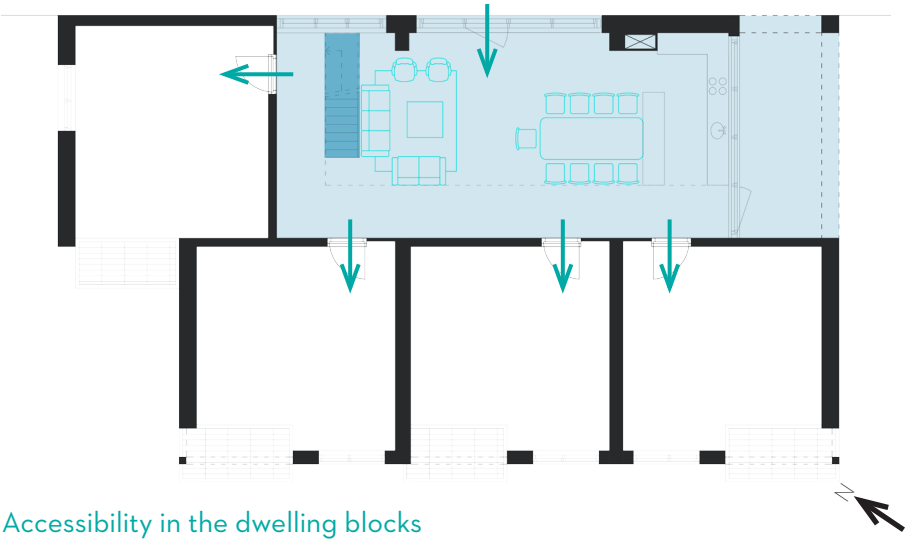
When leaving the elevators in the tower, a hallway is reached which connects the vertical circulation with the entrance of the apartments. Besides that, over the complete height of the tower (emergency) helix stairs are placed. These end up in the hallway with the dwelling entrances as well.

The units in the dwelling blocks are connected with a collective living room, housing the shared space of 8 units. These 8 units are spread out to two seperate floors, with the collective living room as the central spot. This stimulates the residents to have direct contact with the neighbours, who they share the living room with.





Accessibility in the tower

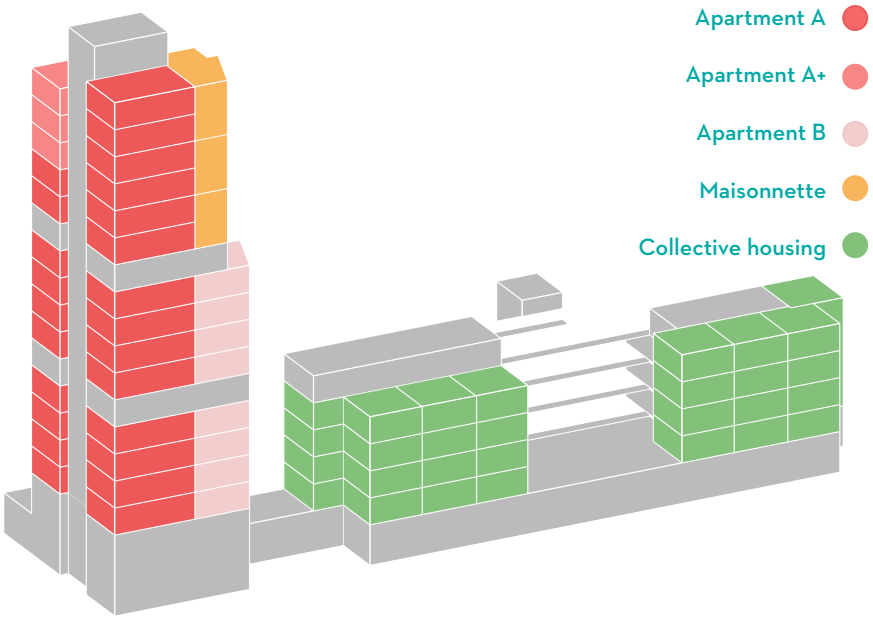


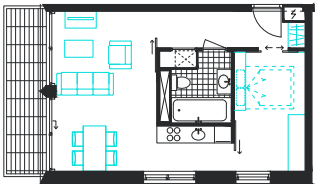
Accessibility in the dwelling blocks

▲ Main entrance area of the building; it contains the entrance to the lobby, alley to the courtyard and entrance to the underground parking

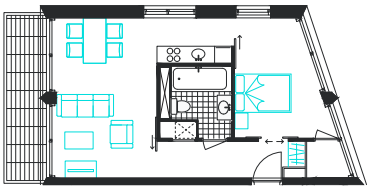
▼ Overall character of the building, as seen from the side of the Ferro Dome in M4H

Dwellings

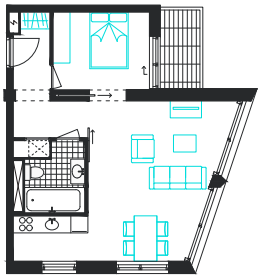

Apartment A
Apartment A+
Apartment B
Maisonnette
Collective housing



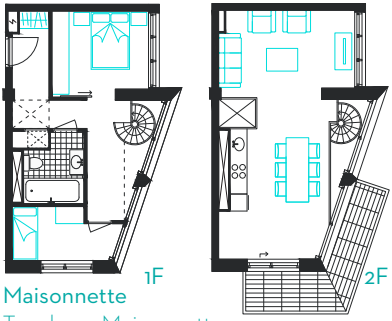
Apartment A
Typology: Apartment
Area: 49 m²



Apartment A+
Typology: Apartment
Area: 54 m²



Apartment B
Typology: Apartment
Area: 54 m²

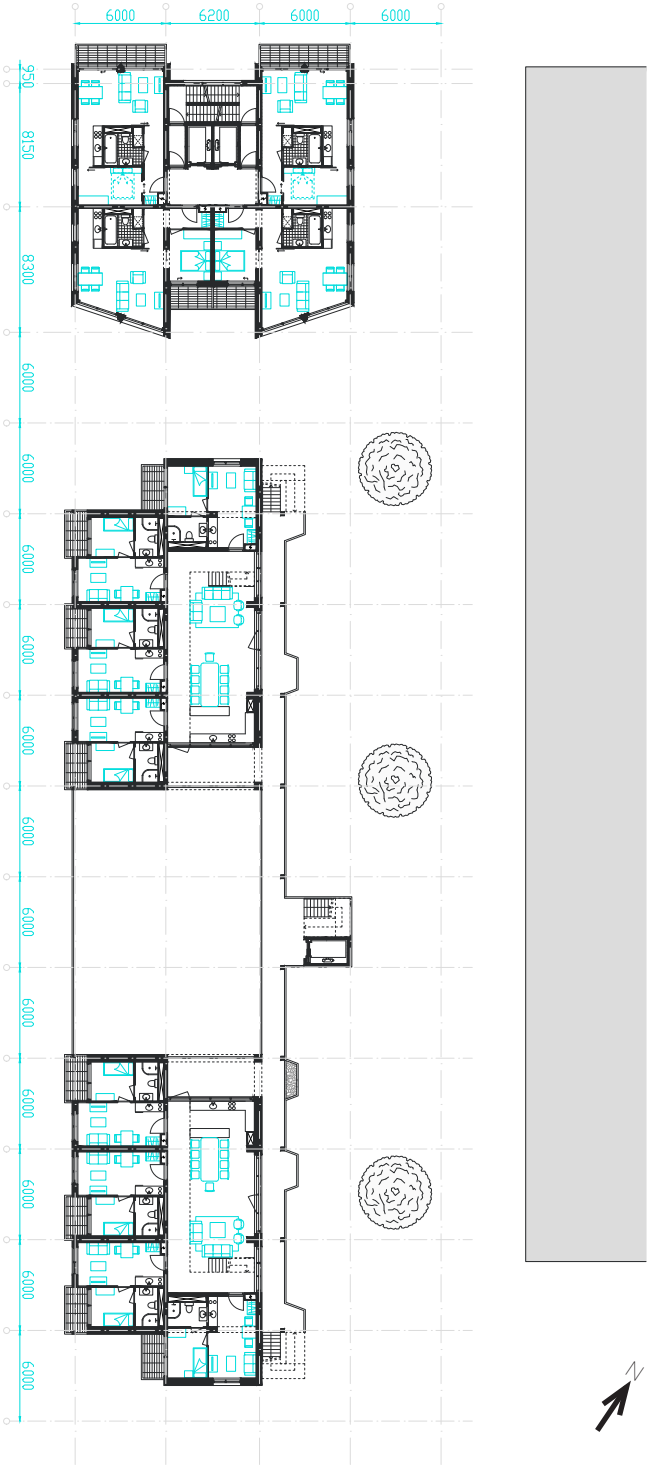


Maisonnette
Typology: Maisonnette
Area: 72 m²

Collective housing
Typology: Co-living
Area: 30 m²

Three distinctive typologies for the dwellings are designed;
- Tower apartments of around 50 sqm (A, B and A+)
- Maisonnettes in the tower of 72 sqm big
- Dwelling units in the co-living dwelling blocks of 30 sqm big

Given the financial situation of the target group, it is important to make compact and efficient dwelling plans. In this way, the experience of a small dwelling might actually be bigger than it actually is. To accomplish this, some design principles are used in each of the dwellings. In the upcoming pages these design principles will be explained.

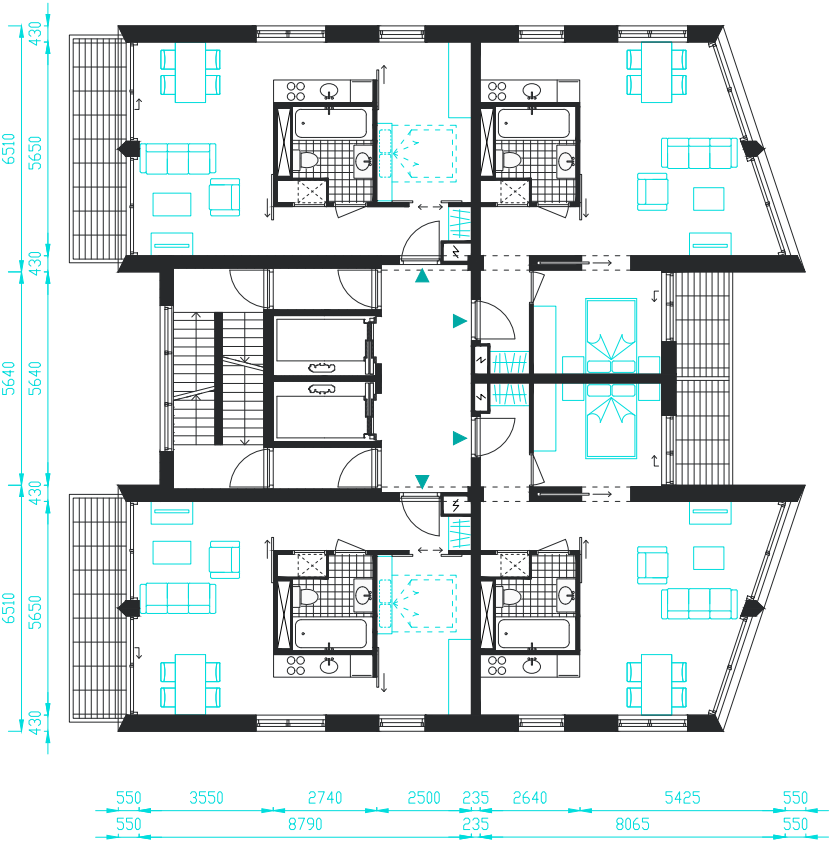


Typical floor plan
Scale 1 : 500

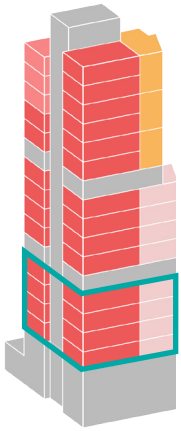
The typical floor plan of the tower and the dwelling blocks shows how the overall configuration is accomplished. It becomes visible that in essence, the tower consists of four apartments per floor, while the dwelling blocks contain four units per floor as well. However, the shared living rooms connect eight different units. The units on the floor above are connected with the living room through a void.

The dwellings are designed in a way that each separate house has at least one facade that receives direct sunlight during the day. In the tower this is accomplished by placing the apartments around the central core, while the units in the dwelling blocks are placed mainly on the south-west side of the volume.

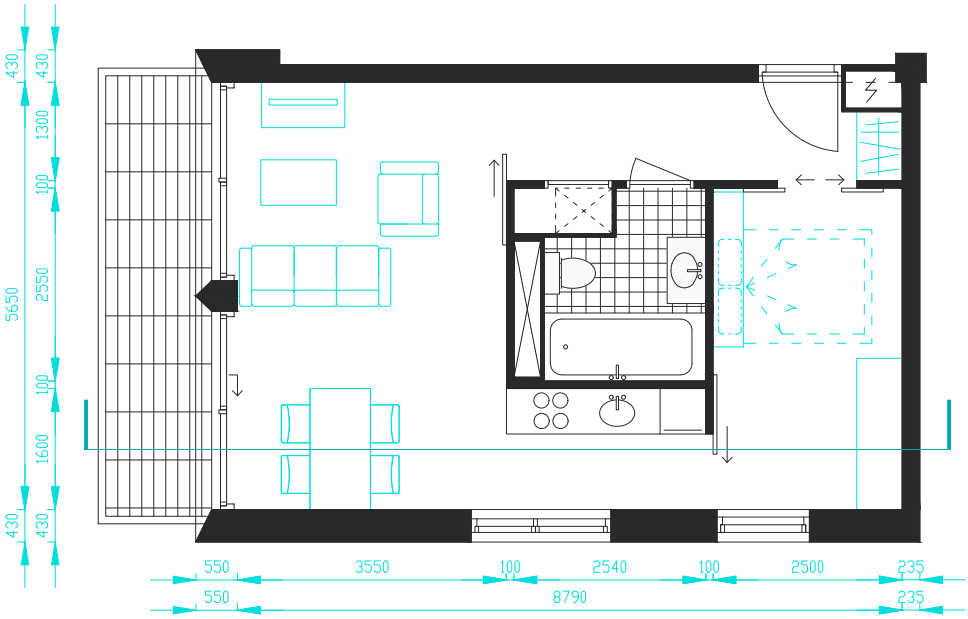
Tower
Level 3-6



Typical floor plan: Tower level 3-6
Scale 1 : 200



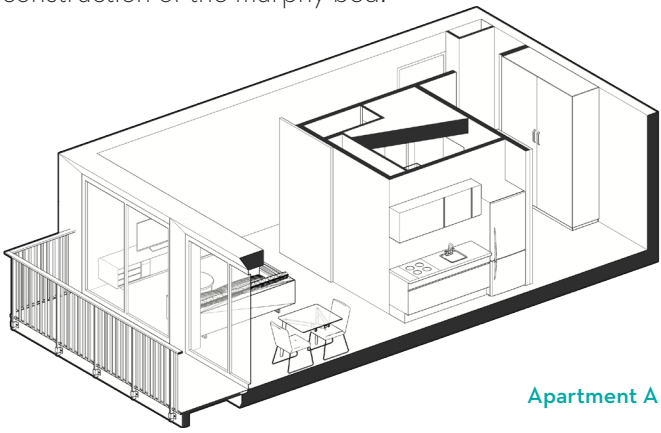
Apartment A
49 m²

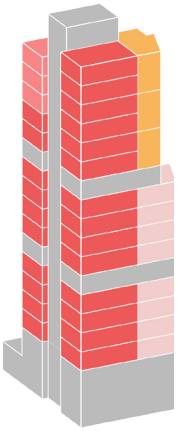


Apartment A
Scale 1 : 100

The first apartment being discussed here is apartment A, which is 49 sqm big. The main principle used here, is the decision to put the wet zones as an element in the middle of the dwelling plan. This element contains the bathroom, kitchen and all the main shafts and installations for the apartment. As a result, the dwelling itself is actually being formed around this element, which makes the plan open and accessible from different rooms. Besides that, the living room has direct sunlight access from the non-load-bearing facade which completely consists of glass surface.

