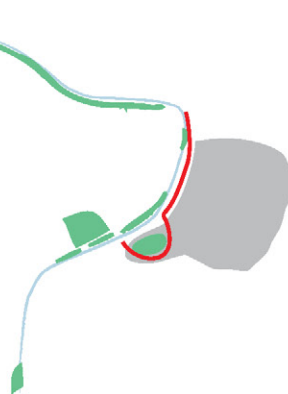


# THE WELL ANTWERP

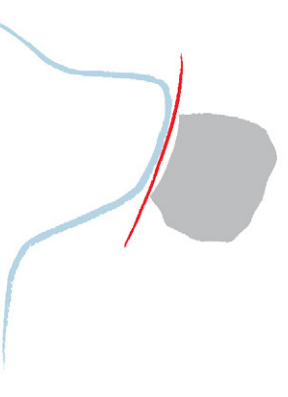
Water Ecosystem, Living & Leisure



‘THE WELL’ is a synergy of landscape, architecture, nature and water.

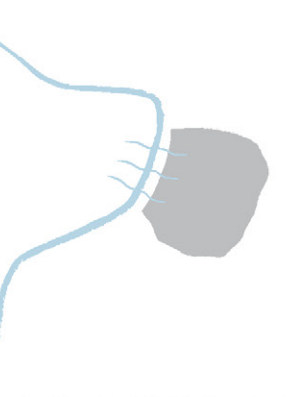
It offers an alternative way of living as an ecological system where nature hosts the built environment as a guest; and simultaneously nature itself is a guest within the built environment.

Previously the City of Antwerp had a strong connection with the Scheldt river; its open canals ran through the city, the waterfront was part of the city, and harbors were inside the city.



Over time, the city was separated from the river due to flooding, harbors and canals were closed and the waterfront became an abandoned buffer-zone only functioning as a parking lot. The projects motivation is to bring the river back to the city.

Located in the south of Antwerp (Nieuw Zuid), in an area of approximately 24 hectares the opportunity is taken to develop a future urban scenario and detailed architecture of the proposed synergy.



The project creates a scenario where instead of raising the water protection walls higher, **water can flow in** to enrich the area and neighborhood, **and still keep the city safe from floods.**

‘THE WELL’ building therefore is an extension of the landscape. All four elements; landscape, architecture, nature and water, meet each other and rise in a spiral upwards. The promenade flows into the commercial area, the terrace and cafe, and continues rising to hold 32 apartments. At the rooftop are two observation points, one indoors with a rooftop path leading to a second external one. While landscape and nature rise up and create architecture, water goes down the spiral and creates the internal and external green paths where rain water (external) and Scheldt water (internal) is purified via the bio filter.

There are apartments located in-between the two green paths. Following the concept, each apartment is designed with two levels and differ from each other in character. The lower space is a more public, open space with a ‘guest’ feeling, while the upper space is private. In a time where society is facing complex global challenges, green architecture is part of an integrated solution.

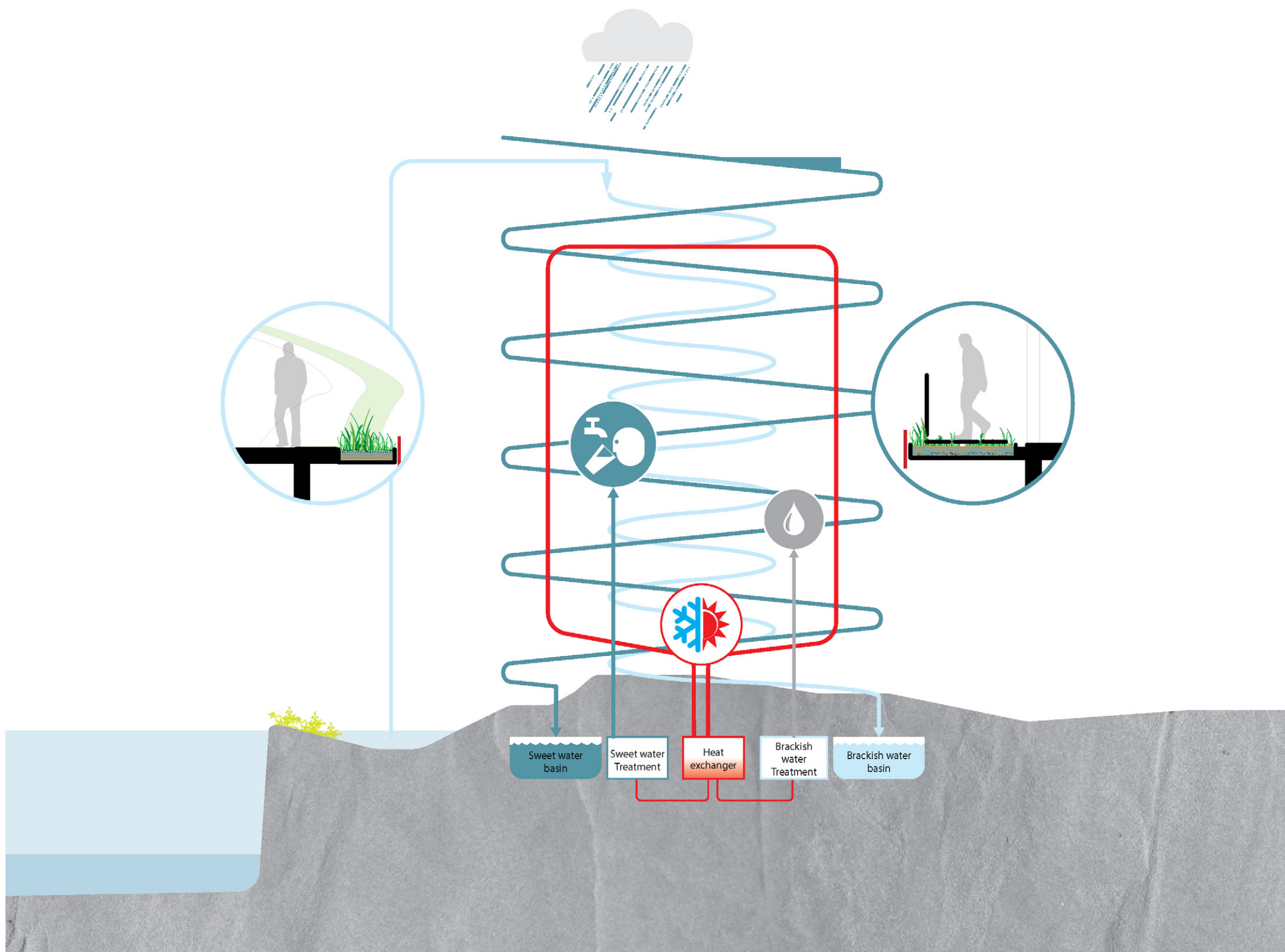
‘THE WELL’ offers a perspective in sustainable living: it’s about restoring the relationship between living and nature, between the biorhythm of the Scheldt’s eb and flow, water resources and active city life.



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Comentator: Walter van Dijk / Bobby de Graaf  
MA+U Atelier tutors: Jan Willem van Kuilenburg, Pieter Feenstra



View from the promenade towards the south

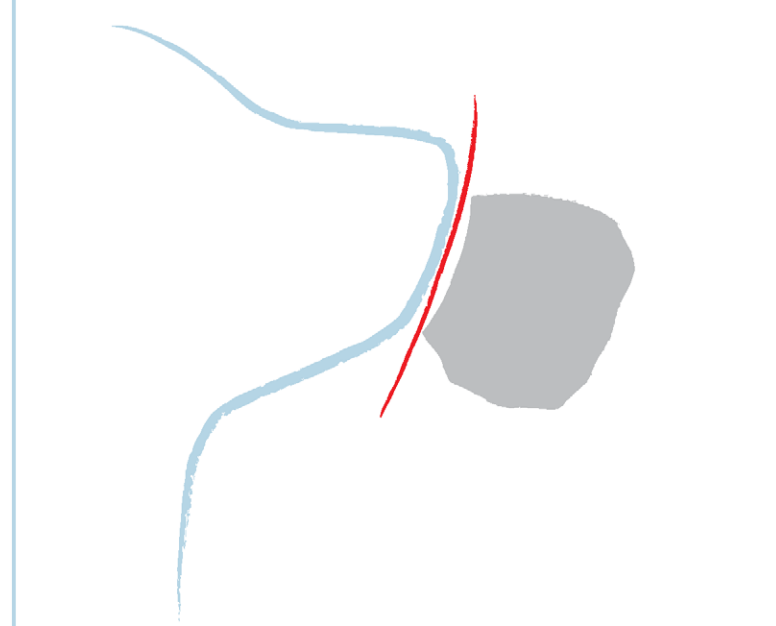




Framing the Concept

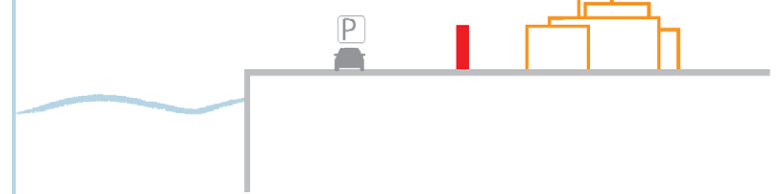
Situation:  
Separation

During the end of the 19th century the City of Antwerp closed its canals from the Scheldt. Subsequently the quay was built with the goal to prevent flooding and raise the sanitation level.



