

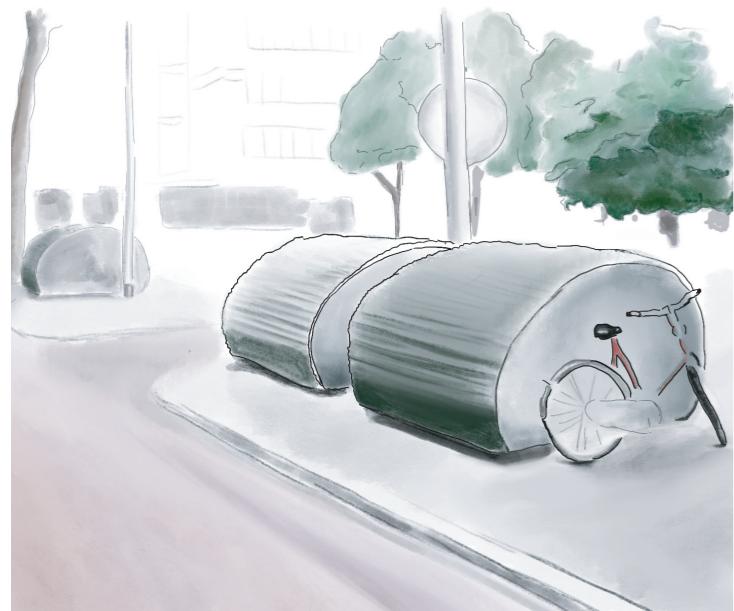
The green Fietstrommel ...

... a system for sustainable water storage.

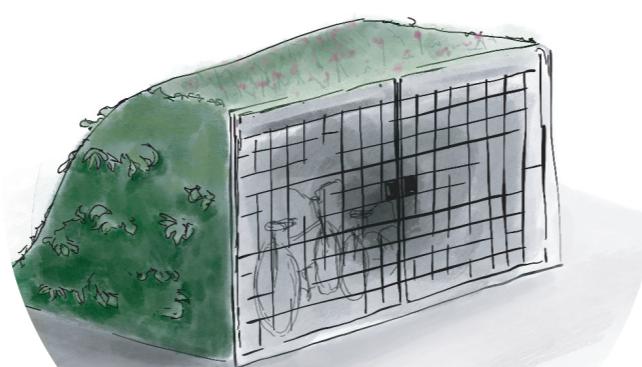
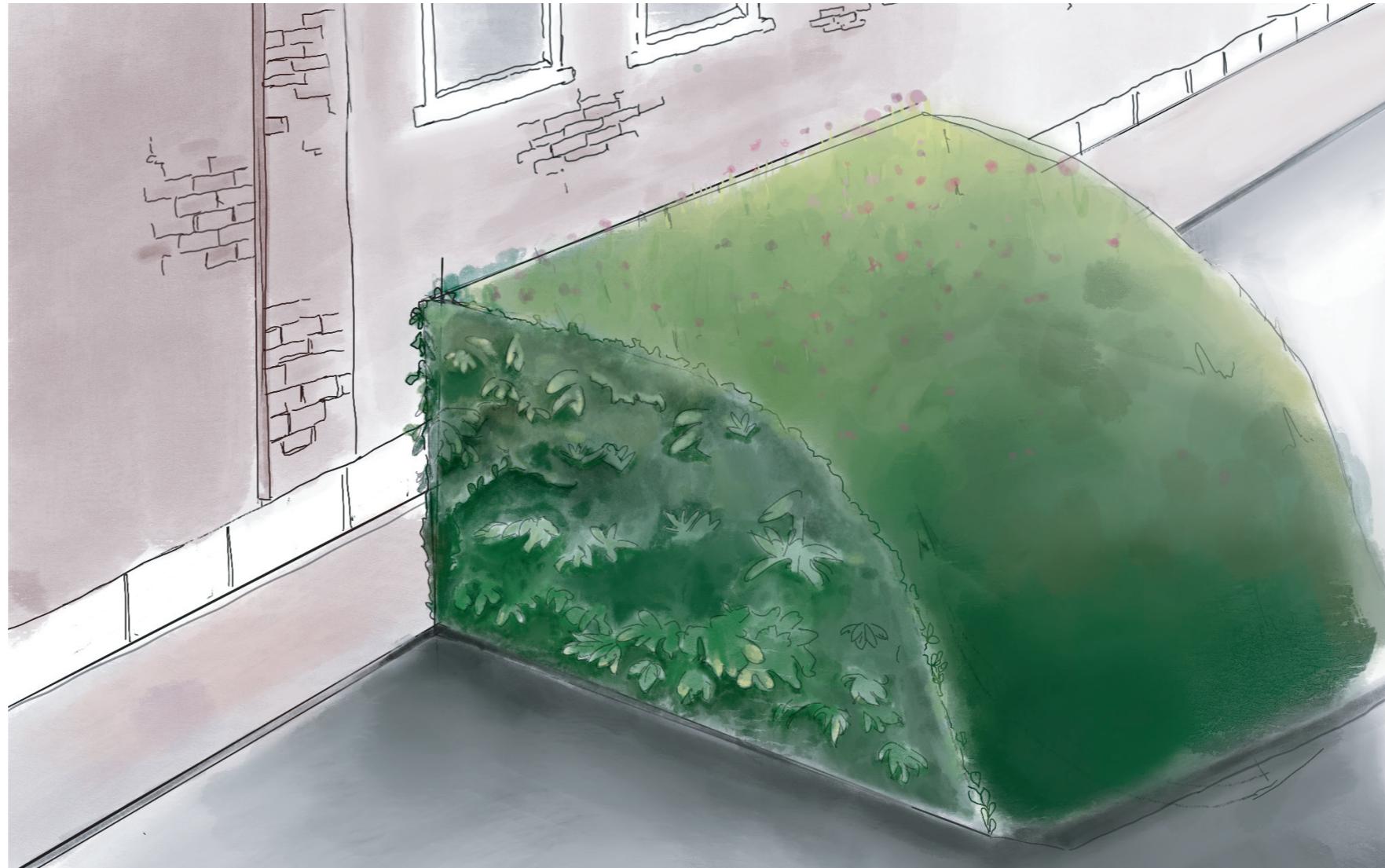
Flooded streets are a well known problem in the city of Rotterdam.

