



PORTFOLIO

NATHALIE VOLDERS & JULIETTE MONCAREY

GREENSCRAPER DESIGN
2021-2022

Henri Achten & Jiri Pavlicek

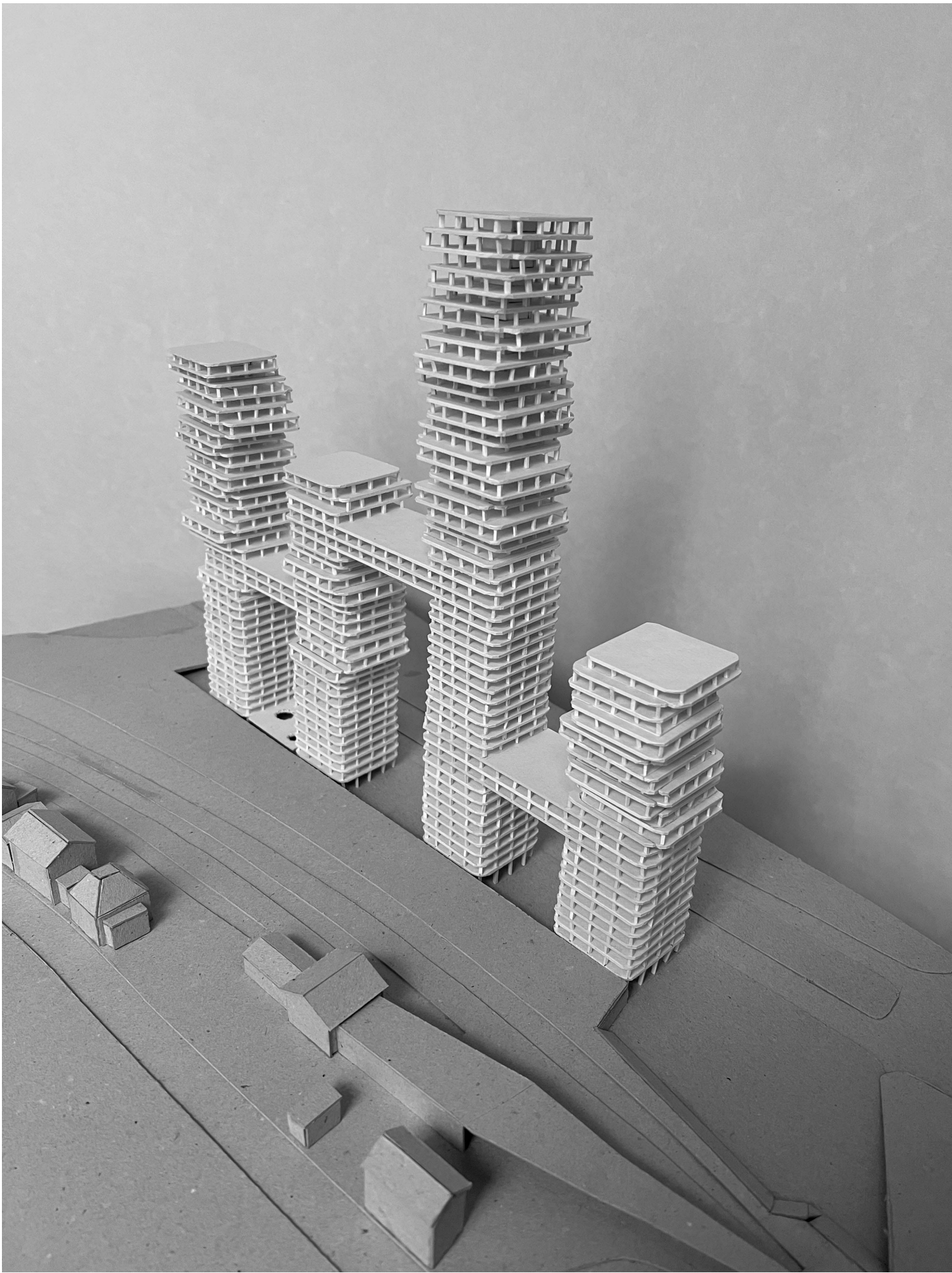


ASSIGNMENT

This assignment was done in duos and the goal was to design a green skyscraper. Also called a greenscraper. We looked for locations in Prague where several types of transport possibilities converged. In terms of program, the greenscrapers could be filled in by oneself. The main focus in this project is on the sustainability of the building and the way green is integrated. The project is designed with an eye to both the organization and formation of the spaces and the representation of the project in its urban context.



