

THE YARD

Master Final Work
Milan 2026 Winter Olympic Games village

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Politecnico di Milano
Msc Architecture - Built Environment - Interiors
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Urban design
CONNECTION

How to connect the site to the city?
How can the site contribute to the development of the city?

Landscape
NATURE

How to balance artificial object and nature element?

Architecture
COMMUNITY LIFE

How to create an environment that enhance community life?

A b s t r a c t

The project is a residential complex located in a largely abandoned railyard in Southern Milan, serving as athletes temporary housing for MILAN CORTINA 2026 and STUDENT HOUSING after the Olympic.

To find a reasonable solution, the design is to try to answer three main questions about URBAN, LANDSCAPE, and ARCHITECTURE: How to connect the site to the city? How to balance artificial objects and natural elements? and How to create an environment that enhances community life?

01 READING

LOCATION

CITY INDENTITY

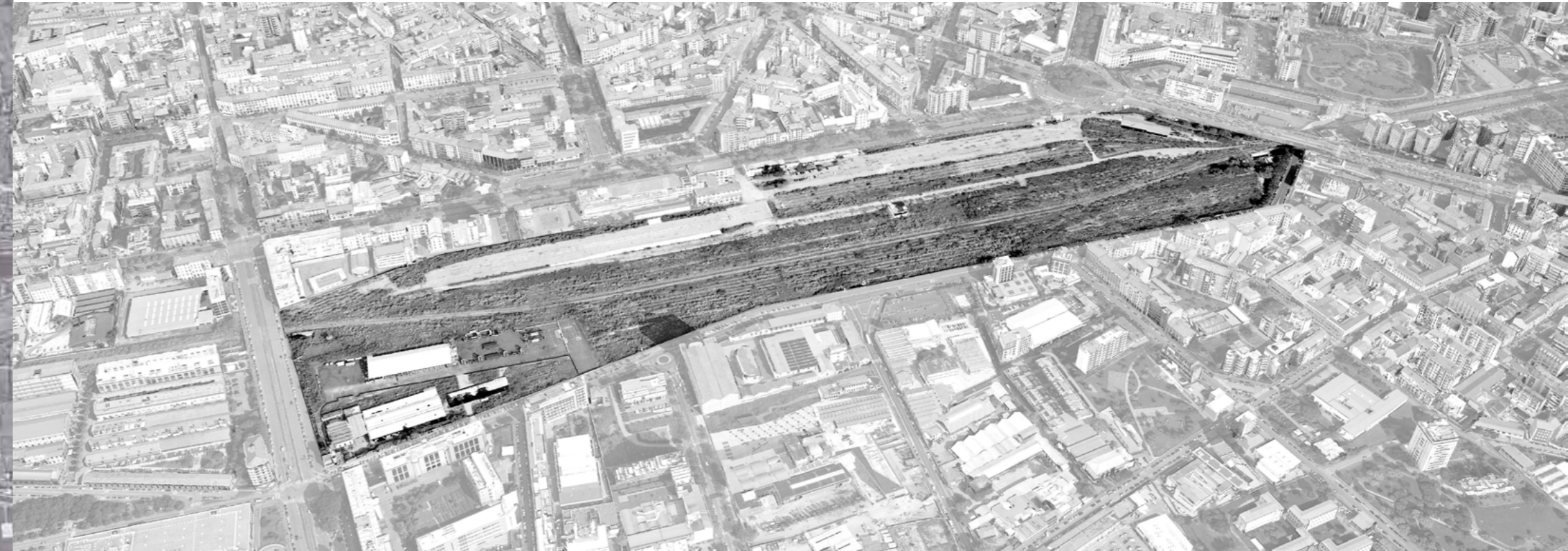
HISTORY TIMELINE

CITY DEVELOPMENT

INFRASTRUCTURE

NATURE FEATURE

SUMMARY



Location



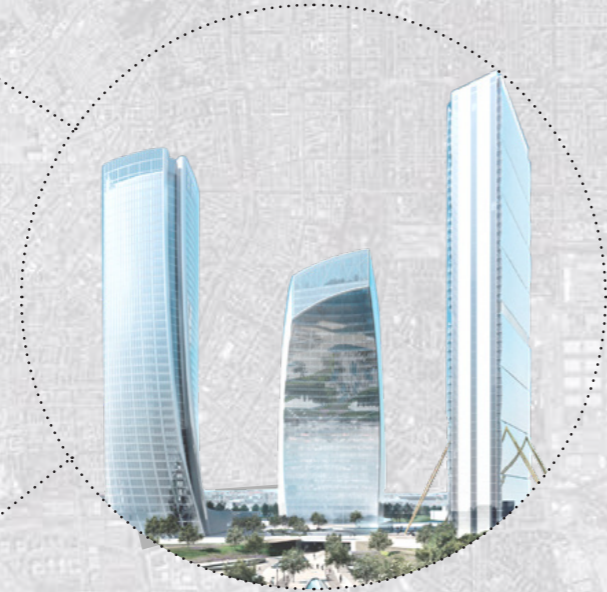
The site is located in Southern Milan which is the second-most populous city in Italy with 1.4 million in the center and 3.26 in its metropolitan city. Its continuously built-up urban area, that stretches well beyond the boundaries of the administrative metropolitan city and the project will contribute to the expansion.

The city has a humid subtropical climate, being similar to much of Italy's inland regions, with hot, humid summers and cold, foggy winters. In summer, humidity levels are high and peak temperatures can reach temperatures above 35 °C

Milan witnesses several significant historical and political events from the Roman to the modern-day. The ancient antiques are well preserved and simultaneously, cutting-edge technologies are applied to lead the city to the future.



Historical
core



Dynamic life



Nature

City Identity

Milan city was shaped around the fortified walls and construction of the railroad infrastructure. It is well-known for the historical remnant, architecture, and landmarks. In the first half of the 19th century, Milan developed almost entirely inside the boundaries of the Spanish city. However, under the pressure of population growth, the city expanded. In the 20th century, industrialization pushed the city to further develop with airports, stations, and railroad were built. In the late 20th century, with the international success of Milanese houses, such as Dolce & Gabbana, Armani, and Versace, Milan became one of the world's fashion capitals and tourism. Instead of manufacturing, Milan focus to develop new business district, financial hubs, information technology, and creativity sector, for instance, Porta Nuova, CityLife and Brera district, creating an ancient city with a young and dynamic lifestyle.

Roman ornament
with an Aquila



400 BC

The Lombardy city was found in around 400 BC. Nearly 200 years later, the Roman conquered this city and gave it the name "MEDIOLANUM" from which the name "MILAN" was derived directly.

Charlemagne
Emperor of the Romans



8th century

Milan surrendered to Charlemagne and the Franks in 774. He took the title of "King of the Lombards" and established his imperial capital of Aachen in what is today Germany. In the 10th century, the city strongly grew in the Lombardy region, followed by its BISHOPS had more and more powerful until the first quarter of the 12th century, when Milan became a municipality, controlled by DEMOCRATIC GOVERNMENT. New city walls were built, along with a series of buildings and streets.

The Visconti's coat of arms



13th century

DEMOCRATIC GOVERNMENT came to an end and the power was seized by the VISCONTI of Milan. They ruled Milan until the early Renaissance when the last duke died in 1447 without an heir. A republican government took charge of the city in the short term. Then FRANCESCO I SFORZA had taken control.

House of Sforza's coat of arm



15th century

Under the SFORZA family, Milan was thrived than ever before with creativity and innovation. Milan was transformed into a powerful metropolis. Sforza Castle and the Duomo of Milan were built. The city ranked amongst the leading hub of art and culture. In 1535, Milan embarked on almost 200 years of Spanish rule (1556-1707).

The flat of Austrian Hapsburg Milan



18th century

In the early 18th century (1714-1796), the AUSTRIANS took over in Milan and as a result, the city underwent a rapid transformation with the erection of La Scala. The duchy remained in Austrian hands until it was overrun by the French army of NAPOLEON BONAPARTE in 1796. After the defeat of Napoleon, the Duchy of Milan was not restored and this kingdom ceased to exist when the remaining portion of it was annexed to the Kingdom of Italy in 1866. Milan was chosen to be its capital city.

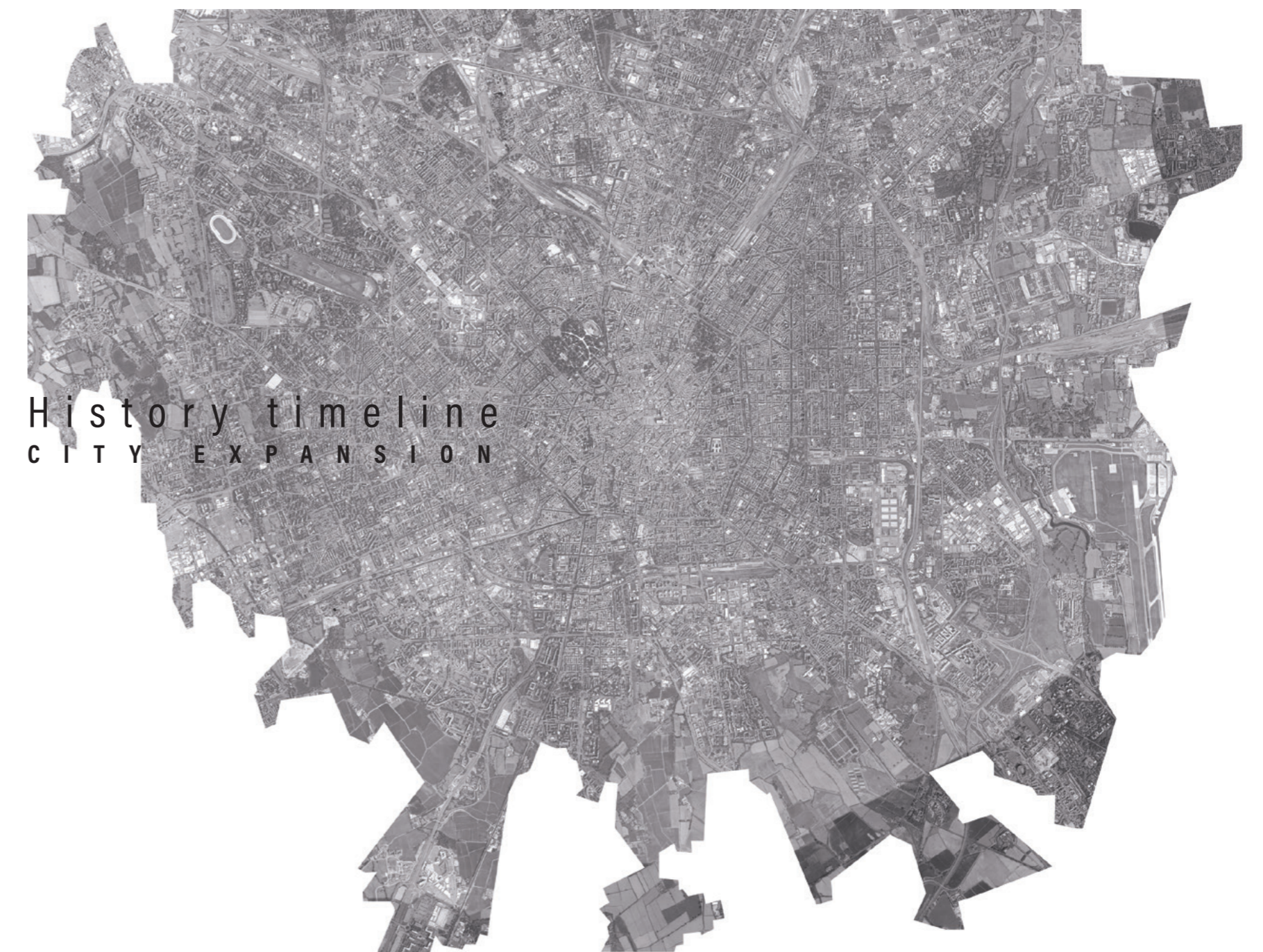
The flag of the City of Milan



20th century

During the late 19th century, rapid industrialization and market expansion put Milan at the center of Italy's leading industrial region. Simplon Tunnel opened (1906) Malpensa Airport established (1909) and Centrale Station was built (1930). Late modern and contemporary came along with the FASCIO DI COMBATTIMENTO (1919). During WWII, Milan was subjected to heavy bombardment from Allied forces. Before American troops could arrive to liberate the city, Italian resistance members took over the city and executed Mussolini, along with some of his government.

