

Final Project Proposal - IE University

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El Nostre Nou Port

Recovering the
Harbour of Valencia

PFG 2020

by Ana Corina de la Fuente

Recovering the Harbour of Valencia.

Project Manifesto

A city next to the sea and with a history marked by its ocean. An ocean which has seen a great infrastructure grow from it: The Harbour of Valencia. The water is perceived as a meaningful element for the city of Valencia, shaping its urban morphology and urban development. But, paradoxically, the city and the harbor are understood as independent entities, separated and disconnected due to numerous physical barriers. The main design challenge for the proposal becomes how to create connectivity between the city and its water edge? Introducing a project in the Harbour demands to rethink the relationship it has with the city. The second big challenge comes when understanding the historical elements in the Harbour and thinking how to reactivate the existing without damaging its essence? These design challenges become the pillars that guide the design principles of the project: connectivity and respect.

The first is achieved through by thoughtfully studying the existing urban morphology of the city and the current needs of the area. The proposal starts by the discovery of 31 schools in a radius of 1,5km in the Harbour. With this information the proposed use for this project is to develop a Project Based Learning Center located on the old Tinglados of Valencia. Brining new life and new uses to the area is one of the techniques applied to reconnect the city and the harbour. Then, a set of urban strategies is studied and applied to the area aiming to reconnect these two entities through morphological changes on the city, transportation incorporations and programmatic relationships. Valencian's citizens to easily reach the sea and allowing them to have new relationships with the water.

Providing easy access points to the people, safe transportation for students and professors and reducing the existing distance between the city and the harbour are some of the goals achieved. These strategies all work together with the objective of allowing them to have new relationships with the water.

The second design principle, respect, is achieved by focusing on recovering the oldest part of the Valencian Harbour - where the historical buildings lay - reshaping it, activating the shoreline and taking full advantage of this artificial bay. In order to achieve these objectives, a set of architectural anchors will intertwine the Harbour as a whole, creating a consistent and legible image of it by utilizing the dominant maritime identity of the Harbour. New harbour piers allowing people to interact with the water's edge, metal minimalistic ribbon hosting educational uses and towers inserted on the Tinglados becoming a landmark and marking a new beginning for the Harbour.

The big objective of the project is to enhance the exiting Valencia's shoreline utilizing the dominant maritime identity of the Tinglados and create a new dominant façade of the city towards the sea and the world. This objective is achieved by following the design principles of improving the existing connectivity and respecting the existing identity. Producing a lively waterfront park with strong presence in the city, paying tribute to its unique history and producing evident public accesses to help give the shoreline back to its people.



Collage of The Harbour of Valencia, 1970.



El Nostre Nou Port

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The proposal will be explained from the biggest scale to the smallest one. Starting with the city, passing then to the scale of the Harbour, zooming into a selected area of the harbour, passing to the architectural response proposed in it, the technical details of the project and, finally, the project explanation concludes with a set of general realistic visualizations.

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PFG - Final Project

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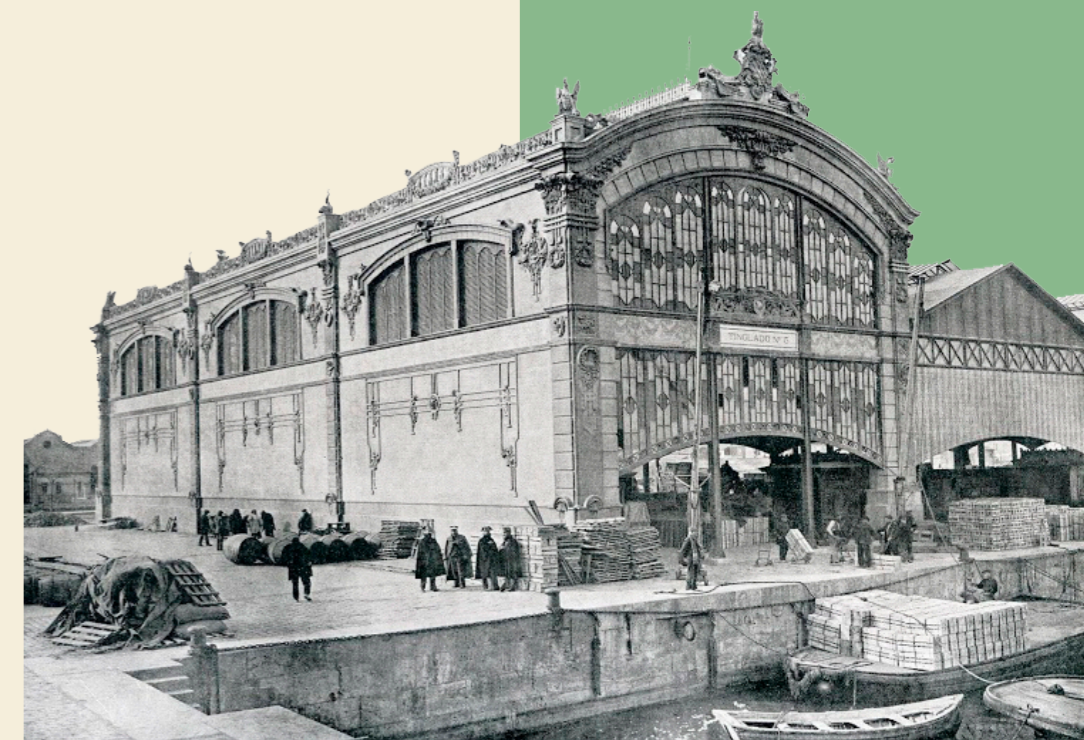
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Chapter 1

Urban Research.

- Valencia collective research
- The Harbour as meeting point for educational institutions





**The city of
Valencia**



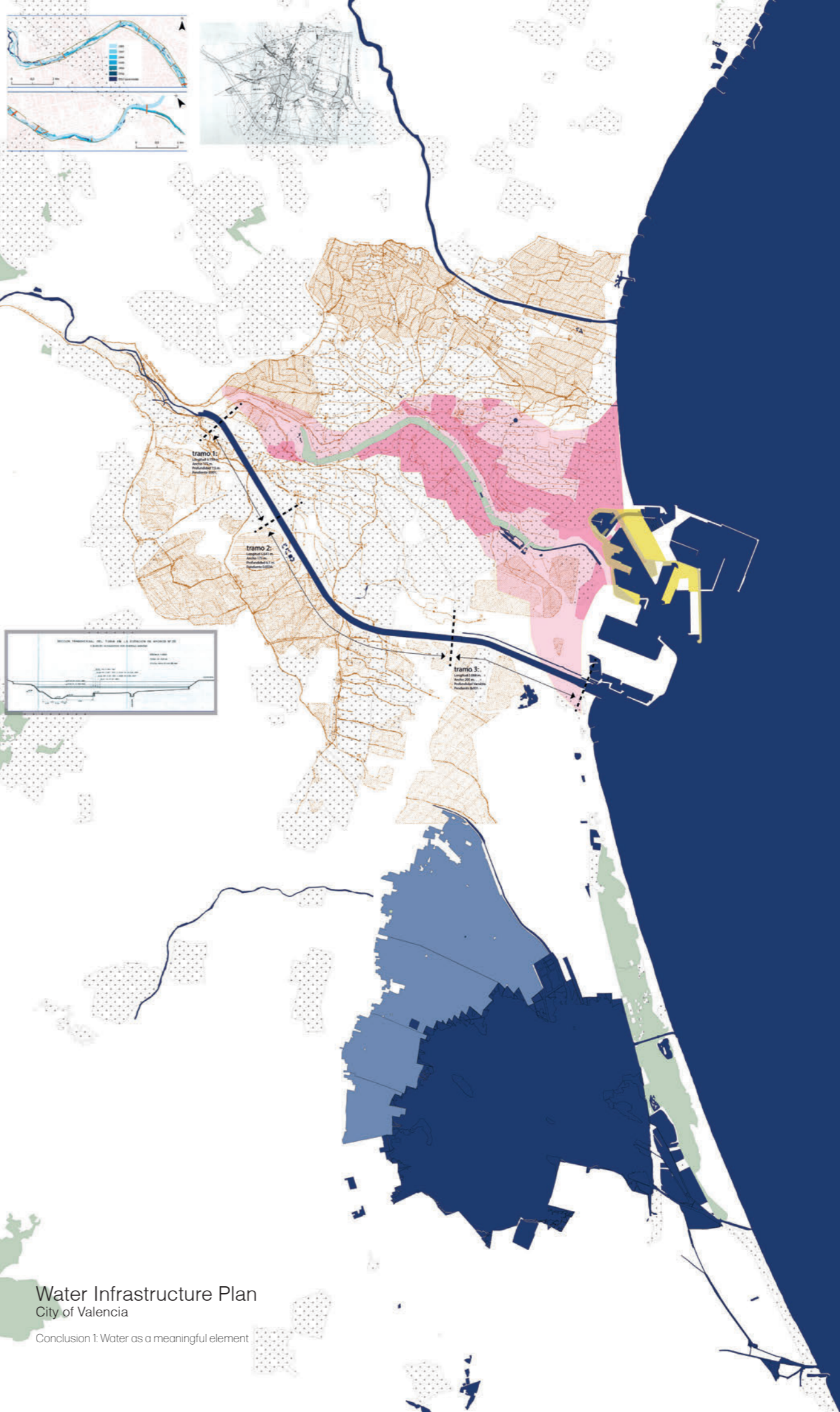
Programmatic Approach

Valencia Collective Research

The first scale has been developed through a group research of the city of Valencia. Political, social, economic and other layers of information where overlapped unveiling crucial conclusions for the development of the project:

- The water was perceived as a meaningful element for the city of Valencia, shaping its urban morphology
- The city and the harbor are understood as independent entities, separated and disconnected due to numerous physical barriers and,

- The existence of 31 schools in a radius of 1,5km around the Valencia Harbour.





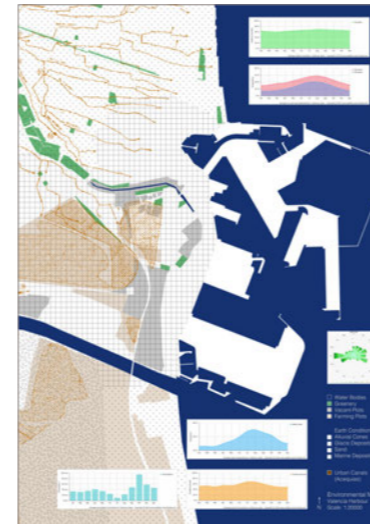
Urban Analysis
by Ana Corina de la Fuente



Cultural Analysis
by Mikhail Frantsuzov



Economical Analysis
by Paula López



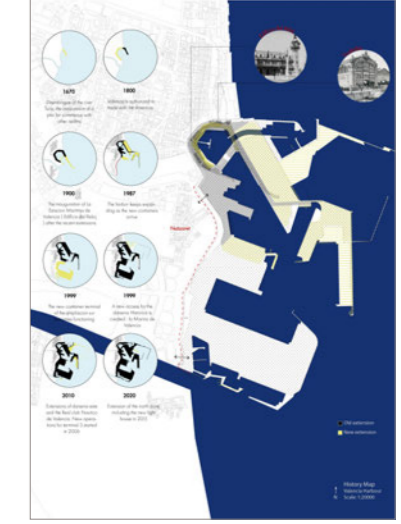
Environmental Analysis
by Derrin Evcim



Urban Transportation
by Ana Corina de la Fuente

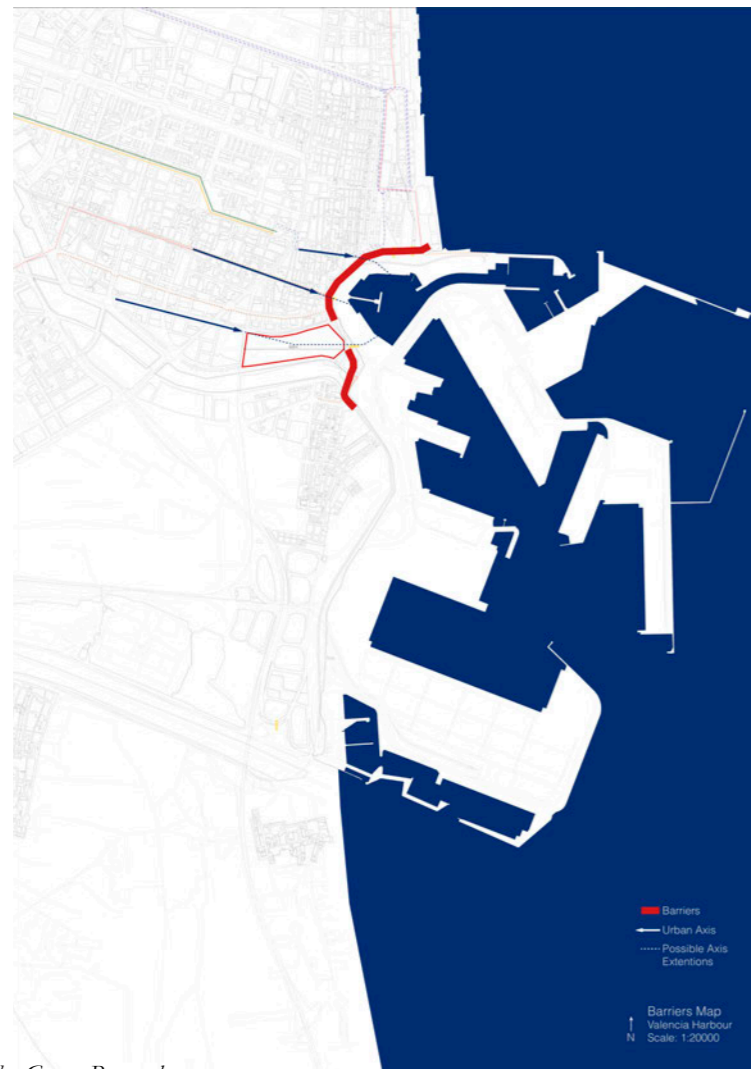


Political Analysis
by Tomomi Dambara



Historical Analysis
by Nauhaila Zergane

Conclusion 2: physical barriers between the city and the harbour
by Ana Corina de la Fuente



Conclusion 2: the city and the harbour are independent entities
by Mikhail Frantsuzov



Activities on the harbour
by Derrin Evcim



Programmatic Approach

The Harbour as meeting point for Educational Institutions

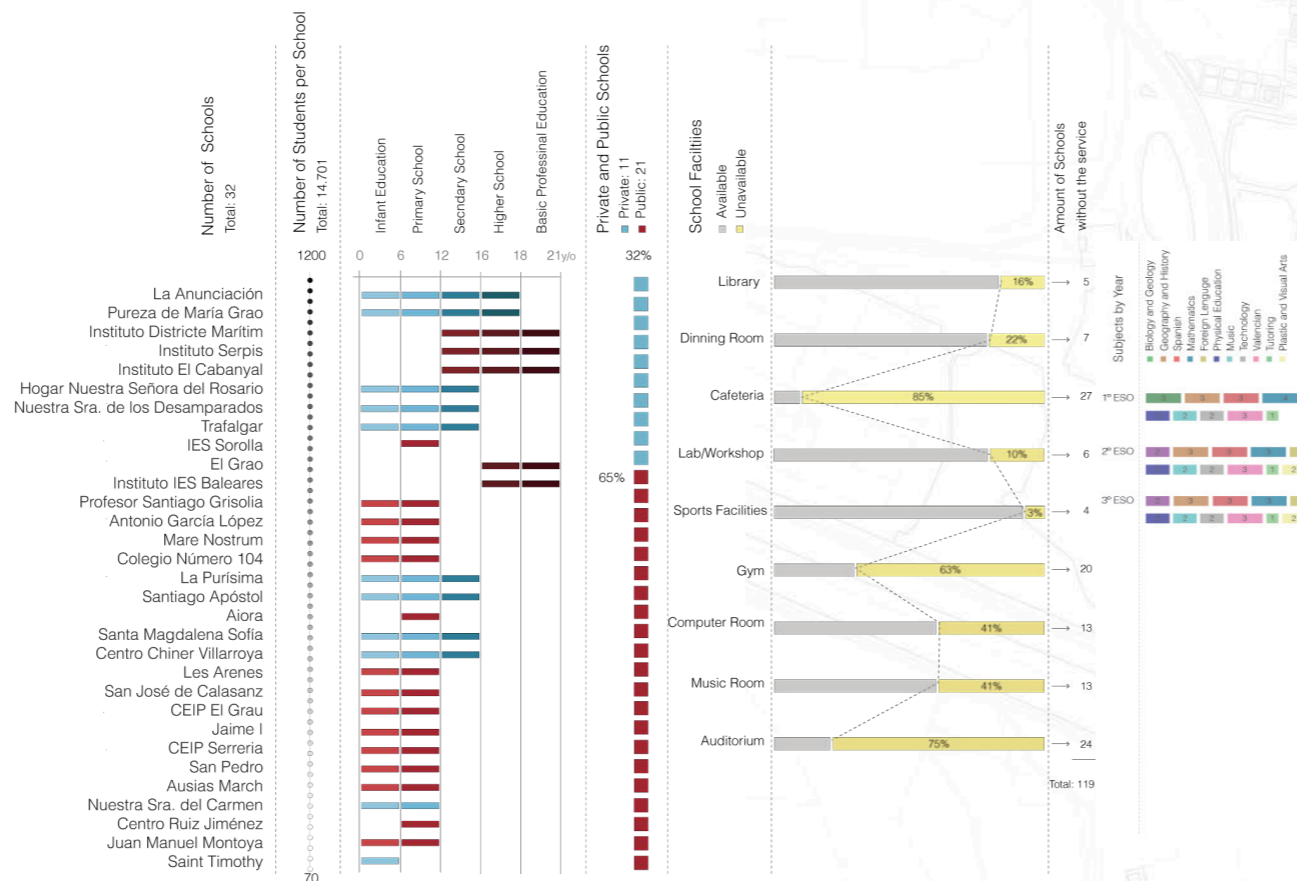


Kastelli Community Center, Finland.
by Lahdelma and Mahlamki Architects

These schools were studied, analyzed and graphed in order to grasp the current situation in the area. The evidence showed how most schools had poor quality-services or even lacking some of them and traditional educational systems based on core subjects.

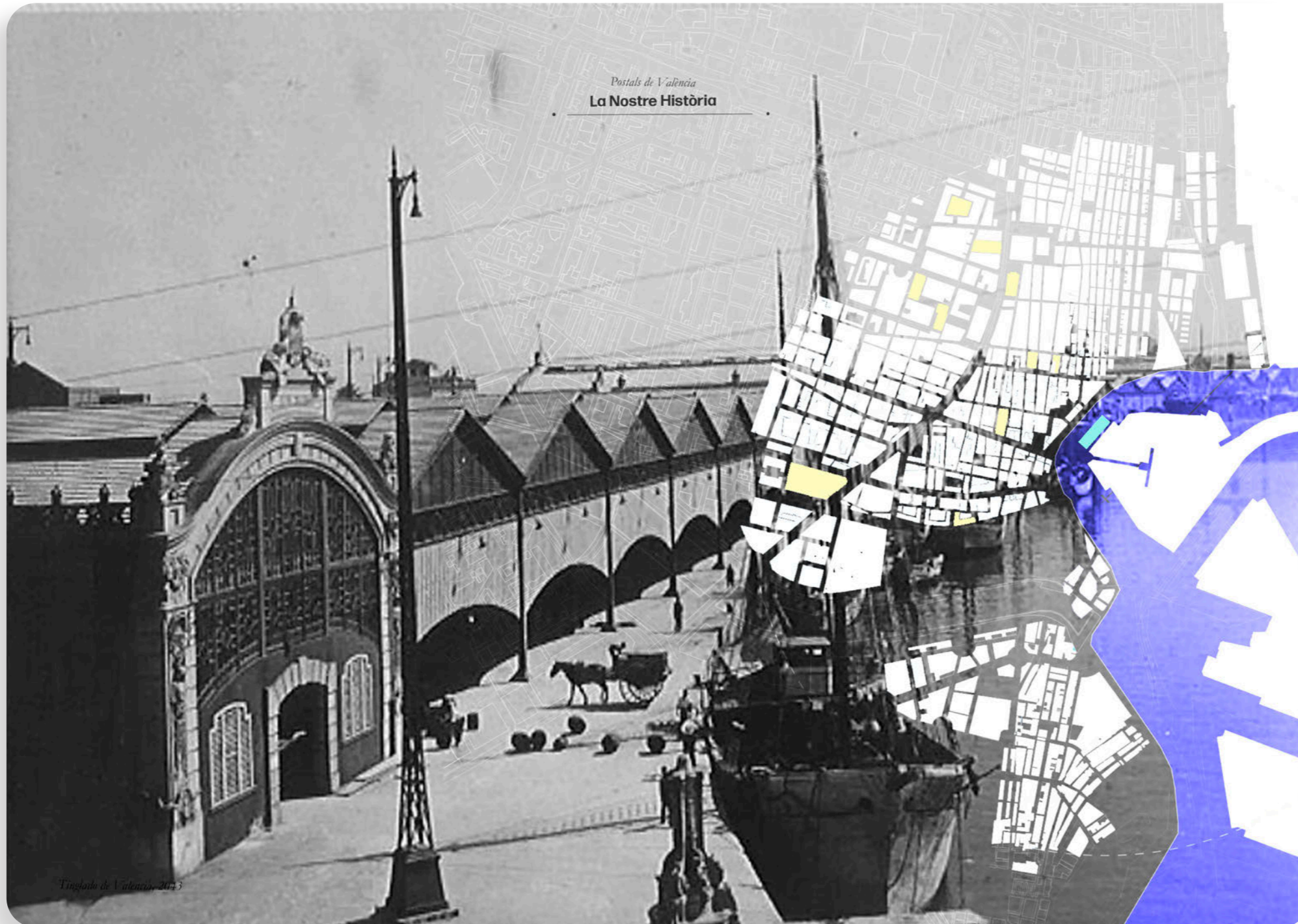
The proposed use for this project is to develop a Project Based Learning Center located on the old Tinglados of Valencia.

A model that organizes learning around projects. Making the project the vehicle of learning. The Tinglados will be receiving students from different schools during a day trip to develop a meaningful project during a period of time. The Tinglados will be reactivated with this new use, hosting meeting rooms, workshop areas, auditorium and all the spaces needed for children to spend the day at the Harbour.



Existing Schools

Territorial Plan
Valencia Harbour
Scale: 1:20000



“The Tinglados have a meaningful historical and cultural weight for the people of Valencia. Marking its shore and becoming the façade of the city towards the sea.”

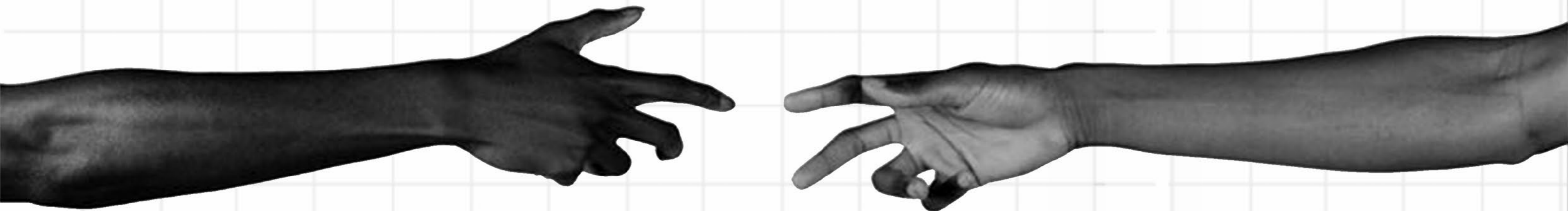
Chapter 2

Connectivity.

- Understanding the existing.
- Knitting the city and the Harbour.
- Urban Strategies.
- Recovering Valencia's eldest part of the Harbour



**The city and
the harbour:
how to knit
these two
worlds?**



Urban Connectivity

Understanding the existing situation

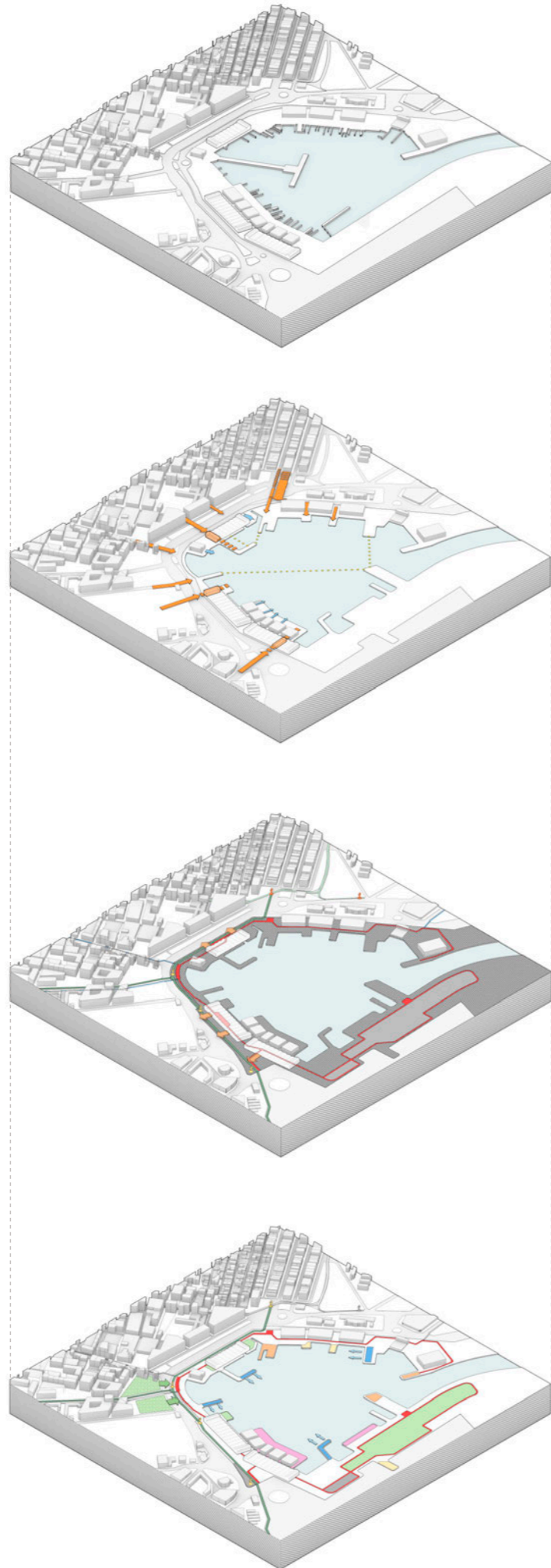


Illustration by Mhar Studio.

If we zoom in into the second scale, the area of the Tinglados in the Harbour of Valencia, the first big challenge we encounter is the lack on connectivity between the city and the Harbour since historically these two elements have been developed independently.

Introducing a project in the Harbour demanded to rethink the relationship it has with the city

Providing easy access points to the people, safe transportation for students and professors and reducing the existing distance between the city and the harbour are some of the objectives. Three main ways of connecting the city and the Harbour are proposed: Morphological connectivity, physical connectivity and programmatic connectivity. These techniques connect the city in different ways responding to the new needs that will appear by insertion of the project.



- Existing Situation

- Morphological Connectivity

Responding to the existing Valencia's urban morphology.

- Extended Streets
- Main Public Access
- Extended Buildings
- Visual Connections

- Physical Connectivity

Extension of tram lines, bike lines and pedestrian paths.