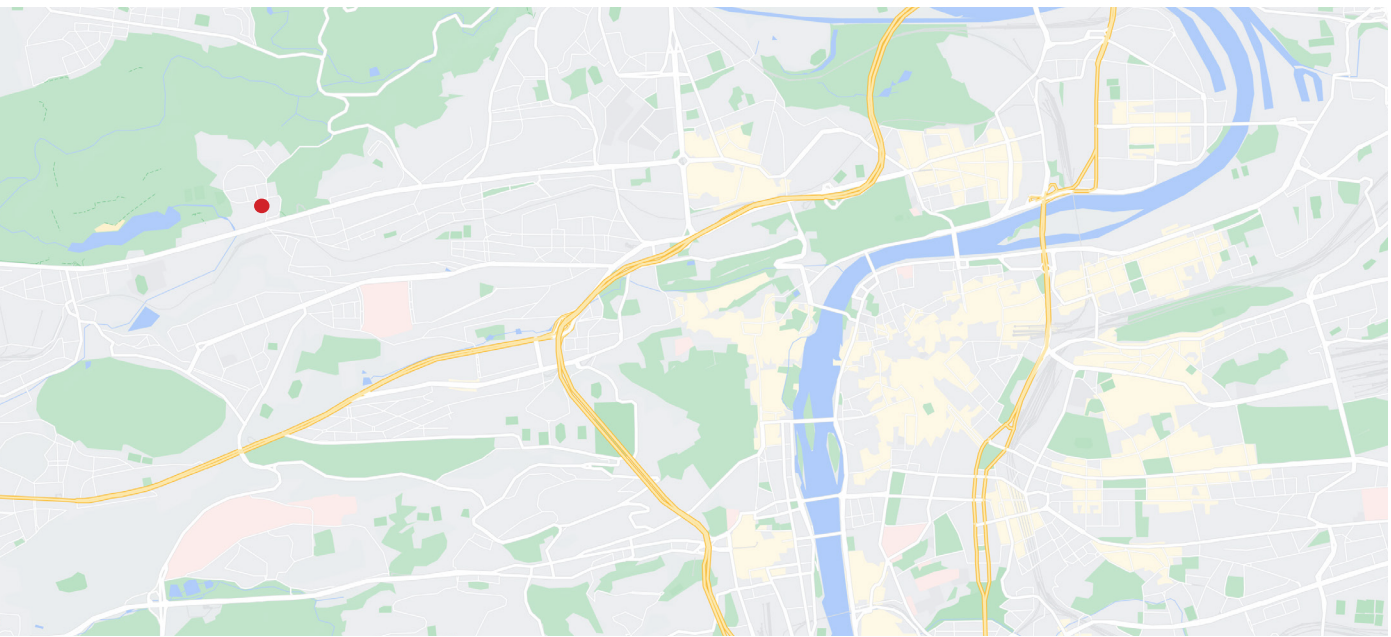
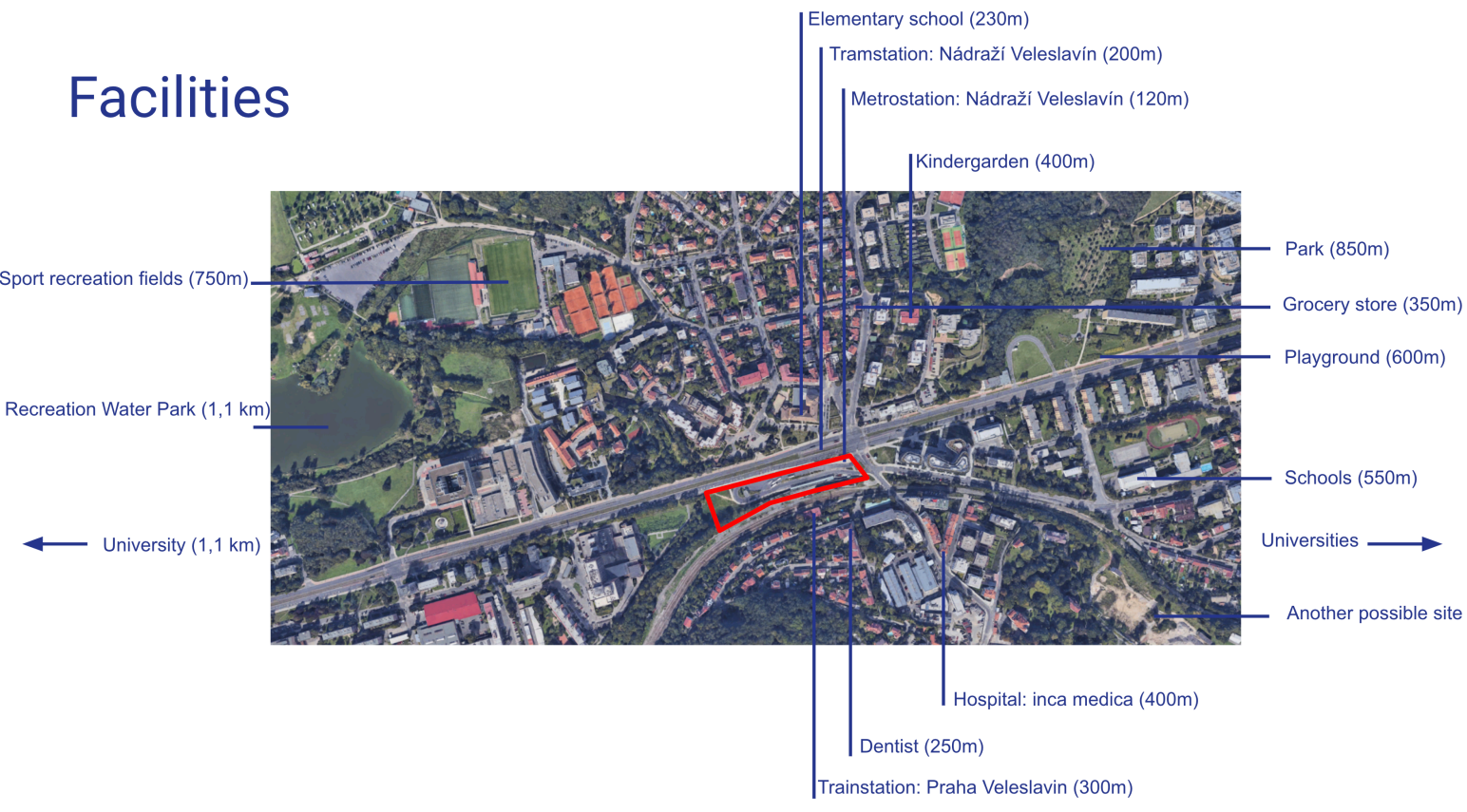
We chose to build four sustainable skyscrapers of different heights side by side. We made this choice because we have a relatively long site. The different heights ensure that all buildings maintain the beautiful views of the city and the nature surrounding it. The towers contain a straight bottom part that serves as the stable base of the building allowing the upper floors to be shifted, these shifts create terraces and canopies that in turn



also provide space for greenery. Our buildings are connected by double-height platforms, which also provide additional stability. These platforms serve as communal meeting spaces and gardens. This brings residents together and is an important aspect of our design. The ground floor of the project serves as a commercial center. We envision several spaces here where people can operate pop-up stores, bars, restaurants, daycare centers, hairdressers, pharmacies, etc. We also provide a wide walkway with lots of greenery where one can shop peacefully. In addition, there is a meandering passage right through the four buildings, where the entrances to the buildings and more stores and supermarkets are located. Our varied program includes offices, student housing, social housing, luxury apartments, regular apartments and service flats. We also filled in the spaces between the buildings with, for example, a community garden or a canopy where trees can grow through and again people can gather. We designed this project with great care for people and nature. It is therefore an fascinating and sustainable entity that will enhance the quality of life of its residents.