History timeline
POLITICAL EVENTS



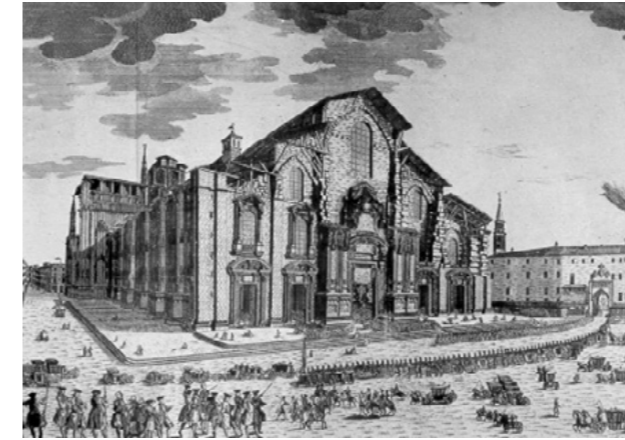
Remnant of Roman walls



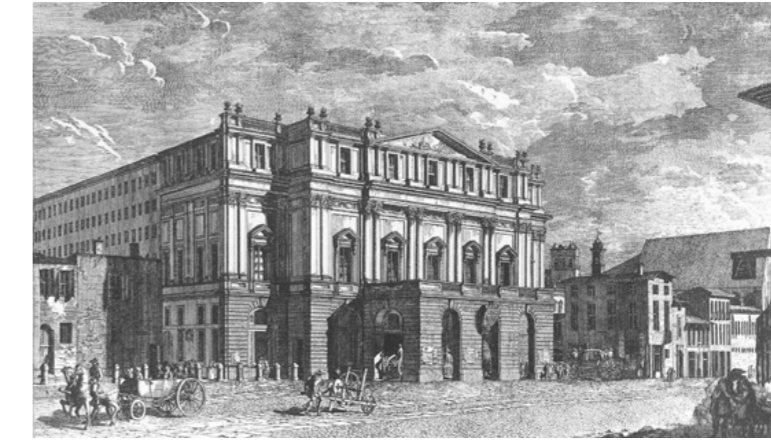
Church Sant Ambrogio



Duomo di Milano



Teatro alla Scala



Milano Centrale Station



400 BC

8th century

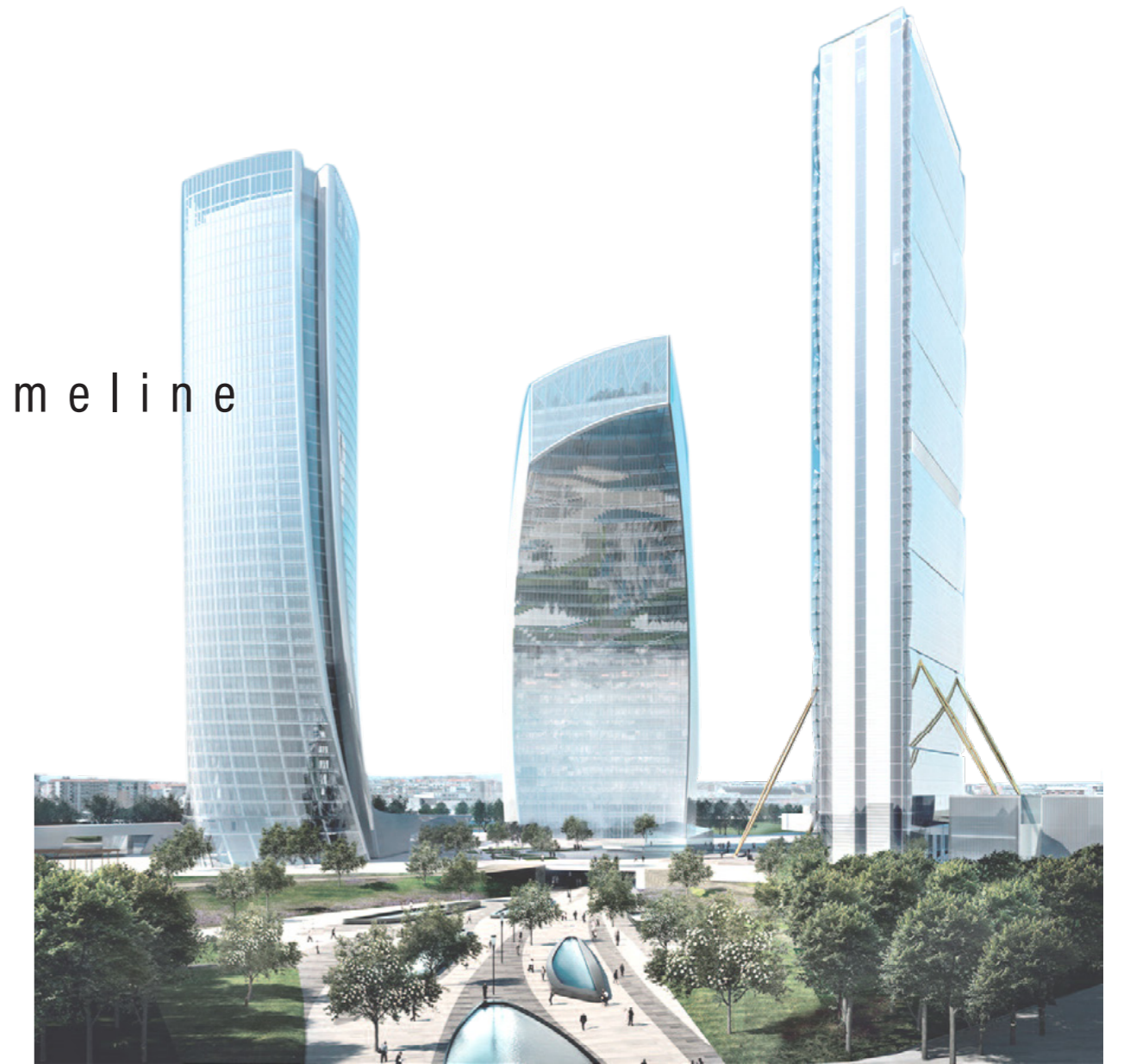
13th century

15th century

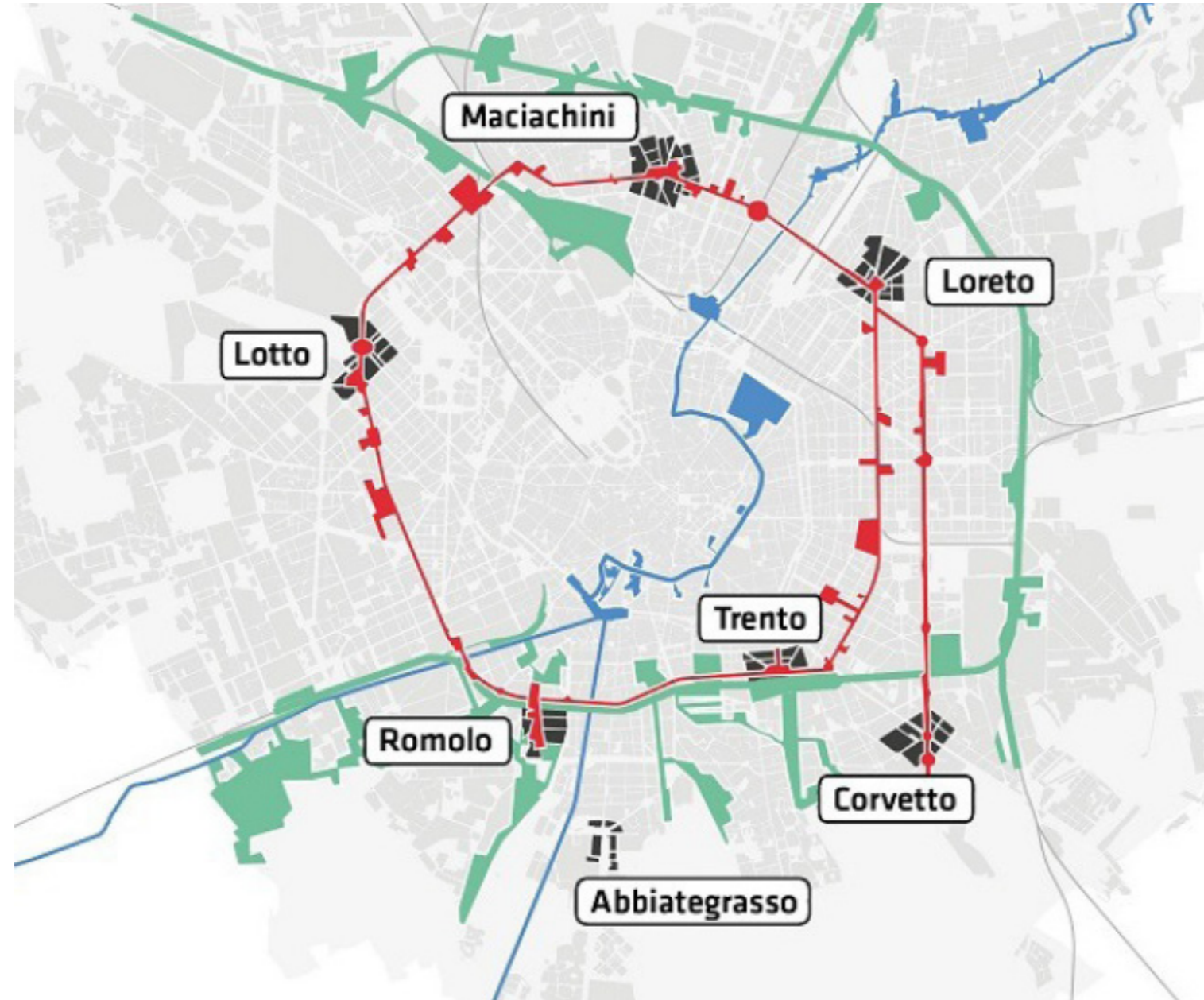
18th century

20th century

History timeline
LANDMARKS



CityLife - Milano



History timeline THE FUTURE

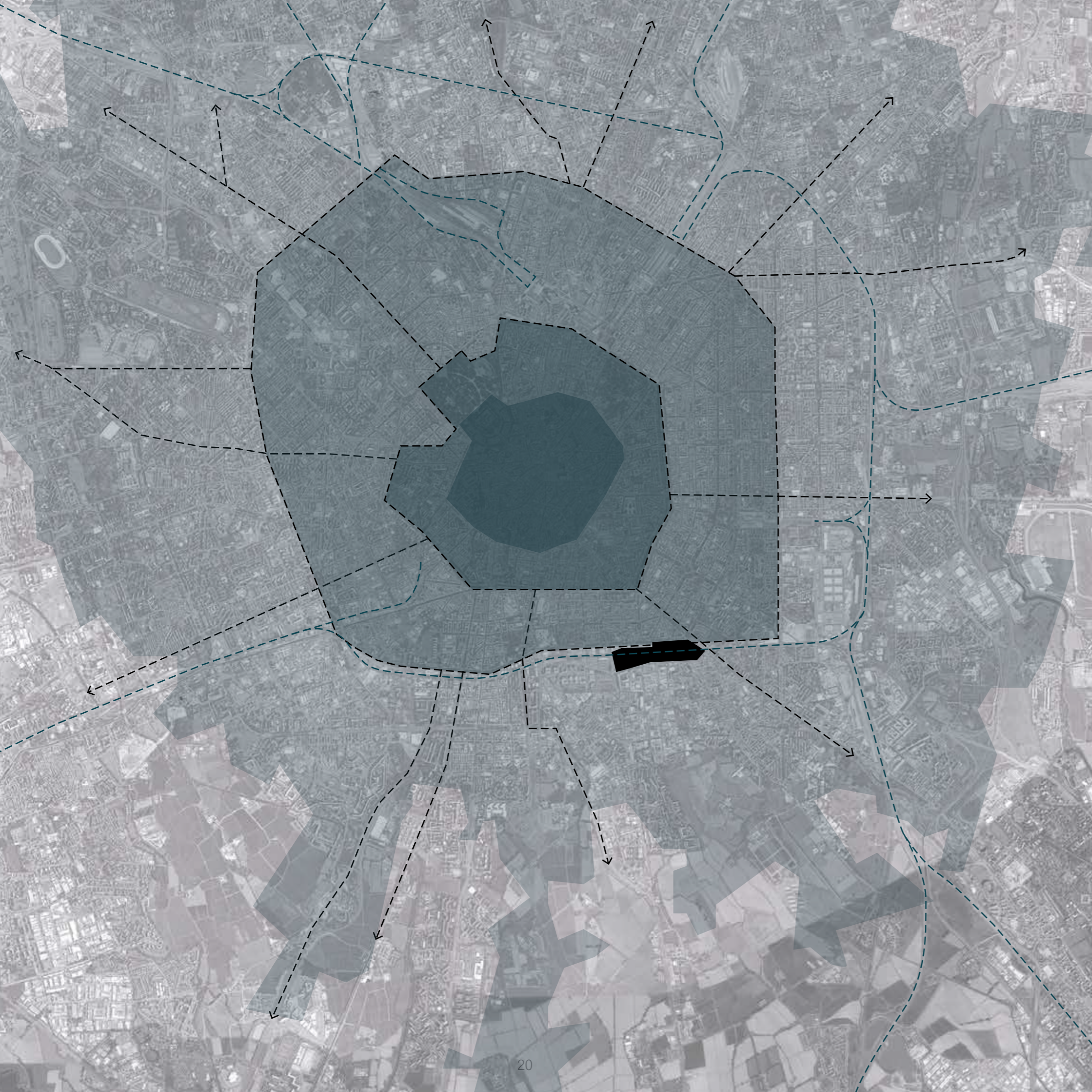
PTG 2030
MILANO CORTINA 2026

In October 2019, the Milan City Council approved the Territory Governance Plan for Milan 2030. This plan focuses on the purpose of making Milan an international and attractive city by integrating the territorial system, regenerating public and private activities related to education, sport, and culture.

One of the main points is a green system. City infrastructure will be developed along with the ecosystem, reducing carbon and gas emissions, making a friendly city, not only for citizens but also for nature inhabitants.

With the Olympic 2026 will be held in Milan, the city has a chance to show its vision to the global. The Games concept perfectly aligned with the long-term local development plans, these are:

- Connecting Milano, its metropolitan area and the world
- An attractive and inclusive city full of opportunity
- A green, liveable, resilient city
- One city - 88 districts to call by name
- A city that regenerates itself



City development

- Site Location
- 13th century - Medieval walls
- 16th century - Spanish walls
- 19th century - Cesare Beruto's urban plan boundary
- 21th century - City's boundary

- Urban development axis
- Railway

The expansion of urban opens dramatically since the 19th century until now. Fortified walls and railway become the main lines, forming the shape of urban sprawl. With the decrease in manufacturing, factories are transformed into culture hubs. Agriculture is aided by technology, for example, vertical farming, followed by less agri-land needed. In summary, there are more land and space for the expansion of the city.



Infrastructure

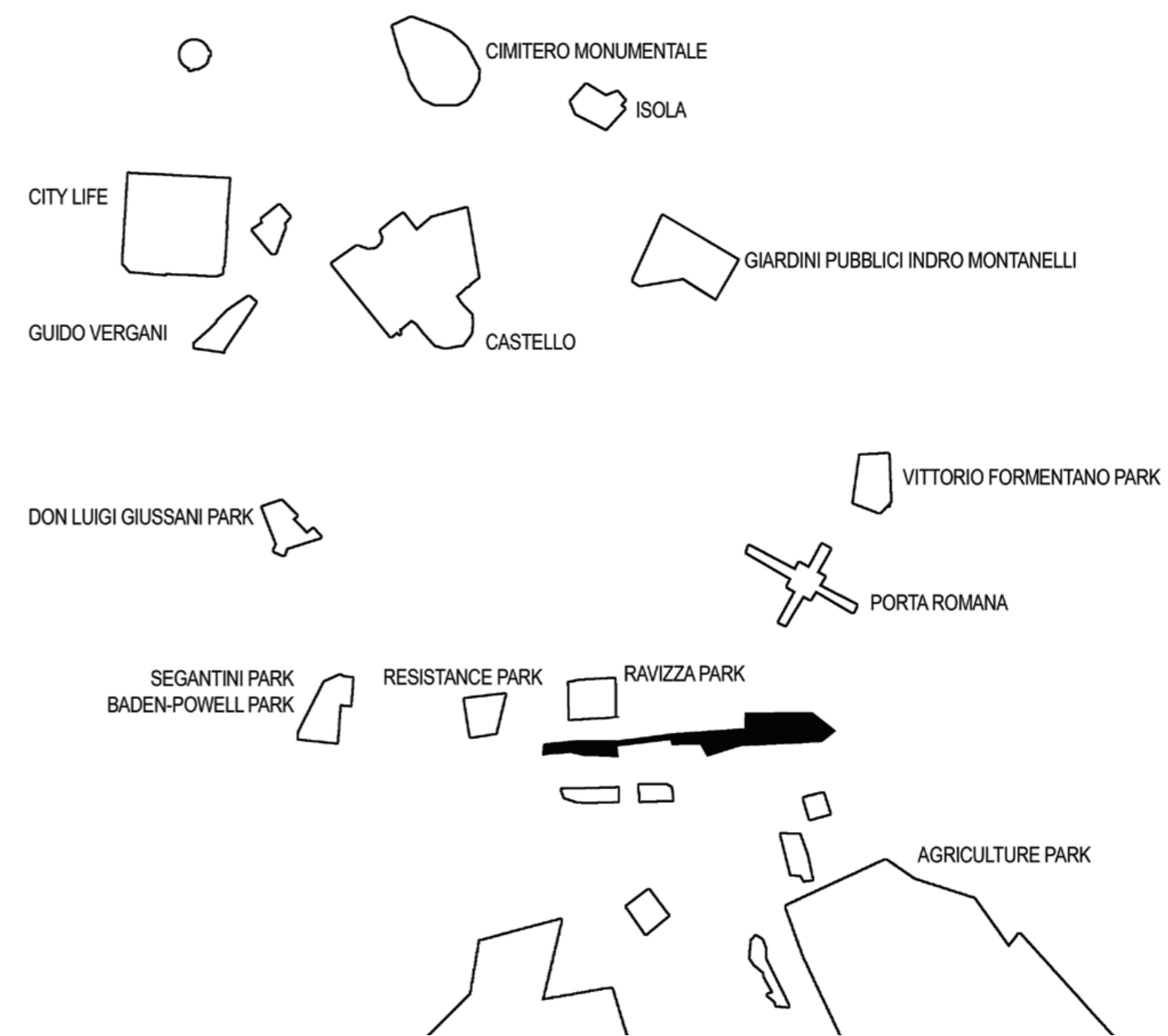
- Site Location
- Station / Airport
- Industrial building
- Railway

The infrastructure system is developed around the city center and will continuously grow in North-South direction with the erection of Metro line 4. The system had a great impact on the development of the city, which was strongly discussed at the beginning of the 20th century. The debate was about should Milan be a monocentric or polycentric city? In 1911, Pavia and Masera drew a plan defining the layout of the infrastructural network in response to the monocentric city, however, in the region scale, Milan still be a polycentric specificity.





In 1953, business districts were brought into the urban plan. Milan shifted from an industrial city to the hub of information and business services, consistent with the growing demand of the city. All the production facilities have already been relocated. The freedom of movement with the car was considered the most.

In 1980, the idea of a business district was consolidated with commercial malls and cultural centers. The urban plan focused on how to interact with different aspects of the city, for example, historical, infrastructural, social, and territorial. The plan no longer tried to define the new shape for the city, but to derive it from the context. A highlight movement was made in 1999 when private developers together with the Municipality of Milan and Lombardy Region have been starting to process transforming the city. A series of significant projects were realized, such as The Porta Nuova development, Lombardy Region headquarters, and the construction of the railway Milano-Monza.

Nowadays, sustainability is the most important topic. Infrastructure systems are continuously developed sustainably, making Milan become an international and resilient city.

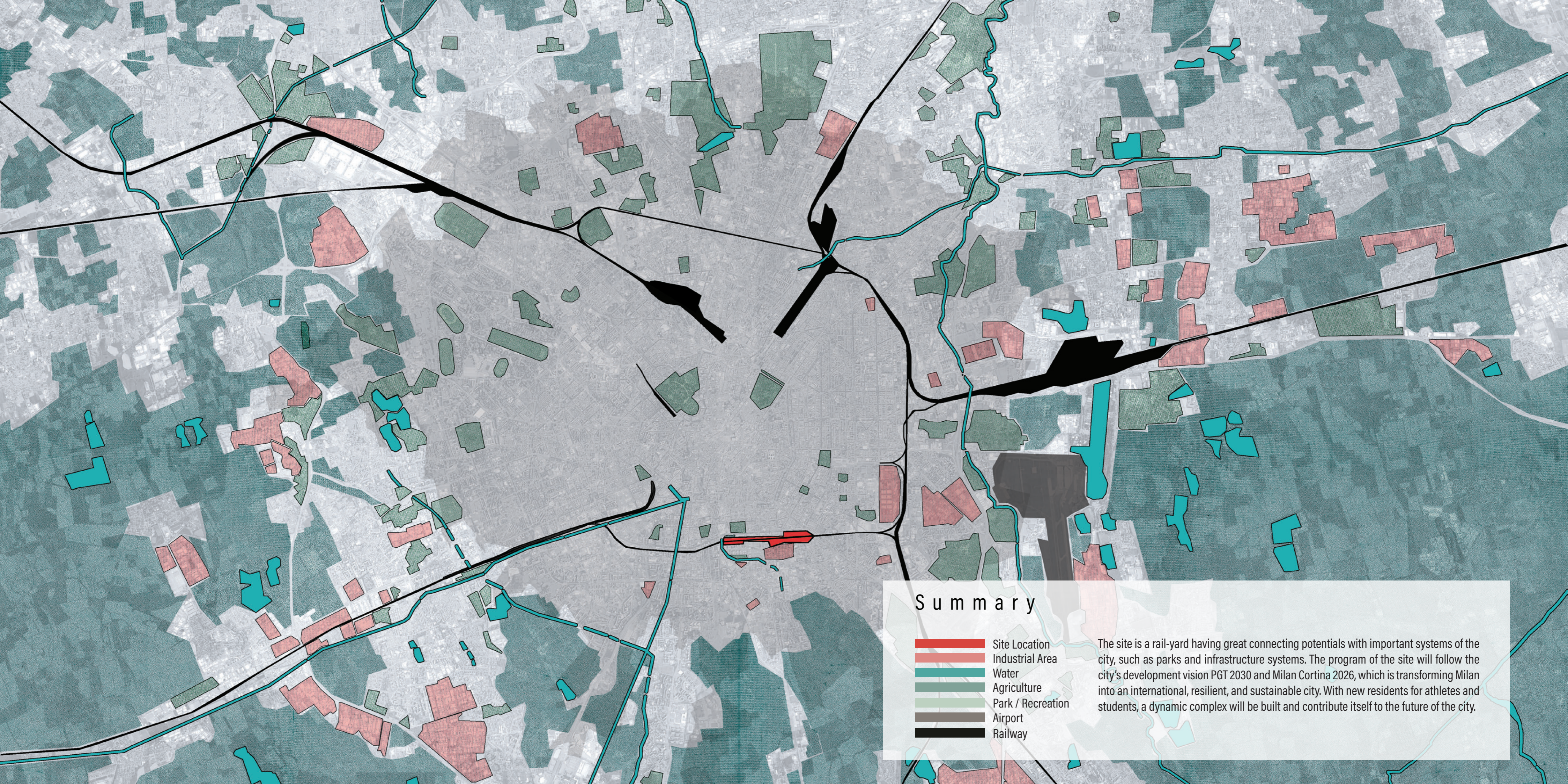


Nature Feature

-  Site Location
-  Park
-  Agriculture land
-  Canal / Waterfront

Along with the infrastructure system, parks are placed around the boundary of the city, creating a continuity trail of nature. The site is located in that trail, which provides favorable conditions for contributing to the green system of the city.

As a result of geometry, agricultural land is placed in the Southern part of Milan, about 800m away from the site. Vertical farming is now suggested as an effective way to produce vegetables in the city, especially, in the COVID-19 situation.



Summary

- Site Location
- Industrial Area
- Water
- Agriculture
- Park / Recreation
- Airport
- Railway

The site is a rail-yard having great connecting potentials with important systems of the city, such as parks and infrastructure systems. The program of the site will follow the city's development vision PGT 2030 and Milan Cortina 2026, which is transforming Milan into an international, resilient, and sustainable city. With new residents for athletes and students, a dynamic complex will be built and contribute itself to the future of the city.



02 WRITING

NATURE FEATURE

INFRASTRUCTURE

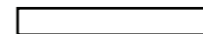



SOLID AND VOID

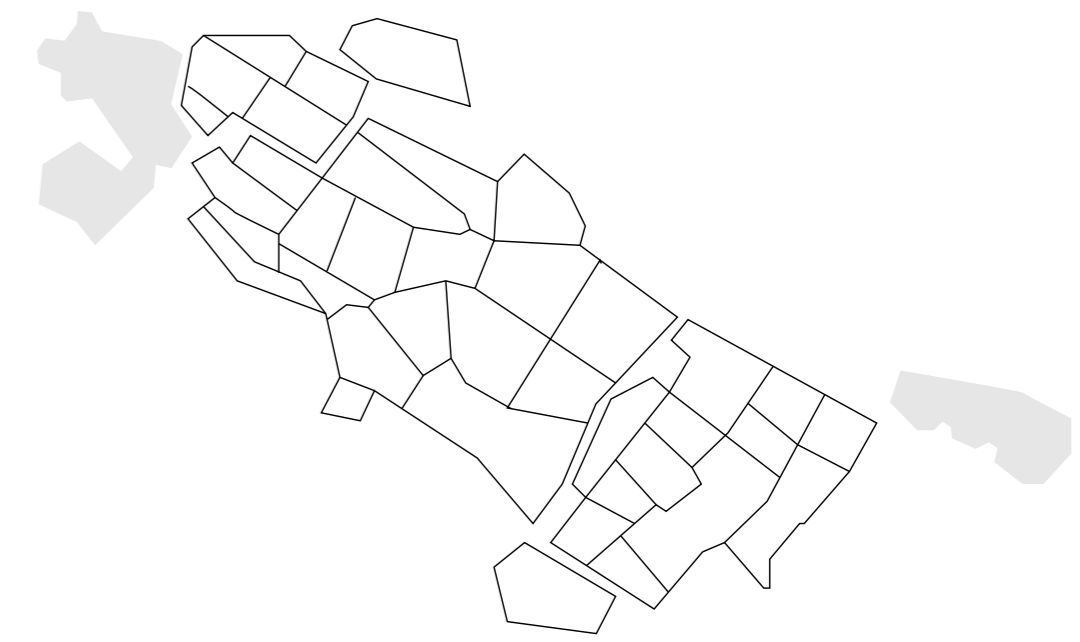
SOIL PATTERN

STRATEGY PLAN

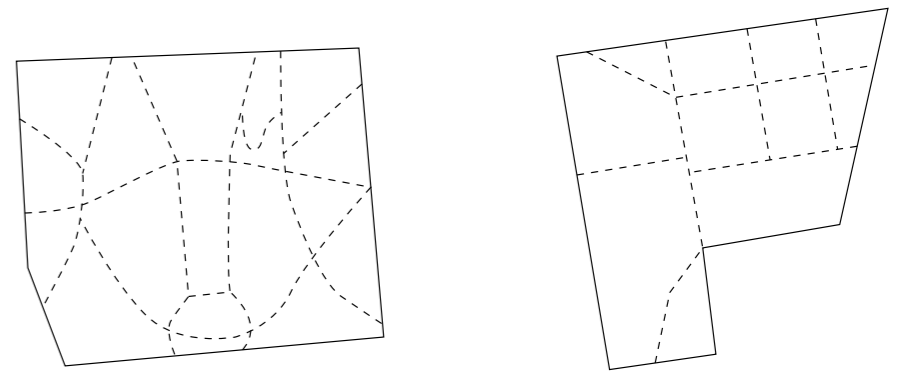
REFERENCE



-  Site Location
-  Park
-  Agriculture land
-  Canal / Waterfront



01



02

Nature feature

The first impression of this area is a huge unplanned nature. Its size nearly equal to Giardini Pubblici Indro Montanelli and double Vittorio Formentano Park which also be placed around the ring road. The most important thing which makes nature is different from artificial infrastructure is that its shape change through time. In architecture, time can be still, which can be observed in Giorgio De Chirico paintings and monument architecture, while nature follows the time and universal movement. Architecture has such a power to change the time, nature has not. What can be seen in nature is its periodicity. Architecture stands independently, while nature is a combination of different components having a close relationship. There is a chain between humans and plants. The output of one creature is the inputs to the others. The only import to the chain is the light from the sun and the only export from the system is the heat. "The oxygen waste of the plant were input to the man, the carbon dioxide of the man input to the plant; the substance of the plant input to the man; the wastes of the man input to the plant; the waste of the man and plant input to the decomposers, the wastes of these input to the plant; and the water went round and round and round." (1)

1. Ian McHarg. (1995). *Design with Nature*. New Jersey, John Wiley & Sons, Inc.

01 Agriculture's pattern
02 Parks' patterns



03










04

Nature feature

03 The site in January - 2020
04 The site in June - 2020



-  Site Location
-  Primary Road
-  Secondary Road
-  Railway
-  Cycle lane
-  Metro entrance/exit
-  Train station



I n f r a s t r u c t u r e

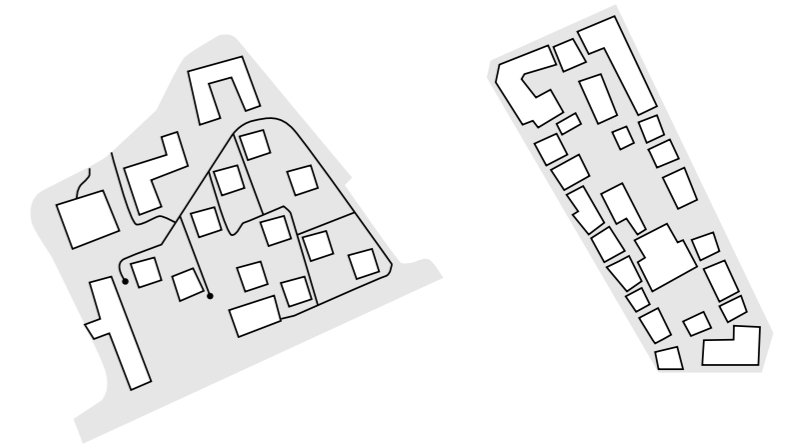
While nature on the site evokes our pleasure feelings, the presence of infrastructure makes us admire the human's unlimited ability with his remarkable structures, for instance, the remnant of the historical gate, innovative industrial buildings, and today's landmarks which are shown clearly on the surroundings. We are standing in the middle of the plentiful culture and historic city in which any touch and design must be considered intensively. The design should continue this dense history and answering the question: how could be a city life in the future?