The climate change causes more intense rainfalls and water storage during this weather is one of the biggest issues in Rotterdam.

My solution is a Fietstrommel which is able to store water under its roof. The top of the roof is a planted layer through which water leaks to the bottom layer. This last layer is made of concrete, which is connected to the ground. During heavy rain the Fietstrommel can store up to 100 liters. When the storage is full the water runs down into the rain gutter in the street. With its green lined walls and varied plants on the top, the sustainable Fietstrommel also brings a little green to the city.



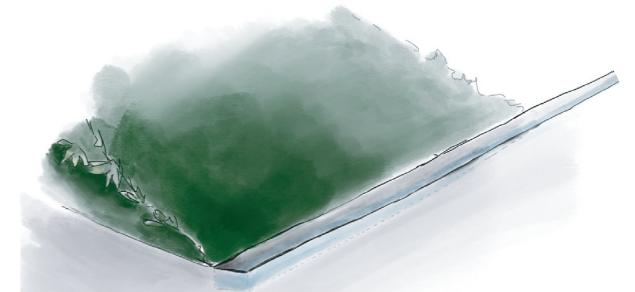
Current Fietstrommel as they are known in the city of Rotterdam.



The Fietstrommel can get locked and therefore provides a save bike garage.



The Fietstrommel's roof is made of a green planted layer, soil and a storage for water.



After a rainfall the water runs slowly into the street gutter.

