

Faced with the existing problem of the disappearance of rivers in Catalonia, this project aims to address the hydrological restoration of Girona. A city that is born in a natural territory divided by three rivers that converge at the same point of the Ter (to which is added a fourth waterway that appears to the west). The study area intends - by means of 3 technical strategies - to save and deanthropize 3 problems caused by water erosion and desertification agents: a territory that dries up, an overflowing river and water contamination. Once the interventions to solve it are implemented, it is expected that the environment and the natural ecosystem will regulate itself. Here are the 3 mentioned strategies that will support the project:

1. TERRITORIAL STRATEGY
Water retention and infiltration
-Reforestation / filling water reserves and stopping clogging
-Large extensions of water stratification, in the fields of Santa Eugènia, outside the urban area and before entering the city
-Detection of underground parking lots in urban areas / With the function of being interconnected deposits
-Deconstruction of existing dams / replacement with new ones with sensors
- 2.URBAN STRATEGY
Action in the riverbed for the recovery of the Onyar and its renaturation.
-Permeability
-Aquatic and amphibious vegetation / substitution of harmful species for ecological connector species
3. BUILDING-RIVER SYNERGY
Prototype building as stand-alone model / water filter as direct connection between city and river
Two parking lots transformed into places as reservoirs and irrigation water purifiers

Once the risks surrounding the water problem have been analyzed, we will classify the type of solutions in a gradation: region, city, neighborhood, prototype building and two reservoirs. In view of climate change, it is necessary to work flexibly to adapt and find the best way to respond architecturally to the encounter between man and water. It is necessary to give an architectural response for the protection and recovery of the landscape. Thus, we will have to work at different scales and operate through the topographic power station, the hydrographic power station and the geological section. The objective of this project, both the exhaustive analysis and the strategies proposed for the recovery of the Onyar, is to serve as an example to create guidelines for action extrapolable to other territorial territories presenting the same risk.

JARDINES DE AGUA LLIBERTAT 3 Y 5
GIRONA

DIPLOMA AND FINAL PROJECT OF ARCHITECTURE
UDG UNIVERSITAT POLITÈCNICA DE GIRONA
2020

SUPERVISORY TEAM: JOSEP FUSES COMALADA Y NADIA FAVA
STUDENT: ANDREA TUSELL FALCÓ

Country / City SPAIN/ GIRONA
University / School POLYTECHNIC UNIVERSITY OF GIRONA UdG
Academic year 2020
Title of the project WATER GARDENS 3 AND 5
Authors ANDREA TUSELL | FALCÓ

TECHNICAL DOSSIER

Title of the project WATER GARDENS 3 AND 5
Authors ANDREA TUSELL I FALCÓ
Title of the course TFM
Academic year 2020
Teaching Staff JOSEP FUSES, NADIA FAVA
Department / Section / Program of belonging DEPARTMENT OF ARCHITECTURE AND CONSTRUCTION
University / School POLYTECHNIC UNIVERSITY OF GIRONA UdG



Written statement, short description of the project in English, no more than 250 words

My work is based on the hydrogeological restoration of the city of Girona in Catalonia. From the origin to the current situation, understanding its evolution, the project is developed with a multidimensional analysis temporal and territorial specifying the areas of action within the territory that from different scales is reduced to the scale of the architectural piece. The study area aims, by means of three technical strategies, to recover and de-anthropise three problems caused by water erosion and desertification agents: a territory that is drying up, a river that is overflowing and water pollution. Once the interventions to solve these problems have been implemented, the environment and the ecosystem will regulate itself in a natural way. The three strategies are:

1. TERRITORIAL Strategy: Water retention and infiltration / Reforestation / Large extensions of water lamination, in the fields of Santa Eugenia, outside the urban area and before the entrance to the city. / Detection of underground car parks in urban area/functioning as interconnected reservoirs. / Deconstruction of existing dams / replacement by another sensor system. 2. URBAN Strategy: Action in the riverbed for the recovery of the Onyar and renaturation. / Permeability / Recontouring/sustainable drainage system / Vegetation 3. SYNERGY buildings-river. Self-sufficient model building / Water filter. The aim of the project, both the comprehensive risk analysis and the proposed strategies for the recovery of the Onyar River, is to be an example that can be used to create guidelines for action that can be extrapolated to other areas with the same risk.

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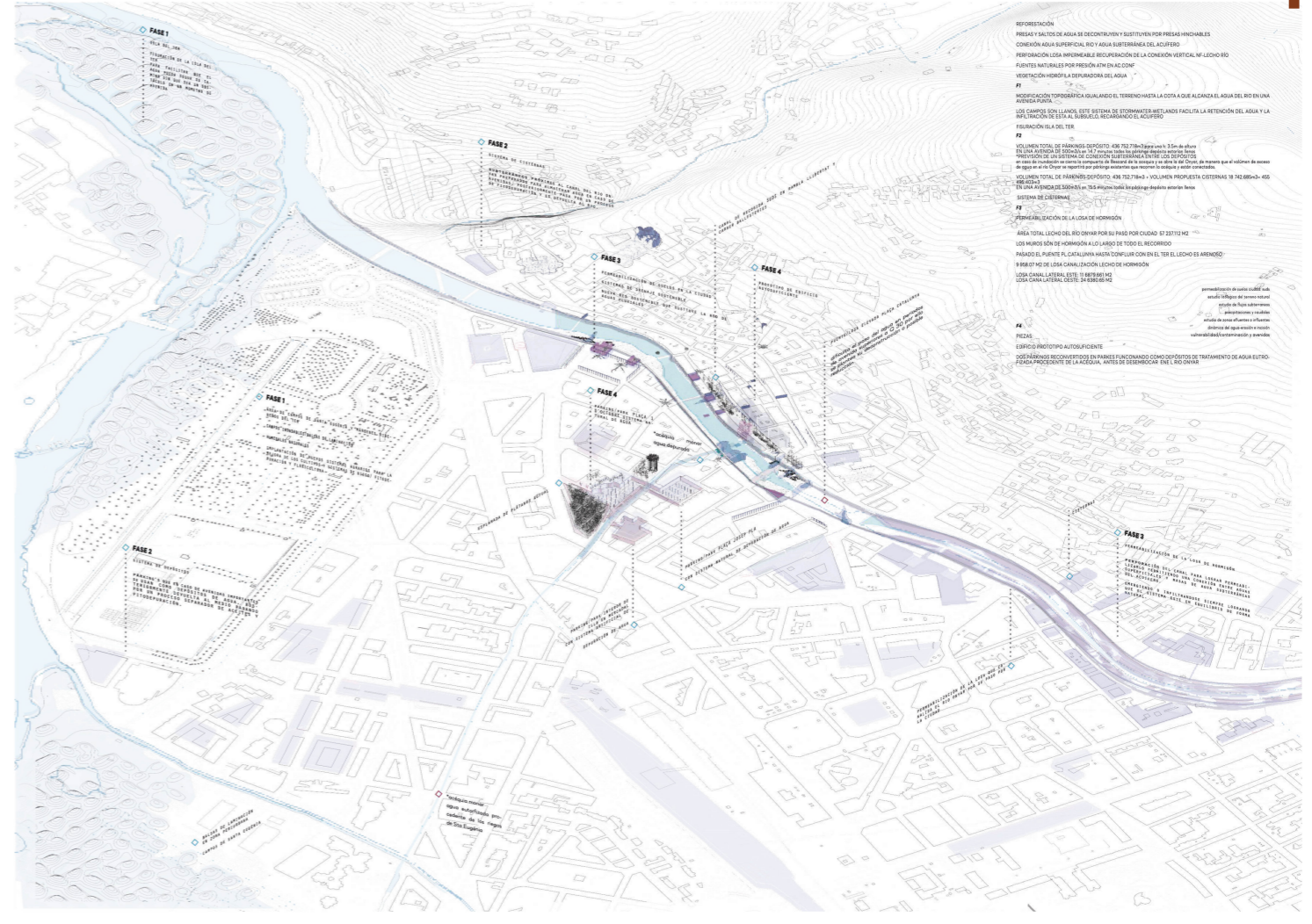
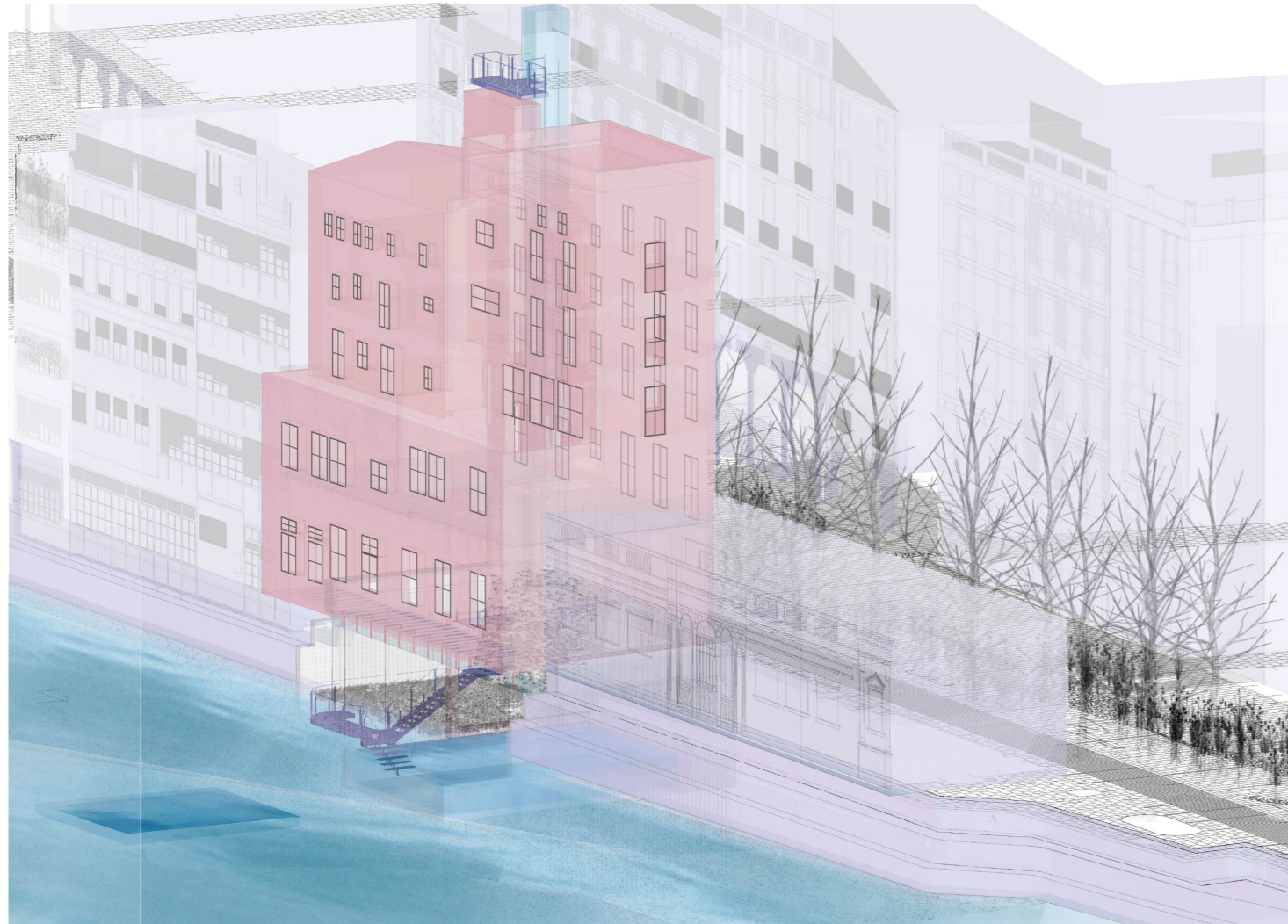
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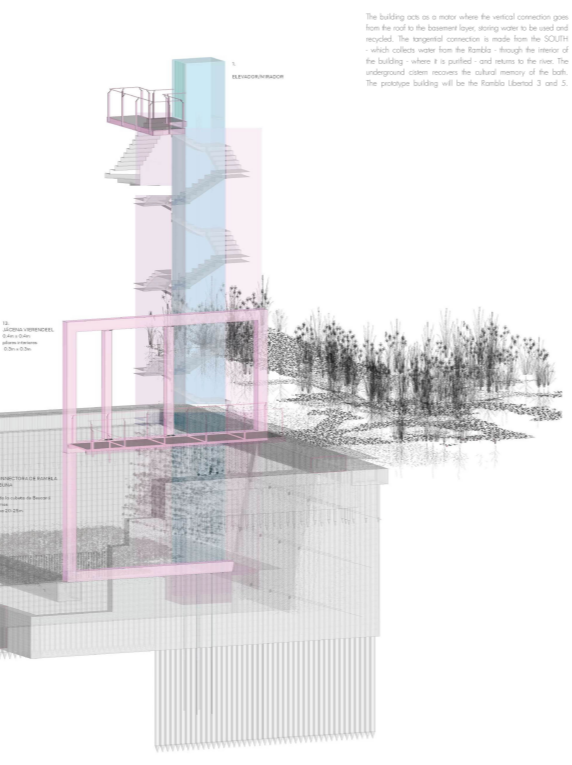
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Barcelona October 2023

