Breaking the Cycle

- A RENOVATION PROJECT AT THE EDGE OF EIXAMPLE IN BARCELONA -

LM-4 SUSTAINABLE ARCHITECTURE AND LANDSCAPE DESIGN
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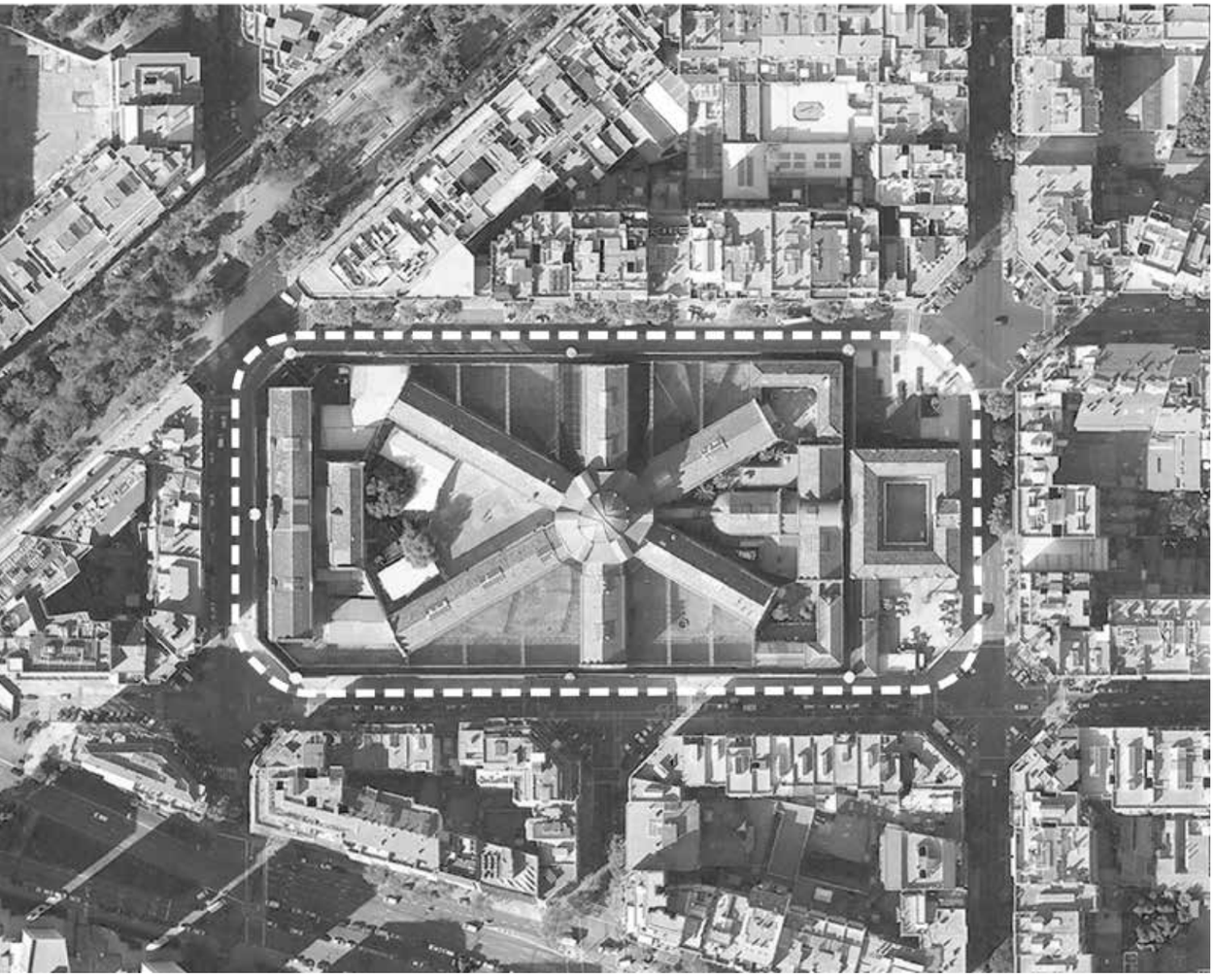
POLITECNICO
MILANO 1863
SCUOLA DI ARCHITETTURA URBANISTICA
INGEGNERIA DELLE COSTRUZIONI



INTRODUCTION

The Model was erected on the outskirts of Barcelona in 1904, and conceived with the aim of being an exemplary prison by then. The prison occupied two blocks of the Eixample and launched an innovative architectural design in the form of a panopticon: starting from a polygonal central body - where the vigilantes were located - six galleries were born radially.

Within more than 100 years, La Model was served as a prison and went through many historical moments. After its closure in 2017, how to integrate the old prison into the city was under the discussion. Following its closure and transfer to the City Council, a new stage of opening is now beginning. The recovery of this unique space for the city and for public use is a unique opportunity for Barcelona, an opportunity for urban regeneration that will leave behind more than a century of hermeticism. Today, La Model is going to be a socio-cultural and multipurpose facility, open to everyone, which hosts various temporary activities to start this integration of the prison in the city.

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  Design Process, Plan, Facade, Section, View

i. URBAN CONTEXT

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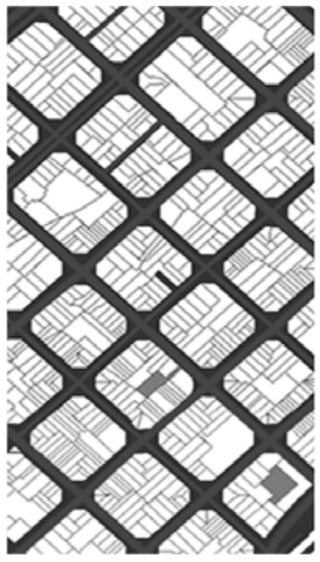
- Urban Scale: Parks

i. URBAN CONTEXT

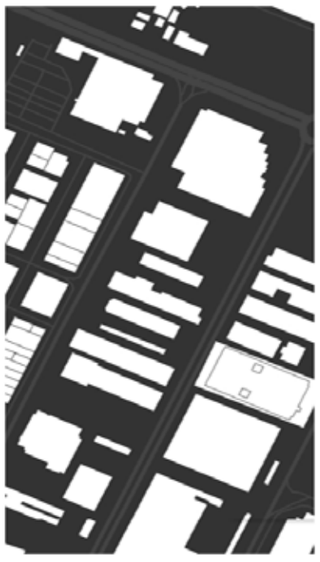
- Barcelona Urban Typology
- Types Of Existing Typology In Barcelona

- Old Town



- Eixample

- 20th Century City

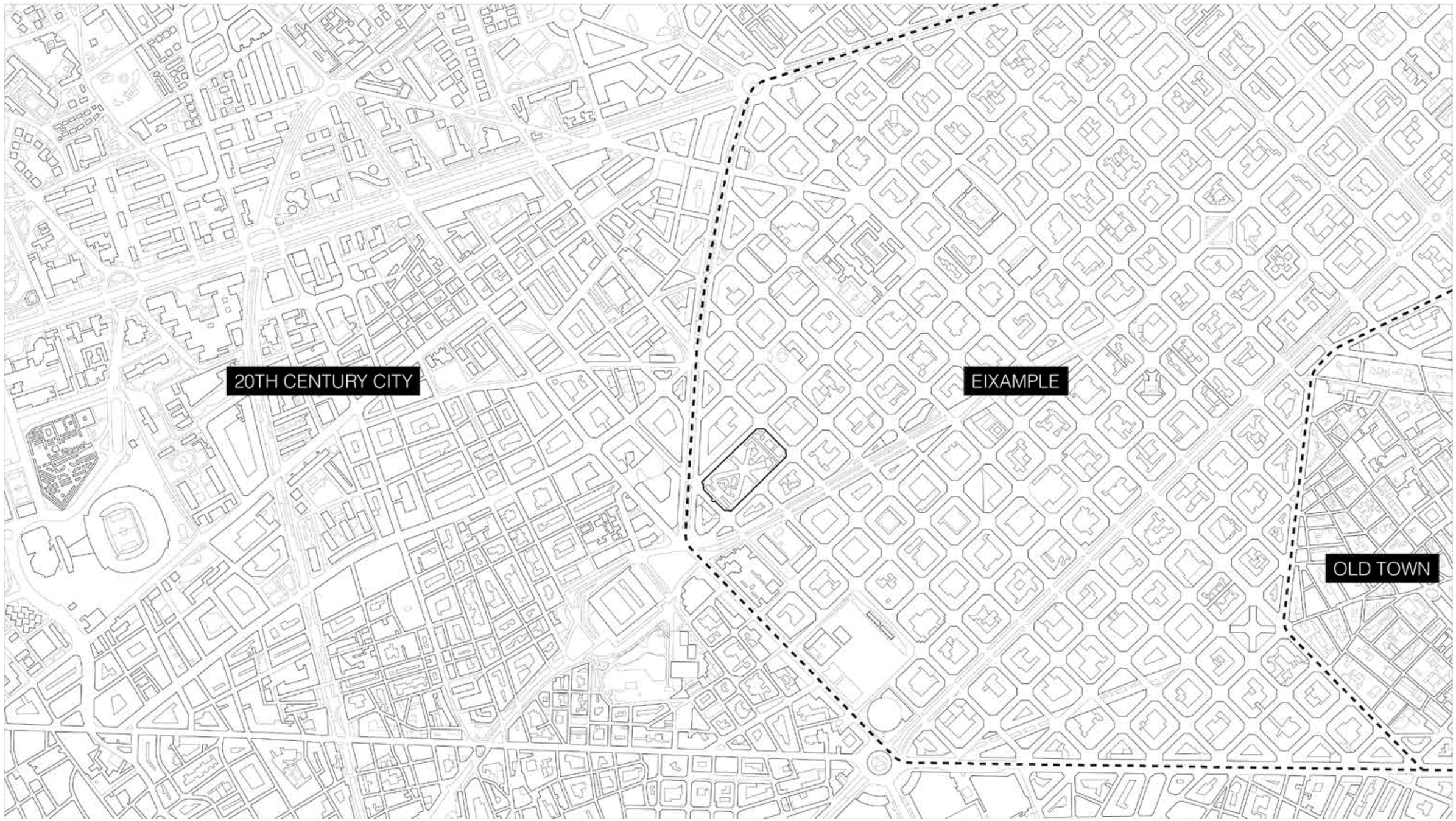


- Industrial Area

- Suburb Area

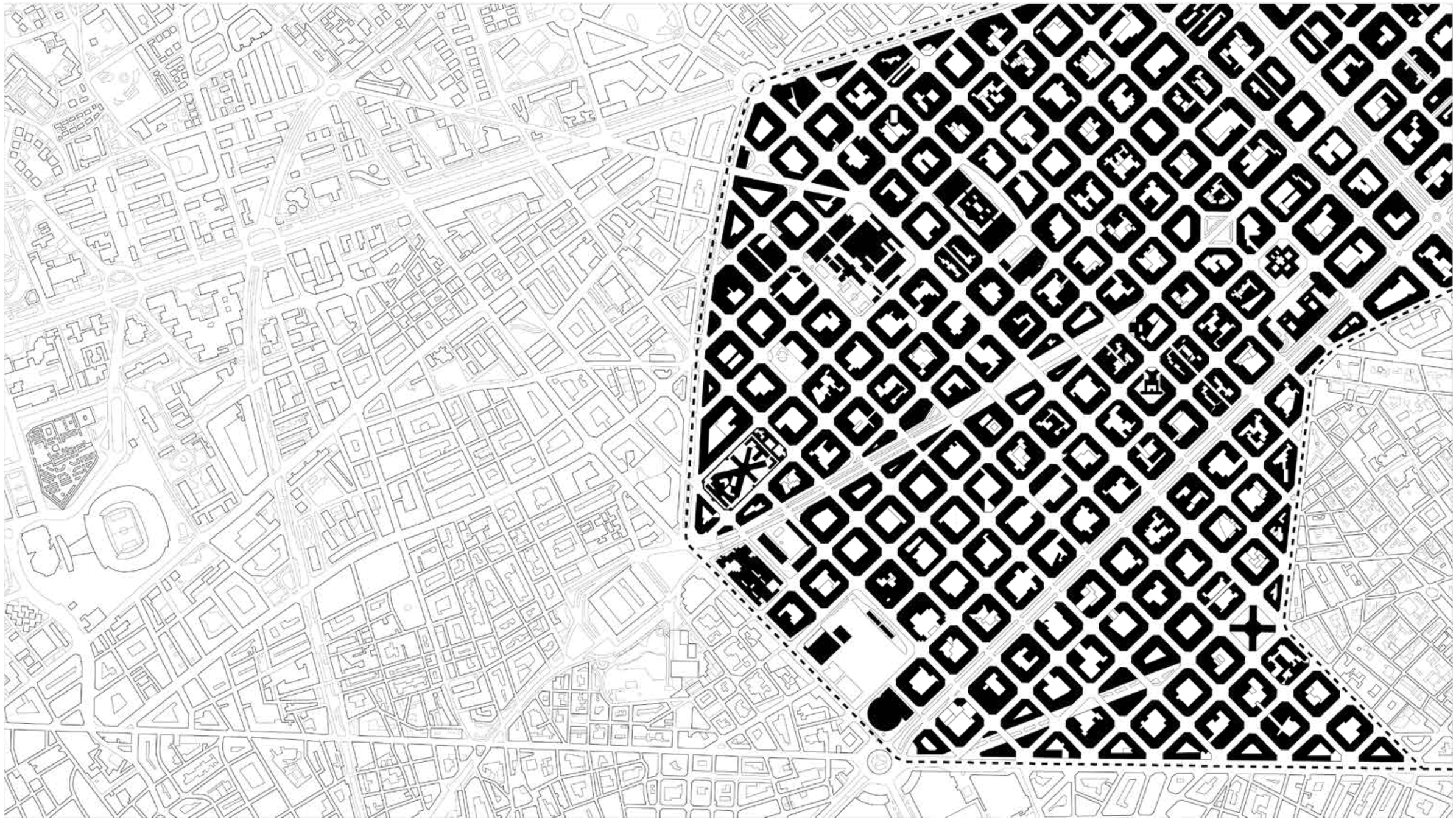
i. URBAN CONTEXT

- Site Location



i. URBAN CONTEXT

- Urban Scale: Eixample

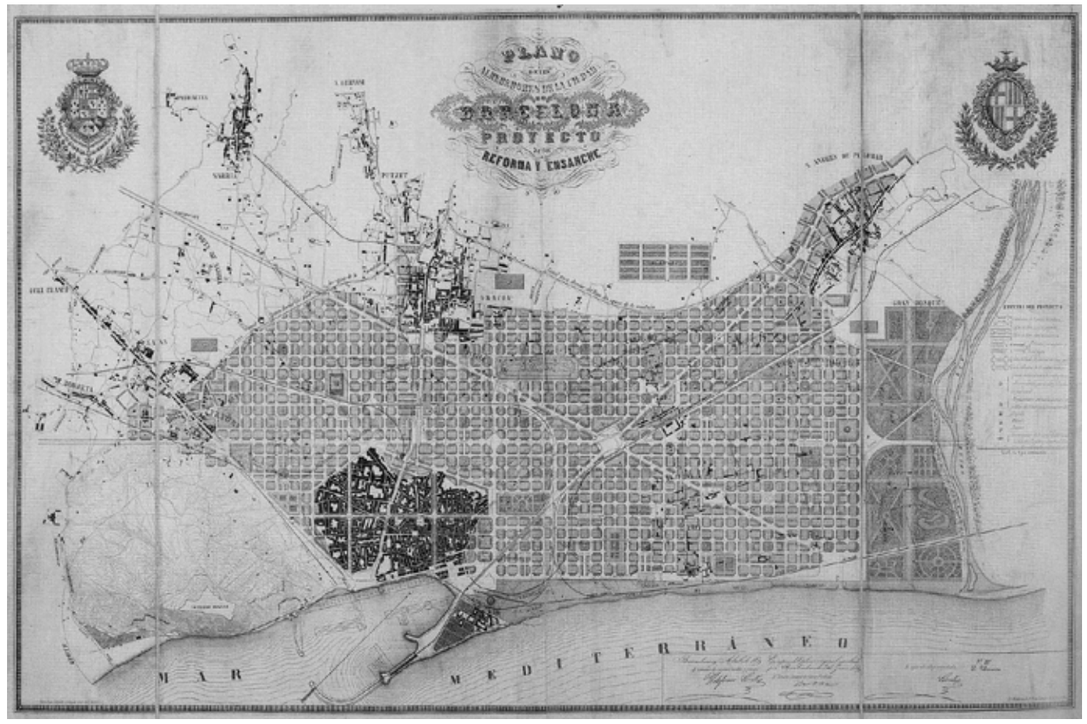


The expansion area block

i. URBAN CONTEXT

- Urban Scale: Eixample

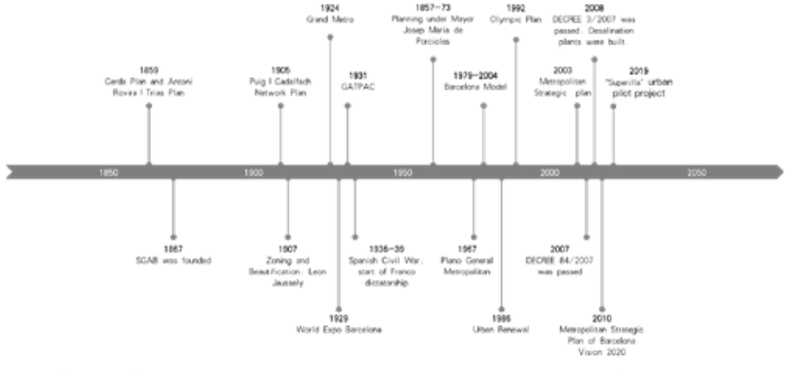
History



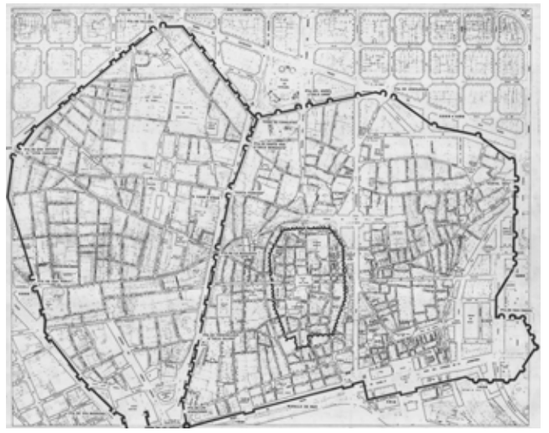
Original project of the Cerdà Plan

Ildefons Cerda and the Plan for Eixample

Ildefons Cerdà was a Spanish urban planner and engineer who designed the 19th-century "extension" of Barcelona called the Eixample. Because of his extensive theoretical and practical work, he is considered the founder of modern town planning as a discipline, having coined the new word **"urbanization".**



Significant Events in Urban Planning of Barcelona



The evolution of Barcelona's wall

An extended wall was built in 1260, and then in the **15th century**, the wall was expanded again to encompass the new Raval neighborhood. The part of the plain outside the wall was used for agriculture to provision the city.

In 1714, Philip V built a fortress citadel forbid Barcelona to grow beyond its medieval walls. By the middle of the **19th century**, population density was the highest in Spain, working conditions were miserable, sewage was out of control, water was dirty, and the city was struck by a series of cholera epidemics and riots.

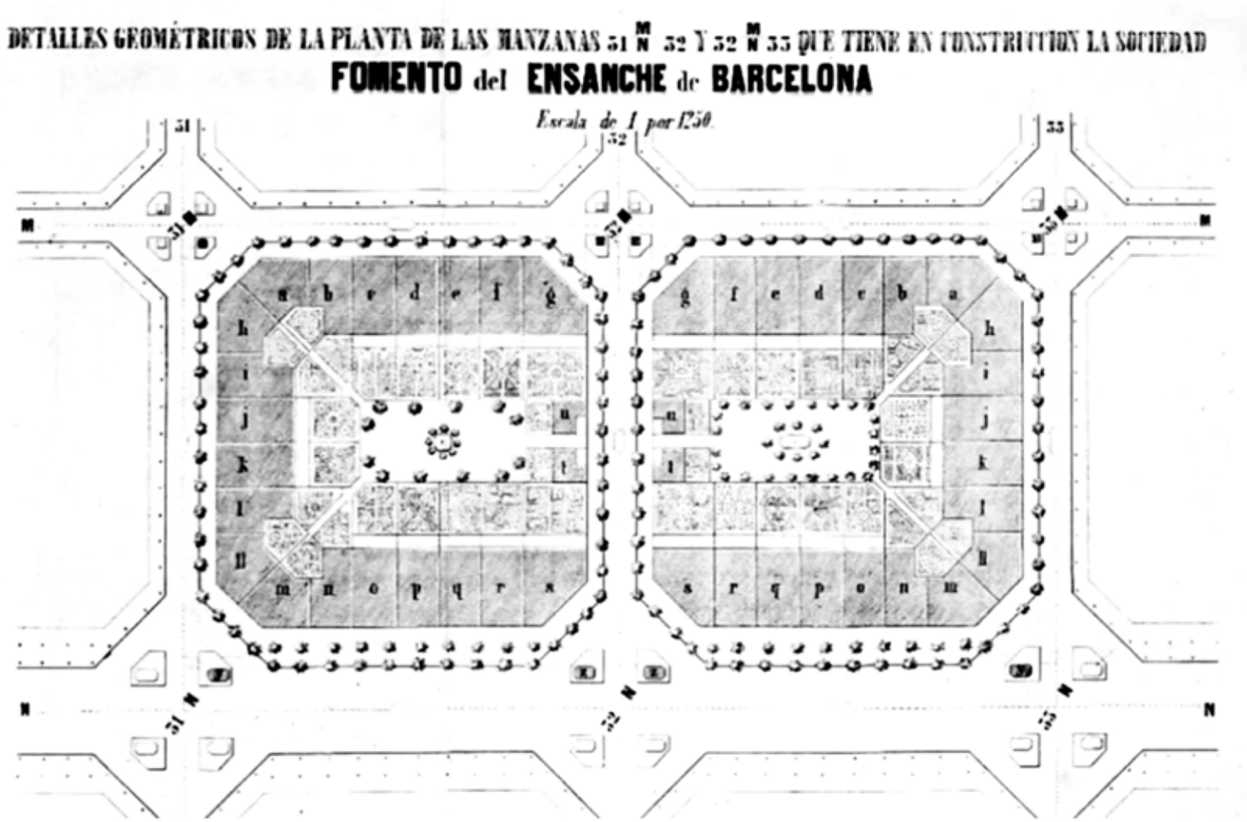
By 1854, when the Spanish government finally gave permission to take the wall down, it was one of the most hated structures in Europe. Townspeople immediately went at it with crowbars and pickaxes; it took **12 years** to completely remove it.

i. URBAN CONTEXT

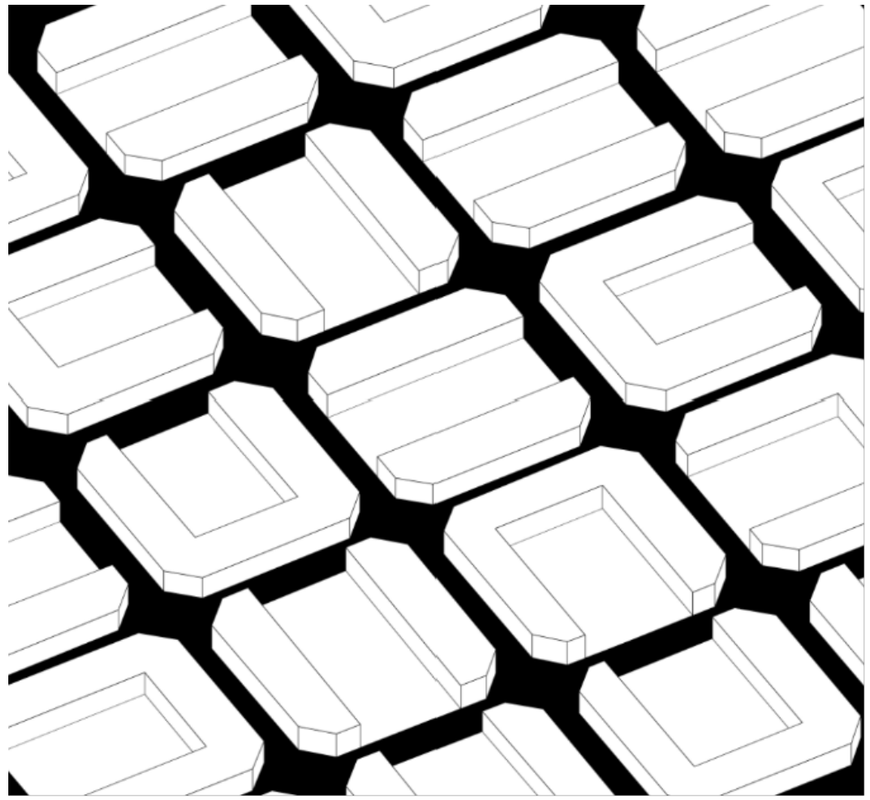
- Urban Scale: Eixample

History - Original Proposal

The Grids



The pattern of regular rectilinear blocks (exactly 113.3 by 113.3 meters, for 12,370 square meters, with at least 800 square meters for gardens).

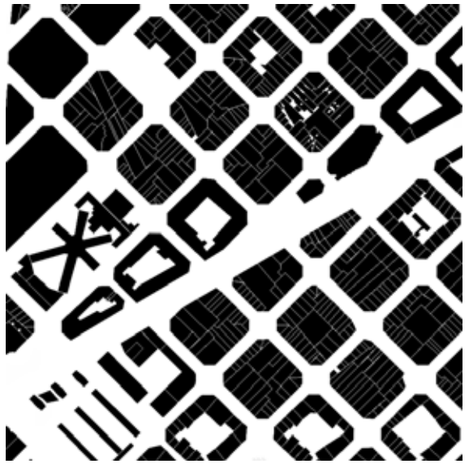
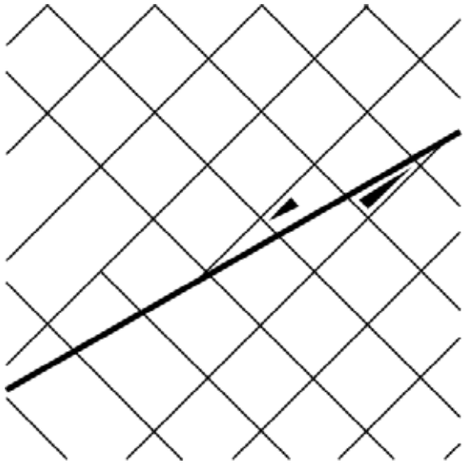
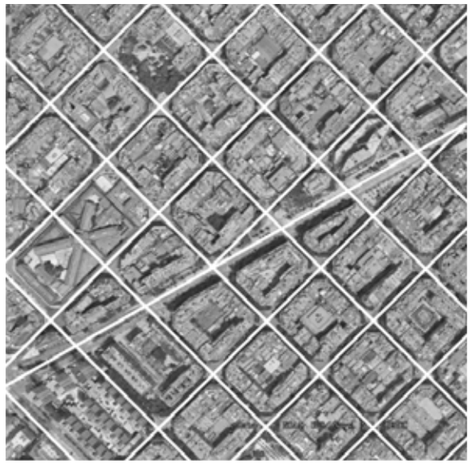
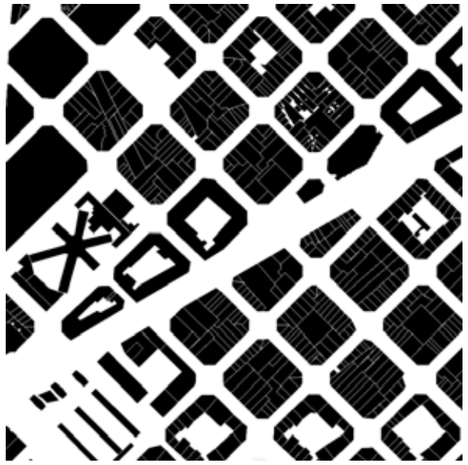
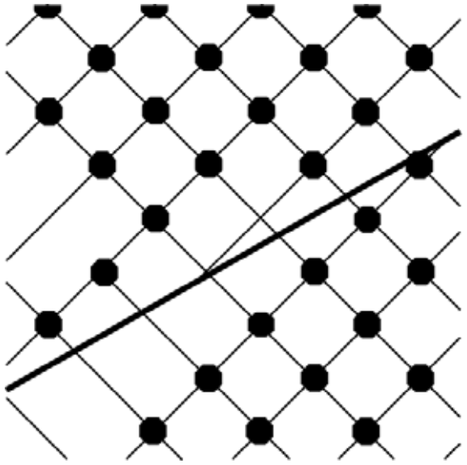
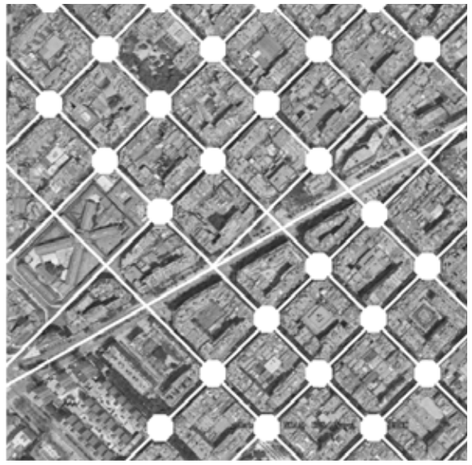
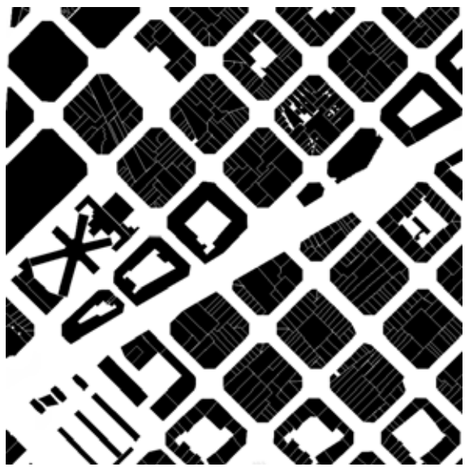
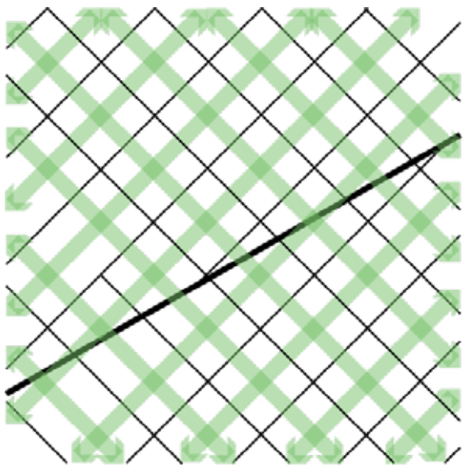
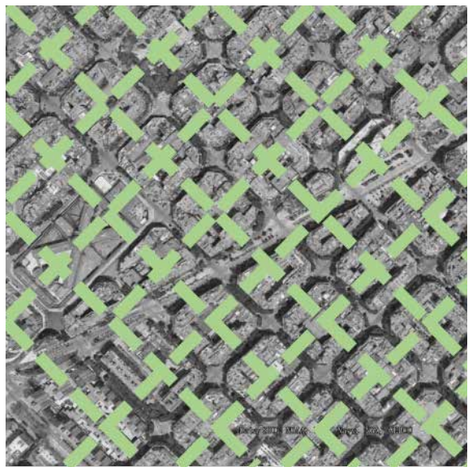


10 meters wide for the streets and the height of the blocks is less than 16 meters.

