

SUSTAINABLE  
URBAN RE-  
GENERATION  
OF BRUSSELS  
WEST STATION  
AREA

SUSTAINABLE URBAN DESIGN STUDIO, MA-1  
BRUFACE – ULB + VUB – 2017/2018

**SDS-I PROJECT 2017-18**  
**SUSTAINABLE URBAN REGENERATION OF WEST STATION AREA:**  
**HIGH DENSITY MIXED-USE URBAN LANDSCAPE**

TEACHING TEAM:

AHMED Z. KHAN (COORDINATOR), CAROLE ASPESLAGH & GIULIA CATERINA VERGA (ULB)  
HERA VAN SANDE & GEERT PAUWELS (VUB)

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# WEST PARK

TEAM:

LUKAS BIMMERLE, CLAIRE BRUYNEEL, BASTIEN DAMSIN, BRUCE FORTON

# 01



## ANALYSIS



PROVIDE GREEN SPACE



COUNTER UNEMPLOYMENT



COMPLEMENTARY INDUSTRY



SOCIO-CULTURAL VOID

## VISION



A CONTINUOUS METROPOLITAN LANDSCAPE



A LAYERED CITY



A DIVIDED URBAN TISSUE

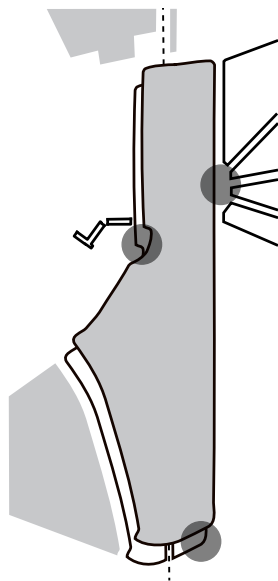
## SPATIAL CONCEPT



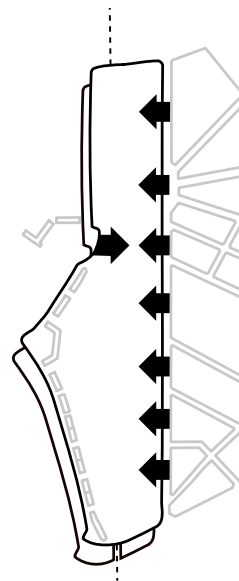
DIVISION



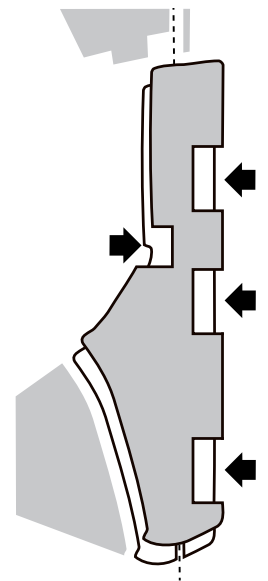
CONTINUOUS LAYER



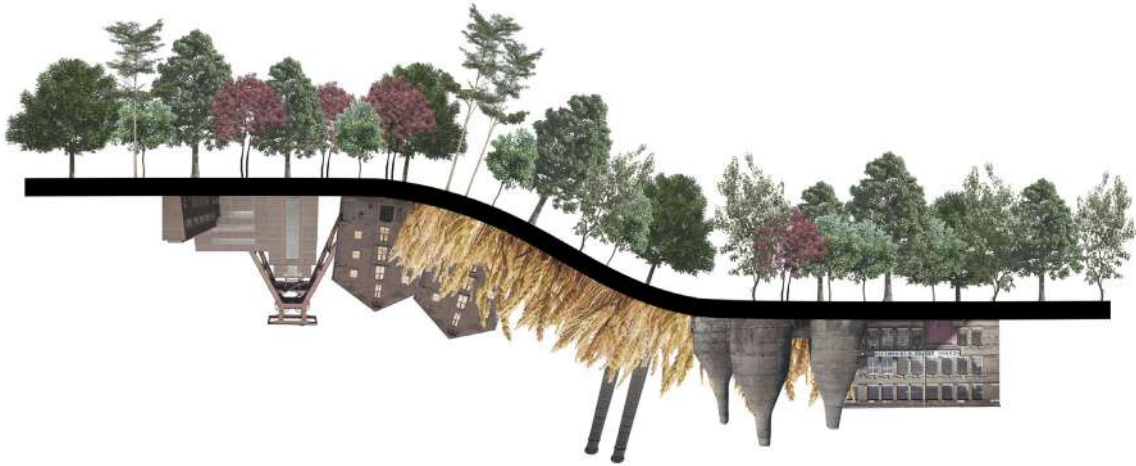
STRATEGIC POSITIONS



EXTEND URBAN TYPOLOGIES



CONTINUOUS METROPOLITAN LANDSCAPE & INJECT FABRIC



Westpark is first and foremost an open green space for the city. It is part of the metropolitan landscape of Brussels and is able to combine this with both living spaces as well as productive workspaces and offices by means of creating a multi-layered cityscape. This additional layer becomes not only a bridge of the existing neighborhoods to the east and to the west, but also a way of incorporating all of these different elements while keeping the park as the focus.

The layered landscape provided the opportunity to use underground spaces for services and workspaces, fitting in the productive neighborhood, both being also very important for socio-economic sustainability. The reached FAR is 1.3, a density where still 7 ha is provided as public space.

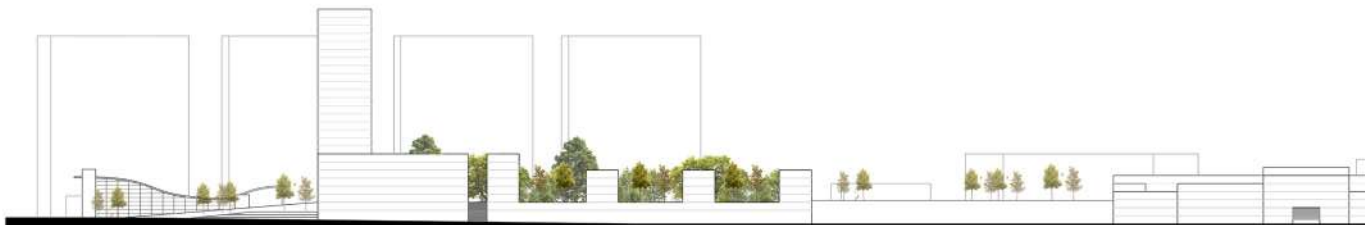
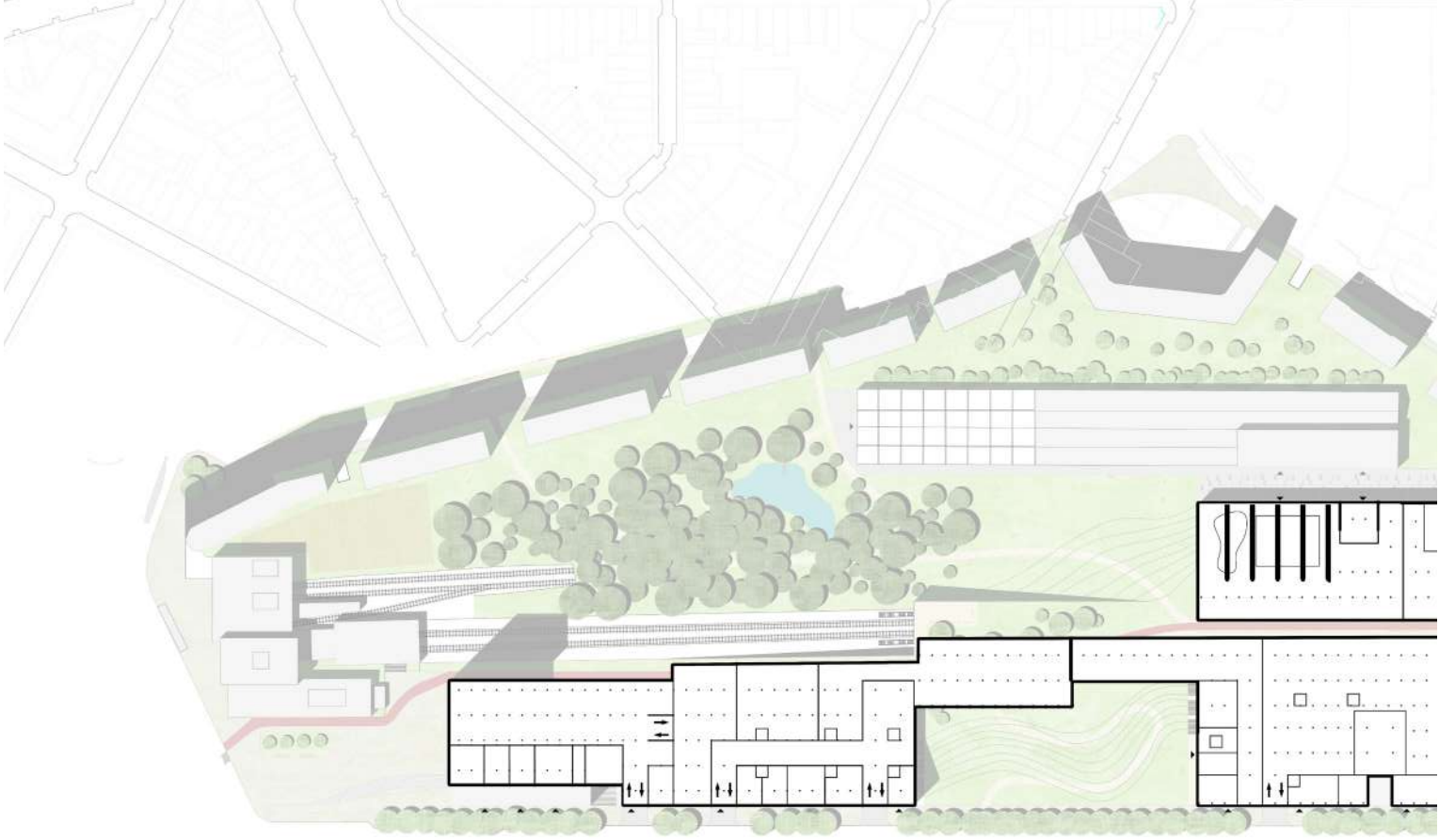
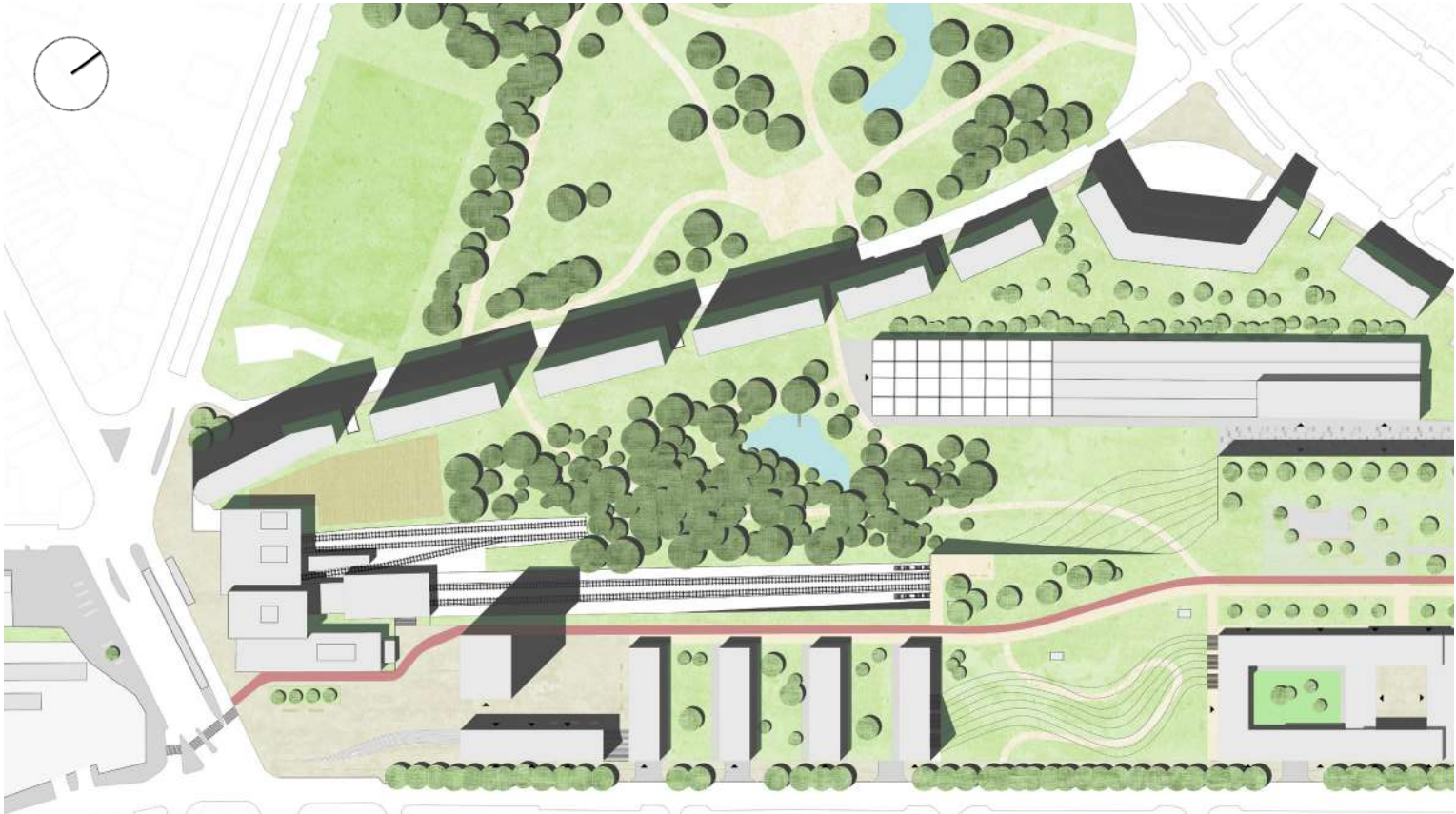
Another important focus of the project was the Beekkant square which becomes the heart of Westpark. This is largely due to the fact that it is an important traffic node giving access to many different transport modes. By providing additional services in Westpark such as the swimming pool, a library and a cultural centre near this heart, it can be the attractor the site has the potential to become.

The buildings that fill the site were shaped in a way to communicate with the urban tissue which already exists which allows the site

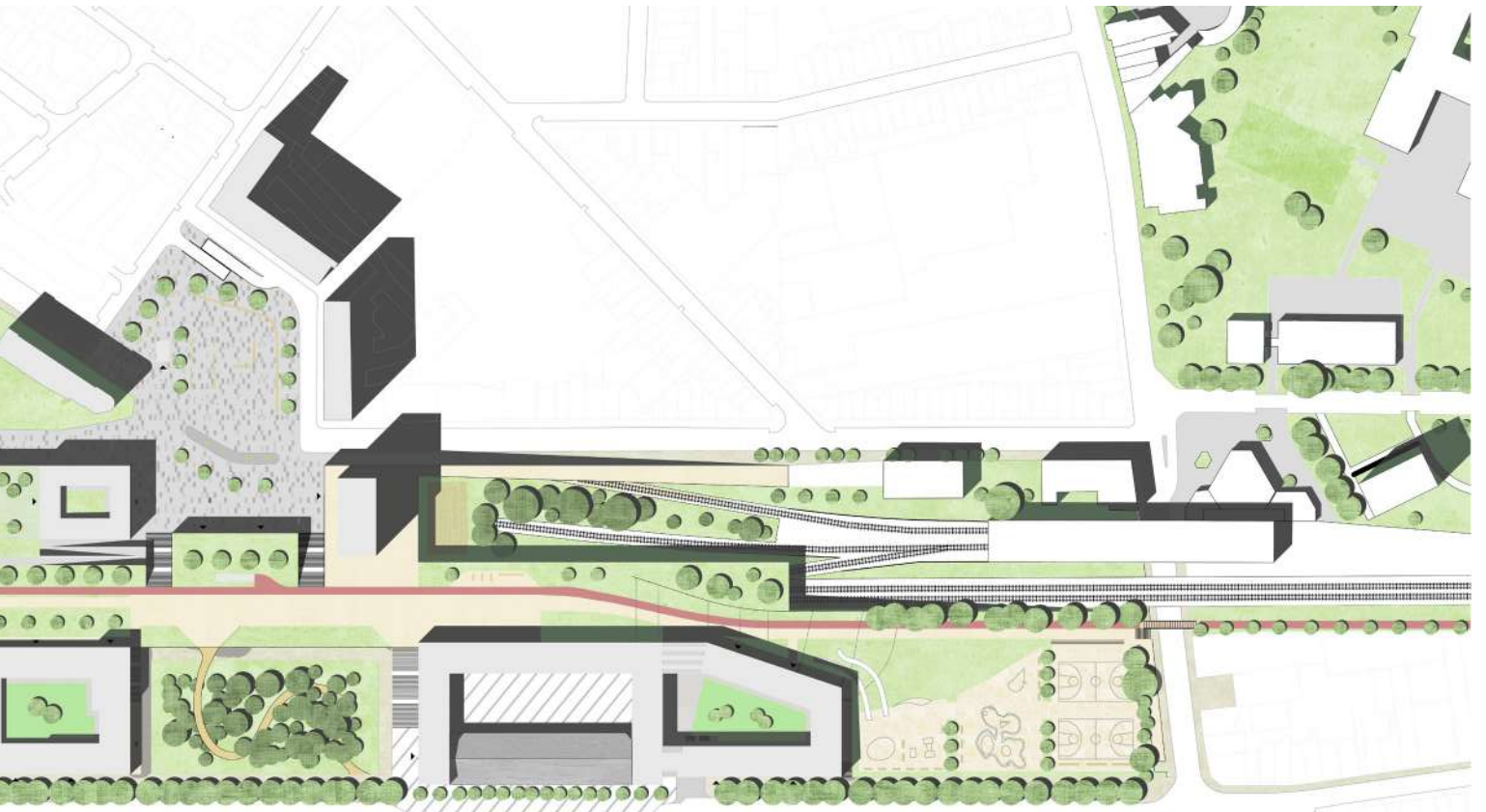
to function as an integral part of the city. It is important that the people can easily connect with Westpark. The solar orientation was subsequently considered to optimize the traditional urban blocks into a sustainable variant of it. One of the key aspects of this built fabric is the way it is mixed. Each block allows functions like commerce and residences to flourish in the city as a whole as well as other functions in order to create a project alive every moment of the day. However, privacy for the residents was still considered and thus some areas are predominantly residential.

