

**FAKULTA
ARCHITEKTURY**

AT1
LIVING IN A POST-INDUSTRIAL LANDSCAPE
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Annotation

In this project I created a modular system that serves as a universal solution for housing in post-industrial areas. I focused on efficient land use, green spaces and integration of these areas into existing urban tissue. My system can take various shapes depending on the available space and provides housing as well as offices, parks and appropriate logistical infrastructure.

First part of my work was focused on research. In the second part I designed the system of modules and layers itself. And finally, the third step was creating an example configuration on which I can demonstrate the relations between each of the elements present in my project.

How I will live in 2050 and what will be human's needs for housing in 30 years?

Although I hope we will not really remember what it even was, it is hard not to acknowledge the issue we are dealing with right now. COVID-19 is definitely shaping the way we live. Even though it is uncomfortable, and everyone is looking forward to going out again, we are slowly getting used to it and it will certainly have an effect on future housing and mostly workspaces. 2050 will hopefully be 'The Post covid age'.

What will the society look like? We are currently seeing a rapid growth in average education level¹. That means one of two things. Either governments and corporations will invest in technology and replace manual labour with machines, or people will have to work in factories even with a degree. The first option would mean overall economic prosperity and flourishing of our entire civilization. The other option would cause loss of motivation for studying and would set us back again, but with further division between people of different income levels.

I am afraid, that the second option is more realistic. Mainly because the Earth is overpopulating and the workforce is cheap and will be cheaper. More and more people will have to fit in cities and work for minimum wage. It will be the 18th century all over again, just with slightly better hygiene.

Since it is easy to imagine utopian 2050 where everything is available and affordable, I will concentrate on the terrifying second scenario. How do we as architects make it survivable and humane?

Housing must be as efficient and as small as possible. We must fit more people in a smaller space while not decreasing the level of comfort. Current idea of family living in Europe is a small house with a garden, a garage and a car. If we deconstruct this idea and keep only the necessary part, what will happen? First cut would be the garden, because nobody really needs to grow their own food anymore. We can stack the houses onto each other and let them become flats. Then there is the problem of a living room. It is traditionally the centre of a household. Pieces of furniture surrounding a fireplace or at least a TV. But there is no real need for such space. TV is being replaced with other electronics and fire is only dangerous. The social aspect of living rooms will be moved to public or semi-public spaces and the representative aspect to social networks. Therefore, we are left with three rooms. A bedroom for sleeping but also for work and a kitchen and a bathroom for obvious activities. I imagine that most of the chores will be automated. We already have automatic vacuums and washing machines, so I believe that at home, there will not be any more work. Being home would mean relaxing.

Last item on the list is the car. I do not think cars are the future, not even the electric ones. They are expensive and make cities dangerous. I hope that they will be replaced by small electric vehicles, that we can already see emerging on the streets. This includes all the different boards and scooters tech companies are coming up with. Outside of the city, people will travel by public transport, mostly trains. And finally, what about shopping? I believe that we will all shop exclusively online, therefore the only bigger vehicles on the streets will be the delivery services, maybe even automated.

What will a city look like then? Mostly the same as now, but with cleaner streets and less cars. The big difference would be the development of big apartment buildings and their inclusion into the city. Each one might look completely different, but they will all be connected by a basic idea. They are strictly private. These apartments are for living, not for public events. That does not mean, that the whole building cannot encompass other functions, preferably it does, but the apartment itself is for sleeping, cooking and bathing. It lacks the social space of the living room. Therefore, the new sections of the city must be interconnected with

the rest because they cannot work by themselves. They need the existing public spaces and creation of something I call semi-public spaces. Those would take the role of the living room. Publicly accessible space, that is rather small and can fit only one group at a time. Those could both outdoor and indoor, isolated or connected to other functions like cafés.

It will be really challenging for architects to work with so many negative aspects and limitations, but I believe we can come up with a future urban environment, that will be not only survivable and humane, but also pleasant to live in.

1) Max Roser and Esteban Ortiz-Ospina (2016) - „Global Education“. Published online at OurWorldInData.org. Retrieved from: ,<https://ourworldindata.org/global-education>' [Online Resource]

Anonymity



Location

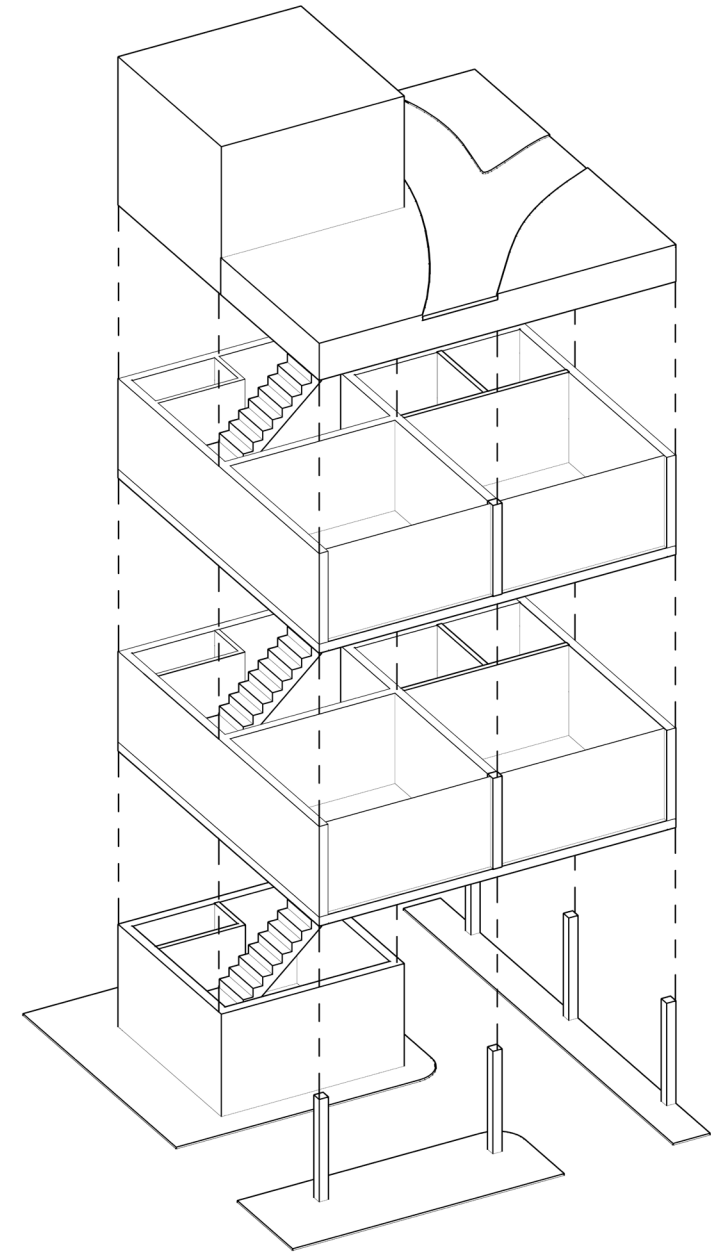
My goal was to create a universal concept for housing in post industrial zones. These are usually quite spacious areas located within the city bounds, with the necessary infrastructure already present. This led me to creating structures which could be shaped accordingly to the available space in each of these zones. I aimed at efficient land use while providing high level of comfort.

While I was working on my design, I studied several related projects that inspired me. First of them was New Babylon by a Dutch artist Constant. He spent almost twenty years designing this megastructure, a futuristic utopian city the size of the entire world. Even though I imagine a very different future than Constant, I found his creation fascinating. It is an infinitely expanding network within one continuous structure. In my project, I tried to give this idea a more realistic scale.

Second very influential project for me was ‘The Cities will be inhabited like Villages’ by Piet Blom. It is a housing project of a scale similar to mine. Blom’s main goal in this work was to create communities in a city so that living there would be reminiscent to living in a village. He described it as ‘a plan that forces people to live together’²⁾.

This project made me realize, that even though many people would enjoy this communal way of life, I would personally hate it, because I value my privacy and I love the anonymity that a city life provides. And many people share my point of view, therefore I believe that it would be incorrect to force people to live a certain way. Instead, I want to create opportunities and options for everyone to live the way they prefer. Because of this, my project is quite heavily focused on dividing private and public life. It provides plenty of public space, where people can meet and spend time together. But the flats themselves are designed as strictly private, as a safe space where no one will disturb you.