i. URBAN CONTEXT

- Urban Scale: Eixample

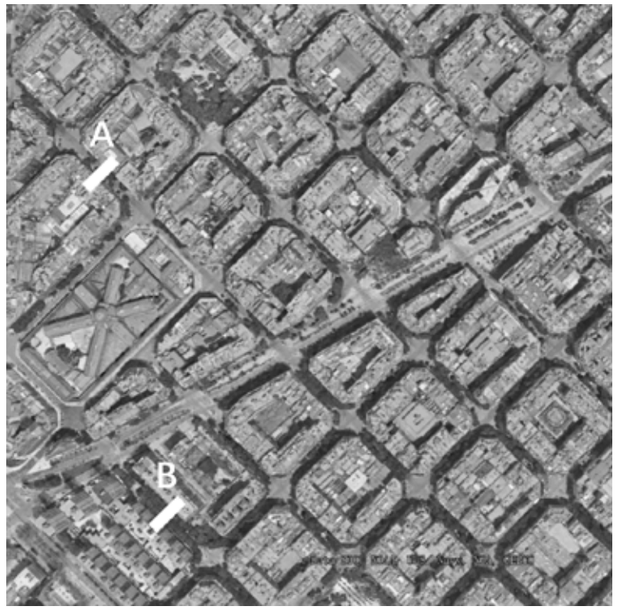
Network - Street

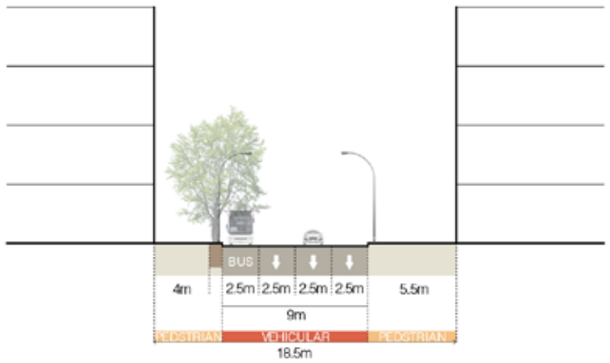










i. URBAN CONTEXT

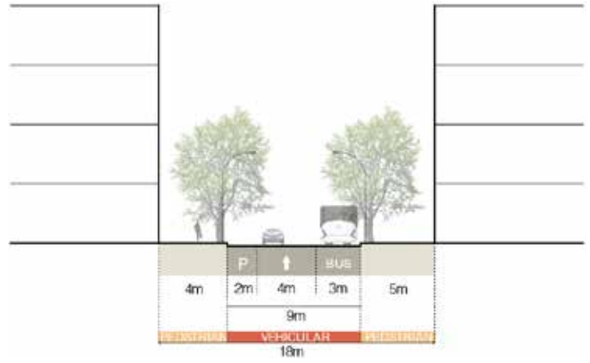
- Urban Scale: Eixample

Network - Street Sections

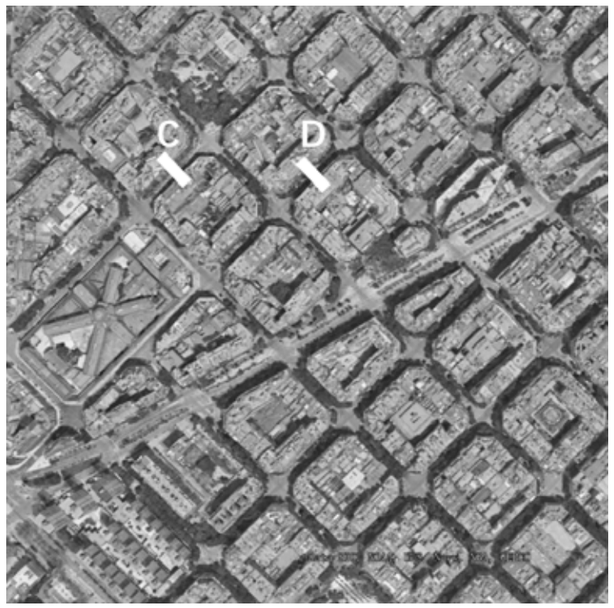


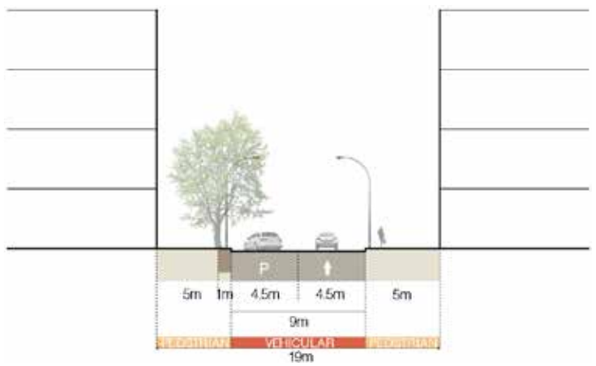


Street Section A

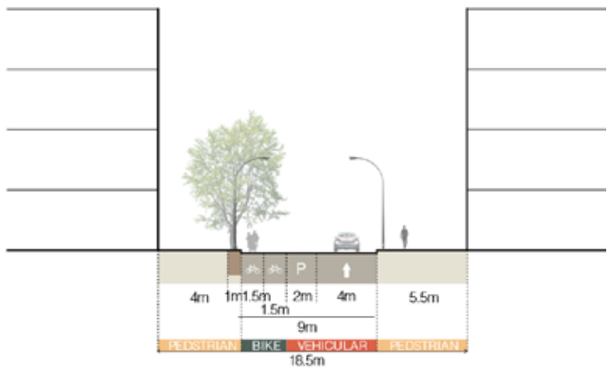


Street Section B





Street Section C



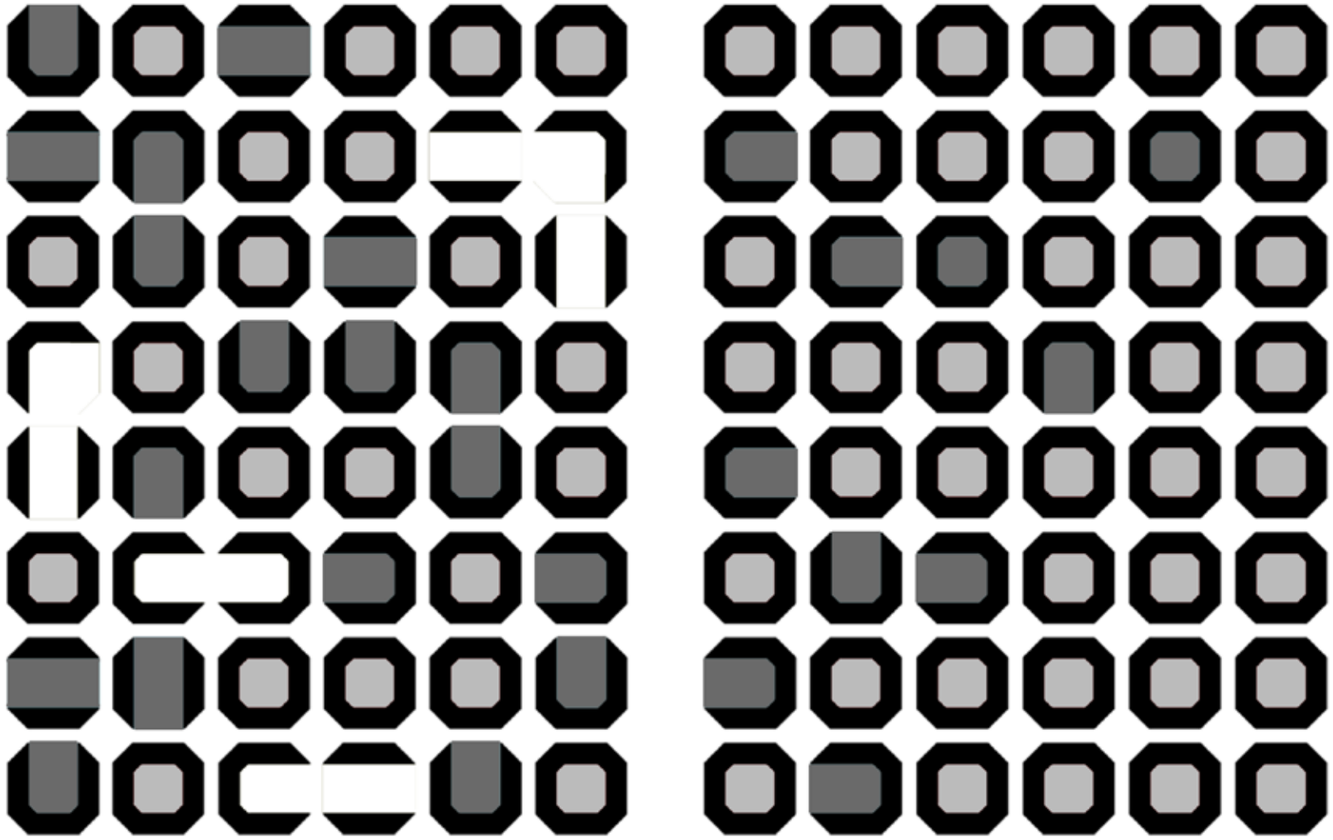
Street Section D

Typical Sections of Streets

i. URBAN CONTEXT

- Urban Scale: Eixample

Block - Block Characteristics



19th Century

Present

Public

Semi-Public

Private

Semi-Public

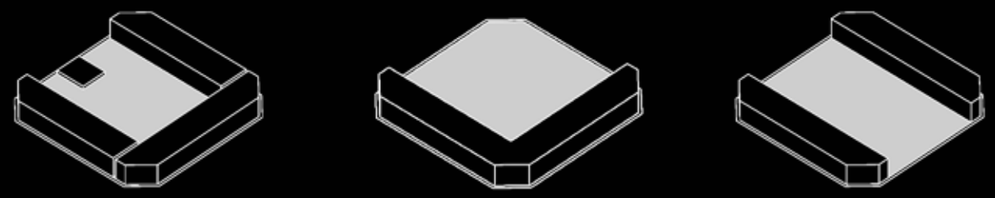
Private

i. URBAN CONTEXT

- Urban Scale: Eixample

Block - Block Evolution

Original typology



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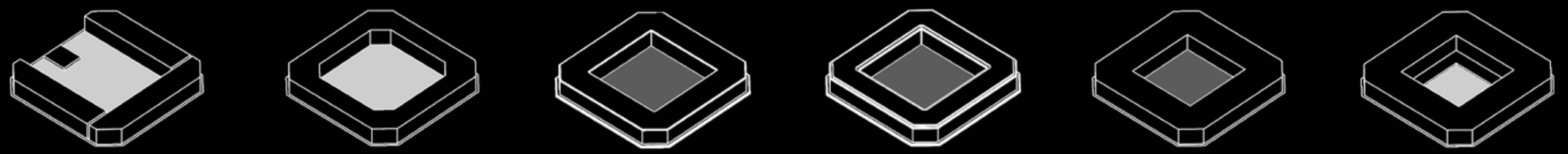
Practical evolution



1859
Ample green and public spaces

GFA: 21,654 sqm
FAR: 1.8

1860
Enclosed public made private

GFA: 34,885 sqm
FAR: 2.8

1891
Courtyards paved

GFA: 69,835 sqm
FAR: 5.7

1924
Structure added

GFA: 98,343 sqm
FAR: 8.0

1976
Ornamental strapping

GFA: 57,436 sqm
FAR: 4.7

1988
Some courtyards reclaimed

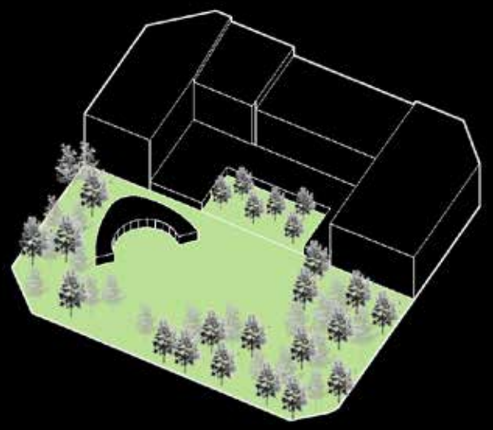
GFA: 56,045 sqm
FAR: 4.6

Ildefons Cerda and the Plan for Eixample

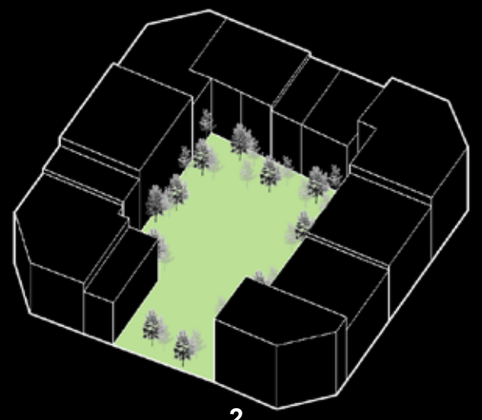
i. URBAN CONTEXT

- Urban Scale: Eixample

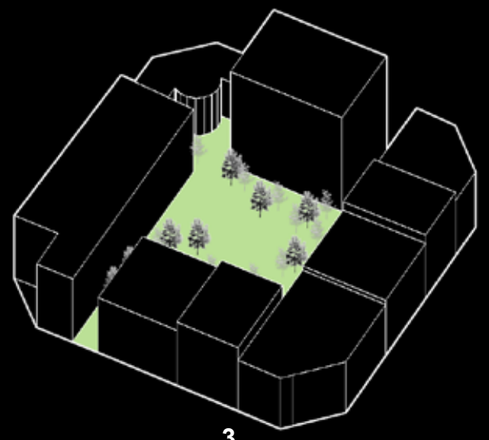
Block - Green In Block



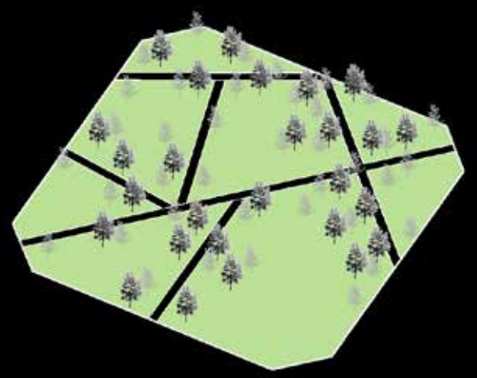
1.
City square



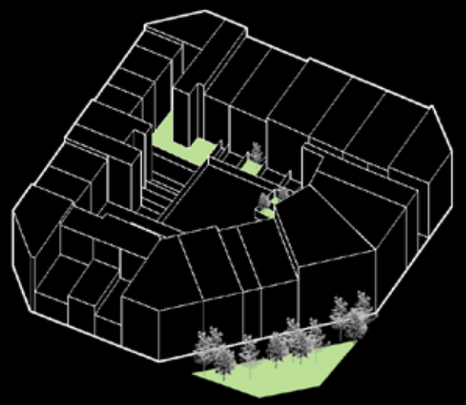
2.
Semi open courtyard



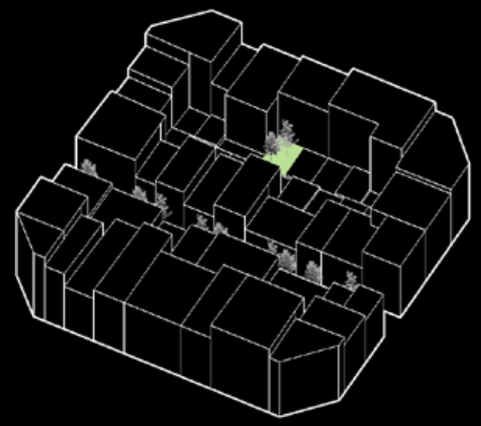
3.
Inner Courtyard



4.
City Park



5.
Roadside green space



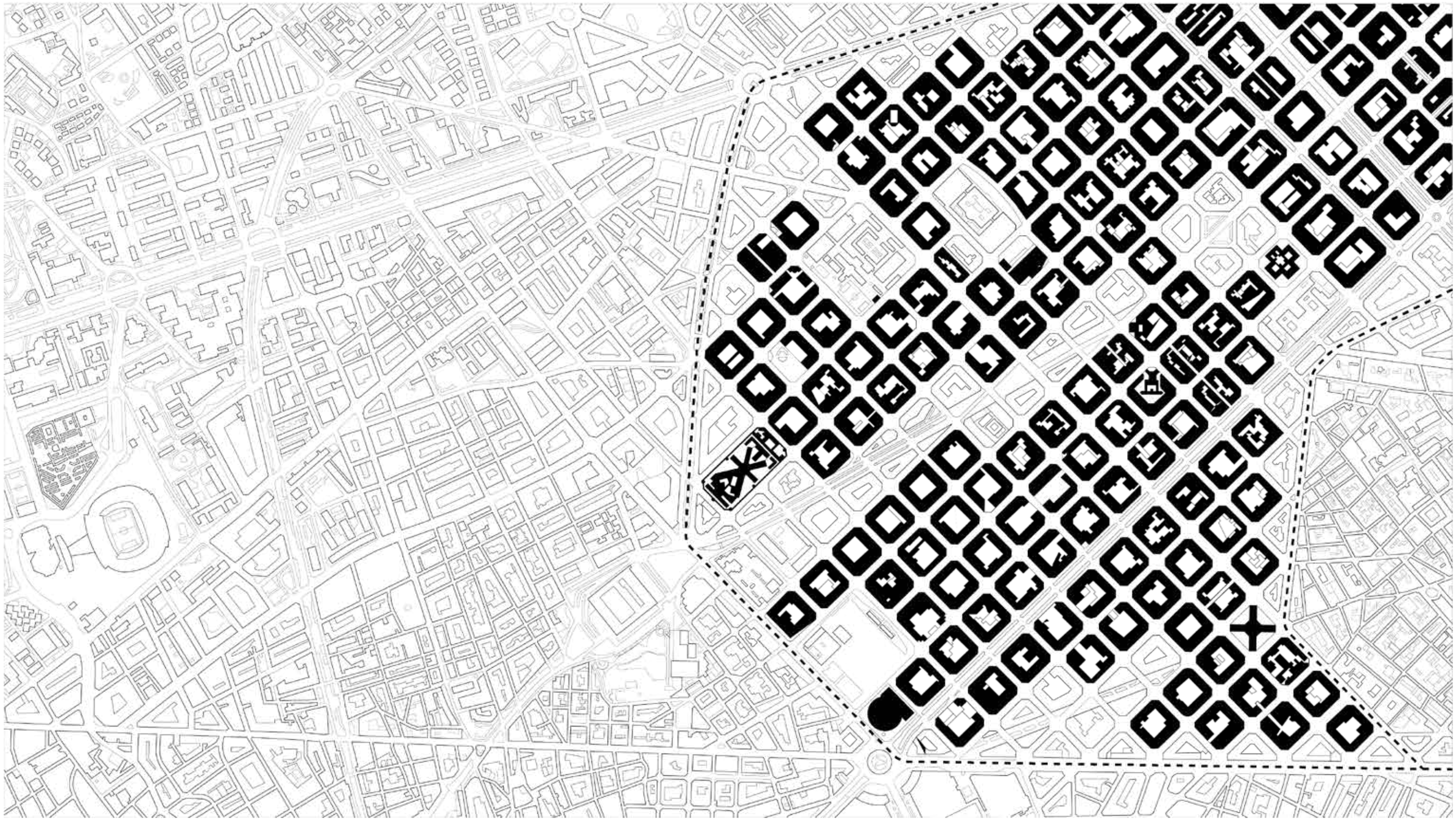
6.
Cut block

Typology of Green Space

i. URBAN CONTEXT

- Urban Scale: Eixample

Block - Typical Blocks

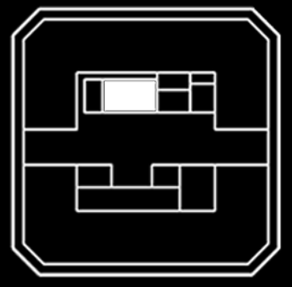


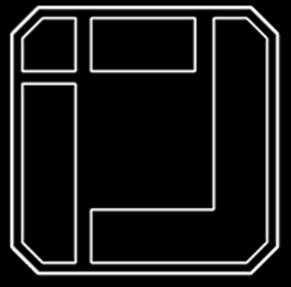
Typical blocks

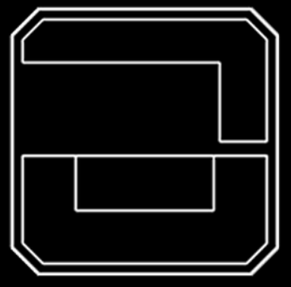
i. URBAN CONTEXT

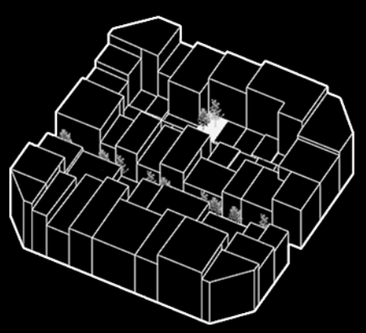
- Urban Scale: Eixample

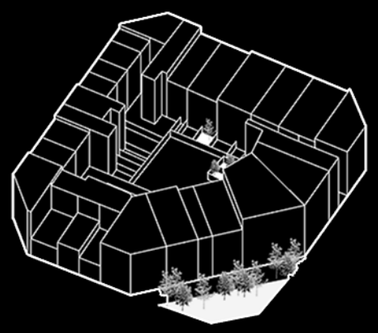
Block - Residence

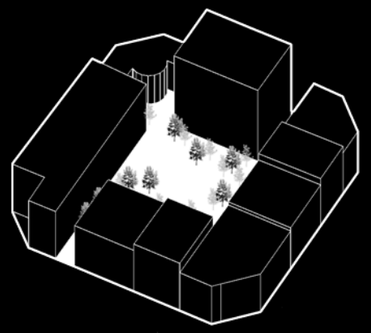


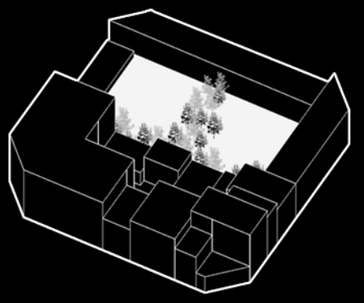








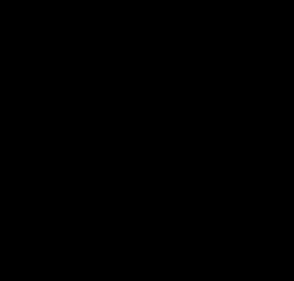


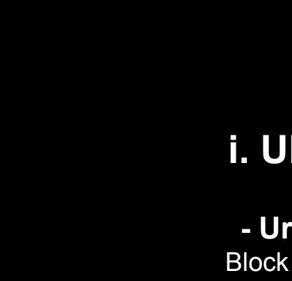


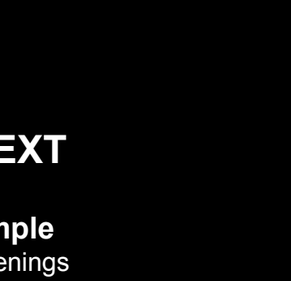
i. URBAN CONTEXT

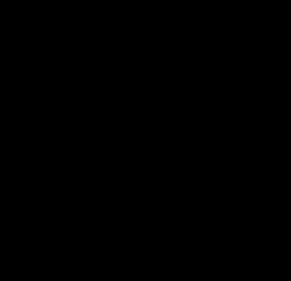
- Urban Scale: Eixample

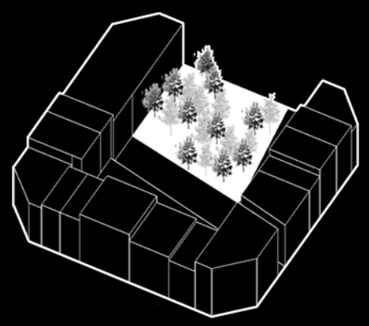
Block - Residence with openings

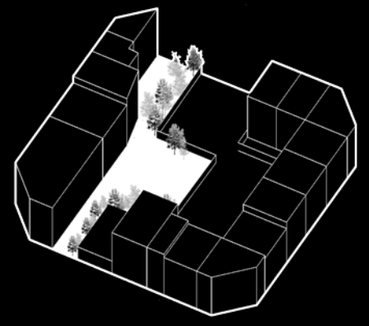


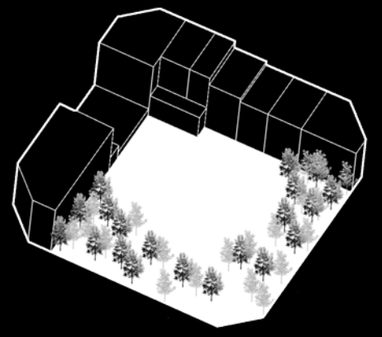


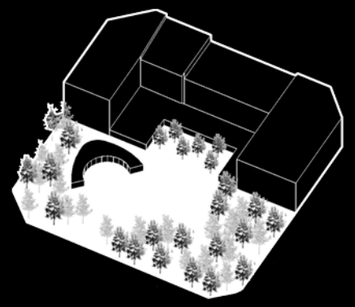








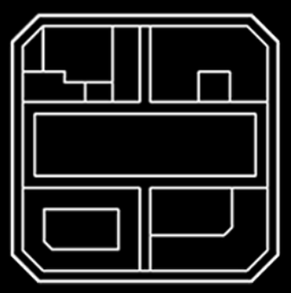


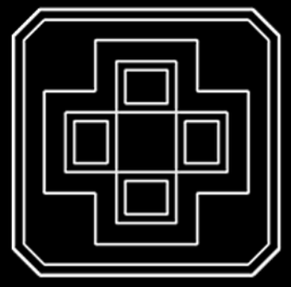


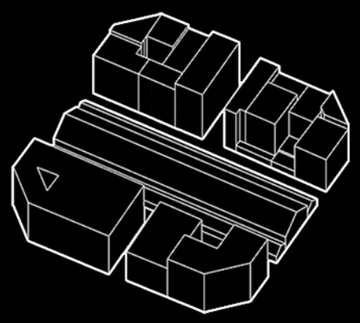
i. URBAN CONTEXT

- Urban Scale: Eixample

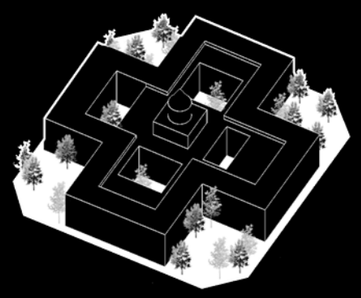
Block - Mixed residence/ non-residence



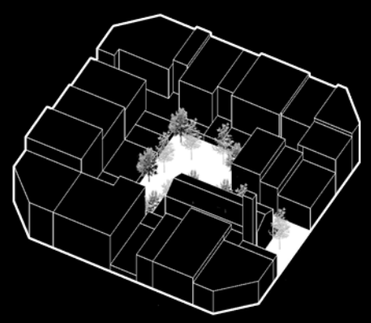




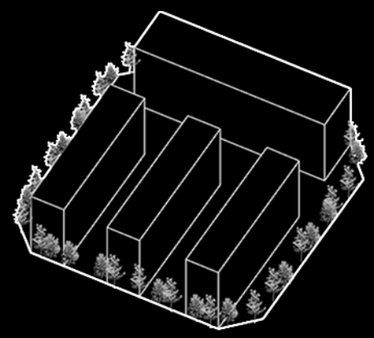
With market



University



With church



Other type of residence

i. URBAN CONTEXT

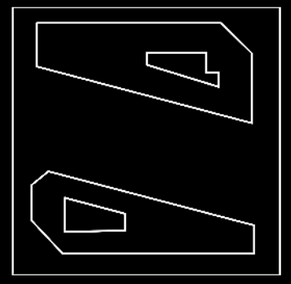
- Urban Scale: Eixample

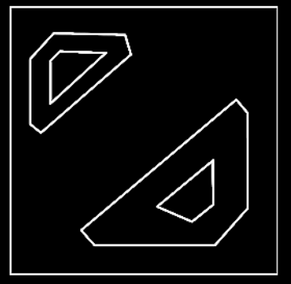
Block - Cutted Blocks

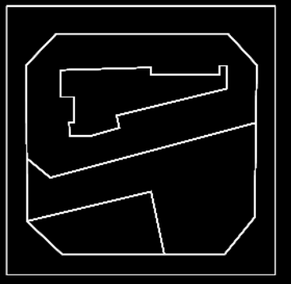
Cutted Blocks

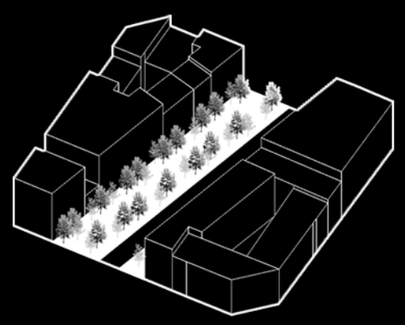
i. URBAN CONTEXT

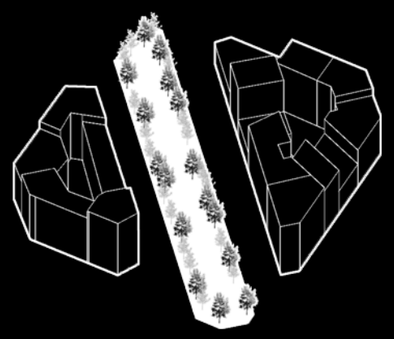
- Urban Scale: Eixample
Block - Cutted Prototypes

