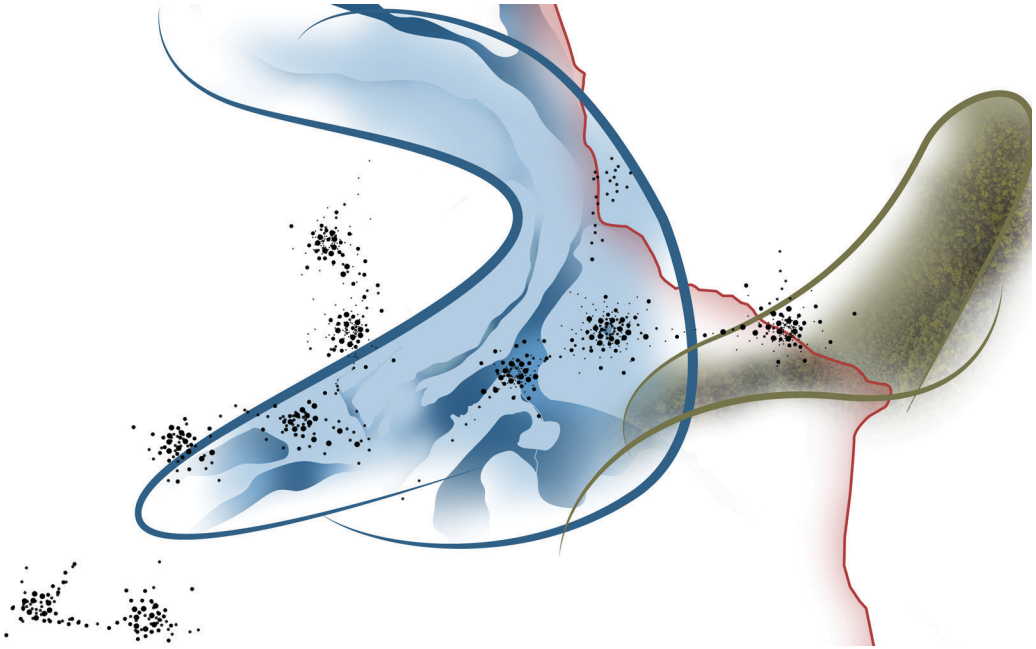
LANDSCAPE DEVELOPMENT IN THE BORDER CONDITION

t h e b o r d e r l a n d a s a c u l t u r a l i n t e r f a c e

report



MSc Landscape Architecture
TU Delft

June 2017

"Once we accept our limits, we go beyond them."
A. Einstein

Abstract

the development of the landscape around the national border, a usually “unreachable” space due to mentality issues and practical difficulties, is the subject of this graduation project. Enhancing inner connections, literally and symbolically, has been the key to preserve and celebrate the unique qualities of the borderland. A combination of structural continuities and punctual interventions was proposed, with the natural landscape acting as the base upon which connections and boundaries –physical, mental, soft, hard- are at a constant dialogue. Being multi-scalar in nature, with a regional perspective as well as local elaborations, the project envisions a development of the borderland in all aspects –ecological, economical, cultural- that will attract people’s attention and trust and, hence, turn this landscape from edge to core.

Contents

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introduction

1.1. Fascination

Rift, Michael Heizer, Jean Dry Lake, south of Las Vegas (1968)
image source: http://territorealities.tumblr.com/post/31527852144/michael-heizer-rift-deteriorated-1-of-nine

the starting point of this project has been the author's fascination about the impact that the action of drawing a line –on a paper or on the ground- has to its surroundings. This seemingly simple gesture has in the end a very strong effect, as it defines –and divides- the territory, creating parts that used to belong to the same whole. It is a plain geometrical form with a strong spatial impact.

the border line has a similar power. It encloses a territory and gives substance to its people. These people feel protected due to the presence of this line and at the same time unique and different from the ones living on the other side of it. The willingness to study the border's qualities as a mental and spatial influencer led to the formation of this project's research objective and, eventually, to the design proposal.

1.2. Project description

this graduation project, entitled "Landscape development in the border condition- the borderland as a cultural interface", acknowledges the impact that a border has to its surrounding landscape and seeks for ways of preserving the atmosphere of this place and enhancing its unique qualities. To test in theory and practice the borderland, a site has been chosen at the edge of The Netherlands, where the Rhine flows and materializes the border with Germany. The site is firstly analyzed on a big scale through six different lenses, to study the relation between the national border and the underlying landscape. This analysis is followed by a more in-depth search of other borders and boundaries that eventually create the effect of the fragmented borderland. Solutions are then being proposed in the form of connections, through structures and punctual interventions. The proposal focuses on the natural landscape and its processes, which is suggested as the basis for other types of development (economical, cultural). The design elaboration is of a multi-scalar nature, that emphasizes the multiple levels of interaction between the proposed connections and the existing boundaries. A final reflection looks back at the project, to verify whether the proposal eventually responds to the author's initial research objective.

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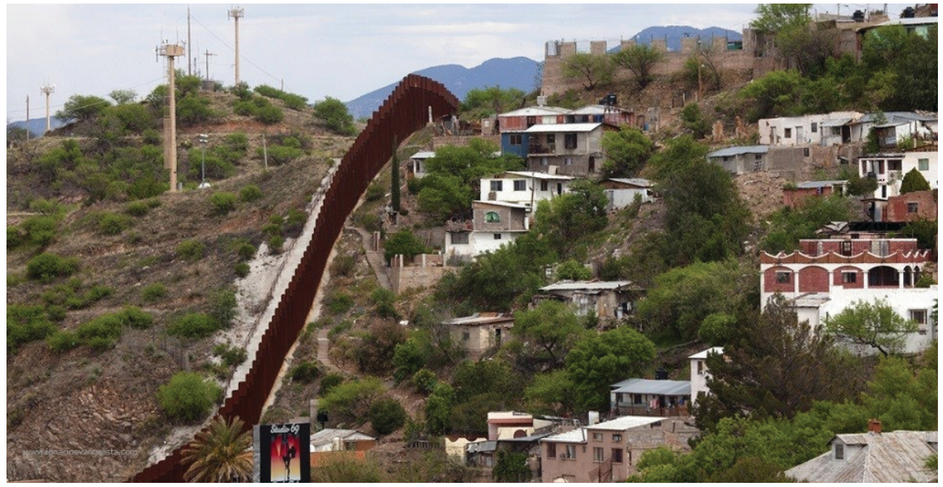
the issue:
the border landscape



Border fence betw. USA & Mexico, Ignacio Evangelista
image source: https://birdinflight.com/world/the-unimaginary-line-mexico-united-states-border-fence-in-ignacio-evangelista-s-project.html

It is true that the border is usually understood as an element, spatial or figurative, that creates division. It is the manifestation of a group's desire to be separated from others. This limit "encloses an entity or collective while simultaneously separating this entity or collective from others"[1]. The idea of the border as a divisional line might enhance a group's (cultural) identity, but it does not encourage thinking in terms of communication or cultural exchange.

However, one should consider that, most of the times, the border is not just a line, but a broader zone, whose limits are blurry and open to debates and testings. In that sense, any kind of border could also be seen as a threshold, as a form of limit where "simultaneously beginnings emerge from and endings disappear into[2]".

Viewing the border as a threshold implies a shift in thinking, namely from considering it as a space of differentiation to looking at it as a meeting point of different agents and forces, as a space of encounter, where similarities are as much welcome as differences. A proper practice, thus, in such an ambiguous space, would focus on the act of "bridging" –not overcoming the differences, but pointing towards the similarities. These similarities could then become the connections, literal or imaginary, in order to create a more robust border landscape.

1 Schoonderbeek, M.G.H., p. 157
2 Schoonderbeek, M.G.H., p. 161

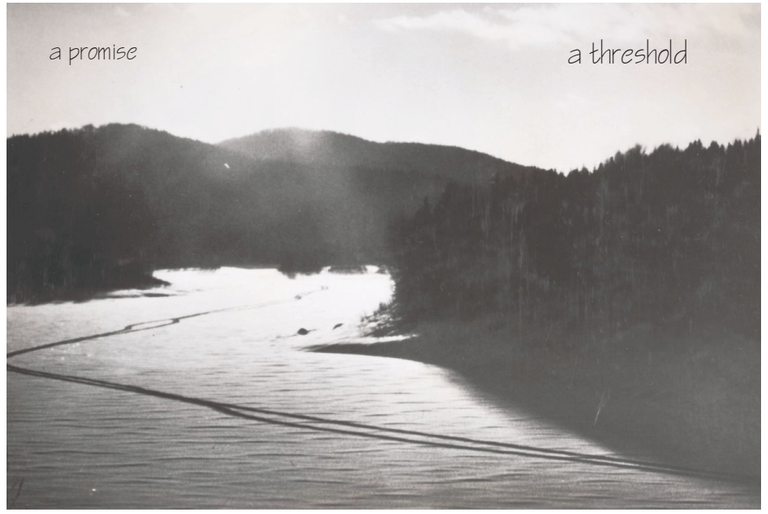
the border as...

an imprint of human actions

a promise

a threshold

a starting point



a place of freedom

an ending

a shell surrounding an entity

a manifestation of power

a zone of ambiquity

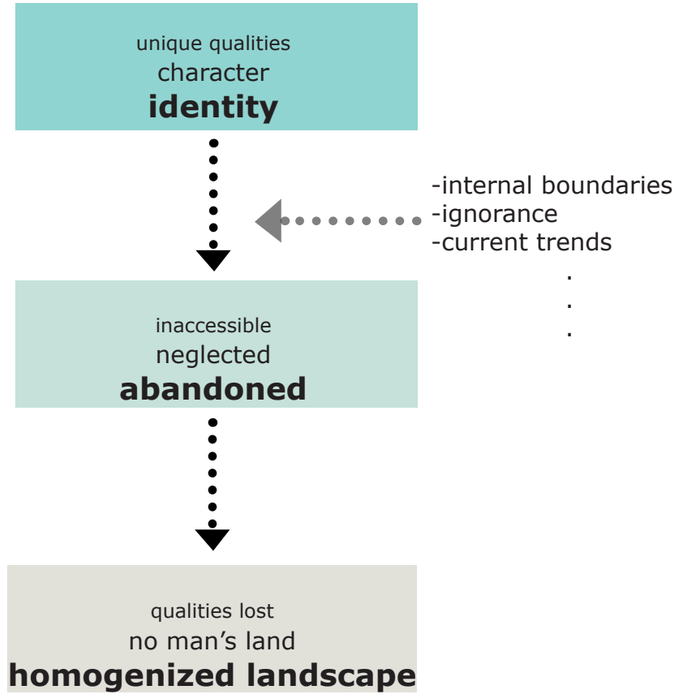
a place of diversity

a space of encounter

Time Line, Dennis Oppenheim (Boundary between USA & Canada)
image source: https://www.sfmoma.org/artwork/2004.132

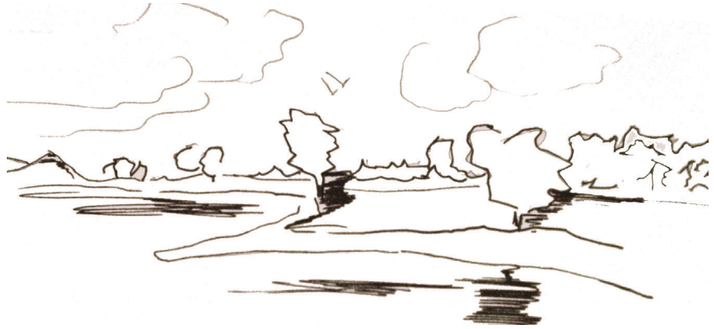
2.2. Problematique

Unfortunately, the unique qualities of the border landscape are nowadays at a risk of getting lost. Current processes and trends, mostly related to economy and technology, have resulted to the homogenization or loss of many landscape types. In most countries the prosperous core lies in the centre of the territory, leaving the edges at a state of abandonment. The border landscape, being part of these edges, faces similar dangers, especially if one considers the fact that it has been mostly linked to negative notions such as separation and division. A land with no identity is usually not appreciated by its users and eventually left at a state of neglect. This is already the case for several border landscapes and calls for attention. Since it is a matter which, among others, has spatial consequences, it also concerns professionals and theorists from the fields of architecture, urbanism, landscape architecture etc. It is crucial to search for a proper development in the border landscape, that will not deny its presence, but, on the contrary, celebrate it as a place with a unique atmosphere and an intriguing past.



2.3. Choice of location

The area between the Dutch village Lobith and the German settlement of Elten has been intriguing since the beginning of the graduation project, mostly because of its interaction with both the border line and the Rhine and because of its rich historical background. Lobith developed around its toll office back in the time when the river had a different shape. It was considered as a gate by those traveling from Germany to The Netherlands. Having a harbor and a waterfront, it had also established a strong connection with Elten due to the ferry boat transportations. When the river route changed, Lobith became an inland village and, hence, the toll office had to be moved. The area around the new toll office was gradually transformed to an urban environment, today known as Tolkamer. In the meantime, the river deposits and the quality of the ground resulted to the formation of stone factories along the river banks, which attracted people and led to the establishment of new urban settlements, like the village Spijk. The bonds between the Dutch citizens and the ones of the neighboring German cities, but also the strong relation between those people and their land, have been quite inspiring, when imagining a future for this borderland.



De Bijland, near Lobith
sketch by the author

the research objective of this graduation project is, therefore, to accentuate the unique qualities of the border landscape as a place of cultural diversity and meaningful encounters, by intensifying potential connections and by encouraging interactions taking place within it on a daily basis.

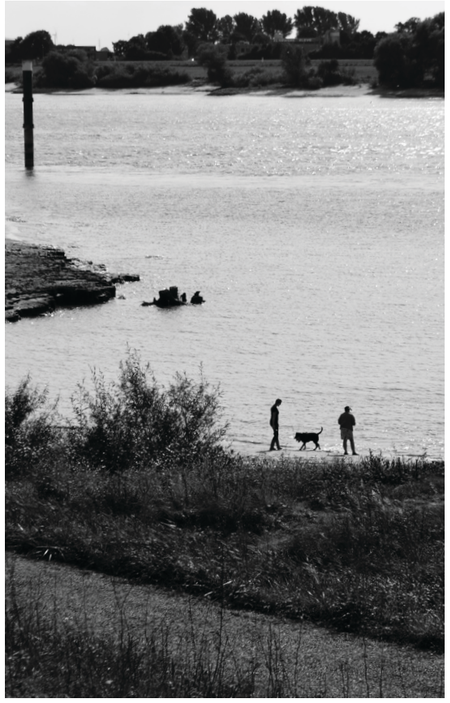


image source: author

in search for:

A flexible framework that responds to the area's current and future needs, while preserving its unique identity.

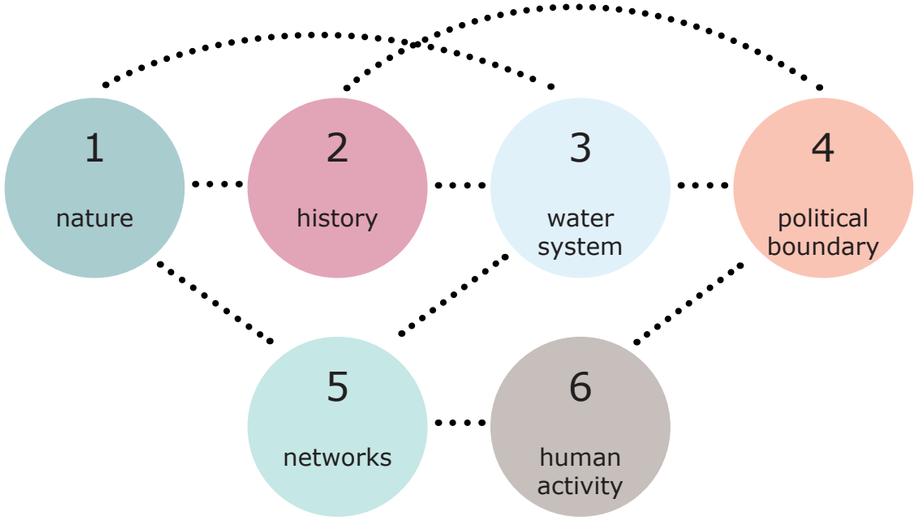
Points of attraction acting as the nodes of a network of physical, visual and imaginary connections.