In conclusion, Westpark has a lot to offer in terms of public space, both urban and natural. It also intelligently combines multiple functions and typologies. Economical sustainability is obtained by creating jobs, workspaces, offices and density. In addition, social sustainability is achieved by mixing this with public services such as a school, a cultural center, a swimming pool, etcetera. Using sustainable environmental principles we see the project as a very qualitative contribution to the local existing environment as well as the larger metropolitan city of Brussels.

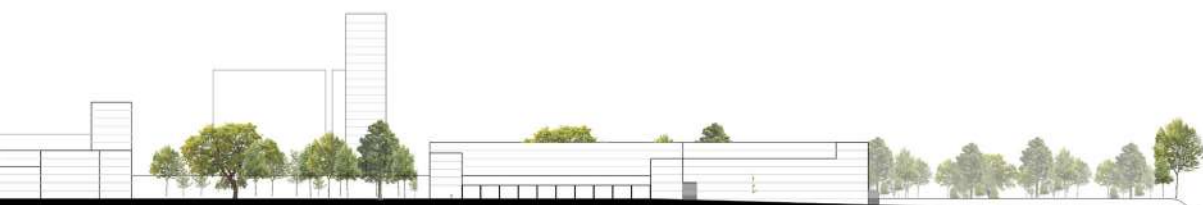
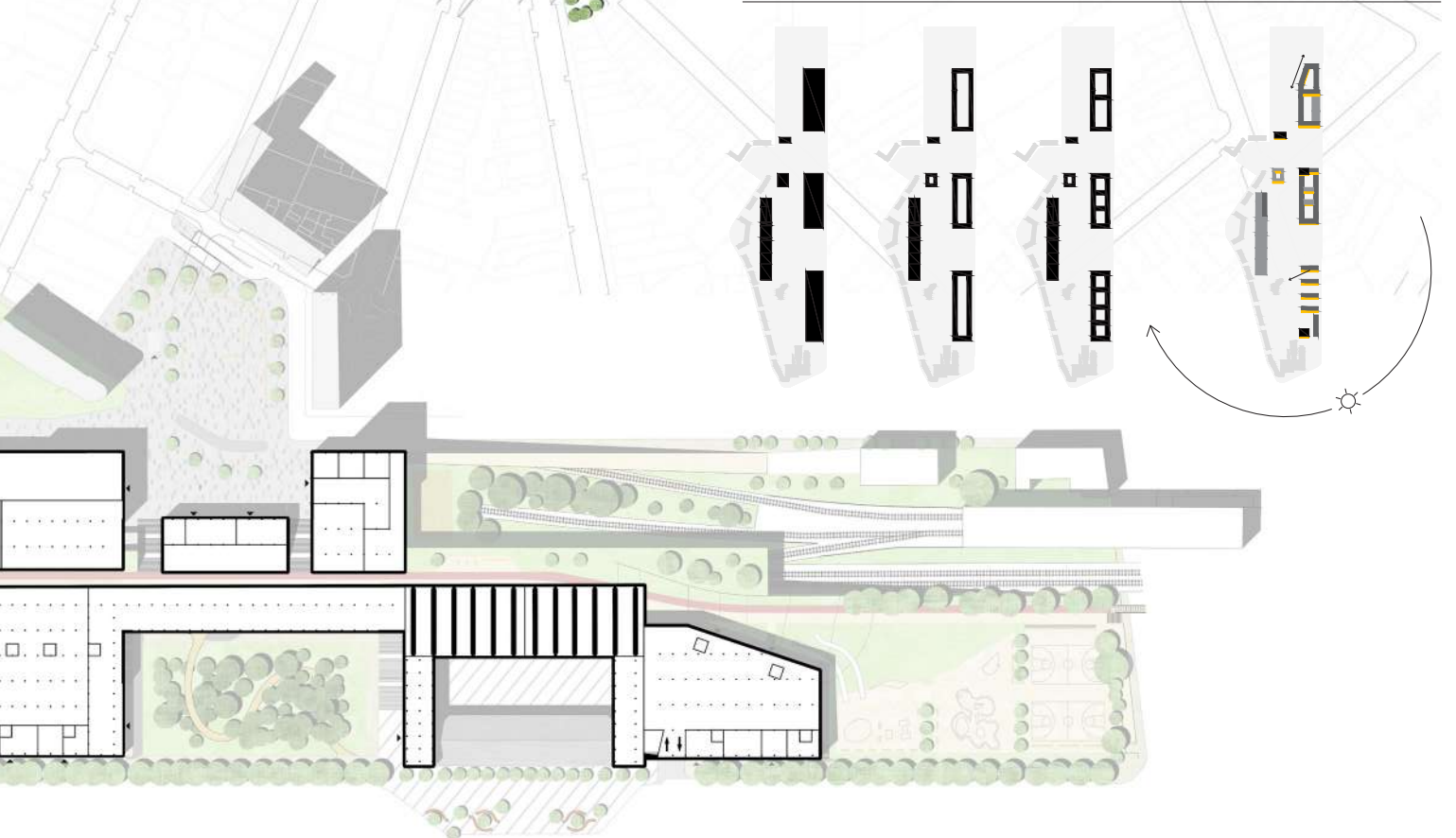
**WEST PARK**



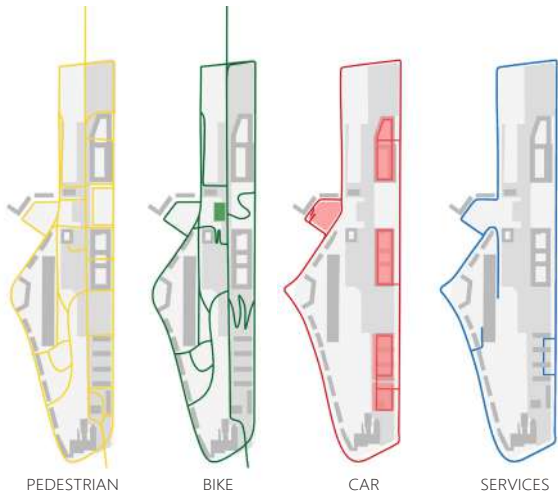




PLAN EVOLUTION THROUGH SOLAR ORIENTATION

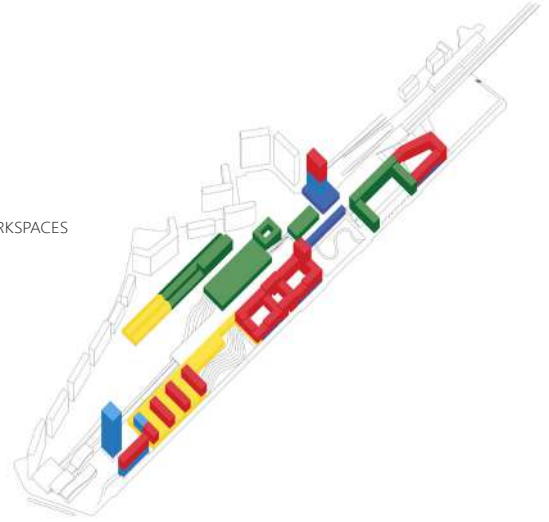


**CIRCULATION**

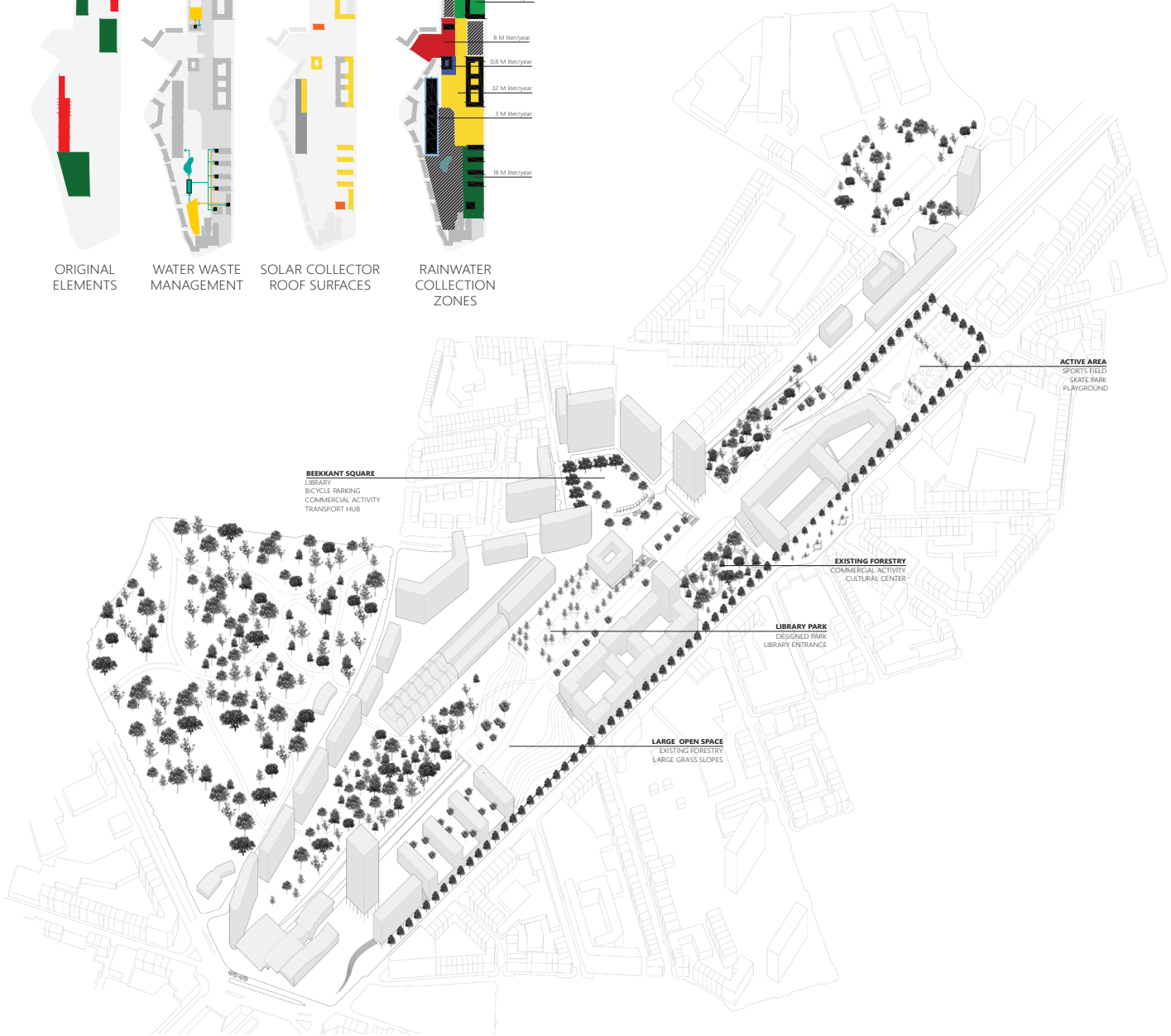
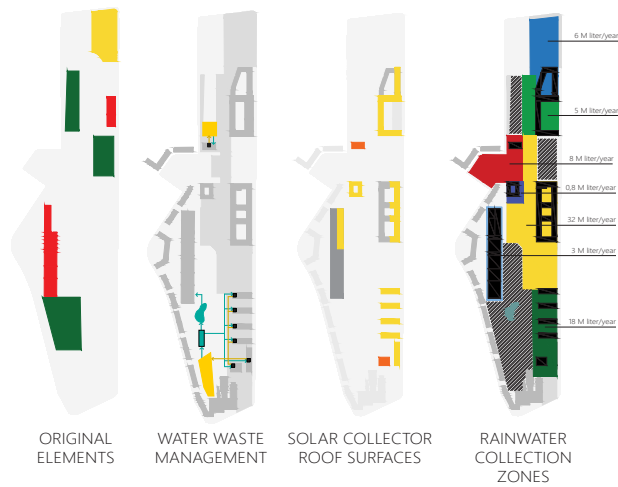


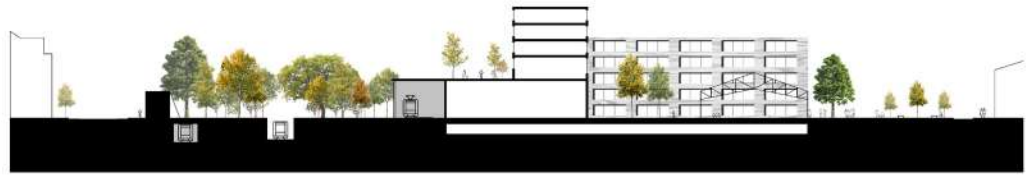
**PROGRAM**

- RESIDENTIAL 46.140 m<sup>2</sup>
- SERVICES 33.140 m<sup>2</sup>
- OFFICES 20.100 m<sup>2</sup>
- PRODUCTIVE WORKSPACES 9.550 m<sup>2</sup>
- COMMERCIAL 9.950 m<sup>2</sup>

