BORDERING CHAOS

Reinforcing productive relationships in eroding territories

Purvika Awasthi I MSc Landscape Architecture

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Reinforcing productive relationships in eroding territories

Bordering Choas is a MSc graduation project under the chair of Landscape Architecture at TU Delft. It examines and understands a post-war city of Mostar in Bosnia and Herzegovina in terms of social and natural factors. Apart from being a chaotic accumulation of decayed territories and affects, the city also has a broken relationship with the river Neretva, physically in the form on flooding and erosion due to human activities. The project offers an un-expected way of living with the natural factors and risks both socially and naturally.

Research & Design

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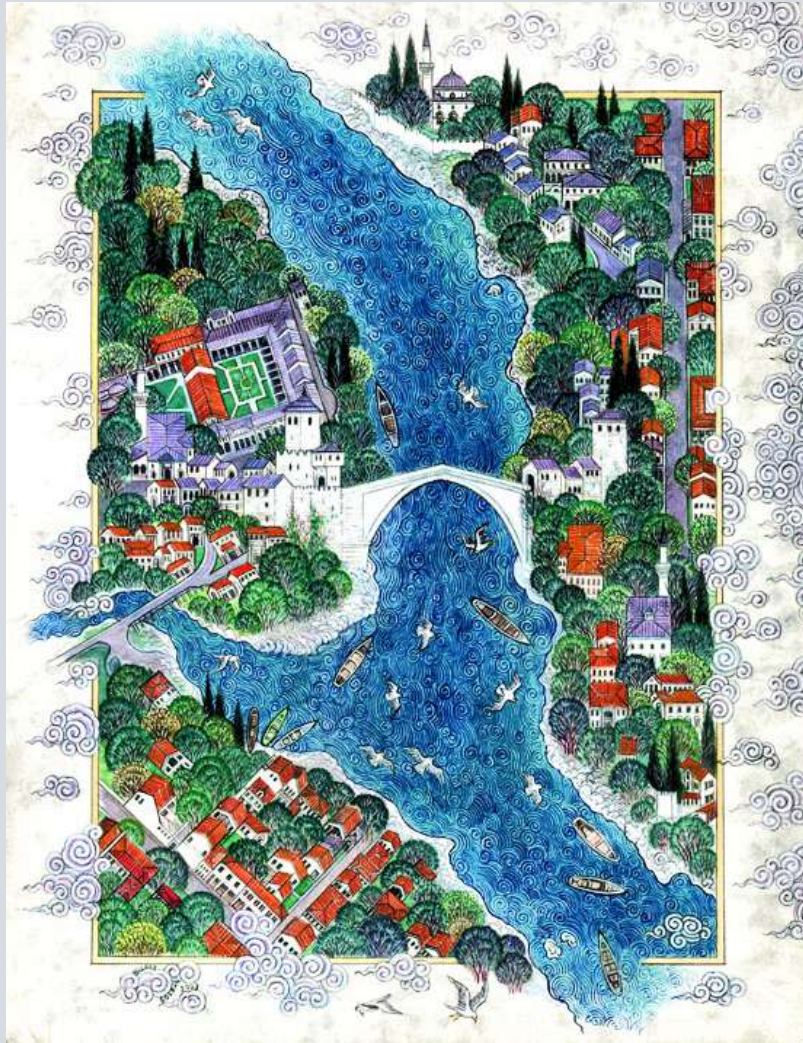
Source : An artist's impression of Ottoman Mostar by Nusret Çolpan

Abstract

War renders the characteristic of a territory and over-shadows the affects and desires that have been always a part of it. The Bosnian genocide in the early 90's not only impacted the political and urban structure but also was a severe blow to the social structure. Mostar and Mostarki were synonymous to tolerant cohesive society. Neretva was one such important element of this society but over the years the people distanced itself from the river. The underlying effects of the war overpower the affordances and affects that are existing throughout the city and especially along Neretva. With these gradually decaying territories co-existing with rampant reconstruction to bring back the *just* image, a heterogeneity has resulted in present day Mostar. The urban transformations have also resulted in an overused and exploited river with increased erosion, sewage discharge and energy generation. In order to respond to the complex situation as experienced in Mostar, the project adopts a framework based on the *theory of affects*. The lens enables to see this territory as a *chaotic assemblage of affordances* and potentials. The river and the decayed spaces in the city become a part of this field of affordances which leads to the formation of a network of social spaces. The proposal works as an experiment which adopts a theoretical outlook to deal with the practicality of temporal, natural and social issues. The thesis aims to acts as a stimuli in order to reinstate the relationship Mostaki's have with their city, the river and amongst themselves.

Keywords : Affordances, Urban acupuncture, Heterogeneous, Rhizome, Network, Erosion

Introduction

In the following chapter, the strategic location of the city, its urban pattern, the impact of war on its social and urban structure has been explained. This coincides with the personal fascination and assessment of the affects existing in the city which have been potentialized in the further chapters. As a result, certain problems and potentials are recognized which are tackled following a specific methodology. Mostar is seen entangled in two major problems, one in its current urban and social structure and the other is along the river.

Mostar, Bosnia & Herzegovina

Neretva Vall

a.Location

The site is the post-war city of Mostar, located in the Herezegovina-Neretva Canton. It has a sub-Mediterranean and Mediterranean climate and is influenced by Adriatic sea. The upper part of the Neretva river, has a strong highland character, and in times of high waters, it brings large quantities of dissolved nutrients and organic substrates, which are deposited downstream to create the very fertile soil of the lower Neretva Valley. The river is the backbone of the city and has directed its image, form and structure. To understand the urban and social pattern, three major development periods have shaped the city before the Bosnian war in 1991.

ey & the city
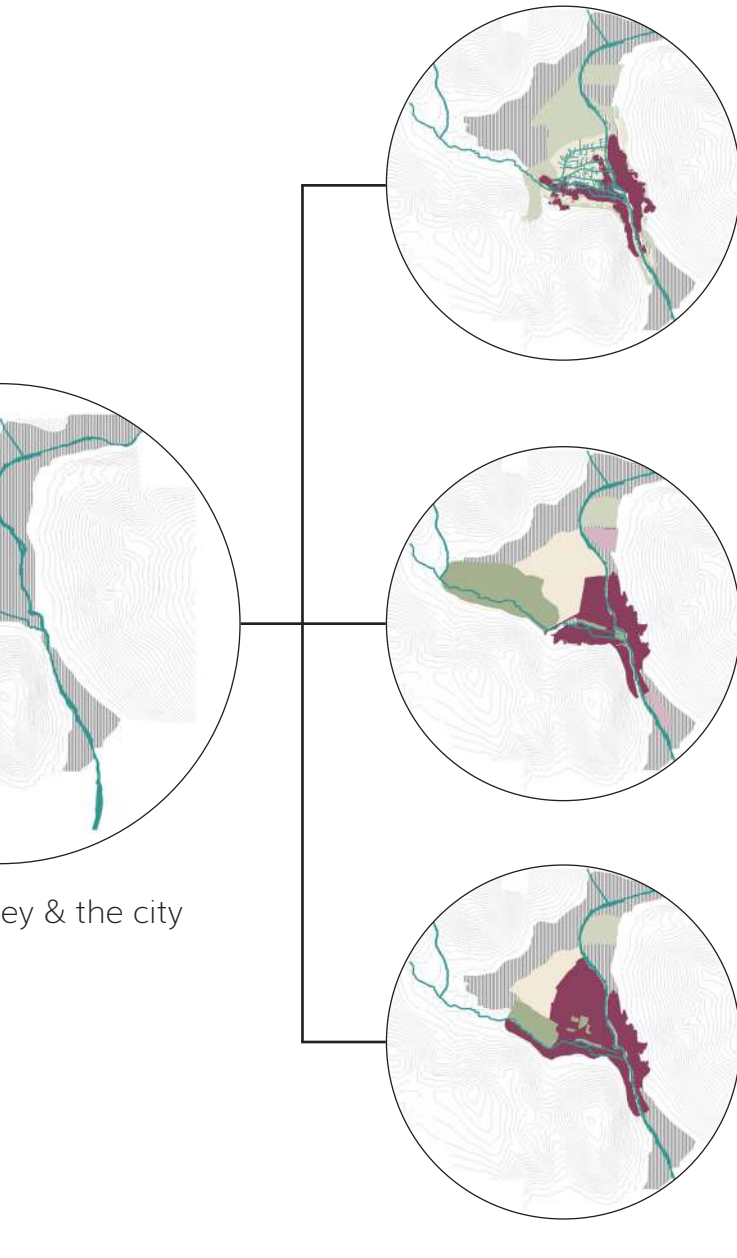
I. Ottoman Period (1468-1878)

During this period Mostar developed from a minor rural hamelet to a thriving urban settlement (Suri,2012). Starting from the east bank the settlement started developing along Neretva and soon with the construction of the bridge, the town started growing along Radobolja in the west with agricultural fields on the north-west. Extensive canal system was developed during this period. Public buildings are concentrated along the river, and the most important public functions are located by the bridge. Houses are located on the hills further away from but facing the river ("Commission to preserve national monuments", n.d.).

■ Meadow
■ Agricultural Fields
■ Urban area

II. Austro - Hungarian Period (1878-1918)

The Austro-Hungarians, who occupied the city in 1878, initiated its revival by establishing military zones to the north and south of the city, west of the old city, the Stari Grad. Industrial zones were created to the north-west of the city, and a new railway line connected the inner city to these. . With all the development activity taking place outside the historic core, and new infrastructure and public facilities located in the new city centre on the western bank of the river, the flourishing old town began to die a natural death in the nineteenth century (Suri,2012).

■ Meadow   ■ Urban green area
■ Agricultural Fields   ■ Military zone
■ Urban area

III. Yugoslavian Period

Industrial development proceeded apace with the establishment of a variety of industries in and around Mostar. A large proportion of vineyards covering an area about 5000 hectares along Neretva were planned. A number of hydroelectric power plants were also established during this period (Suri,2012). The city was a major industrial and tourist center and prospered during the time of SFRY (https://www.pozitiv.si/dividedgod/www.pozitiv.si/dividedgod/texts/Mostar_Info.pdf).

■ Meadow
■ Agricultural Fields
■ Urban area
■ Urban green area

Social development

Legend

- Neretva & Radobolja
- Continuous urban area
- Discontinous urban area
- Meadow
- Agricultural fields
- Urban green area
- Complex cultivation
- Mineral extraction
- Industrial area
- Transitional wood
- University

N

1 Kilometer
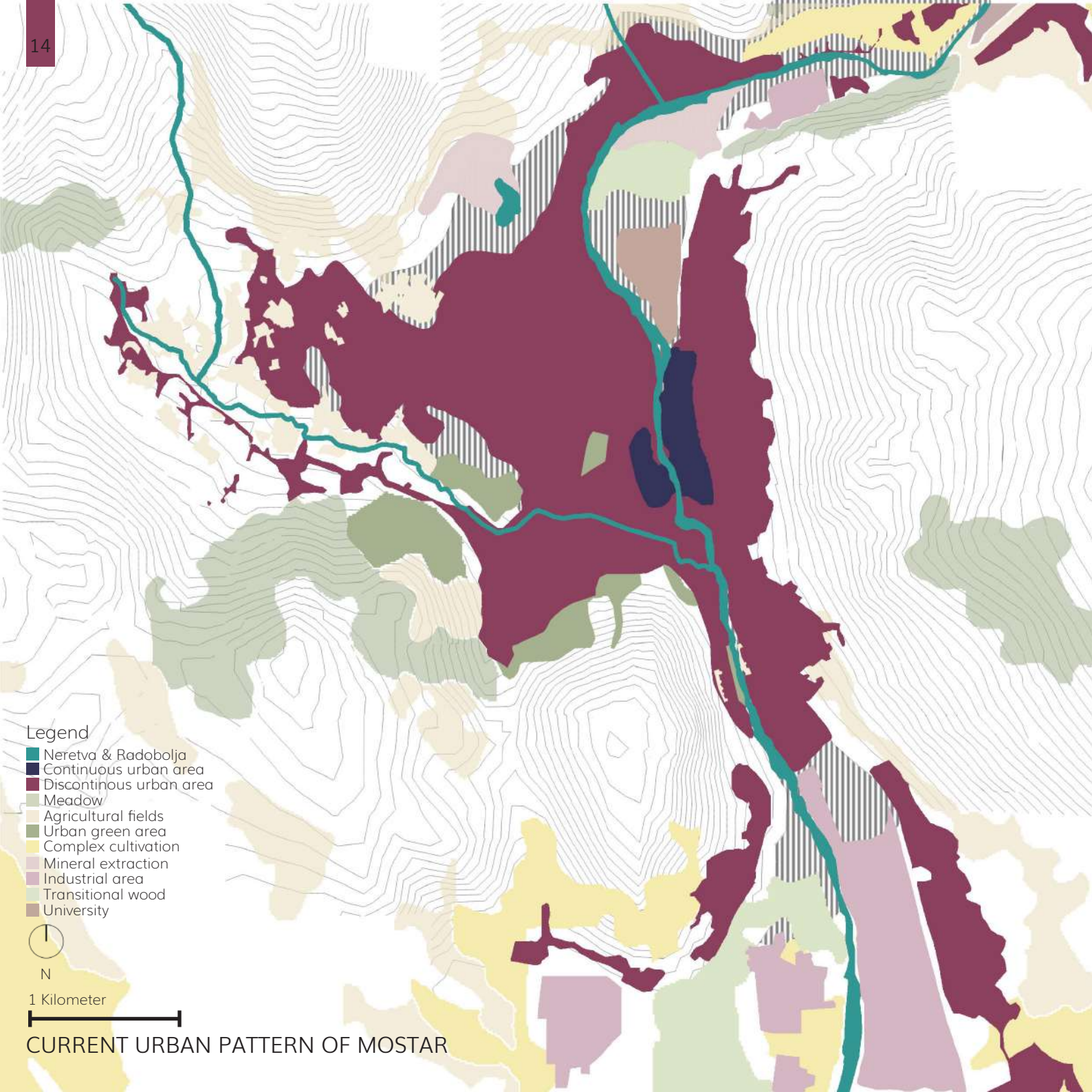
CURRENT URBAN PATTERN OF MOSTAR

Social, cultural and urban practices in Mostar (2018 - now)

UNESCO World Heritage Site

"In the 1990 conflict, however, most of the historic town and the Old Bridge, a masterpiece designed by the famous architect, mimar Hajruddin (according to the design of his master-teacher, great architect mimar Sinan), were destroyed. The Old Bridge was rebuilt in 2004 and many of the edifices in the Old Town were restored or rebuilt with the contribution of the international scientific committee established by UNESCO. The Old Bridge Area, with its pre-Ottoman, Eastern Ottoman, Mediterranean and Western European architectural features, is an outstanding example of a multicultural urban settlement. The reconstructed Old Bridge and Old City of Mostar are symbols of reconciliation, international cooperation and the coexistence of diverse cultural, ethnic and religious communities."- UNESCO World Heritage Centre

With the rampant *reconstruction* of the old town and the neglected central zone has created this choatic layer. The image of the city is blurred and is becoming unidentiiable by the Mostarki's. The city is flourishing as a touristic hub but losing its connection to the people and the river.

Conflicted / disputed territories - Discontinuous urban area

Post the Bosnian war the city was divided into 7 municipalities, with 3 under the Croats, 3 under Bosnian muslims and one was a disputed territory as it was the former frontline. In 2014, these were area were united but the urban patterns are non-coherent. There was always heterogeniety in the city pattern due to previous ruling empires which was celebrated but post-war Mostar is more chaotic and scattered than heterogenous.

Religious Buildings

The mental divide can be easily guaged from the flamboyancy of religious structures. These were one of the first structures to be resurrected after the war, moreover, higher towers have been added in order to compete with each other. The Catholic church on the west, boasts a 352 feet high bell tower overpowering all the mosques in the city. The orthodox church which is under construction also has a much higher tower now. Even the Hum hill has a cross placed at it's highest point and visible from everywhere in the city.

Continuous urban area - West Mostar

The social structure is completely different on both sides of the river. The west is developing as modern European cities and with wider roads, cafes, parks, malls and so on. The percentage of buildings damaged in the west was extremely low as compared to the east and whatever was destroyed has been majorly refurbished and the city is expanding at a massive rate.

1. Reconstruction of the orthodox church with a larger volume and higher tower
2. View of the west mostar (Croatian side) from the tower of Catholic church.

b. Fascination

b.1 Post - war territories

Post-war cities and landscapes are often linked to adjectives like trauma and shame. The negativity or non - productive characteristics which these spaces encompass over time, refrain the users to reconnect. These territories not only contain time but also transforms continuously from productive to non-productive and vice versa.

In the case of Mostar, these *other* spaces are abandoned, disputed or abused and the surroundings keep on developing to create a *just* image of the city. These spaces have various potentials and the Bosnian war added another layer which created and suppressed these potentials thereby, turning it into a *landscape of affordances*. Also, within these spaces innumerable process have taken place which are waiting to be unearthed.

By embracing these territories and considering the layer of war as a palimpsest, post-war cities and territories within them can rise again without just replicating the past but by developing new narratives for the city. It can also enable inhabitants to change their perspective towards the city and also eachother.

Ruins and buildings with bullet scars along Maršala Tita in Mostar, B&H, Oct.2018
Source : Author

b.2 Cities, people and their relationship with water

Major civilisations have always developed around the river or on the banks, water has always been strongly related to human development and existence. Post industrialisation this relationship has been tarnished and water sources are merely just physically present in the landscape. The integral relationship caught my attention during the early years of my childhood, i grew up in a city along the banks of river Ganges, in India. It was ironic to see how we used the water every day during morning prayer at the same time on my way to school i would cross numerous leather tanneries and could see all the chemical waste being disposed in the same 'holy Ganges'. As I grew up my dependence and relationship to water grew but i could also trace the gap between me and the river. My father learned to swim in the river but he trained me in the swimming pool. And now the river is just merely present - polluted, neglected and over exploited, though we still continue using the water for morning prayer.

This is not the story of just one river or water source; both the developed and the developing countries have had or are having this complicated relationship with water. Industrialisation and the western approach of taming the nature or considering the natural processes as threat fails to understand the dynamics and temporality of landscape and further disconnects people from water.

In the case of Neretva, the city of Mostar developed in this karst valley along this rich river. The strong relationship between the river and the people can be gauged from the urban patterns of the old city. All the important buildings were facing the river, the streets run parallel to it with alleys and steps connecting to the river. There were numerous bridges built to strengthen the connection between the two river banks. Mostarki's identified themselves with the river and the river banks encouraged multiple relationships - swimming, diving, fishing, kayaking and so on. But after the war the people lost their emotional connection to the river. Neretva with its deceptive greenish blue colour is highly controlled and polluted. The war not only divided the city but also influenced the relationship Mostaki's had with water. However, it is interesting to note that the river also adopted a duality of character by serving as a landscape of resilience as well as a battlefield at the same time. Though, it is more identified as 'trauma', the landscape is still full of these unearthed potentials hidden under the fragile layer of war.

Ganges at Kanpur, India
Source : http://www.iitk.ac.in/inacomm15/tourism.html

C. PROBLEM FIELD

C.1 Decayed Territories

- Heterogeneous urban pattern
- Decaying social spaces
- A landscape of waste

Heterogeneous urban pattern of Mostar : The city is a rich mix of culture and people. Heterogeneity was always celebrated in Mostar. However, during the Bosnian war the prime targets were the social spaces. The re-building process further bolstered the discordance as the city was divided into 7 municipalities, with 3 under the Croats, 3 under Bosnian Muslims and one was a disputed territory as it was the former front-line. In 2014, these areas were united but the urban structure of the city became non-coherent. Post-war Mostar is more *chaotic and scattered.*

Decaying social spaces : The psychological targets were the structures with which people identified themselves and their culture. When the facades of a city are destroyed, its face lies beyond recognition,but when the cultural, historical and public spaces are targeted, it deprives the city of its legibility, disconnecting the inhabitants from their surroundings.
- Arna Mackic (Mortal Cities, Forgotten Monuments)
The war created these 'slowly decaying spaces or eroding territories' in the city which add to the existing heterogeneous pattern. As they were important social spaces they are strategically placed in the city. As a result of this the central part of the town is *devoid of social spaces*. These post war territories and landscapes are categorized as trauma or shame by Mostarkis but overlooking this one - directional layer they have encompassed within themselves time and process which somehow remains unearthed. The temporality of these places is not exhumed to its full potential.

A landscape of waste : These ruins and abandoned territories in the city are now active as dumping grounds and abused spaces. Most of the abandoned buildings are either used for illegal activities or as local trash cans. And the former public squares lie lifeless which decaying remnants from the former Yugoslavia. However, what is interesting is all these spaces are enveloped by the functioning city and are a part of a non-productive social system.

The image on the left explains how these decayed territories lie within the present day re-built Mostar.
Source : Author

C.1 Neretva

## c.2.1 Social and urban effects

- As a source of energy generation
- A landscape of waste
- As a mental divide

c.2.2 Natural transformations and effects

- Flooding
- Erosion

Neretva as an energy generation source : The rampant exploitation of the Balkan rivers for energy generation has also affected the relationship that the people have with water. Neretva, is divided into three parts - upper, middle and lower+delta. Though this karst river is ecologically quite enriched and is protected under the RAMSAR convention at the delta however, it is highly controlled upstream(Middle Neretva). Since the 1950's four hydroelectric dams have been built on the stretch between the artificial lake, Jablanica to Mostar. Also, four more hydroelectric dams are proposed on the upper Neretva. This has largely affected the river dynamics and ecology thereby, also influencing the relationship between the city and the river. On one hand, the hydro-power plants help to balance the water regime during high waters, but on the other hand, they prevent sedimentation, decrease productivity of the river, increase erosion of the riverbed and increase dike fragility.

