

The background of the entire page is a detailed architectural sketch in blue ink. It depicts an industrial landscape with a prominent bridge structure crossing a waterway or canal. Various buildings, including a large rectangular industrial building, are scattered throughout the scene. The sketch uses fine lines and shading to create a sense of depth and perspective. The overall style is that of a conceptual architectural drawing.

Ievgeniia Koval

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## IF GIVEN HALF A CHANCE

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Relating (Post) Industrial Landscapes:  
A Strategy for Rehabilitation of the Authentic:  
Charleroi?

This dissertation was written within the framework  
'Khora and Turan Unknown Cities'.

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Title:

If Given Half a Chance: Relating (Post) Industrial Landscapes:  
A Strategy for Rehabilitation of the Authentic: Charleroi

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## RESEARCH QUESTION

Approaches towards the revitalization and development of brownfield sites has already been on the mind of multiple generations. With the European economy shifting from industrial to service economy , this is a question with relevance to the majority of European cities.

This dissertation questions the relevance of typical approach of the renewal and rehabilitation of former industrial sites through the establishment of new developments accomplished with a superficial landscape.

The idea of authenticity has an undeniable cultural power. It has a real effect on the way we see some places as interesting and others as unworthy of your attention. The elements of industrial ruins can become active participants in an urban narrative that includes the history of a site and its place within the evolution of the urban context.

## ABSTRACT

### Keywords:

Authenticity, rehabilitation, accessibility, industrial landscape, abandoned industry, crafting.

‘If Given Half a Chance’ is an alternative landscape strategy for the rehabilitation of (post) industrial landscapes based on a case study of Charleroi. The project goal is to reconcile these abandoned places to people, by highlighting their authentic qualities.

The proposed site for the design research is the half abandoned industrial area which is characterized by the striking contrast between nature and man made substances. Overgrown spoil tips from the north and gigantic factories from the south. Between industry and places where nature has reclaimed the land.

The site is located next to the center of Charleroi and surrounded by residential neighborhoods. It is divided in 3 islands by the Sambre river and a canal. Besides the water barriers, the area is cut by borders like wide roads, fences and train lines.

The strategy for the path is based on the the fragment of the area and aims to reconcile people to the site by tackling issuers of accessibility. The path creates a missing North-South link between adjacent neighbourhoods and opens the area to both locals and tourists.

The ambition of the project is to enable Charleroi to benefit from its industrial past and empower the ability of a place to deliver a spatial narrative closely linked to the urban context.

## METHODOLOGY

The master dissertation was developed within the framework 'Khora and Thuran. Unknown cities'. The framework follows two main lines: the Urban Condition and Architecture as a Cognitive Craft.

The Urban Condition deals with the parallel between density and the way we organise space and build spatial relations.

Architecture as a Cognitive Craft considers the production of architectural artefacts as a driver for design.

The dissertation reflects on the research questions through the process of crafting which requires producing of meaningful architectural artifacts. The approach includes production of the alternatives, studies and etudes and motivate to find the fulfillment in the act of crafting.

The dissertation grows and evolves through drawings and continuously reflects on the produced materials implementing findings to new steps.

### Study methods

This thesis is based on continuous study of three major thematic concepts: authenticity, rehabilitation and accessibility of the place and inspired by the approach of the Swiss landscape architect George Descombes.

George Descombes methodology aims to impose a shift in expectation and point of view to what seems most obvious. In his work he aims for a precision of disposition, articulation, arrangement of the architecture in a way that a pre-existing place can be found, disturbed, awakened, and brought to presence.<sup>1</sup> According to the George Descombes any environmental intervention is a creative cultural act that ought to be part of the history and the lives of people.

*'It is not only terrain that changes with time but also the way people perceive it.'*<sup>2</sup>

A tactile approach to design is essential for the architecture that aims to mark a place and make possible the shift in human perception of space. According to the method, the largest of territories

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<sup>1</sup> Descombes G., Tironi G. (1988). *Shiting Sites* (pp.79). Geneva, Roma: Author

<sup>2</sup> Descombes G., Tironi G. (1988). *Shiting Sites* (pp.80). Geneva, Roma: Author

can be irreducibly restructured through small, laconic interventions. The method is therefore to emphasize the features that are already there, through the clarifying of the landscape.

Key methodology principles :

- Add nothing new to the existing confusion of the site.
- Amplify certain potentials of the place.
- Respond economically to functional requirements: guaranteed route, views, and safety<sup>3</sup>.

This design research also refers to the work of Catherine Dee, a landscape architect.

Catherine Dee critiques what she calls the 'candy-store approach'<sup>4</sup>. In the book 'To Design Landscape: Art, Nature and Utility' she advocates the 'aesthetics of thrift' idea, based on the notion that landscape design is a form-based craft addressing environmental processes and utility. C. Dee establishes a framework for approaching such craft with modesty and ingenuity, using the concept of "aesthetics of thrift". Aesthetics of thrift is a philosophy, which 'brings the modernistic approach 'less is more' into an ecological and ethical response of limited interventions'.

These approaches will be reflected in the thesis strategy for the site .

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<sup>3</sup> Descombes G., Tironi G. (1988). *Swiss Way. Shifting Sites* (pp.83). Geneva, Roma: Author

<sup>4</sup> Dee C. (2012). *To design landscape: art, nature & utility* (pp.30). London, UK: Routledge

## FRAMEWORK

Chapter L gives the overall picture of Charleroi. It explains a broad research problem and its specificity within the studied site.

Chapter M presents the analysis of the research site considering urban areas as a part of broader social-ecological system. It investigates how urban landscapes function and how they affect other landscapes with which they interact.

Chapter S zooms in the sample fragment of the site (Zone -1) and develops the design strategy for the rehabilitation of the area.

Chapter XS introduces an application of the strategy as a design proposal for a path which is supplemented with small interventions.

The Reflection describes an entanglement concept of the site and reviews the evolution of the master dissertation .





## CHAPTER

## L

## INTRODUCTION

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*“Nature tends to creep back into the most unlikely places if given half a chance”*

Dave Goulson ‘Bee Quest’

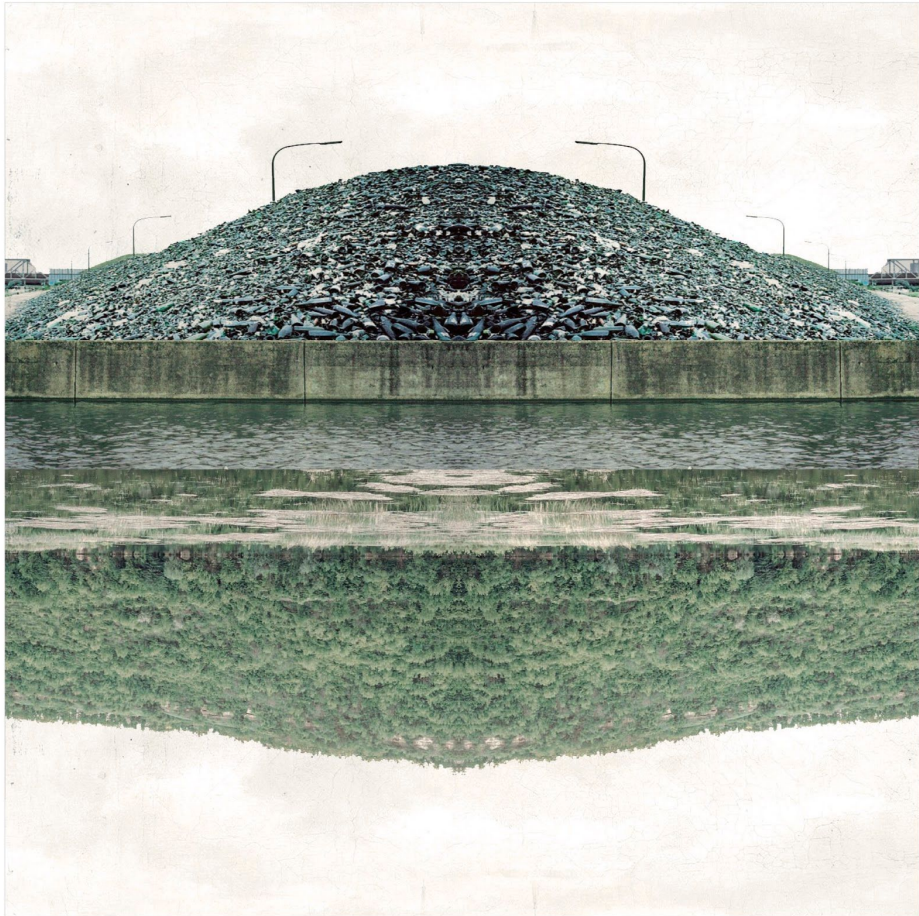
‘Contrast vs Similarity’ is the reflection of the first impression from Charleroi.(Figure 1.0)

The work illustrate characteristic elements of the research site and questions the substance of these elements.

Green full of life hillis and waste heaps at the first sight are completely different matters. But spoil tips were developed on industrial waste polygones. In time wild vegetation successfully developed over the waste heaps completely changed the appearance of the hills.

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Figure 1.0. (Opposite page) *Construct vs Similarity*. Collage reflects the first perception of the place. Produced by the author



## INITIAL OBSERVATIONS

6|04|2017, Charleroi

It is hard to explain the impression Charleroi gave me when I came for the first visit. I never heard about Charleroi before, so I went there without any expectations. It was only afterwards that I started to ask for people's opinions towards this city. The answers were monotonous: « Dull, grey, dirty... I cant mention something specific except huge abandoned factories everywhere and overgrown spoil tips.».

Immediately after entering the main square in front of the train station, you can see a recently developed riverfront with bicycle paths and a wide pedestrian area. These projects give the impression of a rapidly developing city. In the background, risen the massive silhouettes of factories. I went directly there, these ominous shapes do have a strange kind of attraction.

Following the river I was impressed by the contrast of views. Overgrown spoil tips from the one side that look like lush green natural mountaintops. On the other side the jagged factories sporting their typical bright orange hue of oxidation. I came across the gigantic industrial field which stretches three kilometers along the river. The majority of the factories have already been unused for several decades. Due to inhuman scale and desertedness of the place, I had the feeling that I was on a fantastic alien planet from a movie.

Finally I decided to creep inside the half ruined fenced plant. Visiting abandoned sites always makes me a bit paranoid that people will stop and question me, but nothing like that happened here. It was a big factory with a lot of rusty machines inside. Wild vegetation breaks through the concrete and crawls from the water into the building. Wildlife seems to become dominant over the time, gradually taking control over everything on its way.

The experience of the visiting Charleroi is unique: the landscape is one I haven't seen anywhere else: monumental, mysterious, saturated with the traces of the past and in the same time sentimental and full of life - a receptacle for wild nature.



## BROAD RESEARCH PROBLEM

Typical approach for activation of post-industrial areas is filling a place with new development. Former industrial areas usually are classified as ‘brownfield’ sites. The term itself is unattractive, ‘brownfield’- sounds dirty, creating a picture of polluted, rusty factories, slug heaps and certainly the urgent need of revitalization typically followed by redevelopment.

The development of these so called brownfield sites is often complex task, takes years to plan and execute, and requires an alliance of many different actors and stakeholders. Furthermore, brownfield sites sometimes have history that would rather not be remembered: heavily contaminated environment, lots of lost jobs and economic instability<sup>5</sup>.

With urban sprawl these sites often merge with a city fabric, and already contain basic infrastructure. Public support can easily be obtained. The land price in such areas is high and developers don't lose the opportunity to establish a new housing or shopping center on the comparable cheap land of brownfield. Who doesn't prefer apartments or a new shopping mall over the polluted ground and rusted factories?

On the face of it, building up former industrial sites makes perfect sense, if we accept that new developments are needed at all. The common argument is that we need to densify cities and create thousands more houses to relieve the residential market, Is there no qualities in post industrial landscapes to be preserved before erasing the ground in the name of better future?

According to Dave Goulson, Professor of Biological Science at the University of Sussex, industrial sites have less conventional attractions. He sees abandoned industrial sites as accidental man made wildlife sanctuaries. He is convinced that wildlife is able to flourish better within urban context, than in artifactually made artificial parks and agricultural greenfields.

Greenfield sites usually refer to farmland like wheat, corn and other monocultures, or even the improved biological green pastures. These cultivated forms of ‘nature’ generally harbour almost no wild life. Pesticides, genetic manipulation or excessive weeding make these close to monocultures, unfit for weeds, insects or animals. Most farmlands are in fact devoid of wildlife.

Flourishing of wild life inside seemingly long dead industrial sites made me curious: What on earth do industrial sites have to offer for wildlife, that man made green zones have lack of? The

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<sup>5</sup> Claire Gray(2008). Main message. In *Working towards more effective and sustainable Brownfield revitalisation policies: REVIT* (pp.8). Retrieved from: <http://www.revital-nw-europe.org/order.php>

explanation could be simple: the majority of our wild flora is well suited to low-fertility soils<sup>6</sup>. Even more important is, that those abandoned areas are no longer disturbed by humans, and no pesticide are used, they are not ploughed or cropped. The flourishing of wild plants here automatically attracts wildlife like insects, birds and rodents who, sheltering in the abandoned buildings, form micro ecosystems.

Ironically, even though industrial sites have poor and contaminated soil, as soon as they are abandoned, they become an incidental haven for wildlife<sup>7</sup>.

#### Site specificity:

Charleroi used to be the richest and the most important industrial city in Belgium and now as a consequence it has the largest area of brownfield.

As a research ground was selected the industrial sector which is located side by side various inhabited suburbs and close to the city center. The area contains various detached authentic qualities like former and active industry, passive and active recreation zones and series of tourist attractions.

The area is penetrated with physical and visual barriers which lock the space and isolate it from inhabitants.

The project goal is to reconcile the site to people, by highlighting their authentic qualities and enable Charleroi to benefit from its industrial past. According to American urban planner and social activist Jane Jacobs : the whole town bears the seeds for its own regeneration<sup>8</sup>. She was convinced that even if a city experiences serious crises, it never dies. Sustainable city needs enhancing of its strengths, drawing on the uniqueness.

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<sup>6</sup> Dave Goulson (2017). Brownfield Rainforest of the Thames Estuary. In *Bee Quest* (pp. 156). London, UK: J. Cape

<sup>7</sup> Dave Goulson (2017). Brownfield Rainforest of the Thames Estuary. In *Bee Quest* (pp.153-159). London, UK: J. Cape

<sup>8</sup> Jane Jacobs (1961). Part 3 the forces of decline and regeneration. In *The Death and Life of Great American Cities* (pp. 241-257). Retrieved from: [https://www.buurtwijis.nl/sites/default/files/buurtwijis/bestanden/jane\\_jacobs\\_the\\_death\\_and\\_life\\_of\\_great\\_american.pdf](https://www.buurtwijis.nl/sites/default/files/buurtwijis/bestanden/jane_jacobs_the_death_and_life_of_great_american.pdf)

## THE CITY POLICY

*'Charleroi was rich in the wrong period; the period of steel and pollution'*

Nicolas Buissart, Charleroi adventure city



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Figure 1.2. Historic map of Charleroi. Collection AAM - Fonds V. Bougreois



Founded in the 17th, it was originally a military garrison to become a leading industrial city throughout the nineteenth century. The closure of factories during the crisis of the seventies has left vast wastelands. But nothing is irreversible, and the scars of the past now form tremendous improvement levers. The old railway tracks allow a smooth and transverse mobility. The coal tips now are tremendous reservoirs of biodiversity. The old industrial buildings get a new awakening through cultural programs. All of these elements are the raw material of the city in transition<sup>9</sup>.