The Result: Neglect

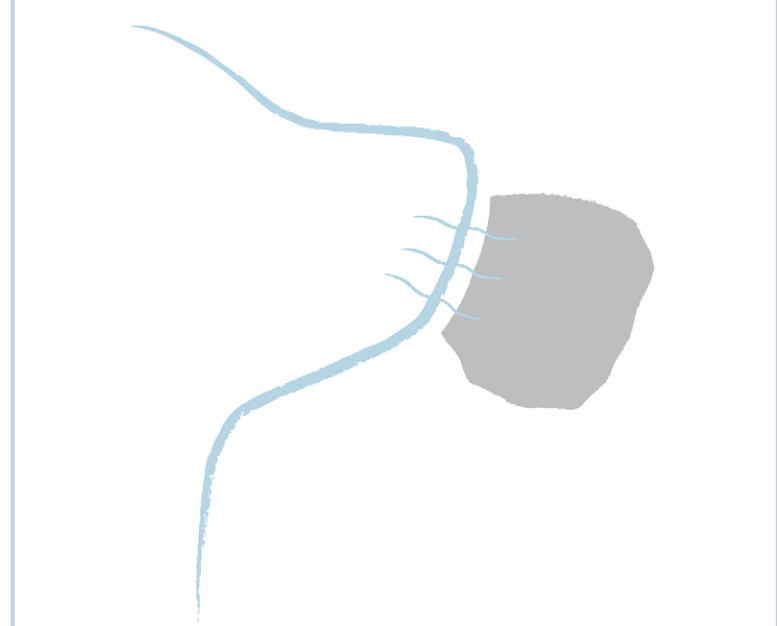
The quay became an abandoned area which functions as parking space and hosts occasional cultural events.



The quay as it is today

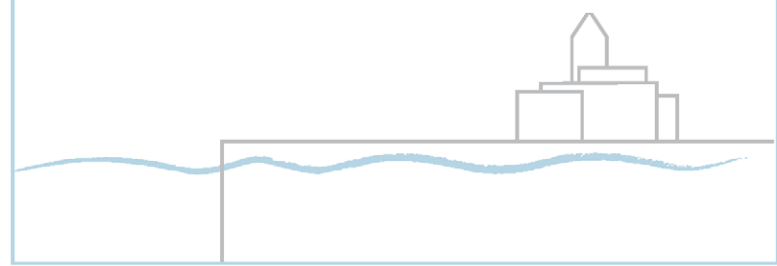
Ambition:  
Bring Together

The ambition of this project is to reconnect the city of Antwerp with the Scheldt.



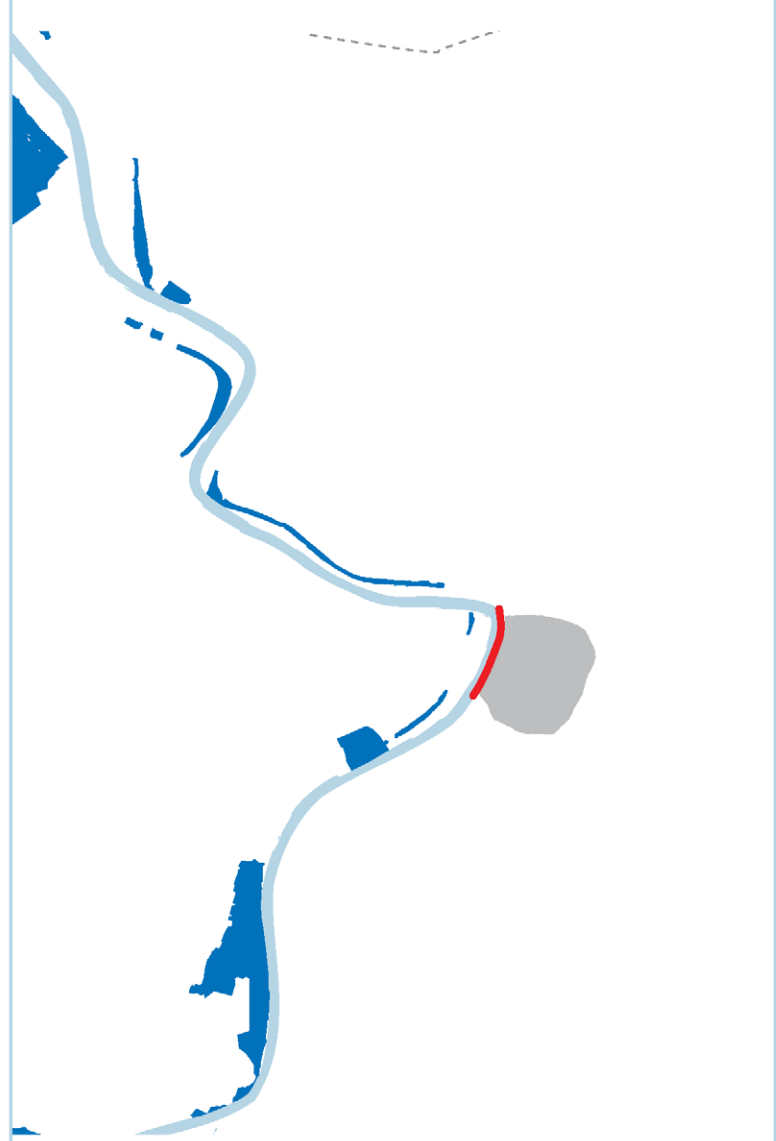
Approach: Integrate

Gaining quality of life, shifting mindset about water. Instead of building higher walls, living and working amongst the water fluctuations.



Regional  
Integration Plan:  
The Sigma Plan

Ambition of the plan is to revitalize nature and protect the area against flooding on a regional scale.



Integrating:

Scheldt & Nature

Revitalizing nature and protect against flooding (GGG and GGD).



Detail from the Sigma Plan

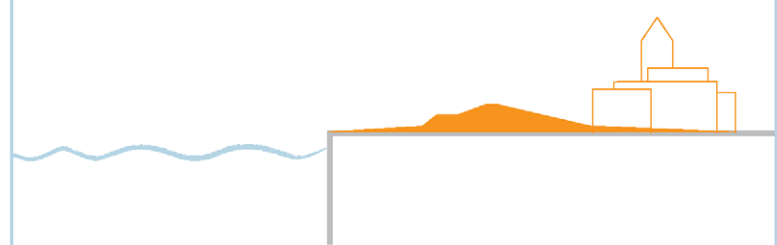
Municipal  
Integration Plan:  
BKP Plan

The BKP plan is creating one seamless ecological system inside the city, and connect it to the regional system.



Integrating:

Urban & Nature



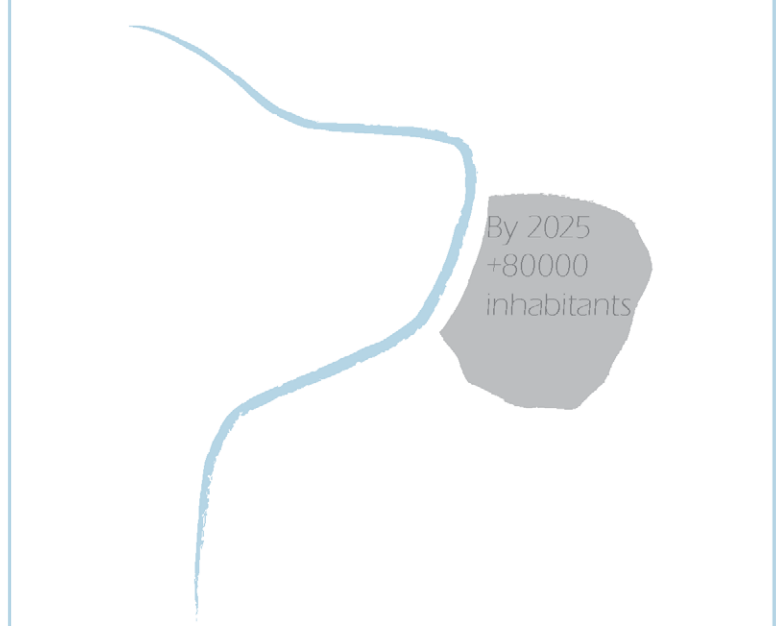
Detail from the BKP plan



Illustration of the new quay

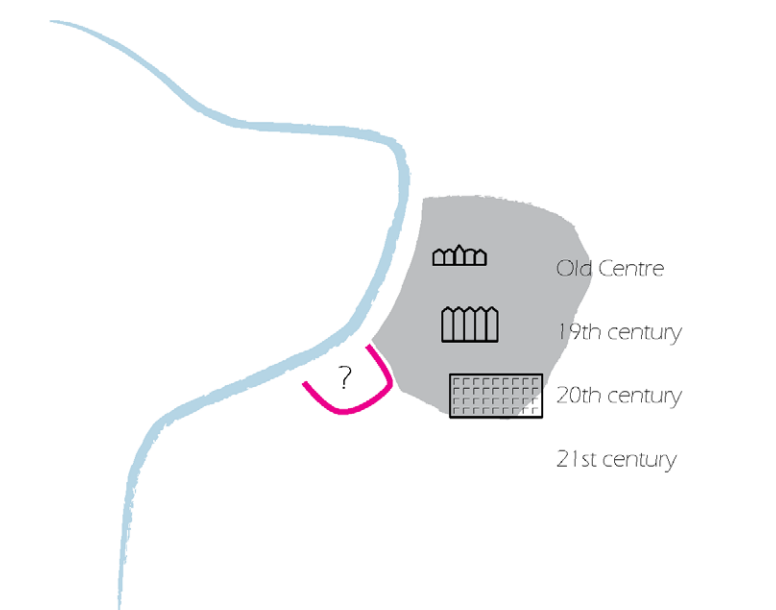
Atelier's Goal

An estimated 12% population increase within 20 years calls for a clear vision on how to deal with this growth. The Atelier's goal is to support the City in facing the challenge of realizing new developments.