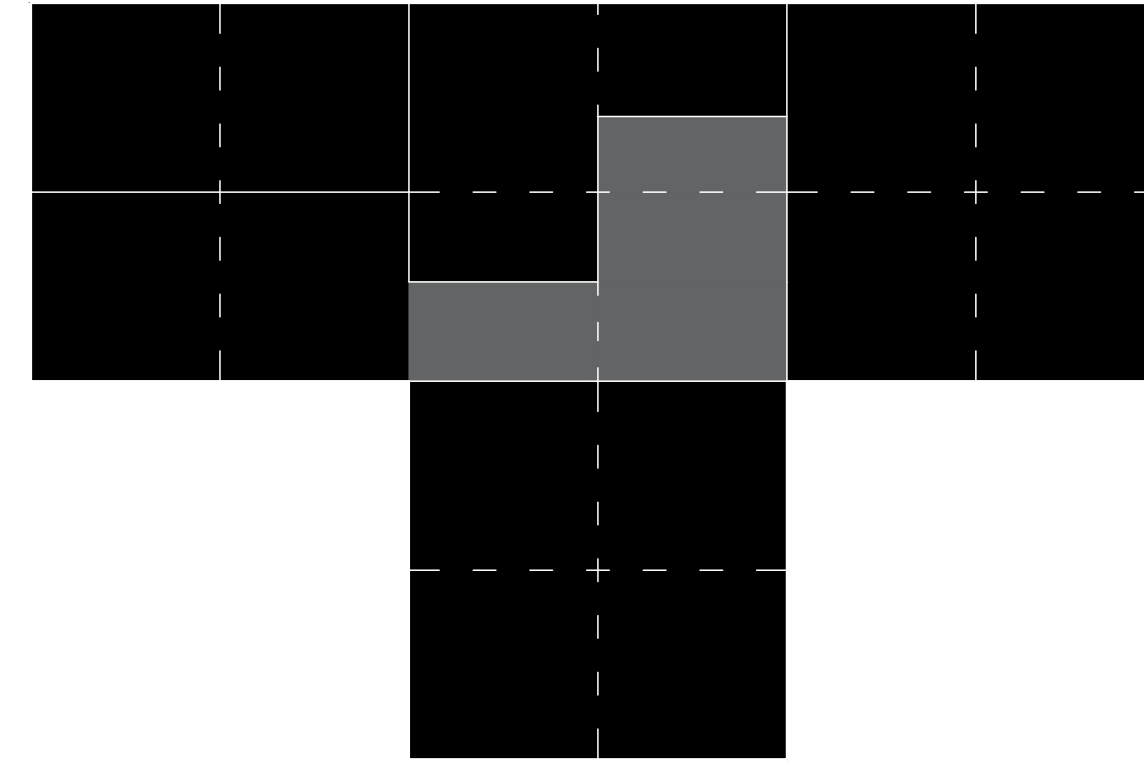
2) Intimate Metropolis: Urban Subjects in the Modern City, 2009. London: Routledge. ISBN 9780415415071.



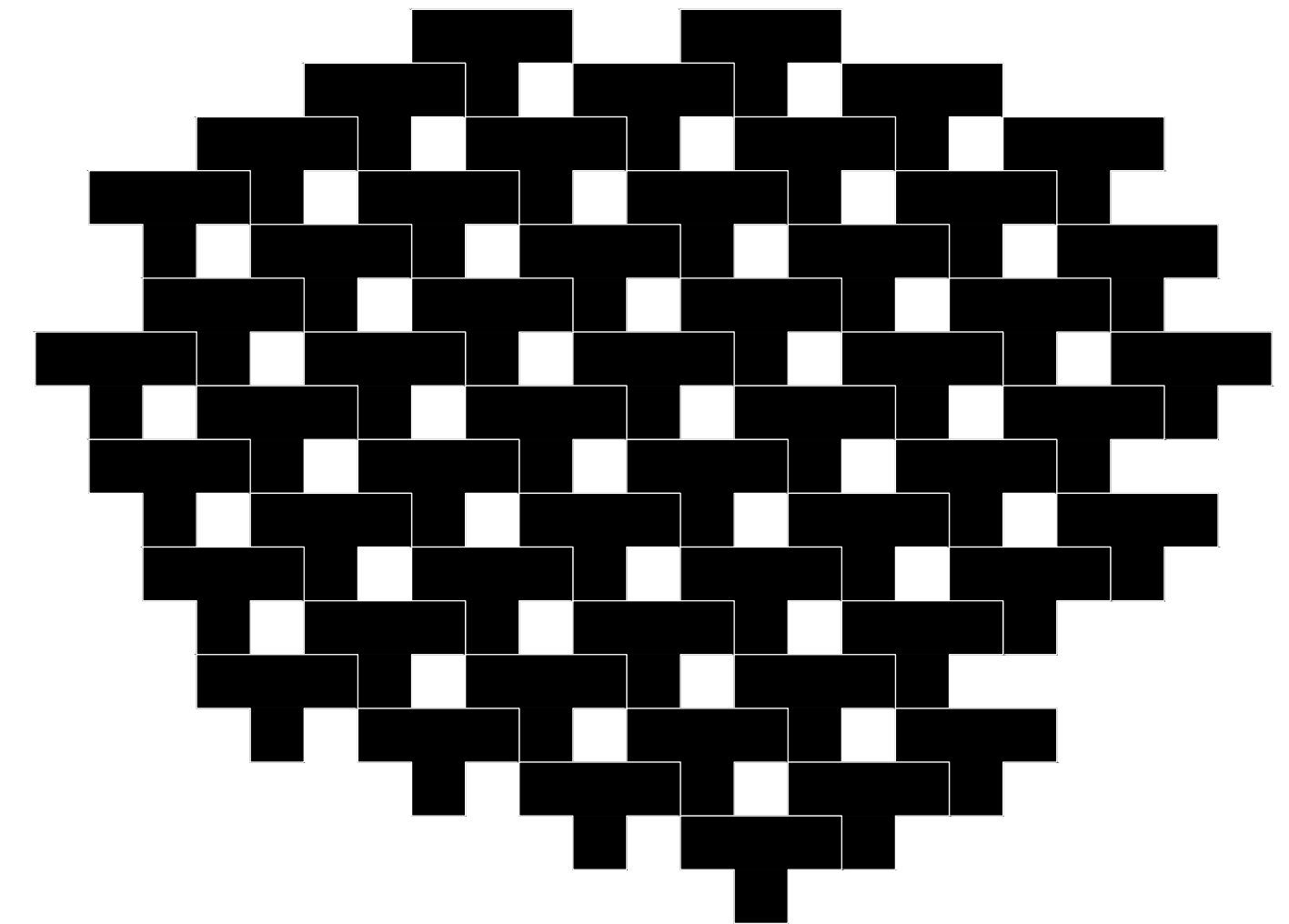
The concept of my work is fairly simple. It can be divided into three layers - logistical, housing and a park. These layers are stacked on top of each other. On the ground floor there is space for parking and access roads for delivery services. The first and second floor consists of flats and the third floor is just an entry point to the rooftop, which is a large public park.



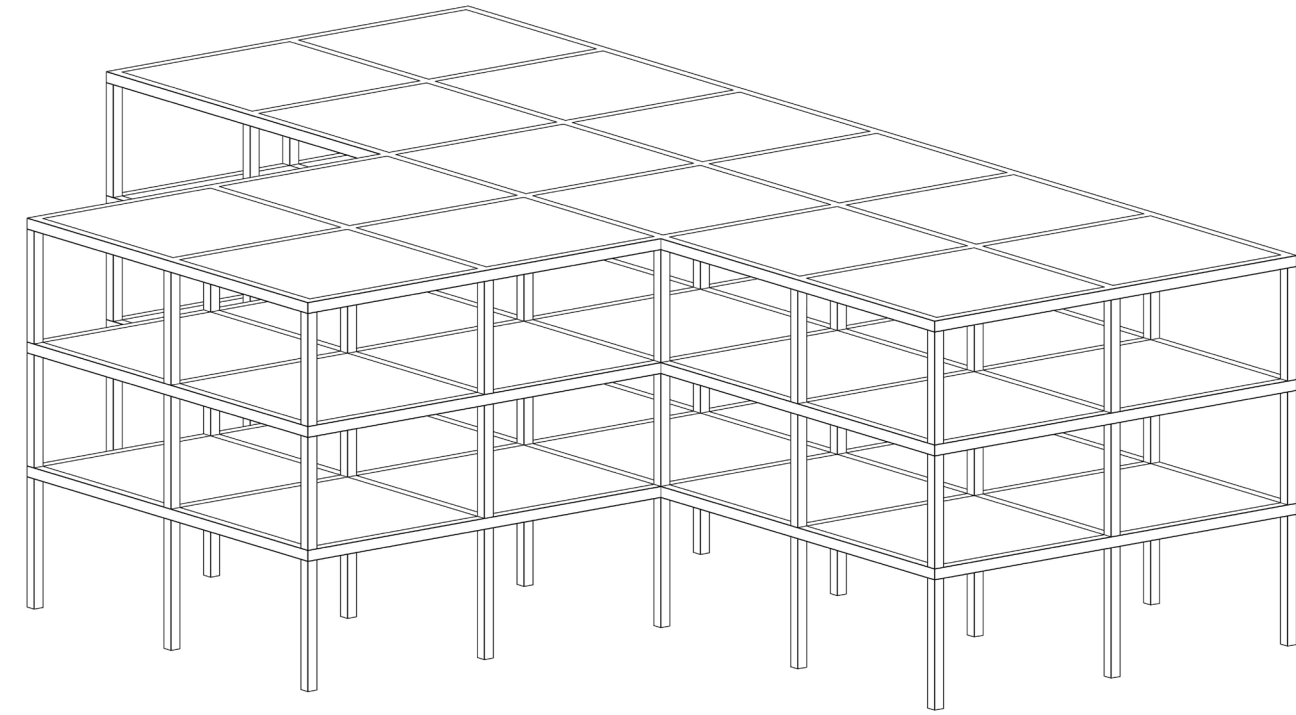
The building is composed of T shaped modules, which allow for various shapes and scales. Even though these modules could be theoretically added infinitely, I believe that the optimal scale and function for them is to act as city blocks.