flafé - the floating café

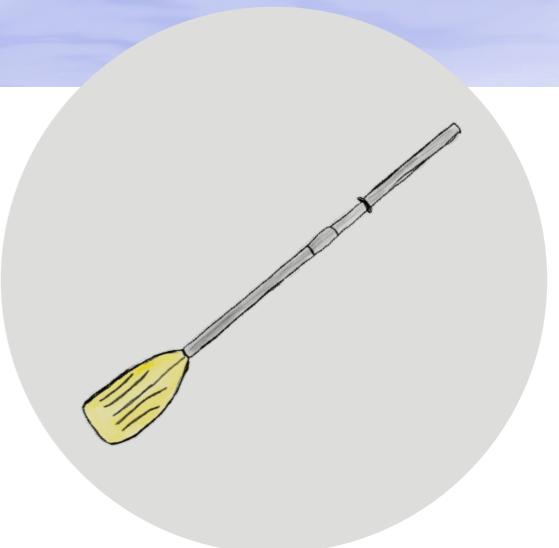
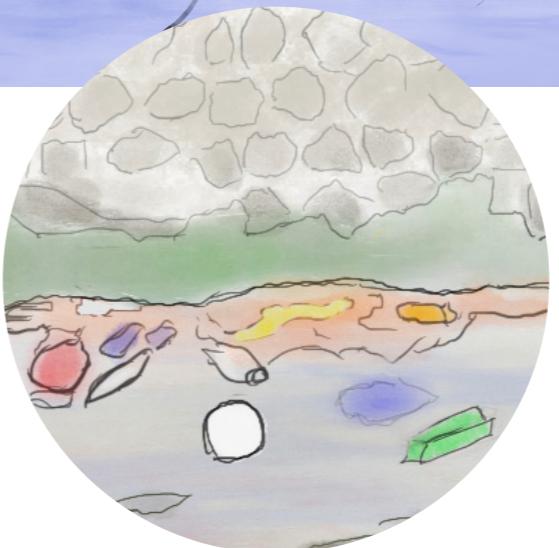


In 2016 twenty floating trees were installed in Rotterdam's harbor Rijnhaven. Besides this floating forest there is a recycled park with floating green structures which are built out of recycled plastics from the open water. Apart from these constructions Rijnhaven does look a bit empty and seems not very crowded.

My aim is to enliven this historic harbor basin with a floating café called flafé. The visitors could take their meals and drinks at the self-service-bar and simply pick a little floating raft of their choice. With a paddle they can row to whereever they

want inside the floating forest. To avoid theft and to stabilize the rafts they are fixed with a rope to the pier of the café. With the floating café Rijnhaven would appear much more lively.

Like the floating green structures the rafts are built out of recycled plastic material. The flafé is a zero-waste organisation, its visitors should not produce any waste and the café should raise awareness of the immense pollution of the oceans and help with reducing the exceeding amount of plastic waste.



River Renaturalization

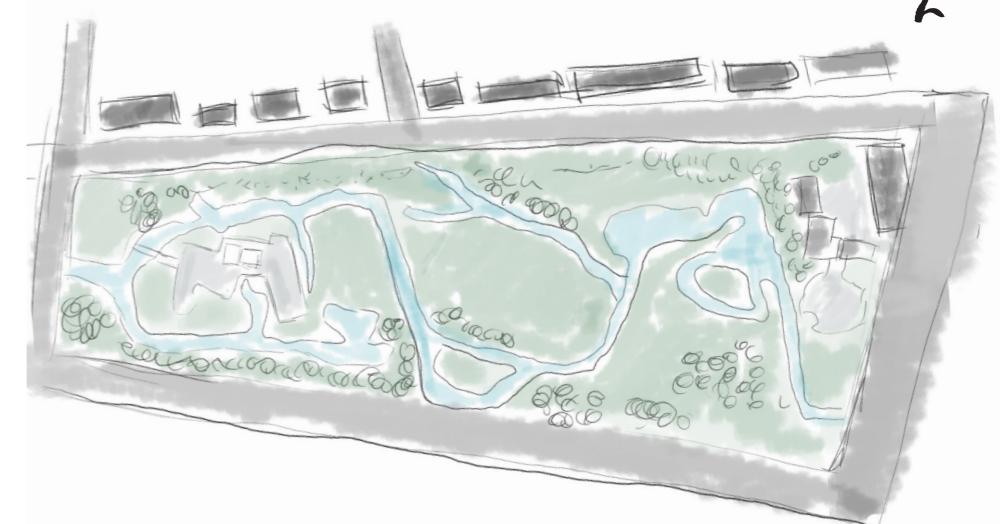
Stabilisation and promotion of nature and society

The aim of my idea is to progress in renaturalization of rivers. The river is going to be set free with a bit of supervising. Based on the new river courses, parks, watersquares and grill stations will be built. These new natural areas invite you to linger. In addition, they promote flora and fauna and the new river courses stabilise the soil and thus protect the city from erosion.

In case of heavy raining periods there are big tanks stationed under the ground. The water will be cleaned and stored. If the stored water is needed, it can be pumped centrally to so-called „Fresh Stations“. These machines are distributed throughout the city and produce fine drizzle to cool people in the heat. If the water is not needed directly, it is leached into the soil in a regulated manner.

This idea is to promote social life through new natural places and thereby make an important contribution to the environment and the problems of Rotterdam.