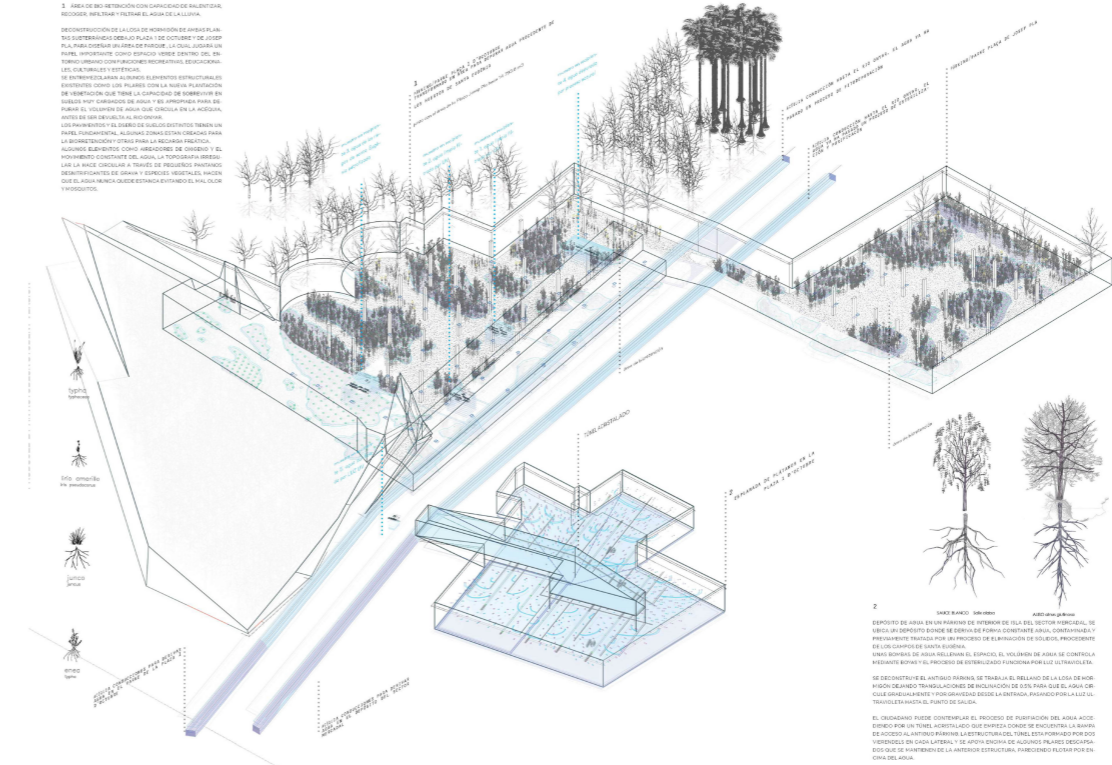
SCHOOL PRIZE



1. BARRIO VIVIENDA
2. INTERIOR BARRIO
3. PLANTA BARRIO
4. PLANTA BARRIO
5. PLANTA BARRIO
6. PLANTA BARRIO
7. PLANTA BARRIO
8. PLANTA BARRIO
9. PLANTA BARRIO
10. PLANTA BARRIO
11. PLANTA BARRIO
12. PLANTA BARRIO
13. PLANTA BARRIO
14. PLANTA BARRIO



The building acts as a mirror where the vertical connection goes from the soil to the basement floor, along water to be used and recycled. The tangential connection is made from the SOUTH - which collects water from the barrels - through the interior of the building - where it is purified - and returns to the river. The underground system recovers the cultural memory of the built.



1. AREA DE RECUPERACION DEL COMERCIO DE ALIMENTOS...
 RECONSTRUCCION DE LA RED DE MONITORIA DE AGUAS...
 EL DISEÑO DEBIO CONTINUAR EL PROCESO DE RECUPERACION DEL AREA...
 EL DISEÑO DEBIO CONTINUAR EL PROCESO DE RECUPERACION DEL AREA...
 EL DISEÑO DEBIO CONTINUAR EL PROCESO DE RECUPERACION DEL AREA...



Country / City Spain / Girona

University / School Universitat de Girona / Escola Politècnica Superior

Academic year 2021 - 2022

Title of the project Opening a new path through ancient fabric. Ecological restoration in Girona's historic district

Authors Eric Guerrero Coma, Mar Casado Pérez, Xavier Busquets Méndez

TECHNICAL DOSSIER

Title of the project	Opening a new path through ancient fabric. Ecological restoration in Girona's historic district.
Authors	Eric Guerrero Coma, Mar Casado Pérez, Xavier Busquets Méndez
Title of the course	Master's degree in Architecture - Escola Politècnica Superior Universitat de Girona (EPS-UdG)
Academic year	2021 - 2022
Teaching Staff	Maria Julia Capomaggi Sequenzia
Department / Section / Program of belonging	Escola Politècnica Superior - Universitat de Girona (EPS-UdG)
University / School	Universitat de Girona / Escola Politècnica Superior



Written statement, short description of the project in English, no more than 250 words

The proposal focuses on a series of small open spaces and its surrounding buildings, located in the historic district of Girona. Nowadays, those spaces are divided and only linked with the buildings each are facing. Using a unifying strategy, the project aims to add the several spaces and, as a result, obtain a new way to connect parts of the neighborhood.

The process of ecological restoration may provide a new habitat to integrate the local flora and fauna of the nearby Gavarres hill range and help the contact of the inhabitants and visitors of the town with the surrounding nature. To face the severity of drought and torrential rainfall common of the climate of the region the project incorporates a system to store the rainwater and recycle water used in the buildings.

Due to difference in terrain levels between the upper and the lower section, the design of the park features a series of dry-stone walls, creating terraces that allow to discriminate spaces between those with a higher level of anthropization, and thus available to be used as vegetable gardens, and those more secluded and intended as not intervened dry Mediterranean forests. All the terraces relate to a meandering path and a more rectilinear way closer to the buildings.

The purpose of the project is to achieve a balance between the dense urban fabric found in cities enclosed with walls and the natural spaces in the vicinity, repurposing carefully selected plots and allowing nature into the core of the city.