New South:  
New Way of Living

Location has been chosen for its connectivity with water and for its size: big enough to explore and suggest an alternative plan.



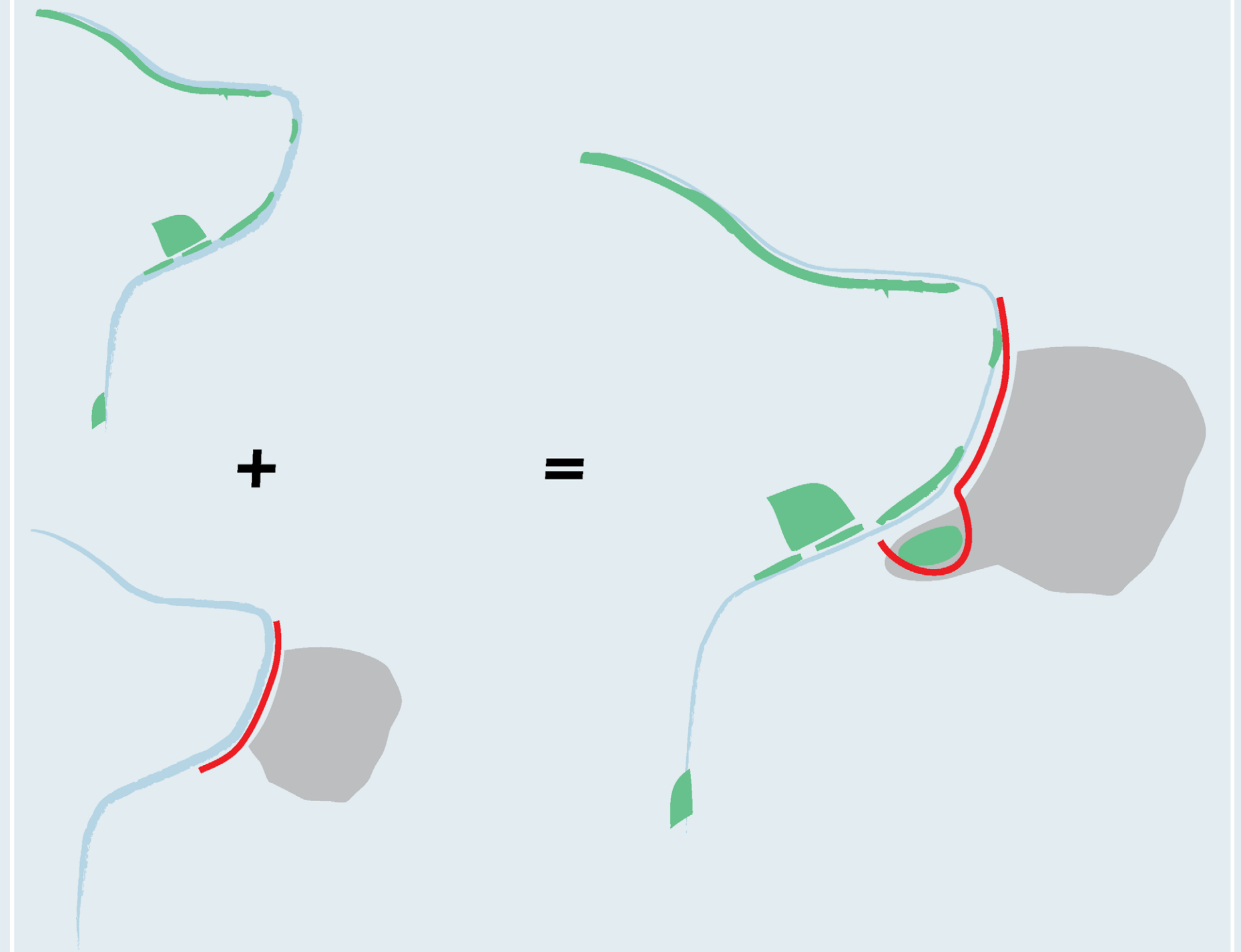
Aerial view of the New South area showing neglect, ill maintained nature, a result of deserted railway loading yard.

Concept:  
Be My Guest

Nature: Preserving, revitalizing and nurturing

Build: Urban infrastructure and developments

Growth: Supporting population increase



The Well:

Creating an environment where a synergy exists between the built environment and nature.

The concept Be my guest suggests an ecological system where nature hosts the built environment as a guest; and simultaneously nature is a guest itself within the built environment.



Map of New Proposal

The Well location

Water flow design area

Scheldt quay promenade

Public transport on the main road

Peripheral road to the neighborhood

Existing harbor (that supports water ways)

Connection with Blue Gate and stadium

Kennedy tunnel

Rain water and ground water fill in public pools

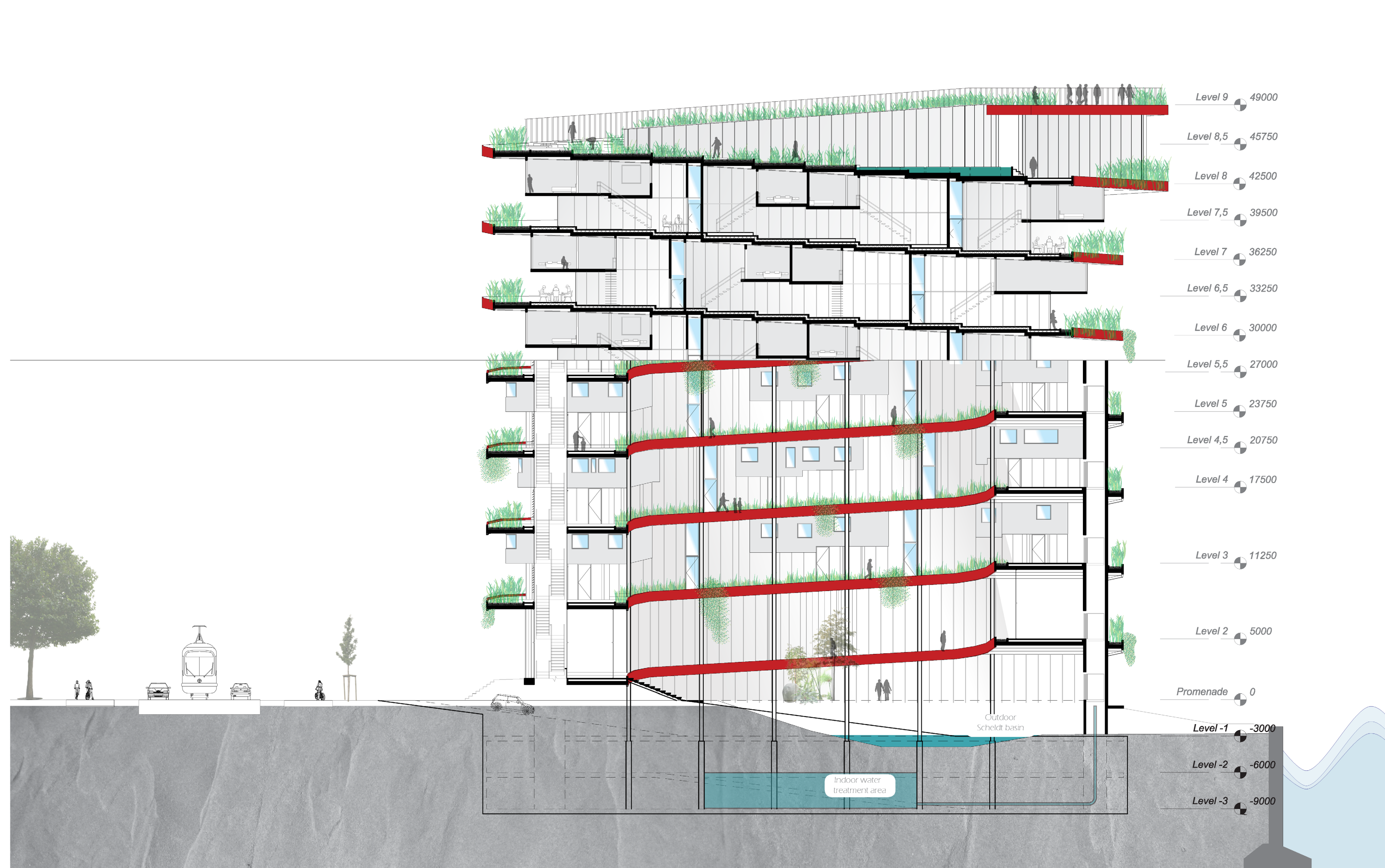
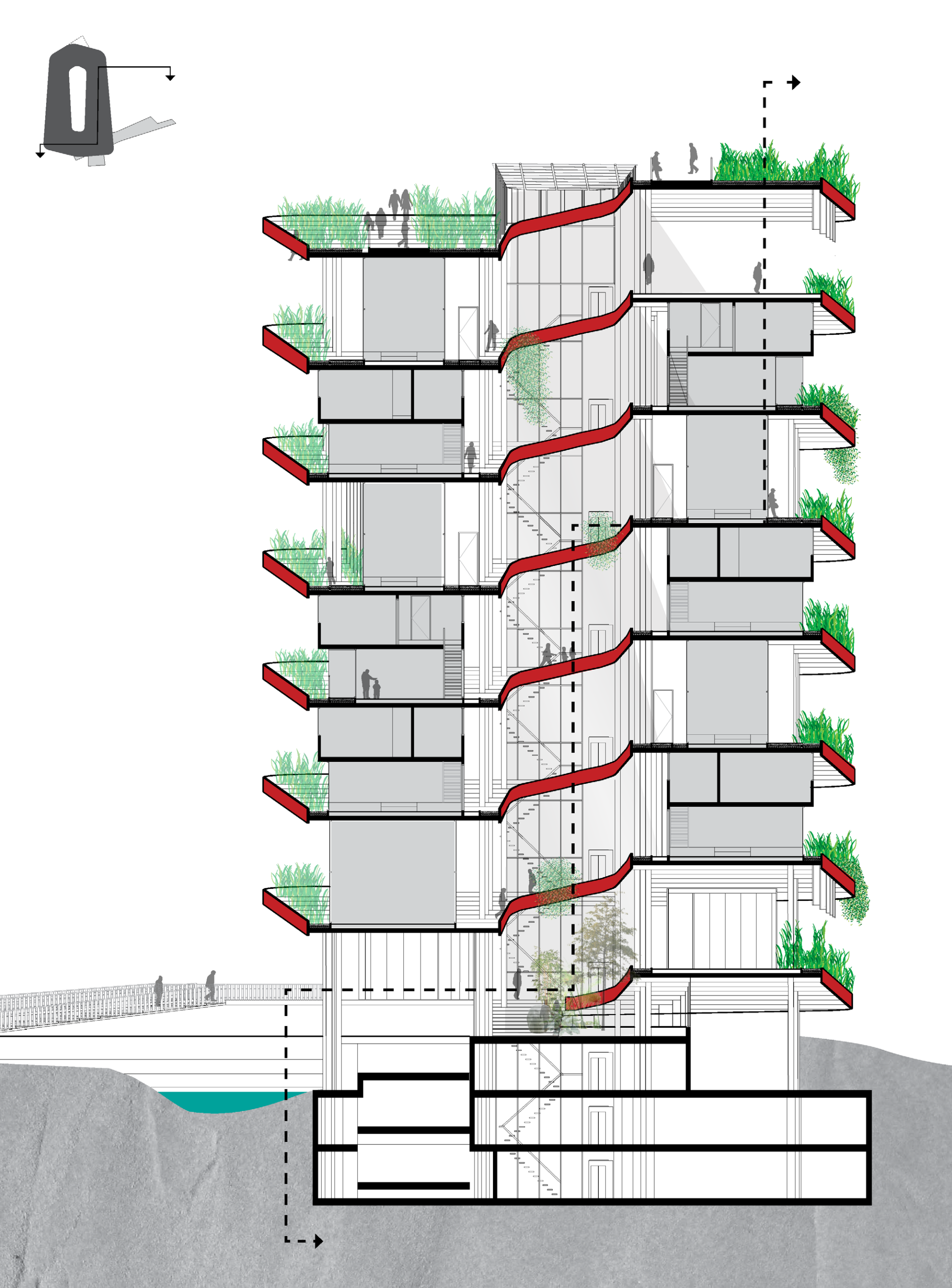
Connection with future park