Reactivation of the Western District:

Bringing together the largest agricultural and forested parts of the city territory, the most remarkable park in the area, the river, and the biggest industrial brownfield sites, the Western District is a land of contrasts. The conversion of hundreds of hectares of brownfield land has begun and aims to relocate cutting edge economic activities in a very rich natural environment. Meanwhile, the conversion of old factories into cultural centers, and the revitalization of the old village centers of Monceau, Roux and Marchienne, make this district one of the most dynamic and multicultural territories in the region<sup>10</sup>.

City of Charleroi has decided to develop urbanization and densification policies that enhance the structure of the territory. The goal is to renovating the city in order to curb urban sprawl. This strategy combines two complementary plans: an urban and a landscape intensification plans.<sup>11</sup>

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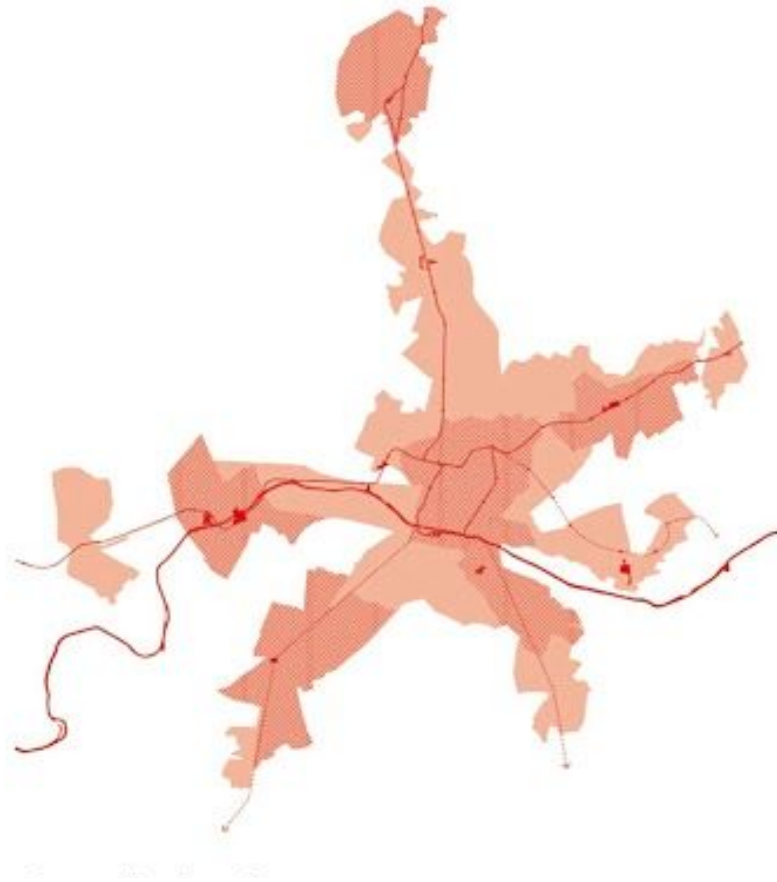
<sup>9</sup> Bouwmeester and the city of Charleroi (2015). *Charleroi Metropole UN scheme strategique 2015-2025* (pp. 280). Charleroi,Belgium: Author.

<sup>10</sup> Bouwmeester and the city of Charleroi (2015). *Charleroi Metropole UN scheme strategique 2015-2025* (pp. 285-286). Charleroi,Belgium: Author.

<sup>11</sup> Bouwmeester and the city of Charleroi (2015). *Charleroi Metropole UN scheme strategique 2015-2025* (pp.36 - 37). Charleroi,Belgium: Author.

Urban intensification plan:

The city strategy aims to rise densification in already urbanized territories and rize the contrast between the green and build up areas (Figure 1.3.)<sup>12</sup>.



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Figures 1.3. The Landscape intensification plan. Collection AAM - Fonds V. Bougreois

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<sup>12</sup> Bouwmeester and the city of Charleroi (2015). *Charleroi Metropole UN scheme strategique 2015-2025* (pp.38 - 39). Charleroi, Belgium: Author.

### Landscape intensification plan:

Existing landscape systems should be protected from being broken up and reinforced. The project proposes making six large structures as the foundation of a large-scale park system. This involves consolidating and linking open spaces, based on the river system and the industrial rail network, to form a landscape with a metropolitan scope that will improve the environment (Figure 1.4.)<sup>13</sup>.



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Figures 1.4. The Urban intensification plan. Collection AAM - Fonds V. Bougreois

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<sup>13</sup> Bouwmeester and the city of Charleroi (2015). *Charleroi Metropole UN scheme strategique 2015-2025* (pp.40 - 41). Charleroi, Belgium: Author.

### Renovation of urban centers:

After the redeployment of the city centre, it is the turn of the old urban centres of Gosselies, Gilly, Couillet, Mont-sur-Marchienne and Marchienne-au-Pont to benefit from a renovation and urban intensification project. This will enable the City to strengthen the polycentric metropolis and improve the living environment<sup>14</sup>. (Figure 1.5)



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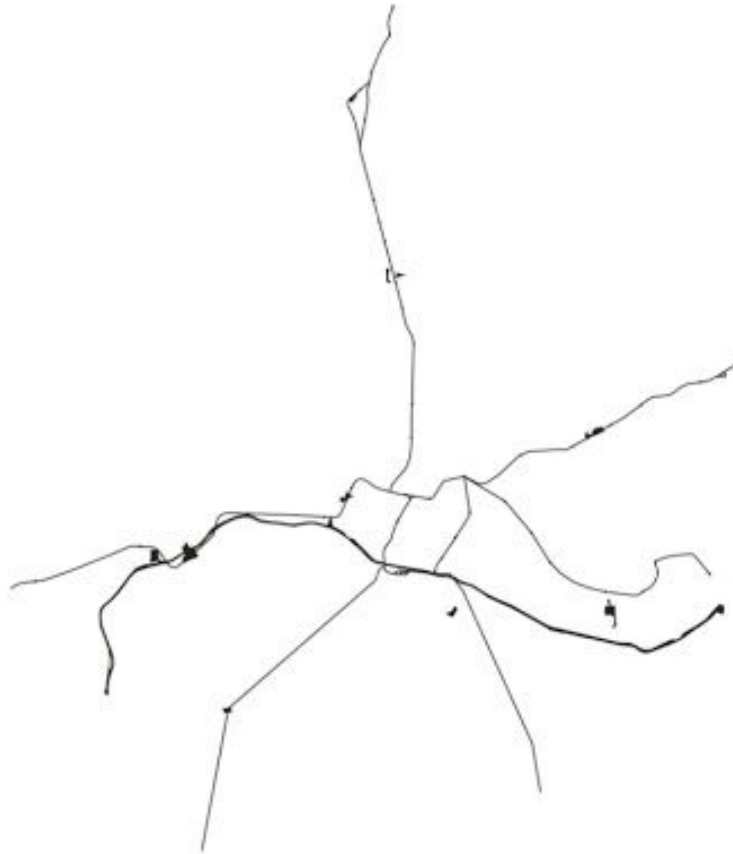
Figures 1.5. Renovation of urban centers. Collection AAM - Fonds V. Bougreois

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<sup>14</sup> Bouwmeester and the city of Charleroi (2015). *Charleroi Metropole UN scheme strategique 2015-2025* (pp. 46). Charleroi, Belgium: Author.

### Liner intensification:

Commercial and residential areas of the city will eventually benefit from an efficient public transport system. Consisting of the existing metro and two bus rapid transit lines, it will meet the challenge of mobility and reduce the pressure from cars<sup>15</sup>. (Figure 1.6.)



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Figures 1.6. Liner intensification. Collection AAM - Fonds V. Bougreois

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<sup>15</sup> Bouwmeester and the city of Charleroi (2015). *Charleroi Metropole UN scheme strategique 2015-2025* (pp.44). Charleroi, Belgium: Author.

### Activating of the Sambre:

The aim is to transform the Sambre valley into mixed-use area and accommodate there economic , public and residential programs<sup>16</sup>. (Figure 1.7. )



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Figures 1.7. Activating of the Sambre. Collection AAM - Fonds V. Bougreoi

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<sup>16</sup> Bouwmeester and the city of Charleroi (2015). *Charleroi Metropole UN scheme strategique 2015-2025* (pp.45). Charleroi,Belgium: Author.



## CHAPTER

**M****URBAN ECOSYSTEM**

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The chapter analysis the site through the studying of theoretical materials and self exploration of the area. Research considers urban areas as part of a broader social-ecological system. It investigates how urban landscapes function and how they affect other landscapes with which they interact.

Main investigation focuses:

- The site as integrated social-ecological system
- Determining of the main issues of accessibility
- Developing a proposal for improving accessibility of the area
- Framing place identity through the studying of space and texture essence of the site.





















## Landscape study

Terril de Martinet is the successful example of the ecological park which was created on the base of the former colliery and slag heaps. (Figure 2.9)



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Figure 2.9. Terril Martinet in 1935 and 2018. Retrieved from : <https://yummy-planet.com/randonnee-insolite-sur-la-boucle-noire-de-charleroi>

From the North the site characterized with the green chain of terrills. The height of heaps relatively grows in the West-East direction ending up with the highest point in 158 m above the sea level, terrill Baymont St-Charles. (Figure 2.10.)

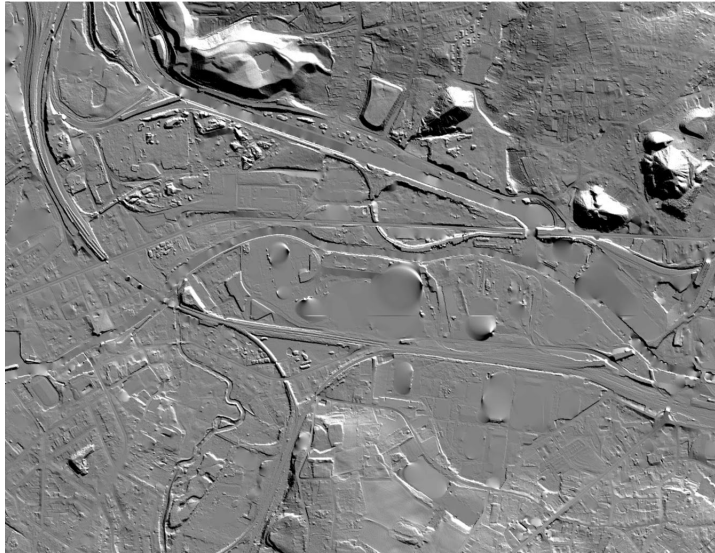


Figure 2.10. (2016) Relief

Sound contamination map represents the pollution distribution from the industry. The sources are concentrated mainly in the south of the site. The sound level from industry in this zone enhanced with the train tracks which circled the Industrial island. (Figure 2.11.)

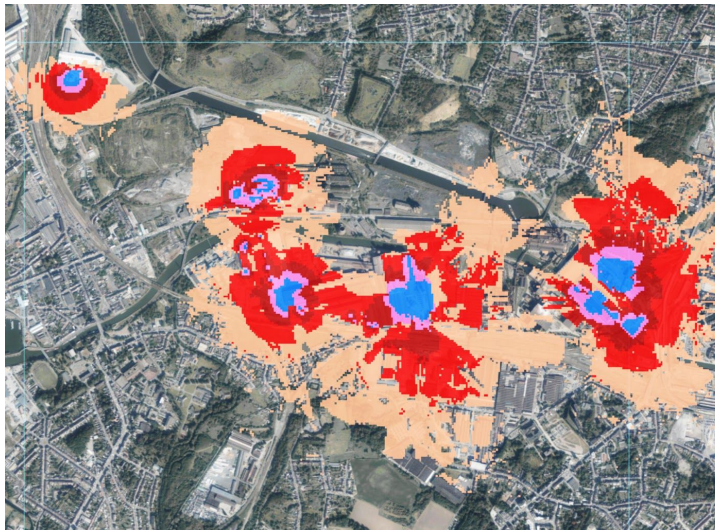


Figure 2.11. (2016) Sound contamination map

Comparing the maps it is seen that the density of green spaces tangibly increased during a year. The green landscape of the terrill seems to jump over the canal and continuously grow on the other side of the canal. During a year the green area of the Middle island doubled.

(Figures 2.12., 2.13.)



Figure 2.12. (2016) Green spaces map



Figure 2.13. (2017) Green spaces map

Figures 2.10 - 2.13. The Walloon Geographical Information Website. Retrieved from: <http://geoportail.wallonie.be>



## SITE LANDMARKS

This chapter illustrates unique passing structures which were discovered during visiting the area. The structures are remnants of industrial infrastructure and have been neglected for a long time. Within years these relics have become strong representatives of the area.

The project aims to activate the potential of those structures through repurposing them for social needs.

(Figures 2.14. - 2.26.)





## SPACE AND TEXTURES

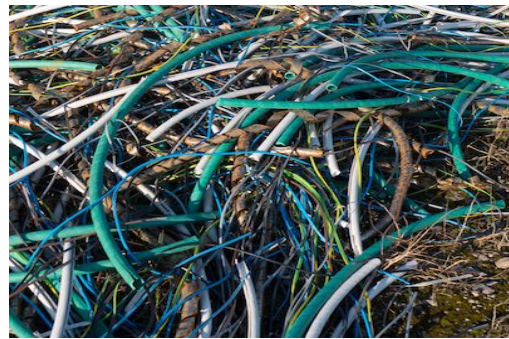
The materiality of the site is presented in textures, elements and spaces. The set of photographs expresses the spirit which was experienced within these distinct spaces. (Figures 2.27. - 2.42.)

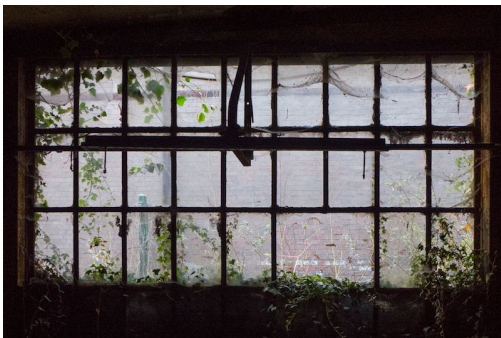


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Figures 2.27. - 2.42. (Next pages)Space and textures. Photographed by the author







## CHAPTER

## S

**DESIGN STRATEGY**

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The chapter zooms in the sample fragment of the site and develops the strategy for rehabilitation of the site based on the previously made research.

*‘ The path as a way of researching the landscape,  
of experimenting with alternately big and little things which are often overlooked and neglected –  
blades of grass, flowers, stones, tree roots, small streams, and so on.’<sup>17</sup>*

George Descombes

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<sup>17</sup> Descombes G., Tironi G. (1988). *Swiss Way. Shiting Sites* (pp.80). Geneva, Roma: Author

## ZONE-1

The strategy for the path is based on the fragment of the area 'Zone-1' and links Le Bognou and Villette neighborhoods. The link creates a missing North-South path through the site and opens the area to both locals and tourists. (Figure 3.0.)