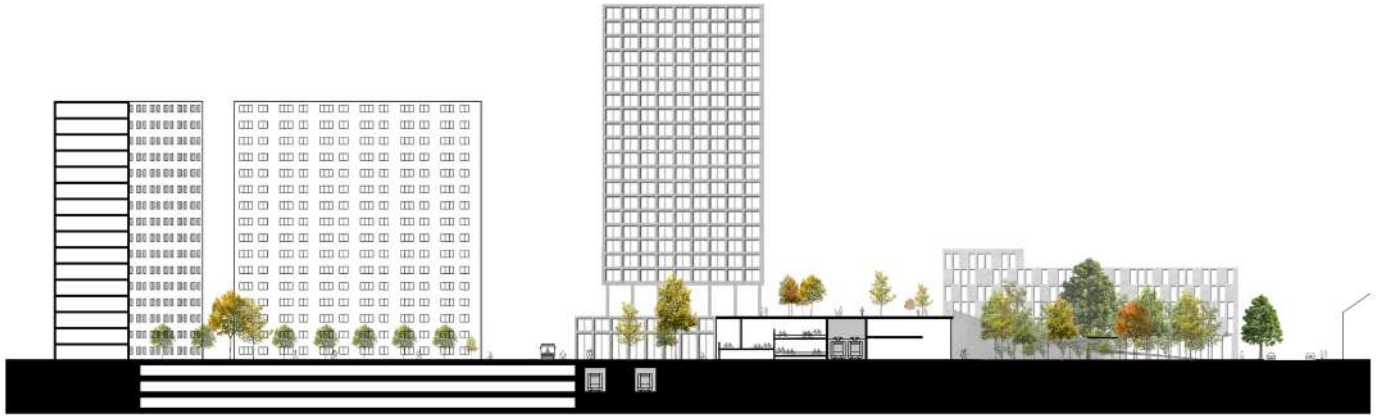


**PARK & SUSTAINABILITY**

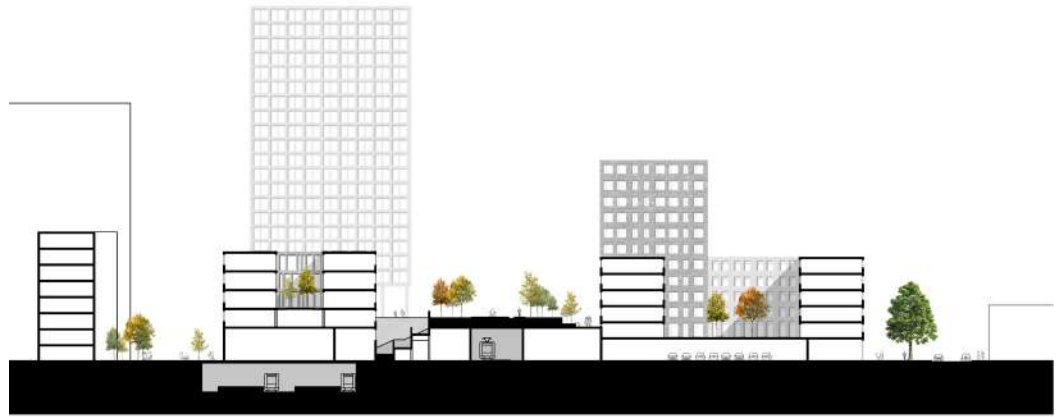




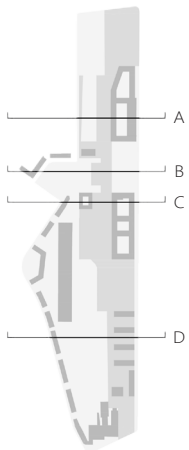
SECTION A



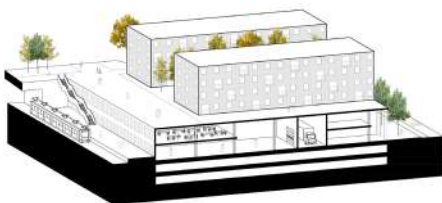
SECTION B



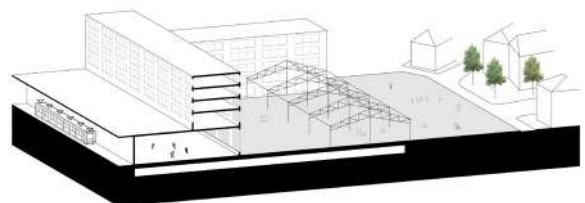
SECTION C



SECTION D

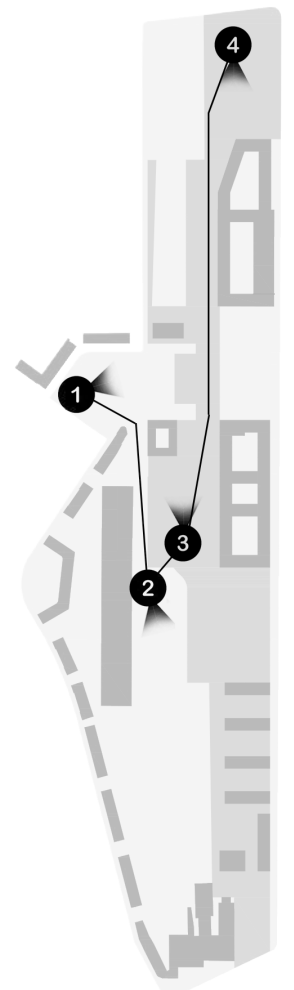


PRODUCTIVE SPACES



PLACE DE L'OUEST





VIEWS

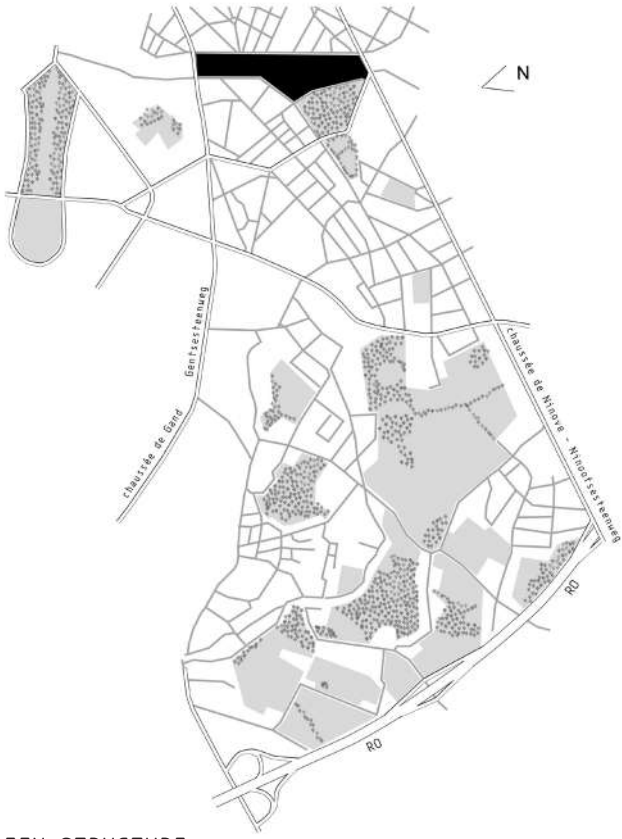
# FUSION

TEAM:

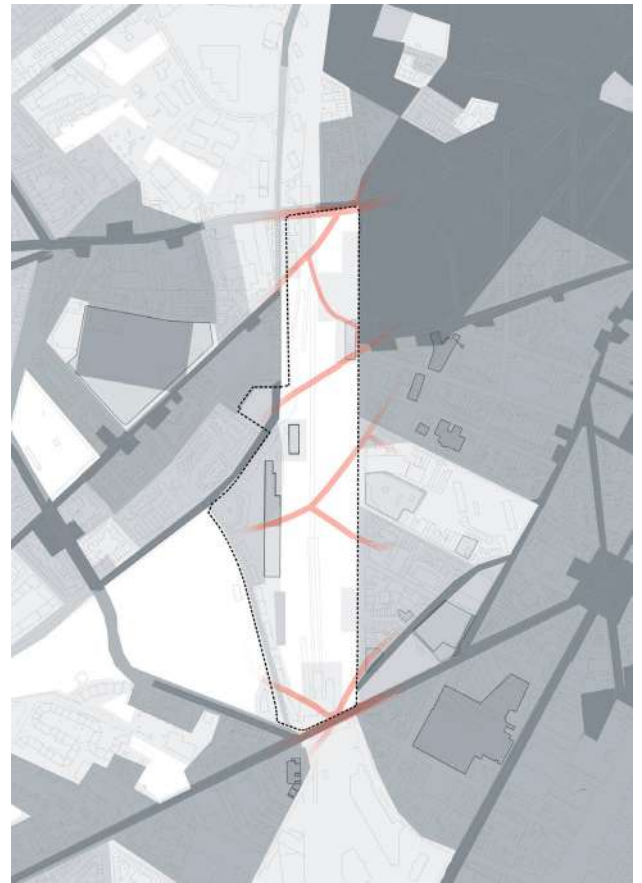
ALI SABIHA, AVRAMEMKO TONIA, CLAES MATHIAS, PIETRASZEK JAN, SAYYEDIAN NIMA



1

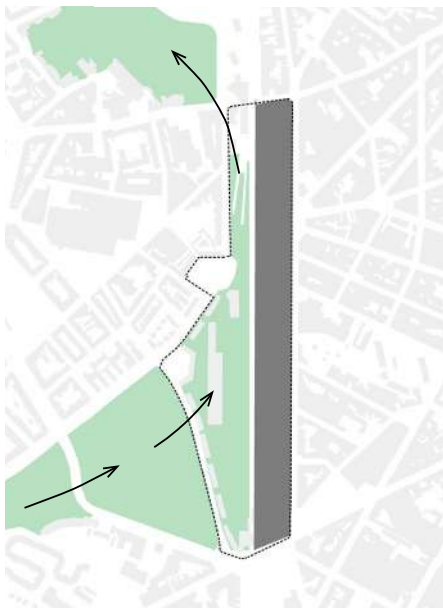


GREEN STRUCTURE

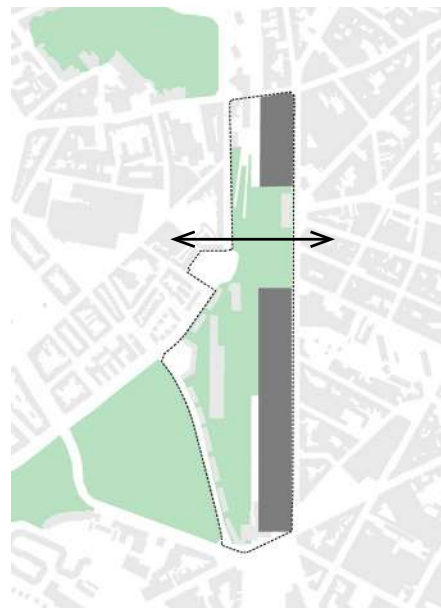


HISTORICAL DEVELOPMENT AND RUPTURE

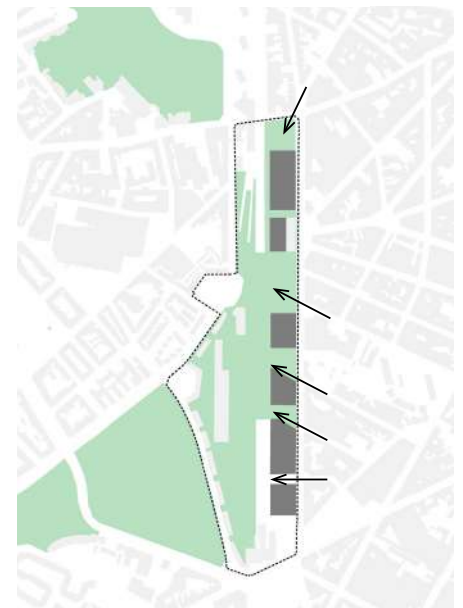
2



MOVEMENT 1: CONNECT THE GREEN STRUCTURE



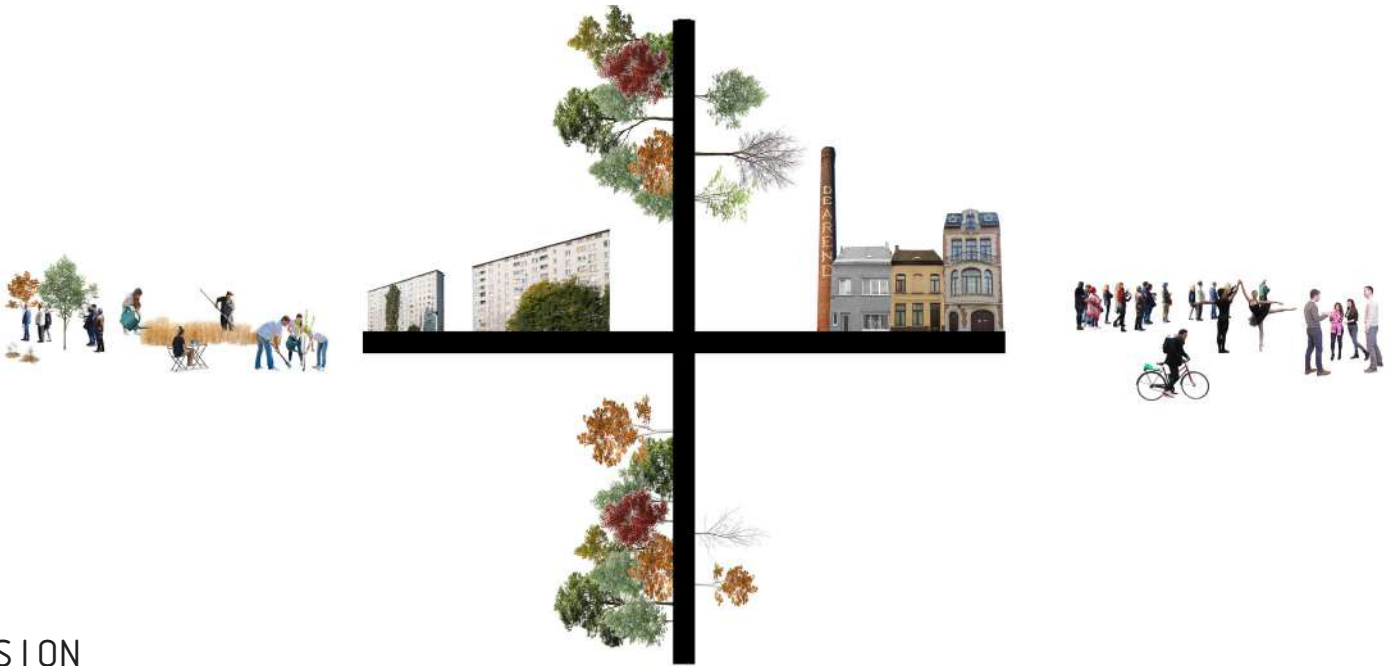
MOVEMENT 2: CONNECT EAST AND WEST



MOVEMENT 3: INVITE THE NEIGHBOURHOOD

1.ANALYSIS 2.SPATIAL CONCEPT





## VISION

Located in Molenbeek, one of the densest municipalities of Brussels, the site of the West station is divided by the L28 train line creating a rupture in the city as well as in the society. Facing a lack of green space and housings, this neighbourhood is a great opportunity to enhance the diversity.

In this context, the challenge is to reunite the west and the east physically and socially while creating a park in continuity of the open space coming from the Scheutbos Park. The main concern is to respond to the need of people in terms of housing, activities, job opportunities and substantial green space whilst taking into account the bioclimatic considerations as well as creating an economic and social sustainability.

Our first movement is to extend the green space through the site and create a big park. This park is what allows us to connect both side of the site where the relation from west to east is the most important. The build area is spread on the east strip with large openings in between the blocks to invite to the park and give more breathing space to the residents.

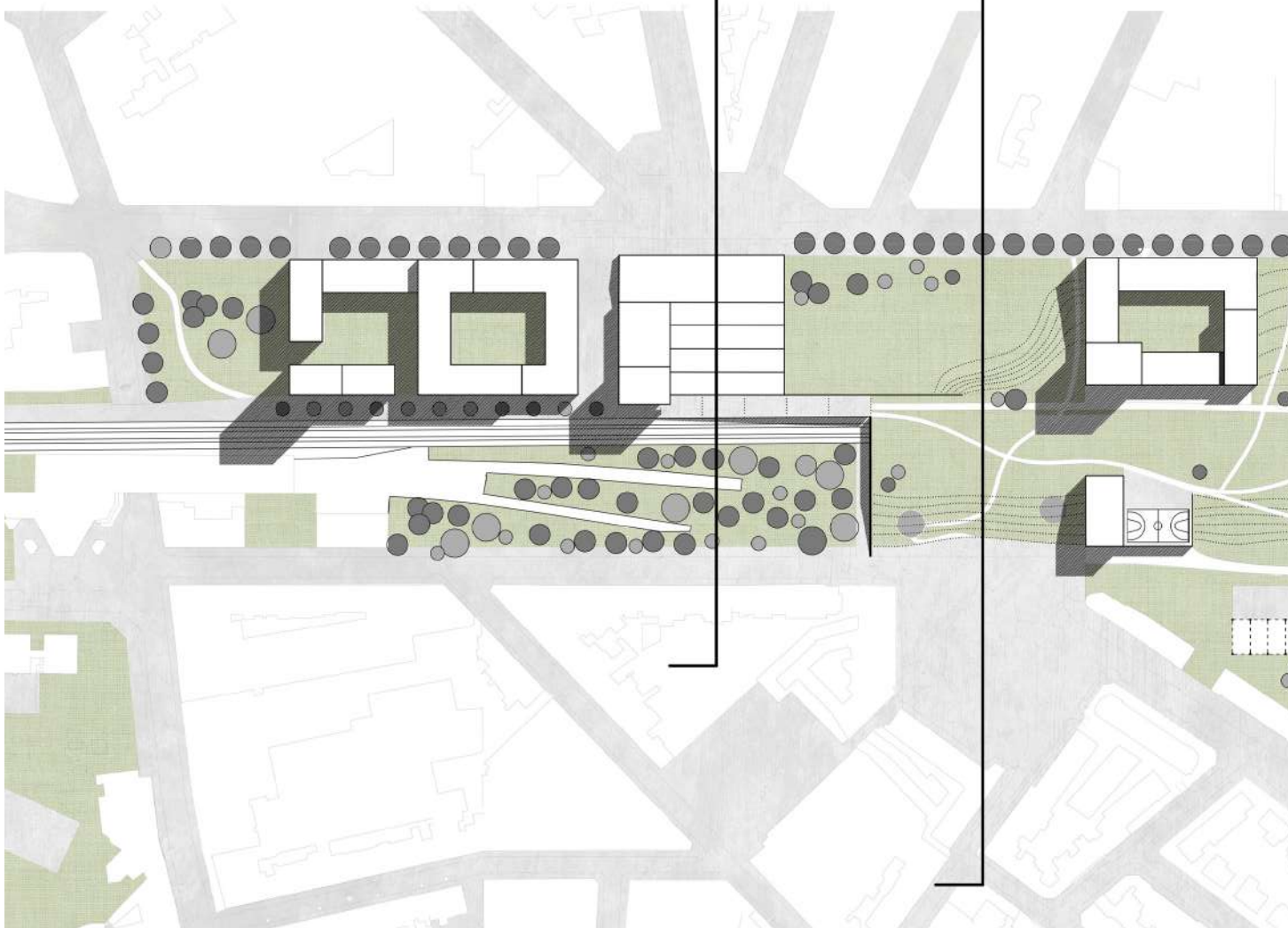
Our strategy is focused on a circular system where people are in the centre and create a collectivity thanks to the shared gardens. Collective gardens helps bringing people together while having a maintenance of the green space and enhancing the biodiversity of the city due to the different plants and animals present on the site. The products of the gardens create job opportunities, economical activities and bring awareness through education. Creating a circular system with farming products, economical-cultural activities, living space and water-waste management allows a project more self-sufficient, enhances the quality of life and reduces the waste. In terms of activities, the emphasis is given to collectivity and education: School, productive spaces, workshops, playground and a botanical garden, green all year around, that offers a unique spot in Brussels and the opportunity to discover a variety of overseas plants.

As a result, we want the mixed population to learn across the different barriers, be it social, cultural or even physical to form a community. The fusion of the green space benefits the fusion of the society.