scale 1:2000

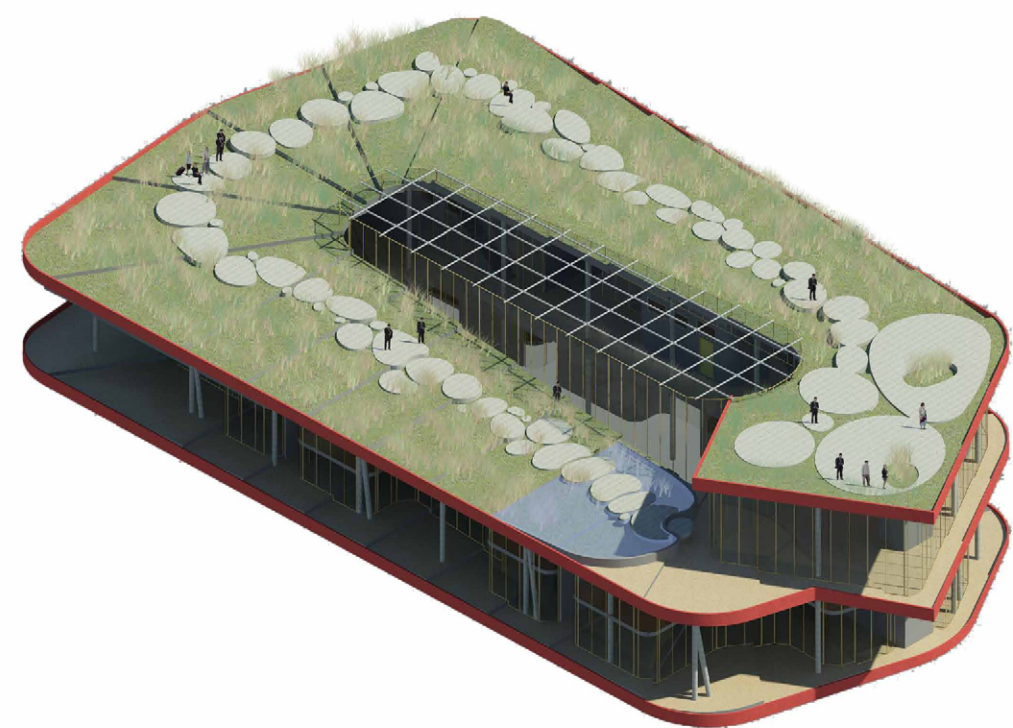
[illegible]

A map of the Scheldt river area, showing the river's course and surrounding land. The river is labeled 'Scheldt water' and 'In-land water flow'. The map includes a 'Marsh area' and a 'Safe area'. A small square indicates a specific location. The map is titled 'Scheldt' and has a scale of 1:5000.





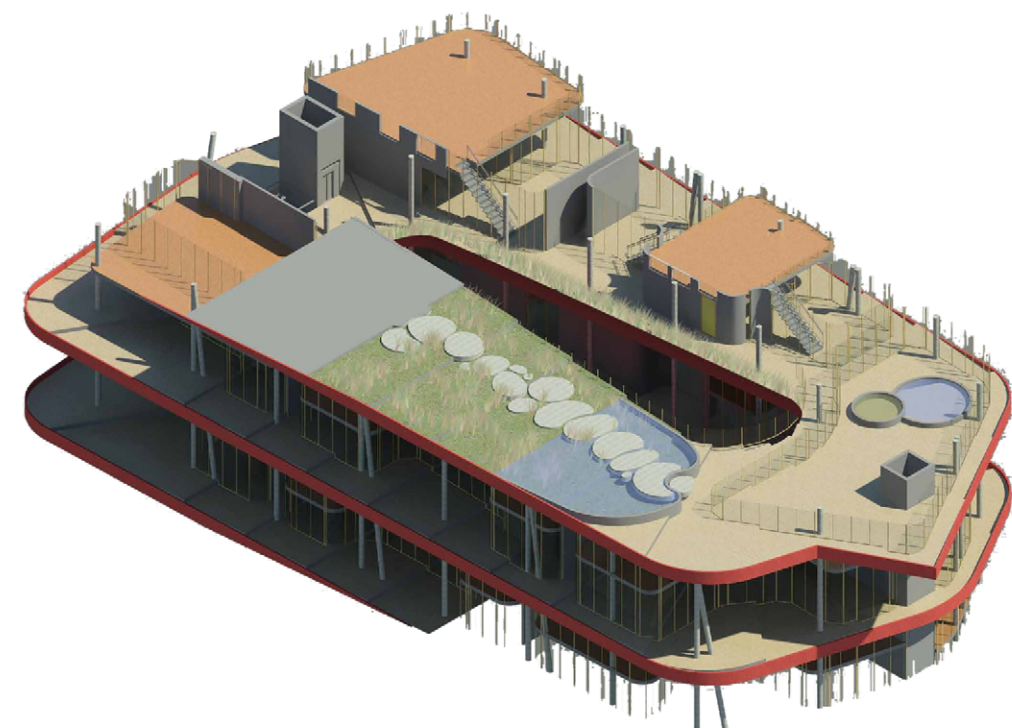
## Program Scheme



**First water buffer basin**  
In case of heavy rain, water is collected in the basin to avoid floods in the building. From the basin it goes inside the building to the second basin, and from there, to the bio-filter, downwards.