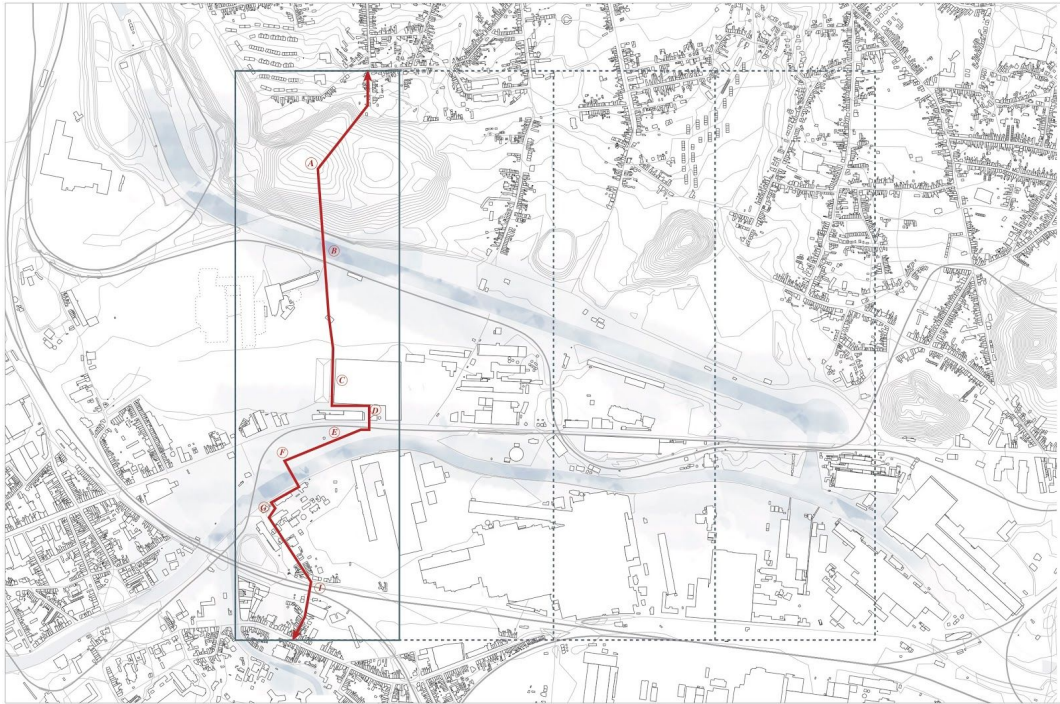


Figure 3.0. Zone-1. Fragment of the area with the new vertical link through the site between the Northern and Southern neighborhoods. Produced by the author

The typical program setup of the zone is : residential area, terrils, abandoned industrial buildings, public realm, active industry and again residential area. The pattern repeats throughout the site. The programs unfold from the top to the bottom, starting and ending up with the residential areas. The crucial aspect of the area is the relation between still active factories and public space. (Figure 3.1.)

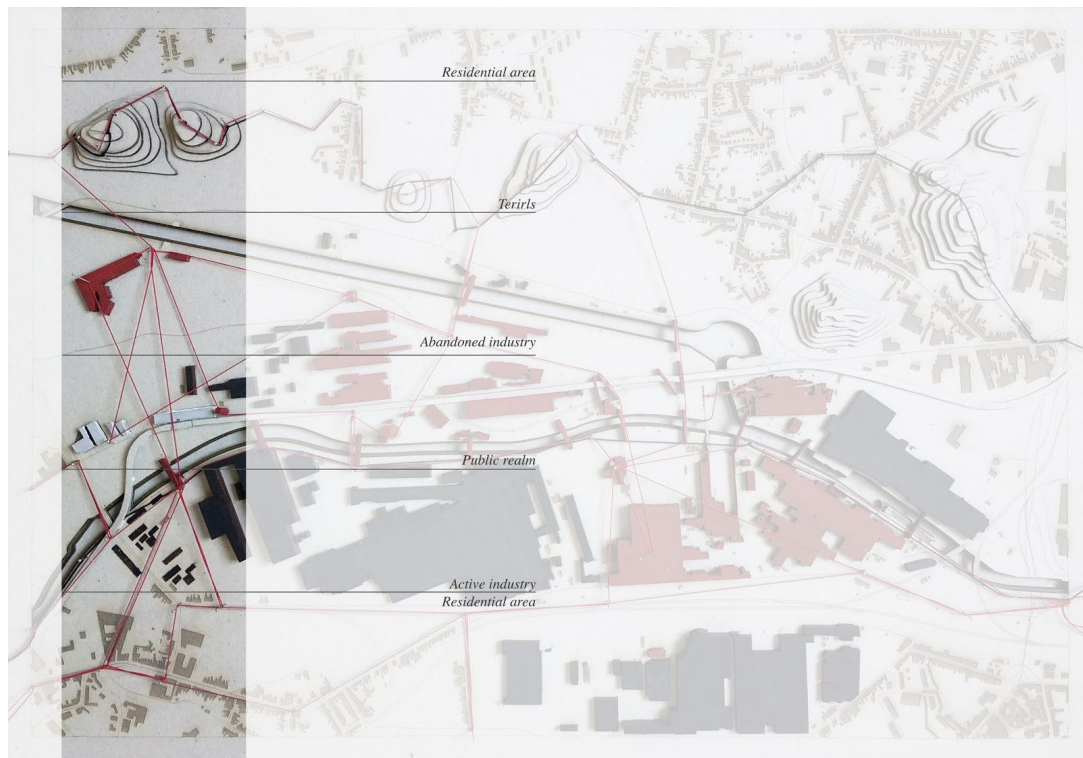
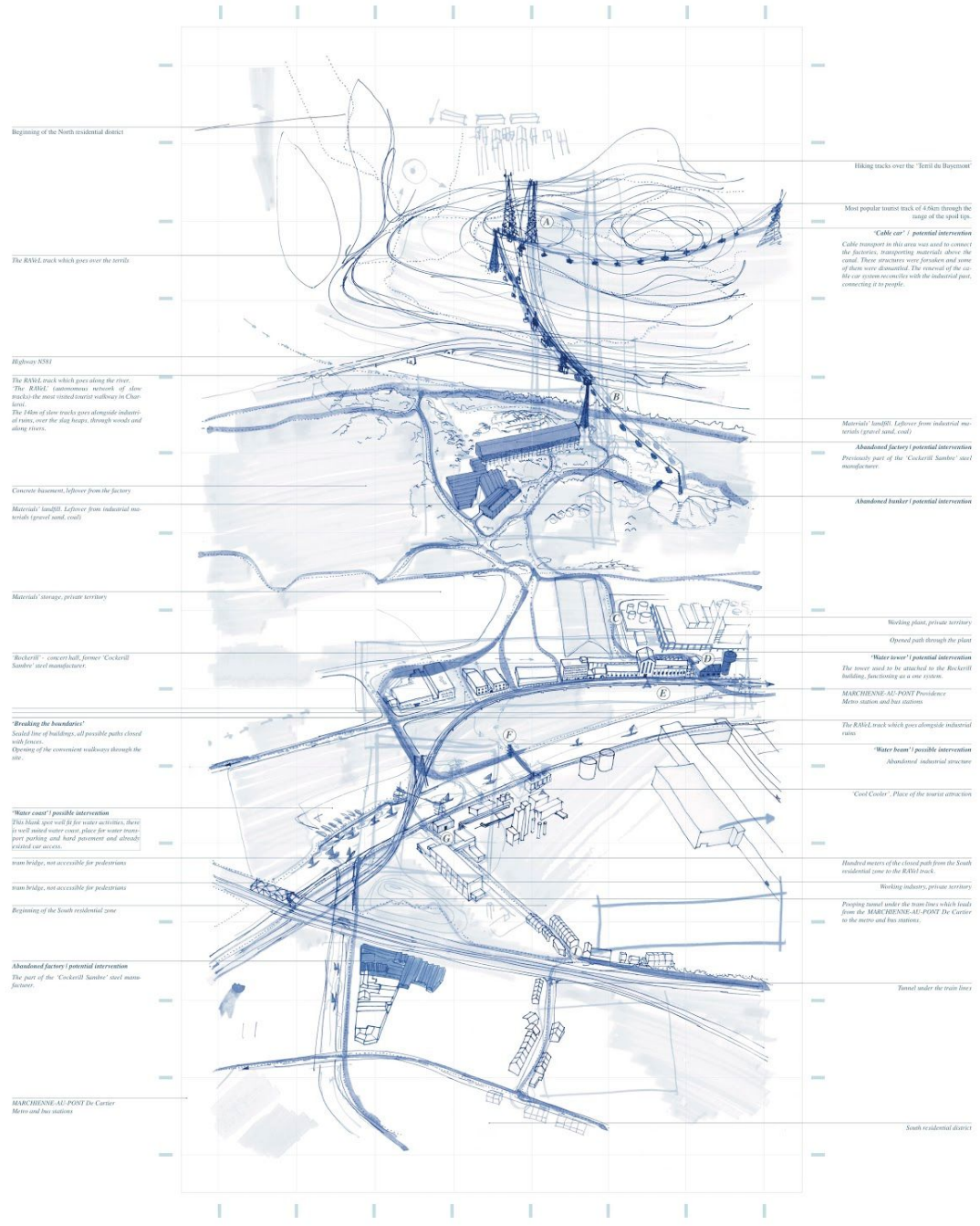


Figure 3.1. Site model with the mark of the studied slice. Produced by the author





Beginning of the North residential district

The RAVEL track which goes over the terrain

Highway N351

The RAVEL track which goes along the river. The RAVEL continuous network of slow tracks is the most important railway on Charleville. The flow of slow tracks goes alongside industrial sites, over the slag heaps, through woods and along rivers.

Concrete basement, leftover from the factory

Materials' landfill. Leftover from industrial materials (gravel, sand, coal)

Materials' storage, private territory

'Beckerill' - cement hall, former 'Cockerill Sambre' steel manufacture

'Breaking the boundaries' Scaled line of buildings, all possible paths closed with fences. Opening of the convenient walkways through the site.

'Water coast' / possible intervention This blank spot will fit for water activities, there is no need to build water coast, place for some more port parking and hard pavement and already existed car access.

tram bridge, not accessible for pedestrians

tram bridge, not accessible for pedestrians

Beginning of the South residential zone

Abandoned factory / potential intervention

The part of the 'Cockerill Sambre' steel manufacture

MARCHENNE-AU-POINT De Carter

Metro and bus stations

Hiking tracks over the 'Fertil du Bequerm'

Most popular tourist track of 4.9km through the range of the spoil tips.

'Cable car' / potential intervention Cable transport in this area was used to connect the factories, transporting materials above the canal. These structures were forgotten and some of them were dismantled. The renewal of the cable car system reconciles with the industrial past, connecting it to people.

Materials' landfill. Leftover from industrial materials (gravel, sand, coal)

Abandoned factory / potential intervention

Previously part of the 'Cockerill Sambre' steel manufacture

Abandoned bunker / potential intervention

Working plant, private territory

Opened path through the plant

'Water tower' / potential intervention The tower used to be attached to the Beckerill building, functioning as a new system.

MARCHENNE-AU-POINT Providence

Metro station and bus station

The RAVEL track which goes alongside industrial sites

'Water beam' / possible intervention

Abandoned industrial structure

'Cool Cooler' - Place of the nearest attraction

Hundred meters of the closed path from the South residential zone to the RAVEL track

Working industry, private territory

Proposed tunnel under the tram line which leads from the MARCHENNE-AU-POINT De Carter to the metro and bus stations.

Tunnel under the train lines

South residential district

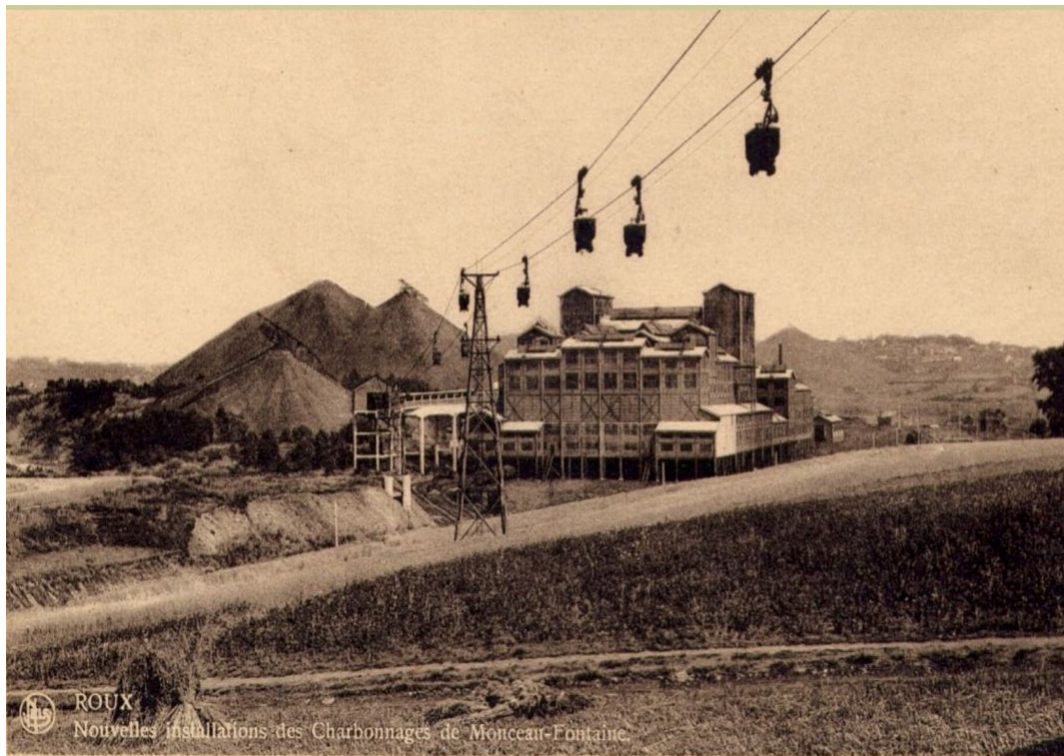
## Zone 'A'

Design proposal links the top of the highest terrill Baymont St-Charles with the Middle island through a cable car. In the future the cable route could be extended along the terrill's chain.

(Figure 3.4.)

The cable transport in this area used to facilitate industrial processes, transporting materials above water. The historical perspective of the place enhanced through the renewal of the cable car system which allows locals and tourists to move directly from the terrill to the Middle island.

(Figure 3.5.)