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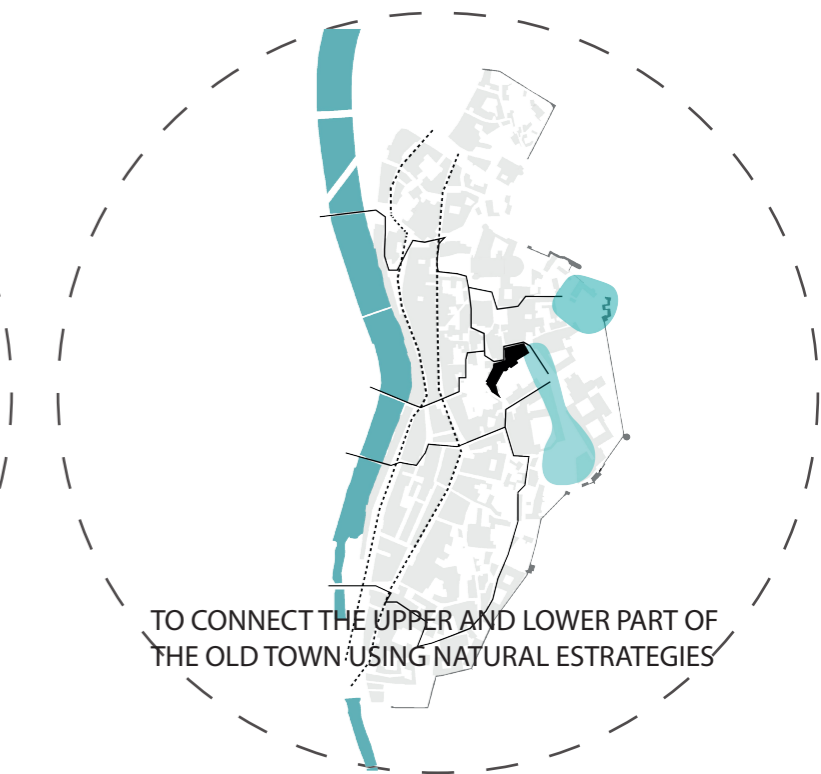
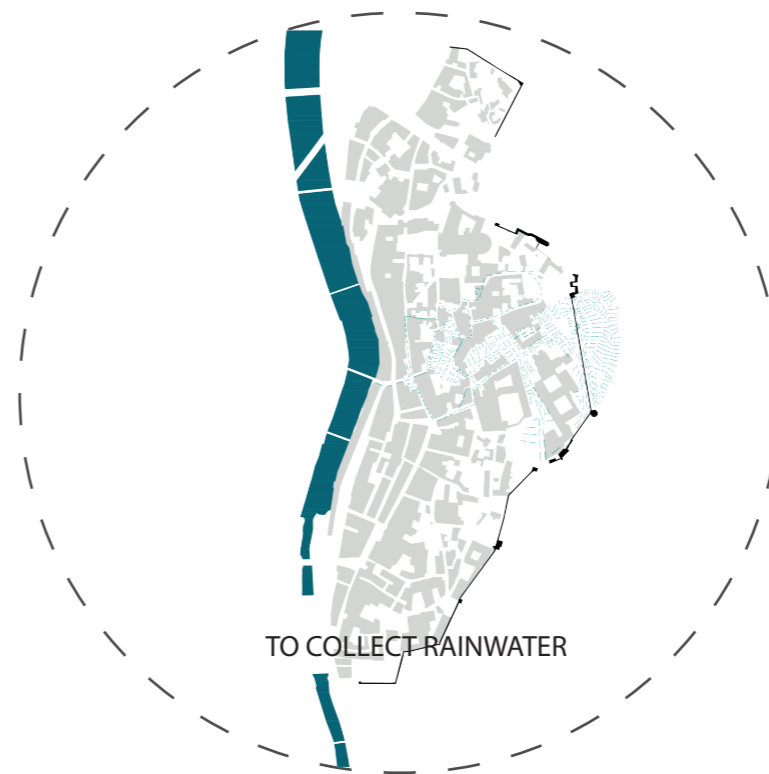
Barcelona

October 2023

SCHOOL PRIZE

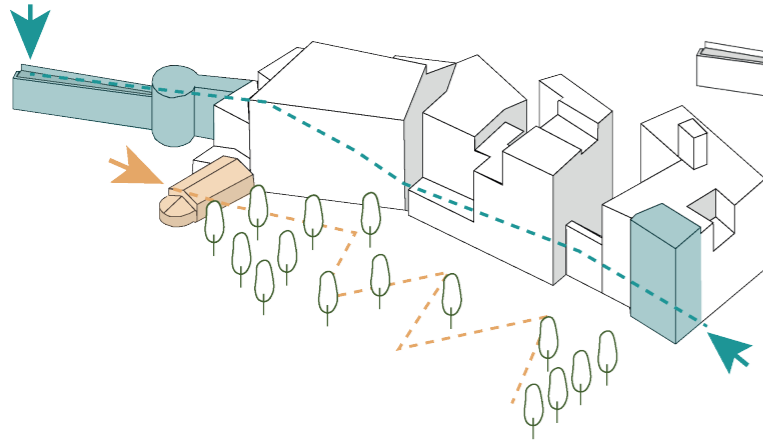
GENERATE A CLIMATE SHELTER

TO BE A RESILIENT CITY IN THE FACE OF CLIMATE CHANGE

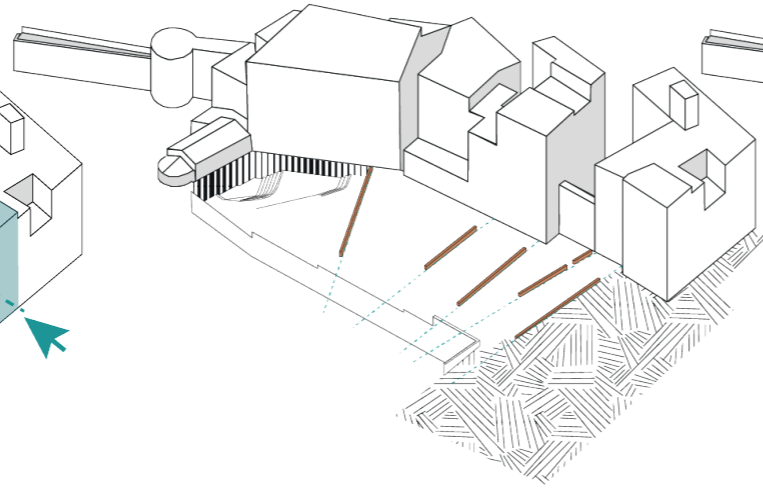


NOT JUST THE STREET IS A PUBLIC SPACE..

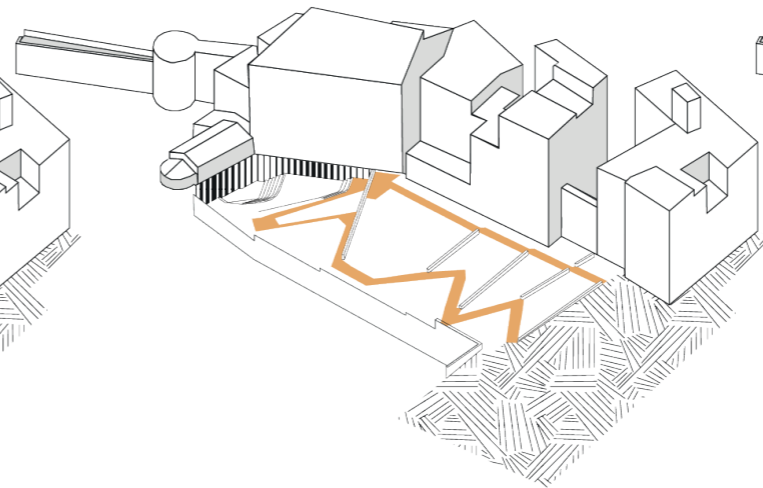
TO GENERATE THIS NEW ROUTE WITHIN THE CITY, IT IS NECESSARY FOR THE PUBLIC SPACE TO PASS THROUGH THE MONUMENTS



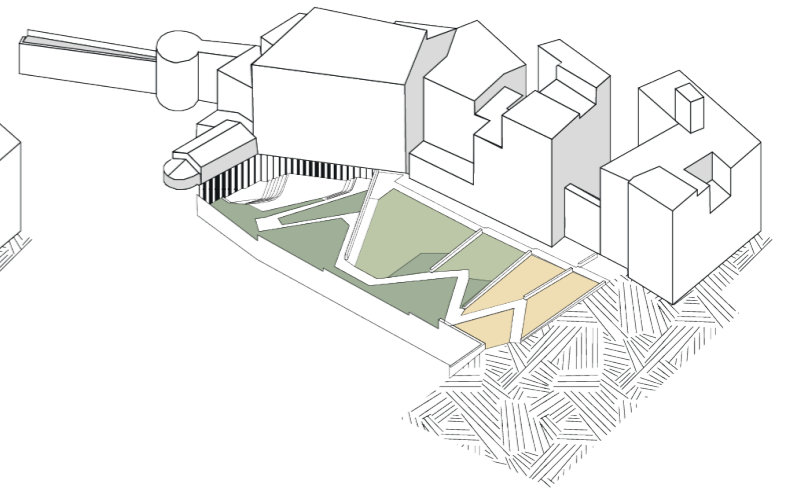
TWO LEVELS OF PUBLIC SPACE



1. TOPOGRAPHICAL ADAPTATION WITH DRY-STONE WALLS



2. PEDESTRIAN ROUTES CONTROLLING ACCESS TO NATURAL AREAS



3. CREATION OF WATER POOLS AND GROUPS OF LOCAL ARBUS AND TREE VEGETATIONS





Alzina. *Quercus ilex*



Garric. *Quercus coccifera*



Estepa borrera. *Cistus salviifolius*



Gatosa. *Ulex parviflorus*



Bruc boal. *Erica arborea*





Plaça Josep Ferrer i Móra.
Project

Country /City: Spain, Girona

University / School Universitat de Girona (UdG)

Academic year Master of Architecture

Title of the project (Atravessant Muralles) Crossing walls. Natural-landscape route throught the recovery of spaces for pedestrian use

Authors Artús Pol Moreno

TECHNICAL DOSSIER

Title of the project	(Atravessant Muralles) Crossing walls. Natural-landscape route through the recovery of spaces for pedestrian use
Authors	Artús Pol Moreno
Title of the course	Master in Architecture
Academic year	2022-2023
Teaching Staff	Silvia Musquera Felip
Department / Section / Program of belonging	Architecture Departament
University / School	Universitat de Girona (UdG)



Written statement, short description of the project in English, no more than 250 words

The Atravessant Muralles project proposes to create a garden inside and outside the wall (Atravessant muralles) as an element to reactivate, connect and revalue the space between the Barri Vell, the Barri de Torre Gironella and Les Pedreres through the gateway in the wall of the General Peralta's Tower. The project will have different levels and strategies of action depending on each area in order to end up carrying out a project that unites them. This project covers from the street connecting Plaça de Sant Domènech and Plaça Josep Ferrater; Plaça Josep Ferrater; the reorganisation of Carrer de la Muralla; the space currently known as Prat de les Dones Descalces; and a reorganisation of the Jardí de la Muralla, currently deteriorated and not adapted to today's needs.

The proposal involves a set of spaces connected by a route that have different areas and characteristics/attributes, which creates different environments that encourage the user to carry out different activities.

In this project we highlight three groups that currently use the space and for whom the area would be greatly enhanced by providing it with social spaces and contact with nature where they can meet. We focus both on the residents of the neighbourhoods and on the students who pass through on their way to the university campus and make use of the area due to the university nucleus that we find in the area, and finally, tourism as a stimulating element of the city.