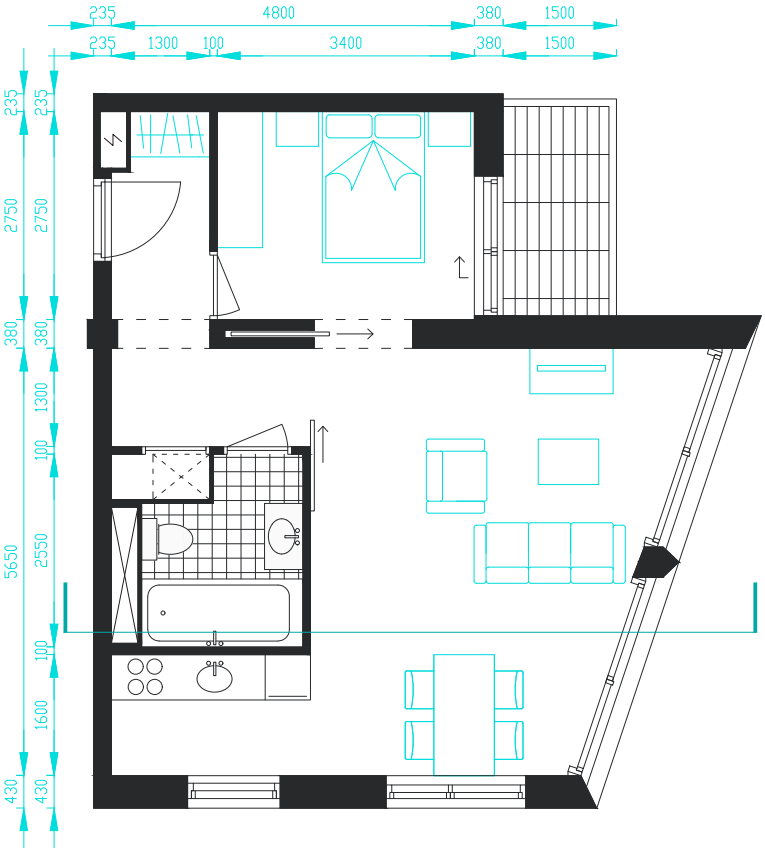
This apartment is suitable for both singles and couples within the target group, since the bedroom has space for a single bed or a murphy bed. Within the 'wet zone element' makes it is possible to create the construction of the murphy bed.





Apartment A

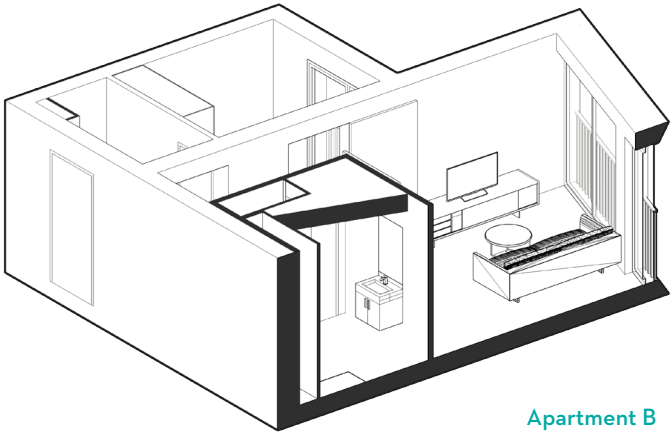
Apartment B
54 m²

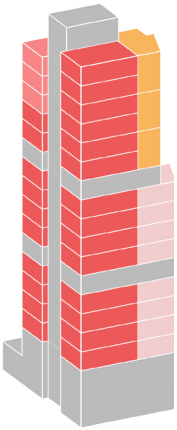


Apartment B
Scale 1 : 100

Apartment B uses the same kind of design principle of using an element in the middle of the dwelling plan. However, this apartment has the element against the partition wall. As a result of this, the living room becomes slightly bigger than apartment A. In combination with the complete glass facade, the living room feels spacious and open, making a small and compact dwelling feeling bigger than it actually is.

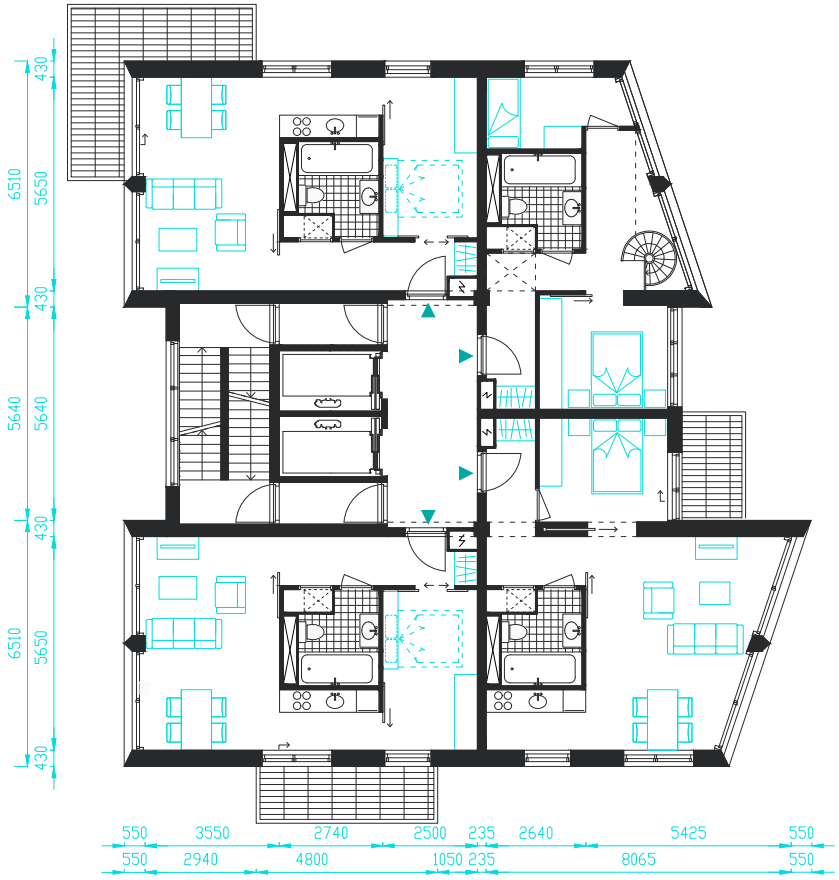
The bedroom is directly connected to both the living room and entrance hall, which makes the spaces more accessible and the overall dwelling plan more open. Just like apartment A, this dwelling is suitable for singles and couples.



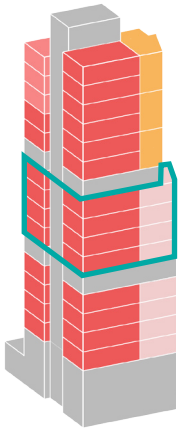


Apartment B

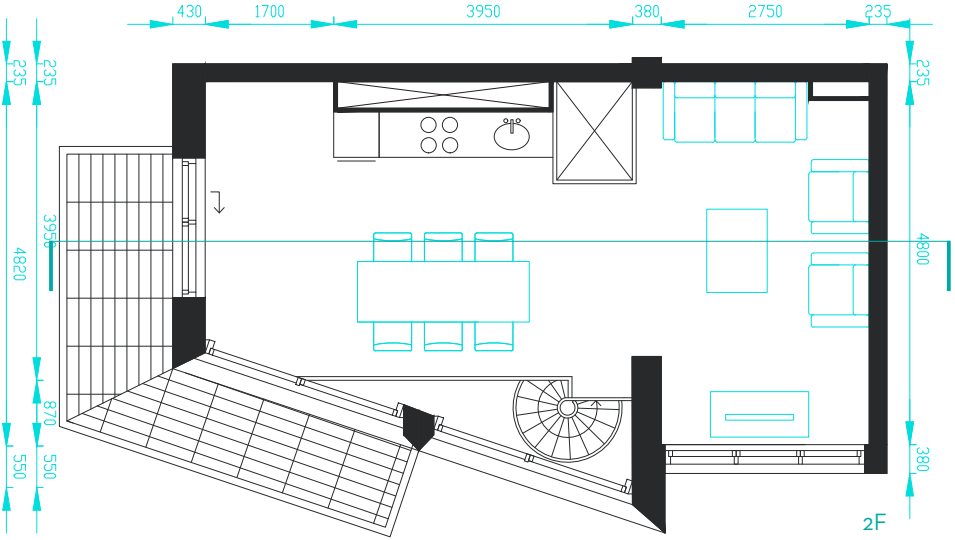
Tower
Level 8-11

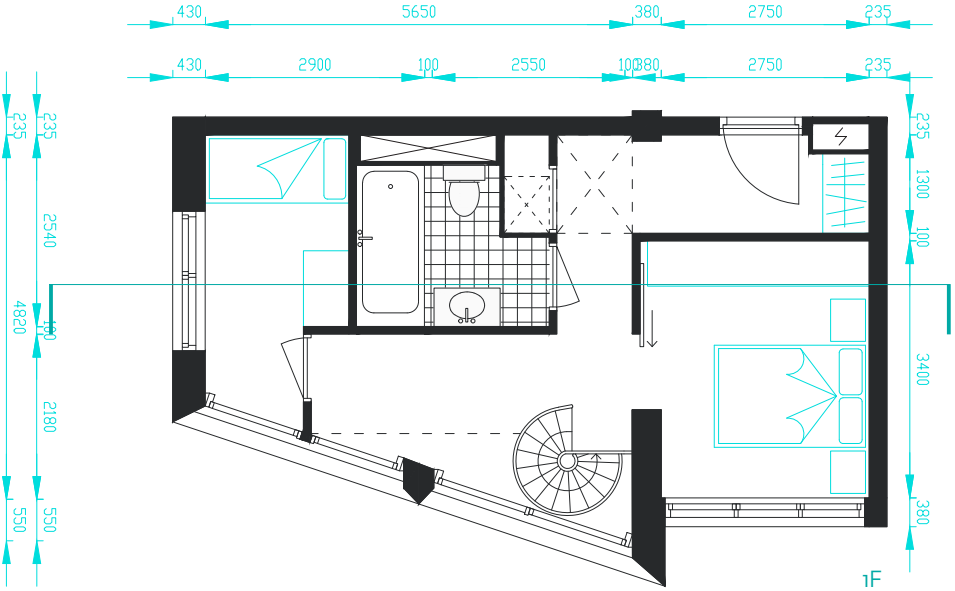


Typical floor plan: Tower level 8-11
Scale 1 : 200



Maisonnette
72 m²

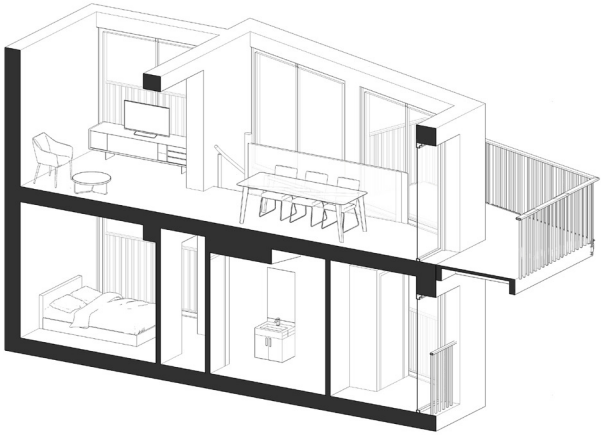


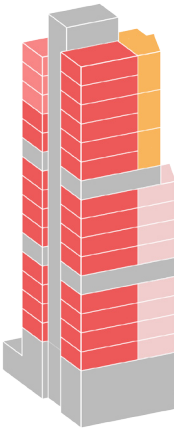


Maisonnette
Scale 1 : 100

The maisonnettes belong to the bigger dwellings in the project; it consists of 72 sqm. The wet zone-element has been used again, creating space for bedrooms on the first floor, while having an open kitchen and living room on the second floor.

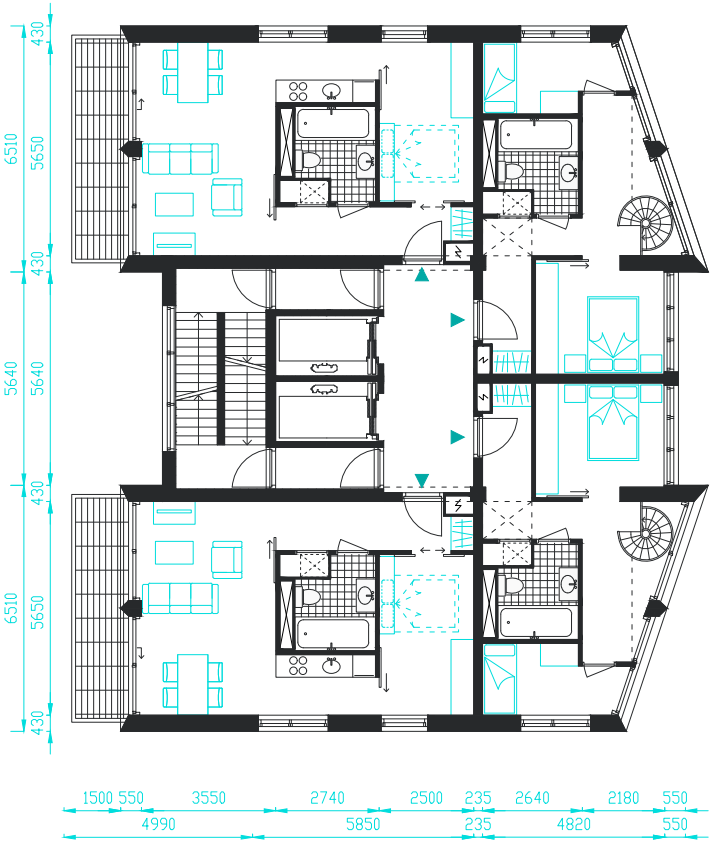
Since the target group, the fledglings, find themselves in their twenties and preparing to develop both personally and professionally, it is important to take this growth in mind and represent this in the design as well. Therefore, this maisonnette contains an extra bedroom designated for a baby or child. Thanks to this, the fledgling has space to develop themselves, now and in the future.



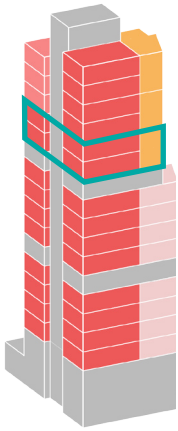


Maisonnette

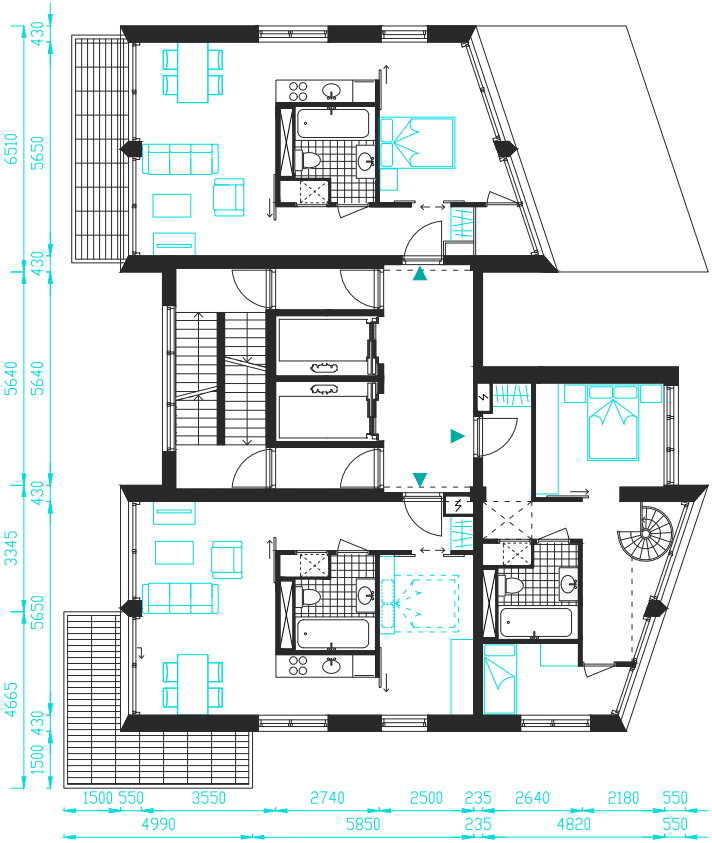
Tower
Level 13 & 14



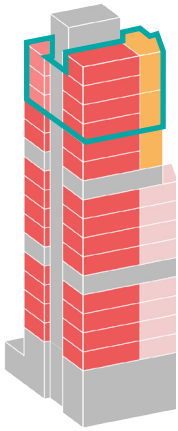
Typical floor plan: Tower level 13 & 14
Scale 1 : 200