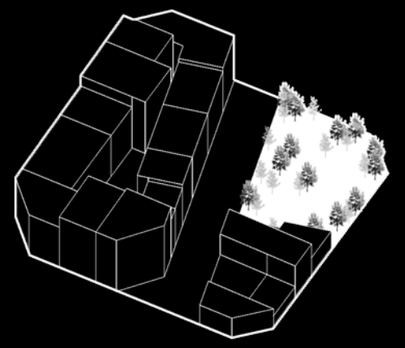








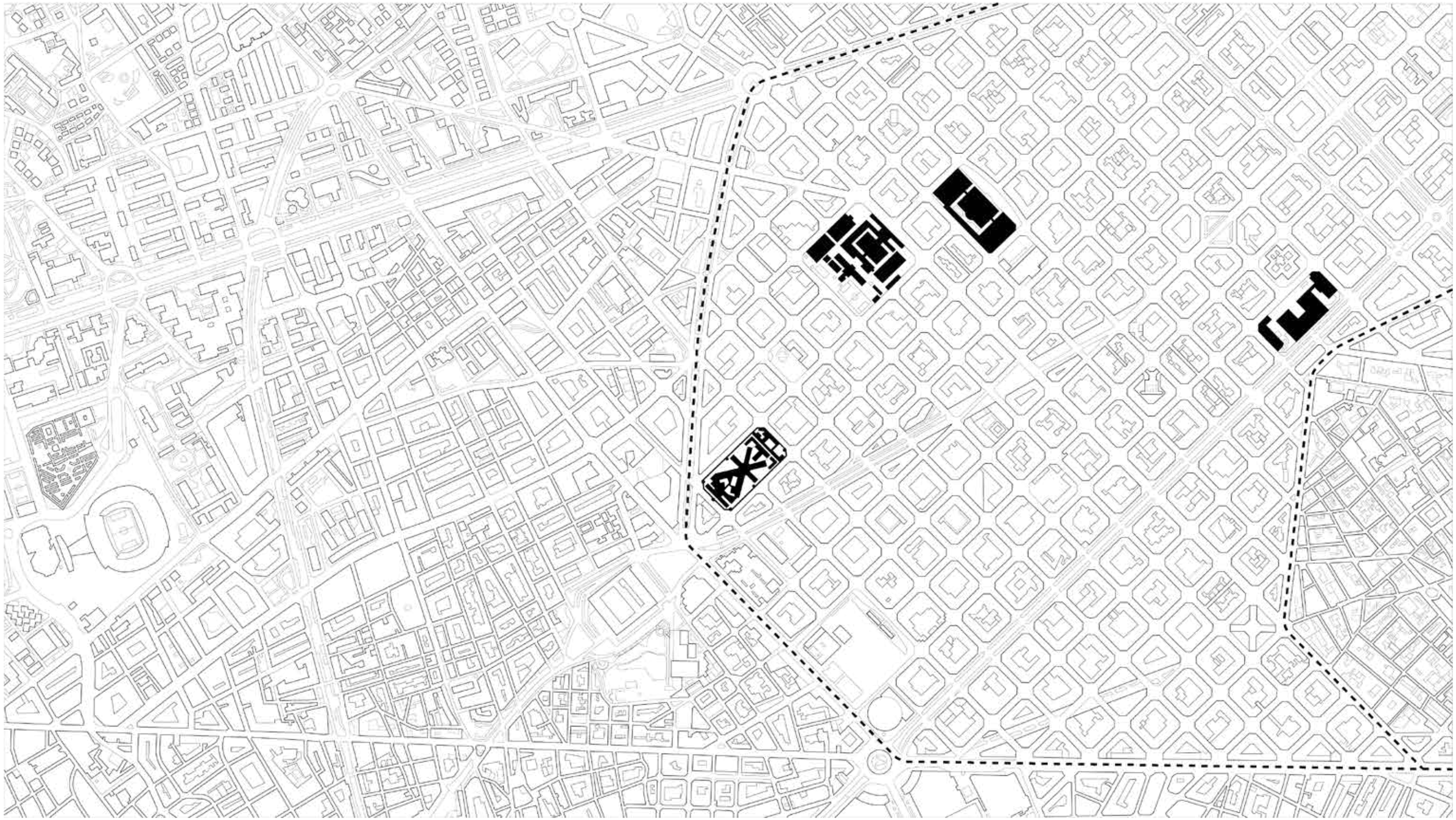




i. URBAN CONTEXT

- Urban Scale: Eixample

Block - Large Blocks

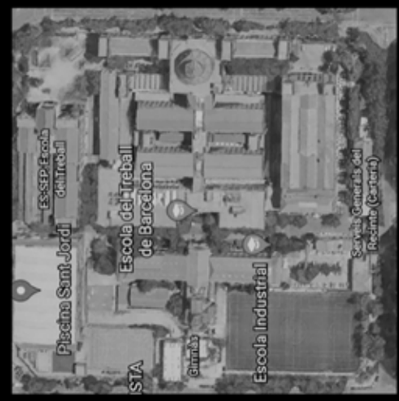


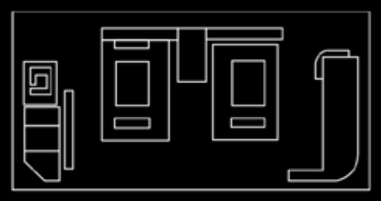
Large Blocks

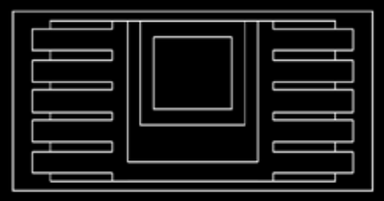
i. URBAN CONTEXT

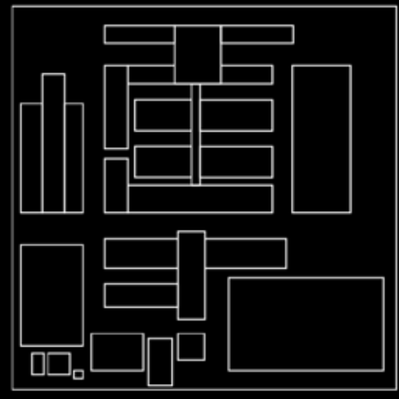
- Urban Scale: Eixample

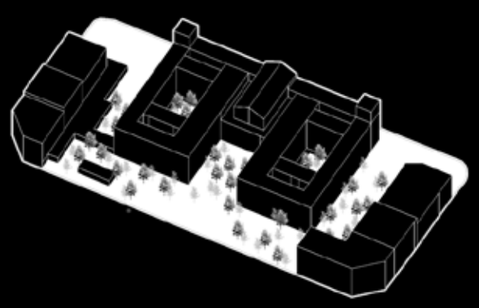
Block - Large Prototypes

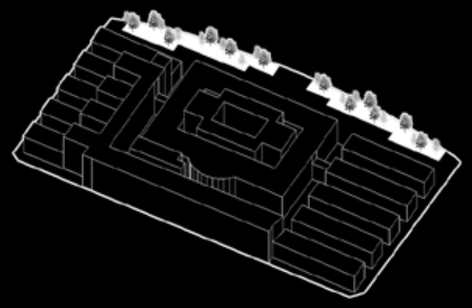


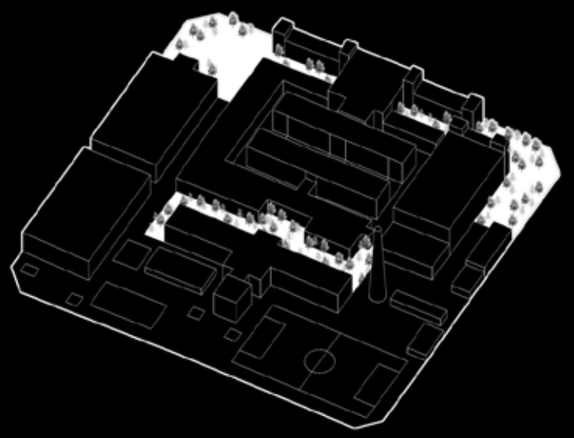






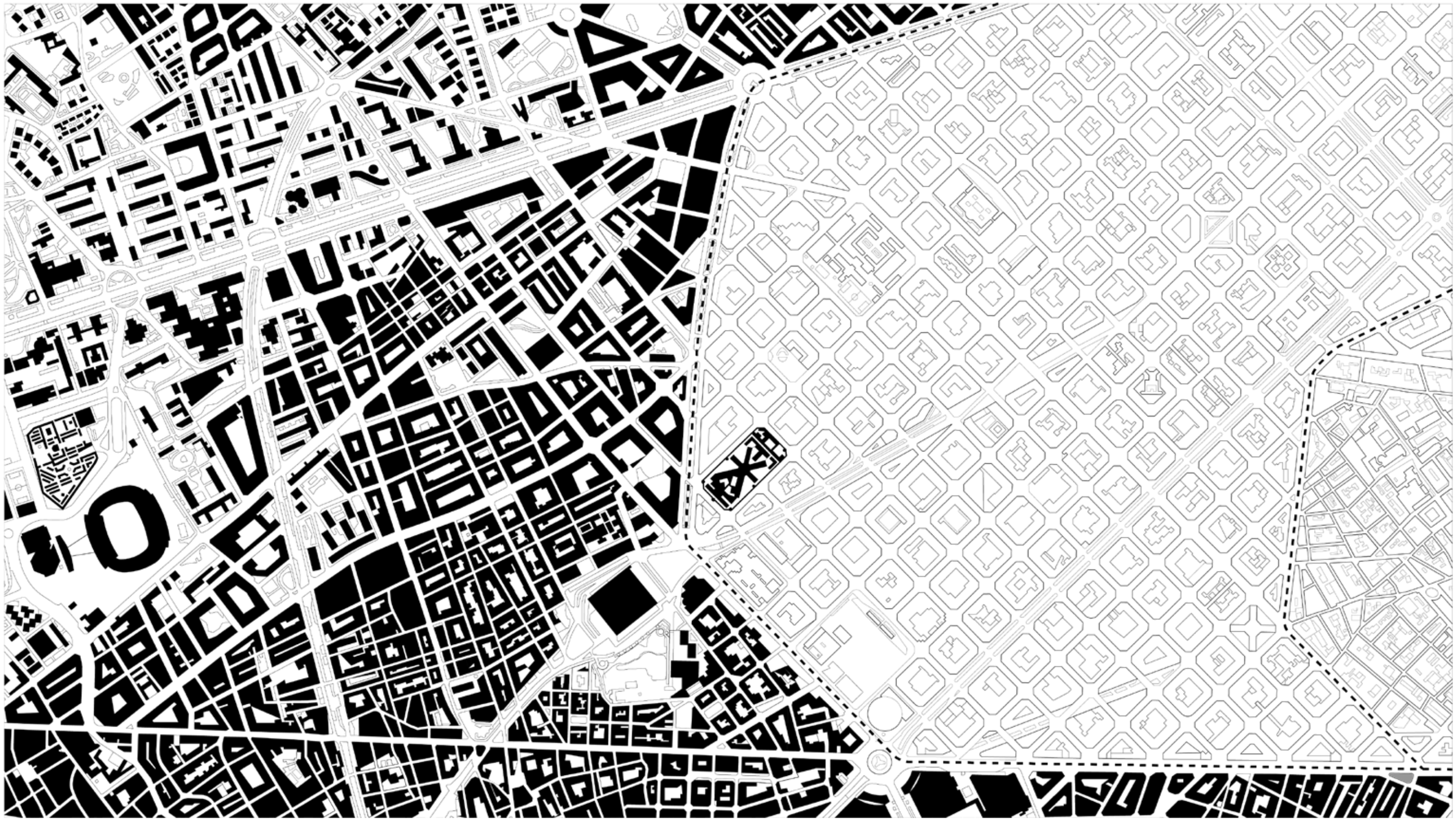






i. URBAN CONTEXT

- Urban Scale: Les Corts/ Sant Montjuic

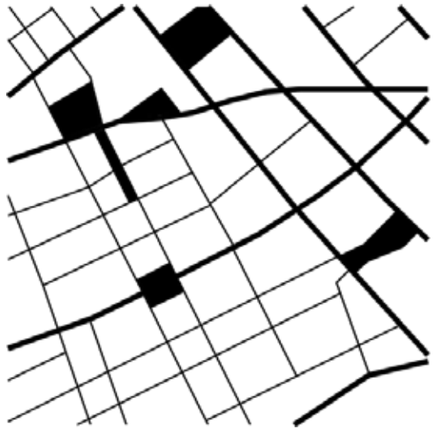


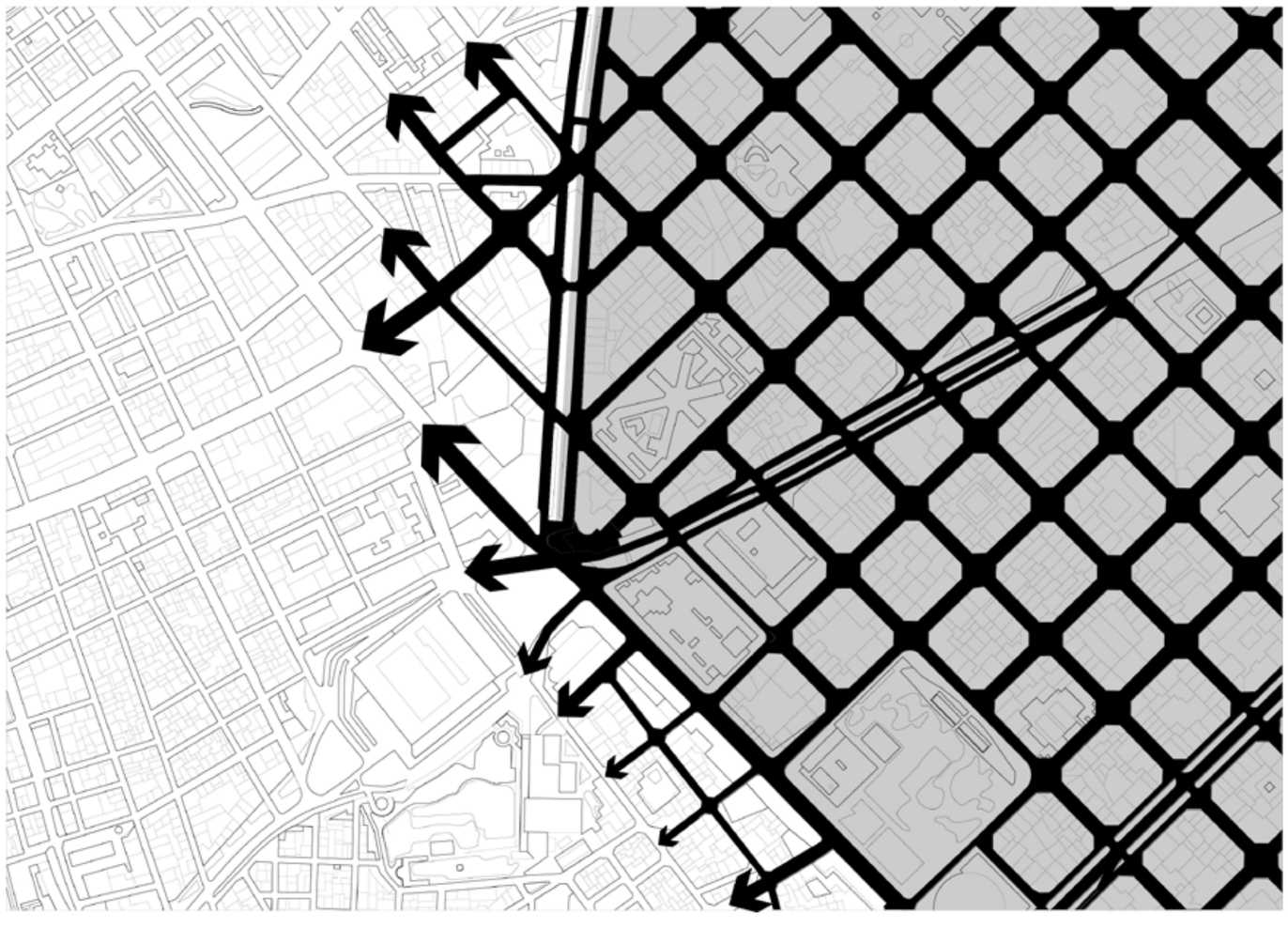
Les Corts/ Sant Montjuic

i. URBAN CONTEXT

- Urban Scale: Les Corts/ Sant Montjuic

Network

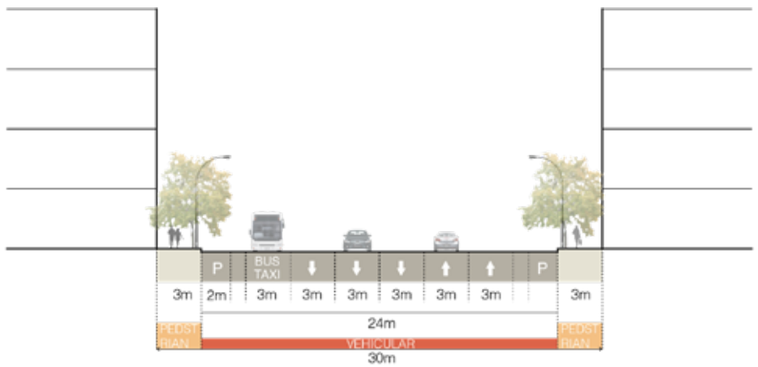




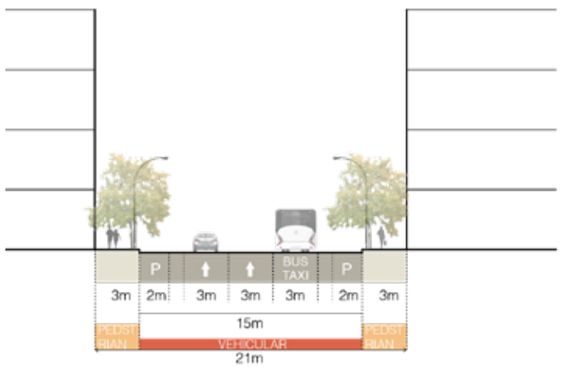
i. URBAN CONTEXT

- Urban Scale: Les Corts/ Sant Montjuic

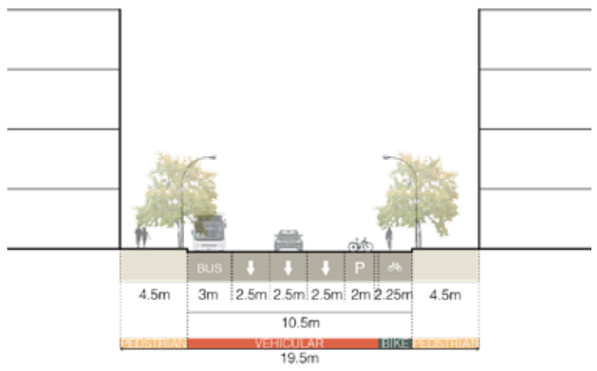
Street Sections



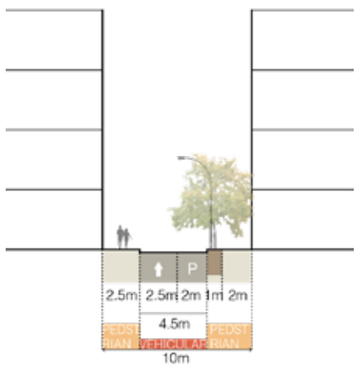
A. Av. de Madrid



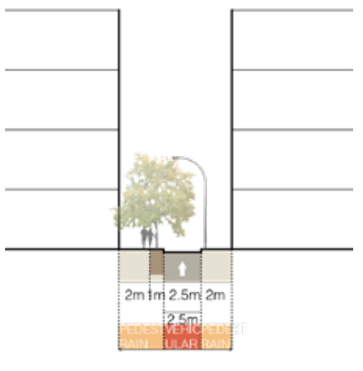
B. Travessera de les Corts



C. Carrer de Numancia



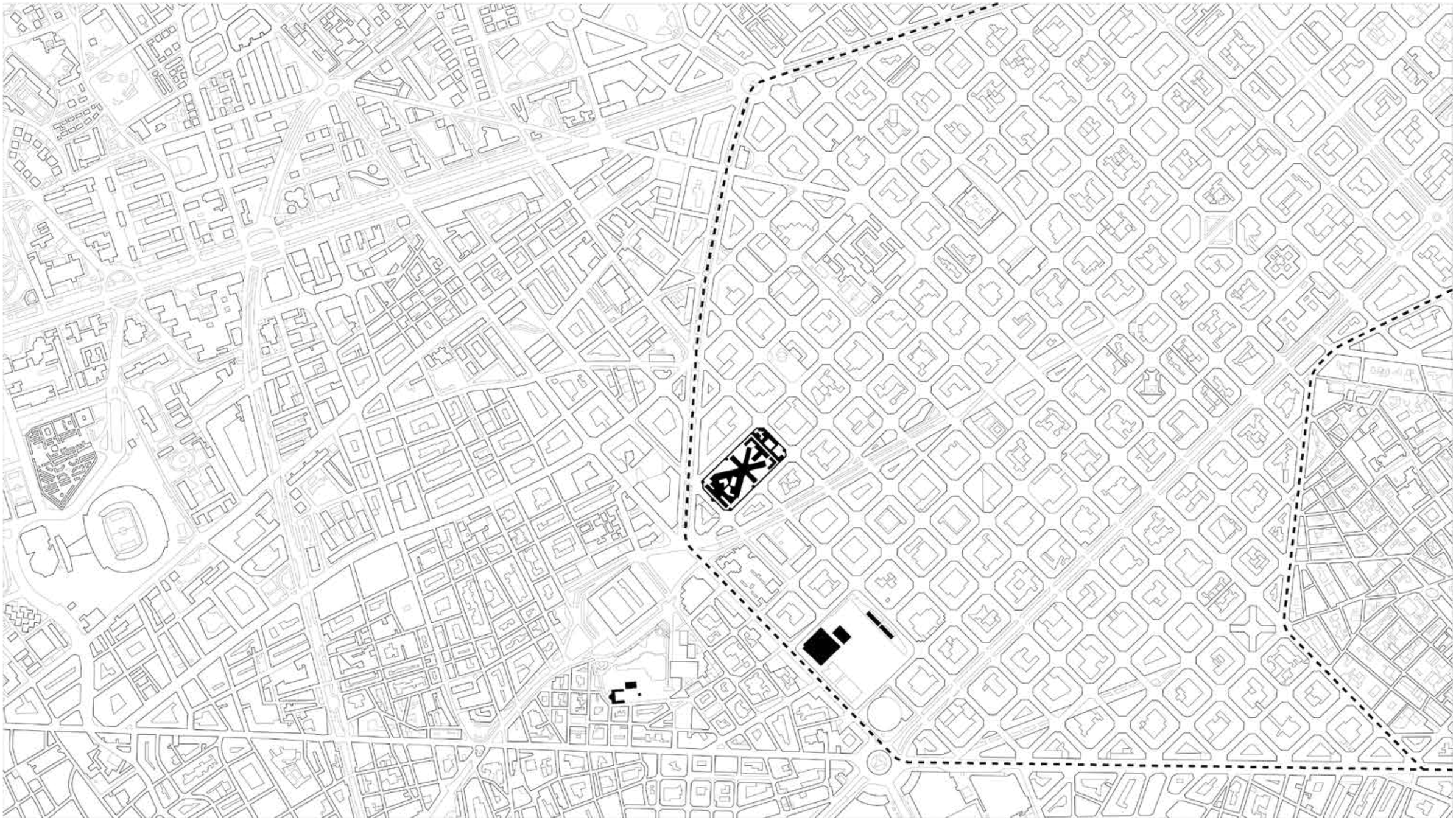
D.Carrer de Melcior de Palau



E.Carrer de Novell

i. URBAN CONTEXT

- Urban Scale: Parks



Parks

i. URBAN CONTEXT

- Urban Scale: Parks

Background

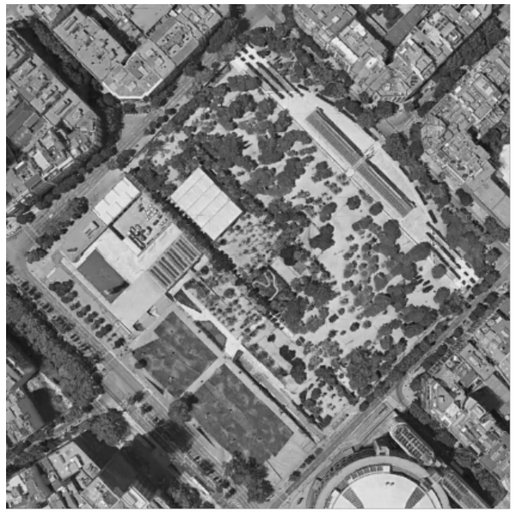
Espanya Industrial Park

A reclaimed land in 1980s to change it from an abandoned industrial area in to a public park.

Espanya Industrial extends along a wide esplanade below hilly ground covered with long rows of steps. Those at the side of Plaça dels Països Catalans end at the lake which skirts around almost half of this green space.

Area: 35788 ㎡

Joan Miró Park



It is the first park where a new use was given to urban spaces with obsolete facilities.

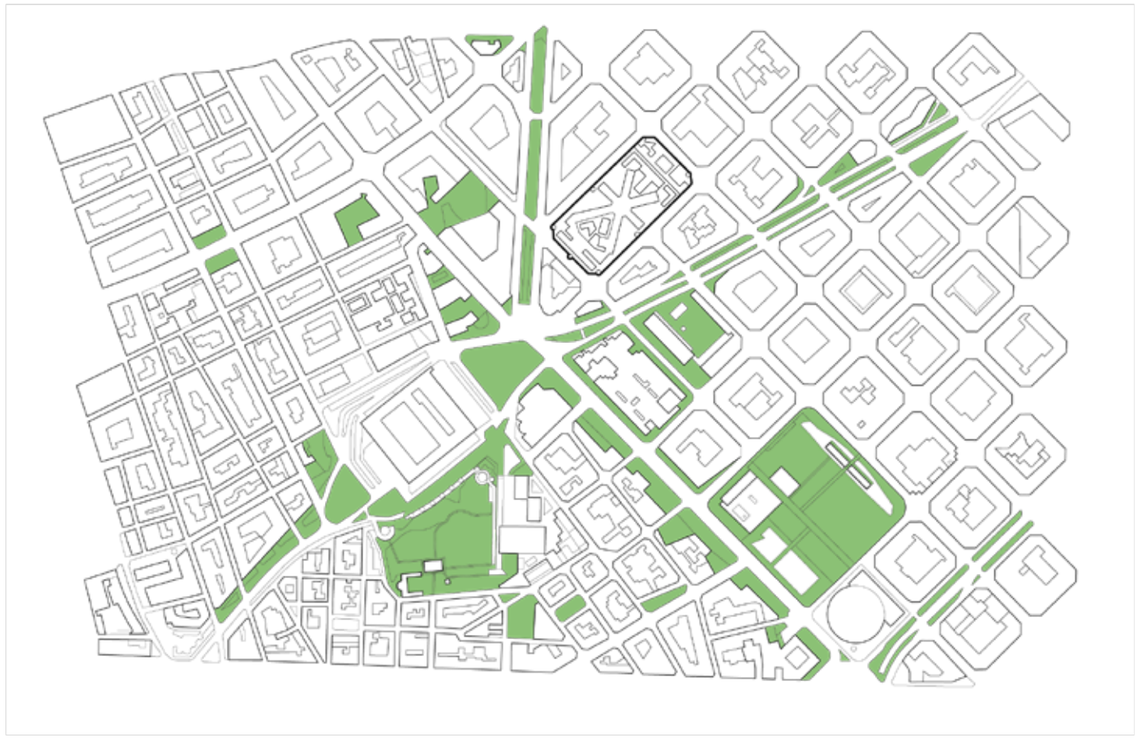
A comfortable public space that visited by the citizens everyday with their family members.