Facilities



SITE

The chosen site is located in the western part of Prague on the left bank of the Vltava river. The site is located next to a newly designed train station as well as a metro, bus and tram station. The neighbourhood contains many facilities such as several schools for all ages, sports fields, water sports, parks, stores, hospitals and supermarkets, all within a 1km radius.



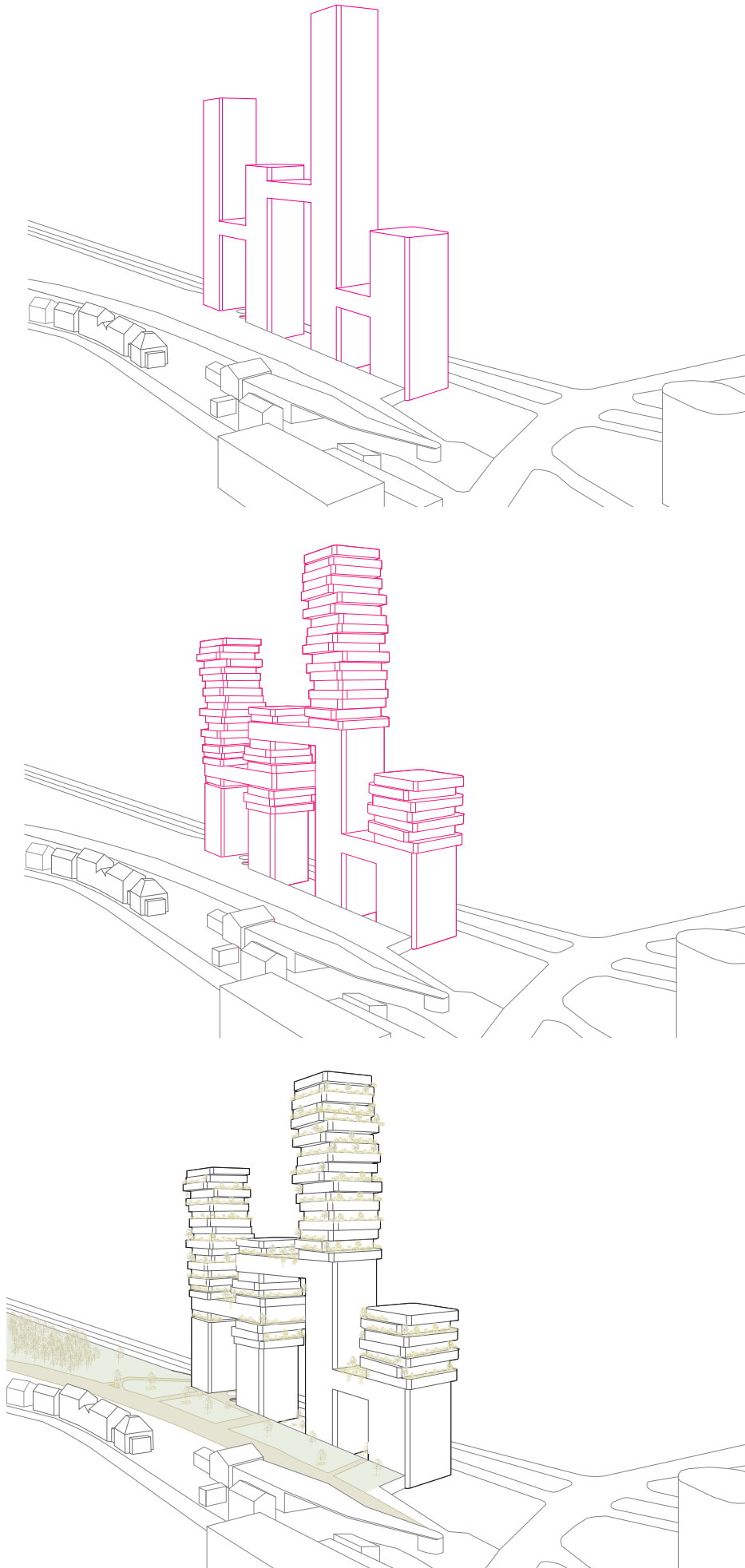
Nadrazi Veleslavín Trainstation
Jiri Pavlicek & Jaroslav Hulin

CONCEPT

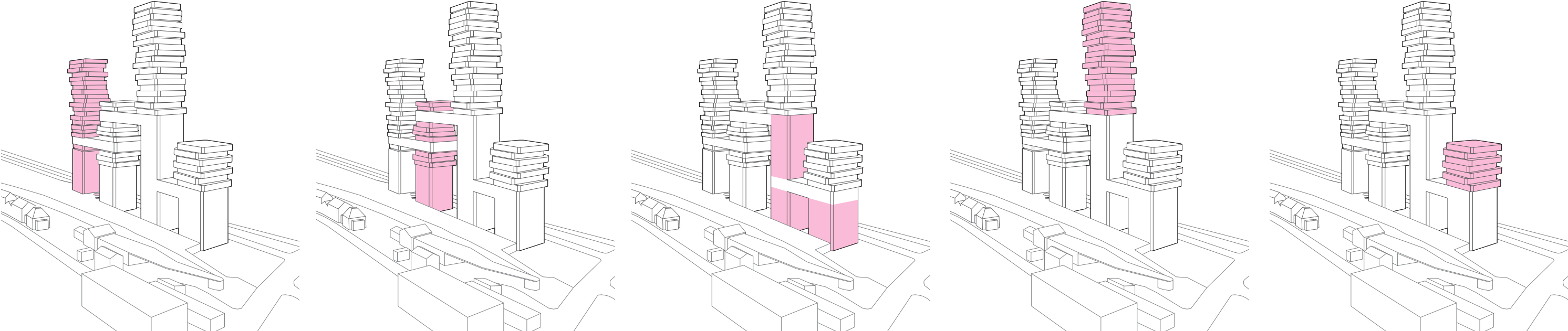


We chose to position the four buildings side by side. It is a long narrow site which gives the opportunity to do so. The long side of the site is south facing which ensures that the buildings are not in each other's shadow and will be provided with sunlight all day.