A strong relation between man and land in multiple levels.

image source: author

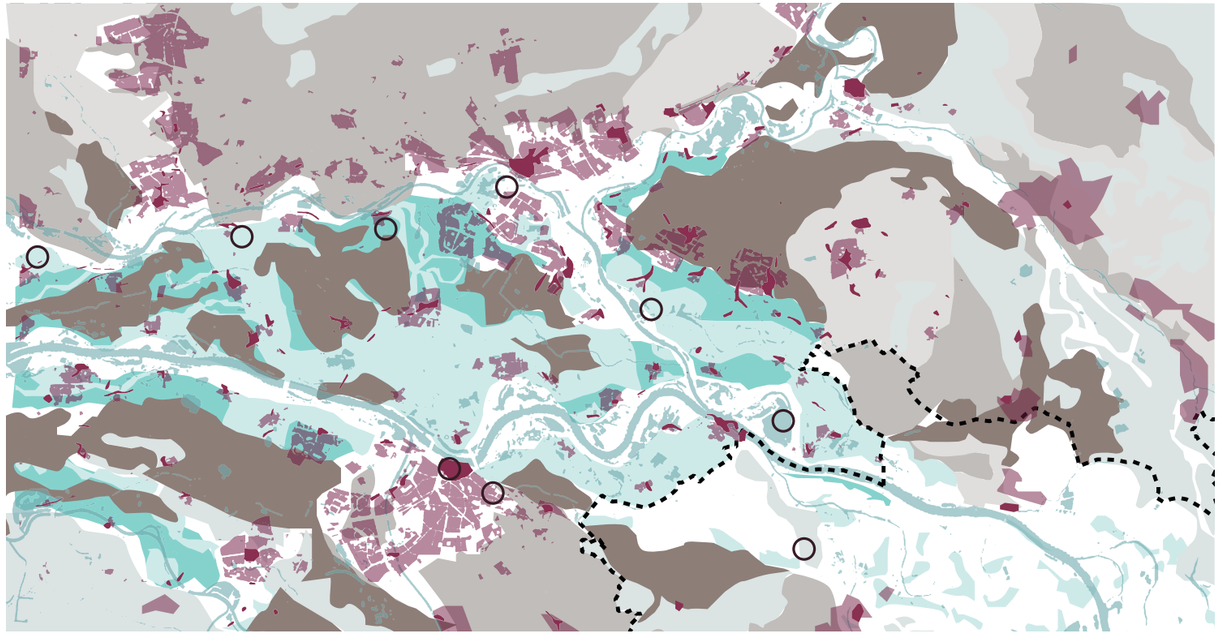
3

the area:
analyzing the borderland

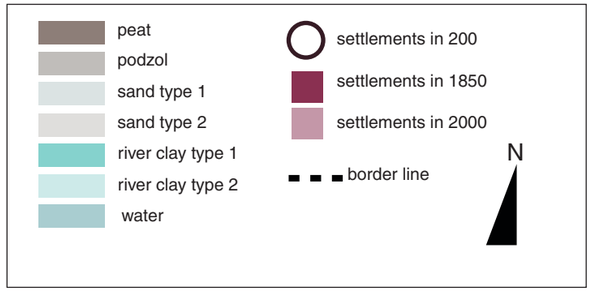


the 6 “lenses” & their combinations

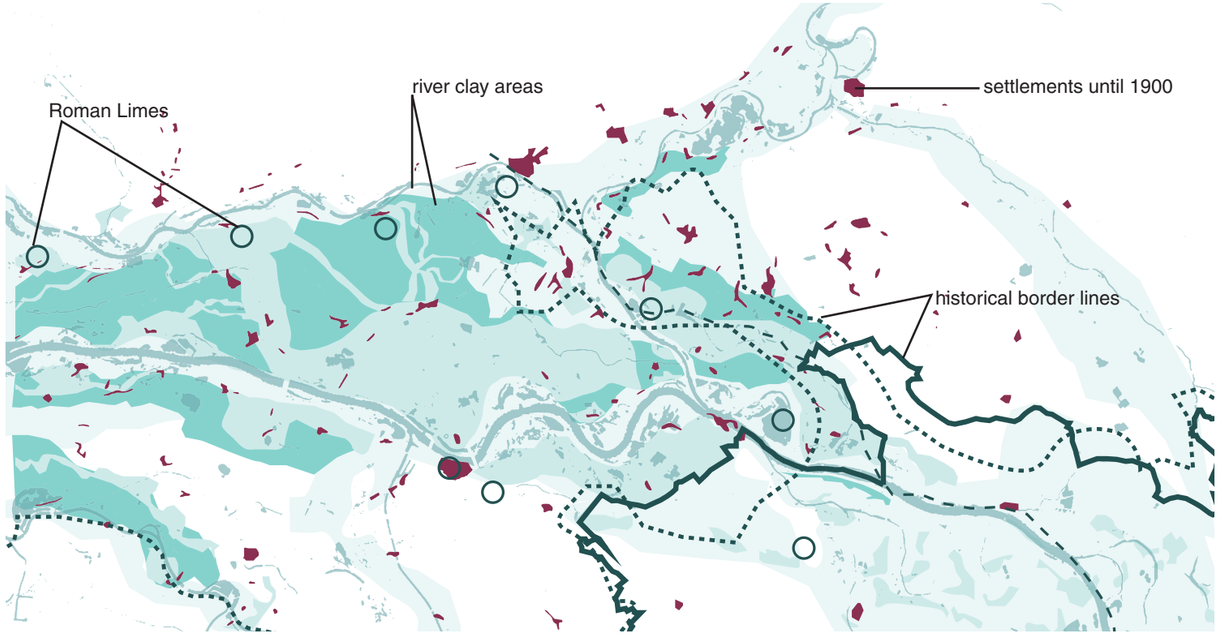
the objective of the analysis on the large scale was to test the relation between the border line and the continuity of the underlying landscape and to verify to which extent one influences the other. To do so, the area has been analyzed through six different lenses. It should be mentioned at this point that the purpose has not been to analyze everything regarding those lenses. Instead, by combining different layers of information, the goal was to reveal new sets of relations between the natural landscape and the manmade elements on it.



urban growth & geomorphology

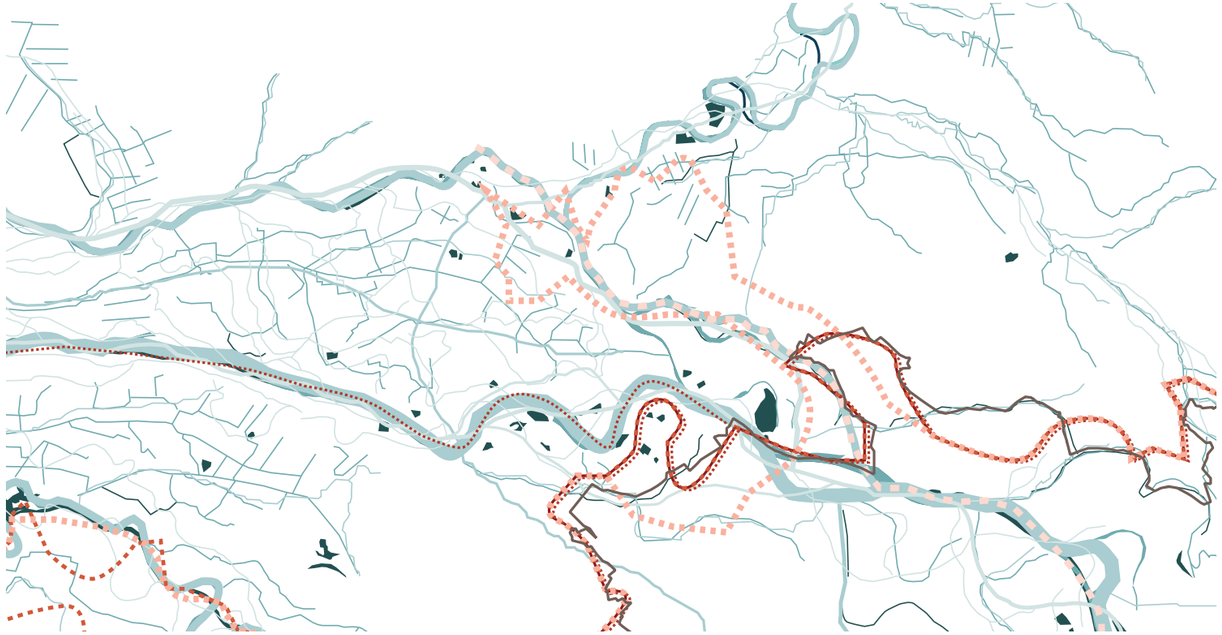


the superimposition of the geomorphology map and the evolution of the historical urban settlements gave a new insight into the way the different landscape types influenced peoples' actions throughout the border landscape.

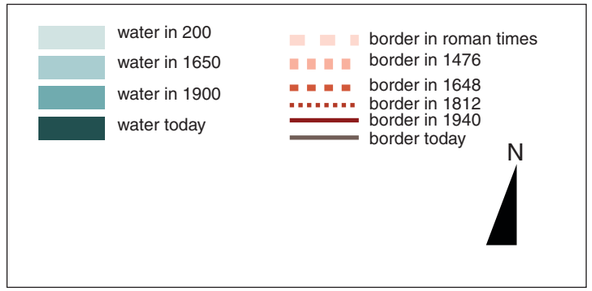


urban growth & geomorphology (synopsis)

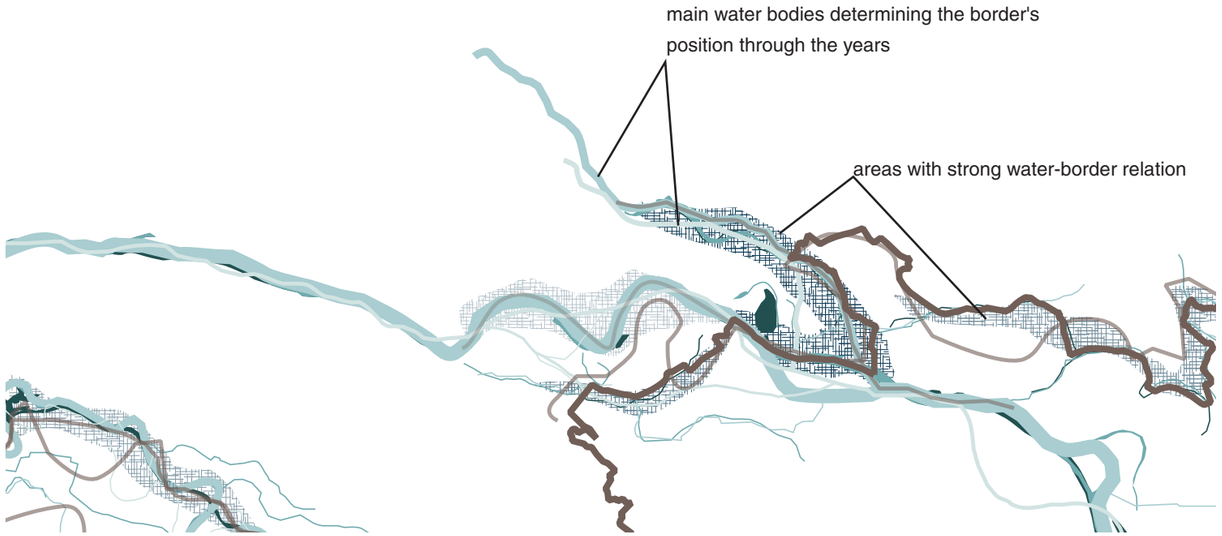
indeed, one can witness that most urban settlements were based on top of the river levees, namely the areas where most of the river deposits were gathered, as these places were higher compared to the rest of the river landscape. Naturally, the course of the border line followed this urban development. Therefore, one could argue that the river landscape has clearly affected the position and form of the border.



evolution of the water network & evolution of the border line



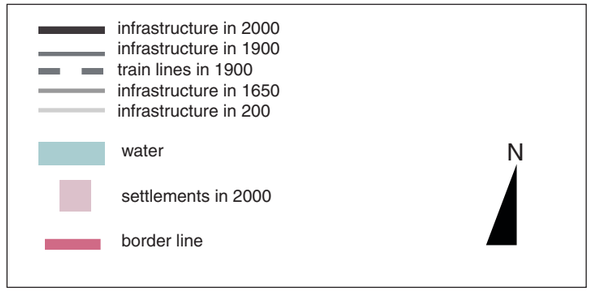
a similar relation can be seen between the river itself and the border. The course of the Rhine has not remained the same throughout the years, but, on the contrary, witnessed a lot of changes, mostly to facilitate navigation (eg. the opening of the Pannerdenschkanaal) and to prevent areas from getting flooded (eg. the cutting off of very curvy river routes).



evolution of the water network & evolution of the border line (synopsis)

When looking at the evolution of the water network in relation to the changes of the border line, it is obvious that some water bodies clearly affected the position of the border: the fact that the Rhine –or former parts of it- becomes part of the border line in several locations is surely no coincidence, but demonstrates the strong bond between landscape and man.

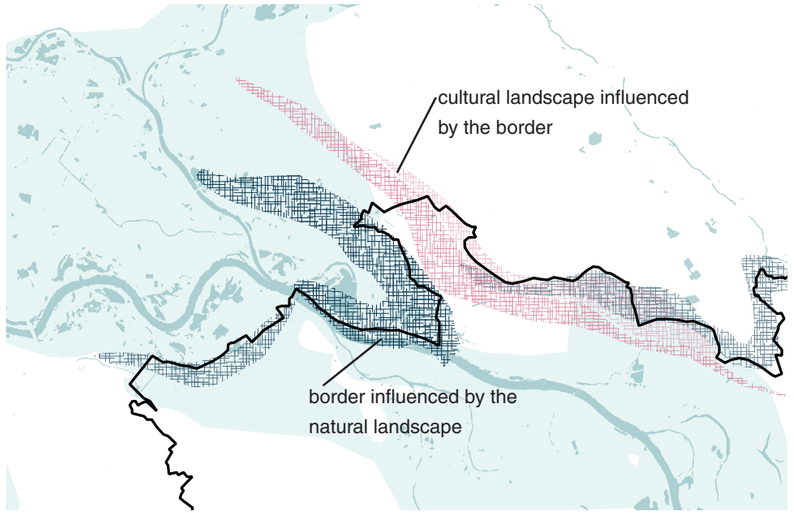
evolution of transportation networks



another conclusion of the analysis on the large scale was the strong relation between the urban landscape and the border line. Undoubtedly, the border line has been affected by the underlying natural landscape. But simultaneously, the border influenced the way people organized their lives around it.

evolution of transportation networks (synopsis)

by superimposing transportation networks from different historical periods, one can witness major infrastructural lines following the course of the border. It is hard to say which one influenced more the other, but one could definitely conclude that, in the end, the relation between the border line and the landscape – whether natural or manmade- is reciprocal.



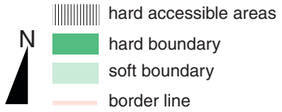
relations on the L scale (synopsis)

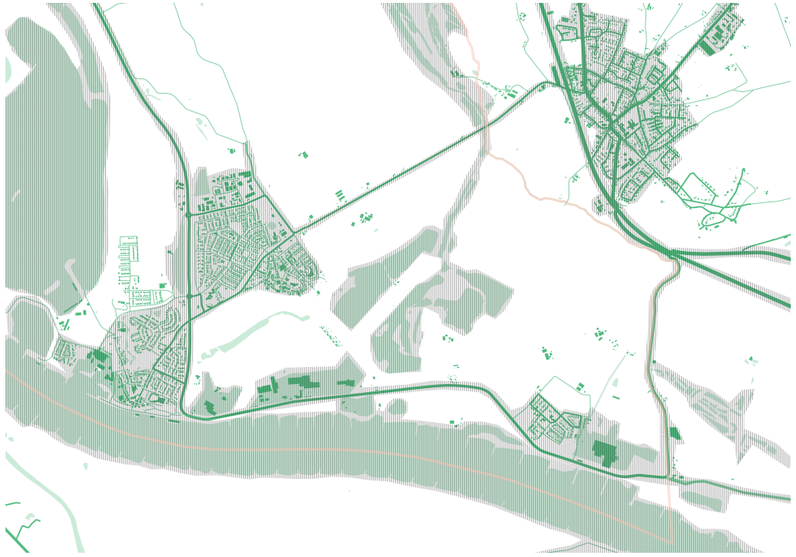
The shifts of the border line throughout the years, the movement of people and goods, are responsible for the particular qualities of this landscape. The presence of the line resulted to the creation of a zone, of a place with unique characteristics, of a borderland.

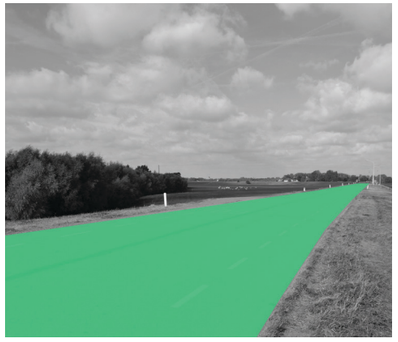
When focusing on the landscape around the urban settlements of Lobith and Elten, the effect of the national border seems distant, as one can witness other elements separating the land into smaller pieces and, thus, creating actual, physical boundaries.

physical boundaries

Water bodies or infrastructural lines on a bigger scale might act as connectors, linking distant areas with each other, but on this scale could be considered as physical boundaries, limiting people's movements and creating patches within the landscape. A certain variety can be seen in this type of boundaries: wide roads could be considered as a greater obstacle compared to the "softness" of a pond's fluctuating water. Scale also plays an important role in this case, as, for instance, the great width of the Rhine turns it to a seemingly unsurpassed obstacle.







hard boundary
image source: author

soft boundary
image source: author

elements causing visual interruptions

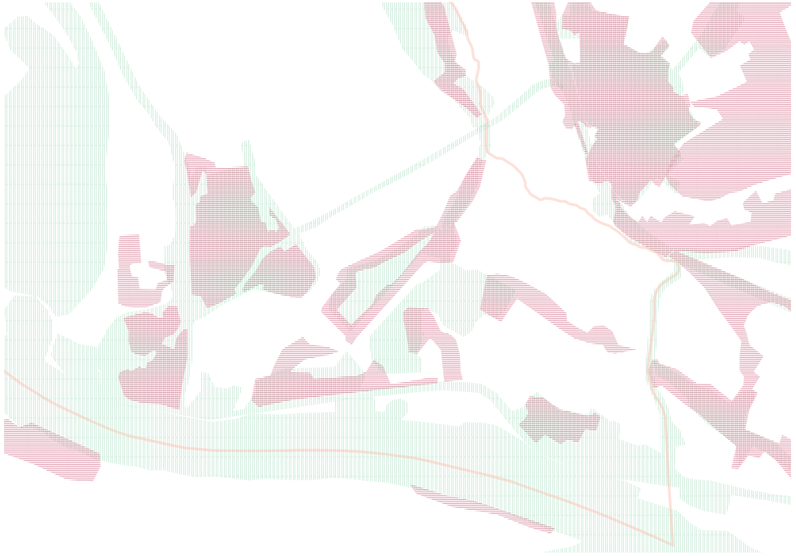
elements with a certain height, such as dikes, trees, or buildings, block people's views and the visual continuity of the landscape. The nature of these boundaries vary –hard materials such as concrete block entirely the view, while others like tree canopies are softer and more transparent.

