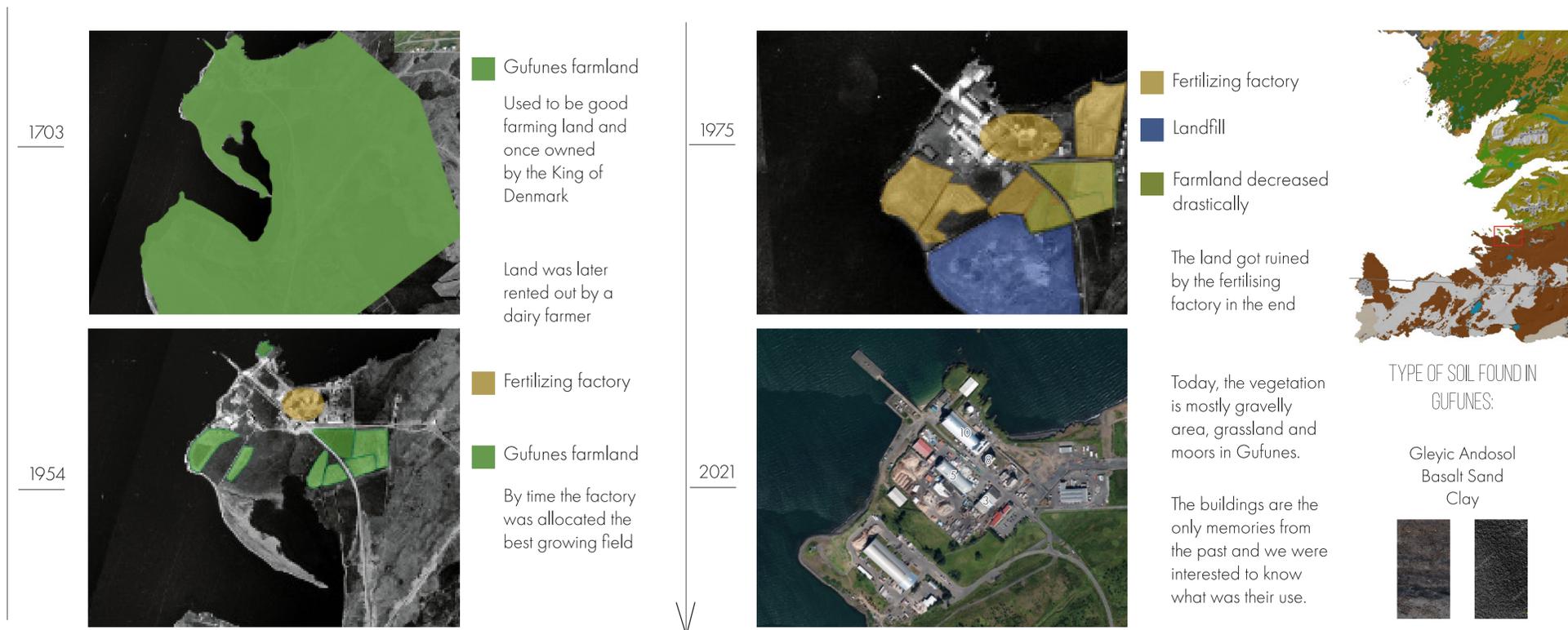


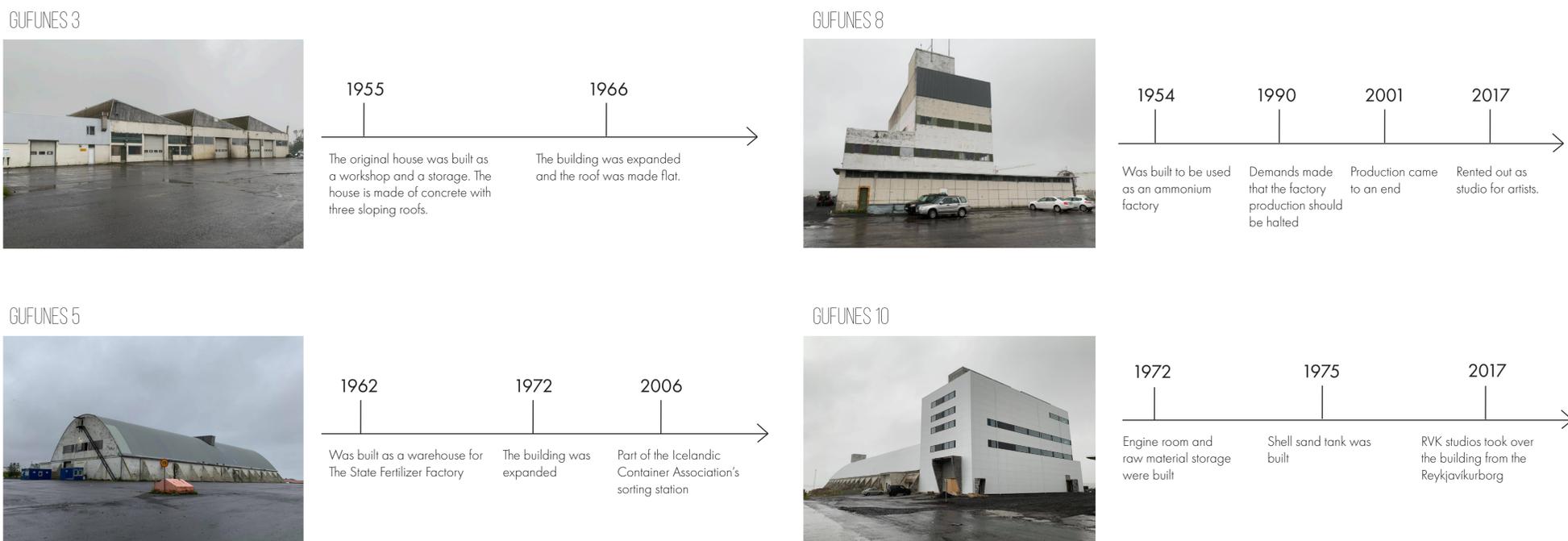


## LAND USE AND GEOLOGY