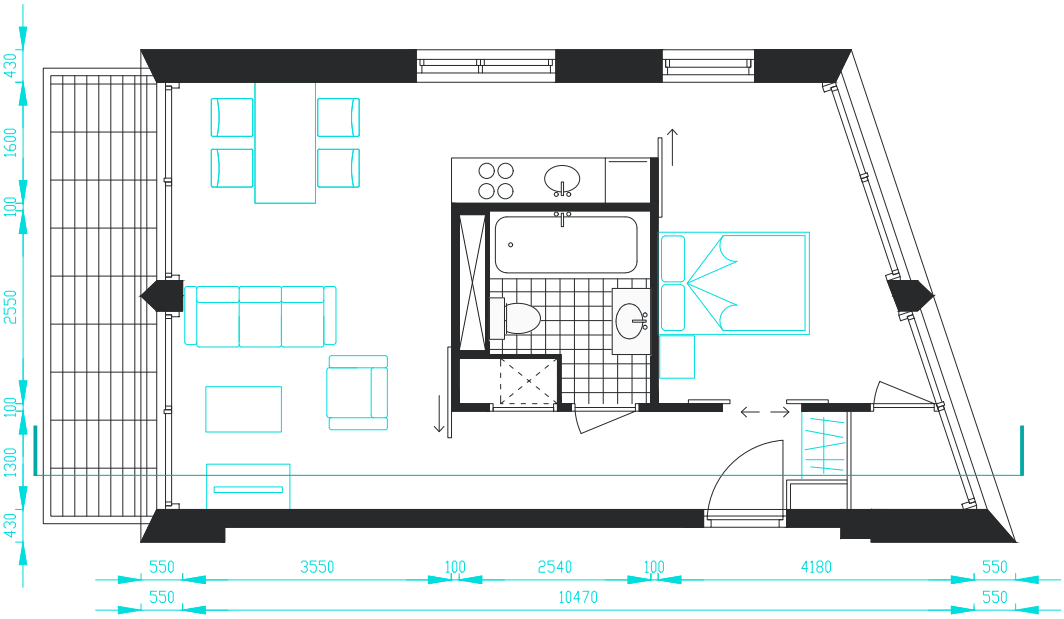
Tower
Level 15-18



Typical floor plan: Tower level 15-18
Scale 1 : 200

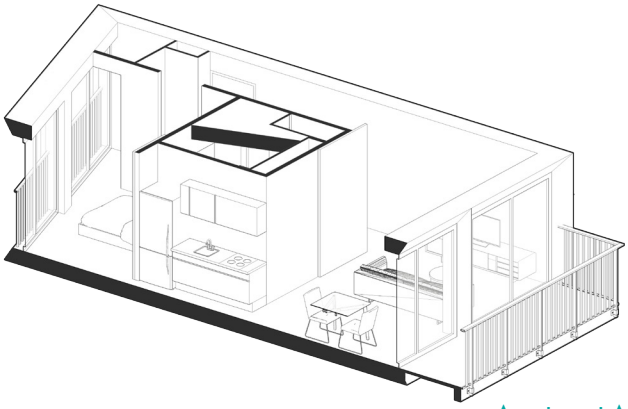


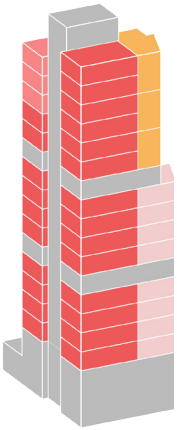
Apartment A+
54 m²



Apartment A+
Scale 1 : 100

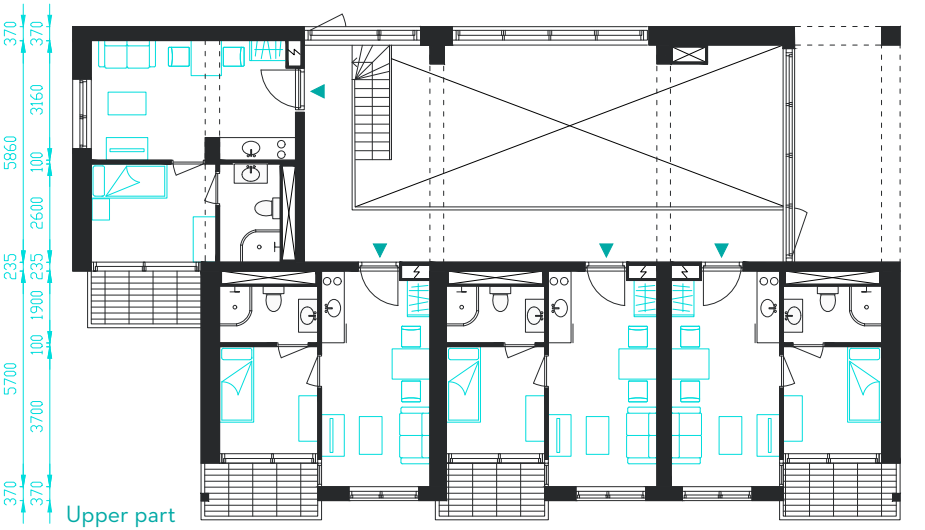
Apartments A+ are found at the top of the building, where the dwellings have the same kind of configuration as apartment A, but with a bigger bedroom and an extra open facade. This makes the apartment more spacious than apartment A already is, where daylight can access at almost any time of the day. Besides that, the element in the middle of the dwelling plan once again functions as a divider of all the spaces in the apartment without losing floor area on extra circulation space.

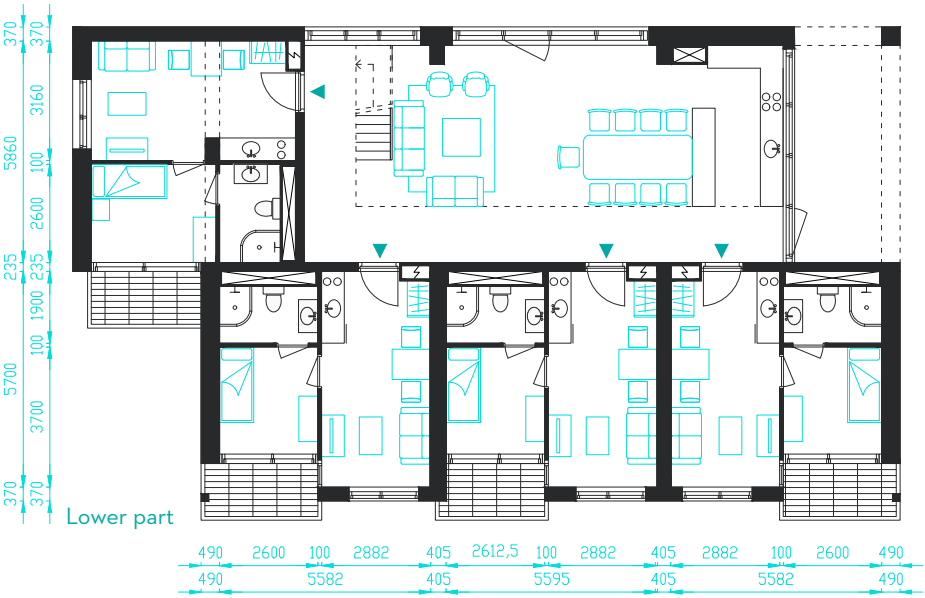




Apartment A+

Dwelling blocks



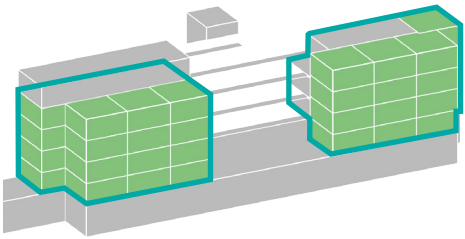


Typical floor plan: Dwelling blocks
Scale 1 : 200

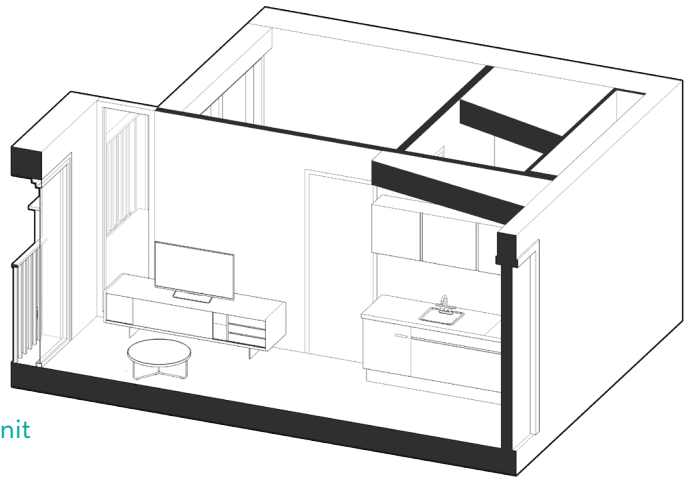
Impression of the shared living room;
The shared living rooms can be used by the residents as a place to eat, drink, gather or enjoy your spare time by yourself.

The dwelling blocks consist of collective housing where 8 residents share a living room with open kitchen and places to sit and eat. In total, 4 shared living rooms are to be found in the dwelling blocks, resulting in 32 individual dwelling units.

Besides that, the living rooms are connected with the collective roof garden inbetween the dwelling blocks with a balcony. This will enhance a direct connection between inside and outside and makes the transition from private dwelling unit to shared living room to collective roof garden more gradual.



Dwelling block unit
30 m²

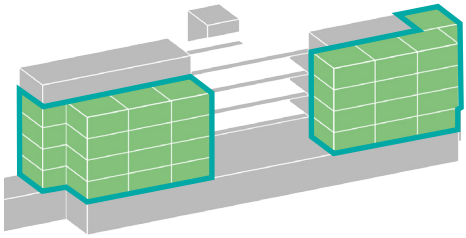


Dwelling block unit
Scale 1 : 100

The dwelling units contain of 30 sqm private space, which is quite low compared to the tower apartments. However, these dwellings are focused on having collective housing for the residents. Therefore, the spaces around the dwelling units, like the shared living room and roof garden, compensate for the lower dwelling space.

The dwelling units are designed in a clear way; the entrance is directly connected to the kitchen and dining corner which eventually lead to a compact living room. This living room has light entering from two directions, which results in a maximum exposure to daylight, given the small and compact living space.

The units contain a separate bedroom and bathroom, which is an important feature of a dwelling for the target group, as is seen during the literature research.



Dwelling block unit

Collectivity in the design

During the literature research of the graduation project it became clear that besides affordable housing, collective and shared facilities are important features in the lifestyle of the target group. This is mainly because through these activities, the residents are able to develop themselves both on personal and professional level. Next to that, performing new crafts and arts, the fledgling is able to learn and teach a specific culture.

It turned out that a shared living economy facilitates and stimulates this specific lifestyle of the fledglings. Indoor spaces as well as outdoor spaces should be designed in a way that the residents are able to use it collectivily and stimulate a communal feeling among them. Therefore, several design principles are used to accomplish this. One of the main design decisions includes a courtyard between the building and the AVL Mundo warehouse and the exhibition spaces in the plinth; they work as a catalyst to connect with the residents with the public life around them. Where the AVL Mundo can use the exhibition space and courtyard to continue displaying art and sculptures, residents and visitors can use these spaces to stroll around, meet people, gather or lots of other activities. The key thing here is, that the building has an open structure which makes it possible to facilitate a

▲ Impression of the courtyard between the design and AVL Mundo

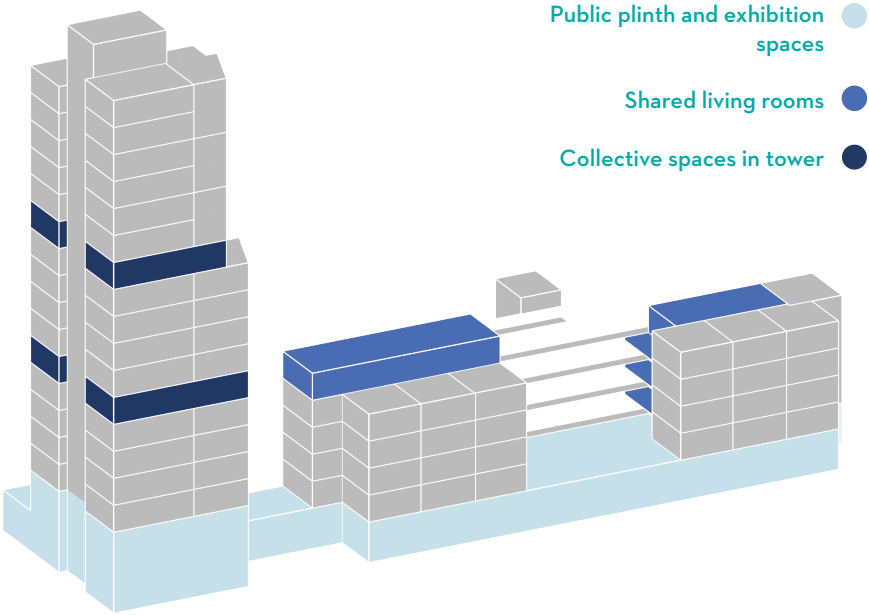
wide range of different activities, as is seen during the research into the Fun Palace. In the end, the concept of Cedric Price and Joan Littlewood was about stimulating and facilitating people to do activities which range from a cultural level to leisure; because of that, people can choose for themselves what they desire to do, both doing it alone or with other people. The design for the fledglings tries to accomplish this concept as well.

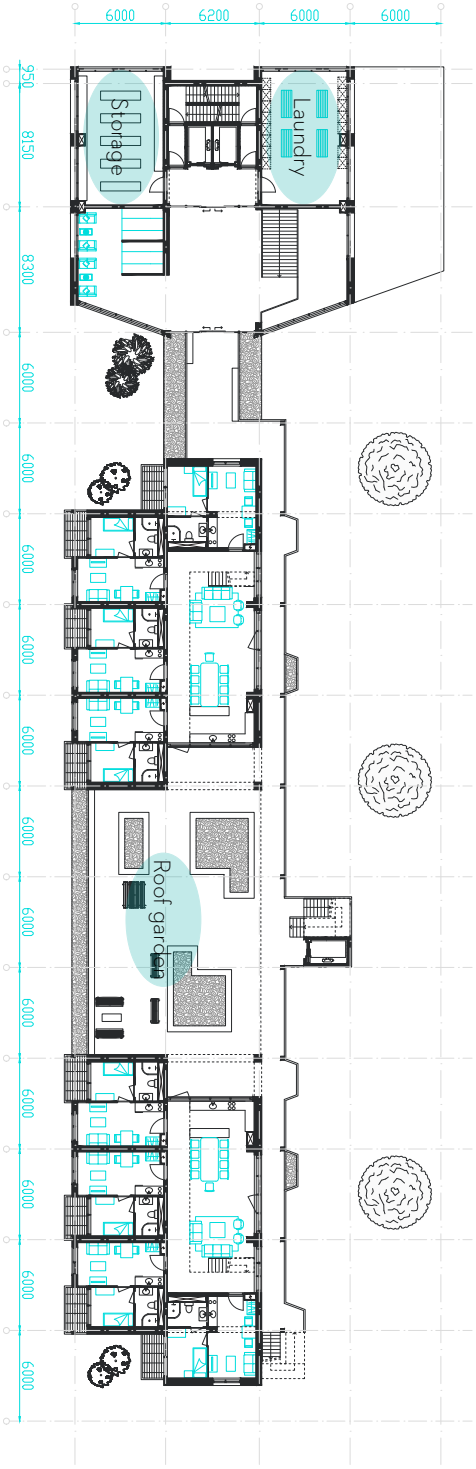
In the section it becomes visible how the dwelling units are placed against the shared living rooms which at its turn is connected to the side of the courtyard with gallery access. This makes it possible for the residents to have a view on the sculptures from their own dwelling compartment.

Besides that, the section shows how the exhibition spaces in the plinth functions as a direct connection between the street side and the courtyard. For example by opening up all the sliding doors on the ground floor, people are able to walk in and out when an event is organised which showcases sculptures indoor and outdoor.