hard boundary
image source: author

soft boundary
image source: author

a fragmented borderland

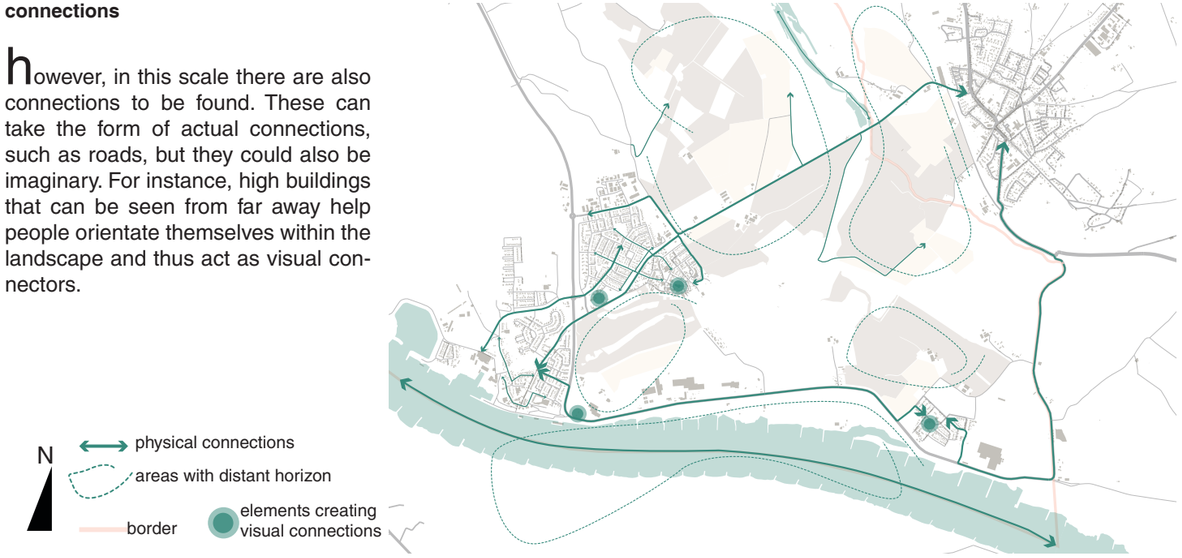
these two types of boundaries, when put together, create a lot of inaccessible areas –or "patches"- around the border line. In the end, one could argue that the act of reaching the border becomes a hard task not just due to reasons of mentality, but also practically. Under these circumstances, enhancing the role of the border as a place of daily encounters reaches practical difficulties, that should somehow be addressed.



inaccessibility as a main characteristic of the borderland
image source: author

connections

however, in this scale there are also connections to be found. These can take the form of actual connections, such as roads, but they could also be imaginary. For instance, high buildings that can be seen from far away help people orientate themselves within the landscape and thus act as visual connectors.

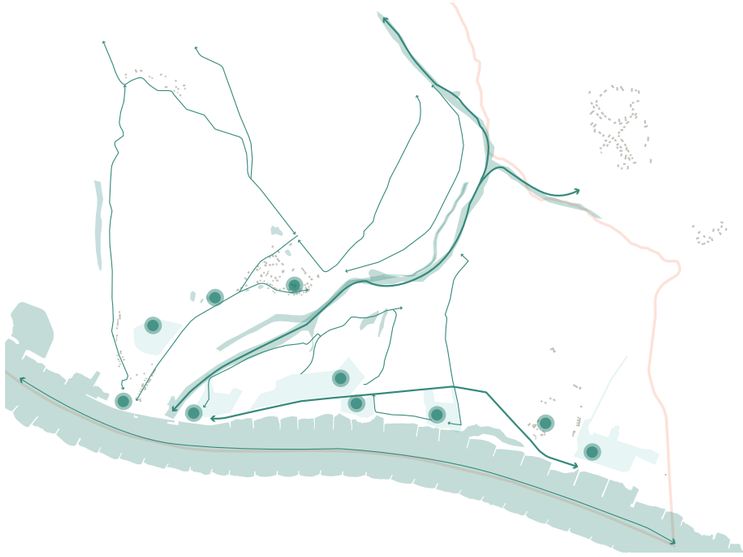


tall building
image source: author

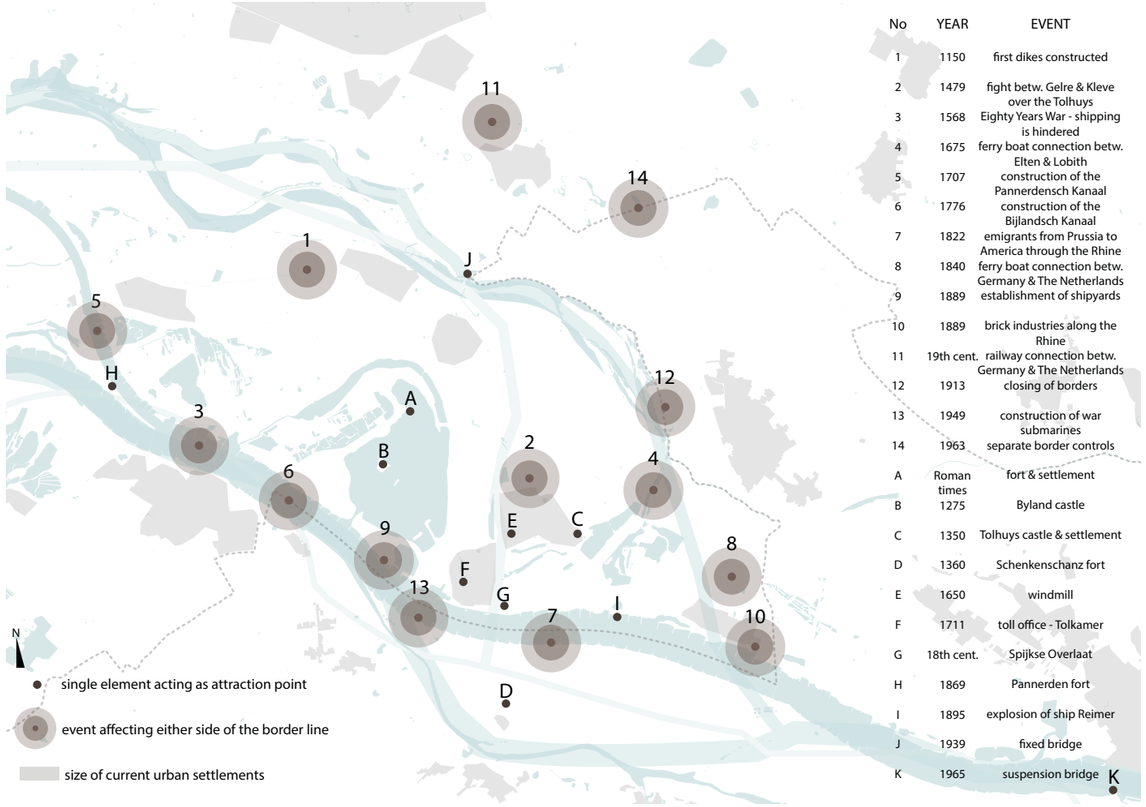
distant horizon
image source: author

connections in the past

in the past, these connections were even more. In a time when the urban settlements were much smaller than today, the most important infrastructural lines were the dikes, which not only protected from flooding but also acted as connectors. Moreover, there were more high buildings creating visual connections in the past. For example, this region has been known for the stone factories that were established in the beginning of the 20th century along the Rhine. The factories' chimneys could be identified from far away and defined the area's skyline. Furthermore, the region was characterized by a continuous water line (today only witnessed in the form of single water patches), which used to be Rhine's original flow. After a while, this part of the "Oude Rijn" was cut off, as it was prone to major flooding incidents. Instead, canals were dug out, that not only regulated Rhine's flow, but also facilitated navigation and transportation of goods. However, at the time when the Oude Rijn was still a continuous water structure, it also enabled communication via ferry boats between Lobith and the German settlement of Elten. In that sense, it acted as a major connector for this region, regardless the presence of the national border.



Lobith, 1660
image source: http://www.chrisvankeulen.nl/lobith.htm



No	YEAR	EVENT
1	1150	first dikes constructed
2	1479	fight betw. Gelre & Kleve over the Tolhuys
3	1568	Eighty Years War - shipping is hindered
4	1675	ferry boat connection betw. Elten & Lobith
5	1707	construction of the Pannerdensch Kanaal
6	1776	construction of the Bijlandsch Kanaal
7	1822	emigrants from Prussia to America through the Rhine
8	1840	ferry boat connection betw. Germany & The Netherlands
9	1889	establishment of shipyards
10	1889	brick industries along the Rhine
11	19th cent.	railway connection betw. Germany & The Netherlands
12	1913	closing of borders
13	1949	construction of war submarines
14	1963	separate border controls
A	Roman times	fort & settlement
B	1275	Byland castle
C	1350	Tolhuys castle & settlement
D	1360	Schenkenschanz fort
E	1650	windmill
F	1711	toll office - Tolkamer
G	18th cent.	Spijkse Overlaat
H	1869	Pannerden fort
I	1895	explosion of ship Reimer
J	1939	fixed bridge
K	1965	suspension bridge

shared events and memories

apart from the actual and visual connections, a third category would be that of common events and memories shared by both sides of the border. Whether it is about unfortunate memories, such as a war between the two sides or a flooding incident, or about happiest moments like the inauguration of a bridge that literally “bridged” the gap between either sides of the borderline, there have been events that marked both the Dutch and the German and act as mental connectors. Some of these memories are still alive in the form of surviving buildings that nowadays have acquired a new function (eg. the old toll office of Tolkamer, now turned to a hotel). In any case, these mental connections could be recalled through a design proposal for the area’s future.

structural and punctual connections

according to the previous analysis, connections within a territory could be divided in two groups: on one hand, there are those based on lines and other forms of continuities, or structures. On the other hand, a single element or a set of elements create visual or mental connections just as strong as the actual ones. Therefore, when seeking for ways of enhancing the borderland’s ambiguous and diverse character, one could opt for a structural and punctual approach, based not only on today’s reality, but also on history.

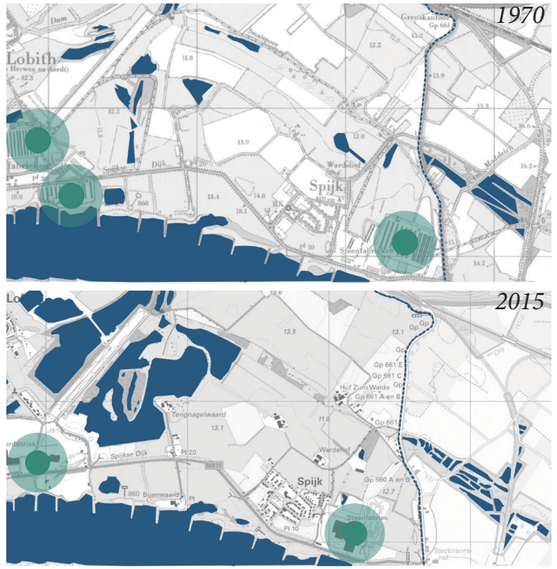
potentials

The search for potential connections led to decisions that are in accordance to the area's current conditions, but also reflect the borderland's history. For instance, the idea of connecting the single water bodies to a continuous whole would undoubtedly recall the area's past since the Oude Rijn used to flow on the exact same location, but as an action it can be supported by today's circumstances. More precisely, it is a process that requires digging out soil in order to bring separate water ponds together. This process could be combined with the function of the stone factories along the Rhine. Since digging is one of the main actions when producing stone materials, this landscape offers a lot of opportunities. A question that arises, however, is whether this newly-carved landscape will eventually look "natural".

water body between Lobith and Spijk
image source: author

how "natural" is nature?

The answer to the previous concern is given directly by today's landscape around Lobith and Spijk. As one passes by the water bodies next to the two settlements, he/she might think that they look completely natural. They are surrounded by densely vegetated environments and accompanied by the sounds of birds and other animals. This image is misleading, as these water environments have not been developed only thanks to natural processes.



formation of water bodies around Spijk

a study of the area's historical maps reveals that in the beginning of the 20th century most of these water bodies were not present. By the time the first stone factories were installed in the region, one can witness water in the form of large ponds to arise in a once empty space. Year by year these ponds became even bigger and, after a while, when all soil was dug, they were left to nature's forces. Nature's "invasion" in the area resulted to today's image.

water body in the Ooijpolder, The Netherlands
image source: https://www.steenennatuur.nl/Geschiedenis/

getting inspiration from a precedent:
nature in the Ooijpolder

Other areas along the Rhine with a similar industrial activity prove that the "naturalization" of water bodies is not a rare event. For instance, in the nearby Ooijpolder another stone factory has been digging the land for several years. Today, the former pit areas, now filled with water and vegetation, by no means recall the site's previous function. This practical information offers to the project a more realistic perspective, proving that the wanted connections can be achieved with the help of the area's current activities.

former stone industry in the Ooijpolder
image source: https://www.steenennatuur.nl/Fotos/

4

the application:
the structural & punctual approach as a strategy for the border landscape

the application of the structural and punctual approach on the site implied the categorization of the design principles to structural and punctual interventions, accordingly. The structural interventions are applied mostly on infrastructural lines, water features and natural areas and are therefore more related to systemic relations. The set of punctual interventions refers to small-scale, local actions and addresses mostly the cultural aspect of the border landscape. Both the structural and the punctual interventions focus on enhancing the literal connections within the border landscape, while pointing out the symbolic nature of such connections.

design principles - structural interventions

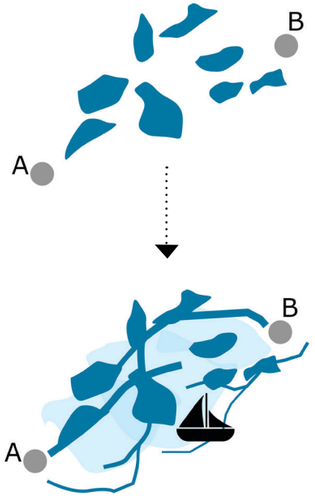
1 Enhance the presence of certain infrastructural lines. Reinforce their role as connectors by reorganizing the transportation network around them. Create a road system that not only connects the urban settlements of the border landscape, but also offers interesting views and sometimes access to the natural areas around the border.

2 Connect single water bodies along the border line to create a continuous water structure. Take advantage of the water fluctuations to introduce a “softer” border as opposed to “harder” boundaries such as roads and dikes. Get inspired by the area’s past and make actual use of the newly-created water continuities by proposing a short navigational route. Reuse the soil that will be dug out in other activities and enhance the proposal’s sustainable character.

3 Take advantage of the ecological potentials and the current relief conditions of the border landscape to reinforce the presence of various landscape types (eg. forested areas, wetlands) and create a more diverse ecosystem along the border.

4 Make use of historical lines (eg. old dikes) and add them to a pedestrian network along the border line. Turn former boundaries to actual connectors with the purpose of better experiencing what the border landscape has to offer.

5 Propose future extensions of the Dutch and German settlements towards the border line. Bringing people literally closer to each other is a gesture that will emphasize the role of the border as a place of encounters.



create continuous water structures

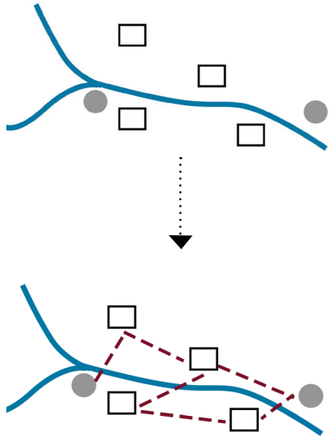
design principles - punctual interventions

6 Introduce a set of pavilions on the border landscape with an educational and recreational role. They will make people aware of the border's qualities in terms of nature, culture and history. They will act as a "window to the region's past". Regarding their architectural detailing, they will be made of materials reflecting the area's particular character.

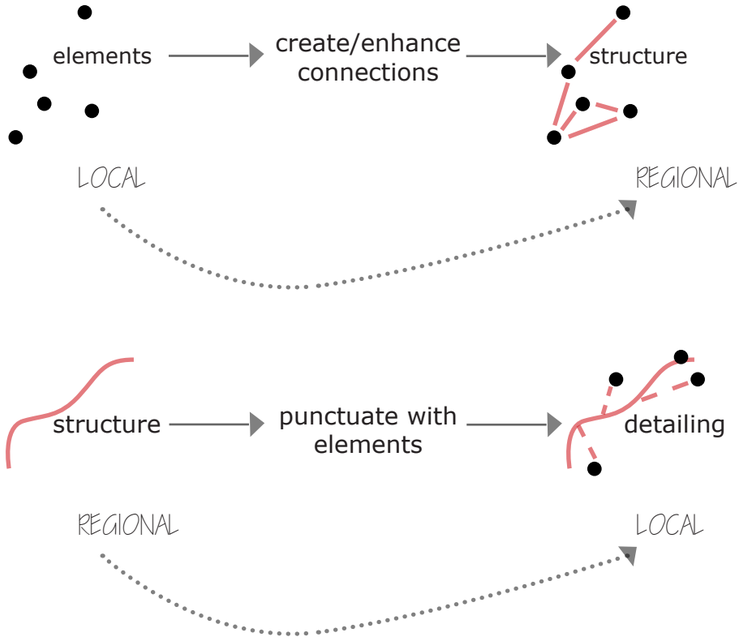
7 Empower the role of history by improving accessibility and views towards existing historical elements and by reinventing the presence of elements that are no longer there.

8 Enhance the bonds between man and land, which is already an essential aspect of this particular border landscape. Apart from the typical agriculture methods, propose alternative ways of cultivating the land, adapted to the area's particular circumstances (eg. wetland ecosystem, water fluctuations). Make people aware of the landscape that surrounds them by literally bringing it to their home gardens (eg. propose urban extensions within the wetland area).