Neretva as a landscape of waste : Disorganised and chaotic urbanization influenced the liability the Mostarki's had towards the river. Mostar pollutes the river the most along its whole stretch. Within the city a lot of waste water pipes directly discharge into the river. Moreover, on banks huge amounts of garbage and plastic waste is discarded and becomes a part of the river bed.

Effects in and a
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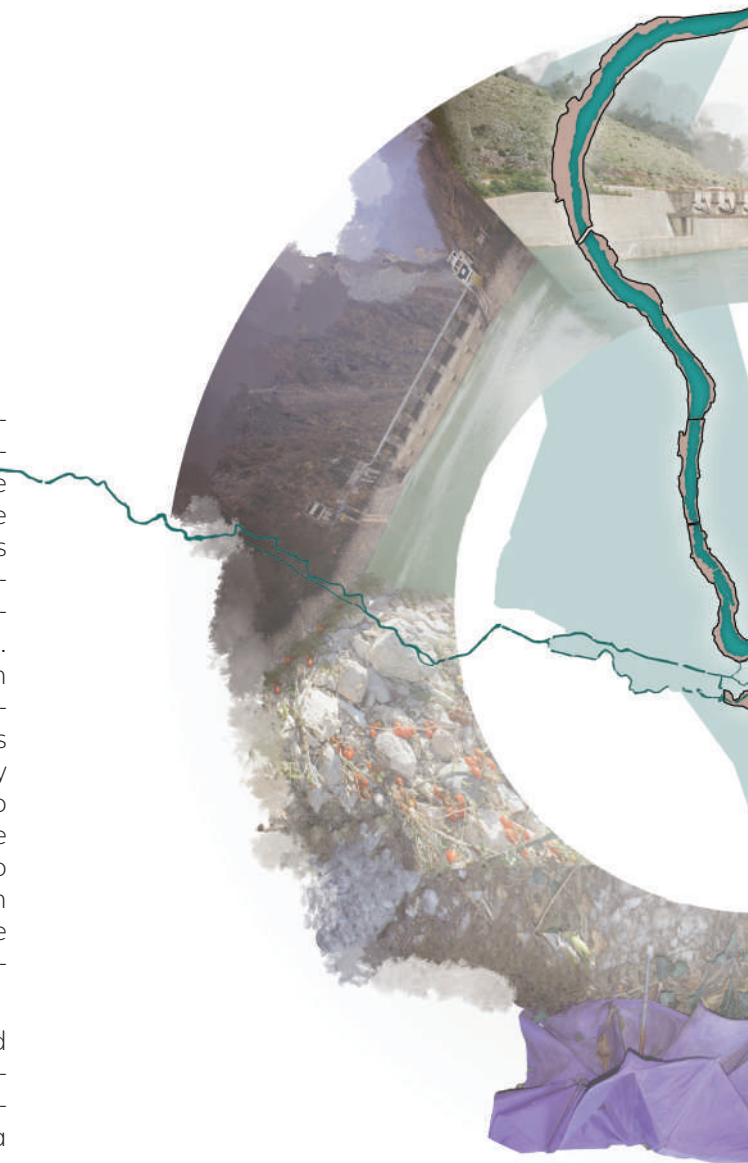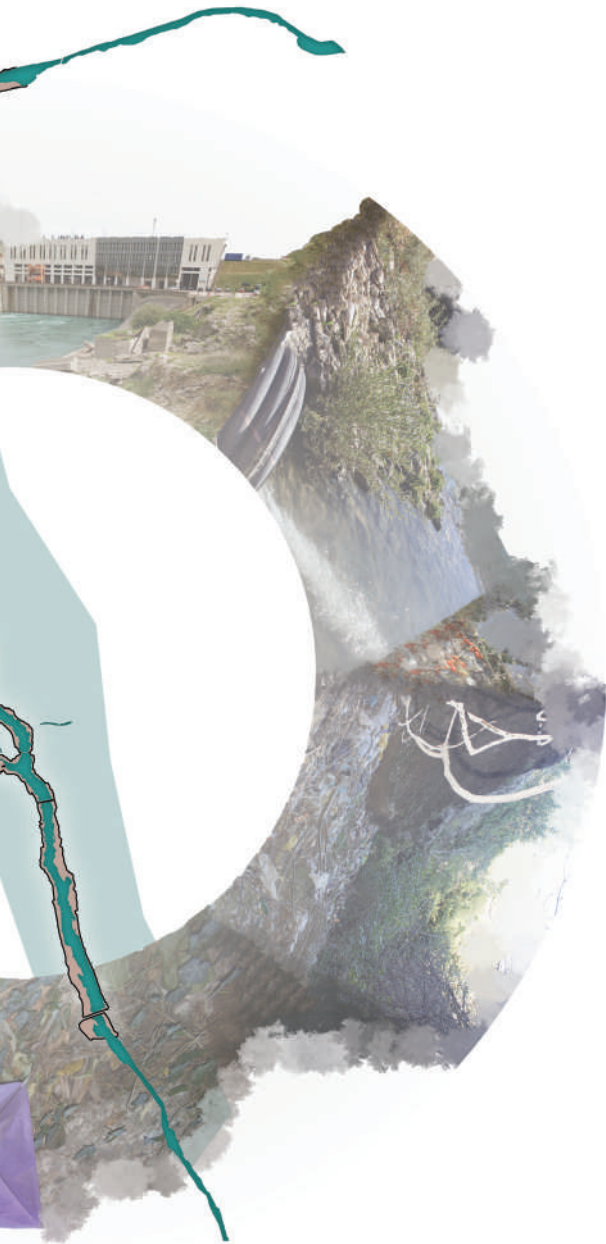
Radobolja, a smaller river flowing into Neretva also is highly polluted by chemical discharges from vineyards and household waste. This is a major problem as it directly affects the ecology and the river water is no more safe to use for drinking or swimming.

Neretva as a mental divide : Neretva and Radobolja channelized how the city developed. All the bridges and connections were either connecting important social elements or were themselves serving as one. The city came together along the river but after the war it's role reversed and is more like a separation. During the war the river played an important role as it was a line of survival as well as the major point for destruction because of the connecting bridges. Therefore, Neretva has this duality in it's affordances. The post war river is now only physically present in the city as a boundary line between west and east Mostar. The memory of the river and the perspectives have totally vanished.

Being a natural system, the temporality is quite visible in the landscape. The river gets wild after the spring and autumn rains. Mostar is developed on the floodplains of Neretva and susceptible to moderate flooding. The water level can go up to 10 meters high and river banks become inaccessible even with 2 days of rainfall. Moreover, the dams have largely influenced the flow of the river. The city also lies in high level of landslide susceptibility.

Erosion has been a part of the natural system and has made major parts of the banks inaccessible now. The controlled yet sudden release of water by the dams has tremendously increased the rate of erosion especially in the area between Bunur and Stari Most.

of Neretva 2019
Author

Problem Statement

The pattern of social development in Mostar was primarily directed by landscape typology and existing terrain of the canton. During the siege, this landscape gained duality in the character, acting both as a shelter and a hazard. As aforementioned, the purpose of the war was to destroy the psychological targets and tamper the legibility of the city; social spaces in the city were targeted. Neretva was also one such social cohesive territory. The importance of the river can be gauged by the urban patterns of the old city and the importance bridges (connectors) had which were once regarded as 'spiritual thread'. However, the war rendered this relationship. The river now, is just physically present. The post war Mostar comes out as a city divided by the river. The river now being highly exploited due to multiple hydro-electric dams, uncontrolled garbage disposal, untreated sewage discharge. As well as the natural impacts such as flooding & rampant erosion.

Therefore, drawing parallels between these two scenarios – the river is war and the war is river, thereby, resulting in a fragmented urban & social pattern. Both of these aspects have created a lack in the social spaces and these former public platforms are now gradually decaying. The city is primarily now an assemblage of these multiple, entangled affordances which makes it challenging for Mostarki's to recognize relevant affordances. Moreover, the dynamics of the river and the extensively eroding river edge have limited the connection that people had with Neretva. Hence, even though these areas have multiple potentials yet it cannot fulfill the 'desire' of its subjects and can still have non-productive affects.

1. Ruins near Stari Most (Source : Author)
2. Mostar HE dam
3. River banks as dumpsters
4. Sewage disposal in the river

Post-traumatic landscapes and territories as aforementioned are *chaotic assemblage of multiple affordances*. This thesis proposes two hypothesis one of which are further elaborated below -

RHIZOMATIC NETWORK

In the case of Mostar, the former social spaces are lost as a result of the war. The river also served as an important social space lies abandoned and the connection between the city, Neretva and Mostarkis is lost. As all these decaying social spaces have unearthed potentials can the strategy of urban acupuncture be adopted for such a scenario. However, it is crucial to understand all these decaying abandoned spaces are equally important for the social structure. Therefore, a non-hierarchic model for both design and research can help to develop an open-ended network of relations. Within this framework, the discernible layer of war serves as a palimpsest to develop new perspectives and relations both in the city as well as with the river. The project moves forward by identifying and picking territories with more potential thereby, resulting in a rhizomatic network of social spaces in the city which try to reconnect the river to the city and aim for social cohesion. Eleven sites are picked to initiate the process and later this network can grow in multiple directions depending which sites do inhabitants pick for small scale interventions.

RIVER IS WAR, WAR IS RIVER

As this hypothesis depends on theory, therefore it is essential to understand the logic behind the theories first. Hence, it is elaborated in the upcoming chapters.

Hypothesis

"The war still goes on"
Young boys and girls in west Mostar elementary schools know very little about the Nere
River. They tell me, 'the river is near the city'. It is strange and very sad to hear this – the
is not near the city, it is inside the city.
– Muhamed Hamica Nametak (Director, Puppet Theatre of Mostar)

The thesis has been divided into 8 chapters to understand the existing potentials in Mostar and how they have been dealt with.

Chapter 1 - Introduction consists of the context, urban and social development as well the impact of war on the city. The entangled affects existing in the city which have tarnished the relationship Mostarki's have with Mostar and what kind of a strategy can be adopted as a solution.

As the problems and potentials deducted from the previous chapter fall into numerous scales, therefore, the next chapter Theoretical Framework, explains in depth the theories and strategies that have been adopted and how they are used throughout the project. It serves as the guideline to understand the glossary and reasoning. It is the most important chapter to understand the project.

Research Questions is the third part, using the glossary derived from theory and understanding of the site, seven questions have been proposed. To initiate the process of design, chapter 4 - Methodology explains the process adopted for the whole thesis as well as the game used for participatory design.

Chatpter 5 - Design & Research, this part includes implementation of the strategies and principles into a site-specific landscape design. It comprises of intervention and planning at 4 scales, detailed design, time planning as well as the spatial site specific analysis. The city level strategy of creating social spaces and the object/element scale with materiality and how the users can respond have been elaborated in this chapter by sketches, sections and materiality.

The last part consists of the Conclusion of the research, that is, cross examining the design to the theories that initiated the thesis as well as how the design responds to the various research questions. Reflection is my personal take on the project in terms of approach, learning as well as critically analyzing my own design and methodology. It also elaborates on the social relevance, ethical issues and the political take on post-war cities, especially Mostar that has always has heterogeneity and ethnic diversity.

Glossary is an concise and direct definition of specific terms that have been used throughout the project. They are deducted from the larger theoretical framework but in this chapter they are context-specific - specifically for Mostar and Bordering Chaos.

Reading Itinerary

retva
e river

Theoretical Framework

Theory forms a major part of the methodology adopted for this research and design, the following chapter is divided into two parts theories and strategies. Five theories based on the ideas of Deleuze, Guattari, Gibson, Spinoza and Nietzsche are analysed and further deciphered by Chemero, Ritveld, Kleinherenbirk, Jun, Smith, Cabrera & Roland which guide the process and are intermingled at various scales for analysis, design, glossary and also how the project is addressed in this one year time span. Further on, two design strategies which have a more direct application in landscape architecture and urban planning are used at a wider scale to weave everything together.

The title of the project *Bordering Chaos* is also derived from this chapter. Mostar has a profusion of multiple *affects* due to its rich and heterogeneous past and natural conditions. This disparity makes it challenging to identify productive affects therefore, the need to pick, limit, exhume from these orders-Chaos, that is, to border and/or frame. Eventually, the proposed design would also be Bordered and/or picked as per different users from the chaos of new orders added.
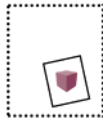
Theoretical Framework

a. THEORIES
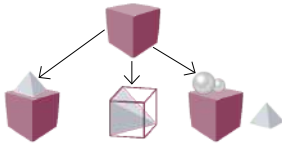
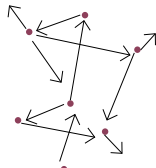1. Theory of Affordances

2. Chaos, Milieu & Territory

3. Territorialisation & De-territorialisation

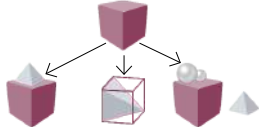
4. Desire

5. Rhizome

b. STRATEGIES

1. Urban Acupuncture

2. Temporality of Landscape

a.1 Theory of Affordance

"The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill" - Gibson, 1979 (Chemero,2003).

As Chemero says - affordances are relations between animals and features of situations (Chemero,2003). To explain this further Affords- μ(environment, organism), where μ is a behavior.

Which implies "The environment affords behavior μ to the organism." Consider, for example, recent research by Cesari, Formenti, and Olivato on stair-climbing affordances. The studies reported by Cesari et al. indicate that people perceive stair climbing and descending affordances not as the ratio between leg length and riser height but rather as a relation between stepping ability and riser height (Chemero,2003). But this relationship largely depends on the 'ability to climb the stair', obviously ergonometrics is a major factor, the riser height and leg length matter but every individual reponds differently to this hypothetical staircase.

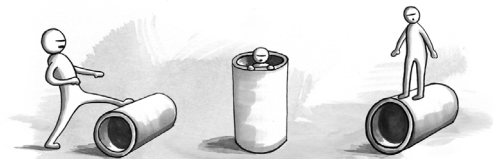Therefore, Affords-μ (feature, ability) (Chemero,2003)

Affordances do not disappear when there is no local animal to perceive and take advantage of them. They are perfectly real entities that can be objectively studied and are in no way figments of the imagination of the animal that perceives them (Chemero,2003).

Hence, this theory helps me to see the multiple potentials of a given object. As well understand how a given object will respond to not only different human age/gender/interest groups but also various other organisms and factors. As a designer, i add/subtract, expose or bolster from the existing set of affordances and can expect them to reach their maximum potential, but with an unforeseen end.

REFERENCE PROJECT :

Loop Chair by Boaz Mendel

It is constructed using seven boards of varying lengths that are connected in a loop by hinges. the complete object is a platform for the creation of a wide variety of furniture. Every folding position has a defined function, and it is possible in a moment to go from a television chair to a bar-stool; from a ladder to a chaise-lounge; from a bookshelf to a coffee table. in total, it is possible for the chair to be arranged in 12 different ways. ("boaz mendel: loop chair", 2010)
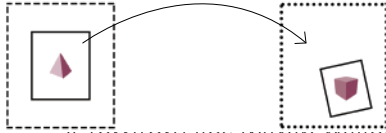

Affordance of a cylinder

Source : https://uxdesign.cc/affordance-in-user-interface-design-3b4b0b361143

12 variations of loop chair

Source : https://www.designboom.com/design/boaz-mendel-loop-chair/

a.2 CHAOS, MILIEU AND TERRITORY

Chaos refers to the fact that since reality lacks an overarching organising principle, nothing has a natural place (Kleinherenbirk, 2015). As Deleuze explains, reality is thus a plethora of forces of chaos insofar as every living thing must select components for its territory (and for its own body) from an environment in which nothing is 'ready-made'.Even after the ultimate formation of a territory, there are three obvious senses in which the forces of chaos always remain 'knocking at the door' (Kleinherenbirk, 2015). The city as a plethora of forces - this empowers to look at the city as a plane of affordances, objects or elements resonating with numerous affects. Instead of regarding the city negatively as chaotic, it sees the city with entangled possibilities.

A *milieu* is thus a semi-stable selection from chaos. It introduces a degree of sameness by drawing together heterogeneous components (Kleinherenbirk, 2015). In the case of Mostar, picking the relevent affects and affordances with resonate together and can be addressed as one becomes of part of one milieu. Moreover, milieu always creates the experience of a beginning and an end (Kleinherenbirk, 2015). Even though there is always more to the world than that which is presented in a milieu, the world necessarily and only expresses itself in a variety of milieus, because only a milieu can distinguish something from chaos (Kleinherenbirk, 2015). Hence, 'every individual experience presupposes, as an a priori, the existence of a milieu in which that experience is conducted, a species-specific milieu or an institutional milieu' (Deleuze 2004: 19). Milieus are always directional and functional insofar as they concern where diverse material inputs are drawn together and what actions they will perform or will be performed on them(DeleuzeandGuattari1987:315).

Territories and ritornellos are 'built' from what Deleuze and Guattari call 'milieus' and 'rhythm', which are in turn constructed from 'forces of chaos' (1987: 312, 313). Therefore, territory is a subset of milieu with a more stable centre and defined focus. All these concepts can be applied to multiple scales. This acts as a backbone to structure the research as well as the design in various layers and scales.

Chaos   Milieu   Territory

a.3 TERRITORIALISATION & DE-TERRITORIALISATION

A territory lies within milieu - framing and identifying specific affordances that could be exploited to its maximum potential. This happens when these components cease to be purely functional and become expressive. In addition, a territory always needs to regenerate itself with new components that come from outside the territory (Kleinherenbirk, 2015). Here, the process of *deterritorialisation* takes place. In order to continue the rhythm this movement becomes necessary. Though deterritotrialisation can be risky as well. A territory can get stuck in what Deleuze and Guattari call a 'black hole' (Kleinherenbirk, 2015, Pg.222). Nevertheless, 'black hole' should not be equated to 'evil' (Kleinherenbirk, 2015). As Deleuze and Guattari write, even the formation of any milieu whatsoever already is a black hole insofar as the milieu draws a set of heterogeneous components into a sphere of influence that makes them function in a certain way (Kleinherenbirk, 2015, Pg.222).

A territory is therefore always in the process of deterritorialisation, in becoming what it was not before, perhaps even becoming something entirely new (Kleinherenbirk, 2015). As aforementioned, each of these theories can work at multiple scales, this particular theory enables me as a designer to identify the existing territories and the journey between them as well as introduce the ritournello - a rhythmic process of territtorialisation and de-territorialisation in the design. This instability that the user gains during the movement from one territory to another becomes an added experience and is necessary to interpret the next territory.

The success and continued existence of any home or territory fundamentally depends on its capacity (and that of those dwelling within it) to interact and change with its environment, not according to a preconceived plan, but in a contingent play of negotiation and incorporation. (Territory and Ritornello: Deleuze and Guattari on Thinking Living Beings, pg.223). Temporality and how a territory adapts and redefines itself is intriguing and serves as major factor. In Mostar, the social, urban and natural factors have transformed tremendously over the years and the especially during the siege. This theory not only guides to understand the movement from one object to another but also the process or movement of the object itself - what it was, what is it now and what will it be.

α.4 DESIRE

The fundamental question of ethics is not "What must I do?" (which is the question of morality) but rather "What can I do, what am I capable of doing (which is the proper question of an ethics without morality). Given my degree of power, what are my capabilities and capacities? How can I come into active possession of my power? How can I go to the limit of what I "can do"? (Jun & Smith, 2011)

What Deleuze means by the term "desire" is, of course, different from its usual usage: it refers to the state of our unconscious drives and inclinations. Deleuze can say that desire as such is always positive. Normally, we tend to think of desire in terms of lack: if we desire something, it is because we lack it. But Deleuze reconfigures the concept of desire: what we desire, what we invest our desire in, is a social formation, and in this sense desire is always positive. Lack appears only at the level of interest, because the social formation (the infrastructure) in which we have already invested our desire has in turn produced that lack. The result of this analysis is that we can see why the proper object of a purely immanent ethics is not one's conscious will or one's conscious decisions, but neither is it my per-conscious interests (class interest, in the Marxist sense). The true object of an immanent ethics is desire (the drives), and thus it entails, as both Spinoza and Nietzsche showed, an entire theory of affectivity at the basis of any theory of ethics (Jun & Smith, 2011).

As the *theory of affordances*(a.1) talks about the animal environment relationship, but what does that environment or object provide to fulfill animal's desire. 'Can do' or potestas directly influence or encourage those *affects* and affordabilities. The relationship Mostarki's had with Neretva was at its maximum potential before the war. But due to social, political and natural factors, the river currently seems distant from the people because they can no longer identify these hidden potentials and the *desire* to perform a certain act is diminished.

Numerous urban practices like swimming, diving, fishing and various other activities were a part of people's daily life which are now lost but reinforcing the past won't reconnect the people back. By approaching the research by this theory, enables me to look beyond the superficial layer of practices and to dig deeper into why and what is the hidden feeling or what drives the users towards that desire. A participatory card game - Game of Desire inspired by this idea is used as a research and design tool, which is explained in the continuing chapters.
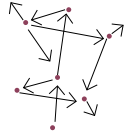
a.5 RHIZOME

A rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo. The tree is filiation, but the rhizome is alliance, uniquely alliance. The tree imposes the verb "to be" but the fabric of the rhizome is the conjunction, "and … and … and…"This conjunction carries enough force to shake and uproot the verb "to be." With multiple entry and exit points (Deleuze & Guattari, 1987).