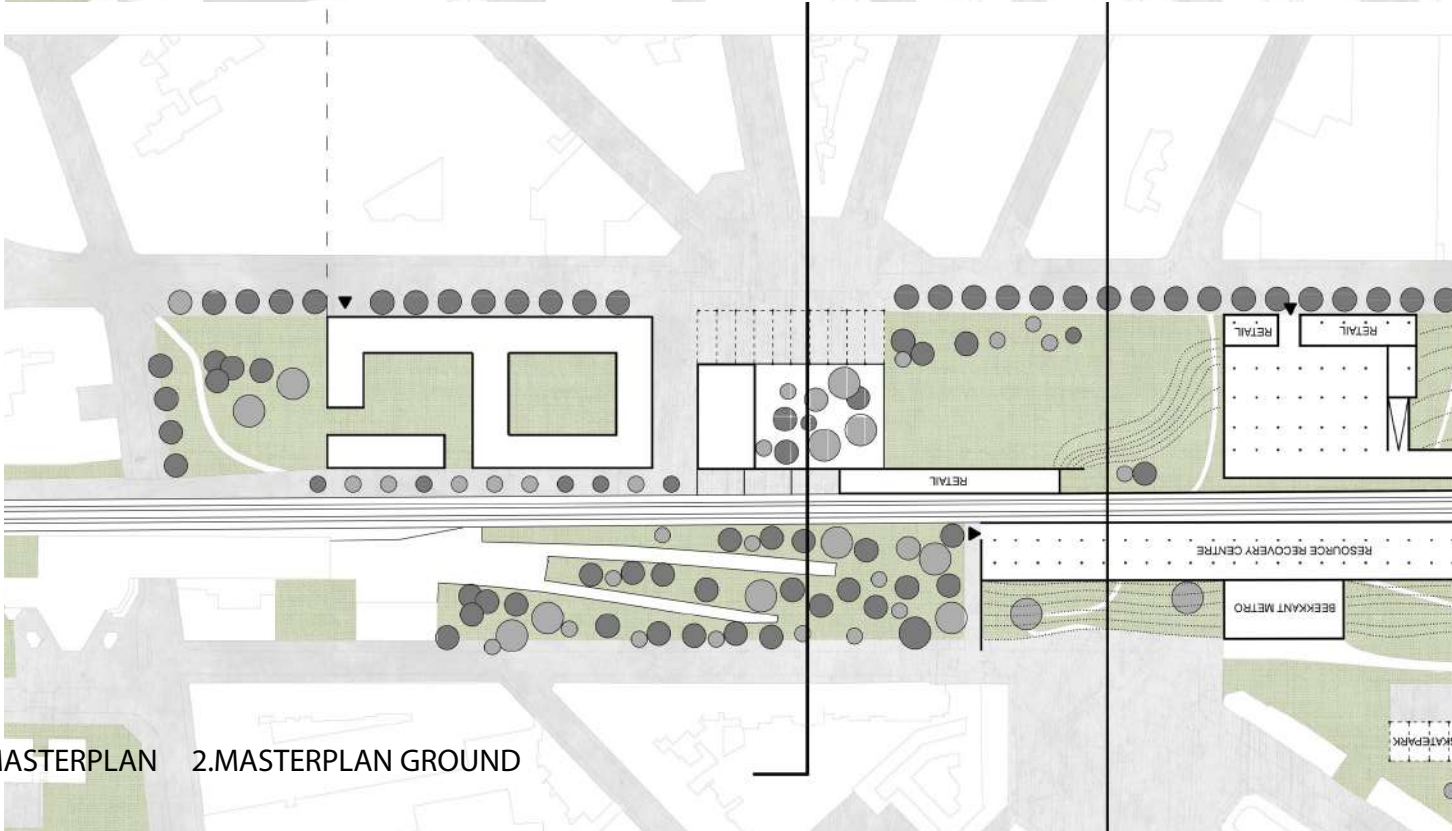
1

DD'

CC'



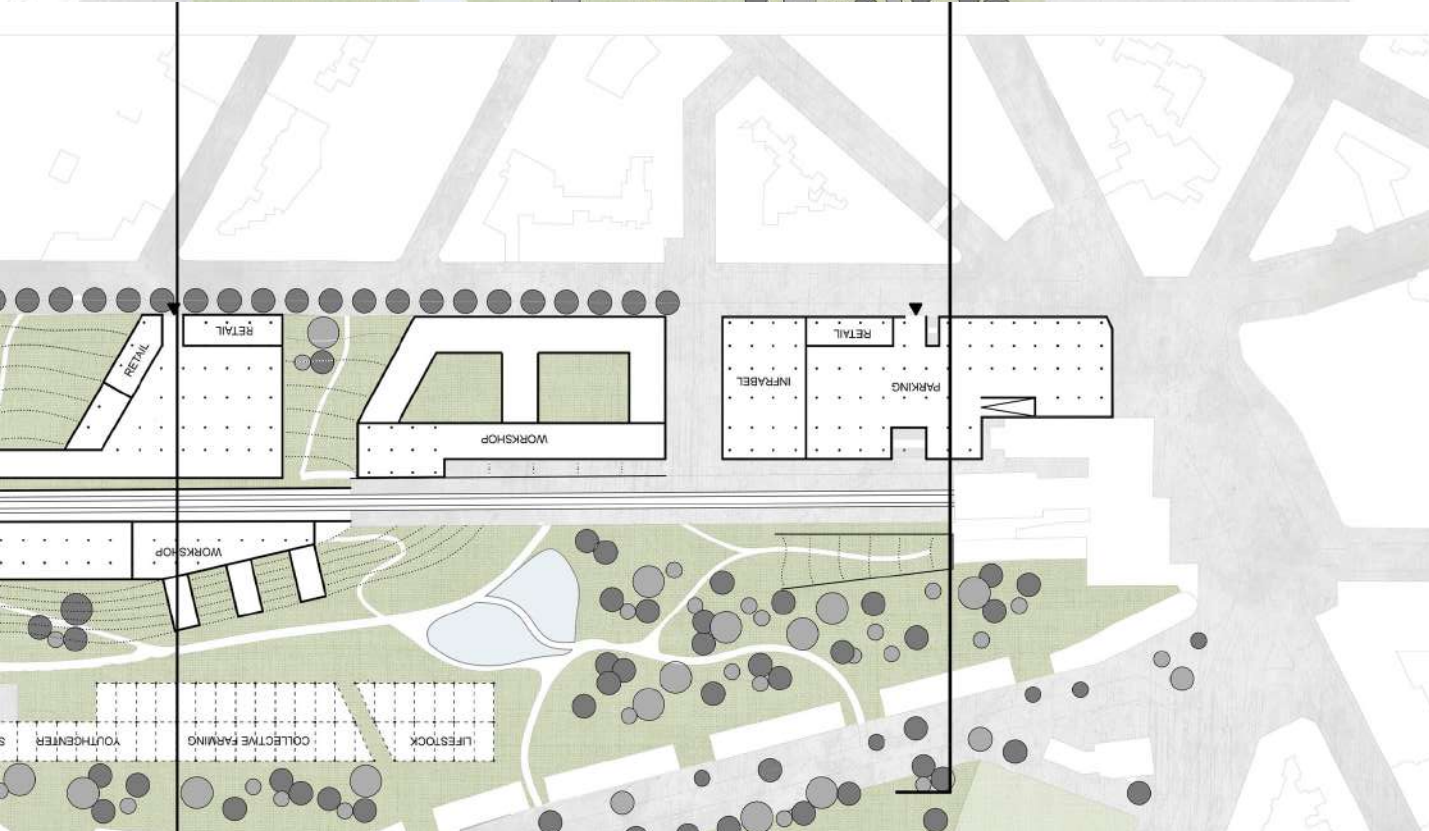
2



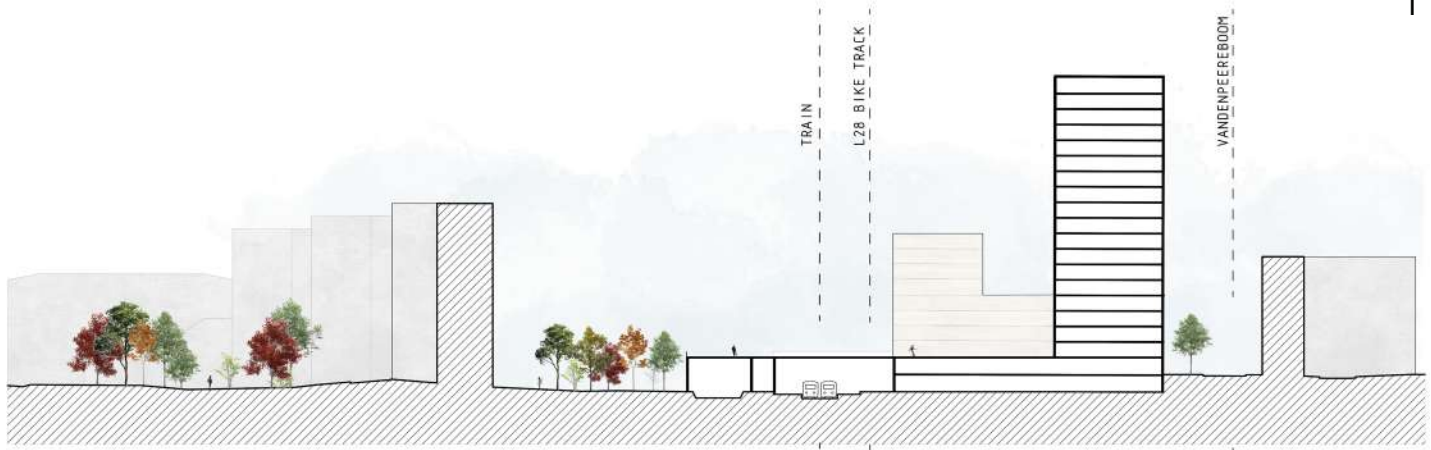
1.MASTERPLAN 2.MASTERPLAN GROUND

BB'

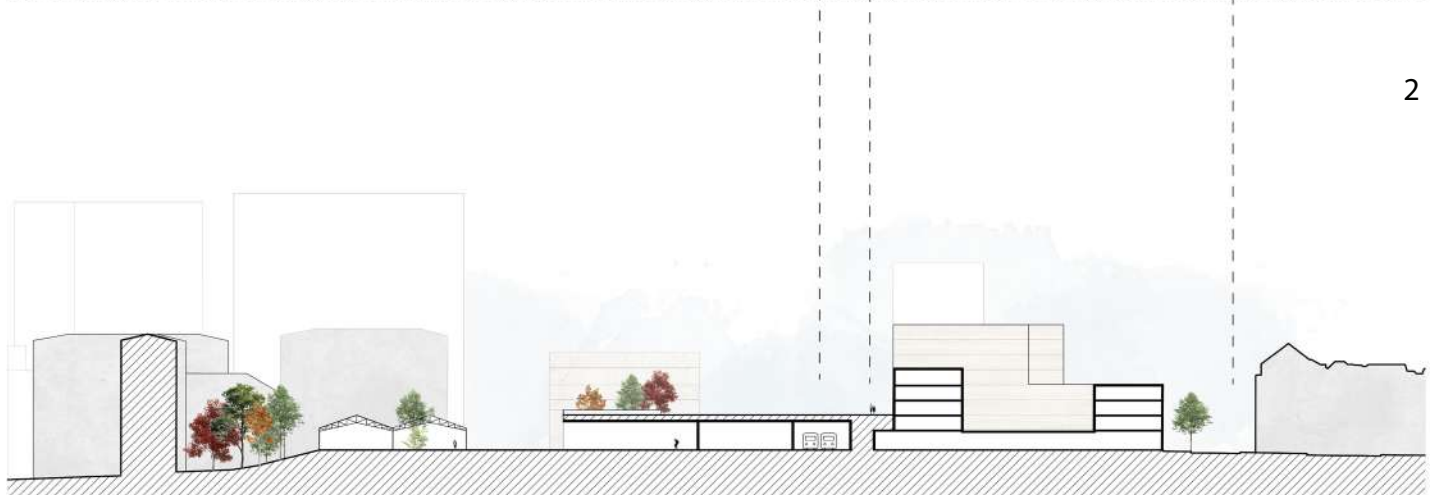
AA'



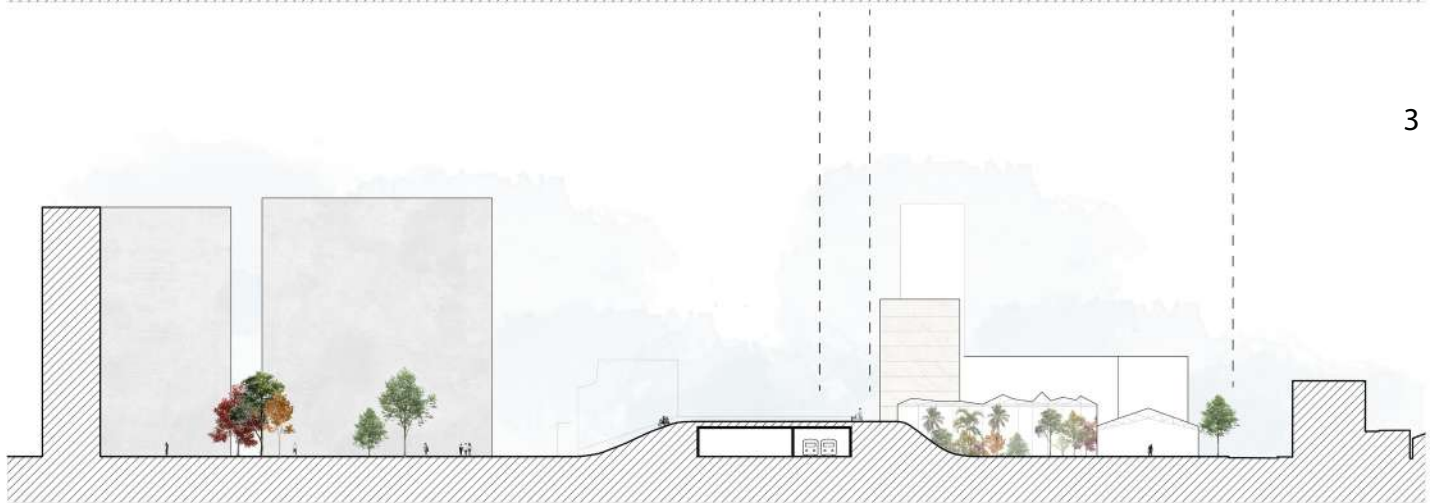
1



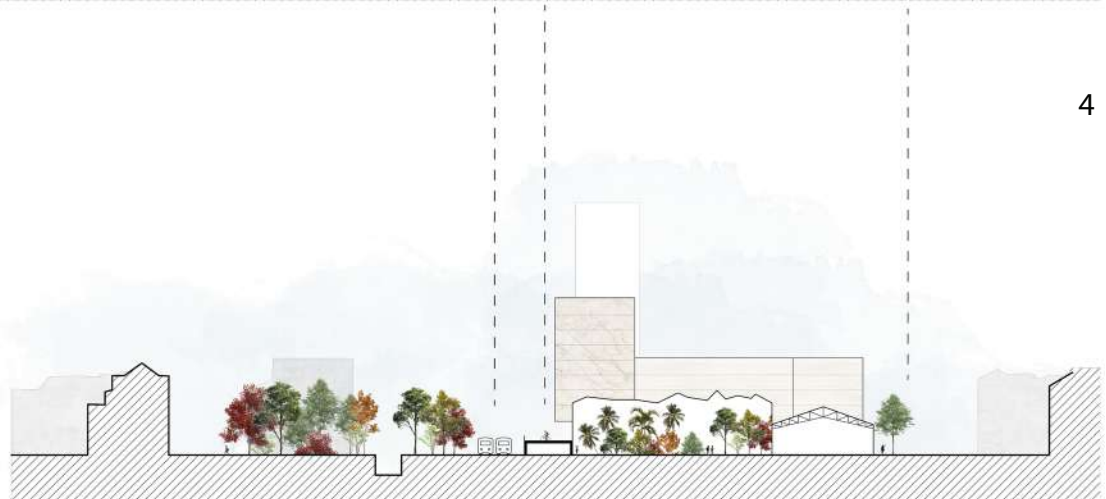
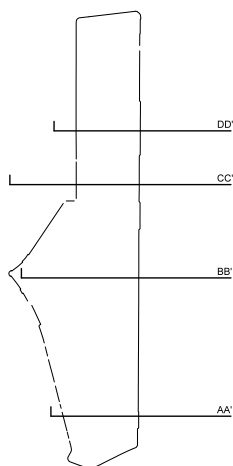
2