Section through courtyard

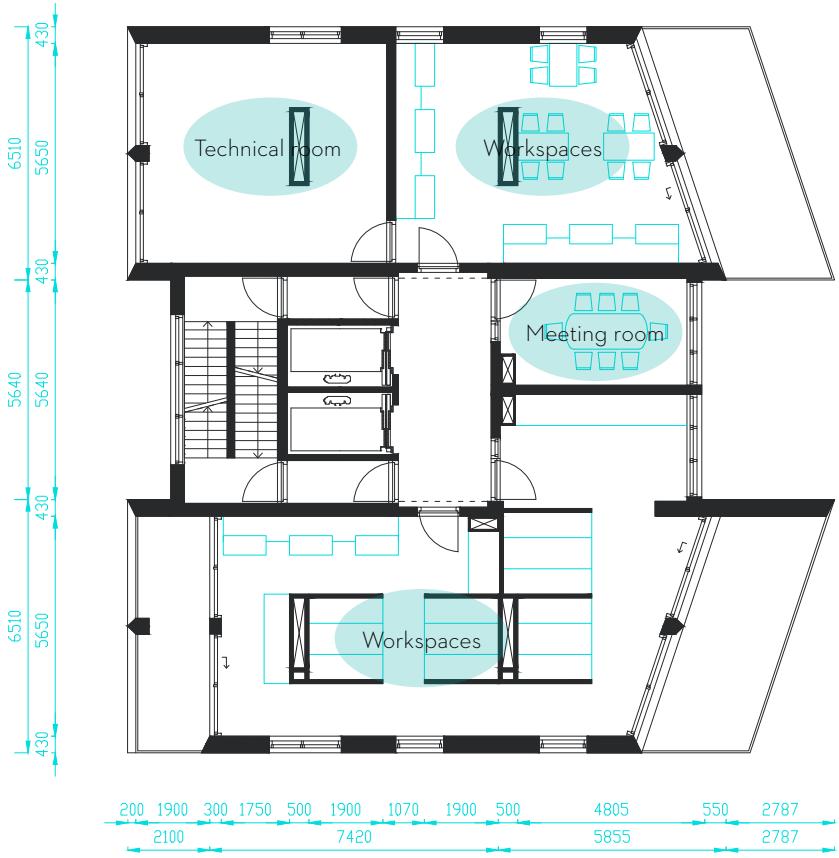
0 2 4


Public plinth and exhibition spaces
Shared living rooms
Collective spaces in tower



Level 1
Scale 1 : 500

Tower
Level 7

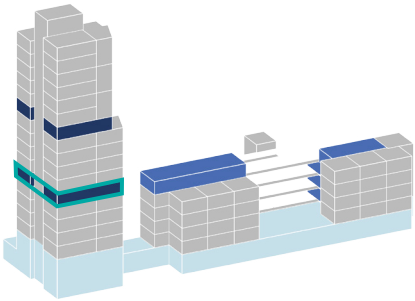


Tower level 7
Scale 1 : 200

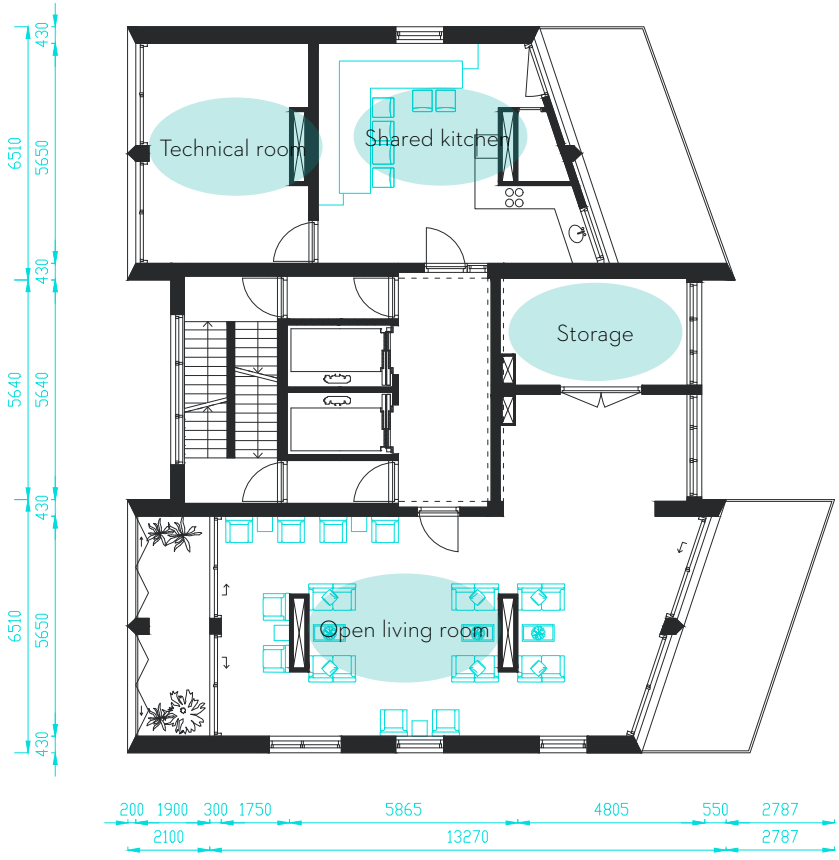
Workspaces and meeting room

In the tower, the lower collective floor is used for workspaces and meeting rooms for the residents. Since the apartments do not contain a separate working space, people have the ability to use these collective spaces in the tower. Besides that, group work can be done in the 'working cubes'; these elements have a bench and table which can be used by four or six people for example.

Outdoor spaces like a balcony and loggia are designed here as well, since it is important to go out once in a while during the study or group work. As a result, this floor works as a dynamic place where people can do more formal jobs alone or in a group in combination with outdoor spaces to be used in the process.



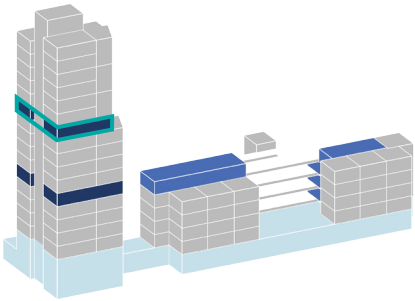
Tower
Level 12



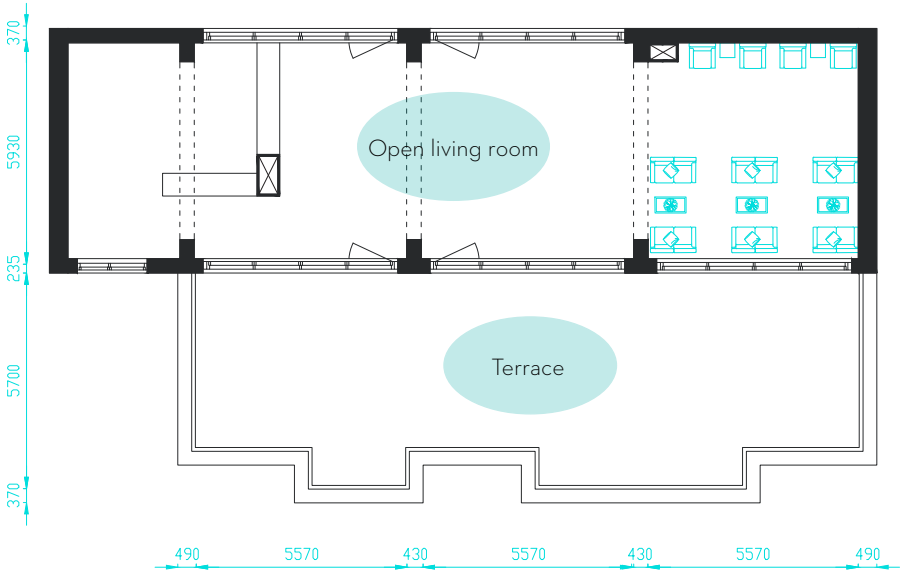
Tower level 12
Scale 1 : 200

Collective living room with kitchen

In contradiction to the formal collective floor in the lower part of the tower, the higher collective floor houses an informal atmosphere where people can make use of an open living room and a shared kitchen. In combination with a storage space on this floor, the open living room can house a bigger event as well.



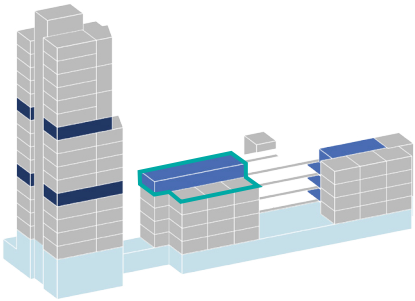
Roof terrace on dwelling block



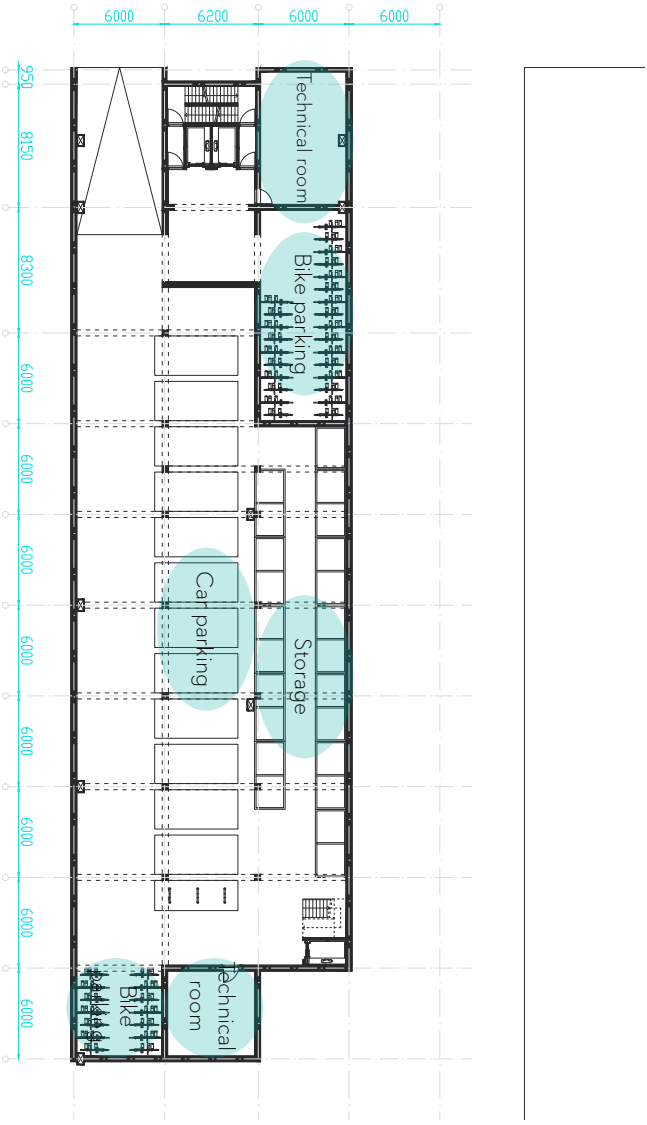
Dwelling block level 6
Scale 1 : 200

Living room on top of the dwelling blocks, together with a roof terrace

Similar to the open living room in the tower, this top floor on the dwelling blocks can house bigger events for the residents. For example, when a resident wants to celebrate a birthday, the risk may be there to disturb direct neighbours when it is organised in the shared living room. Therefore, there is a possibility to organise it in this top level of the dwelling block. Along with a big roof terrace, these events can make use of this floor without disturbing other nearby residents.



Basement



Level -1
Scale 1 : 500

Shared car facilities and storage spaces

The basement houses the functional spaces like storage units, parking for cars and bikes and the main technical rooms of the building.

The main principle of these car parking spaces is to use it in a car sharing system, since the target group does not like to invest in big costs like owning a car. Therefore, the residents can share cars to supply in their mobility demands when it occurs to be neccessary.

12 car parking spaces

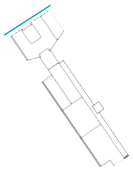
80 bike parking spaces

6 scooter parking spaces

23 individual storages


KEILEWEG
20

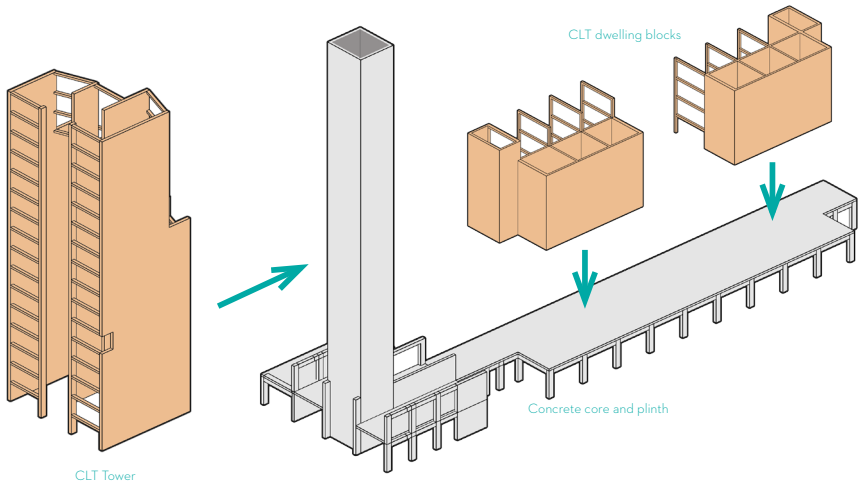
Climate and construction



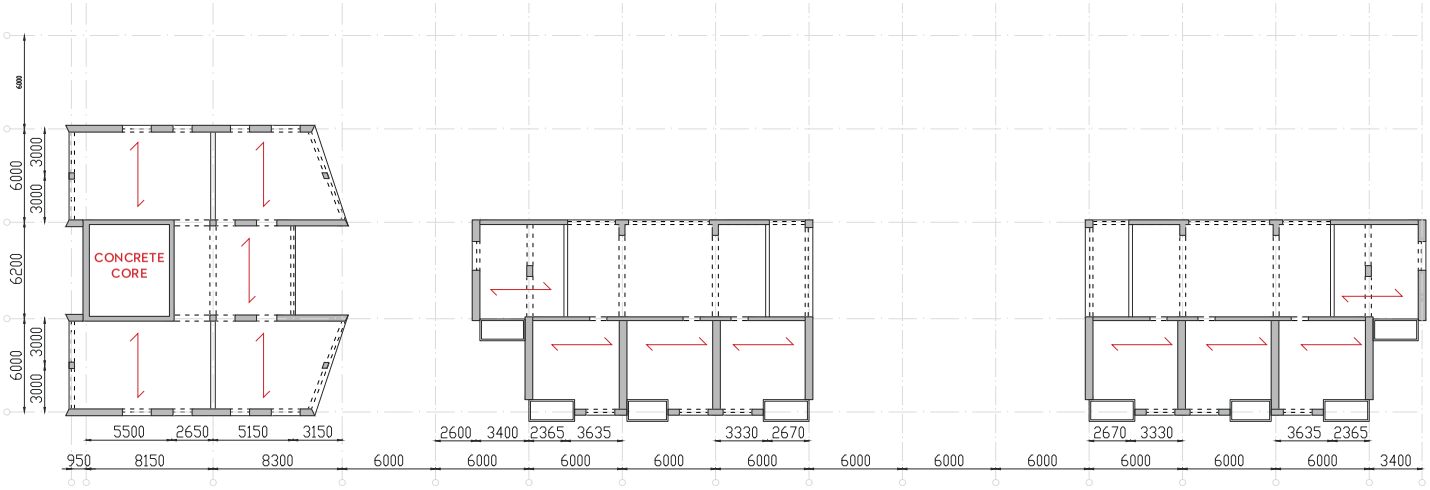
North-west facade
Scale 1 : 500

South-west facade
Scale 1 : 500

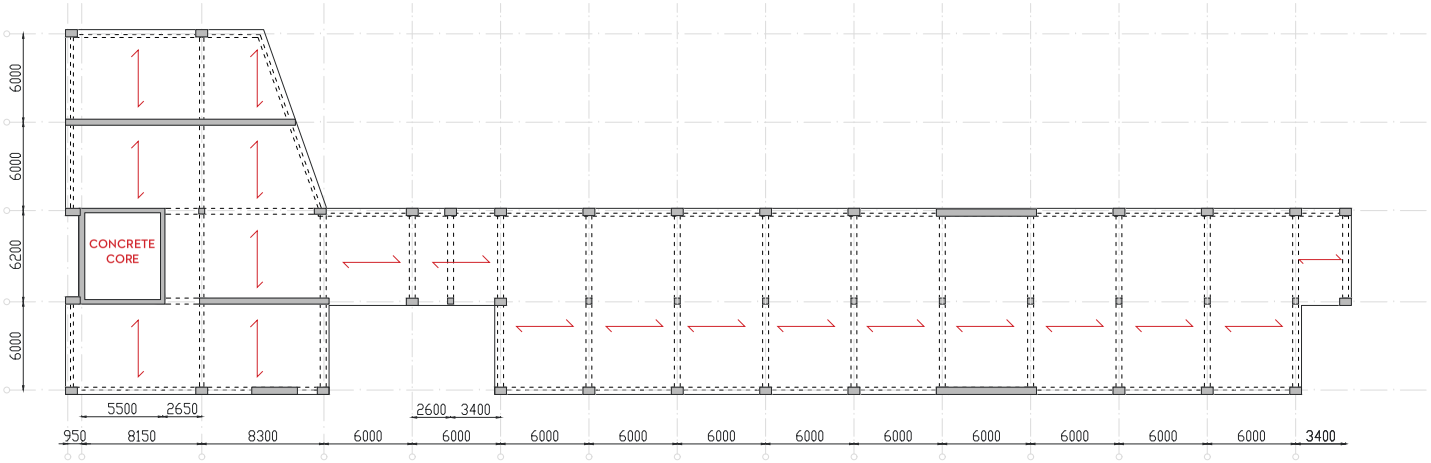
Principle of construction



Hybrid construction of CLT tower and dwelling blocks with concrete central core and concrete plinth