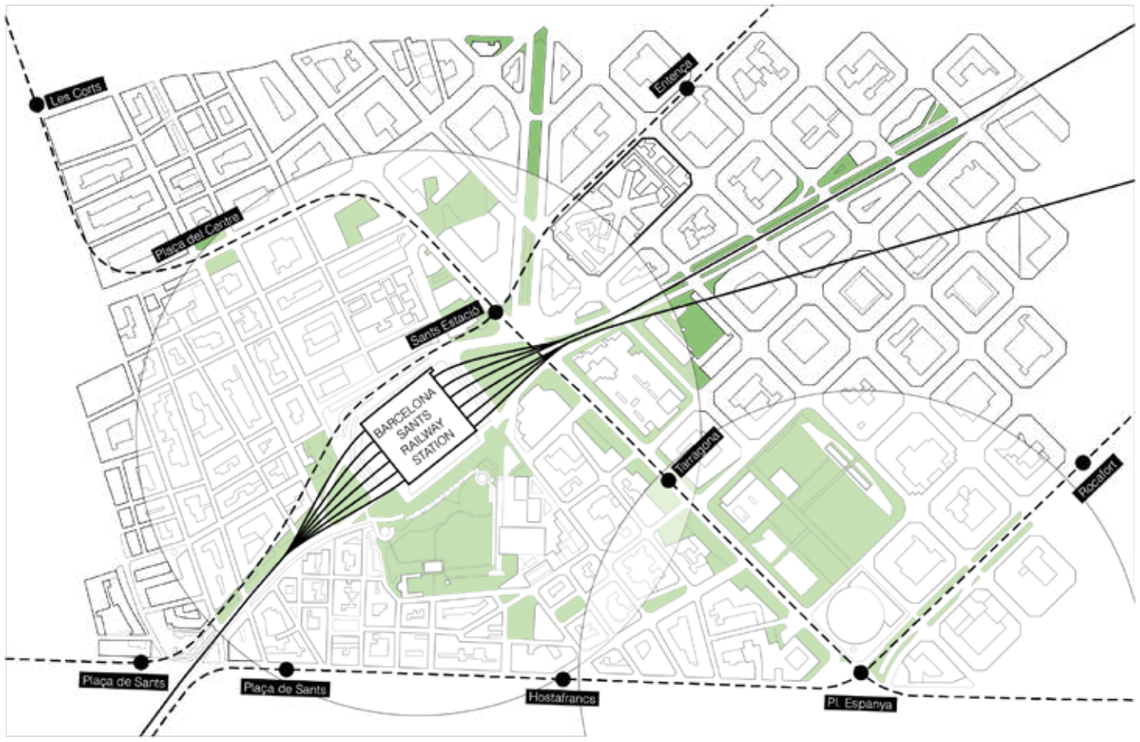
Area: 57445 ㎡

i. URBAN CONTEXT

- Urban Scale: Parks

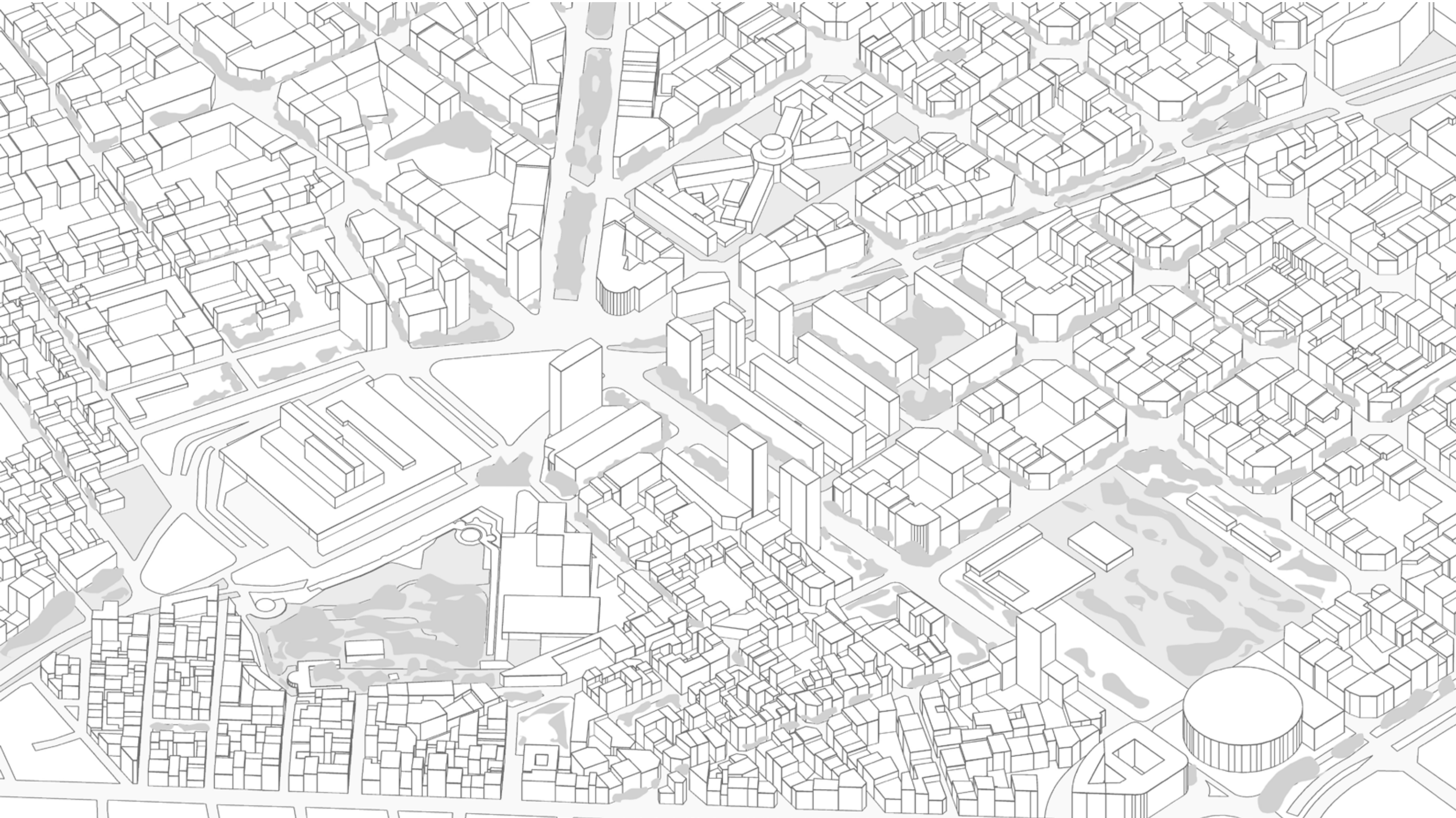
Green space





i. URBAN CONTEXT

- Axonometric

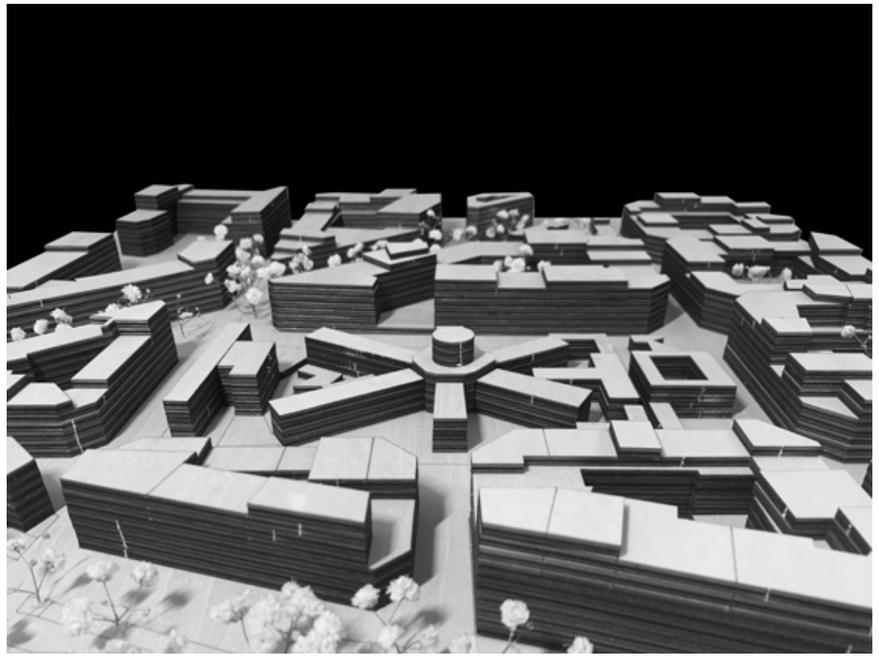


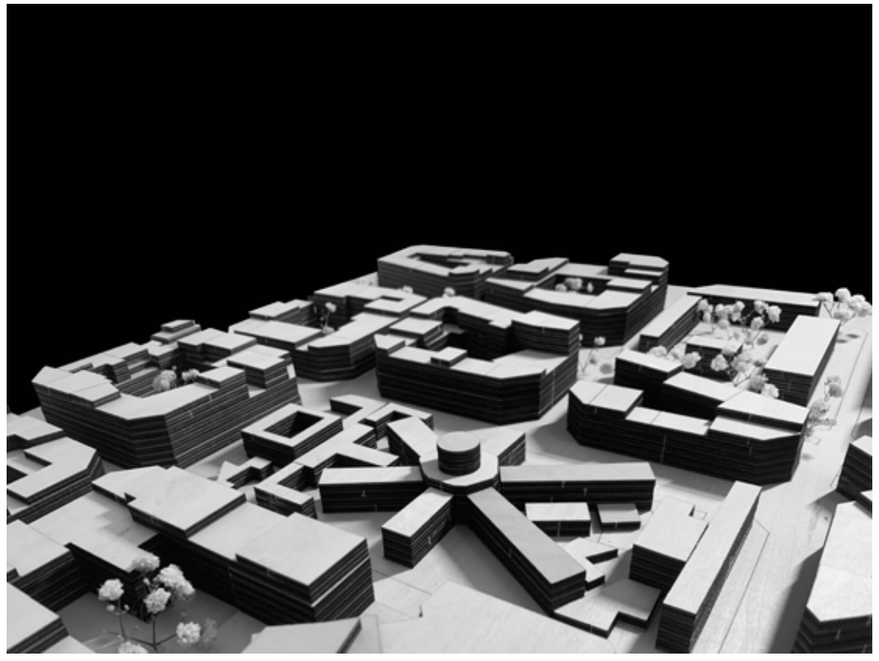
i. URBAN CONTEXT

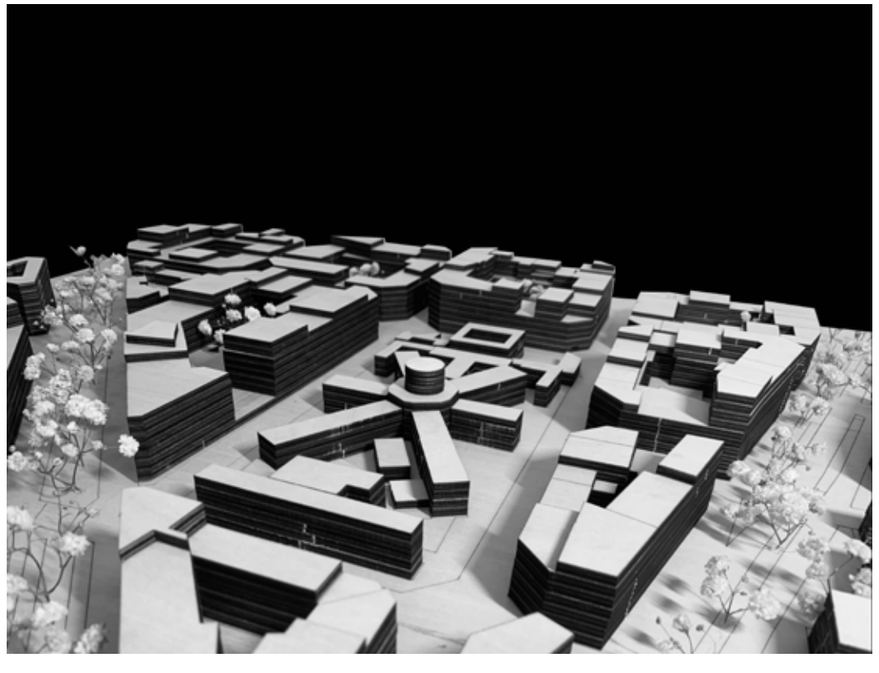
- Physical Model

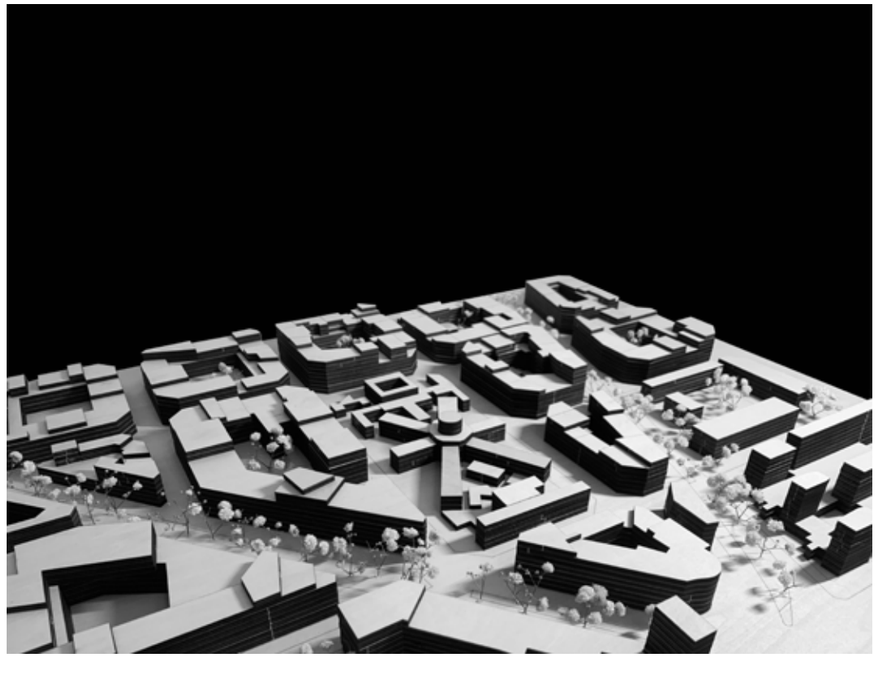
i. URBAN CONTEXT

- Physical Model









ii. SITE-LA MODEL

- Site Condition

History
Building Status
Architectural Elements

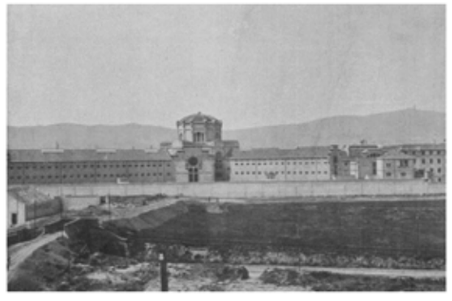
- Site Anaylysis: Block
- Site Anaylysis: La Model

ii. SITE-LA MODEL

- Site Condition

History

1904



A view of La Model in 1904. Adolf Mas Ginestà. AFB

1904

A view of the interior of the panopticon roundabout, in 1904. Adolf Mas Ginestà. AFB

1933

58 prisoners escaped in 1933. Carlos Pérez de Rozas. AFB

1941

A moment of the celebration of La Mercè in La Model, in 1941. Carlos Pérez de Rozas. AFB.

1955

Women and jailers in the women's prison of Les Corts. AFB.

1977

A group of mutineers on the roof of the prison on July 19, 1977. Carlos Pérez de Rozas. AFB.

1982

A group of people demonstrated outside the prison in 1982. Z. Czibor. Newspaper of Barcelona. AFB.

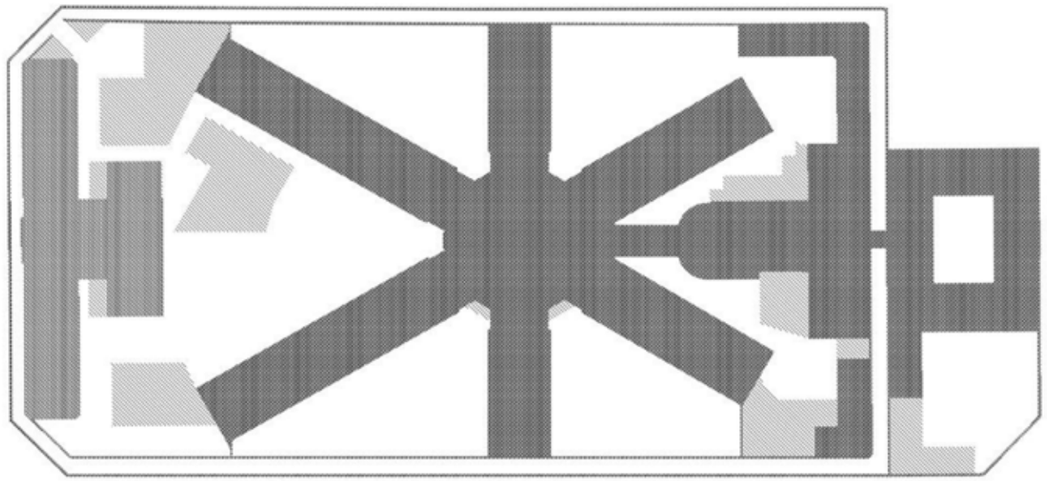
2017

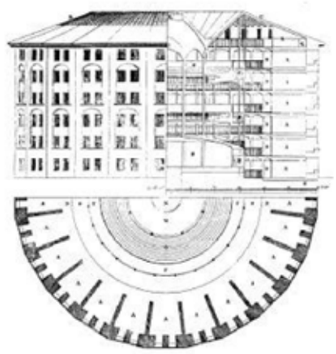
City Council representatives visit the prison, a few days after its closure. City Hall of Barcelona.

ii. SITE-LA MODEL

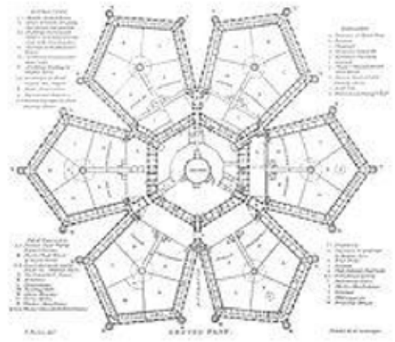
- Site Condition

History

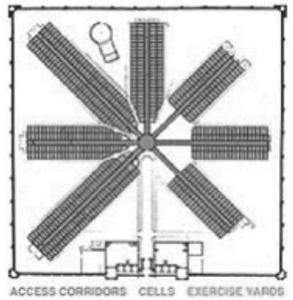




Plan of Jeremy Bentham's panopticon prison, drawn by Willey Reveley in 1791



Plan of Millbank Prison: six pentagons with a tower at the centre are arranged around a chapel.



Annotated floor plan of Eastern State Penitentiary in 1836

1888-1904 **1904-1908** **Later addition**

In 1882 Salvador Vinyals and Josep Domènech i Estapà began to propose a first preliminary project that was to serve as the model for the new Barcelona penitentiary.

On June 3, 1888, the official start of works took place. In 1890, with the works already started, a series of modifications were made to the project.

After the inauguration (1904), the construction of the building was completed in 1908, and which greatly changed its final design with respect to the original preliminary design.

As can be seen in the image, the prison has undergone numerous actions that have involved both the addition of new buildings and the transformation of the original buildings.

Construction period

The panopticon is a type of institutional building and a system of control designed by the English philosopher and social theorist Jeremy Bentham in the 18th century.

The word panopticon derives from the Greek word for "all seeing" – panoptes. The concept of the design is to allow all prisoners of an institution to be observed by a single security guard, without the inmates being able to tell whether they are being watched.

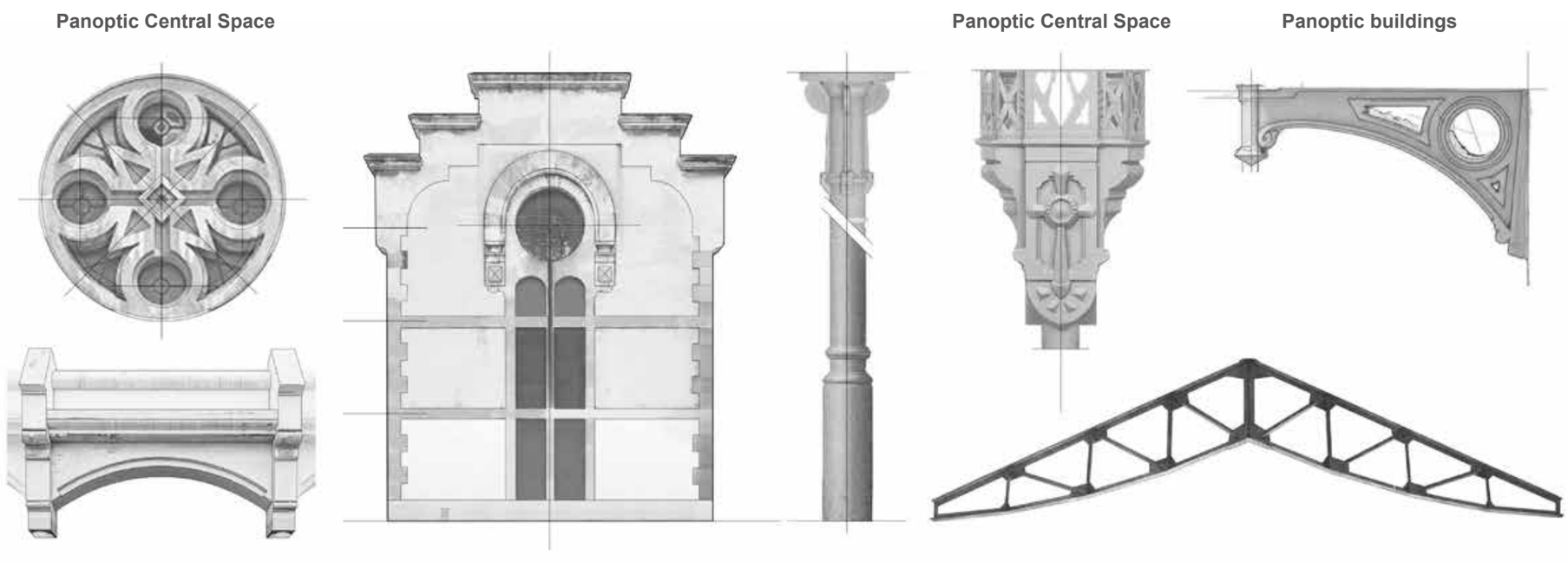
In 1812 persistent problems with Newgate Prison and other London prisons prompted the British government to fund the construction of a prison in Millbank. Based on Bentham's panopticon plans, the National Penitentiary opened in 1821.

In 1975 Foucault used the panopticon as metaphor for the modern disciplinary society in Discipline and Punish. He argued that the disciplinary society had emerged in the 18th century and that discipline are techniques for assuring the ordering of human complexities, with the ultimate aim of docility and utility in the system.

ii. SITE-LA MODEL

- Site Condition

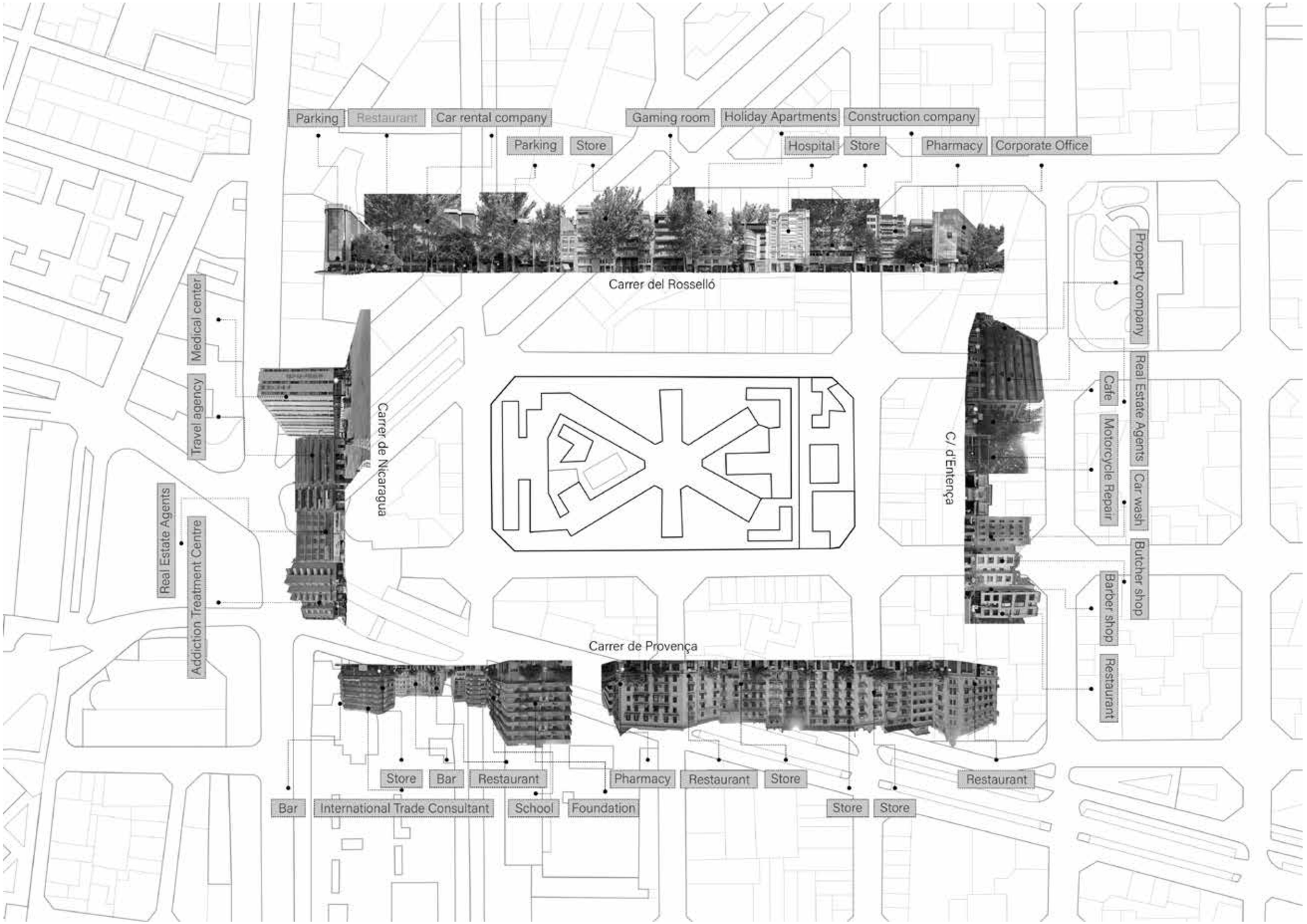
building Status



ii. SITE-LA MODEL

- Site Condition

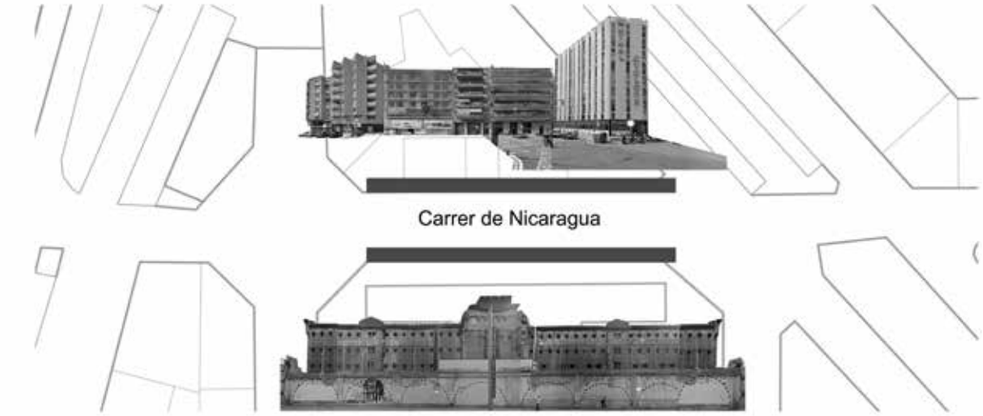
Surrounding Context

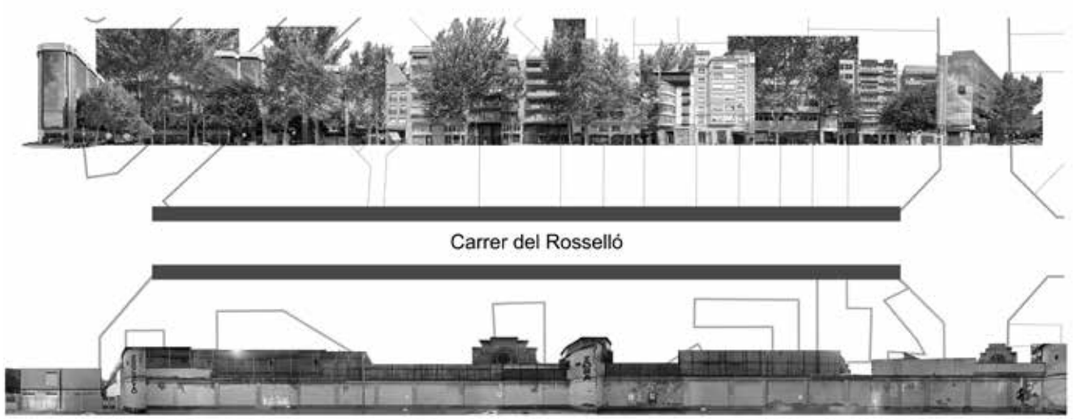


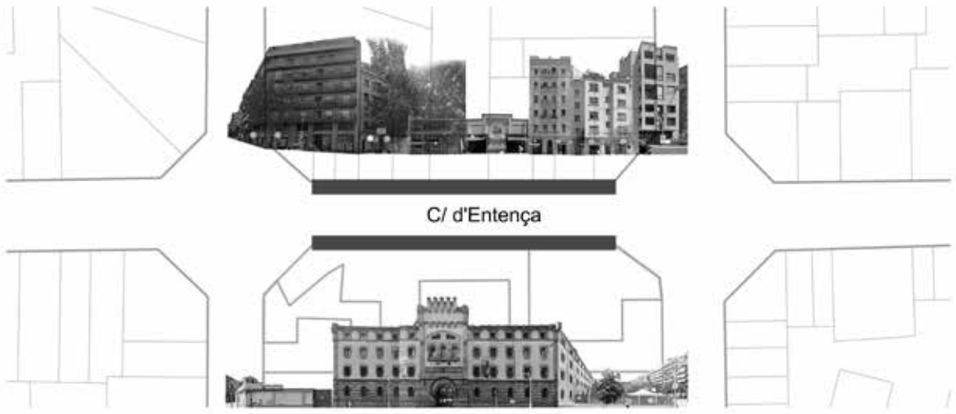
ii. SITE-LA MODEL

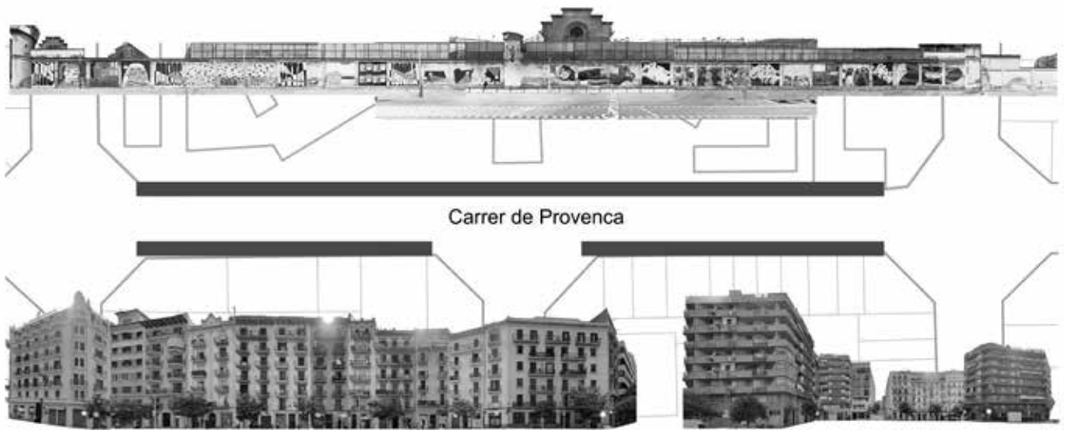
- Site Condition

Steet Façade





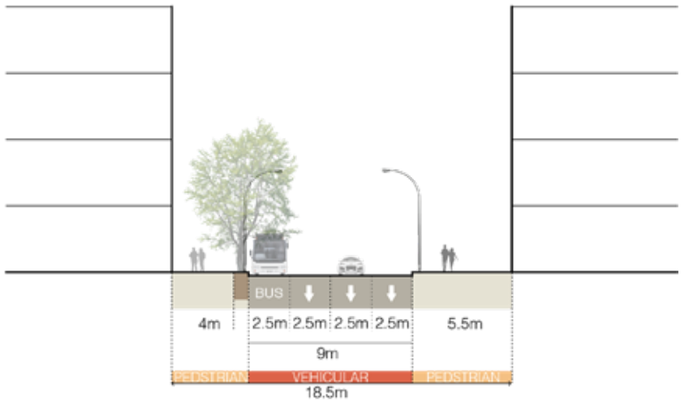




ii. SITE-LA MODEL

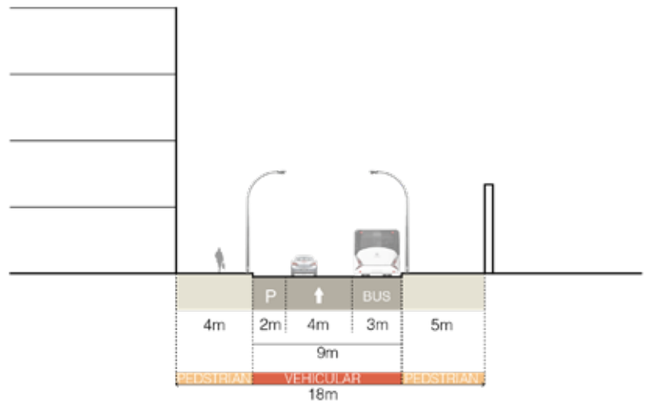
- Site Condition

Sections



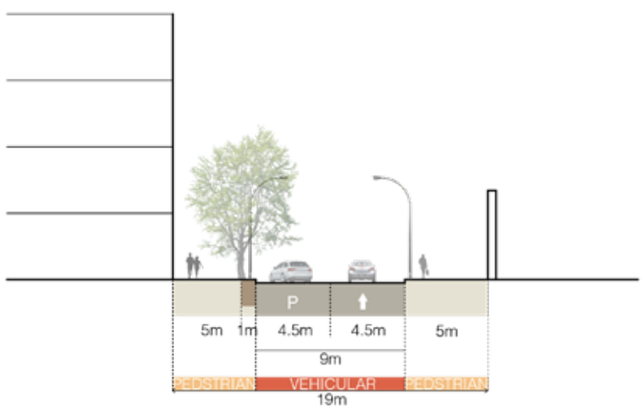
Section A

20 Carrer de Provence



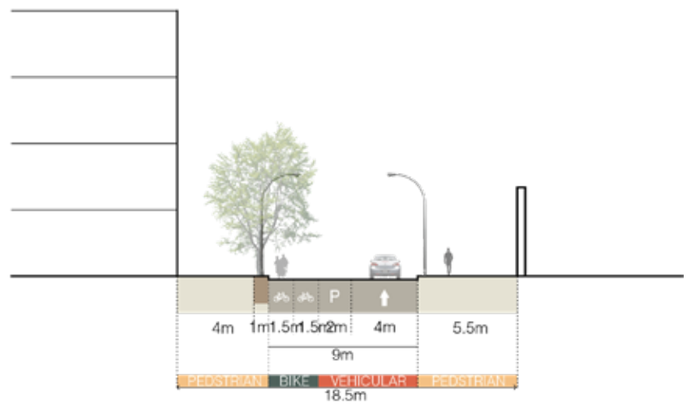
Section B

8 Carrer de Nicaragua



Section C

2 Carrer de Rossello



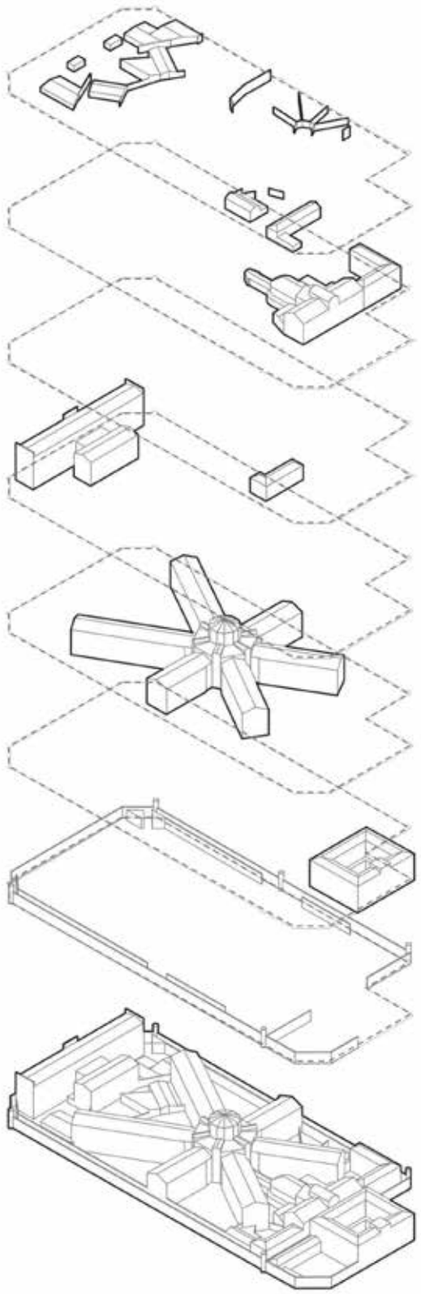
Section D

20 Carrer de Provence

ii. SITE-LA MODEL

- Site Condition

Existing Fuctions and condition



Attached buildings

Logistics buildings

Geriatric/ Laundry

Workshops

Panoptic buildings

Administration

Round Path

The total area of the area is 27713 sqm with a total 36365 sqm of built roof and 14032 sqm of free building space.

iii. PROPOSAL

- Urban Threats
- “Superblock”
- Application
- Strategy
- Design Process
- Functions
- Master Plan
- Panopticon

Design Process, Explosion Diagram, Plan, Facade, Section, Strategy, View

- Administration

Design Process, Explosion Diagram, Plan, Facade, Section, View

- Office

Design Process, Explosion Diagram, Plan, Facade, Section, View

- La Model

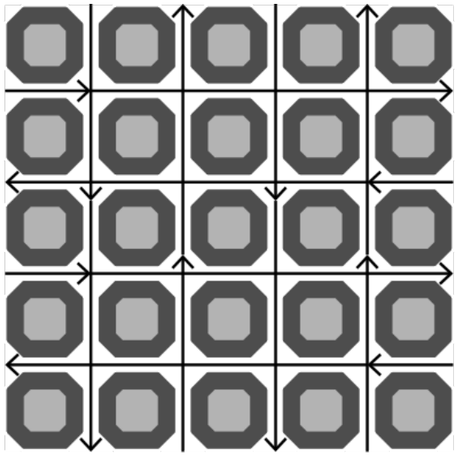
Design Process, Plan, Facade, Section, View

iii. PROPOSAL

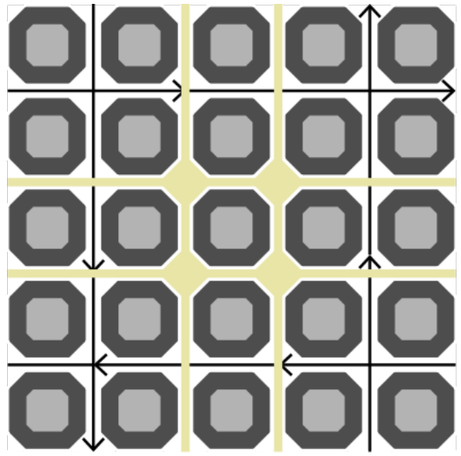
- Urban Threats

iii. PROPOSAL

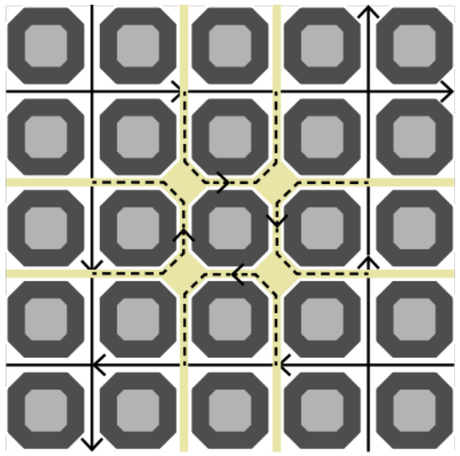
- “SUPERBLOCK”