The modules themselves are created of four blocks each. The blocks are 10x10m and make the basis of the load bearing structure. Staircase, elevator and hallway are located at the intersection of the blocks (the grey area in the picture), where they do not obscure any light.



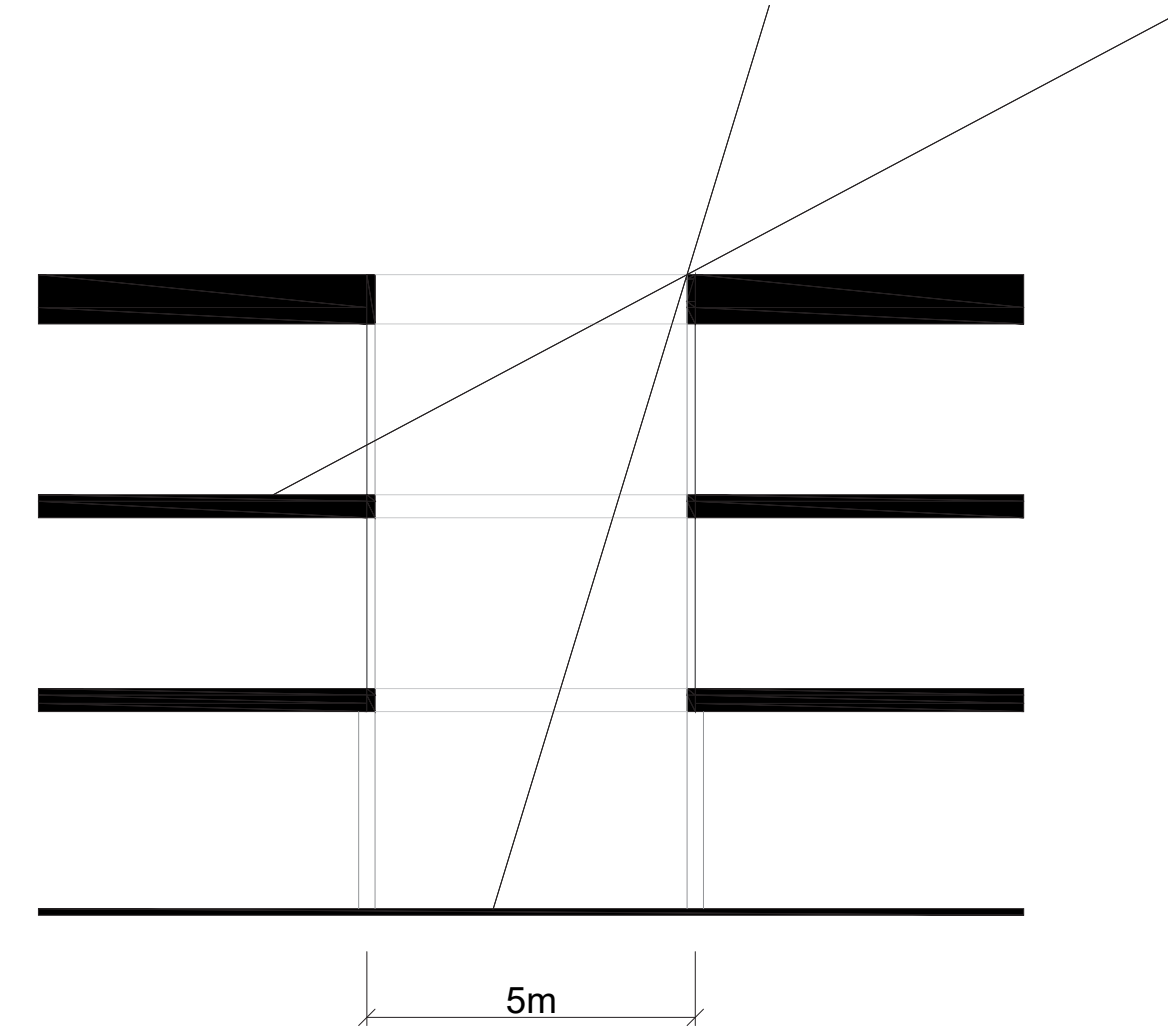
The modules are interlocked in a way that creates courtyards, which provide light for the housing layer. Every block has access to one courtyard, therefore each flat is sufficiently lit.



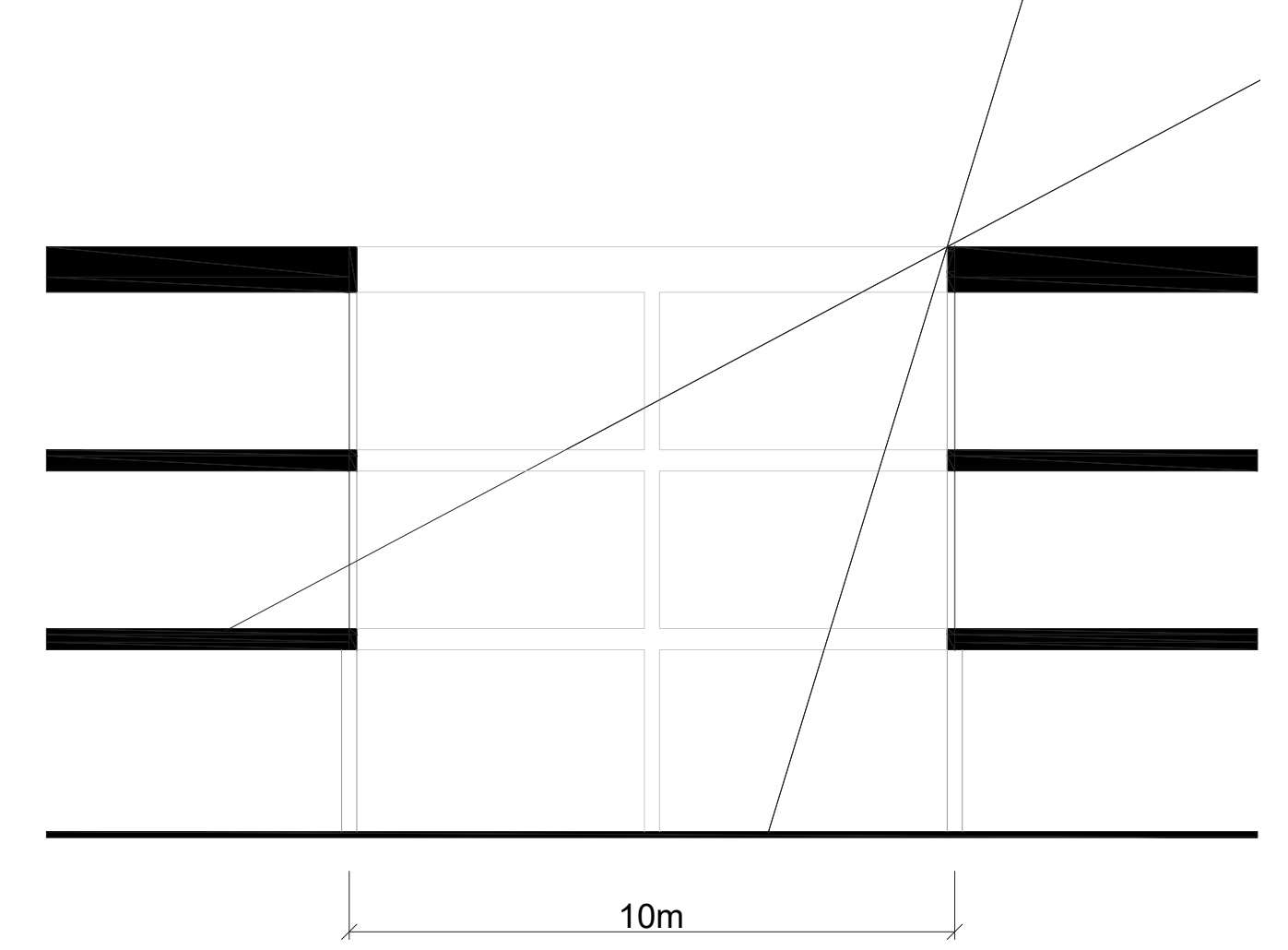
The load bearing structure of the building is a skeletal system. It consists of a grid of concrete columns and beams, some of which are visible, and others are hidden inside interior walls.