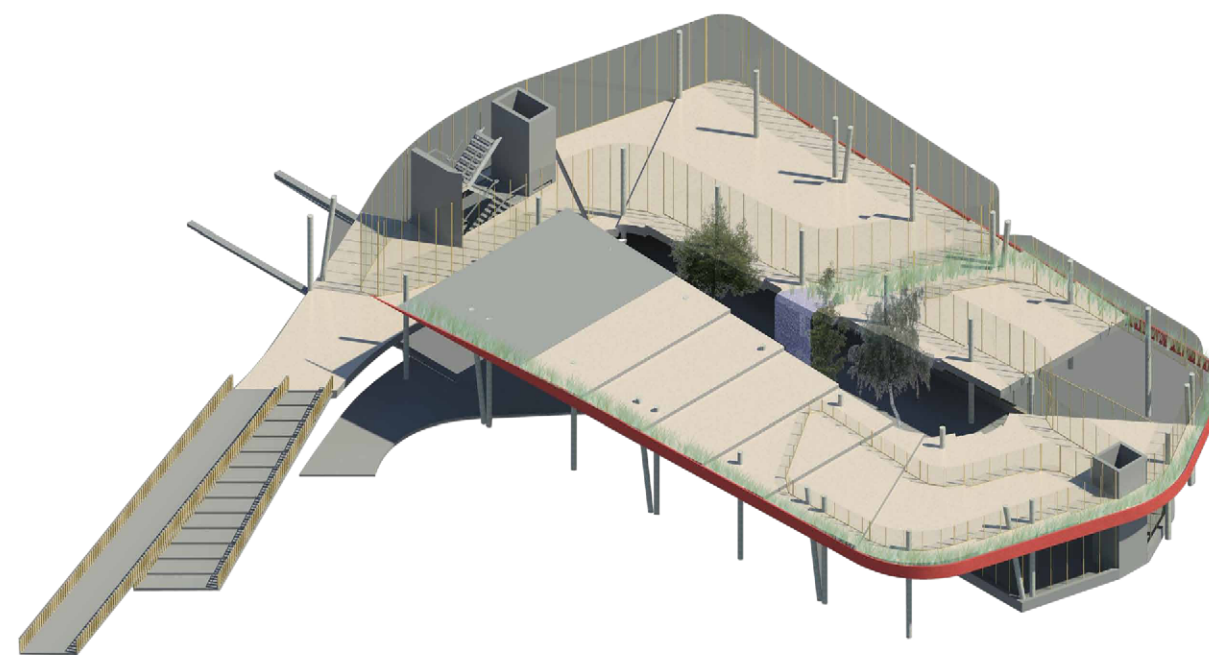
**The green roof**  
A view of the stepping stones between the vegetation which leads to observation point

**Solar panel roof**  
Optimized with the location towards the sun and its cycle, the produced electricity will support electric systems such as water pumps, light and purification systems.



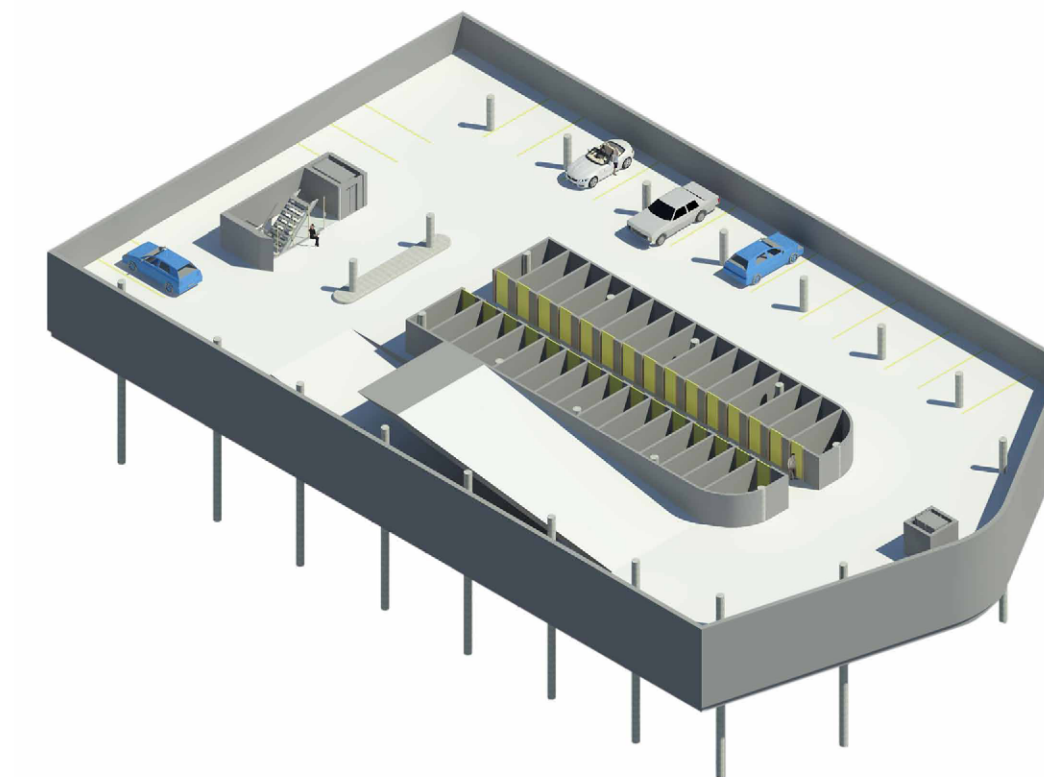
**The apartments**  
The second level in every apartment is the more private level, where one finds the sleeping rooms and only the walls facing the view have a glass facade.  
The first level is more open and shares its view with the indoor landscape and external view

**Observation point / water basins**  
From this room the two water systems begin their journey downwards. The brackish from the Scheldt, and the sweet water from the rain water.

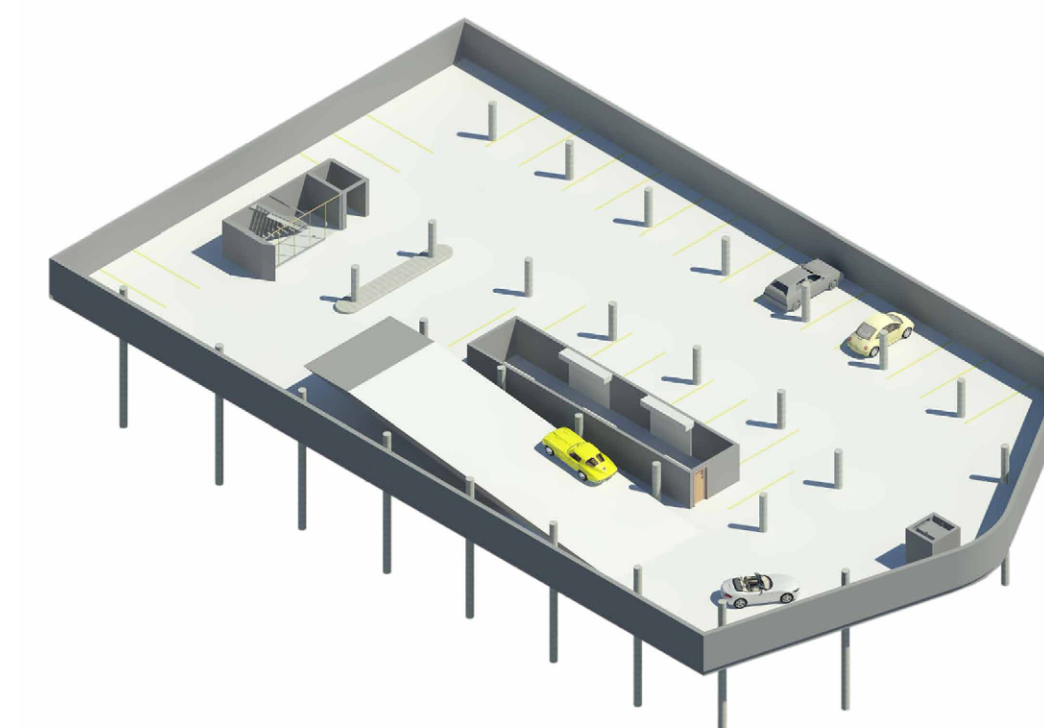


**Commercial area and terrace**  
The building as an extension is not only by physical means but as well with the program. The first spiral is dedicated to a commercial area and terrace.

**Inner garden**  
The two water streams end here inside the building where they continues their journey to the lowest level for treatment. The in-between level functions as inner botanic garden for residents and visitors.