With the design of the buildings, we started from four different volumes with different heights. After which we started to shift the upper floors, creating terraces and canopies. These shifts are then also used for the greenery of the project.



PROGRAM



The first tower is filled with regular apartments and service flats. This includes both fully equipped apartments with cooking facilities and single or double rooms with only a bathroom. The ground floor of the building contains a large meeting area for family and friends, a hairdresser and a pharmacy. In addition, there is a large private garden where residents can enjoy the quiet.

Next to it is the greenscraper which is fully occupied with regular apartments, some larger than others. The flats have one to three bedrooms. On the ground floor there is a daycare where residents and working people can drop off their children during working hours. Between the last two towers there is a canopy where children can play among the plants and trees.

In the last two towers, the lower linear floors are filled with offices. The platforms allow employees to connect with the neighbouring building. Stores, supermarkets and coffee bars are located on the ground floor.

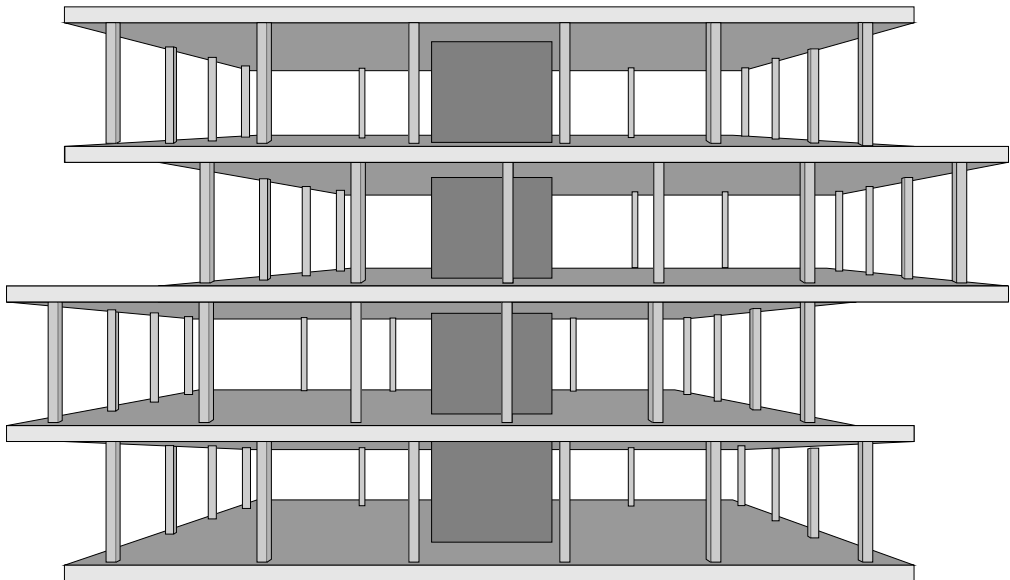
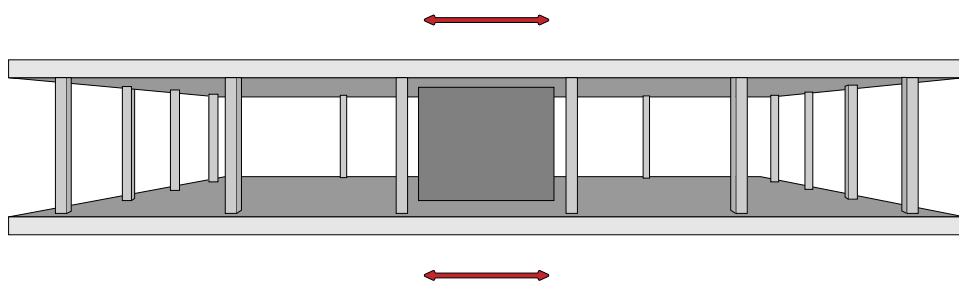
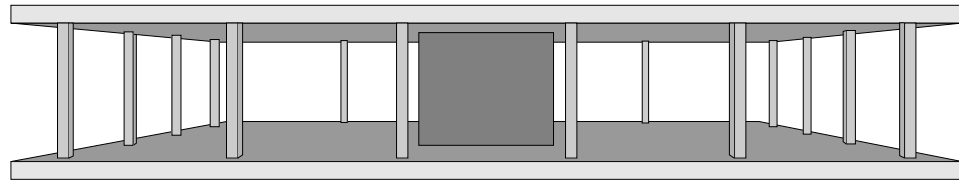
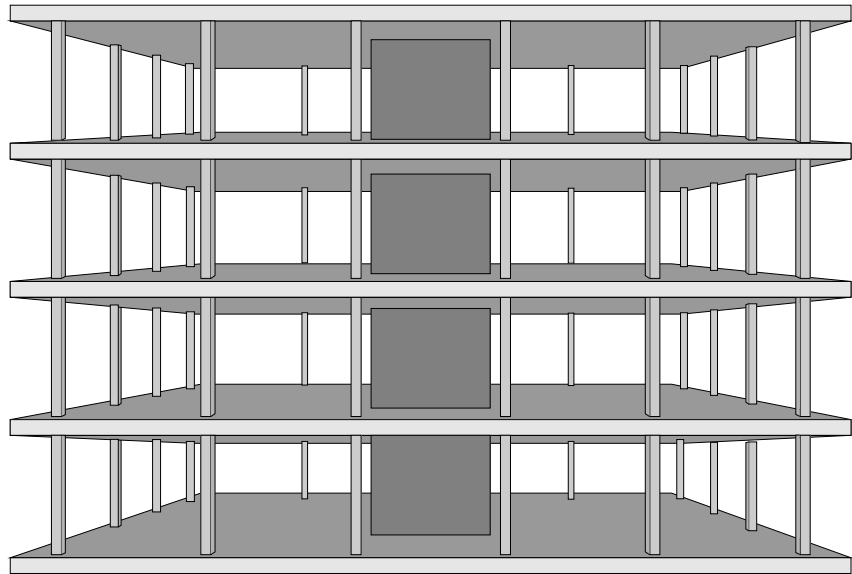
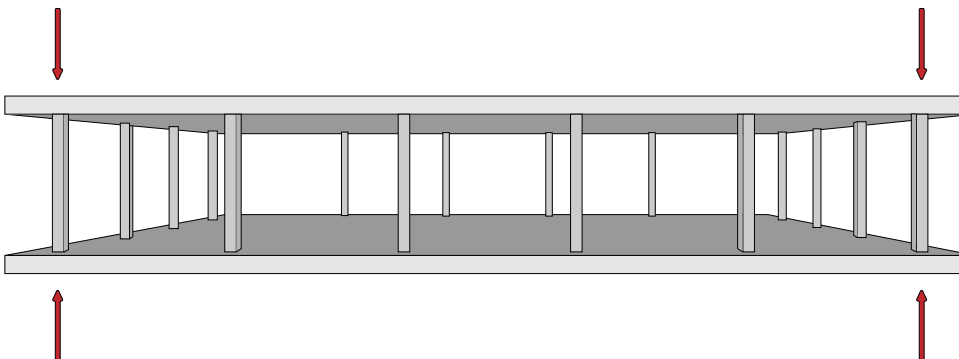
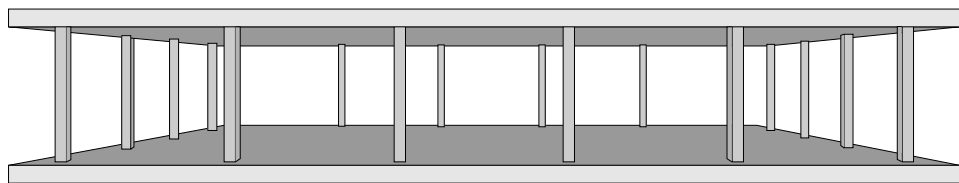
The top half of the third building contains luxury apartments. Here are about two to three flats per floor, these are very spacious and all have a beautiful view of the old town and nature.