9 Reconsider the role of the existing brick factories along the Rhine and turn them to actual participants in the changes envisioned for the border landscape (eg. by participating in the process of digging out soil to connect the water bodies, or by using part of this soil during the brick production). Create opportunities for cooperation between them and establish conditions for an in-regional, borderless economy.



create opportunities for an in-regional, borderless economy

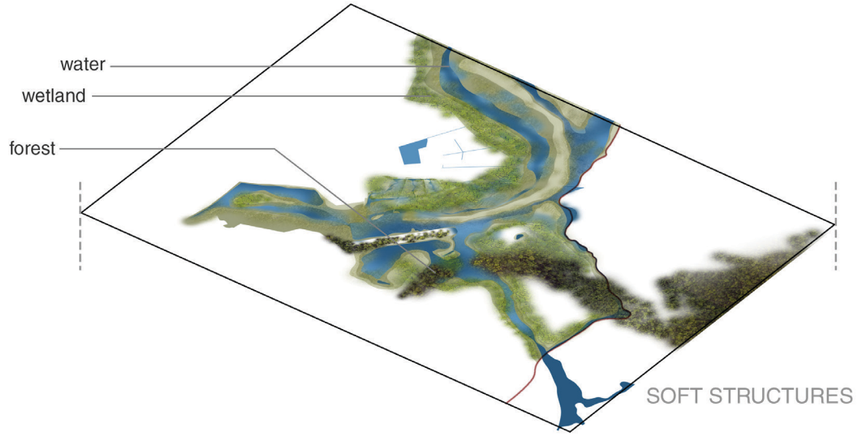


It is important to mention at this point that the interaction between structures and punctual interventions is vital to the project: one cannot be properly developed unless it is well-connected to the other one. Structures, which tend to be of a greater scale, address mostly the regional perspective of the plan, providing connections among the different settlements and the in-between rural or natural areas. When punctuated with elements such as cultural pavilions, they gain a more local quality. On the other hand, the single elements are the nodes to the proposed network of continuities. They are localities acting as points of attraction and suggesting activities that bridge the mental barriers related to the borderland. However, if not attached to infrastructural lines or other forms of structural continuities, their field of action remains rather short. Therefore, the goal of the project is to achieve an interesting dialogue between the proposed elements and structures, in order to attract new sets of elements and structures in the region and, hence, deal with the border condition properly.

Probably the most prominent feature of the master plan is the proposed continuous water structure, made by connecting the existing single water bodies now scattered around the borderline. The presence of the water, as well as a proper yet subtle carving of the land around it, will attract wetland species that in future could become a dense woodland environment. At the same time, the proposal focuses on extending the forested area now located in the German side of the border towards The Netherlands, in order to achieve a variety of different landscape types. The master plan reflects the final stage of the project, in which an extension of Lobith and Elten towards the border is envisioned. The proposed extensions respect the relief conditions of the border landscape by placing the houses on the highest ground levels, as a measure against flooding. By literally bringing the Dutch and the Germans closer to each other, the plan envisions a more frequent communication between the two sides of the border, which would thus enhance its identity as a place of diversity and daily encounters. Another important aspect of the master plan is the cultural layer, a combination of newly-proposed pavilions and existing historical buildings that altogether form a network. The idea behind this network is that once the visitor reaches one of these elements, he/she will know how to find his/her way to the next one.

“soft” structures

decomposing the master plan to its components gives an insight into how the structural and punctual approach has been applied on this particular borderland. The first layer of action includes the “soft” structures and, more precisely, all water, wetland and forested environments. Undoubtedly, the landscape’s final image will not be achieved within one day. The ground digging process and the formation of the water bodies, along with the development of the various landscape types, are proposed with a timeline, divided in important design phases. This phasing also took into account the fact that man-driven actions -such as digging- could be completed in a shorter period of time, while natural processes -the full development of the forested area, for instance- need more time.



current situation [0 yrs] *phase 1* [+5 yrs] *phase 2* [+10 yrs] *phase 3* [+20 yrs] *phase 4* [+50 yrs]

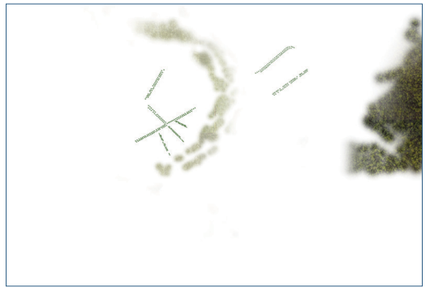
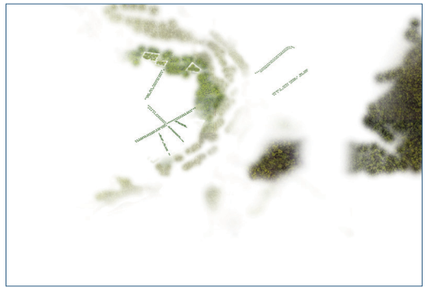
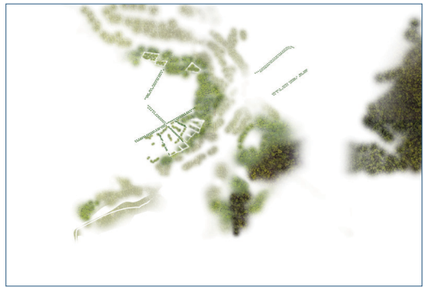
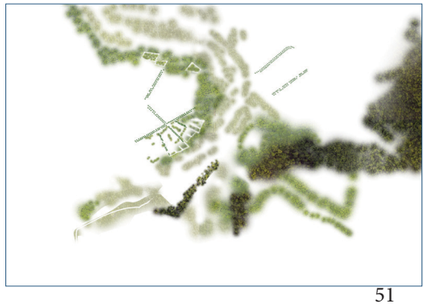
GROUND LEVELS




WATER




VEGETATION

the development of the “soft” structures could be summarized in a series of important design actions, divided into two groups: the ground works and the ecology works.

ground works

Lower the ground to create a continuous water structure out of two separate water bodies. The removed soil could then be used to heighten other areas.

Reshape the shores to create smoother height differences and make full use of the water fluctuation. Create the conditions for the development of all wetland habitats, including marshes, swamps, woodlands etc.

Heighten some areas to build flood-resilient urban environments and choose the proper functions for lower areas (agriculture and recreation in the periodically wet areas, recreation and transportation in the permanently wet areas).

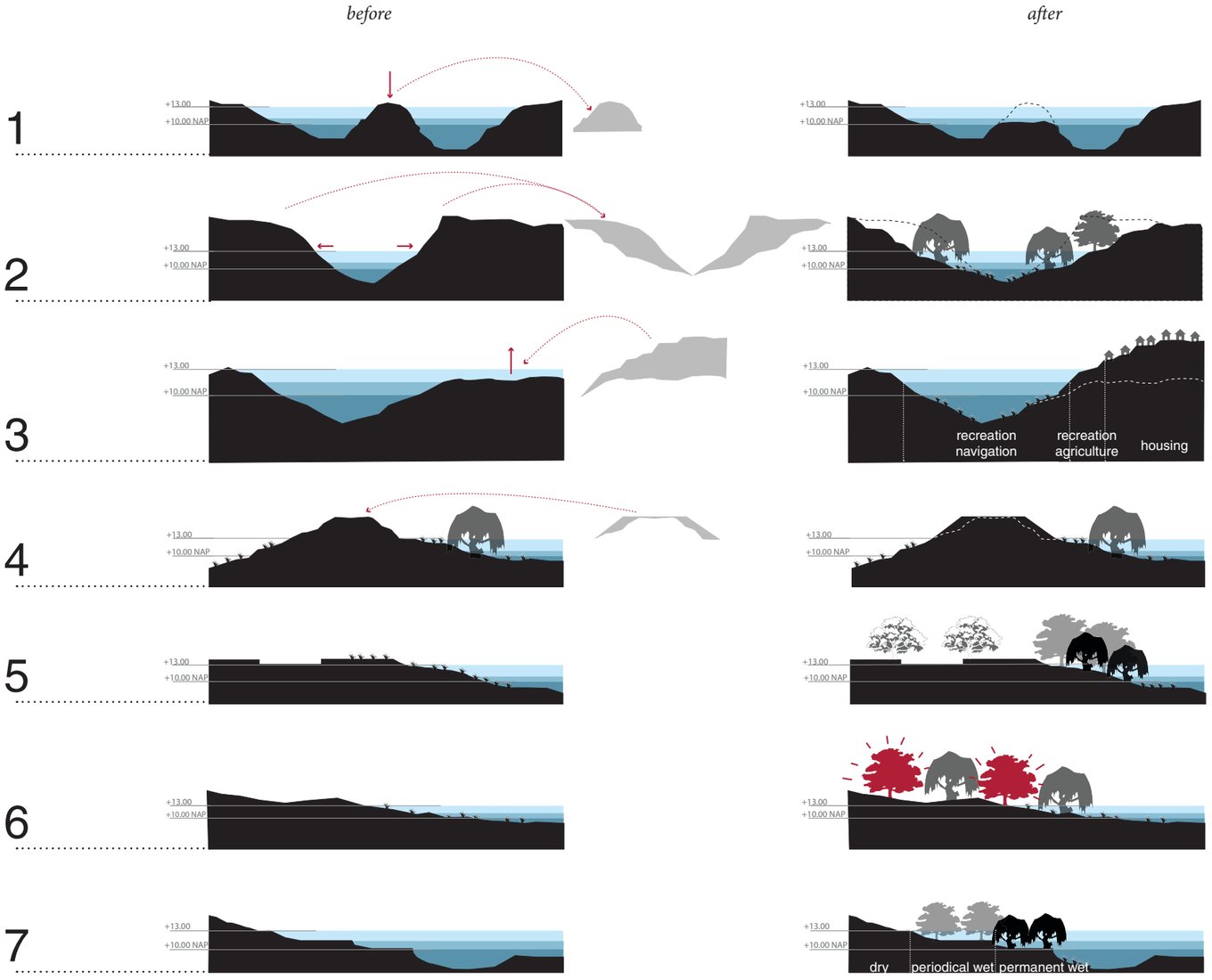
Make alterations to the ground locally, to create a more interesting landscape, with dramatic vistas (eg. restore a former dike to its original shape, to emphasize its contrasting architectural form in relation to the organic forms of the surrounding natural landscape).

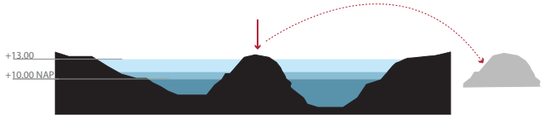
ecology works

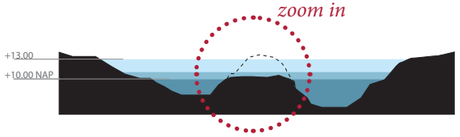
Emphasize the linear perspective of major infrastructural lines by adding trees (eg. oaks) that will differentiate the roads from the surrounding wetlands.

Add pioneer species (eg. alder) to help the wetland and forest species grow faster.

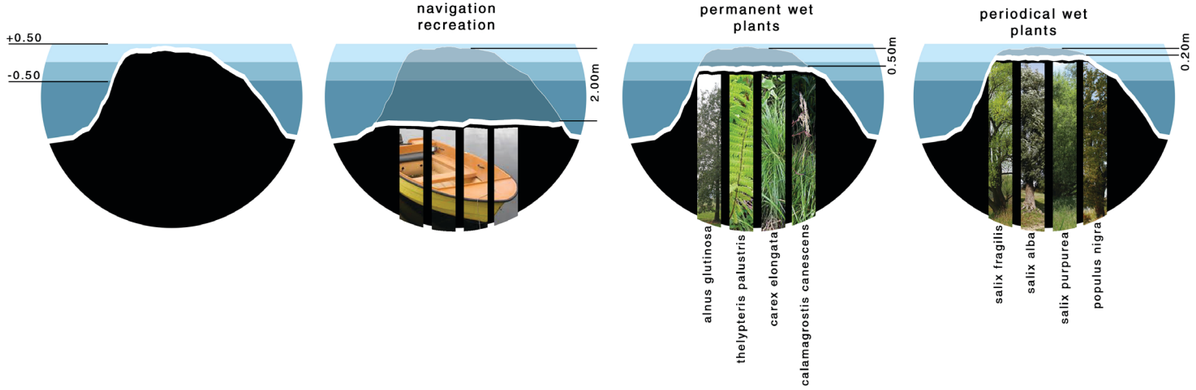
Make use of the different height levels and the water fluctuation to –partly- control the growth of various wetland species.

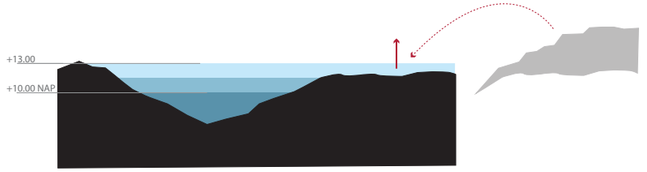


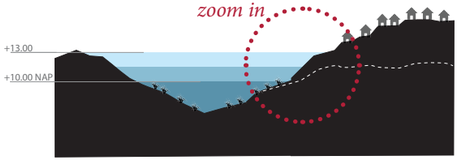




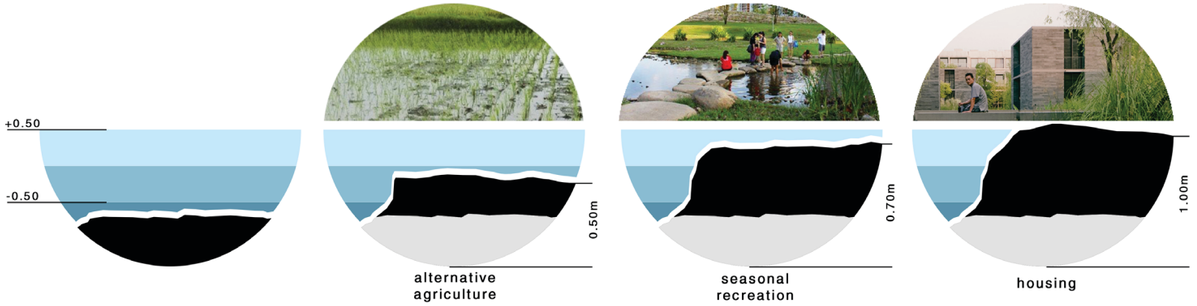
the ground and ecology works act like guidelines when referring to the soft structures’ general development, but can become more specific, when zooming in to a particular area of application. For instance, the digging process is a general rule when the purpose is to connect two separate water bodies. But the amount of digging may vary from a few centimeters to two meters, depending on the future function of the particular spot. The landscape’s final image is therefore a blend of man’s decisions, water’s activity and nature’s processes – shaping the land is undoubtedly fascinating!





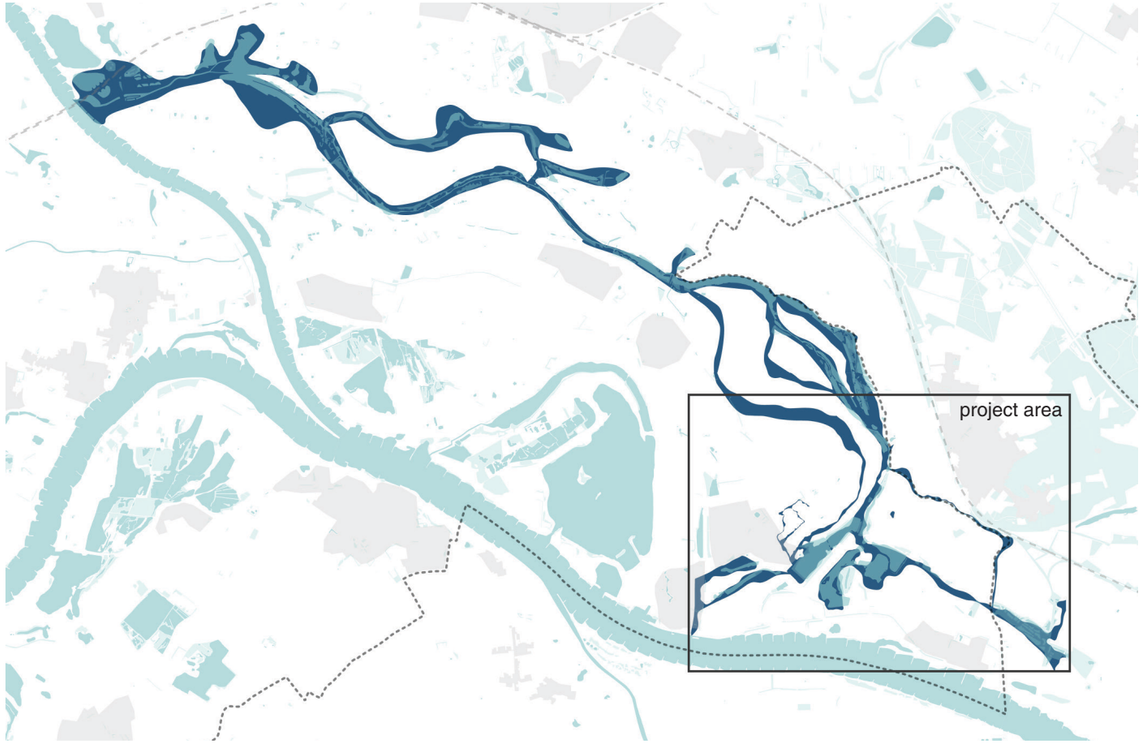


accordingly, the act of heightening areas follows the general rule of using the soil that has been dug out elsewhere, which gives to the plan a more sustainable character. But the amount of added soil varies, depending on the desired final result: creating dry, semi-dry or wet environments is a matter of a few centimeters of soil difference.