The characteristics that sum up a rhizome are as follows-
• Non-linear and Non-hierarchic (Cabrera & Roland, 2014)
• Self-sustained territories - where a portion can be cut from the network but can still re-develop a new relation or exist individually (Cabrera & Roland, 2014).
• A rhizome may be broken, shattered at a given spot, but it will start up again on one of its old lines, or on new lines. Every rhizome contains lines of segmentarity according to which it is stratified, territorialized, organized, signified, attributed, etc., as well as lines of deterritorialization down which it constantly flees (Cabrera & Roland, 2014)
• Multiplicitous, moving in many directions and levels, connecting with other nodes and networks (Cabrera & Roland, 2014)
• Existing in multiple planes and geometries of the domain (Cabrera & Roland, 2014)
• Nomadic, where the process is as important as the outcome and the program can be changed in the middle of its execution (Cabrera & Roland, 2014)
• All nodes are connected and each node is connected to all other nodes, where the position of the nodes is not important (Cabrera & Roland, 2014)
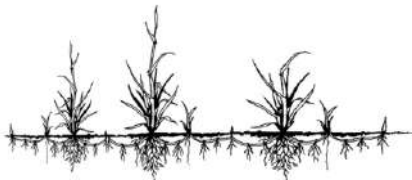
b.1 Urban Acupuncture

Urban Acupuncture is an urban environmentalism theory which combines urban design with traditional Chinese medical theory of acupuncture (Casagrande, 2010).
- This process uses small-scale interventions to transform the larger urban context. Sites are selected through an aggregate analysis of social, economic, and ecological factors, and developed through a dialogue between designers and the community (Casagrande, 2013).
- Acupuncture relieves stress in the body, urban acupuncture relieves stress in the environment.
- Urban acupuncture produces small-scale but socially catalytic interventions into the urban fabric (Casagrande, 2013).

REFERENCE PROJECT :

Pocket Parks - Paley Park
Manhattan, New York, U.S.A.

The original "vest pocket park," designed by Robert Zion, opened in 1967. It was conceived as the prototype for a new kind of public space ("Paley Park | The Cultural Landscape Foundation", 2019). "It is a part of space removed from the flow of traffic (Including pedestrian traffic), enclosed, protected and sheltered from noise. Preferably it is a space between buildings, benefiting from the shelter of neighbouring structures; the type of space which is now most commonly used as a parking lot.

"Such spaces are bound to the urban tissue, they both originate from it, and at the same time are essentially "other spaces", distinct from their surroundings.

b.2　Temporality of Landscape

Kubler: 'Without change there is no history; without regularity there is no time. Time and history are related as rule and variation: time is the regular setting for the vagaries of history'.

The temporality of the taskscape is social, then, not because society provides an external frame against which particular tasks find independent measure, but because people, in the performance of their tasks, also attend to one another.

REFERENCE PROJECT :

Zaligebrug, Ruimte voor de Waal
Nijmegen, The Netherlands

The Zalige bridge is designed as a continuation of the park's path structure on the water. Built on the floodplains, the softly curved bridge changes significantly with the seasons. When the water levels start to rise, the bridge partially submerges, thereby becoming inaccessible a few days a year. Within the river park, the spatial quality of the water is made visible in a poetic way ("NEXT Architects - Next Projects - Bridges - Zaligebrug / Citadelbrug", 2019).

Source : www.nextarchitects.com

Source :www.nextarchitects.com

War has been synonymous to all the civilizations. The Bosnian WAR influenced the relationship every generation had with the city. It rendered its legibility but also added a new layer of 'slowly decaying urban & social spaces'. As the general pattern of war aims at the destruction of social spaces, thereby, destroying the 'memory'. Post war Mostar started rebuilding at a fast pace developing an image which tries to deny that the city was once heavily destroyed. With the rampant reconstruction in an attempt to impose the lost image, a lot of social spaces which were/are under dispute in terms of ownership or are associated with 'trauma' form an important part of the urban pattern. Therefore, the city has these heterogeneous territories which are slowly decaying and restrain the emotional connection between the people and their city. However, a lot of pocket green spaces with their own small biodiversity are also a result of this when nature started claiming these abandoned and abused war torn structures.

Neretva was an important part of the social fabric of the city. Its value can be traced back to the ottoman empire which started with the development of Stari Most and street patterns. This relationship was further strengthened by the Austro-Hungarian empire by developing more connections between the east and the west. The public life and social interaction was at its peak during the Yugoslavian period. Neretva was a Theatre, it was Mostar and it also defined what it was to be a 'Mostarki'. Post war Neretva became a mental divide. It attained this duality of being a threat as well a shield. Today, the river is highly exploited and abused and it retaliates by limiting it's relationship with the people. With rampant erosion and flooding the river banks have a restricted use as compared to the past and also the vulnerability has increased due to landslides. Thereby, producing 'slowly decaying urban & social spaces'. Similarly, though the human interaction is restricted a lot of new species have colonized the banks as well as new

Drawing parallels between these two phenomena, the river is war , war is river - Both these forces humane or natural are capable of producing equivalent affects both destructive as well as productive. The war eroded the social cohesion and the river is also eroding the former social space by natural as well as due to human intervention along the river. However, a lot productive affects were also generated as a result of these two factors. Relating it to the theory of affordances(a.1, Pg.31), numerous affordances created a 'plane of indistinguishable affordances' in the city. These spaces started 'decaying & eroding' as it became difficult for the Mostarki to identify or relate to the productive affordances. When any phenomenon goes beyond control the damage or addition it does can be compared in both the cases, the war in the past and the river currently are producing similar affects and bolstering the heterogeneity in the city.

Hypothesis

River is War, War is River
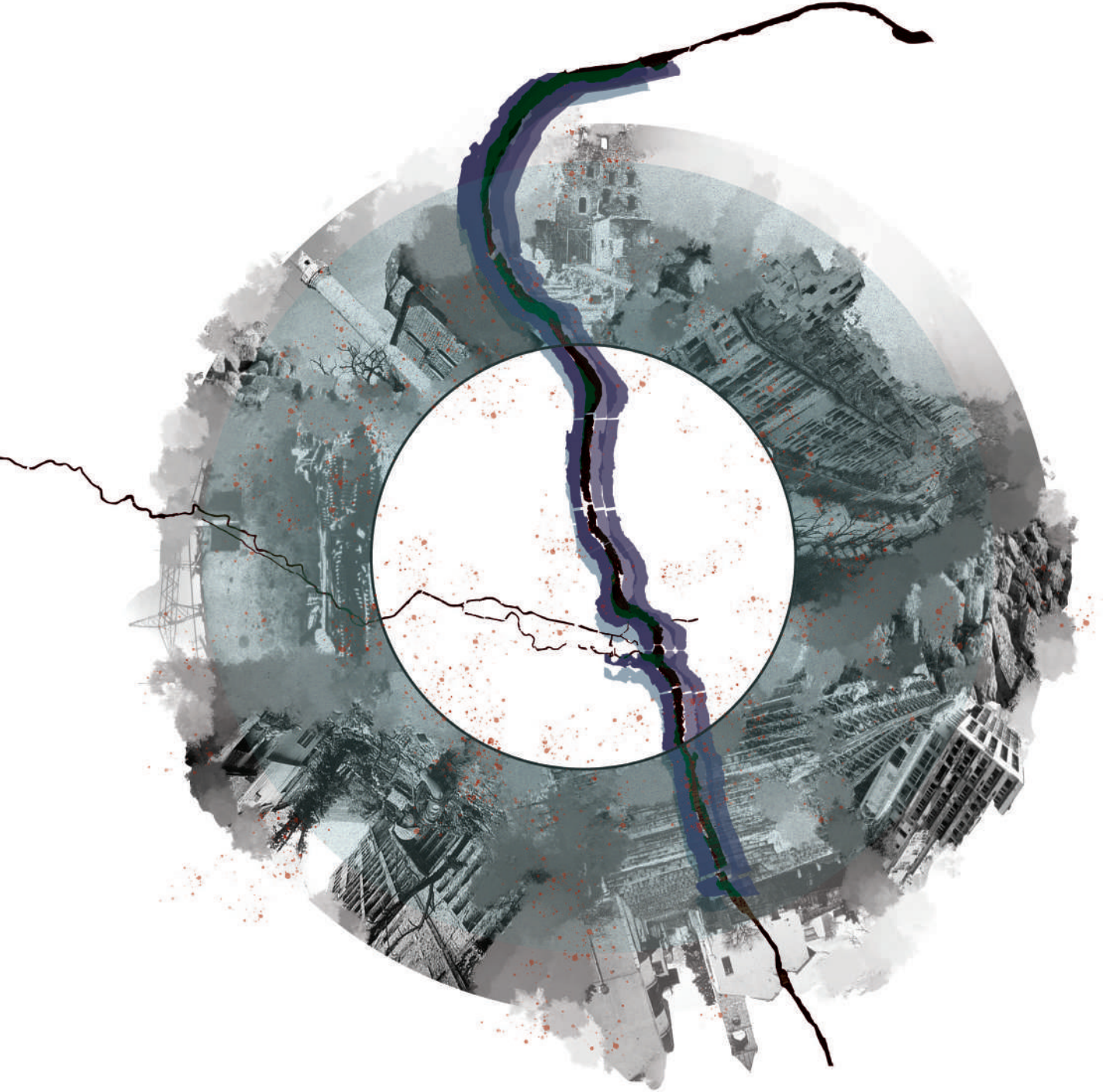
Research Question

CAN LANDSCAPE ARCHITECTURE PROVOKE PRODUCTIVE AFFORDANCES IN 'CHAOTIC' HETEROGENEOUS TERRITORIES?

Sub questions :
1. How can the 'degree of power' (what it 'can do') of abandoned or not defined elements can be exhumed through design.

2. How can social formation(infrastructure – affordances) reconfigure the concept of 'desire'.

3. How can the temporality of landscape like erosion & flooding be interpreted productively through to create adaptive landscapes. What strategies can be adopted for the same?

4. Does limiting or being selective about affordances empowers a territory? How can more productive affordances be identified and highlighted through design?

5. How can a rhizomatic network be created by using the concept of territorialisation and de-territorialisation.

6. How to contribute to the perspective of the city which overlaps with the idea of various stake-holders like war survivors, migrants, tourist and children?

Methodology

To answer the preceding research questions, the modus operandi adopted has been explained in this chapter. The time line of development, how the theory directs the process and which strategy/ theory relates to which question has been explained here. The game-play of the card game for participatory design is a part of this chapter.

Methodology Flow chart

Context

→ Desk Analysis

- Geomorphological, Ecological
- Historical, social and political development
- Comparative sectional study of the city and landscape from east to west

→ Field Work - October 2018

- Archival Study - pictures, videos & documents before during and after the war

- Interviews - Inhabitants, war photographer, urban planner working with the municipality

- Documentation- Drone videos & photos

a.5

a.3

a.2

a.1

Theory → Problem Field → Research Questions

a.1 Theory of Affordance

a.2 Chaos, Milieu, Territory

a.3 Territorialisation & De-territorialisation

a.4 Desire

a.5 Rhizome

b.1 Urban Acupuncture

b.2 Temporality of Landscape

Analysis

Potestas / Affects

- Urban practice after war
- Flooding levels
- Erosion and sed
- Existing spatial

Scales

Neretva and Mostar

Neretva and Milieu

Neretva and Territory

Neretva and Object

b.1   b.2

→Strategy

→Precedent Study

Intution Driven Design

→River is War,
War is River

Desire 'Can Do'

Test Site 01

Affordances / Design →Reflection

s before/during

and risk
iment loss
qualities of site

Field Work - March 2019

- Workshop with inhabi-tants
- Picture and physical doc-umentation
- Deatiled study about flooding and erosion on the banks

Participatory Design

War Childhood Book

Desire | Scenario | Affordances | Natural Factors

→Game of Desire ----→Affects

Test Site 02
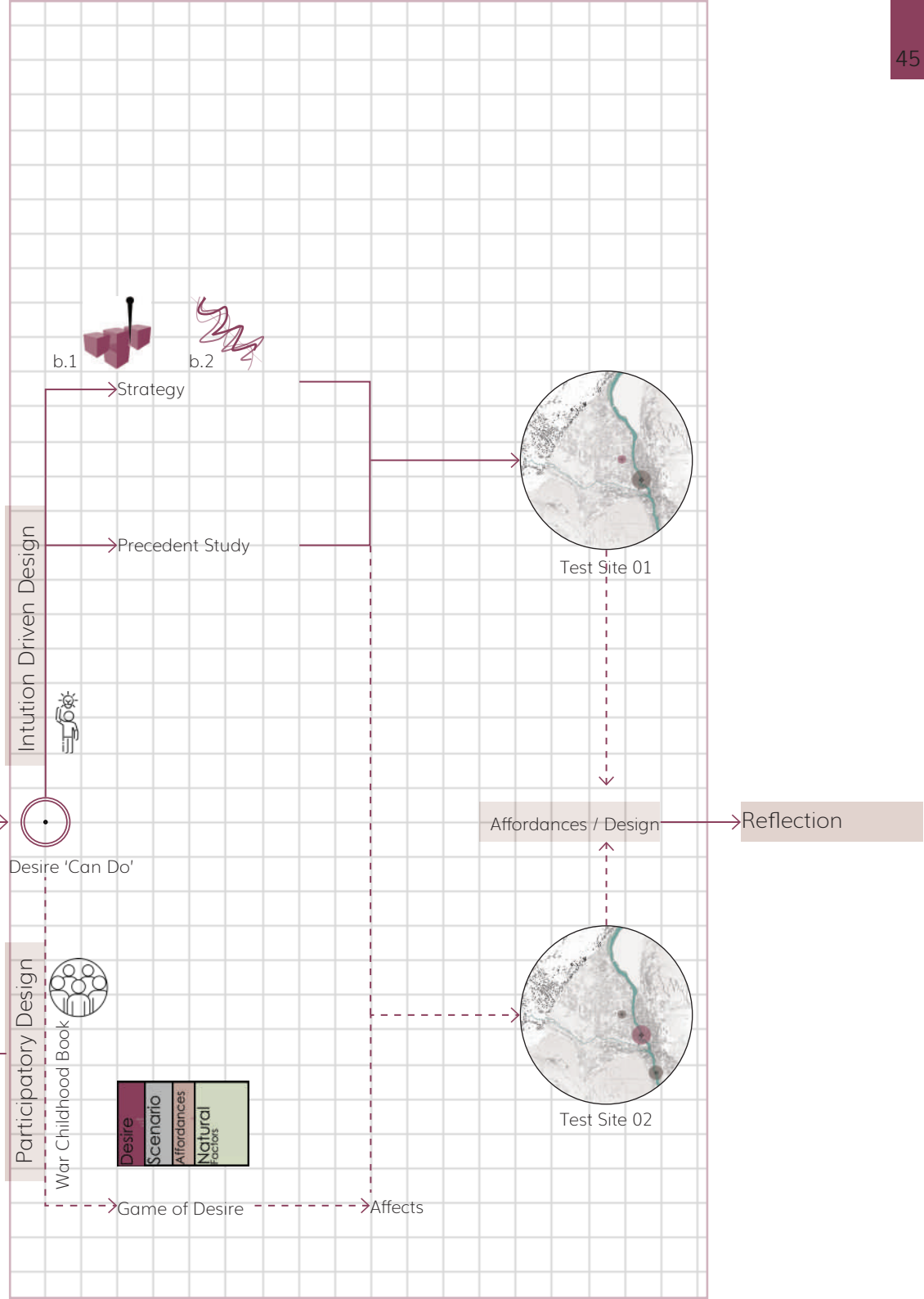
The thesis is derived from two schools of thought first, the theoretical framework(intuition driven) and the second is the method developed to engage and understand relationships people develop with the environment(participatory design). Both of these fall under the larger set - behavioural aspects of people and the environment. After understanding & analysing the complexity of the context adopting a theoretical approach enables a non-judgmental entry into the site looking at as a field of affordances and focusing on the relationships rather than a problem solving approach.

It is quite obvious from the research questions, the thesis develops using two parallel yet interdependent approaches, first, is deeply rooted in theory which approaches the site as a plane of affordances. Writings from Deleuze, Guttari, Chemero, Ritveld form the base. It helps to comprehend the city in terms of relations and affects thereby, helping to identify territories to work with. However, these work beyond the boundaries of scale. The literature also influences the decision of picking the relevant sites. The river also acts as a plane of affordance and its dynamics affect its relatability. Therefore, the strategy of working with the temporality of landscape and process influences the process. Moreover, the whole city has this *chaos - Plethora of orders, forms, wills-* forces that cannot be distinguished or differentiated from each other (Kleinherenbirk, 2015). In order to see the influence on the larger scale a network is developed by adopting the strategy of *urban acupuncture*. A *rhizomatic network* is aimed for where every nodes is independent yet interconnected and promotes new nodes as well. This horizontal and non-hierarchic approach in design helps to relate multiple levels and also gives the flexibility of creating numerous entry points within this network or even at the territory level(individual site-scale). The analysis is further bolstered by archival studies, interviews with war photographer and on site study and exploration.

The second part is the participatory design - the root of this practical and interactive approach is also based in the theory, that is, Desire by Deleuze, which talks about the 'degree of power' or 'can do'. It works on the inner drive that develops relationships between various objects. Under this a card games is curated which looks beyond the superficial reason behind any action but delves deeper into the experience, feelings and thoughts generated by it.

Deciphering the results and aligning them with intuition and logics, gives rise to the numerous design possibilities but adhering to the theory - minimal intervention to exhume the affects becomes the guideline for the design. The project works through four major scales which deal from city to object level and how they influence each other.

Methodology

THE GAME OF DESIRE - In an existing post-war landscape

The game consists of 4 card decks :
1. Desire (feelings)
2. Scenarios (Spatial Image)
3. Natural Factors on Site
4. Existing Elements on site

The citizens are divided into small groups based on age groups and are then shown a pic-ture of the location(site). A deck of cards with feelings in given to them from which they can pick feelings / experiences they relate with that site. Then the scenario deck (spatial images of how things can look) is given and they relate the scenario with feelings. This clearly looks at the city based on experiences and memories and multiple new stories can be developed by people of different age groups and needs. The Natural Factor and Existing Elements deck are purely design decks and give ideas to inhabitants how to use these elements without the presence of a designer. This can also further develop as a strategy for engaging com-munity based interaction and the inhabitants can develop their own surroundings by using this game deck. It can be used as a method to work in heterogeneous territories and also improve social cohesion. Each and every individual can be a part of the design process which can result in very interesting observations and design.

The feelings or desires are selected from the book- War Childhood by Jasminko Halilović. It a condensation of both positive and negative individual experiences during the war. The reason why it is used for the present scenario is that feelings are dynamic and these assorted words can be used in all the time frames and spatial conditions depending on an individual.

Having great times with friends and listening to Radio Wall, which gave us a good MUSICAL EDUCATION. :) - Boris, 1978

On the one hand, I don't like to remember that SENSE OF BEING CLOSED IN. On the other hand, there were CLOSE FRIENDSHIPS. - Emir, 1979

As i close my eyes, memories pass, like on a roll film... the smell of gunpowder, LONELINESS, COLD, HUNGER... War is evil!!! - Arva,1985

Fear, uncertainity, LOSS, COURAGE, playing in shelters, LAUGHTER, HOPE : a war childhood - Samra, 1989

I cringe when i see a small BIRD IN A CAGE because that's what I felt like in Sarajevo from '92 to '95... Edin,1983

The happiness of having a little oil to make a candle, so that you can ESCAPE FROM REALITY BY READING A BOOK. - Jasminka, 1988

ANXIETY, fear, hope, friendship. Imagining a better tomorrow that never came... Dzenana, 1981

DARKNESS AND FEAR. 60 seconds a minute, 60 minutes an hour, 24 hours a day, 7 days a week ... Nikola, 1985

Hope lost, consciousness raised, hope reborn. A brutal coming of age and UNBELIEVABLE FRIENDSHIPS. - Vesna,1976

The morning sun reflected in the GLASS - COVERED street. - Damir, 1987

In the summer of '92, I was heartsick. The war HAD ROBBED ME OF NATURE OUTINGS AND TRIPS TO THE SEASIDE. - Alma,1980

Shade in the DARK... - Haris,1987

Are the tomatoes, PLANTED IN THE BOXES on the balcony, red yet?

War Childhood

Confusion induced carefree state mixed with fear and the stubborn EXPECTATION OF SOMETHING. - Ivana, 1986

THE BEST PARTIES ever were during the siege! - Velid,1978

Friendship in the truest sense and REALLY GETTING TO KNOW THE NEIGHBORS, near and far. Shared joys and sorrows... Haris, 1982

THE VIEW THROUGH THE WINDOW with UNHCR nylon sheeting on it... Elma,1981

A feeling of closeness to other kids in the basement, regardless of religion or nationality...being shelled- WE ARE ALL ONE! - Darko, 1987

In spite of everything, a beautiful childhood FULL OF HUMAN WARMTH. UNIQUE TOOLS FOR PLAYING WITH. - Jasmin, 1983

War childhood is fear...time spent in hallways. Even today, at 22, I have an indescribable DESIRE TO PLAY IN PARKS. - Amina, 1987

GATHERING DANDELIONS in the early spring, so that mum could make HONEY. It had a special charm. - Amela, 1988

Constant fear for my life and wanting to FEEL SAFE, at least for a moment! - Elvir, 1980

JUMPING AROUND RUINS looking for rags for Barbie. - Emina, 1984

GROWING UP WITHOUT MUSIC and cafes , but with good friends and lots of love...- Aida, 1977

Collecting RAIN WATER from the drainpipes... - Jasmina, 1983

In the shelter DREAMING OF SWIMMING IN THE SEA and Pondering how can people be lighter than salt water... - Danira, 1987

COURAGE and STRENGTH. - Anida, 1980

FIRST LOVE in the water line. - Amila, 1980

Step 01 : Introduce the area under consideration.