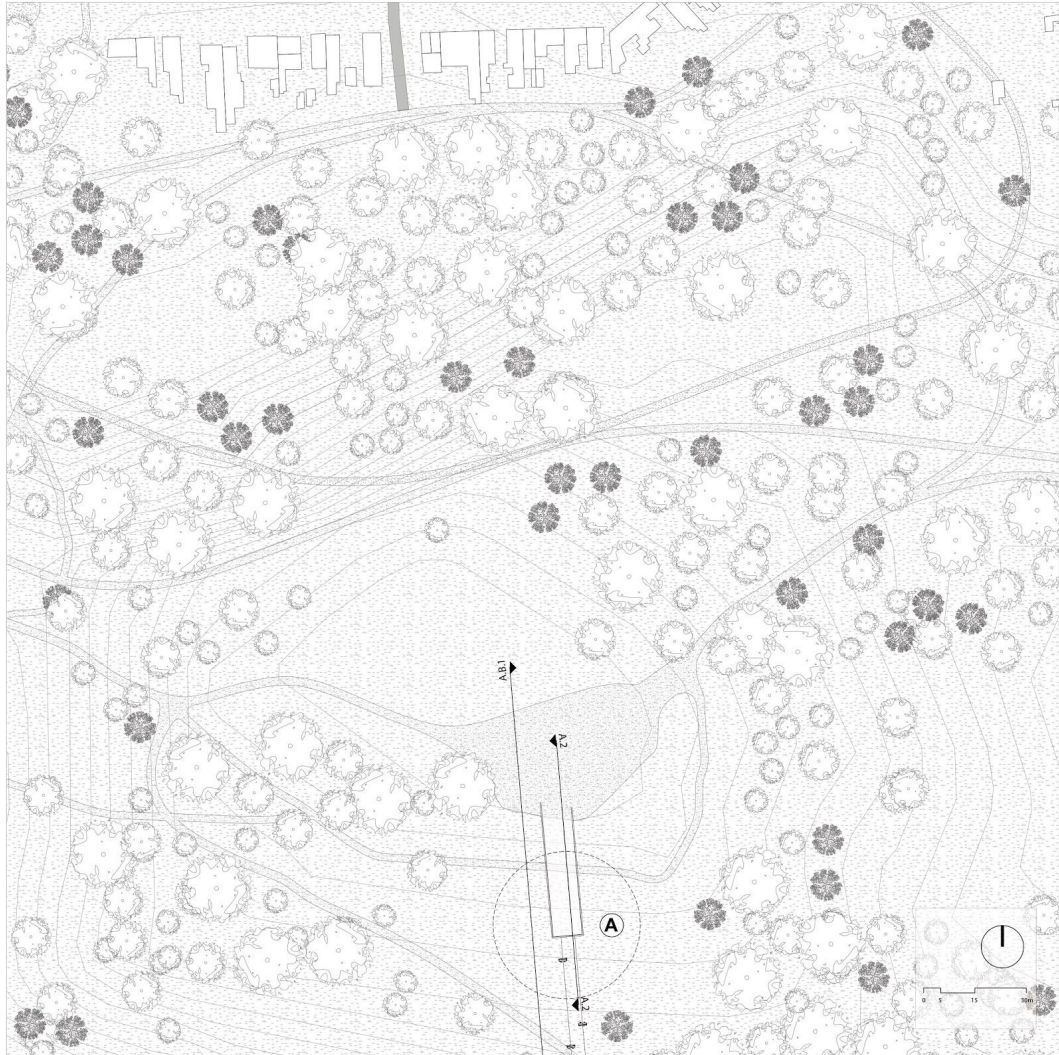


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Figure 3.5. Cable car system. Terril de Martinet

Figure 3.4. (Opposite page) Site plan, zone 'A' . Cable car station on the top of Baymont terrill, design proposal. Produced by the author





Cable stations are set up on the highest points of each island, the top of Baymont St-Charles terril and an old bunker. The relief section shows the heights and the layout of main programs set up: terrils, highway, canal and the industrial island. (Figure 3.5.)

The station could be reached by following the hiking trail through the spoil tips range starting in the city centre, or straight from Le Bougnou residential area. The path links the inhabitants to the industrial site. (Figure 3.6.)

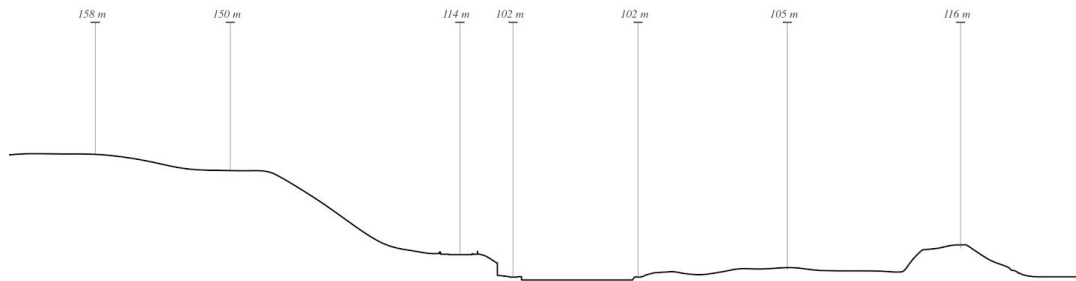


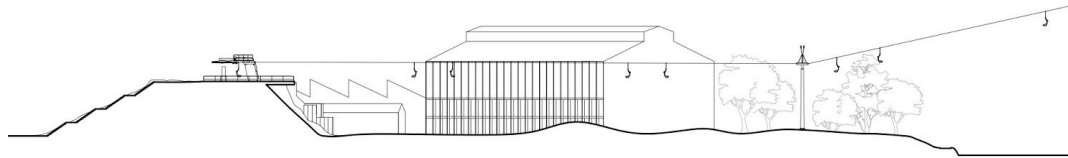
Figure 3.5. Relief section A.B.1. Produced by the author

Figure 3.6. (Left) Rue du Chemin de Fer, Le Bougnou residential area. From the left side of the road there is a towpath which leads to the top of Baymont terril. Google map street view.

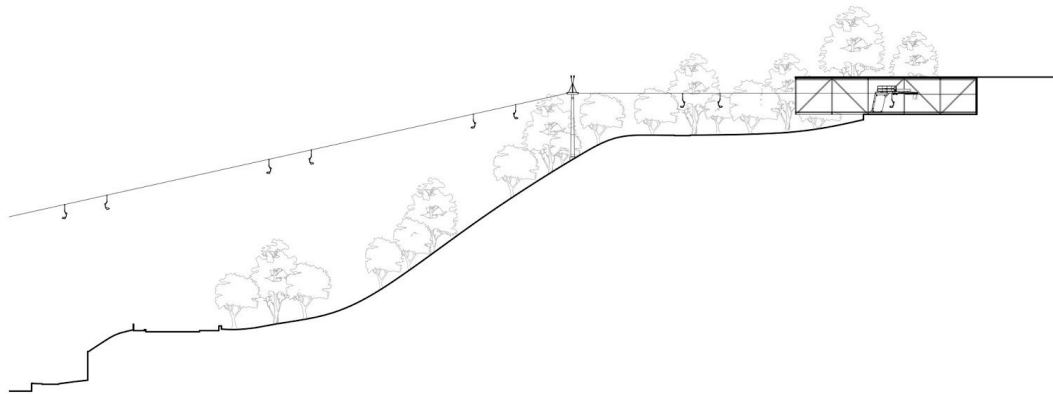
Retrieved from :<https://www.google.com/maps/place/Le+Bougnou,+6030+Charleroi>

Figure 3.7. (Right) View from the top of Baymont terril. Photographed by the author





The station is built with a steel exoskeleton which cantilevers a deck creating an observation platform. The facade is clad with reused metal sheets from industrial remains. The station provides flexible space for small public programs like cafe or tourism office and creates an intimate gathering place for visitors of the terrill. (Figure 3.8.)



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Figure 3.8. Section A.2. Cable car station on the top of Baymont terrill, design proposal. Produced by the author  
Figure 3.9.(Opposite page) Section B.3. Bunker Station, design proposal. Produced by the author

### Zone 'B'

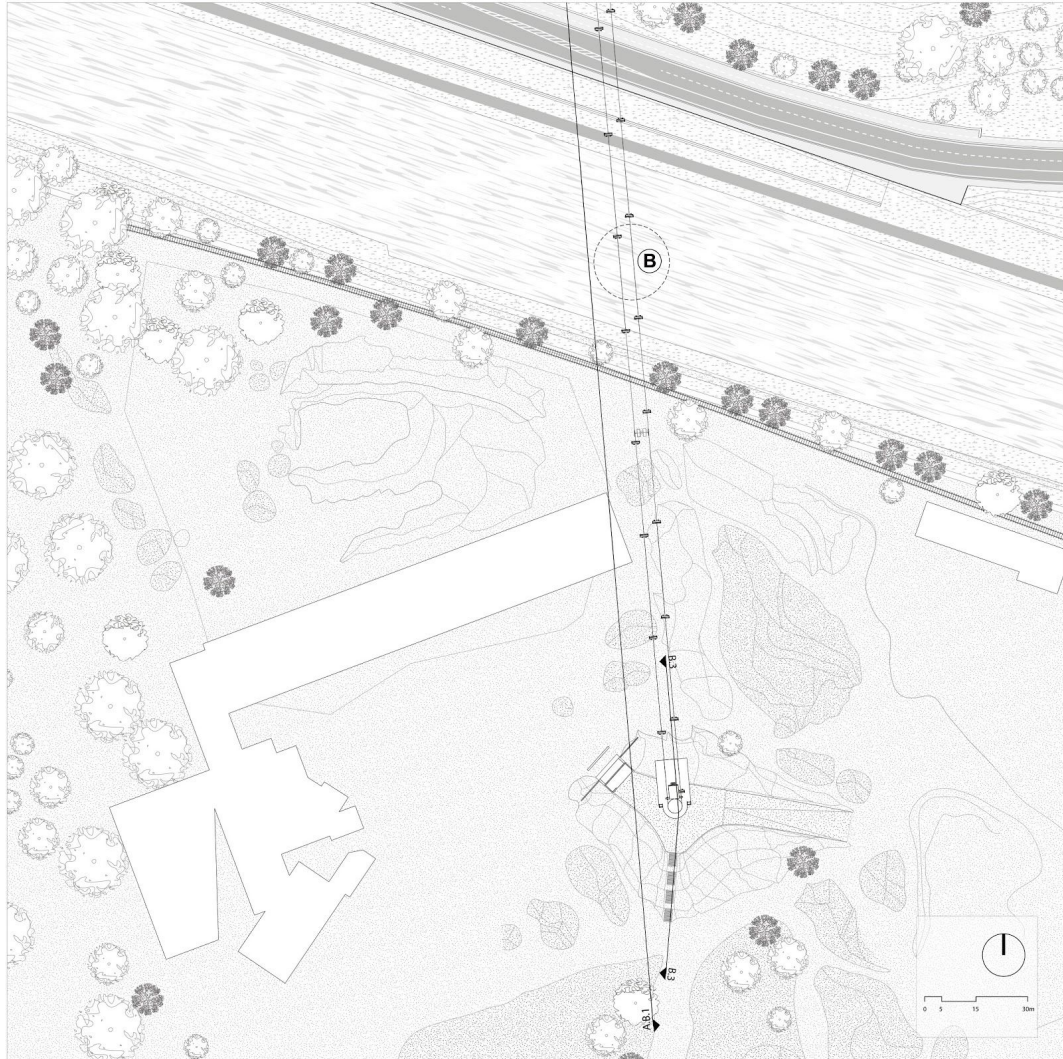
The abandoned factory on the side of the Middle island is located in the green area. The building has a potential to be reused for cultural purpose. (Figure 3.9.)

The station on the Middle island is located on the top of the old bunker which was buried in the sand creating a twelve meters hill. The design reuses and adjusts the structure to requirements of the cable car station complementing it with additional elements which insure secure of visitors. The monumental concrete facade and middle position of the bunker help easily indicate location of the station. (Figures 3.11- 3.14.)



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Figure 3.9.(Top) View from the 'Bunker station'. Abandoned factory. Photographed by the author  
Figure 3.10.(Next page) Site Plan, zone 'B'. Bunker station, design proposal. Produced by the author  
Figure 3.11.(Bottom) Abandoned bunker. Photographed by the author



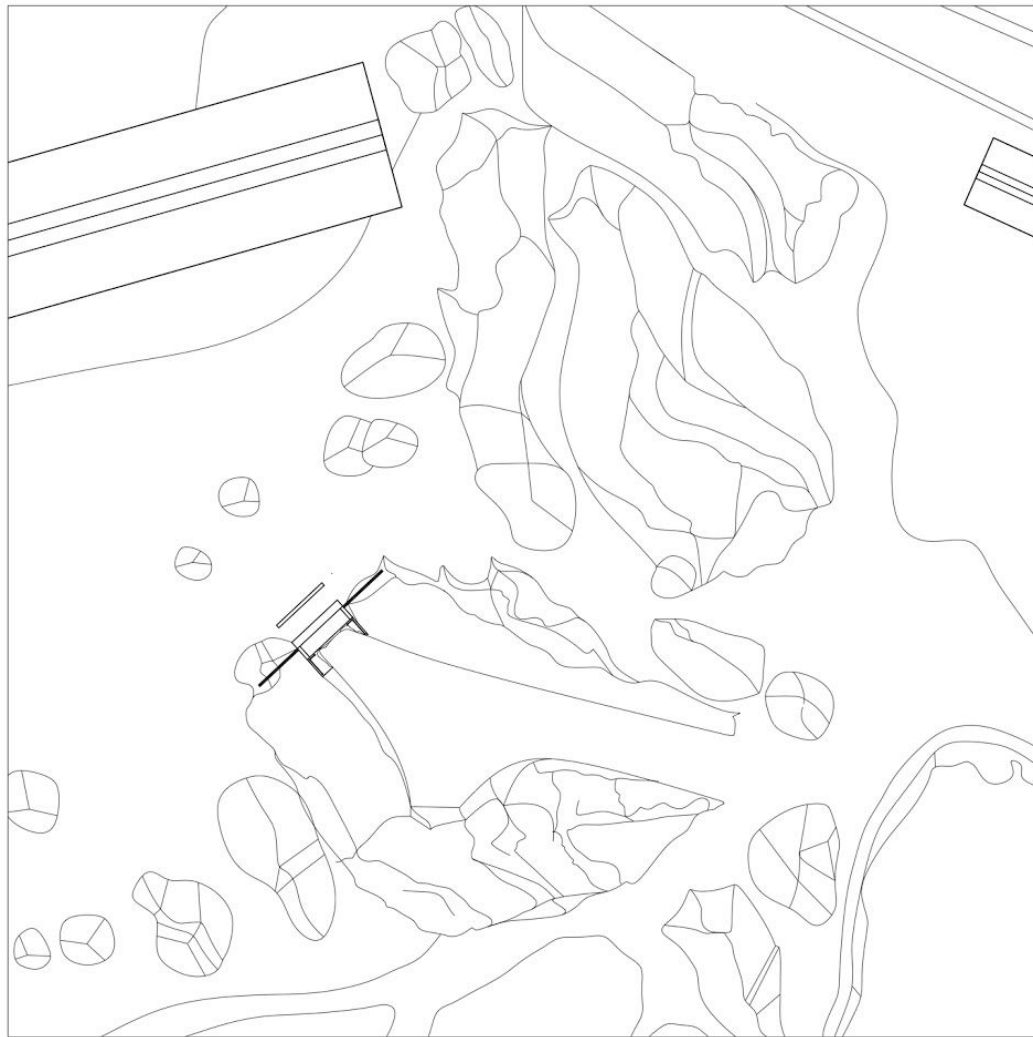


Figure 3.12. Abandoned bunker, existing site plan. Produced by the author.