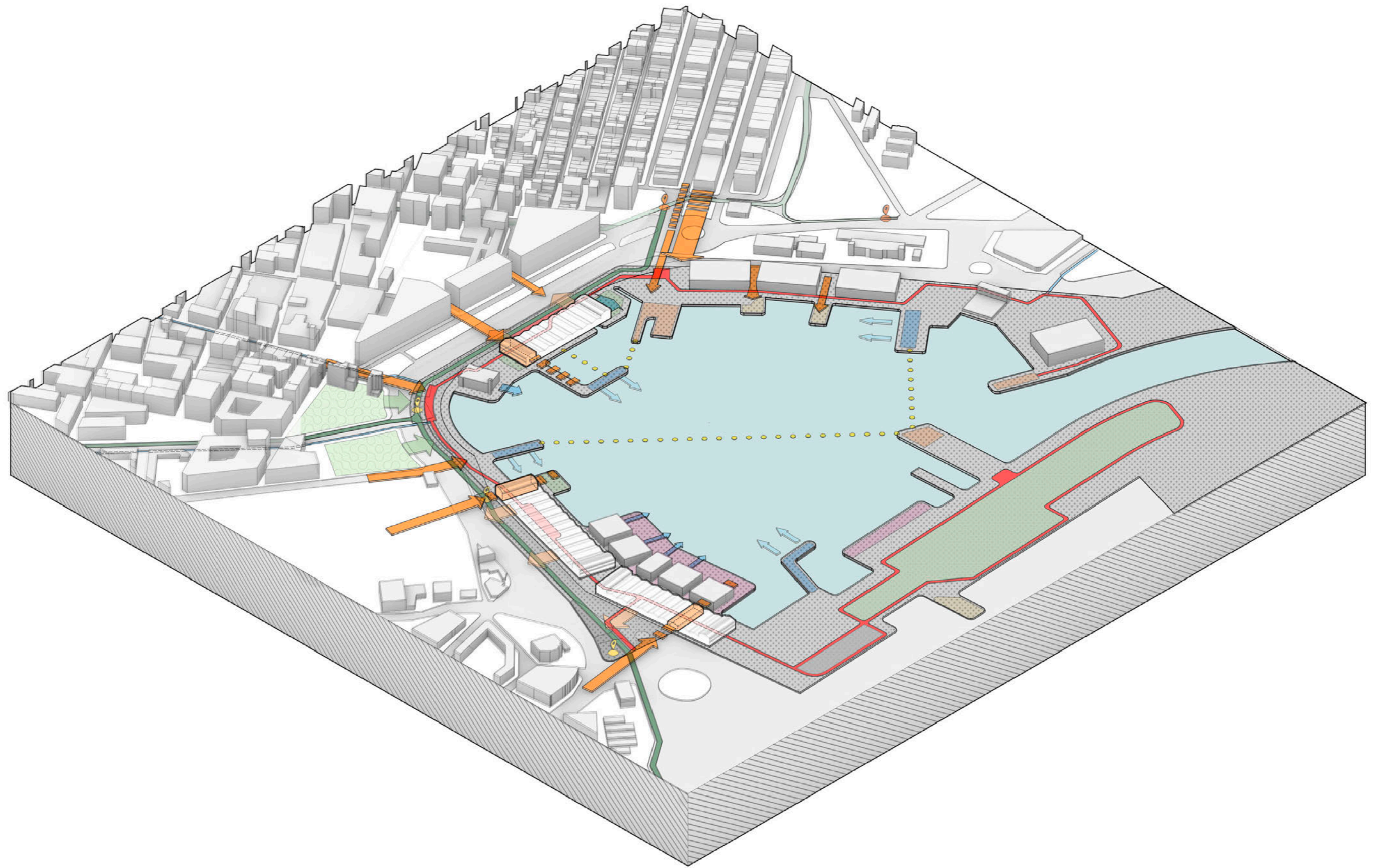
- Existing Tram Lines
- Existing Bike Line
- Existing Tram Stations
- Tram Line Proposal
- Tram Station Proposal
- Bike Line Proposal
- Pedestrian Area
- Expanded Areas

- Programmatic Connectivity

Responding to existing uses and connecting them to the Harbour

- Tram Line Proposal
- Tram Station Proposal
- Bike Line Proposal
- Green Areas
- Viewpoints Areas
- Commercial Areas
- Aquatic Activities
- Boat Piers
- Bicycle Parking





Urban Connectivity

Knitting the city and the Harbour



Illustration by Mhar Studio.

These urban strategies organize and distribute the transportation wards the Harbour.

A set of urban strategies have been studied and applied. The master plan of the Harbour is organized in four main entrance areas, each of them responding to a different necessity:

- The Main Entrance:

Designed mainly for pedestrian use and for students in nearby schools to reach the Harbour walking.

- Public Transport Entrance:

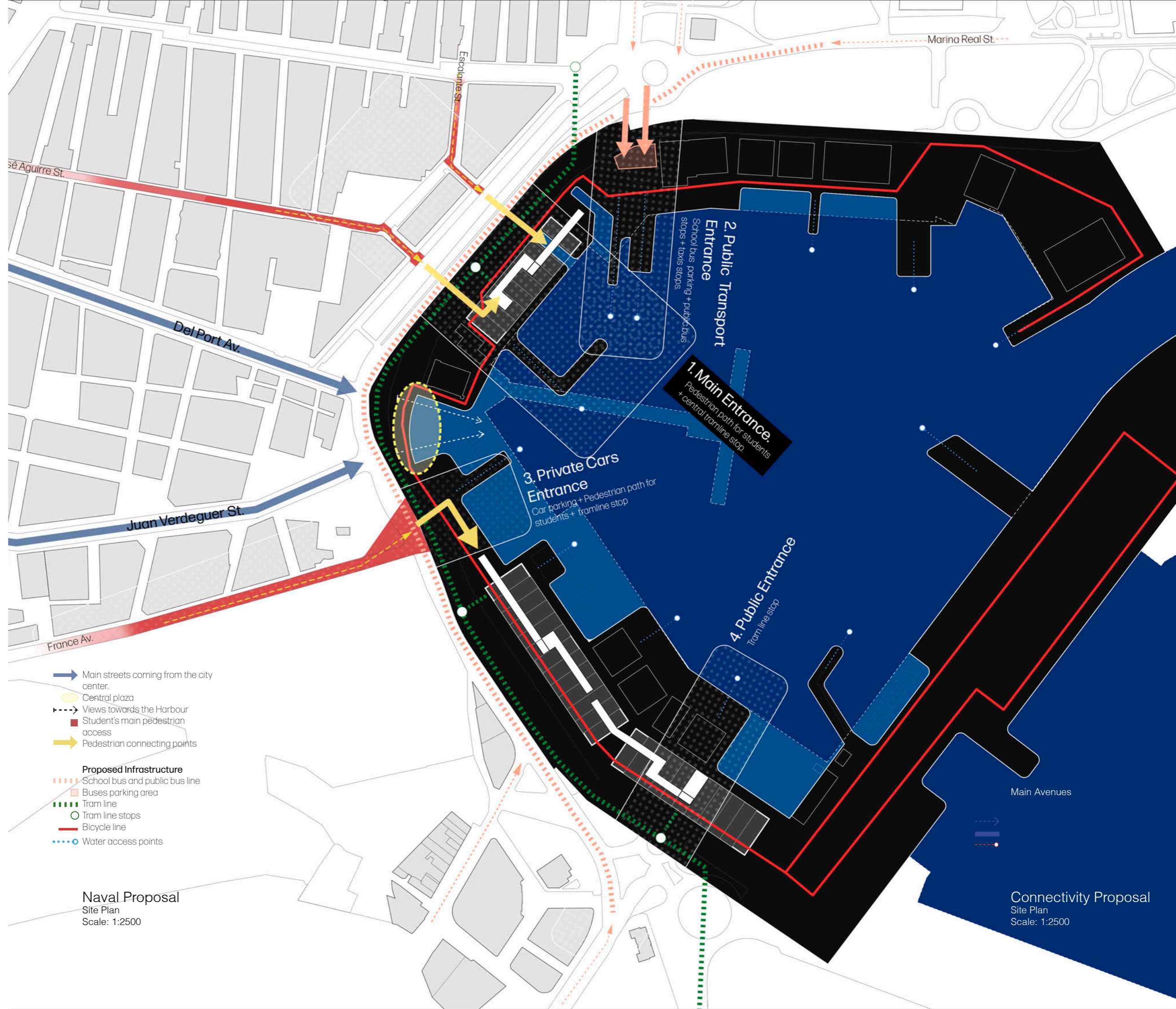
Bus stops for schools and public use will enter through this area, using the car line available for them.

- Private Car Entrance:

Accessible paths for people next to the underground car park for people who will be reaching the Harbour in their cars.

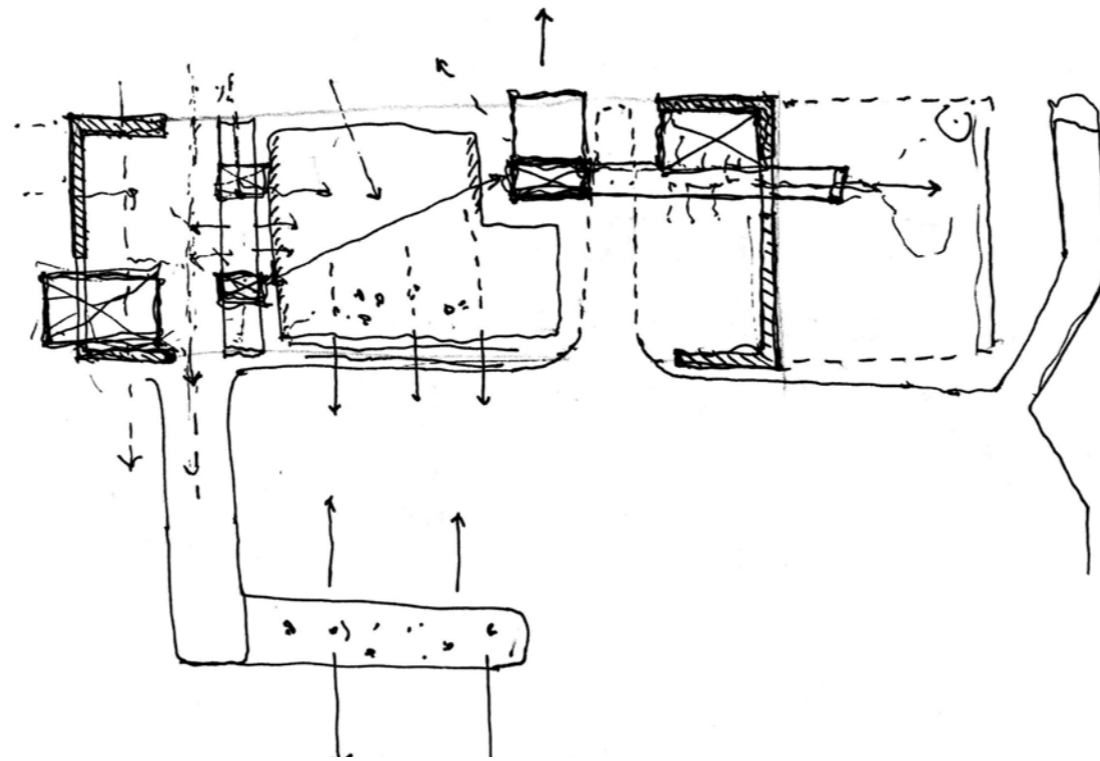
- Public entrance:

For buses and tram line stops coming from this side of the city.



Naval Proposal
Site Plan
Scale: 1:2500

Connectivity Proposal
Site Plan
Scale: 1:2500



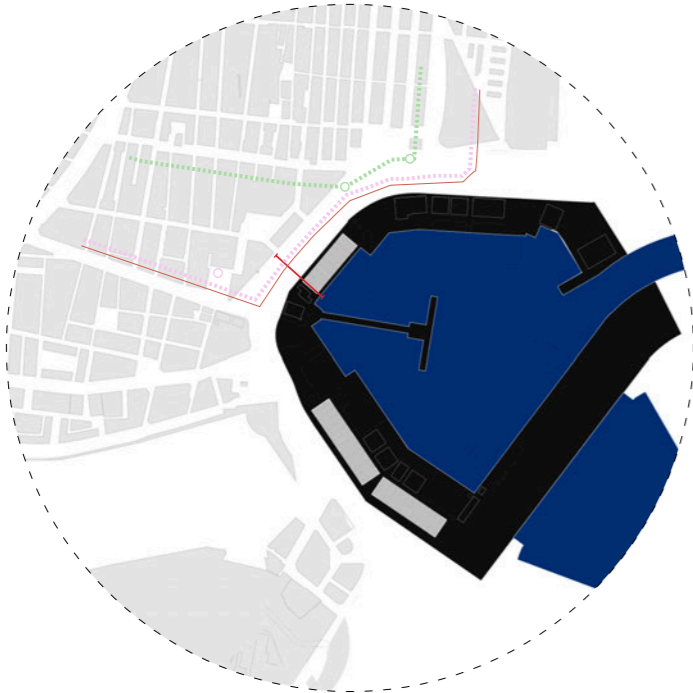
Providing easy access points to the people, safe transportation for students and professors and reducing the existing distance between the city and the harbour.

Urban Strategies Diagrams

A set of sequential steps of urban strategies have been implemented into the site with the objective of connecting the city and the Harbour.

1. Existing Situation

- ⋯ Tram line
- Tram line stop
- ⋯ Bus line
- Bus stops
- Bicycle line



88,30m 41,40m 7m



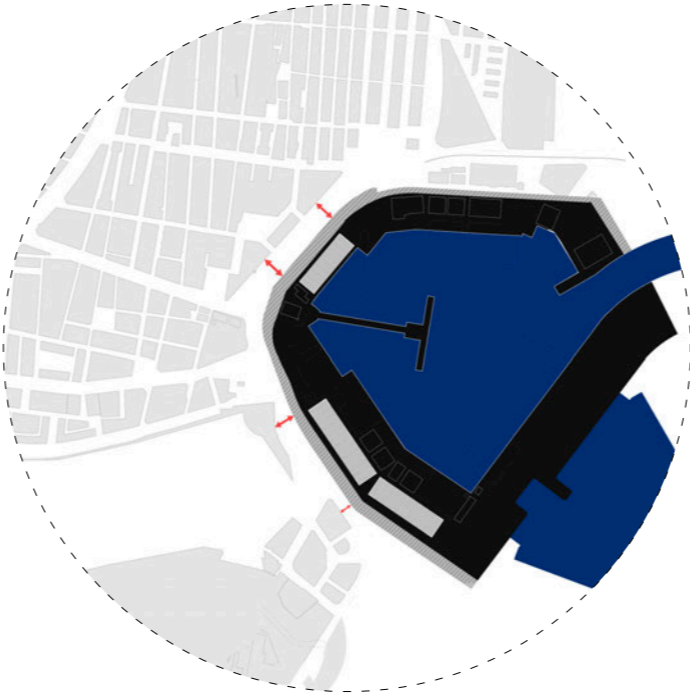
Dr. Juan José Dominé St.
Two-way street - 54m wide.

de l'Enginyer Manuel Soto AV
Six-way avenue - 21m wide

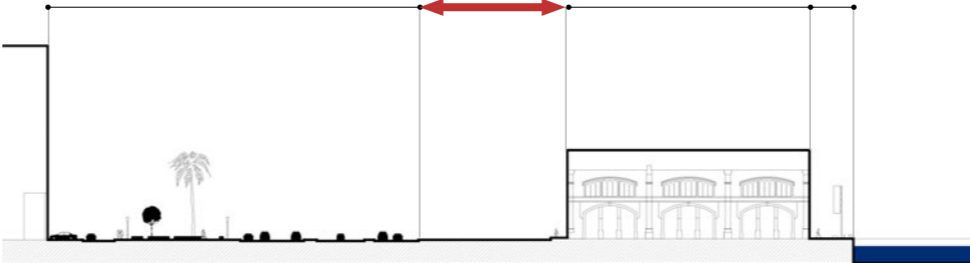
Marina Real Juan os I St.
Two-way street and parking - 15m wide.

2. Narrowing the distance

- Pedestrian area extension
- ↔ Distance between the city and Harbour



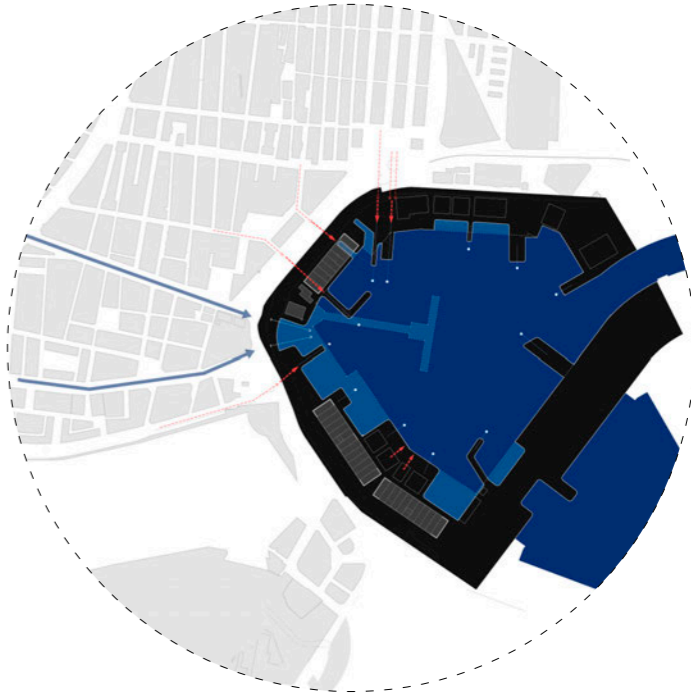
63m 25,20m 41,40m 7m



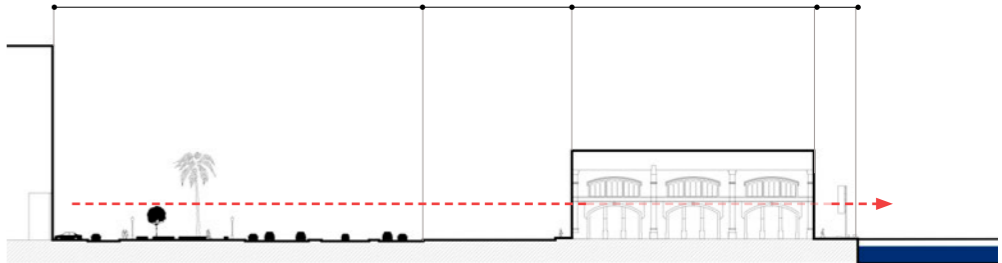
Extension of pedestrian area
+ firemen vehicle access in case of emergency

3. Extending streets towards the sea

- - - Existing streets
- - - Street extension
- Water access points



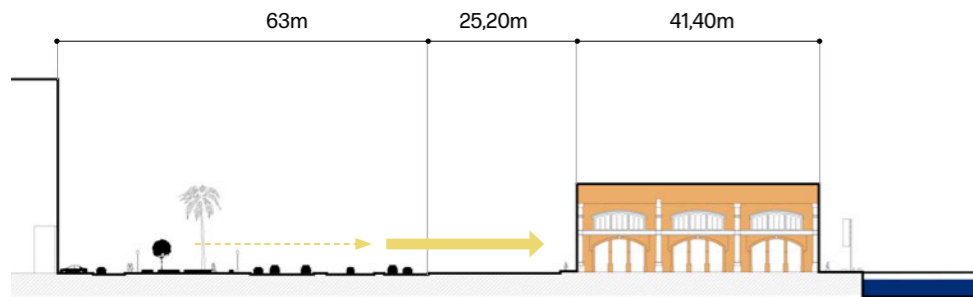
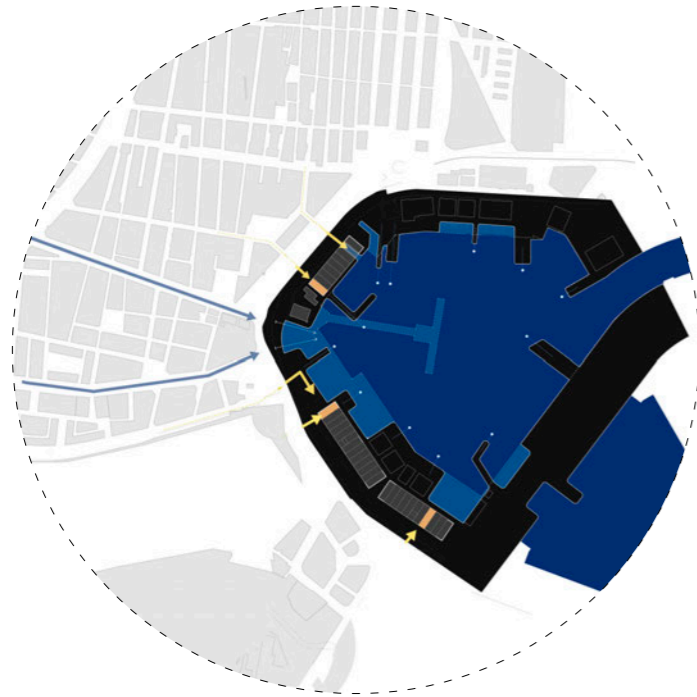
63m 25,20m 41,40m 7m



Piers creating new access points to the sea.

4. Creating pedestrian access points

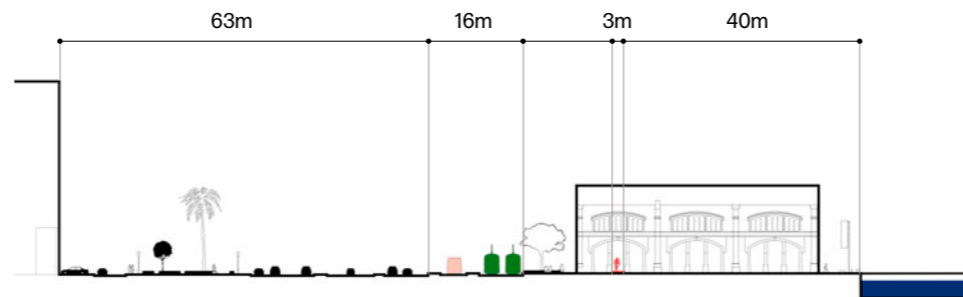
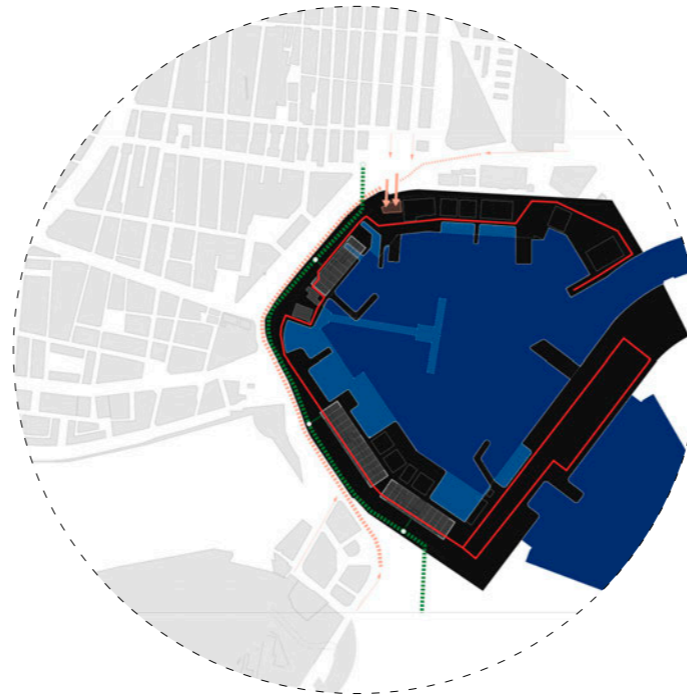
- Main streets coming from the city
- Pedestrian connecting points
- Gateway to the sea
- Water access points



Tinglado as the gateway,
welcoming people to the sea

5. Developing new public transport lines

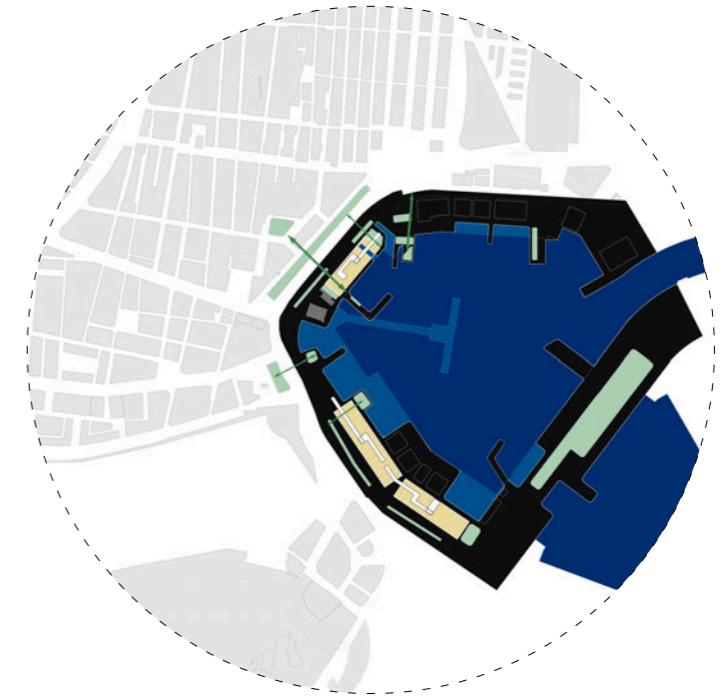
- Public bus line
- School bus parking
- Tramline
- Bicycle line



New bus line
New tram line
New bicycle line

6. Introducing green pockets and volumetric incertions

- Green pockets
- Volumetric Incertions
- Tinglado as covered plaza



Existing green area
New green pocket
Volumetric incertion
in the Tinglado

Urban Strategy

Recovering Valencia's eldest part of the Harbour

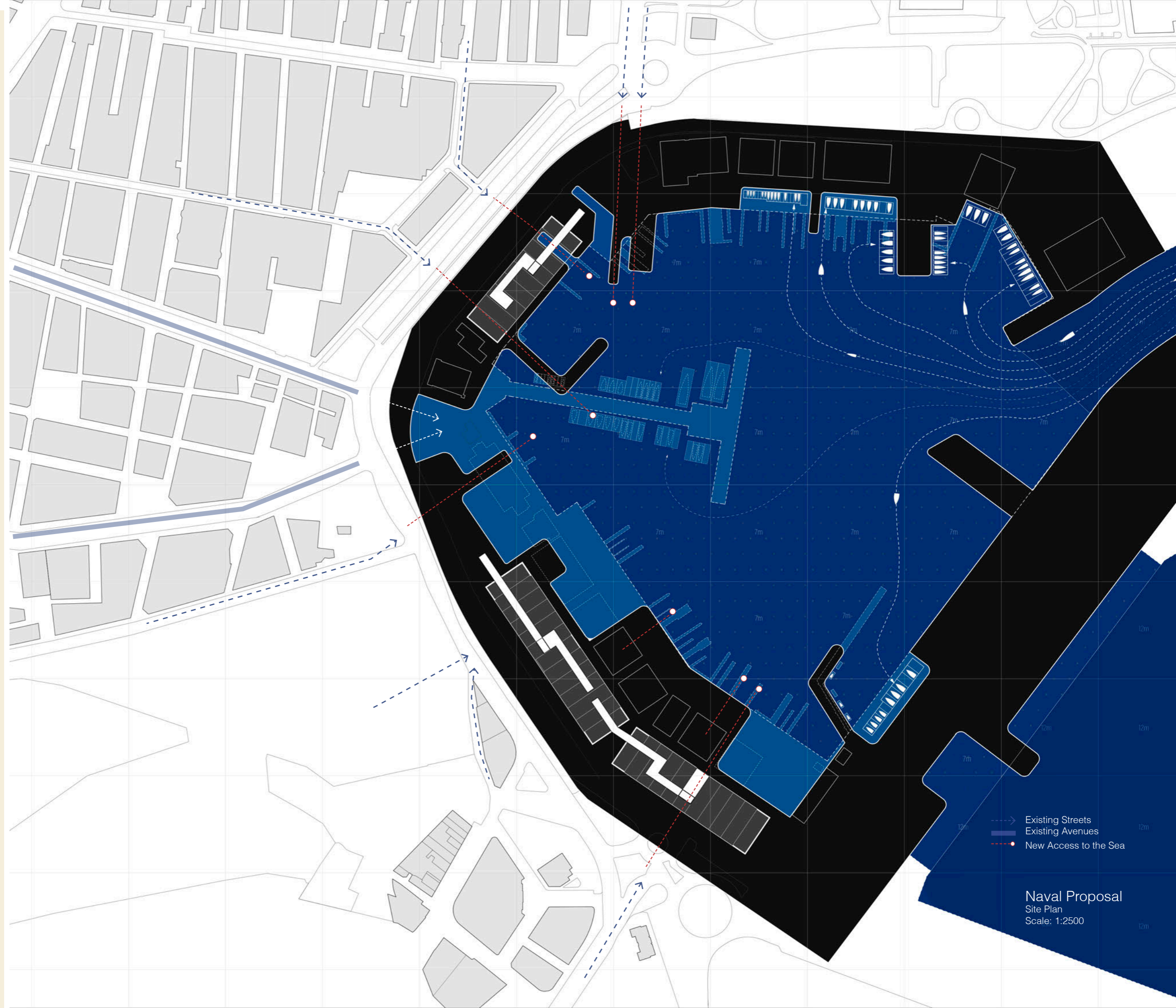


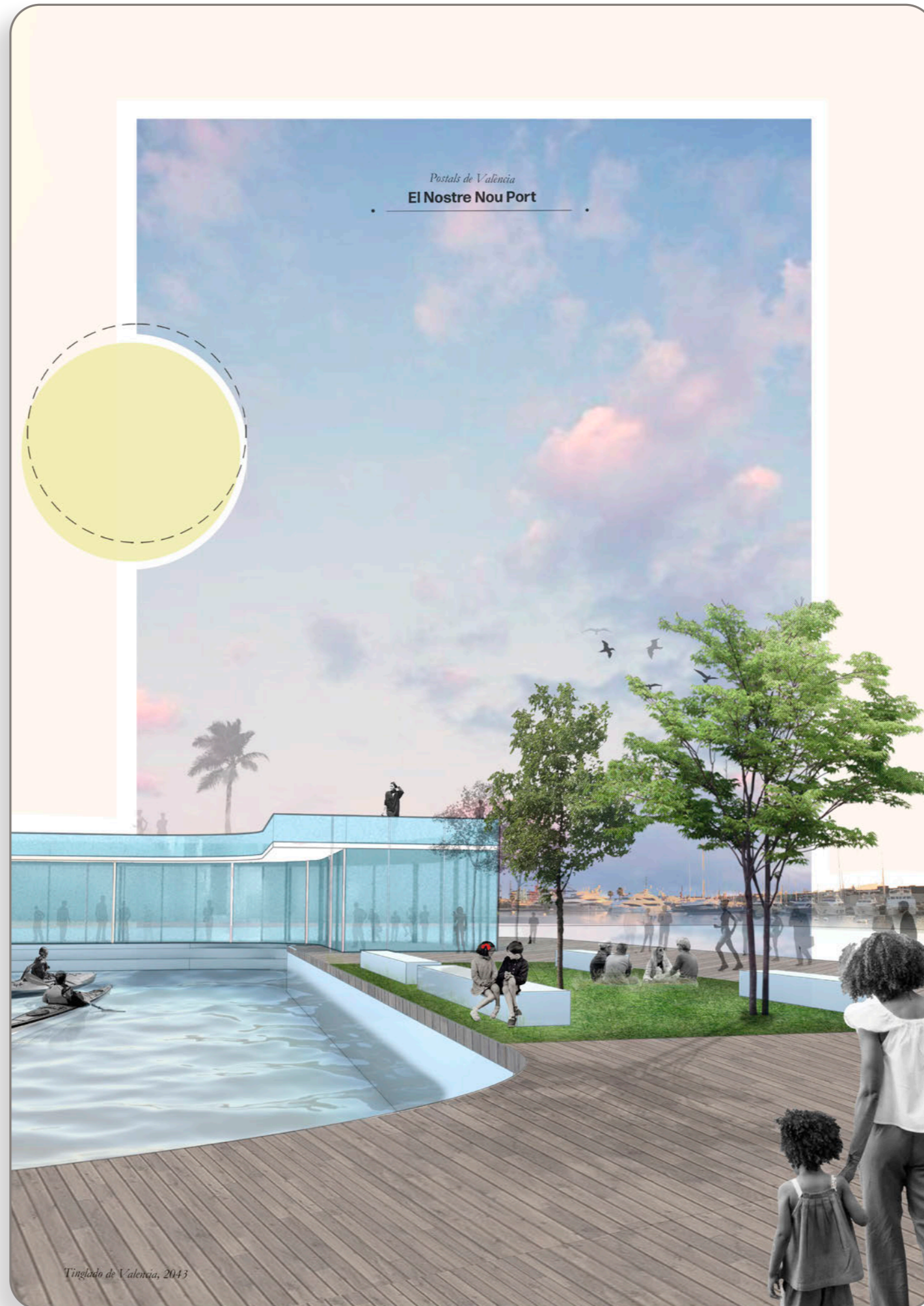
Port of Valencia, 1980.