Finally, there are the social housing units, these flats are provided for students as well as young families and singles. There are both single rooms with or without bathroom and fully equipped flats.

PROGRAM



A	108m					
	1st floor	pharmacy	117 sqm			
	15 floors	recreation	259 sqm			
	18 floors	service flats	9.135 sqm			
		apartments	10.962 sqm			
B	84m					
	1st floor	daycare	182 sqm			
	11 floors	hairdressers	117 sqm			
	14 floors	apartments	6.699 sqm			
		apartments	8.526 sqm			
C	151m					
	1st floor	shopping space	357 sqm			
	23 floors	offices	14.007 sqm			
	23 floors	luxurious flats	14.007 sqm			
D	72m					
	1st floor	supermarket	232 sqm			
	9 floors	café	117 sqm			
	12 floors	offices	5.481 sqm			
		social housing	7.308 sqm			
Platforms		A - B	3.311 sqm			
		B - C	3.686 sqm			
		C - D	3.311 sqm			



STRUCTURE

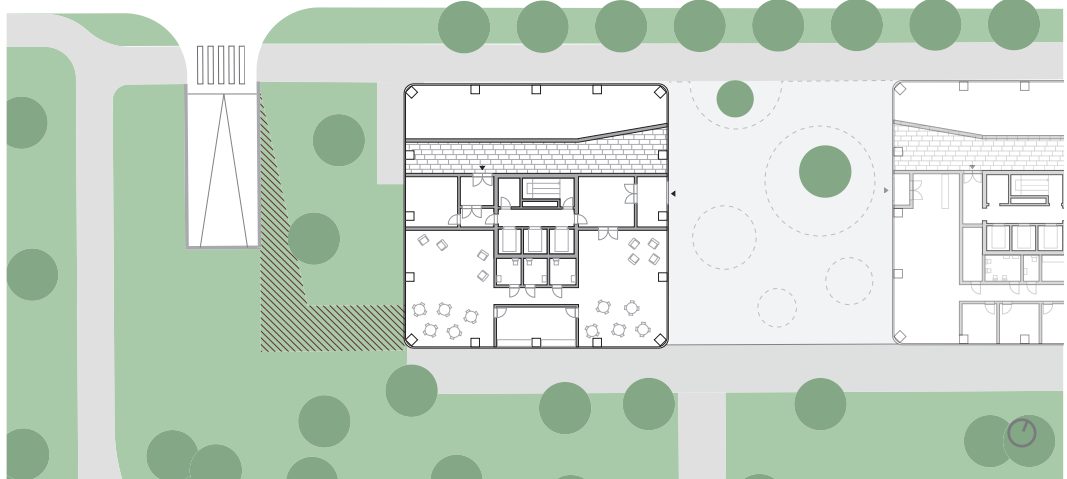
A vierendeel truss doesn't have any diagonal supports like a conventional truss, it only has vertical elements. It connects the two floors only with columns, which is vertically very strong. The skyscraper gains its lateral strength through a massively central lift shaft column.

The different floors are stacked on top of each other with the massive lift shaft in the middle. Afterwards the floors can be offset to create large overhangs.