Step 02 : Display the 4 decks - Desire, Scenario, Affordance and Natural Factors

Step 03 : Participants pick 3 feelings (Desire) each which they relate to the area under consideration.
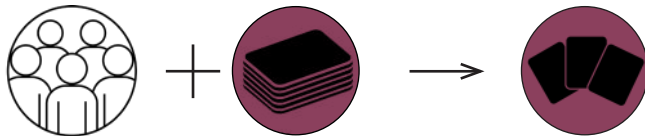
Step 04 : Link the each picked feeling (Desire) to the cards from the Scenario deck

Gameplay
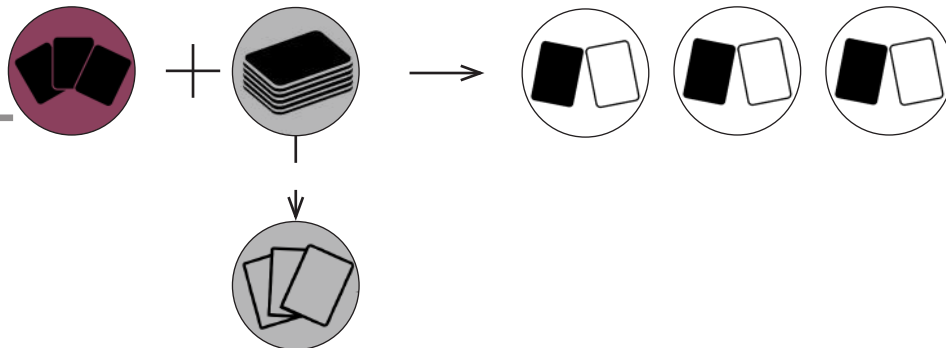
Step 05 : With the 3 pairs (Desire + Scenario). Display the Affordance deck (existing site conditions) and link if any card can fit in with any of the above pair.
 (Desire + Scenario + Affordance)
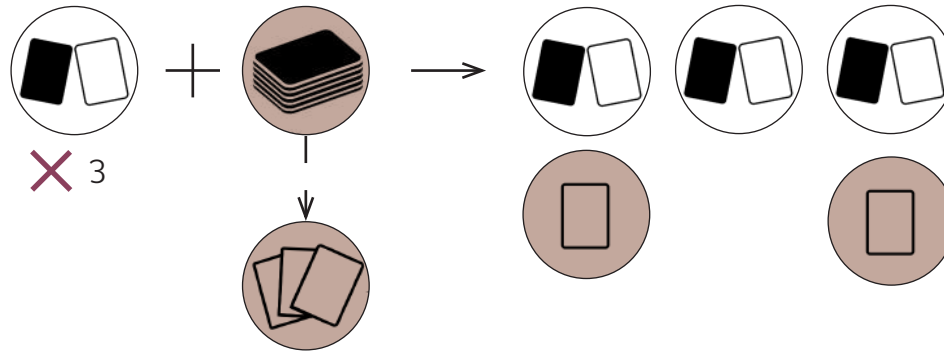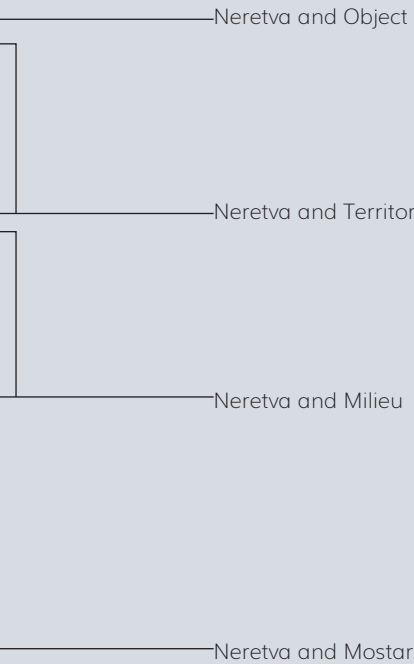
Step 06 : Now is the optional design deck - Natural Factors : If the participant is aware of the existing natural conditions on site or about the river and thinks can be used for design with any of the combinations formed above then he/she can add it.

Results
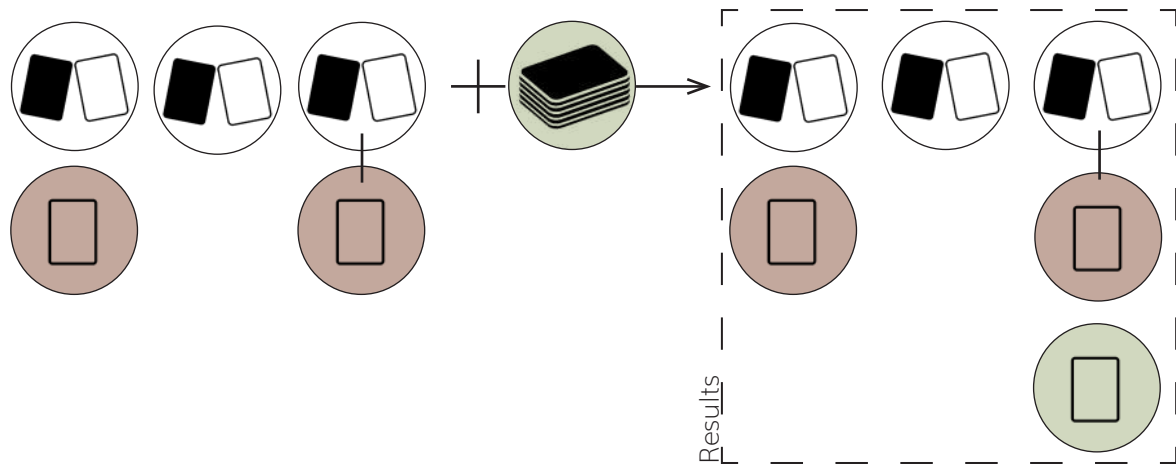
Step 07 : The combinations obtained from the above experiment can be further deducted by the designer and can be used to formulate the design based on feelings (desire) and spatial quality.

Design and Research
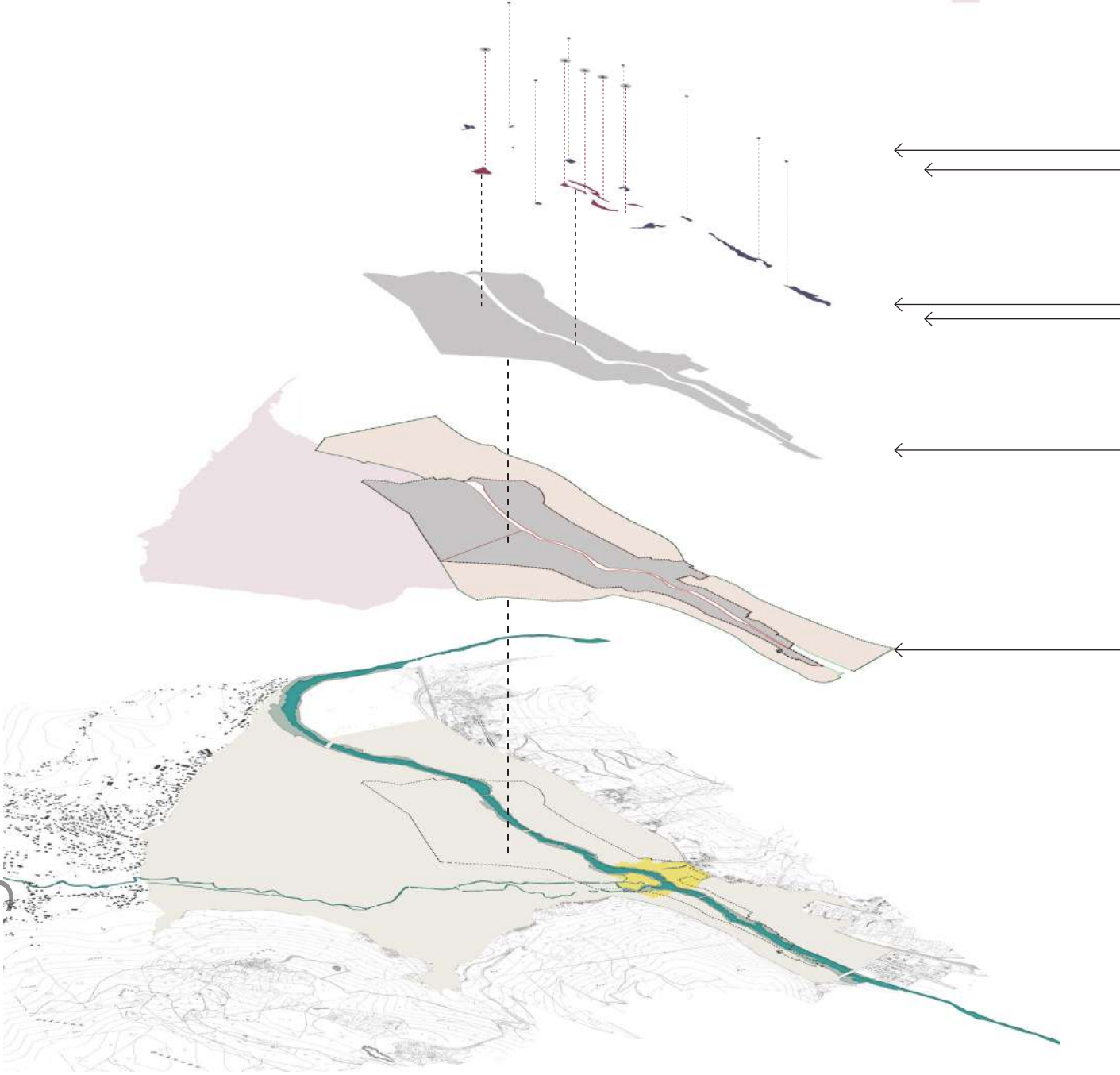
Neretva and Object

Neretva and Territory

Neretva and Milieu

In the following chapter, the research and design gets segregated into 4 inter-related scales. None of the scales are explicit but either a subset or superset of one another, thereby creating affects at all levels.

Neretva and Mostar

Neretva and Mostar

Mostar - Мостар.

To begin with, the larger context of the city is analyzed as well the strategy adopted for a city level intervention is explained. It focuses on - Connections, Floodplains, Landscape qualities based on defense strategies, Ruins, Proposed rhizomatic network.

There are 2 distinctive scales - the city level network and the sensory object scale, rest everything lies in between these 2 boundaries.

RQ2. - 'Degree of Power' of not defined abandoned spaces at city level.
RQ5.- Creation of a network and how?
RQ6.- How can stakeholders become a part of the process and the future of this design strategy.

a. TRANSECTS

To understand the river and movement from east to west of the city a study about bridges (spatial markers) is essential. There are 7 bridges connecting the East and the West out of which Bunur and Stari Most are pedestrian. During the war 2 temporary bridges were constructed south of Stari Most namely, Karmenica and Tenzin.

1992-1995

1992-1995

Highway

Carinski Most

Most Musala

Bunur

Stari Most

Lučki Most
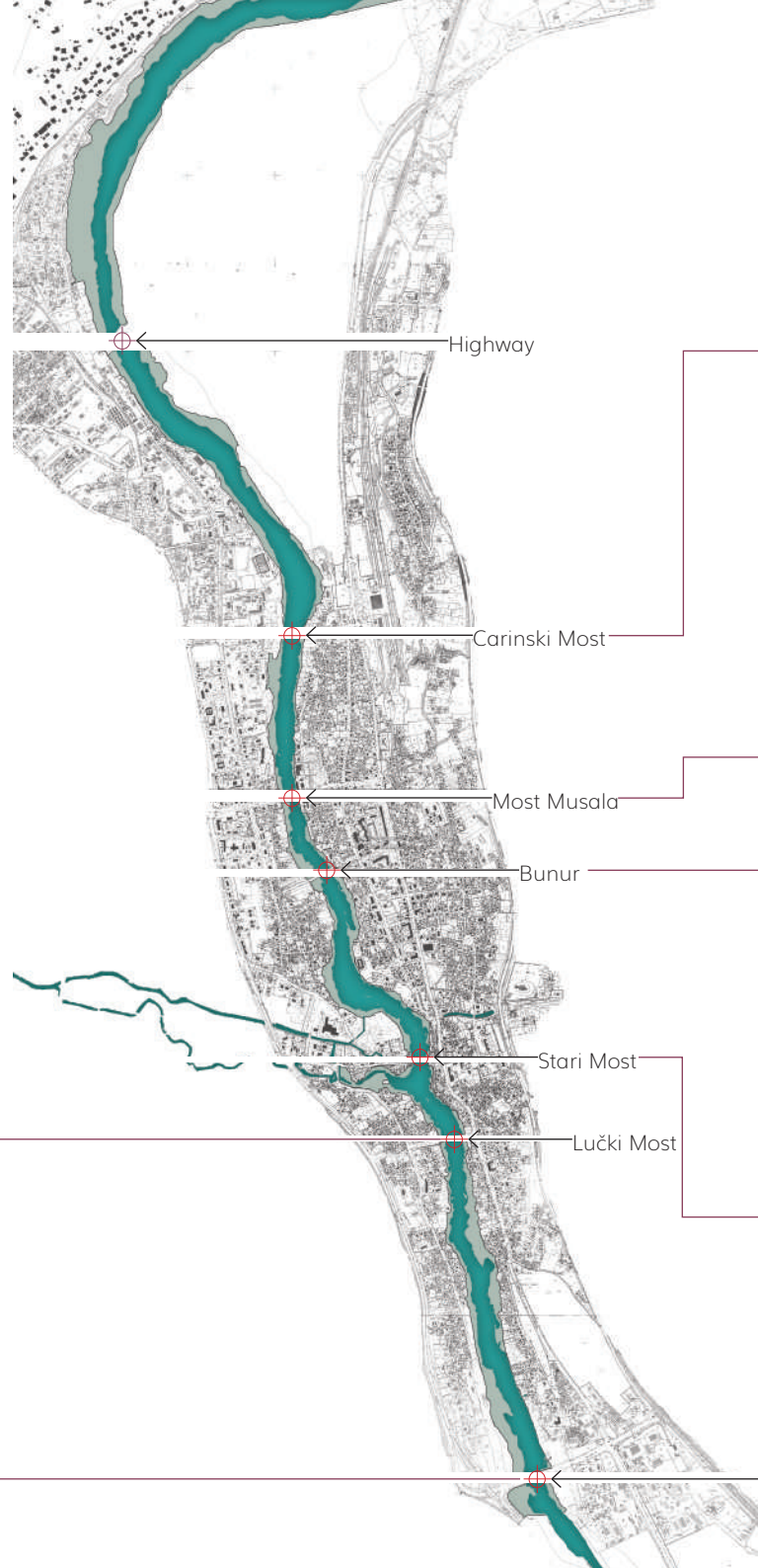
1992-1995

1992-1995

1992-1995

Brickja Most

1992-1995

a. FLOODPLAINS

Neretva is a really fast river, especially after spring and autumn rains the river gets really wild. Though four hydro-electric dams are built on the middle neretva since 1954 yet the city is prone to frequent floods. The most recent flood was in 2014. It is lies in the moderate flood zone risk in B&H as per UNDP from the data collected between 1999-2015.

Landslide Risk

Due to rampant flooding and erosion the river has attained the character of being incisive. This puts the settlements along the riverbanks in hazardous conditions. As per the study by UNDP, Mostar lies in high risk zone for landslides. This further distances the people from the river as well as makes the banks inhabitable and risky.

1953

1980

1999

2010
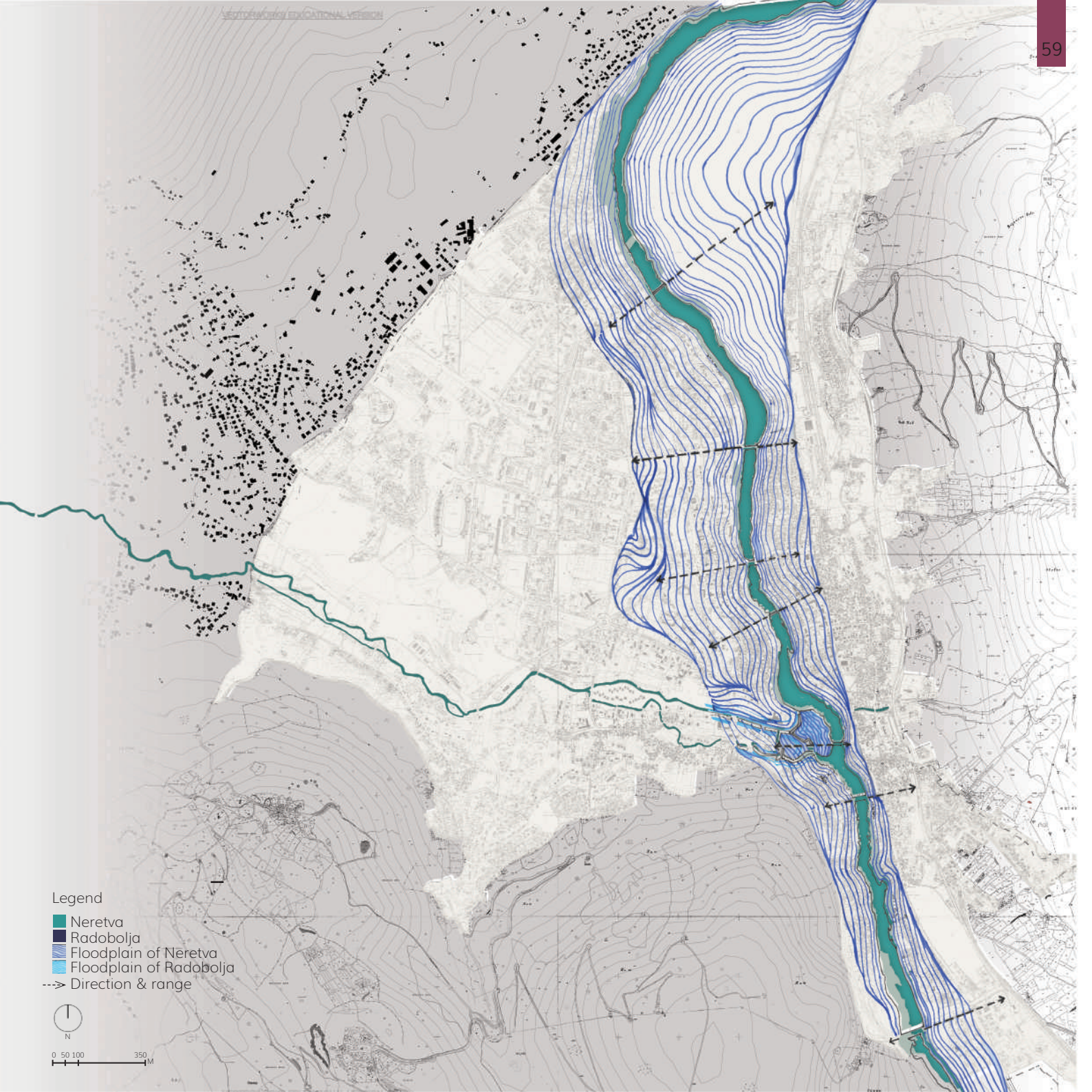
Legend
- Neretva
- Radobolja
- Floodplain of Neretva
- Floodplain of Radobolja
- Direction & range

N

0 50 100   350
M

b. LANDSCAPE QUALITIES AND DEFENSE

Elevation / Terrain

View-Point   Quality of landscape
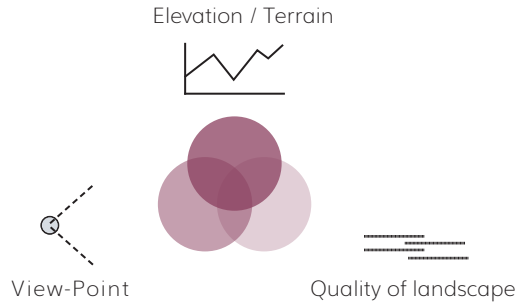
The city of Mostar developed by optimizing the potential of the landscape qualities but during the siege the same landscape also was a major factor in strategising the attack. Three key points are -

i. Elevation and terrain - high points like hills, tall buildings and general elevation of the city.

ii. View - point - Field of view and the range. It is extremely important while attacking how well are you visually connected to the other side.

iii. Quality of landscape - Closed, open or semi-open. The terraces and caves along the river created this dynamic landscape which is both vulnerable yet safe. The terraces largely on the east were subjected to heavy shelling and firing.

Strange yet intriguing is that the similar landscape qualities form the base when designing a landscape. This highlights on the multiple affordance that the same landscape has. The map on the right highlights the areas eroded due to war and the duality of vulnerability and survival.