Matti Manuel



1 The first picture shows a possible integration of renaturalized rivers into the cityscape

2 The second picture shows an example park from a bird's eye view and how it could be integrated into the urban landscape.

3 The third picture shows a cross-section of such a park and how a tank could be integrated.

4 The last picture shows how such spreaders could look and be stationed.

MY IDEA IS...

...to create a unique rain collecting system in a park which consists of different funnels. This installation has multiple functions.



Rainwater is being collected in a huge container in the ground. When the gardeners need to water plants in the park, they can use it, as long as the container has water in it.



What makes the construction attractive is that there is an interaction. People have the opportunity to water plants by themselves by turning on the water tab. As soon as the plants have had enough water for the day, there is a stopper in the tube that keeps the water inside.



The square is not only a place to hang out when it is rainy but also it functions as a tourist magnet. Since every funnel is shaped differently and is constructed out of different materials, it looks special. This is why it is likely to attract tourists.



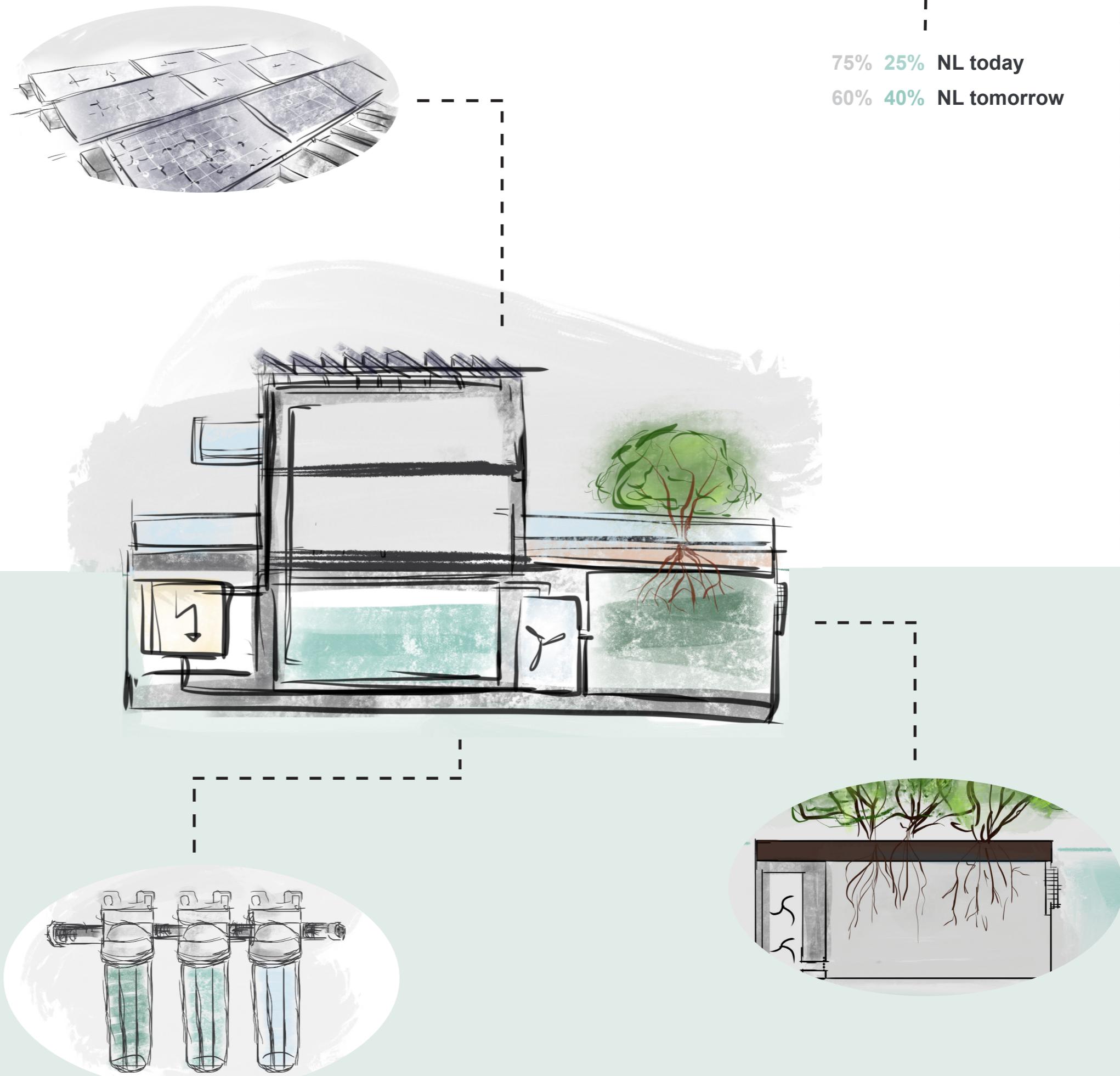
HERE WE FLOW

The Sealevel is rising, the population is growing and we are losing land. This will become a big issue throughout the coming years all over the world. So what is the solution for drowning cities and losing living space?

There are two options: Either we learn how to breath under water or we find options to live on it. Due to the present impossibility of growing gills we should invest in alternate living spaces – especially in the Netherlands. Referring to a study by National Geographics (september issue, 2013) there will only be a tiny area in the southern part of the Netherlands left, if all glaciers and the polar caps would melt – everything else would drown in water, including Rotterdam.

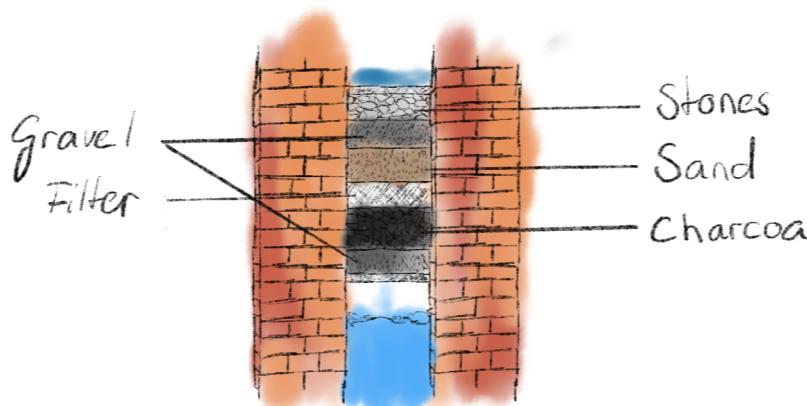
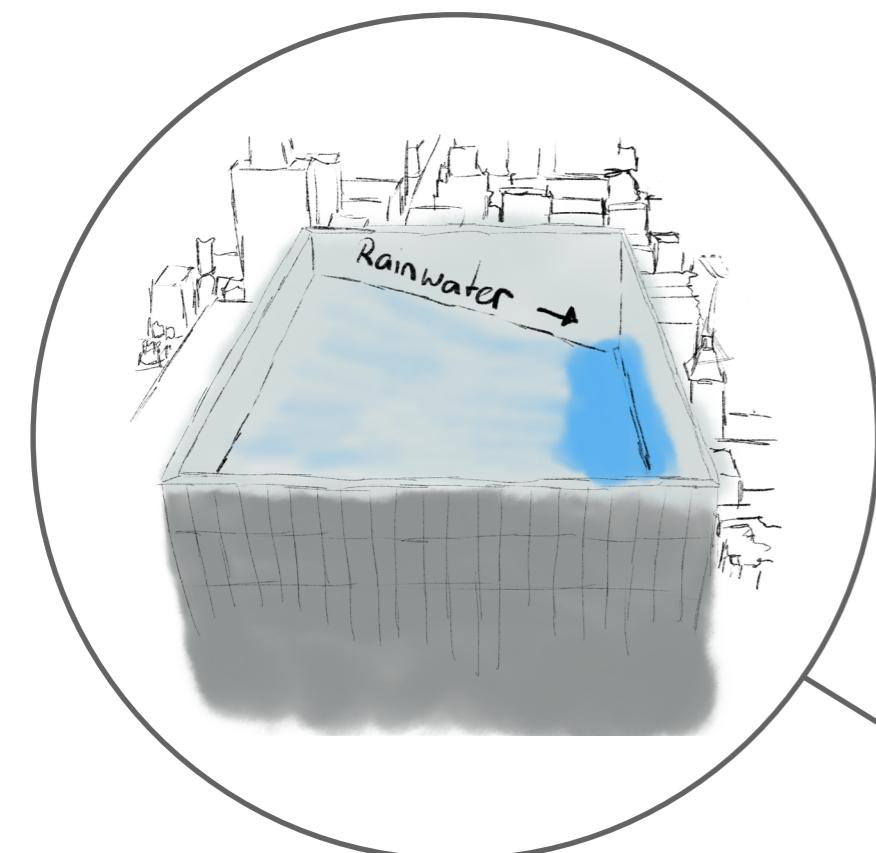
If this happens about 16 millions of people would have to flee and the government would have to relocate them. But where should the people go if there is only a little part of the Netherlands left to live on?