The master plan of the project focuses in recovering the oldest part of the Valencian Harbour, reshaping it, activating the shoreline and taking full advantage of this artificial bay.

The proposed form compared to the original shape of the bay has been thoroughly studied to achieve an attractive and convenient change on the Harbour's naval logistics, public activity and overall functions.

These changes enhance the current ships organization allowing people to have a clear view to the whole bay from the Tinglados, centralizing the ships parking area on a side of the entrance of the bay and reducing its mobility. The proposed shape is designed to easily close the bay with an absorbent barrier in case of an emergency and against marine pollution.





Postals de València
El Nostre Nou Port

Tinglado de València, 2043

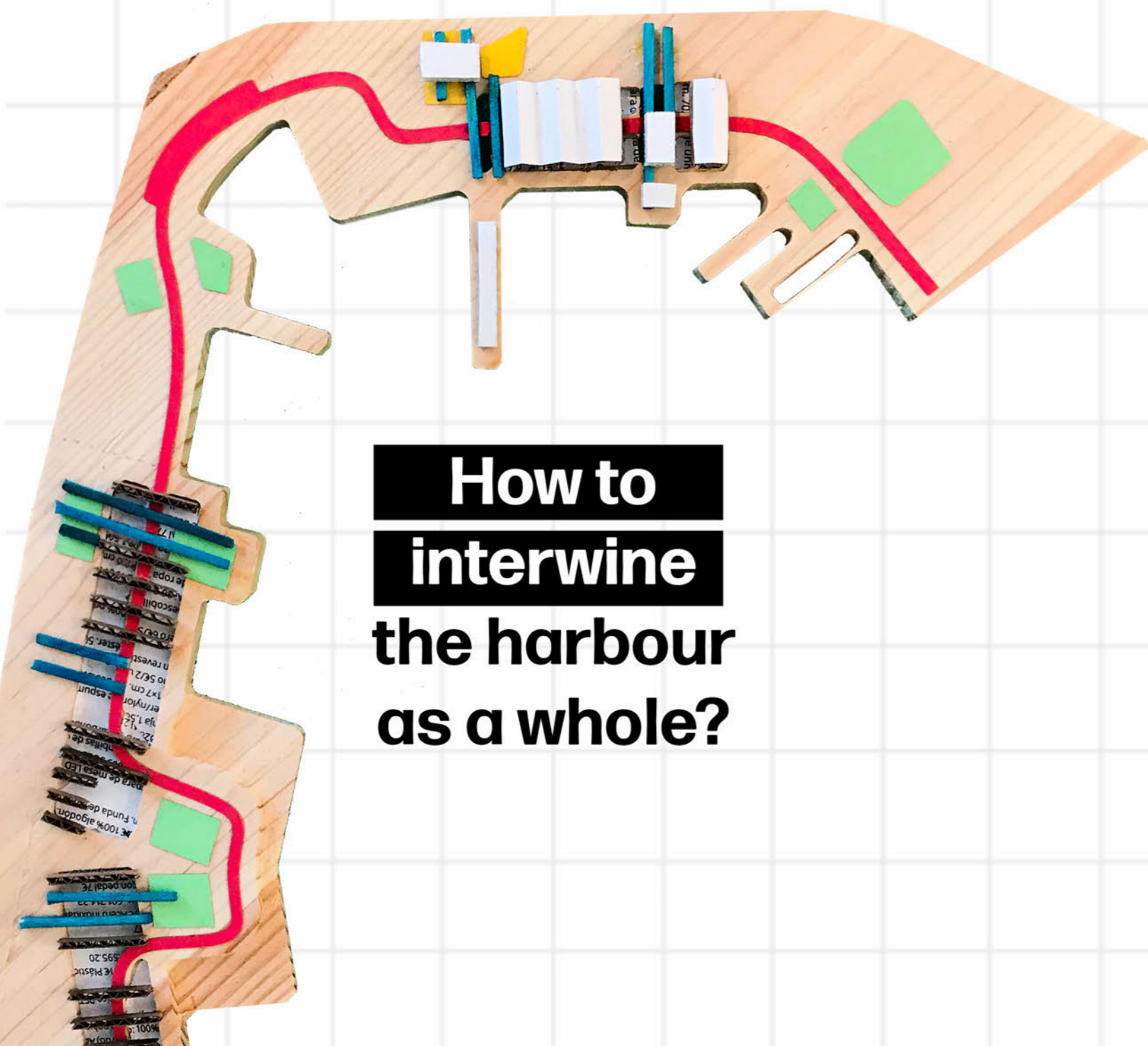
“The new harbour is appealing and convenient and, most importantly, it gives back Valencian’s the possibility of enjoying their city’s water edge”

Chapter 3

Urban Approach.

- Understanding the existing.
- Anchoring the Proposal.
- City's Impact.
- Elevation

3



**How to
interwine
the harbour
as a whole?**



Architectural Approach

Anchoring the Proposal



Vijversburg Center by Junya Ishigami & Associates and Studio Moks

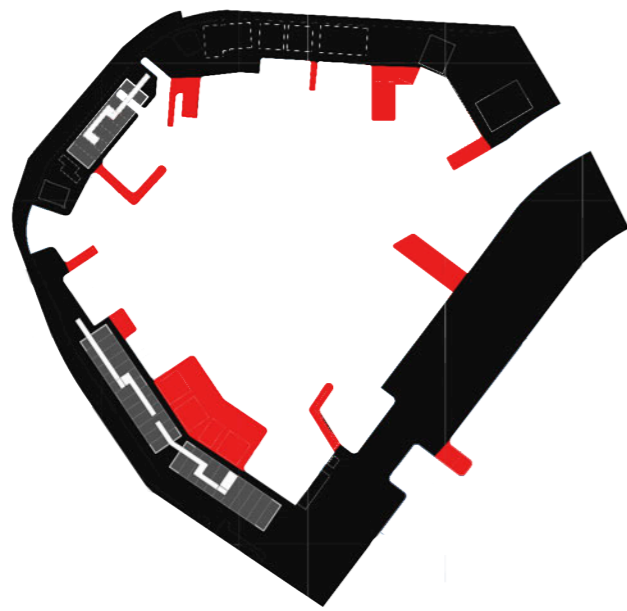
Three main architectural components will be implemented:

- Metal minimalistic ribbons hosting the new uses and waterfront activities.
- Tower insertions in the Tinglados.
- Wooden piers allowing people to reach and interact with the water.

These elements anchor the proposal and intertwine the Harbour as a whole, creating a consistent and legible image of the it.

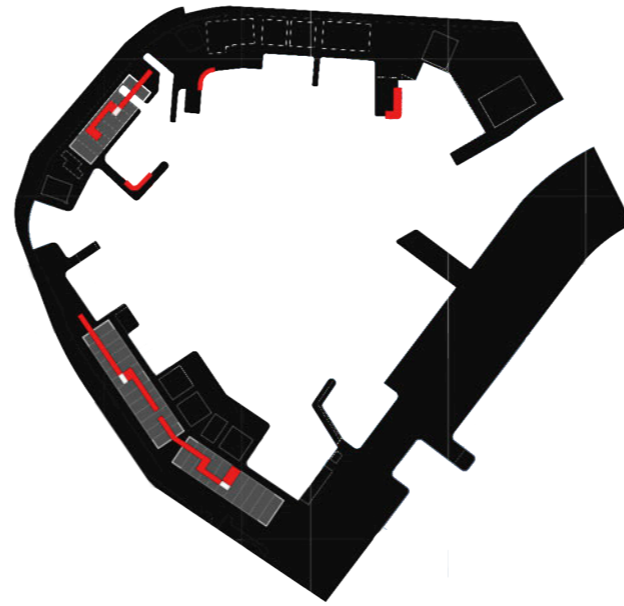
Producing a lively waterfront park with strong presence in the city, paying tribute to its unique history and producing evident public accesses to help give the shoreline back to its people.





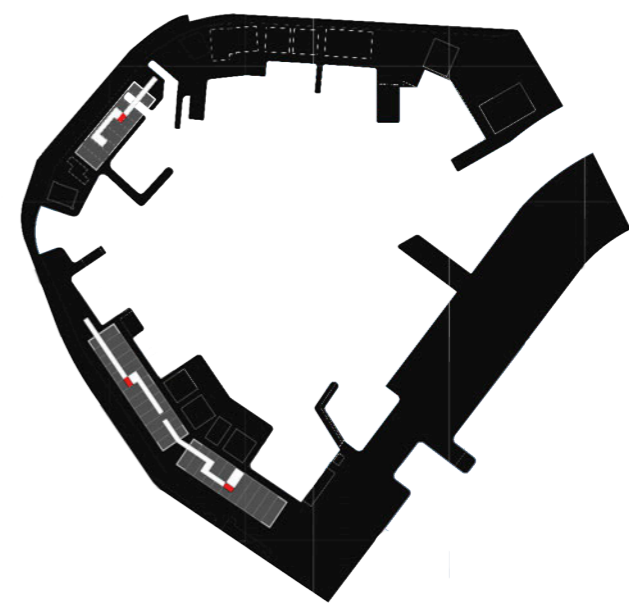
1. Harbour's piers.

allowing people to reach and interact with the water.



2. Minimalistic Insertions

hosting the educational uses and waterfront activities.



3. Tinglado's Towers.

acting as urban landmarks.



City's Impact



Central Toronto Waterfront by West8

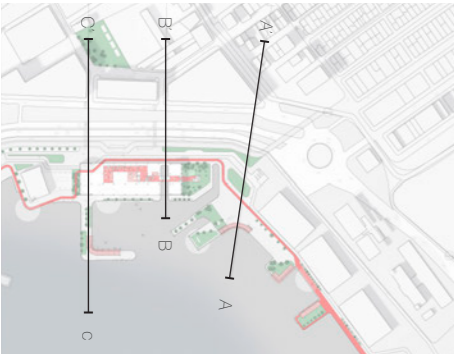
The master plan becomes a key document to understand the architectural connection between the three scales that compound this project. All of them work together to enhance the exiting Valencia's shoreline by utilizing the dominant maritime identity of the Tinglados to host new uses that adapt to current needs.

The current needs we are dealing in this design approach are substantially complex, requiring a radical intervention as the one proposed.

Forty years from now, three-quarters of the world's population will be living in cities and we will need huge design efforts to manage demography, transportation, living conditions and human relations. In a situation like this, the area of the Harbour becomes a crucial space for the city. The longitudinal park shifts the urban focus point to a humanitarian approach. Offering quality public spaces, designed green areas and spaces where pedestrian paths and bike ways become the primary way of moving.

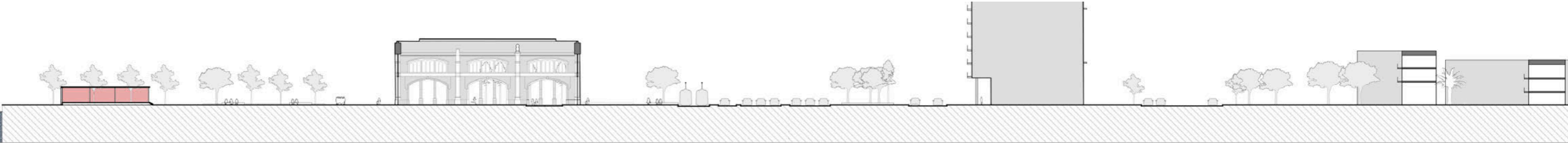


Shore Line Activity

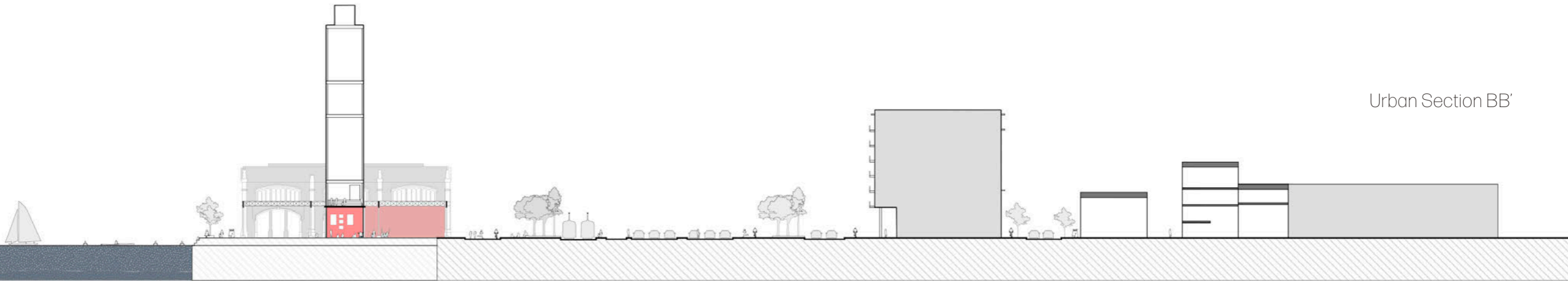


One of the naves of the Tinglado becomes the main public access, transforming it into the gateway towards the sea.

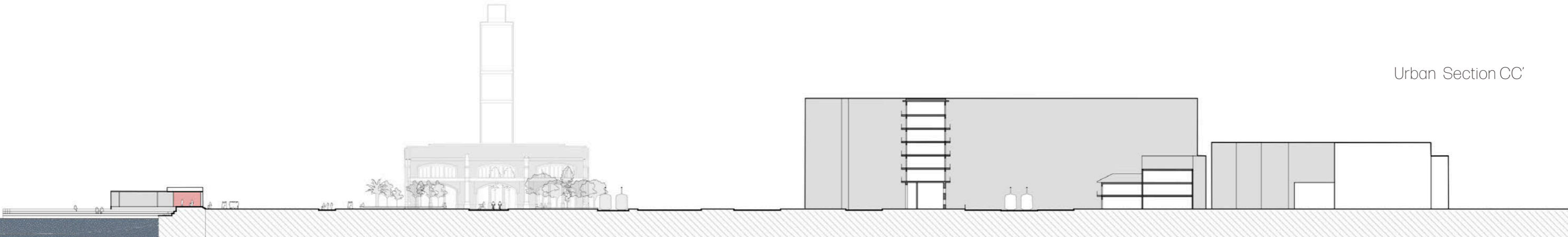
Urban Section AA'



Urban Section BB'



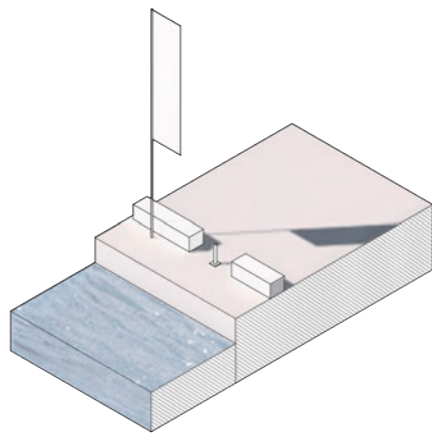
Urban Section CC'



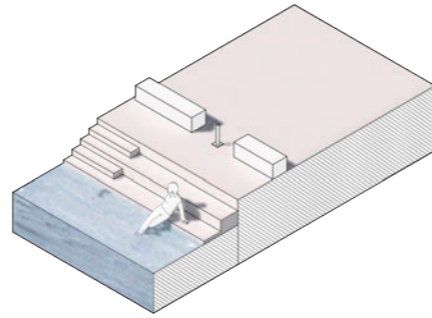
Elevation

The point in which the city touches the sea becomes a critical point for the park.

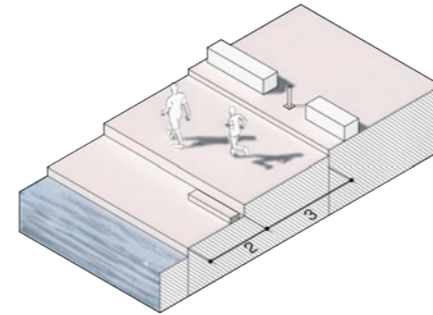
For this reason, once you reach the water, a catalogue of ways of interacting with the water have been design. These interventions have the bigger aim of connecting the city and the sea, acting as attractors to invite people to bring life to the shore line and keep awake the Harbour as many hours of the day as possible.



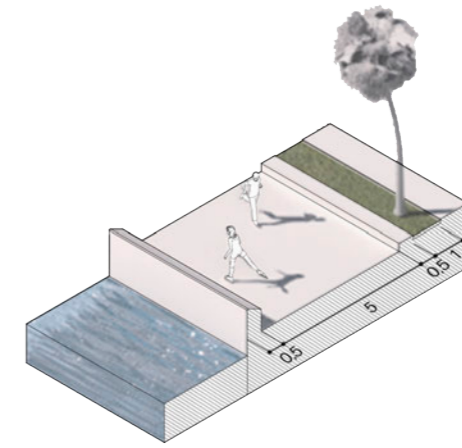
Existing Situation



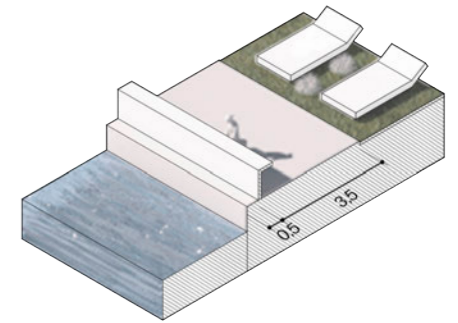
Stairs towards the sea



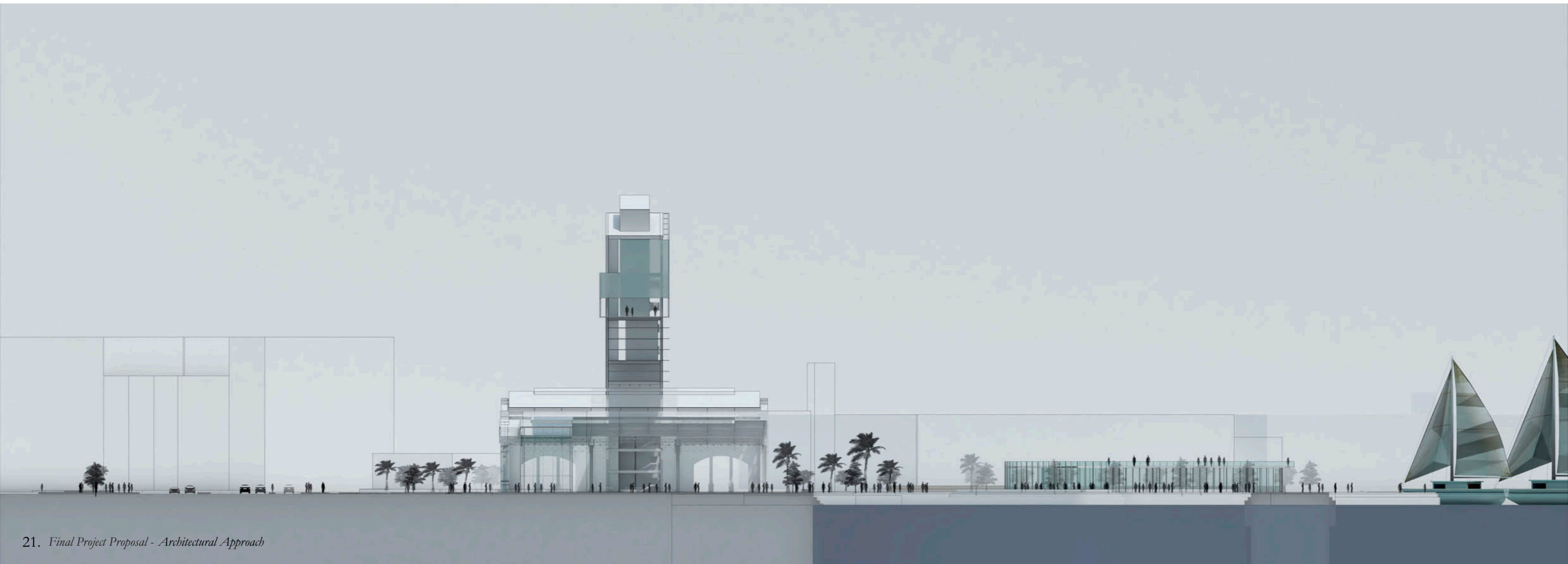
Walking path



Wide running path



Urban furniture





Postals de València
El Nostre Nou Camí

Tinglado de València, 2013

“The project shifts the urban focus point to a humanitarian approach, offering quality public spaces prioritizing

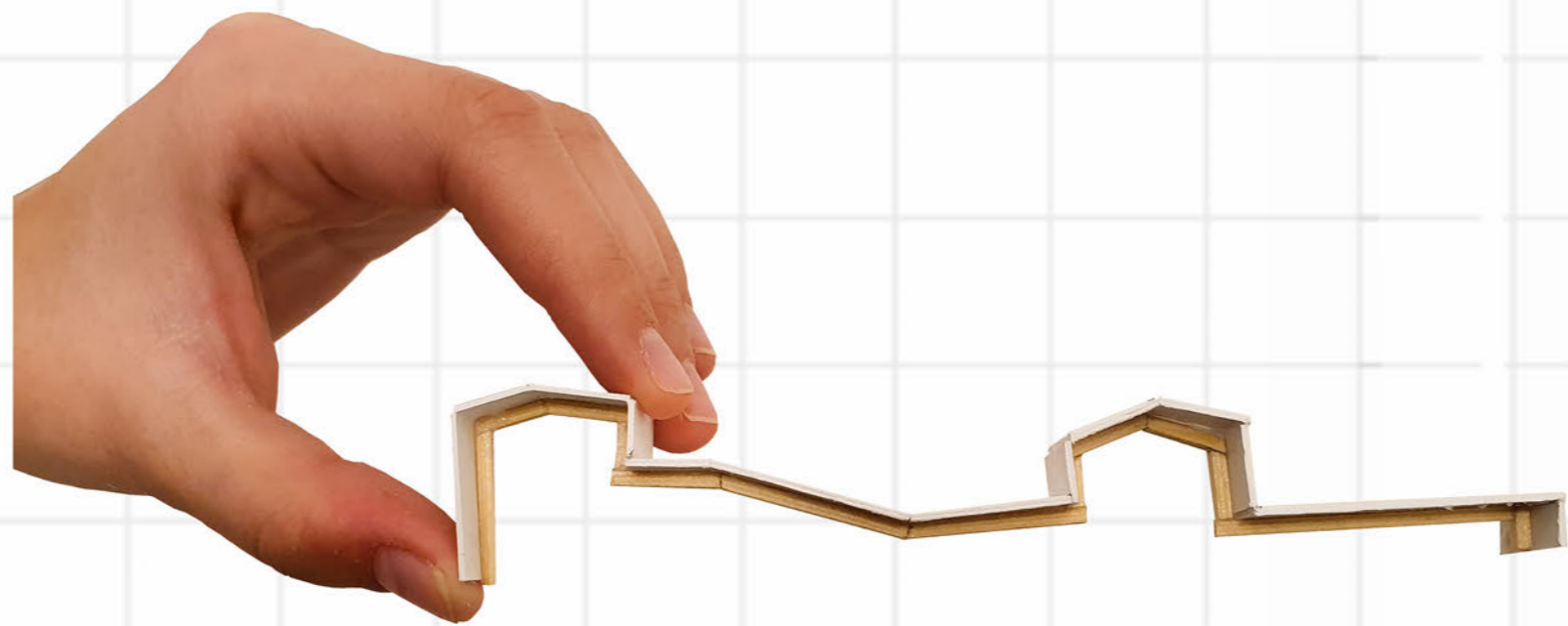
Chapter 4

Architectural Elements.

- Systems and Architectural Elements
- Respecting the Existing
- Internal Organization
- Zoom in areas

4

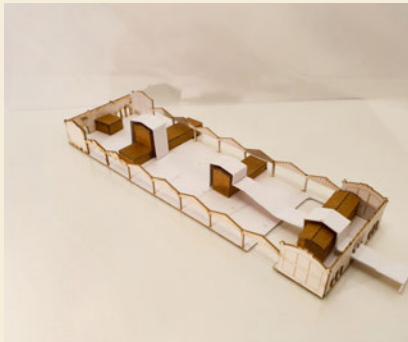
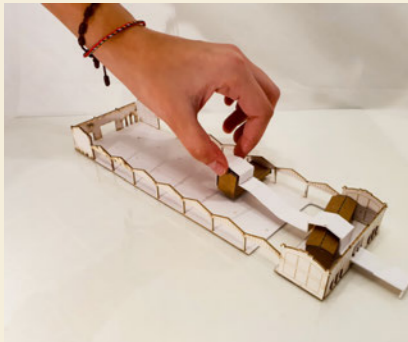
**The tower,
the ribbon
and the
volumes**



Architectural Elements

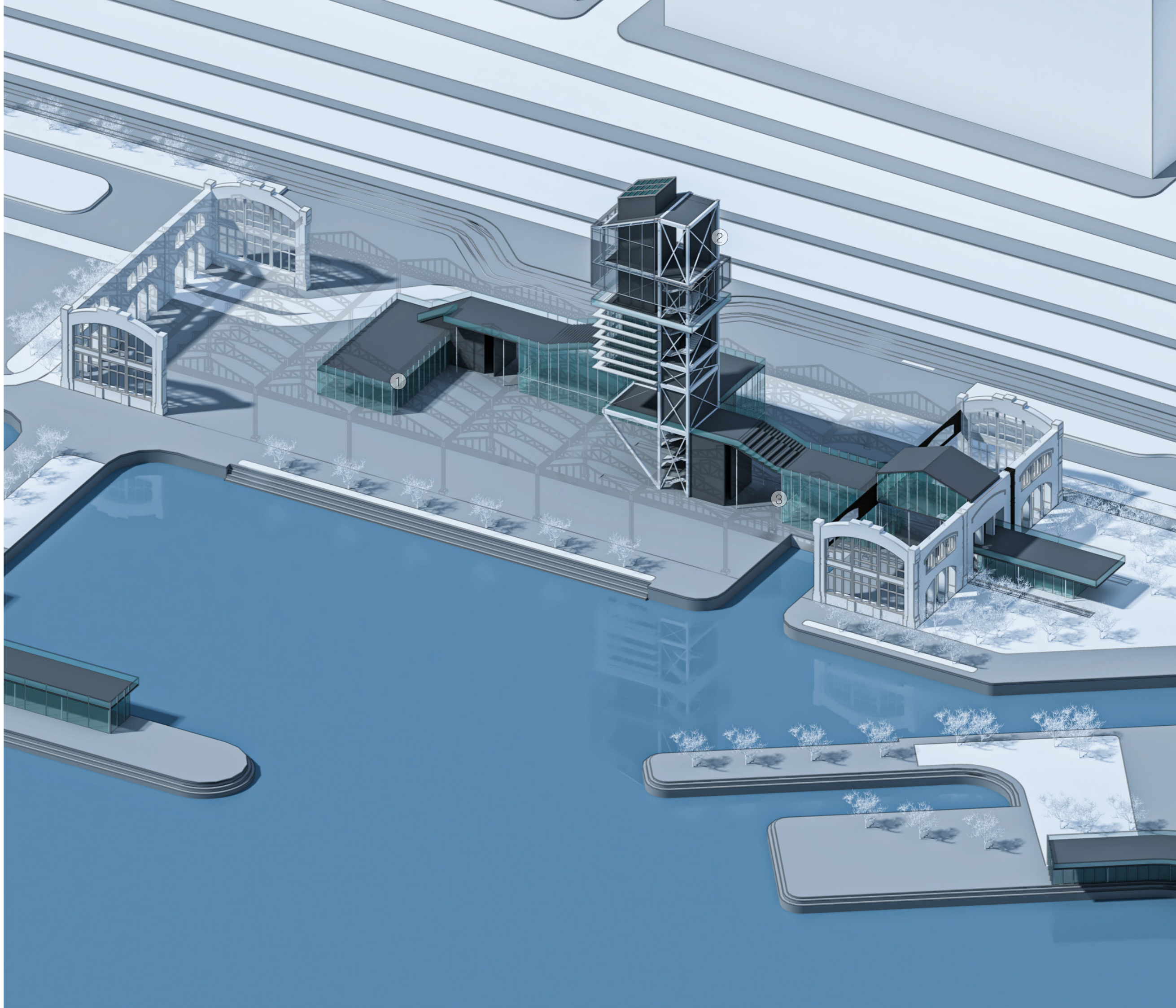
Systems and Architectural Elements

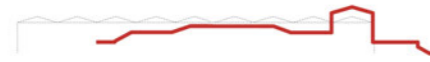
Three main elements form the architectural proposal. These elements live within the Tinglado, acknowledging it and working with it.