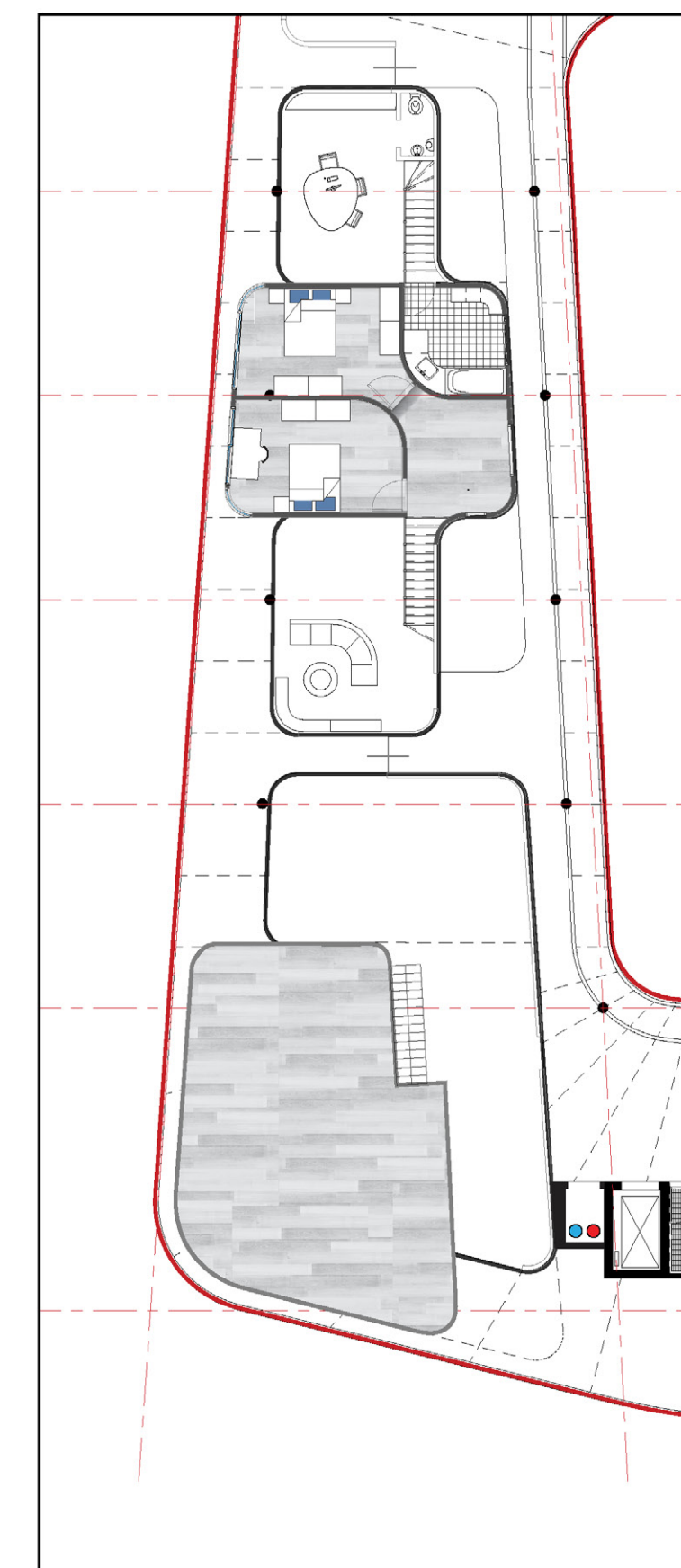
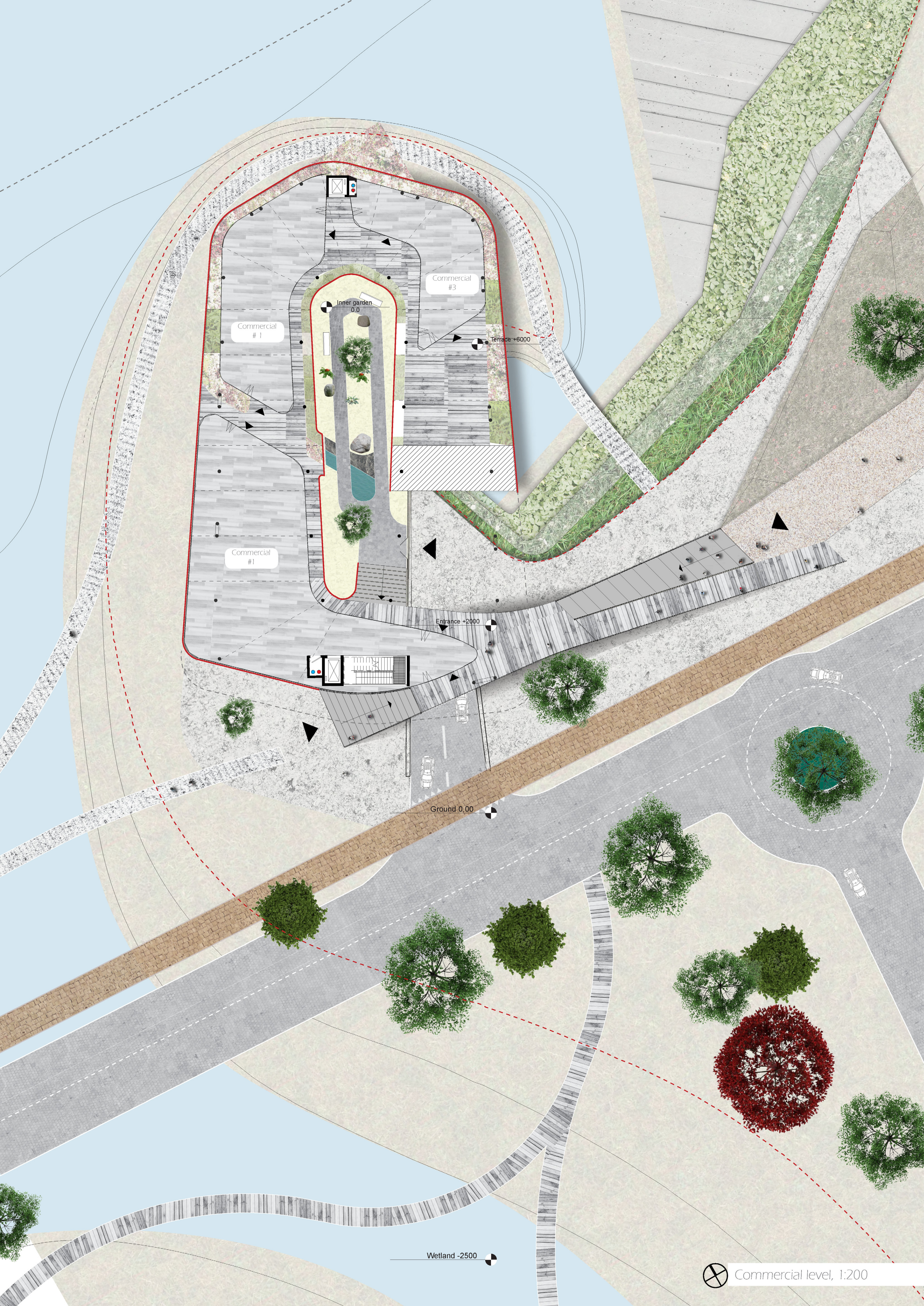


**Parking lot and storage rooms**  
1.7 parking lots per apartment + one storage room of 6m<sup>2</sup>.  
The access for bikers and cars is via the ramp, and via the lift and staircase for residents on foot.

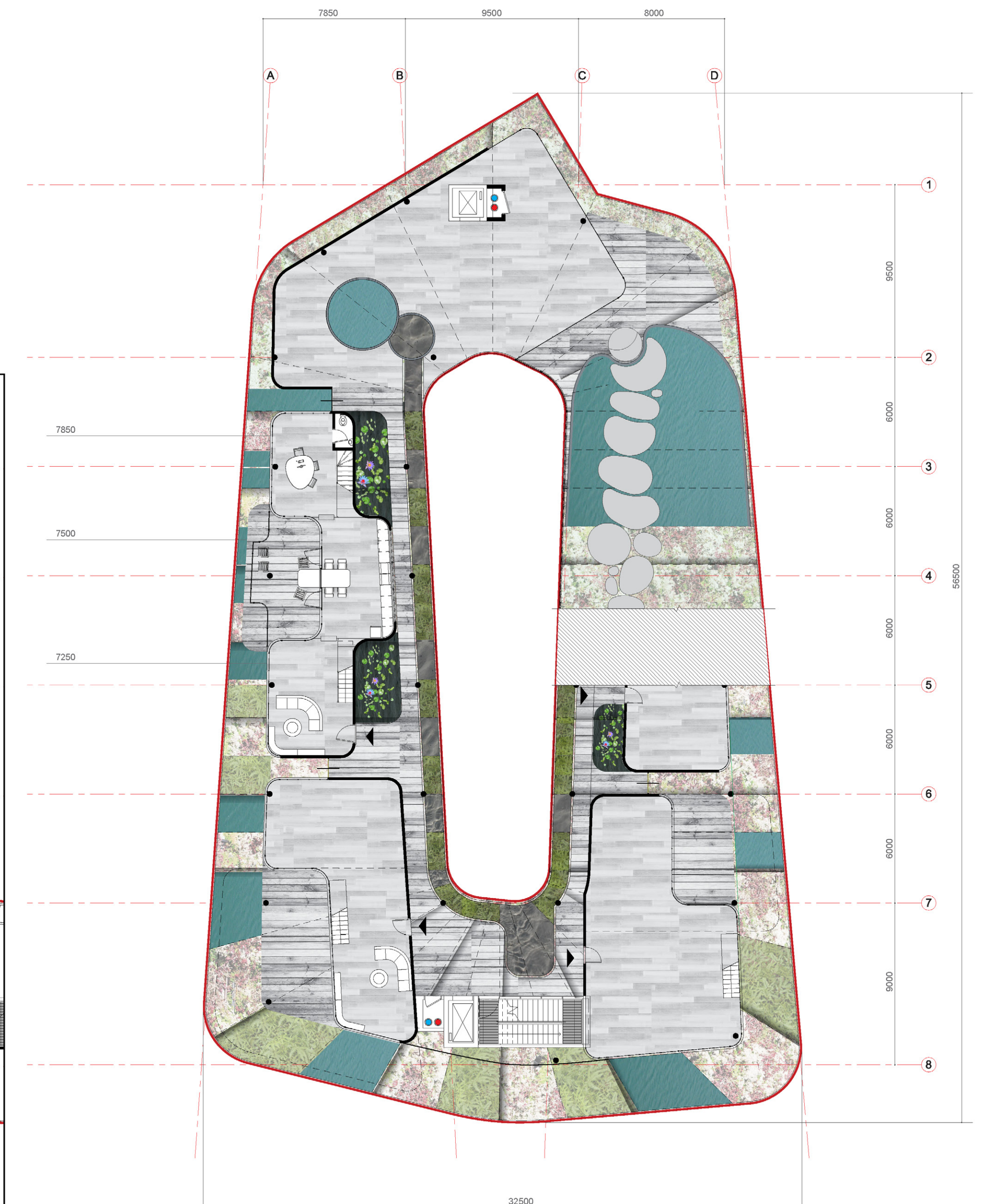


**Water treatment facility and sweet water basin.**  
Bio-reactor, reverse osmosis & bio-filters are the various ways to treat the water.  
There are three water systems treatment are separated;  
The sweet water is treated to a drinking water level, while the brackish water is treated to gray water level.  
The third water system is treating black water, and it produces gray water as well back into the building.