The park on the rooftop is an essential component of this project. It is the main element through which the building connects with the rest of the city. It should become a public space not only for the residents, but for everyone. It includes cafés, playgrounds and other activities, so hopefully it becomes a popular leisure option.

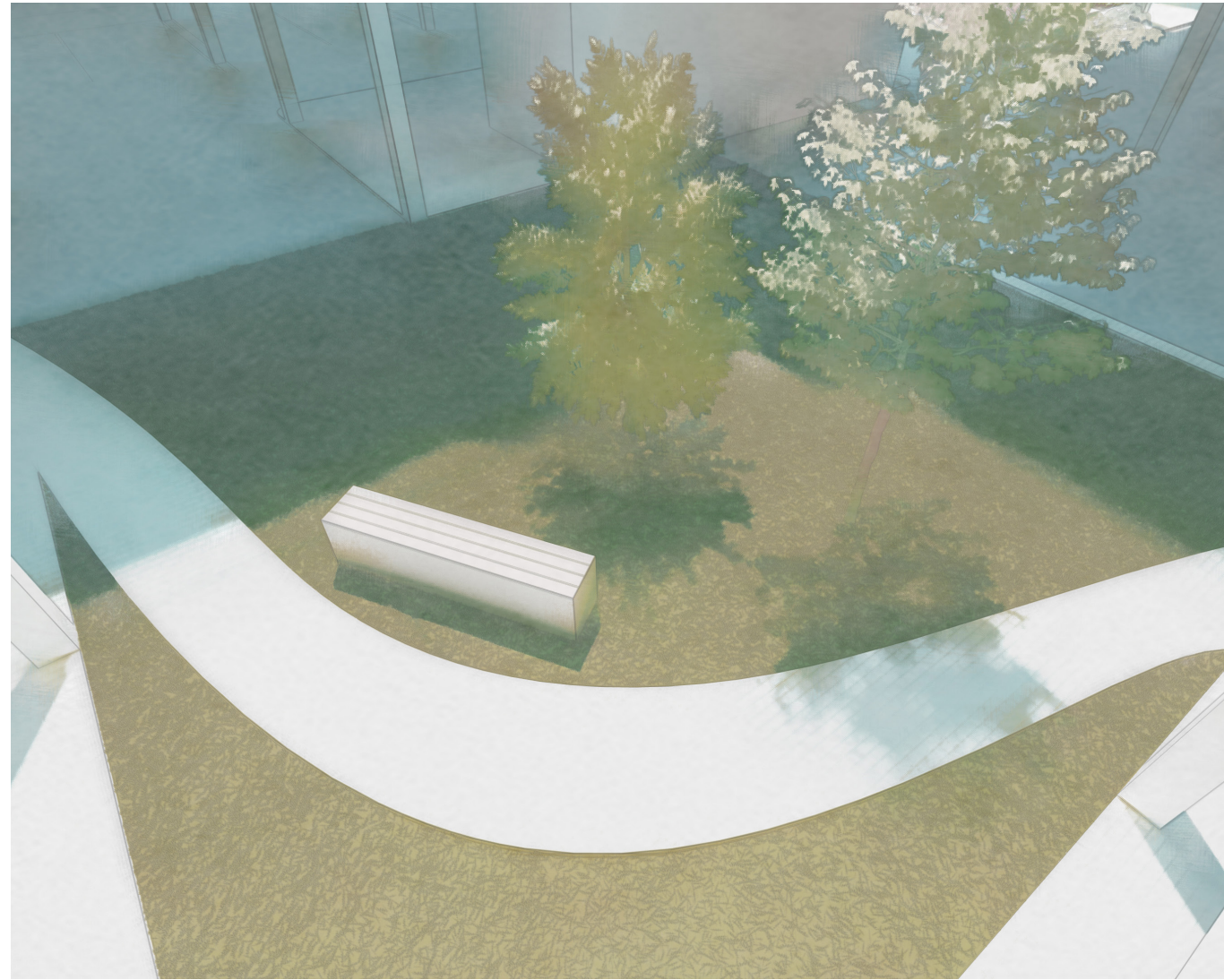


When I started working on my project, at first, I thought I could work with 5x5m blocks and courtyards. Later I realized that at least in central Europe the angle of sunlight is not steep enough and flats on the lower floor would not be usable.

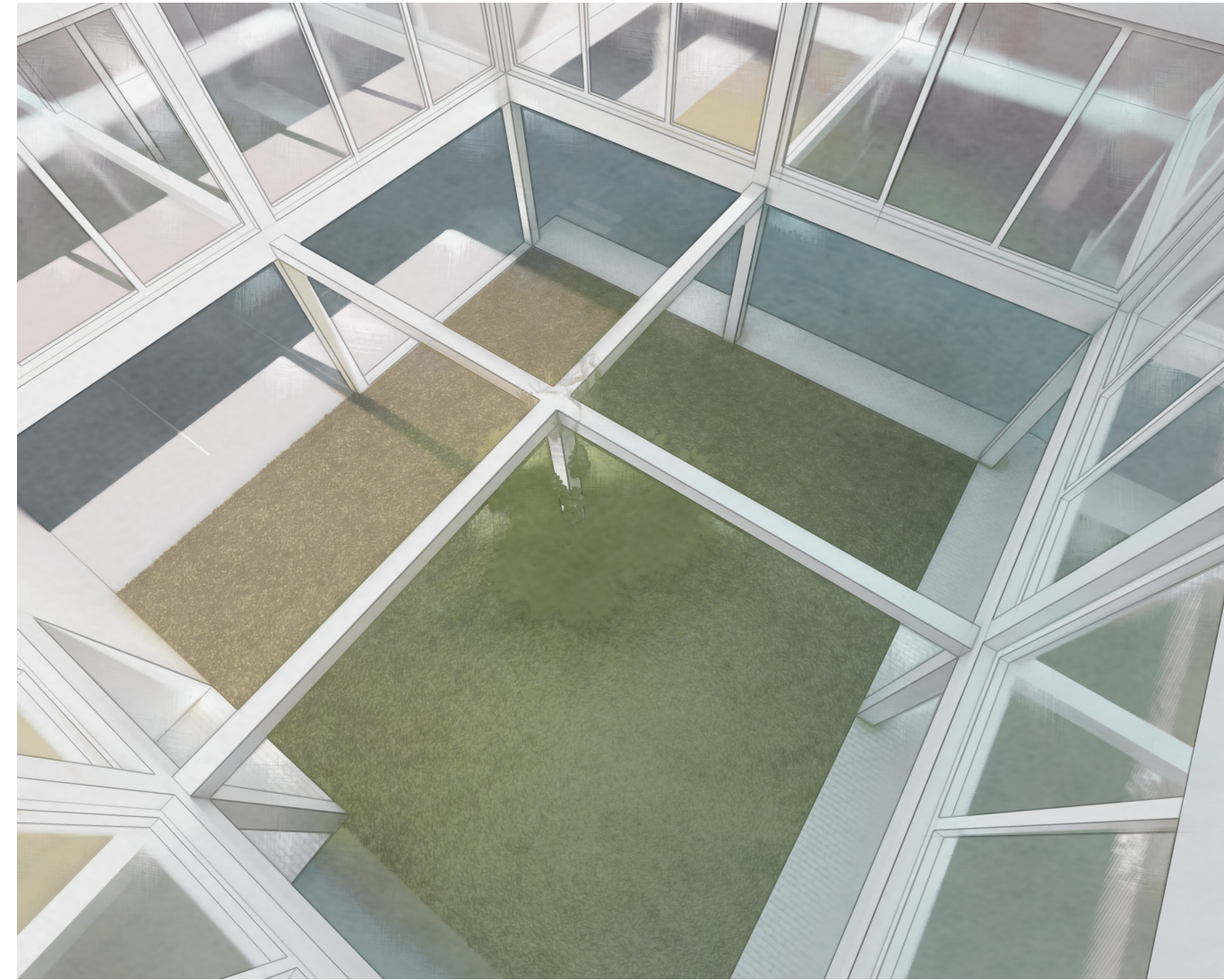


That is why I ended up working with 10m. I experimented briefly with other sizes and with vertical flats, but I did not like the results.