3



4

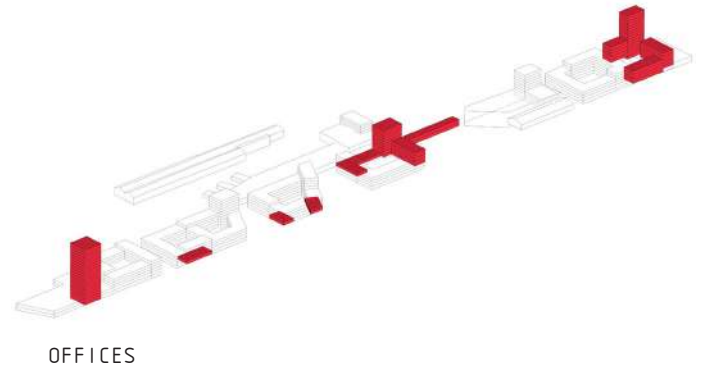
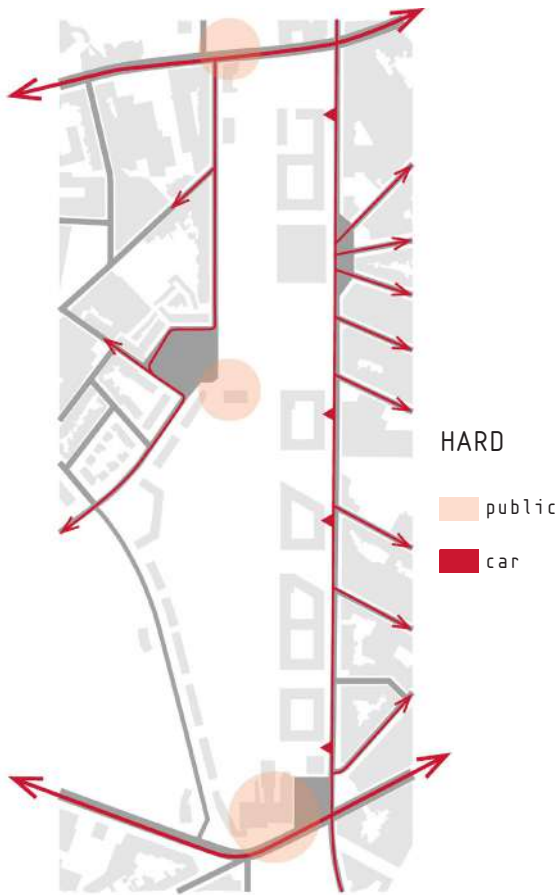
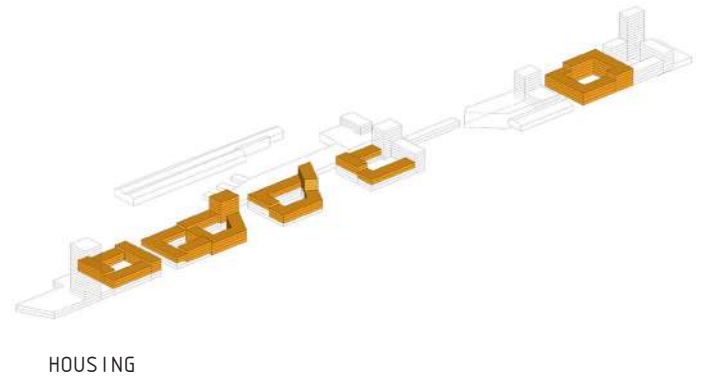


1.SECTION AA' 2.SECTION BB' 3.SECTION CC' 4.SECTION DD'



RELATIONS

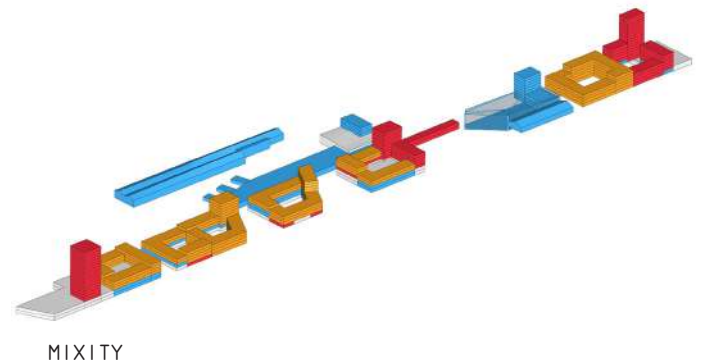
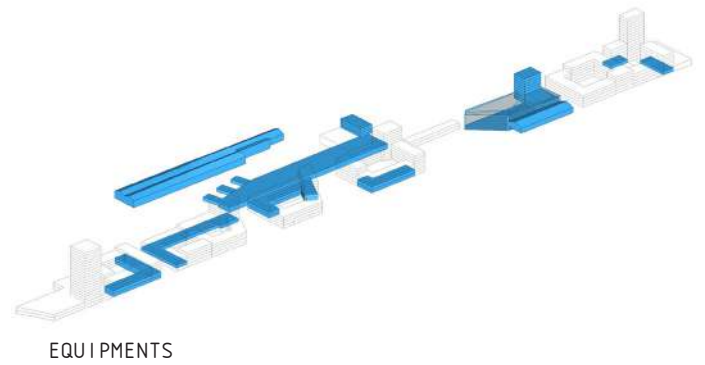
- park
- footpath
- bicycle path
- street



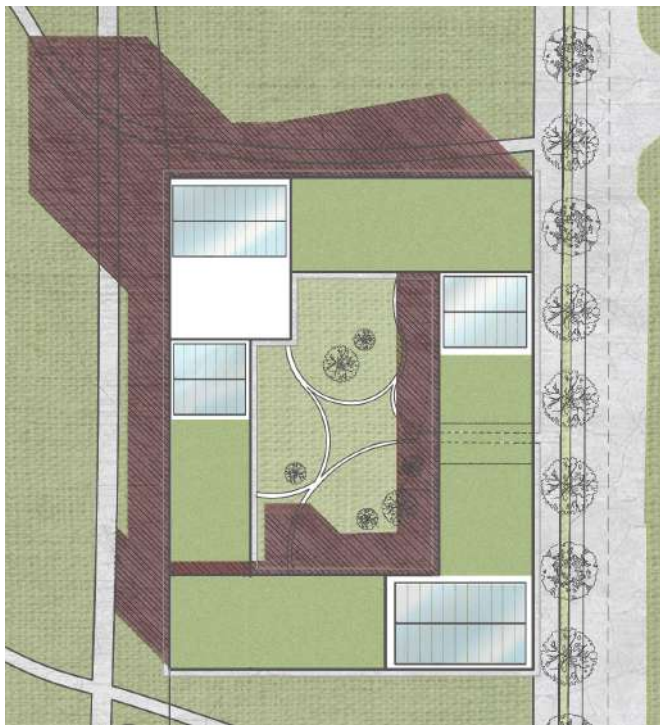
DATA [FAR: 1. 2]

OFFICES	29. 000 M2
EQUIPMENTS	26. 500 M2
Infrabel	3. 400
School	2. 000
Botanique	2. 000
Library	3. 600
Youth Center	800
Collective Farm	2. 000
Workshops	6. 700
Retail	4. 000
HOUSING	52. 700 M2
PARKING	+-800

1.CIRCULATION 2.PROGRAM



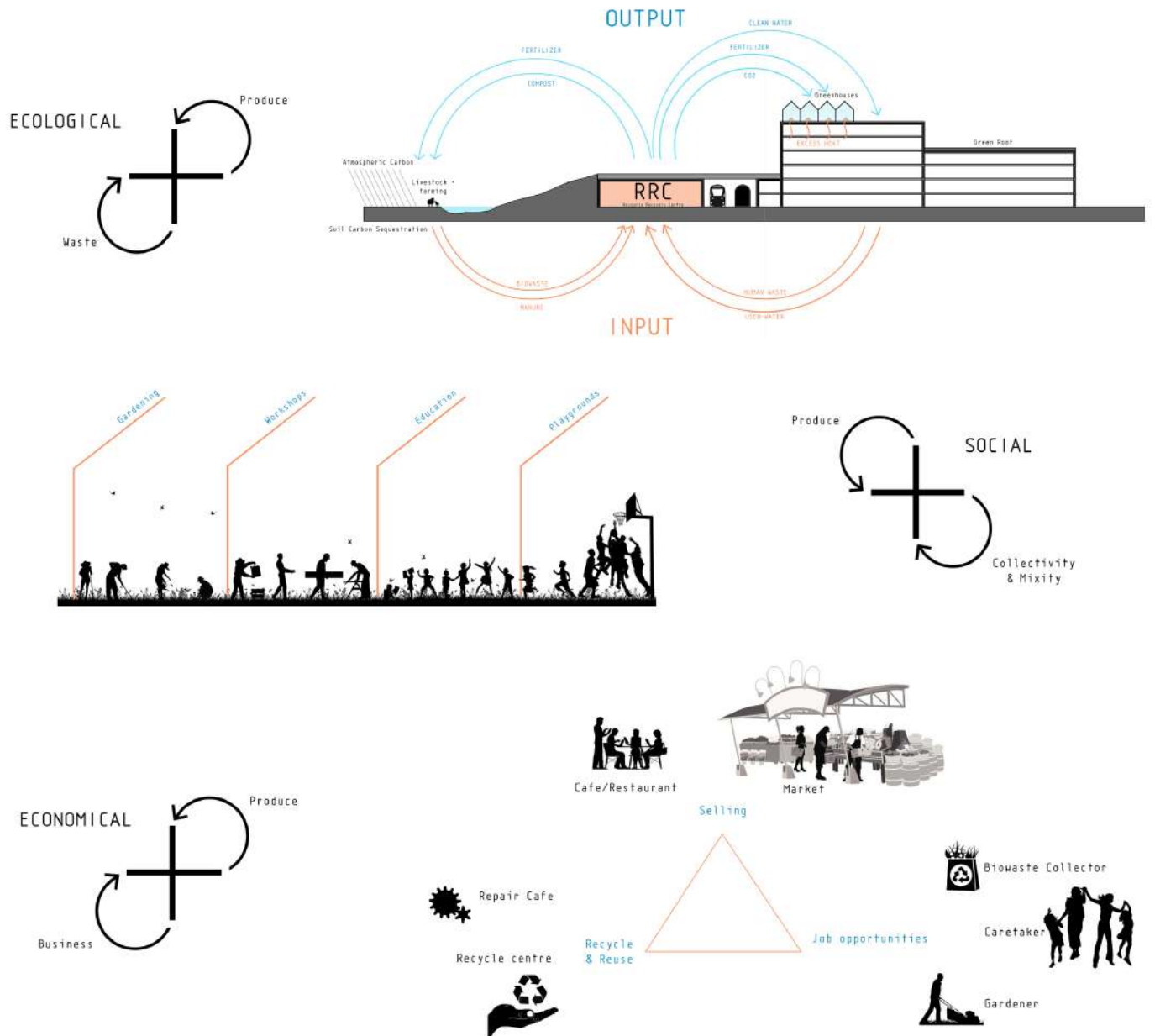
1



2

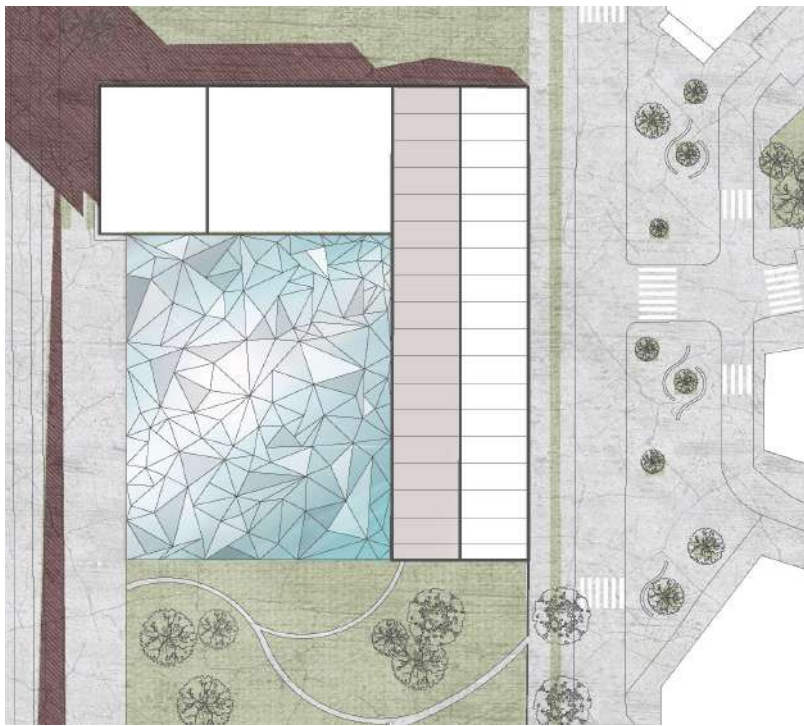


3



1.ZOOM IN 2.VISUALISATION 3.SUSTAINABILITY LOOP

1



2



3



1.ZOOM IN 2.VISUALISATION 3.FUSION

# FARM CITY

TEAM:

BAES SARAH, BAESBERG GERTJAN, BENALCAZAR SEBASTIAN, PAREIN MARYLISE, VACA ANGELA



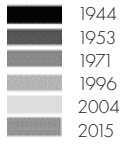
03



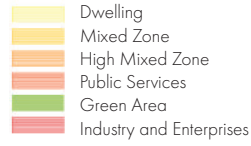
# Analysis



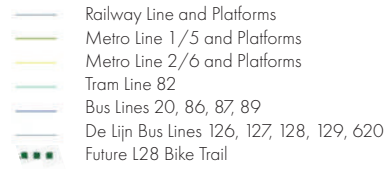
Historic Evolution, Density



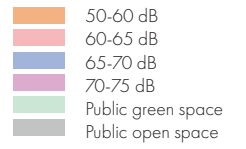
Uses



Accessibility



Landscape



# Spatial Concept



Agriculture and Green



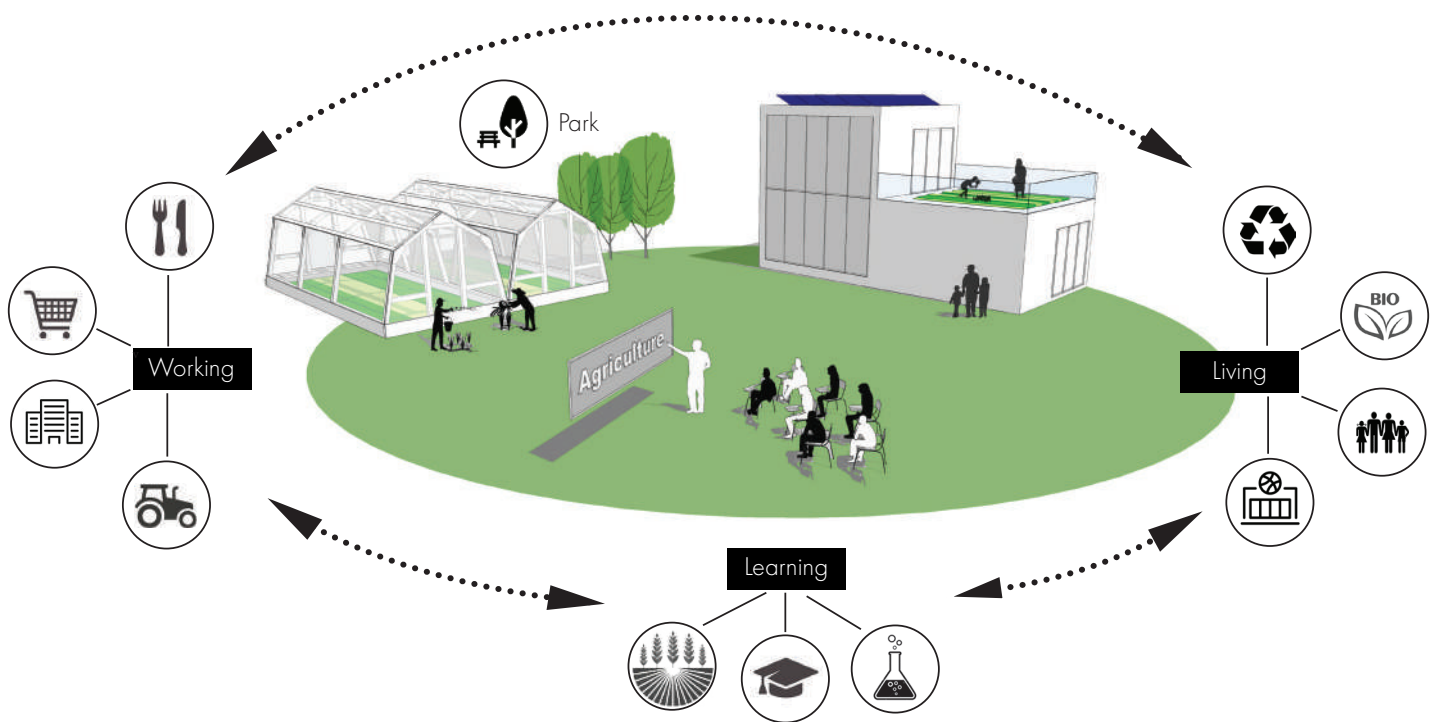
Nodes and Connections



Views



Buildings and Public Space



## VISION

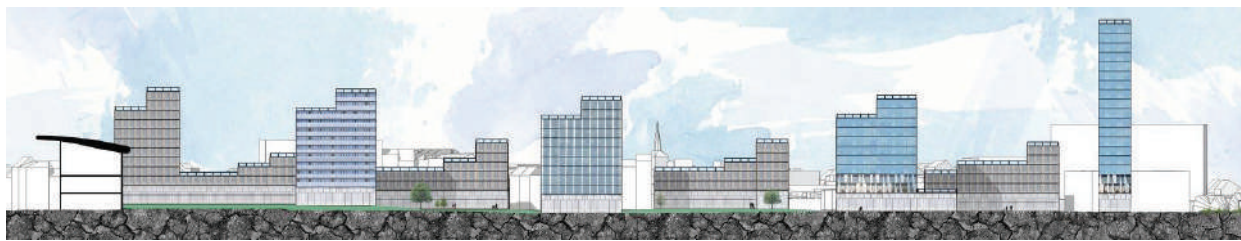
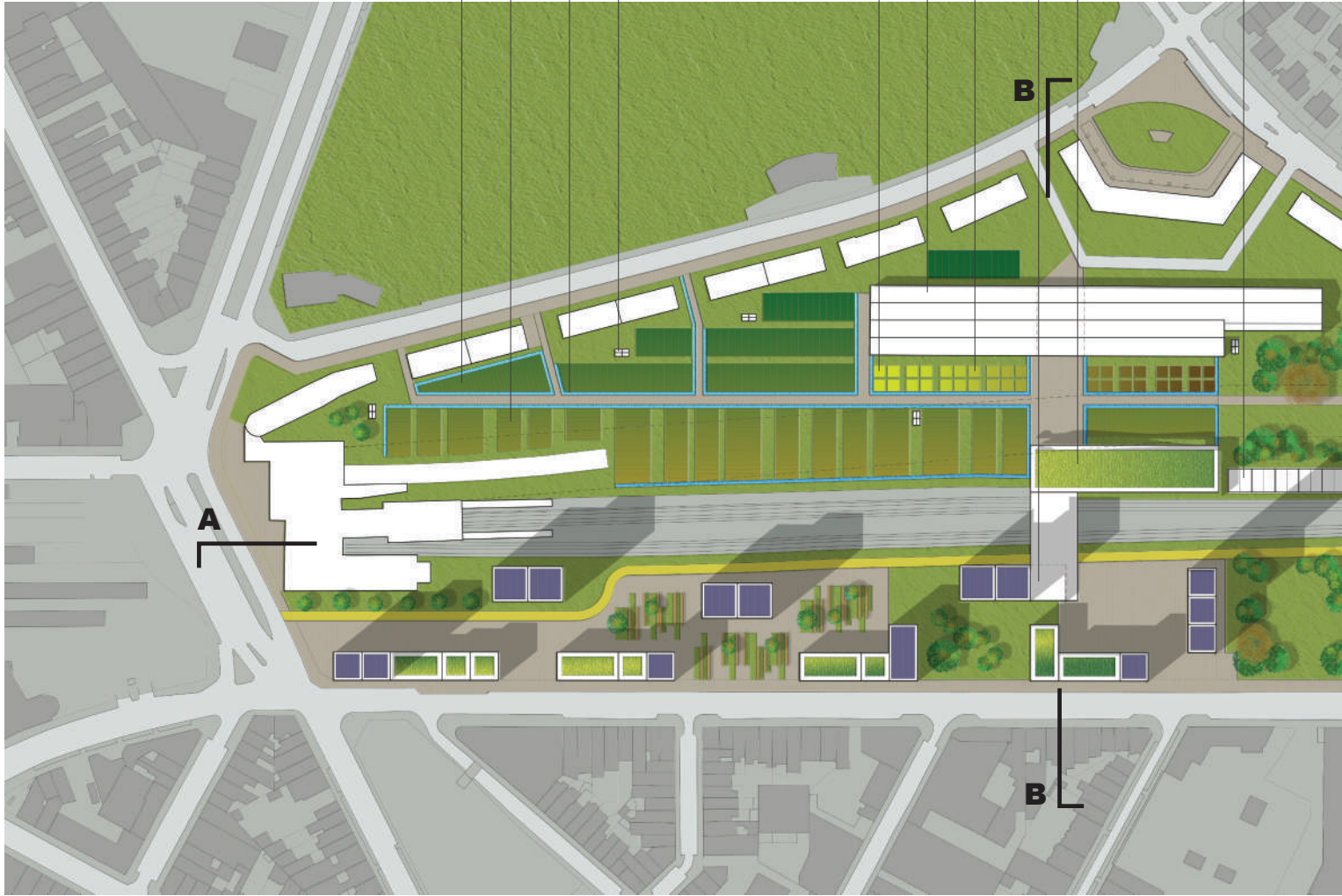
The area of the west station in Brussels is at the time a troubled area. There is a lot of criminal activity, drug activity among the youth and a barrier between east and west is created by the site. To bring back life in the city and to connect the two sides, we created a project in the west station. The main theme of the project is to extend the green area from Marie-José park to our site. This green will be in the form of agriculture, both on the ground and on the roofs. This way we create a green band in the city. The main spatial concept is thus to create as much open space as possible. But to also densify this part of the city, two densified zones are created at the north and at the south. In the middle of the site, the agriculture is most dominant. To maintain the agriculture, an agricultural school is built so the students can maintain the land. Apart from the school, a training center and a sport center are also built in the middle part.

To create a sustainable design, we implement some sustainable strategies. For the social sustainability, we create mixity by combining different functions in each building. In every building, there are offices and commerce on the lower floors and housing on top. We also create several squares in the site in which social activities will take place. To create economic sustainability, we create new job opportunities by placing offices and commerce areas. Also, in some spaces, the agriculture that is grown on site will be sold.

Lastly, to ensure environmental sustainability, some strategies are implemented. There are solar panels and solar collectors placed on the roof to create energy and warm water. The buildings are made with roof terraces facing the south so there can be green roof terraces to create more green areas. The rainwater will also be collected to reuse it in the households and in the agriculture. The waste created on the site will also be recycled.

# Master Plan

Agriculture crops  
Variation of vegetables  
Variation of cereals  
Water canal  
Compost Container  
Experimental crops  
School of Agriculture  
Energy biomass crops  
Train Entrance  
Training Center  
Green Houses



Section A'-A

Metro Offices

Sport Center

Skating Park

Existing Forest

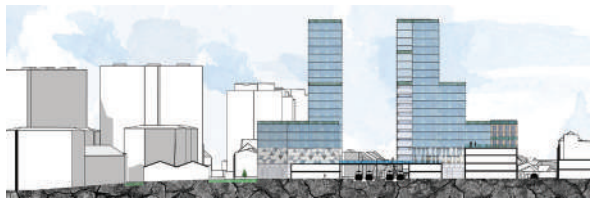
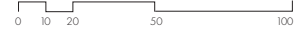
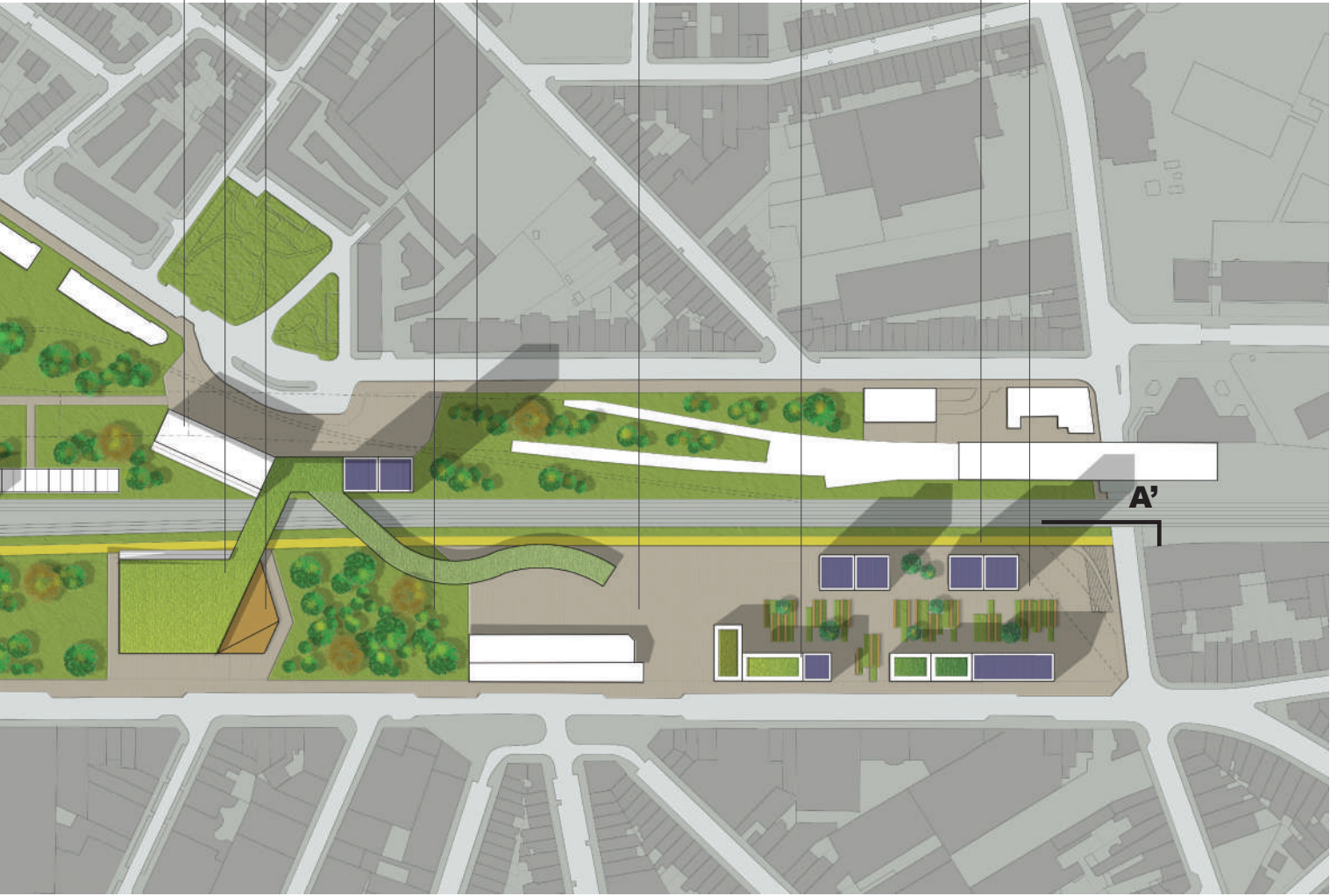
Frutal Trees

Trading Square

Typologies of Housing,  
Offices and Commerce

L28

Commercial Square

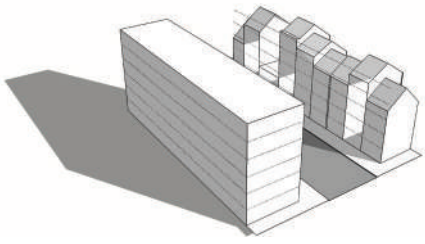


Section B-B

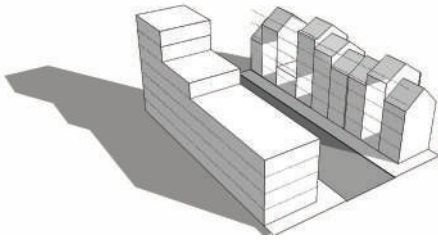


# Program and Building Typologies

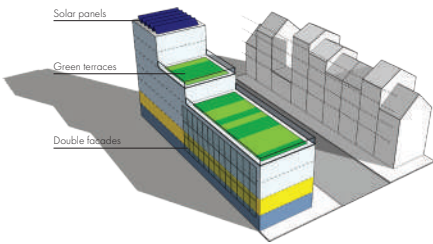
Relation to the context facades



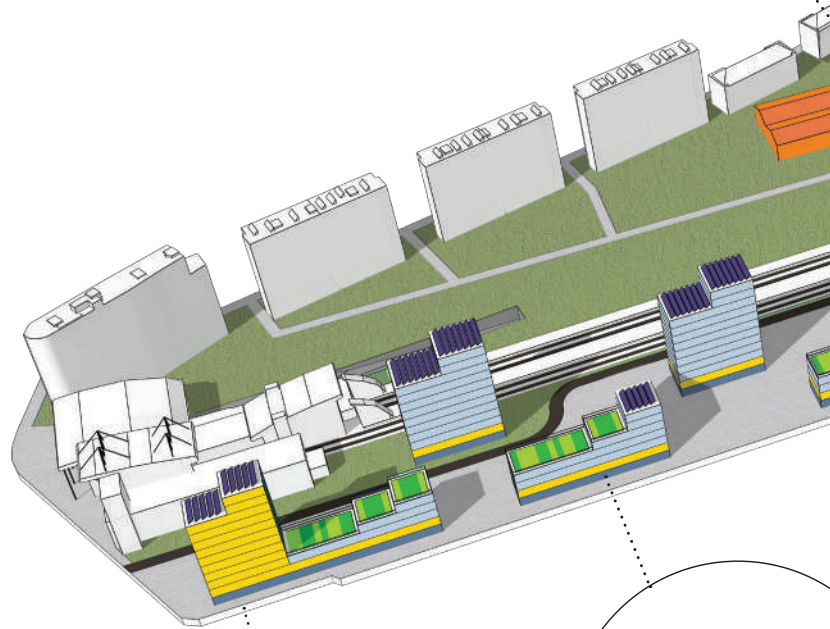
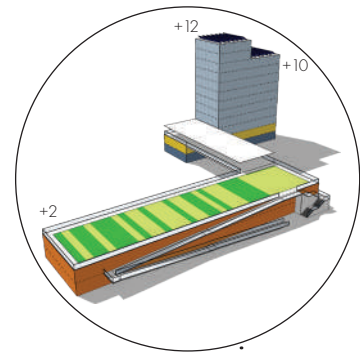
Height transition



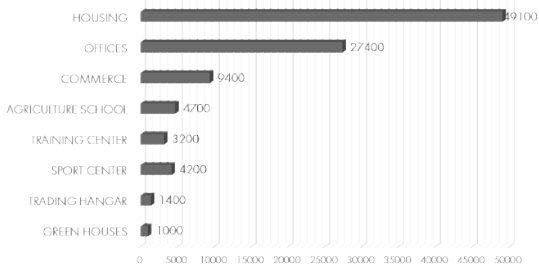
Typology elements



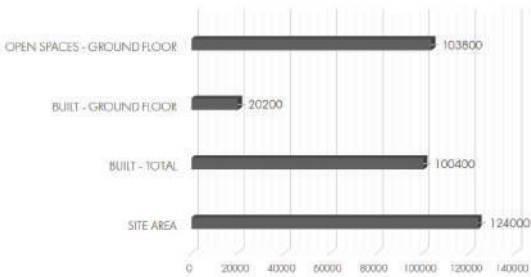
## Special Volume 1



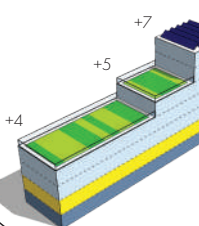
## Built Areas - Detail



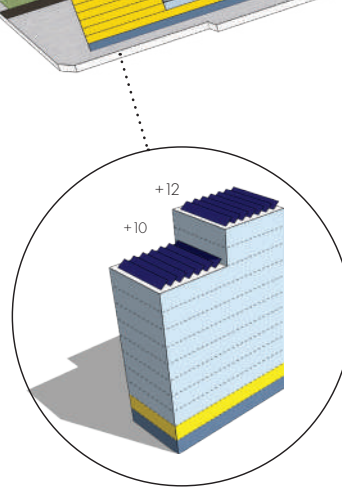
## Total Areas - Summary



Built Area Ratio - Ground floor = 16%  
 Built Area Ratio - Total = 81%

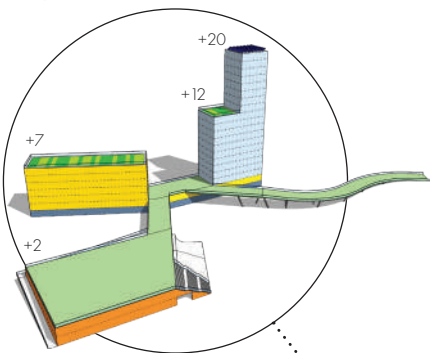


## Typology 2

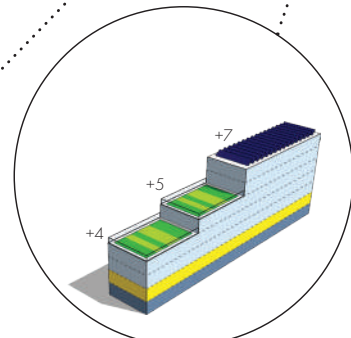
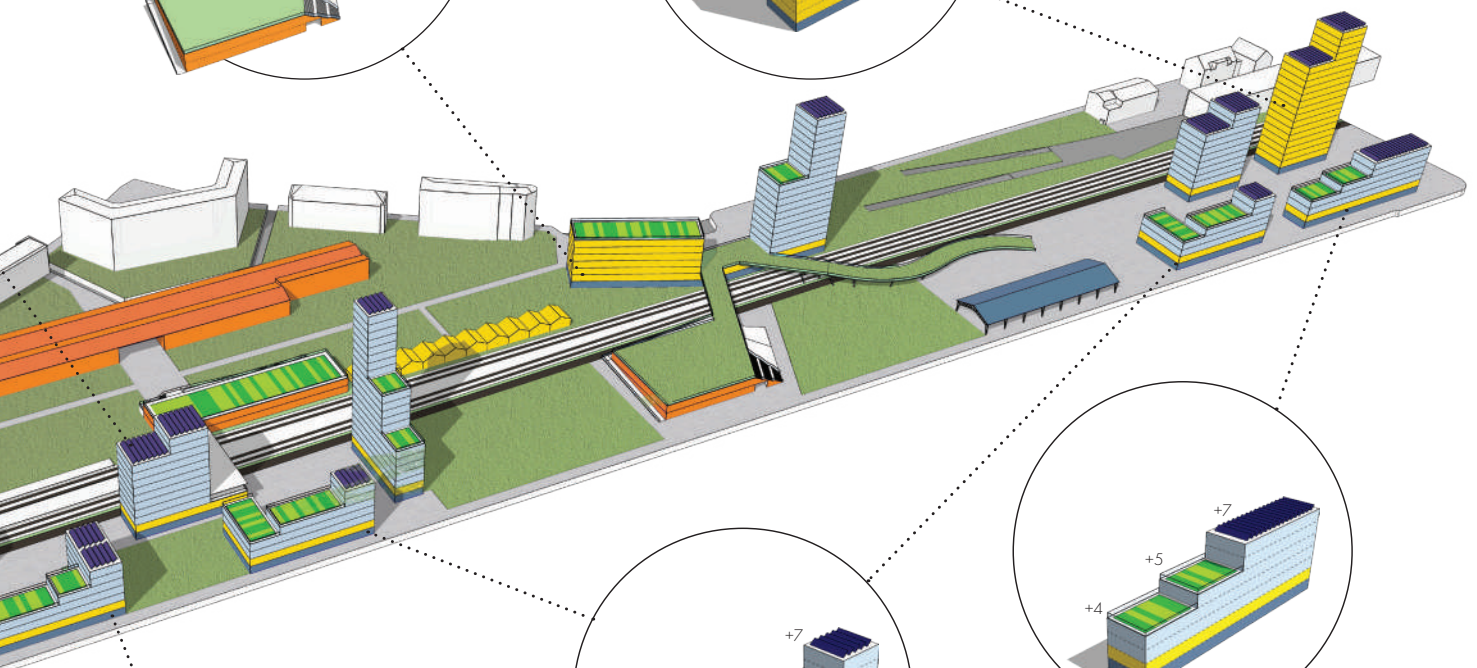
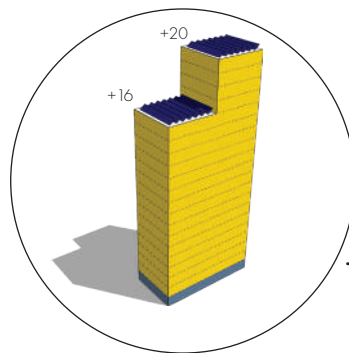