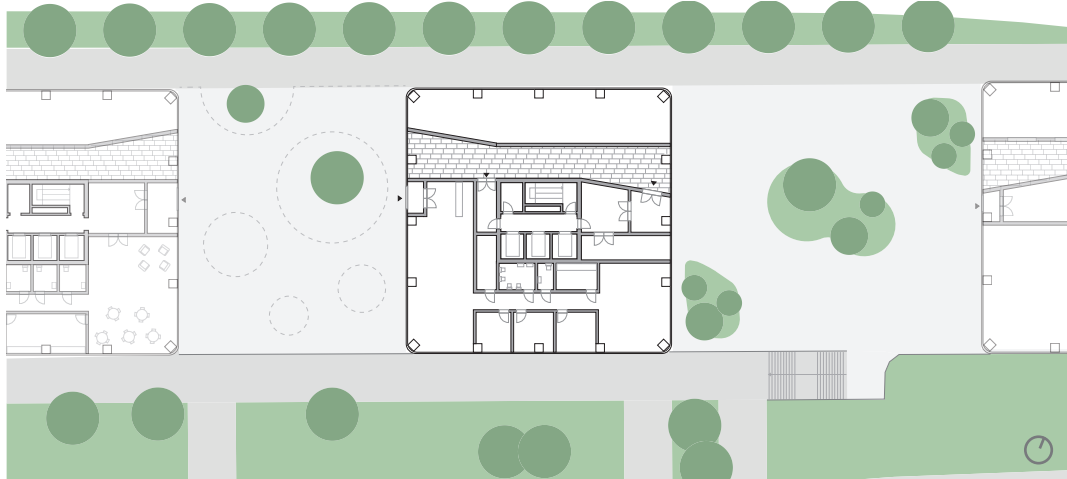


56 Leonard Street, NY
Herzog & de Meuron

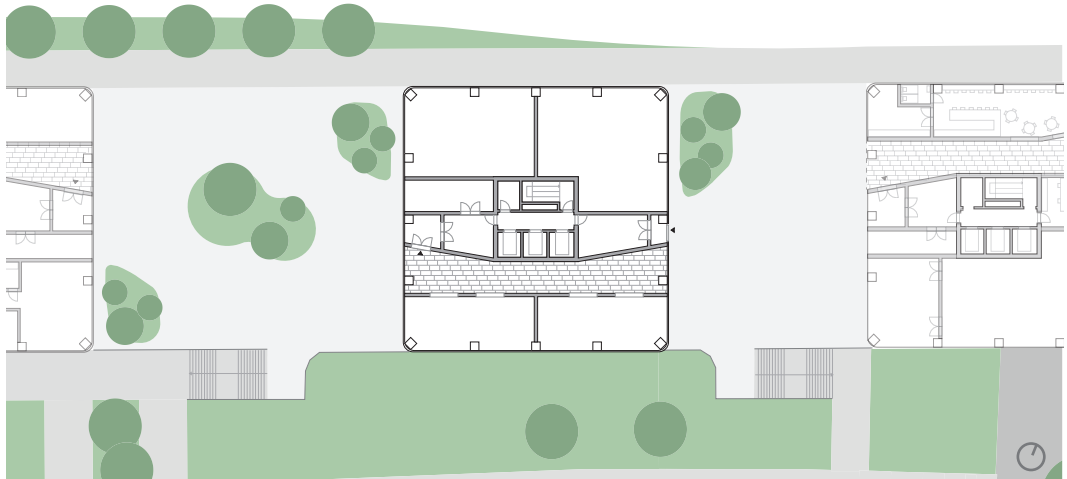
PLANS



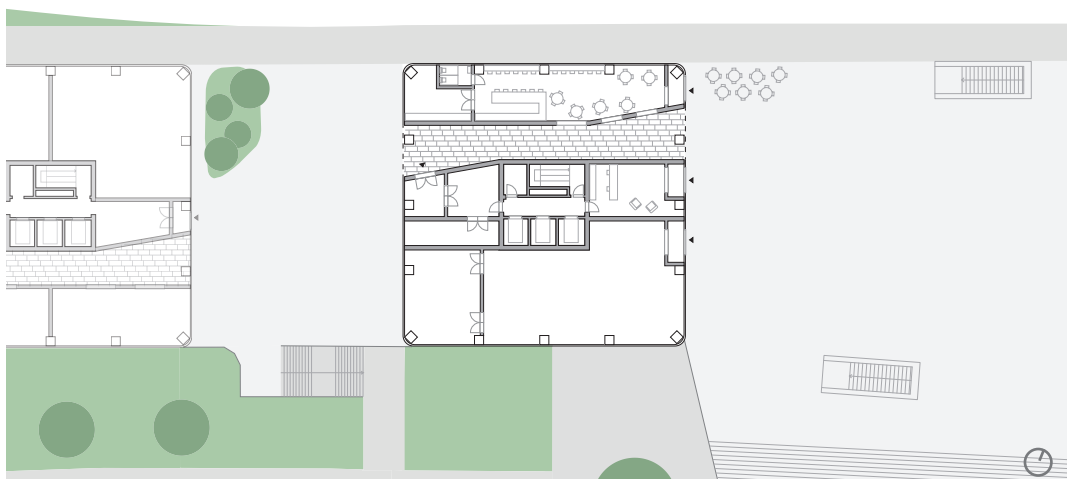
- Building A - Ground floor
- Pharmacy
 - Hairdresser
 - Meeting room for family/friends
 - Elevator shaft
- Parking entrance in the hill



- Building B - Ground floor
- Children daycare
 - Clothing shops
 - Elevator shaft
- Canopy with trees



- Building C - Ground floor
- Coffee bar
 - Clothing shops
 - Other stores
 - Elevator shaft
- Communal garden



- Building D - Ground floor
- Restaurant
 - Supermarket
 - Elevator shaft
- Staircase to trainstation

Building A

Service flats

- Communal kitchen
- Meeting room
- Single room with bathroom
- One bedroom apartments
- Terraces
- Elevator shaft

Building B

Regular apartments

- One bedroom apartments
- Two bedroom apartments
- Three bedroom apartments
- Terraces
- Elevator shaft