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SCHOOL PRIZE

CURRENT STATE ANALYSIS

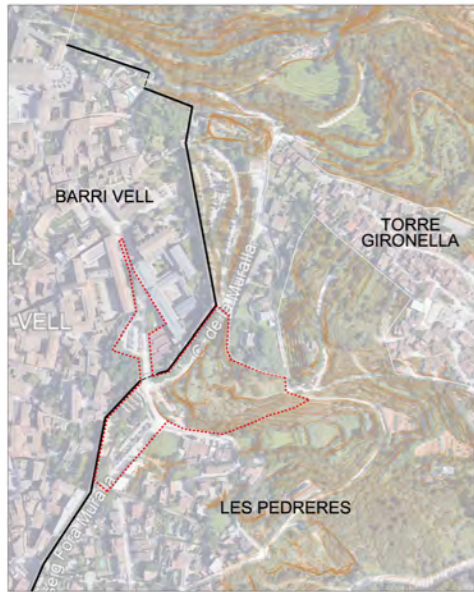
GIRONA, CATALONIA, SPAIN

Between Barri Vell, Torre Gironella and les Pedreres

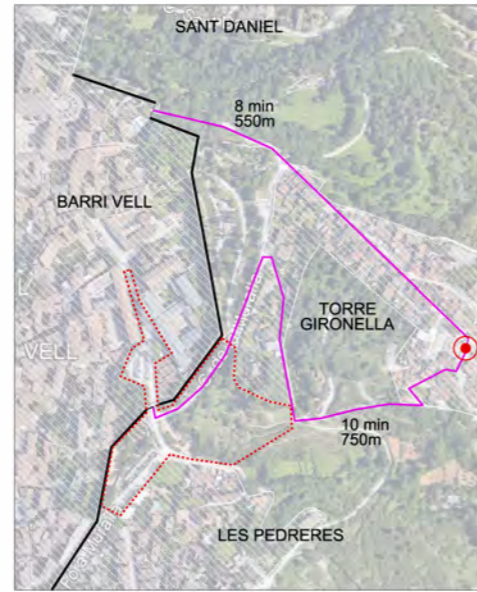


DETECTED PROBLEMS

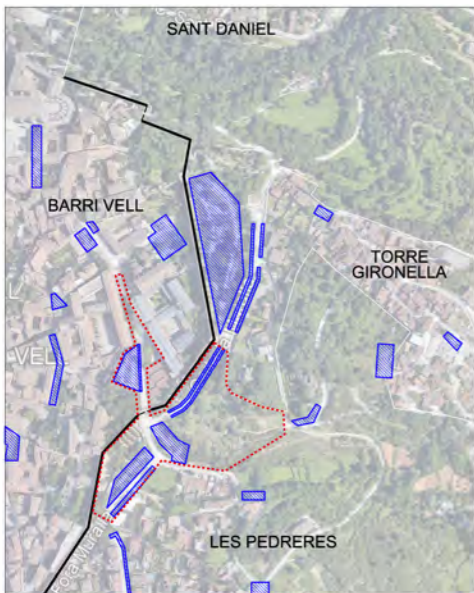
1. Rugged topography



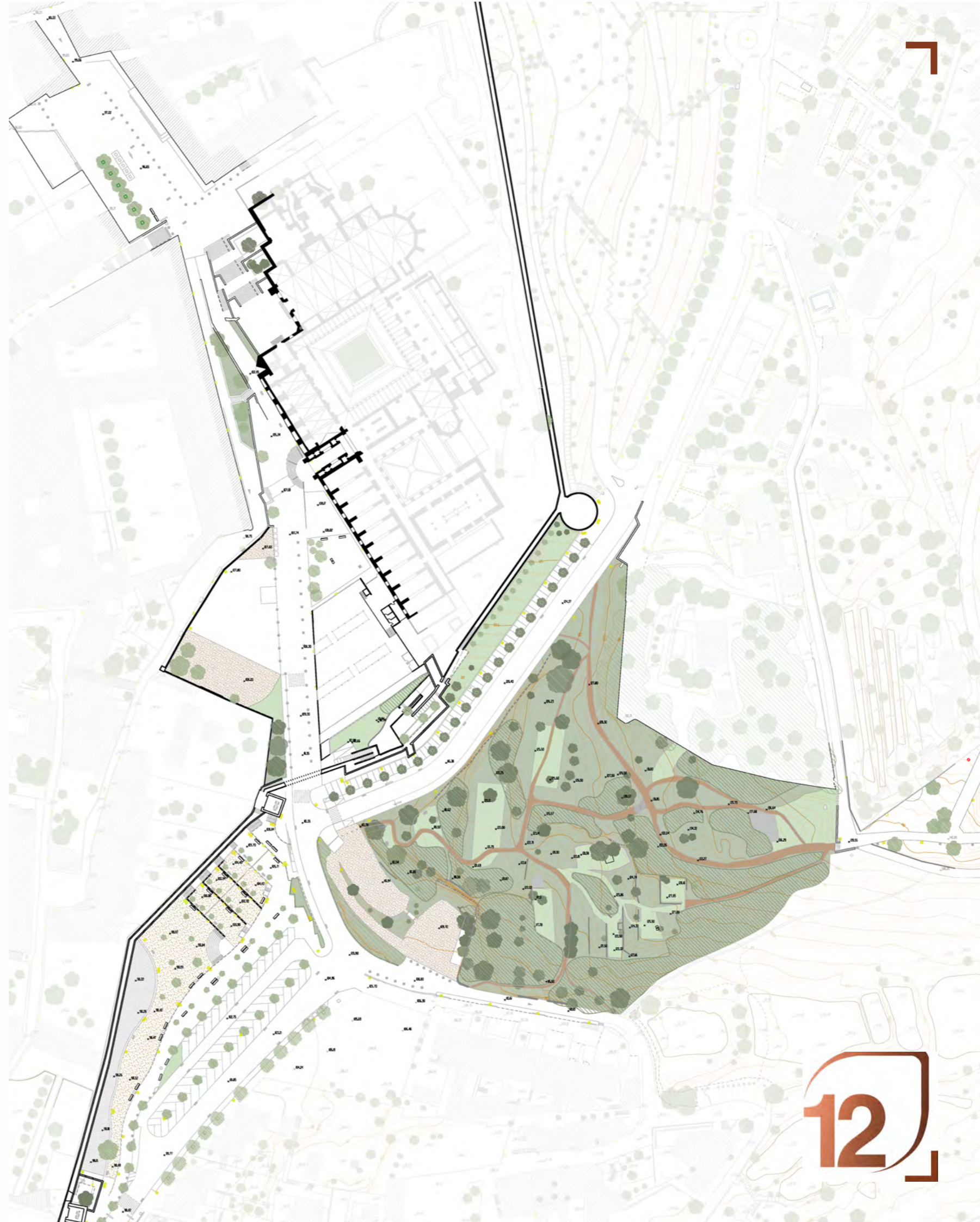
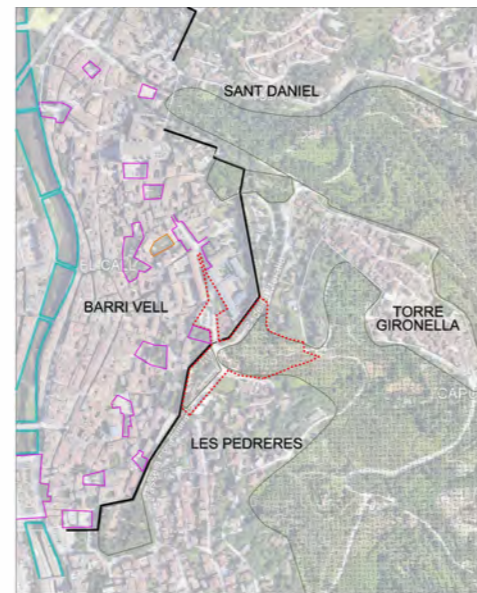
2. Pedestrian "disconnection" between neighbourhoods



3. Domain of the vehicle

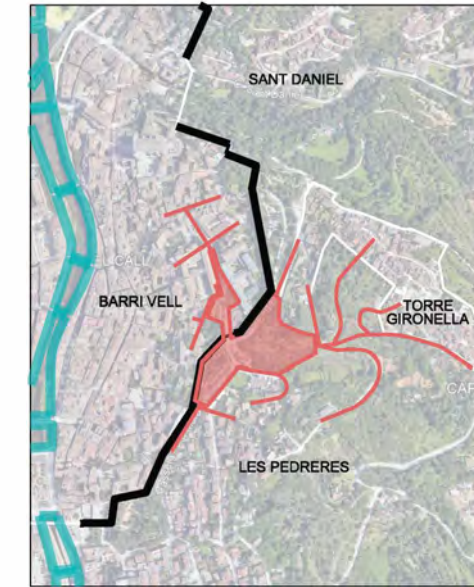


4. Insuficient green public space

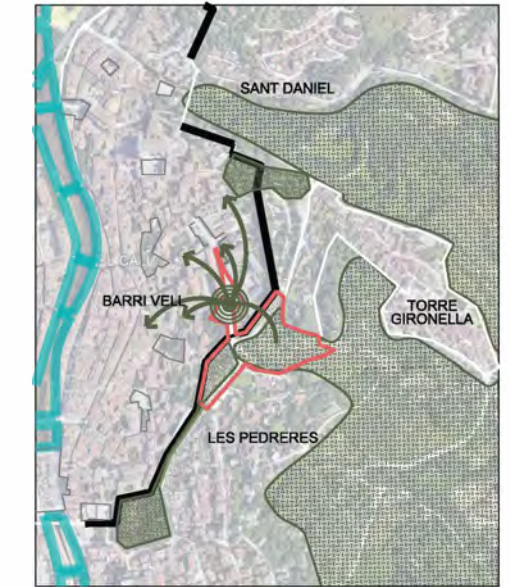


DESIGN STRATEGIES

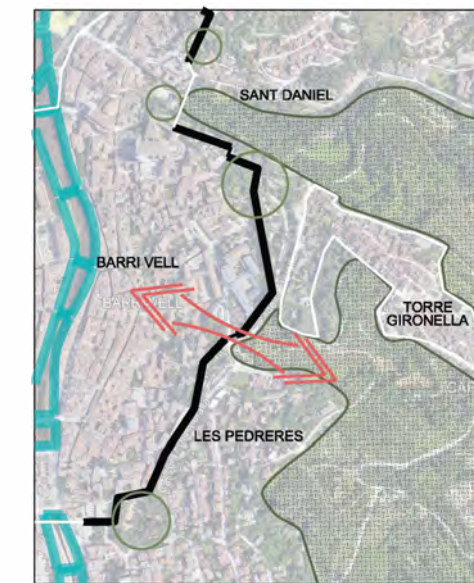
1. New adapted pedestrian connection



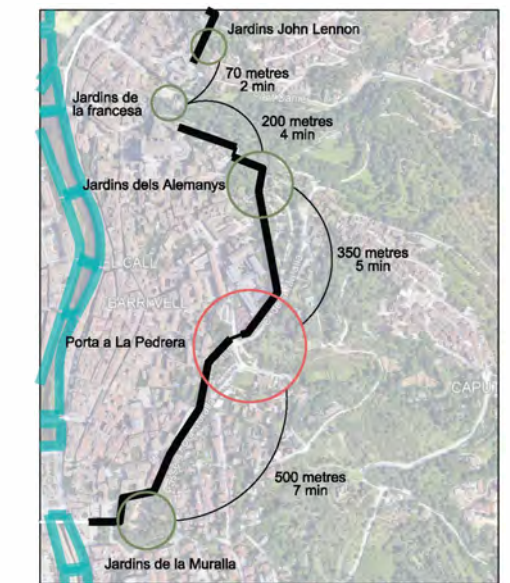
2. Green incursion inside the Barri Vell