1. View of the city from former glass bank building (Sniper tower)
Source : https://www.roadaffair.com/1-day-in-mostar-itinerary/
2. View of the city from Hum hill
3. Terraced and open landscape of Donja Mahala
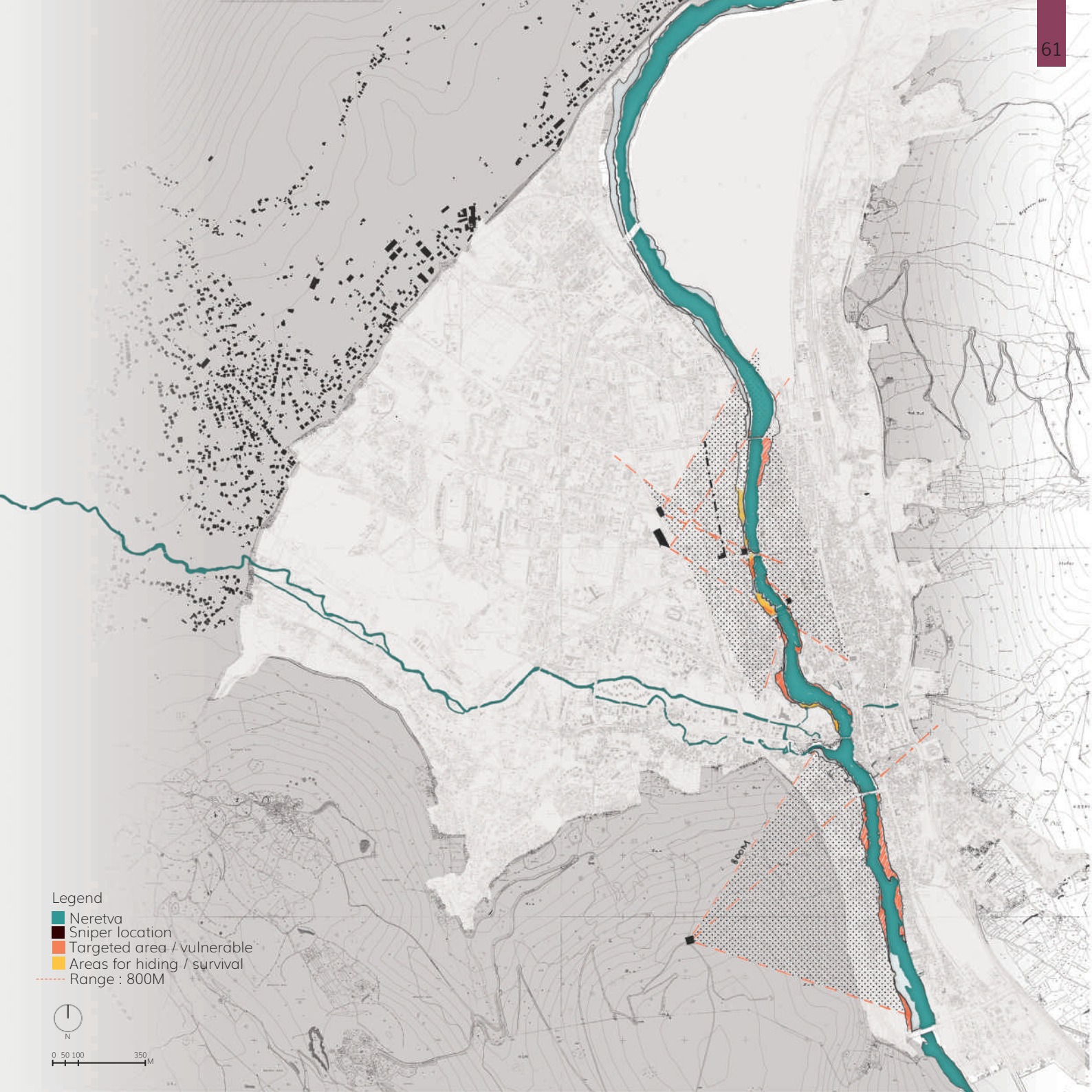
Legend
- Neretva
- Sniper location
- Targeted area / vulnerable
- Areas for hiding / survival
- Range : 800M

N

0 50 100   350
M

C. RUINS - EROSION IN THE CITY

A destroyed building tells a story : it shows transformation in time, but most importantly it leaves a lot to one's own imagination. Suddenly, a building is shrouded in mystery. This environment of destruction is not just fascinating, but also a daily remembrance of the war, which has direct psychological consequences. How can one commence one's own mental reconstruction when the physical environment is destroyed?
- Arna Mackic(Mortal Cities, Forgotten Monuments)

The reconstruction by UNESCO is quite dominant and defines the city on a global scale. All the energy is focused towards the centre(Stari Grad) and Stari Most. However, from the map on the right we can see that the geographical centre (central zone) which is a part of the former frontline during the siege is left as it is due to political reasons. From 1995-2004 the city was divided into 7 municipalities to speed up the reconstruction process. In 2004, all these municipalities were merged but it ended up being a heterogeneous chaotic assemblage. With this aim to reconstruct a *just* image of the past a lot of spaces within the urban fabric are abandoned which are slowly eroding surrounded by this new polished past.

These ruins hold an important part in the history of Mostar. They have hidden potentials and are daily encompassing multiple affordances within themselves.

1. View from the square outside the Bosnian theatre overlooking the destroyed former bank (Source : Author)
2. Ruins of the former girls high school (Source : Author)
3.Aerial view of Razvitak and former Korzo (Source : Anna Saracco)
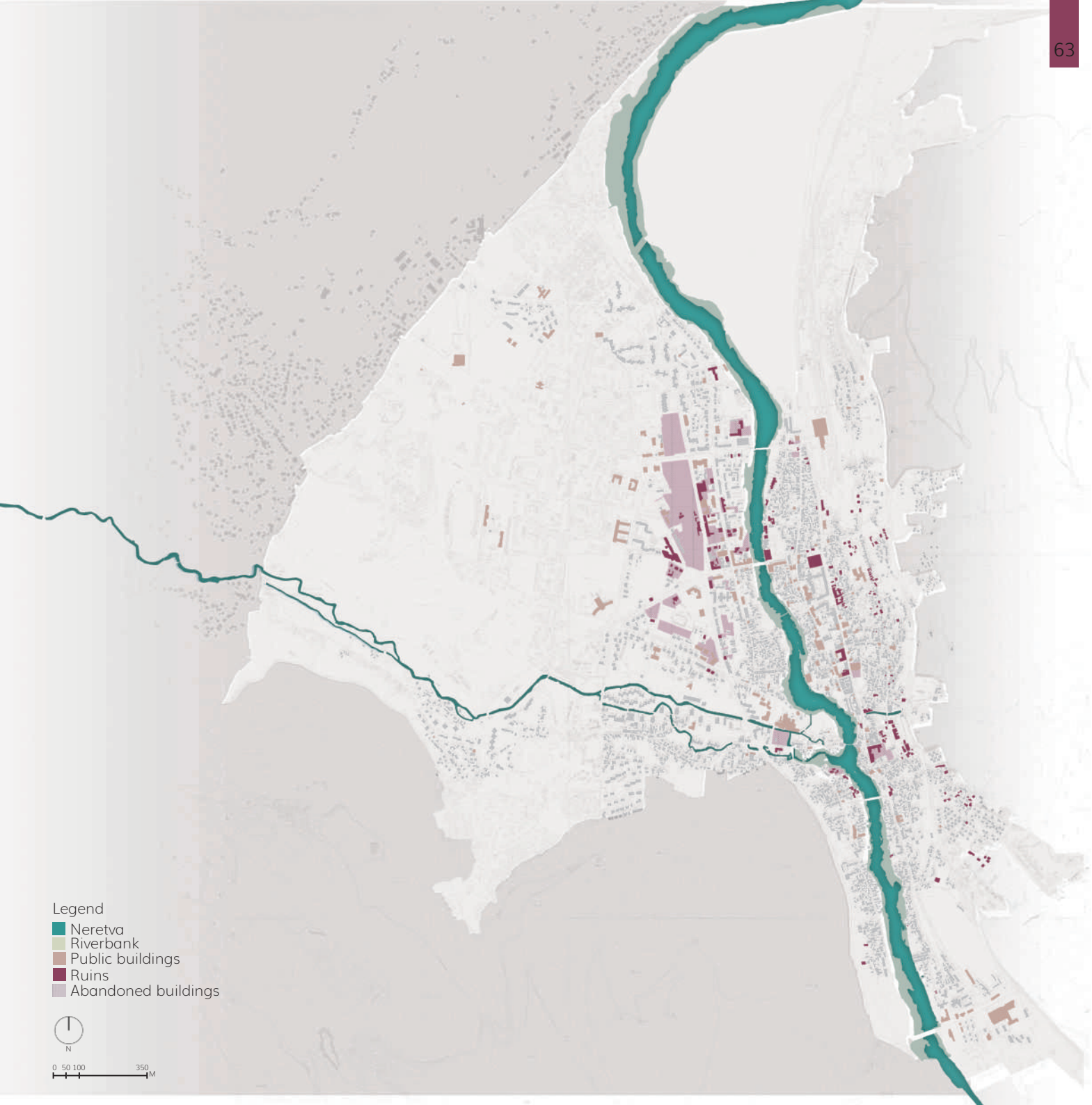
Legend
- Neretva
- Riverbank
- Public buildings
- Ruins
- Abandoned buildings

N

0 50 100   350
                M

Neretva and Mostar (City Scale)

Legend
- Neretva
- Riverbank
- Ruins
- Abandoned buildings
- Floodplains - City
- Floodplains - selected area
- Phase 01 boundary
- Former public spaces

N

0 50 100   350
                    M

Conclusion Map
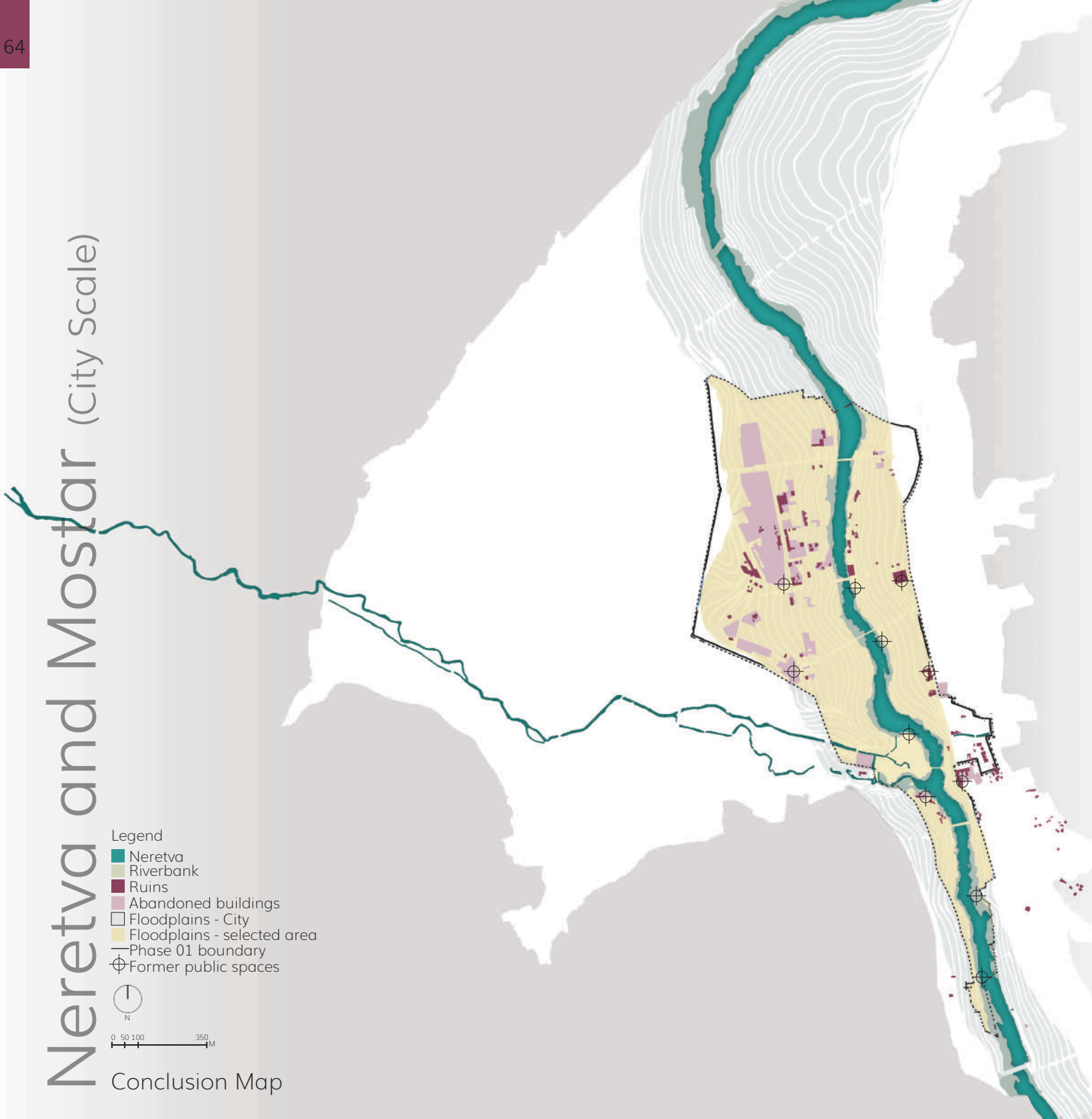
WHY A NETWORK?

The map on the left shows, the most socially and mentally eroded parts of the city. These territories are a result of one or a combination of the two major factors as elaborated under the part Problem Field (Pg. 21-23), that is, decayed territories and Neretva (river and it's affects).

It is clear that most vulnerable territories are within a limited boundary. Also, the former central and the eastern part of the city lacks public space. Therefore, to initiate the process this area is selected as phase 01. Now, the question arises how to pick from this chaos and which of these is most promising social space?

For a post-war context and especially in a city like Mostar, no single site can do justice to all the affects that are a part of the city. Hence, following the principles of *Urban Acupuncture* (b.1, Pg. 36) the city needs multiple small - scale but socially catalytic (Casagrande, 2013) intervention and these territories with productive affects can influence each other as well the surroundings. These territories are context specific and can be different in the kind of intervention but in the hindsight have the same purpose. It also challenges the psychological process of regarding these war torn spaces - "other spaces" as trauma and shame.
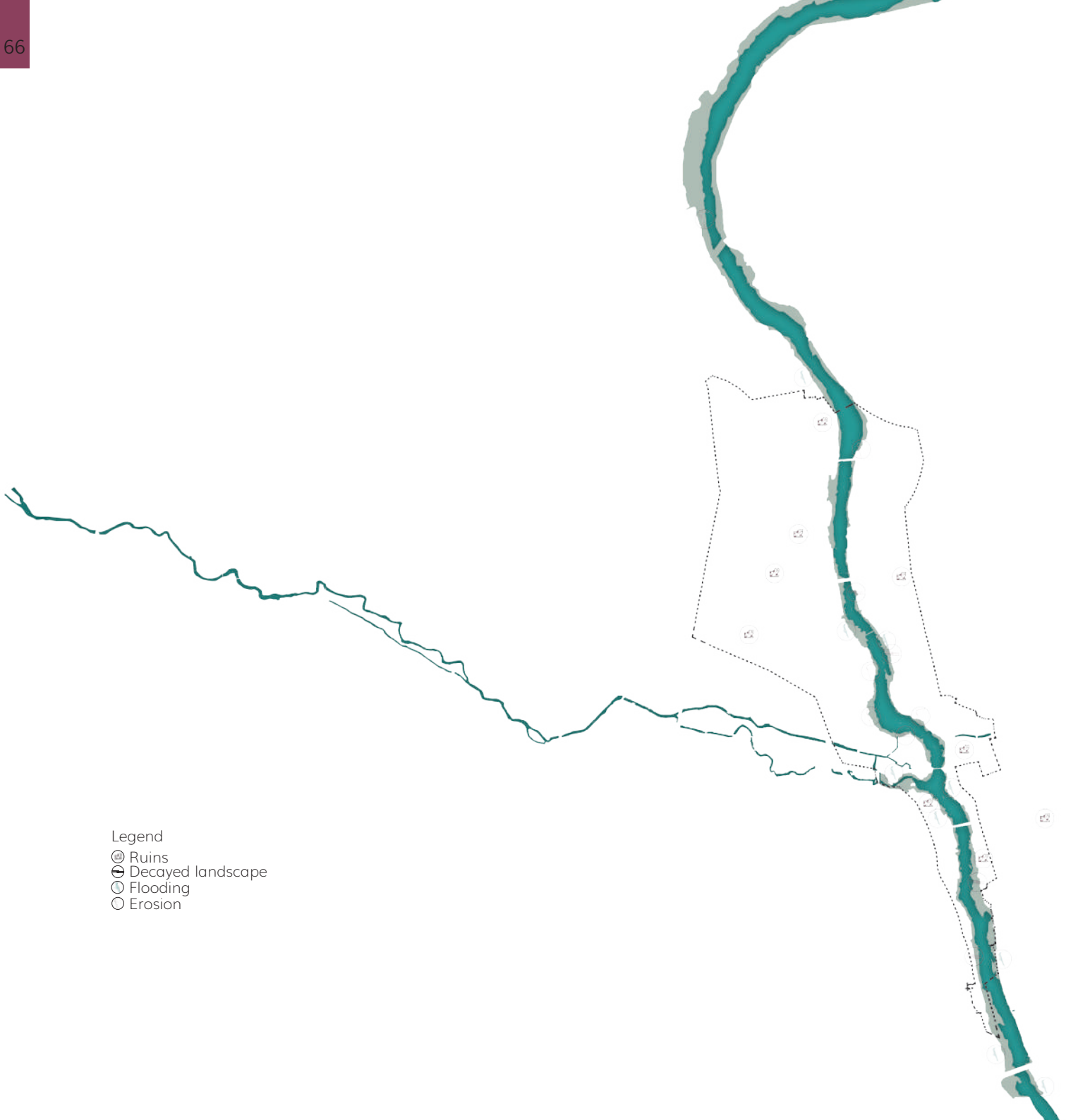
Legend
◉ Ruins
◎ Decayed landscape
① Flooding
○ Erosion

Overlay

RHIZOMATIC NETWORK

A network of social spaces in the city can influence the lost legibility to the city by creating these productive territories. As all these territories have numerous potentials, so the concept of a rhizome comes into play.

As aforementioned, a rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo. The tree is filiation, but the rhizome is alliance, uniquely alliance. The tree imposes the verb "to be" but the fabric of the rhizome is the conjunction, "and ... and ... and..."This conjunction carries enough force to shake and uproot the verb "to be." With multiple entry and exit points (Deleuze and Guattari, 1987)