## Typology 1

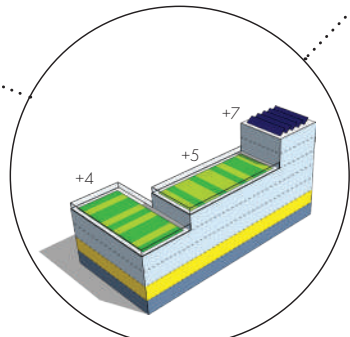
Special Volume 2



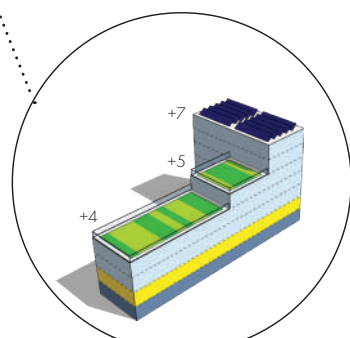
Special Volume 3



Typology 5



Typology 4



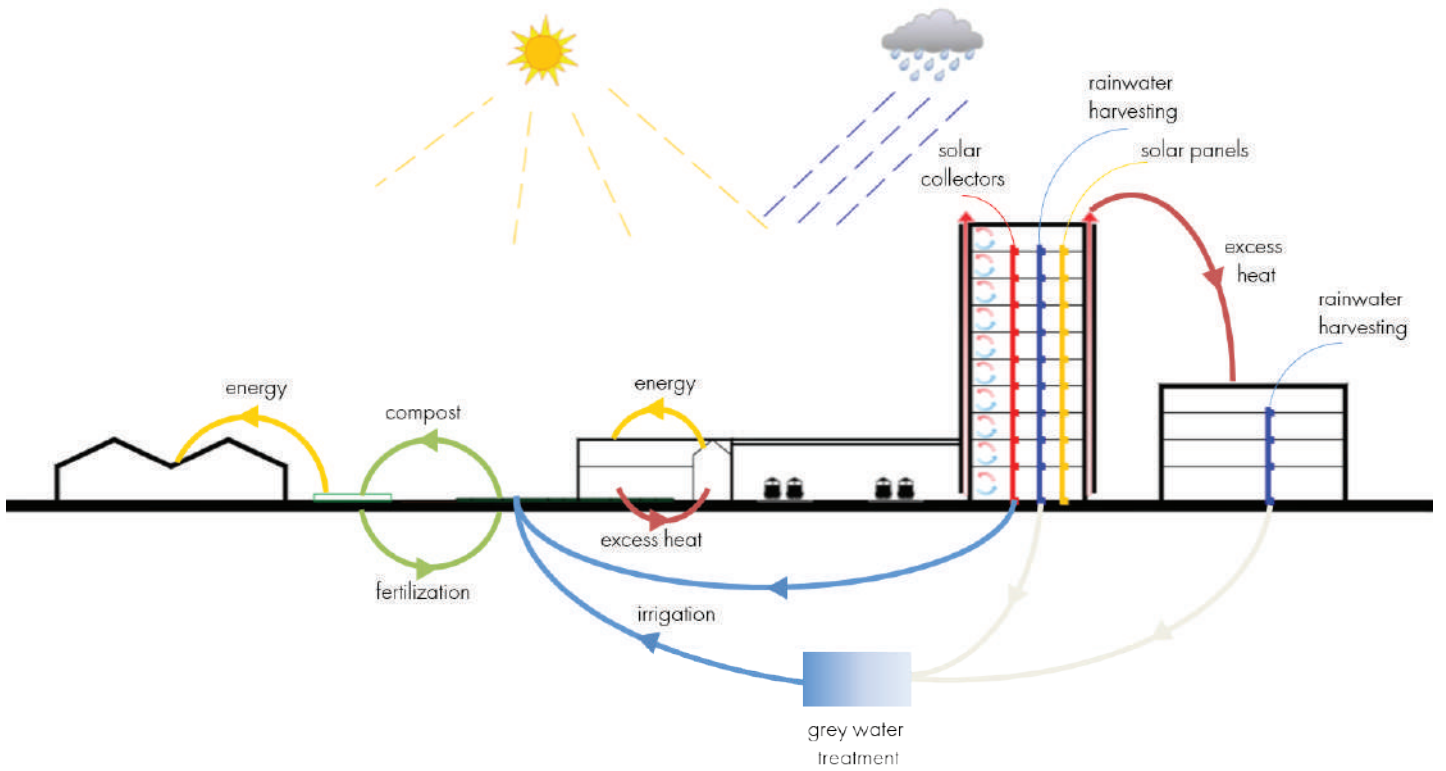
Typology 3

- Housing
- Offices
- Commerce
- Services Facilities

1



2

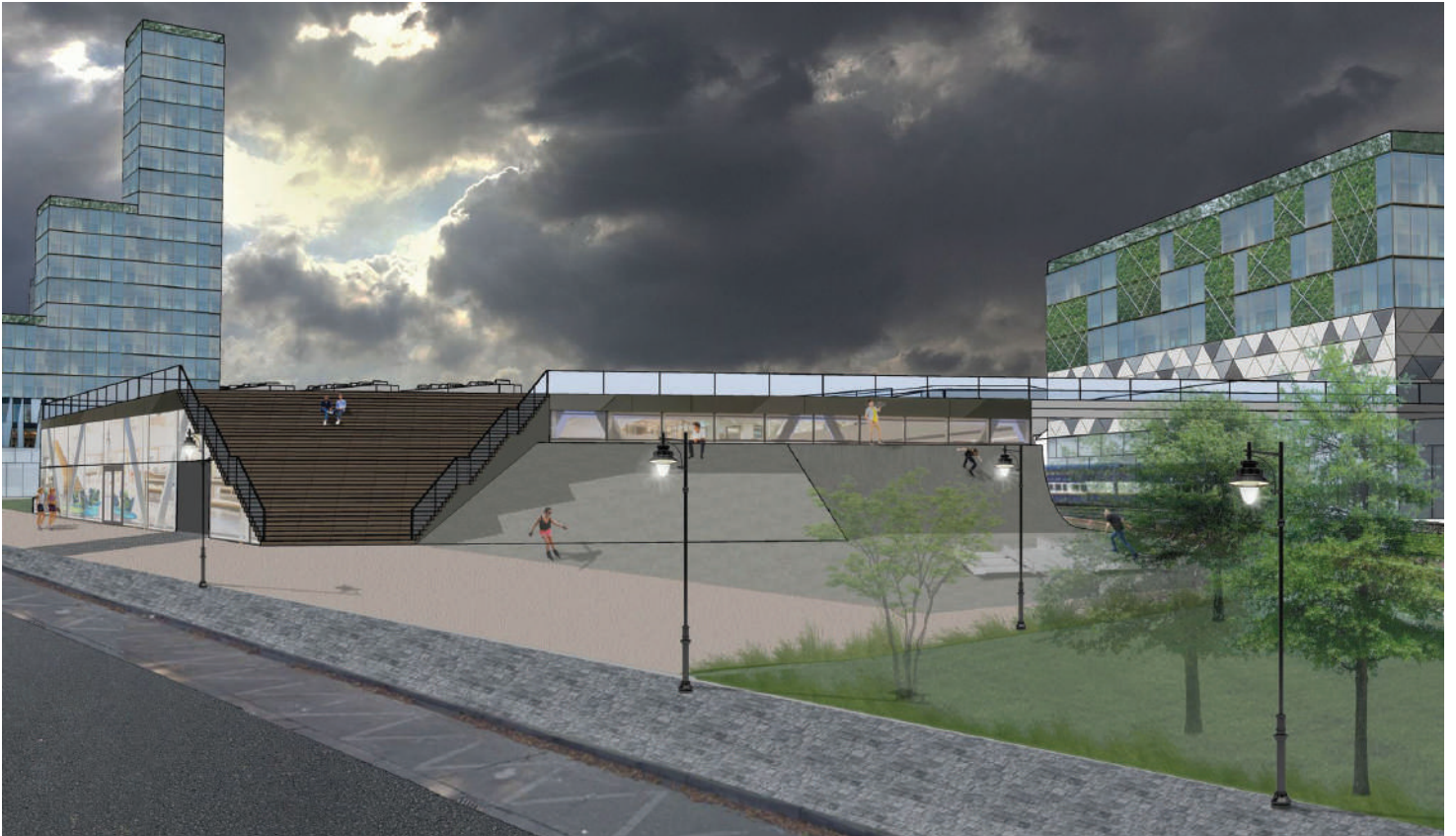




1



2



1. TRAIN PLATFORMS, VIEW TO THE AGRICULTURAL SCHOOL 2. SKATING PARK AND SPORT CENTER

# WESTSCAPE

TEAM:

SYLVAIN BISCARRAT, MARGAUX LESPAGNARD., NIZAR KARKOURI, ALAA MAHDI, ICHELLE NIEBERDING

04



1



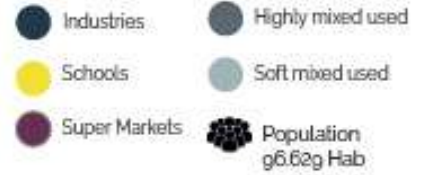
### DENSITY AND GREEN SPACES



2



### TYPOLOGICAL EXPLORATIONS



3



### MOBILITY



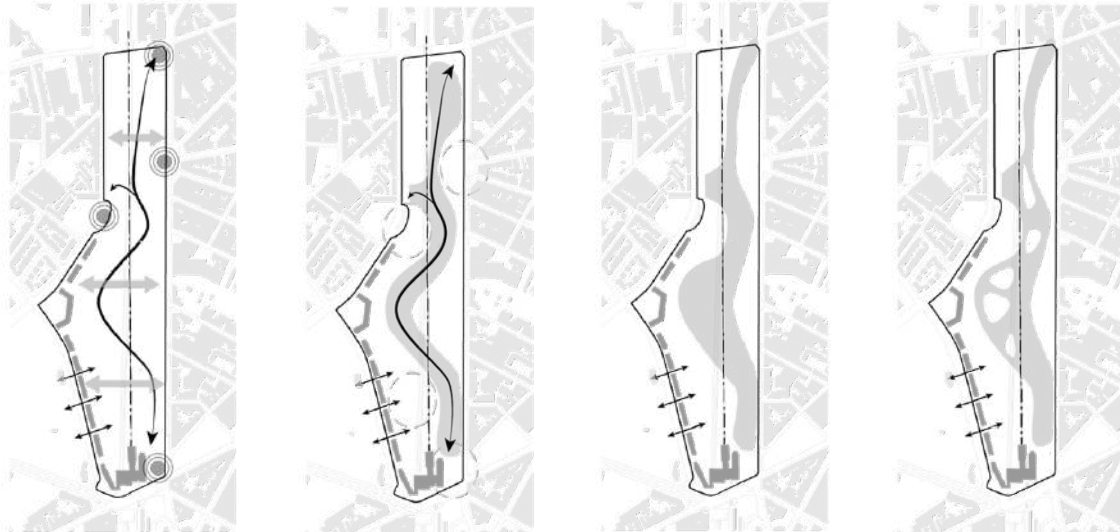
4



### WATER/NOISE



1.Density map 2.Typological explorations 3.Mobility 4.Water/Noise map



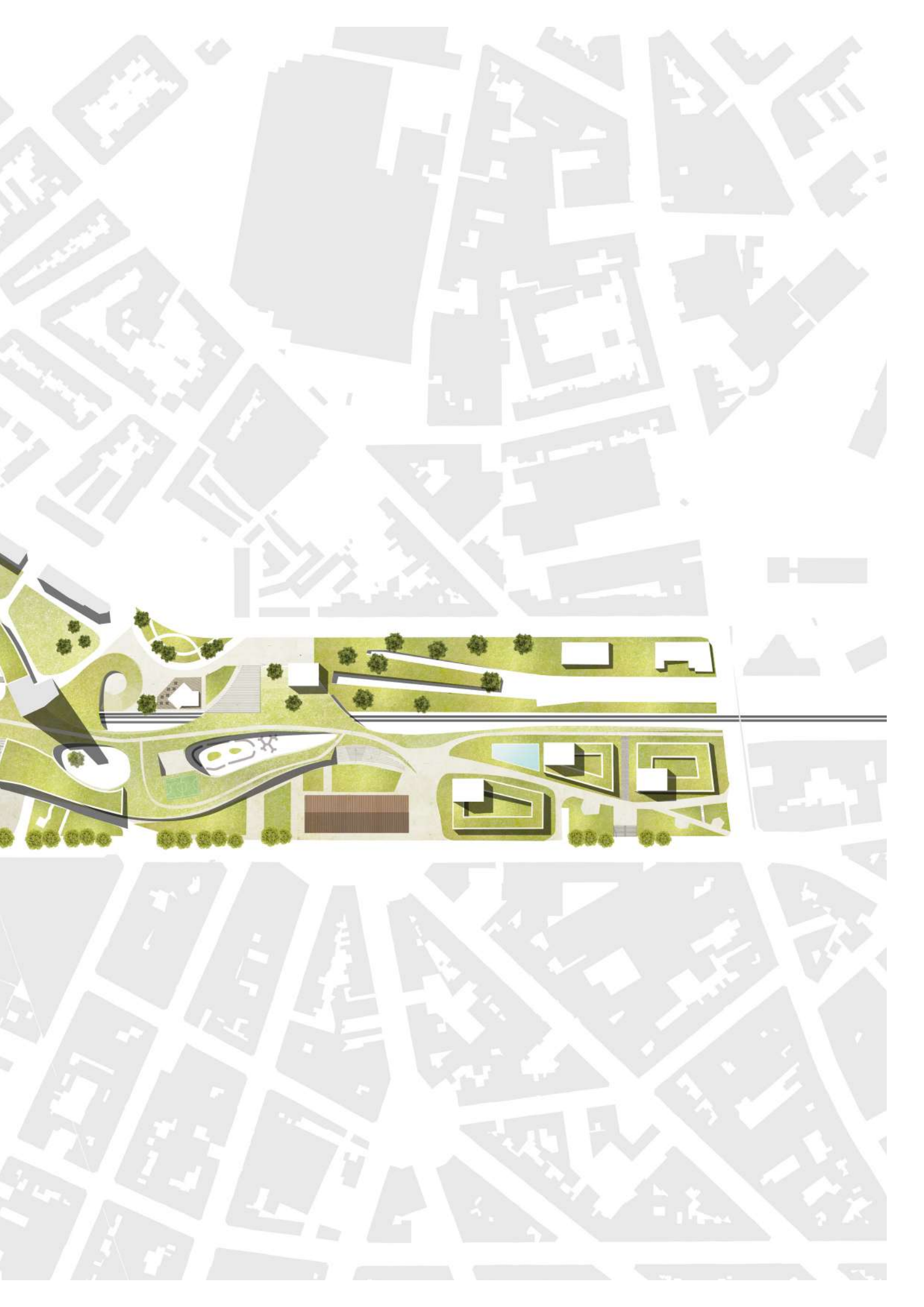
The theme of this year's design studio was to provide a high density mixed use program in the west station area in the city of Brussels. The site is located in the commune of Molenbeek, one of the high dense zones in Brussels. Also, alongside with the north, south and central station, the west station is part of a program that consists on a revalorization of the station by making it an attractive economic pole. The program consisted on building 90 000 m<sup>2</sup> that was divided into 45 000 m<sup>2</sup> of Housing, 27 000 m<sup>2</sup> of Offices and 18 000 m<sup>2</sup> of Equipment. The site is a long rectangle that crosses 3 important connecting zones, which are the Ossegem, Beekant and the West Station.