3. Nature-city gateway



4. Connection between the gardens of the wall



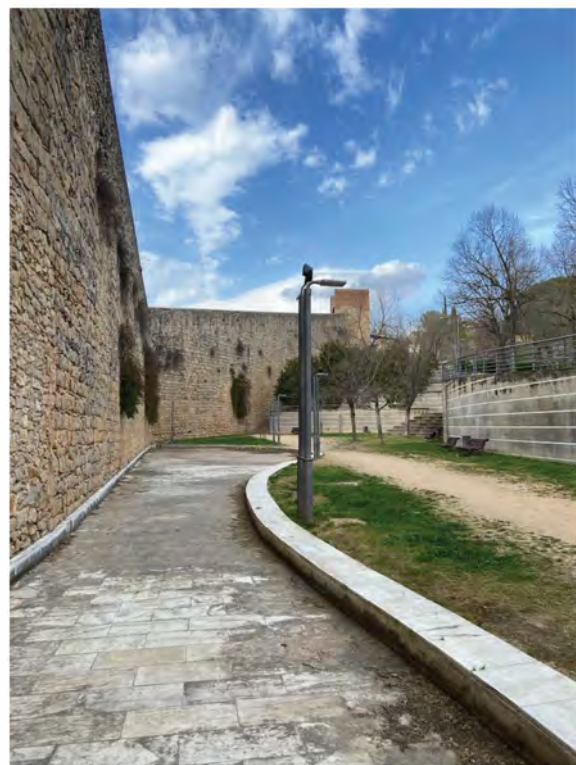
WATER IS THE KEY
Increase the permeable surface



Retention, control and drainage pond



CURRENT STATE



PROJECT





Country /City Espanya. Girona

University / School Universitat de Girona

Academic year 2022/2023

Title of the project O2rigen: renaturalització del riu Onyar al seu pas pel Barri Vell de Girona

Authors Eduard Hermoso Muñoz

TECHNICAL DOSSIER

Title of the project	O2rigen: renaturalització del riu Onyar al seu pas pel Barri Vell de Girona
Authors	Eduard Hermoso Muñoz
Title of the course	Màster Universitari en Arquitectura
Academic year	2022/2023
Teaching Staff	Nadia Fava
Department / Section / Program of belonging	Departament d' Arquitectura i Enginyeria de la Construcció
University / School	Universitat de Girona



Written statement, short description of the project in English, no more than 250 words

The project is based on urban, architectural and landscape improvement. architectural and landscape improvement of the area that includes the current Plaça Catalunya. In this area, a series of strategies have been carried out to define the four main elements that have defined the four main elements of the project of the project. The square is a series of free spaces which created with the union of the two urbanised sides of the Onyar river. Providing the city with a new public space, that ceases to be a residual space and a private car park, private vehicle parking.

These new open spaces will provide visitors a new view of the Barri Vell (Old Quarter), which is currently under threat. The square will be linked with two bridges at street level and two galleries at street level and two galleries at river level, which will be accessible from the square. from the square. The pre-existing traffic flows in Plaça Catalunya will be modified to reduce the visual and acoustic impact of vehicles and acoustic impact of motor vehicles. Onyar needs to showcase itself and connect with the different areas of the with the different spaces of the project in order to establish effective connections between the different points of the environment. The renaturalisation of the river through plant species adapted to the adapted to the context of the current drought, revitalising the area with new flora and fauna in the territory.

For further information

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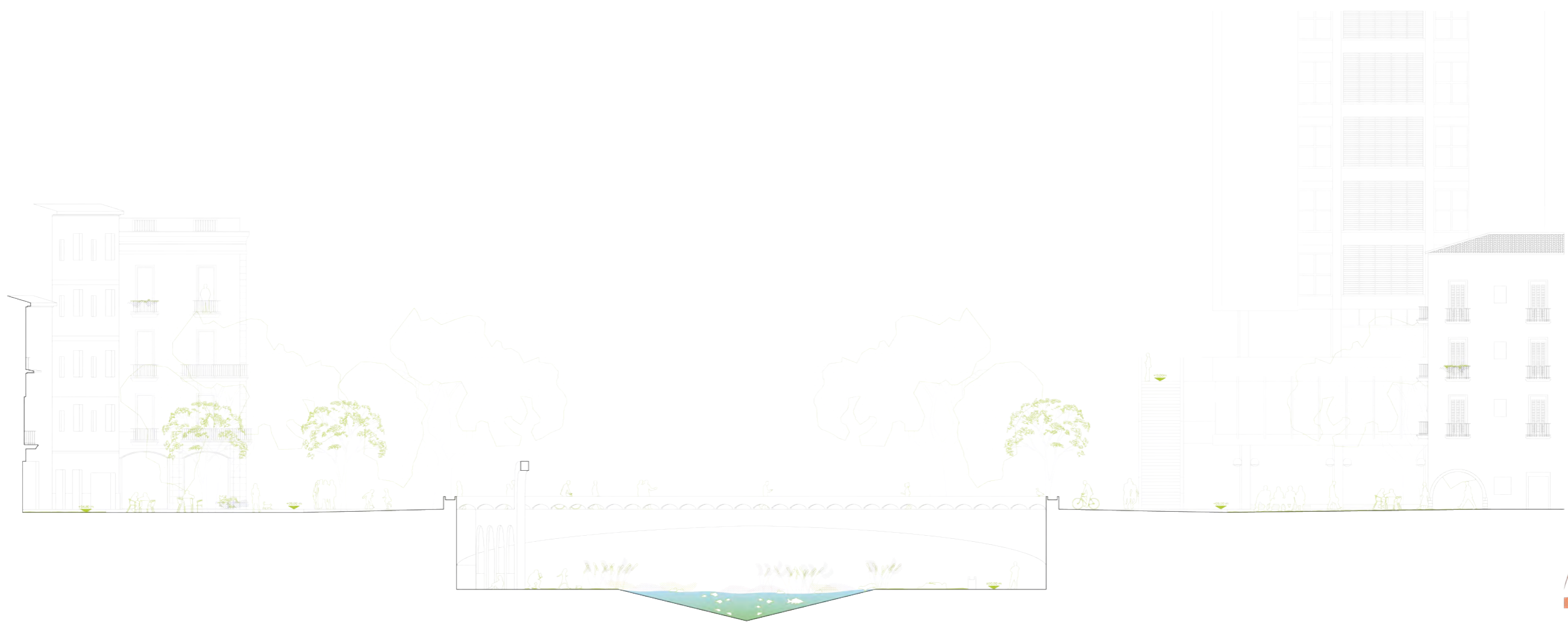
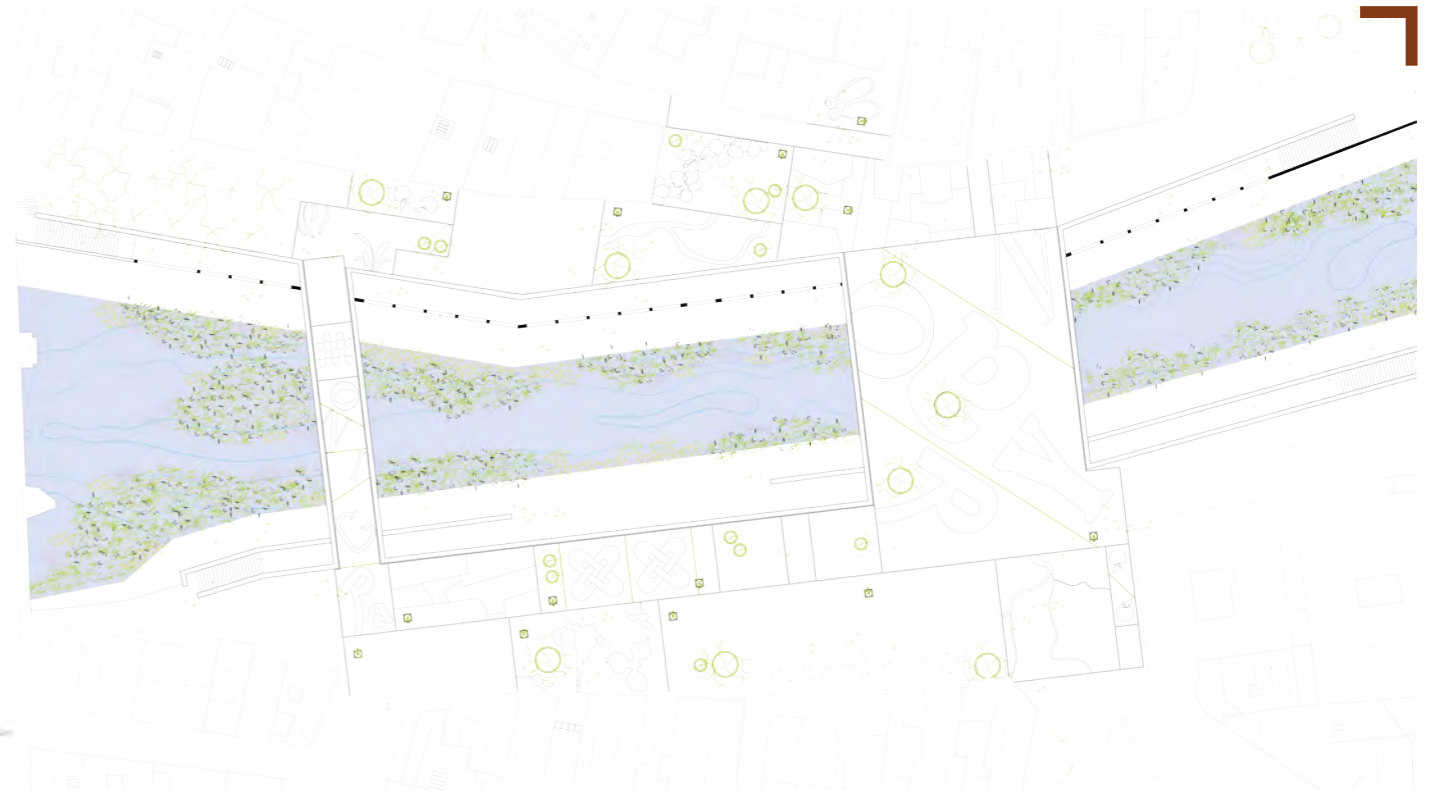
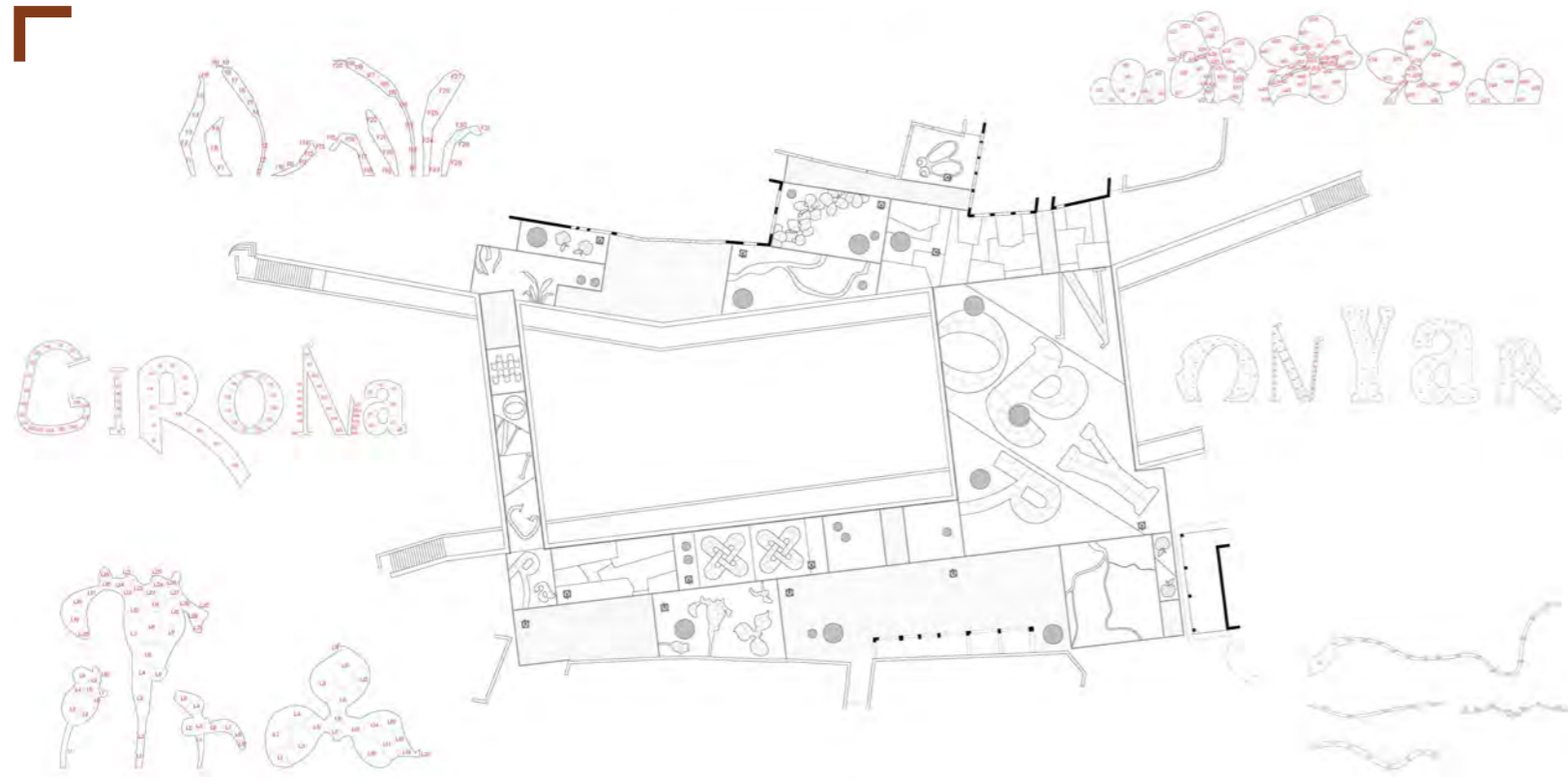
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SCHOOL PRIZE