The network needs to develop as a rhizome, where every territory is equally important. Also, the network needs to develop as process, it needs to grow and can be developed in any direction. There is no fixed routing or specific entry points to this network and all of these social spaces (territories) are individualistic yet are part of this larger network. To begin with 11 sites or territories based on their existing affects are picked, most of them being former social spaces. From these the network can grow and multiply or even subtract in the future depending upon the kind of affects and desire it can produce as well as what the stakeholders want.
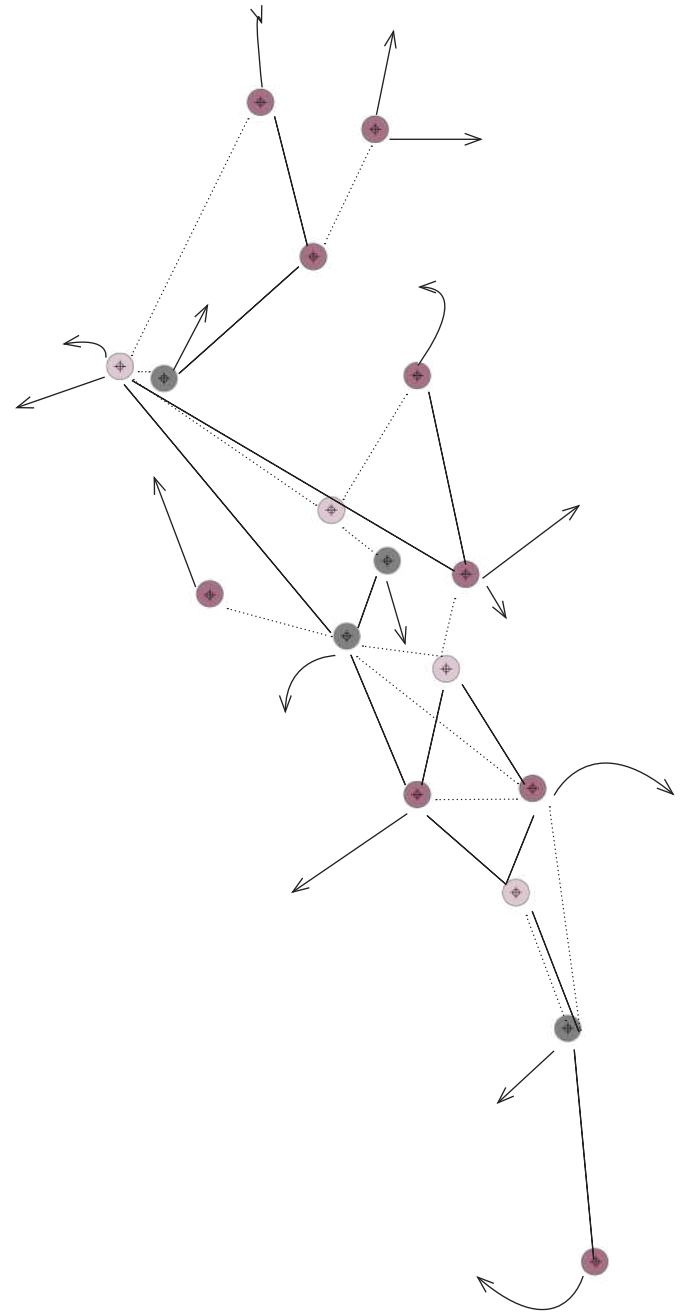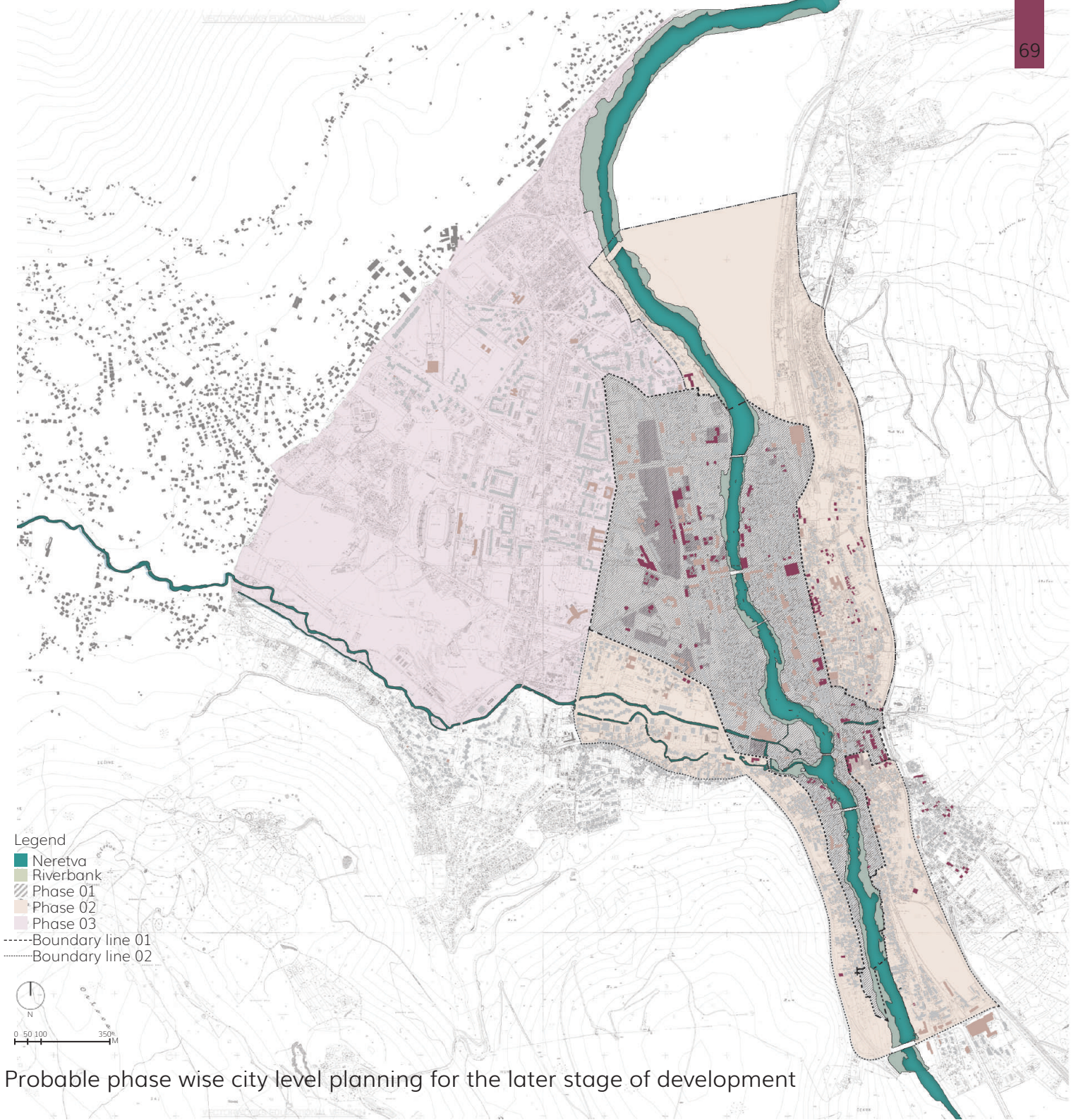
Legend

- Neretva
- Riverbank
- Phase 01
- Phase 02
- Phase 03
- Boundary line 01
- Boundary line 02

0 50 100   350
M

Probable phase wise city level planning for the later stage of development

Neretva and Milieu
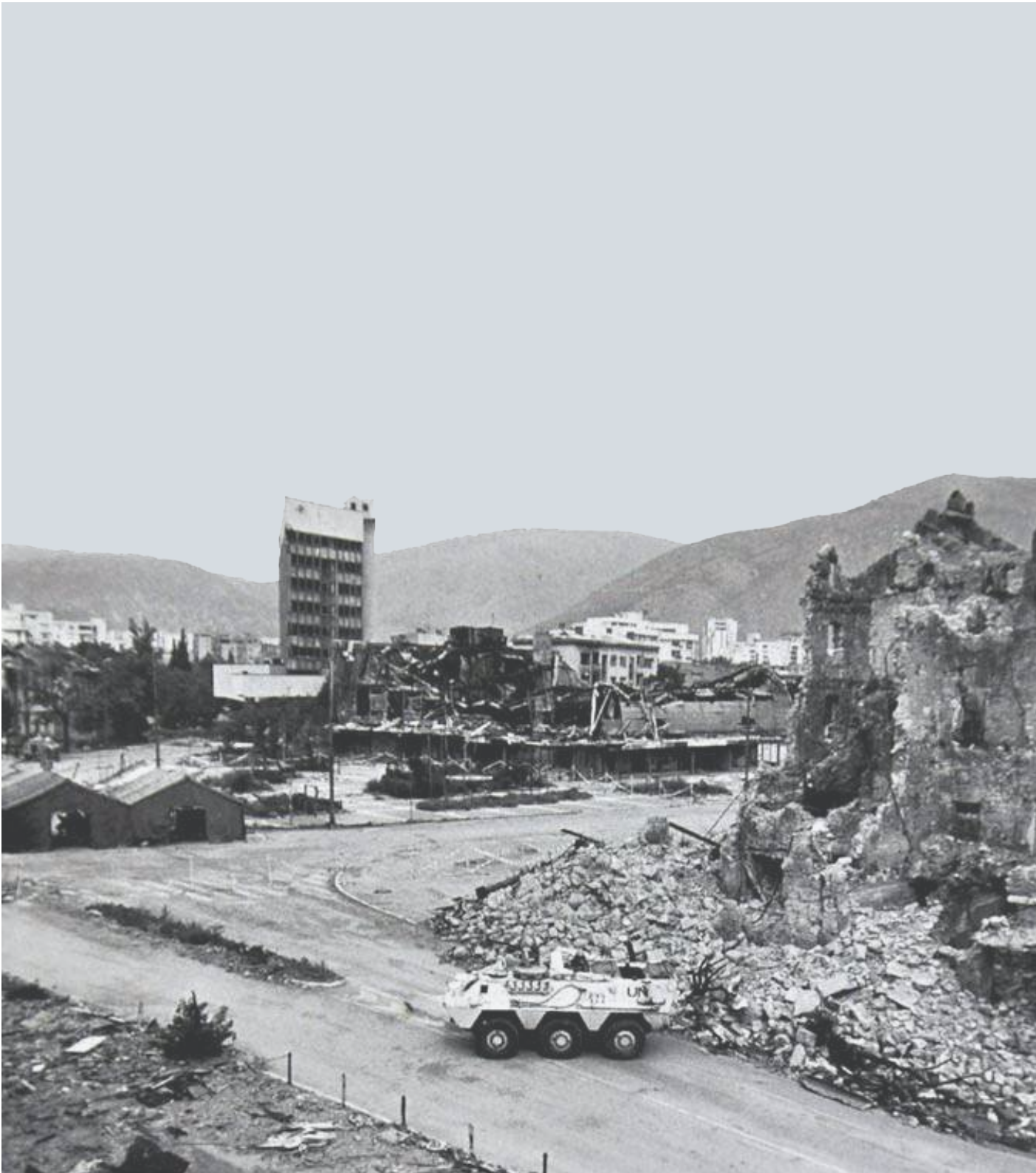
Milieu at this scale the initiation phase which will eventually result in a larger city wide network. The larger milieu is the phase 1, where all the factors - decayed territories, heterogeneity and dynamics of the river as most pronounced. Within this 11 locations are picked which form the inner milieu. As aforementioned, chaos milieu and territory are inter-related the inner milieu can also be regarded as territory for this section.

Decayed Territories   River & it's affects

Ruins   Decayed landscape   Flooding   Erosion

Test 01
Square outside HIT

Test site 02
Between Bunur
and Stari Most

Test site 03
Donja Mahala
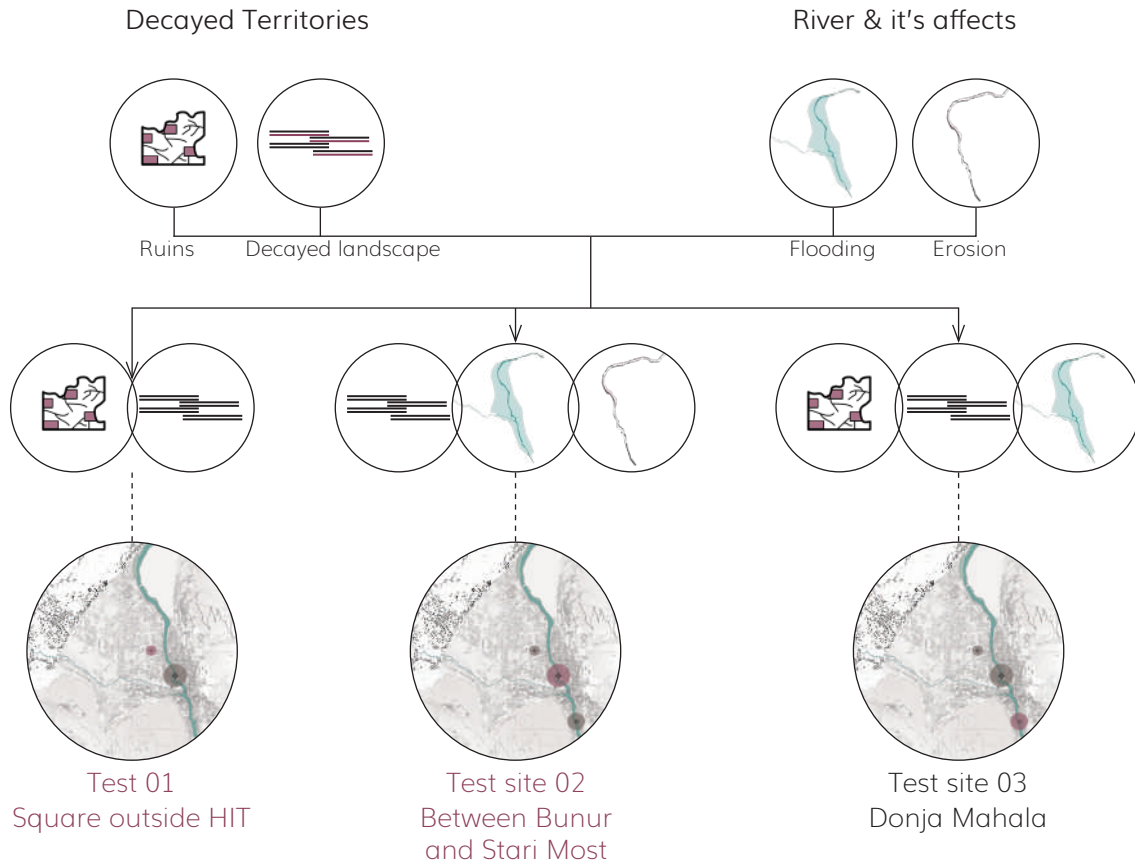
Based on the problem field, their position in the social system and existing affordances - four typologies are deducted which act as guidelines to pick apt areas for invention. Theoretically, this is the process of picking *milieu* from *chaos*.

Eleven milieus are picked for phase 01, out of which three sites with more dynamic and varied characteristics are picked as test sites. Test site 01 - square outside HIT can serve as a prototype for intervention in the city, dealing more with what is around the site and how it defines the position of this decayed territory in the social and urban fabric. The second test and third test site, both are along the river with similar physical conditions but have stark differences in terms of the impact of natural conditions and war. For the detailed design site 01 and 02 are chosen.
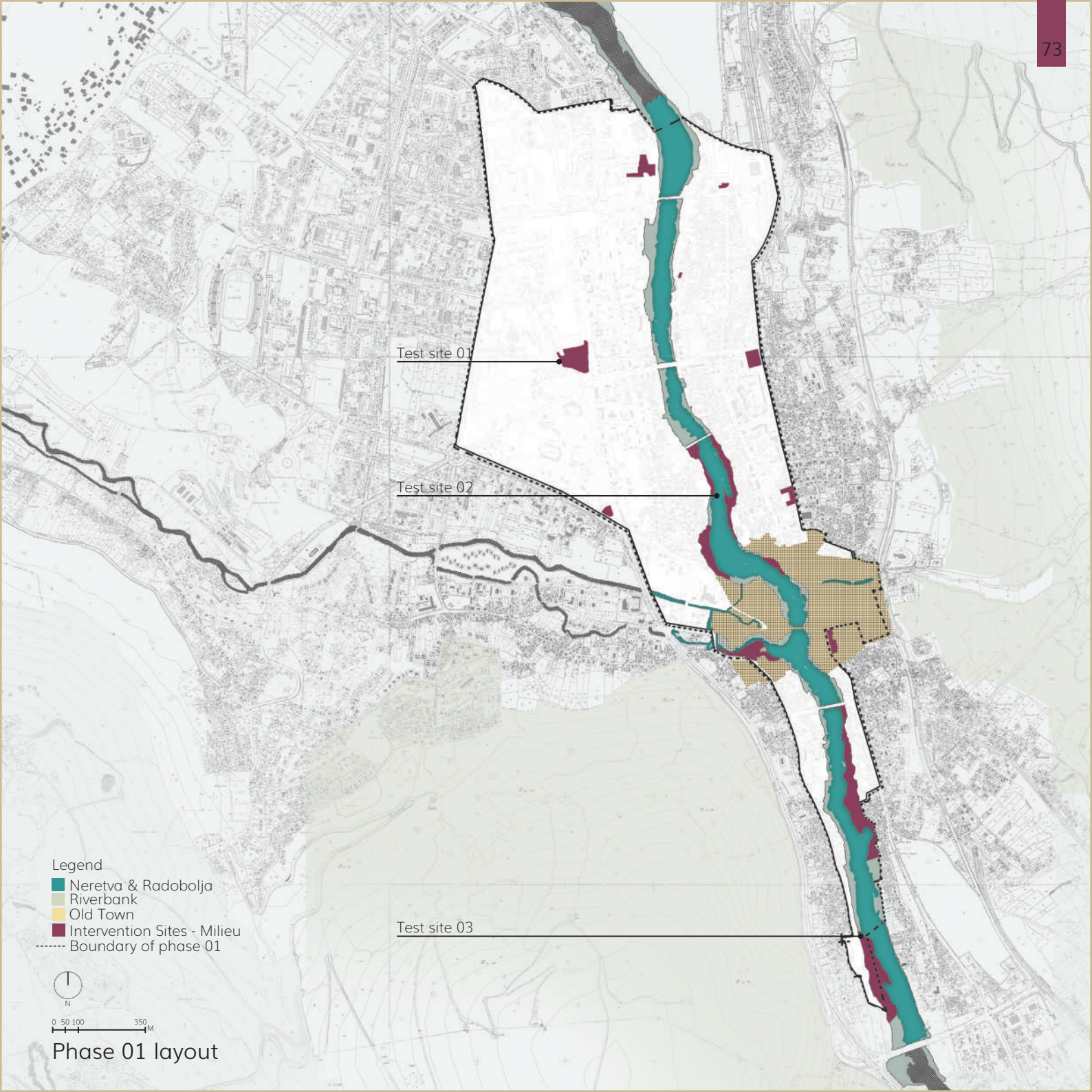
Test site 01

Test site 02

Test site 03

Legend
Neretva & Radobolja
Riverbank
Old Town
Intervention Sites - Milieu
Boundary of phase 01

N

0 50 100   350
                    M
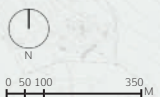
Phase 01 layout

Neretva and Territory

In the following section, the two test sites are analyzed in more detail using the theory as the lens. The territories are now further divided into smaller territories and the concept of territorialisation & de-territorialisation as well as desire is largely visible her. The feelings/ desires are defined on the basis of spatial conditions.

TEST SITE 01

Square outside HIT

HIT was one of the most celebrated buildings in the Yugoslavian Mostar. The city even had post-cards with the image of it even though it was just a departmental store. It was strategically placed along the Korzo, which was an important pedestrian and social area. The square outside acted as a gathering spot especially because of the fountain. During the war it was completely destroyed and the it now lies under dispute. Being a part of the central zone during the early years of rebuilding it was supposed to be developed as a spot that welcomes both Croats and Bosniaks. However, currently Croatian National Theatre stand here and the structure is left incomplete. It is quite intriguing that the surrounding public buildings have been restored back to their original image.

As the thesis is based on the idea of creating affordances by minimal intervention, only the square and front part of the theatre is designed without specifying a fixed program. The *landscape of affordances* for this site are more dependent on the context than the site itself. The game of desire guides the process but it is based on my own *lived experience* in the city.

HIT March 2019
Source : Drone video by Anna Sarraco

HIT, 1994
Source : www.cidom.org

HIT, 1970
Source : www.cidom.org

a. Spatial analysis based on the game

This spatial analysis is based on my lived experience in the city during October 2018 and March 2019. The words picked for this site are - memory, death, belonging, sensory perception, vulnerable, hope and loneliness. As compared to the surroundings this area gives a feeling of slow decay and proposes a future with eroded memory. Though a lot elements also give a subdued feeling of hope. In the next step to exhume productive affects certain feelings are boosted but none of the feelings are removed.

Death

FOLD

Loneliness

Hope

Vulnerable

Cold

Dominance

Belonging

Sensory Perception

Death

Memory

Memory

Reference Project : Parc Andre Citroen

Paris, France
Architect : Alain Provost & Gilles Clément

The park is trying to become that interstitial space where both the urban and rural meet, there were four themes or design strategies that Provost and his team focused on: artifice, architecture, movement, and nature (Kroll,2019). To the northwest, there are a series of themed gardens that take on different atmospheric qualities. Each garden experiments with different metals, plants, states of water, sense, and even days of the week. The gardens line the main lawn, yet are separated by a wall of shrubbery, isolating them as more intimate spaces transplanting the visitors into a specific conditional state disembodied from the urban context. All of the gardens are linked through an above ground walkway that allows one to experience the garden from a distance, and even though they are situated along a linear sequence , each can be individually experience (Kroll,2019).

Elements used for the design

The design uses a combination of these basic elements to create which connect (Path & Staircase), pause(platform), guide (wall), enclosure (volume & vegetation), feel (Materiality and Poles) , thereby, without defining a programme but letting it unfold as per the users.

Path	1.5M	2.5M
Staircase/Ramp		
Platform		
Wall		
Volume	3.4M as per the existing grid	
Pole		
Material		
Vegetation		

Using the elements the square consists of small-er territories, thereby, theory of territorialisation and de-territorialisation(a.3, Pg.33) comes into play. The 3 major territories with their own set of affor-dances and making use of the temporality en-gage and influence users to deterritorialise find another territory.