Floor plan level 8, scale 1:200



Floor plan level 7.5, scale 1:200





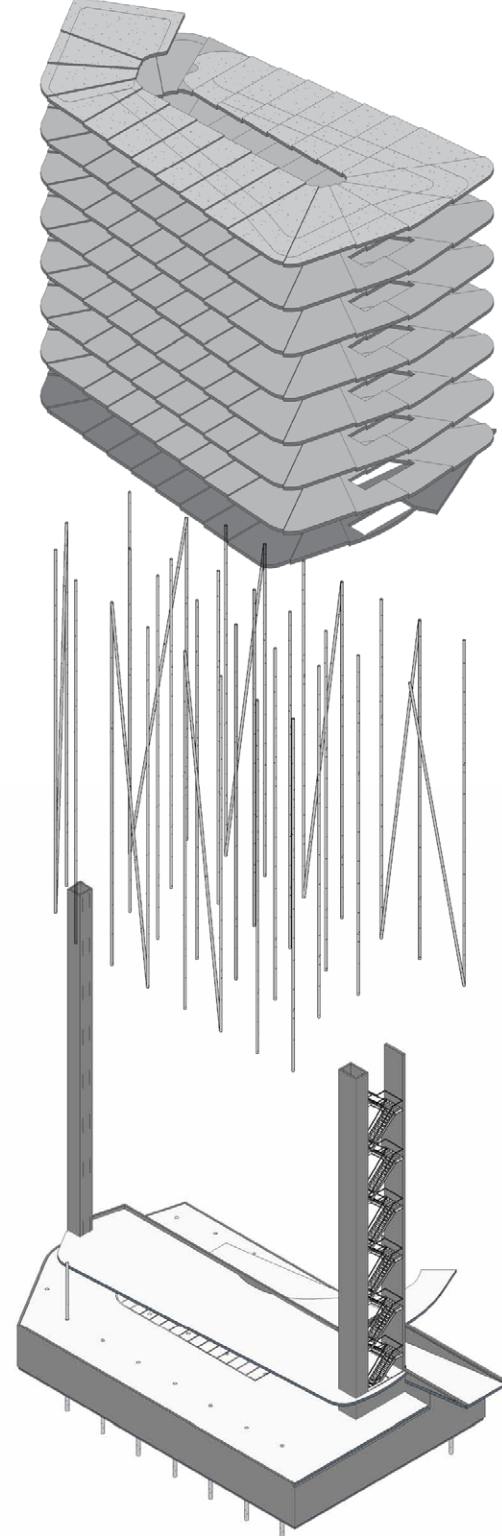
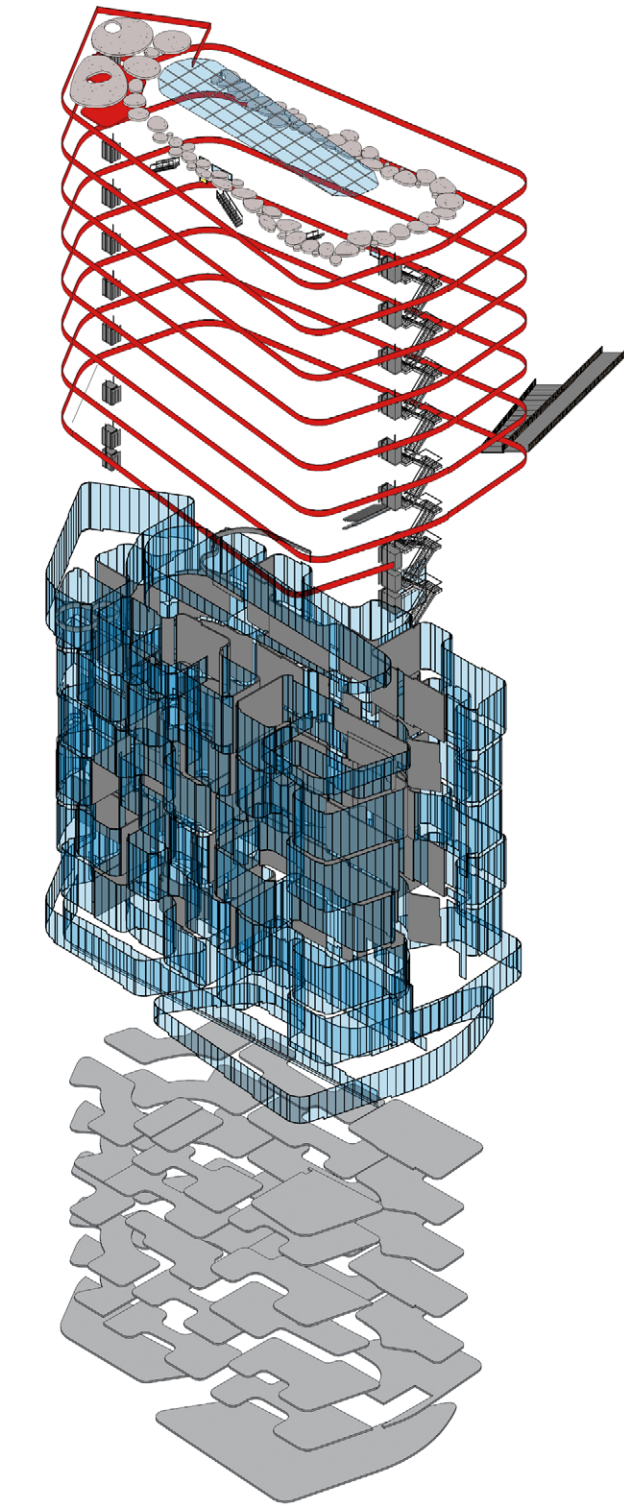
Structure Scheme

Top to bottom: **Water facilities, lifts, and solar roof**

The **sub floors and internal facades** are made of light weight wooden construction  
The **external glass** facades seal the building

**Prefab floors & beams** are connected to the columns to set up the skeleton of the building

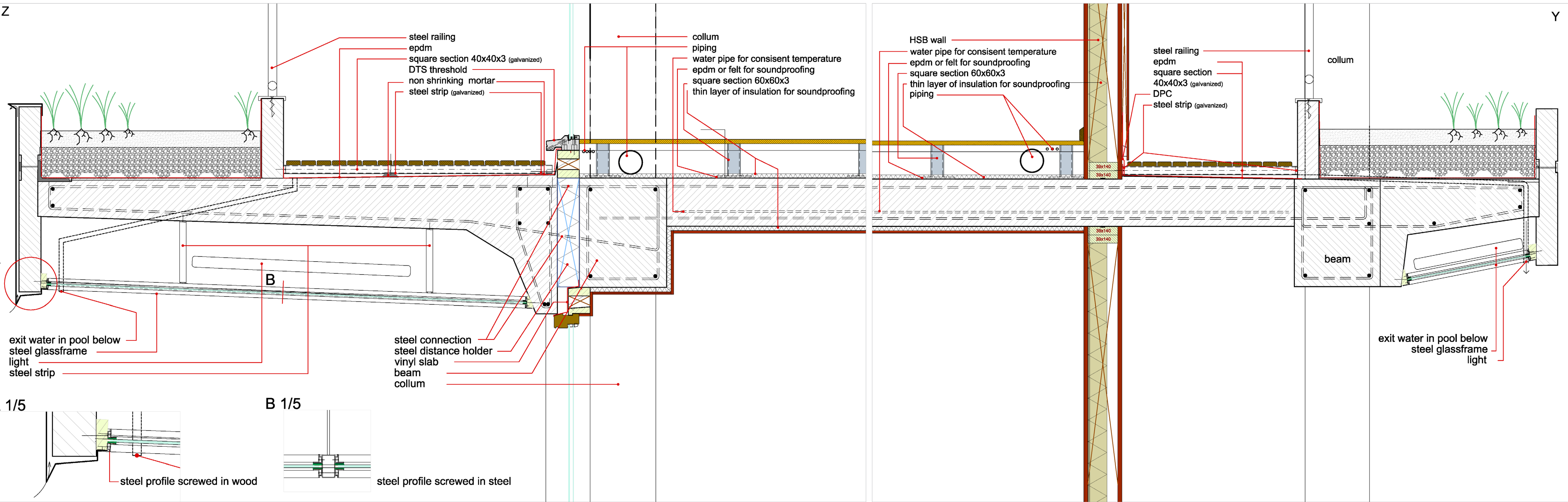
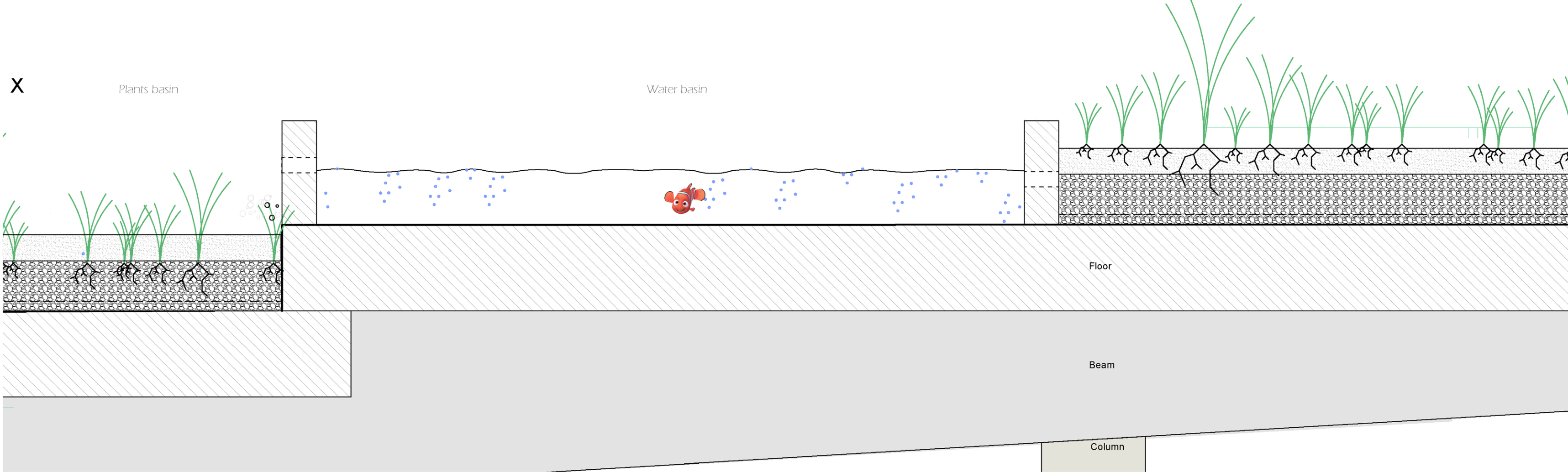
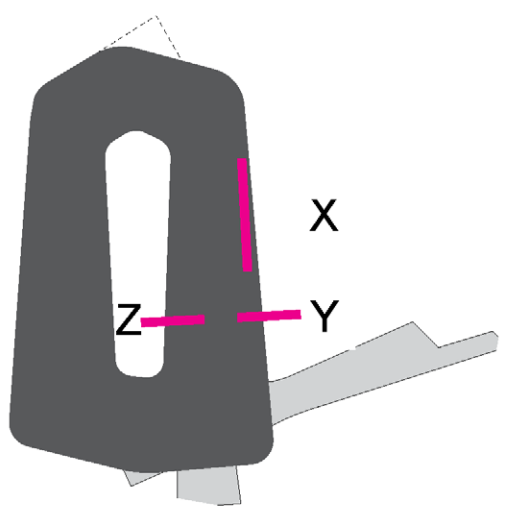
**Underground parking** is the foundation of the building  
**Elevator shafts** are the building resistant against horizontal forces