“soft” structures

another major aspect related to the “soft” structures layer is the function of the water system. If the strategy of connecting single water bodies could be applied not only on the project’s area of action but generally on a bigger scale, then the nearby Dutch and German settlements would have the opportunity of using this water system also as an alternative method of transportation. The connection of this system to the Rhine would provide them with a direct access to a major water corridor. This connection, however, would imply that the proposed water continuity depends not only on precipitation levels, but also on the Rhine’s fluctuation regime. The system’s water would then fluctuate accordingly, and the master plan would not have a static nature, but instead be at a constant state of change. The result would be that of a “bluer” or “less blue” landscape, depending on the water’s seasonal changes.

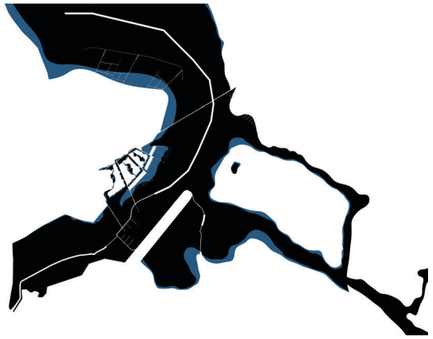


connecting the single water bodies of the region

+9.00 NAP

+10.00 NAP

+11.00 NAP



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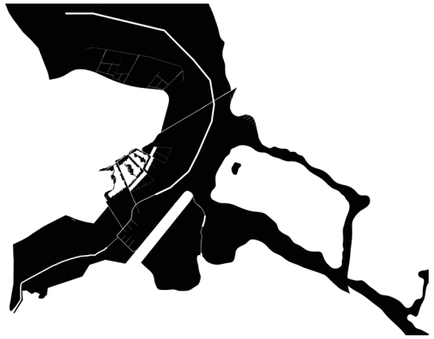
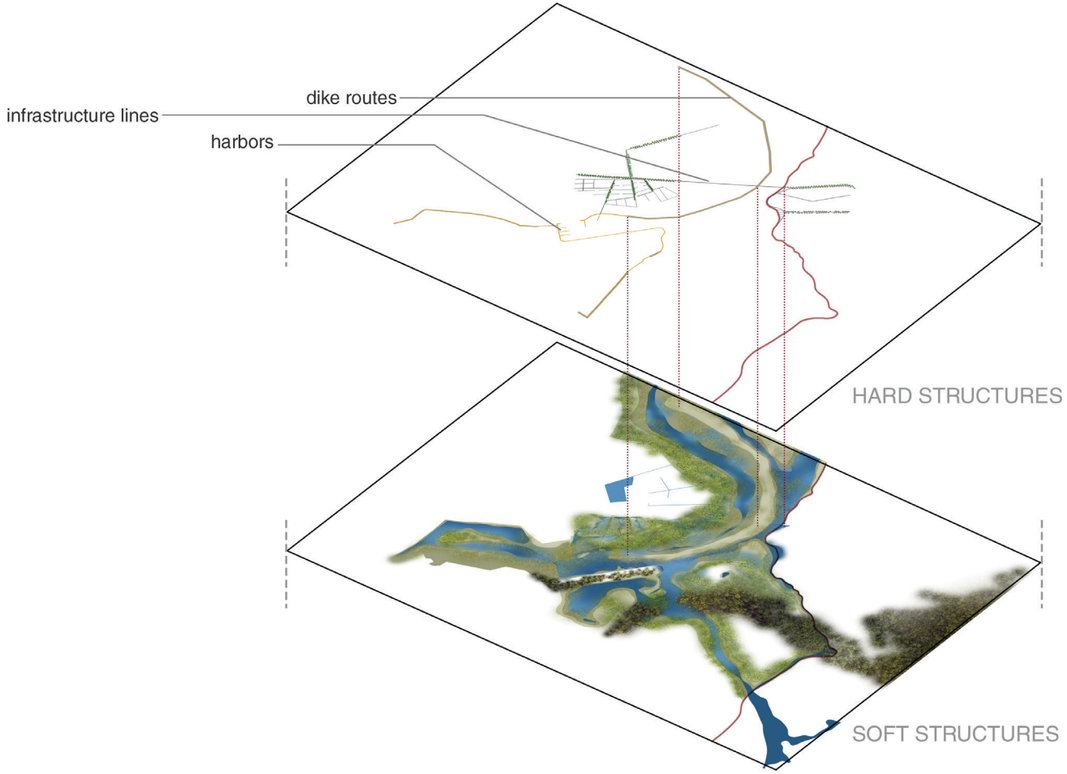


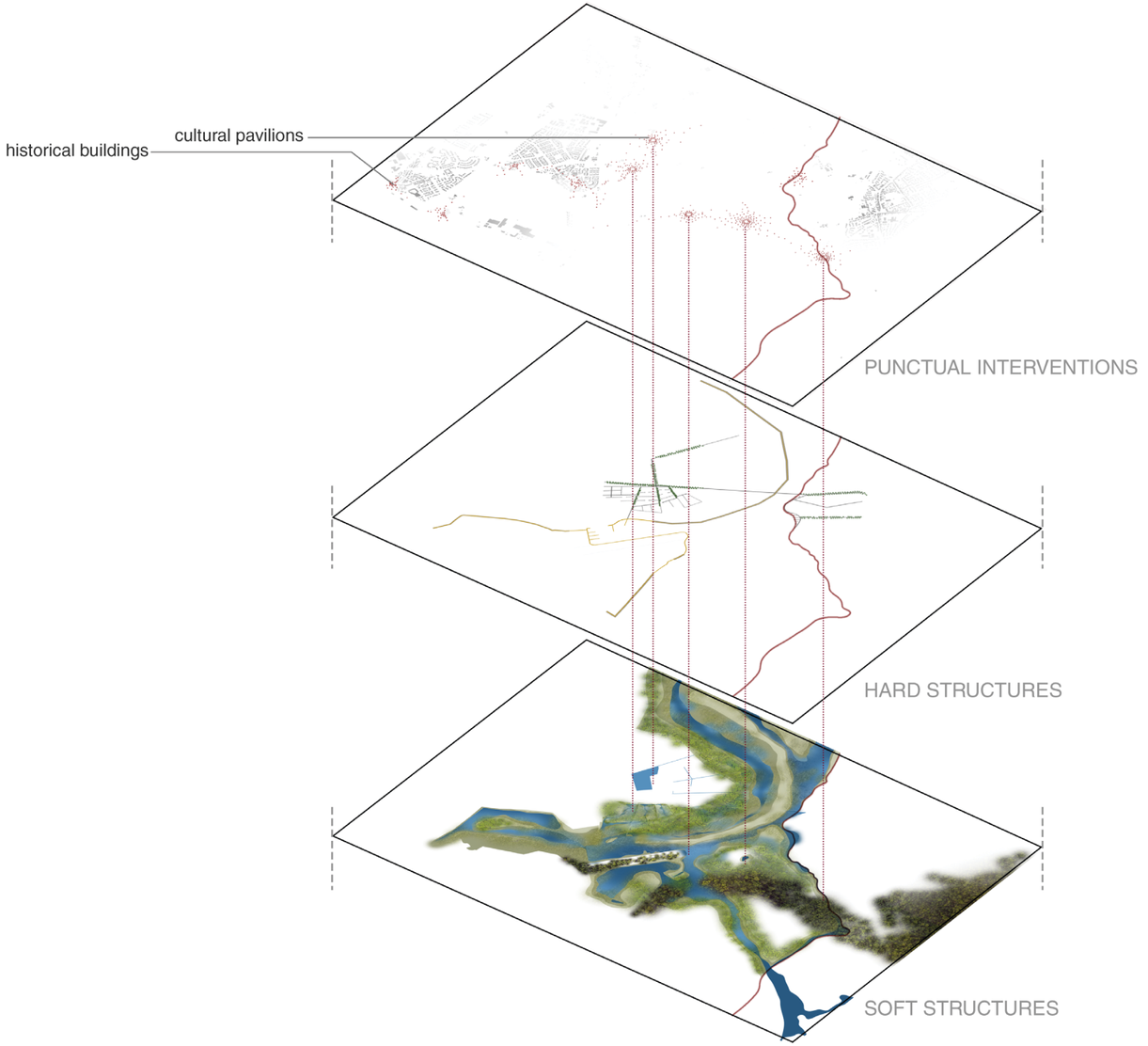
“hard” structures

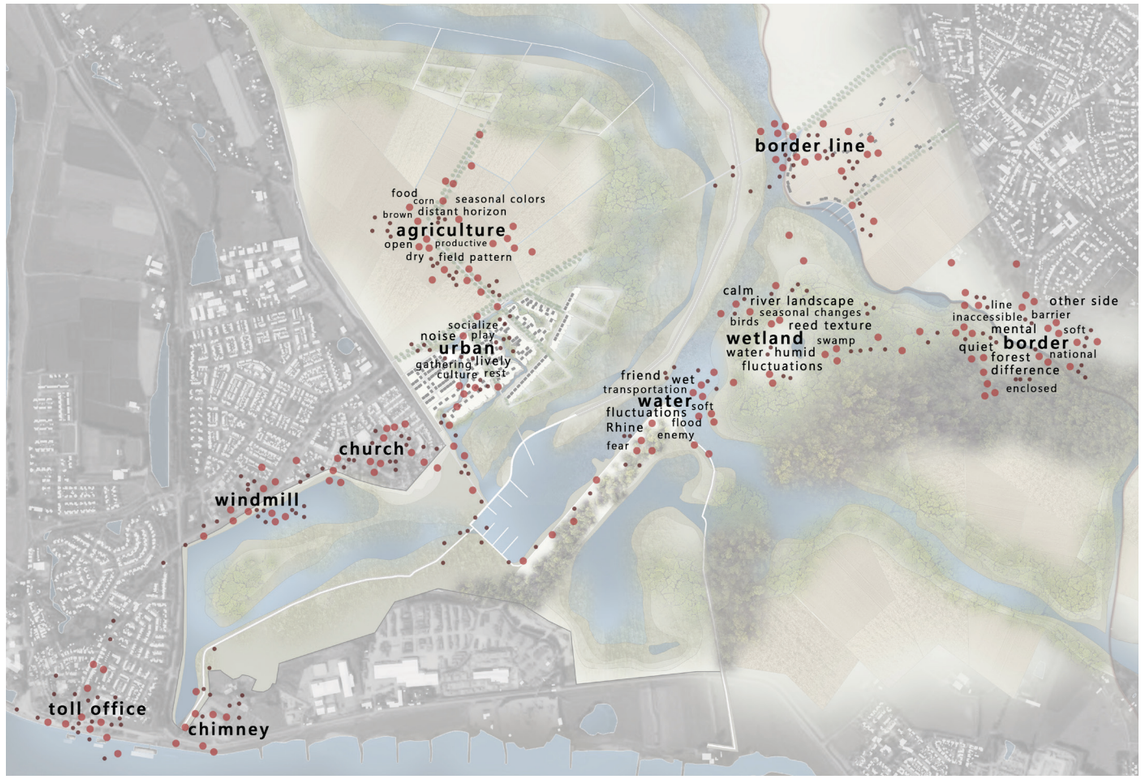
The second layer of the master plan includes all “hard” structures proposed, namely roads and other infrastructural lines. One of the area’s existing roads and the only one currently passing through the border becomes a major connector in the proposal. Along with it, other roads are proposed in a radial form, as a gesture of opening up the settlements towards the landscape like a fan. Pieces of remaining historical dikes are connected and added to a system of pathways, offering interesting views and access to all landscape types. Last but not least, taking into consideration the fact that the area could be also experienced by boat in the future, a harbor is added to Lobith, reminiscent of the settlement’s past as a historically important riverfront city, which used to have a toll office and a port. Along with Lobith’s harbor, two small harbors are proposed for the area around Elten, suggesting a stronger relation between the two sides of the border in future and recalling the settlements’ former ferry boat connection. Both of Elten’s harbors are literally on the border, which, as a gesture, creates an interesting dialogue between the form of the border line and the nature of the “hard” structures.



punctual interventions

the third layer of action is that of the punctual interventions, which include a set of newly proposed cultural pavilions and, added to this network, all historical buildings or parts of buildings that have survived and remained to the area through the years. Since most of these buildings have nowadays a new function (eg. the old toll office of Tolkamer is used today as a hotel), the project simply proposes to create awareness regarding their historical value by guiding visitors to them while discovering the border landscape. As far as the pavilions are concerned, their role is both educational and recreational and, hence, each of them is placed on a specific landscape type (wetland, forest, agriculture land, water etc.) to inform people on the borderland's various and diverse natures. Moreover, each of them reflects a memory or event that is shared by both sides of the border, to remind visitors that, on one hand, history in this land has been formed due to the presence of the border but, on the other hand, its effect is equally shared by both the Germans and the Dutch.





cultural elements (existing and new): position and atmosphere

The following chapter of this report is dedicated to a detailed analysis of three of the master plan's features:
1. the search for alternative ways of cultivating the land in respect to the wetland conditions
2. the proposed extension of Lobith related to the water fluctuations
3. the design elaboration of a cultural pavilion and a surviving historical building

In each of these detailed projects some of the previously mentioned structures or elements are more present than others. However, they all reflect an interplay between structural and punctual connections. The ultimate goal is to test in each case how the structural and punctual approach interacts with existing boundaries in the region, whether it is about the national border or other, more physical borders.

5

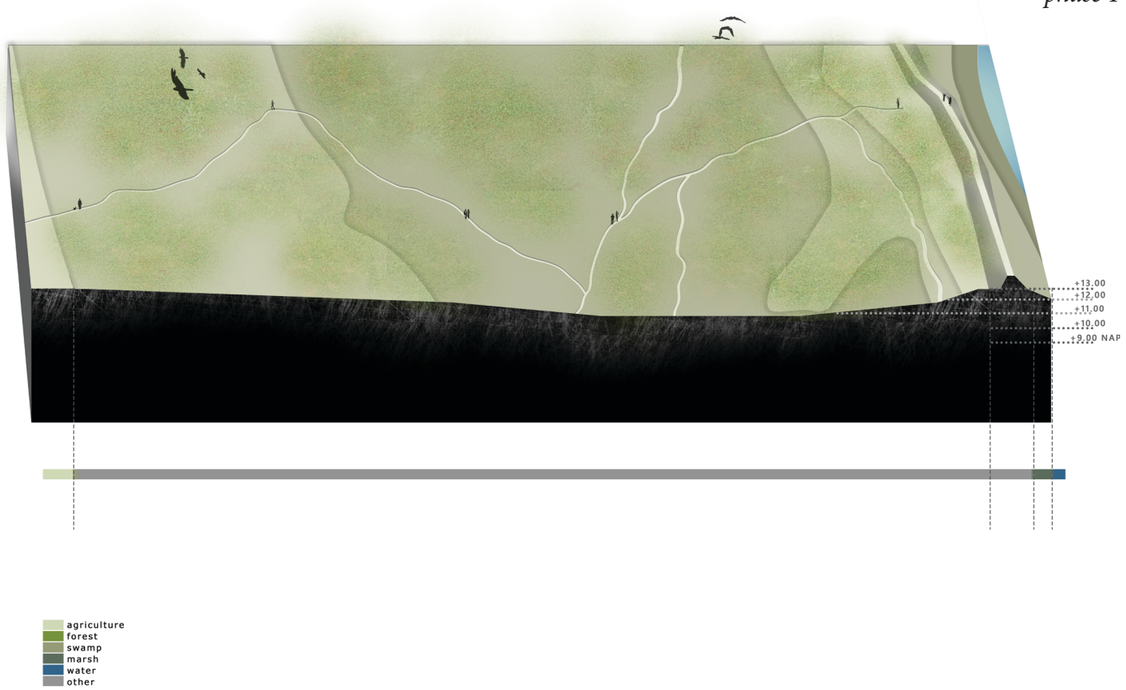
the details:
boundaries & connections under the microscope

alternative agriculture

current situation

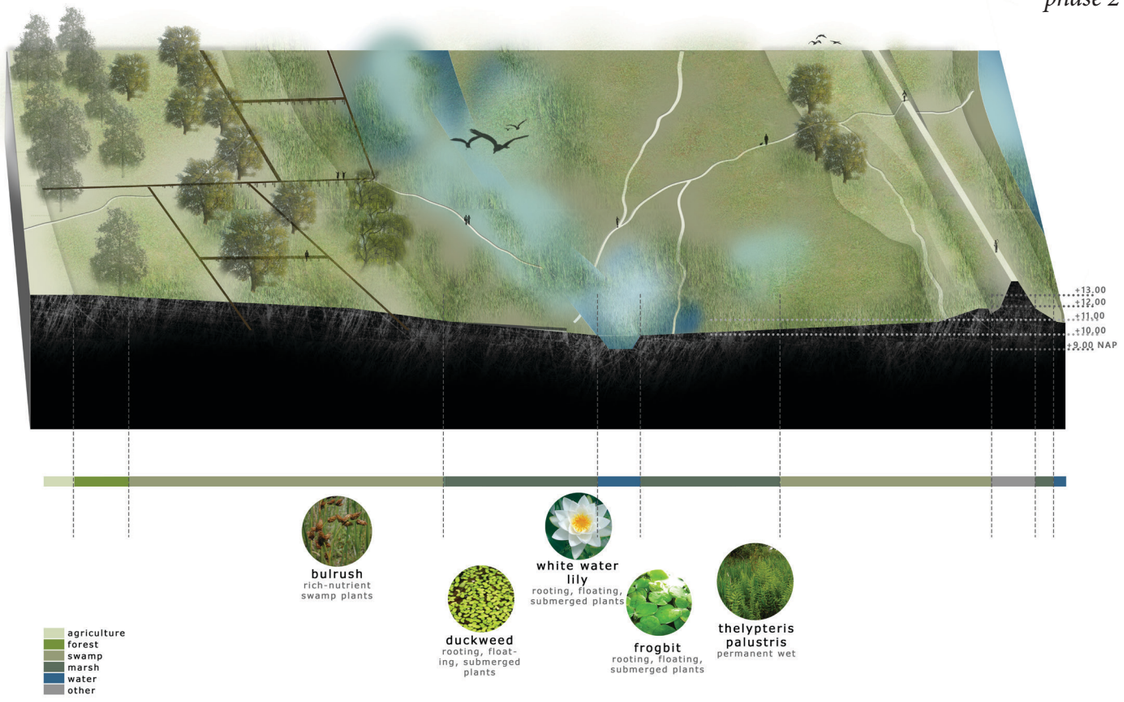
In the master plan's northern area and next to a land of typical agriculture, a new area is proposed, where alternative techniques of cultivating the land could be tested. The current image of this landscape is that of an in-between patch with minor height differences, where nothing special happens.