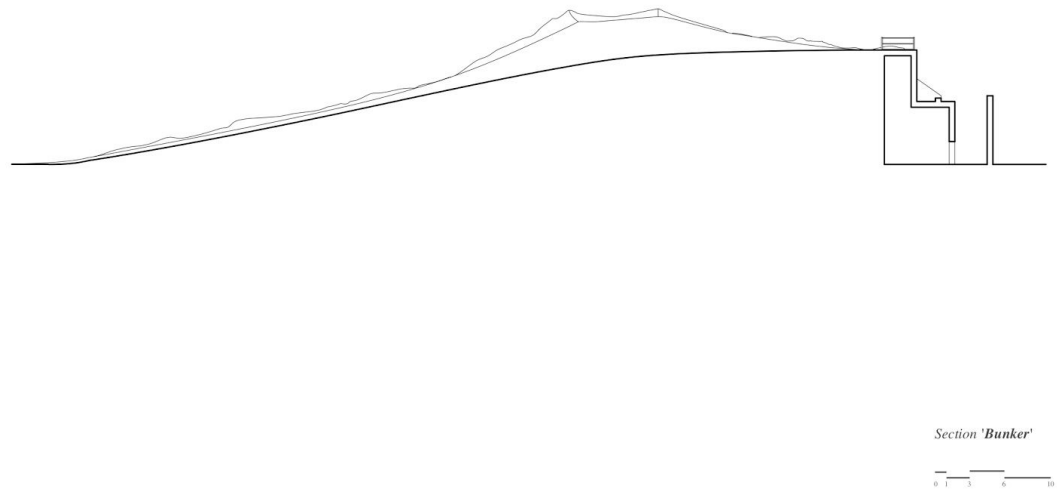
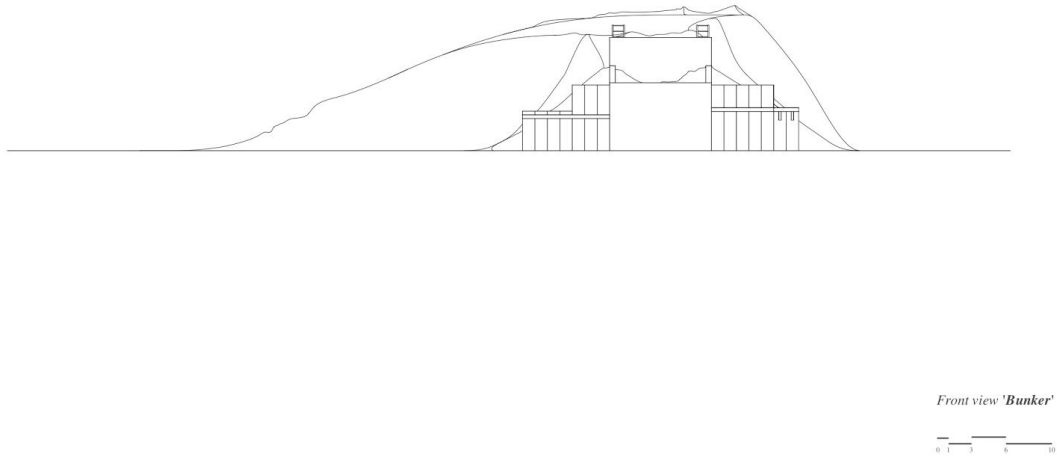


Figure 3.13. Abandoned bunker, front view, existing situation. Produced by the author  
Figure 3.14. Abandoned bunker, section, existing situation. Produced by the author.

### Zones 'C', 'D', 'E'

Next potential interventions takes place in the middle of the site, between zone 'B' and the Sambre river. The main issue of the place is the barriers which block the access to the industrial ruins and the waterfront. The intervention rethinks these barriers in the way that they can benefit the area as a protective borders but in the same time allow the access to the inside spaces. (Figure 3.15.)

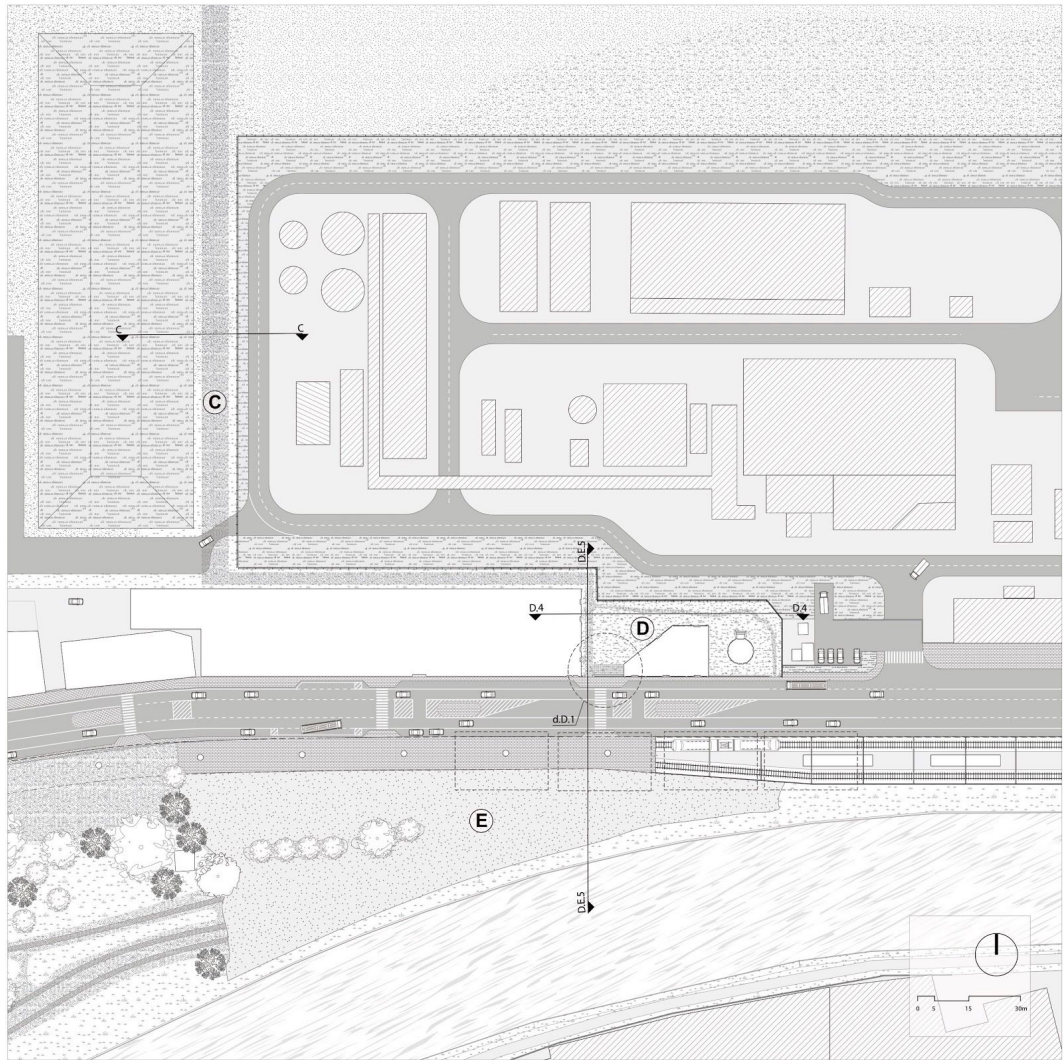
Moving South from the abandoned factory travelers pass through the green corridor between an active electrical plant and a heap of wild flowers. Due to the working factory the space has a strong industrial character. The corridor leads to the small courtyard from the left of the Rockerill concert hall. (Figure 3.16.)



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Figure 3.15. (Next page) Site Plan, zones 'C', 'D', 'E', design proposal. Produced by the author

Figure 3.16. Water tower next to the active plant. Photographed by the author



The courtyard is closed for visitors with the metal gate. The design activates the space behind Water Tower with public activities and replaces the gate with the brick fence which in the past used to connect the Rockerill and the Water Tower. (Figures 3.17., 3.18.)

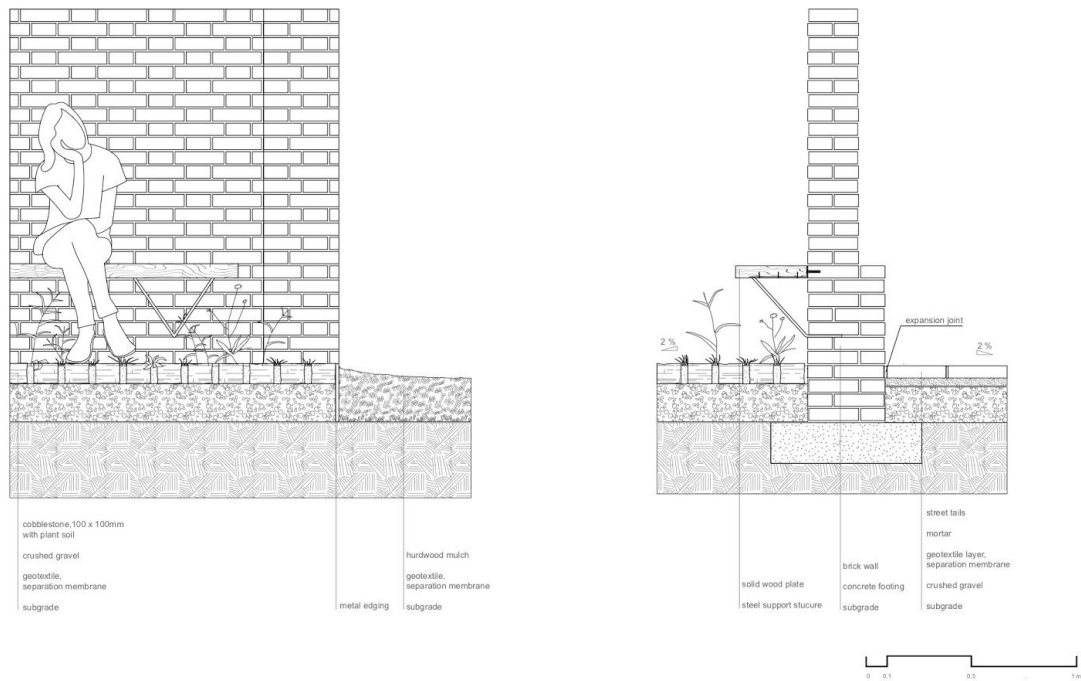
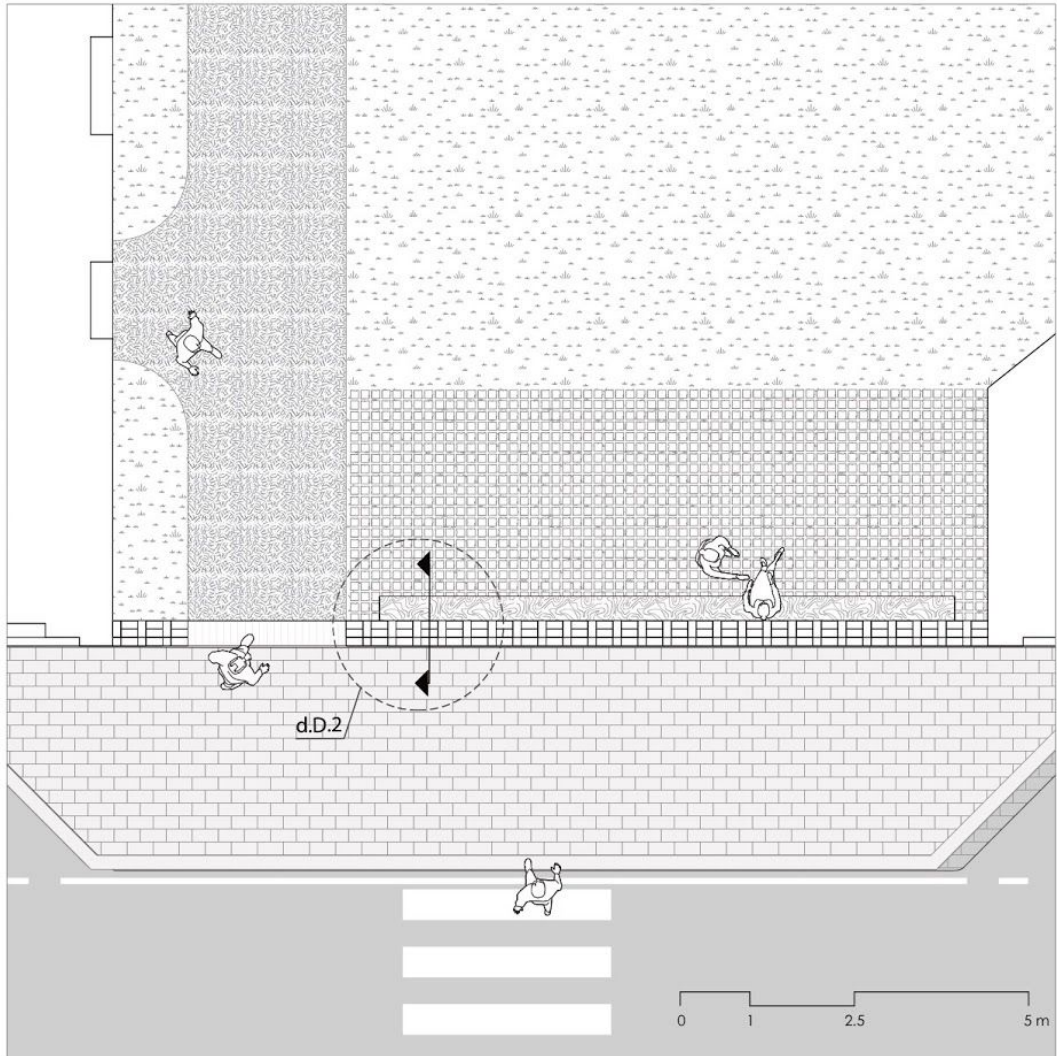


Figure 3.17. (Opposite page) Detail D.1. Brick wall, plan, design proposal. Produced by the author

Figure 3.18. Detail D.2. Brick wall, sections, design proposal. Produced by the author



The area in front of the Rockerill has special qualities: hard pavement platform from where opens a panoramic view on industrial surrounding. This space is closed with temporary fence already for a long time. Design proposal removes the fence and opens the space for public programs.

The sections define barriers and potential of the locked spaces. (Figure 3.19.- 3.24.)