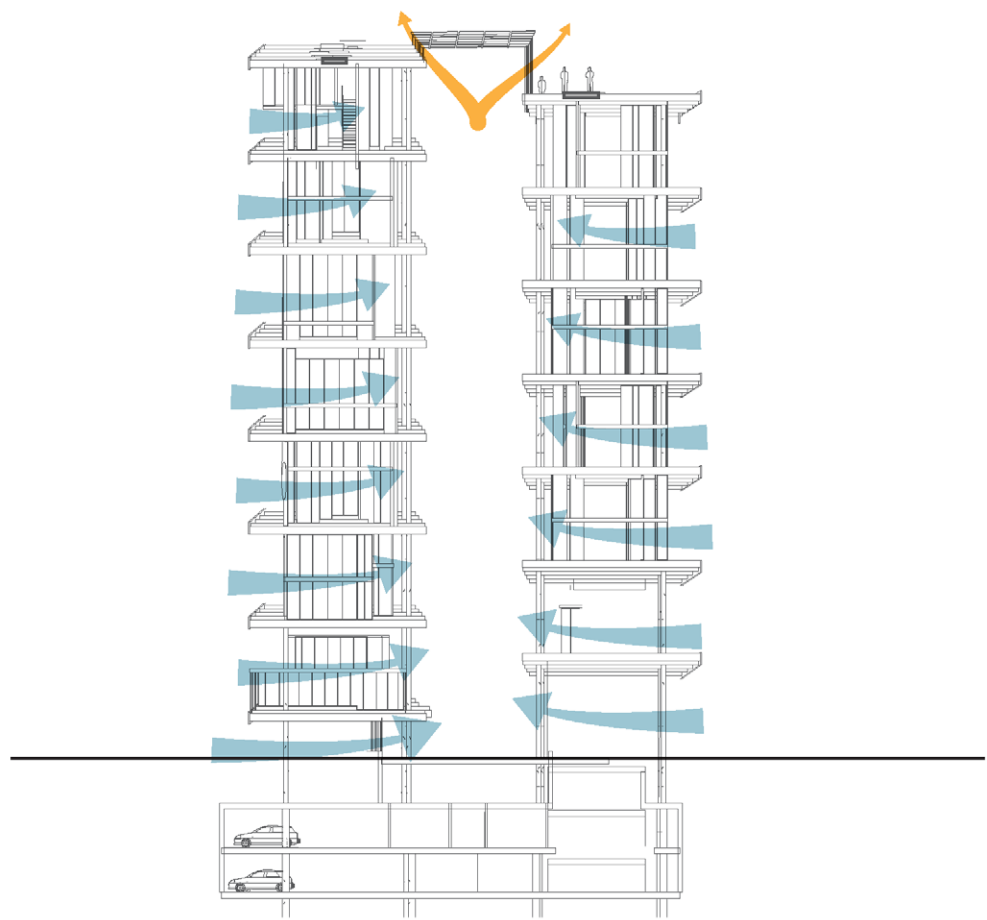
Sustainable principle

The principle behind the water purifier is called a **‘Horizontal Constructed Wetland’**.  
Throughout the building are basins between every level. These basins are filled with gravel at the bottom and soil on top.  
Many of the basins have plants that serve as bio-filters with their roots inside the gravel level where the water runs. In this principle, there is no exposed water.

Additionally some of the basins function as pools to let water oxidize and breathe, as well as some having other water plants for aesthetic purposes.

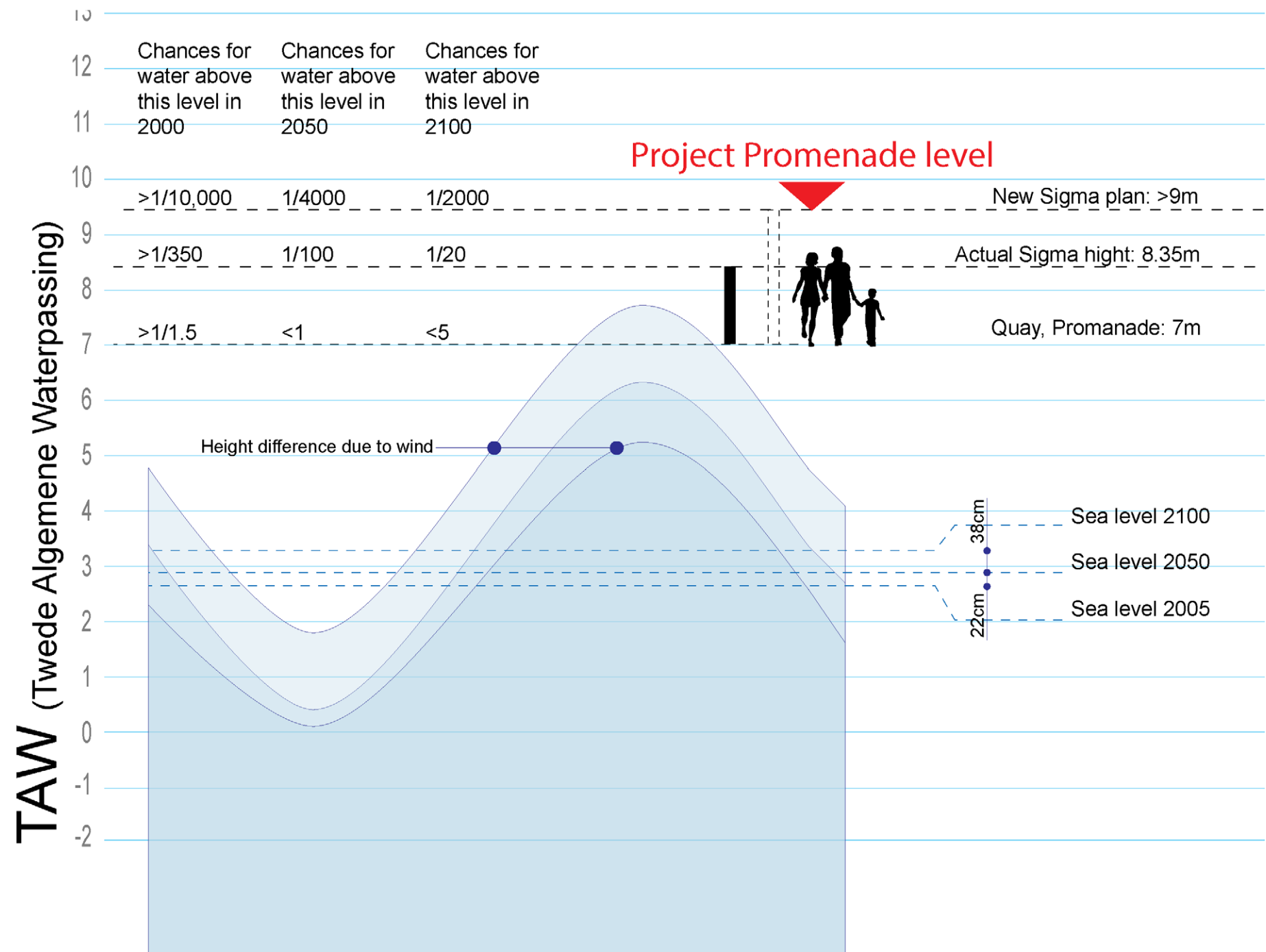


Passive climate control



Between every apartment exist an opening that can be controlled to open/close, depending the desired climate results.  
The solar paneled roof can also be open partly to let hot air out of the building. Together with the openings between the apartments, the vegetation and water, the building can cool itself naturally.

Scheldt ebb & flow scheme



P.V.E

Landscape area	24 ha.
Project area	3650 m2
Building foot print	1450 m2
Commercial area	220 m2 150 m2 220 m2 350 (terrace) 940 total
Residential	29 apartments
Living (total)	4200 m2 (average)
Terrace	1050 m2
Nature	1450 m2
Roof terrace	260 m2
Parking (underground)	45+15 cars, 1350m2