phase 1



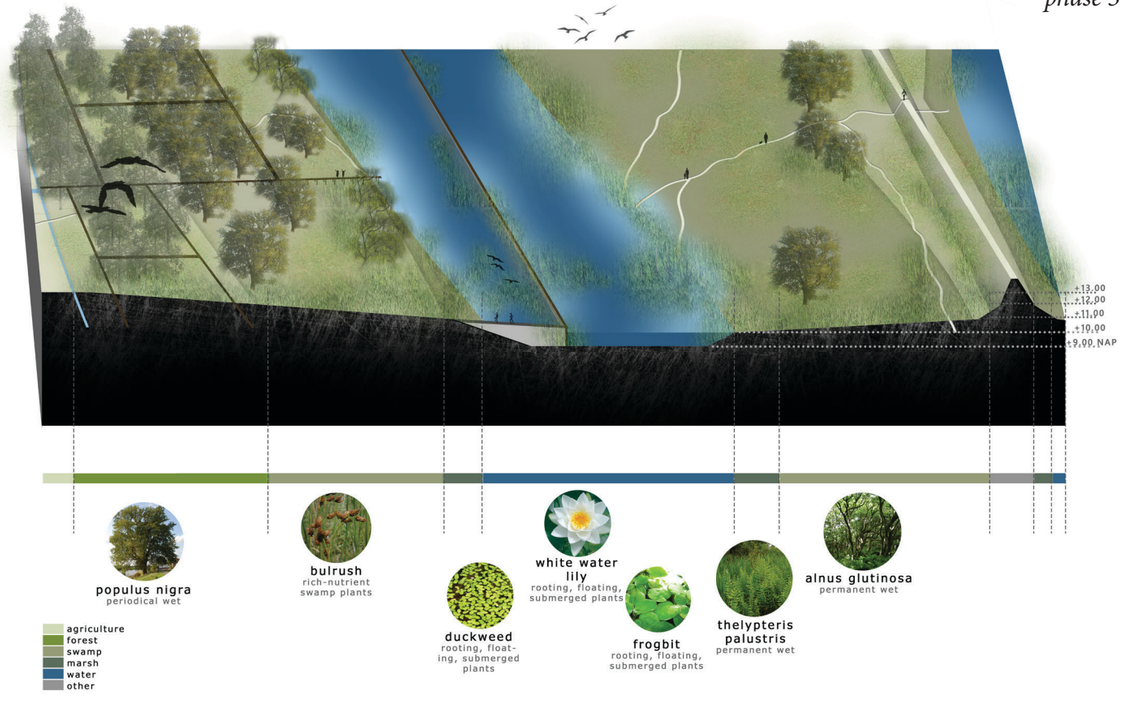
As a first step, the land could be slightly carved in respect to the current relief conditions, in order to create smoother slopes, which could better accommodate future wetland species. At this stage, even though the landscape is still "empty", a few pathways could be introduced, to attract people's attention. At the same time, the former dike could be reshaped, to get a more dramatic profile and acquire a promenade at the top.

phase 2



In the next phase, the secondary channel behind the dike will be dug out. Apart from connecting the existing single water bodies, the project envisions a revitalization of the natural landscape and, undoubtedly, the formation of this secondary channel would contribute to that. The digging process and the emergence of water will be accompanied by the appearance of wetland species. Even at this early stage, where not all woodland species of the wetland will be developed, there are ways of cultivating this land. For instance, the reeds could be harvested and then added to the region's economy as alternative building materials or for other uses. The pattern of this cultivating area could follow the one of the existing typical agriculture. The perimeter of each plot could be marked by elevated wooden paths, so that people could still visit the area, even in high water levels.

phase 3



At the final phase, the secondary channel will be larger and the wetland around it will have reached its final stage. The woodland species could then be harvested and boost the area's economy. In addition to this, the harvesting of wetland fish species could start, by adding the proper fence structures close the channel's banks. The pathways could still remain, for people to visit the area and learn about the multiplicity of alternative agriculture methods. Depending on the water level, part of these pathways will be sometimes hidden and other times revealed, creating an interesting game of "hide and seek" for the visitors.

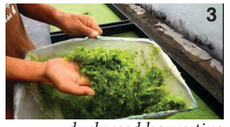
In this region, agriculture and animal breeding have always been vital. A profitable future for this land would require on one hand preserving the traditional cultivation techniques, but on the other hand adding new methods, adapted to the fluctuating water levels and the wetland conditions. Seeking for ways of boosting the local economy by harvesting wetland species would further empower the role of this landscape. Apart from being a major nature reserve and hosting all sorts of recreational activities, the wetland would now acquire the more pragmatic function of literally feeding the population.

Science and practice have proved that the species growing in wetland habitats can be harvested and used in multiple ways. For instance, duckweed is known for being a great water purifier as well as fertilizer and can be used as animal feed, as part of aquaculture techniques or even for the production of bioplastics[3]. Bulrush has also a lot of uses, including floor matting, basketry and furniture production[4]. Reed beds can be used as bioremediation systems but also for building structures (eg. roofs), when harvested[5]. Major tree species are also useful. Alder is fast-growing and a great pioneer tree when re-establishing woodlands on difficult sites. Its ability to withstand rot under water is the reason why historically it has been used for the construction of boats, sluice gates and water pipes. Nowadays, alder is responsible for the production of timber veneers, pulp and plywood[6]. Willow trees have also a large variety of uses, including medicine (temporary pain reliefs), manufacturing (basketry, rope, paper, furniture) and energy (biomass, charcoal, biofuel)[7].

the above are just a few of the ways wetlands could become one of the borderland's major economical sources. Undoubtedly, there are many more species and uses to be considered. The point was to emphasize that all wetland parts are useful in this process: marsh, swamp and woodland species, they can all contribute to the establishment of a new economy.

bulrush collection

bulrush basketry



duckweed harvesting

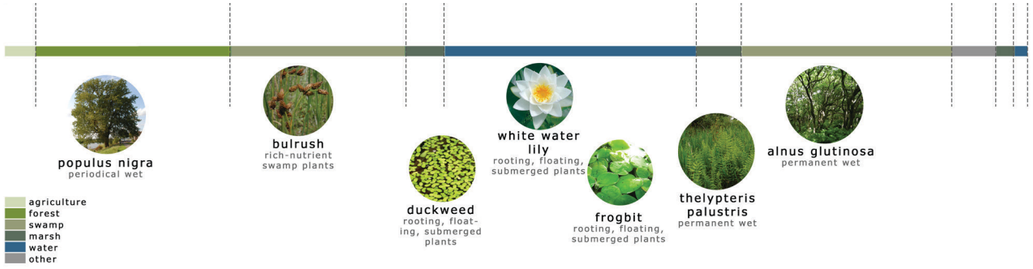
water lily collection

reed collection

reed roof

willow medicine

willow furniture



3 information derived from http://www.internationallemnaassociation.org/Duckweed_Applications.html
4 information derived from http://www.rushmatters.co.uk/
5 information derived from http://tcpermaculture.com/site/2013/05/29/permaculture-plants-common-reed/
6 information derived from https://www.woodlandtrust.org.uk/visiting-woods/trees-woods-and-wildlife/british-trees/native-trees/alder/
7 information derived from http://www.shademetals.com/willow.html

1. image source: http://www.eadt.co.uk/news/bulrush-harvesting-returns-to-the-river-waveney-1-4679447
2. image source: http://www.rushmatters.co.uk/products/basketry/1/
3. image source: https://www.youtube.com/watch?v=IFgbji1oPBQ
4. image source: http://www.gettyimages.ae/detail/
5. image source: http://www.hiss-reet.de/thatched-roof/knowledge-about-thatch/reed-harvest/?L=1
6. image source: http://tcpermaculture.com/site/2013/05/29/permaculture-plants-common-reed/
7. image source: http://www.shademetals.com/willow.html
8. image source: http://www.rusticfurnitureinanutshell.com/

the housing extension project

following the master plan's guidelines of extending the settlements towards the border line, a detailed plan of Lobith's future extension is proposed, based on the area's current relief conditions. The buildings are placed on the land's highest levels, to protect against severe flooding events, which have marked the region in the past. The extension respects Lobith's existing grid of roads, while also following a set of radial routings, which connect the settlement to the surrounding landscape.

the goal has been to create awareness to people regarding the river landscape, by literally bringing the wetland conditions within their home gardens and by letting them experience the water fluctuations on a daily basis. To do this, the cores of the settlement have been carved and consequently filled with water. The water fluctuations create an interesting environment which varies every day and, at the same time, helps people overcome their fear of flooding and turn water from enemy to friend. The changing water levels create a soft boundary which is at a constant dialogue with the harder infrastructural borders. At higher water levels, the area can be navigated by making use of a boat instead of the road system and, hence, most housing units are accompanied by boat sheds. Taking inspiration from other river landscapes around the world such as the area of Tigre outside Buenos Aires, these boat sheds have a freedom in terms of position and architectural style, which offers to the proposal an interesting diversity.

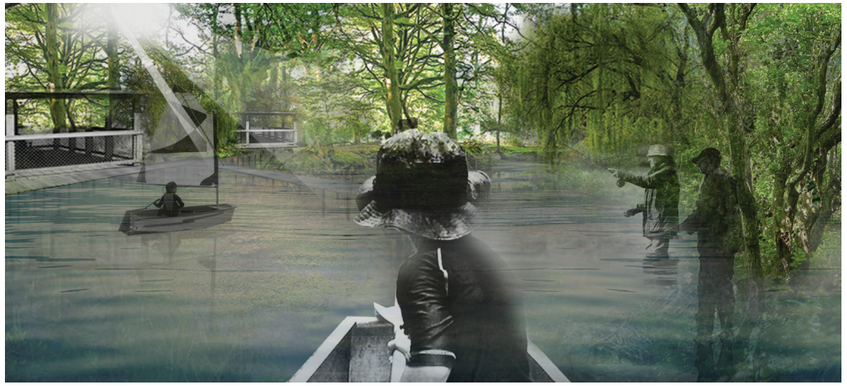
boat sheds and access to water in Tigre, Buenos Aires, Argentina
image source: author

overall plan *+9.00 NAP*

overall plan *+12.00 NAP*

+10.00 NAP

The wetland area surrounding each neighborhood is a space open to public, containing routes and wooden decks. The variety of species to be discovered within this space adds a strong educational quality to it. Depending on the water level, different recreational activities can take place there. The wild, forest-like nature of the wetland is in striking contrast with the more “tamed” nature of the house gardens, which have the form of typical, fenced grasslands with fruit trees and vegetable cultivations. At low water levels, the boundary between public (wetland) and private (house garden) is clear. However, once water gets higher and enters within the house territory, those boundaries become blurry. The water fluctuation starts a dialogue between public and private, leading to a reinterpretation of this border type.



+12.00 NAP

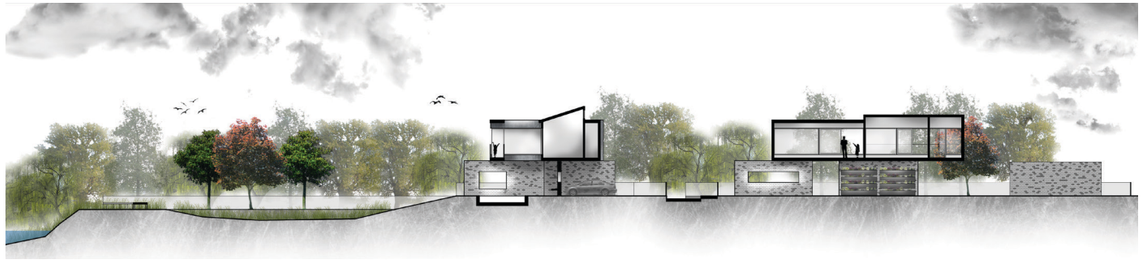
+9.00 NAP

wetland & house garden: two contrasting images of nature

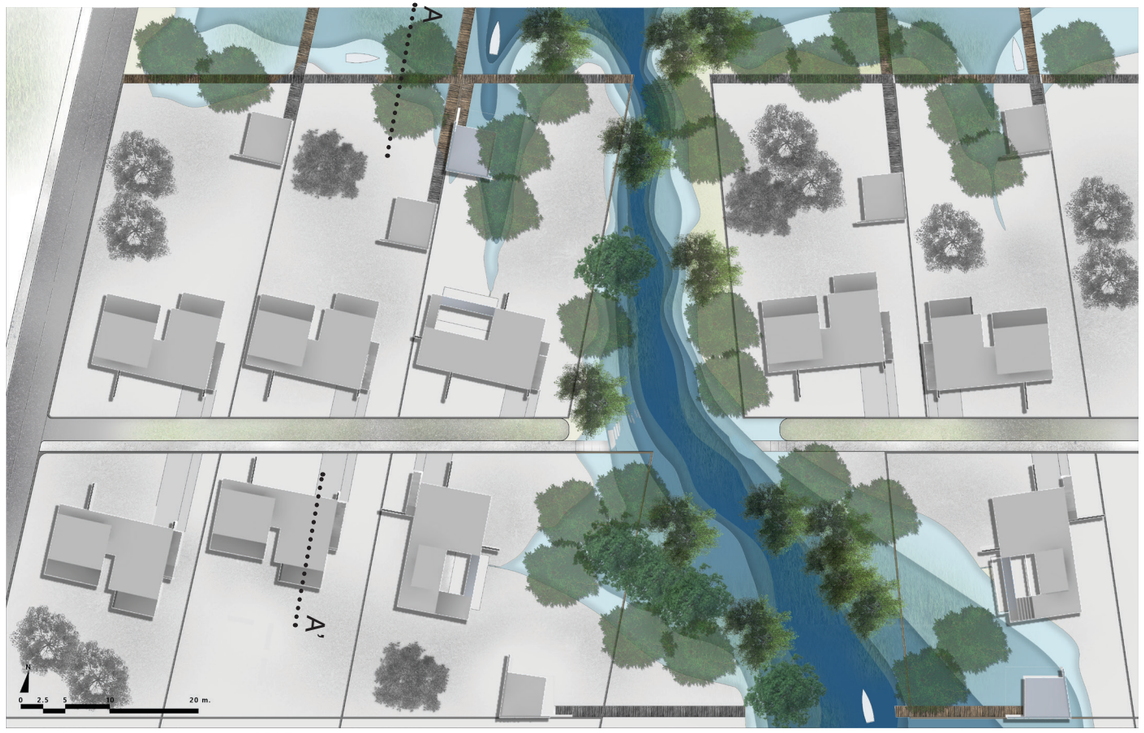
every house unit is elevated to be even more protected from flooding incidents. The area underneath the house on ground level has the proper height to become a fully usable space. The bearing walls are placed on strategic positions, to guide residents' views towards the wetland landscape, hiding some angles while framing others. They can also be used on daily activities, by hosting for instance vertical gardens. Material-wise, they are made of bricks, a material that recalls the area's past and tradition in brick and stone manufacturing. On the contrary, the house is like an elevated volume in white and grey tones. The whole construction is an interplay between traditional and more contemporary design techniques.

possible uses of the space underneath the house include: place for parking a car, place for creating a vegetable garden, or even an outdoor yet protected seating area. The fluctuating water levels are experienced within the housing territory, as some houses also include a pool directly connected to the wetland, which some days is filled with water, while others remains empty. Living with water becomes truly a daily experience!

plan of neighborhood +9.00 NAP

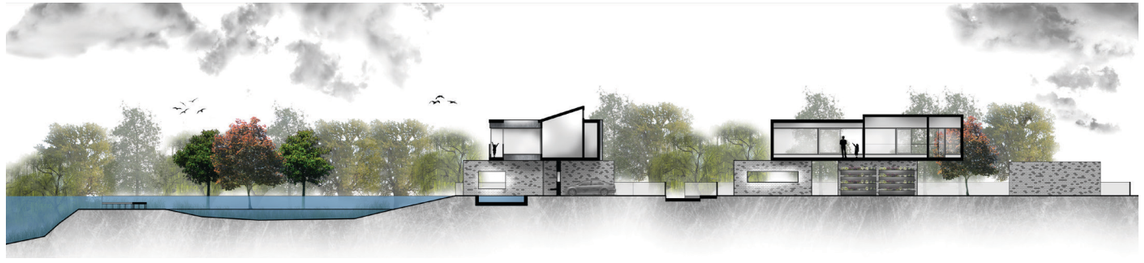


section A-A'



plan of neighborhood +13.00 NAP

experiencing the wetland conditions within the house territory



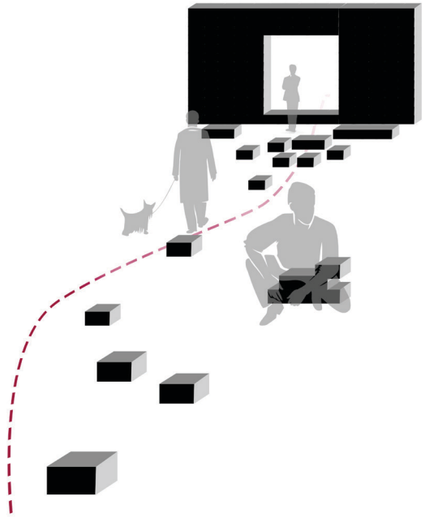
section A-A'

the cultural layer

The punctual interventions have been envisioned as a set of elements with an educational as well as recreational role, whose main purpose would be to make visitors aware of the border landscape's qualities, in terms of both nature and culture. The borderland's unique characteristics will only be preserved, if people are informed about them and learn to appreciate and protect them from external forces. Therefore, the objective has been double: on one hand, enhance the role of the remaining historical elements by adding them to a path system that would intrigue the visitor to discover them and, on the other hand, create a group of pavilions, each of them emphasizing a specific natural and cultural aspect of the borderland.