My Idea is to build floating houses which supply themselves with drinking water, water for growing plants and solar energy. In order to have drinking water there are two stages of filtering water from the river and the sea. First of all bigger parts like mud or plastic and, in case of water from the sea, salt are being filtered, suitable for the plants on the platform above the first tank. Afterwards the water is being filtered again and transformed into drinking water which supplies the whole house. These filters are powered by solar energy. Solar panels are being located on the roof and energy will be transformed into electricity. That electricity is also being used in the floating home to propel domestic appliances.



Filter Walls

by Till Minder

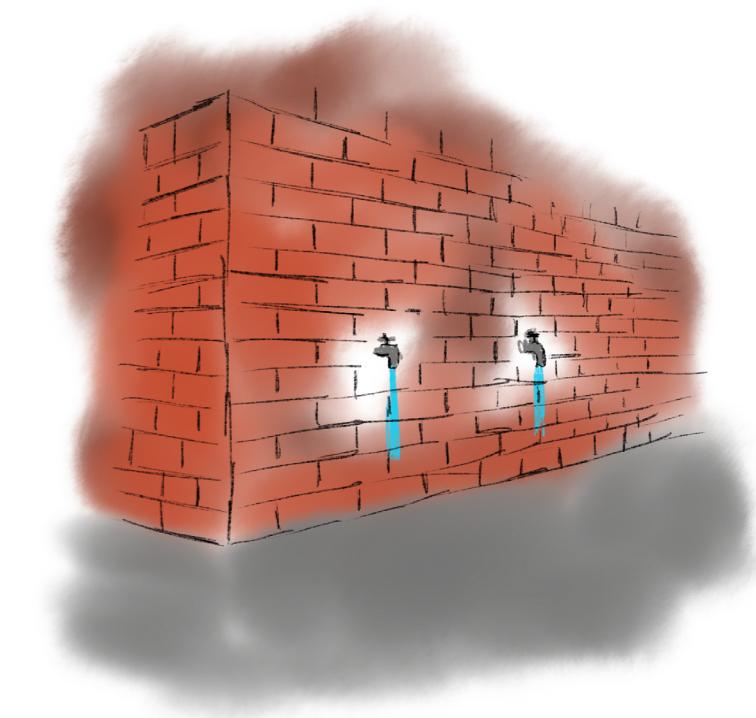
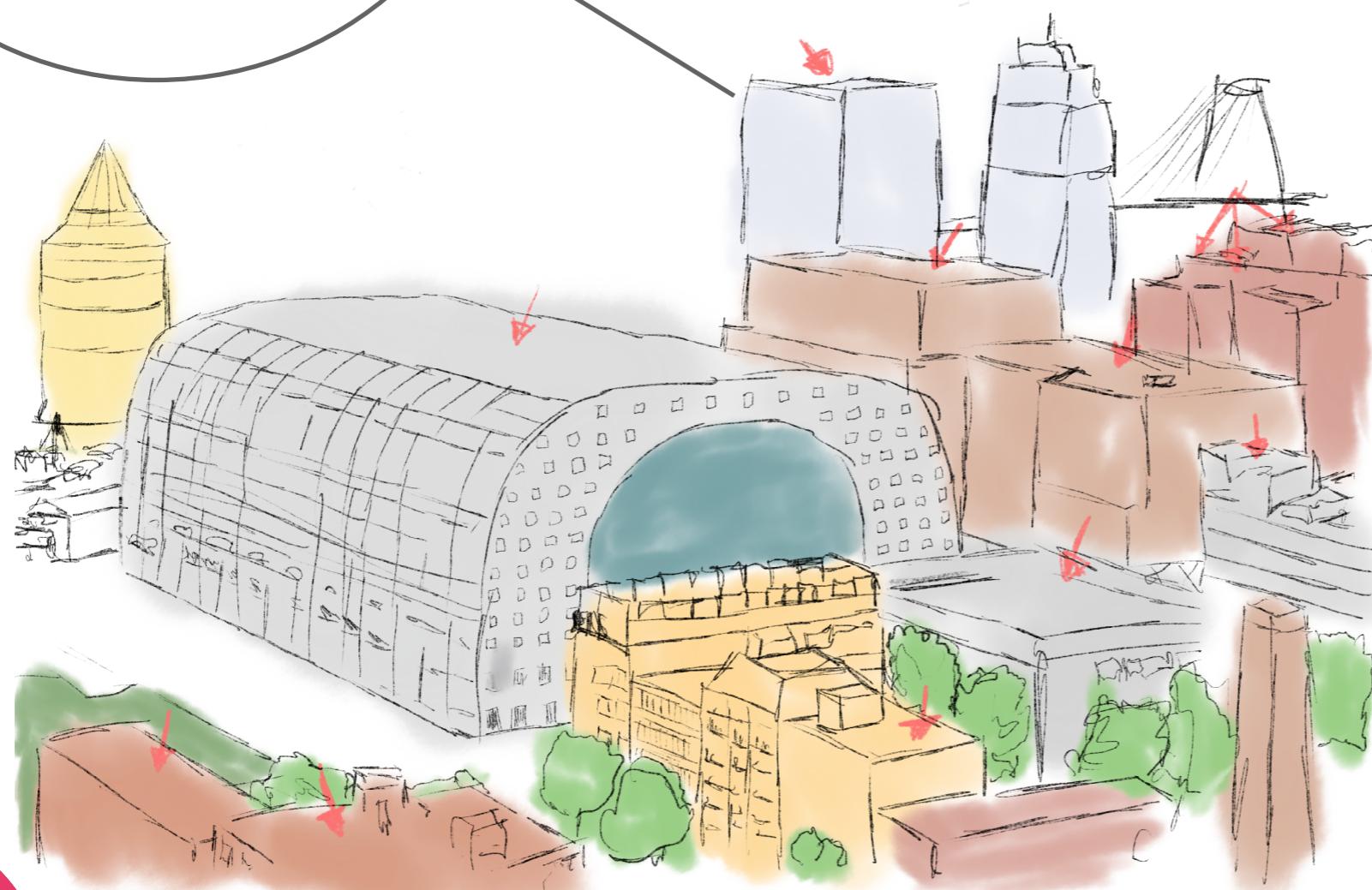