"Man, in a word, has no future; what he has is history" – José Ortera Y Gasset (2)

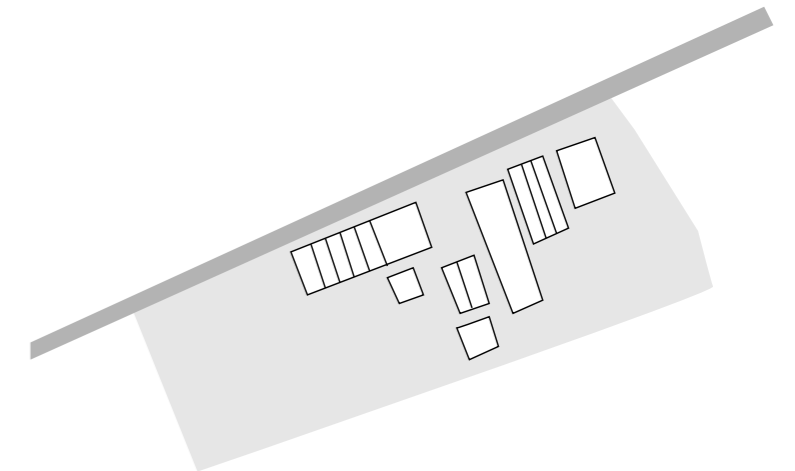
"Breaking the continuity of the past, is a lowering of man and a plagiarism of the orangutan" (3)

(2) (3) Colin Rowe and Fred Koetter. (1978). *Collage City*. London and Massachusetts, The MIT Press, Cambridge.

05 06 07 City infrastructure: Cycle lane, Underground metro entrance/exit, Porta Romana Train Station



08



09

Solid and Void

Building footprints changes from North to South. On one side of the site, there are dense residences and on the other side, industrial storages and factories are dominant. The site acts as an intermediate zone between the two types of architecture.

08 Housing pattern

09 Factory pattern











10 - The site viewed from the East (corso Lodi)

Soil pattern

One of the most interesting is the ground's height. Only in the North and South can we enter the site. There are about 7m in height different between Corso Lodi (East side) and the site. Similarly, 8m different between via Ripamonti (Westside) and the site. Despite being impossible to access, we have a panorama view of the site below from Corso Lodi.



-  Site Location
-  Park
-  Agriculture land
-  Canal / Waterfront
-  Railway
-  Existing tower
-  The box
-  Inclined surface

Strategy

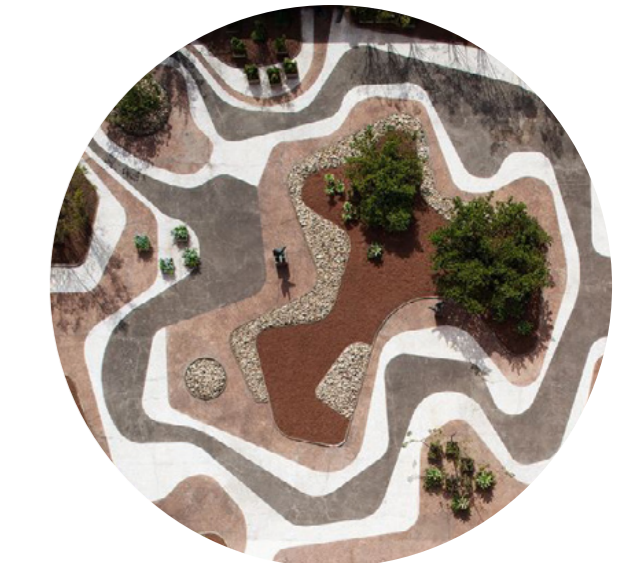
Back to three main questions of the project:

- Urban design: How to connect the site to the city?
- Landscape design: How to balance the artificial object and nature element?
- Architecture: How to create an environment that enhances community life?

In the strategy, the inclined surface connects the site with Corso Lodi and via Ripamonti presenting the way the project connects with the city. Preserving nature elements that have already existed and turned the whole site into a park is the way to intertwine human life with nature and connect the site with the city green belt. The boxes are architecture which acts as a bridge to connect the site in North-South direction. These boxes have strict geometry outside but being flexible inside to a variety of spaces for social physical connection. Those aspects of the project will be explained precisely in the next chapter.



① SUND Nature Park
Copenhagen, Denmark | 2017



② Safra Bank, roof garden Sao
Paulo | 1983

Reference

- ① Inclined surface
- ② The Park
- ③ The Box
- ④ Waterfront



③ T6B Tolbiac Chevaleret
Paris | 2020



④ Fazenda Vargem Grande Areias
Sao Paulo | 1979-1991



03 Composing

IDEA

MASTER PLAN

FOCUS AREA

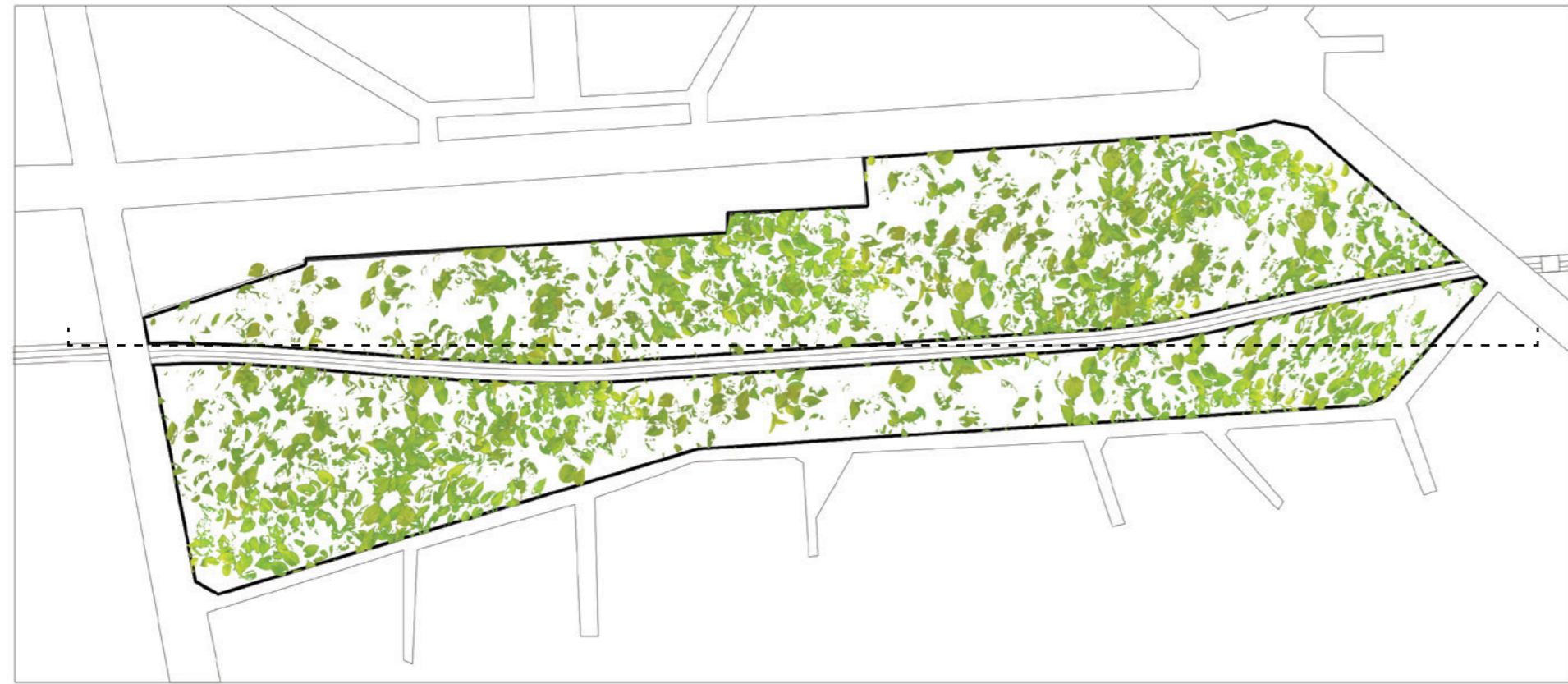
URBAN CONNECTION

LANDSCAPE DESIGN

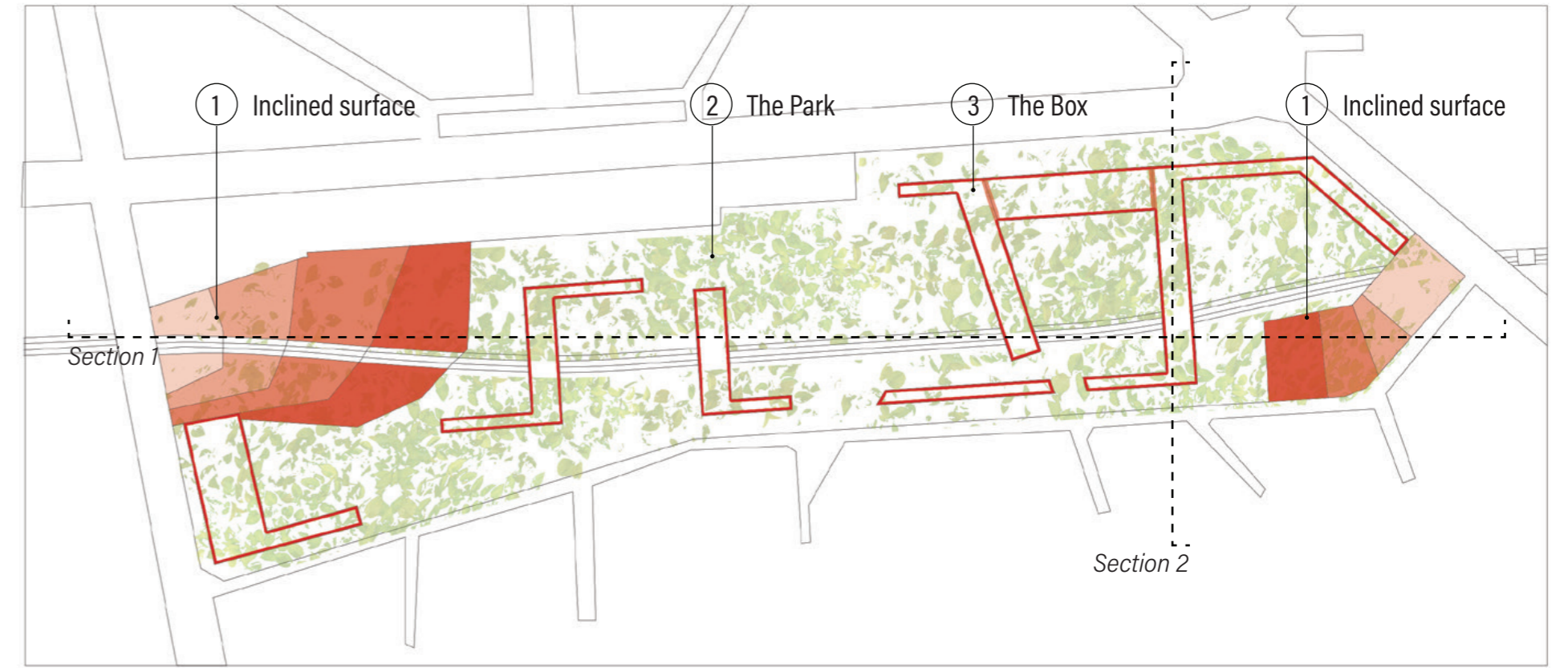
ARCHITECTURE

MODELS

BIBLIOGRAPHY



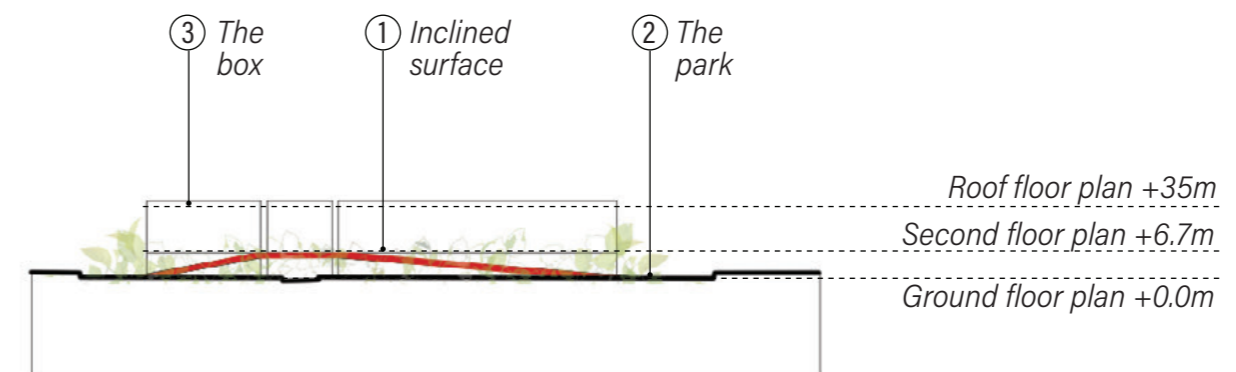
01 - Existing site - Plan & Section



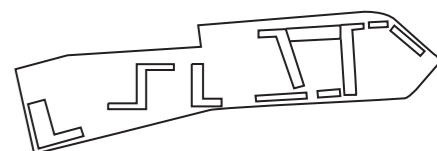
02 - Proposal - Plan & Section 1

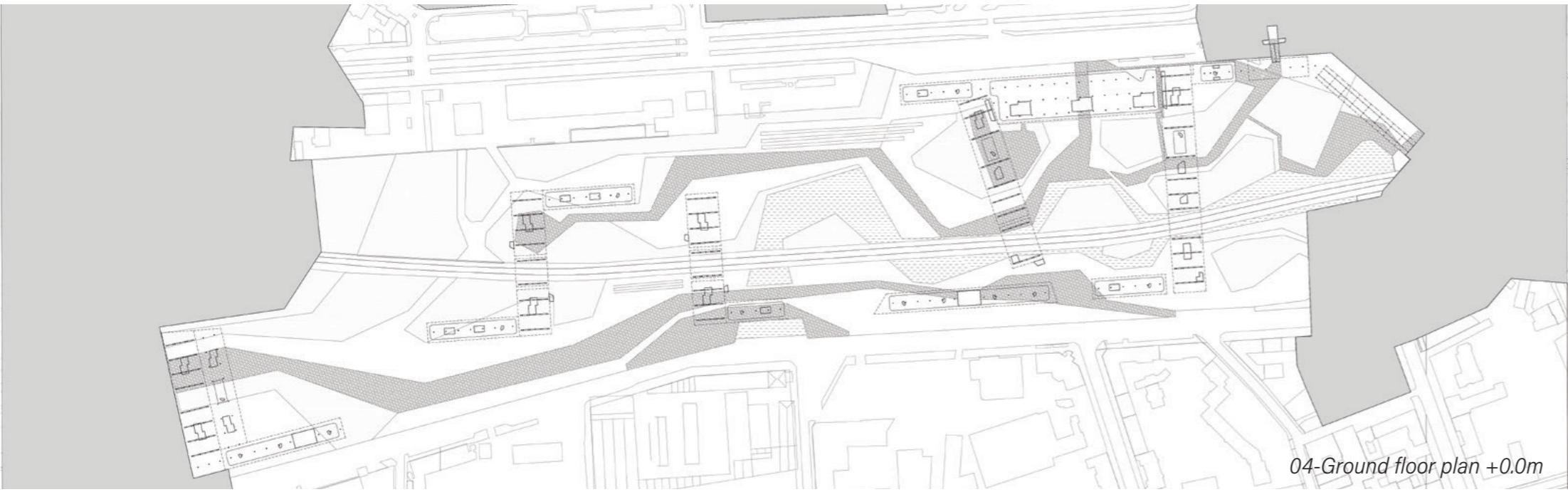
Idea

The main idea for the project is CONNECTIONS, creating a strong physical interaction between the project and the city and between inhabitants and citizens, which is presented by three different levels: The park on the ground floor (+0.0m), the connection by inclined surface (+6.7m), and inhabitants' community life in the box. The box is lifted, giving spaces for plants and social activities happen on the ground, at the same time, it connects the site in North-South direction.