Country /City ..Spain, Girona.....

University / School Escola Politècnica Superior, Universitat de Girona.....

Academic year 2019.....

Title of the project Rehabilitation and self-management of a self-sufficient industrial colony.....

Authors Marc Colomer Tuneu.....

TECHNICAL DOSSIER

Title of the project	Rehabilitation and self-management of a self-sufficient industrial colony
Authors	Marc Colomer Tuneu
Title of the course	Master of Architecture MARQ EPS UdG
Academic year	2019
Teaching Staff	Maria Pia Fontana
Department / Section / Program of belonging	Department of Architecture and Construction Engineering DAEC EPS UdG
University / School	Escola Politècnica Superior, Universitat de Girona



The use of water as an energy engine populated this territory with factories and textile colonies, defining its urban planning as a multipolar structure.

The textile colony is one of the most characteristic elements of our industrial heritage and gives its own identity to the industrialization process that Catalonia underwent; this is the case of the Ter river, which despite the degradation of the river due to the livestock sector, today it is recovering its biodiversity and people have gradually returned to revalue it.

The project focuses on the colonies located around the middle Ter basin, specifically in the Plana de Vic area, in Osona region. This is the case of colonies such as Can Tarrés, La Coromina and Ymber, located in the town of Torelló, the first of which is chosen to develop the project. Through three urban strategies, the project proposes to incorporate the colony into an existing route, which connects the city center with the rest of the colonies in the area. These operations not only improve the relations of the factory itself, but also connect the entire environment with the river as the protagonist.

Another of the issues that the work attempts to address is the greatest challenge that humanity has faced in recent centuries: the destruction of our planet. Through data analysis, it is concluded that the food model and therefore the way of living must be rethought, so the project proposes a new form of access to affordable housing with a cooperative model, based on a circular energy system and waste utilization.

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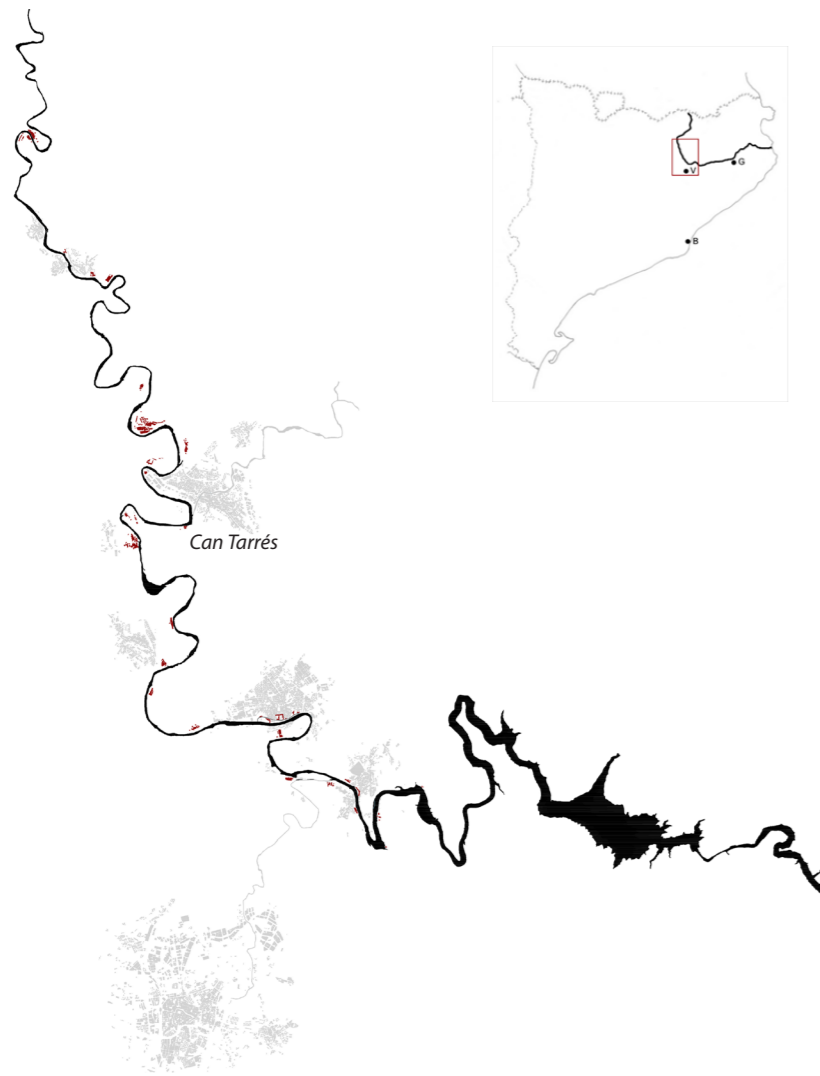
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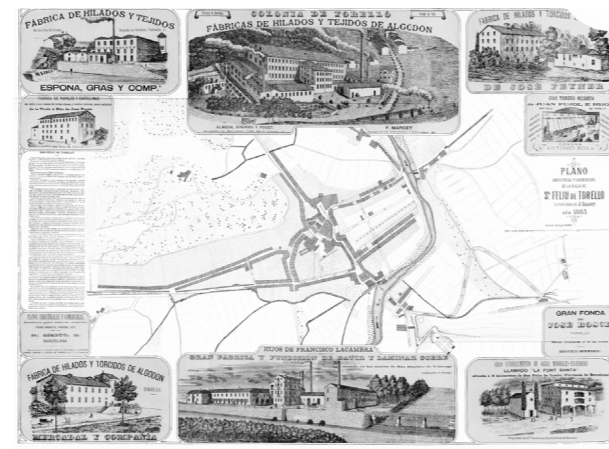
TERRITORY AND HERITAGE

Ter river and introduction to the colonies



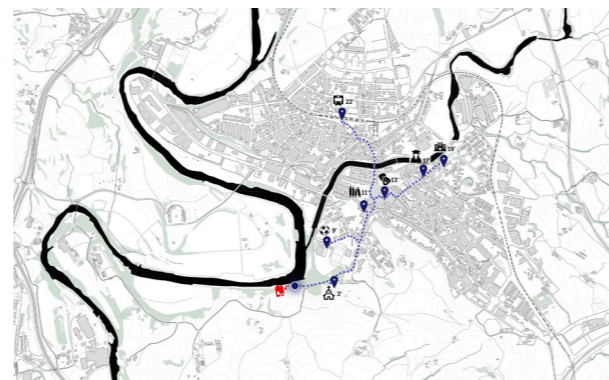
The course of the river Ter and its textile colonies

During the 19th century, the middle Ter basin experienced one of the most important industrial processes in Catalonia and the territory was populated with textile colonies. Despite the degradation of the river due to the livestock sector, today it is recovering its biodiversity and people have gradually returned to revalue it. The colonies are small villages, equipped with the basic services to maintain autonomously a population fully dedicated to the factory. What makes these colonies remarkable is not its architectural quality, but its abundance, density and formal homogeneity. After a study of several colonies in the area, Can Tarrés is the one chosen to develop the project.