Building C

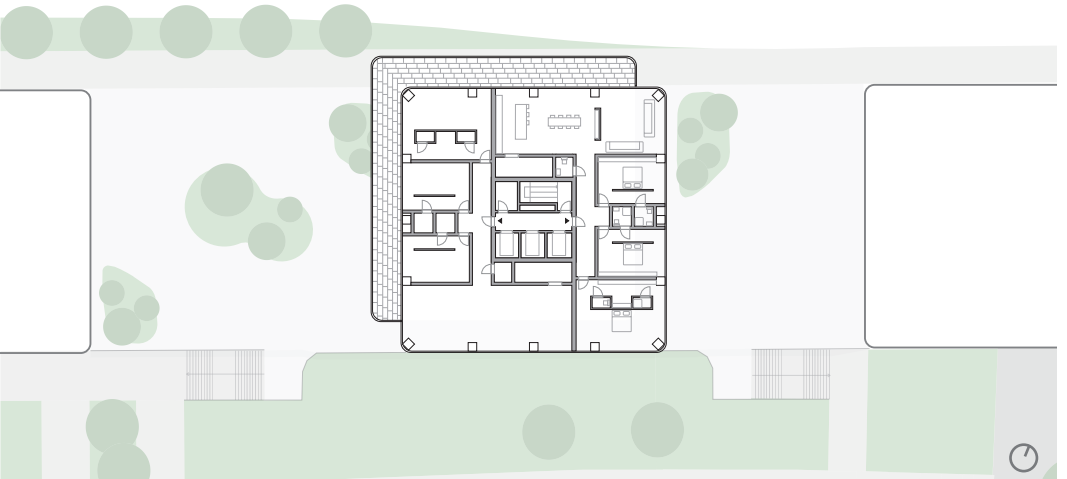
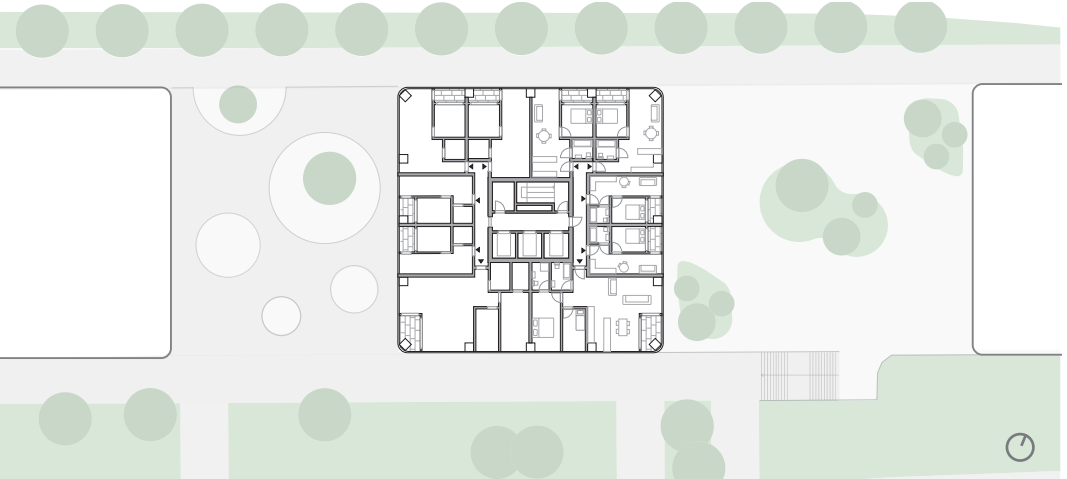
Offices and luxurious apartments

- Offices
- Two bedroom apartments
- Three bedroom apartments
- Terraces
- Elevator shaft