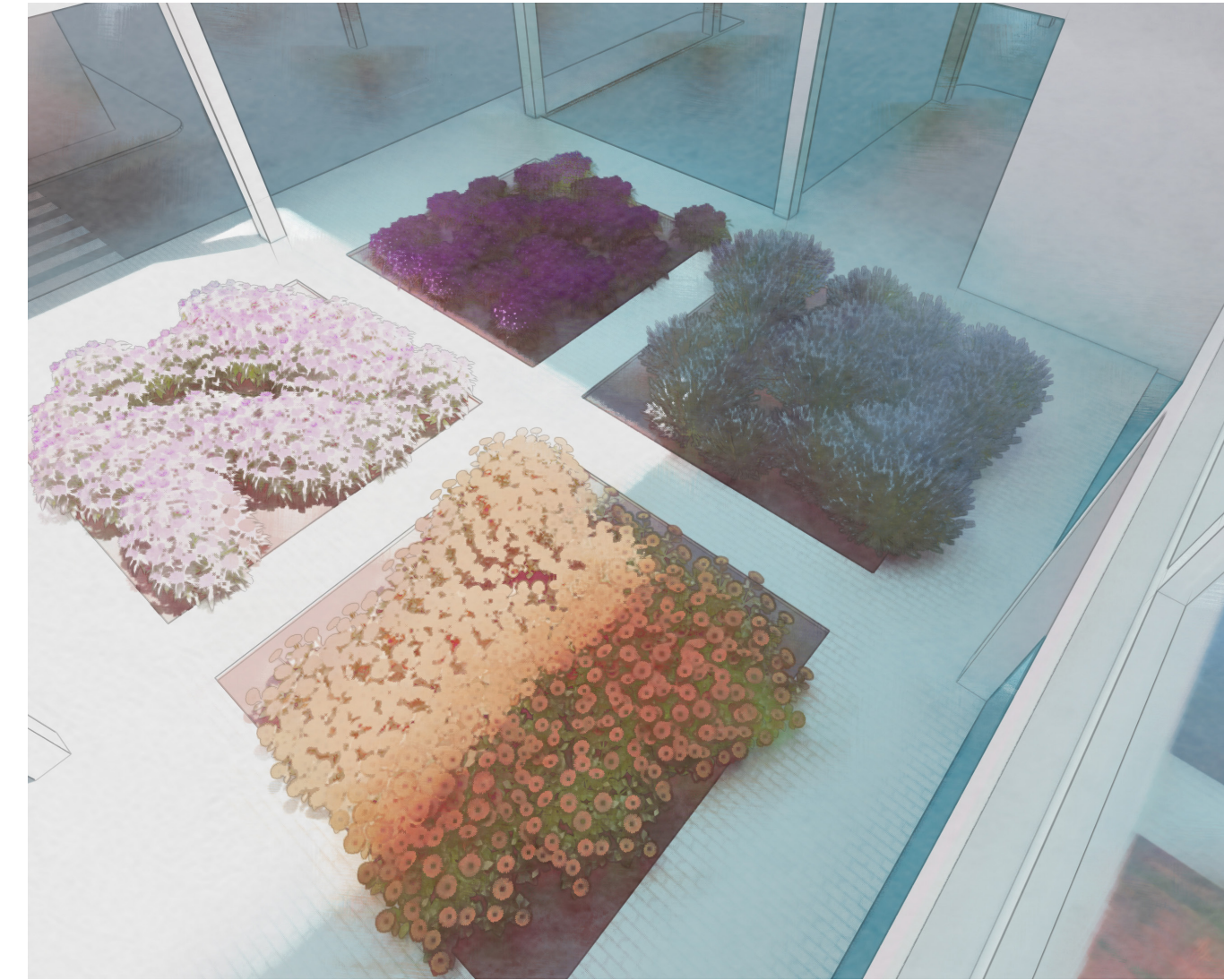
This size works well, because there is enough space for parking on the ground floor and the rooftop park also feels quite spacious, while at the same time the flats are not unnecessarily big.



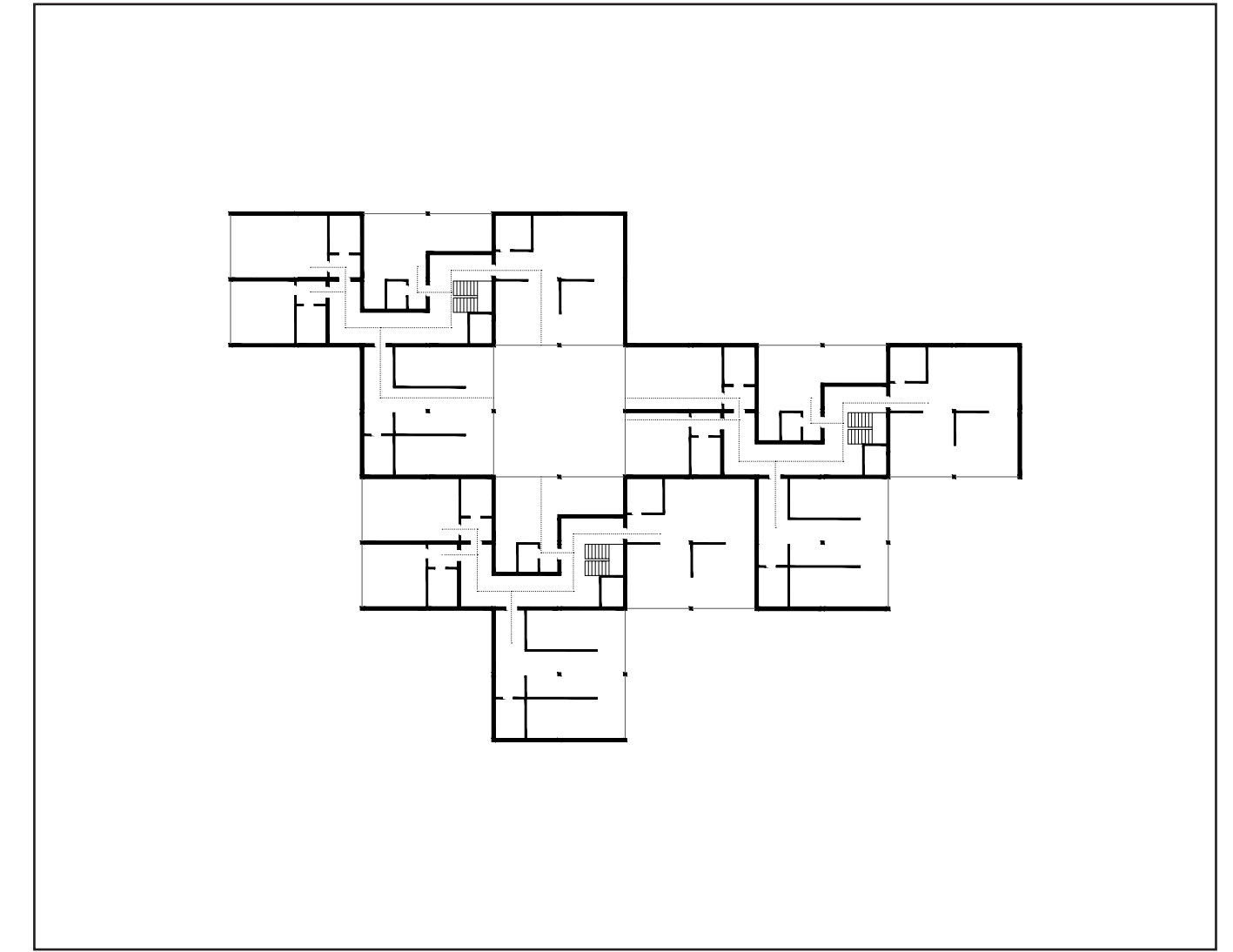
The courtyards have two main functions. The first one is providing light for the flats. The other is purely aesthetical. They should create pleasant views from the windows. I hope to achieve this generally by placing greenery into these areas. But it would also be a great opportunity to cooperate with local artists and provide them with this space to display their artwork.



In some of these courtyards I would like to leave the concrete skeletal structure uncovered and let plants overgrow it. This could create quite unique and pleasant environment.



On the other hand, due to fire safety some courtyards must be left without trees or any other barriers. These will become gardens, tended by those inhabitants who would enjoy such activity. But still, these should be decorative gardens and their main goal is to be nice to look at.



Approximately a third of the courtyards should be used like this, laid out in such way that allows a fire brigade to park in a courtyard and get access from there to three hallways in case the regular staircase cannot be used.



This is my first floorplan of the flats. I worked with the 5x5m block structure and designed 3 flats of different sizes to attract various groups of people. Even though these flats are clearly suboptimal, this drawing served its purpose as to prove that housing units can indeed fit into the structure.



My first 10x10m block plan finally took sunlight into account. Each module had four flats surrounding a L shaped hallway. Two of them were exactly the same and were meant for a single or a couple. The other two flats were much bigger. The one located on the east side was meant for a family with young children. The last flat was designed for a family with older children or for a group of students. On the north side I added office spaces which do not need as much light as housing units.



During the development of this project I made some big changes to this module. The staircase was moved, and the hallway became U shaped. This allowed one of the small flats to gain more space and more importantly the east flat got a better position for the entrance door. The southern one was reworked completely into a more free-flowing space. Also, the technical room was moved from the housing layer to the ground floor.



The last changes in my final plan were adding sliding doors into the east flat and reducing volume of facilities in the office space. This created enough room for a place to hold meetings.