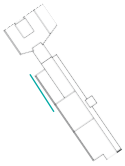


Construction grid of tower and dwelling blocks
Scale 1 : 500

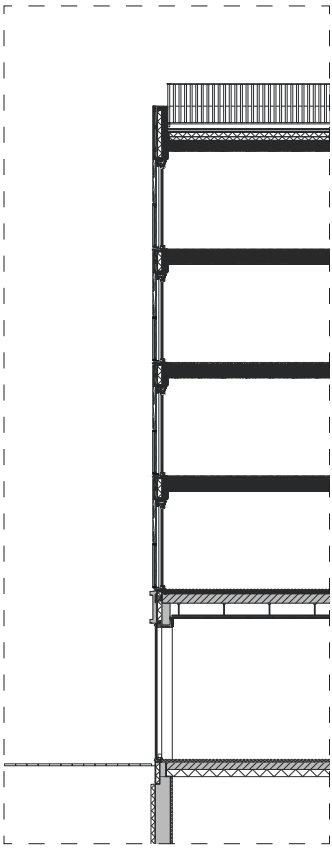


Construction grid of ground floor
Scale 1 : 500

Connection of concrete plinth and CLT dwelling block

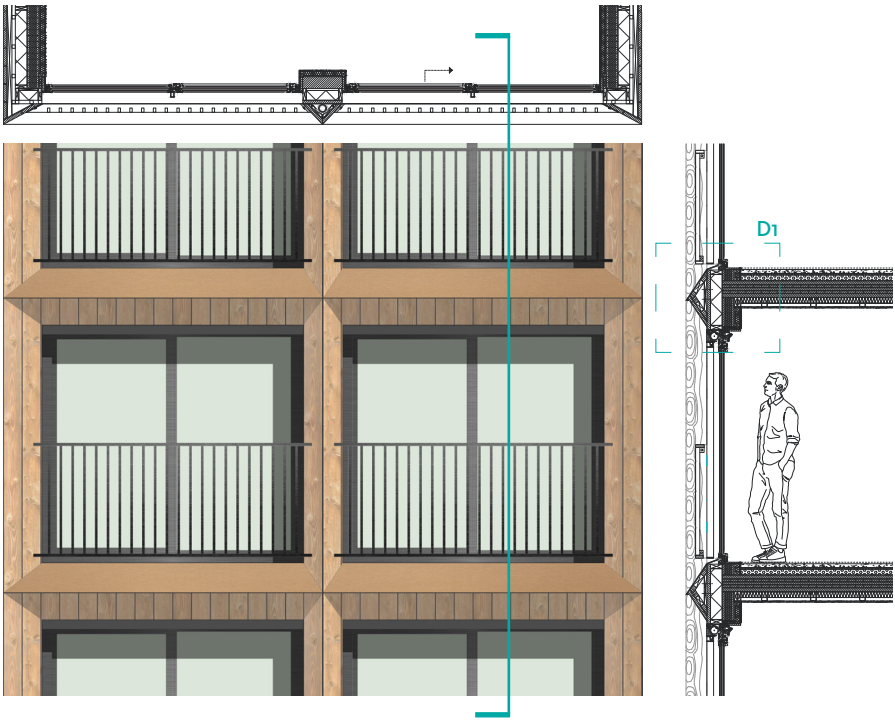


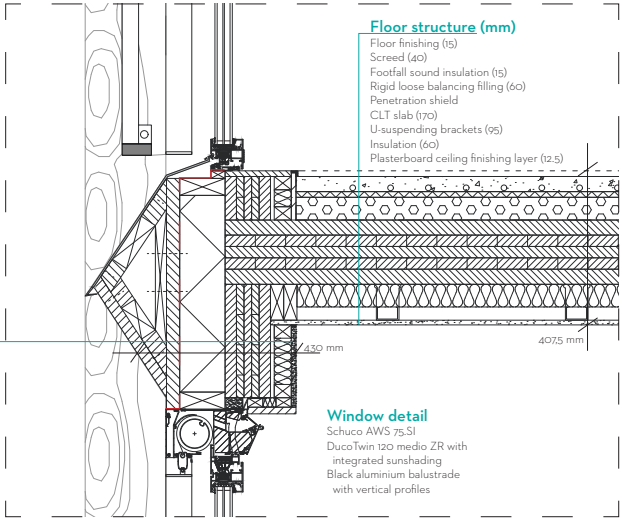
South-west facade fragment
Scale 1 : 200



Section fragment of the dwelling block
Scale 1 : 200

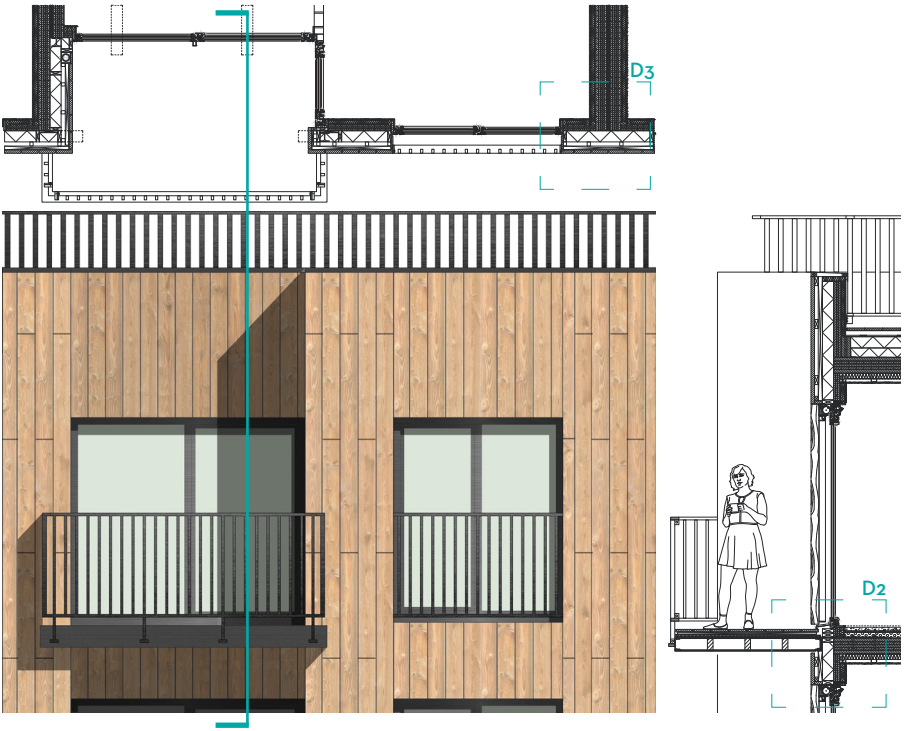
Tower Facade construction

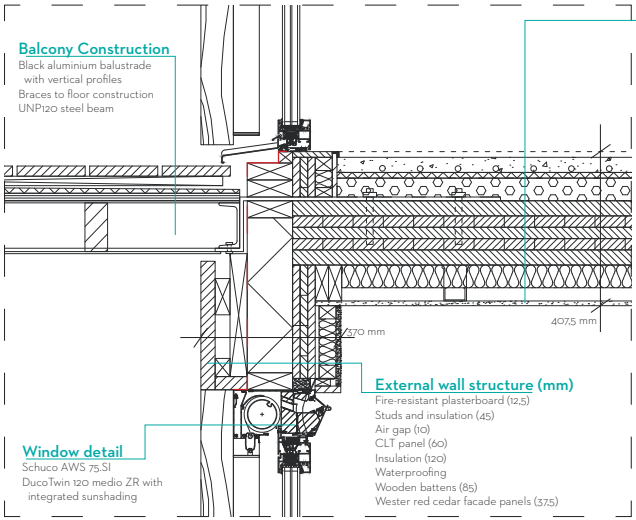




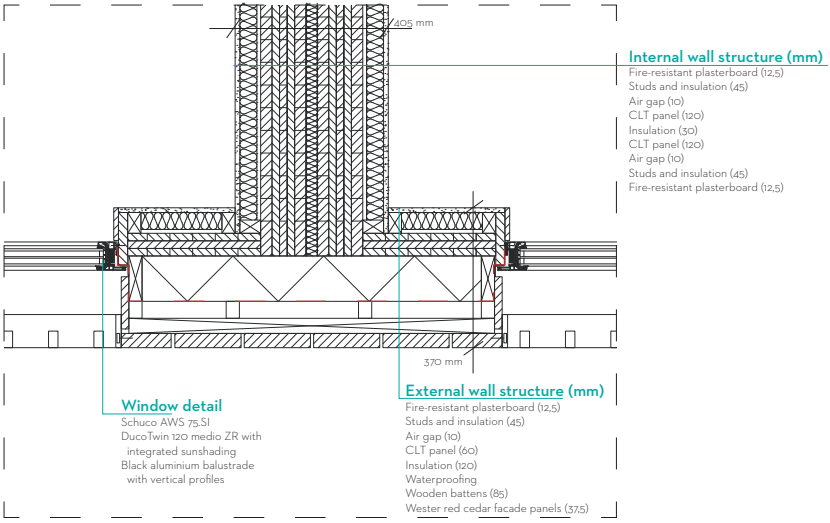
D1 facade detail
Scale 1 : 20

Dwelling block facade construction



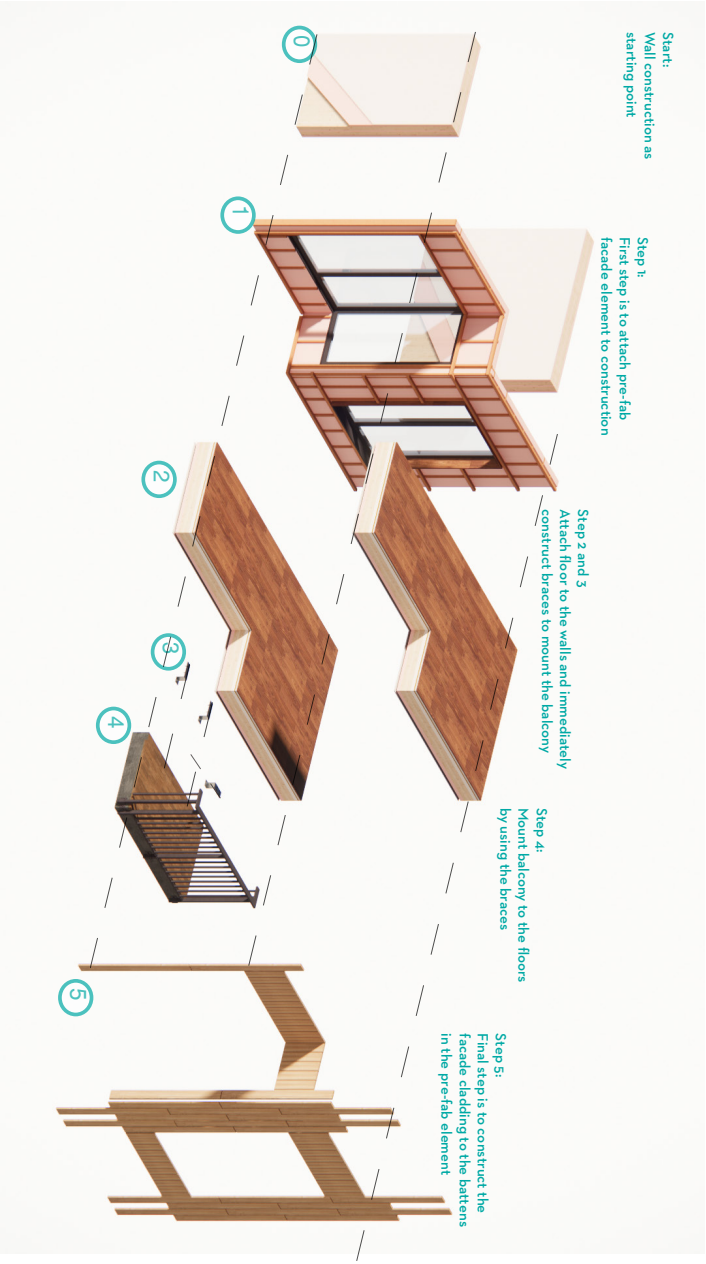


D2 balcony detail
Scale 1 : 20

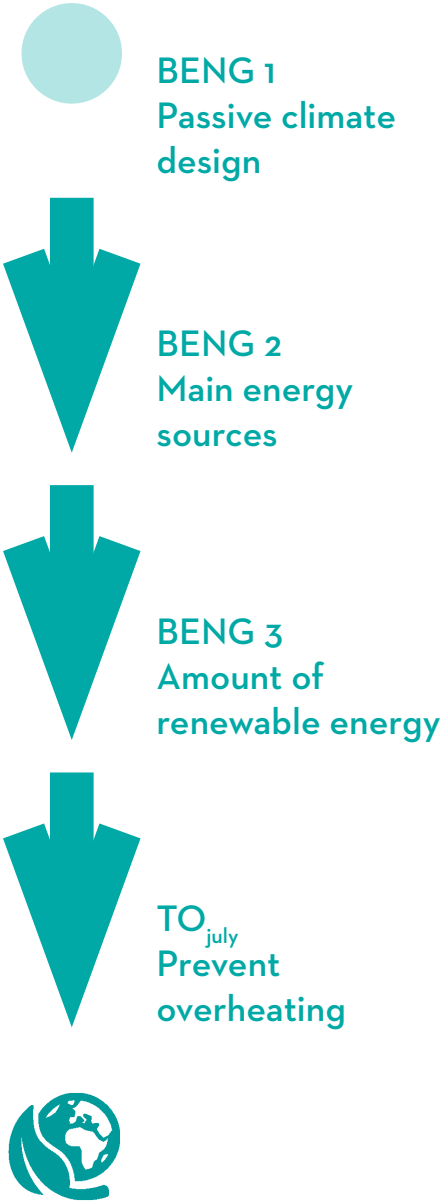


D3 horizontal detail
Scale 1 : 20

Assembly of facade



Climate principles: Achieving BENG-requirements



BENG 1

1
Triple glazing to reduce heat loss in winter

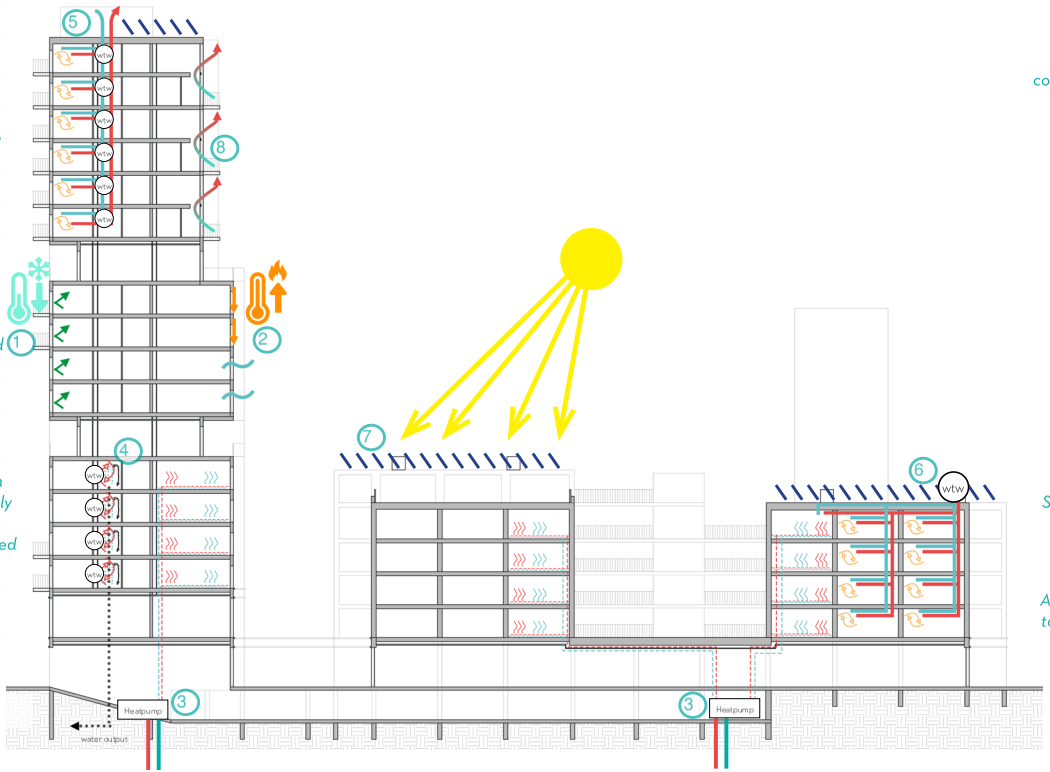
2
Openable windows and remote sunshading to keep comfortable temperature inside during summer