Study model pictures

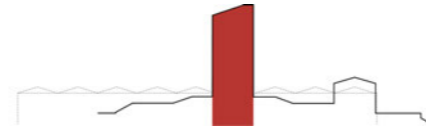
The ribbon, the volumes and the tower are the three architectural systems of the project. The ribbon moves smoothly around the Tinglado with a subtle and minimalistic approach. In its journey it passes through the Tower, which rises boldly as if the Tinglado has woken up. The tower is a powerful architectural element in the project, it becomes an urban landmark declaring the existence a new life for the Tinglado. Finally, a set of volumes are organized inside both connecting them.





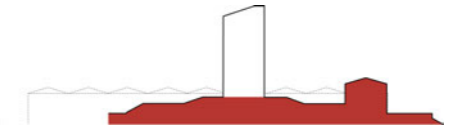
1. The Ribbon

Unfolded from the existing port. It extends itself through the Tinglado.



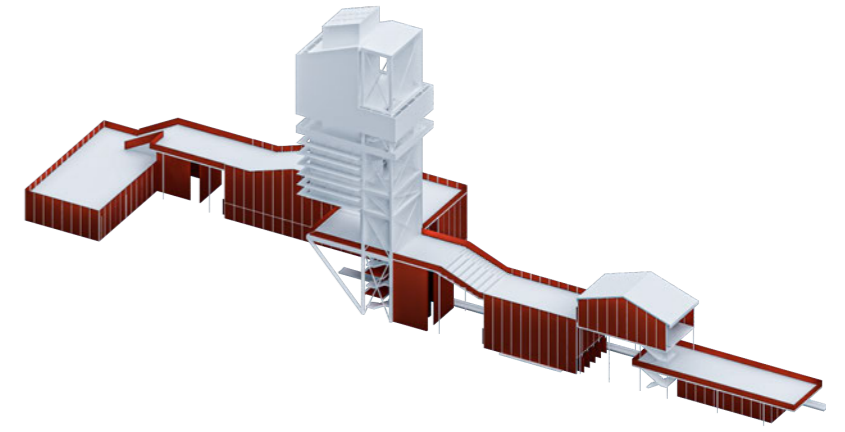
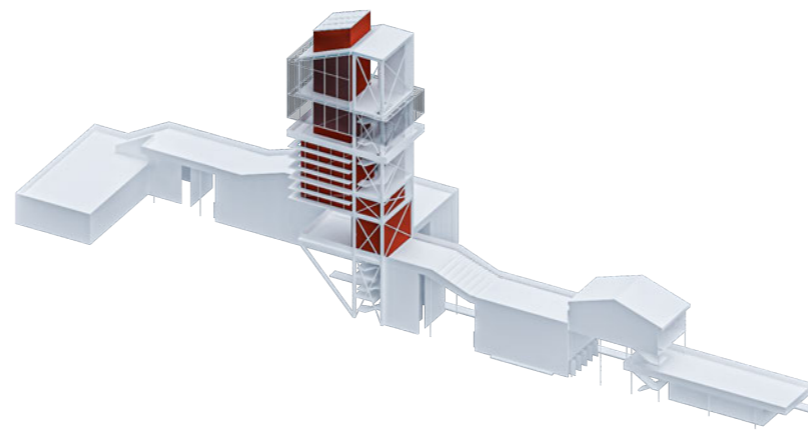
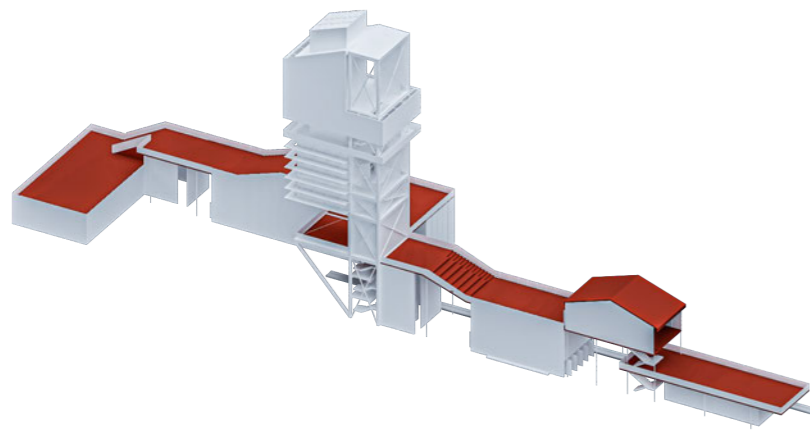
2. The Tower

Becoming the epicenter on each Tinglado, creating the experience of climbing it.



3. The Volumes

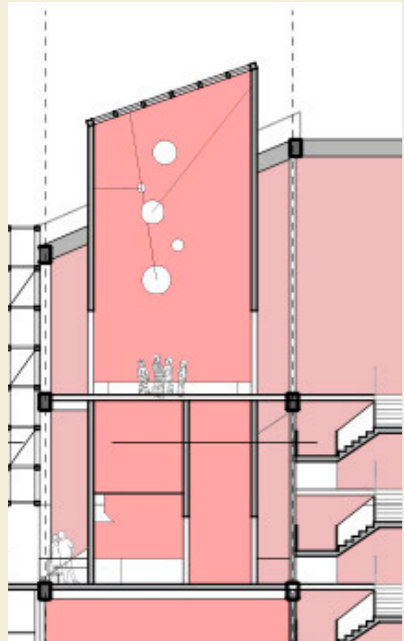
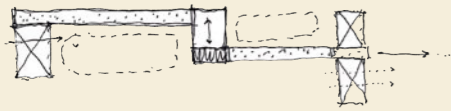
Inserted within the Tower and the Ribbon hosting the main uses of the project.



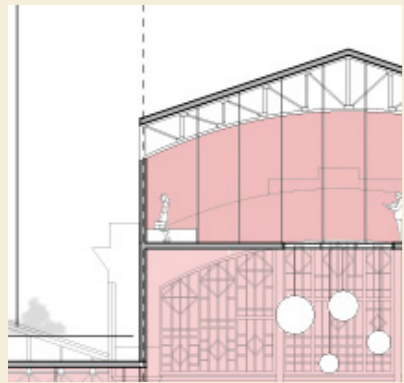
Architectural Value

Respecting the Existing

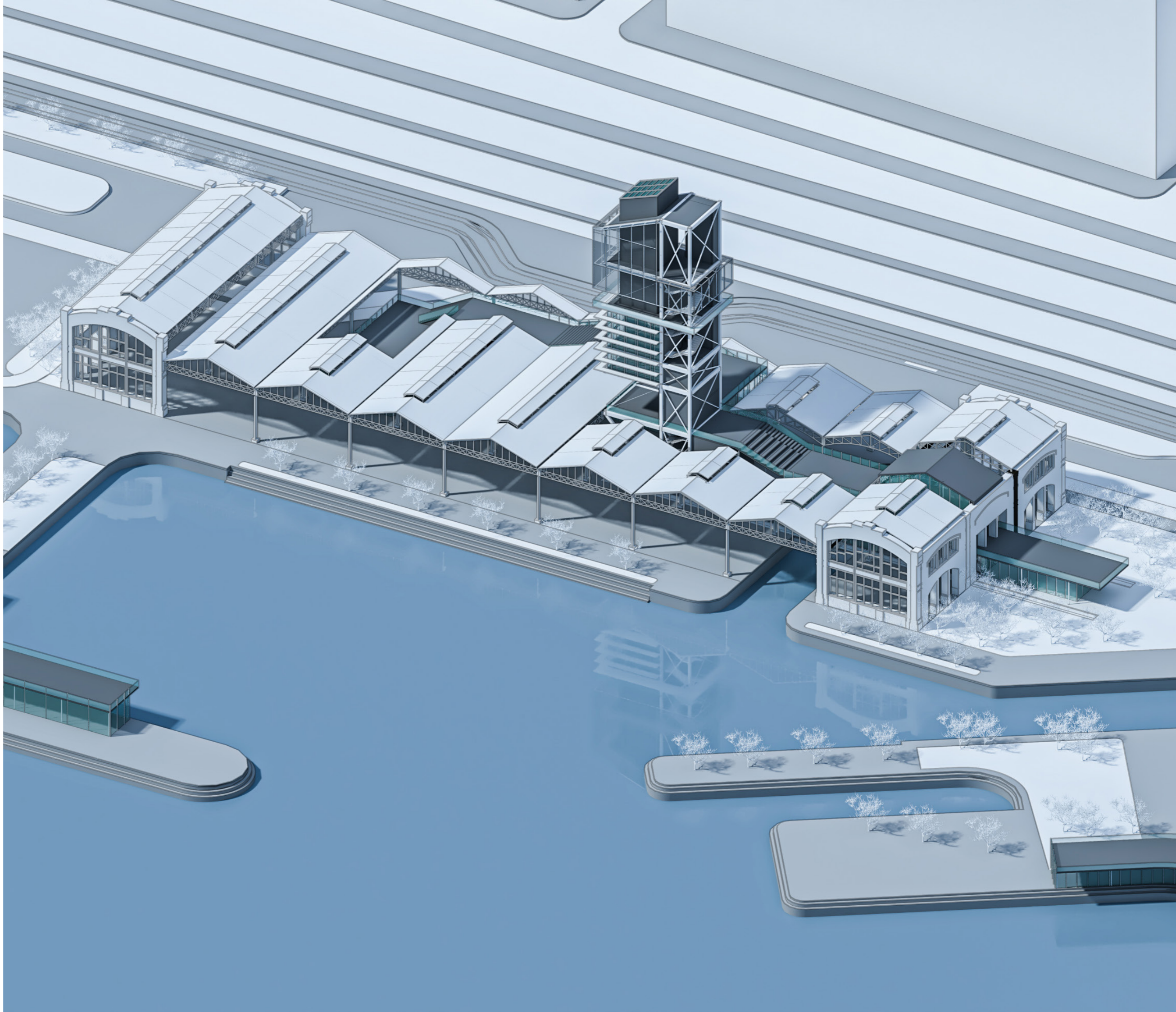
The challenge of the proposal is to design how does it works with the existing and improves its original qualities. The proposal's principal characteristic is to work with the Tinglado, acknowledging its history and meaning.

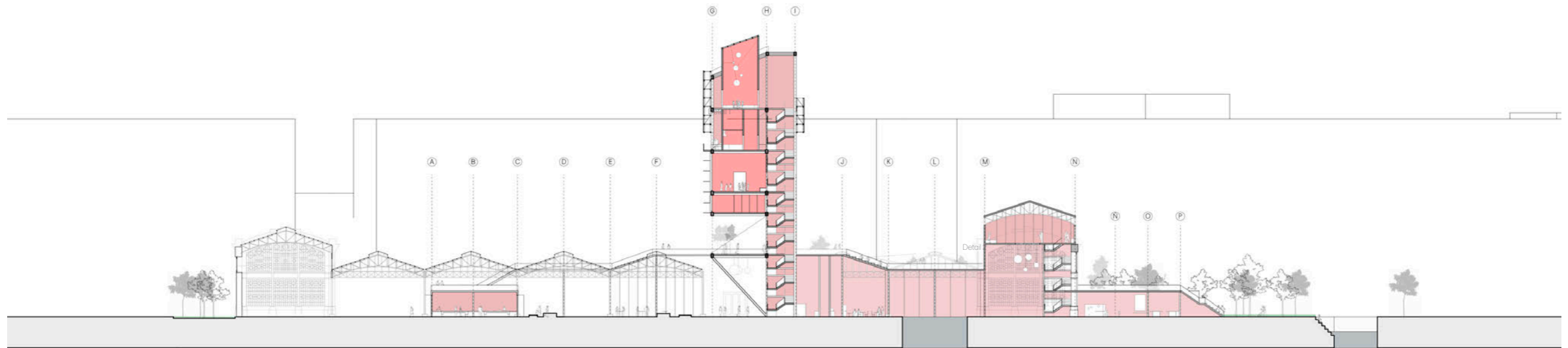


Detail 1: Tower Exhibition Room

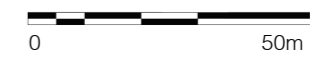


Detail 2: Cafeteria





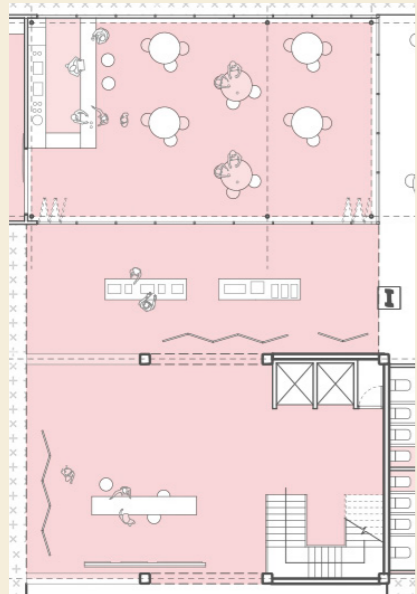
Longitudinal Section AA'
Architectural Proposal



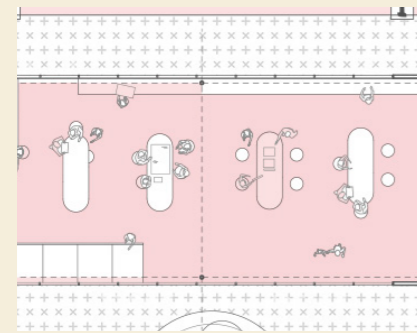
Internal Organization

The ribbon hosts the main educational uses while the Tinglado acts as a vast plaza to shelter playground areas.

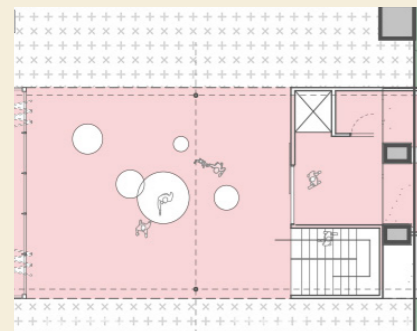
Both, the Ribbon and the Tinglado work together on the ground floor to host educational uses and connect to the surroundings.



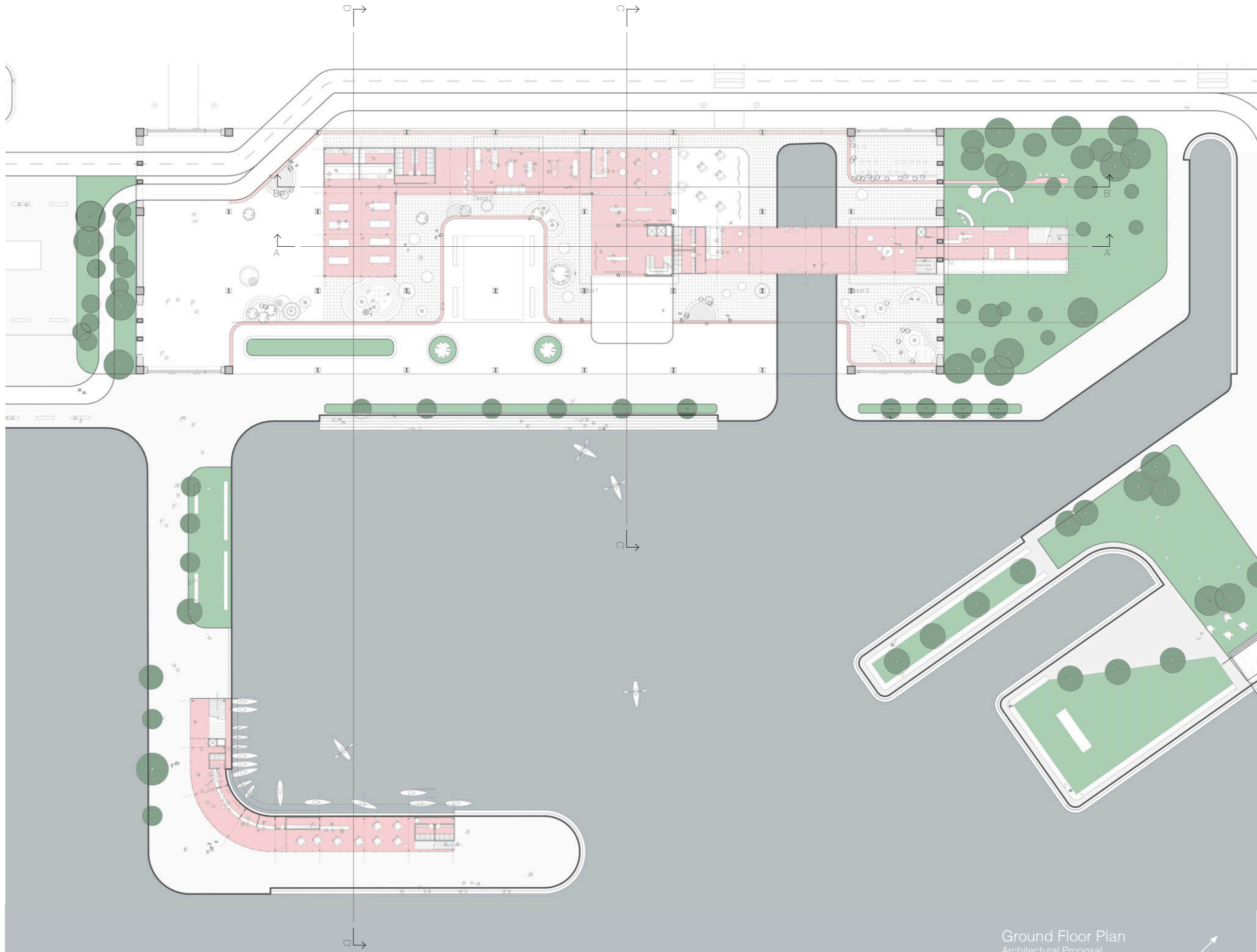
Detail 1: Tower and Reception Area



Detail 2: Workshop Area



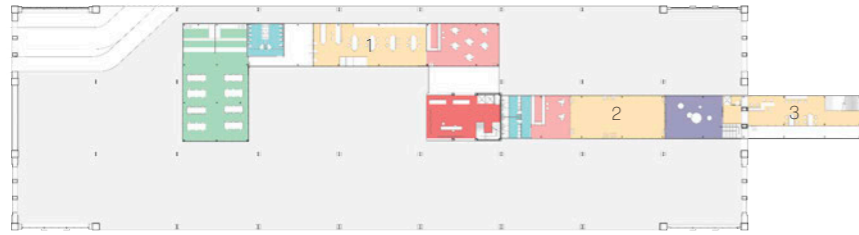
Detail 3: Exhibition Area



Ground Floor Plan
Architectural Proposal



1. Uses and surfaces



- | | | | |
|--------------------|-------------------|-------------------|-------------------|
| ■ Main Cafeteria | 260m ² | ■ Coffee Shops | 161m ² |
| ■ Educational | 427m ² | ■ Reception Hall | 100m ² |
| 1. Workshop area | | ■ Exhibition Area | 54m ² |
| 2. Classroom | | ■ Services | 78m ² |
| 3. Discussion Room | | | |

2. Educational/private areas vs public areas



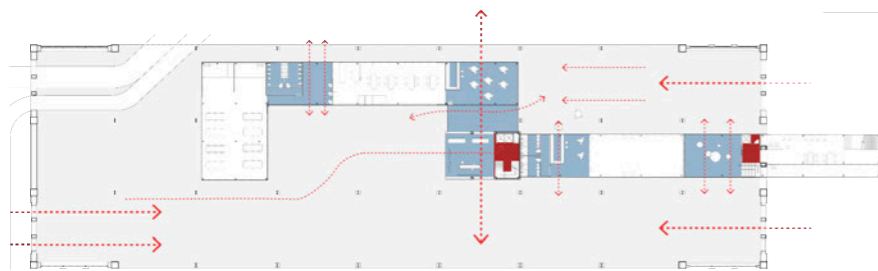
- | | |
|-----------------------------|-------------------|
| ■ Educational/private areas | 728m ² |
| ■ Public areas | 578m ² |

3. Main public access areas



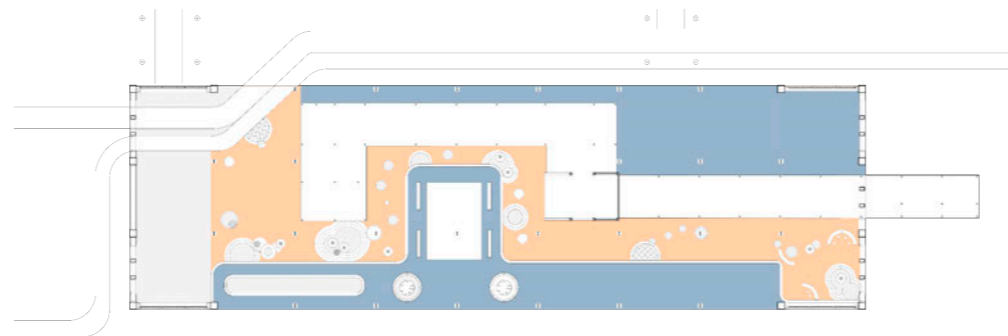
- | |
|----------------|
| ■ Playground |
| ■ Public plaza |
| ■ Access areas |

3. Circulation and vertical cores



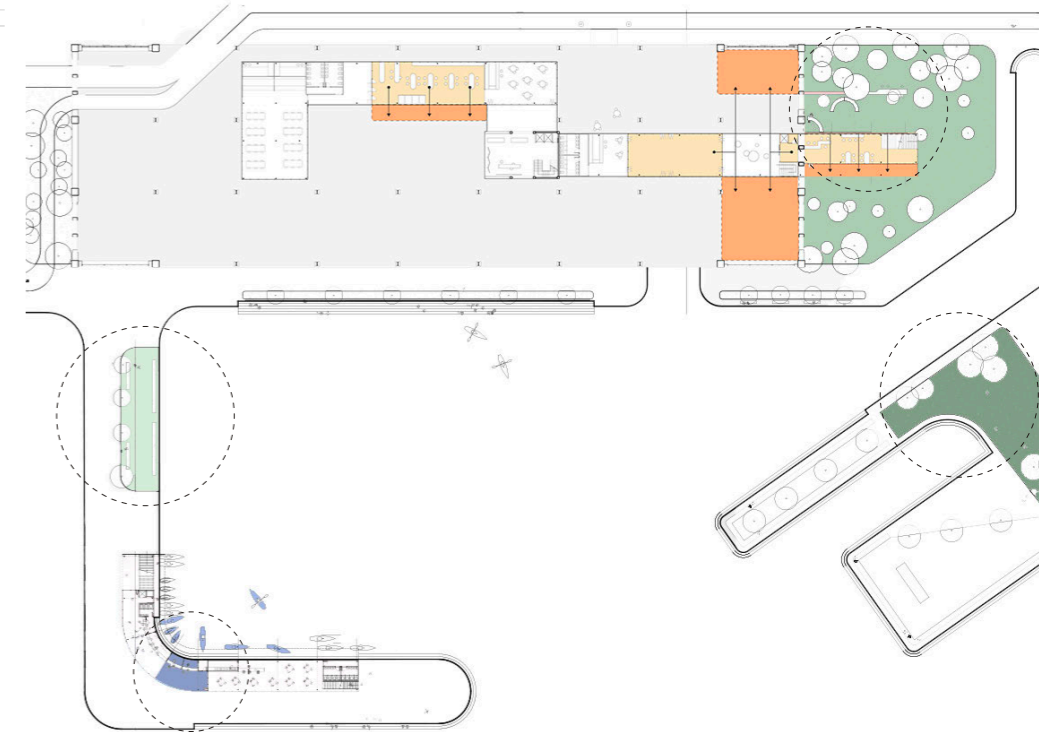
- | |
|------------------------|
| ■ Public areas |
| ■ Vertical cores |
| --- Public circulation |

4. Uses within the Tinglado



- | |
|----------------|
| ■ Playground |
| ■ Public plaza |

6. Outdoor learning areas



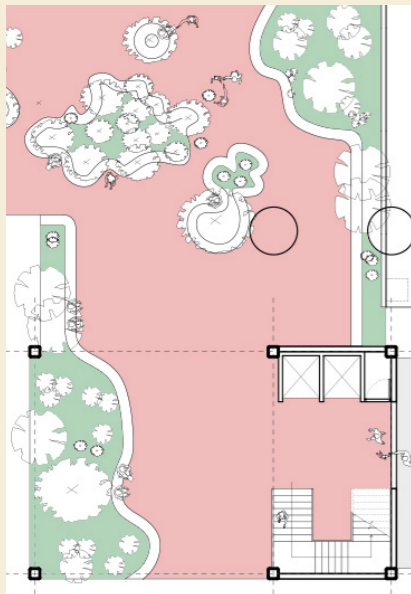
- | |
|-----------------------------|
| ■ Classrooms/Workshop areas |
| ■ Classroom extensions |

- Outdoor Learning**
- Outdoor classes (reading, meditation and any other indoor activity).
 - Sports area
 - Gardening and ecological area
 - Water activities and ocean-related classes (biodiversity, marine life, ecosystems, etc)

Internal Organization

. The ribbon's rooftop becomes a linear park within the Tinglado.

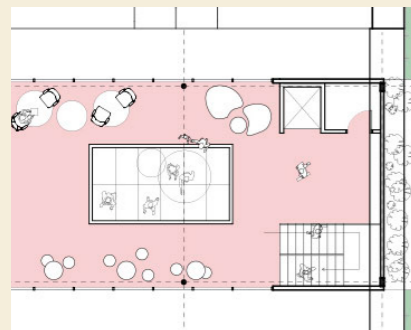
A new landscape with green areas and playgrounds is created. The Tinglado is seen from different heights and angles, allowing users to get to see and experience the building in new ways.