Design-wise, the goal has been to seek for an element that would blend with the natural surroundings yet have a distinct form for visitors to recognize it. Moreover, each element should give a hint about the location of the next one. It has been a challenge to search for a material, that would not only be the construction element of the pavilion itself, but it would also be used as a paving material. Furthermore, it should be something, whose unit could be multiplied, so that visitors would be aware of their location depending on the material's density. More precisely, the material units get more and more dense when reaching a pavilion, challenging the visitor to move forward and discover why this happens. On the contrary, when it is just about a route, the units get less and less and gradually fade into the landscape.

Brick and stone have been considered as the proper materials to create this effect. Their use would also be reminiscent of this particular landscape's identity, since the borderland has always been characterized by the function of stone factories along the Rhine. Moreover, the use of stone or brick could be done in coordination with today's remaining stone factories. In case of an excess in products, they could distribute them for the creation of the pavilions and the routings. In this way, an in-regional "recycling" of goods would be achieved, offering to the project a more ecological perspective.



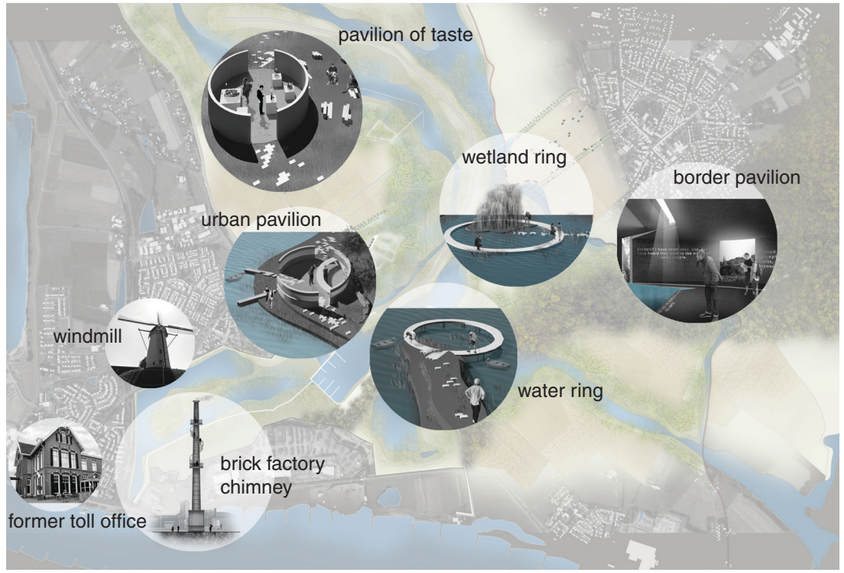
cultural elements material - concept

inspirational projects

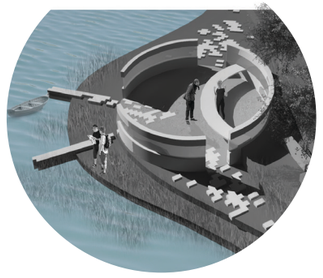
Bunker 599 by Atelier de Lyon & Rietveld Landscape, Zijderveld, The Netherlands
image source: http://www.studiovandamme.com/home/bunker-599-by-dutch-firms-atelier-de-lyon-rietveld-landscape-zijderveld-nl-2/

Sea Level by Richard Serra, Zeewolde, The Netherlands
image source: https://dwaalmachine.sjonges.nl/werk_315.html

Passage by Cornelia Konrads, Osnabrück, Germany
image source: http://www.cokonrads.de/index.php/home/portfolio/site-specific-works/12-passage-2007



overview of existing and proposed cultural elements



the urban pavilion

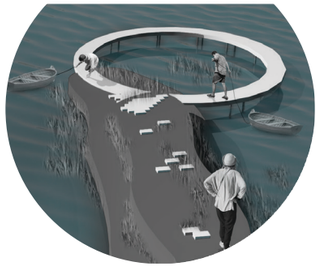
The urban pavilion is the starting point of this cultural journey. Within it, the visitor can get informed about the cultural route along the border and discover the paths leading to the rest of the pavilions. Within this structure there is also general information about the borderland's history and identity. The pavilion lies within the urban extension of Lobith and can be reached from both water and dry land.

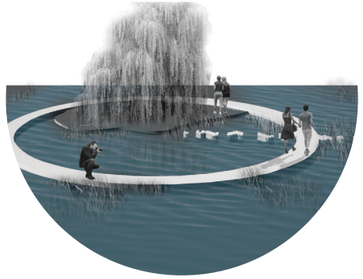
the pavilion of taste

This circular enclosed space lies within a vast agricultural land. By offering to visitors the opportunity of tasting local products, this pavilion emphasizes the important role that agriculture has always played in the well-being of people from both sides of the border. An outdoor seating area invites visitors to rest, while gazing the openness of the cultivated fields.

the Water ring

Rather than being an enclosed space, this structure has the form of a ring surrounded by water. It offers to visitors a short circular route, with interesting views towards the wetland, the nearby dike promenade and the urban extension of Lobith. The ring has also some spots for boat mooring and, hence, acts as an in-between stop when navigating from Lobith to Elten. On low water levels, the ring can be reached by a narrow piece of dry land. When water levels get higher, however, the only way of reaching the ring is by boat. Emphasizing the fact that German and Dutch urban settlements had a strong boat connection in the past, the water ring hides an important symbolic message.





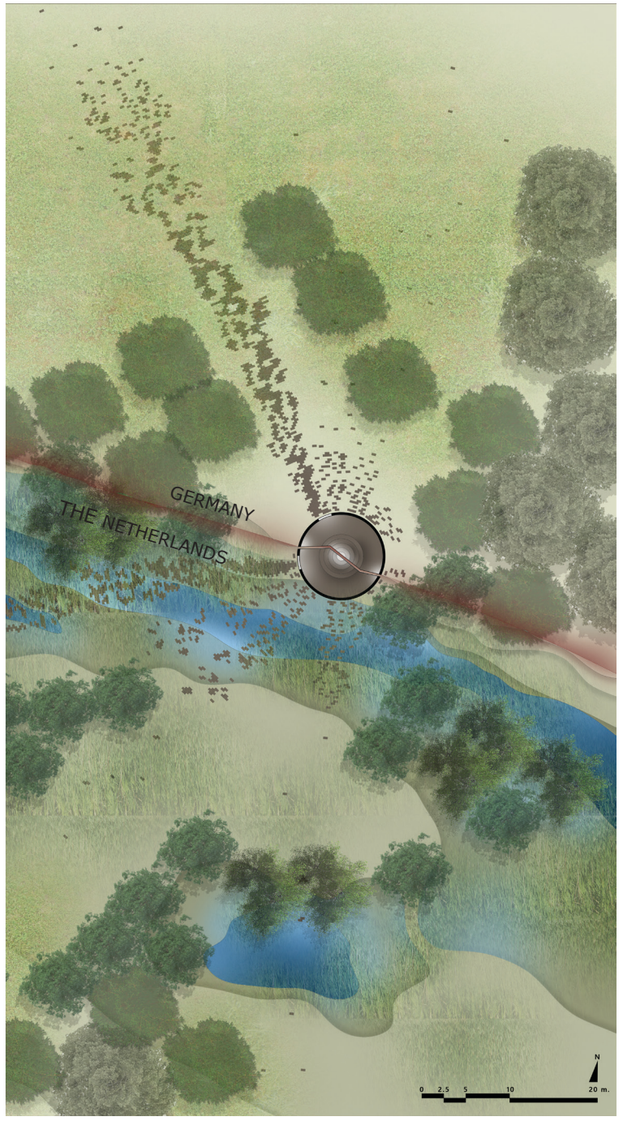
the wetland ring

This open-air, circular structure is a rest area with a strong educational character. While resting within the wetland, the visitor has the opportunity to experience its habitat, discover its species and listen to its sounds. The presence of the willow tree, as well as a series of labels next to plants along this ring, help the visitor appreciate the qualities of the wetland and realize its importance for the borderland's future.

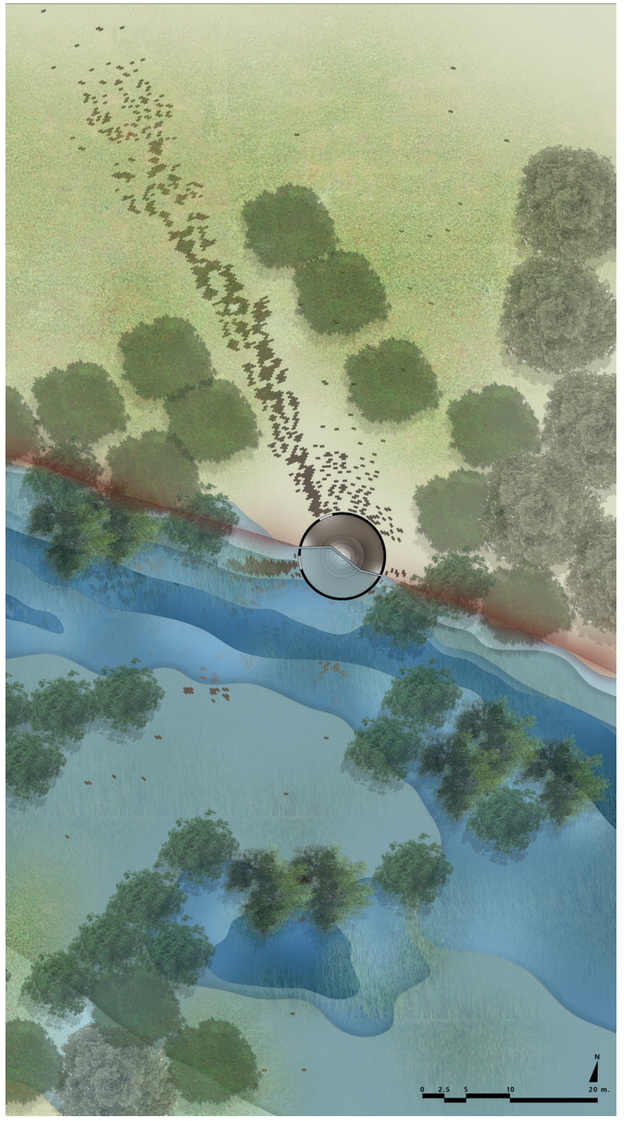
the border pavilion

The cultural journey through the borderland ends with the border pavilion. With exits to both the German and the Dutch side, this pavilion lets visitors make a crucial step, mentally and literally. The border has been described by many as a threshold, as a gate to a new world. A pavilion literally placed on the border line is the materialization of this thought. The journey through the borderland ends, therefore, with a strong symbolic gesture.

the pavilion placed literally on the border line has been subject to further analysis. Having a circular form, half of the pavilion lies on the Dutch side and half on the German. Due to the changing levels of the nearby water body, the pavilion is sometimes filled with water and sometimes empty, surprising the visitor and creating an interesting dialogue between a non-physical yet strong mental barrier –the national border- and a soft, physical one –water. The pavilion's inside walls bear quotes about the border's various qualities, encouraging the visitor to personally reflect on and engage to the subject.



plan of the border pavilion +9.00 NAP



plan of the border pavilion +12.00 NAP

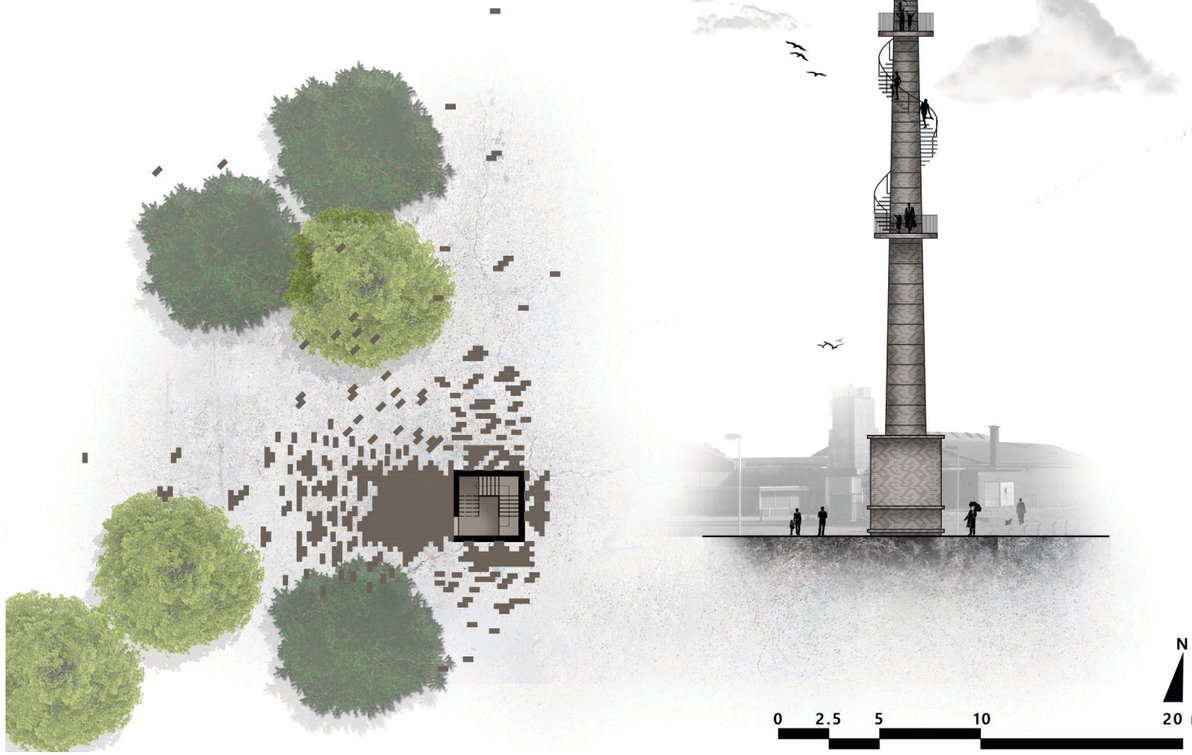
inside the border pavilion: a. on low water level
b. on high water level

the brick factory's chimney

the chimney of a former stone factory has been chosen, as an example of working with a remaining historical building. The chimney, lying next to the settlement of Tolkamer, has been left unused, along with a factory behind it. The proposal suggests applying the same technique, as the one followed in the case of a pavilion. More precisely, the stone or brick units to be used in the rest of the project, will also get more dense as one moves towards the historical chimney, implying that something is shortly about to happen. Once he/she discovers it, he/she will firstly get informed about the building's past and then be invited to visit it. The chimney will acquire a new function as a viewing tower, inviting visitors to climb and enjoy the view of the borderland. After having visited the pavilions and got informed about the border's qualities in terms of nature and culture, the visitor will now have the chance to appreciate it as a whole from a bird's eye view perspective. As the ending point of a journey through wetland, water, forest and agricultural land, this top view promises a deeper understanding of what the borderland used to be, is and will eventually become.

image source: author

proposal for the factory chimney - plan and elevation



6

reflection

the final part of this report is a reflection on the project's outcome and on the proposed research and design methods. Among the subjects analyzed in this reflection are lessons that the author learned and contributed to her personal development as a student of landscape architecture. Moreover, the project's relation to some academically used methods is discussed. The reflection chapter ends with an elaboration on the project's importance as a tool for further research on border conditions and for future protection of the border landscape.

6.1. Lessons learned

During the one-year research and design process that led to this graduation project, the author had to tackle several theoretical and practical issues. A lot of precious lessons have been learned through this process. The most important ones are presented below:

a

the border-scale relation

Even from the early stage of the analysis, it was made clear that the border as subject of research varies, depending on the scale to which the analysis is being done. More precisely, the analysis at the regional level concluded to the thought that the national border, even though it is usually influenced by important landscape structures, it is mostly a construct of the mind: it is people's mentality, pride and need for identity that organizes them into separate groups and enhances the role of such national barriers. If it weren't for the analysis at a more local level, the author would have not discovered that the "unreachable" borderland is not just due to reasons of mentality, but also due to practical difficulties. The small-scale analysis proved that there are various physical boundaries, restricting people's movement and, thus, creating a fragmented borderland. This realization implicitly forced the formulation of design principles, that would first deal with the physical boundaries and then address the national border.