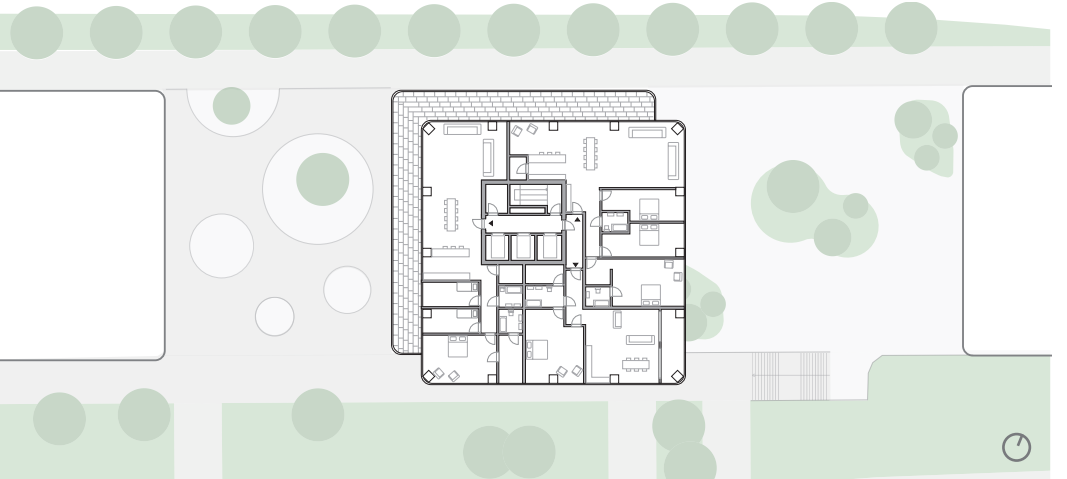
Building D

Offices and social housing

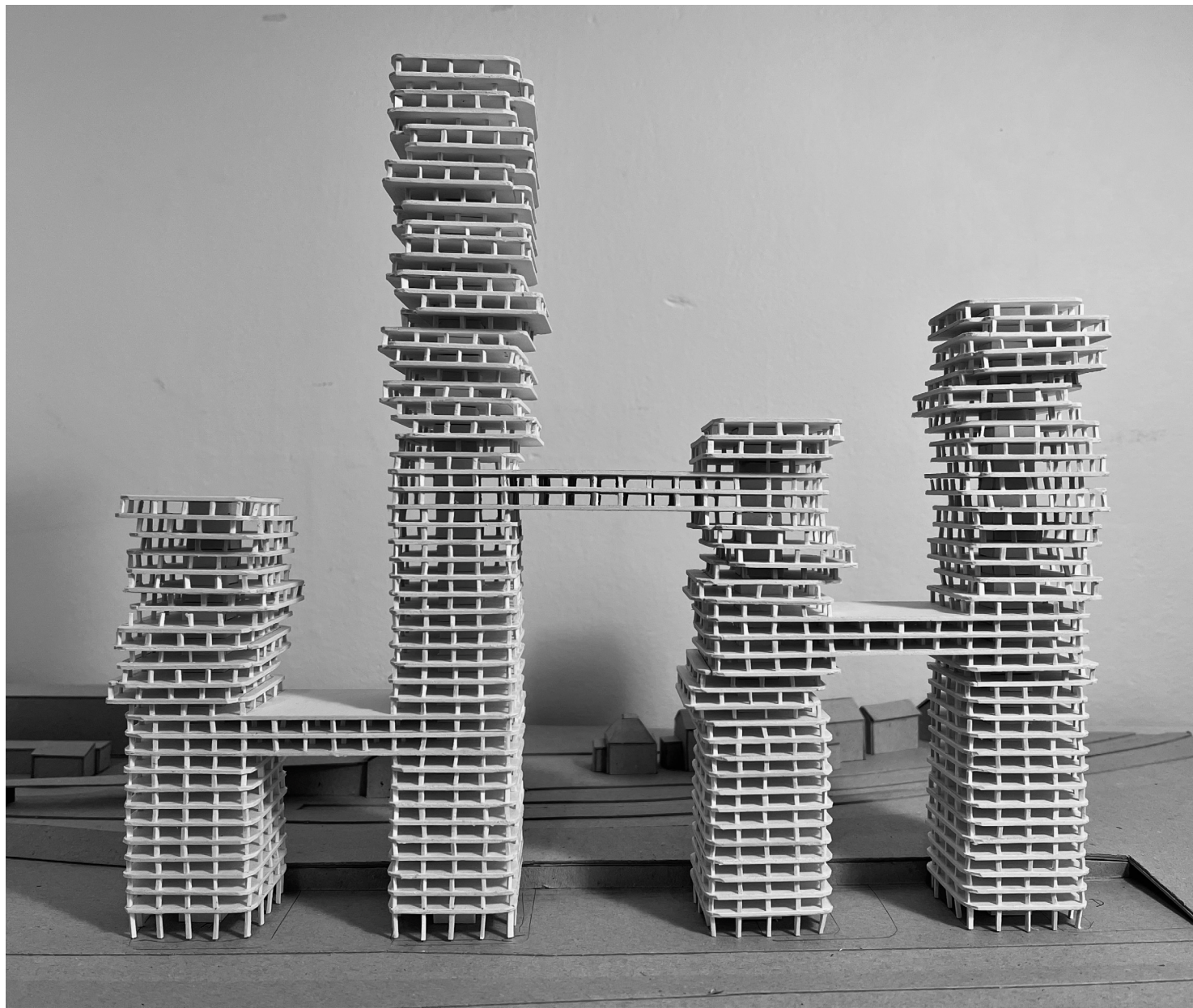
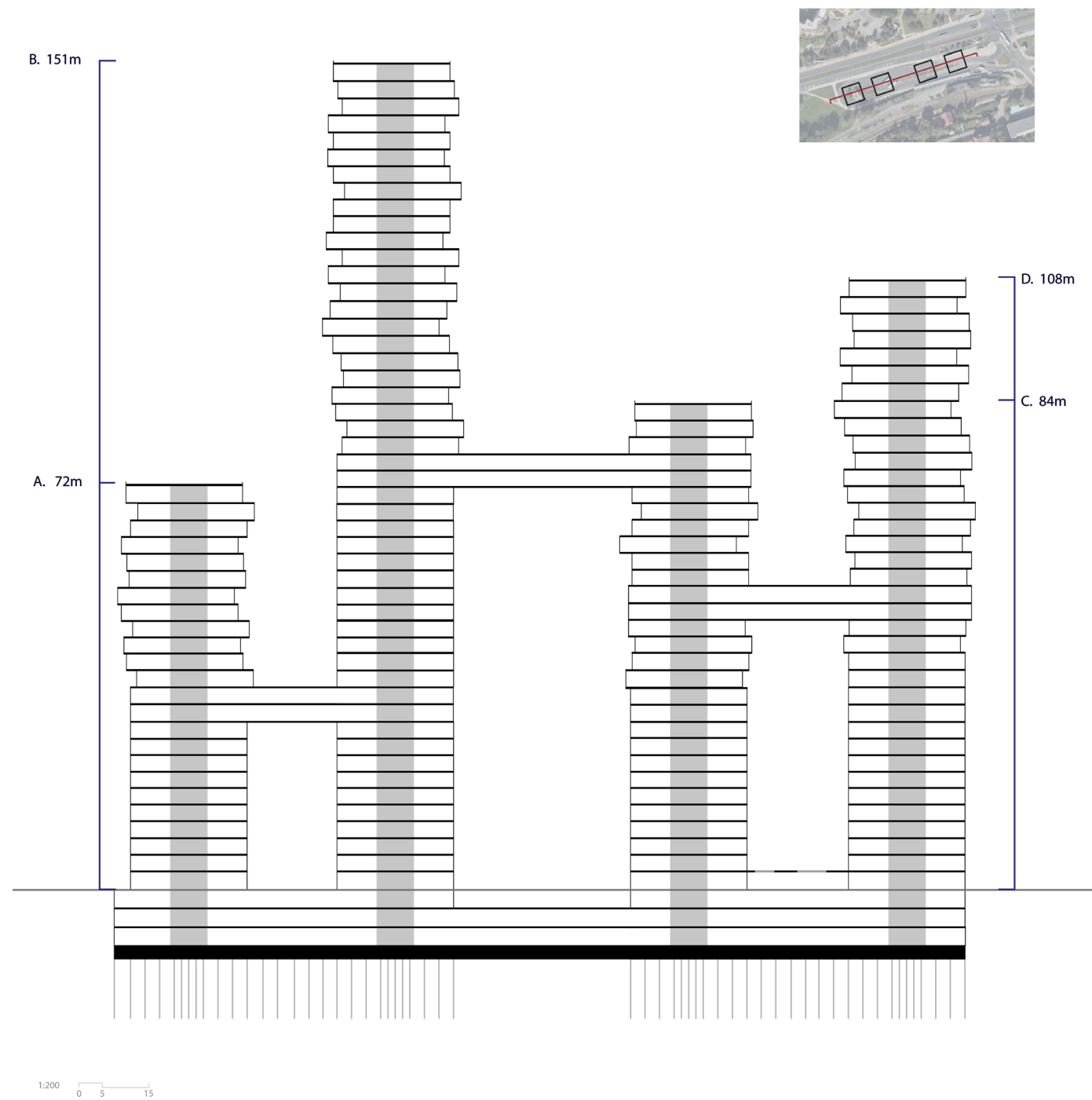
- Meeting space
- Kitchen and sanitary
- Studio's
- Single bedrooms
- Communal kitchen and bathrooms
- Terraces
- Elevator shaft



PLANS



SECTION



VISUALISATIONS



our ambition is to create greenscrapers around a significant transportationhub,
a social and sustainable project integrated into the wider urban area