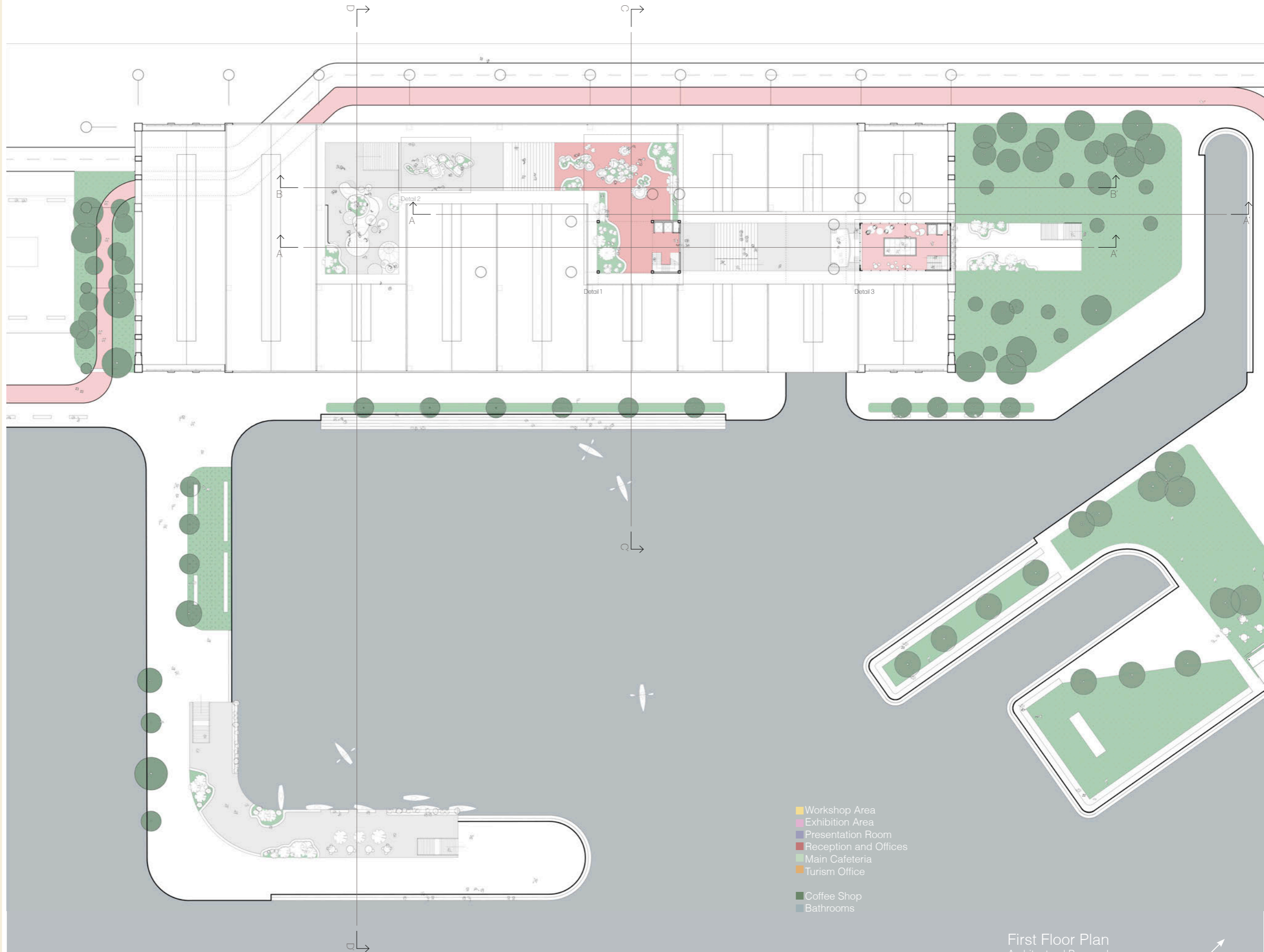
Detail 1: Tower's first floor and linear park



Detail 2: Green areas



Detail 3: Coffee Shop

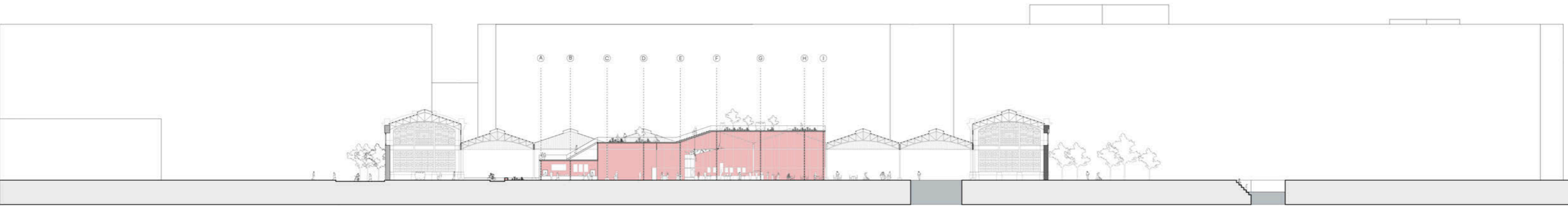


- Workshop Area
- Exhibition Area
- Presentation Room
- Reception and Offices
- Main Cafeteria
- Turism Office
- Coffee Shop
- Bathrooms



First Floor Plan
Architectural Proposal

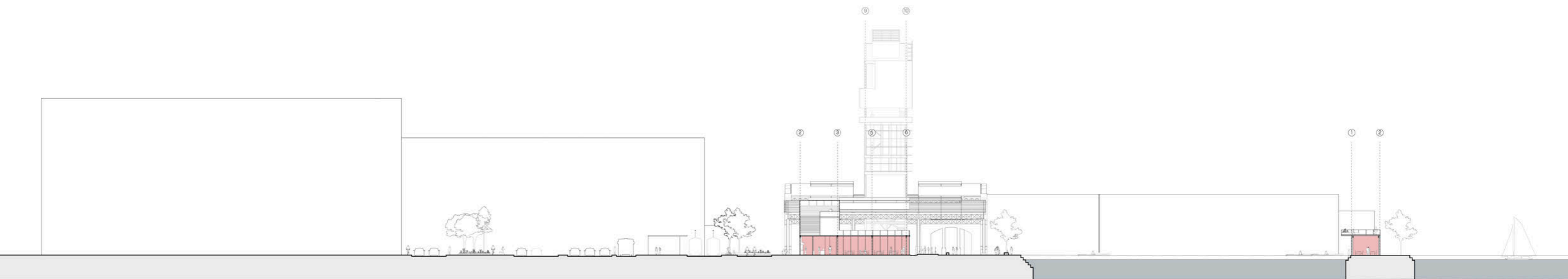




Longitudinal Section BB'
Architectural Proposal



Cross Section CC'
Architectural Proposal



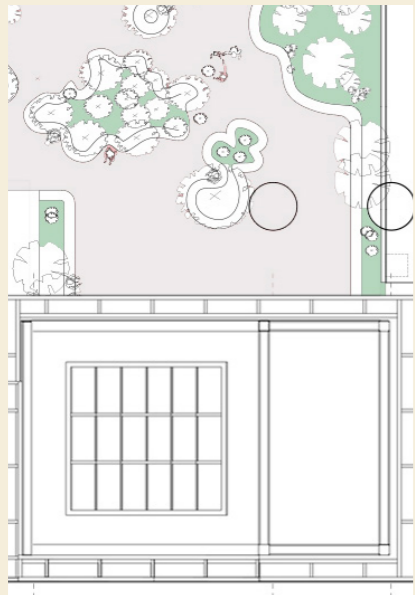
Cross Section DD'
Architectural Proposal



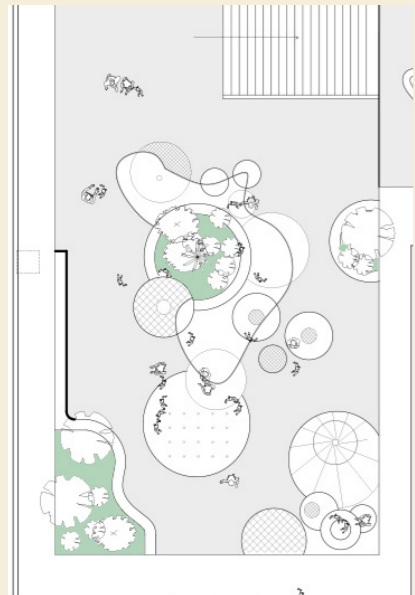
Internal Organization

All uses are organized along the ribbon with the possibility of expanding towards the Tinglado.

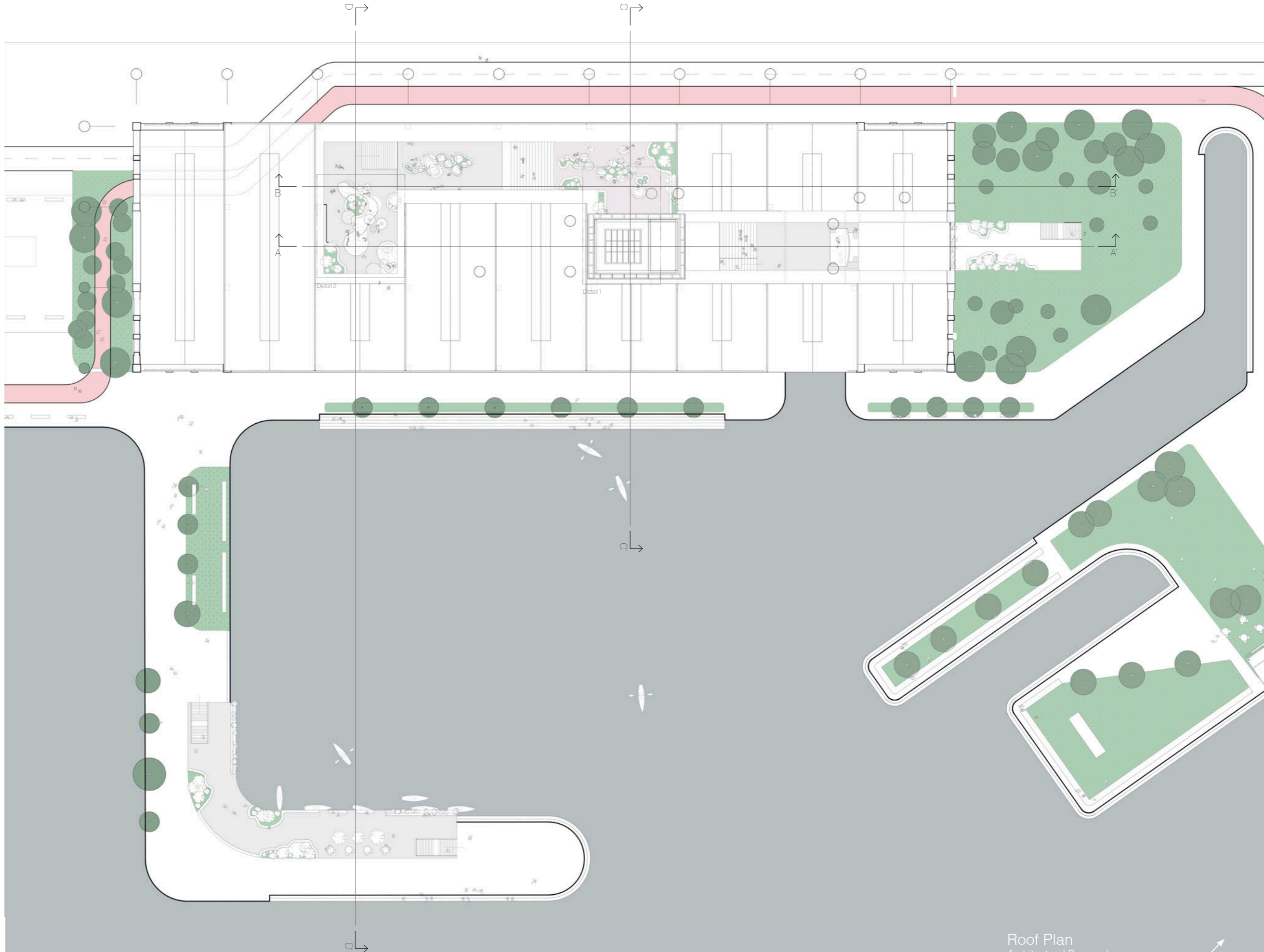
Open air classrooms, cafeterias, playground areas and administrative offices are part of the uses that serve to host students during a full day trip.



Detail 1: Tower's Roof



Detail 2: Playground Area

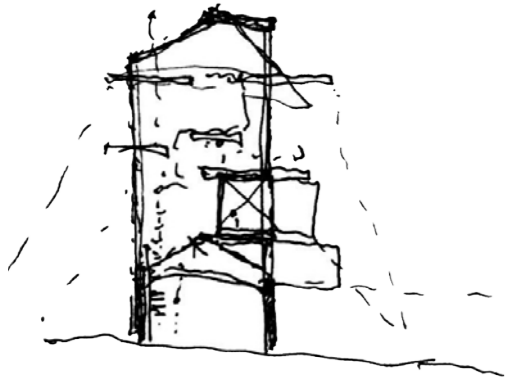


Roof Plan
Architectural Proposal



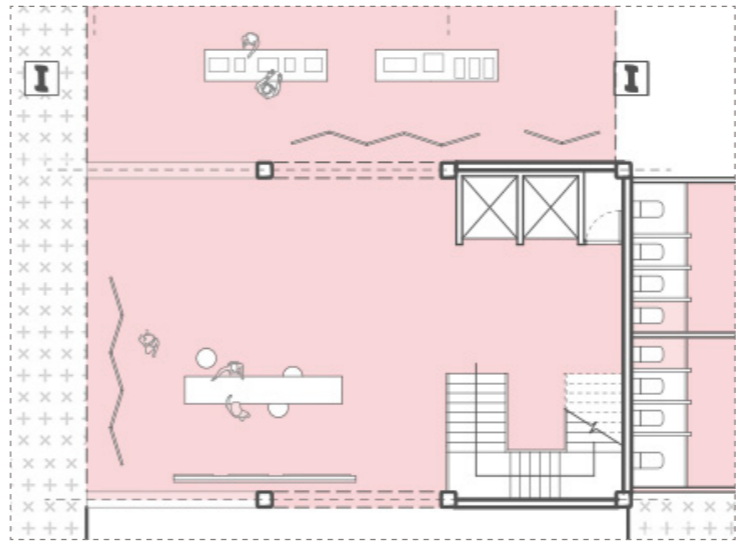
Architectural Drawings

Internal Organization

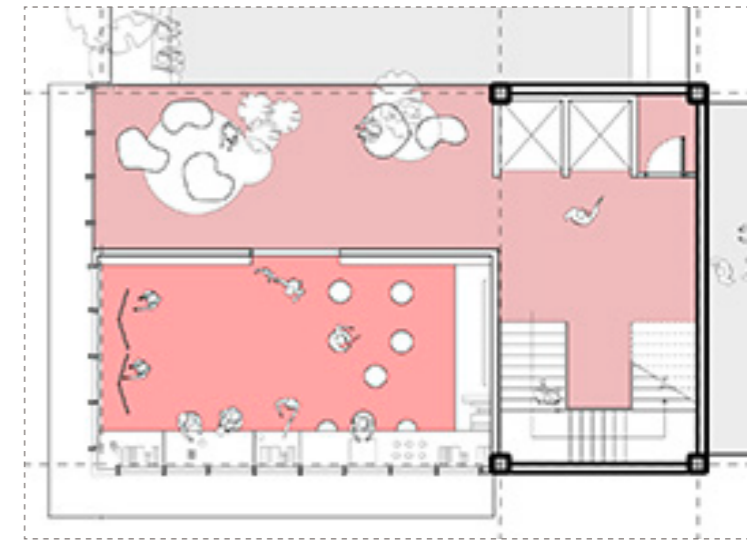


The tower becomes the heart of the project proposed in the Tinglado.

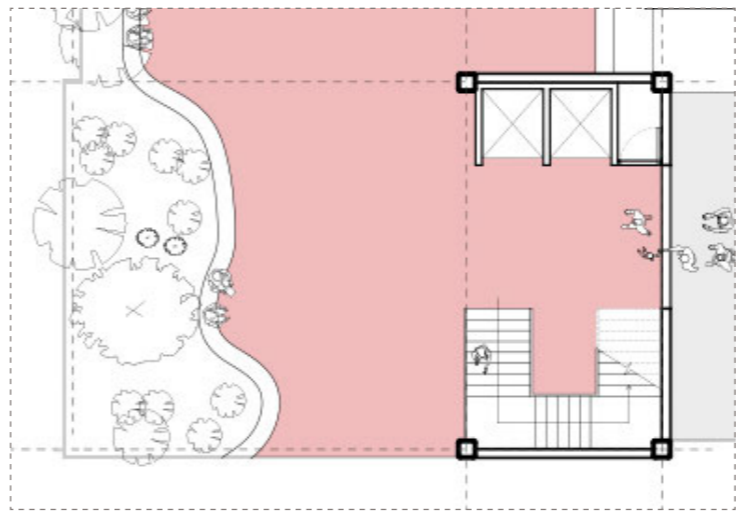
The structural skeleton hosts volumes with commercial uses, platforms that transform in public plazas and, most importantly, exhibition halls where all projects from students from different schools will meet, creating the heart of the school.



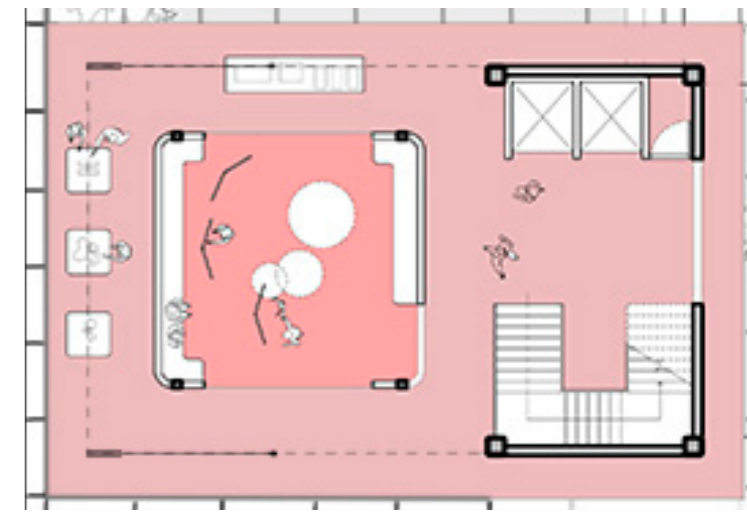
Ground Floor
School Reception



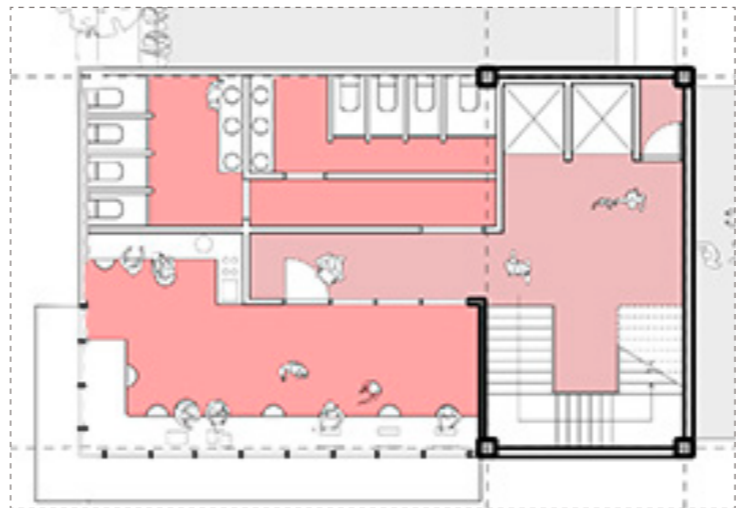
Third Floor
Inspiration Classroom



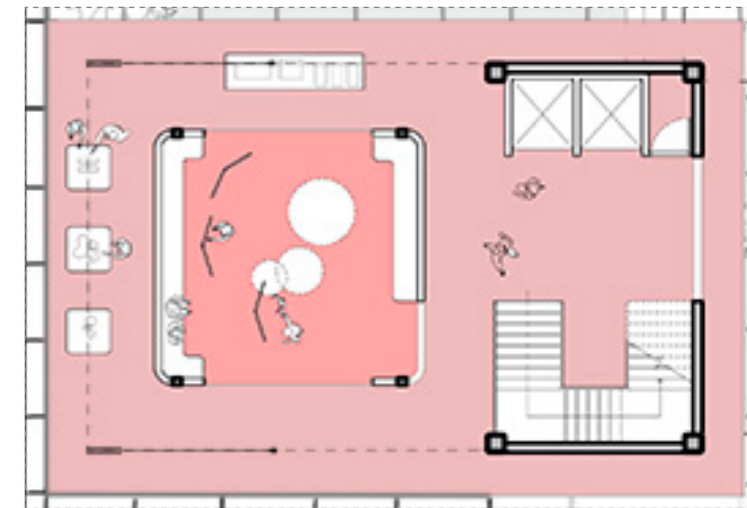
First Floor
Ribbon, longitudinal park



Fourth Floor
Restaurant



Second Floor
Harbour's Control Center



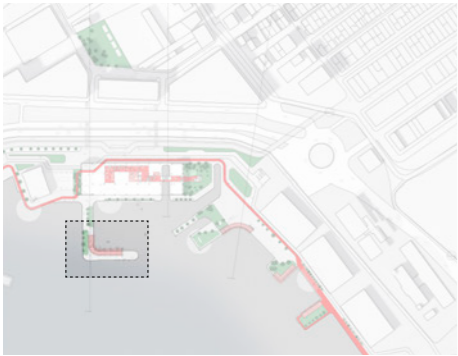
Fifth Floor
Exhibition Room

Tower Floor Plans
Architectural Proposal



Zoom-in Areas

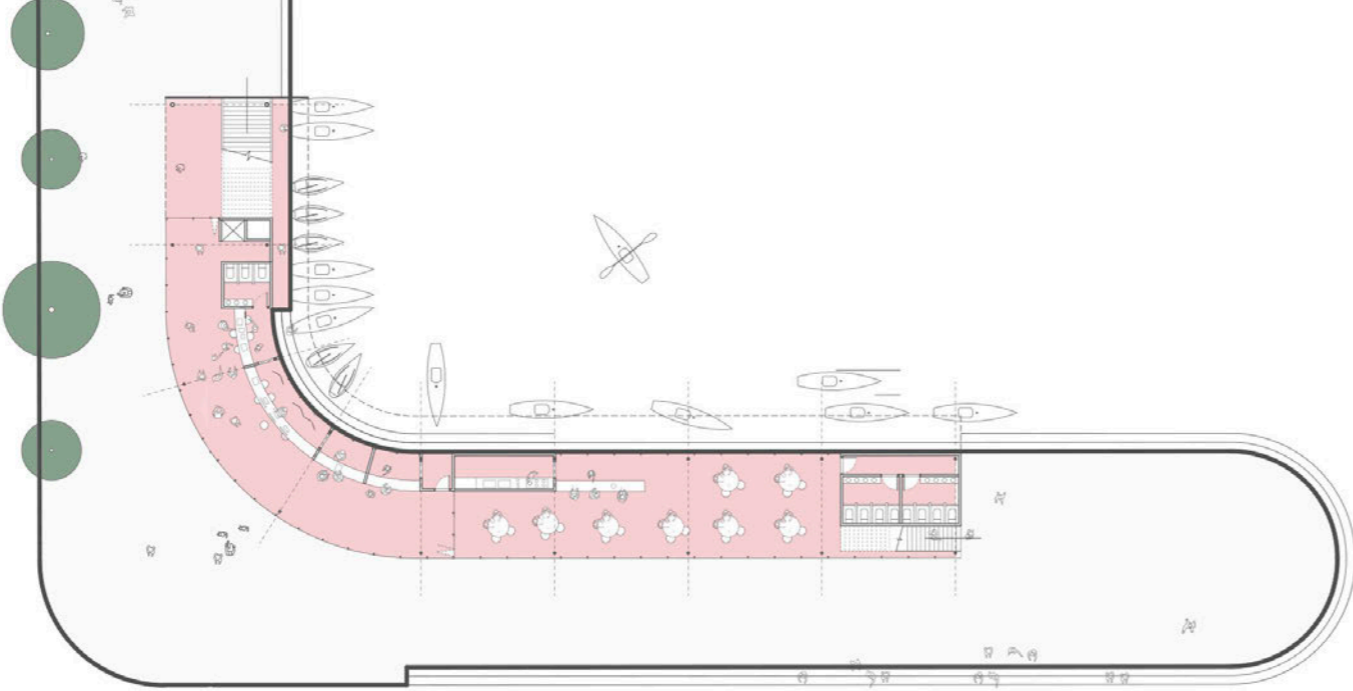
Water Pavillions



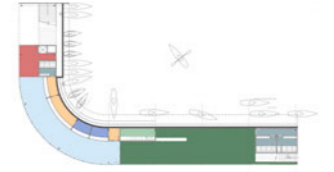
Two zoom-in areas have been chosen to further understand the layout of key areas of the project: the water pavilion and the Tinglado's plaza. The water pavillions are one of the types of volumetric insertions of the project.

Its strategic location aims to engage visitors with the water's edge.

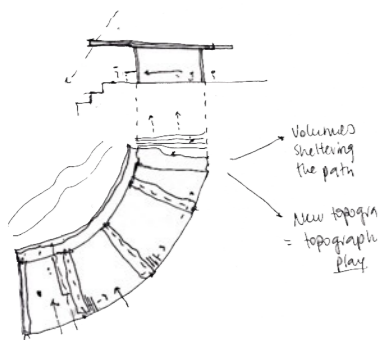
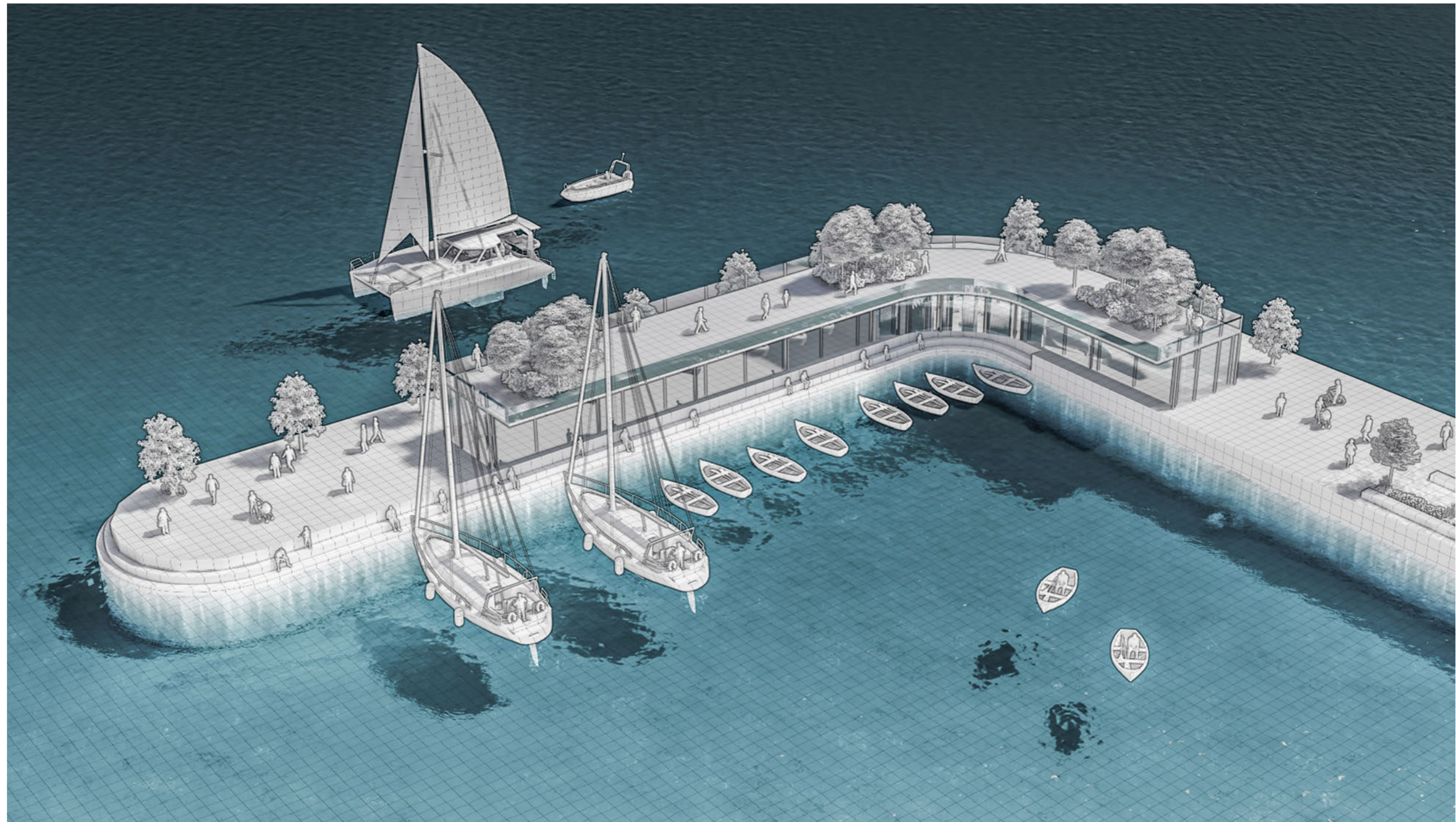
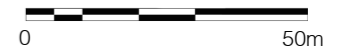
These pavillions host public uses on the ground floor such as restaurants, water-activity rental spaces and classrooms for students where ocean-related classes will be done. In the rooftop, a terrace with green areas serves as viewpoint location. Also, the structure shades the nearby pier's area, allowing people to use these spaces at any given time of the day.



- Public Water-activities Rental Area
- Private Water Activities Classes for Students
- Offices
- Reception Area
- Coffee Shop
- Kitchen
- Bathrooms



Pavillion's Ground Floor and First Floor Plans
Zoom-in Area



Zoom-in Areas

Tinglado as a Plaza



The second chosen area is the covered area of the Tinglado located on the exterior of The Ribbon. This space becomes a crucial one since is the remaining area of the original Tinglado.

A set of key architectural interventions aim to reactivate the covered plaza by making it answer to its surroundings and the needs of all the users visiting the area. These interventions are:

- Playground Area

Semi-public area serving as barrier and protection for students.

- Public Plaza

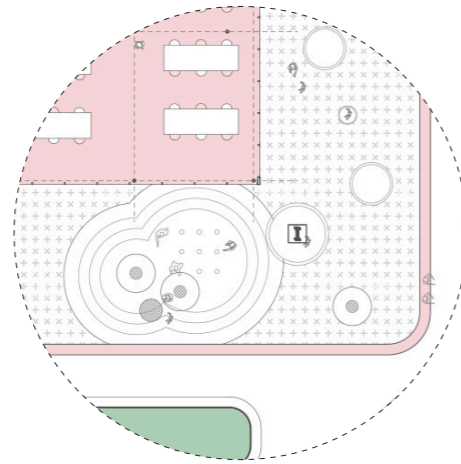
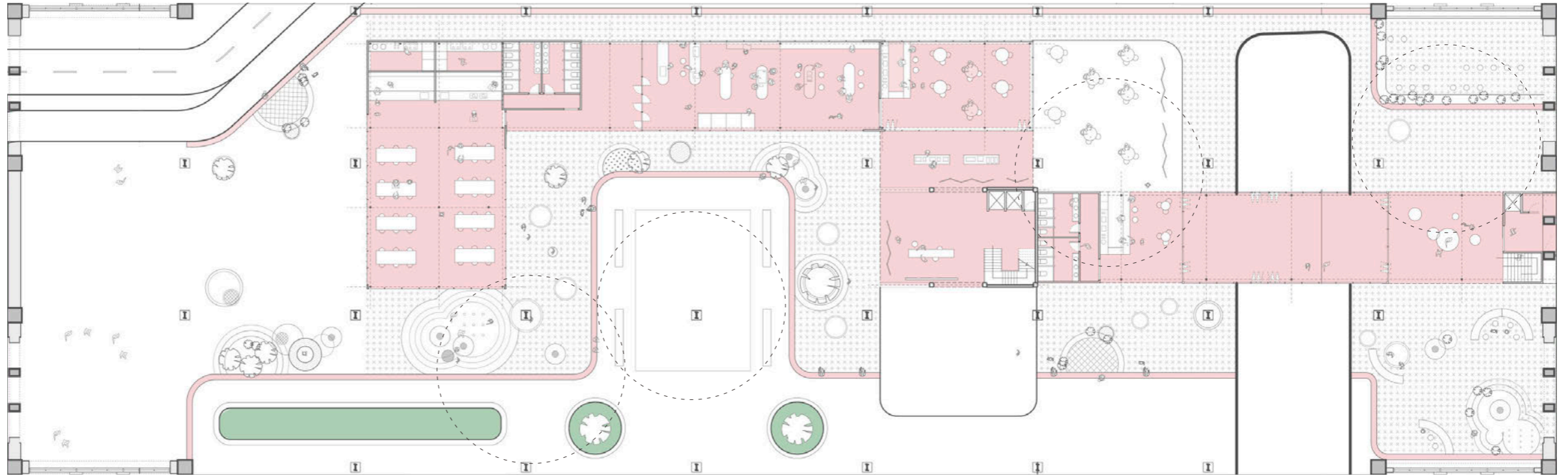
Public area for users wanting to visit the Tinglado and possible space for students to perform.