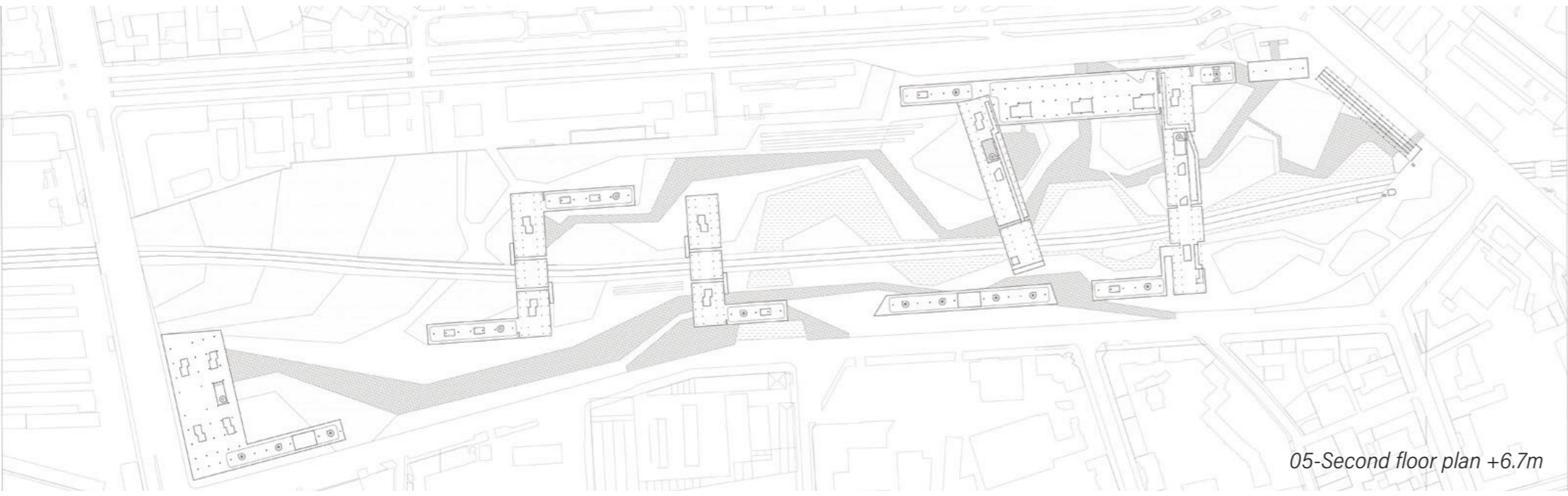


03 - Section 2

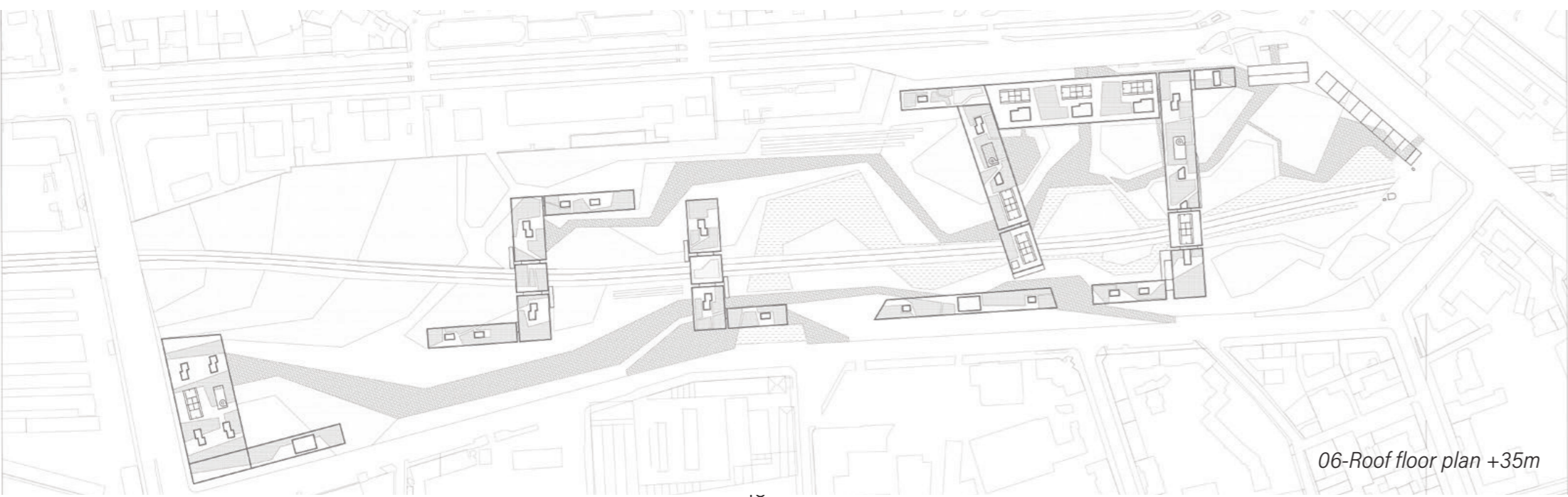




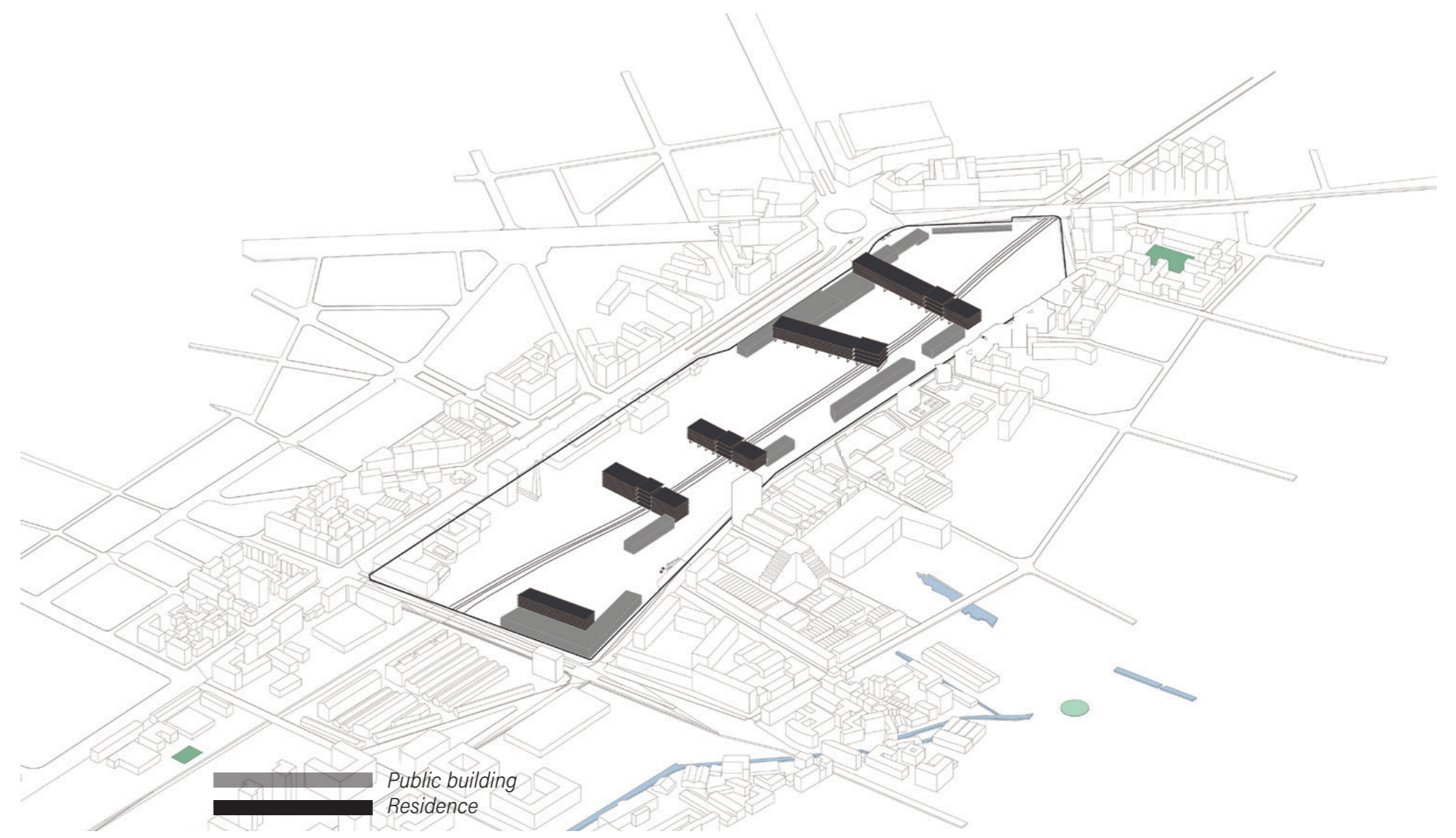
04-Ground floor plan +0.0m



05-Second floor plan +6.7m

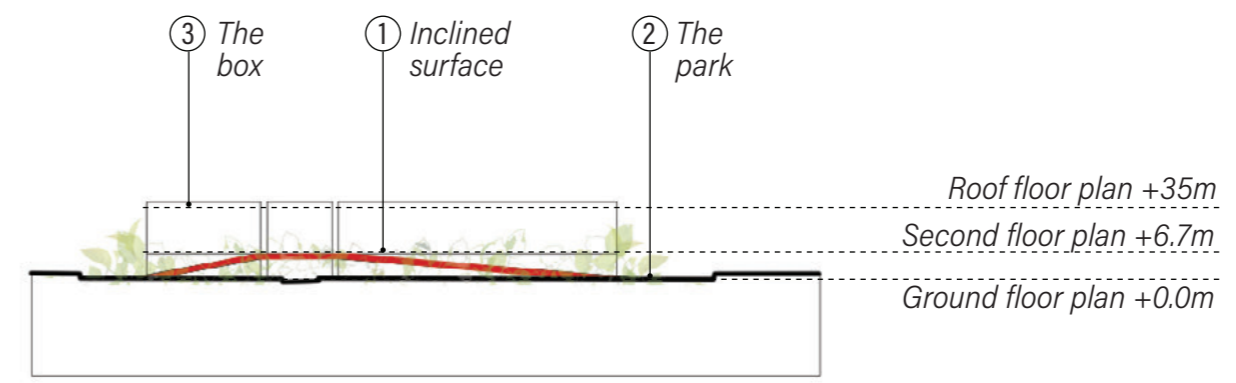


06-Roof floor plan +35m

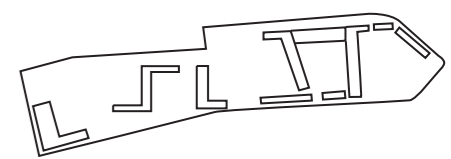


Public building
Residence

Master plan

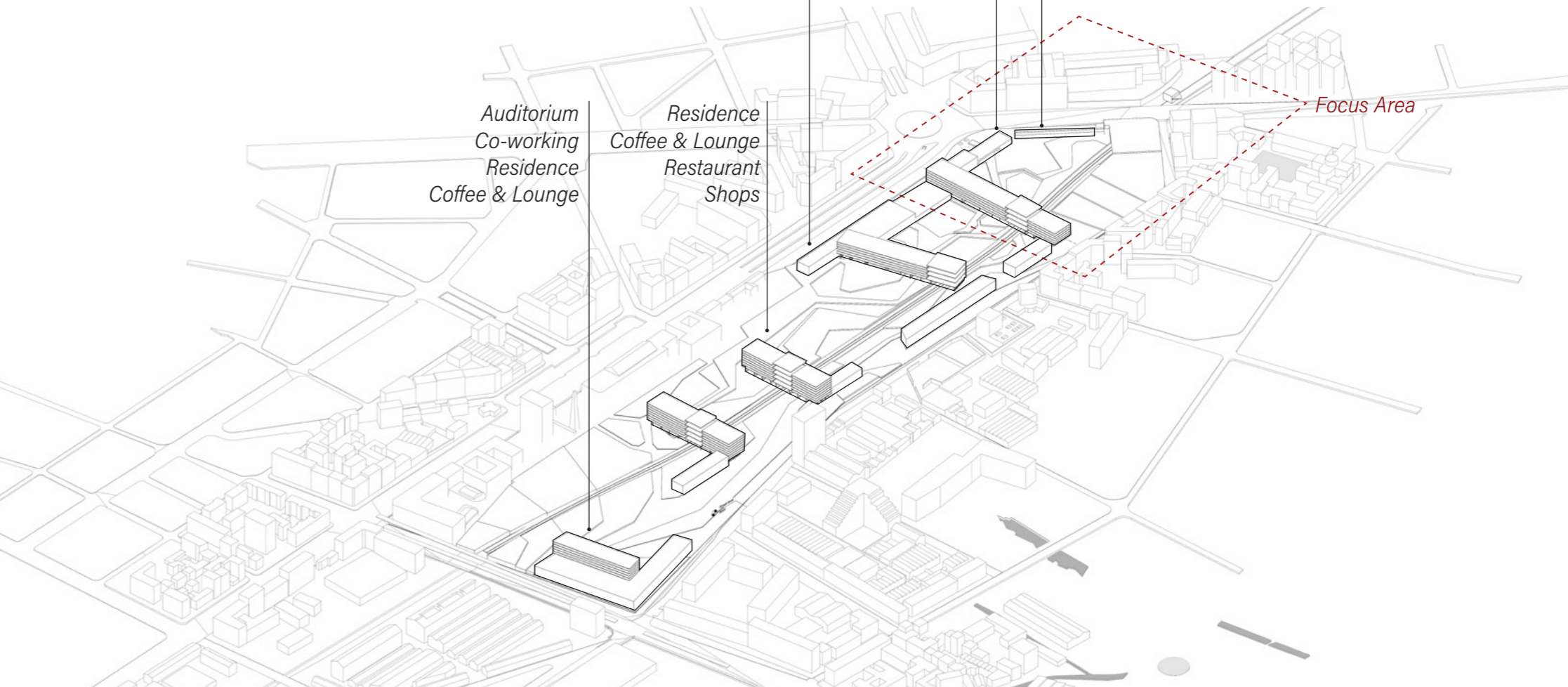


Roof floor plan +35m
Second floor plan +6.7m
Ground floor plan +0.0m





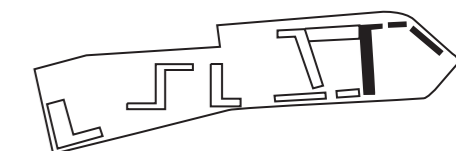
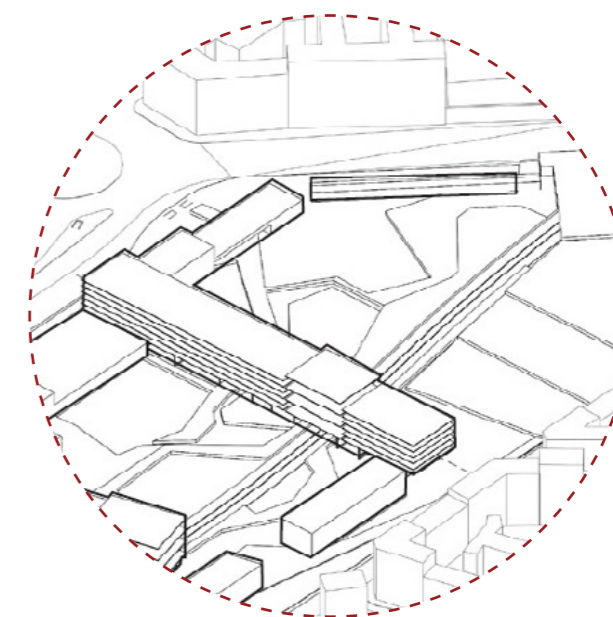
07-Perspective

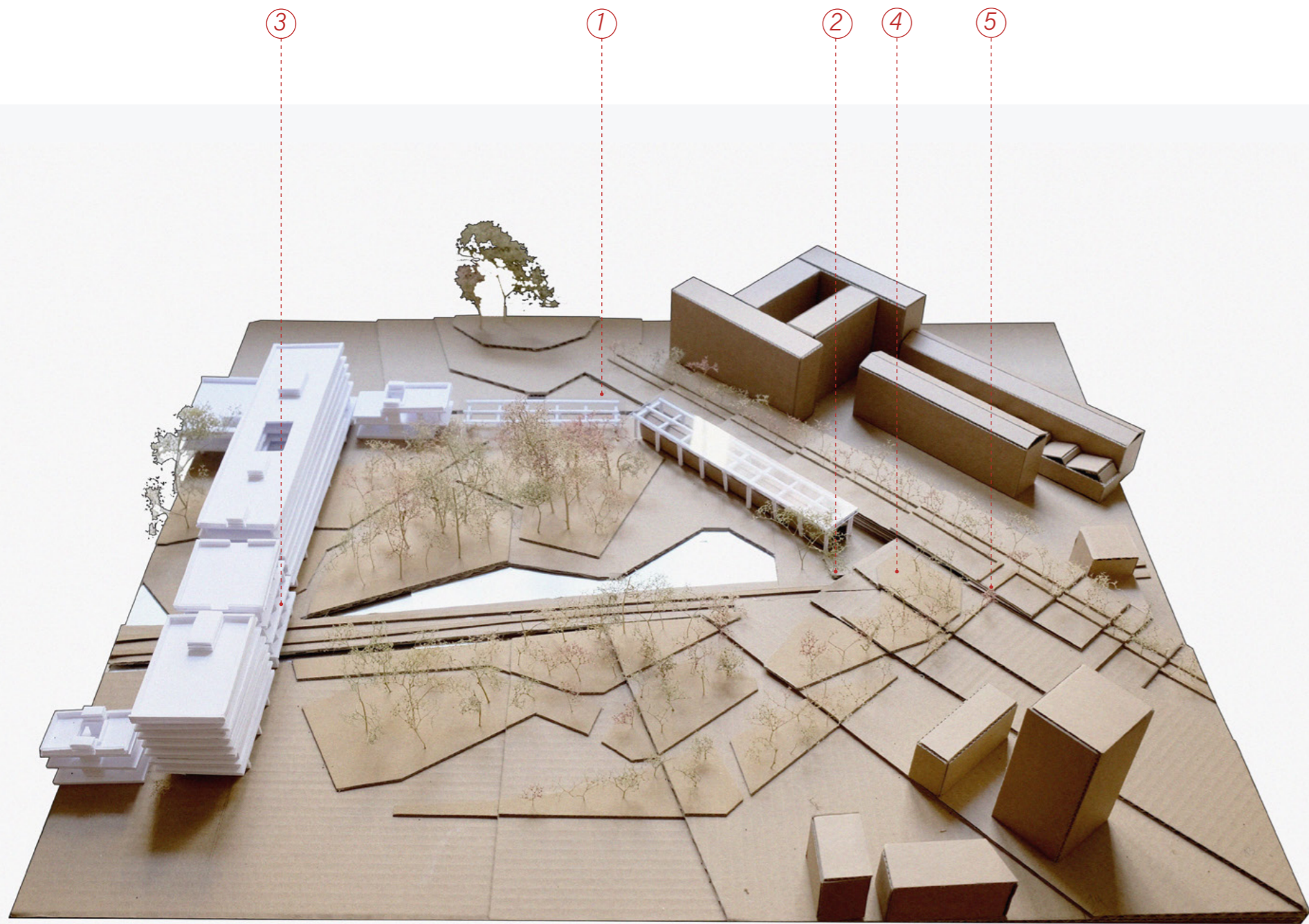


08-Function distribution

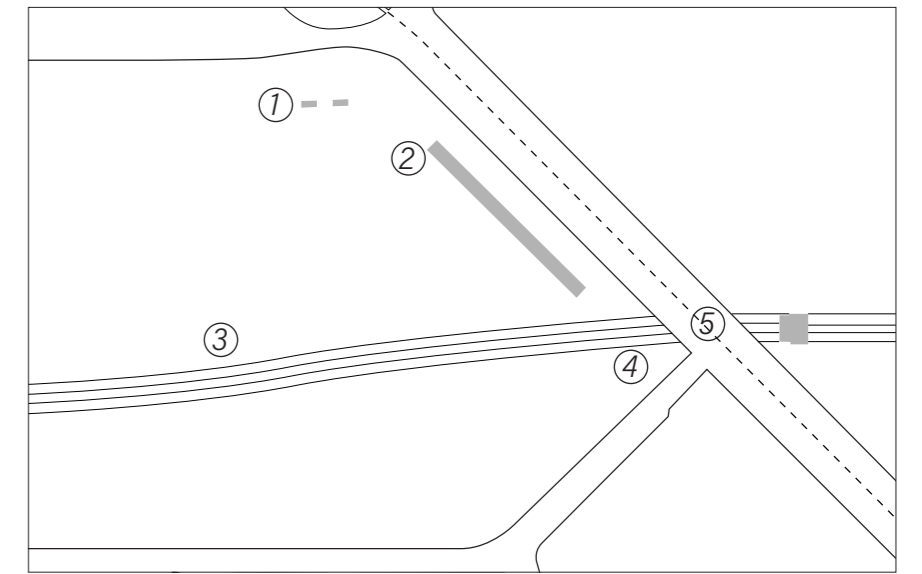
Focus area

The project focuses on the Eastern part of the site because of the clear presence of five interesting urban elements: a metro entrance, an existing industrial building, the Railtrack, different in levels, and a cycle lane.

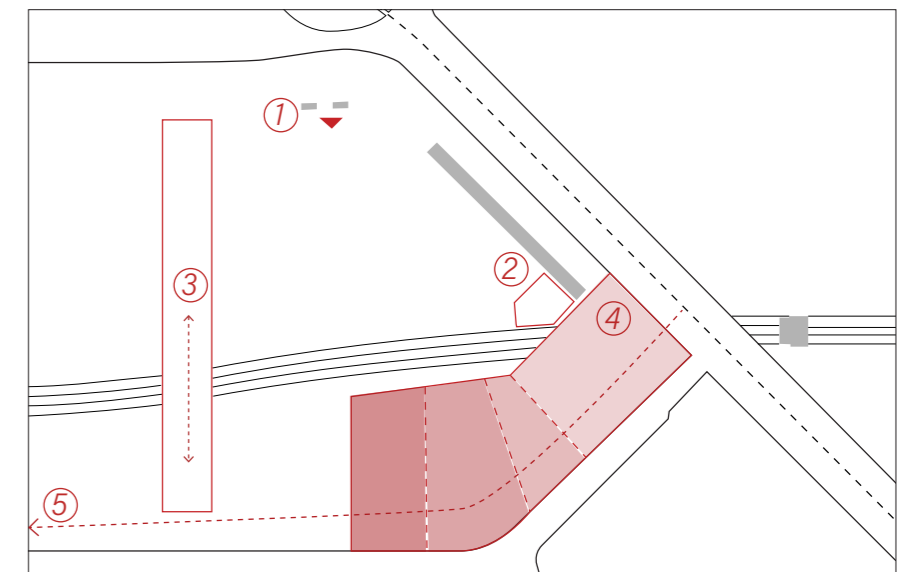




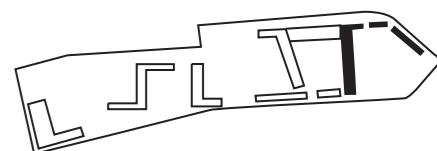
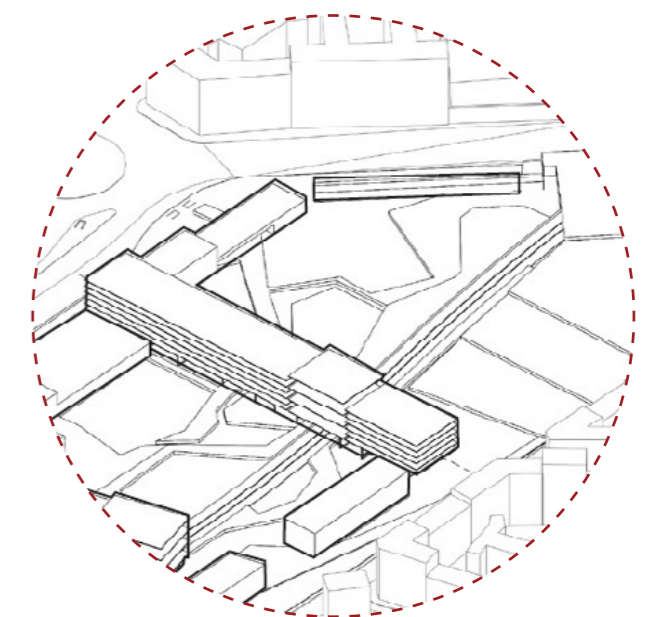
- 09-Existing urban infrastrucure
- ① Metro Entrance / Exit
 - ② Existing industrial building
 - ③ Railtrack dividing the site
 - ④ Ground's height diffrent between the site and C.Lodi
 - ⑤ Cycle lane