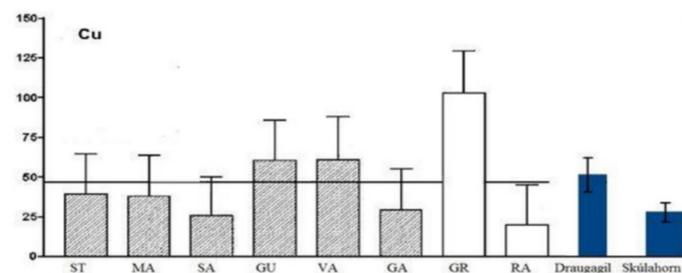
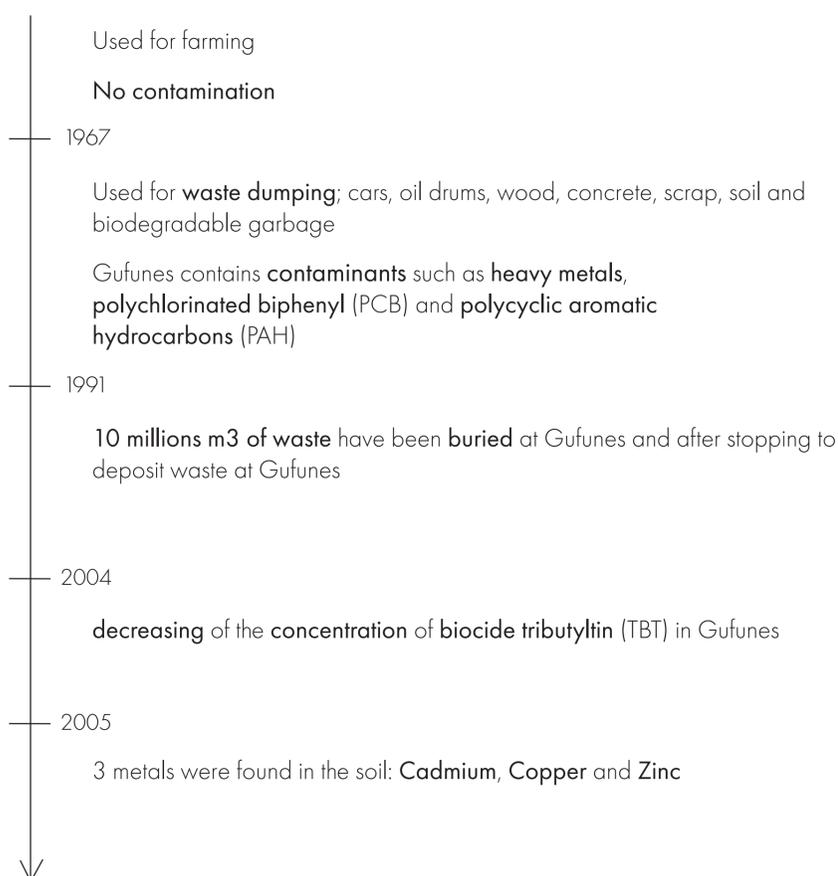
### TIMELINE OF LAND USE IN GUFUNES