For example, the incomplete staircase now com-pleted with wider steps and ramps not only gives it the power be function as an amphitheater or for skateboarding or just sitting but also guides the rainwater which is then connected to the ex-isting pre war fountain which then influences the sound heard in the acoustical chambers.
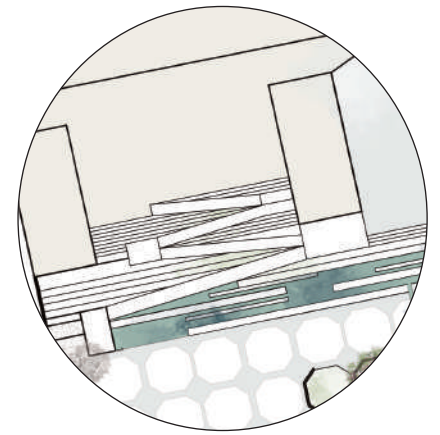
1. Continuation and adaptation of incomplete staircase and rain-water garden
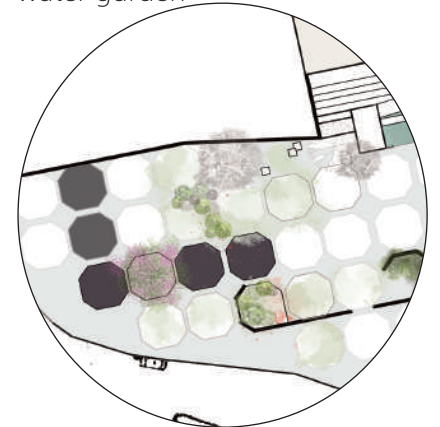
2. New planting scheme to differ-entiate the old and new. Also,ad-ding smaller elements.
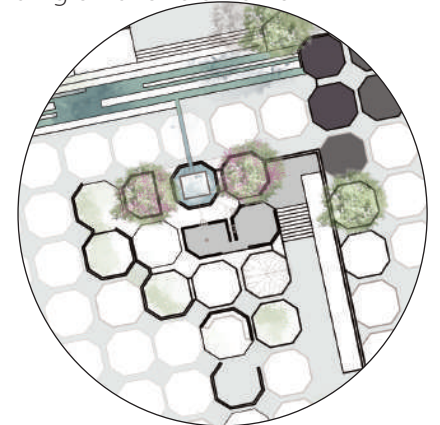
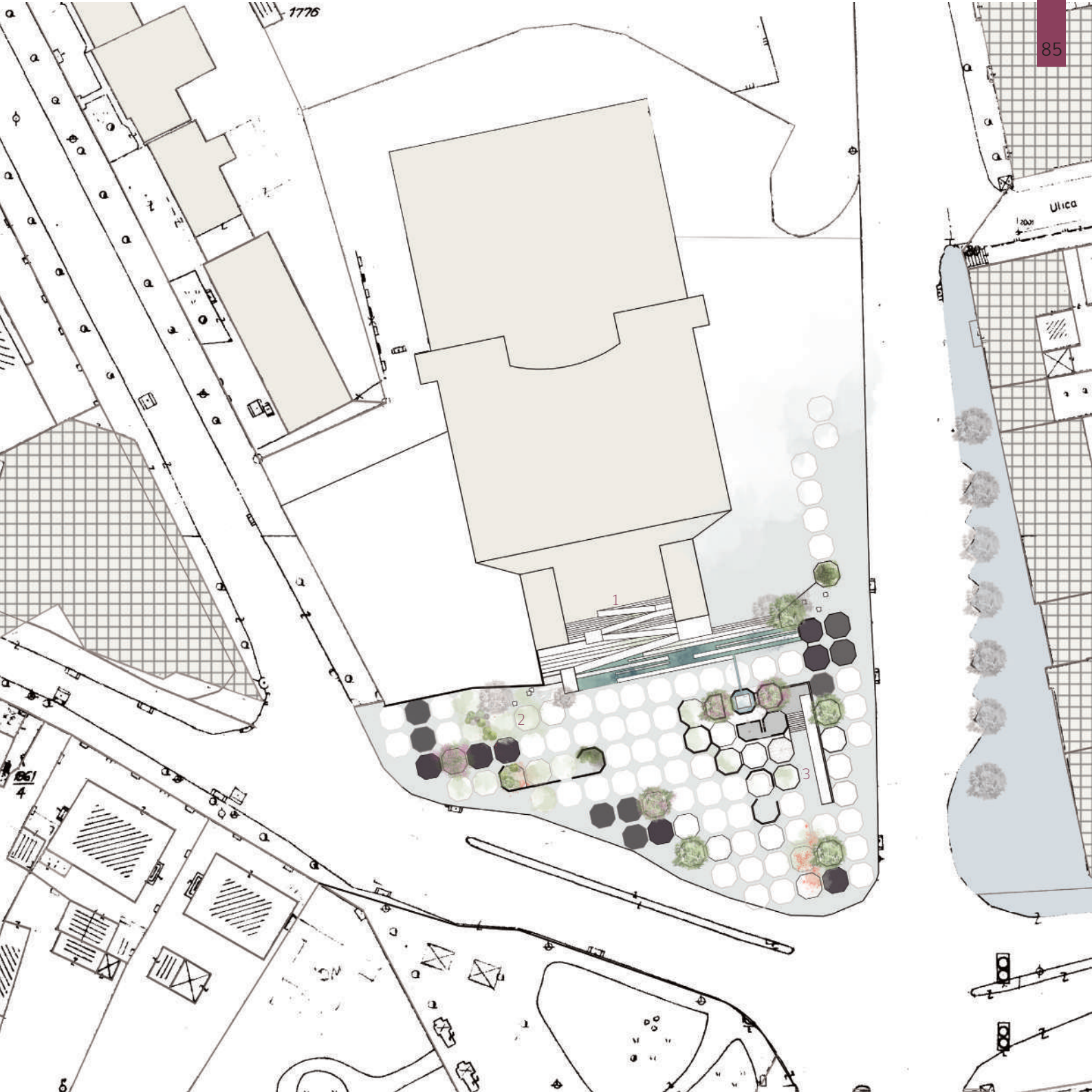3. Manipulating levels and senso-ry marker

Design

Legend
Croation Theatre (former HIT)
Ruins / Abandoned spaces
Rainwater collection pond

N

0 50 100   350
                      M

Plan at 1:500

The 7 exisiting *Cercis silaquatrum* (Judas tree) are maintained as it is. *Chaenomeles japonica* is also found on site and has been used as a hedge for creating smaller zones. Other species that have been added to the square are found in the neighbouring areas and some along the river like *Veronica cymbalaria*.

According to the season, each of these species will help in creating varied atmospheres through-out the year. The overlay on the right explains how the square will look from each side in differ-ent seasons.
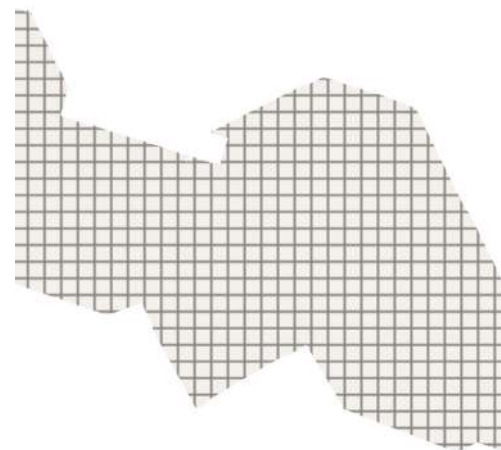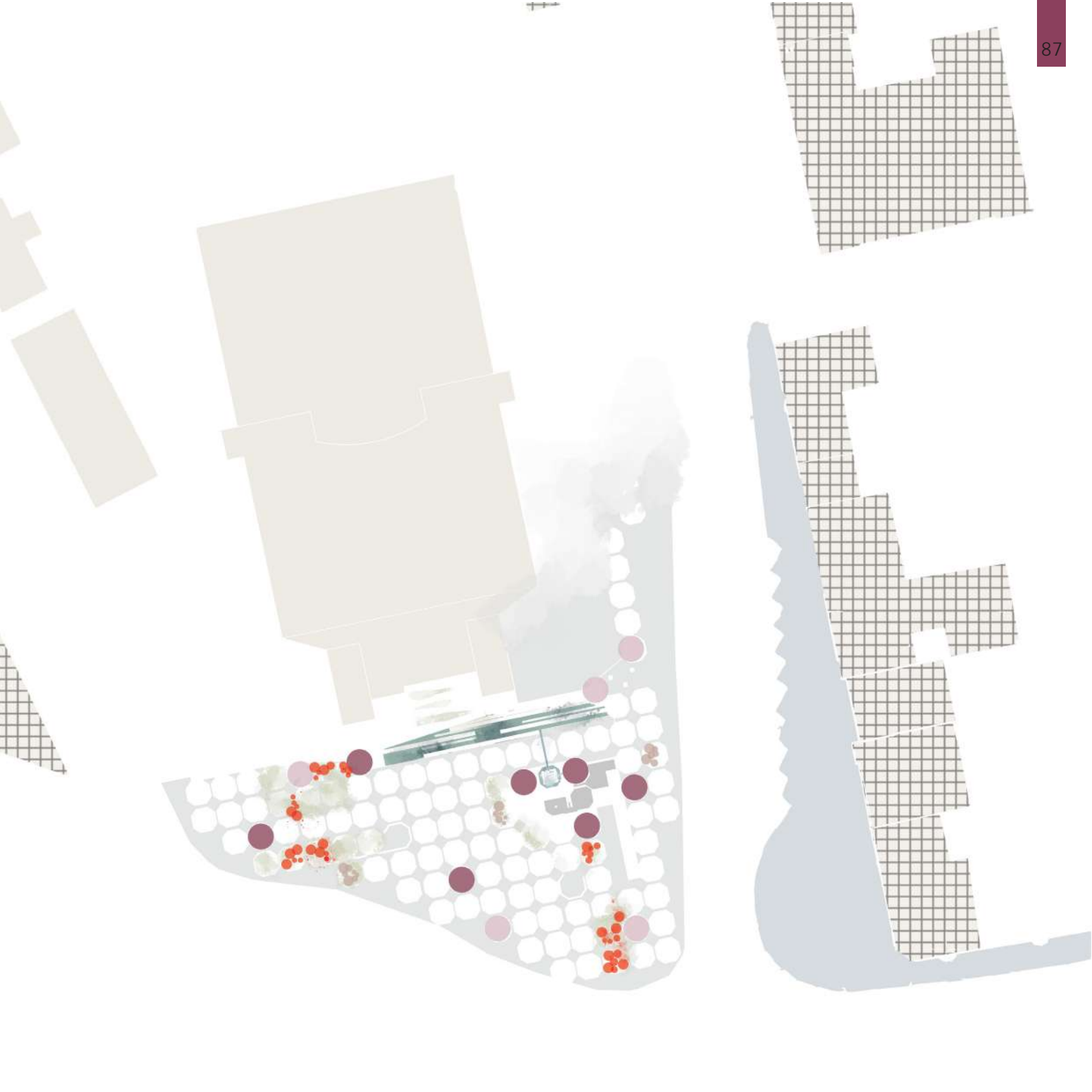
Legend

● *Cercis siliquastrum*
● *Prunus cerasifera*
● *Chaenomeles japonica*
● *Veronica cymbalaria*
▢ Croation Theatre (former HIT)
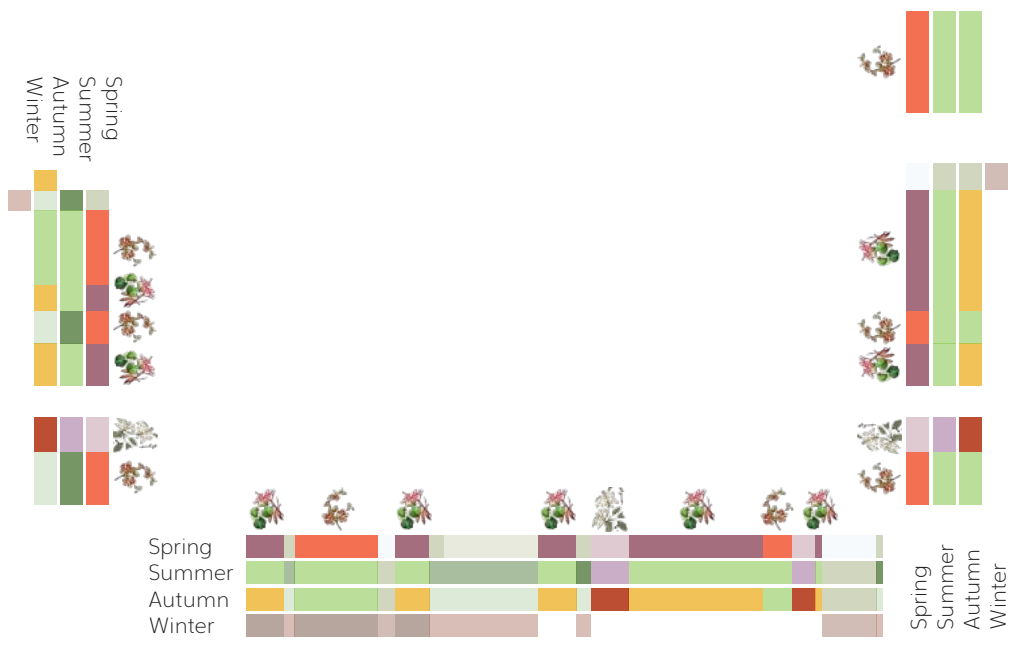▦ Ruins / Abandoned spaces

N

0 50 100   350
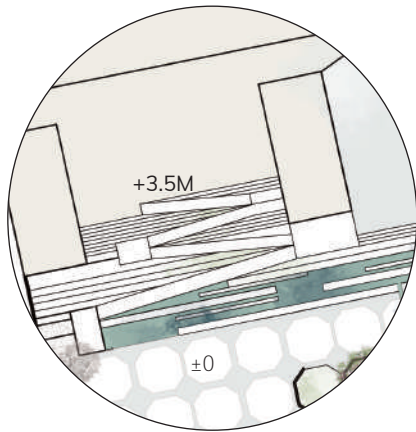   M
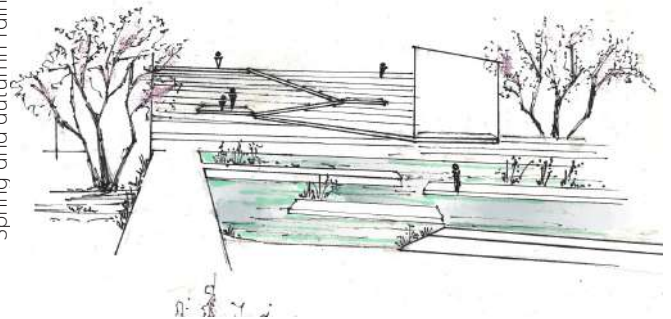
Planting Scheme at 1:500

Overlay

Spring
Summer
Autumn
Winter

Spring
Summer
Autumn
Winter

Spring
Summer
Autumn
Winter

Spring
Summer
Autumn
Winter

1. Continuation and adaptation of incomplete staircase and rainwater garden

+3.5M

±0

Currently, the incomplete croation theatre sits here implying a sense of dominance. The staircase is completed and transformed into an amphitheater with a rain water collection pond. This develops a dynamic landscape. The water from the rainwater pool is directed to the fountain manipulates the sound that can be heard in the listening space.
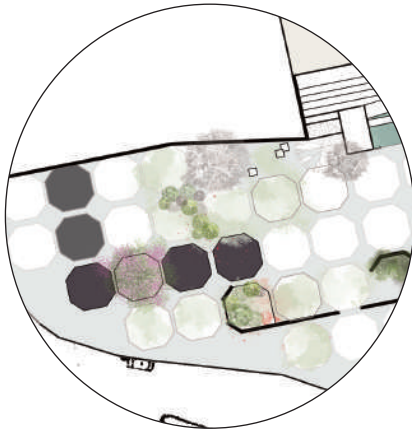
Spring and autumn rains

Summer
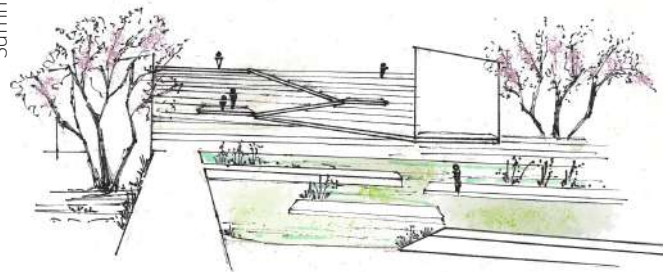
2. New planting scheme to differen-
tiate the old and new. Also,adding
smaller elements.

Here the existing *Cercis silaquastrum* is main-
tained and smaller elements like concrete blocks
are added which can cater to different functions
like as per various users. *Chaenomeles japonica*
is introduced in this part of the site and it can
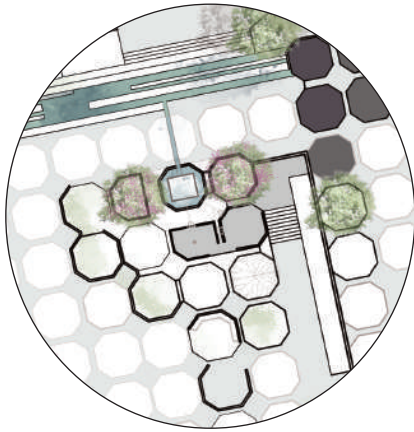later on develop into a wild spring garden.

Spring and autumn rains

After 10 years

Sensorial Markers

3. Manipulating levels and sensory marker

Here, the sensory markers stimulate hearing, touching and seeing. As the square is located around a major roundabout, therefore, the user needs to gradually descend 1.5 meters below the ground level to hear the sound of the water in the fountain. This reinforces the memory of fountain and sound of water also indirectly reminds of the river. The sound also creates a desire to explore other spaces like the rainwater pool or-room on the ground level where the sound of the fountain is diluted due to the surrounding sound. Minimal intervention by just adding level to the exiting grid and plantation retain the sense of belonging as the square is just has new added or exhumed affordances.

The light pole helps to locate the acupuncture spot from the distance.

+4M

+2M

±0

-1.5M
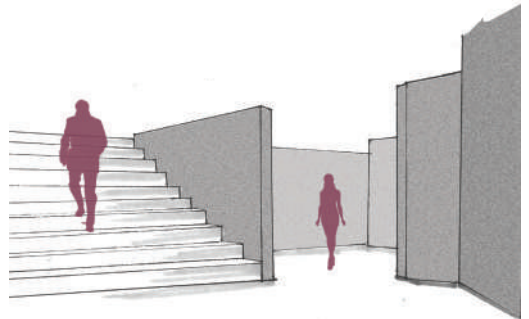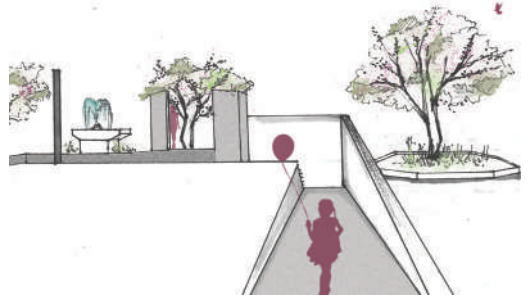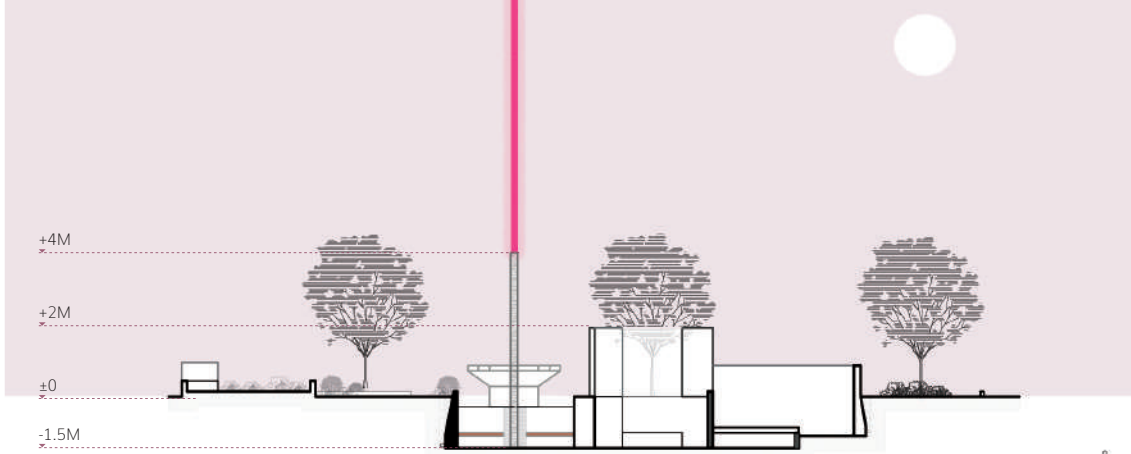
Section CC' - acoustic spaces and the garden with different levels (Scale 1:200)

±0

±0

±0

±0

-1.5M

±0

+1.65M

C

C'

-1.5M

DN

±0

+1.65M

±0

+1.65M

+1.65M

±0
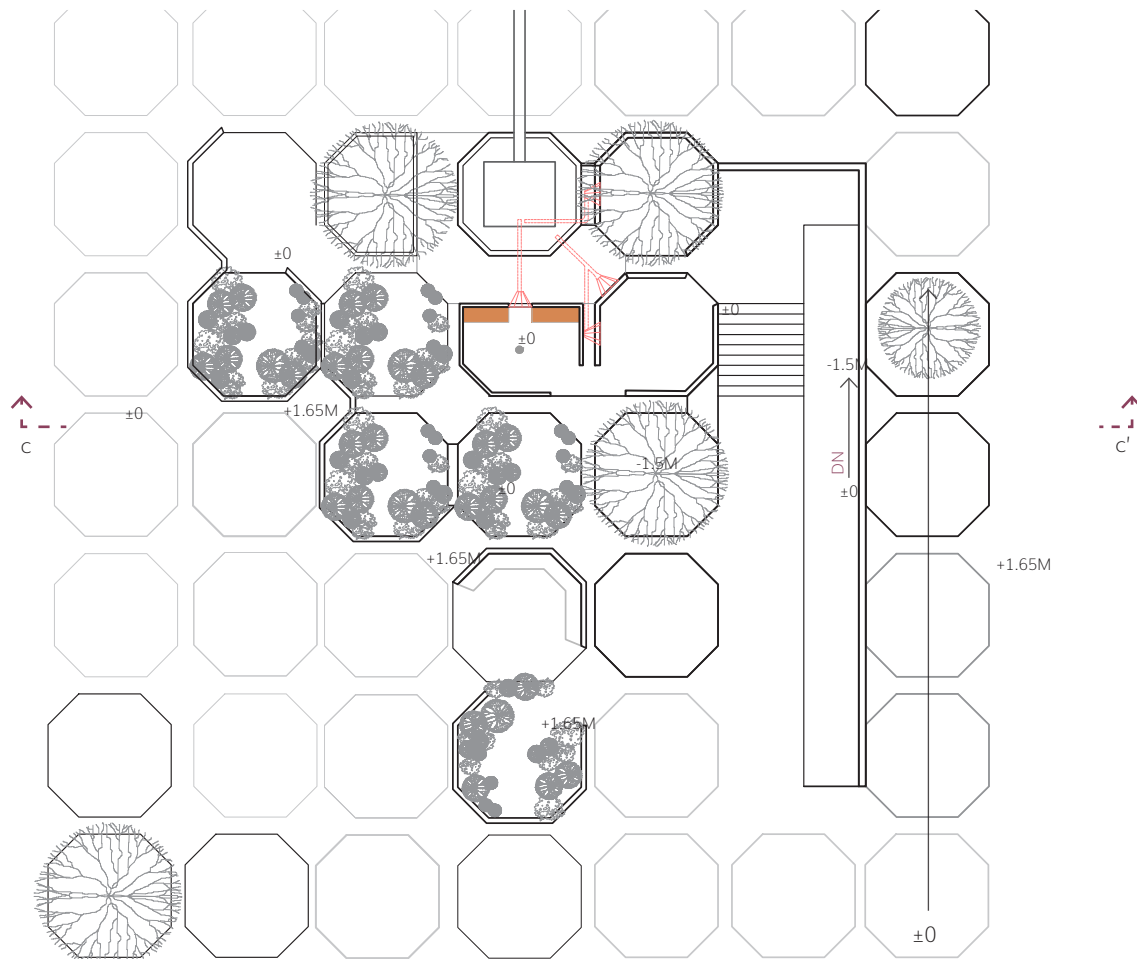
Layout of the sensory garden with the pre-war fountain and flooring pattern (Scale - 1:200)

TEST SITE 02

Between Bunur and Stari Most

The area between Bunur and Stari Most was quite active both before and after the war. This particular stretch has a lot of duality in terms of affordances and the affects both humane and natural. The east bank being the one of the most heavily damaged spots during the seige to the west serving as a survival landscape with natural topography that aided in hiding. Neretva is also quite dynamic here - this is one of the most eroded stretch. The river banks become inaccessible with water just rising by 1-2 meters, also the river is extremly rocky here which leads to the formation whirlpools which makes it challenging to swim or dive (physically contact the river). Moreover, due to human activities it is highly contaminated as sewage pipes directly discharge into the river and a lot of inorganic waste is dumped on the banks due to the restaurants on the top.