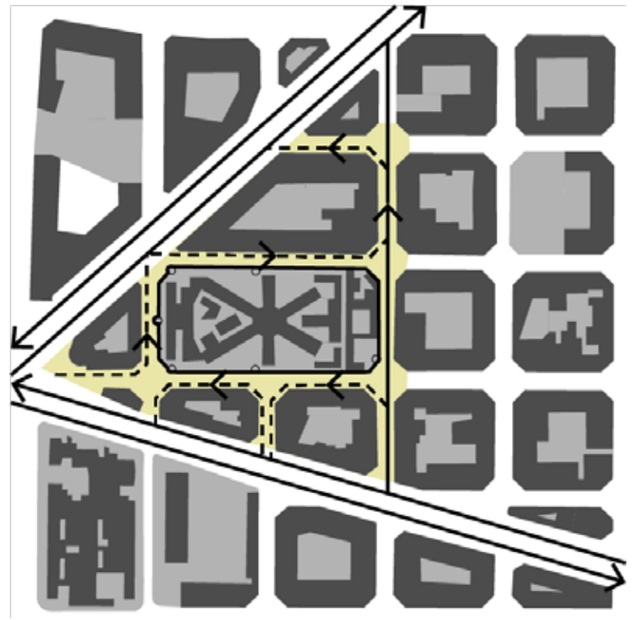
Current Situation



Limit Vehicle



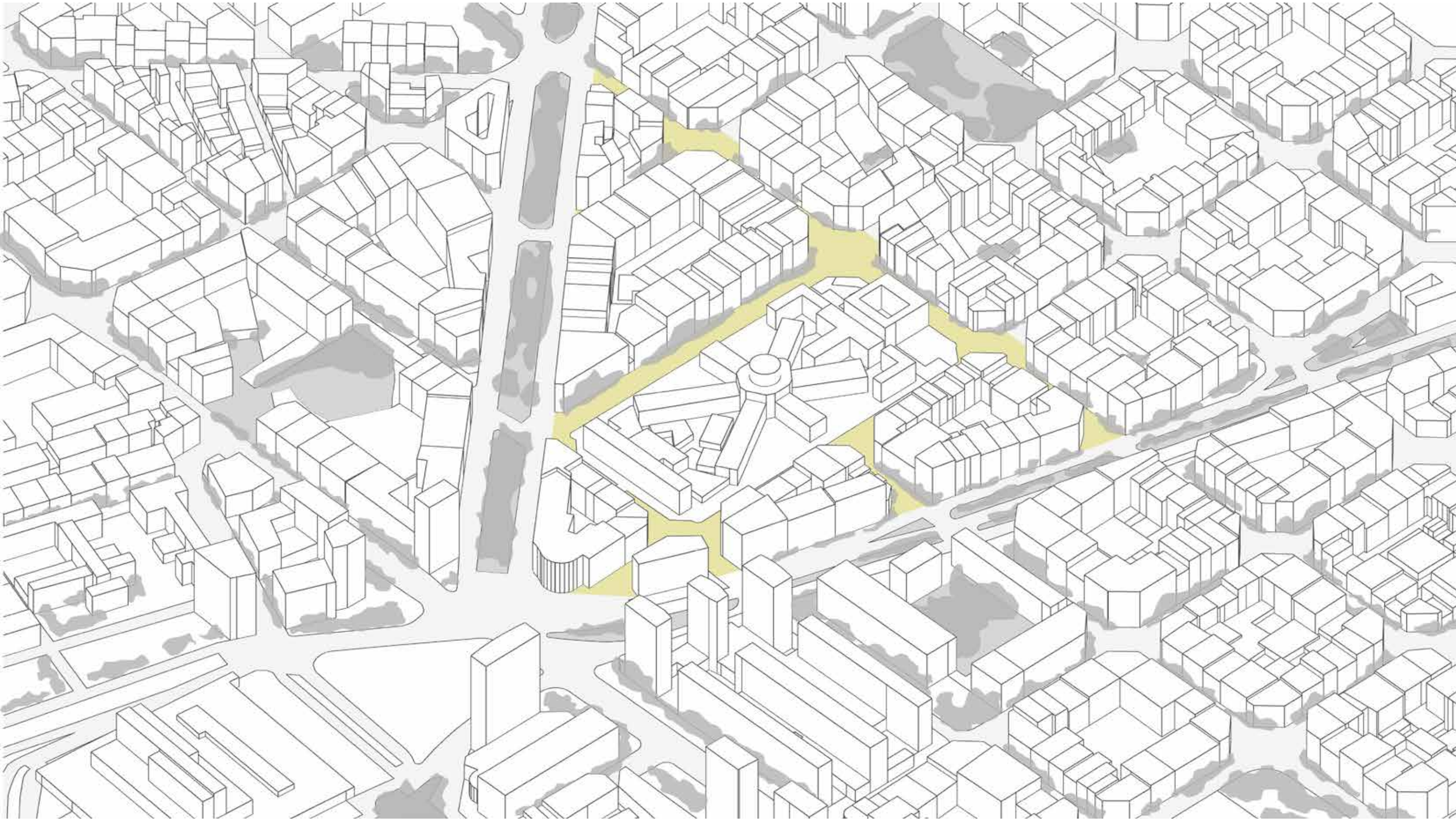
U-turn Only in Superblock



The superblock (in physical terms) is composed of a set of basic roads forming a polygon or inner area (called intervía) that contains within it several blocks of the current urban fabric. This new urban cell has both an interior and exterior component. The interior (intervía) is closed to through vehicles and open to residents, primarily. The exterior forms the basic road network on the periphery, and is approximately 400 metres wide for use by motorized vehicles.

iii. PROPOSAL

- Site Application



iii. PROPOSAL

- Strategy

1. Creating an educational platform to provide prisoners with more opportunities for education.

- Better integration into society
- Reduce crime rates

2. Multifunctional space, create more communication.

- To help them better integration into society
- Reduce crime rates

3. Redesign of building functions, circulation and openness.

- Relatively open to prisoners
- Rredefining public safety and relative freedom

4. Preserving the original form and spatial relationship of La Model.

– Protecting La Model in terms of heritage and memory

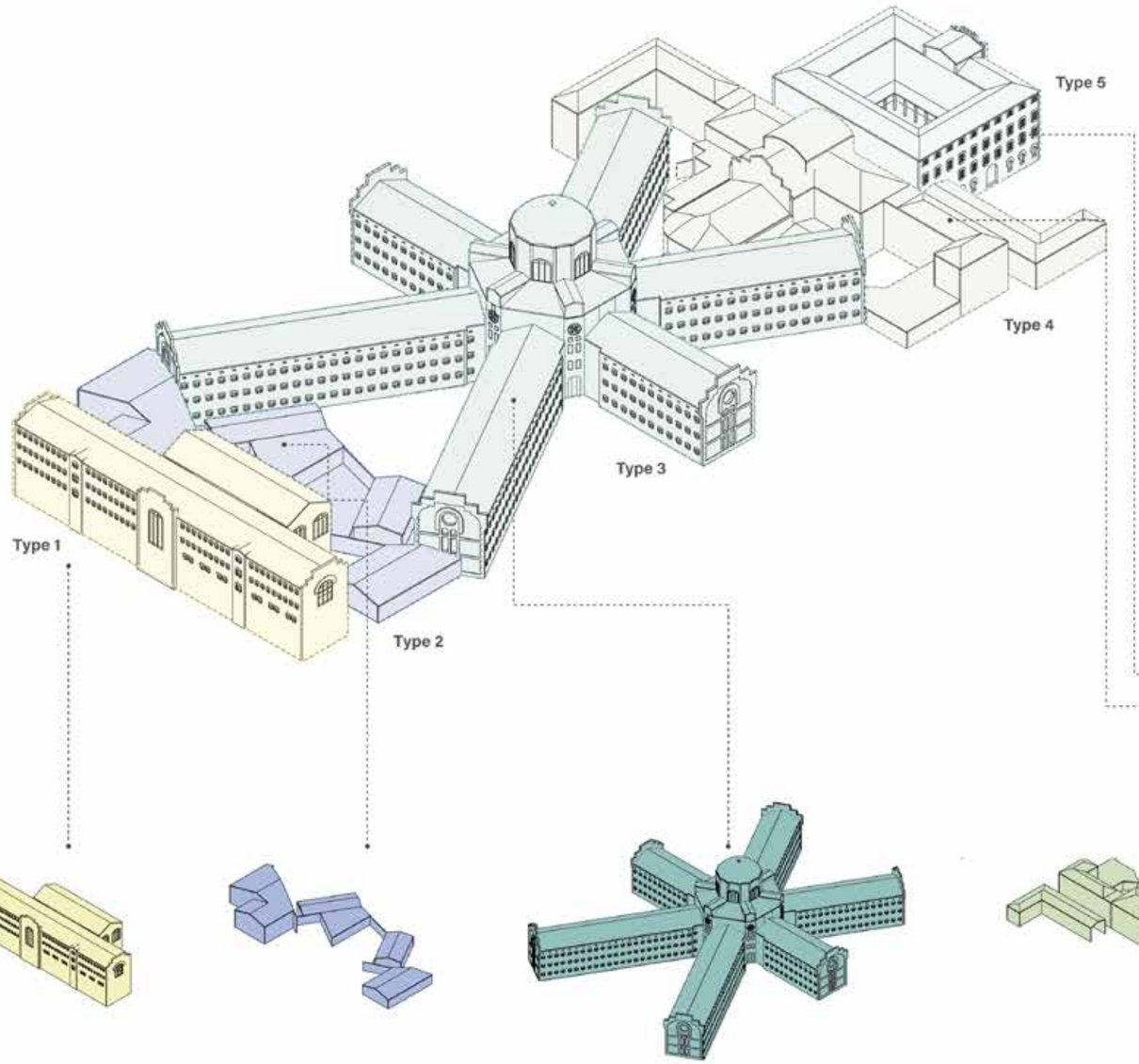
5. By demolishing part of the wall, Converted the closed and opaque space into an open space to urban uses.

- Better integration into urban

iii. PROPOSAL

- Design Process

Classification



Type 1:

Function:
Workshop
Construction period:
1904-1908

Type 2:

Function:
Attached buildings
Construction period:
Later addition

Type 3:

Function:
Panoptic buildings
Construction period:
1888-1904

Type 4:

Function:
Logistics building
Construction period:
1888-1904
and later addition

Type 5:

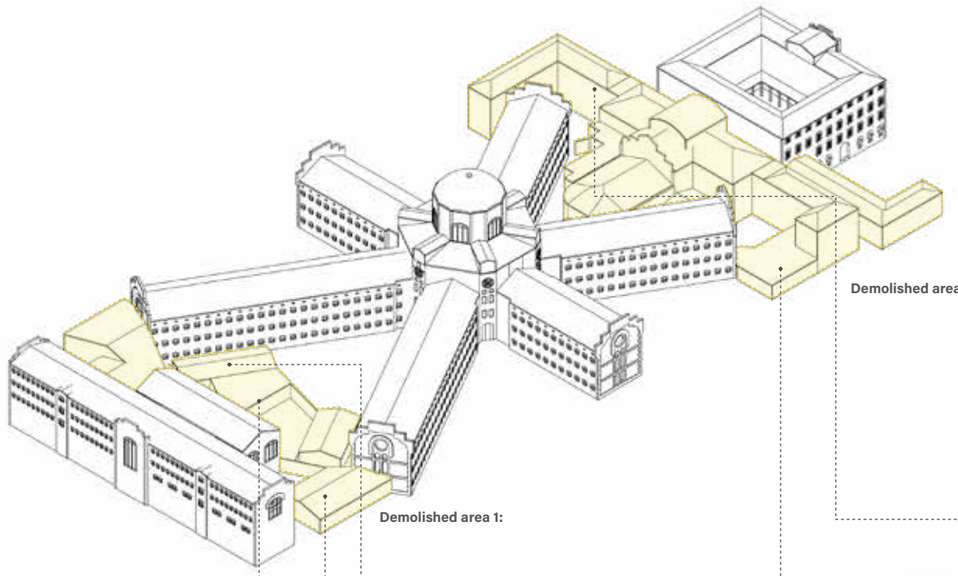
Function:
Administration
Construction period:
1888-1904

iii. PROPOSAL

- Design Process

Strategy

The reason for the need to be demolished



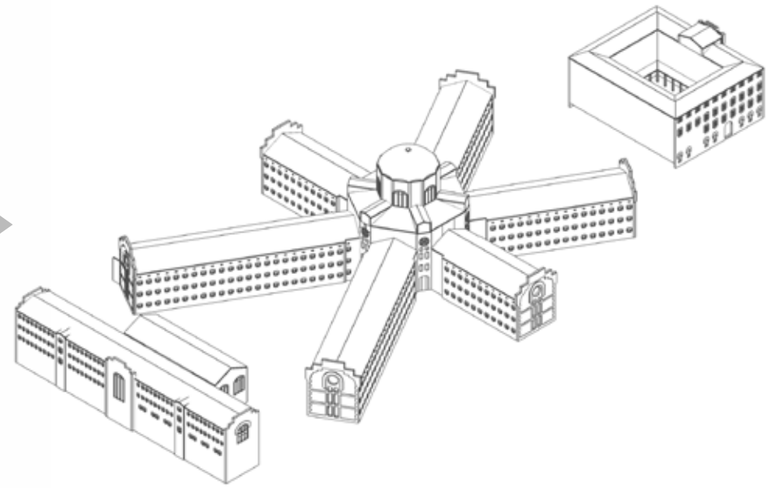
Demolished area 2:

- Poor construction quality

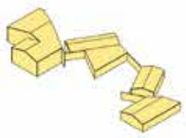
- No historical value compared with other parts of the building

- The space is trivial

- The building is temporary and blocks the communication between the neighborhood and the city

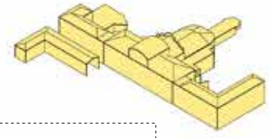


Demolished area 1:



Demolished area 1:

Function:
Attached buildings
Construction period:
Later addition



Demolished area 2:

Function:
Logistics building
Construction period:
1888-1904
and later addition

The main reason :

1. No historical value
2.The new building is low and affects the spatial circulation of the original building

The main reason :

1. Poor construction quality
2. No historical value

The main reason :

1. The space is trivial, not enough to provide full use

The main reason :

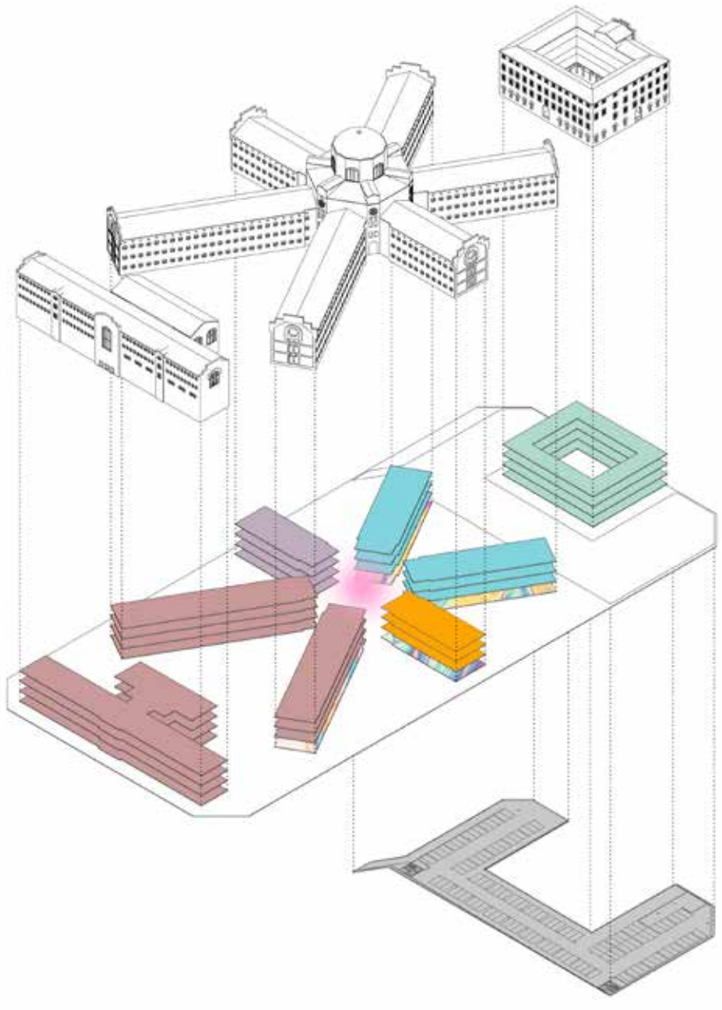
1. No historical value
2.The new building is low and affects the spatial circulation of the original building

The main reason :

1. The building is temporary and blocks the communication between the neighborhood and the city

iii. PROPOSAL

- Functions



TALLERS 1

L1-L4 Entrance, Lobby and Administration
Justice Support Offices
Hearing Rooms Support Functions

TALLERS 2

L1-L4 Support Functions
Guest Residential

Gallery 3& Gallery 4

L1-L4 Guards' quarters
Offender unit
Staff Facilities& Building Services

Panopticon

Library/ Reading resource area

Gallery 2

L1-L4 Institute-School

Gallery 5

L1-L4 Memorial Space

Gallery 1& Gallery 6

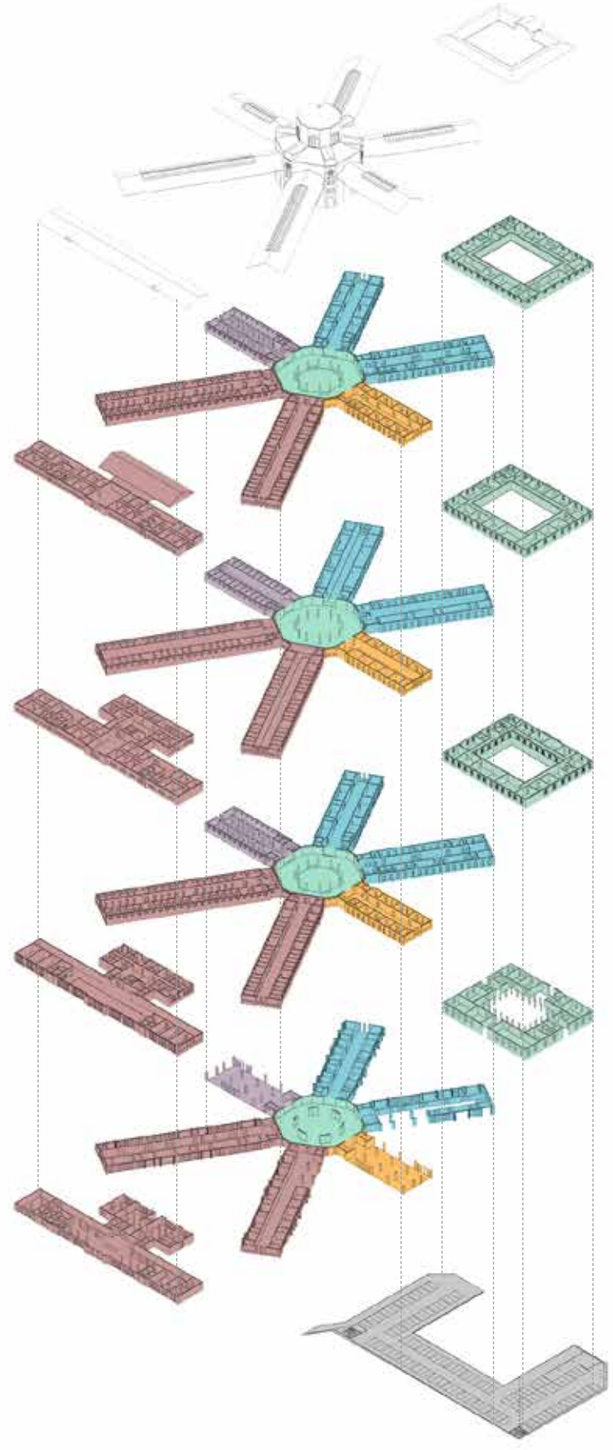
L1 Commerce
Multi-purpose room
L2-L4 Social housing (Apartment)

Administration BUILDING

L1-L4 Social services clinic
Mental health & addiction services
Employment services
Housing resource centre

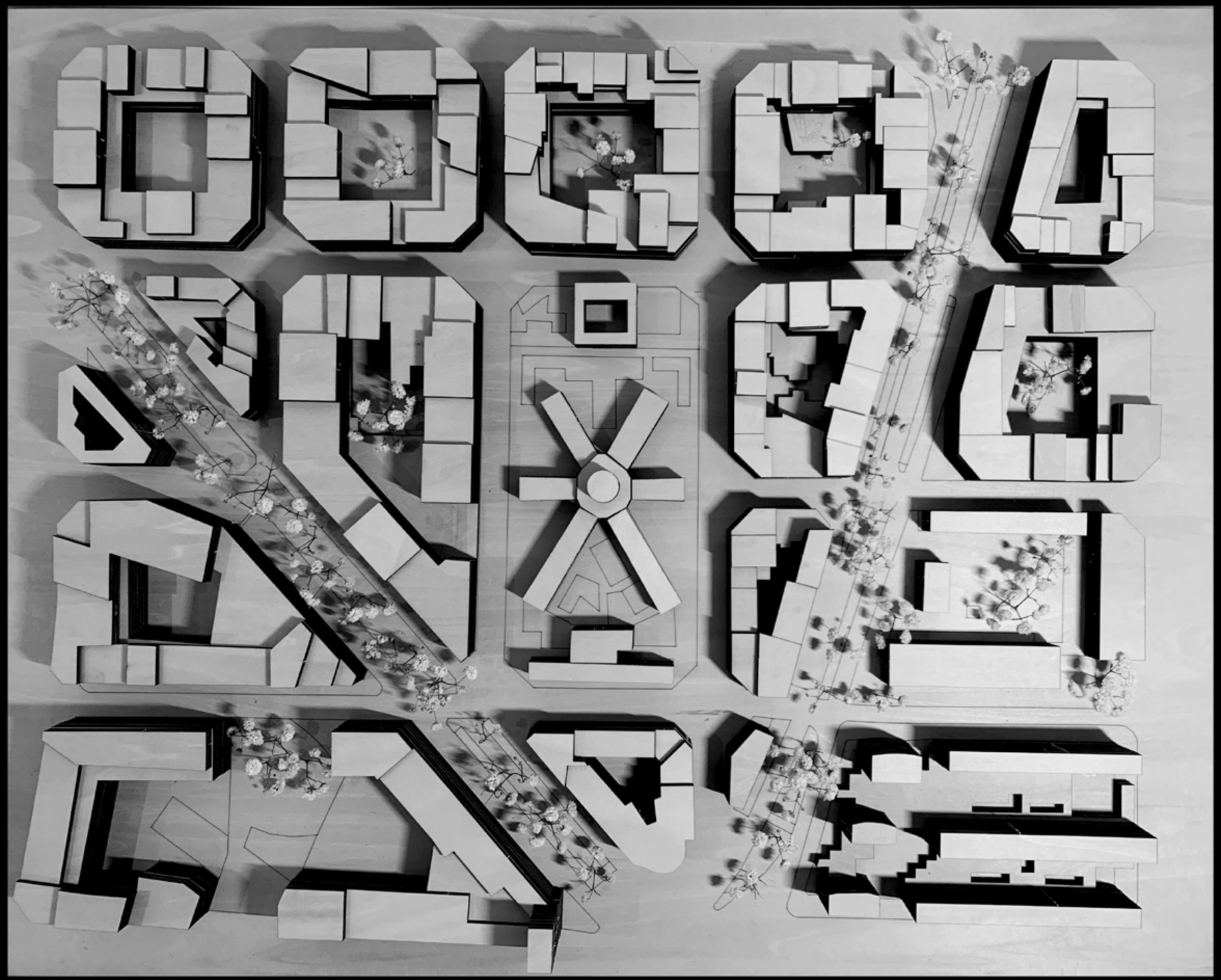
Underground

B1 Parking



iii. PROPOSAL

- Physical Model

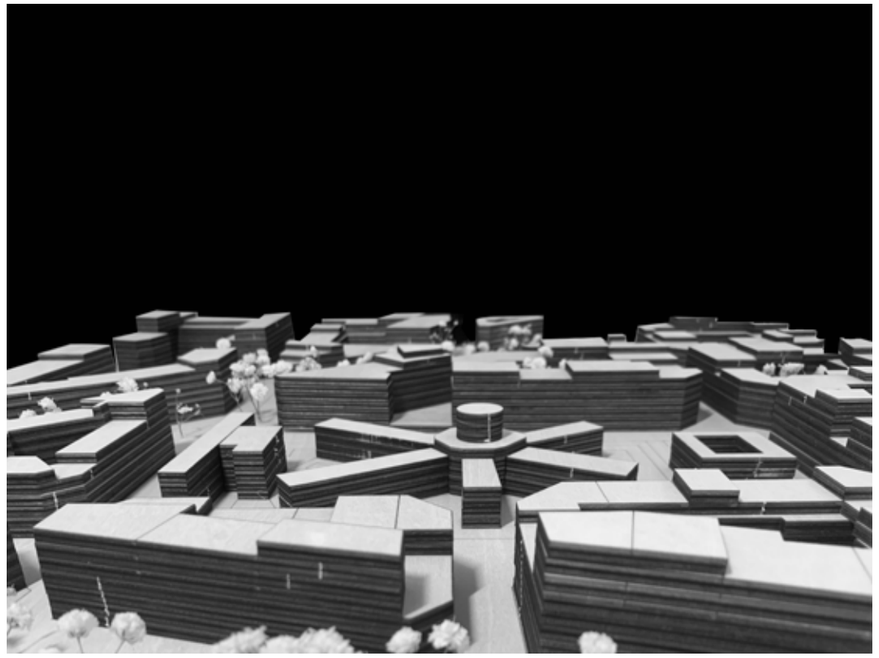


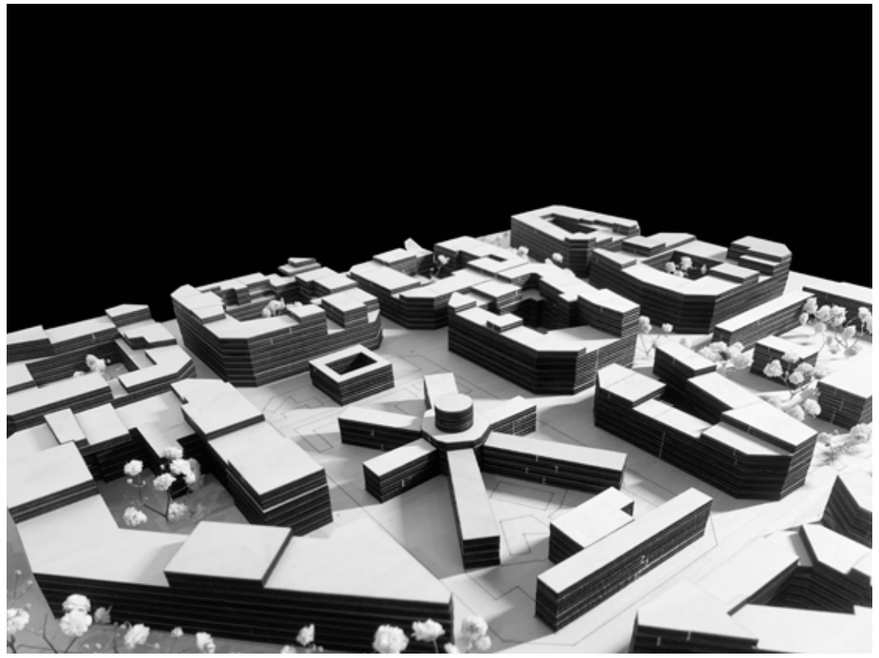
iii. PROPOSAL

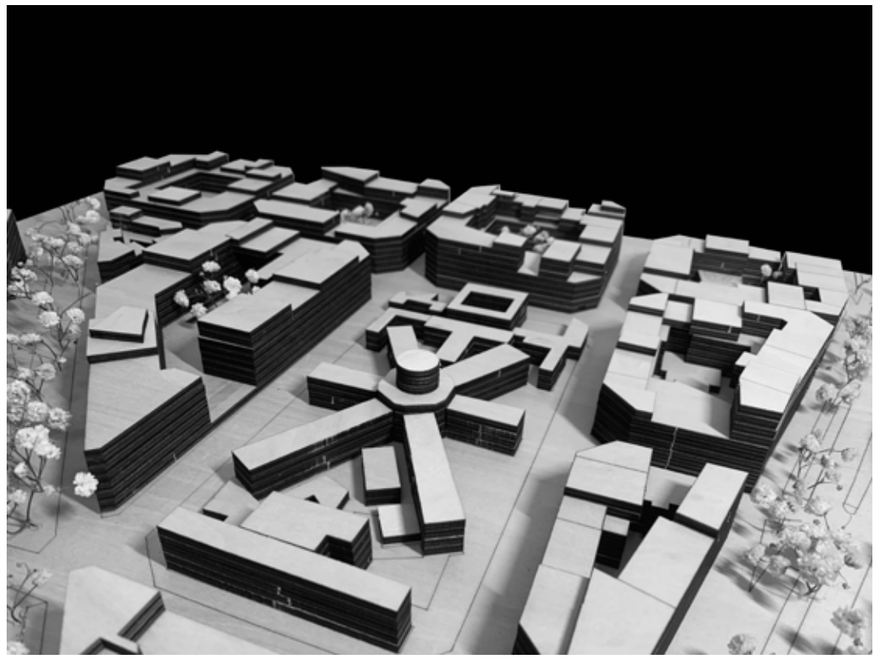
- **Physical Model**

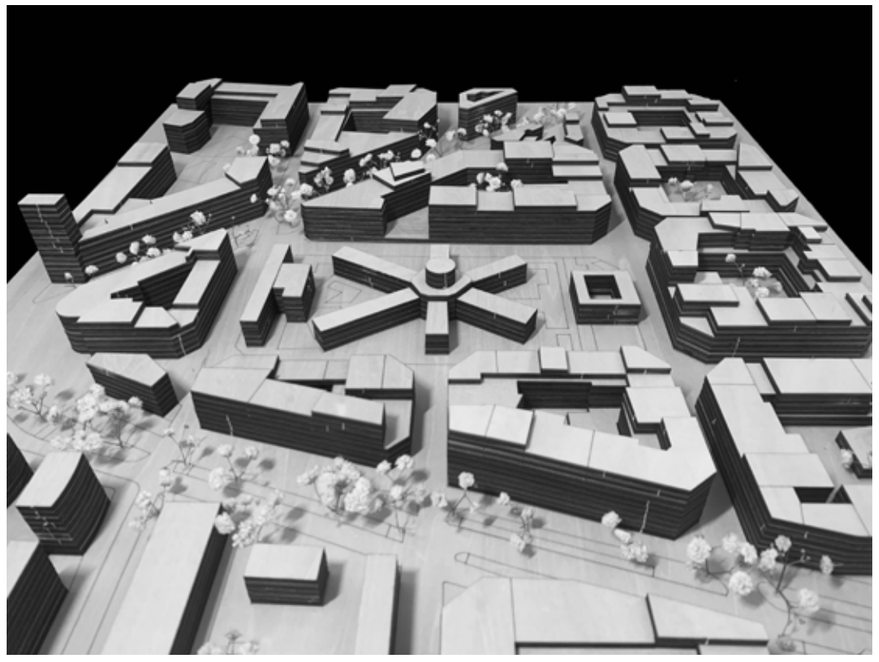
iii. PROPOSAL

- Physical Model







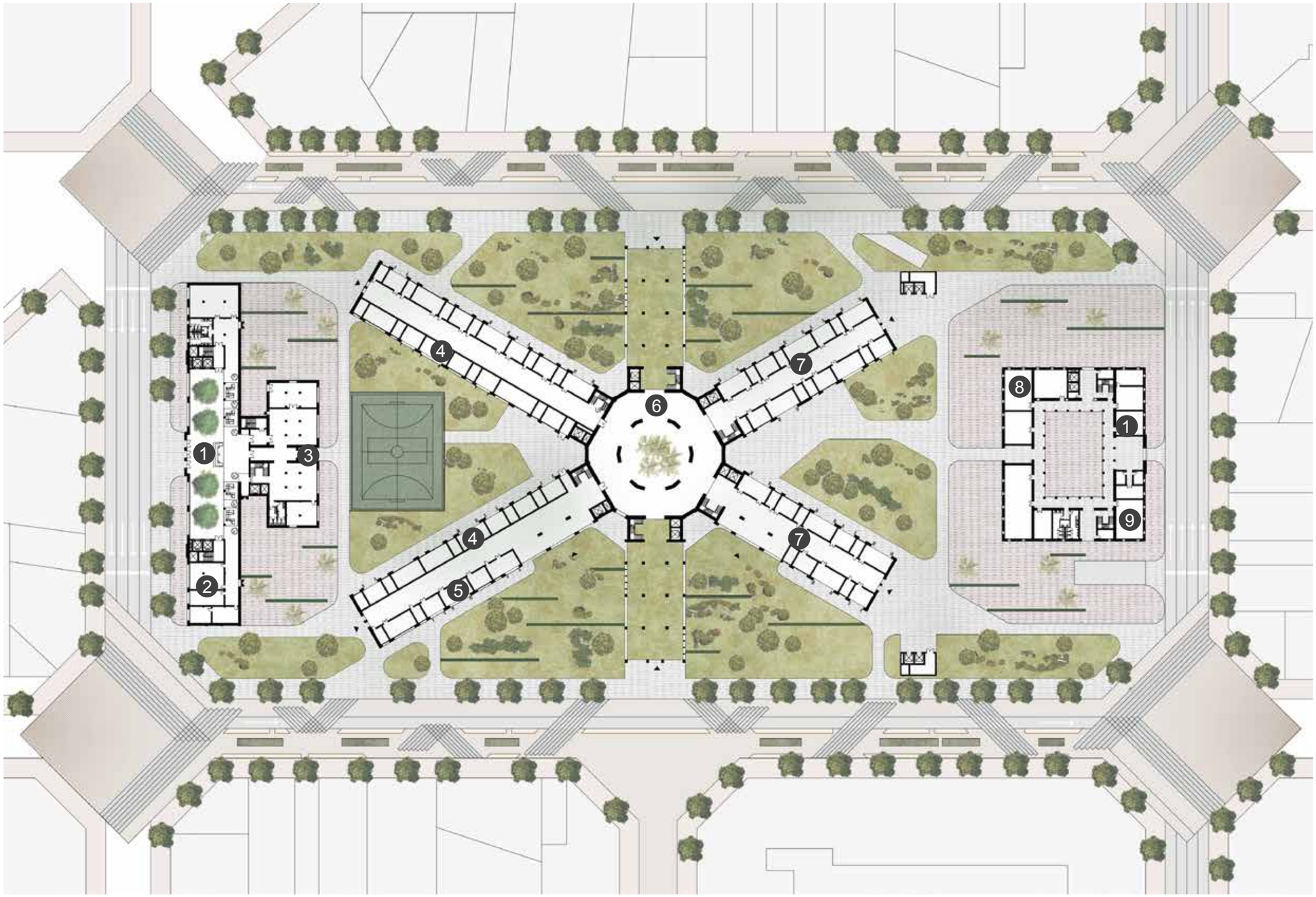


iii. PROPOSAL

Ground Floor

iii. PROPOSAL

Ground Floor Plan



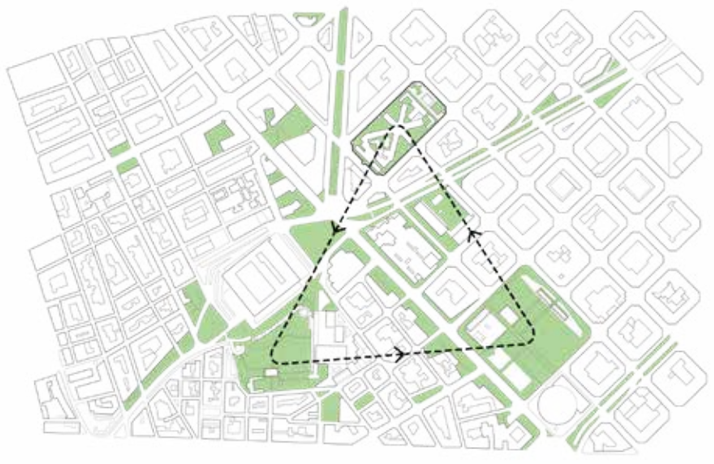
Ground Floor

1. Entrance, Lobby
2. Hearing Rooms
3. Guest Support
4. Guards' quarters/ Offender unit
5. Commerce
6. Open Space
7. Comerce/ Housing resource centre
8. Social services clinic
9. Mental health