BENG 2

3
Active floor heating and cooling in all the dwellings provided through a heatpump

4
Heat recovery from showers. In combination with heat pump to supply hot water, higher efficiency is accomplished

5
The tower dwellings have individual ventilation type D with CO_2 regulation



6
The units in the dwelling block have collective ventilation type D with CO_2 recovery

BENG 3

7
Solar panels for supplying electricity in the building

3
The soil heat pump is able to supply and renew the heating and cooling in the building

TO$_{july}$

8
Summernight ventilation in the maisonnettes to prevent overheating

3
Active cooling in summer to cover up extra chance for overheating

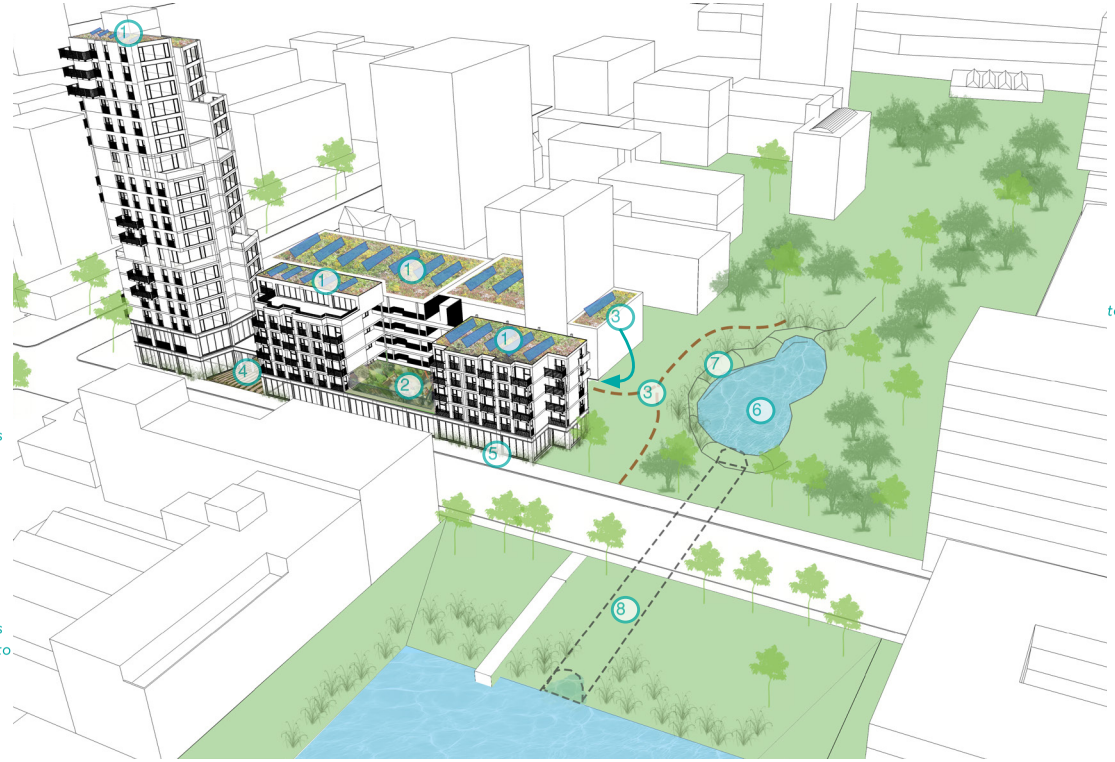
Climate scheme
Systems and approach

1 *Sedum roof with solar panels*

2 *Community rooftop garden*

3 *Grassconcrete tiles as walking paths through park and courtyard*

4 *Grassconcrete tiles as (side) entrance to courtyard*



5 *'Facade garden' (Geveltuin) across the plinth*

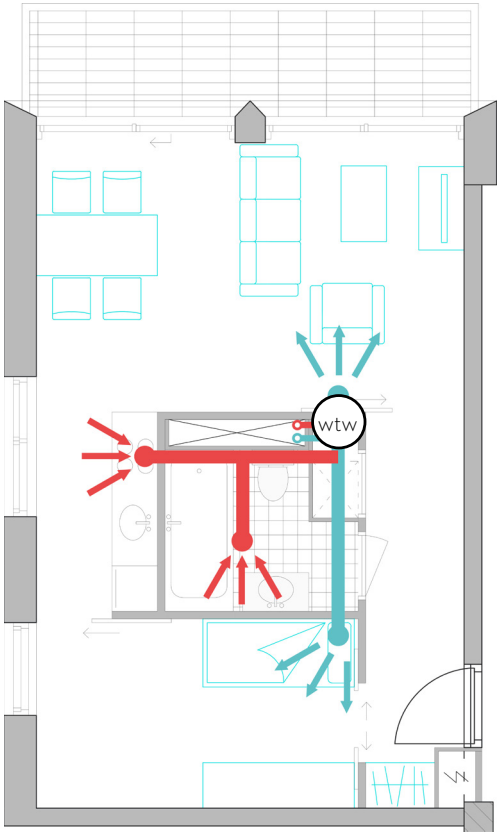
6 *Wadi to make physical connection to the location at the harbor side*

7 *Banks of wadi with hedges and shrubs*

8 *Faunapassage*

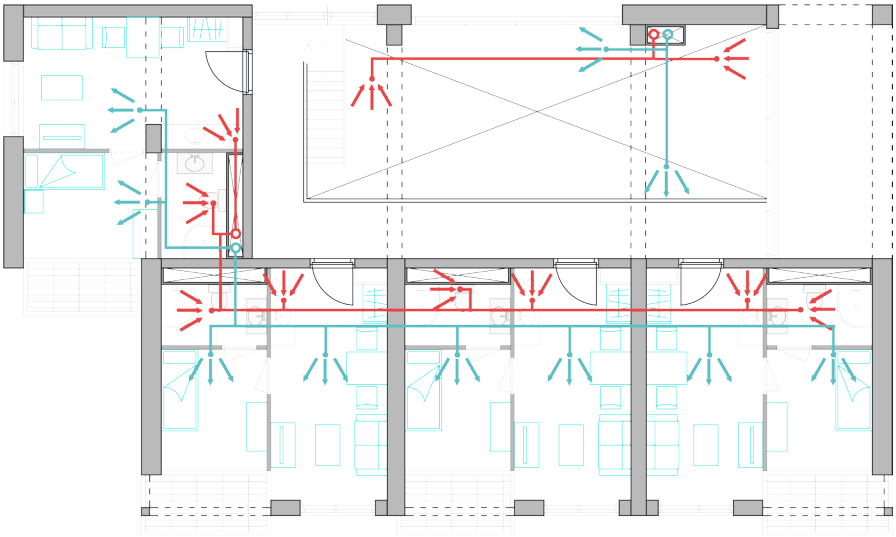
Nature includeed in the design
Connection to the urban park

Ventilation in the tower dwellings



Individual balanced ventilation (type D) with CO_2 regulation

Ventilation in the dwelling blocks



The units in the dwelling blocks have collective balanced ventilation (type D) with CO_2 regulation

Chapter 7
Reflection paper

Date of submission: 18 may 2021

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Delft University of Technology
MSc Architecture, Urbanism and Building Sciences
MSc4 Graduation Studio 2020-2021

Introduction

Before diving deeper into my personal research and design process during the graduation studio, I would like to start with a quote that inspires me to understand the current task of an architect. In his book Research Methods for Architecture (2016), Ray Lucas states his vision on the role of architecture in our society:

"Architecture is an ever-developing body of knowledge concerned with how we use space: how we dwell and occupy, establishing meaningful places and giving form to the world around us. How we build is informed by how we understand the world, and how we understand the world is framed by what we have built there."

Sometimes architecture might only be seen as 'designing beautiful looking buildings and designing the most appealing houses', but during my time as an Architecture student I understood that this is not the only purpose. The looks and aesthetics of a design is in fact very often subsidiary to the social and cultural elements of a building. Therefore, this quote by Ray Lucas resembles and represents my thoughts on the role of architecture very well, since I think an architect should be interested in creating meaningful and suitable buildings - and in the case of my graduation project meaningful and suitable dwellings. Besides that, by understanding and learning from what is already there, an architect might be able to create these meaningful places nowadays, which future generations can at their turn try to understand and learn from again. In short, architecture is indeed ever-developing in our society.

Designing the right building that fits the needs of the users and reaching the specific location's potential are some of the many elements an architect should try to master. Ray Lucas elaborates on this notion by stating three main topics that an architect should consider during the research and design process: the **historical context** in which we live, the **social role of spaces** and **spatial production**. During the reflection of my own research and design process I would like to use these three topics to give form and structure to the reflection. Therefore, the main part of this paper will focus on how research and design went hand in hand during my graduation project.

However, to give even more context to my graduation project, the following four subjects will be addressed in the later parts of this reflection paper as well:

- The relationship between the graduation topic, the studio topic, the master track and the master programme;

- Scientific relevance of the work, by elaborating on the chosen research method and approach;

- The relationship between the graduation project and the wider social, professional and scientific framework;

- The ethical issues and dilemmas that have been encountered during the graduation process.

Research and design

Historical context of the graduation process

In order to try to understand the needs and wishes of the users of a building in future generations, it is necessary to understand what has happened in the past. This may seem very obvious, but in any research the historical perspective and context in which a design takes place is different from any other. Therefore, research into the historical context of the intended users of the building is sometimes the most important part of the process: it can function as a starting point of the long research and design process and give decisive inputs.

In my case the historical research was mainly based on the development of the target group - starters on the housing market - in the Netherlands throughout the last few decades. At first, I did not know very well where to begin, because I really thought: "The Netherlands have had residents and dwellers for many centuries, so where do I start?" After just beginning to read literature about this specific target group, both on the internet and in books, I very soon discovered some leads that helped me to give direction to this historical research. For example, a Master Student Thesis by Ruben Hoekman who graduated at Eindhoven University of Technology with his research into the housing preferences of starters on the housing market in the Netherlands. Thanks to this, I decided to start looking into the preferences of this target group from after the Second World War, a period of time where many housing needs changed for a lot of people in the Netherlands. This resulted in a drastic twist of thoughts about how to house and dwell people, and how to design for this. An overview of how these developments took place can be seen in figure 1, where the different generations of starters in the Netherlands are depicted for each period of time in which they were born. Besides that, a prediction is made of how a new type of starters is being developed: the fledglings. It is expected that this type of starters continue to have more flexibility in their lifestyle.

In the end, I had a pretty good general view on how this group of people have lived throughout the decades and how they live now. Thanks to this I was able to come up with a prediction of how I thought these types of residents might live in the future, which I eventually made visible in a general diagram of how I understood all this information. I used such diagrams to digest and understand these principles for myself, as well as for other people to understand what I am talking about.

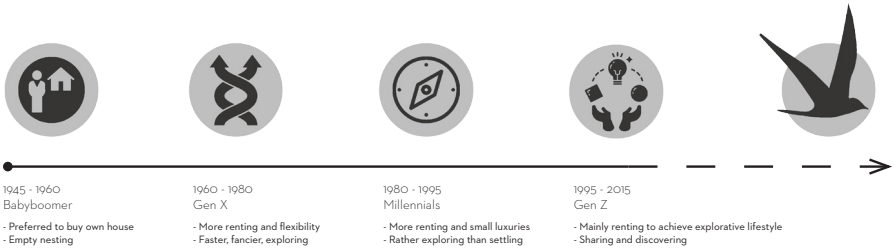


Figure 1
The development of generations starters through the decades

The prediction of how this type of residents will live in the future actually had to two functions: I was able to understand the design assignment for this specific target group and it helped me to set up a scientific framework in which I could work.

This framework was only based on theoretical information for now, since I only focus on my design goals and assignments yet. Only after this is set up, I could start designing, because I really had to know what I would be designing for; in my opinion a designer cannot just design in a broad and open scientific field, but rather has to set up this framework to give boundaries and restrictions to his design. This might feel as if the designer is limited to do what he or she wants to do, but I am convinced that such 'restrictions' will eventually help the designer to come up with something really special and creative that is specifically built for a group of people. Maybe it works as if the designer has to converge first, to eventually diverge his design process.

The design assignment was therefore based on some specific findings and requirements that were investigated during the research into a fledgling's lifestyle. Once again I had to visualize this by making a schematic diagram of these theoretical findings, because I had the feeling that I would better understand everything that I have found when I try to come up with my own interpretation of the subject. (I am starting to see a pattern here: concluding my findings into a schematic drawing.) This figure can be seen on the next page. The main thing that is noticed in this diagram is that I try to differentiate a fledgling's lifestyle from the students and someone with a full time job. By doing this, I am able to understand how the life of a fledling is different to that of a student and a working person and therefore come up with a design that is specifically designed for my intended target group.

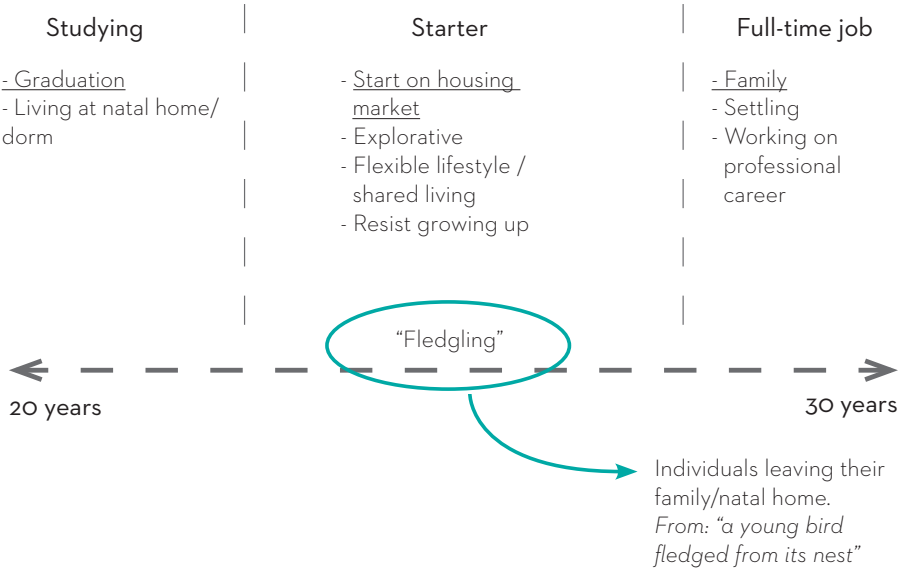


Figure 2
The characteristics of a fledgling's life, compared to the period of studying and having a full time job

As the figure of a fledgling's lifestyle shows, four main characteristics are to be distinguished from a studying lifestyle and a full-time job. Besides that, a fledgling is literally taken from the phenomenon where a young bird leaves its nest: it fledged from its nest. These characteristics were a great support for generating the design assignment. In the weeks that followed from this finding I was interested to see what this could mean for the design itself and how this is depicted in the architecture of my design. Besides that, thanks to the design assignment I could formulate what I wanted to achieve with my design for this specific target group.

Social role of spaces in the graduation process

Setting up a research question and a guiding theme

Now that I understood what the design assignment meant for this target group and what their lifestyle meant to them, it was necessary to come up with a suitable research question in order to give direction to my whole graduation process. My main research question would be as follows:

How can the design for an explorative living environment contribute to the exploring and sharing lifestyle of fledglings?

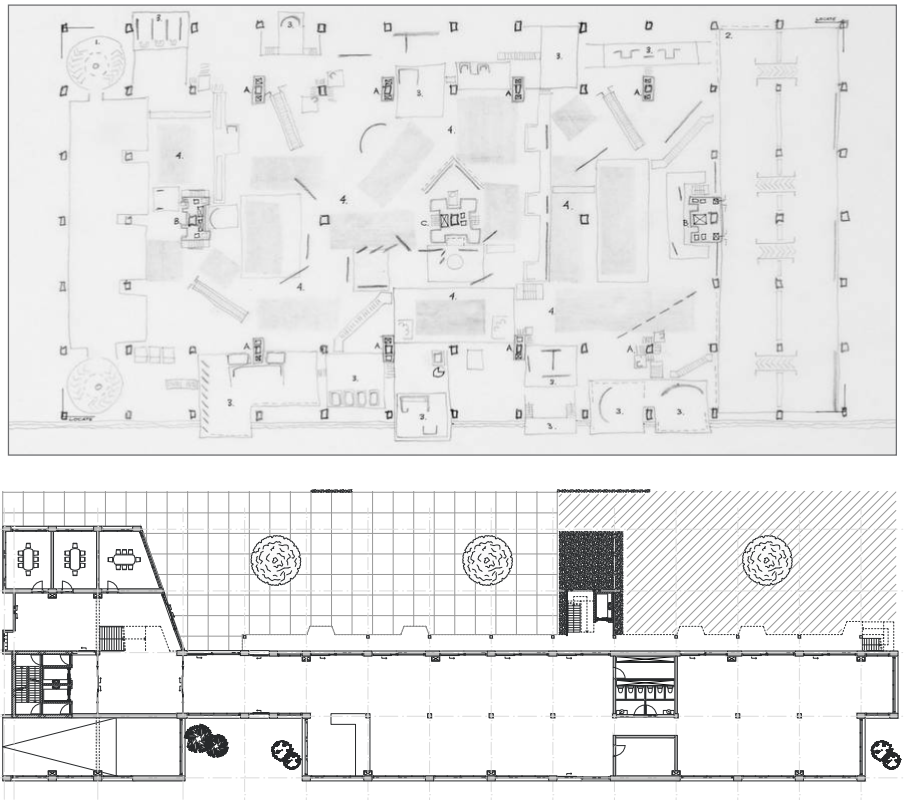
As this research question shows, my main concern in the graduation project is how architecture - in this case an explorative living environment - would contribute to the social characteristics of the target group. And I think this is what the graduation project is all about: learning how to use architecture to contribute to the social aspects of the residents in the building. Thanks to this, the architecture student can prepare him-/herself for the role of an architect after graduating.

Besides that, it is also about becoming familiar with the academic role the architect has nowadays, since a design has to meet the intended requirements. This design will only work when the architect knows how to interpretate the assignment into suitable architecture for the people living in it. In my opinion, only then an architect becomes successful in fulfilling the role as an academic designer.

To become familiar with this role of being an academic, it is necessary to use tools which will help in the process. Therefore, the research question will go hand in hand with a specific guiding theme. This guiding theme will help making design decisions in a structured direction, where the final destination of this direction is to have a suitable design for the lifestyles of residents. In my case, the goal is to design an explorative living environment for the lifestyle of fledglings so for this I would formulate the guiding theme in my project as an explorative living environment for residents seeking to maintain their exploring and sharing lifestyle.

Explorative living environment

Soon enough I came up with the idea to design a place for residents where they not only dwell, but have the feeling to be part of a community as well. This is mainly based on a principle of Cedric Price and Joan Littlewood, who came up with the Fun Palace. Their vision on being part of a community focused on the fact that people should be able to learn new skills and obtain knowledge while enjoying this during the process as well. According to them, this would improve personal development for the individuals involved in this process. This gave me inspiring ideas about how my target group might live, because I found out that the fledglings would try to develop themselves as well and by combining this with their dwellings, an interesting and explorative living environment can be achieved.