## THE BUILDINGS IN GUFUNES



## SOIL CONTAMINATION



### MATERIALS FOUND IN THE SOIL



### HOW CAN WE CLEAN THE SOIL FROM POLLUTION?

- Hyperaccumulator plants, we can also reuse the metals
- Some trees like weeping willow (Salix) can also clean the soil
- Some researches try with bacteria
- Extraction of the pollutants by heating the soil (450 °C), once in the vapor phase, they are either oxidized or degraded
- Electrical extraction with electrodes

# GUFUNES - URBAN FARMING AND SOIL DEPOLLUTION

We want to have urban farming and create a big greenhouse by using the big existing building from Sorpa. We are going to replace the walls and the ceiling with clear polycarbonate to have maximum light. Greenhouses also need a lot of water so we want to reuse the rainwater that is collected in the lakes above Gufunes to water the plants and the produce in the greenhouse.

To depollute the ground, we want to use hyperaccumulators, those are unusual plants that accumulate particular metals or metalloids in their living tissues. While waiting for the plants to clean up the soil, because this process can last for decades, we will do vertical farming in the meantime.

In this idea of depolluting the soil we will place many trees in the landfill, in addition,

placing a lot of trees in this area would reduce the wind felt in Gufunes.

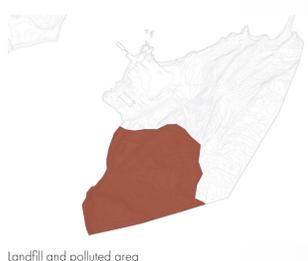
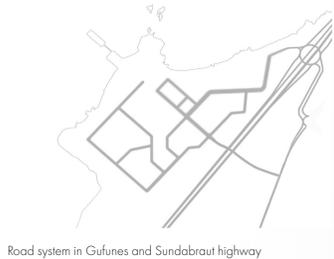
There will be a restaurant just next to the greenhouse where people can eat the produce from the greenhouse and also will be a museum about soil, soil cleaning and history of the area. In the center next to the new building of Baltasar there will be a bakery and a grocery store, so everybody can have access on foot.

There will be a road all around the houses with many parking to allow people to travel by car to their homes which is very common in Iceland due to the poor weather conditions. There will also be a parking lot before the artists area for people who come on the weekend for the produce market, the supermarket, cinema, boat excursion etc. There will also be a small harbour for boats owned by the people living in Gufunes

and a big harbour with a ferry to that goes to the center of Reykjavik and to Viðey. There will be a path all along the coast for walkers but also with an adapted ground for runners.

We want to put green roofs on as many buildings as we can because they limit heat loss in winter, they retain rainwater and release it more slowly, encourages biodiversity and they are also a refuge for wildlife.