At first, different analysis were done to cover the different challenges of the context and to be able to counter them during the design of the project. These analyses allowed to express the main problems of the site which can be resumed as lack of green space, lack of public spaces, unbalanced density, lack of connectivity between the east and west side but also noise problem due to the train. Based on that a vision was established that aimed on creating a connection between the two sides and also providing the whole site as an open park for the inhabitants as a result of the lack of the natural features.

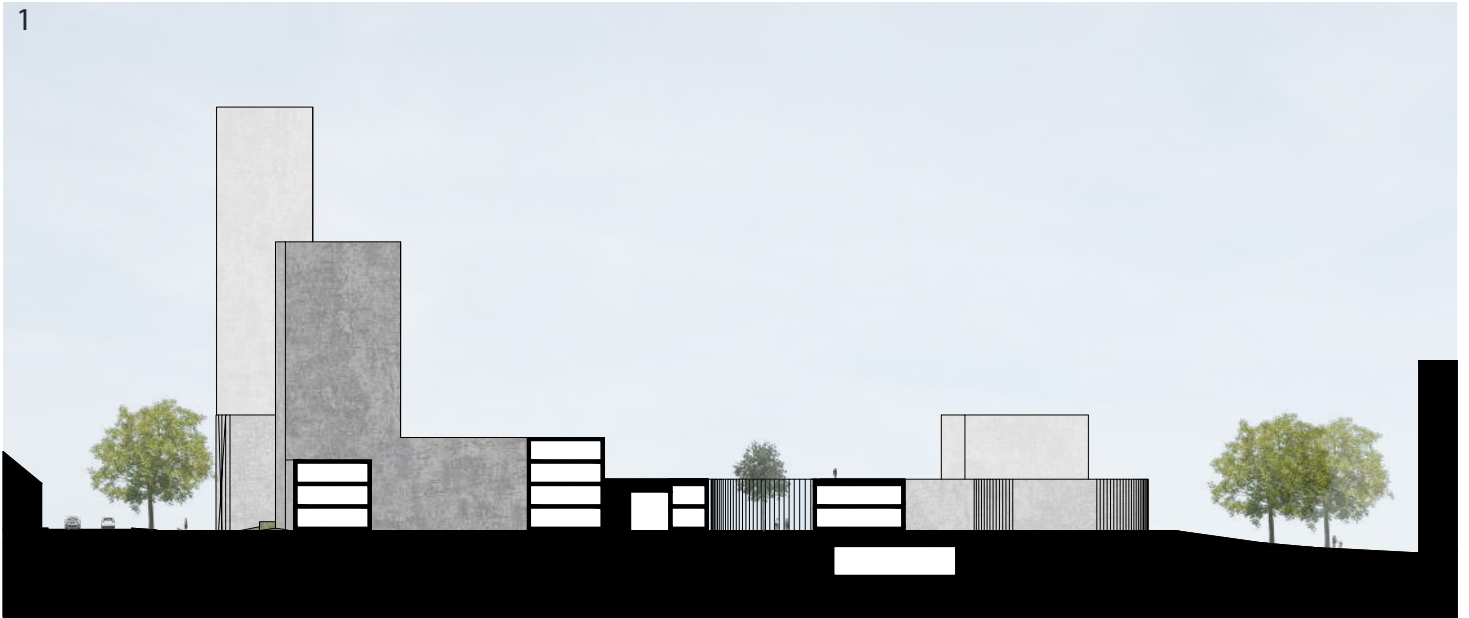
To be able to assess that, a double-layered structure that crosses all the site by connecting the most important points was built. The bottom layer contains all the public infrastructure that the site can offer and on top of it the open park where people can walk but also ride their bike on the L28 that is located on top of this landscape. This landscape is composed of mini amphitheaters and also some patios that contains different ambiances and atmospheres.

To assess a sustainable project, the aim was to relocate the Delhaize pole as an important economic side and bring it to the project. Also, the project offers a mixity in the programs and a large biodiversity. Water collection is treated by water ponds that are located in different sides of the site. The orientation for the sun was considered during the design where the offices are located north, housing blocks in east-west while the rest have an optimal sun orientation.

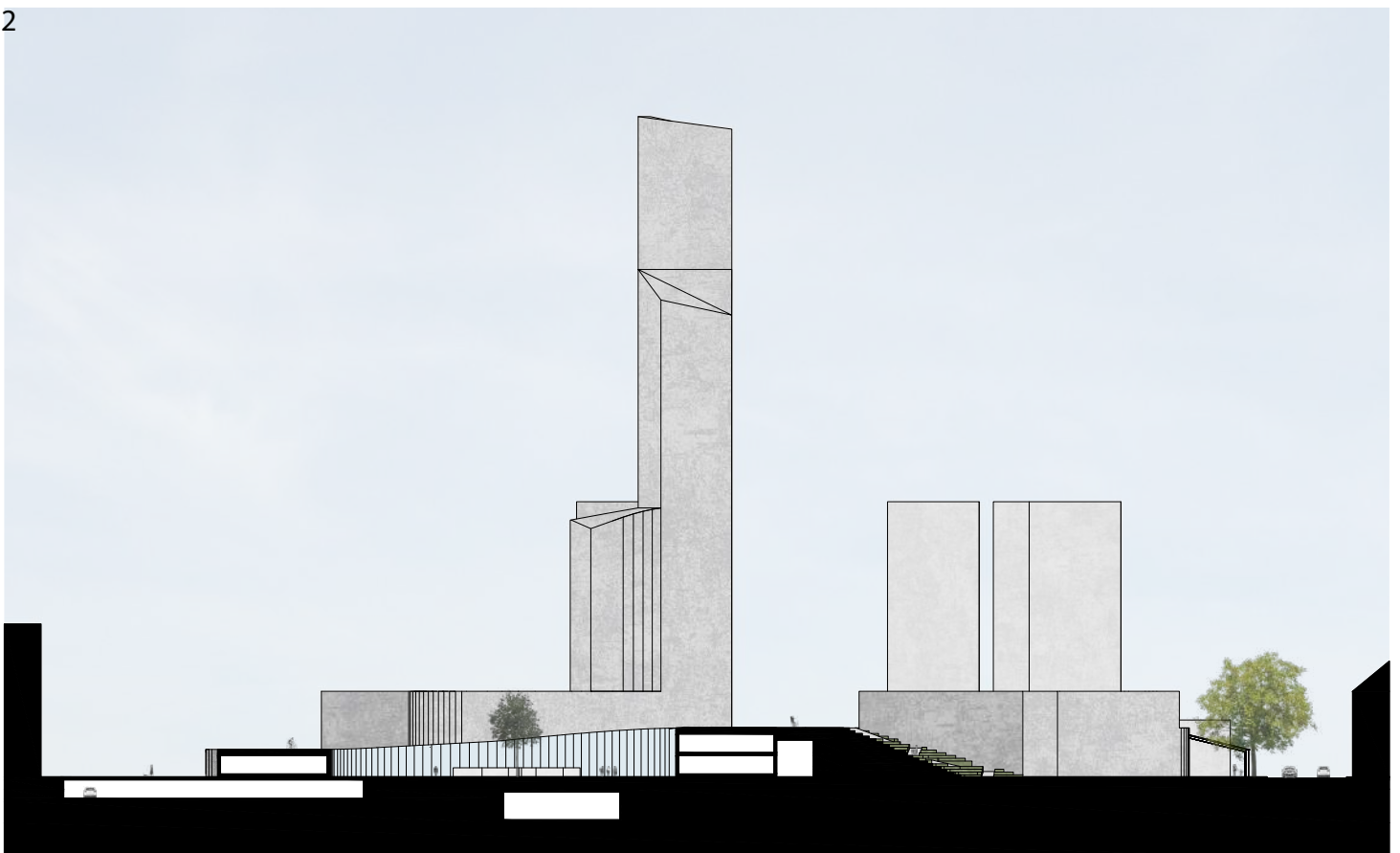




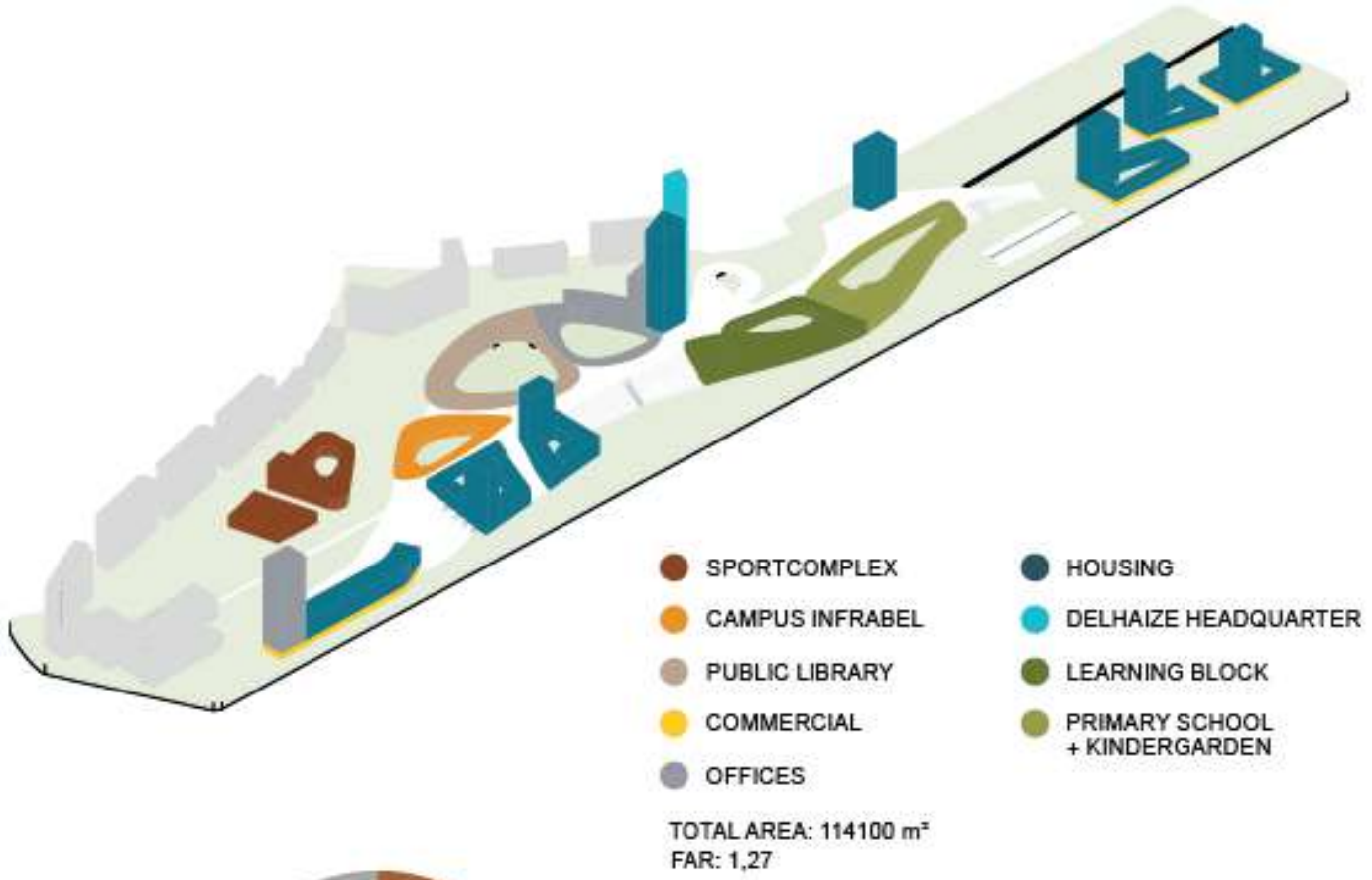
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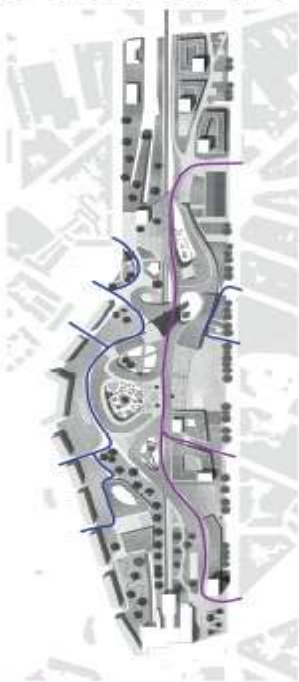






- HOUSING
- EQUIPEMENTS
- OFFICES

# MOBILITY



- EMERGENCY
- CARS



- BICYCLES

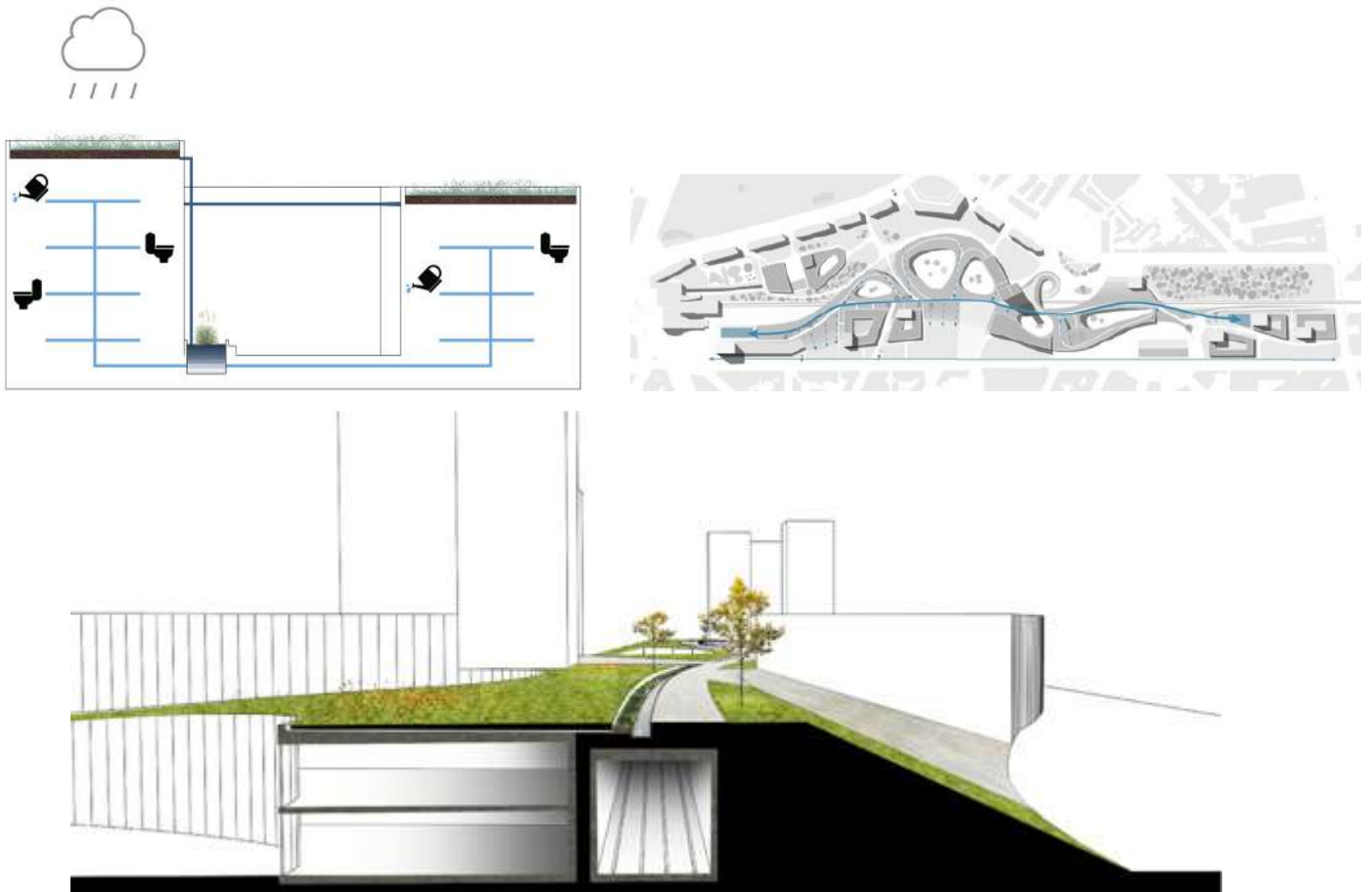


- PEDESTRANS

1



2



1.Amphitheater view 2.Sustainability schemes 3. Offices Patio 4.Library Patio



4



SUSTAINABLE URBAN DESIGN STUDIO, MA-1  
BRUFACE - ULB + VUB - 2017/2018