What if we could change the rainwater into clean water without using any electricity? That's exactly what my idea is about. As you can see on my sketch, there are a lot of flat roofs in Rotterdam. If it's raining, it's hard to collect and recycle the rainwater on these roofs.

My idea is to build a wall, which is also a filter and a drain. I've constructed a roof, which leads the water towards the filter wall. Then the water flows through the different layers in the wall and gets cleaned. The filter is in the upper half of the wall and the other half is used to collect the clean water.

The filtering system is made out of natural materials. It won't need any electricity or a pump. The water will seep through stones, sand, gravel and charcoal.

The clean water can be used as drinkingwater or for the trees in the parks next to the building. I also placed some water taps on the bottom of the wall. All the citizens have access to free drinking water all the time.



MY IDEA IS...

BRINGING BACK THE NATURE TO ROTTERDAM

MY IDEA IS TO CREATE MORE NATURAL SPACE IN THE CITY. ESPECIALLY FOR THE BIO DIVERSITY.

ROTTERDAM IS A CITY WITH MANY RIVERS BUT THERE ARE RARELY RIVERSIDES. INSTEAD THERE ARE MOSTLY HARD COVERS LIKE STONE WALLS.

ONE POSSIBILITY TO REACH MORE BIO DIVERSITY FOR EXAMPLE IS TO CREATE MORE RIVERSIDES WITH PLANTS ON IT.

ANOTHER OPTION IS TO CREATE FLOATING ISLANDS WITH PLANTS ON IT IN THE MIDDLE OF A RIVER. THIS WOULD NOT ONLY BRING MORE SPACE FOR INSECTS AND OTHER ANIMALS TO THE CITY, THE RIVERSIDES ALSO MAKE IT EASIER FOR ANIMALS (FOR EXAMPLE DUCKS) TO GET IN OR OUT OF THE WATER.

MORE BIO DIVERSITY WILL BE GUARANTEED.

ON THE RIGHT SIDE YOU CAN SEE TWO DIFFERENT VISUALISATIONS HOW IT COULD LOOK LIKE BRINGING MORE NATURE INTO A CITY.