## DIAGRAMS

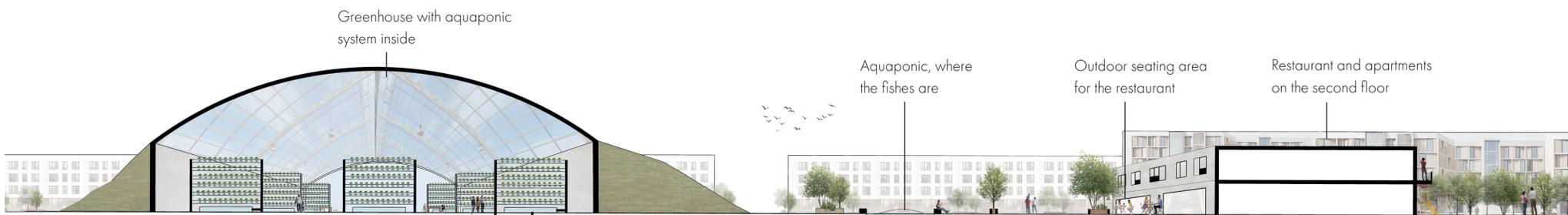


## LEGEND

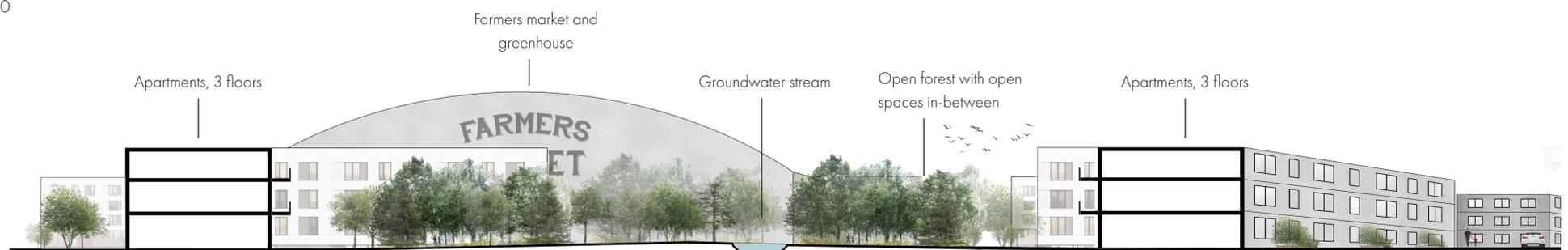
- 1 Center of Gufunes
- 2 Greenhouse
- 3 Restaurant and museum about soil conservation
- 4 Bakery and grocery store
- 5 Film studio
- 6 Cinema
- 7 Forest of willow to depollute
- 8 Playground



MASTER PLAN  
1:2000



SECTION A - A1  
1:200



SECTION B - B1  
1:200

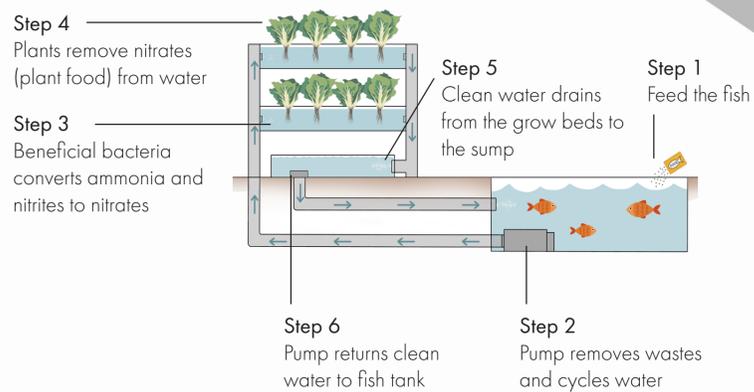
LEGEND

- 1 Aquaponic, where the fishes are
- 2 Greenhouse
- 3 Market
- 4 Area where events can be held, e.g. concerts
- 5 Outdoor seating area for the restaurant
- 6 Playground
- 7 Open area, with benches
- 8 Lake where the groundwater accumulates
- 9 Bushes and benches that create smaller closed spaces in a open area
- 10 Grass roofs to encourage biodiversity



DETAIL PLAN  
1:200

HOW AQUAPONICS WORK:



Aquaponic system inside the greenhouse



Aquaponic, where the fishes are

Outdoor seating area for the restaurant

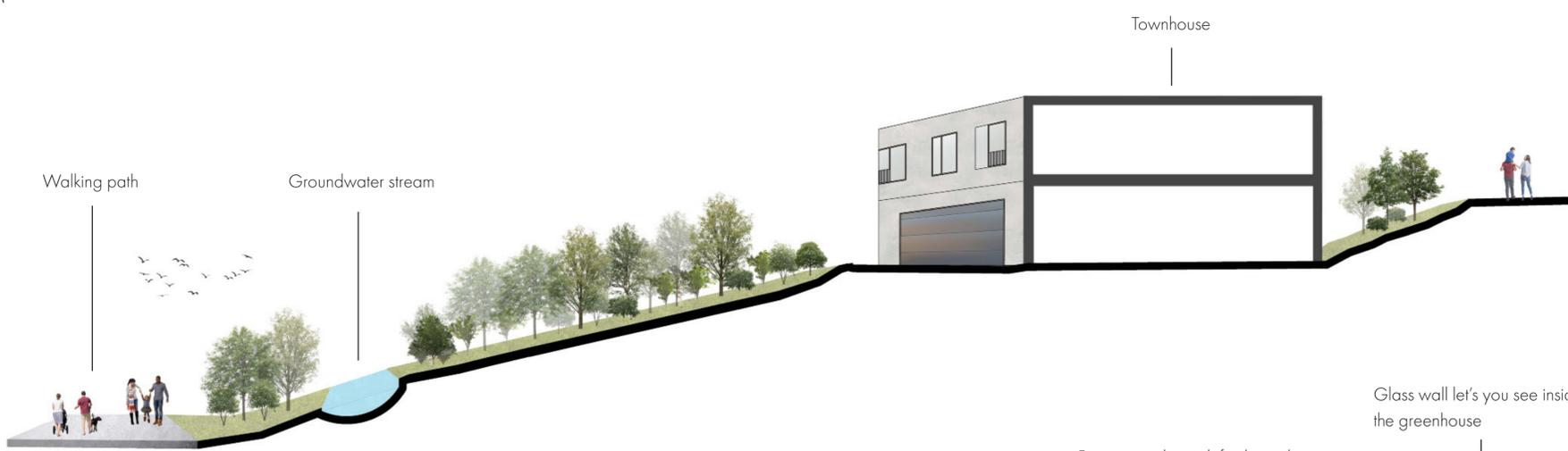
Restaurant and apartment on second floor

SECTION A - A1  
1:100

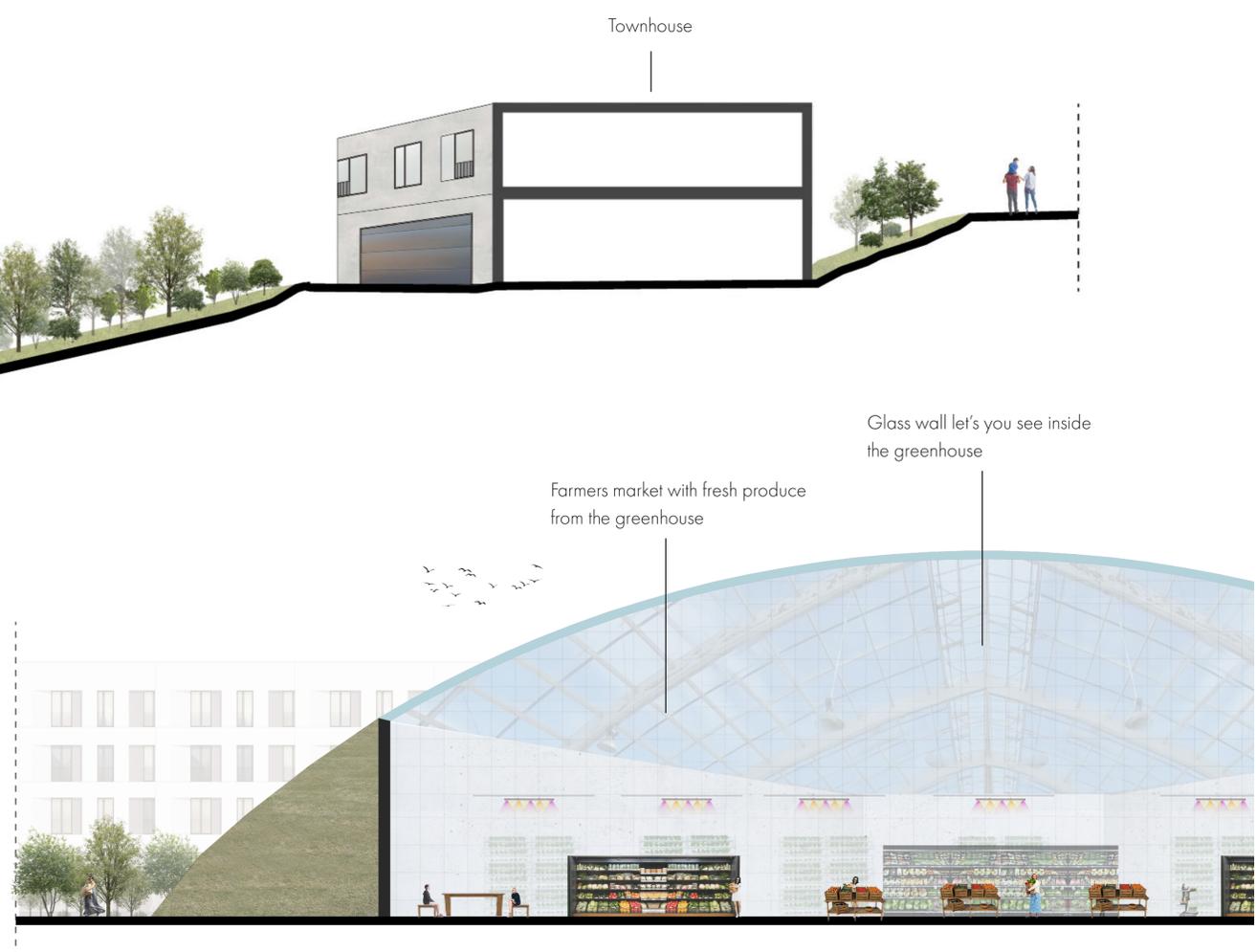
- LEGEND**
- 1 Grass roofs to encourage biodiversity
  - 2 Greenhouse
  - 3 Market
  - 4 Lake where the groundwater accumulates
  - 5 Walking path by the sea