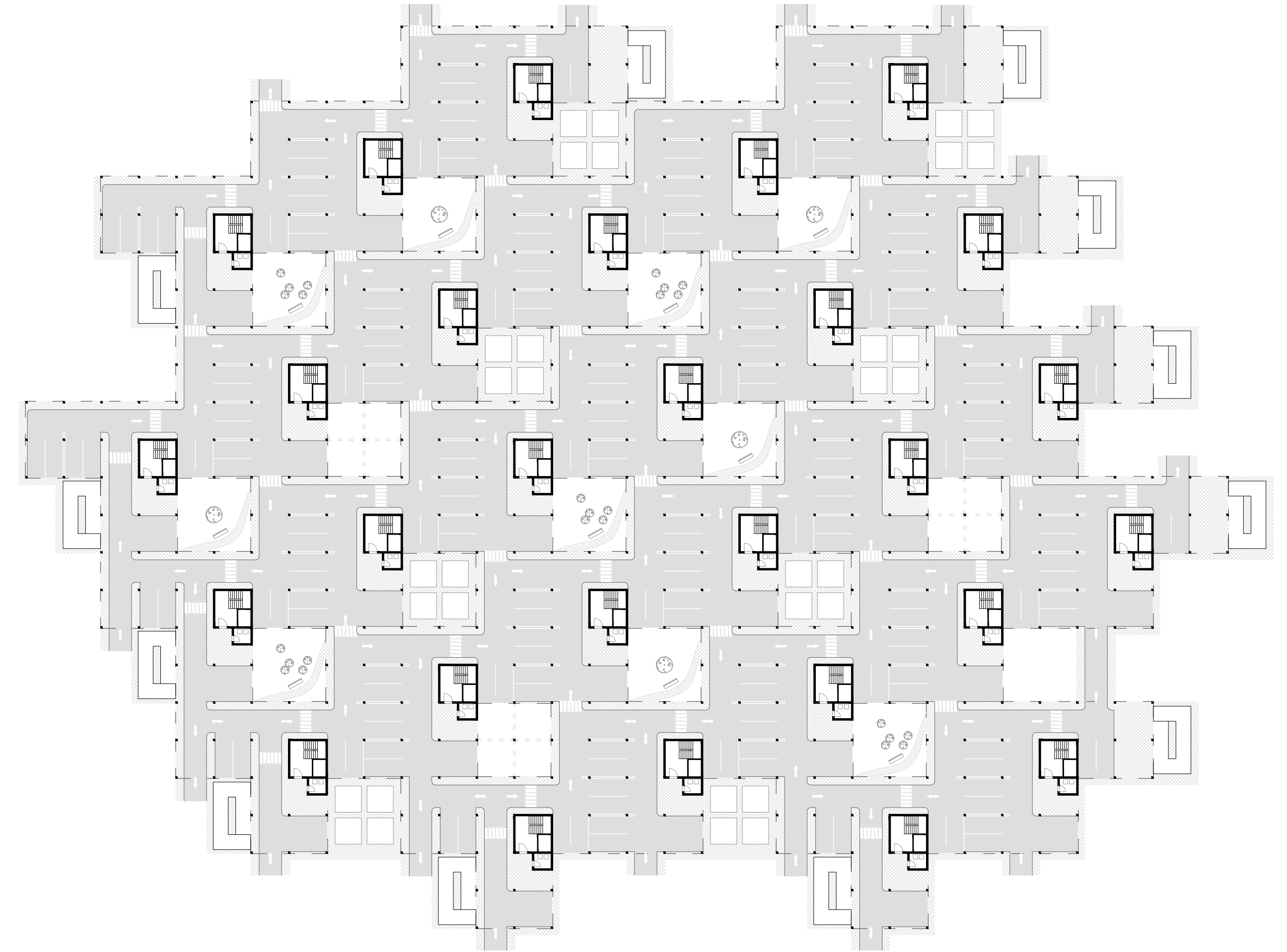
As a proof of concept, I was asked to design a structure containing 200 flats using my system. On this example I will explain how does each layer work in context with the others and how are the modules connected.

The logistical layer is mostly a system of one-way roads and parking spaces. The housing layer extends here by staircases and elevator shafts. These create small entrance blocks. Next to each of these blocks is a technical room providing control over electricity and water flow for given module. In each of those modules are eight flats, because there are two floors of housing layer. Therefore, for every module there are eight parking spaces and a ninth for disability parking.

Next important element in the logistical layer are the courtyards. Those provide sunlight mostly for the housing layer, but to a lesser extend also for the logistical. They are a part of pedestrian paths and serve as green spaces in otherwise quite garagelike space.

The system of roads is designed in a way, that allows a driver to get from any one place to any other, but due to the nature of this structure, it is not particularly easy to navigate. I could not include any long straight roads, because these would collide with both the courtyards and the entrances. I do not consider this to be a big problem though, because the inhabitants will remember the shortest path from given entryway to the structure to their doors in the same way they would remember the path on a regular street. If the navigation proves to be too complicated anyway, an alphanumeric system could be implemented.

On the edges of the structure are ramps, which should be used by the public to get to the rooftop park, either on foot or with for example a bicycle.



The structure itself is made of 28 modules, meaning it actually contains 224 flats and 56 offices in the housing layer. There are four flats in each housing floor of each module. They are designed in a way that lets the rooms with the largest need for light to surround the courtyards whereas bathrooms and hallways are pushed back.

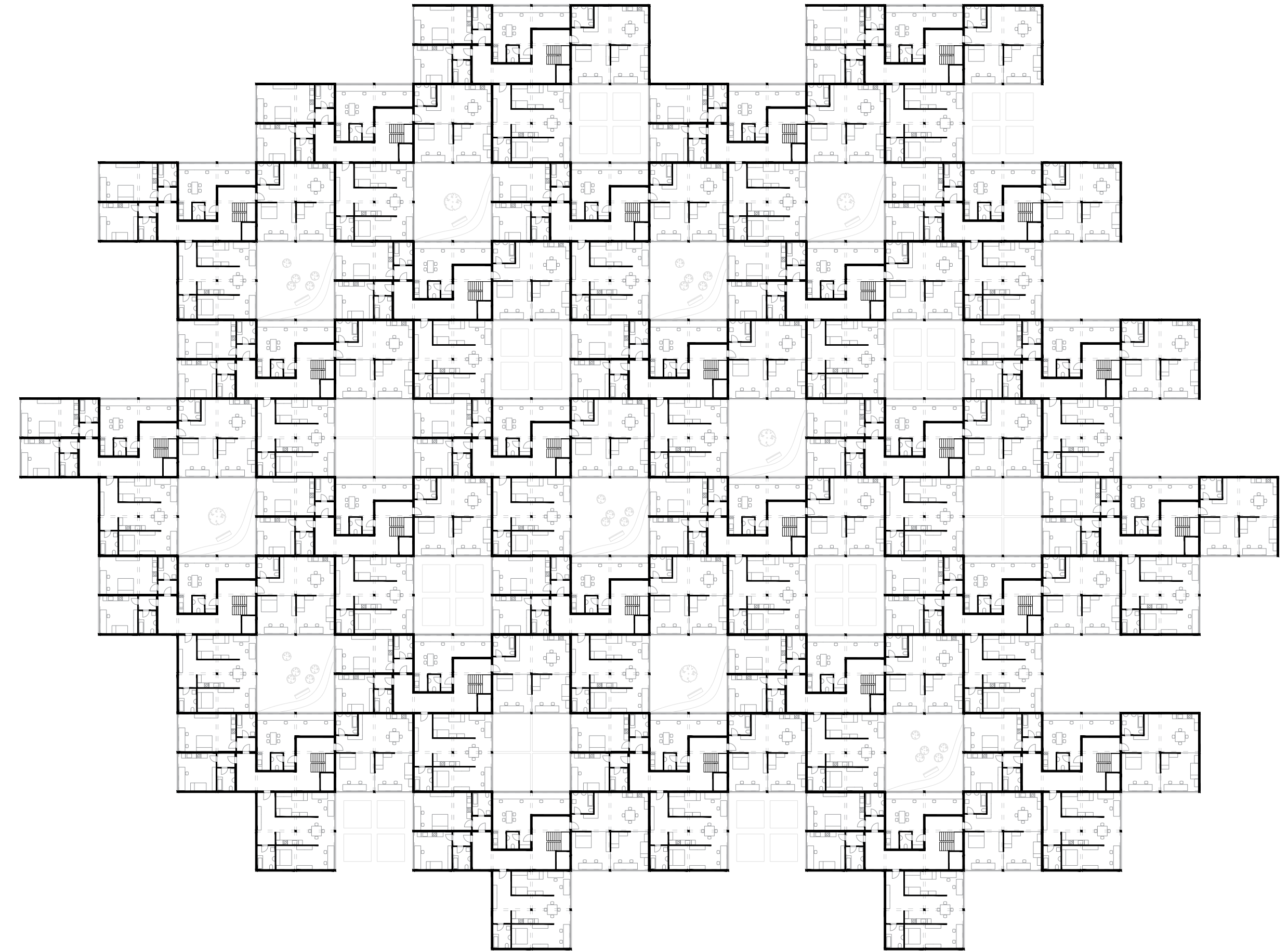
There are two small flats on the west side of the module (east side of the courtyard). They are very similar one-bedroom units with a bathroom and a small entry hall which serves as a hygienic filter separating the bathroom and kitchen area. The main difference between the two is size. The smaller one has 33m² of floor space whereas the bigger one 46m².