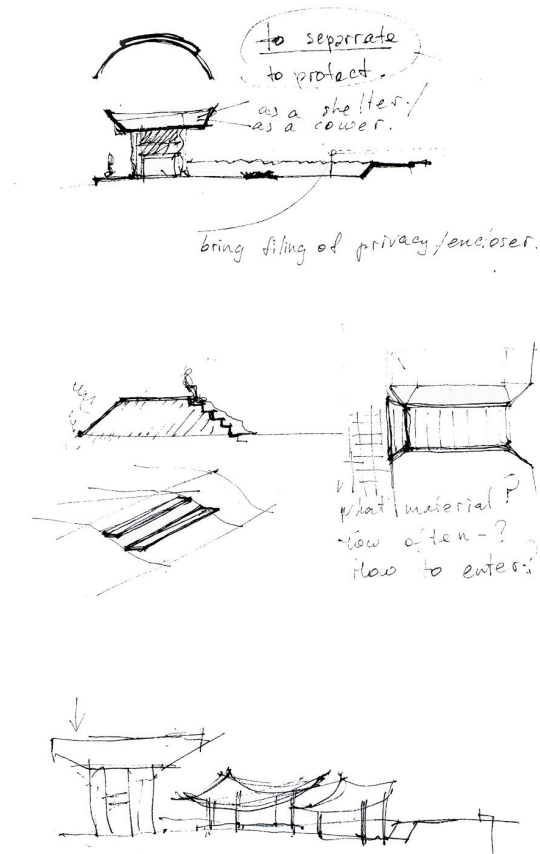


Figure 3.19. The blank spot. Possible interventions. Sketch. Produced by the author

Figure 3.20. (Opposite page, top) Blank spot, view on the Rockerill. Photographed by the author

Figure 3.21. (Opposite page, bottom) Blank spot, view on the 'Overpass'. Photographed by the author



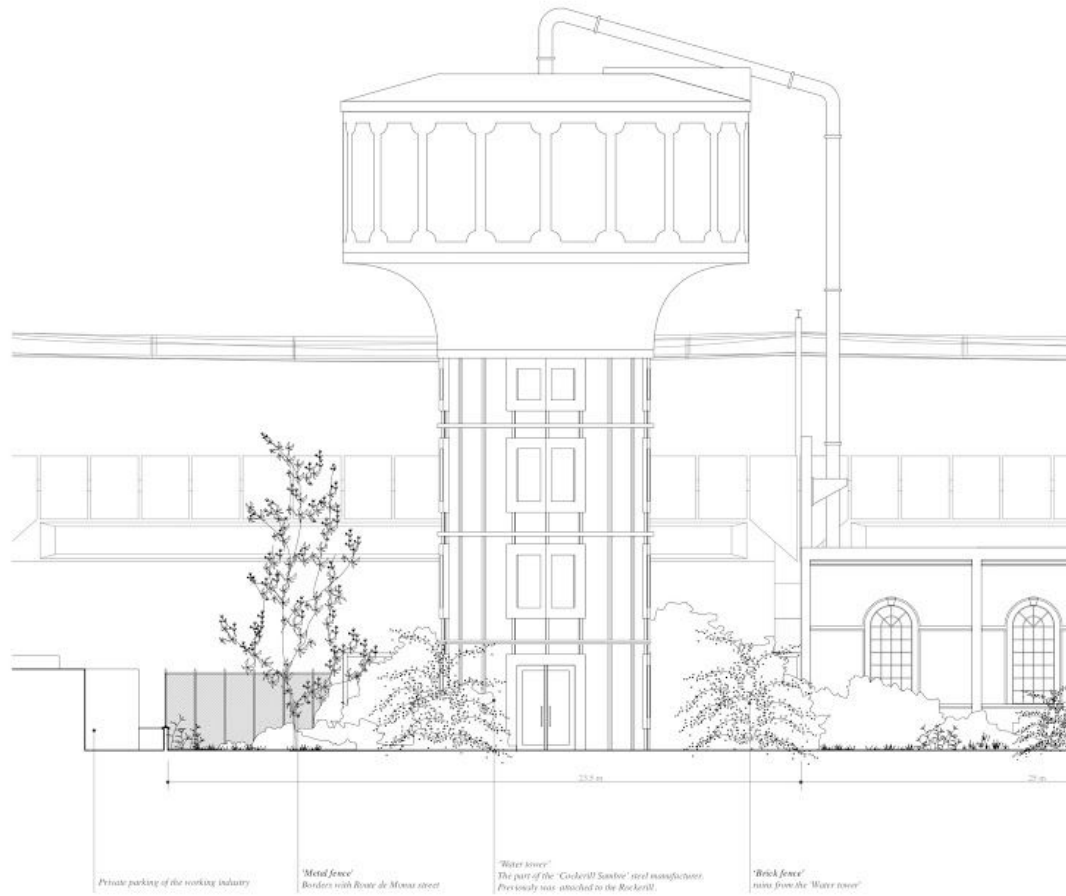
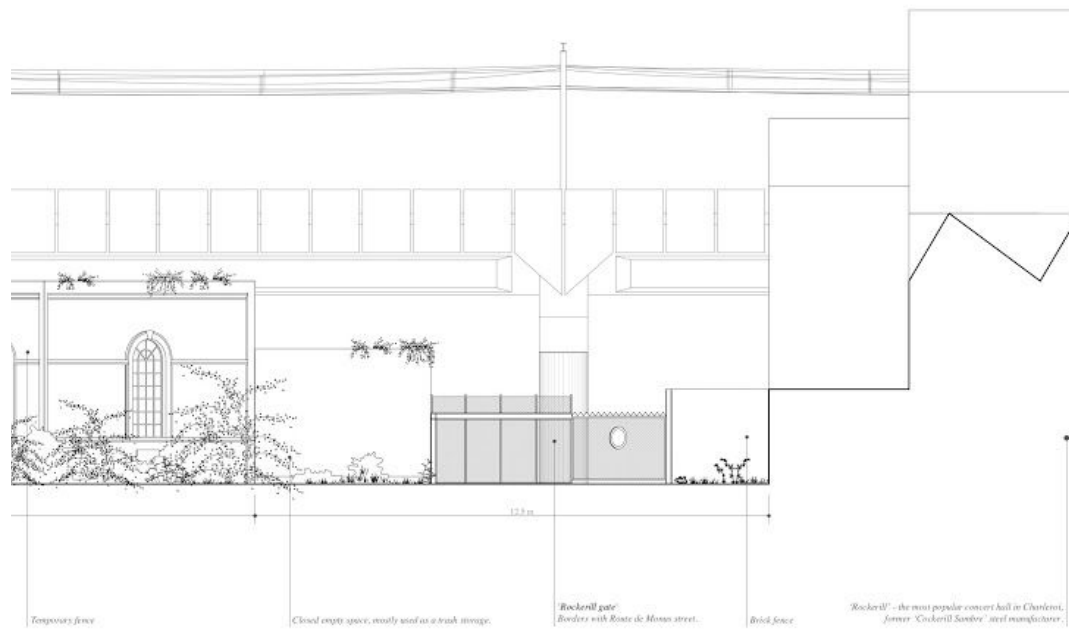


Figure 3.22. Section D.4. Produced by the author





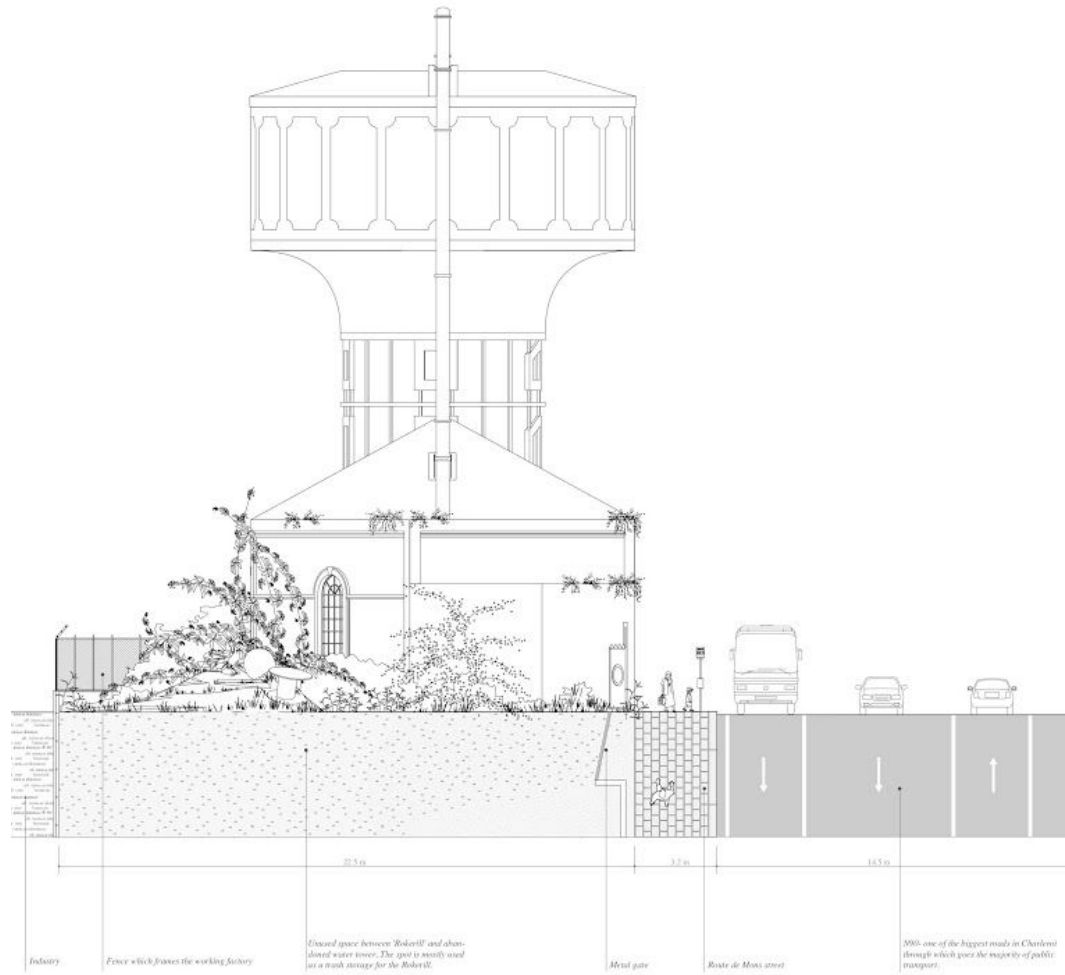
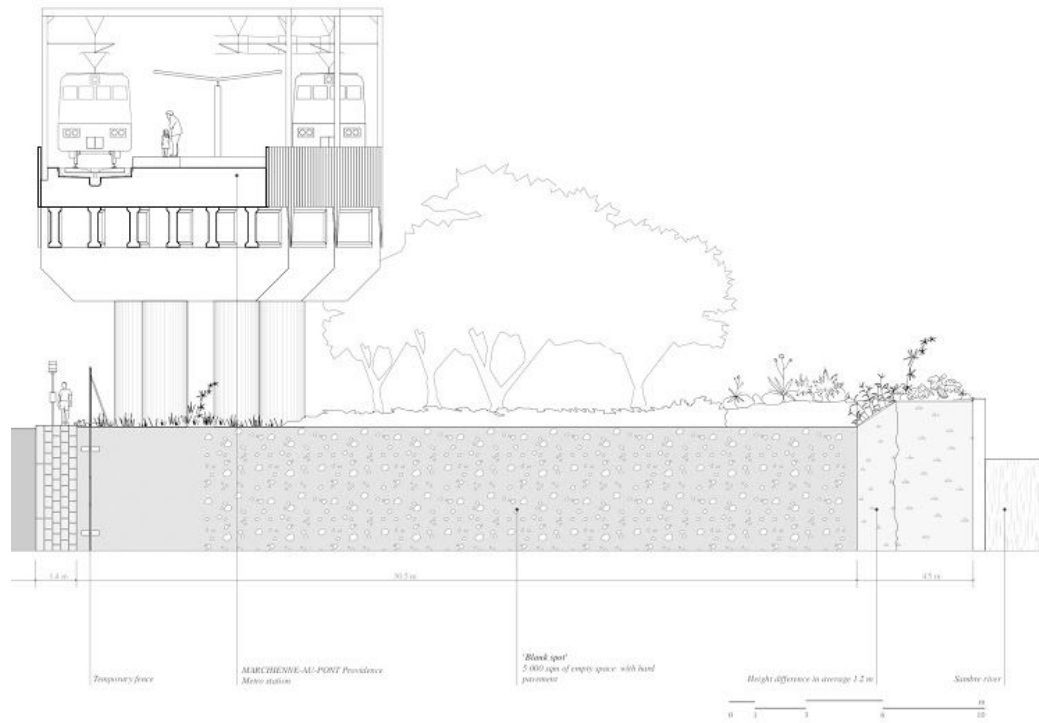


Figure 3.23. Section D.E.5. Produced by the author



## Zones 'F', 'G'

The issuer of linking the Middle and Industrial islands is the next step of the strategy.

To the left of the Rockerill is a small wild park, which is also closed now. (Figures 3.24.) Historical maps show how the site was changing from 2004 and evolved to the wild park. (Figures 3.25.)



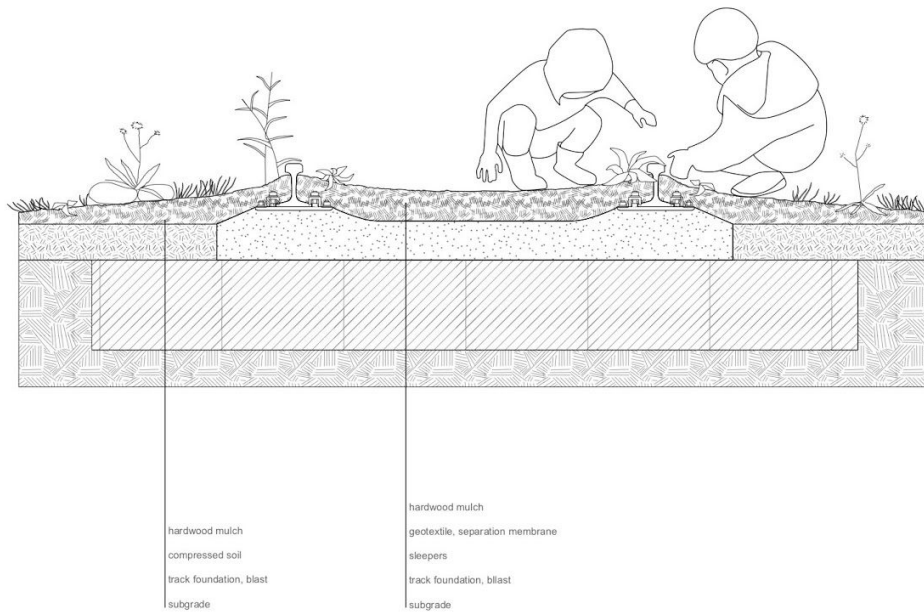
Figure 3.24. (Opposite page) Site plan, zones 'F', 'G', design proposal. Produced by the author

Figure 3.25. Historical maps of zone 'F'. Google Earth Pro. Retrieved from: <https://earth.google.com/web>



The design proposal is to preserve the existing green area and supplement it with park paths through the abandoned rail tracks which will lead visitors to a bridge.

Train tracks have been filled with the mulch and compressed industrial waste to form a path leading visitors through the thickets. (Figures 3.26.- 3.28.)



Figures 3.26.(Top,left) The park, zone 'F'. Photographed by the author

Figures 3.27.(Top,,right) The train tracks, zone 'F'. Photographed by the author

Figure 3.28.(Bottom) Detail F.3. Train tracks path, design proposal. Produced by the author

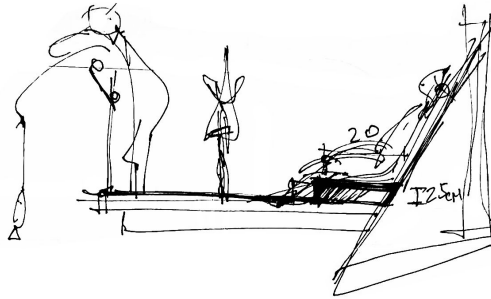
Based on the previous research was defined two possible structure which can be reused as a pedestrian crossing: the metro bridge and the 'Water Beam'. Design research considers both structures as possible option for the intervention and choose optimal design for the pedestrian bridge. (Figures 3.29., 3.30.)