-Commercial Use Expansion.

Public space capable of adapting creating a terrace space for the nearby restaurants and coffee shops.

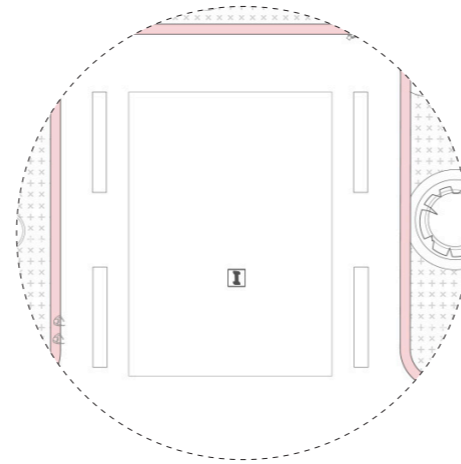
-Classroom Expansion

Private area offering an open air educational space for students



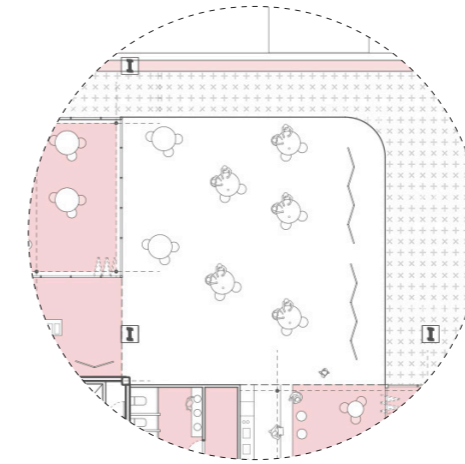
1. Playground Area

Barrier and protection to contain young students to leave the educational areas.



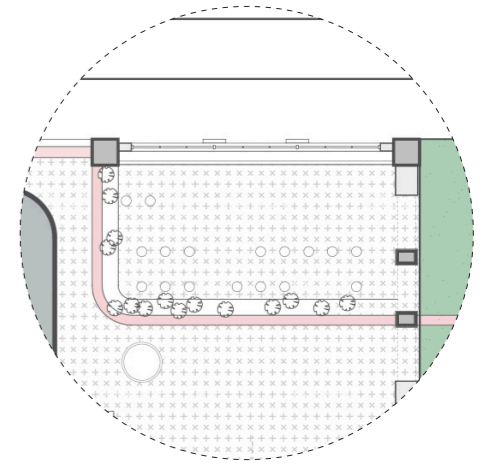
2. Public Plaza

Central plaza shared between users, students and visitors.



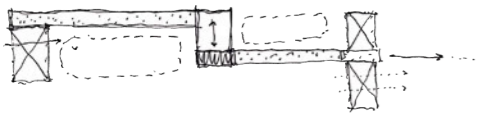
3. Commercial Use Expansion

Expansion area for commercial uses to create a terrace area.



4. Classroom Expansion

Expansion area for educational uses allowing students to have open air classroom spaces.

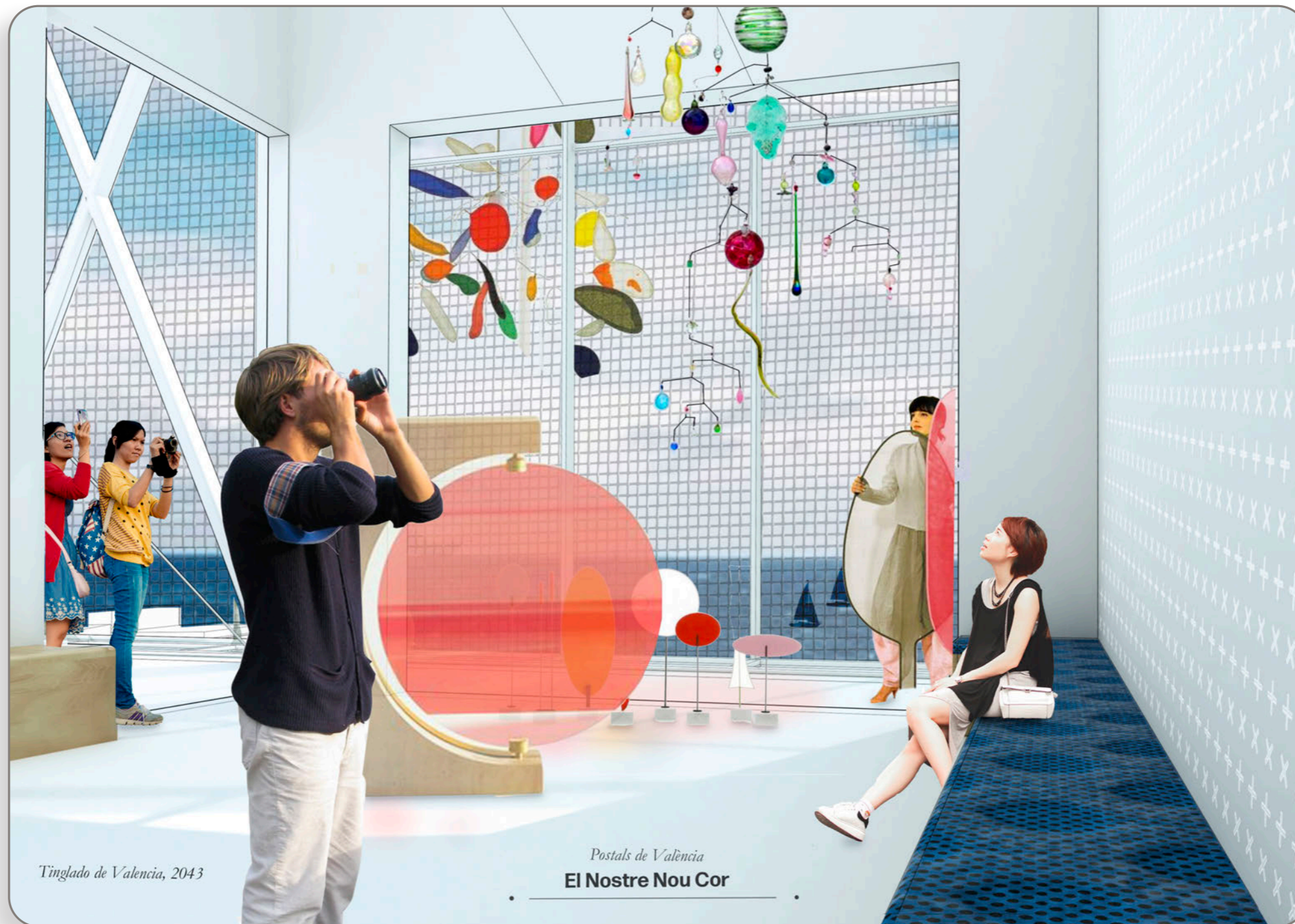




“Classrooms are also key to provide flexible spaces for discussion and meeting with the great objective of allowing students the power of organizing their own projects”



“In an educational system where the project is the vehicle of learning, generous workshop areas are key to give freedom to the students to work, design and build their own projects and ideas”



“The Tower hosts the heart of the proposal:
an exhibition area where all projects from students of
different schools will meet.”

Chapter 5

Architectural Details.

- Systems and Architectural Elements
- Structural Solution
- Construction Process
- Materials and Composition.
- Detailed Situations
- Sustainability and Positive Impact





**Minimalistic
Approach.**

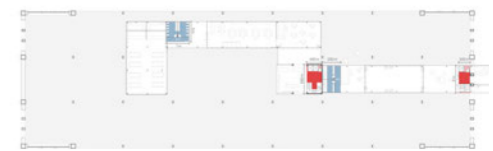
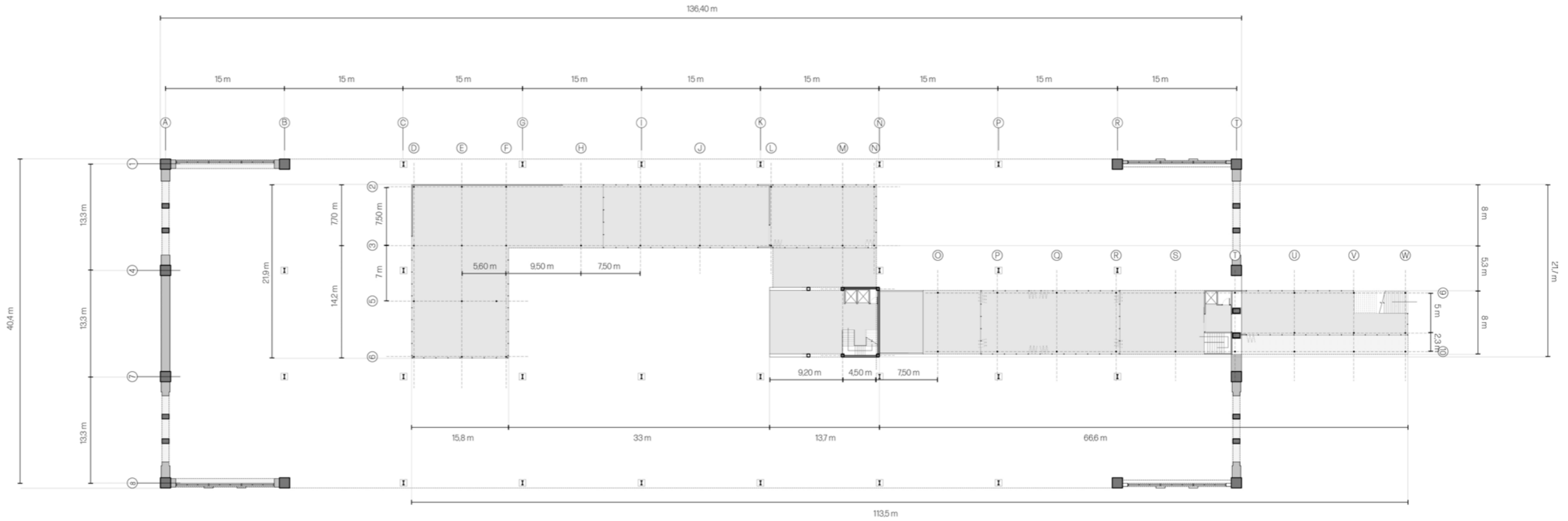
Structural Solution



Louvre Lens by SANAA

The project's structural solution is divided into two approaches: the ribbon's minimalistic approach and the tower's bold structural skeleton.

The ribbon's structure is composed by slim metal columns supporting a thin slab. The section of this slab has been brought to minimum dimension by using metal panels and the slab's structure. In the other hand, the tower's structure differentiates from this one by having bigger columns forming the core of the tower which, with tensile cables, hold the platforms hanging from it.



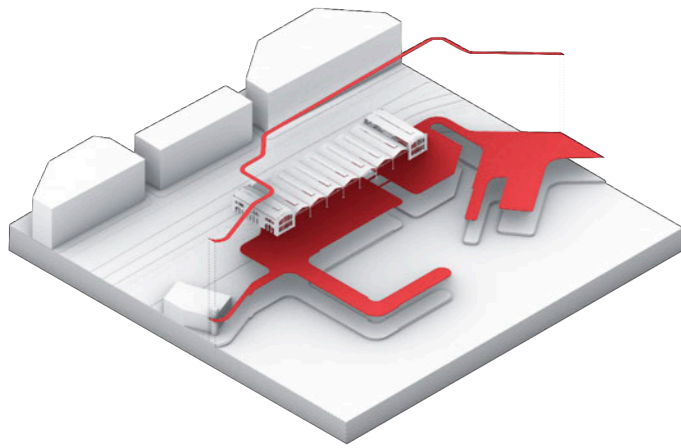
Vertical cores and services

- Vertical cores
- Services

Structural Grid Plan
Architectural Proposal

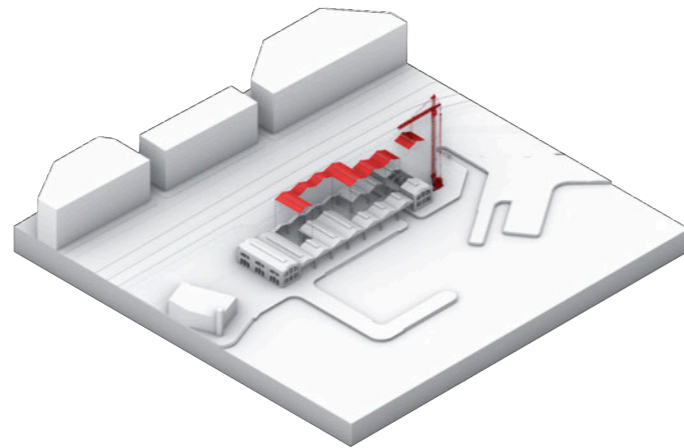


Construction Process



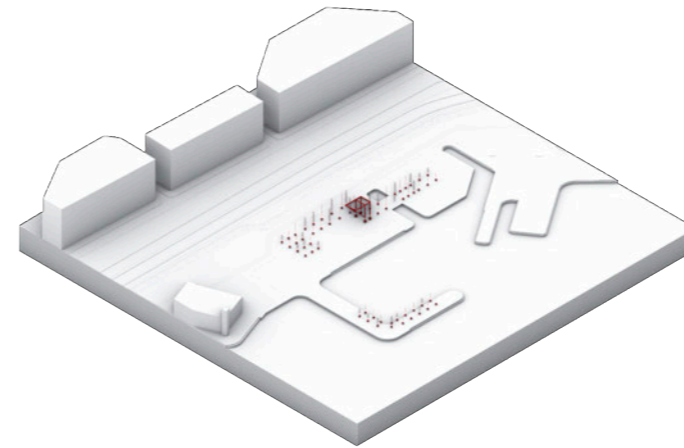
1. Dredging the new harbour

The construction of the new harbour will be done through a dredging process followed by building the transportation lines and the wooden finishing deck.



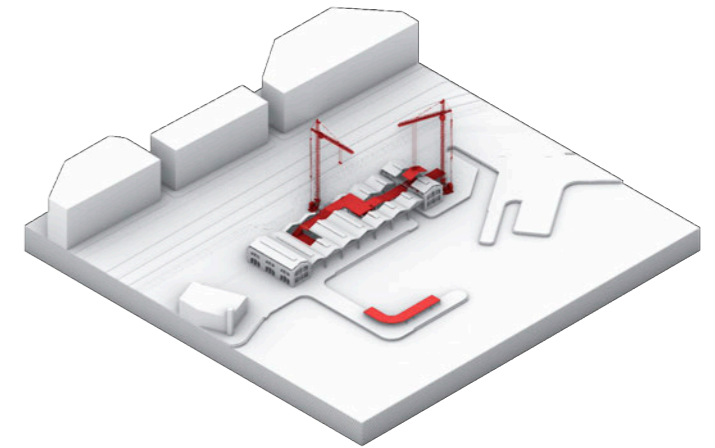
2. Cutting out the Tinglado's roof

In the area where The Ribbon will be placed, the original Tinglado's roof will be cutout and removed.



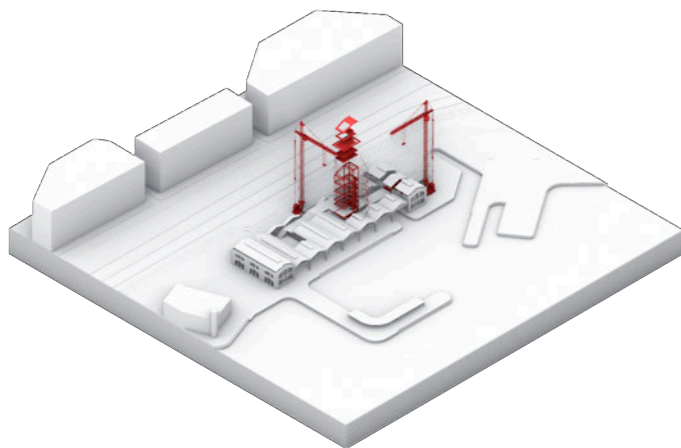
3. Laying the foundations

The foundation trenches will be digged, the concrete will be poured to build the footings and the main steel structural frames will be placed.



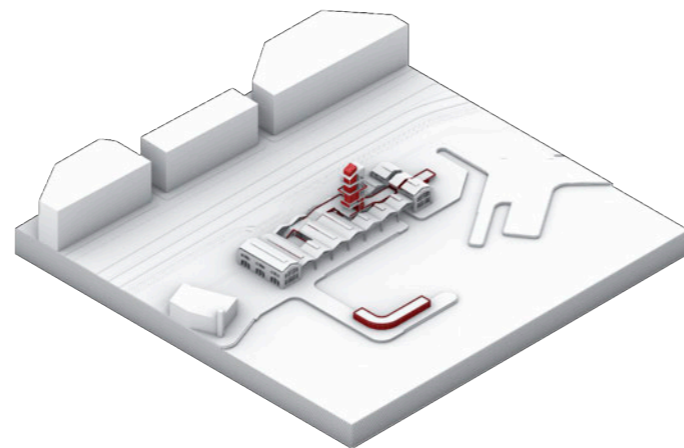
4. Assembling The Ribbon

The Ribbon's prefabricated pieces will be brought to site and assembled using an assembly line process.



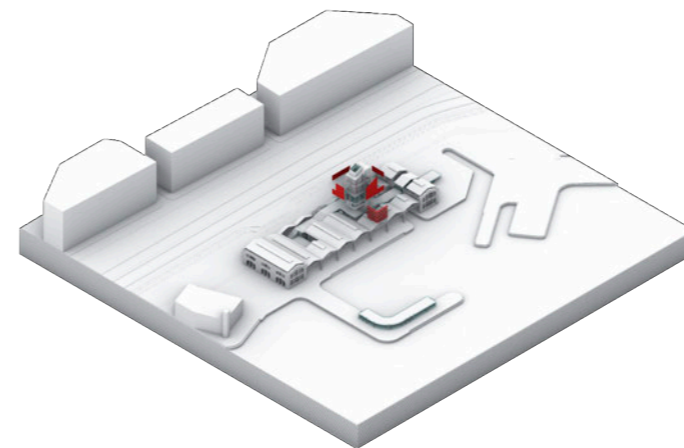
5. Assembling The Tower

The prefabricated structural steel elements, the slabs and volumes of The Tower will be brought to site and assembled using an assembly line process.



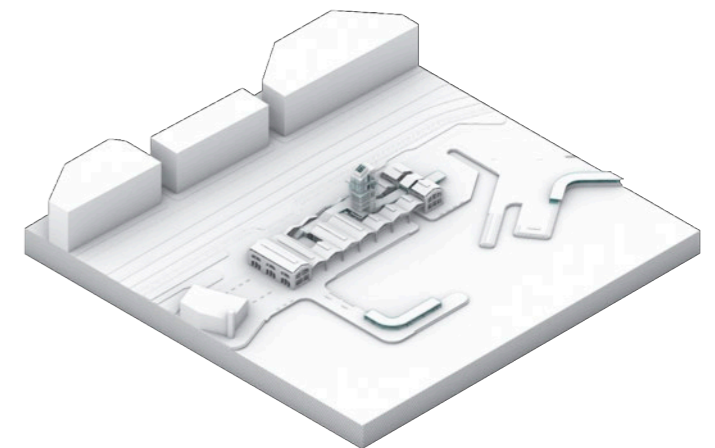
6. Building the envelope

All the elements that form the buildings's envelope will be brought and installed on site. At this point, the subcontractors will start installing the ducts, pipes, outlet boxes and all the mechanical and electrical preparation of the installations of the buidlings.



7. Installig the sun shading devices

The substructure holding the panels will be assembled. Then, the metal meshes and the wooden louvers will be installed.



8. The finished project

The construction process will conclude once all the architectural elements are in place, the landscape is done and the mechanical and electrical installations are functioning on the buildings. From this point onwards, all the inspections and permit processes will begin.

Technical Drawings

Materials and Composition

Mainly five key situations have been identified to provide an overview of the different construction solutions on the project.

- Situation 1: Tower's Roof

The pitched roof of the proposed tower has been designed to follow the existing shape of the Tinglado's roof.

- Situation 2: Tower's Protective Mesh

The tower is an open skeleton with certain protective facade systems to cover it from the sun.

- Situation 3: Tower's Sun Shading Louvers

Wooden louvers are attached to the facade to protect the interior of the tower.

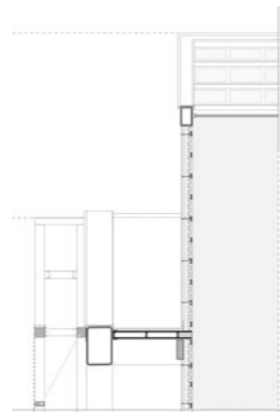
- Situation 4: Open Air Ribbon

Open The ribbon becomes a linear park when it intersects with the tower

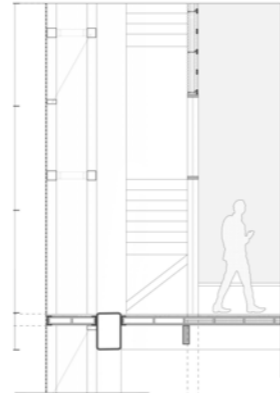
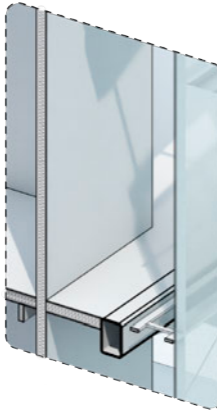
- Situation 5: Enclosed Ribbon's Classroom

Clusters of uses are organized under the Tinglado with a minimalistic design approach

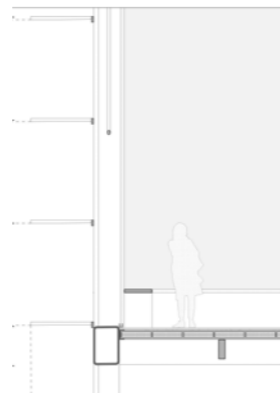
Situation 1



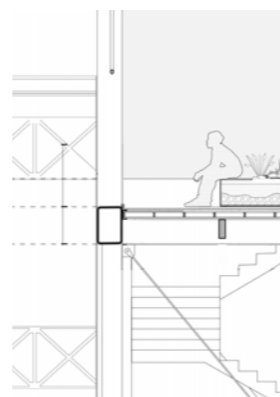
Situation 2



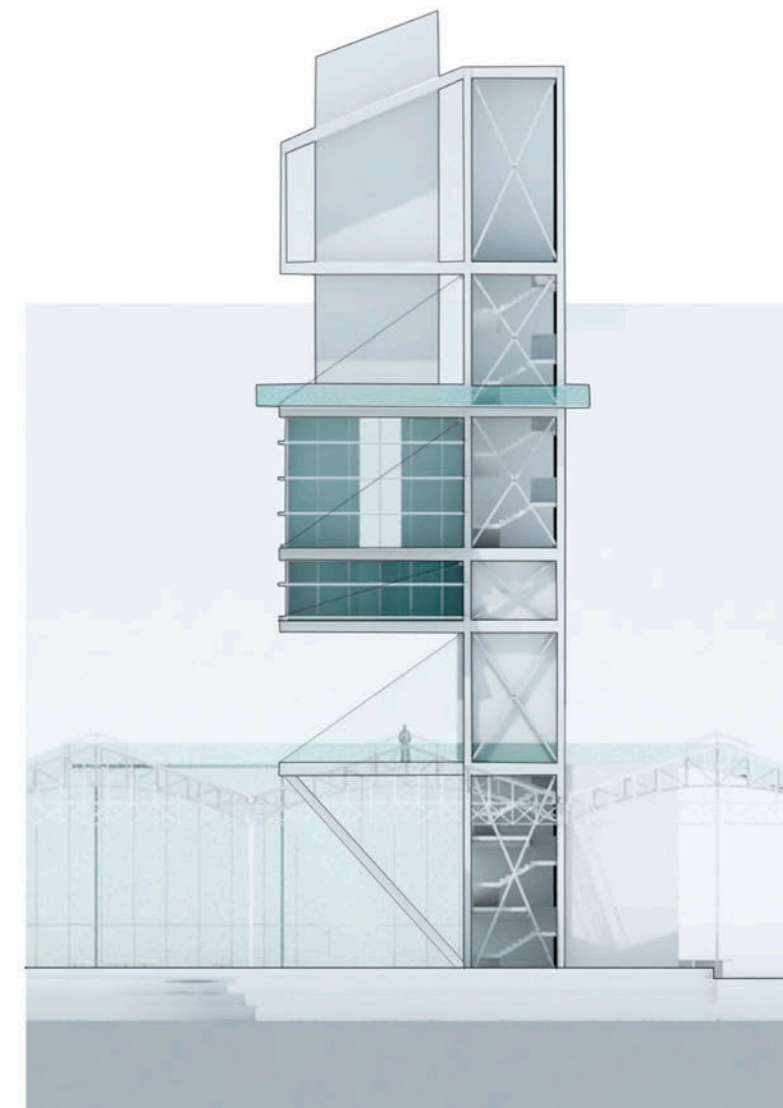
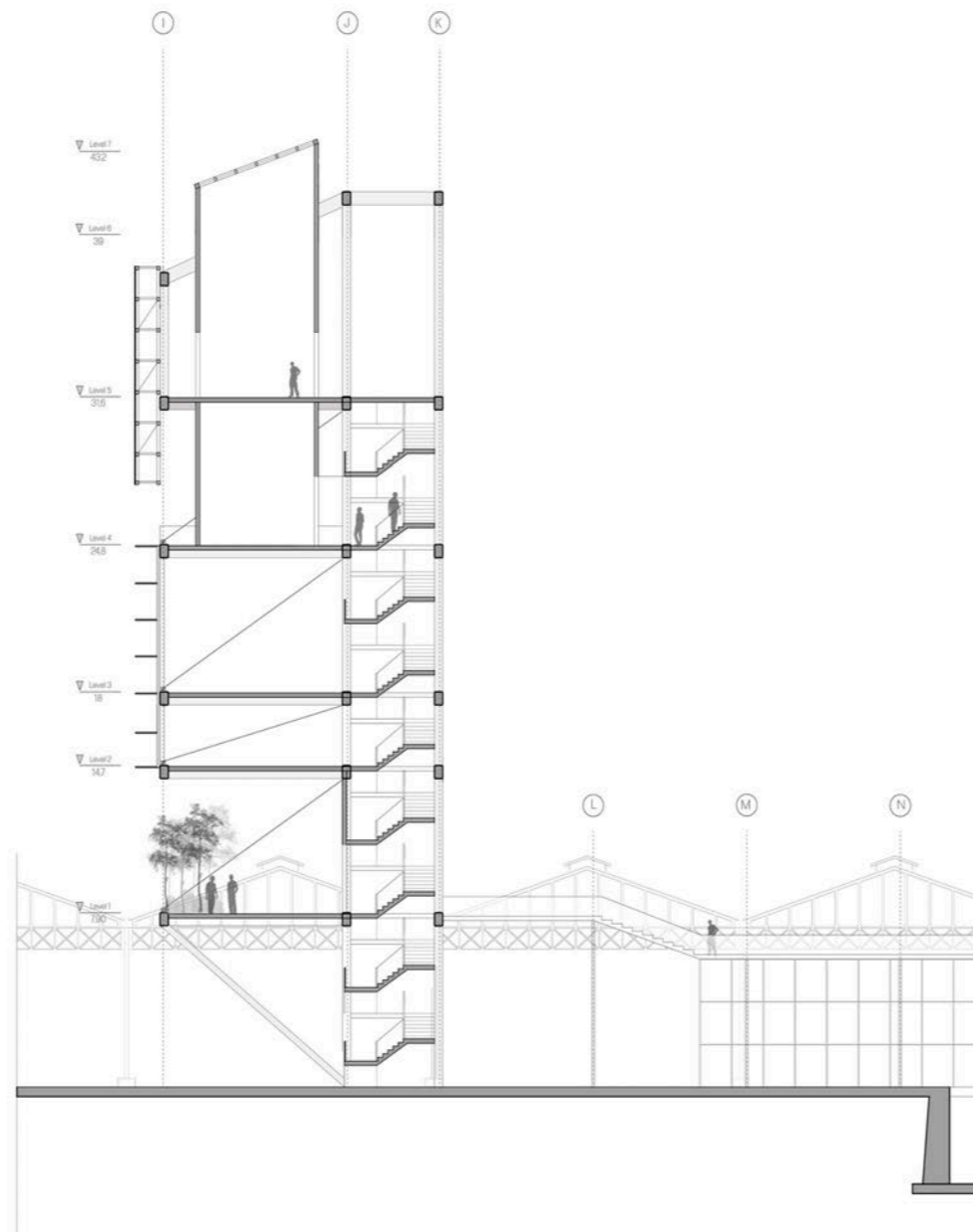
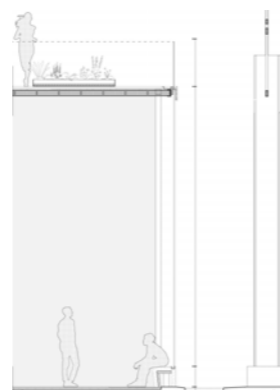
Situation 3



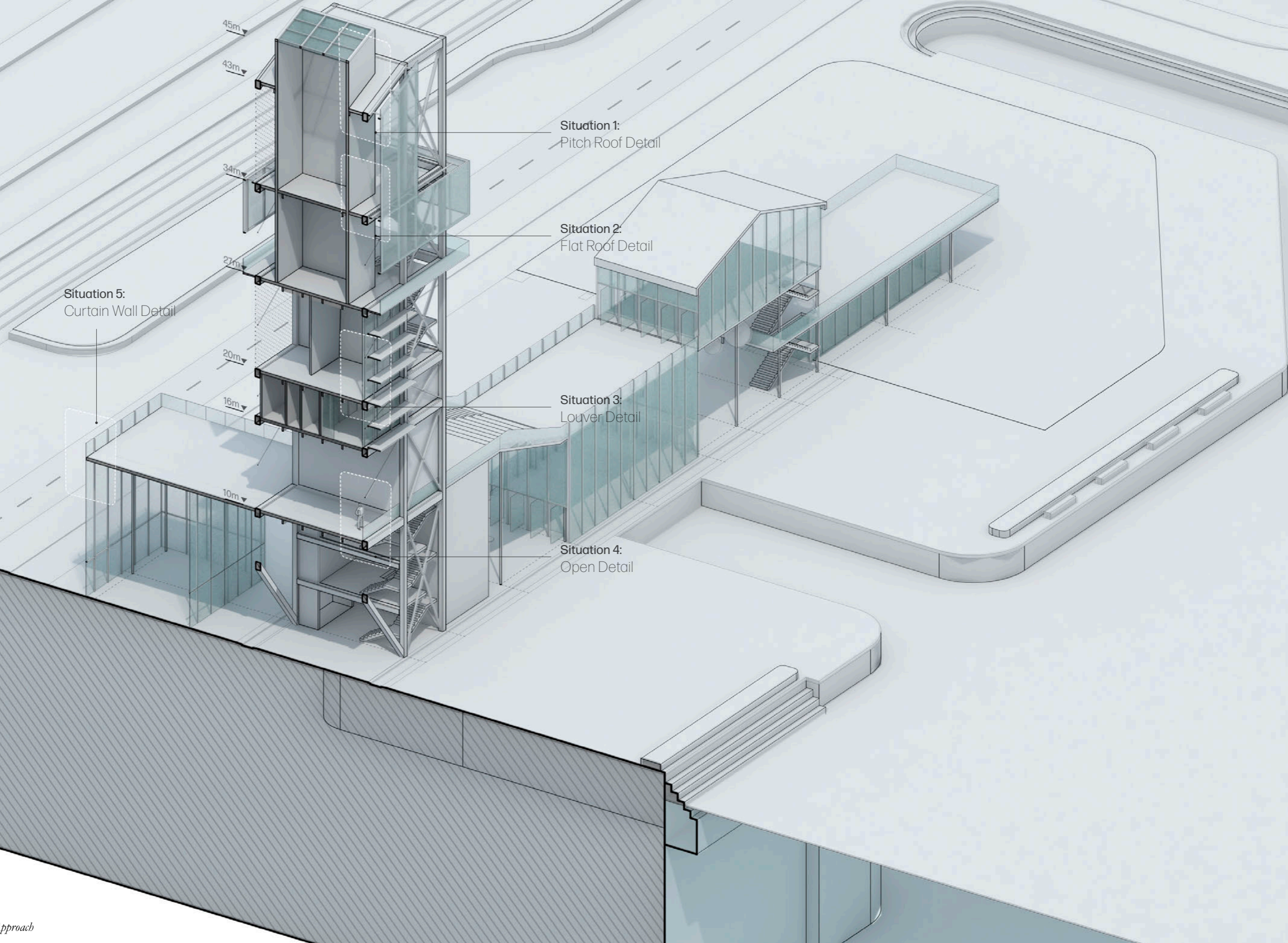
Situation 4



Situation 5



Sectioned
Axonometric



Architectural Details

Situation 1: Tower's Roof

The tower's pitched roof with fully transparent solar cells on the windows.