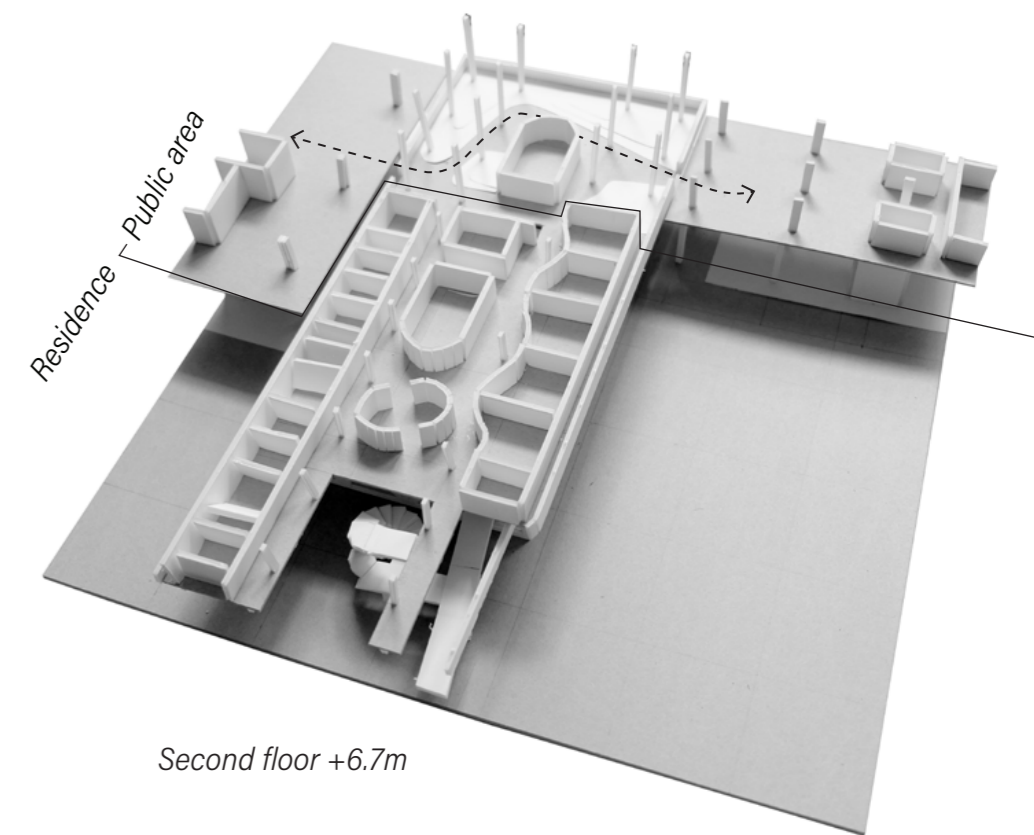
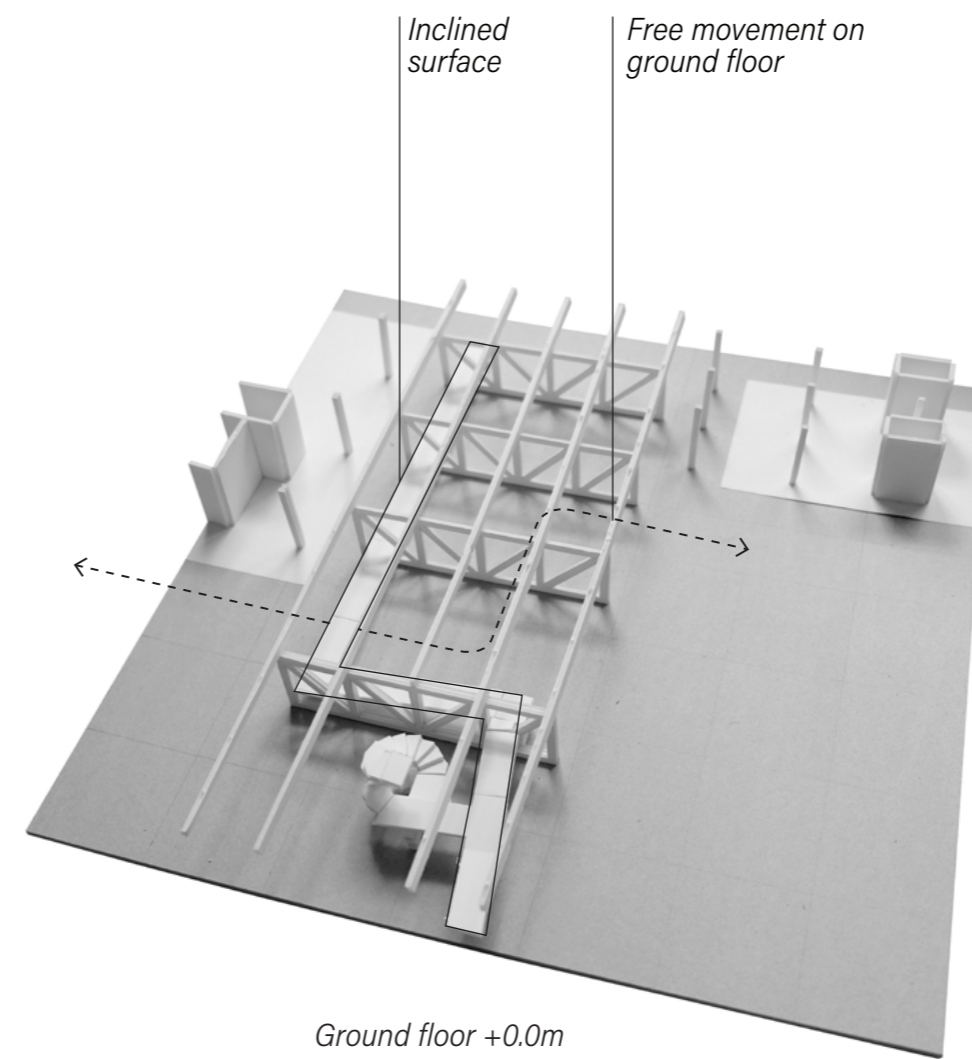
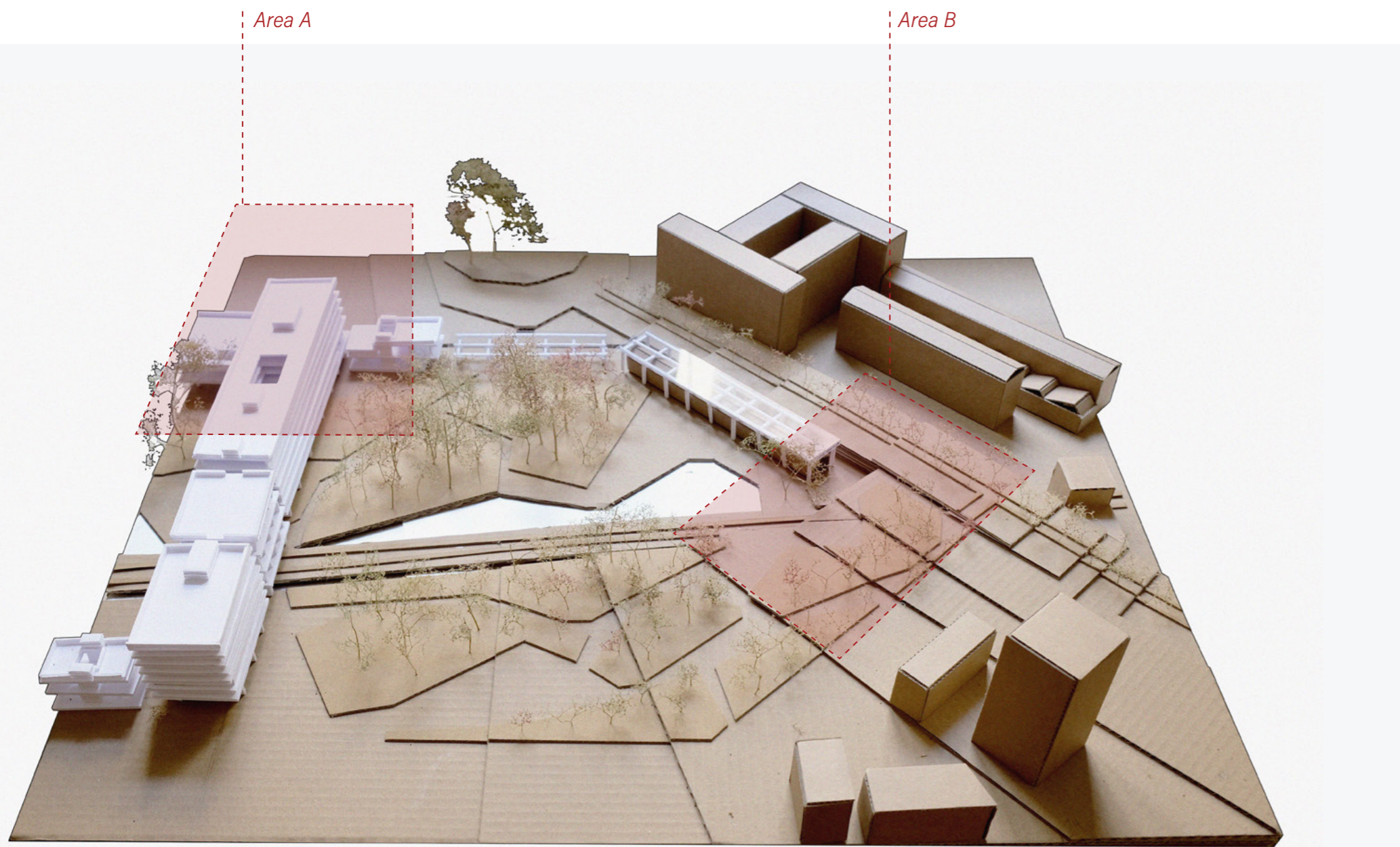


- 10-Urban connection between the project and the context
- ① The site's main entrance
 - ② New train platform
 - ③ North-south connection
 - ④ Inclined surface
 - ⑤ Cycle lane

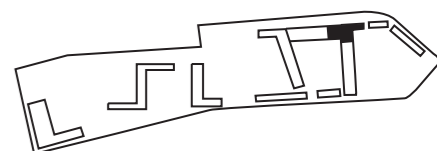


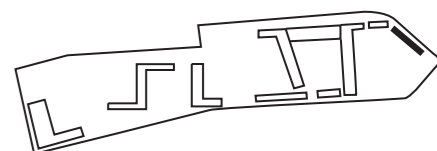
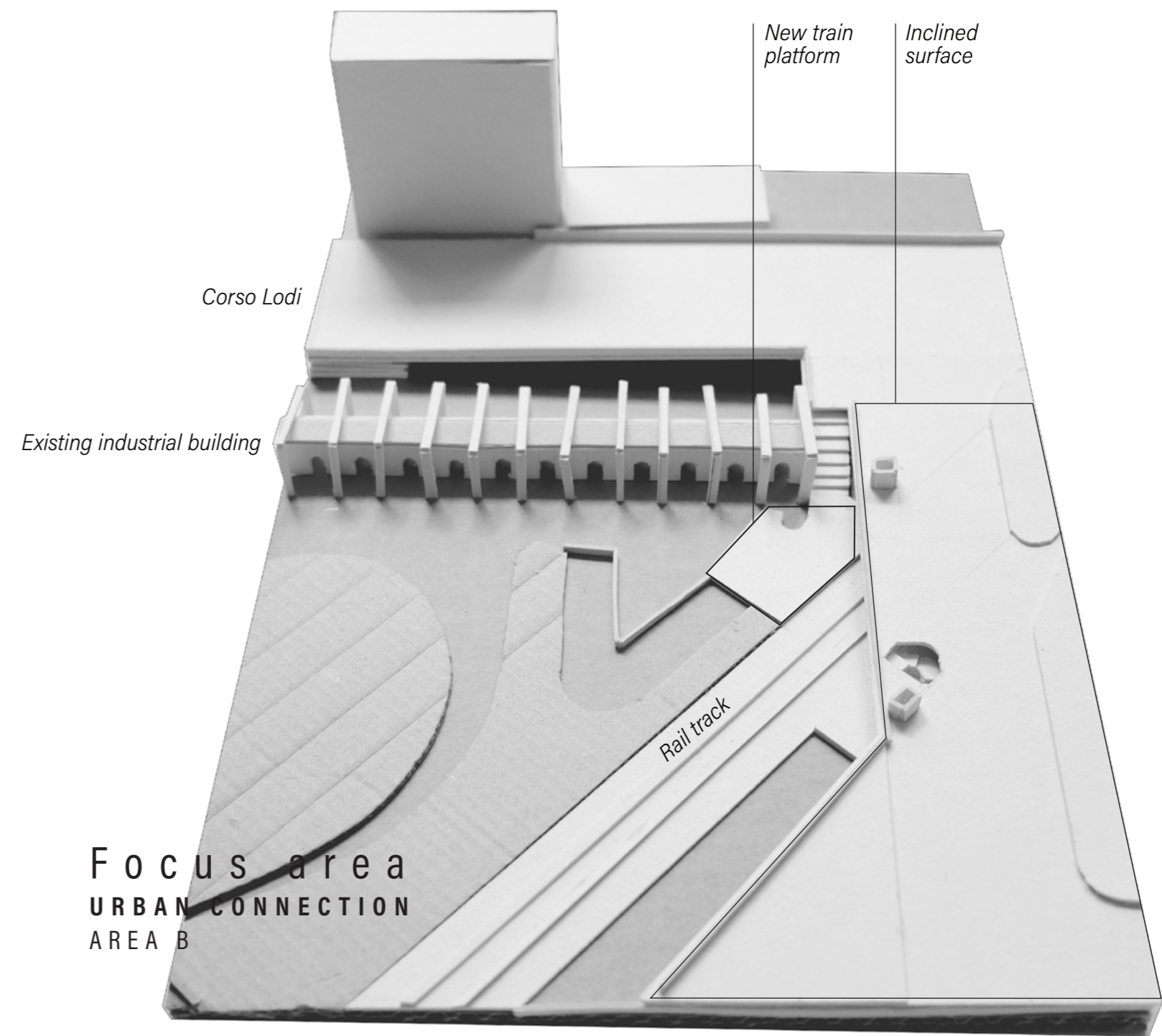
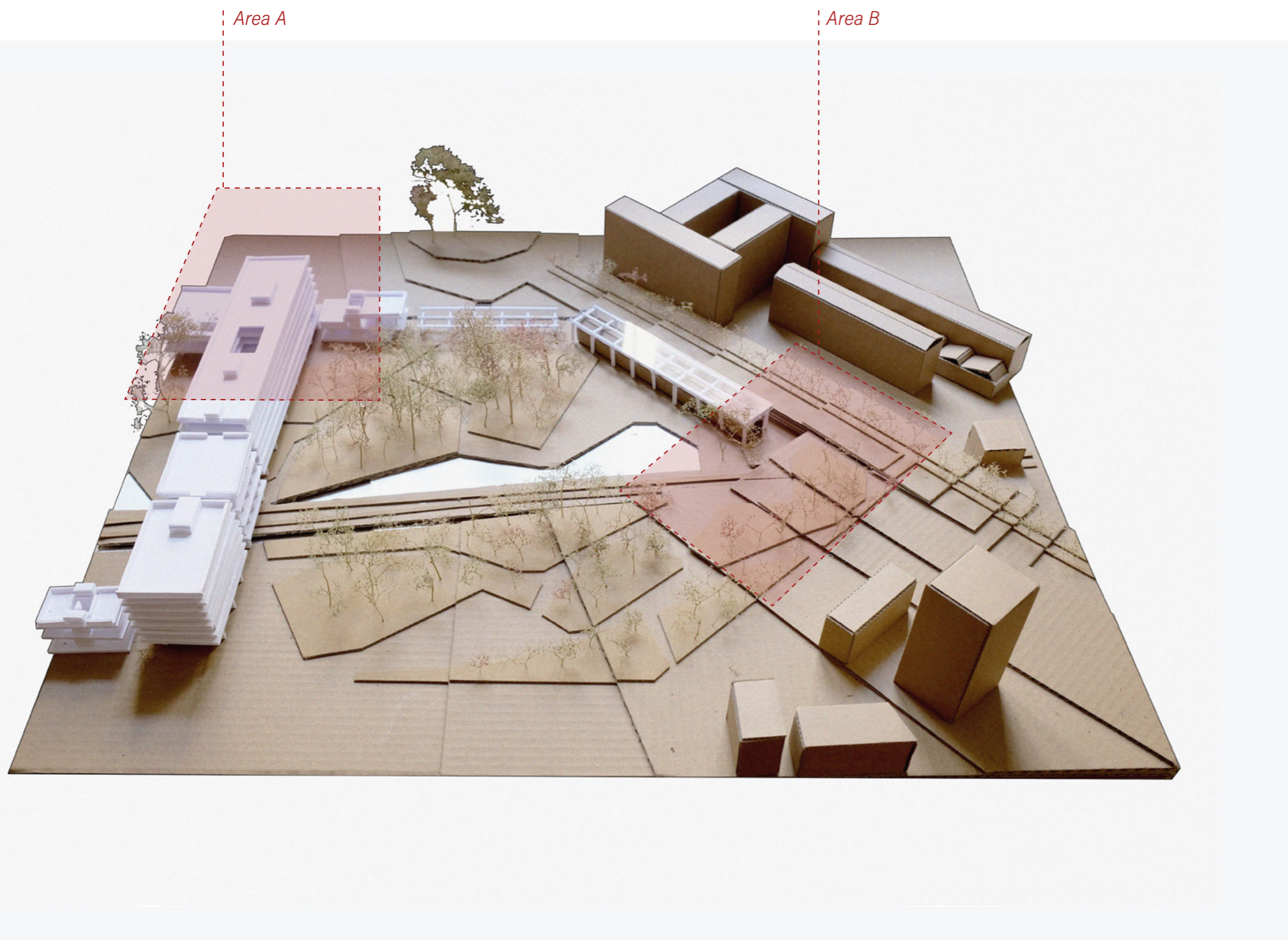
Focus area
URBAN CONNECTION