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Figure 3.29.(Top) The metro bridge, zone 'F' and the 'Water Beam'. Photographed by the author  
Figure 3.30.(Bottom) The Water Beam, zone 'F'. Photographed by the author

### Proposal 1. The Floating Bridge



The Floating Bridge is the design proposal for reusing of the metro line. The proposal is a new 90 m span pedestrian and cycle bridge which is hung from the metro beam. The bridge forms a sweeping arc across the river and appears to float above water with little visible means of support.

A series of drawings aims to study the changes in perception of the surrounding which caused by the new structure. Elevated structure creates enclosed place under the metro beam, which can perform as a canopy providing shade and protecting from the weather (Figure 3.32.).

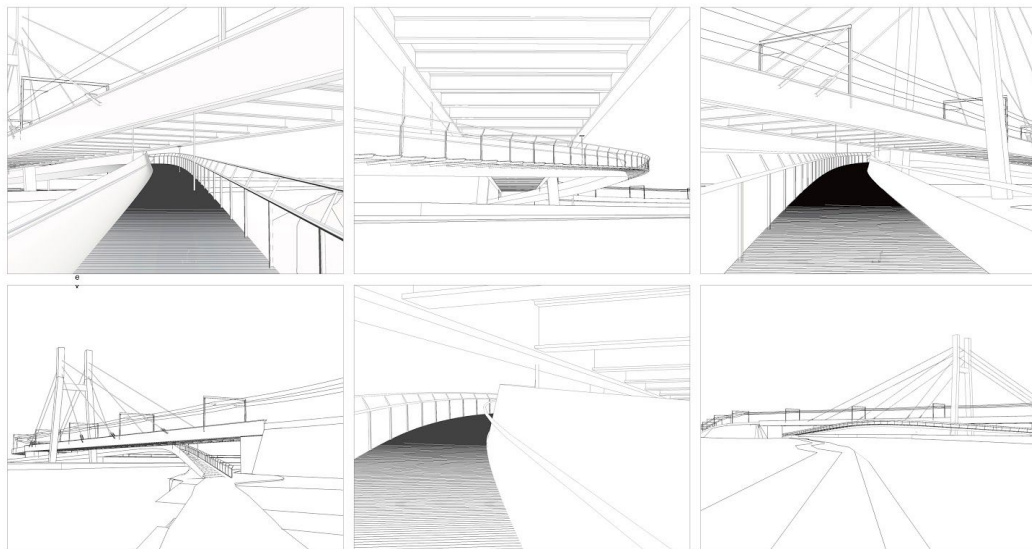
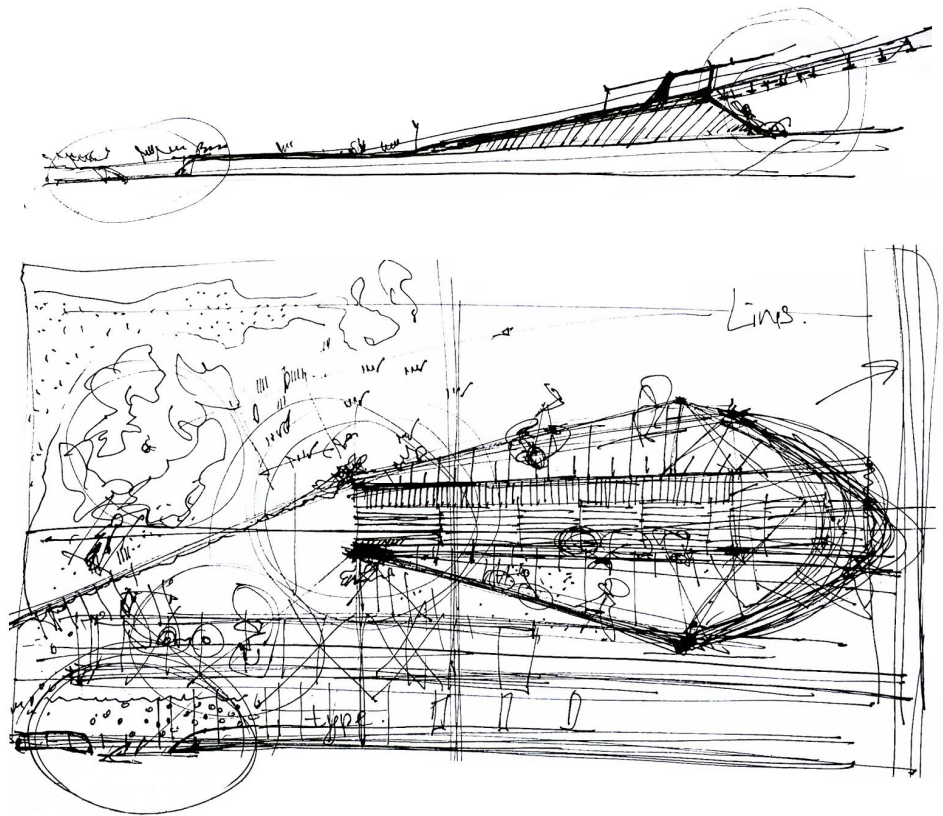


Figure 3.31.(Top) The Floating bridge.Sketch. Produced by the author of the thesis

Figure 3.32.(Bottom) The series of views of the floating bridge. Produced by the author of the thesis





The bridge is supported at two bases and with two cables which hang down from the main beam of the metro line, thus achieved the impression of the bridge floating over the water.

The main structure consists of a curved primary box beam which carries cantilever supports for the decking. Triangular in section beam resists bending and torsion experienced by the deck. The triangular beam is also the spine of the bridge, and all load from the timber deck and a stainless steel mesh balustrade is transferred to the cantilevering cross beams. This then applies torsion and bending to the girders, the torsion in one arm of the bridge being resisted by the bending capacity of the other. Horizontal loading is resisted as the bridge acts as an arch, supported by bracing which ties all elements together. (Figure 3.34)

Figure 3.33. The Floating Bridge. Sketch, a section and a plan. Produced by the author

Figure 3.34. (Opposite page) The Floating bridge. Structural system. Produced by the author



**Stainless cables**

The bridge is suspended from the existing main bridge structure on the stainless cables.



**Main structure**

Curved triangle in the section frame which carries cantilever supports for the decking.



**Cantilever supports for the decking**

All load from the deck and balustrade is transferred to the cantilevering cross beams. Horizontal loading is resisted as the bridge acts as one unit, supported by bracing which ties the two girders, the edge beam and the cross beams together.

**Support of the bridge**

The bridge gradually goes from the height of five into the green hills.



**Stainless cables**

The bridge is suspended from the existing main bridge structure on the stainless cables.

**Stainless steel balustrade and fittings**



**Handmade timber deck**



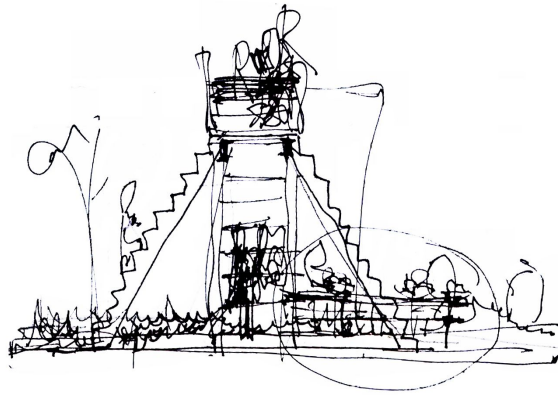
**Support for the bridge**

The bridge gradually goes from the height of five into the green hills.

**Stainless steel columns**

The part of the 'Cockrell Sander' steel manufacturer.

## Proposal 2. The Overpass



Following the methodology of George Descombes was decided to change the design approach for the crossing element. Thus, it was decided not to create a new bridge under the metro line but enhance what is already there through reusing of the Water Beam structure.

The overpass aims to draw attention to the industrial character of the place. The design adjusts the structure to people through the minimum means which ensure the safety of the bridge but preserve its industrial character.

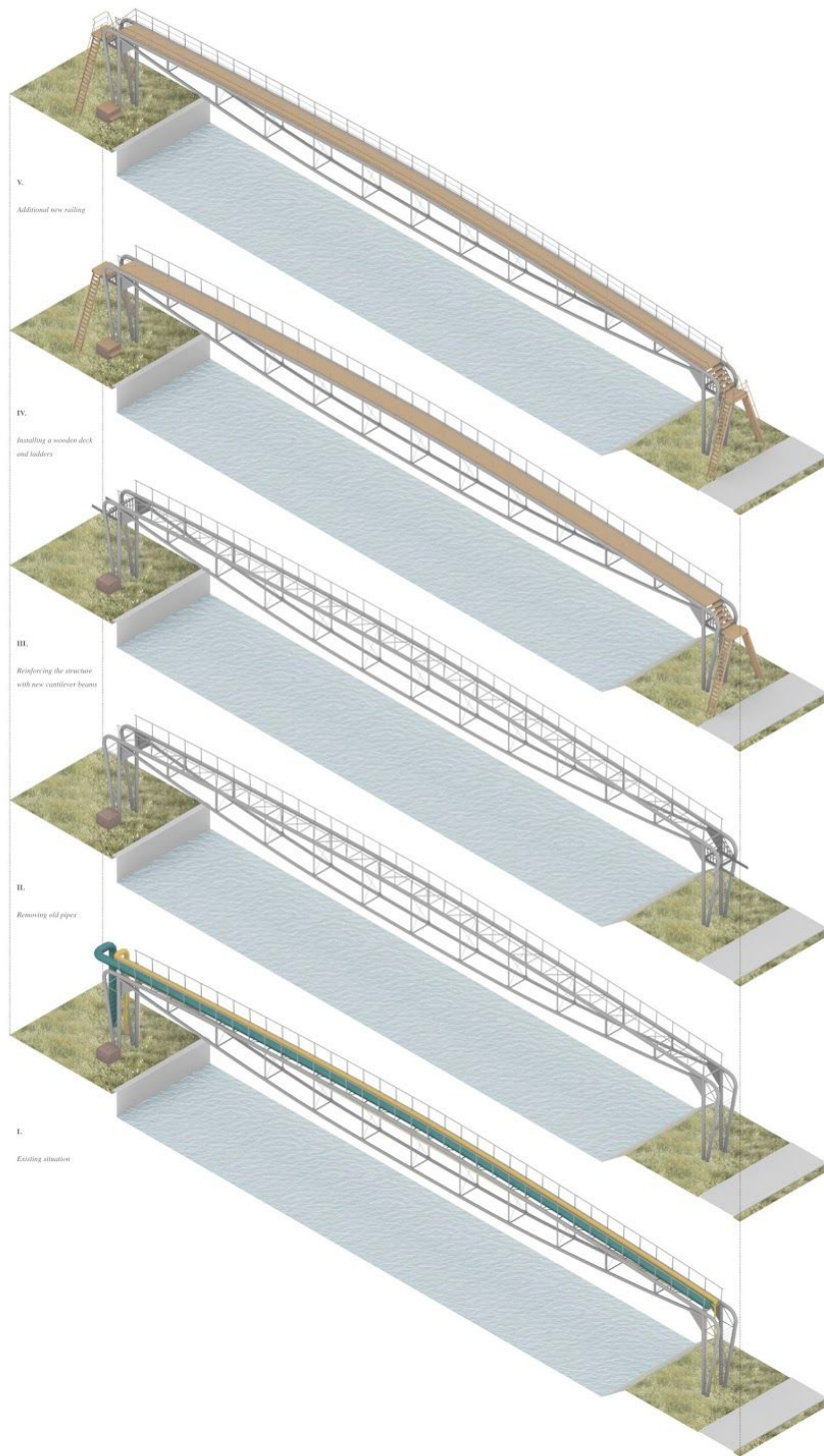
Visitors can climb a ladder to the top of the bridge from where open a remarkable view on the industrial area.

The old pipe which used to transfer water were replaced with a wooden deck. A steel mesh and hand railings were set up on the existing structure providing secure for visitors. (Figure 3.34.)

---

Figure 3.35. The Overpass. Sketch. Produced by the author

Figure 3.36.(Next page) The Overpass, design proposal. Structural system. Produced by the author



The 'Overpass' activates potential of the place and encourages future development of leisure programs. Access to water allows the space to be used for water activities like kayaking and fishing.

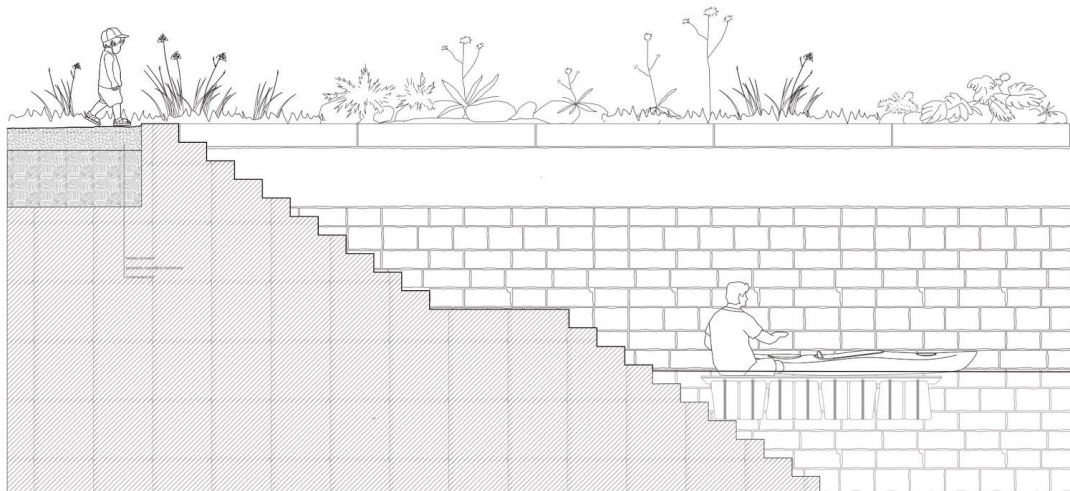


Figure 3.37. Detail F.4. Design proposal. Produced by the author

The intervention which should complete the path is a link between the RAVel track and the Southern residential areas.

A part of the road in the place of the ‘Air Liquide’ chemical plant is closed blocking the flow of people. (Figure 3.38. )The intervention assume to open the way for pedestrians and cyclists through moving of barriers; instead of facing the hall area to move protective barriers close to the active industrial parts leaving the public road accessible.

The link with the Marchienne-au-Pont and Villette neighborhoods completes the path and joins the site with the residence of the areas. (Figure 3.39.)



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Figure 3.38.(Top) RAVel track entrance. Photographed by the author

Figure 3.39.(Bottom) Residential area entrance. Photographed by the author

## CHAPTER

**XS****THE PATH**Design exploration

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The XS chapter further develops the design interventions which were established within chapter S and presents the path as an application of the design strategy. The path aims to join the site and open it to people through the small interventions which enhance the athenric qualities of the selected places.

The project is represented through the set of drawings which illustrate the spirit of the place and present design interventions.

I would like to take you for a tour through the authentic places of the site. The tour starts at the mark 'A' on the top of Baymont terril and end up at the mark 'I' the Villette neighborhood. The map of the Zone-1 will help you to follow through the new experience of the site.