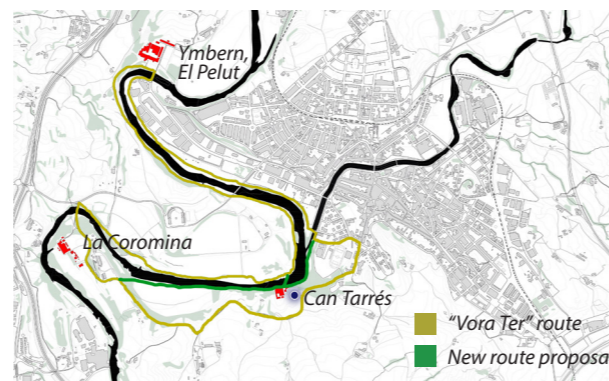


Industrial and commercial map of Torelló

Territorial operation



Time it takes to walk from the colony to the basic services in town



"Vora Ter" route and new route proposal



Current status location



Project location



Outer view



Indoor view



Wheel of the dam



Backyard



View of the chimney

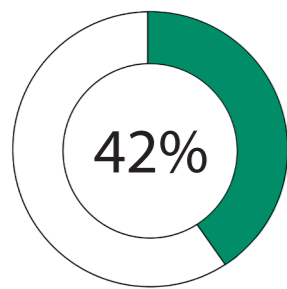
POLICY AND SOCIETY

Housing policy model

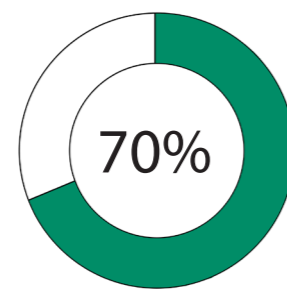
Access to housing responds more to banking interests than to social realities and, faced with this scenario, the first cooperatives emerged in Catalonia to propose an alternative access to housing, which prioritizes its use value over its exchange value. The cooperative model involves a non-profit organization and allows the user to actively participate in the management and maintenance of their home.

On the other hand, reconsidering the food model through a circular energy system, will lead to a community that does not damage the environment but rather restores it. This system is based on the waste generated in the homes and guarantees the necessary food and energy for all the inhabitants of the colony. In addition, an aquaponics system generates a symbiosis between fish and plants grown only with water, which can reduce by 98% the land area used for cultivation and by 90% the water consumption.

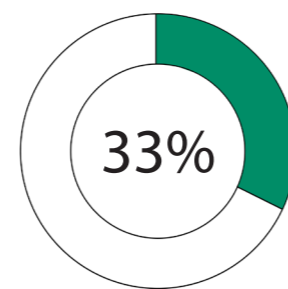
Transfer of use



Of earth land surface is used for farmland

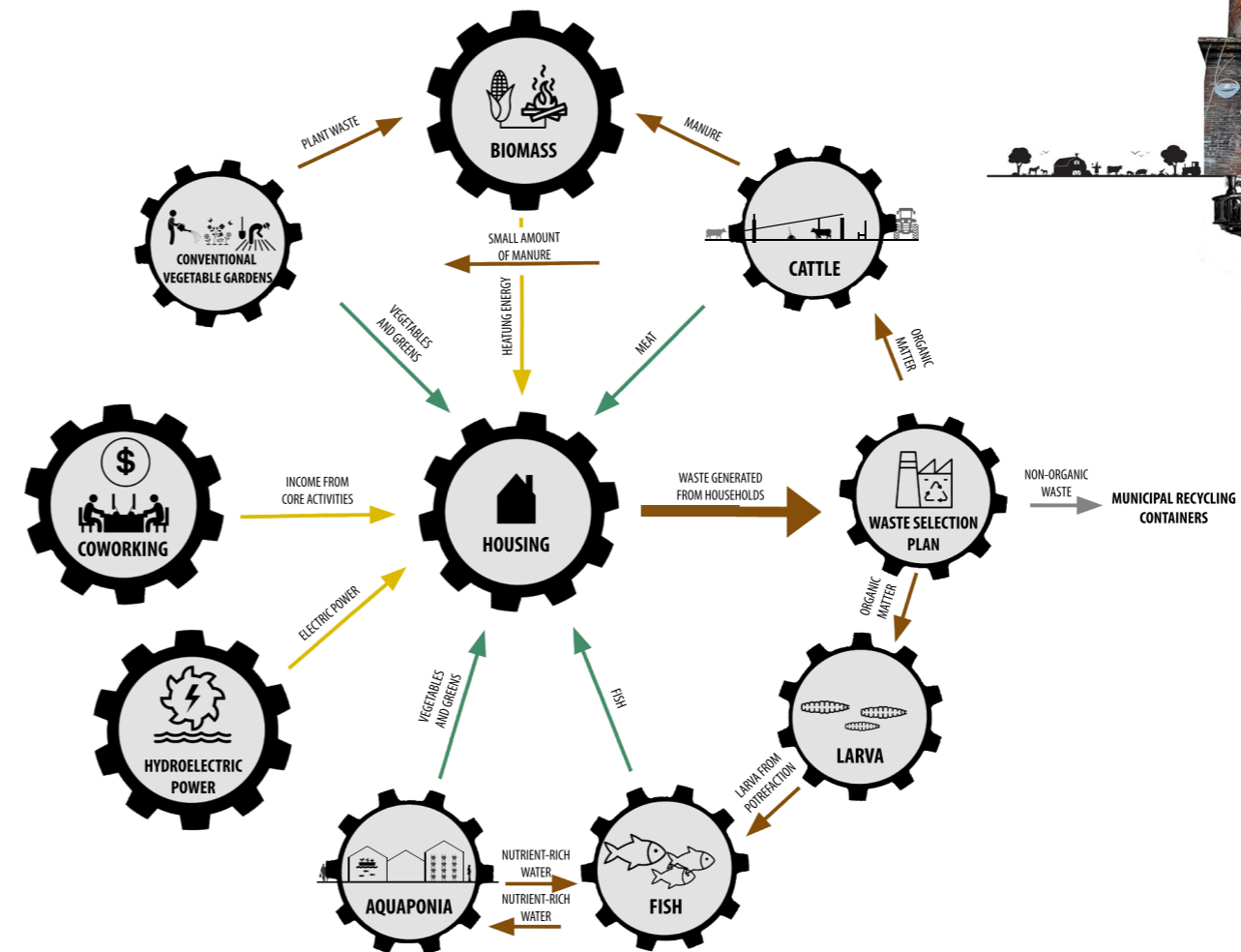


Of global water consumption is used for farming, causing rivers and lakes to dry up

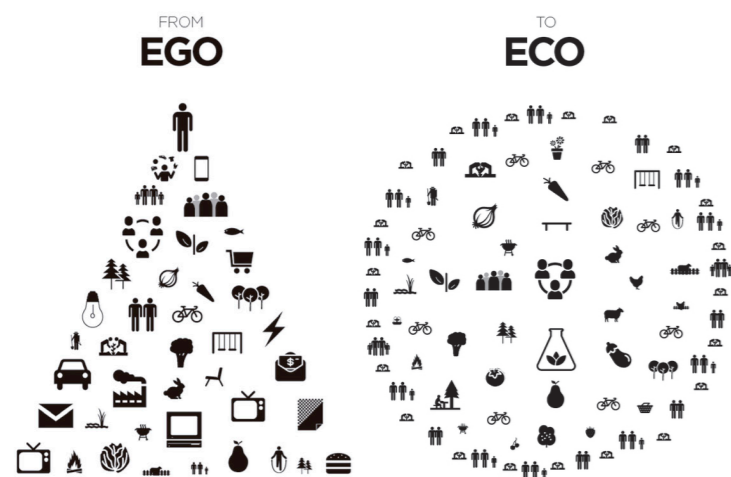


Of the world's food goes to waste every year (1.3 billion tonnes)

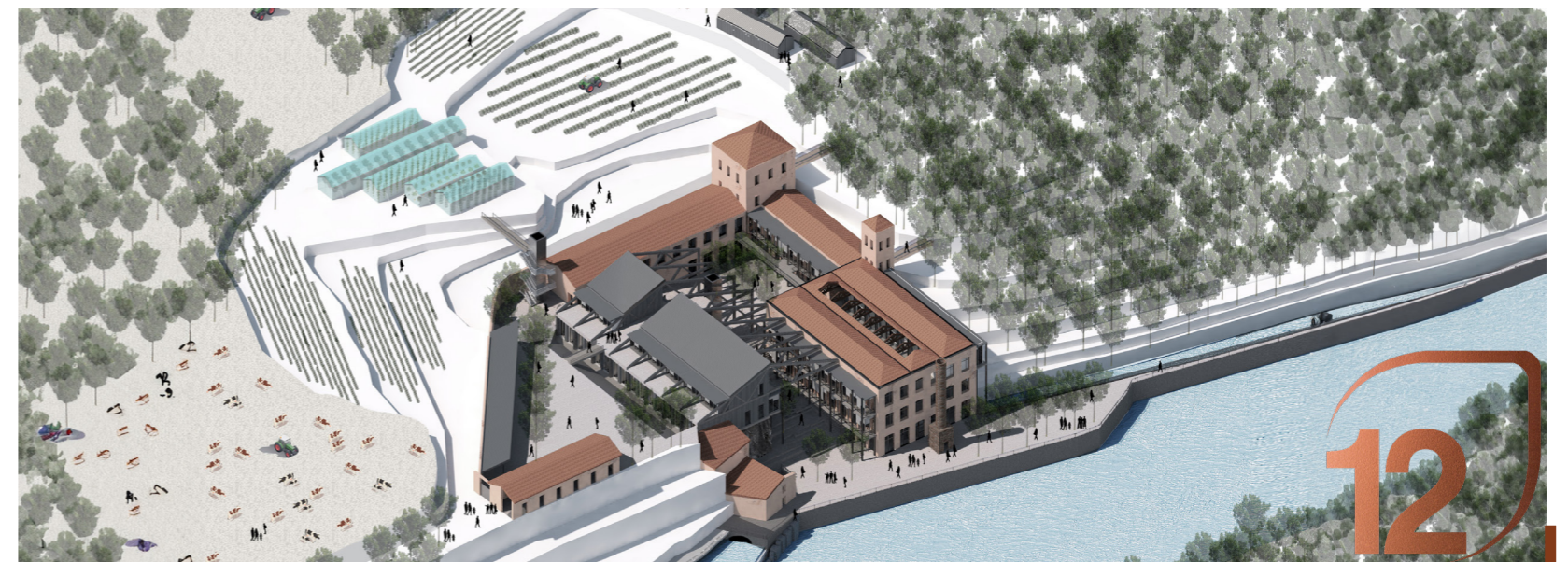
Circular energy system and waste utilization