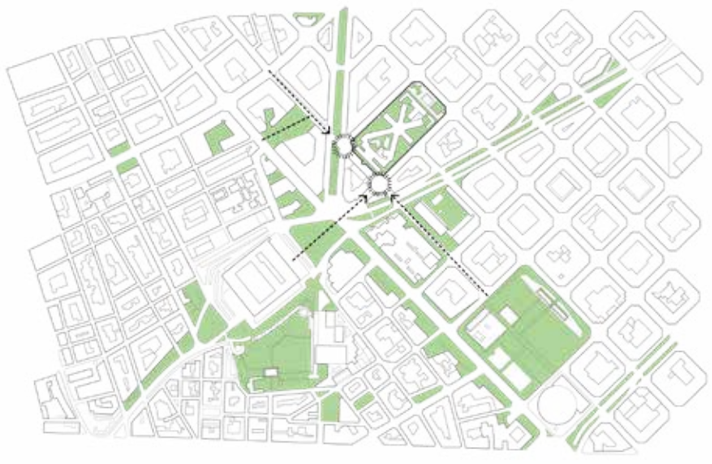
0 5 20 50

iii. PROPOSAL

- Analysis

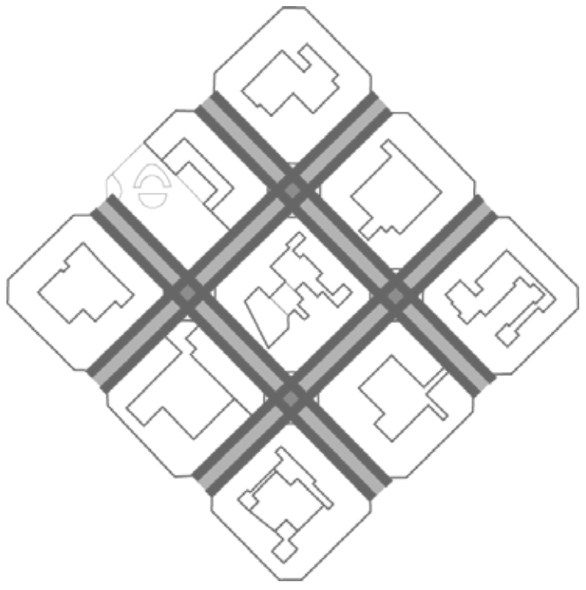


- There is potential of connecting parks as green space system.

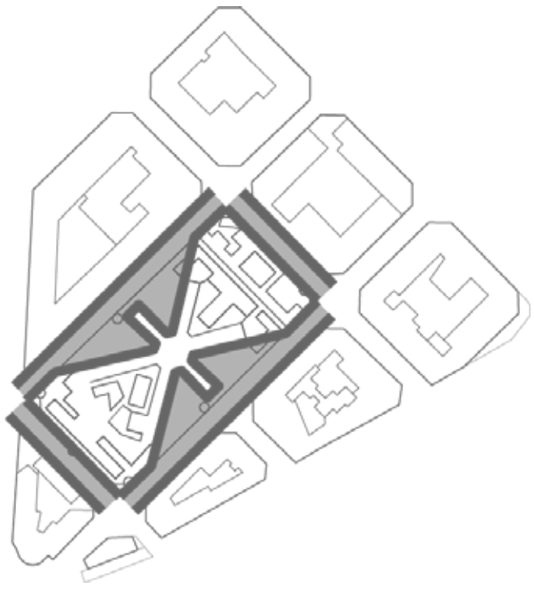


- So the two nodes is important entrances for the site.

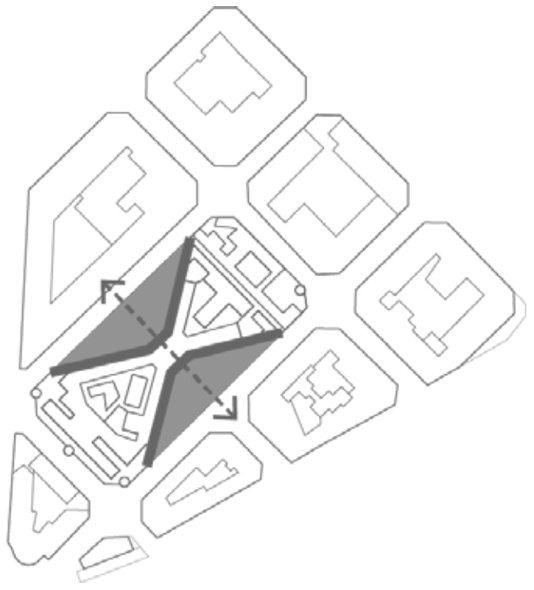
- Rather than walk around, to walk through the site is a better idea.



- Parallel is everywhere in Eixample.



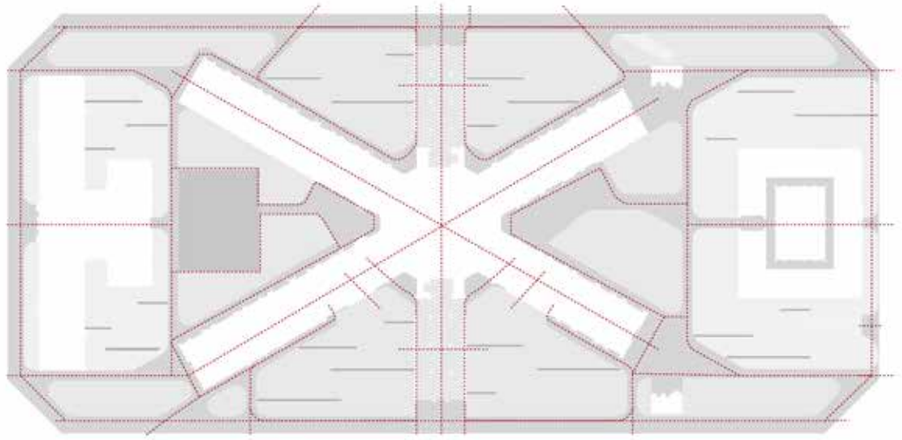
- But our site is different – It has two faces not parallel with the other side of the road.



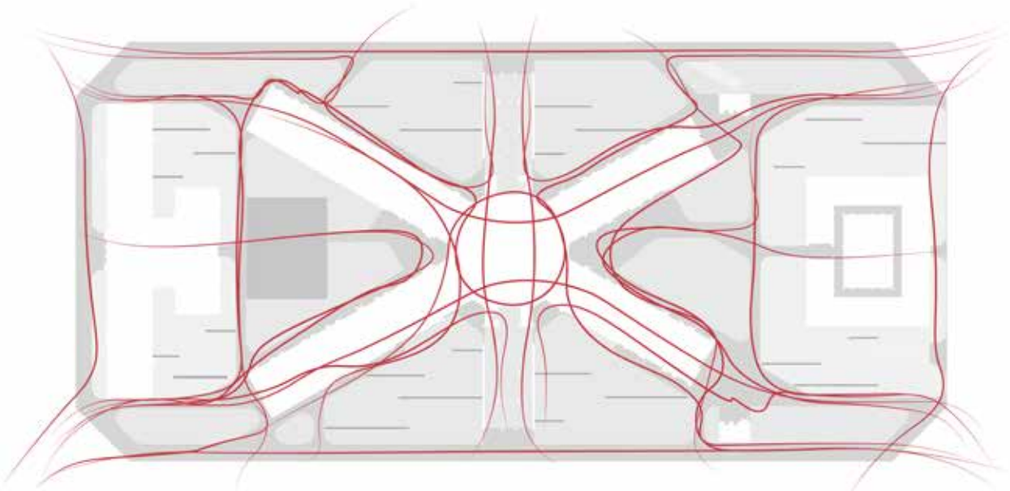
- Therefore we will leave the space open and made connection between them.

iii. PROPOSAL

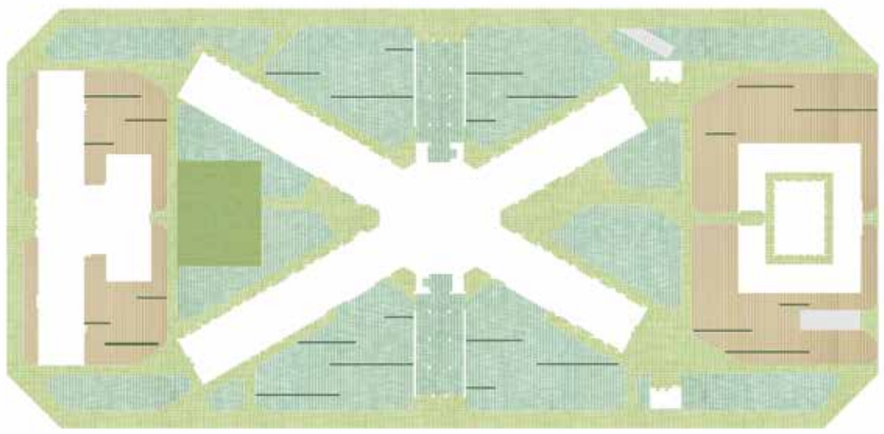
- Analysis



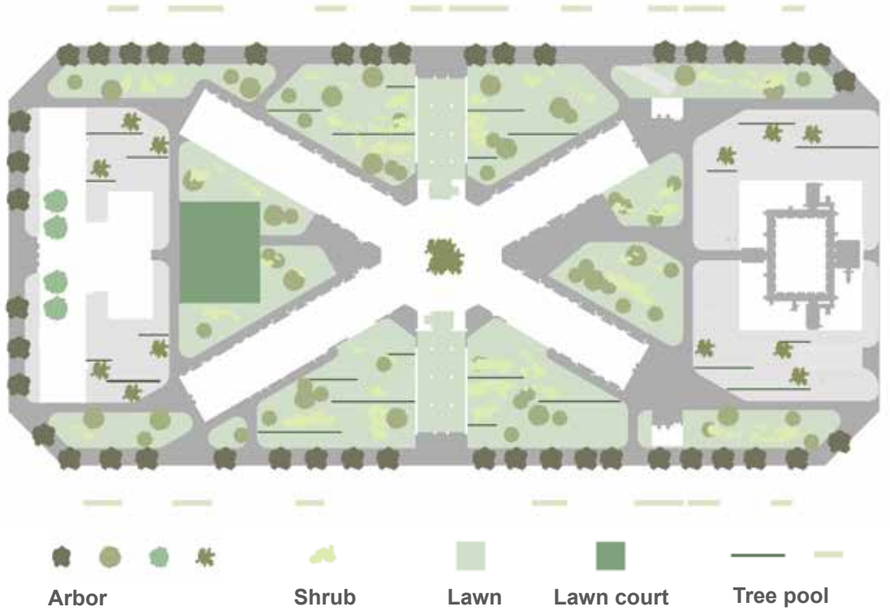
Path



Internal circulation



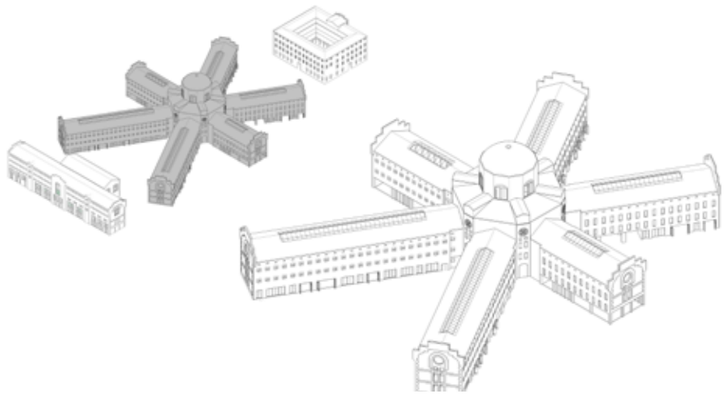
4512 sqm
8670 sqm
8379 sqm
719 sqm
9156 sqm