Schematic floorplan of the Fun Palace (top) and the ground floor plan of my design (bottom). The two are similar in the fact that the majority of the spaces are open and flexible to arrange, while there is a small amount of designated space as well.

The ideas and concepts of the Fun Palace helped me to become familiar on how people use communal spaces in their daily life for their personal development. Thanks to this, I learned how such concepts can be implemented into the lifestyles of fledglings.

As the figure on the previous page shows, the Fun Palace used a very open floor plan which stimulated the use of many different activities, such as spaces to read, perform handcrafts or walk around. This resulted in a design where people would have the feeling of strolling in a park and watching other people doing stuff for themselves as well.

In my design, the whole ground floor is dedicated to such an open structure, where the majority of the spaces are designed in an open structure with few smaller spaces designated for a specific function, for example meeting rooms. By using this open structure on the entire ground floor, the design makes it visible that the residents not only have a place to live, but to be part of a community as well. This is all done to contribute to the explorative living environment for the residents, as the research question and guiding theme gave the first steps for.

By investigating existing designs and concepts that have similar design assignments, such as the Fun Palace, I am able to learn the general outlines of my own requirements. This would eventually help me to come up with concepts that I could use in my own design.

The Fun Palace helped me to design the communal spaces of my building, but another important part of my graduation project should be addressed as well: the dwellings. In order to understand the needs and wishes of the target group for a dwelling I investigated some reference projects. These reference projects mainly showed me what the general needs were for this target group, like the general size of the dwellings and how they used shared spaces within their building. So this gave me an overall idea on how to continue investigating into the dwellings and domestic patterns of the target group. In the end, I chose four reference projects in my research that formed the base for my design decisions:

Lucien Cornil

Nordbro

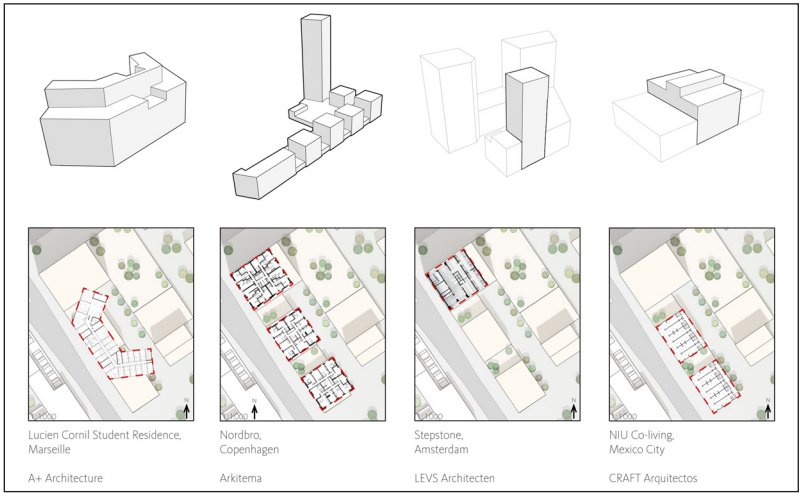
Stepstone

Niu Coliving

Spatial production in the graduation process

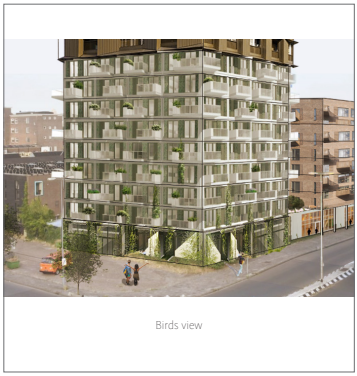
The element that differentiates spatial production with the social role of space is in my opinion the fact that spatial production focuses more about the actual and tangible design decisions, while the social role of space went more about what I tried to accomplish with these design decisions. Therefore, I will give an extensive description on how spaces and the looks of those spaces came to life in my design.

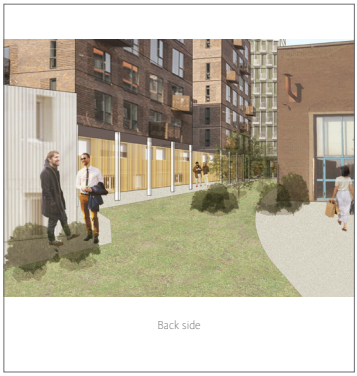
Using reference projects to gain knowledge about dwelling needs
The first experiment that took place in my design process was in fact a typology transfer of my reference projects into the design location in Rotterdam. This was done to understand the measurements of the plot and discover how the location would react to different building footprints. This process of experimenting and sketching taught me what I could do and what I could not do, when taking the footprints and building volumes into account. One of these experiments is shown below, where I literally used the reference projects' floorplans in my design location.



Thanks to this, I discovered that the original configuration of the plot (a tower with two building blocks) was really suitable for the location. This configuration made it possible to have a long, public plinth and a courtyard behind it to connect to the direct surroundings. So by doing 'practice-based'-research and conceptual experiments I discovered interesting new insights about the footprint and building mass of my project.

I continued doing such experiments by making 3D-sketches of the reference projects and transferring them to my design location - see the drawings below. This helped to configurate the different building blocks into a suitable footprint that keeps both the dwellings in mind, as well as the direct surroundings of the plot.





First impression sketches of the design, based on the experimental typology transfer in week 2.1

Experimenting and testing during practice-based research

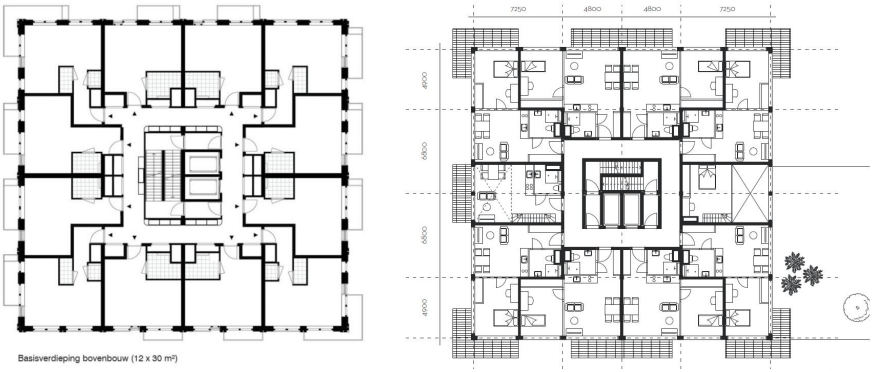
The development of the design has taken place in many different stages throughout the year and looking back on it, the last few months have been a circular process of testing and experimenting different solutions for the design assignment. Although this may sound as if I was doing the same stuff over and over again, I discovered new opportunities but also new problems. For example at times where the building started to be more precise and technical, I had to find out hów precise and technical it should be. A specific problem in this process is mainly in the topic of the building technology (BT) of the design, since the building became more detailed along the way. This resulted in steps where I had to switch between making the details correct and changing the corresponding floorplans so all the sizes of the rest of the construction would be correct again.

Steps like this happened on a bigger scale and at other domains of the design as well, for example at the development of the courtyard, where I tried to give suitable space for the residents on the one hand and connect to the urban environment on the other hand. Just like the process of making detailed drawings, sketches and more precise drawings of the courtyard alternated with each other. According to the literature of Ray Lucas, such a process can be called practice-based research: the alternation between academic behaviour and making intuitive tests and experiments.

Impression sketch of the courtyard that is presented during the P2 presentation

Render of digital model that is presented during the P3

Most recent visualization of the courtyard, where I wanted to experiment and test different materials



The picture on the left shows the Stepstone design by Levs and the picture on the right shows my floorplan, as presented during the P2

Most recent floorplan of my design, as it has been presented during the P3 as well. It shows a drastic change in configuration compared to the floorplan of the P2.

The figures show how I used reference projects and other examples to come up with a general first design attempt for my graduation project. These first steps helped me to give direction to the design and become familiar with both general and very specific measurements. For example, by literally implanting the floor plans of the Stepstone building I discovered what measurements the footprint of the tower could have in order to make the courtyard behind it still accessible and pleasant to experience. In the end, I kept finetuning and configuring my plans to have dwellings that are really suitable for my target group.

The process of designing the floor plans once again shows how I used reference projects that have been found during academic research to eventually make intuitive experiments during 'practice-based' research.

Conclusion on the role of research and design

Now that the role of research and design during my graduation process have been categorized into the three different topics as stated by Ray Lucas, it is possible to see how these two went along with each other. To give a structurized conclusion about the relationship between research and design, it is necessary to discuss the three topics first, since this gave a good guidance during the main part already. After that, the overall notion on research and design and what position an architect should have during the design process is mentioned.

Historical context of the graduation process
During this stage of the design process I was able to set up a scientific framework based on historical developments of the target group. I used theoretical information that I eventually digested into schematic diagrams that helped me to understand the design assignment.

Social role of spaces in the graduation process
After formulating the design assignment for my graduation project, it was possible to decide what I wanted to achieve with my building. This has to do with the fact that architecture should not only have a housing purpose, but also know what the social aspect is of the design. By using a research question along with the guiding theme for my project, I discovered soon enough what direction I wanted to go with my project. I eventually used a historic project (the Fun Palace) to give inspirations for my design concepts.

Spatial production in the graduation process
The third topic mainly became visible in the final stage of the graduation process: the stage where the most designing took place. Within this stage I met different kind of elements and domains of the design assignment. Besides that, more topics like construction and building technology were discussed. By experimenting and making sketches, on a detailed scale as well as the urban scale, my design became more and more precise. This eventually led into 'finetuning' my design so the overall requirements and design goals became feasible and realistic.

As the investigation into the three topics shows, is that there are three stages that can be distinguished in the graduation project. The first stage focuses on setting up a scientific framework in which the designer can

work. In the second stage the designer can decide what the social role of architecture should be. Eventually in the third stage the design is given an actual form that meets the intended goals. The three stages showed me how to use research to contribute to the actual design approach. Of course, a lot happens in these three stages and a lot of details remain unmentioned, but I think it is necessary to give structure to a complex process of researching, designing, experimenting, sketching and so on.

This complex process is something that an architect should become familiar with and during the graduation project I, as an architecture student, was given a great opportunity to become familiar with such a complex process. As my reflection into research and design shows, I used some academic tools - like literature research - to understand the design assignment. After that, I used (historical) examples to give inspirations and a first step into the right direction. By using existing projects in my own design process I was able to discover what is already there that is going well, while I also discovered how things could be improved in future situations. This is also shown in the fact that I investigated the generations of starters from the past, to come up with a supported prediction on how similar target groups will live in the future. On the one hand I used literature research to form general knowledge about the residents, while on the other hand I discovered a lot of new elements during the 'practice-based' research in which I continued designing and experimenting with my own graduation project. As a result, I could come up with a design that will hopefully contribute to the existing knowledge of similar design topics but also form inspirations for further research and predictions on how people will live in the future. After all, designers and architects cannot predict the future completely correct, but by trying to use our ability of connecting research and design in an academic way, I am sure that this will give good guidance on how the urban environment and housing (in the Netherlands in this case) will look like in the future. One day I hope to be part of a successful and inspiring development to create meaningful places for people.

3. Graduation topic, studio topic and master track programme

The relationship between my graduation topic (designing for starters - “Fledglings” - on the housing market), the Dwelling graduation studio and the Architecture Master track are in my opinion highly relevant and compatible with each other. The main idea of the Dwelling graduation studio is to become familiar with housing issues and challenges in the Netherlands and many other parts of the world. Themes like affordable housing, building up communities and designing meaningful places are all some of the elements that make up for the housing challenges nowadays and in the future. With conviction I can say that these and many more elements are discussed, explored and elaborated during my graduation process. I learnt to set up a framework that is suitable for my target group, thanks to in-depth literature research and case studies, I learnt how to deal with the affordability of the residents and explored how to solve technical challenges that should contribute to the overall ideas and visions I had about my dwelling design. These are just examples of issues, challenges and explorations that should help me to position myself as a designer with a considered view on the current architectural situations of dwelling in the Netherlands.

4. Scientific relevance based on the chosen research method and approach

Practice-based research
During this graduation project, and mainly during the process of designing, I had the idea that I was 'thinking by doing'. What I try to say with this, is the fact that I experimented a lot and simply was doing tests during the designing of the building. Besides more academic activities, such as literature research and case studies - which I will explain below - conducting research by producing and practicing the skill of designing, helped me to become familiar with issues and in the end come up with a suitable building as proposed in the first semester. I gained a lot of small insights that eventually led to architectural solutions I found satisfying for my design.

Theory research
During the entire graduation process I used reference projects and other exemplary designs to form a theoretical framework for myself. The way I used these reference projects differed from time to time and thanks to that I was able to solve different kinds of problems along the way. For example, in the first semester of this process I used reference projects to get a general notion of how my intended target group lives, while in the second semester I used architectural examples to understand and solve specific issues that I came across when I designed dwelling plans. In combination with the practice-based research I established a process which fluctuated between 'thinking by doing' and analysing existing projects to improve my own design.

5. The graduation project in social, professional and scientific framework

As stated in my research about the Fun Palace by Cedric Price, I found it really interesting to discover how people can develop themselves while enjoying the time when you learn something. After all, it is not about winning or achieving something, it is about enjoying the ride and developing yourself as a person. Hopefully my design can contribute to this notion and maybe it can even stimulate other people to continue researching a similar topic. But for now, I will just limit myself to my own project, since I think my project can be designed endlessly and I cannot remember one week during my graduation project where I did not find one interesting thing that I liked to dive deeper into. Unfortunately I could not do everything at once, so I had to 'kill my darlings' during the process and just focus on the most important things in my design.

In conclusion, I tried to design a building where starters on the housing market can both find affordable housing and an environment where they are stimulated to develop themselves on many personal and professional levels. I think this is important for the development of a city like Rotterdam, since such a big city is an ever-developing place where many generations of people will find their habitat in. To succeed in this supply of housing we should consider so many facets of the society and not just focus on one or two groups of people. During my research into the 'fledglings' I tried to keep this notion in mind as well, to contribute to a successful development of the M4H-area in Rotterdam.

6. Ethical issues and dilemmas

Finances of the intended target group

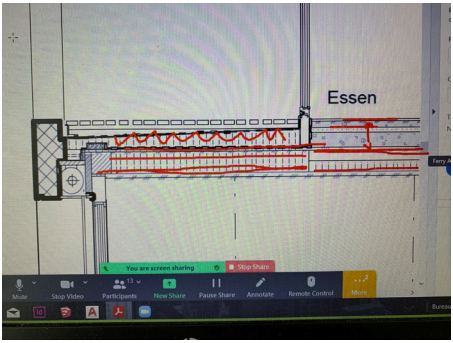
A common thing that I came across with several times in the graduation process was the knowledge (or rather the lack of knowledge) about the actual price and affordability of the dwellings. Thanks to the research in the first few weeks of the year I could get a general view on how the intended residents might live and what kind of houses they can afford, but during the actual design part of the graduation I discovered that these general notions were not really that tight enough anymore. For example, I had to come up with rather small dwellings for a target group that might not have much to afford, especially in a big city like Rotterdam. As a result I had to question myself several times how far I could go to make the dwellings bigger or smaller, to stay in the range of affordable houses for this target group. Unfortunately I did not find this exact and detailed information about these principles of square meters and affordability. Instead, I had to use relevant reference projects and other examples to come up with suitable and realistic dwellings.

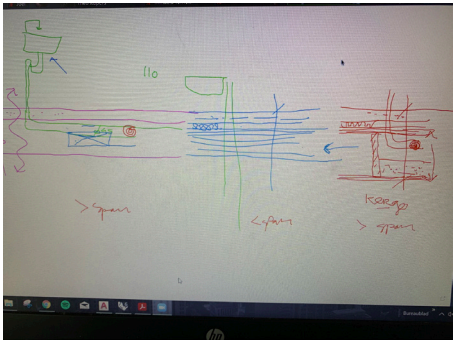
Studying during the coronavirus pandemic

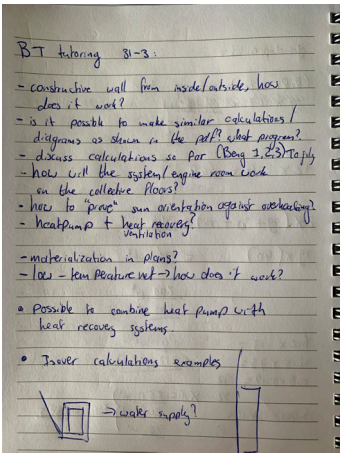
The thing that was probably the most influential in the way I studied during my graduation process, is the fact that the coronavirus spread around the world. Although we had the luck to study at the faculty for one day in the week at the beginning of the year, that same luck changed into misfortune after some months. This resulted in a situation where all of our meetings with students and mentors were taking place online and we had to work from home. Because of this, the "old-school" sketching sheets and hand-made drawings became digital sketches via Zoom and some really quick sketches made for yourself behind the computer. To show how this eventually looked like, I added some pictures of these drawings below. The two pictures on top are made during a Zoom-meeting by the mentors when they explained some topics to the students. The pictures on the bottom show some pages of my notebook, which I used for writing down all of my thoughts, ideas, feedback and so on.