The pitched roof of the proposed tower has been designed to follow the existing shape of the Tinglado's roof. It is mainly composed by a metal structure and skylight with fully transparent solar cells on the windows.



Roof Construction

1a. Skin layer, glass with photovoltaic cells.	8-8 mm
2a. Glass metal frame	150x180 mm
3a. Aluminium flashing	

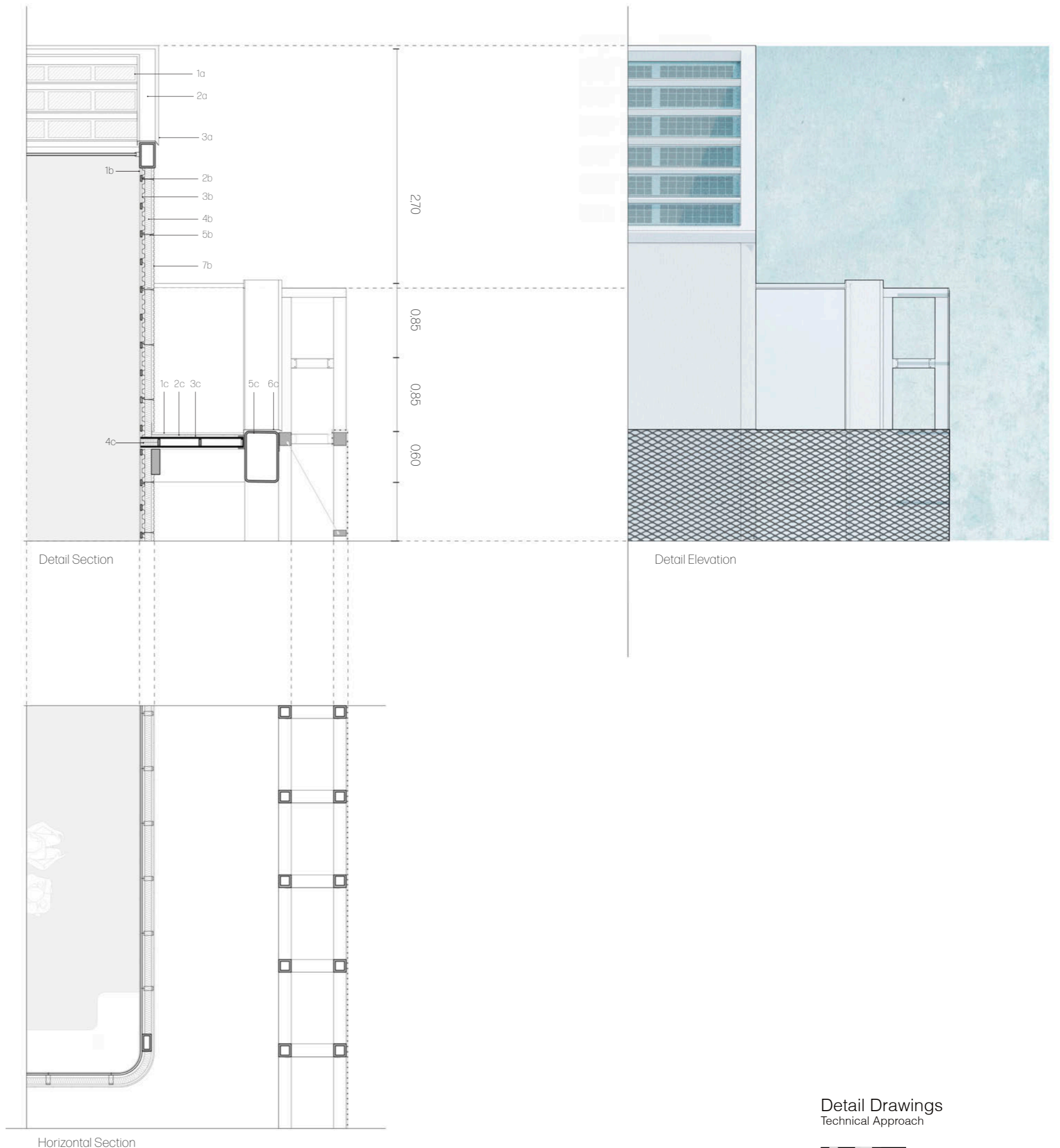
Skin Construction

1b. Interior finishing, gypsum board.	20 mm
2b. Substructure, galvanized steel posts.	20x70 mm
3b. Substructure, galvanized steel sheet.	1mm
4b. Thermal acoustic insulation, extruded polyurethane panel.	80 mm
5b. Connectors, metal profiles.	1mm
6b. Air cavity	35mm
7b. External finishing, extruded aluminium profile.	15mm

Total 200 mm

Floor Construction

1c. Finishing, polished concrete	80 mm
2c. Separating layer, plastic sheet	1 mm
3c. Slope screed, concrete	25mm
4c. Structure and insulation sandwich, steel sheets and extruded polyurethane panel	20-80-20 mm
5c. Structure, metal profile	600x400
6c. Aluminium flashing	



Detail Section

Detail Elevation

Horizontal Section

Detail Drawings
Technical Approach

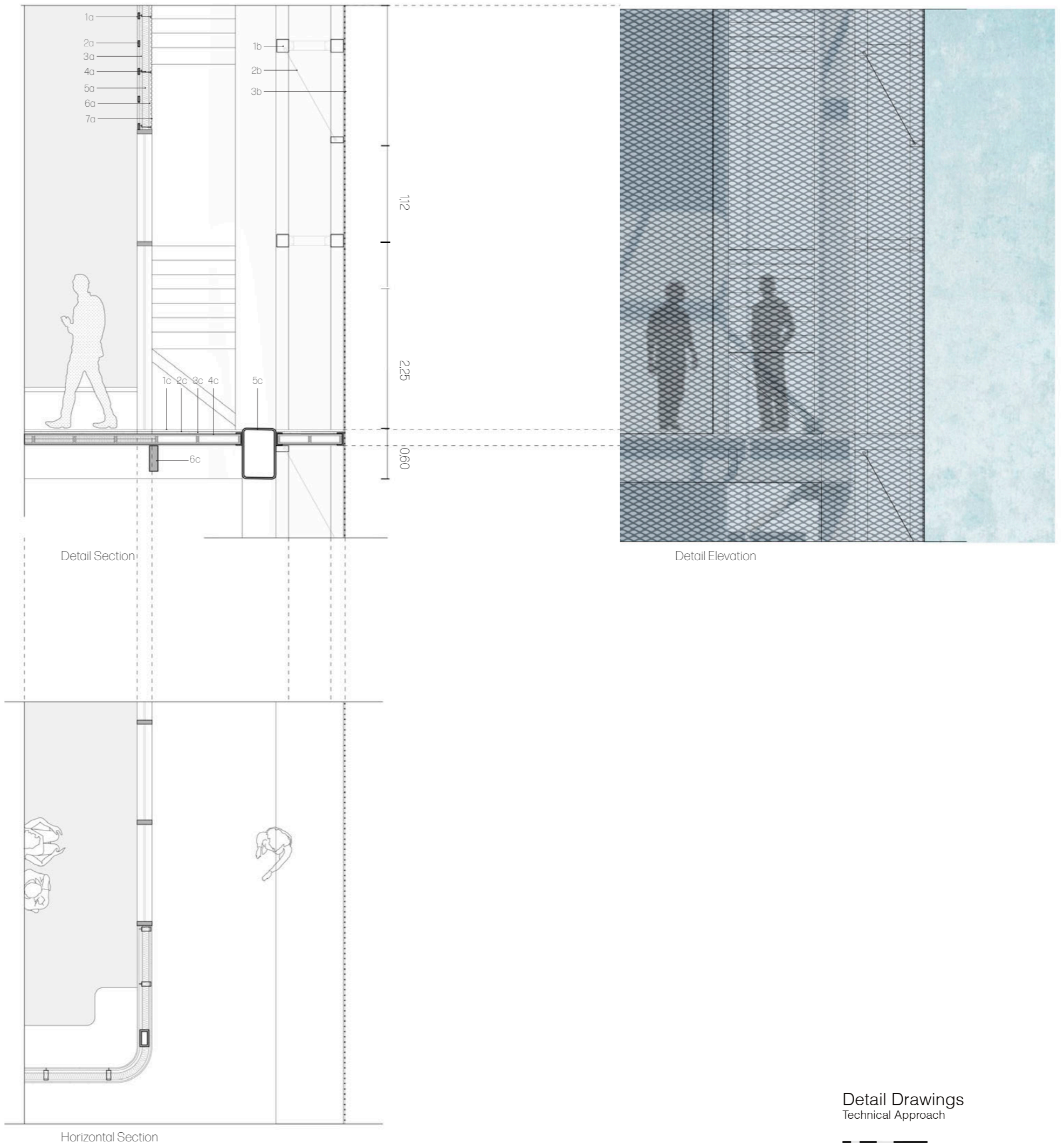
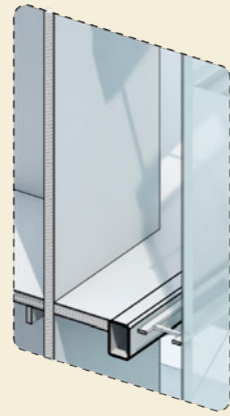
0 1000 mm

Architectural Details

Situation 2: Tower's Protective Mesh

The tower is an open skeleton with certain protective facade systems to cover it from the sun.

The first system is a galvanized expanded metal mesh attached to the tower's with a substructure and tension cables to support the loads from the mesh. Different types of meshes with denser and lighter compositions are located on the tower.



Internal Skin Construction

- 1a. Interior finishing, gypsum board.
- 2a. Substructure, galvanized steel posts.
- 3a. Substructure, galvanized steel sheet.
- 4a. Connectors, metal profiles.
- 5a. Thermal acoustic insulation, extruded polyurethane panel.
- 6b. Air cavity
- 7b. External finishing, extruded aluminium profile.

20 mm
20x70 mm
1mm
80 mm
1mm
35mm
15mm
200 mm

Total

External Skin Construction

- 1b. Substructure, metal profiles
- 2b. Substructure, metal cables
- 3b. Finishing, galvanized metal mesh

150x150 mm
d=5 mm

Floor Construction

- 1c. Finishing, polished concrete
- 2c. Separating layer, plastic sheet
- 3c. Slope screed, concrete
- 4c. Structure and insulation sandwich, steel sheets and extruded polyurethane panel
- 6c. Secondary structure, metal profile joist

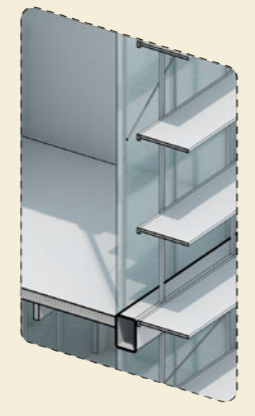
80 mm
1 mm
25mm
600x400 mm
100 x300 mm

Detail Drawings
Technical Approach

0 1000 mm

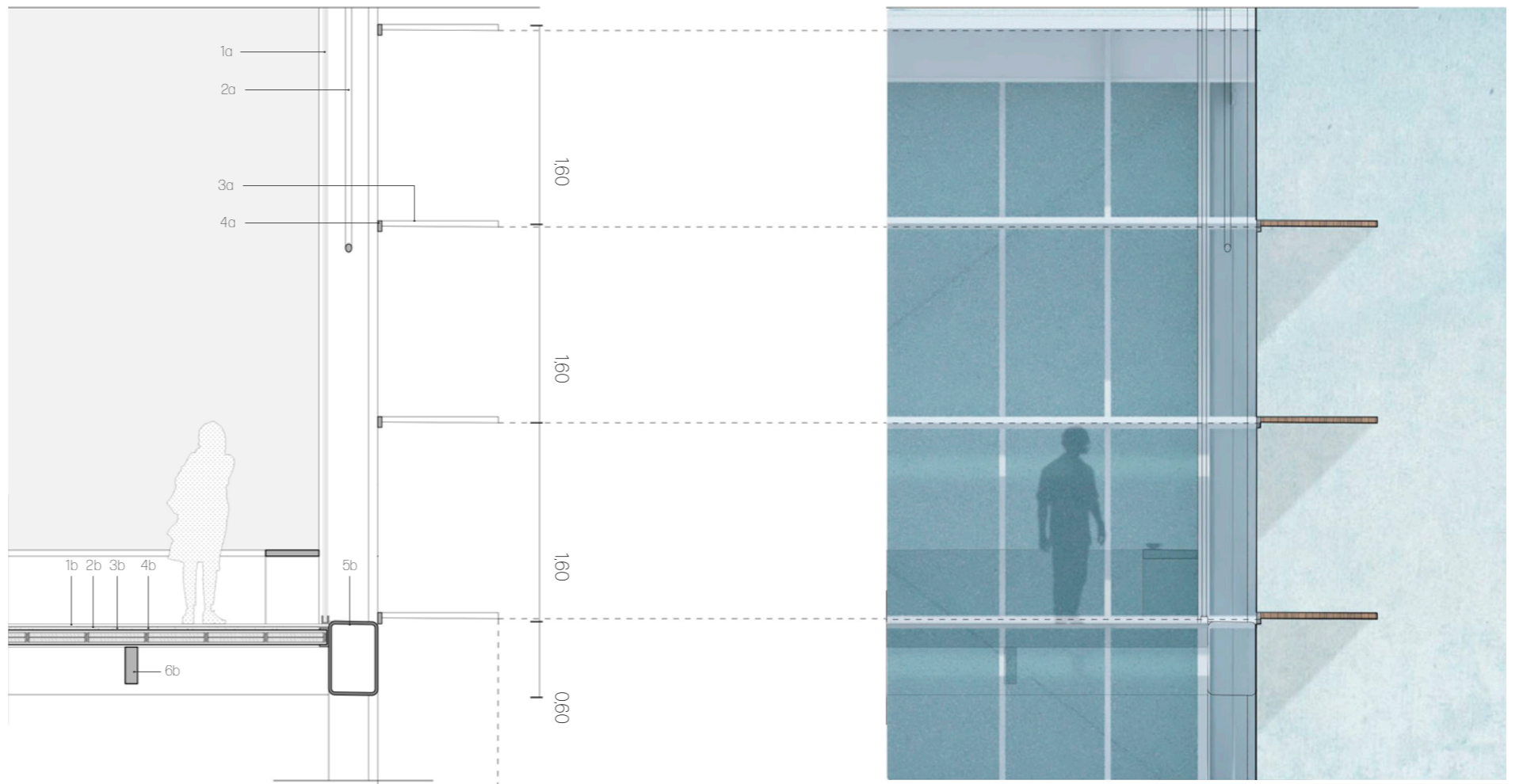
Architectural Details

Situation 3:
Tower's Sun Shading Louvers



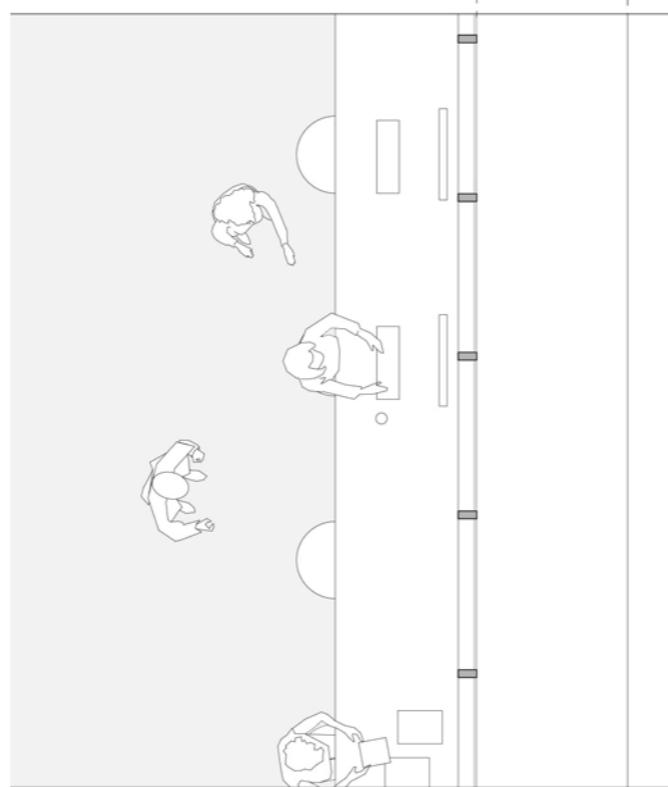
Wooden louvers are attached to the facade to protect the interior of the tower.

The second shading device used has been louvers to protect the middle part of the tower. These wooden louvers are attached to the face through a metal substructure



Detail Section

Detail Elevation



Horizontal Section

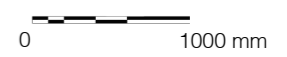
Skin Construction

- 1a. Skin layer, laminated safety glass 10-8-8 mm
- 2a. Structure, metal tension cables d= 20mm
- 3a. Shading, wood louvers 900 x40mm
- 4a. Substructure, metal profiles 100x50 mm

Floor Construction

- 1b. Finishing, polished concrete 80 mm
- 2b. Separating layer, plastic sheet 1 mm
- 3b. Slope screed, concrete 25mm
- 4b. Structure and insulation sandwich, steel sheets and extruded polyurethane panel 20-80-20 mm
- 5b. Main structure, metal profile beams 600x400 mm
- 6b. Secondary structure, metal profile joist 100 x300 mm

Detail Drawings
Technical Approach

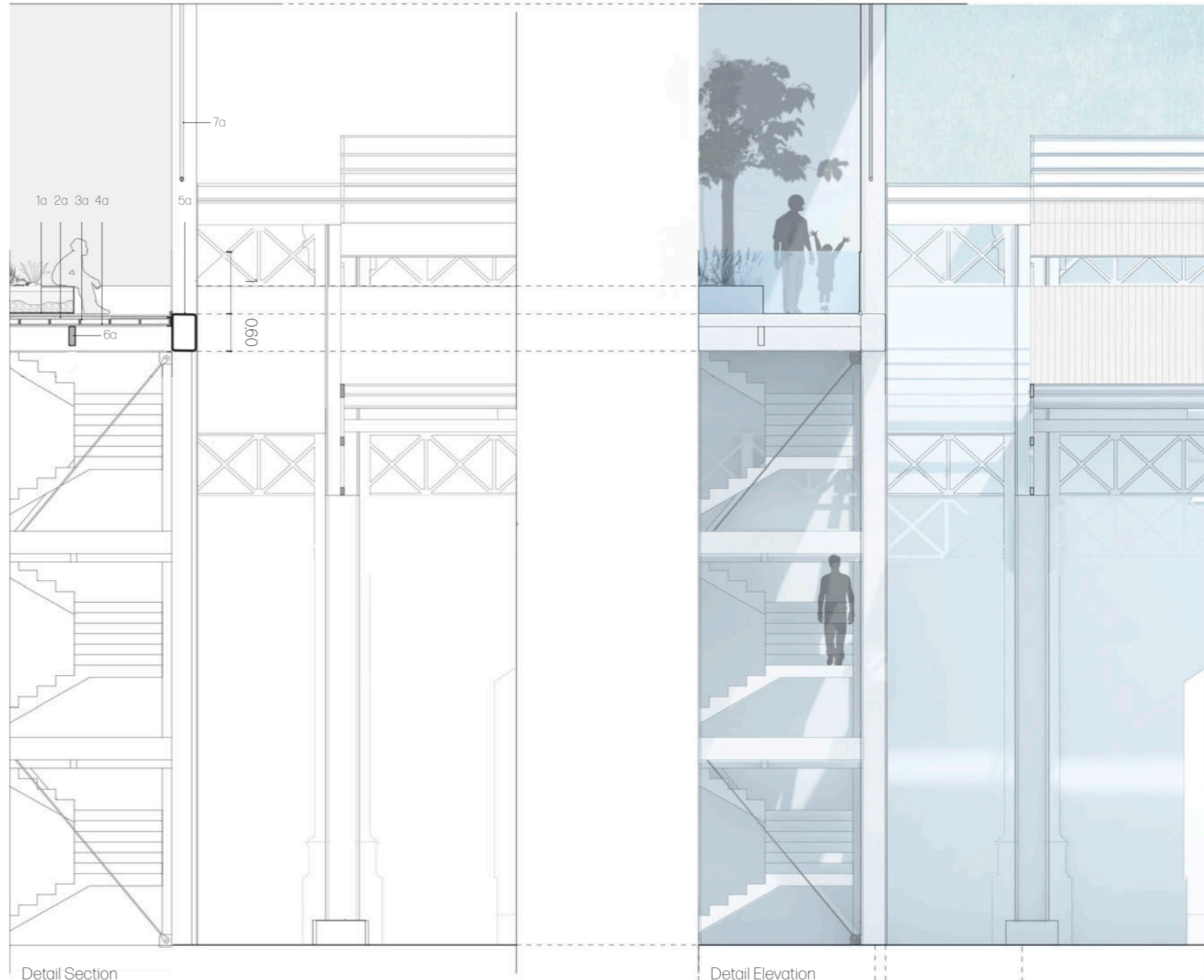


Architectural Details

Situation 4:
Open Air Ribbon

Open The ribbon becomes a linear park when it intersects with the tower

Creating the fourth situation in which the tower remains completely open and exposed towards the exterior offering views to the Tinglado, the city and the sea.



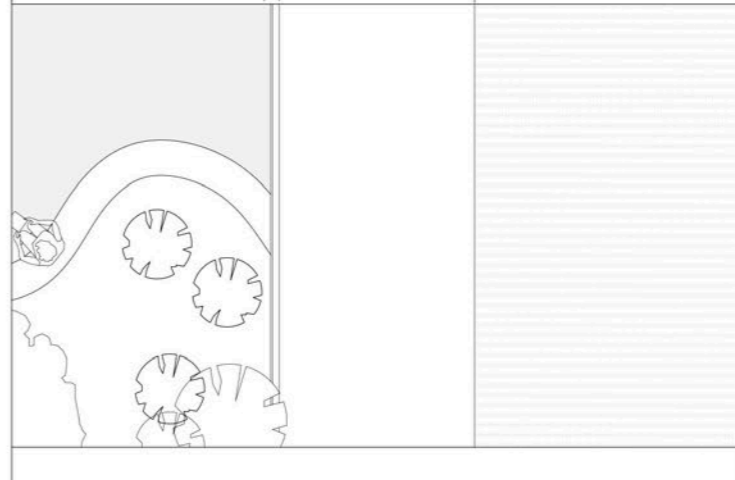
Detail Section

Detail Elevation

Floor Construction

- 1b. Finishing, polished concrete 80 mm
- 2b. Separating layer, plastic sheet 1 mm
- 3b. Slope screed, concrete 25mm
- 4b. Structure and insulation sandwich, steel sheets and extruded polyurethane panel 20-80-20 mm
- 5b. Main structure, metal profile beams 600x400 mm
- 6b. Secondary structure, metal profile joist 100 x300 mm
- 7a. Structure, metal tension cables d= 20mm

Detail Drawings
Technical Approach



Horizontal Section

Architectural Details

Situation 5: Enclosed Ribbon's Classroom



Clusters of uses are organized under the Tinglado with a minimalistic design approach

The last situation happens on the lower part of the project: under the ribbon and the Tinglado. Here, educational uses are located.

These clusters of users are organized inside glass boxes with a minimalistic approach, always trying to bring the maximum light inside the spaces.