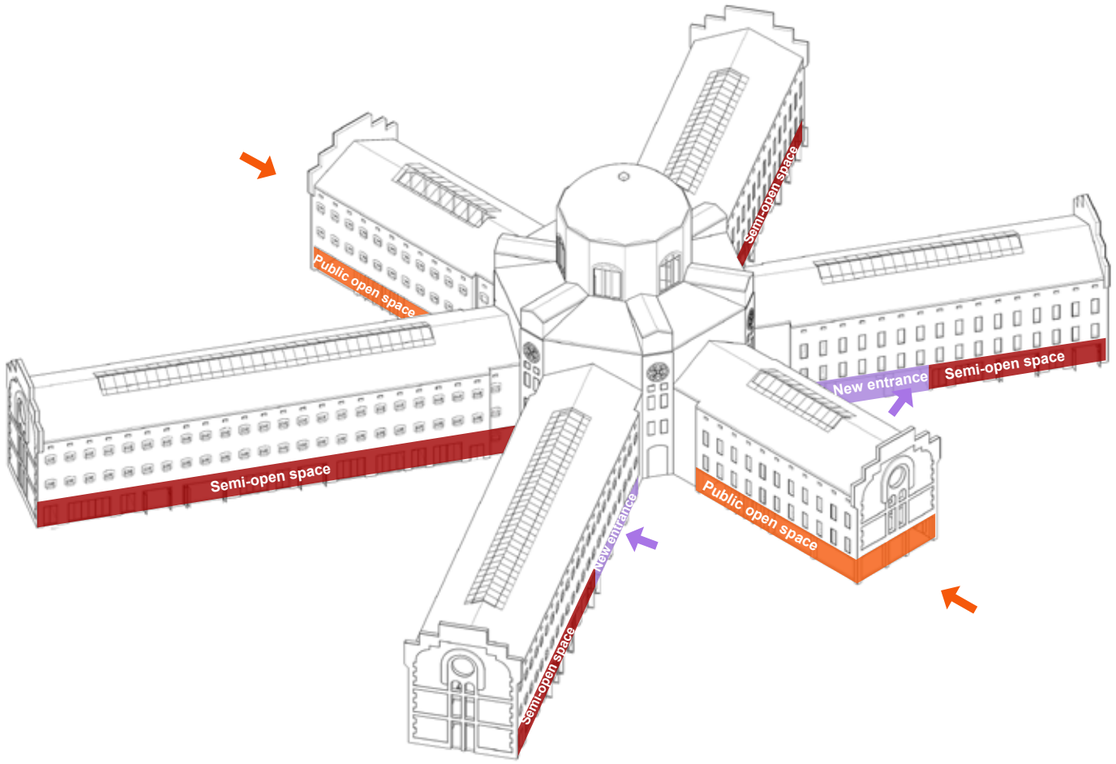


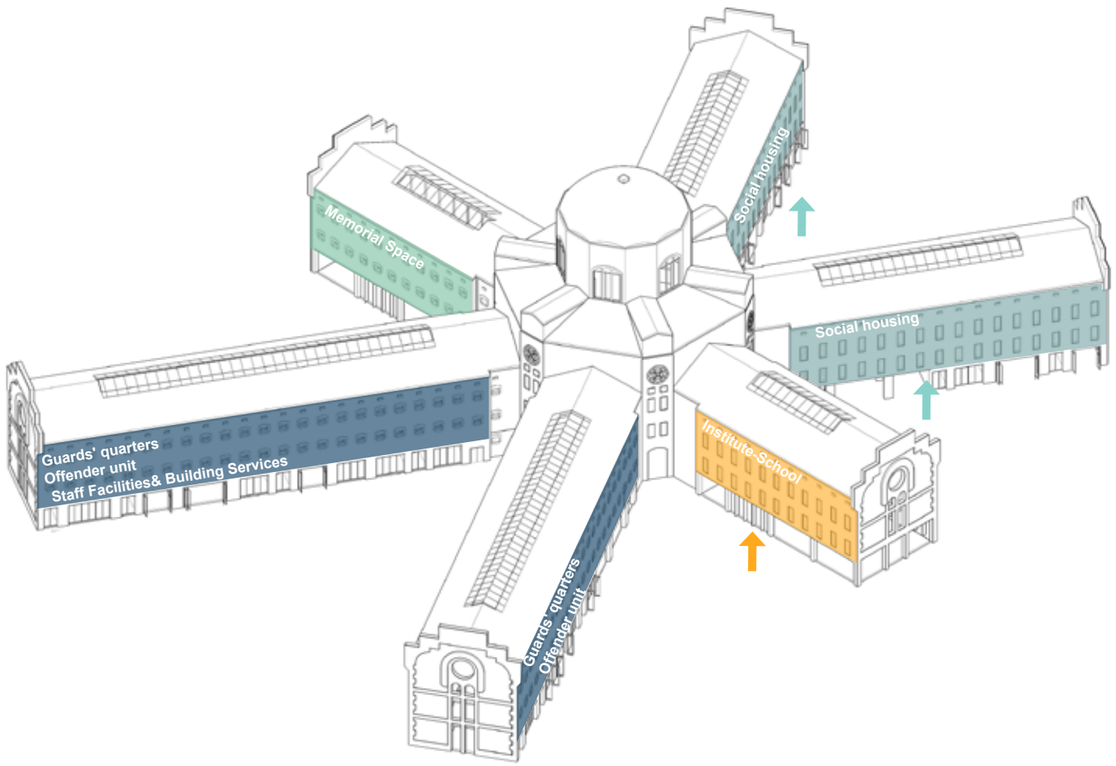
Arbor
Shrub
Lawn
Lawn court
Tree pool

iii. PROPOSAL

- Panopticon

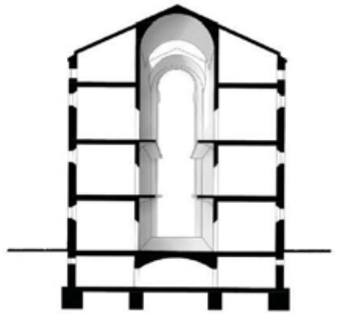




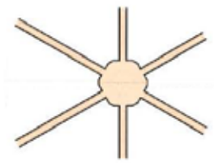


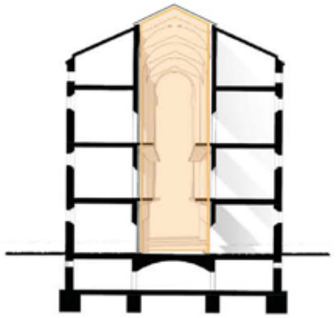
iii. PROPOSAL

- Panopticon
Design process

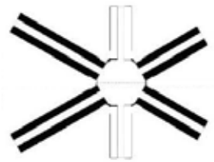


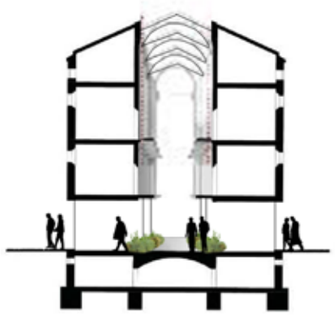
Original



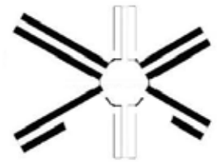


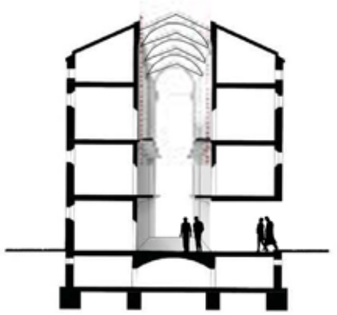
Open
Central Roof





Open
Ground Floor



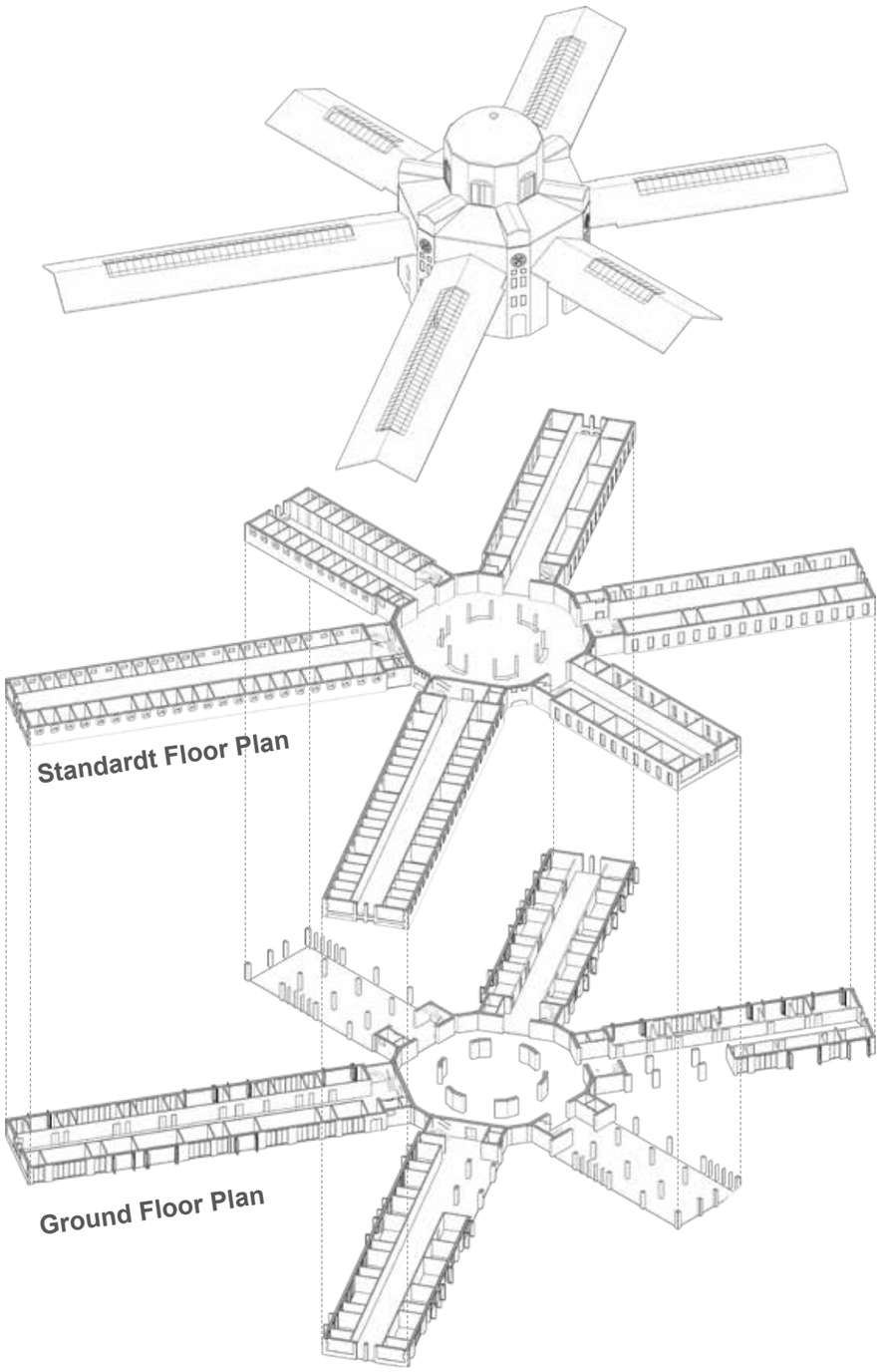


Semi-Open
Ground Floor

iii. PROPOSAL

- Panopticon

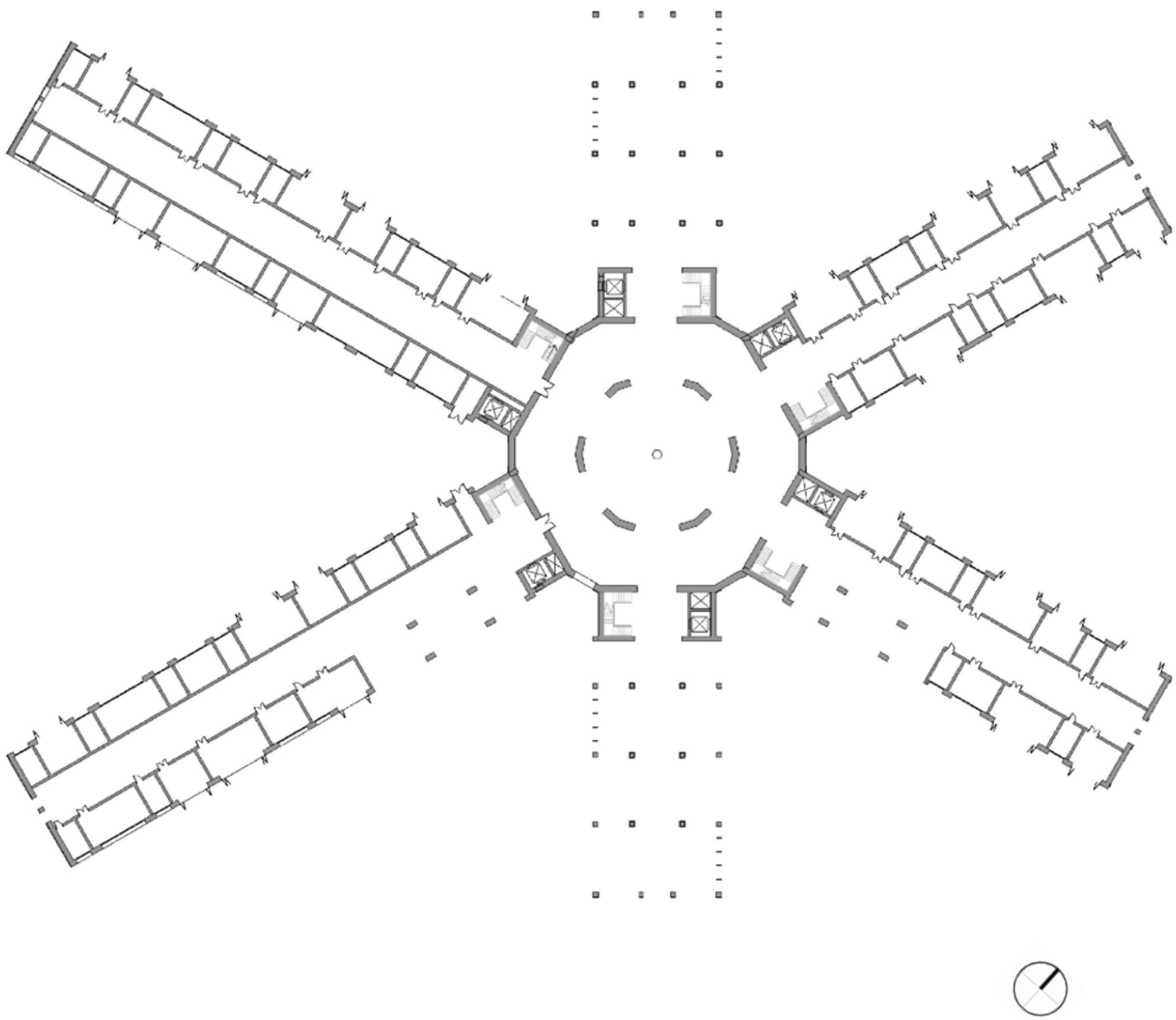
Explosion Diagram



iii. PROPOSAL

- Panopticon

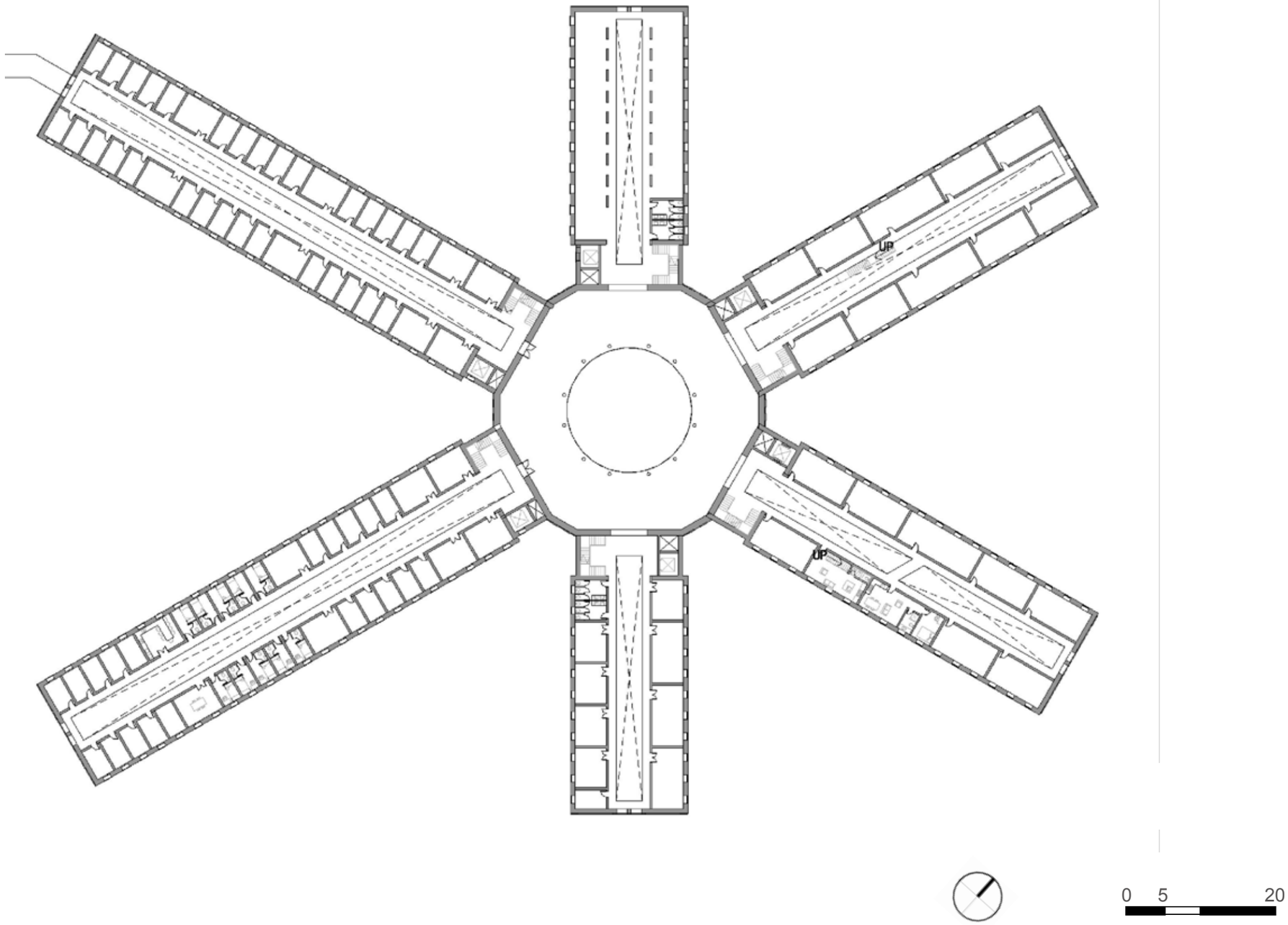
First Floor Plan



iii. PROPOSAL

- Panopticon

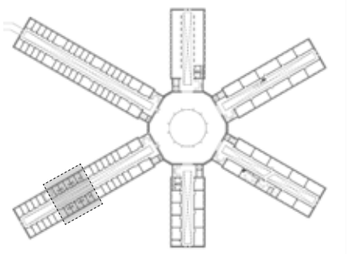
Standardt Floor Plan

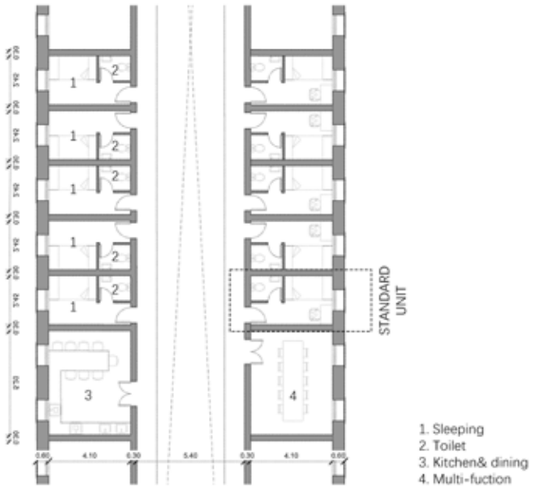


iii. PROPOSAL

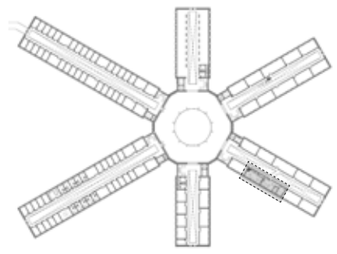
- **Panopticon**

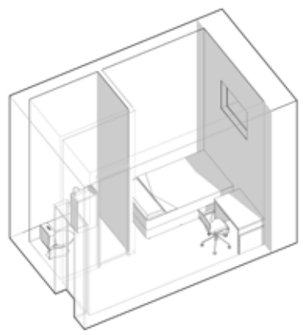
Plan details

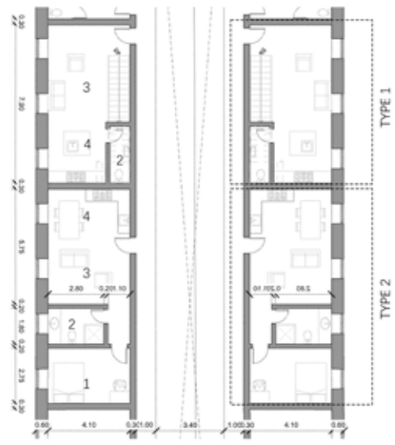




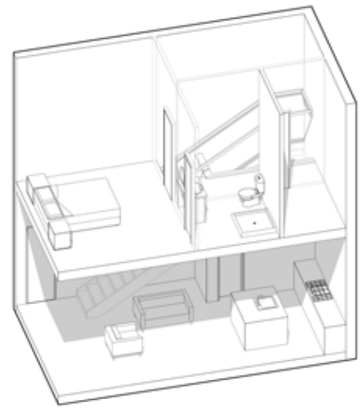
1. Sleeping
2. Toilet
3. Kitchen& dining
4. Multi-fuction

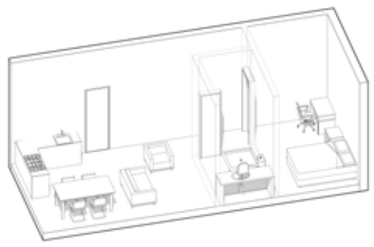






1. Bedroom
2. Bath room
3. Living room
4. Kitchen& dining

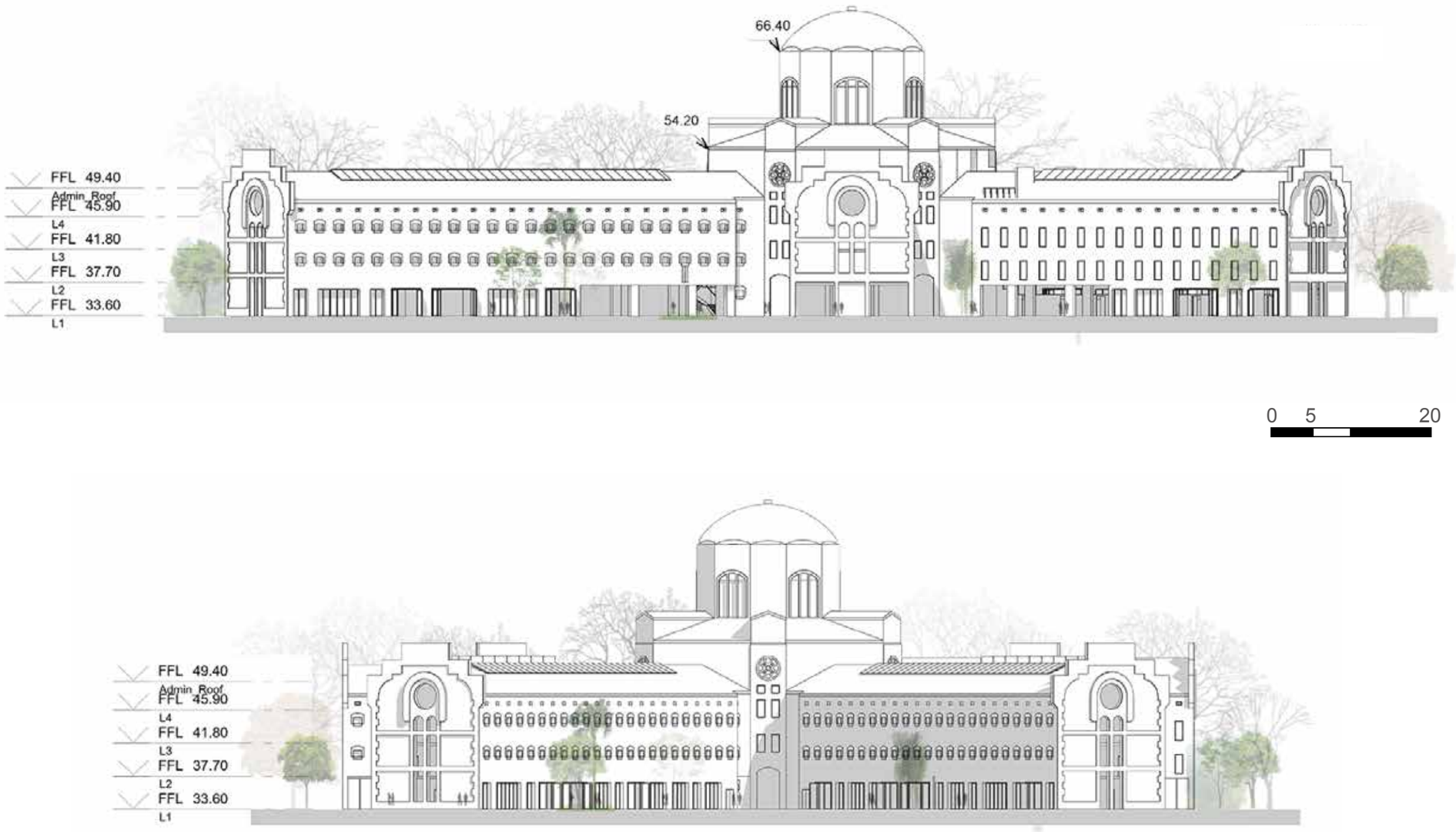




iii. PROPOSAL

- Panopticon

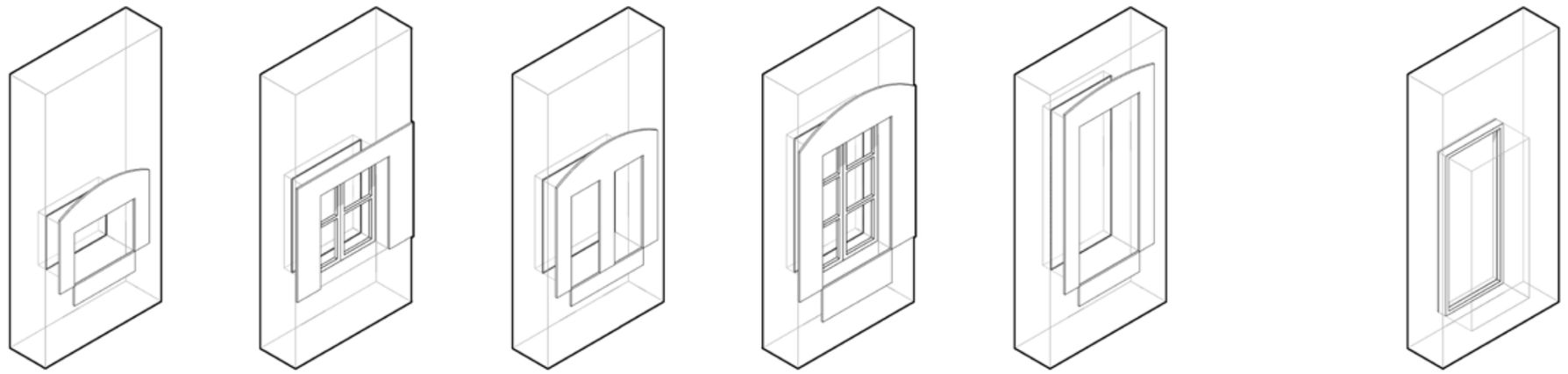
Facade



iii. PROPOSAL

- Panopticon

Facade details

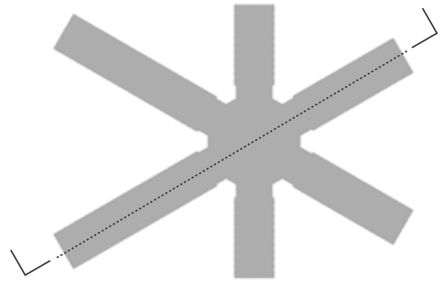


Existing **Adding**

iii. PROPOSAL

- Panopticon

Section



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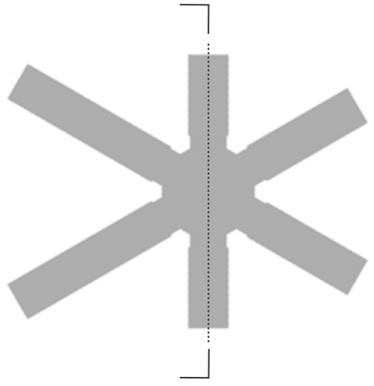
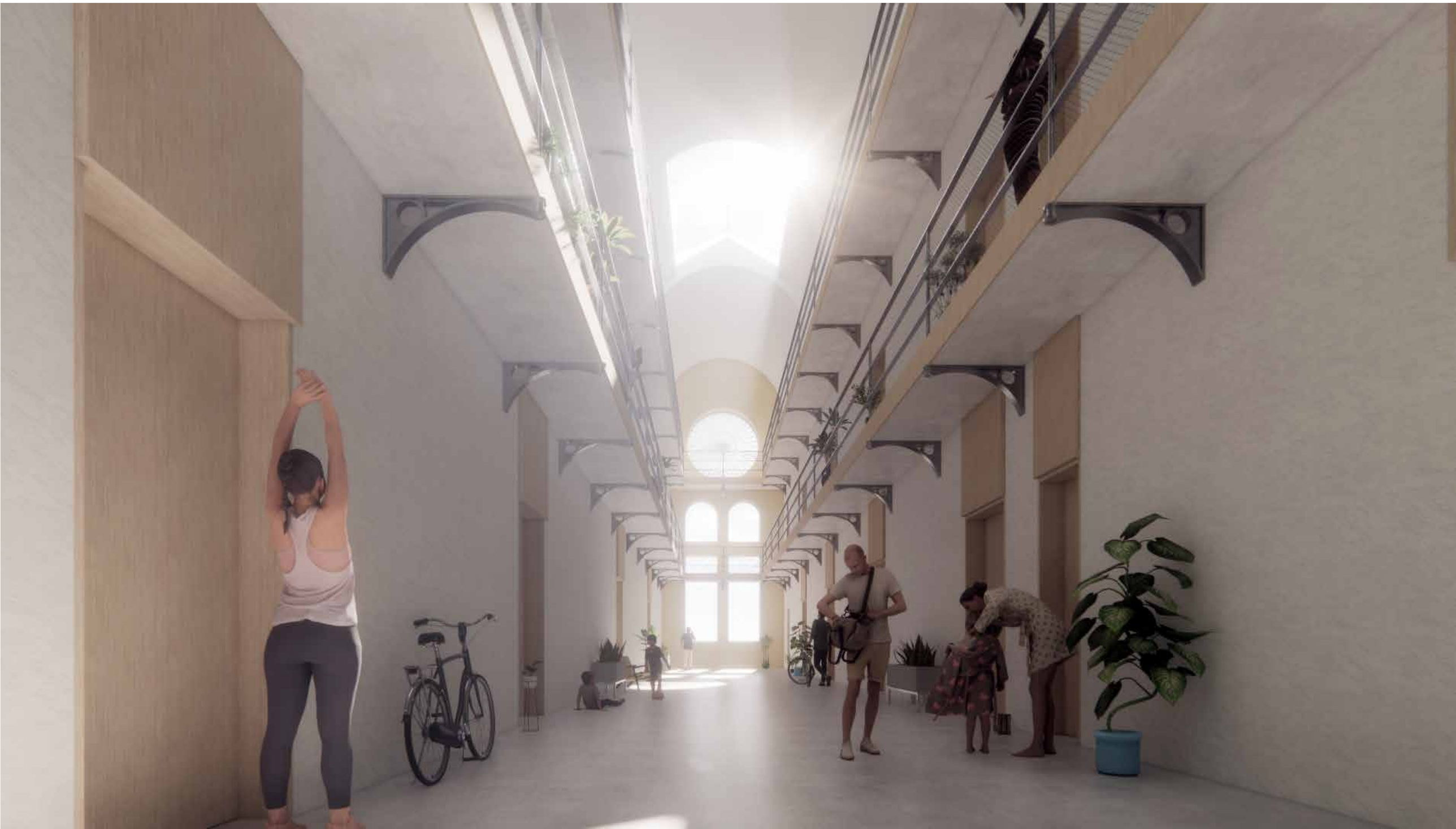


iii. PROPOSAL

- **Panopticon**

View



iii. PROPOSAL

- Panopticon

View

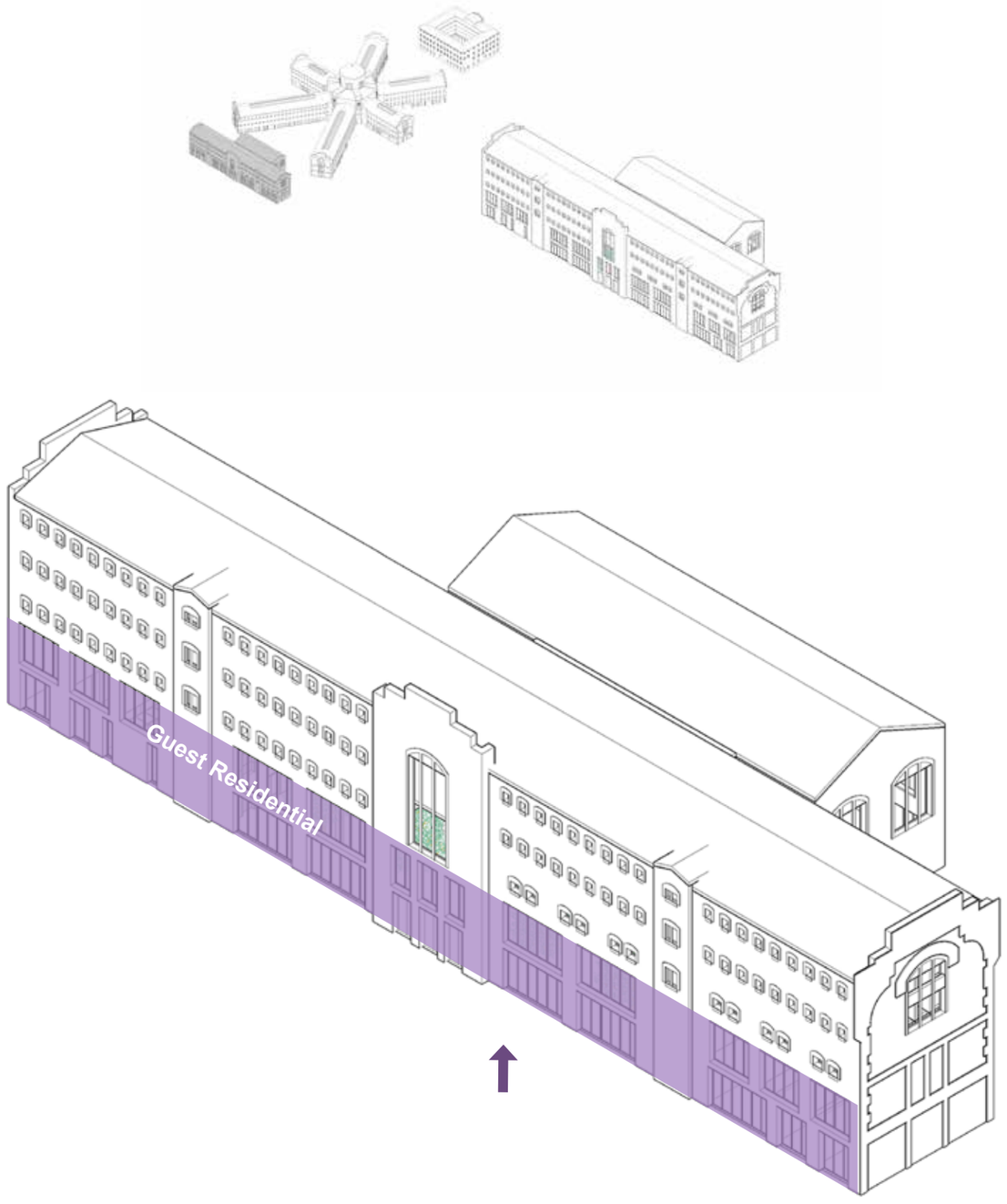
iii. PROPOSAL

- Panopticon

View

iii. PROPOSAL

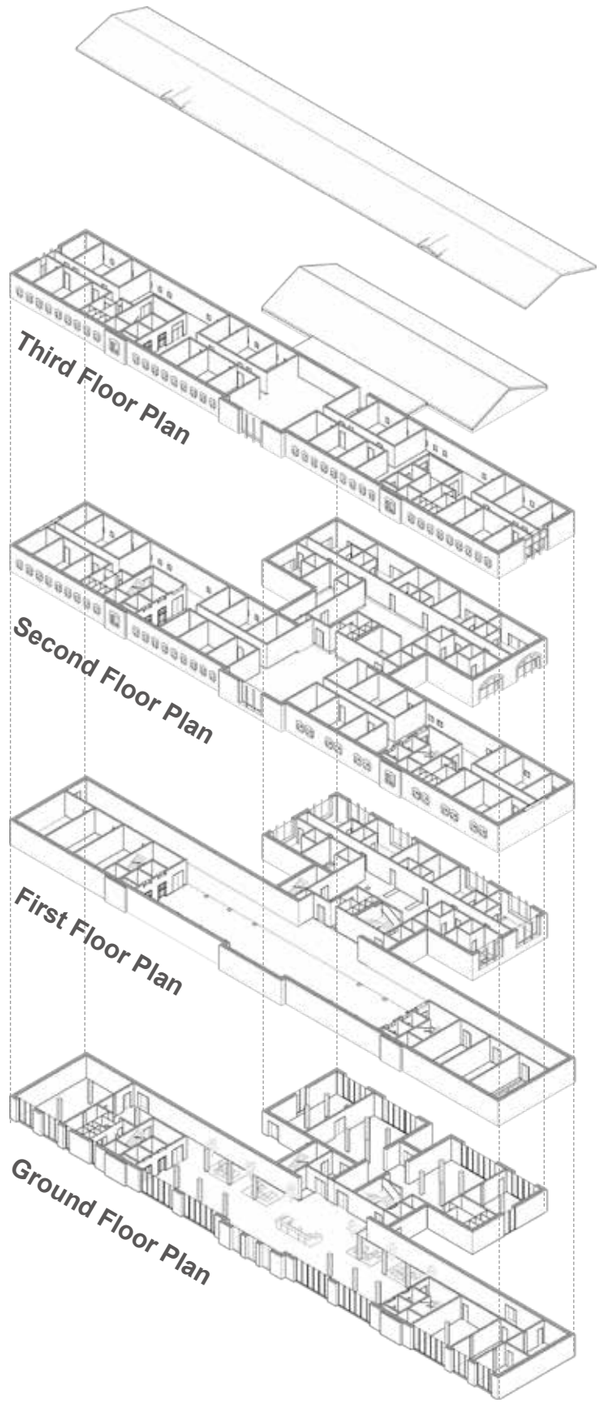
- Administration



iii. PROPOSAL

- Administration

Explosion Diagram



iii. PROPOSAL

- Administration

Plan

iii. PROPOSAL

- Administration

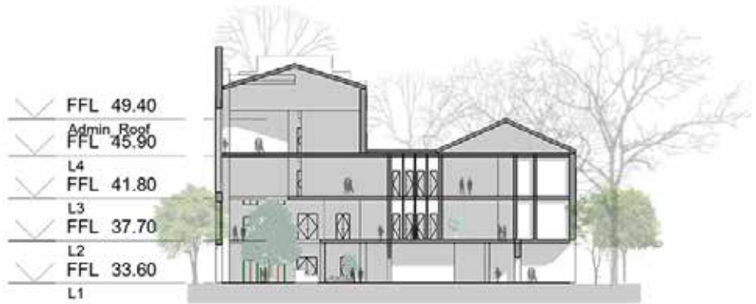
Facade

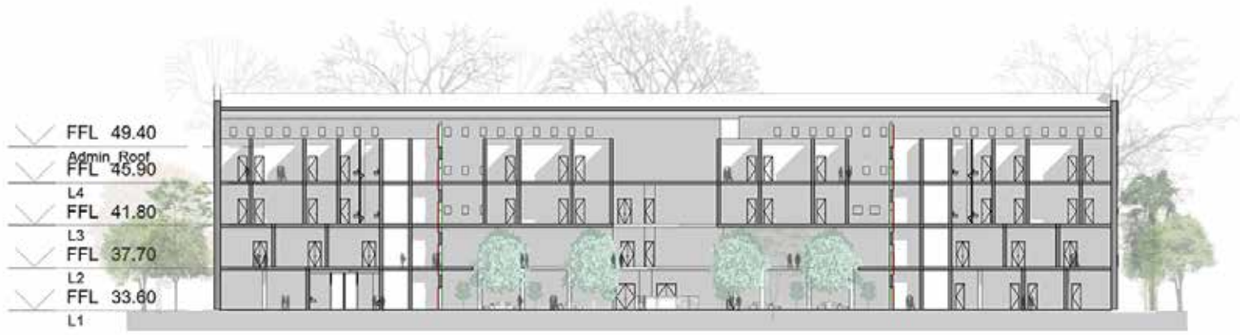
0 5 20

iii. PROPOSAL

- Administration

Section





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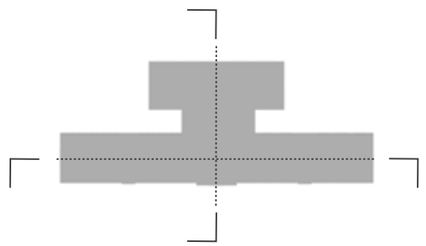