The design proposal followed a similar route: it started by presenting at a larger scale the author's vision for the borderland, but then moved to a detailed elaboration of how to tackle the borders locally. The shifts in scale revealed each time different aspects that had to be considered, when designing the borderland. The multiplicity of scales related this graduation project to the rest of the landscape projects conducted by the author so far and proved that for landscape architecture, a multi-scalar approach will always be a key factor.

b

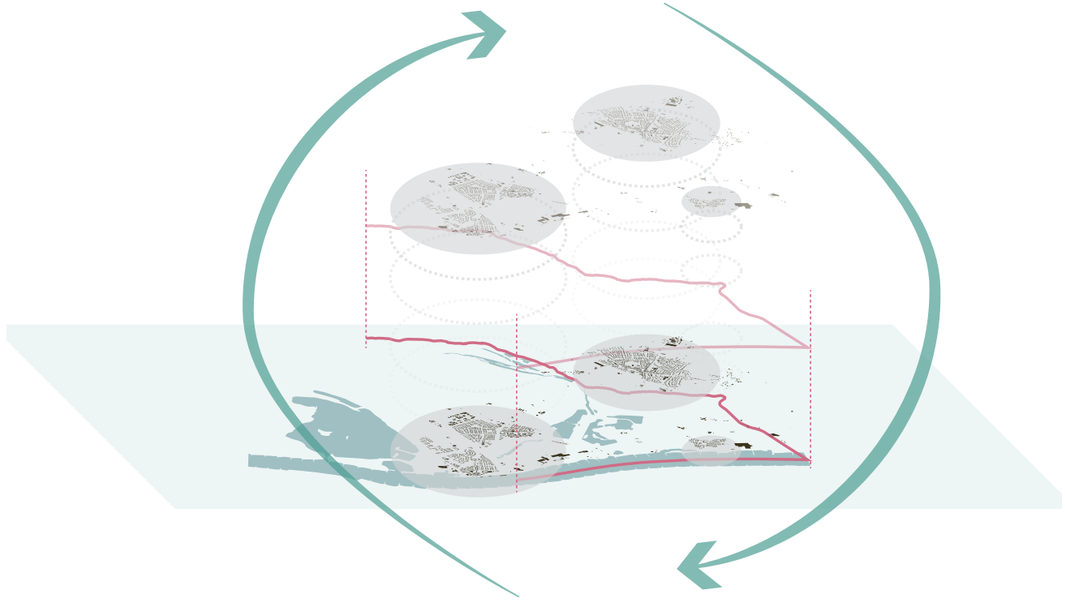
the structural-punctual relation

The research conducted for this project resulted to the need for a more connected borderland. The nature of these connections has been divided in two groups: the ones created by continuous structures and those created by single elements that form imaginary routes. The design principles were, thus, divided to structural and punctual interventions, accordingly. Structures, expressed mostly as continuities in the natural landscape and in infrastructure, address the issue of connecting the borderland at a regional level. Punctual interventions, in the form of cultural pavilions, represent local qualities of the borderland that have contributed to its overall identity. From the early stages of the design proposal it has been assumed that only a combination of structures and single elements would guarantee a successful outcome of the project –one could not adequately address the issue without the help of the other one. The final design has confirmed the above theory. The structures create an interesting natural base for the borderland, respecting the landscape's current conditions while offering an appealing future. At the same time, the punctual interventions create a cultural network that protects and celebrates the borderland's identity. Together, structural and punctual interventions respond to all of the borderland's aspects: ecological, economical, cultural etc.

c

nature-driven and man-driven forces

The landscape development in the border condition includes actions driven by both man and nature. The main principle has been to enhance what is already there, in respect to the landscape's current conditions. A set of actions driven by man would evoke a series of natural events. For instance, by digging the soil in a particular area, two separate water bodies would become one. Natural processes, with the help of some pioneer species added by man, would eventually turn this place to a wetland. Similarly, the idea of expanding the existing forested area from Germany towards the Dutch side of the border would probably require first adding some pioneer species and then letting nature free.
When developing the project, the author came to the conclusion that while man-driven actions can be realized within a short period of time, most of the natural processes require much more time. Consequently, the final image of the borderland, including all fully-developed forested and wetland areas, would be achieved only after many years. It is therefore a challenge for any designer to think of the crucial in-between stages, where man's actions will "guide" the landscape according to plan. In this particular project, actions like the urban extension of the Dutch and German settlements or the creation of the cultural pavilions could be carried out, even if the natural landscape would not have reached its final stage.



the natural landscape as the basis for past, present & future development

6.2. The design proposal as a response to the research objective

One major question to be answered in the final reflection phase of this project is whether the design proposal answered the initial research objective or, in other words, whether the landscape-based approach sufficiently responded to the border condition.

The natural landscape has proved to be a rather resilient structure. It has the ability to adapt to the human environment's changes. One could even argue that it is people who usually adapt to the natural landscape and not the other way round, despite their most current efforts to conquer nature. Besides, the L-scale analysis of this project has led to the conclusion that important landscape features –mostly related to water in this particular case- determined the course of the border line and, hence, people's actions in the past. Therefore, the author trusts that an approach with landscape features as a basis would properly address the border condition and preserve the characteristics of this land against external threats. It is believed that a more programmatic approach would not prove that resilient, as it would depend more on human activities. Eventually, the border qualities would disappear in favor of economical trends and this landscape would entirely lose its identity, just as it has been the case for many unique landscapes in today's world of globalization and homogenization. On the contrary, a proposal that focuses on boosting the border qualities by enhancing first its natural conditions –in terms of geomorphology, water, vegetation etc- could then be combined with the proper programme –eg. adjusted agricultural techniques, recreational activities in nature- that would turn the borderland to an important ecological, economical and cultural region, while also giving hope for its future.

Preserving and celebrating the borderland as a place of meaningful encounters by intensifying the connections within it has been the objective of this graduation project and, by focusing first on the landscape structures, this goal has been achieved.

6.3. The graduation project in relation to the "Flowscapes" studio

this project was conducted as part of "Flowscapes", the one-year graduation studio of the MSc Landscape Architecture. The studio addresses landscape architecture design of green, water and transport infrastructures, considering them as armatures for urban development and for facilitating functional, social and ecological interactions[8]. This graduation project is undoubtedly strongly related to the theme of "Flowscapes", as the notion of flow has been one of the main key points during both research and design.

The development of the borderland acknowledged the risk of abandonment that the border landscape faces nowadays. The national border, when seen as a dividing line rather than a threshold, acts as a mental barrier, reducing people's interactions along it. At the same time, current trends in economy and society "drag" people towards the cores of countries, leaving the edges at a state of neglect. Borderlands eventually turn to no man's lands, where people's flow levels are extremely low. This graduation project envisioned an answer to the above issue, by developing a major flow structure in the borderland and, more precisely, a water continuity. The interaction between water –a soft material acting sometimes as connector and other times as boundary- and the national border –a non-physical, yet strong mental barrier- promises a more vivid urban environment for the borderland in the future.

8 information derived from the Digital Study Guide of the MSc Landscape Architecture TU Delft

6.4. The methodical line of approach

the "Flowscapes" studio recommends an approach based on design research and research-by-design, when carrying out a graduation project. More precisely, each work should be the blend of both research leading to design decisions, and design try-outs asking for theoretical re-evaluations. The "Landscape development in the border condition" project has been the outcome of both methods.

Apart from the area's analysis in multiple aspects, a thorough research led to interesting conclusions, even before the project's design phase. The "Research methodology" course, carried out during the first semester of the graduation year, highly contributed to this research. The border's strong relation to matters of culture and history asked for a detailed research on ways of dealing with historical findings and monuments. The structural and punctual approach as a strategy for development in the border landscape was partly formed through this research course[9].

The research-by-design method came into play, right before finalizing the master plan. More precisely, it was important at that point to verify the importance of the interaction between the structural and the punctual. To test that, the author experimented by first developing only the structures and then applying only punctual interventions. This set of experiments led to the conclusion that the most efficient way of addressing the border landscape was by combining both structural and punctual interventions. After this realization, the design principles were divided to structural and punctual accordingly, with great attention in creating an interesting dialogue between them. The project would probably have a different outcome, if this research-by-design method was not included.

6.5. Research and design relation

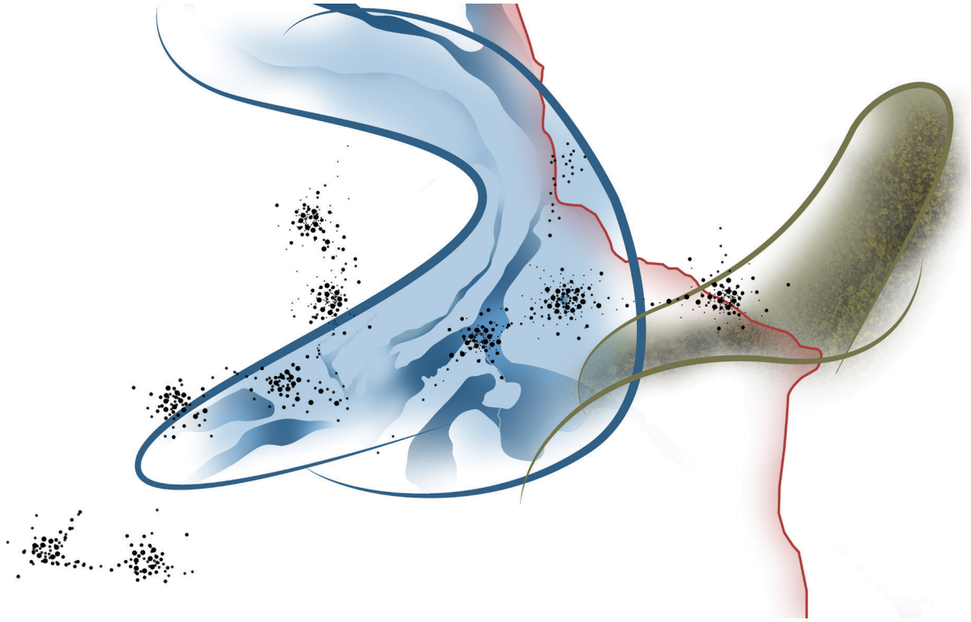
the previous paragraph already revealed that this project was built upon a continuous exchange of knowledge between research and design. Apart from the previously mentioned research-by-design method which proved to be a precious tool, another important aspect of research has been the study of precedents. It is true that there are considerably few examples of methods for developing border landscapes, but this fact never prevented the author from establishing her own method: the structural and punctual approach. However, particular aspects of this method –and especially practical matters- called for further research. For instance, the suggestion of digging out soil in order to connect separate water bodies and eventually form a wetland –one of the project's main conceptual ideas- was based on the study of precedents. As the design phase moved on, more and more similar practical matters appeared, asking for verification. Researching about them sometimes meant re-evaluating the design. A similar process can be traced between the site's analysis and the design: the initial analysis led to some major conclusions, but during the design phase further analysis needed to be carried out, especially at a local level. To conclude, in this project research and design seem to be part of an unbroken cycle, just as in most landscape projects of this scale.

9 for more information, please look at the Appendix, pp. 111-115

6.6. The relevance of the graduation project

a crucial question after the completion of this graduation project has been whether the structural and punctual approach could be the answer to other border conditions around the world. The flexibility of the structural and punctual approach lies on the fact that the structures and the elements are not predetermined, but instead, are based entirely on the project's specific conditions. In this particular project, water has been the most dominant structure and culture has been the basis for the punctual interventions. In other borderlands around the world there could be other structures and elements for potential connections. Maybe instead of water there could be fragmented pieces of woodland asking for connections. However, the project principles can always remain the same. And, undoubtedly, the success of every project will always lie on the dialogue between the structures and the elements. It is through this dialogue that the border's qualities will eventually be preserved.

The above implies that the structural and punctual approach could be generalized and, hence, this graduation project could give new insight on how to generally deal with border conditions, which is an important field of research and discussion among theorists and specialists of landscape architecture. Protecting unique landscapes that are facing nowadays the risk of losing their natural and/or cultural qualities has been a major issue of discussion in the latest years. This graduation project, even though it addresses only one type of landscapes, could hopefully contribute to this discussion.



the development of the borderland - conceptual drawing

7

appendix

The proposed interventions, especially as far as the "hard" structures and the punctual elements are concerned, have been the outcome of the author's research study on ways of dealing with historical monuments and history in general. The study included definitions of the terms "monument" and "historical object", in order to verify in which category the remaining historical elements in Lobith and Elten belong to and decide what type of intervention is appropriate in each case. Moreover, several strategies of dealing with historical objects have been studied, with a special interest in the scale or degree to which one may intervene. Eventually, the author opted for a minimal degree of intervention, following the example of other architects and specialists, such as Bernard Lassus. For a better understanding of the design methodology followed in this project, parts of the research study are presented here in the form of an appendix.

Definition of "monument" & "historical object"

A "monument" is an element or set of elements with historic qualities, which has the following features:

Originality or authenticity. Every monument is a product of human action at a given moment. This action took place in a unique way and cannot be entirely repeated. This uniqueness is the core of the monument's originality.

Time or historicity. Each element, from the time it was created till the moment it is acknowledged as a monument, does not remain static, but is subject to alterations by nature or humans. These changes are part of the monument's history.

Quality. This feature is based on different aspects (artistic, constructive, cultural etc.) and on the dominant ethics of each period. It is, thus, rather subjective and hard to measure.

Idea or symbolism. Each monument has a spiritual context and carries a message from the past.[10]

In order to be considered as a monument in strict terms, an element must comprise all four features mentioned above. If it is related only to the first two, then it is defined as a "historical object" and not as a monument. Elements related to the last two are called "substitutes for monuments".

Common strategies for monuments & historical objects

Monuments are usually protected by law and, hence, they can be addressed only under specific circumstances. A design that includes a monument is mostly based on protecting it and projecting its unique qualities. Some of the most common strategies are presented below:

Restoration: Any intervention that has to be done on a monument, in order to secure the continuation of its existence and its transfer to the future generations. Any additions to the monument should not be visible when looking at it from a distance, but they should be easily identified. Any intervention should enable future possible additions. The goal of restoration is the conservation of the monument's important historical phases.

Reconstruction: The act of reshaping a building's initial image (in terms of form and structure), with all the characteristic details and elements of the period when it was firstly built.

Anastylosis: The act of putting together in their original position architectonic parts that had been moved. It is a special form of restoration, used in certain monuments, such as temples and other buildings of the ancient times.

Historical elements other than monuments are usually followed by more flexible rules in terms of design and adaptation to a contemporary context. Interesting strategies related to them are, among others, the following:

Reanimation: The act of bringing back to life a historical element or group of elements, by establishing economical, social and other measures. This does not of course mean returning to old ways of living, but instead adjusting the historical site to the current needs of its users without modifying its basic original characteristics.

Completion of the image: The act of making the visitor aware of what a historical site used to look like, by adding its missing parts in a completely new way. The new elements are autonomous (can be identified by the visitors and removed if necessary) and reflect the contemporary style of designing, without imitating the past or being too obvious.[11]

Structural & punctual approach

Two directions are quite common, when dealing with historical elements and structures:

1 As far as the historical elements are concerned, creating connections between them or enhancing the existing connections is considered as a proper strategy, in order to form a continuous and robust structure. This also supports the jump from a local intervention to a more regional perspective. The scale of the single elements can range from archeological remnants to entire urban settlements, as is the case for the project Römerstrasse Neckar-Alb, an imaginary road based on the Roman transportation networks, that seemingly connects museums, hotels and other facilities in a German-Swiss region, to create a solid whole[12].

2 The second direction is opposed –but still complementary- to the first one, namely reconnecting the parts of historical structures and punctuating them with elements, where needed. This has been the case for Hadrian's Wall, a 135 km long wall undulating in the English countryside and dating back to the Roman times, whose remnants create today a continuous route worth visiting[13]. This strategy relates the regional framework to local projects in a more realistic and efficient way. Besides, studies on the border conditions have suggested frameworks that are resilient to future change, because urban developments around the border are usually "unclear, ephemeral and indeterminate"[14], prone to the ambiguous character of the border landscape.

Degree of intervention

a study of recent projects indicates that, nowadays, specialists are aware of the fact that not all historical elements or structures can –or should- be treated in the same way. The degree of intervention can range from leaving the object completely untouched to reconstructing the object's original form to the fullest possible. Between these two extremes, there are several other strategies that neither rebuild the object, nor leave it as it is, but rather focus on slight transformations. The choice of the most suitable approach depends on several factors, among which the following should be considered:

Condition of the historical element/structure: The degree to which an object has been damaged or preserved through the years depends on its own qualitative characteristics, but also on external factors like weather conditions or human behavior. In cases where everything is lost it is usually hard to reconstruct the object in its entirety, unless there are clues for its former image.

Scale and nature of the historical element/structure: The scale and nature of a historical object might vary from small-scale archeological findings to continuous structures running through the landscape. Usually structures cannot be easily reconstructed due to their size and are therefore just conserved and maybe accompanied by newly-designed punctual interventions. This has been the case for the Kalkriese park, where an important battle between the Germans and the Romans once took place: the large scale of the historical site called for punctual interventions on the land and the addition of three pavilions, to connect past and present[15].

Location of the historical element/structure: The location of an object also plays a role when deciding which design procedure to follow. For instance, an old building located in the historical core of a city is usually brought back to its original form, in order to blend with its urban surroundings.

Purpose of the intervention: The goal of the intervention can also determine the degree to which an element or structure is being transformed. When the purpose of an intervention is educational or related to the preservation of the cultural heritage, the reconstruction of the historical object is a quite common approach. However, if the goal is to combine the historical element with recreational activities or other functions, then a possible approach would be to adapt the object to the new environment without changing it a lot. For instance, the work of Peter Latz in Landschaftspark Duisburg-Nord demonstrates an ingenious reuse of the industrial remnants, related to the new function of the space as a park.

The designer's/architect's choice of approach and personal style: Each specialist has his/her own unique style, which is eventually reflected in the way the historical object has been treated, or in the use of a special material or technique.

A designer might use only one approach towards history, but it is also common to have combinations of different kinds of interventions, especially when the project is not about a single historical element, but rather about a group of several objects and structures.

Minimal interventions

the question of whether someone should intervene to a place or not, as well as the degree of this intervention, have also been analyzed by the landscape architect Bernard Lassus, who proposed an interesting alternative worth mentioning and, more precisely, that of a minimal intervention. Lassus argues that a landscape intervention does not necessarily include a physical transformation. Instead, he opts for an approach that brings "other tangible dimensions to the already there"[16]. This approach is reflected in his proposal for the Tuileries Gardens in Paris: after a thorough reading of the site's historical layers, he decided to restore what was historically known, rehabilitate what was less well-known by adding new functions and evoking by material or by design the period of origin, and reinvent the parts that were not known at all by adding contemporary creations[17]. A similar approach was also followed in the Crazannes Quarries: he suggested an "inflecting process" instead of composing a new, utopian world and emphasized the difference between improvement and inflection[18]. To him, a landscape that aims to produce a sense of place should be open to alternative interpretations and encourage the visitors to imagine the space by themselves.

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