DETAIL PLAN  
1:200



SECTION A - A1  
1:100



LEGEND

- 1 Experimental garden
- 2 Lake that have phytoremediation plants
- 3 Harbour
- 4 House that controls the quality of the water



DETAIL PLAN  
1:200

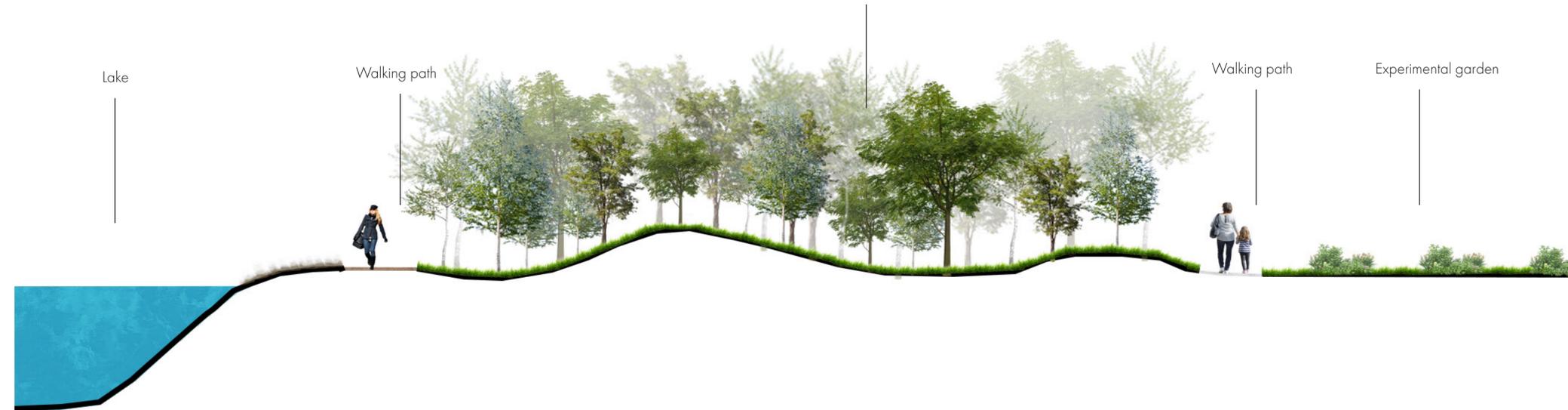
Depolluting forest

Lake

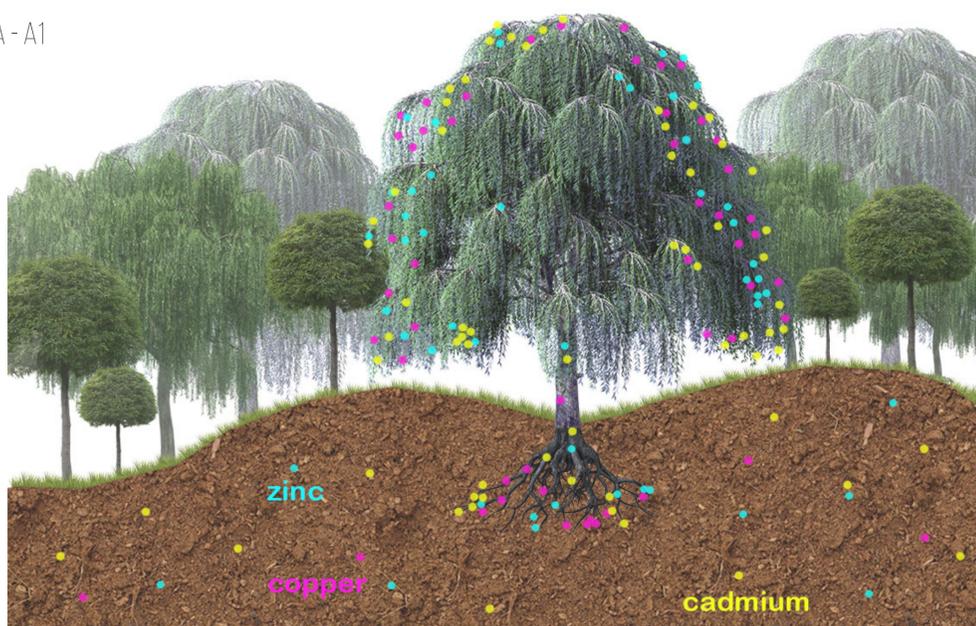
Walking path

Walking path

Experimental garden



SECTION A - A1  
1:100



HYPERACCUMULATOR PLANTS

- Lemna minor
- Dwarf Willow