The southern flat (west side of the courtyard) is much larger with 95m² of floor space. With an exception of the bathroom it is one continuous space uninterrupted by any doors. Even though legally this is all one room, the walls clearly separate three spaces. Two of them are bedrooms with large tables by the windows. This is the space, where I expect the residents to spend the most of their time. The last space is in between these bedrooms and serves as a kitchen, dining room and a hall.

The last flat (north side of the courtyard) follows a similar principal. It is the same size and the entire space is fluently connected except for the bathroom. Again, there are two bedrooms, but this time, those are directly connected by a huge sliding door. These two rooms cover the entire window space, which means that they are better lit, but the rest of the flat lacks a direct light source. This is compensated for in the form of those big sliding doors, which while open allow light to flow through the bedrooms to the dining and kitchen area behind them.

The office space is located in the north part of the module (south side of the courtyard). It is equipped with a small kitchen area and a rest room. It has 47m² of floor space and can comfortably fit four desks for employees and a small meeting area.

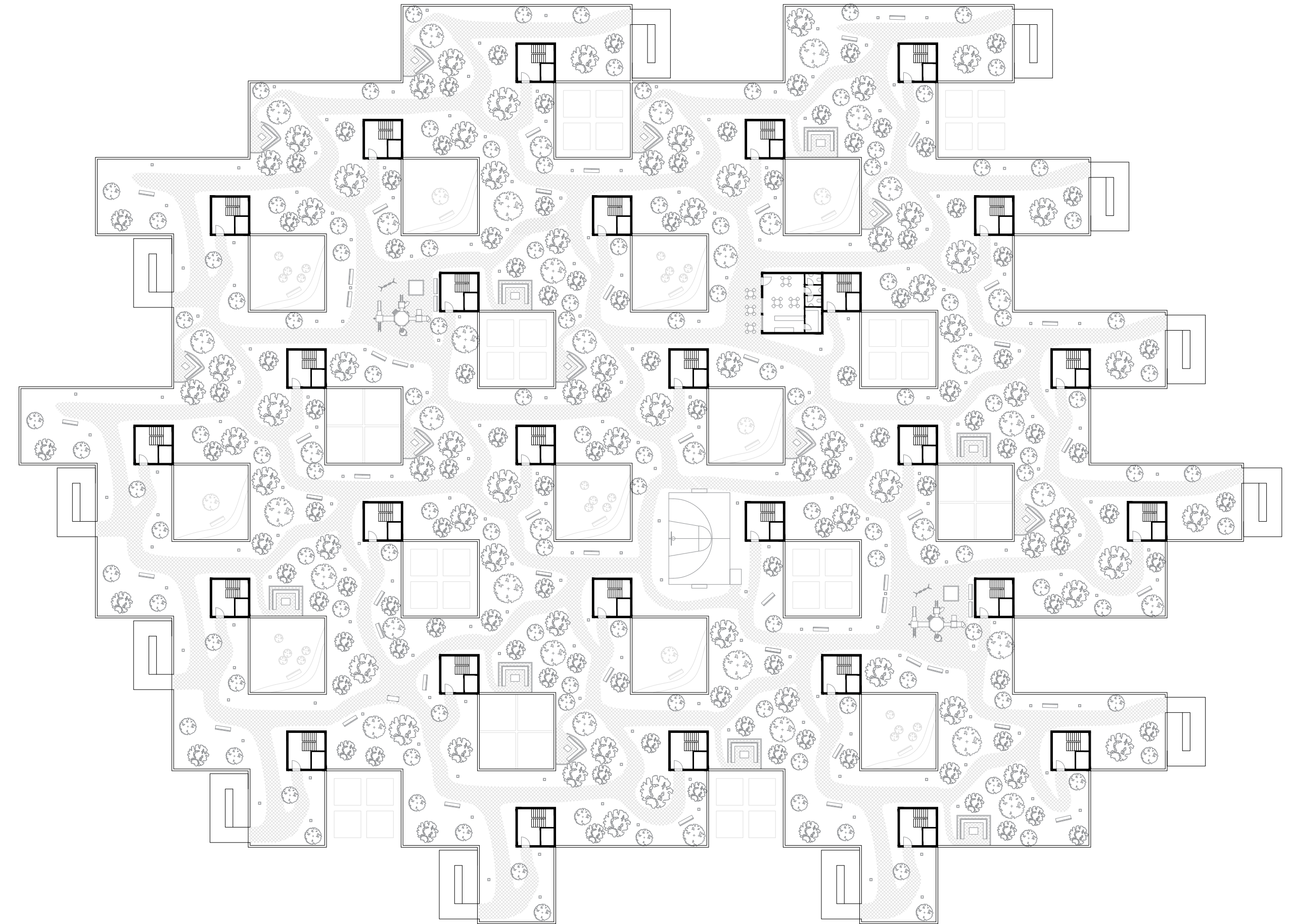
It is important to note that none of the flats include a living room, because as I mentioned previously, I believe those are not a necessity in our modern era. Although thanks to the load bearing structure all these flats can be altered to better suit the need of any individual resident.



The park on the rooftop serves as a greenspace for the entire city. It can be accessed either via ramps on the edges directly from the ground floor, or by a staircase or an elevator from the housing layer. It is the preferable pedestrian route to the structure. Its winding freeform paths are in direct contrast with the strict geometry of the rest of the building. The entrances create small blocks the same way as in the logistical layer. These give visitors an impression of a small village in a lush landscape. The courtyards create barriers in this landscape, therefore, no path can be direct and this makes you wonder through nature a little.

In addition to being a nice route home the park has other functions. There is a small café providing refreshment to visitors, a streetball court and two playgrounds for children.

Last important part of this park are little semi-public spaces, which are publicly accessible benches with a table separated by a thin wall, that could even be semi-transparent. These places let people have private conversations in a public space and therefore fulfill one of the main roles of a living room, which otherwise is not present in the building. Each of these places could look completely different and could be a subject of a public workshop or space for expression of local artists.