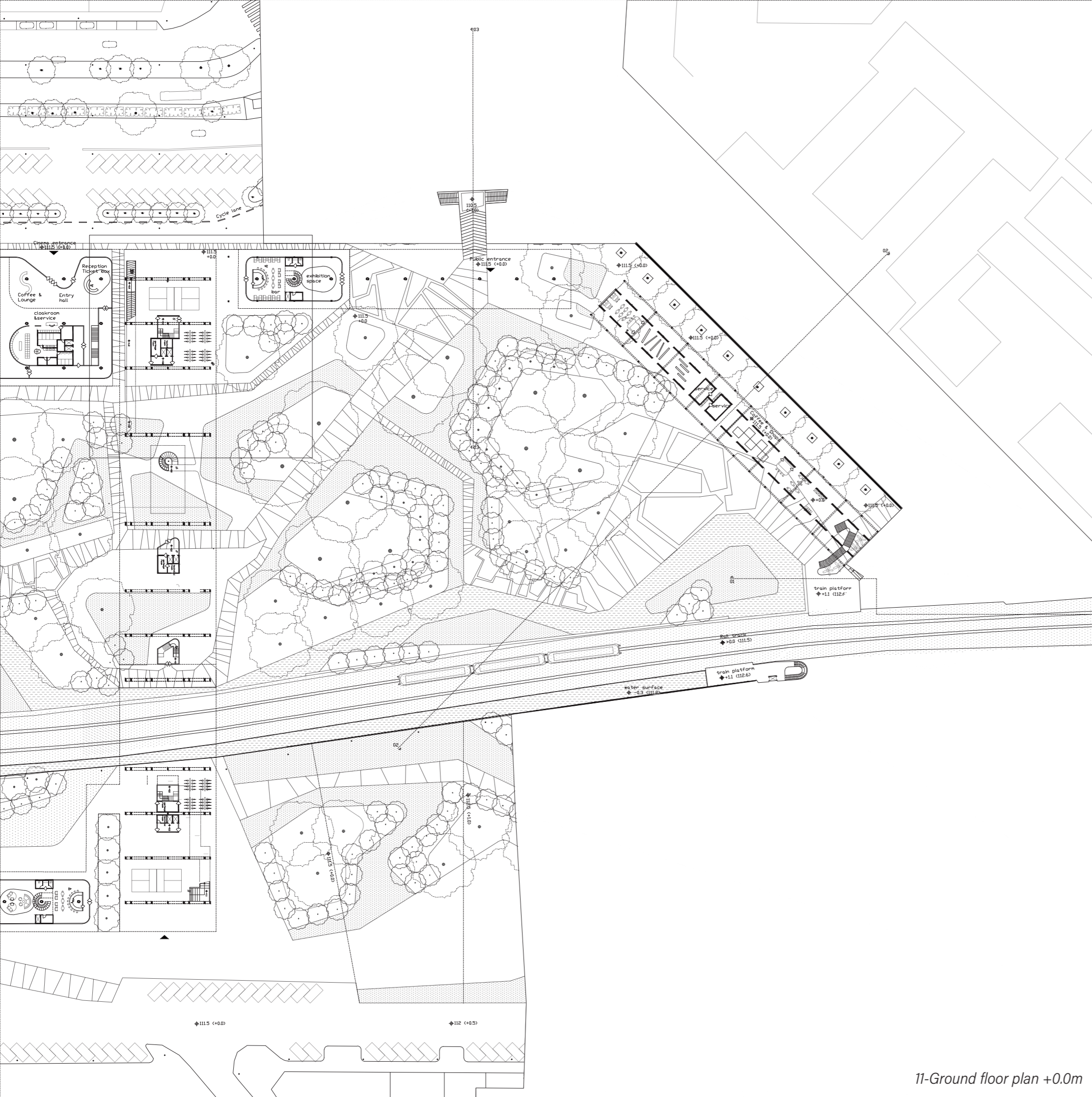




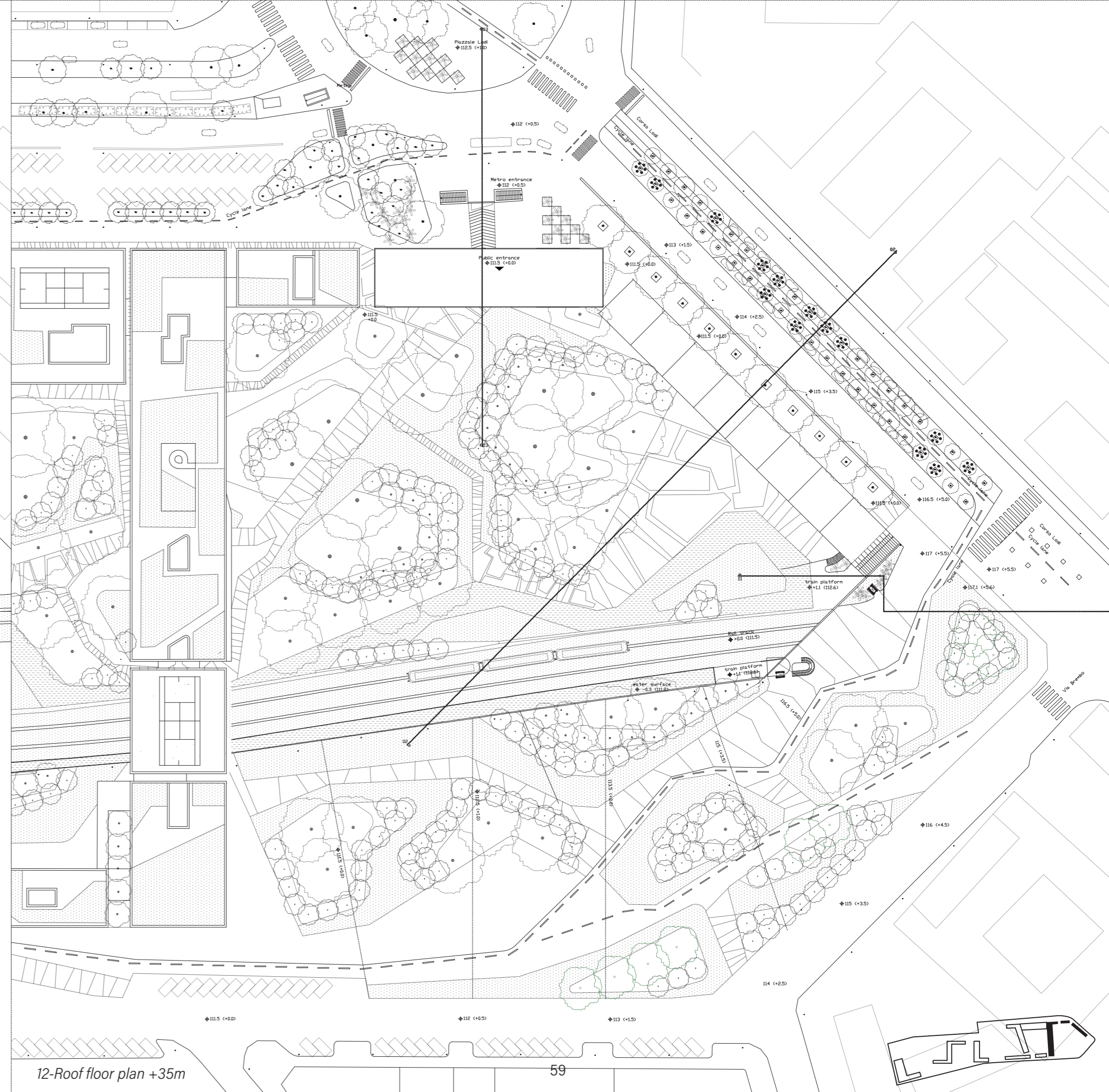
Focus area
URBAN CONNECTION
AREA A



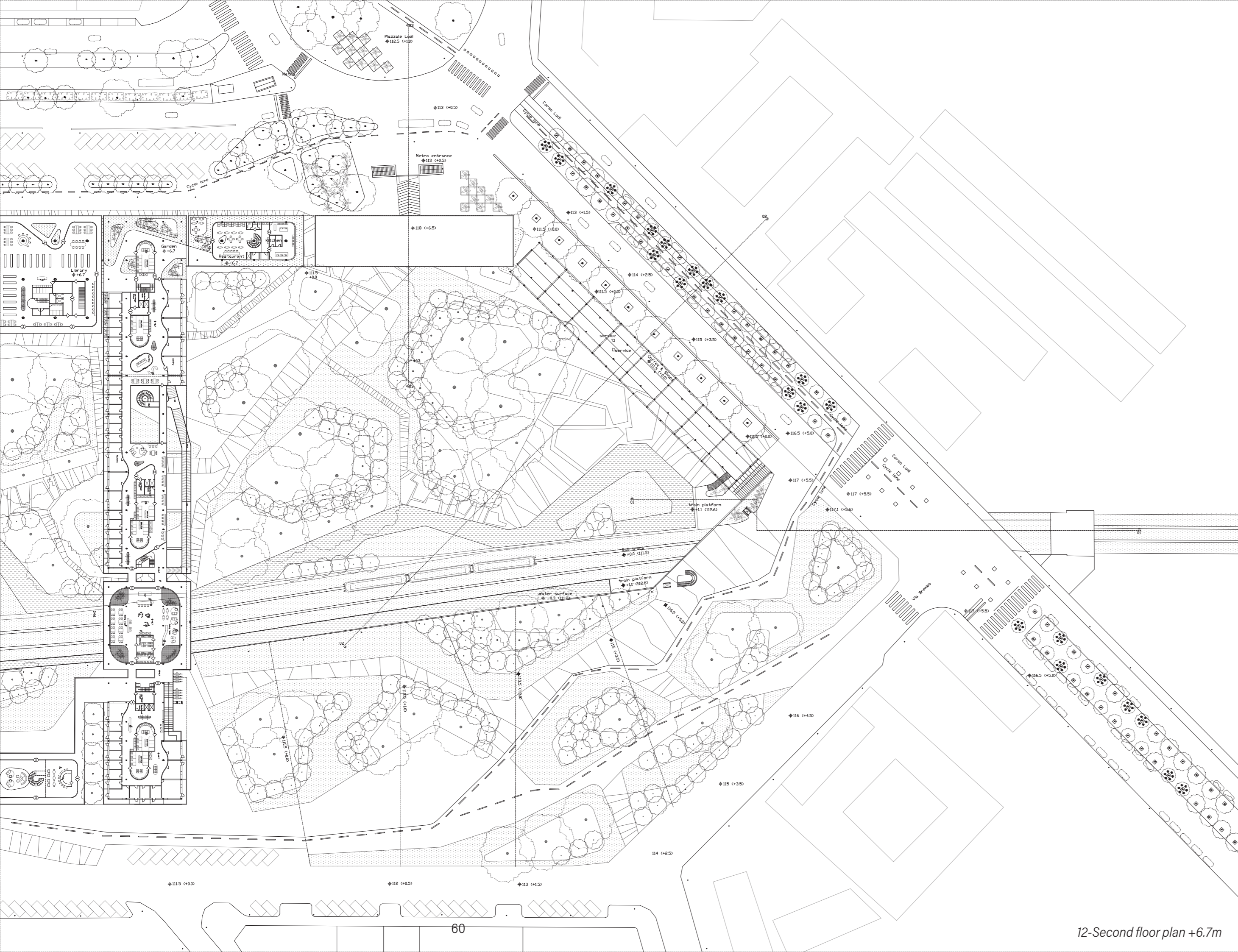




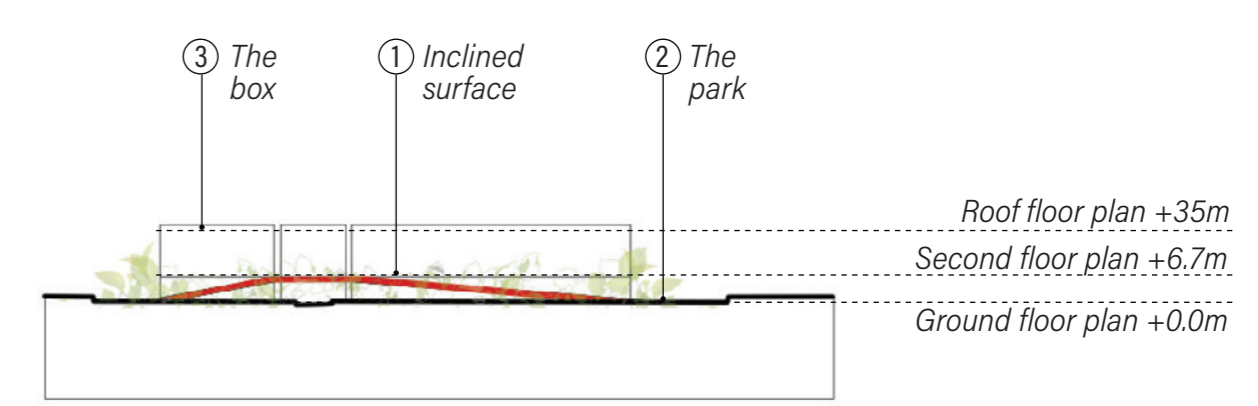
11-Ground floor plan +0.0m



12-Roof floor plan +35m

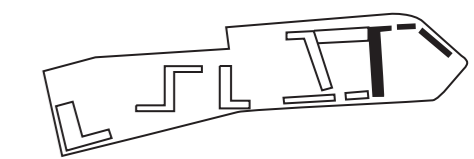


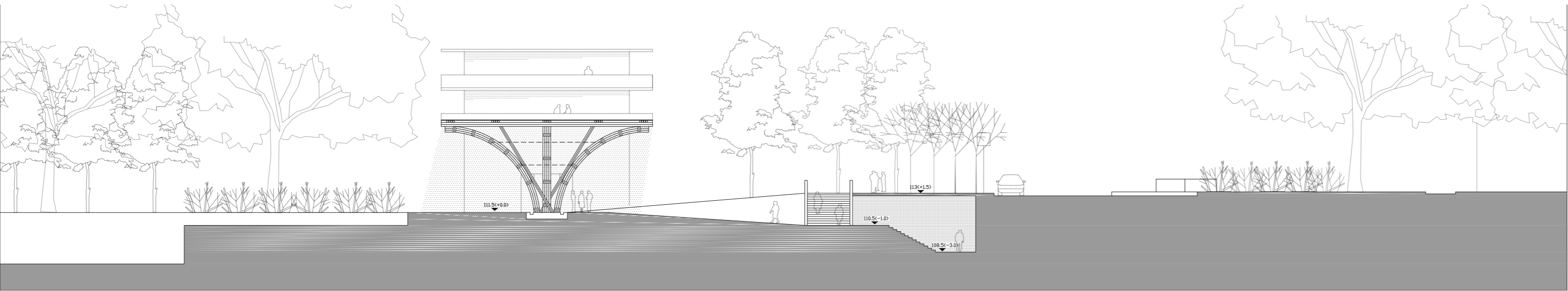
12-Second floor plan +6.7m



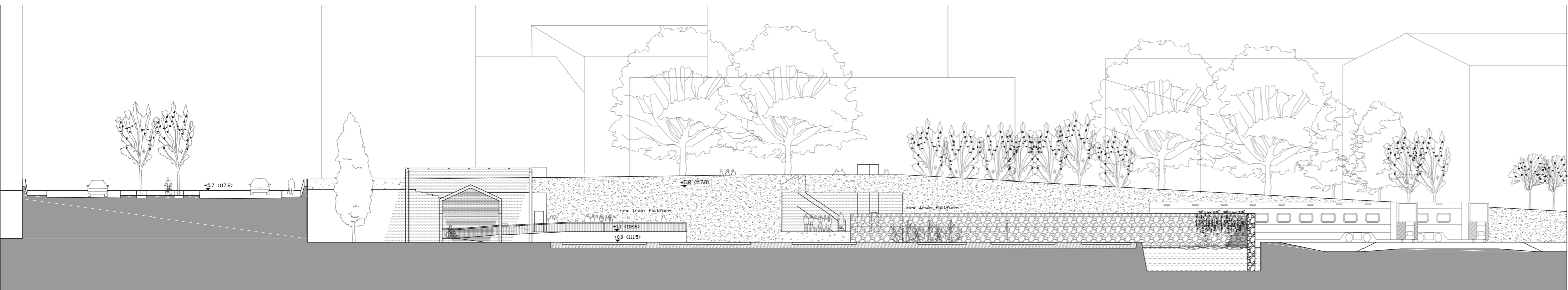
- ③ The box
- ① Inclined surface
- ② The park

Roof floor plan +35m
 Second floor plan +6.7m
 Ground floor plan +0.0m

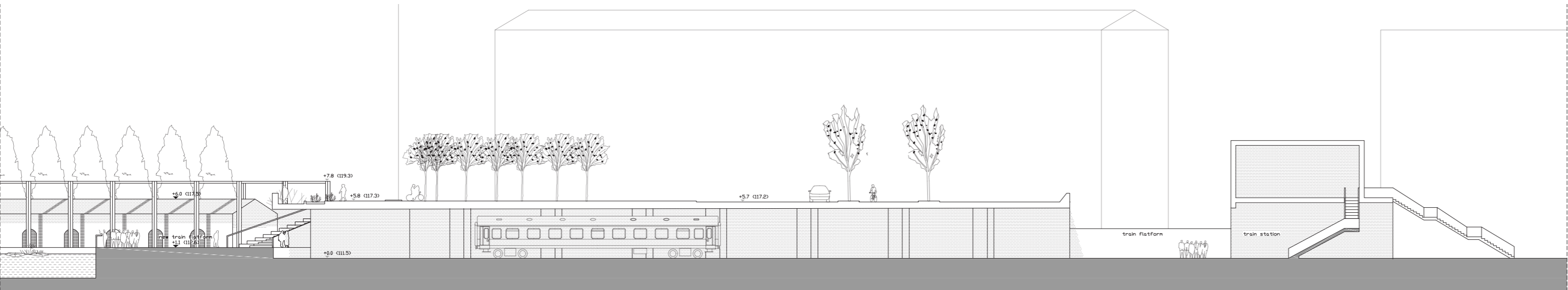




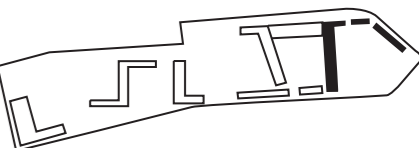
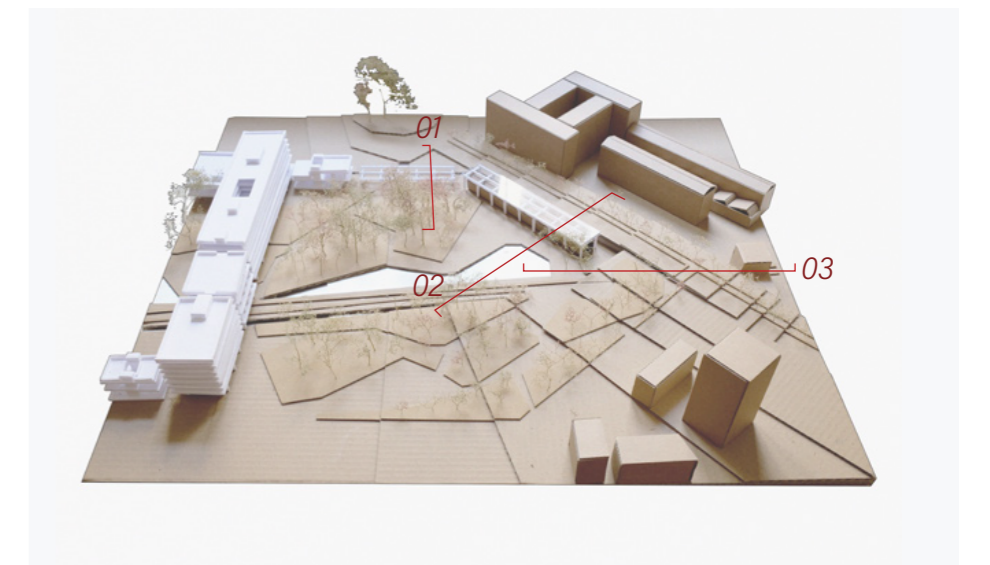
13-Section 01



14-Section 02

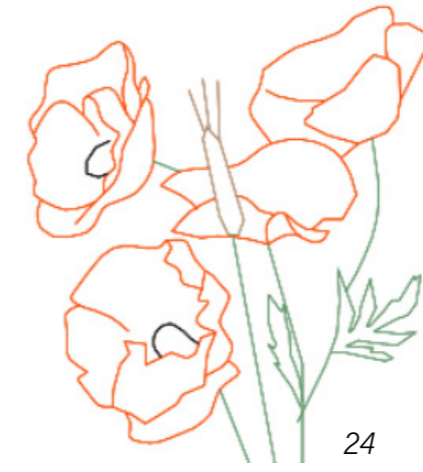


15-Section 03



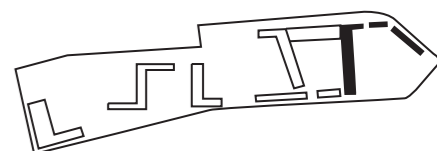


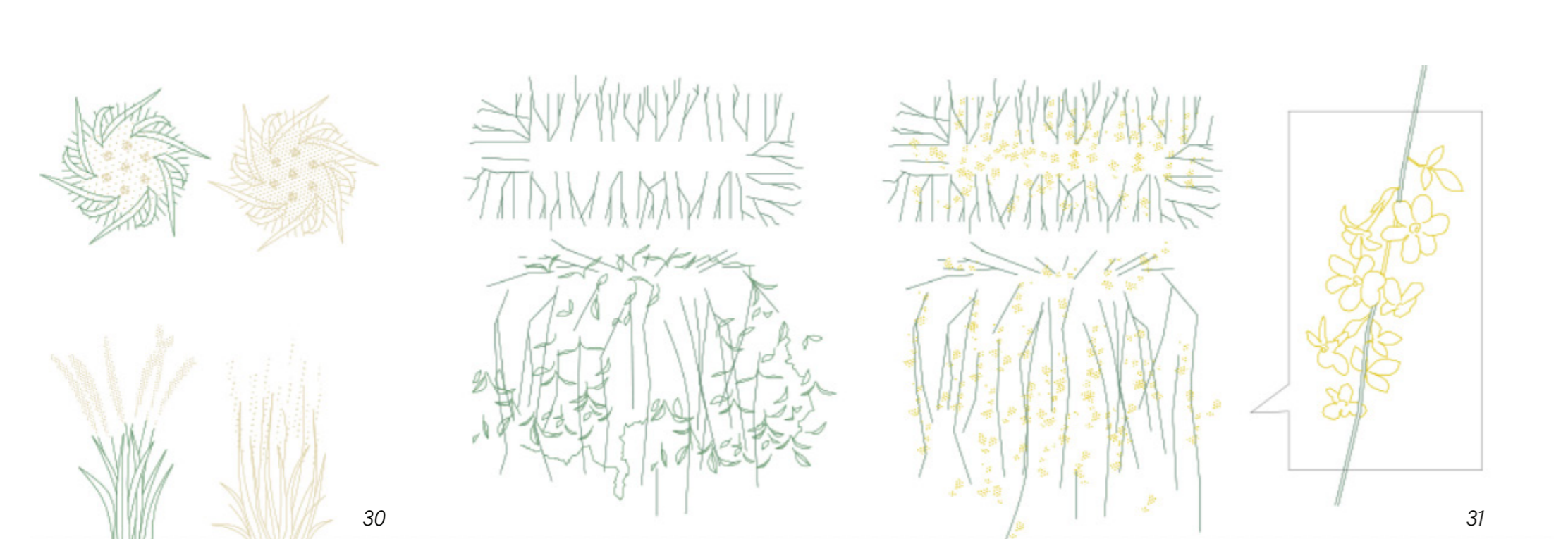
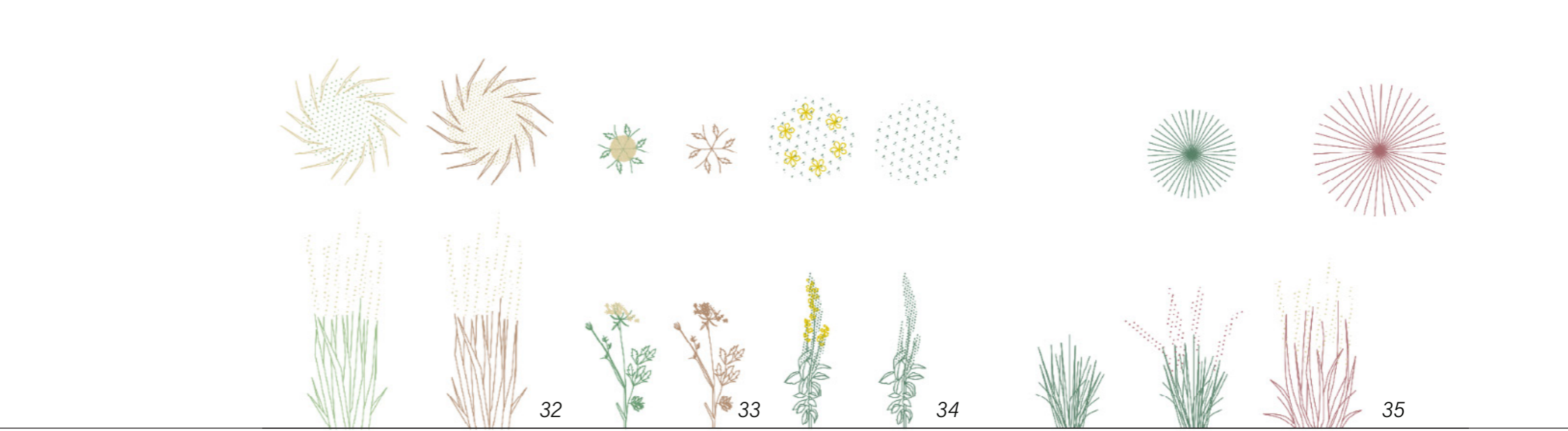
Plants on the site
 16 - Mahonia
 17 - Taraxacum officinale
 18 - Leucanthemum vulgare
 19 - Papaver rhoeas
 20 - Buddleia davidii
 21 - Rosa canina
 22 - Prunus persica (peach)



Focus area
LANDSCAPE DESIGN
FLOWER

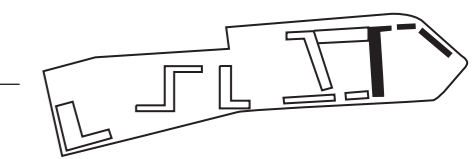
- 23 - Leucanthemum vulgare
- 24 - Papaver rhoeas
- 25 - Taraxacum officinale
- 26 - Rosa canina
- 27 - Geranium molle





Focus area
LANDSCAPE DESIGN
SHRUB

- 28 - *Cornus sericea* (Red twig dogwood)
- 29 - *Buddleia davidii* (Butterfly bush)
- 30 - *Panicum virgatum* (Switch grass)
- 31 - *Jasminum nudiflorum* (Winter Jasmine)
- 32 - Feather reed grass
- 33 - *Daucus*
- 34 - *Mahonia*
- 35 - *Schizachyrium scoparium*
- 36 - *Typha latifolia*
- 37 - *Cyperus alternifolius*
- 38 - Hedge maple