Floor Construction

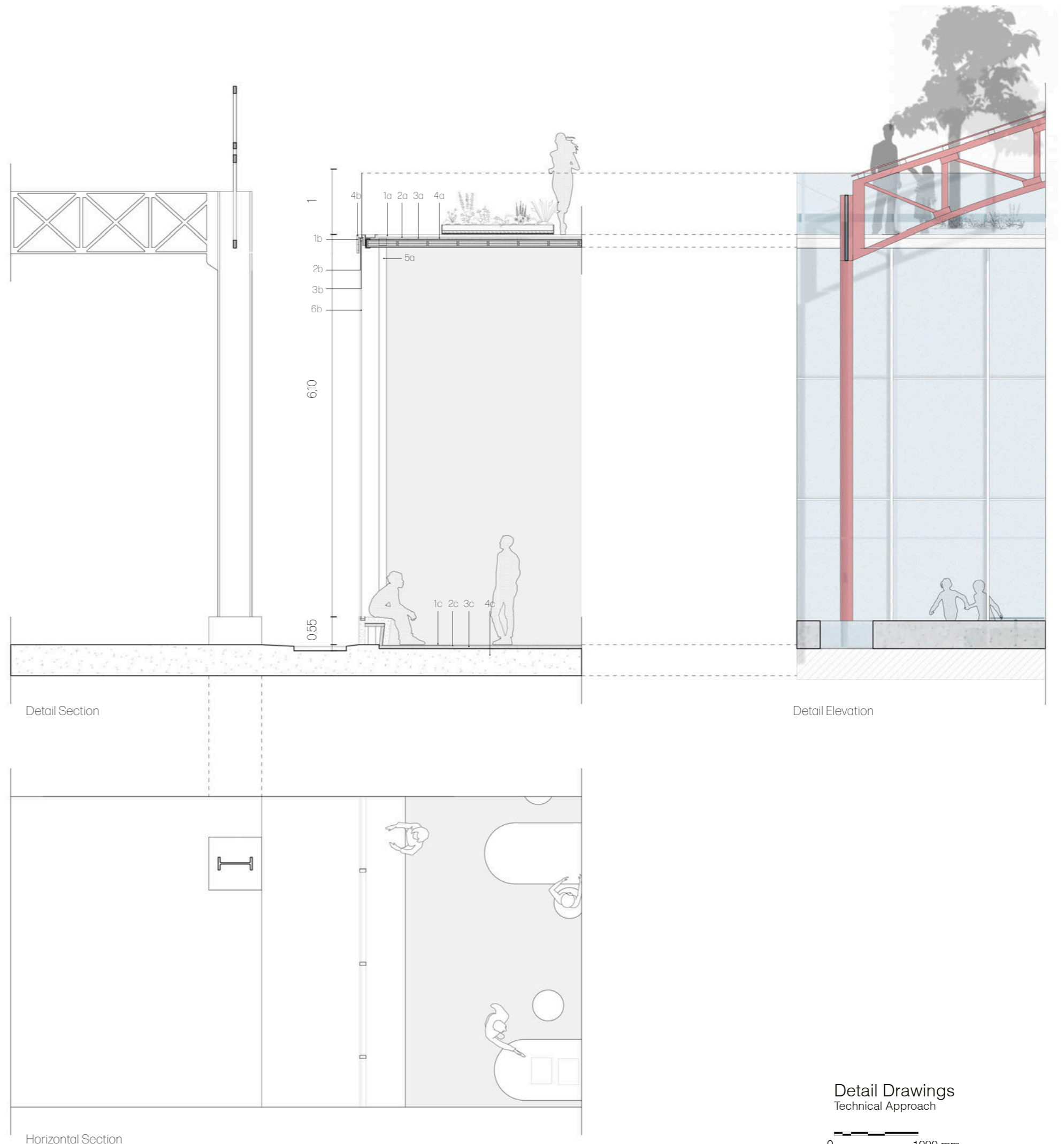
1a. Finishing, polished concrete	80 mm
2a. Separating layer, plastic sheet	1 mm
3a. Slope screed, concrete	25mm
4a. Structure and insulation sandwich, steel sheets and extruded polyurethane panel	20-80-20 mm
5a. Main structure, metal profile beams	600x400 mm
6a. Secondary structure, metal profile joist	100 x300 mm

Skin Construction

1b. Covering, clear anodized aluminium	3 mm
2b. Thermal insulation, compact phenolic foam	10-40 mm
3b. Separating layer, plastic sheet	1mm
4b. Structure, customized steel girder	10 mm
5b. Separating layer, hard plastic	
6b. Skin layer, laminated safety glass	10-8-8mm

Floor Construction

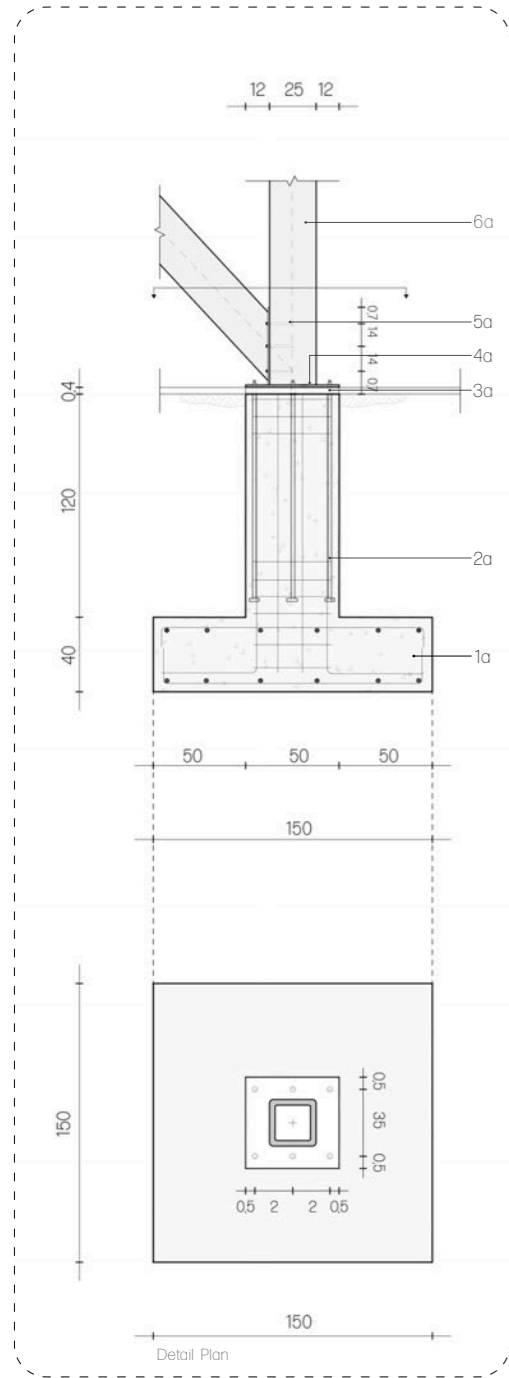
1c. Finishing, polished concrete	10 mm
2c. Separating layer, plastic sheet	1 mm
3c. Thermal insulation, extruded polyurethane panel	50mm
4c. Structure, existing concrete slab	10 mm
	400mm



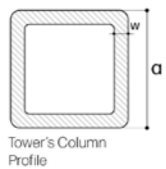
Detail Drawings
Technical Approach
0 1000 mm

Steel Connections

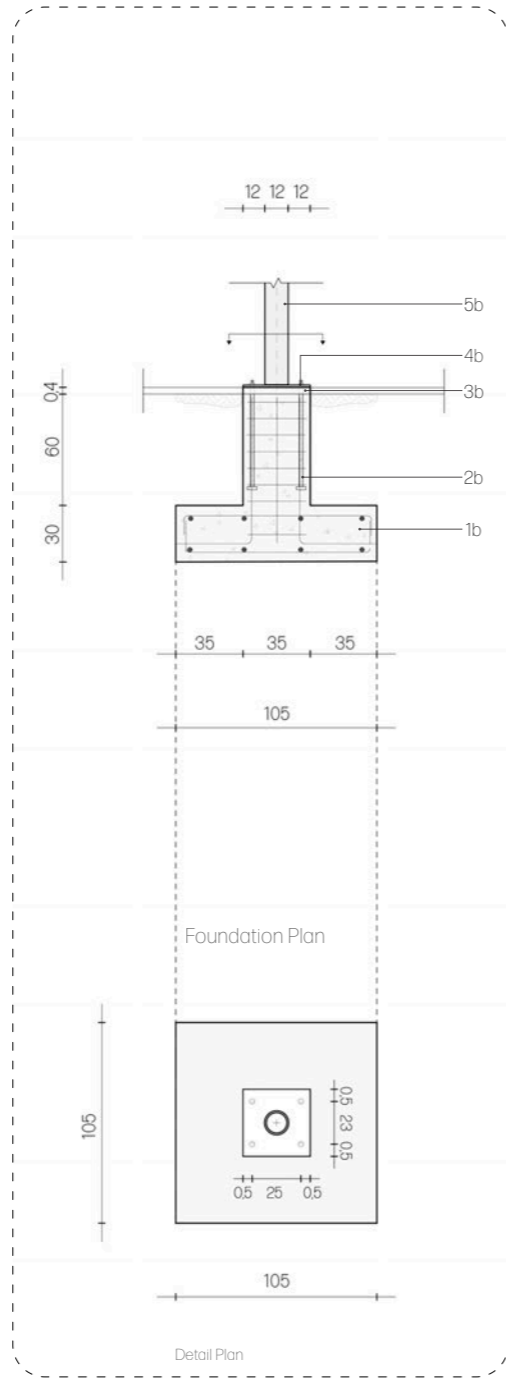
Tower's Foundation



- 1a. Isolated tower's footing
- 2a. Six anchor bolts of 2x120cm
- 3a. High compression strength expansive mortar
- 4a. Steel plate of 50x50cm
- 5a. Expansion bolts of Ø2cm and 15cm.
- 6a. Steel hollow square column (a=25, w=0,3cm).



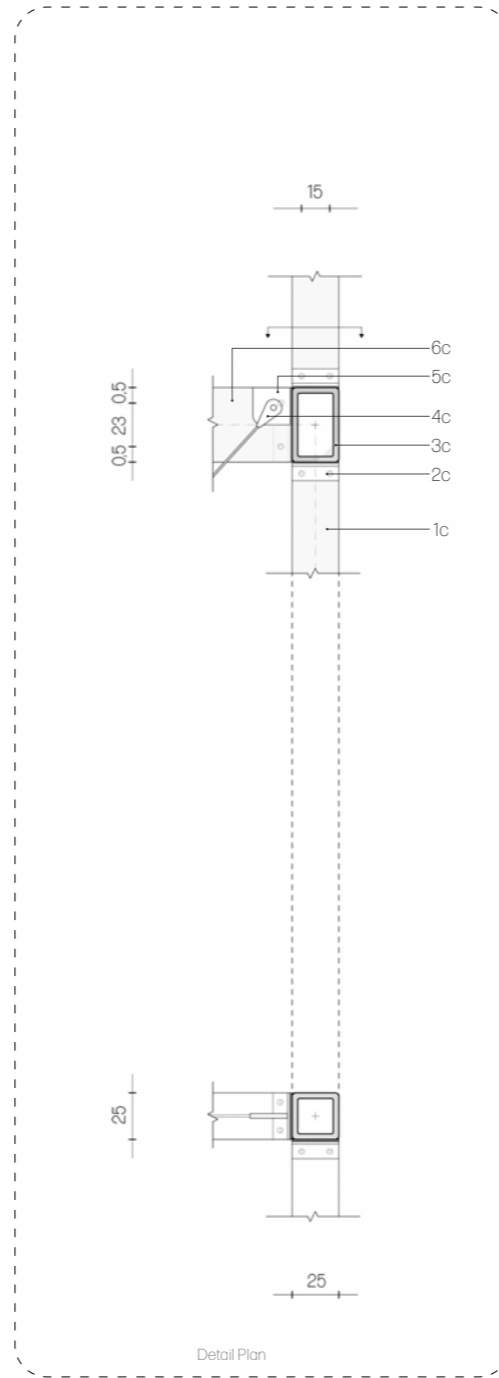
Ribbon's Foundation



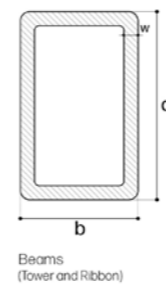
- 1b. Isolated tower's footing
- 2b. Anchor bolts of 2x60cm
- 3b. High compression strength expansive mortar
- 4b. Steel plate of 36x36cm
- 5b. Steel circular hollow column (d=12,5 w=0,2).



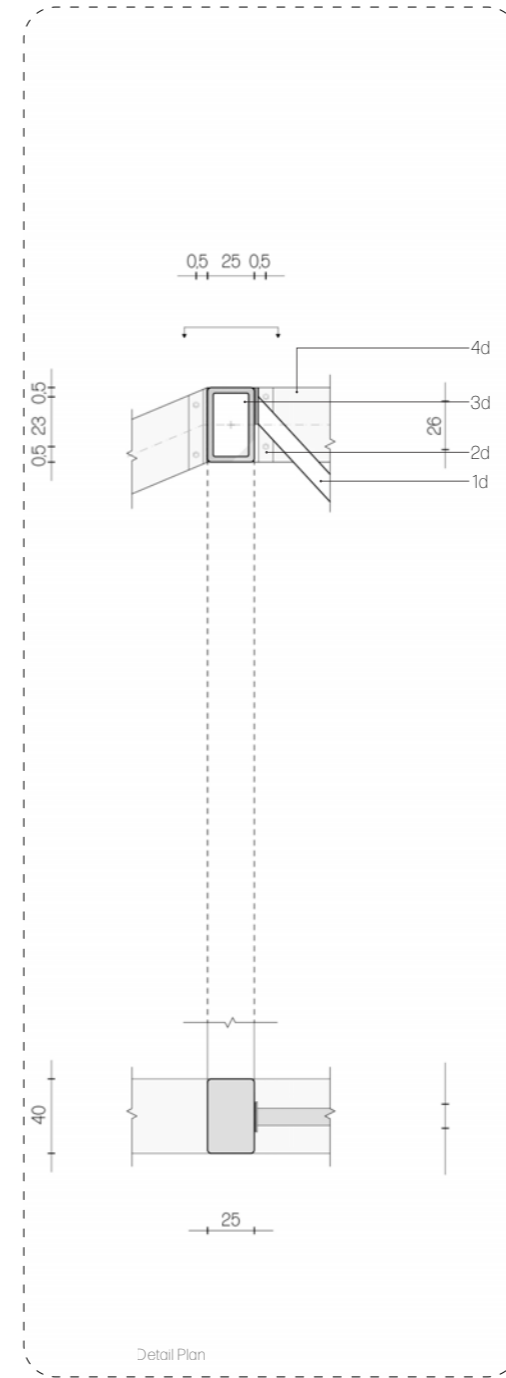
Ribbon's Beam and Tension Cable Connection



- 1c. Tower's steel column
- 2c. Welded reinforcement L-shaped steel plate.
- 3c. Steel hollow rectangular beam (a=40, b=25, w=0,3cm)
- 4c. Steel tension cable of Ø2cm
- 5c. Steel plate of 1cm width
- 6c. Tower's steel beam

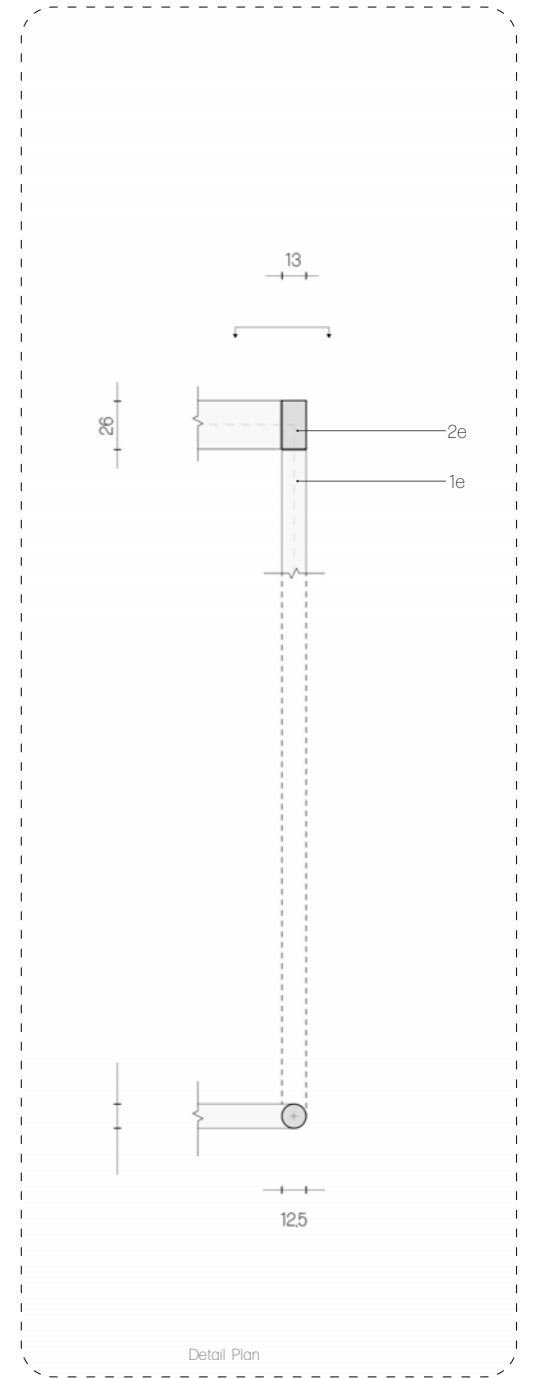


Ribbon's Beam and Cross Brazing Connection



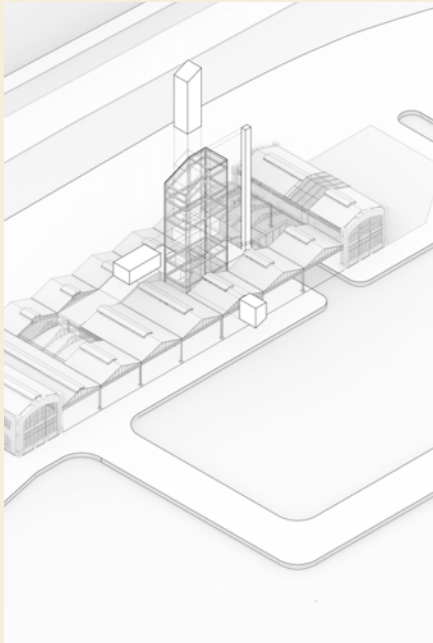
- 1d. Steel cross brazing structure of 10x10cm.
- 2d. Welded reinforcement L-shaped steel plate.
- 3d. Steel hollow rectangular beam (a=40, b=25, w=0,3cm)
- 4d. Tower's steel beam

Ribbon's Beam Connection



- 1e. Steel circular hollow column.
- 2e. Steel rectangular hollow beam (13x26cm)

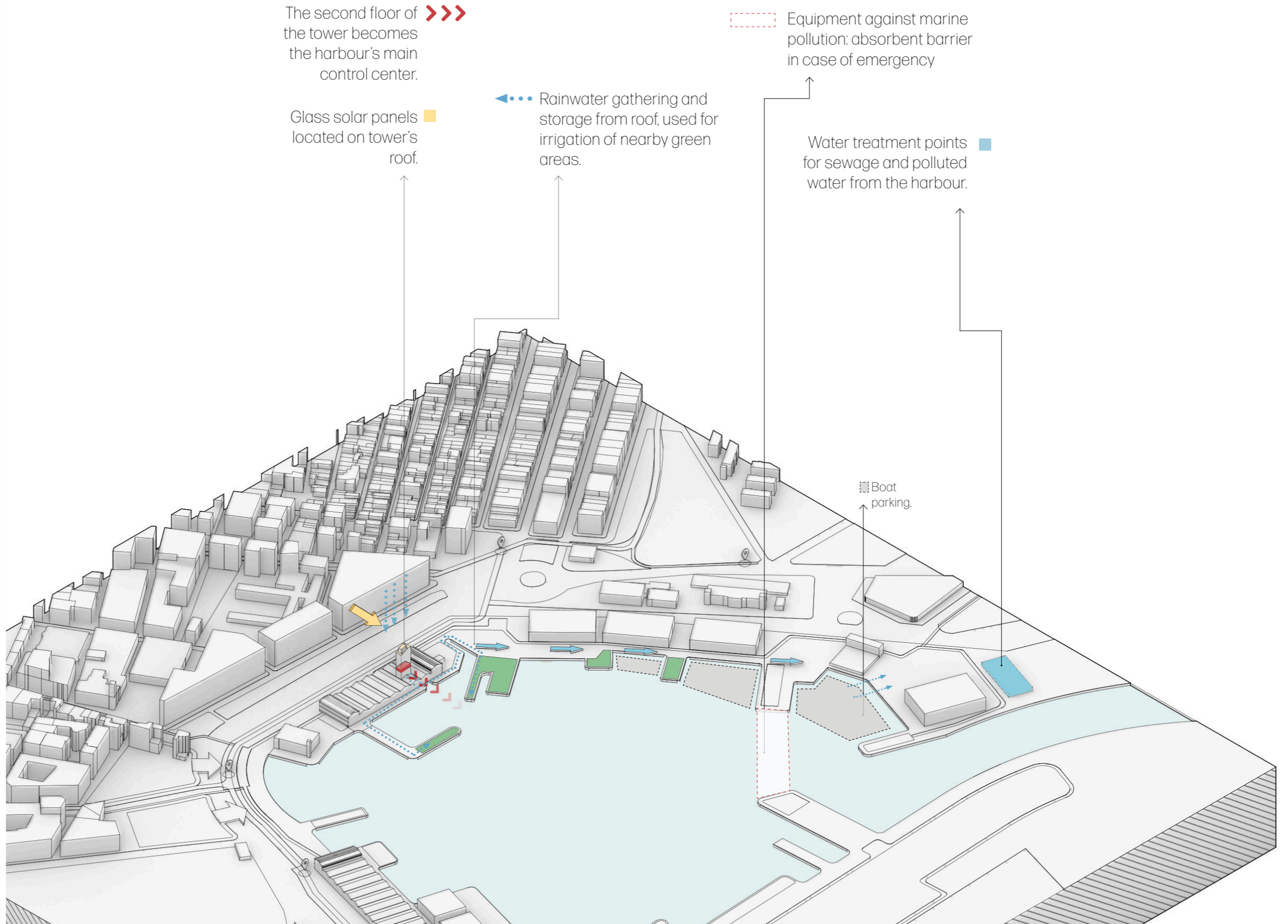
Sustainability and Positive Impact

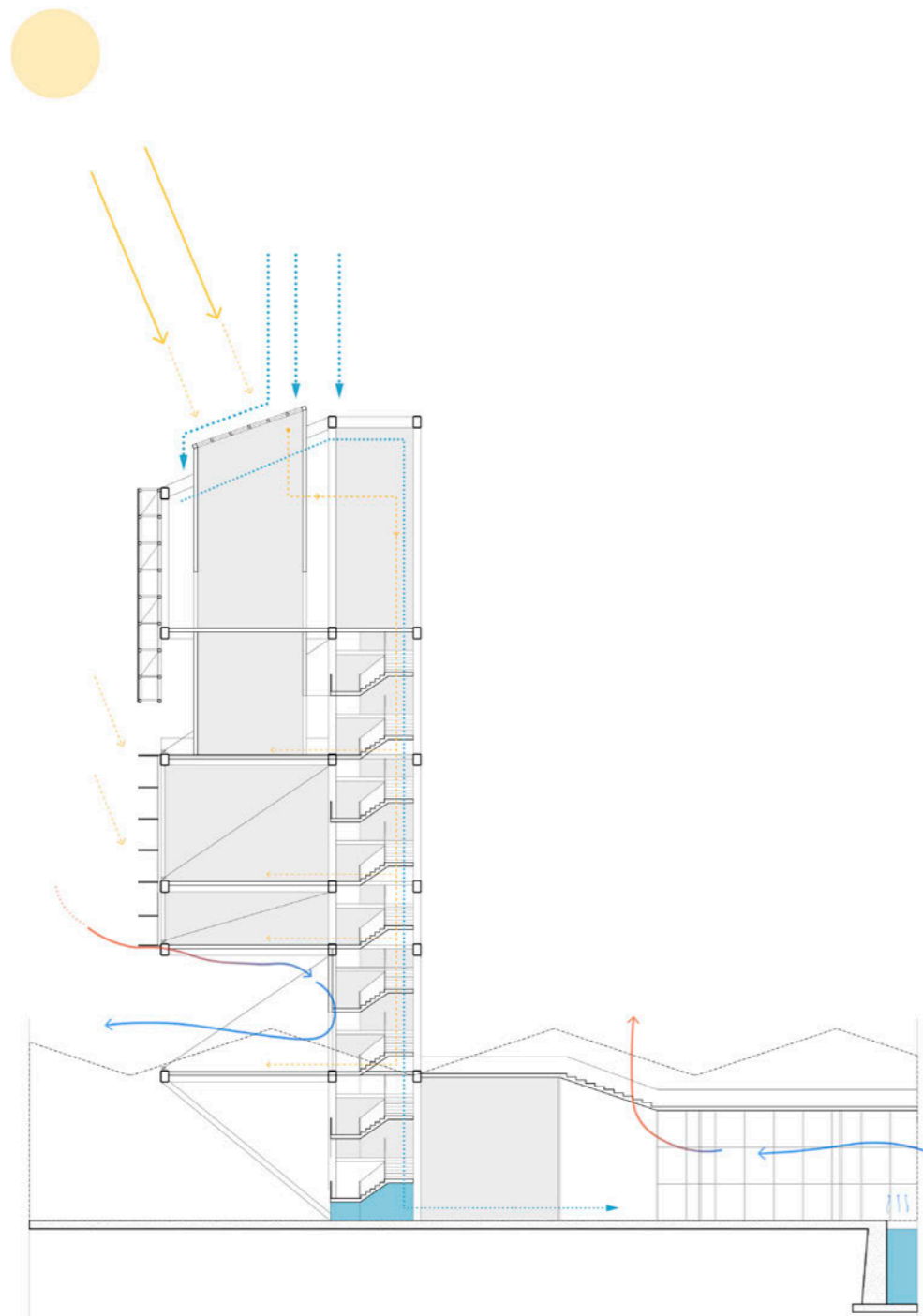


The sustainable approach focuses on the biggest scale of the project, aiming to imagine a set of strategies that will benefit the existing situation in the Harbour.

This enormous challenge has been designed following the actual goals set by the Valencia's Council to improve in the future on the Harbour.

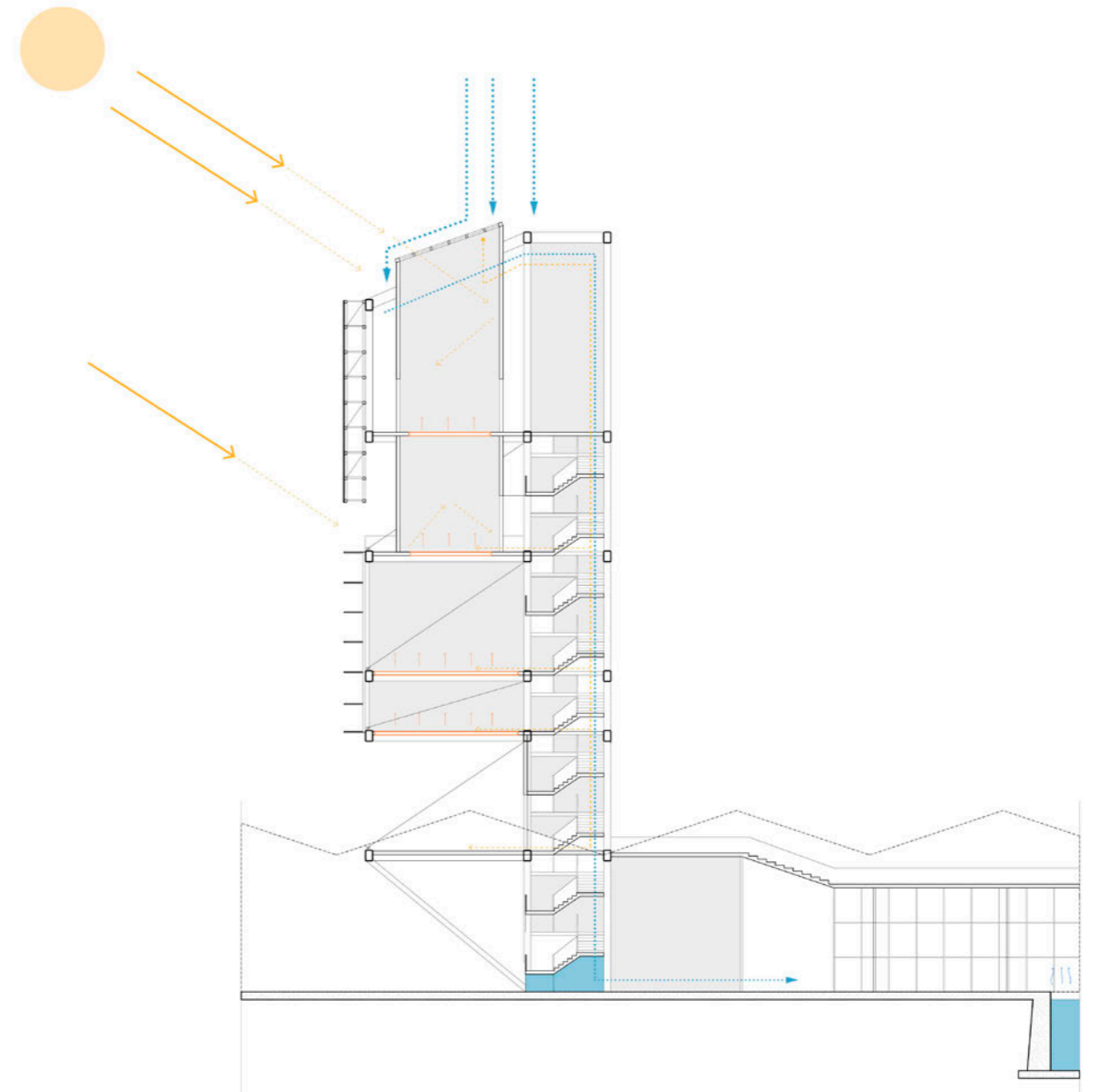
Some of these goals are: Implementing clean energy strategies, locating water treatment points to improve the polluted water in the harbour, establishing a clear strategy in case of a marine pollution emergency are some of the strategies. These goals are then implemented into the project, giving an extra reason to change the shape of the Harbour and improve its existing environmental condition.





- Summer Diagram

- Sun rays captured by PV panels and distributed to the tower.
- ⋯→ Rainwater gathering and storage from roof, used for irrigation of green areas.
- Ventilation through building.
- - - Vertical pits for installations.



- Winter Diagram

- Sun rays captured by PV panels and distributed to the tower.
- ⋯→ Rainwater gathering and storage from roof, used for irrigation of green areas.
- Radiating floor as heating system
- - - Vertical pits for installations.

Chapter 6

Realistic Visualizations.

- Interior and exterior realistic images.





**How will it
be?**



Realistic Visualizations

The ribbon, a longitudinal park generating a new landscape



Realistic Visualizations

The Tower as a bold gesture, connecting the city and the sea

The Tower, one of the main elements of the project. Gives a new look to the Tinglado, allowing to climb it and to look at the city from a new perspective.



Realistic Visualizations

Children bringing
life to a forgotten
Harbour



Realistic Visualizations

The water as a meaningful element





The great objective of the project, apart from giving back urban space to Valencians citizens is to bring back to life to a structure and an area that have been forgotten by its city.