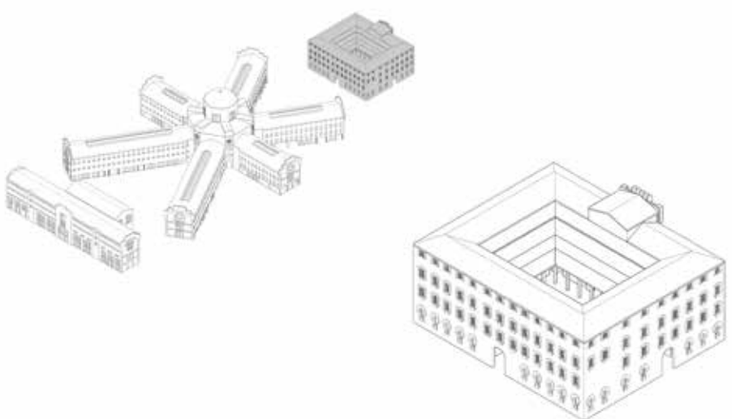
iii. PROPOSAL

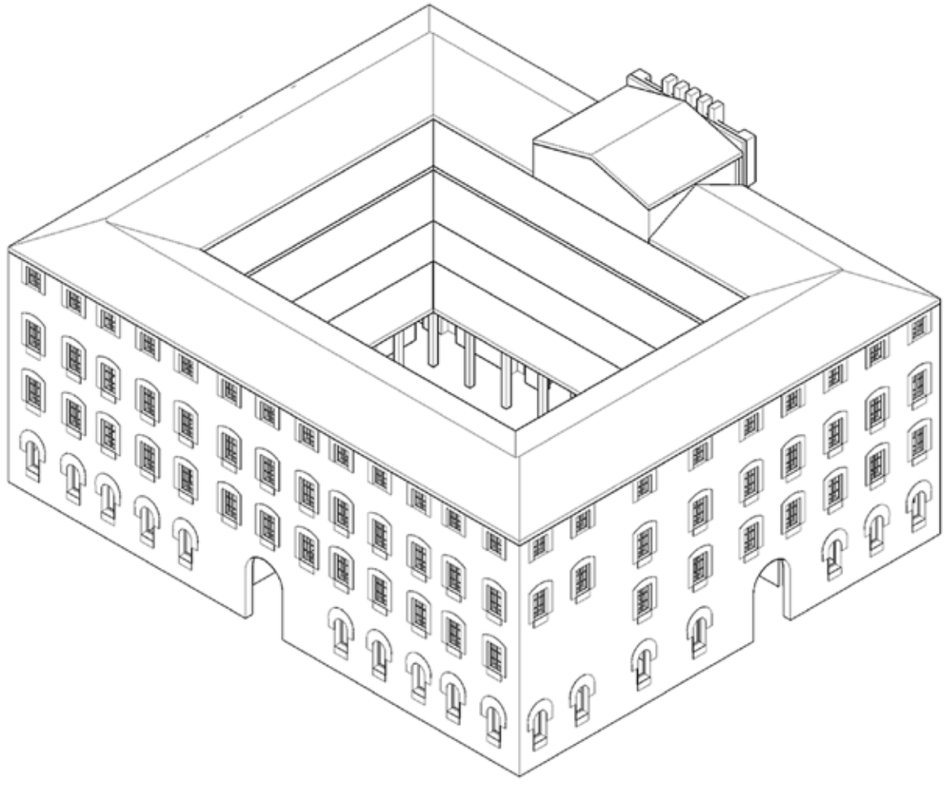
- Administration

View

iii. PROPOSAL

- Office

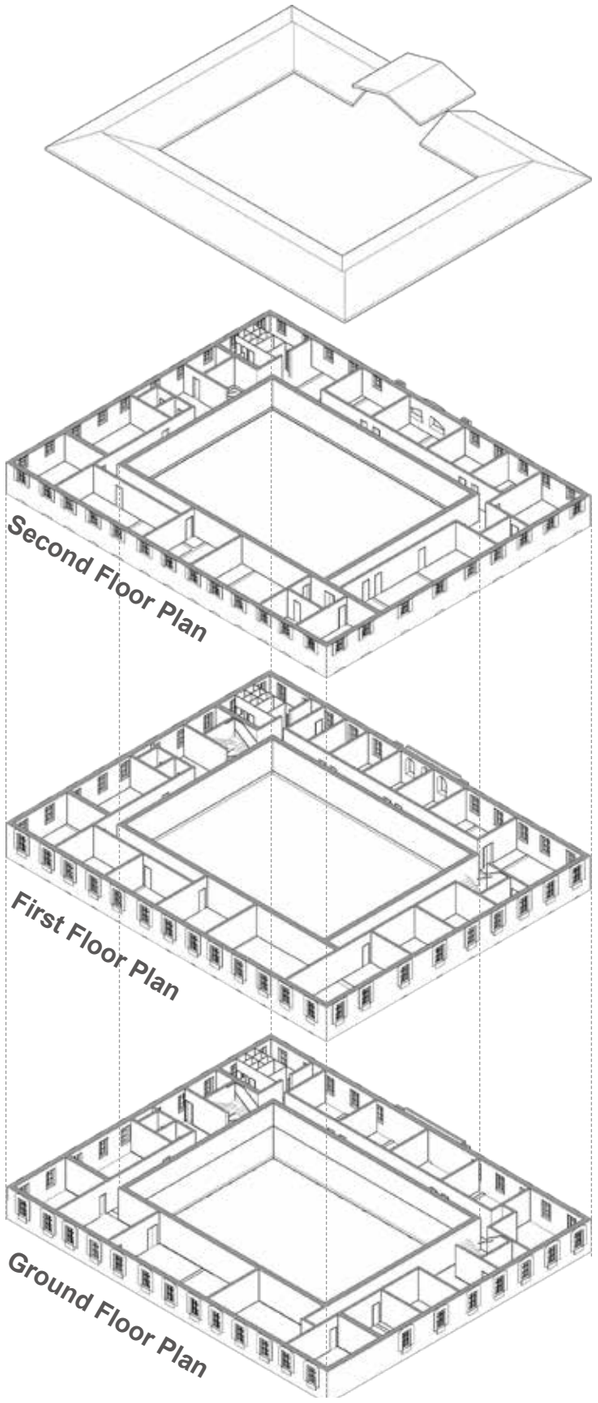




iii. PROPOSAL

- Office

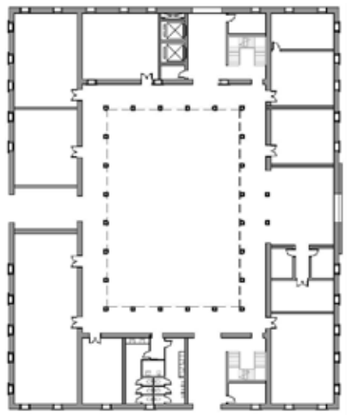
Explosion Diagram

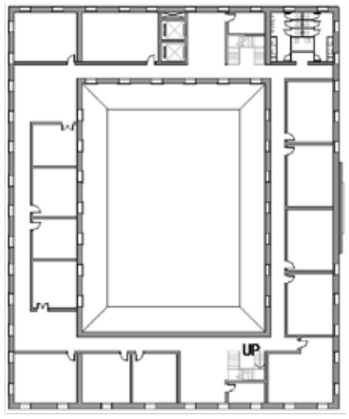


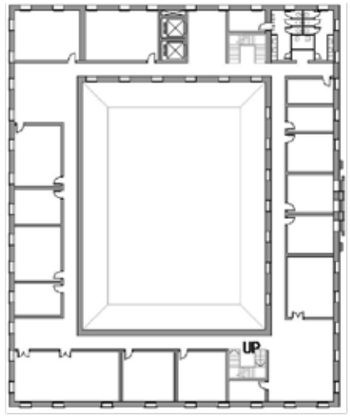
iii. PROPOSAL

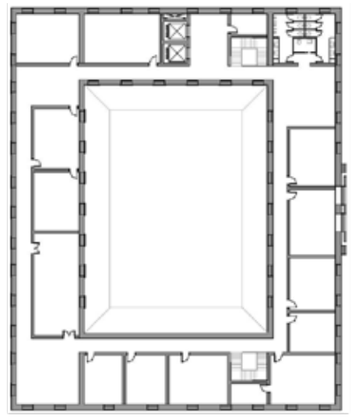
- **Office**

Plan







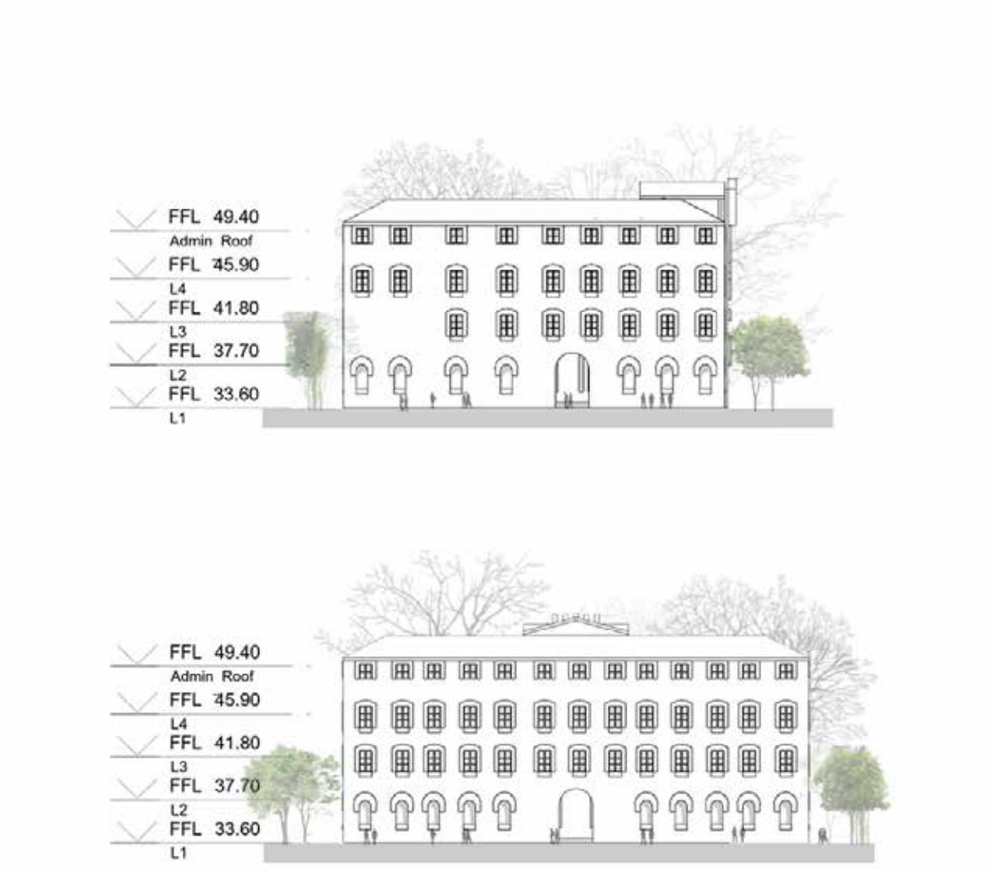


0 5 20

iii. PROPOSAL

- Office

Facade



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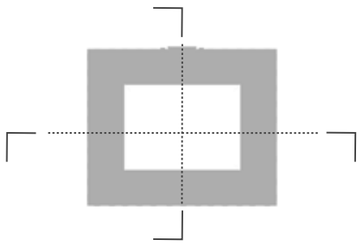
iii. PROPOSAL

- Office

Section

0 5 20

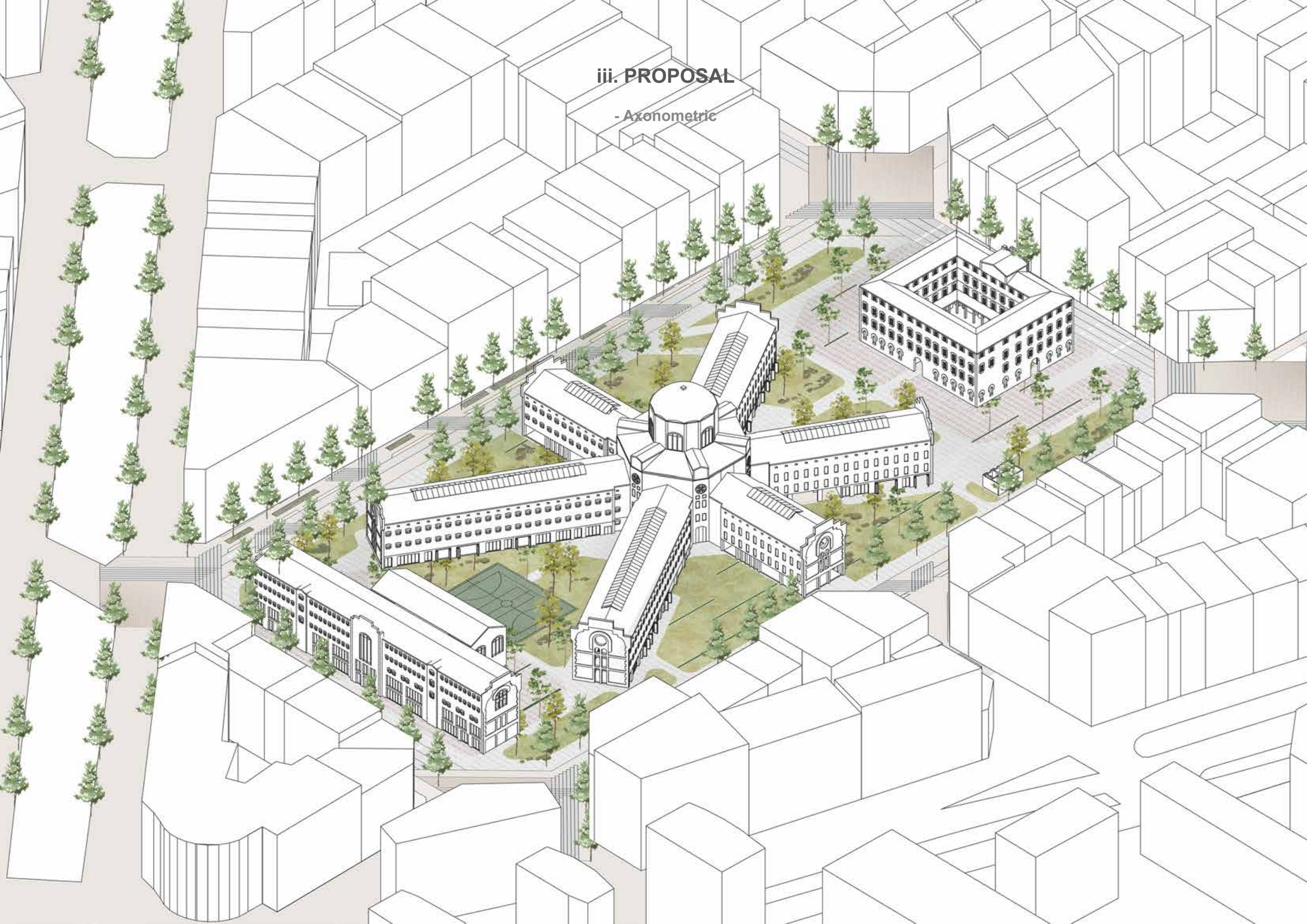


iii. PROPOSAL

- **Office**
  View

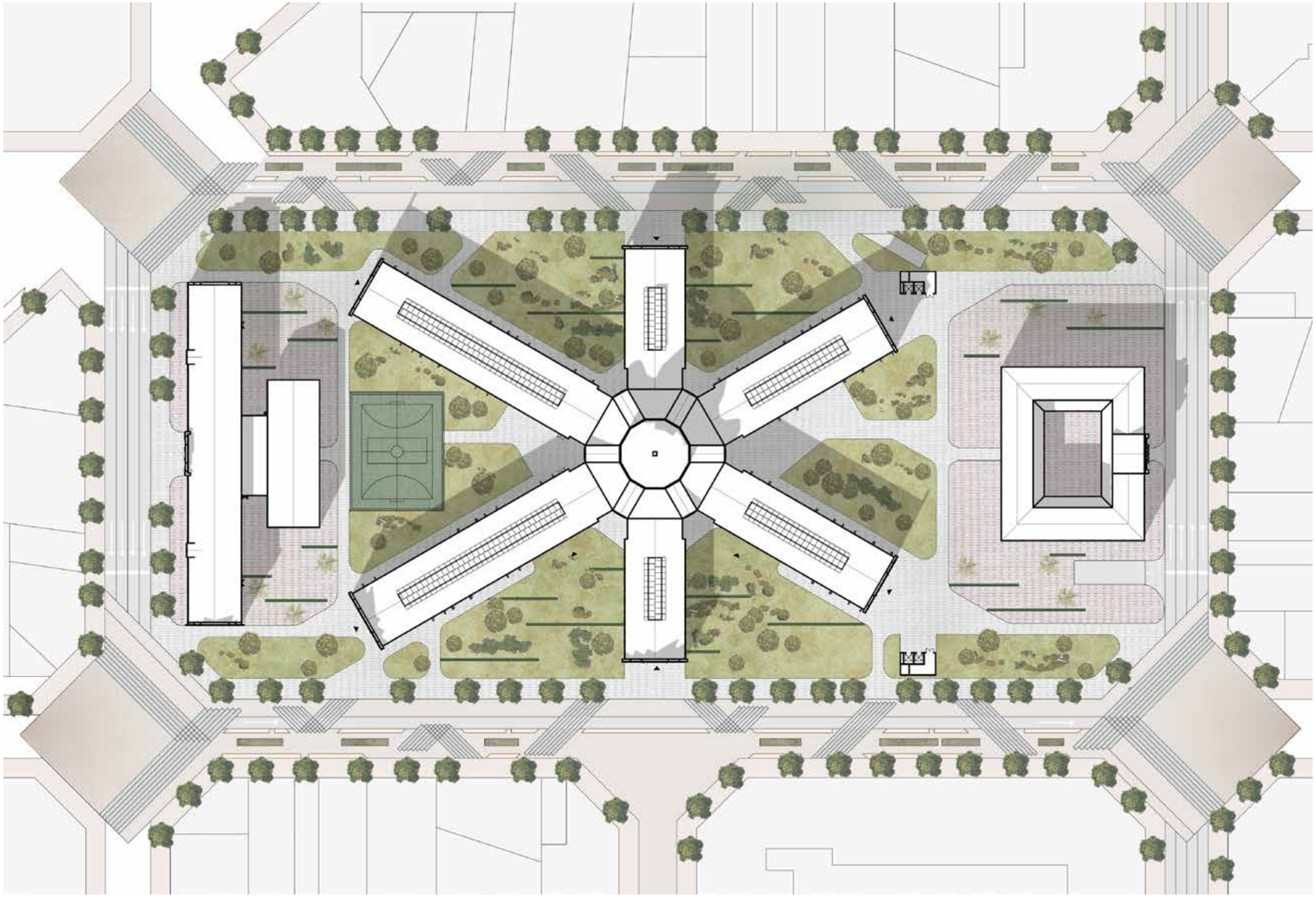
iii. PROPOSAL

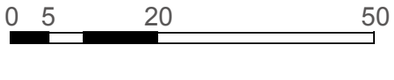
- Axonometric



iii. PROPOSAL

- Master Plan

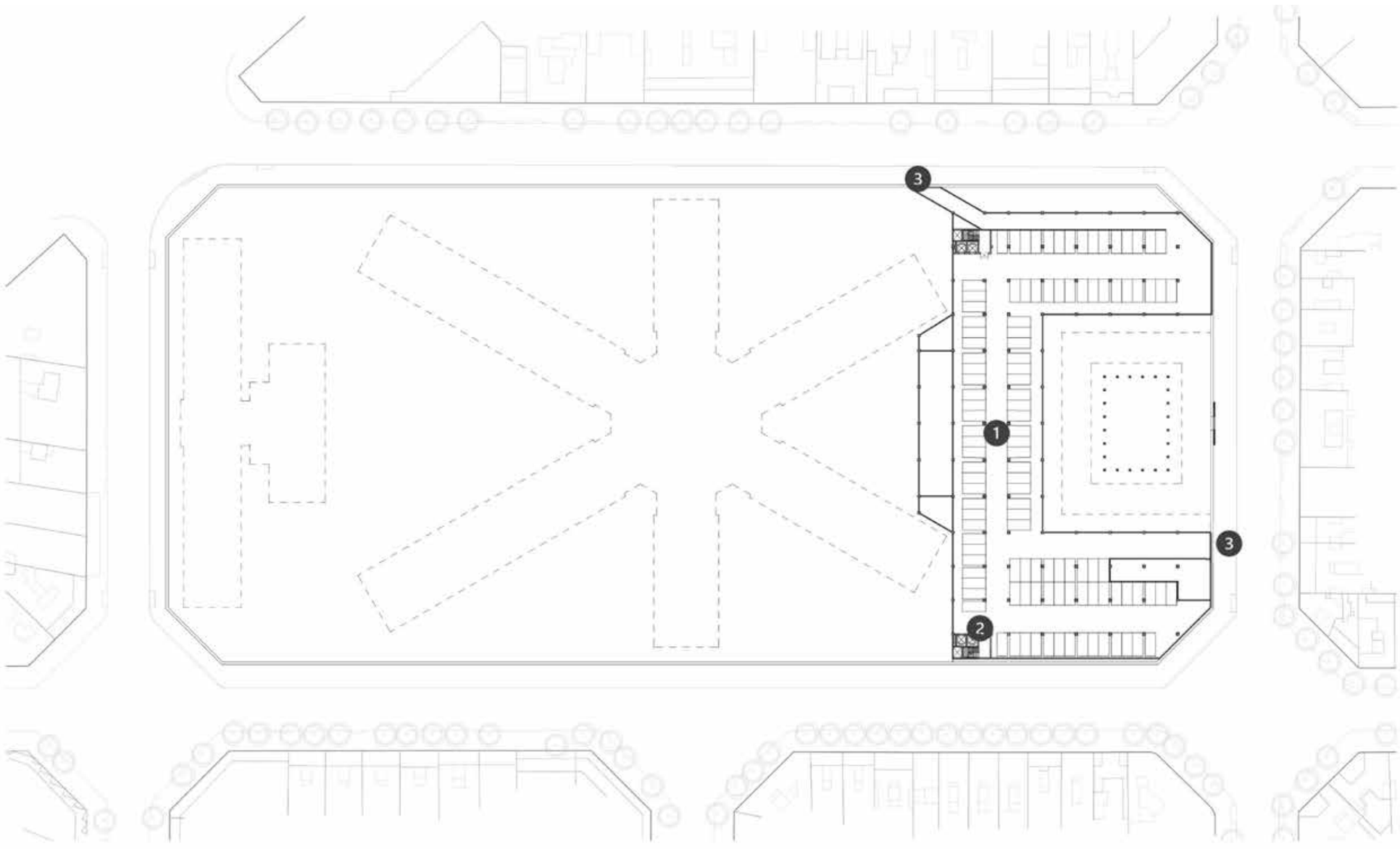




iii. PROPOSAL

- LA MODEL

Underground Floor Plan



Underground L-1

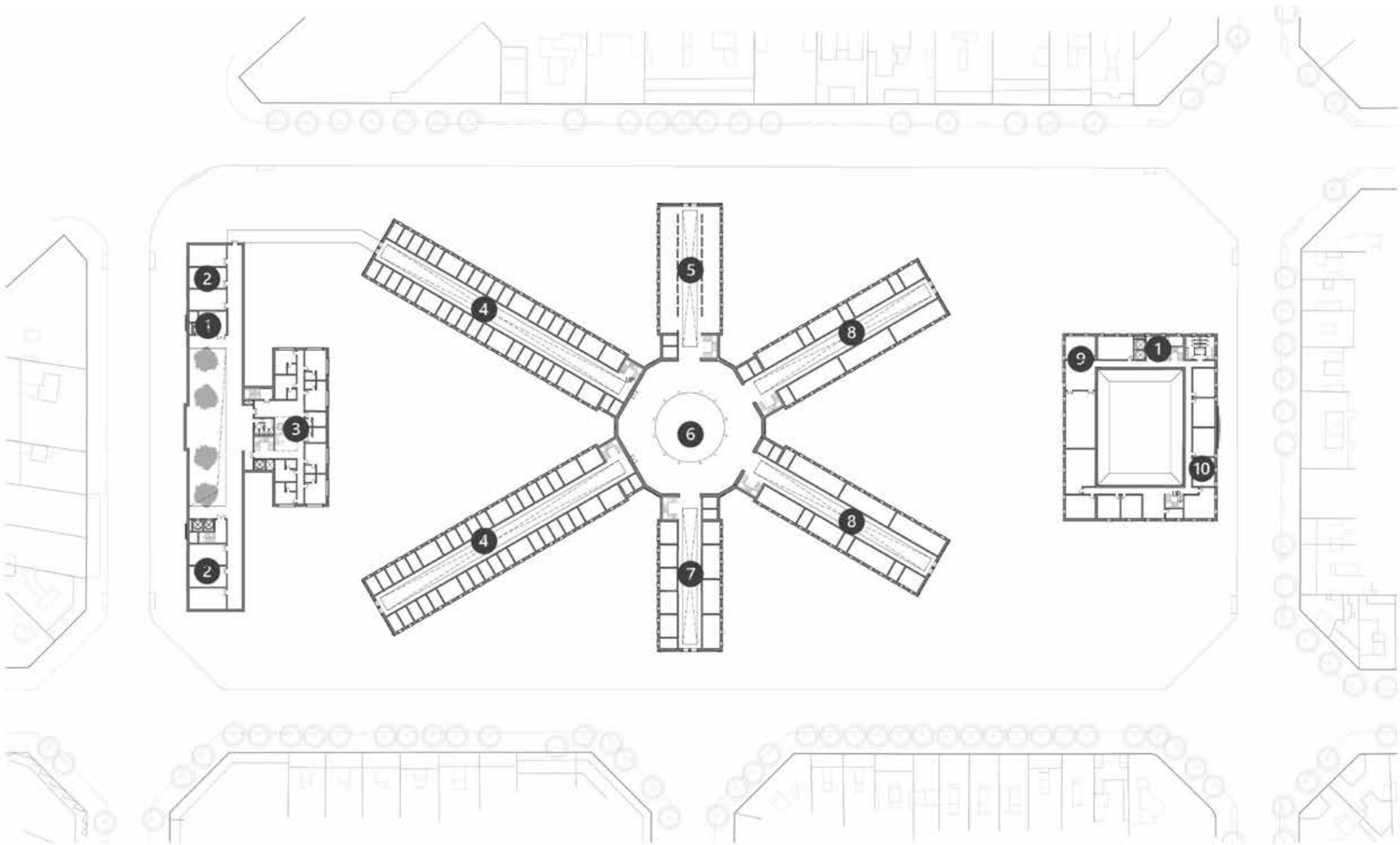
1. Parking Lot
2. Stairs and Lift
3. Entrance

0 5 20 50

iii. PROPOSAL

- LA MODEL

First Floor Plan



First Floor

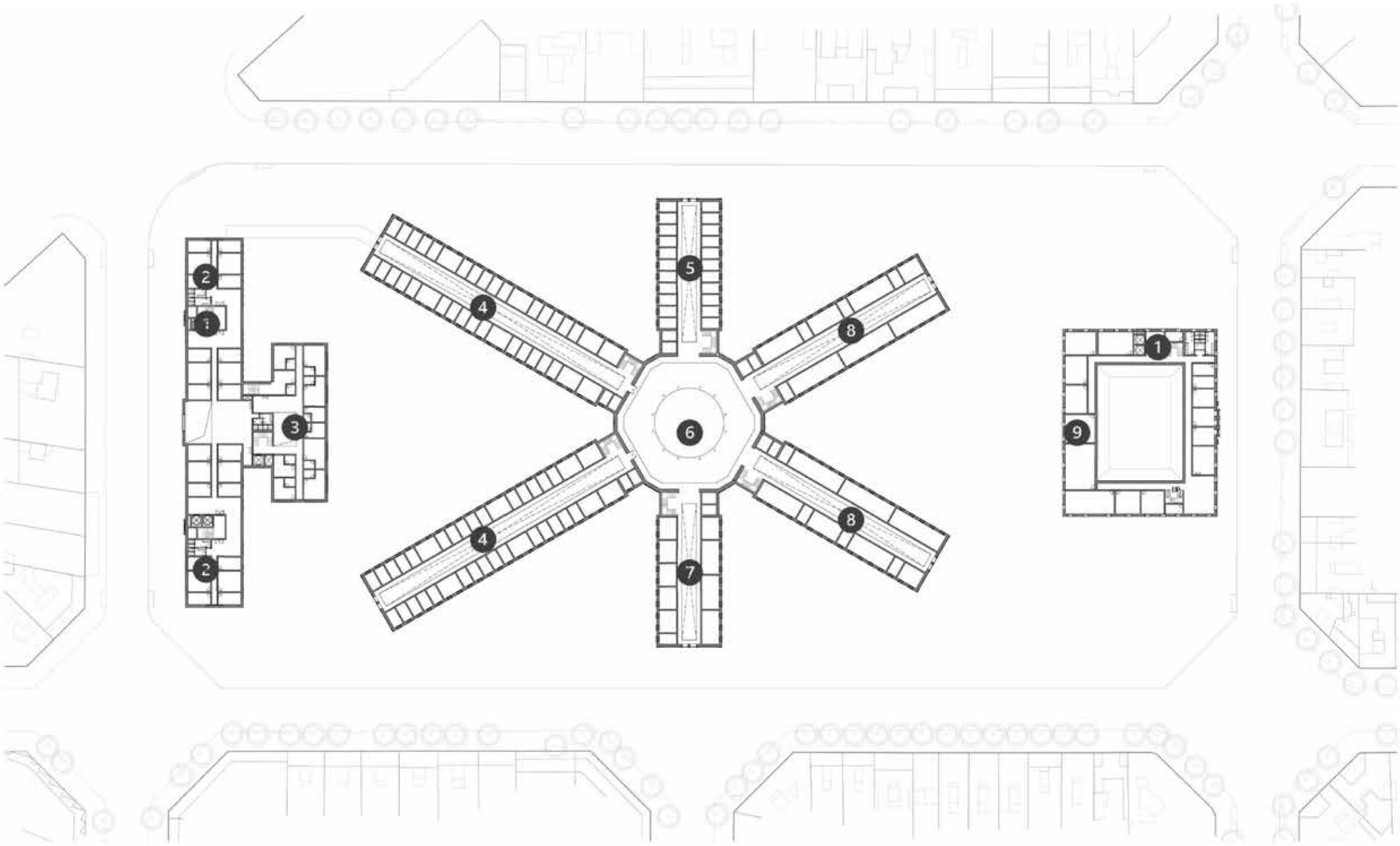
1. Stairs and Lift
2. Justice Support Offices
3. Guest Residential
4. Guards' quarters/ Offender unit
5. Memorial Space
6. Library
7. Institute-School
8. Social housing (Apartment)
9. Social services clinic
10. Mental health

0 5 20 50

iii. PROPOSAL

- LA MODEL

Second Floor Plan



Second Floor

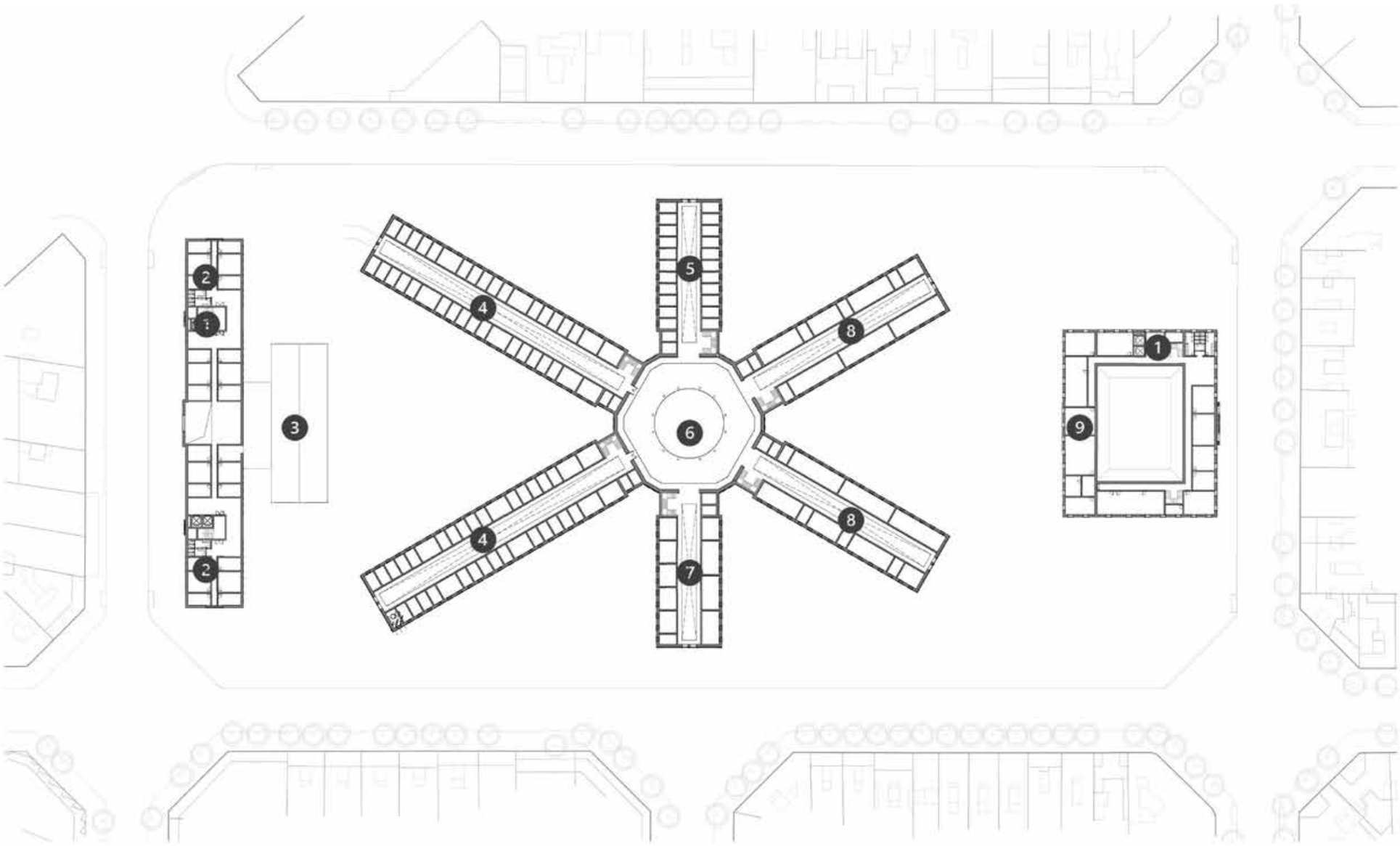
1. Stairs and Lift
2. Justice Support Offices
3. Guest Residential
4. Guards' quarters/ Offender unit
5. Memorial Space
6. Void
7. Institute-School
8. Social housing (Apartment)
9. Employment services

0 5 20 50

iii. PROPOSAL

- LA MODEL

Third Floor Plan



Third Floor

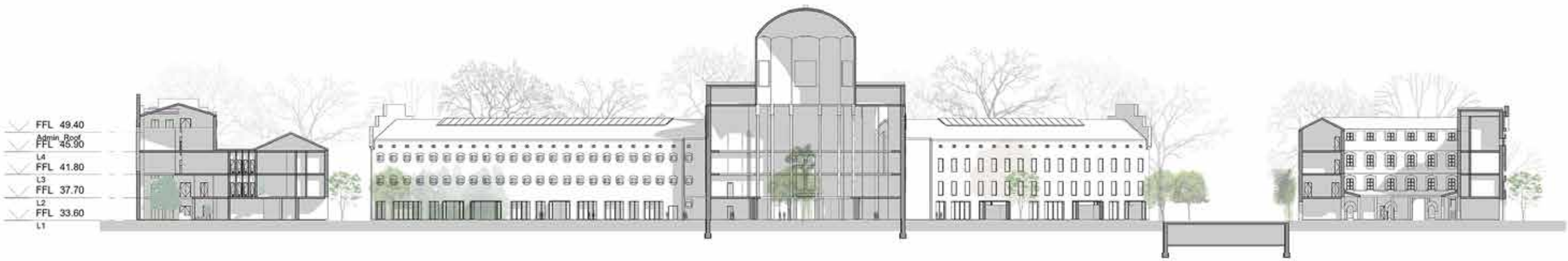
1. Stairs and Lift
2. Justice Support Offices
3. Guest Residential
4. Guards' quarters/ Offender unit
5. Memorial Space
6. Void
7. Institute-School
8. Social housing (Apartment)
9. Addiction services

0 5 20 50

iii. PROPOSAL

- LA MODEL

Section



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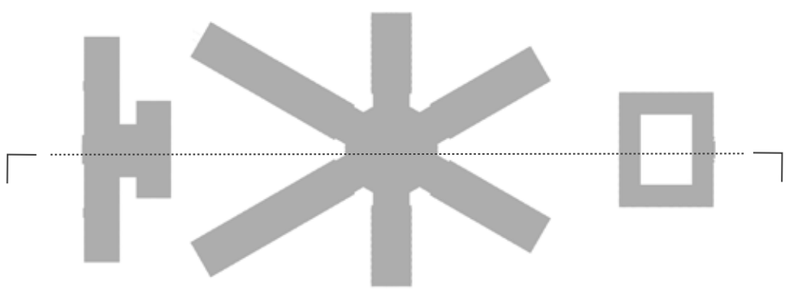
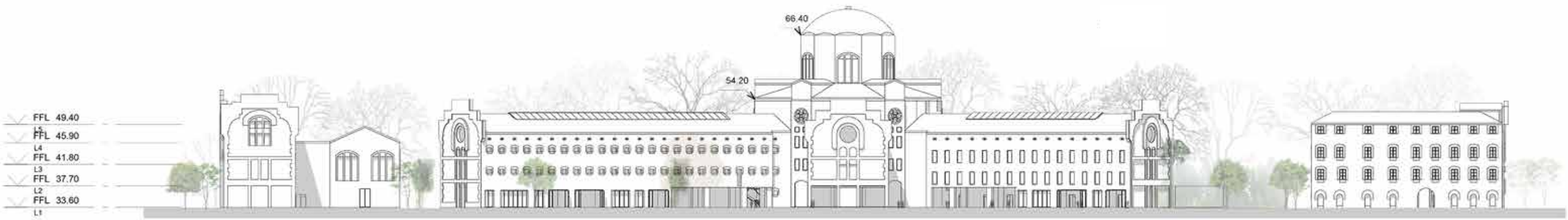


iii. PROPOSAL

- LA MODEL

Facade



0 5 20

iii. PROPOSAL

- LA MODEL

View

THANK YOU