39

40

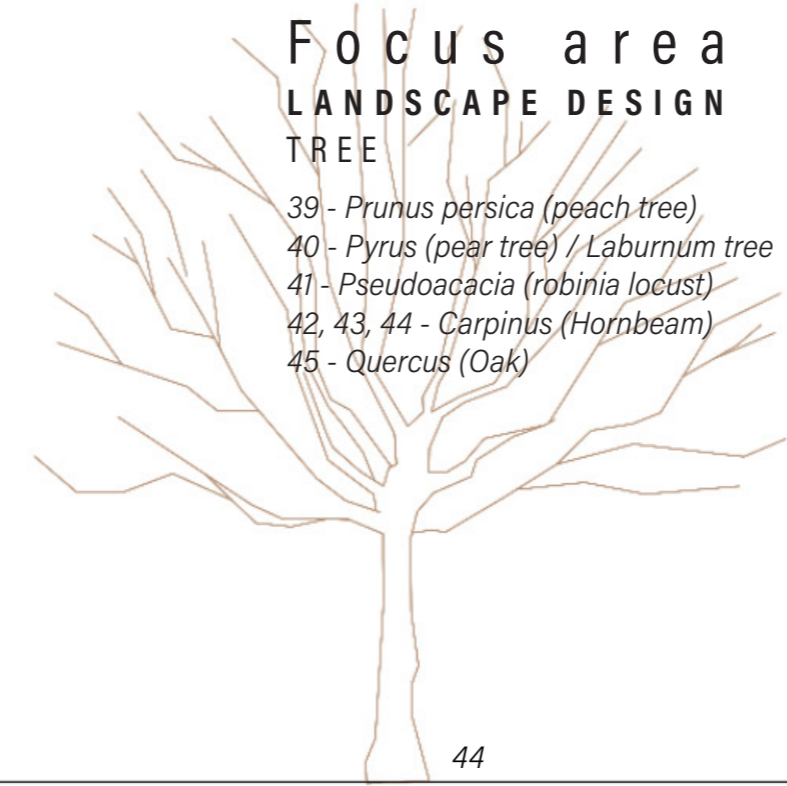
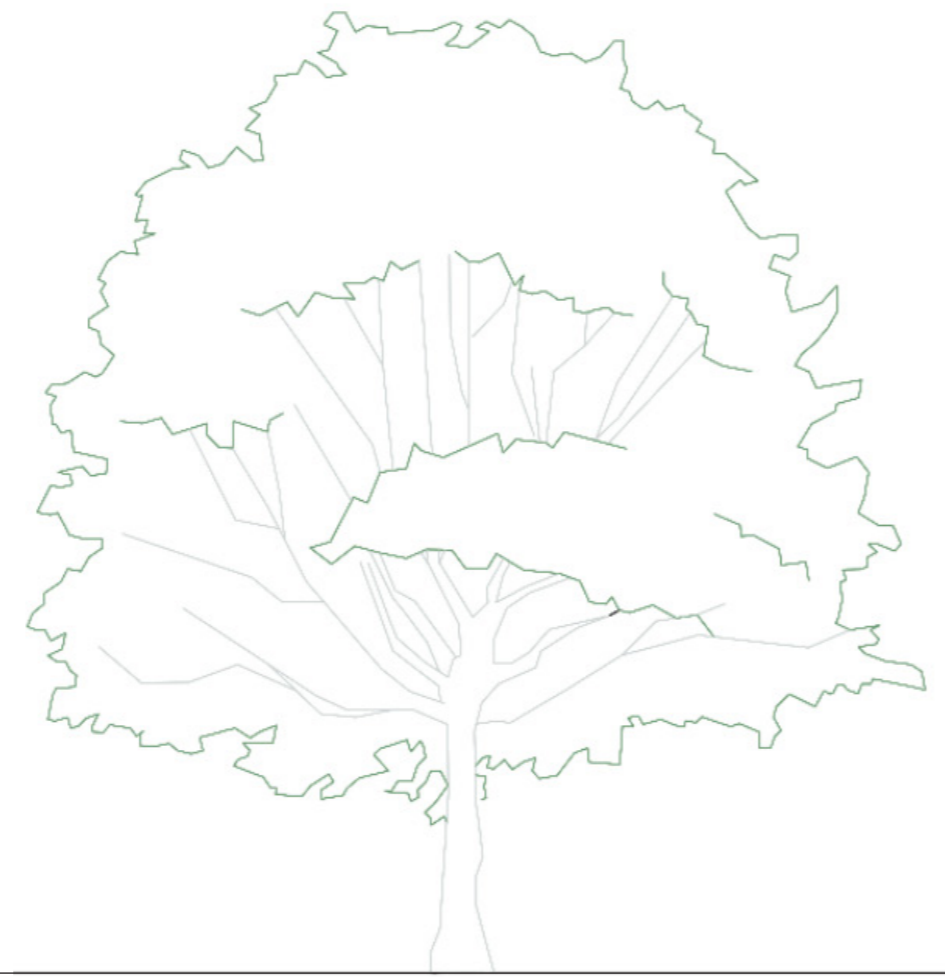
41

42

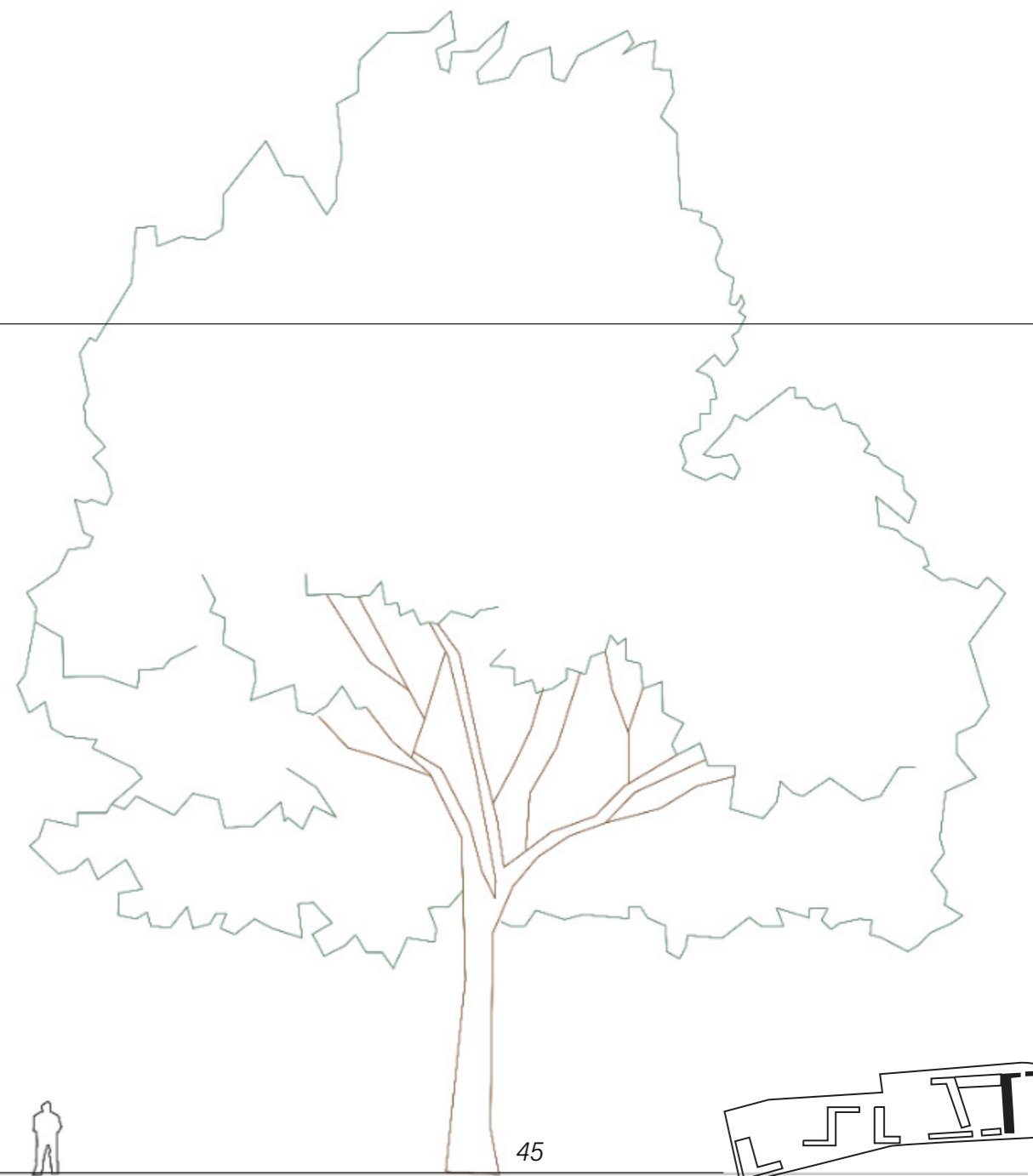


43

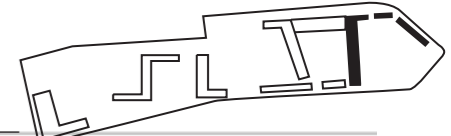
68



44



45



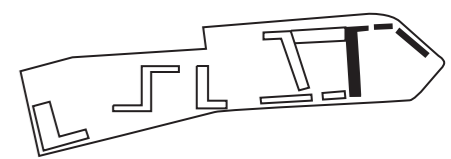
**Focus area
LANDSCAPE DESIGN
TREE**

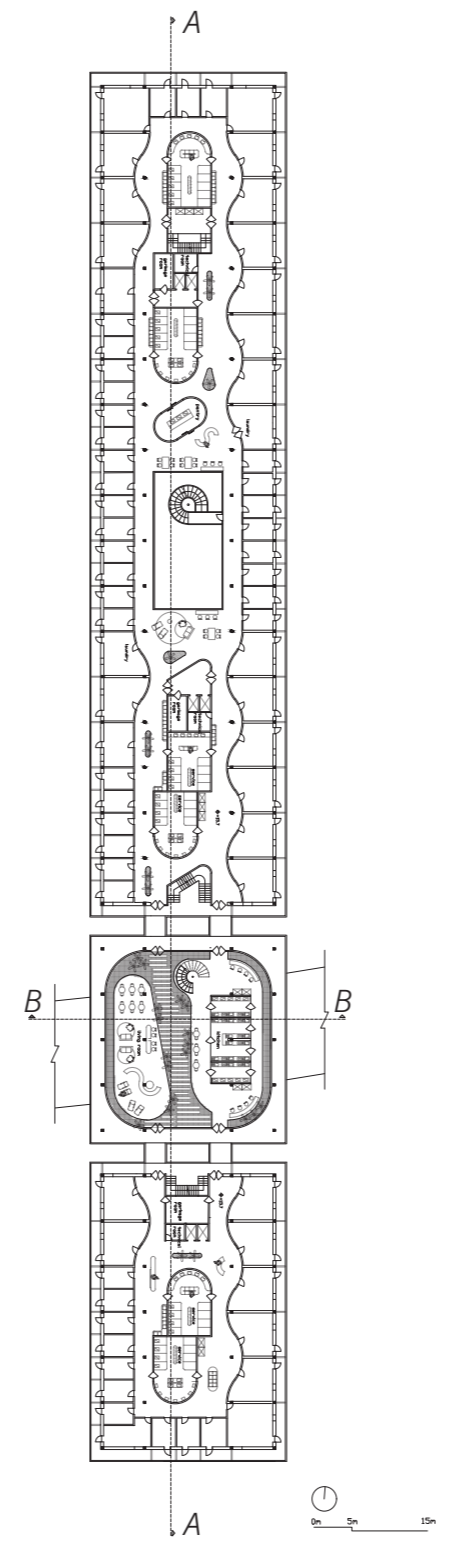
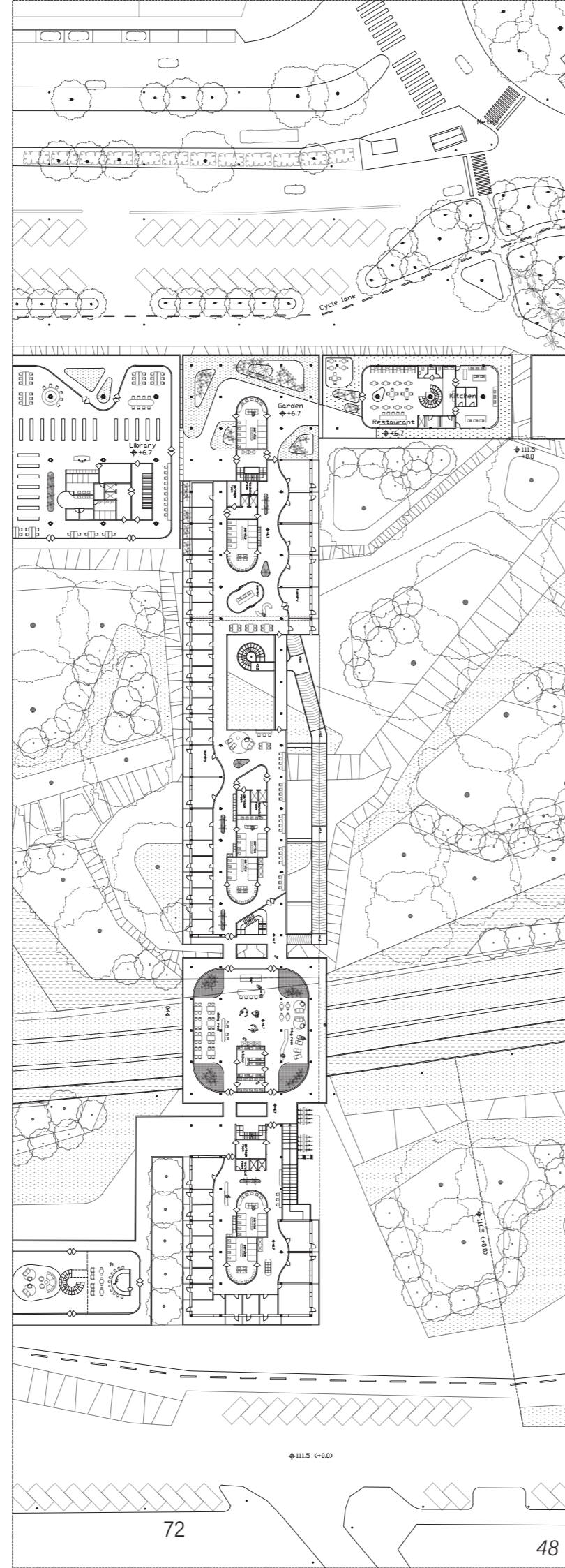
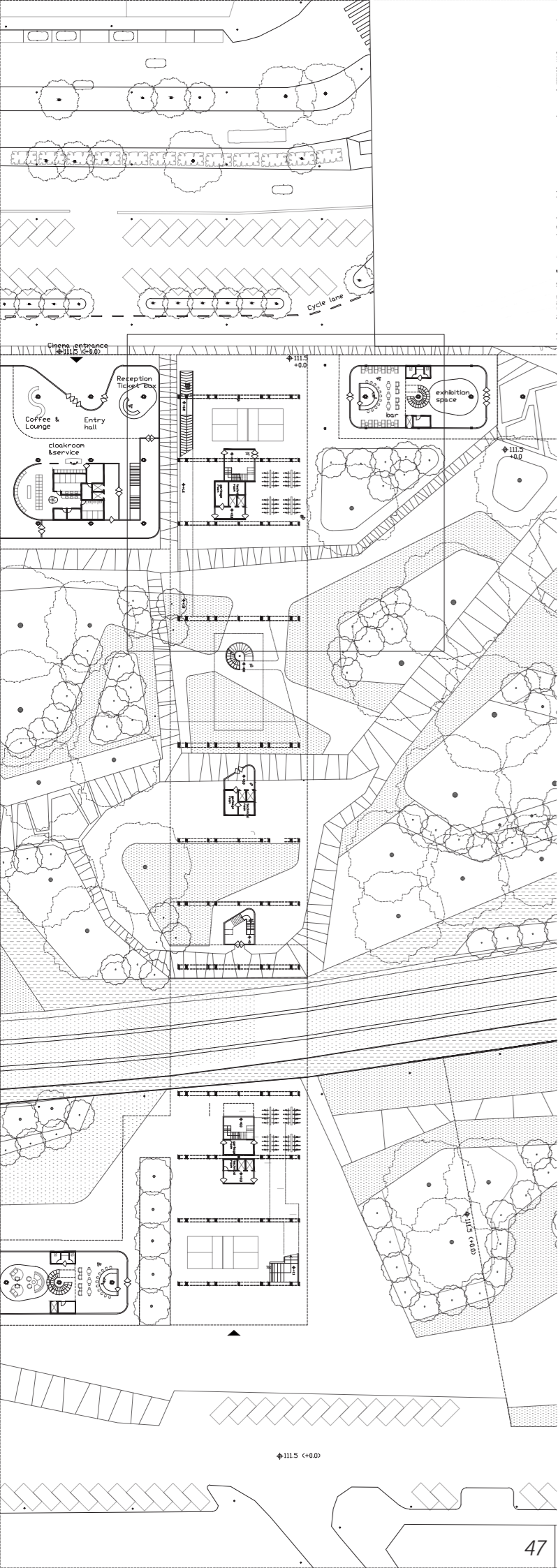
- 39 - *Prunus persica* (peach tree)
- 40 - *Pyrus* (pear tree) / *Laburnum* tree
- 41 - *Pseudoacacia* (robinia locust)
- 42, 43, 44 - *Carpinus* (Hornbeam)
- 45 - *Quercus* (Oak)



**Focus area
LANDSCAPE DESIGN
PLANS & COLLAGES**

46-Roof floor plan +35m



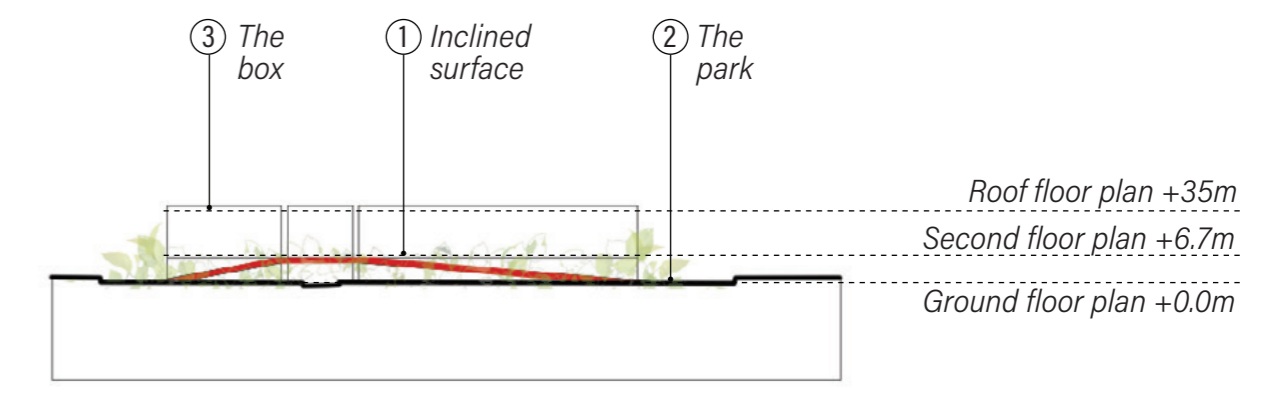


Focus area ARCHITECTURE

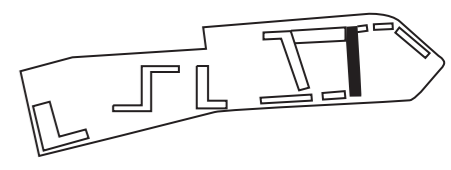
- 47 - Ground floor plan +0.0m
- 48 - Second floor plan +6.7m
- 49 - Typical plan

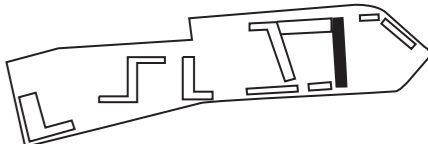
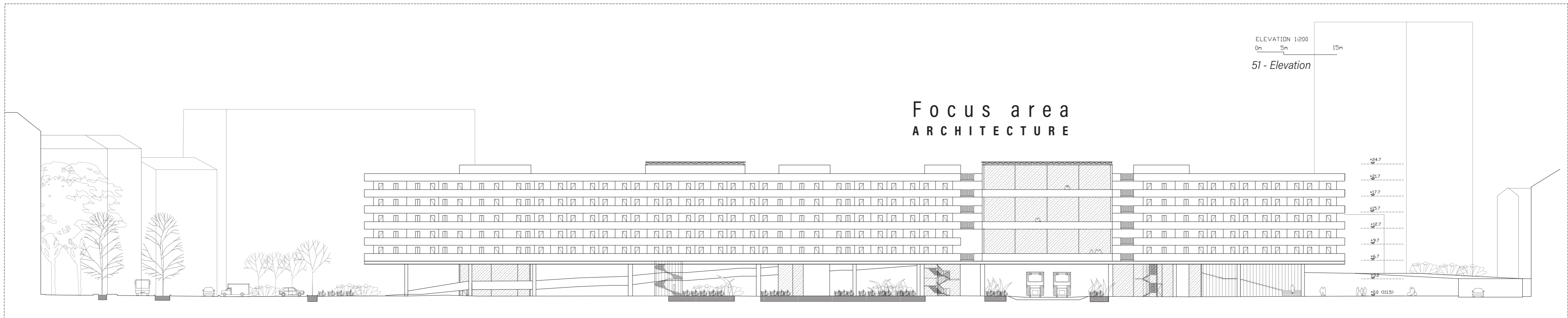
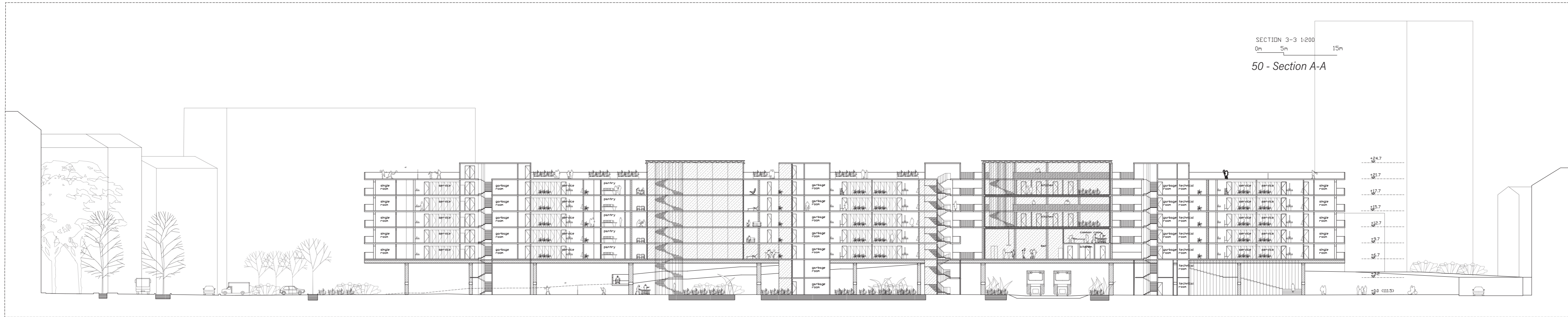
0 10m

Following buildings around the site, proposal residences have strict geometry but being flexible inside for interaction spaces and social activities.