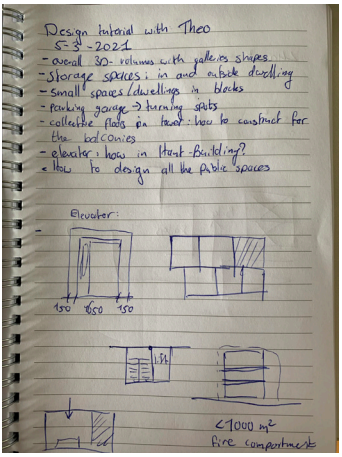
Although I did not experience any significant dilemmas that are caused by the pandemic during my graduation project, I found the whole situation worth mentioning in this reflection. The issues I met during these times did not really influence the content of my graduation, but rather the

general experience of studying. I missed going to the faculty to have meetings and tutoring by my mentors, as well as the chats and informal talks with fellow students in a time where we all finish an important part of our education. After all, I think that as (to-be) architects and designers we all know how important these informal talks and encounters with one another are for us.









Chapter 8
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Chapter 9
Appendix

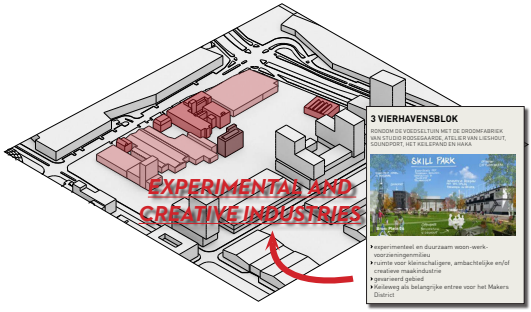
Appendix 1: presentation slides of urban masterplan for quarter A

This presentation is made by: Daryna Chernyshova, Joël Swaab, Tom Koekkoek, Yuchen Li

Starting points

QUARTER A & ITS GOALS

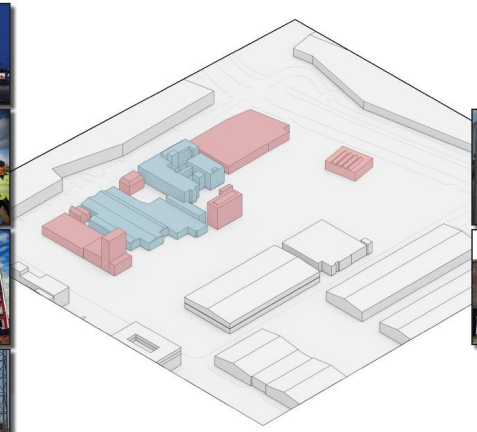
- Reach an urban environment where residents can combine leisure with creative industry
- Make these creative industries a central point of interest
- Stimulate new and sustainable ideas in daily life
- Stimulate cross pollination within the area
- Urban varieties in the quarter



2

Preserved Architecture

WHICH BUILDINGS CONNECT TO THE NOTION OF CREATIVE BUSINESSES?



4

Vision → **Main focus on creatives and creative industries**

WHAT INGREDIENTS WILL BE USED FOR THIS URBAN ENVIRONMENT?

- Maintaining the design offices and studios to emphasize on creative industry and attract creatives
  (e.g. Keilewerf and AVL-Mundo)

- Accommodate flexible working spaces for people living in the quarter
  (e.g. work close to home / in residential building)

- Formal hard edge vs creative soft edge

- Public space as a catalyst for combining daily life with creativity, working people and spare time activities
  (e.g. accommodate temporary studios or exhibition in open park)

3

Inspirations from Strijp-S, Eindhoven

AS SEEN IN STRIJP-S, HOW CAN OUR VISION & GOALS BE ACCOMPLISHED?


HAASJE OVER


ASSIGNING OF SPACE

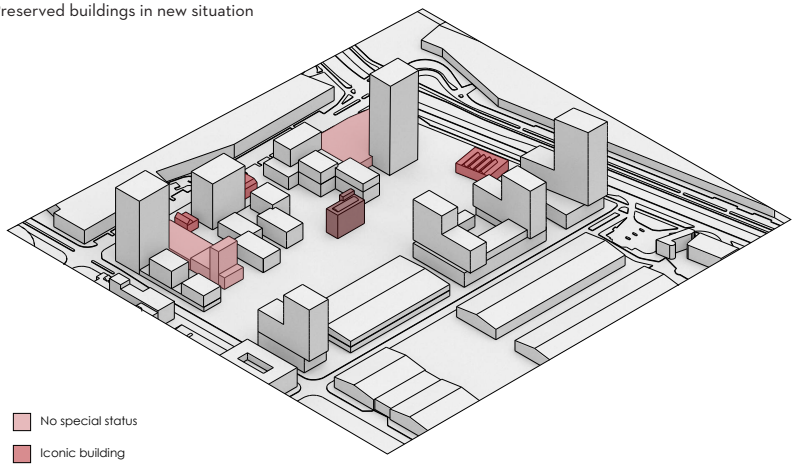

TORENALLEE


CENTRAL GRASSFIELD

5

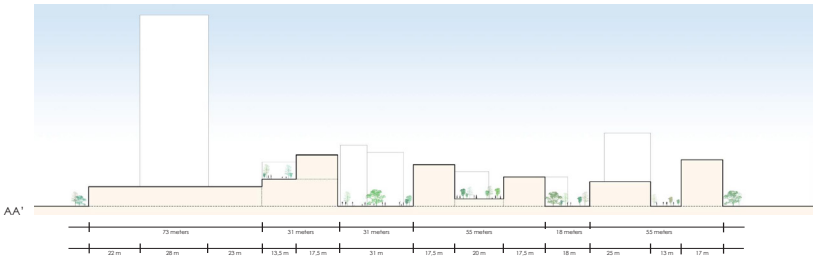
Urban Diagrams

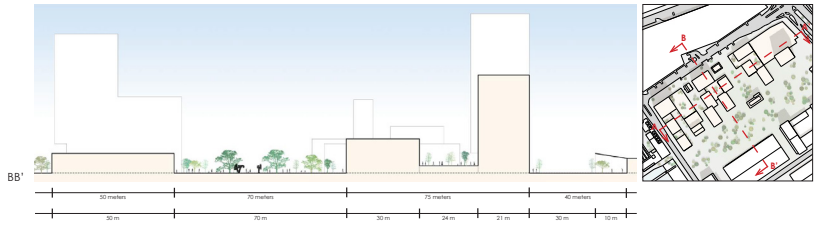
Preserved buildings in new situation



8

Urban Sections

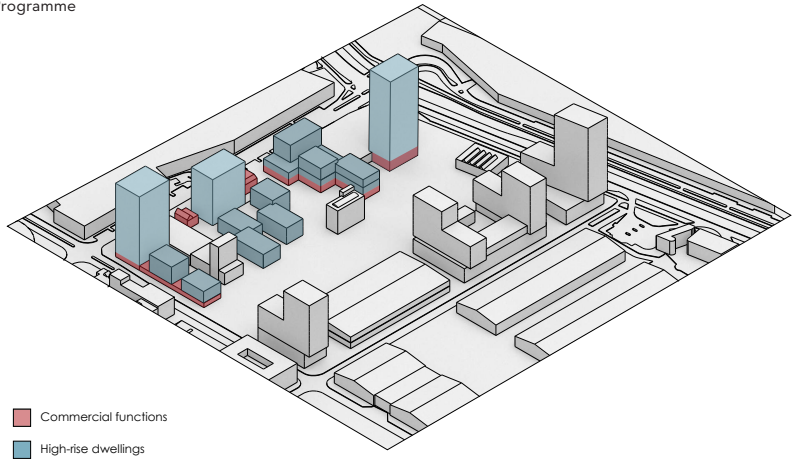




7

Urban Diagrams

Programme



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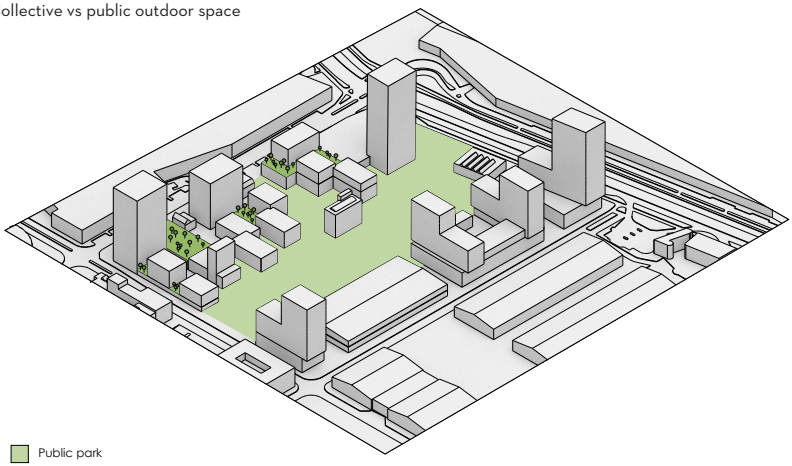
Urban Diagrams

Collective vs public outdoor space



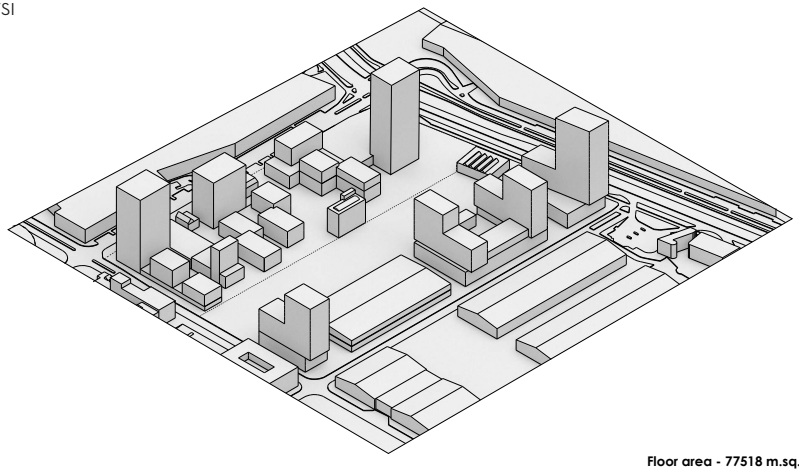
Public park

Collective greenery / courtyards

10

Urban Diagrams

FSI



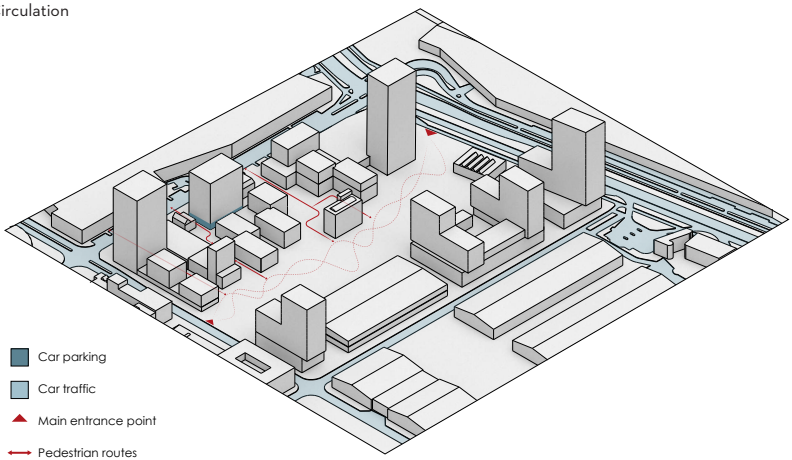
Border line

Floor area - 77518 m.sq.
Plot - 24055 m.sq.
FSI - 3.2

12

Urban Diagrams

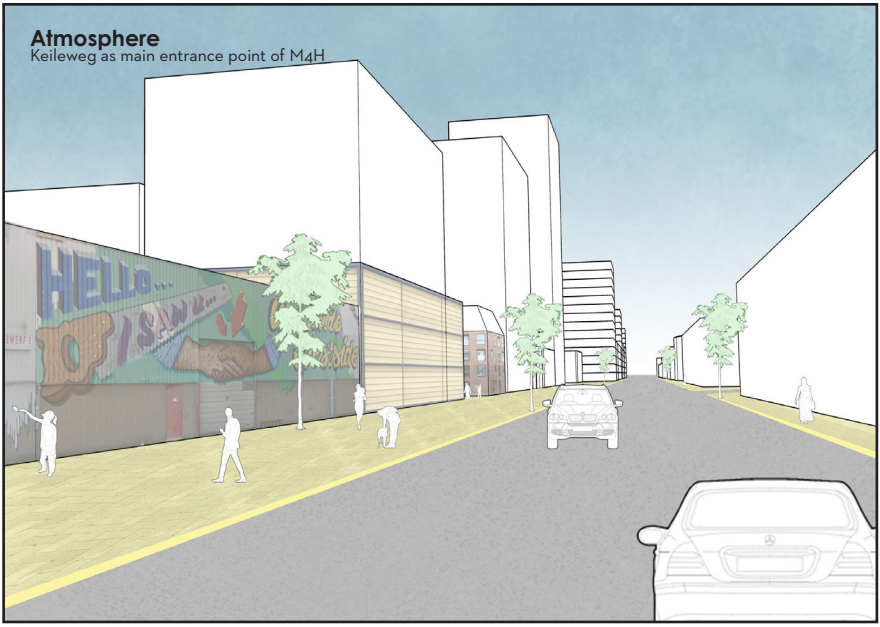
Circulation

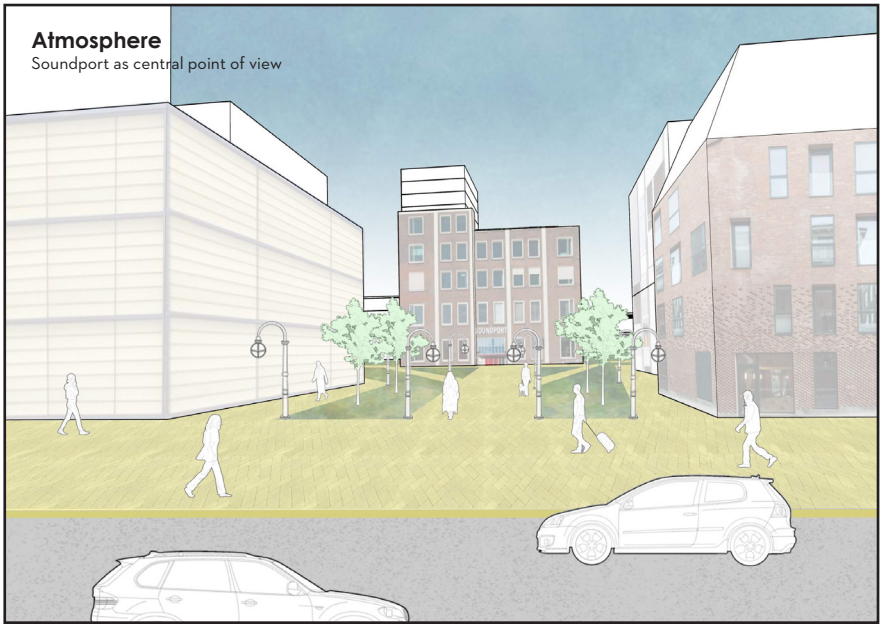


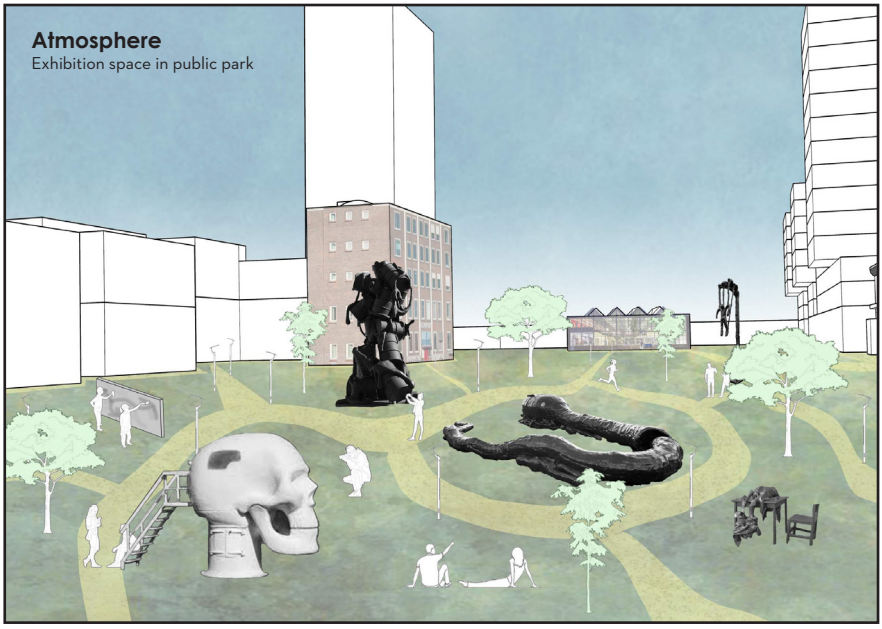
11

Atmosphere

Keileweg as main entrance point of M4H




Atmosphere
Soundport as central point of view


Atmosphere
Exhibition space in public park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