- Woolly Willow
- Arctic Willow
- Tea-leaved Willow
- Feltleaf Willow

These are the species that we will plant to create an artificial forest. The objective of all these plants is to capture the heavy metals in their roots, they will accumulate thereafter in the leaves.

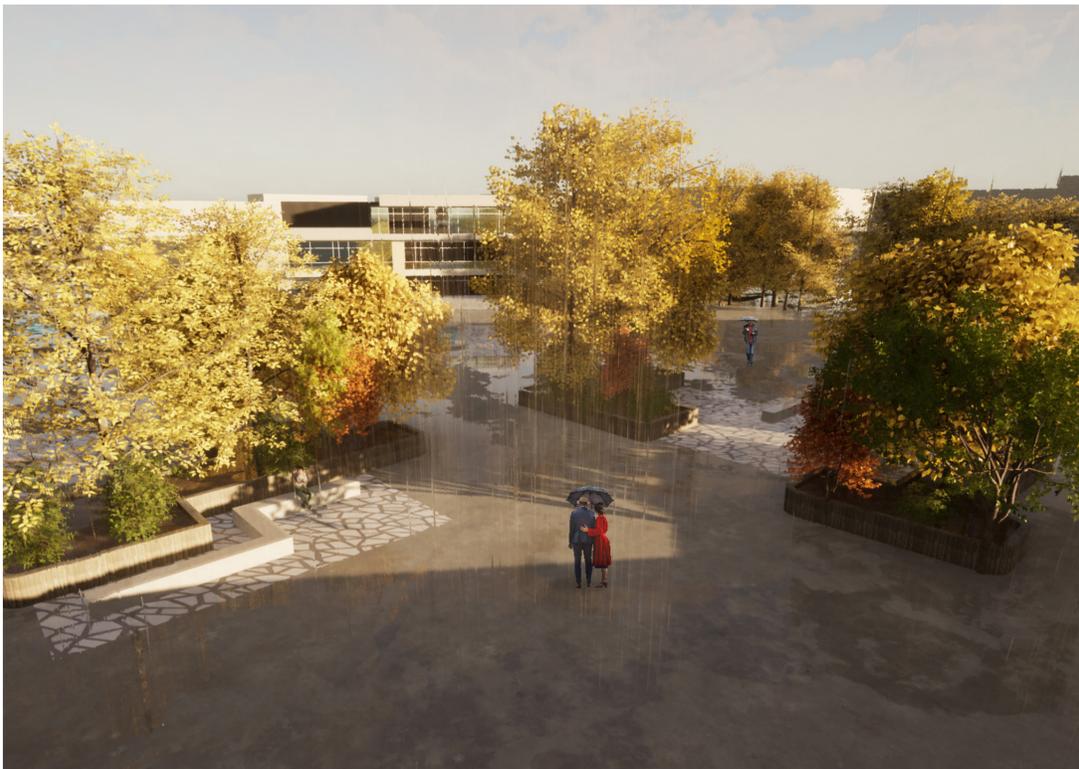
INSIDE THE MARKET



THE CENTER OF GUFUNES



ON A NICE AUTUMN AFTERNOON IN THE CENTER OF GUFUNES



IN THE DEPOLLUTING FOREST