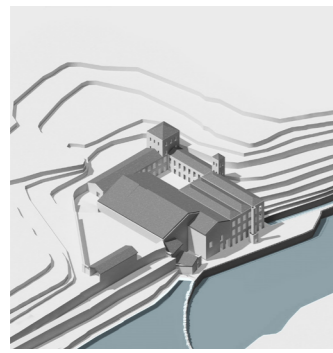
ReGen Villages - EFFEKT



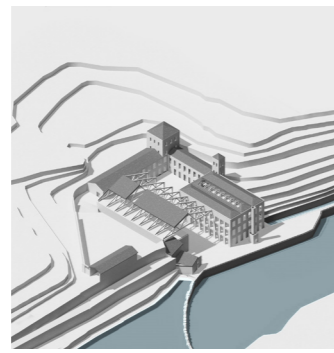
Ways of life diagram and aquaponics system. EFFEKT Architects



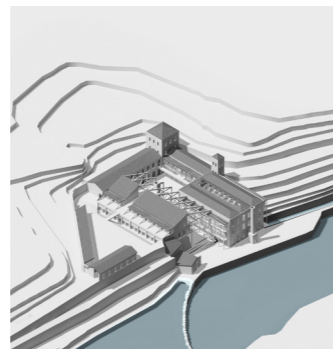
DESIGN AND CONSTRUCTION



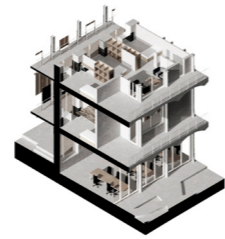
Urban connections



Demolition of slabs and roofs



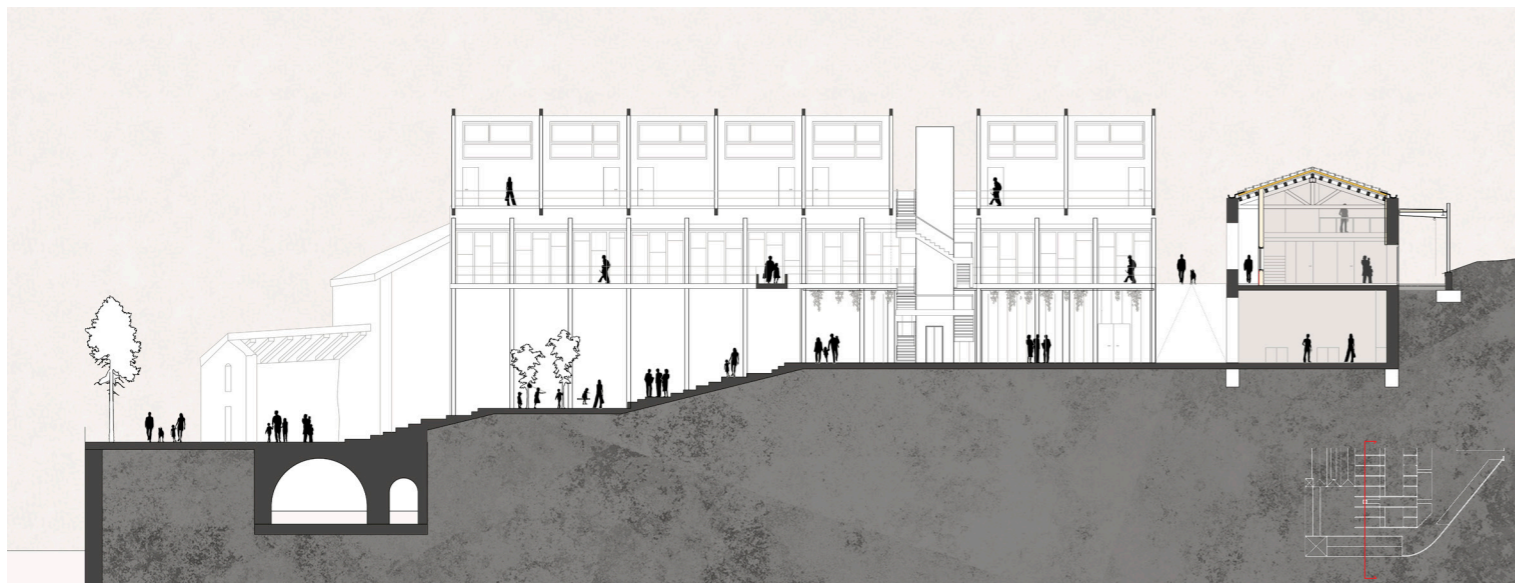
Construction of galleries, circulation walkways and vertical connections



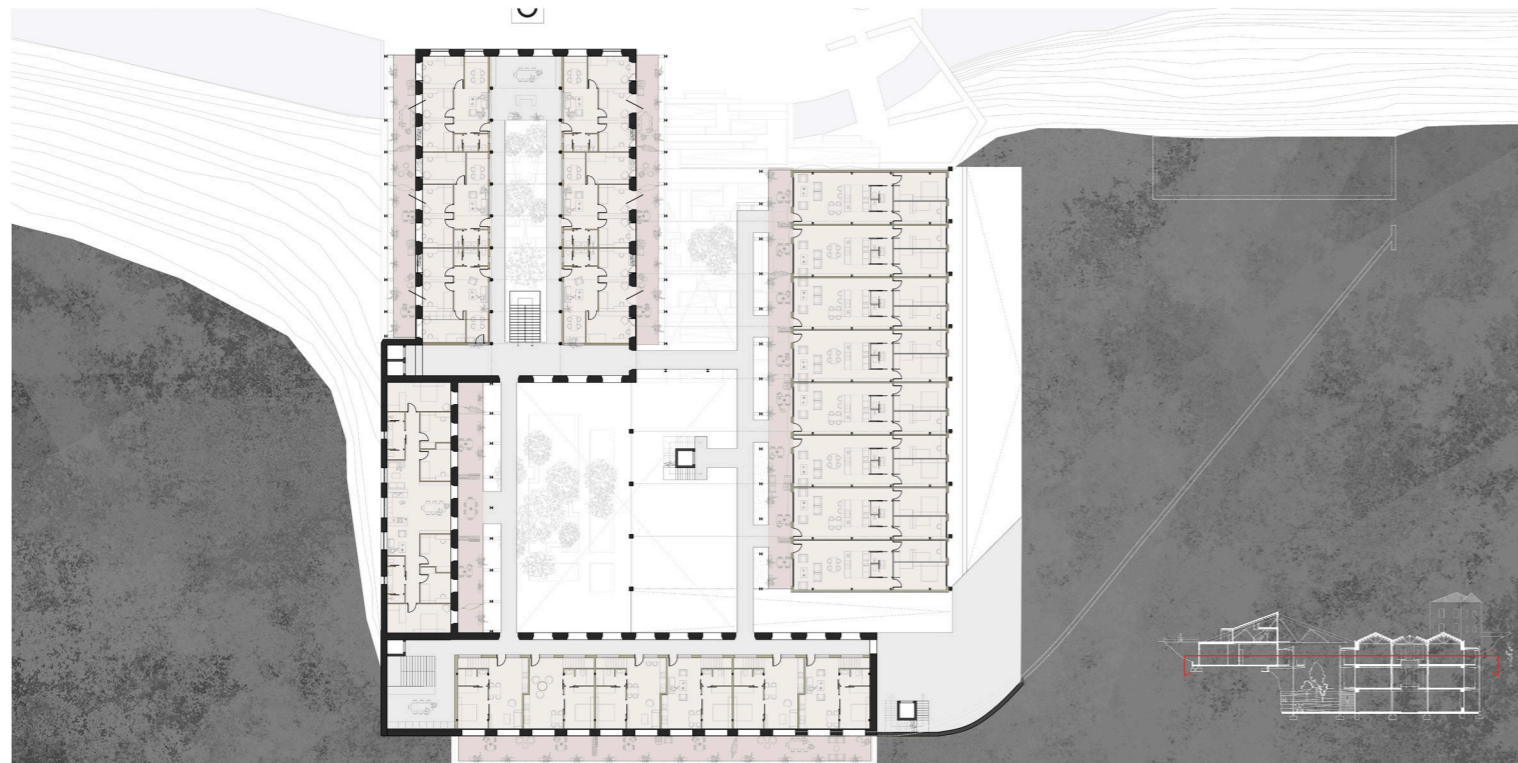
Collective housing model (1+1+1)



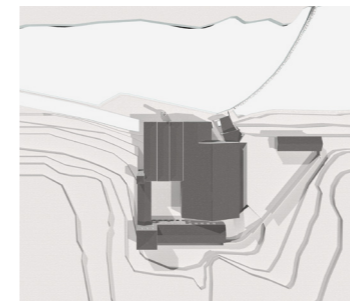
Individual housing model (4)



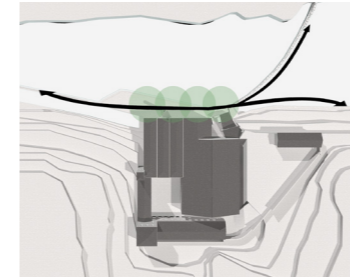
Section



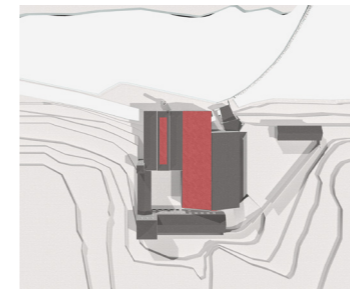
Ground Plan



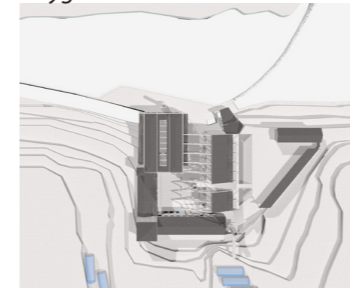
Current status



New territorial connections and enhancement of the riverfront



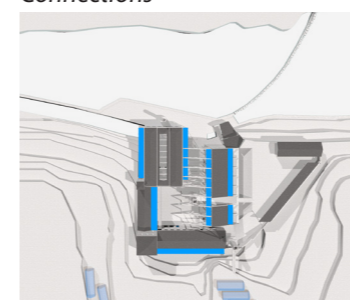
Oxygenated vacuums



Reduced visual impact



Connections



Loggias