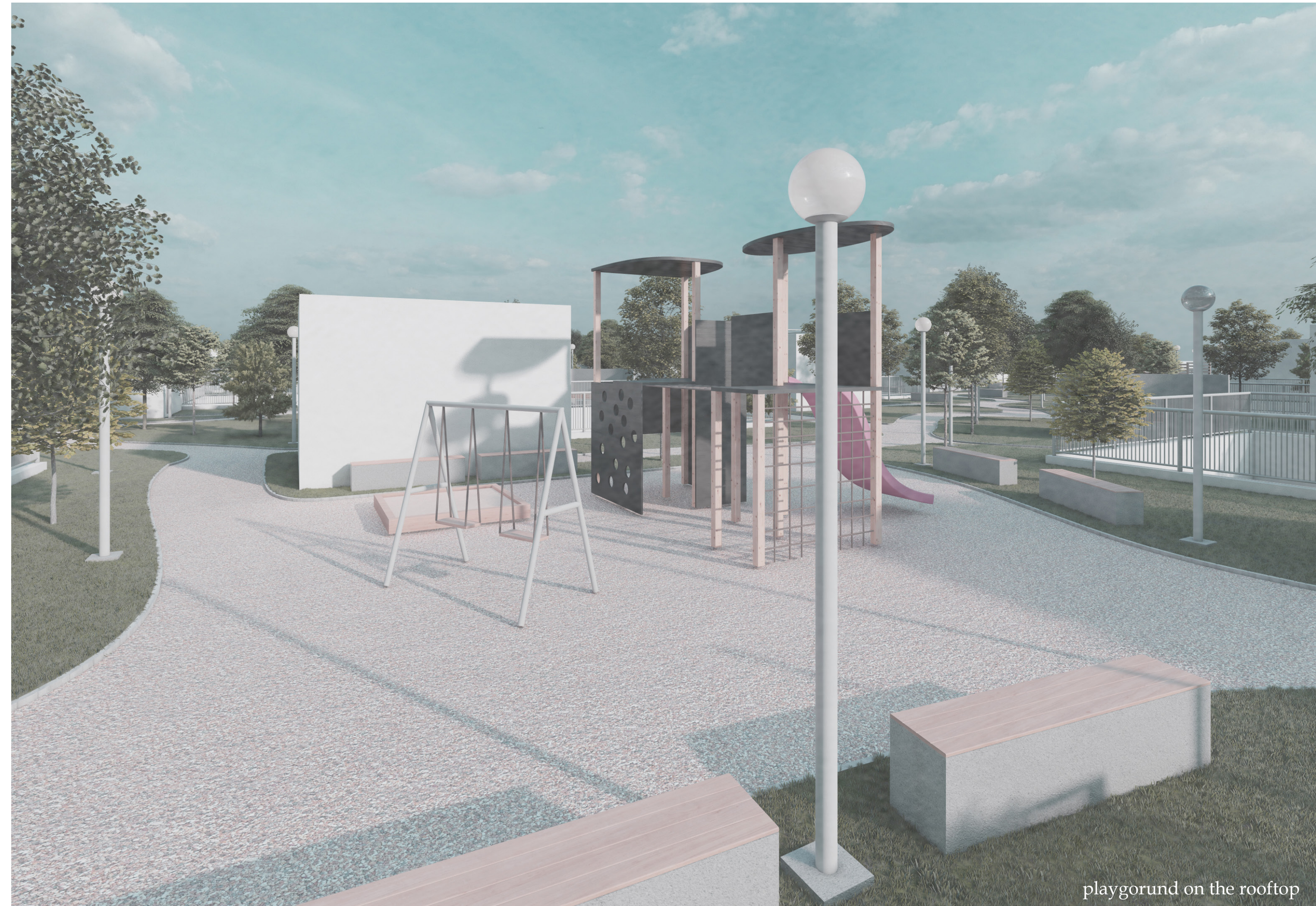
facade



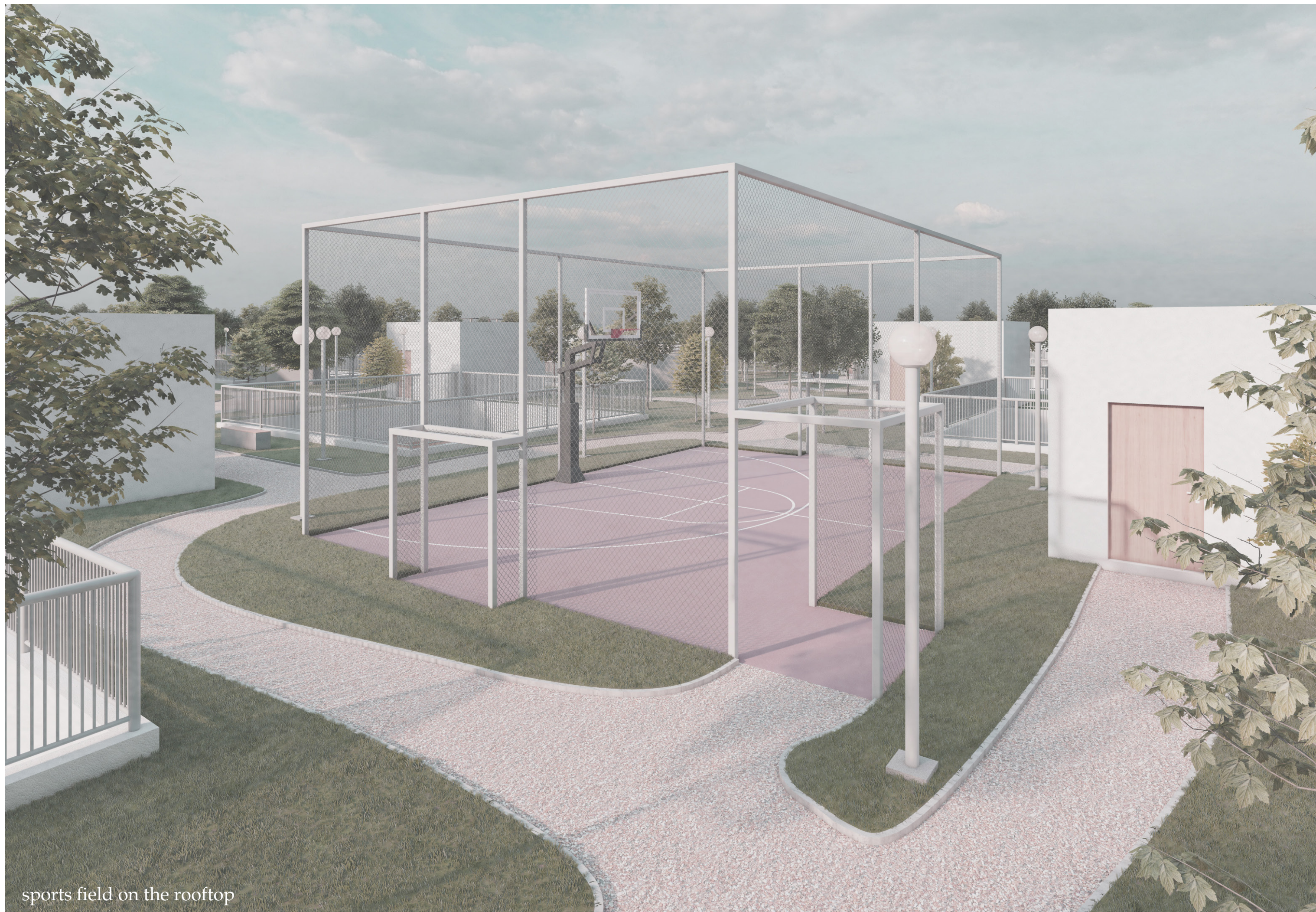
logistical layer



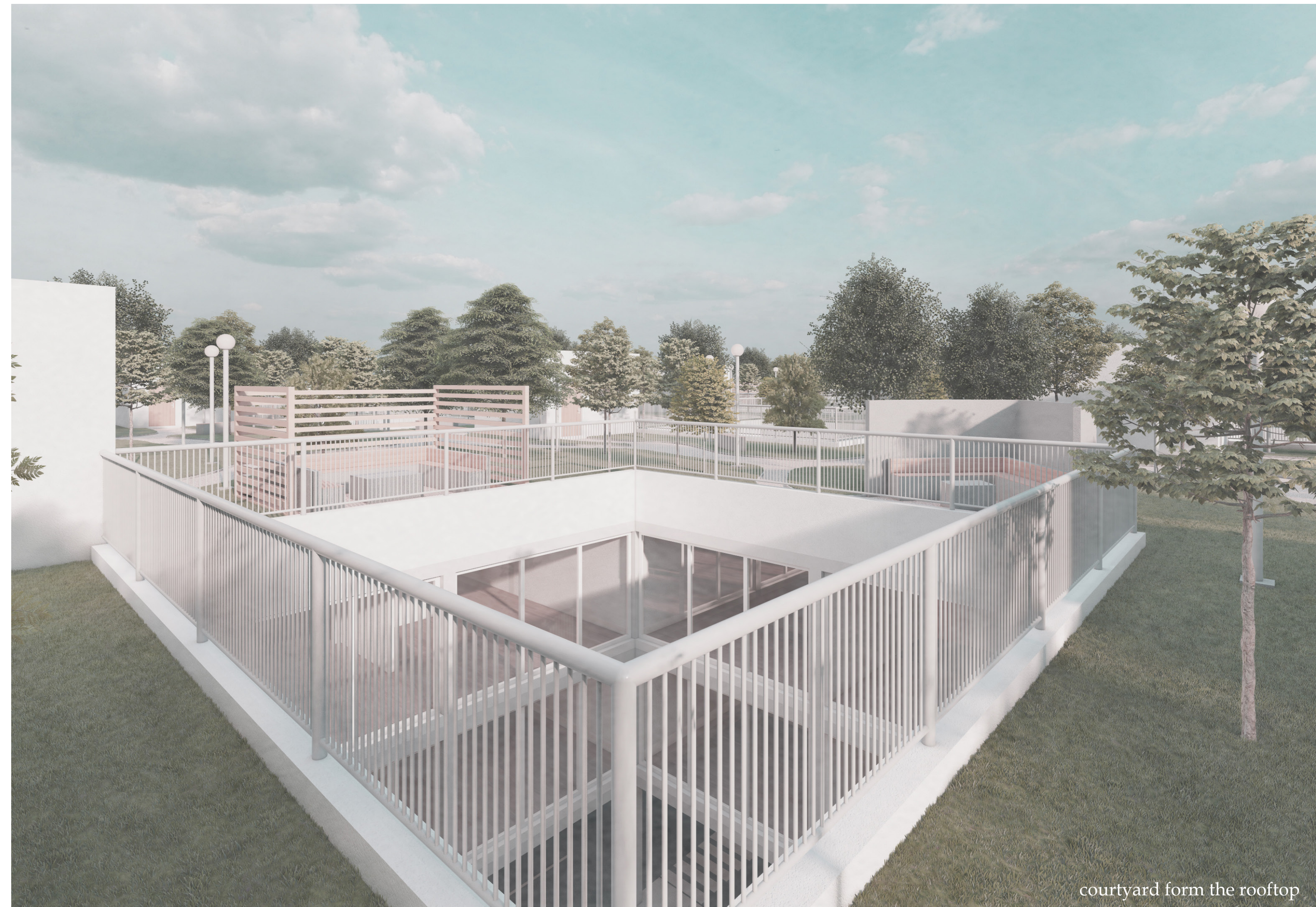
housing layer



playground on the rooftop



sports field on the rooftop



courtyard form the rooftop