# A

## THE INDUSTRIAL SILHOUETTE

*'Everything we needed was already there, and it was our job simply to find and re-present these features through a discreet architecture.'*<sup>18</sup>

George Descombes, 'The Swiss Way'

You are now standing on the top of the cable car station - an observation platform which is the highest point of the terril chain, 158 m above sea level. You arrive here by following the hiking trail through the spoil tips range starting in the city centre, or straight from Le Bognou residential area. From the observation platform you are treated to a stunning panoramic view over the city. In the Southern direction, it is possible to overlook the silhouette of the industrial landscape, which gradually shifts from these green terrills to factories.

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Figure 4.0.(Opposite page) The Industrial Silhouette. Observation platform on the top of cable car station. Design intervention. Produced by the author

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<sup>18</sup> Descombes G., Tironi G. (1988). Swiss Way. *Shiting Sites* (pp.82). Geneva, Roma: Author





# B

## THE FLOATING PATH

Instead of following the car bridge, you can take a cable car from this station to arrive on the Industrial Island and visit the abandoned factory across the canal .

Cable transport in this area was used to connect the factories, transporting materials above the canal. These structures were forsaken and some of them were dismantled. The renewal of the cable car system reconciles with the industrial past, connecting it to people.

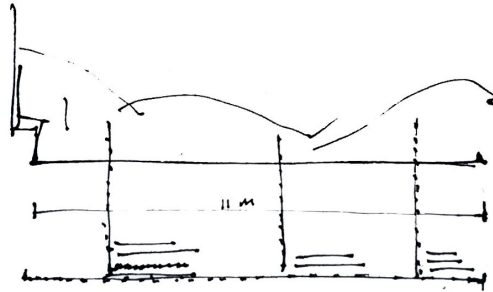
Landing on the 'Bunker station' you arrive in an alien landscape of stones, metal and ruins. The remnants of the bunker were a barren heap of sand. These relics were reused and adjusted to the requirements of the cable car station. The sand slope and the added staircase now invite you to climb on the top of the station and gaze upon the industrial heritage.

Exploring area you walk through the abandoned factories. The wild vegetation breaks through the concrete and crawls into the buildings. Wild flora here seems to have become dominant over time, gradually taking control over everything in its path.



# C

## THE TRENCH



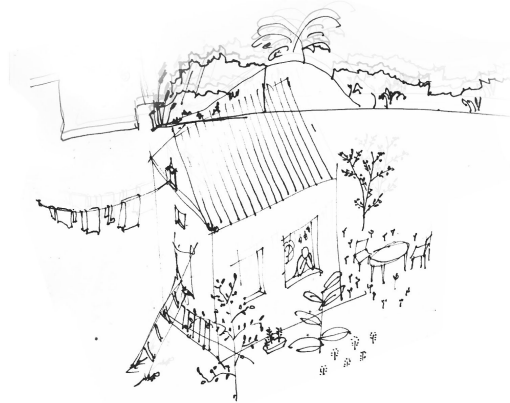
Moving south from the abandoned factory we pass through the green trench, situated between the active electrical plant on the left and the a wild flower covered heap on the right .

You now see the Rokerill the famous alternative concert hall of Charleroi. The building used to be part of the 'Cockerill Sambre' steel manufacturer.



# D

## THE LOCKED HISTORY



Turning left in front of the Rockerill you pass through a small courtyard, which is squeezed between the old Water tower, the electrical plant and the concert hall . The tower used to be attached to the Rockerill building, functioning as a one system. Today though, the buildings have different characters and programs.

This forgotten space became a place to take a rest, have a drink, check out the bizarre environment, or listen to the improvisation of musicians from the Rockerill.

This courtyard used to be closed for visitors. Now it is open and separated from the busy street with the semi permeable brick wall, creating an enclosed space. The metro and bus stops right next to the Rockerill, so you also can easily arrive by public transport.

Don't stay here too long though, you still need to visit the 'blank spot' across the road.







# E

## THE BLANK SPOT



'Blank spot' is a paved event plaza stretching along the waterfront, from where we have a perfect view of the 'Urban Dream Wall', as well as the industry across the water. This place used to be neglected and closed, today though it has strong public relevance. Depending on the day of the week you can join different types of events like open air concerts, food markets, or sport events.

The elevated metro station creates a permeable border between the street and the plaza which evokes a feeling of secur, without the need to create an additional barrier. The ground underneath the metro line used as a flexible space for the events covered functions, but also provides bike parking, lockers and restrooms.

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Figure 4.4.(Next page) The Blank Spot. Event plaza. Everyday activities, open air concert, market, sport event. Section 'F.5.' Design intervention. Produced by the author











# F

## THE OVERPASS

To the right of the ‘blank spot’ we find a small wild park, which was until recently also closed for visitors. Here you can reach the ‘Overpass’ by following the abandoned rail tracks.

The ‘Overpass’ is a bridge that repurposes an existing industrial structure. Pipes that were used to transfer water are removed to save weight, and are replaced by a wooden deck, a steel mesh is added to the railing for additional security. This transformation of an industrial relic makes it accessible for people.

When you climb the ladder to the top of the bridge, you have a remarkable view over the canal and its industrial surroundings. Climbing this ladder intrigues and enhances our experience of the industrial atmosphere.









# G I

## THE HIDDEN WAY

*'I see landscape as a question and an invitation. In this border zone between heaven and earth we try to find our way and tell stories to colour our lives and to give them meaning.'*

Andrei Tarkovsky, 'Roadside Picnic'

Following the channel to the West along the RAVel track you can turn left next to the 'The hidden way' passing through the 'Air Liquide Chemical Plant' (G).

This path joins the site with the Southern residential areas(I).From here you can go straight through the tunnel if you want to take a metro or a bus to the center, or visit Marchienne-au-Pont or Vilette. It is also possible to turn left and continue the tour through the industrial area leading you back to the centre.





## REFLECTION

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### ENTANGLEMENT CONCEPT

*Human tends to creep back into the most unlikely places if given half a chance”*

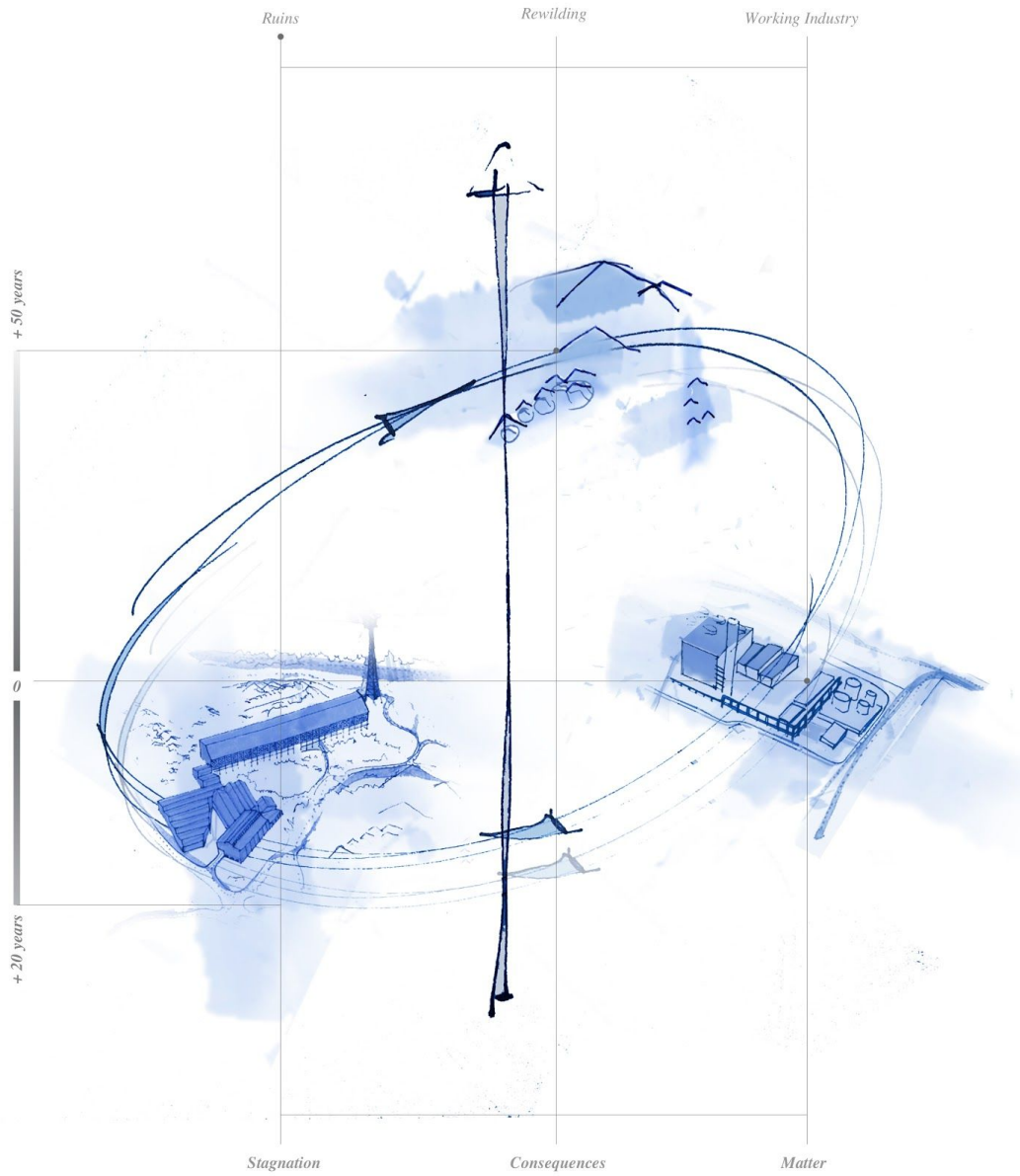
Tomas Ooms

An entanglement concept between the sites is represented in the sketch. Each of the sites is marked with its most characteristic element: green terrils, active and abandoned industry. The position of these elements show the evolution of the site It shows how its attracting qualities change over time, and how one phase follows the other.

- The steel factories were a landscape exclusive for workers active in the manufacturing process. An alien world for the outsider which was off limits and never seen as an environment with leisurely qualities.
- After abandonment, it is this exotic character of the place, that creates a new type of attraction for the explorer.
- When nature eventually reclaims the sites, it becomes more universal in its attraction, maybe even fit for visitors, but never loses this bizarre feeling of worlds colliding.

The wildlife has a chance to evolve in brownfields and industrial ruins without special treatment and maintenance proving the statement of Dave Goulson that ‘Nature tends to creep back into the most unlikely places if given half a chance’.

The initial idea was when polluted areas can become a heaven for wildlife evolved during the dissertation research to a wider view where a human as a part of nature also ‘tends to creep back if given half a chance’.



## DESIGN EVOLUTION

The final output of the master dissertation within the ‘Architecture as a Cognitive Craft’ framework represented as a coherent series of drawings which were evolving during the dissertation. The drawings communicate an architectural atmosphere of space and guide the design strategy for the research site.

During master dissertation was developed a map with the set of drawings which communicate the narrative of the path.

### Final output

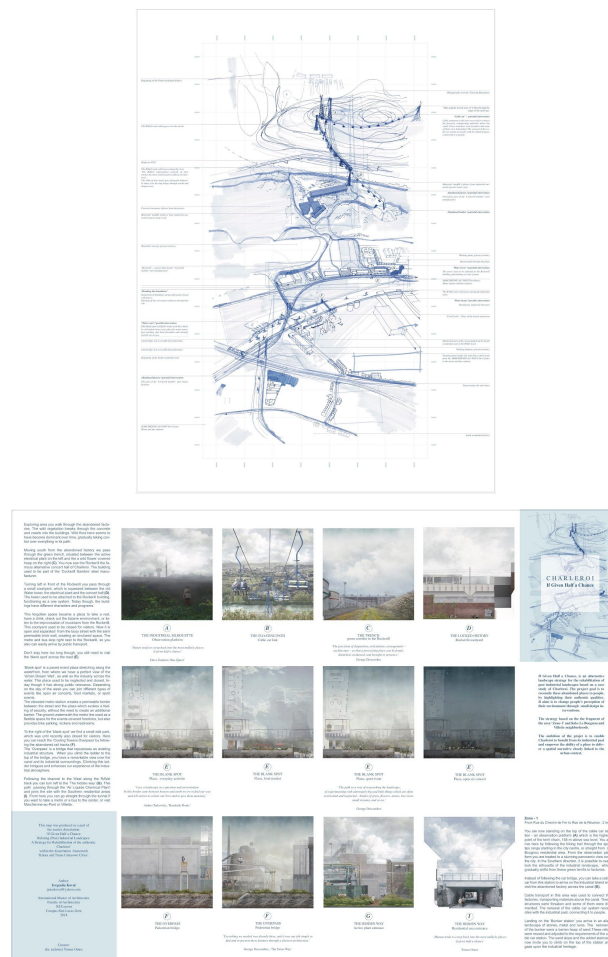


Figure 5.1. Final design output. Produced by the author



Work in progress

**24|11|2017**

The first set



**14|02|2018**



**30|05|2018**



Figure 5.1. Work in progress. Presentations setup layout. Produced by the ather

6|06|2018

Model for the final gyri table setup layout

**Set - 1**

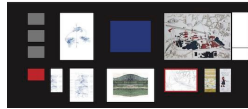


Table 1

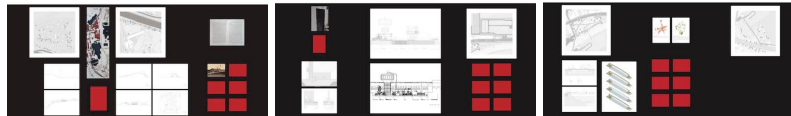


Table 2

Table 3

Table 4

**Set - 2**



Table 1



Table 2

Table 3

Figure 5.2. Work in progress. Model for the final gyri table setup layout. Produced by the author

**Final set**



Table 1

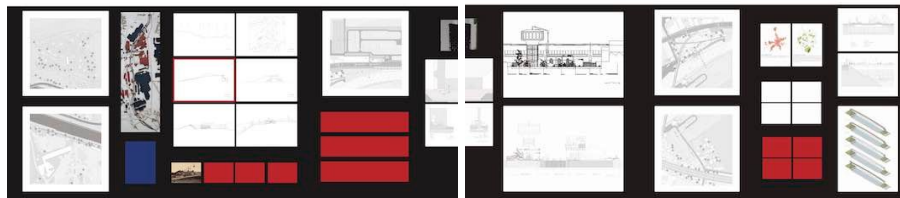


Table 2

Table 3

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Figure 5.2. Work in progress. Final setup layout. Produced by the author

## CONCLUSION

The thesis develops the alternative landscape strategy for the rehabilitation of the industrial site through the small design interventions which highlight the authentic qualities of the neglected places.

The project reconciles the site to people through this path which links the site with the residential areas and activates the potential of previously closed spaces. The project imposes a change in people's perception of their environment through the interventions which stimulate a reflection on totally ordinary matters.

*'Perhaps the matters that are not noticed are those that are essential.'*<sup>19</sup>

Descombes George

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<sup>19</sup> Descombes G., Tironi G. (1988). *Shiting Sites* (pp.85). Geneva, Roma: Author

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APPENDIX

Charleroi  
If Given a Half a Chance  
Map of the Path