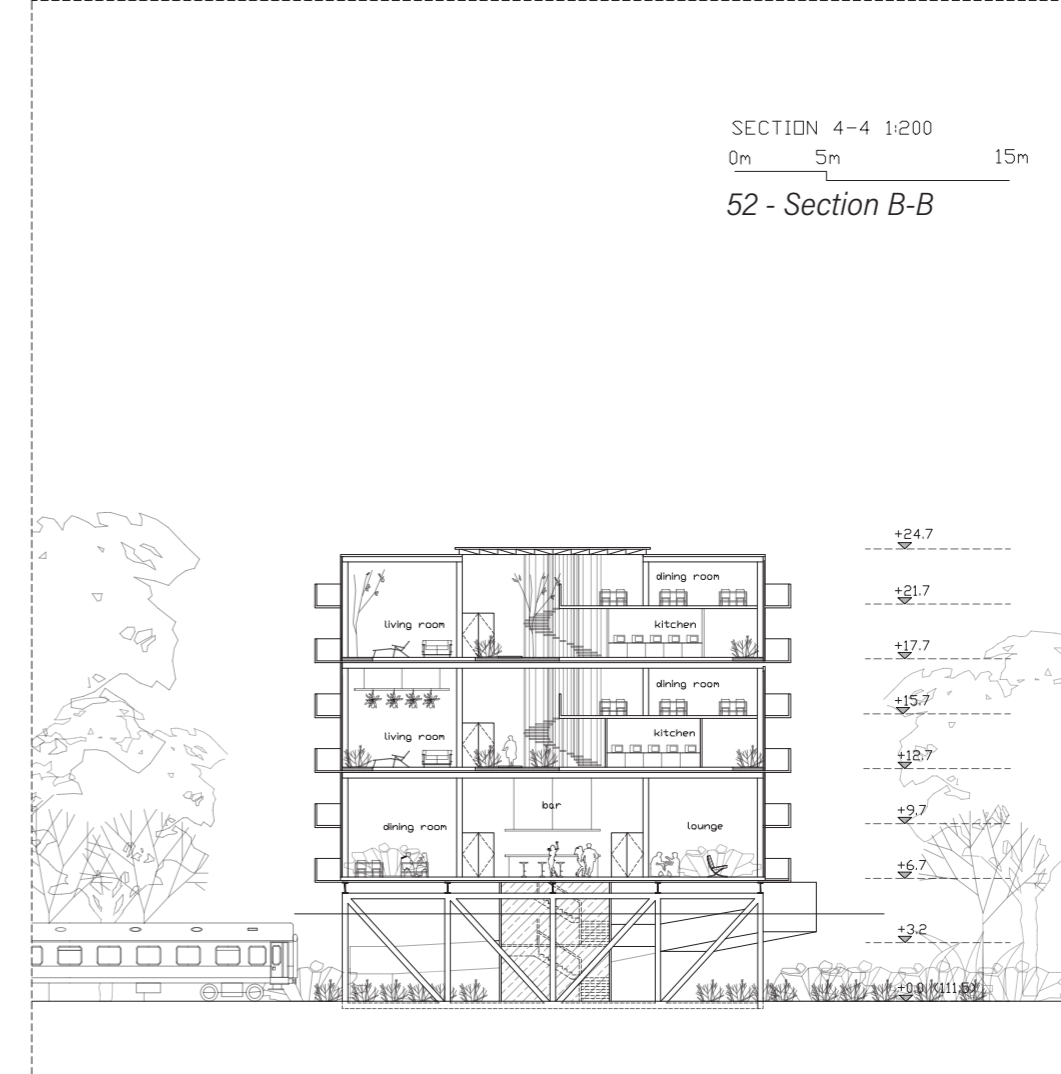
Roof floor plan +35m
Second floor plan +6.7m
Ground floor plan +0.0m





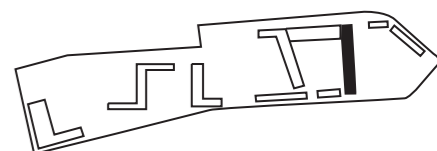
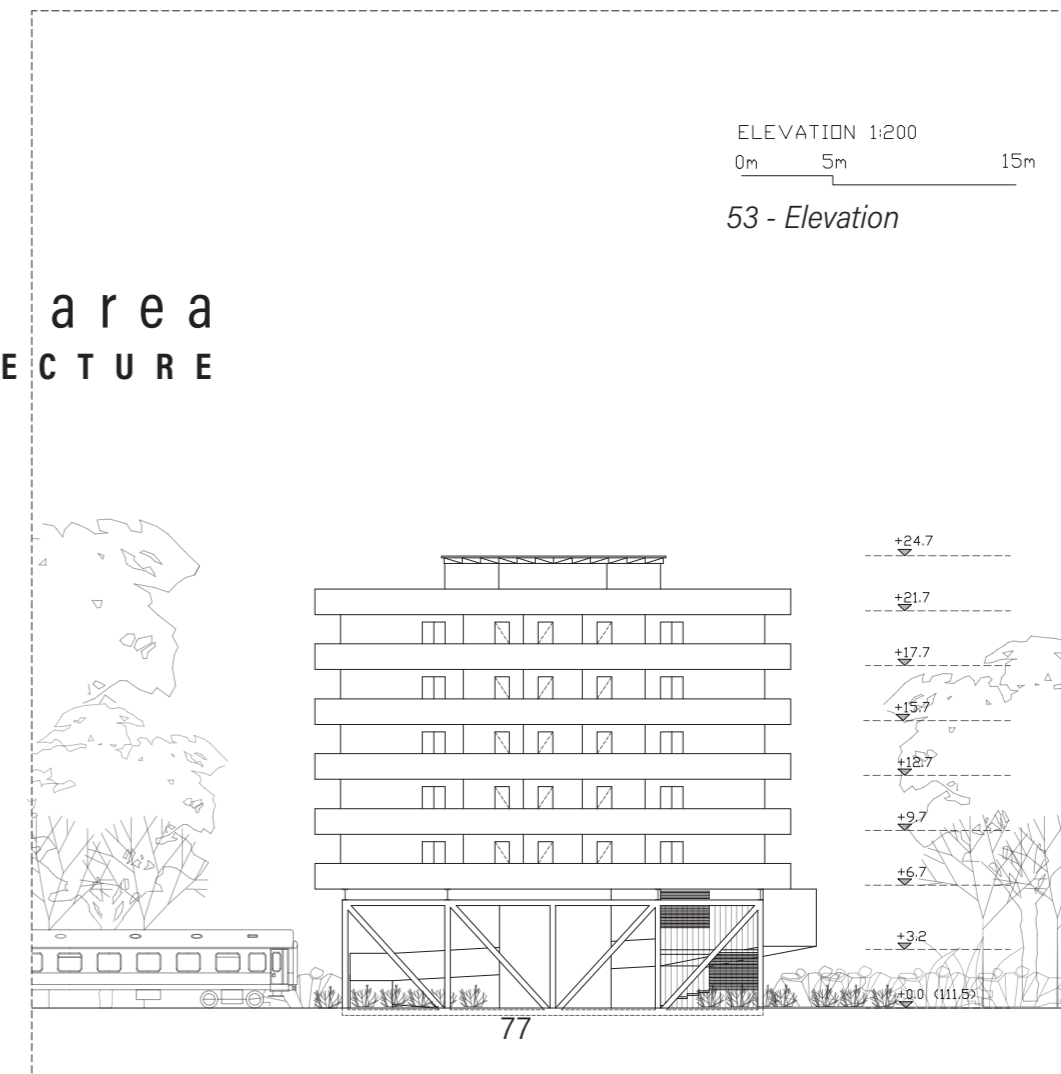


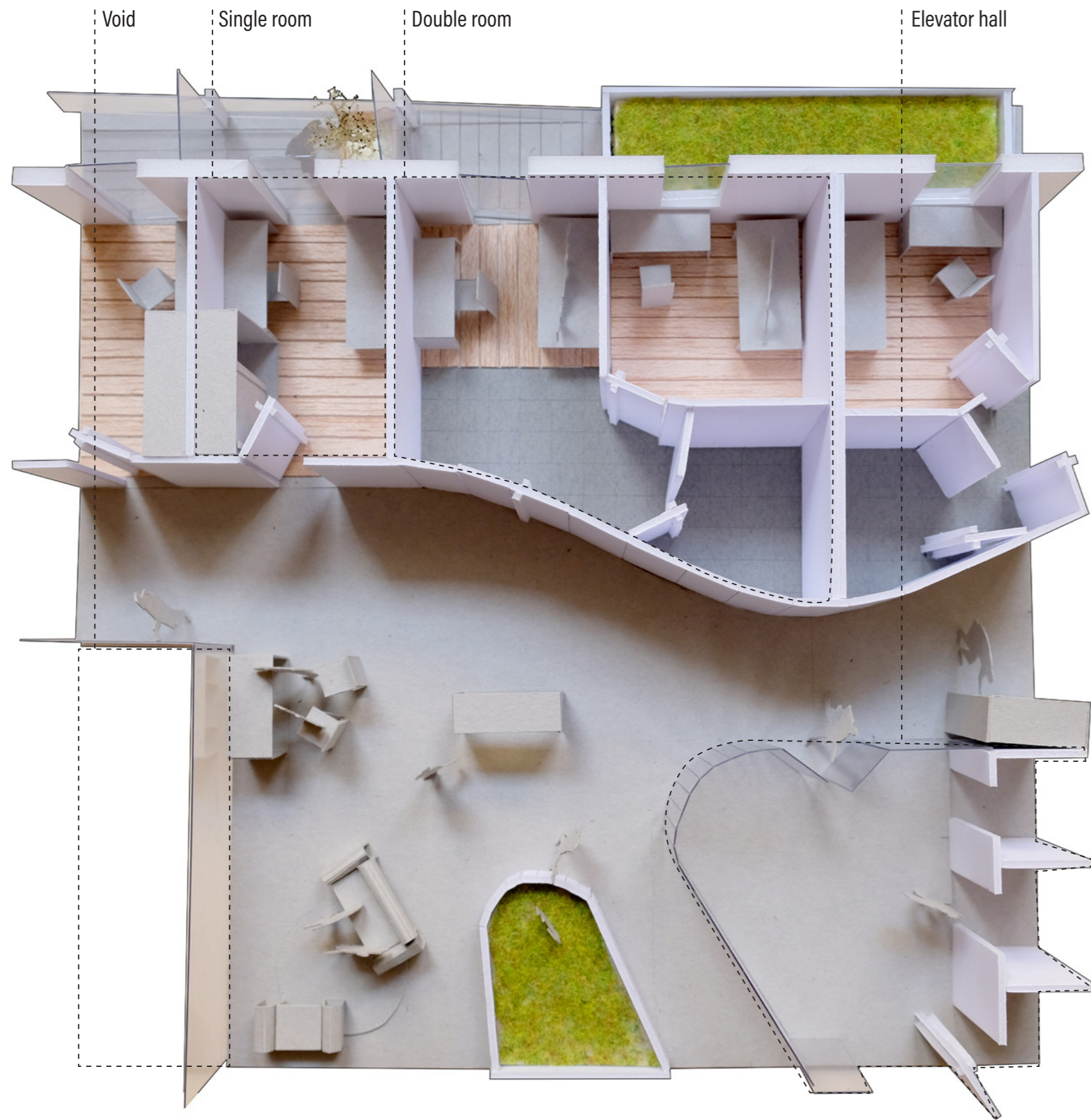
54 - Perspective



54 - Ground floor perspective

Focus area
ARCHITECTURE



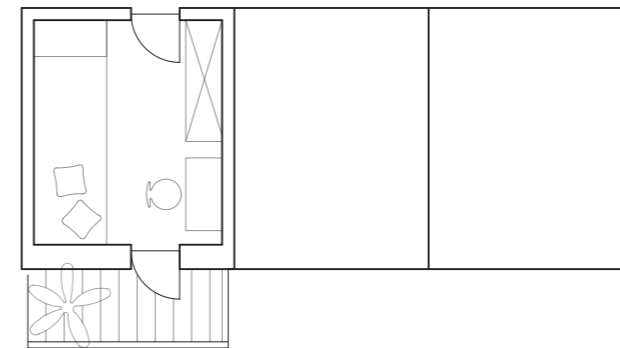


55 - Physical interior model

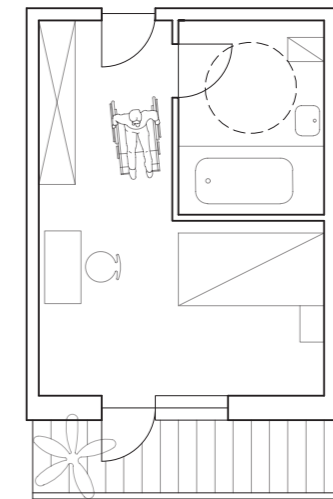
Apartment typology

1m 3m 6m

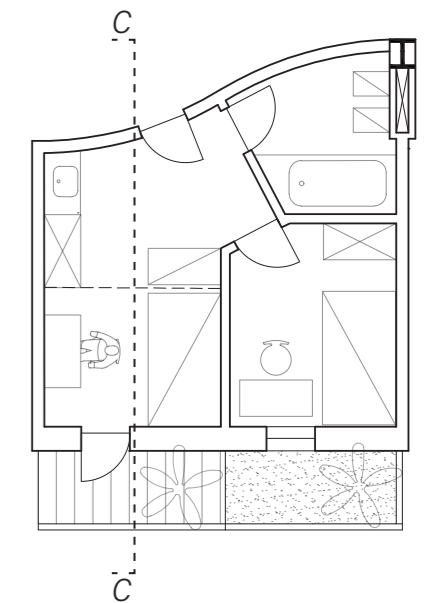
Single room
5.5m x 3.3m
18.15 sqm



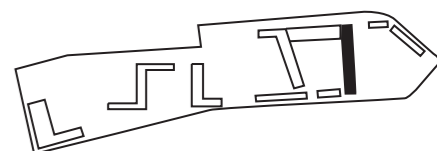
Disable student room
8m x 5.3m
42.4 sqm



Double room
45 sqm



Focus area
ARCHITECTURE

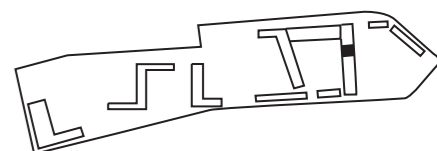


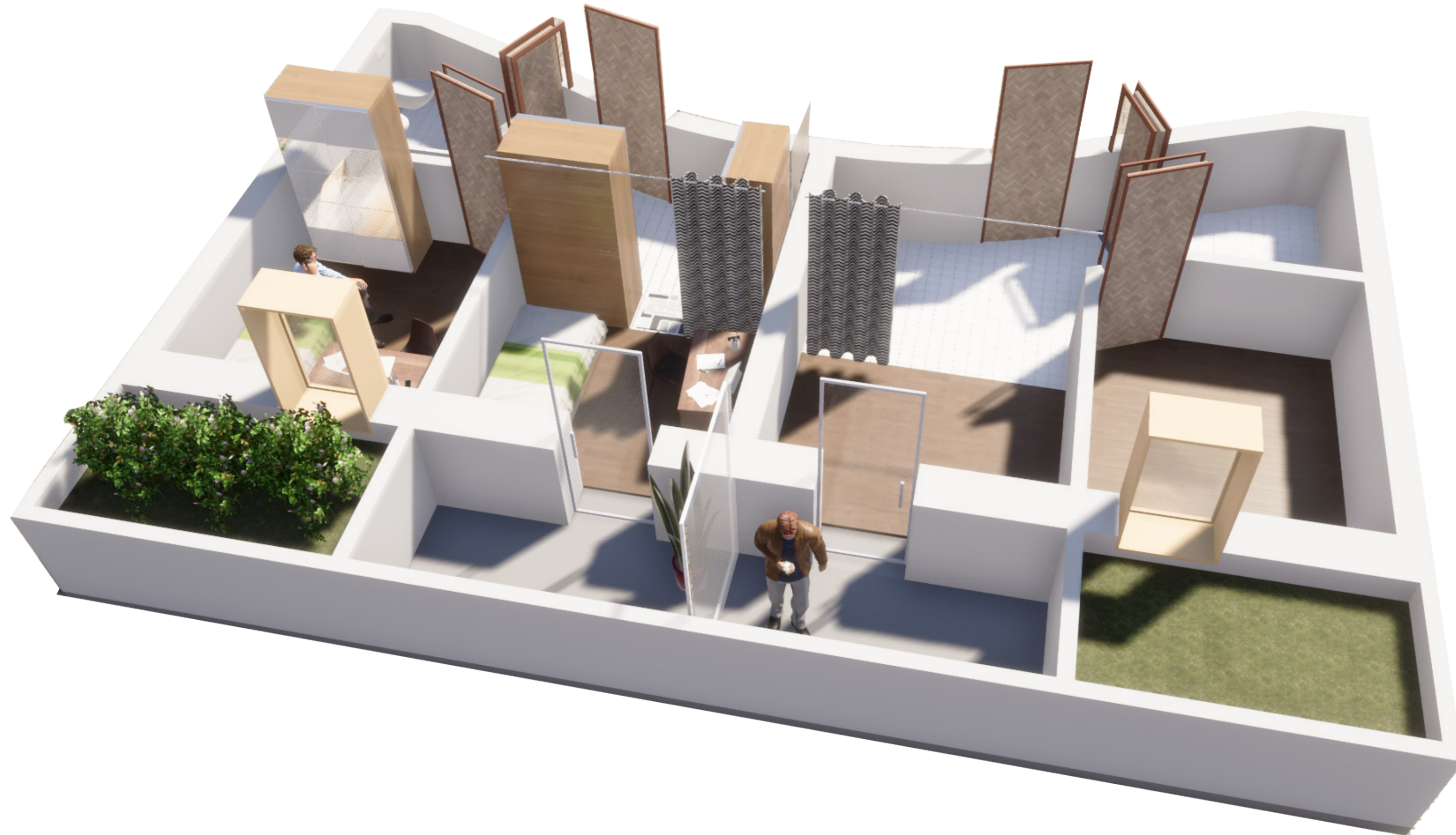


56 - Physical interior model

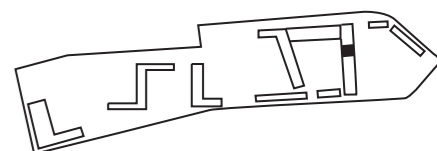


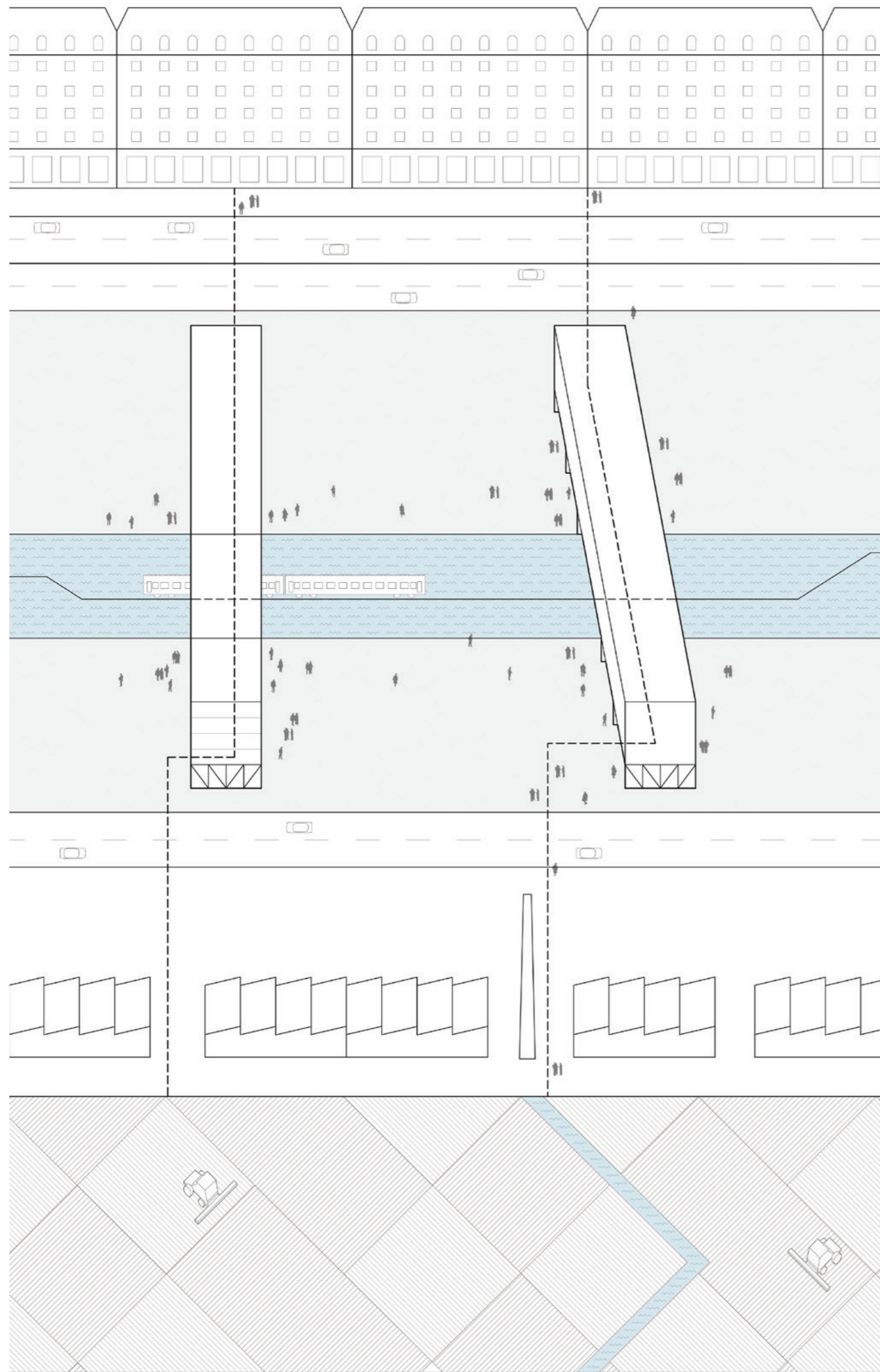
57 - Section C-C





58 - 3D Interior model





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