In the following pages a detailed analysis of this stretch is done based on the key factors - decayed territories and *affects* of Neretva. This area was studied and analysed using the game with the inhabitants of Mostar during the workshop conducted on 26th March 2019. Therefore, translation of their *desire's* (feelings) as spatial conditions are also apart of this section.
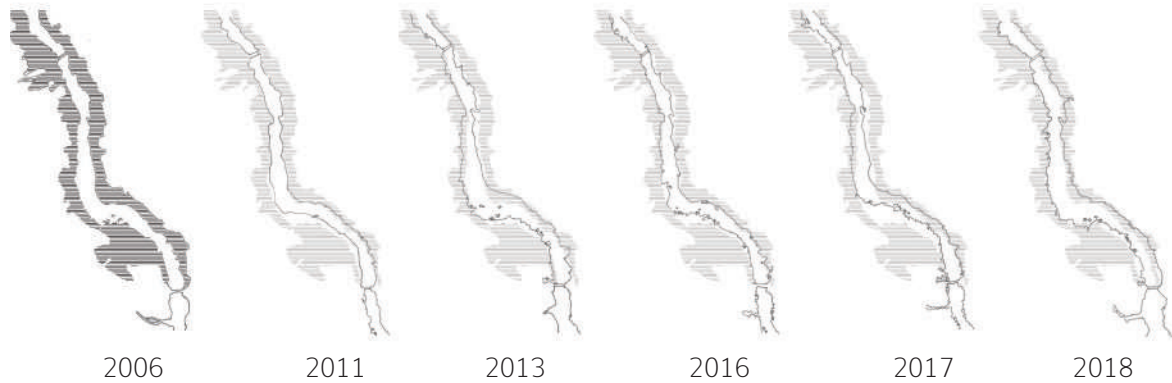
Bunur, 1994

Bunur, 1970
Source : www.cidom.org

a. EROSION

2006   2011   2013   2016   2017   2018

The diagrams above explain how rapidly the river is widening and incising in the past few years. Due to the four hydro-electric dams the sediments in Neretva are reducing. This accelerated the rate of erosion thereby, influencing the usage of river. A prolonged affect of the erosion is landslide risk which further limits the usage of the banks. In order to rebuild the relationship the city and it's people have with the river it is important to make it safer and accessible all the time.

The conclusion map on the right gives an idea regarding which area needs to be protected and which can be allowed to flood to increase sedimentation. In order to deal with this issues at the larger scale, replenishing the river with sediments (adding bed load) can be a viable solution. This involves collecting the trapped sediments at the damns and releasing it back into the river right above the city.
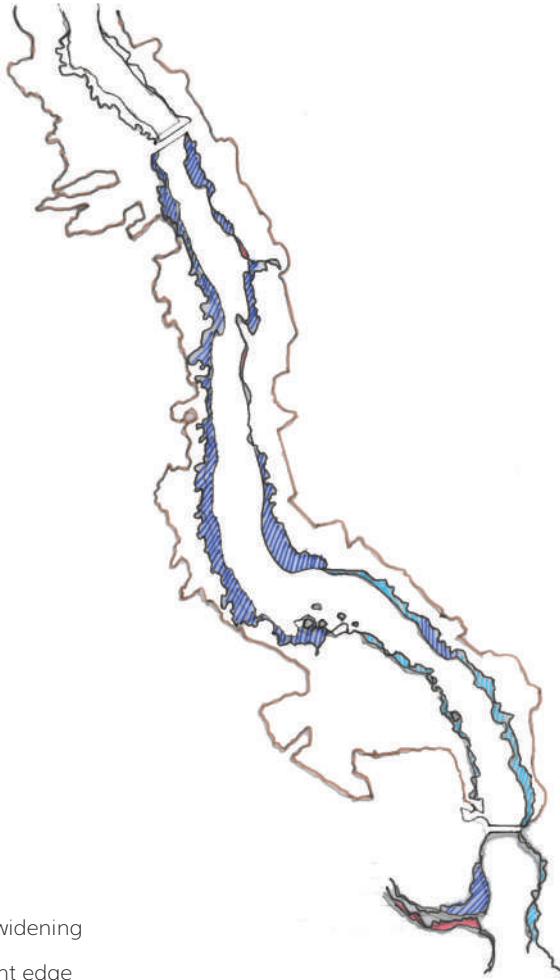
Legend

■ Sedimentation
■ More erosion - widening
■ Less erosion
— Urban settlement edge
— Current river edge
— Old river edge

N

010   50   100
                M
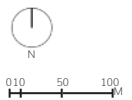
Conclusion Map of Erosion Pattern

b. FLOODING

The stretch of Neretva between Bunur and Stari Most has the largest floodplain and the parts become practically inaccessible with just two days of rain. Due to a large number of rocks near Bunur the river is also quite dangerous here. The platforms along this stretch were quite active during the past but the river now limits the usage. Also, the dams release water regularly thereby increasing the frequency of flooded river banks.

The temporal nature of river and landscape needs to embraced and worked with. Natural factors should not limit the tangibility to the river but design strategies like - raised pathways, flood pools, terraces, jetties and riparian species along the banks reduce the impact of water and make the river and its banks more inviting.

Highest flooding level

Water level after 2 days of rain

Standard water level
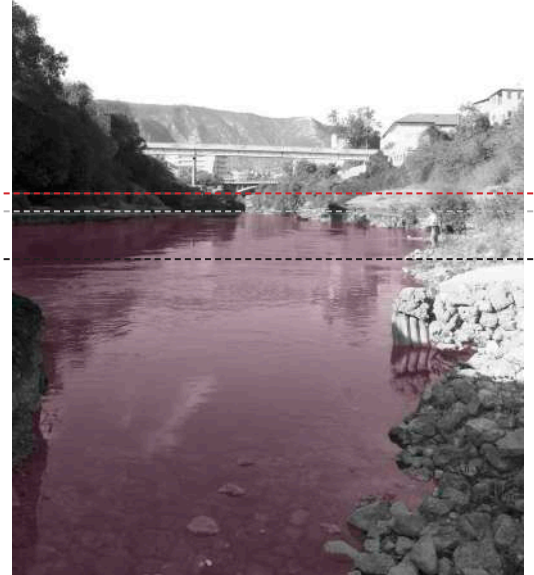
Flooding levels near Bunur

Highest flooding level

Water level after 2 days of rain

Standard water level

Flooding levels near Stari Most
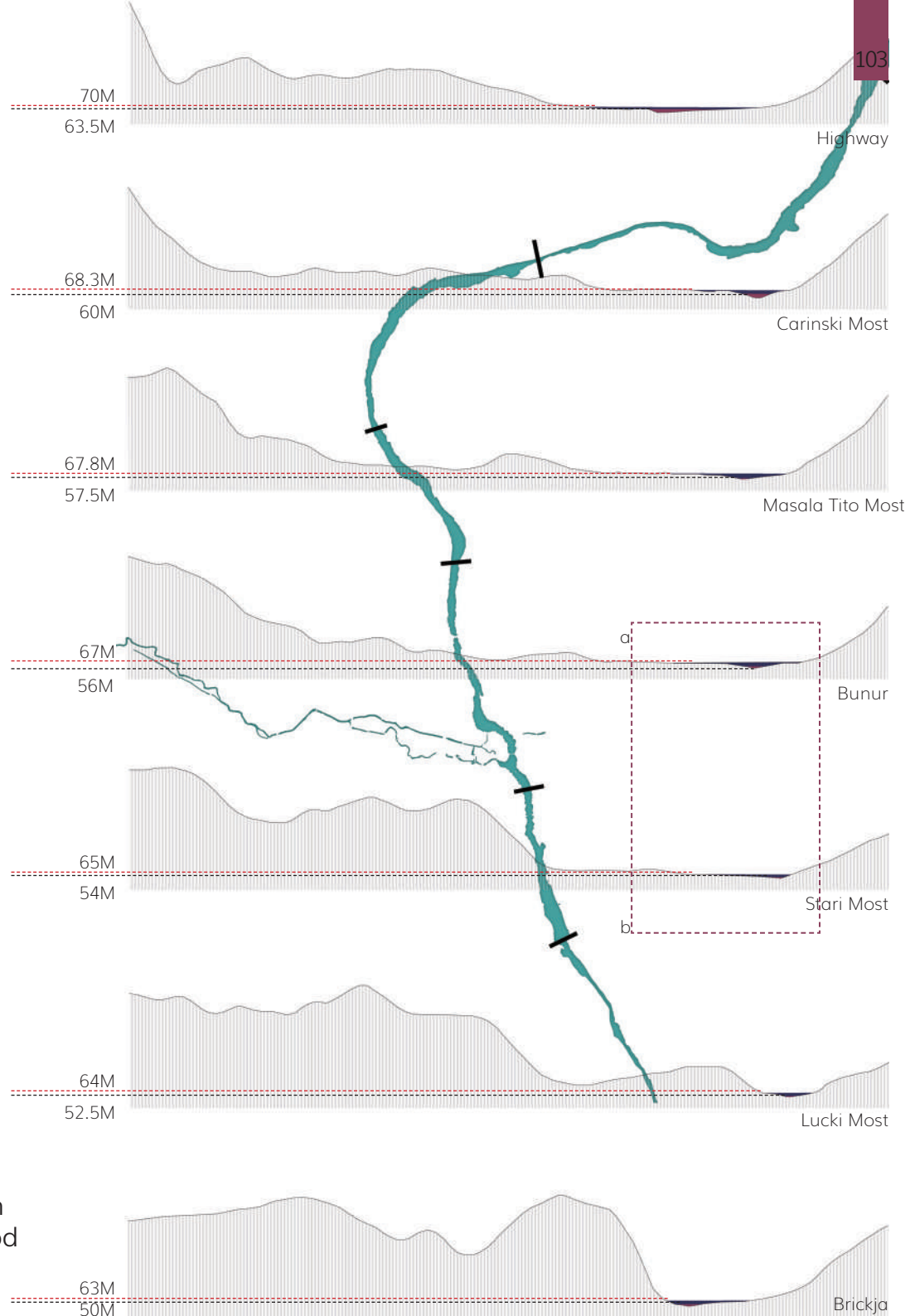
70M
63.5M
Highway

68.3M
60M
Carinski Most

67.8M
57.5M
Masala Tito Most

67M
56M
a
Bunur

65M
54M
Stari Most
b

64M
52.5M
Lucki Most

63M
50M
Brickja

Legend
Sedimentation
More erosion - widening
Less erosion
----Urban settlement edge
----Current river edge

N

010   50
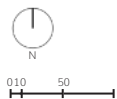
City-scale sections through
the bridges explaining flood
plains and height of water

C. AFFECTS

As the historical time line of development ex-plains, the city of Mostar developed along Neretva and so did the lifestyle. The official diving event from the bridge started around 1960's from Most Musala (Tito Bridge). The river banks were important public spaces and were also owned by specific families or groups living in the vicin-ity. To understand this rocks and beaches had specific names. Also, the use of the river depends on the depth and the velocity of the current - ex-plicit swimming routes from one particular rock/platform/beach to another. Similarly, area rich in particular fish species were also identified. The river was the social space for the whole city.

All these conditions existed because the affects landscape facilated and produced which empow-ered the Mostarki's to use the river as a theatre.

The overlay map marks these specific sports which had more potential and how they creat-ed affects for the people to develop swimming routes. This is one such example where the ex-iting landscape qualities aided in numerous ac-tivities which became a part of the social life of the city. Post-war these conditions also aided in strategising both the attack and defense. Due to flooding, erosion and other human activities these potentials are altered but are still present. Therefore, from this plane of affordances the pro-ductive affects needs to be picked and exposed.

1. Canoeing in Neretva (Source : www.cidom.org)
2. Diving from Most Musala 196 (Source : www.cidom.org)
3. Mostarki's using the beach for leisure (Source : www.cidom.org)
4. Terraces along the river showing the social and visual connection (Source : www.cidom.org)
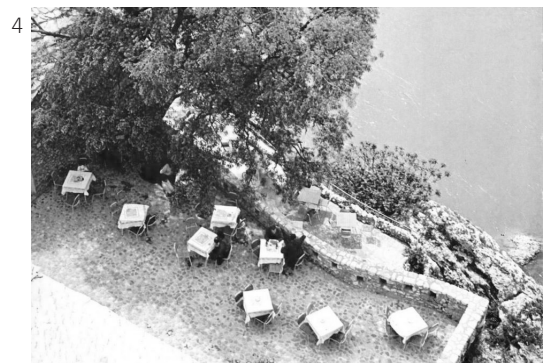
Legend

■ Neretva
■ More erosion - widening
■ Less erosion
■ Urban settlement edge
■ Current river edge
■ Old river edge

N

0 10   50   100
M
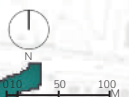
Conclusion Map of Erosion Pattern

Overlay

Jasenica
Zabjlak
Ploča
Sarajevo
Petiče
Cernička Beša
Beša
Devdir
Mali Šehovac
Mali izvor
V. deriz
M. deriz
Škip
Mejdan
Bascine
Podkujundžiluk
Halebinovac
Prva
Druga

Legend

■ Riverbank
◆ Specific location/ rocks/ platform
●--> Current major swimming route
●--> Old major swimming route
•••> Current minor swimming route
•••> Old minor swimming route

N
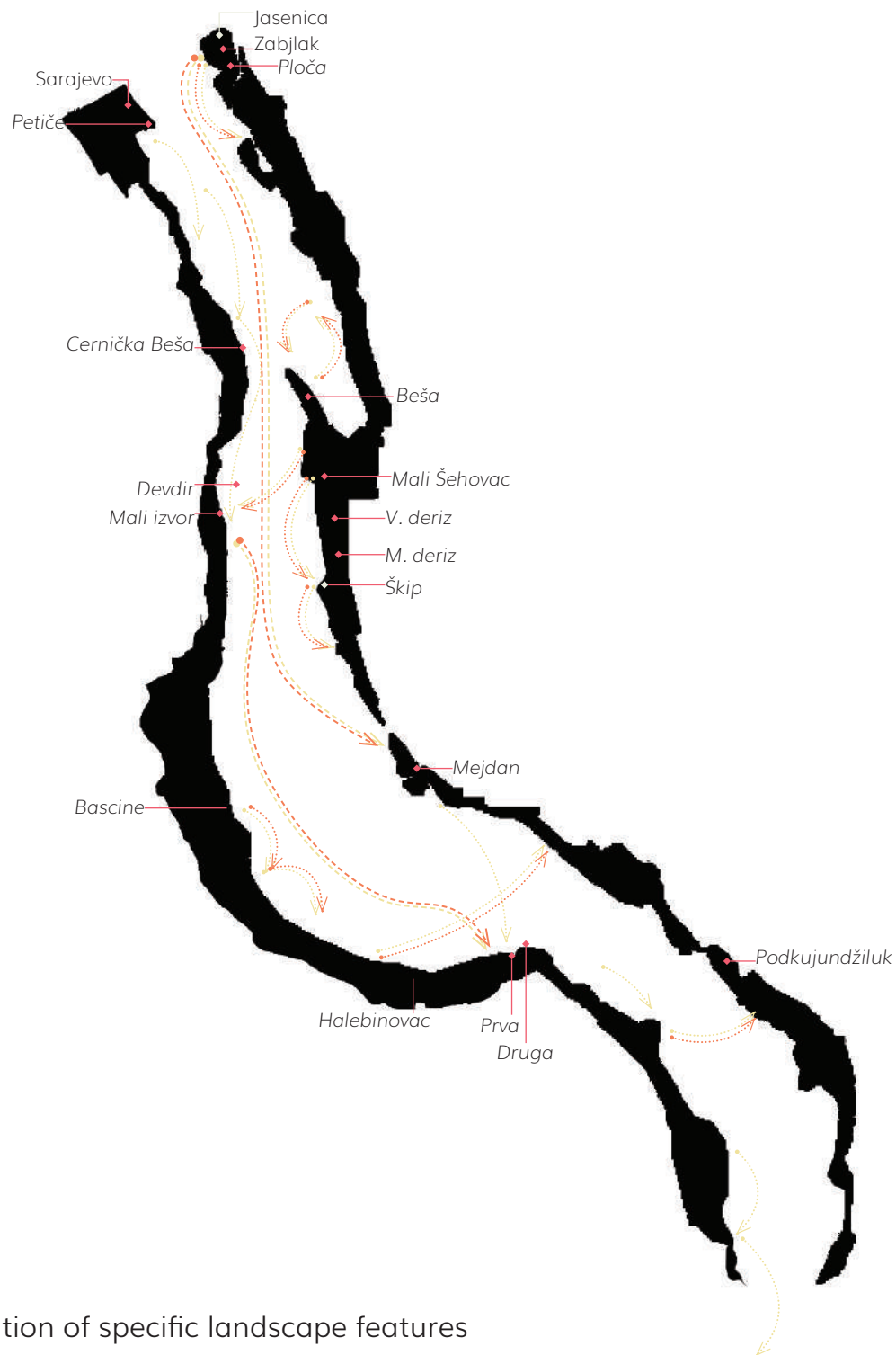
Swimming routes and location of specific landscape features

Freedom

Power

Vulnerable

Memory

Solitude

Vulnerable

Freedom

Learn

Hope

Death

Vulnerable

Dominance

Creativity

Learn

Memory

Vulnerable

Belonging

Freedom

Learn

Explore

Dominance

Belonging

Bel

Reflectio

Explore

Abuse

Freedom
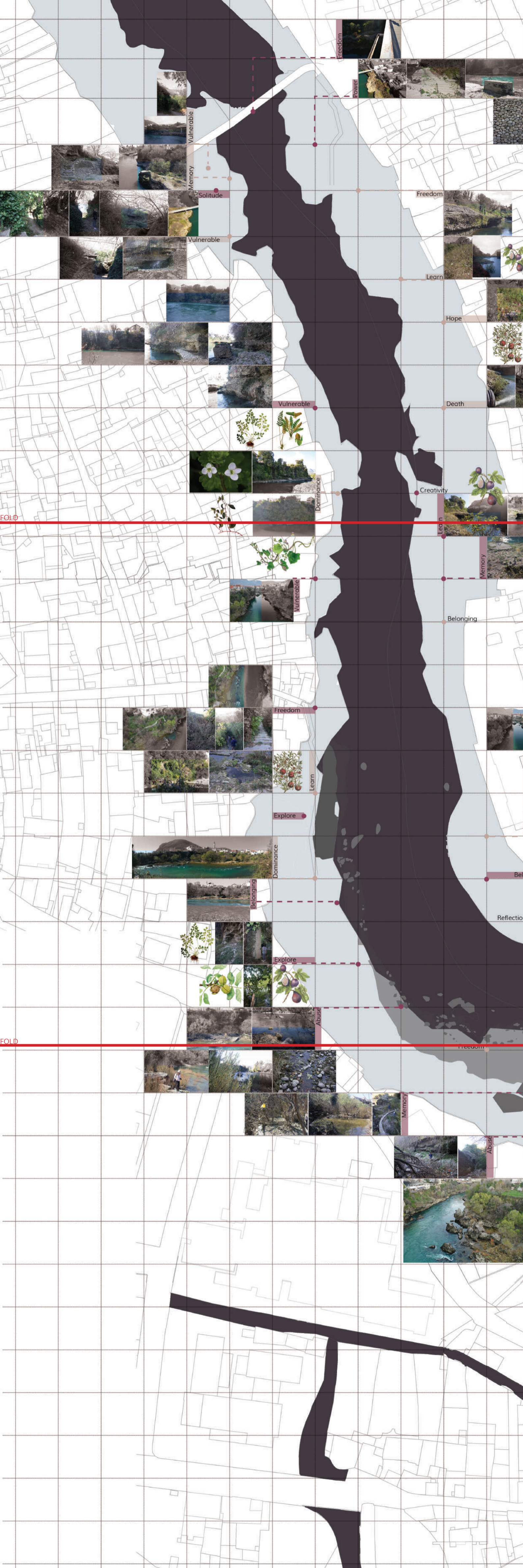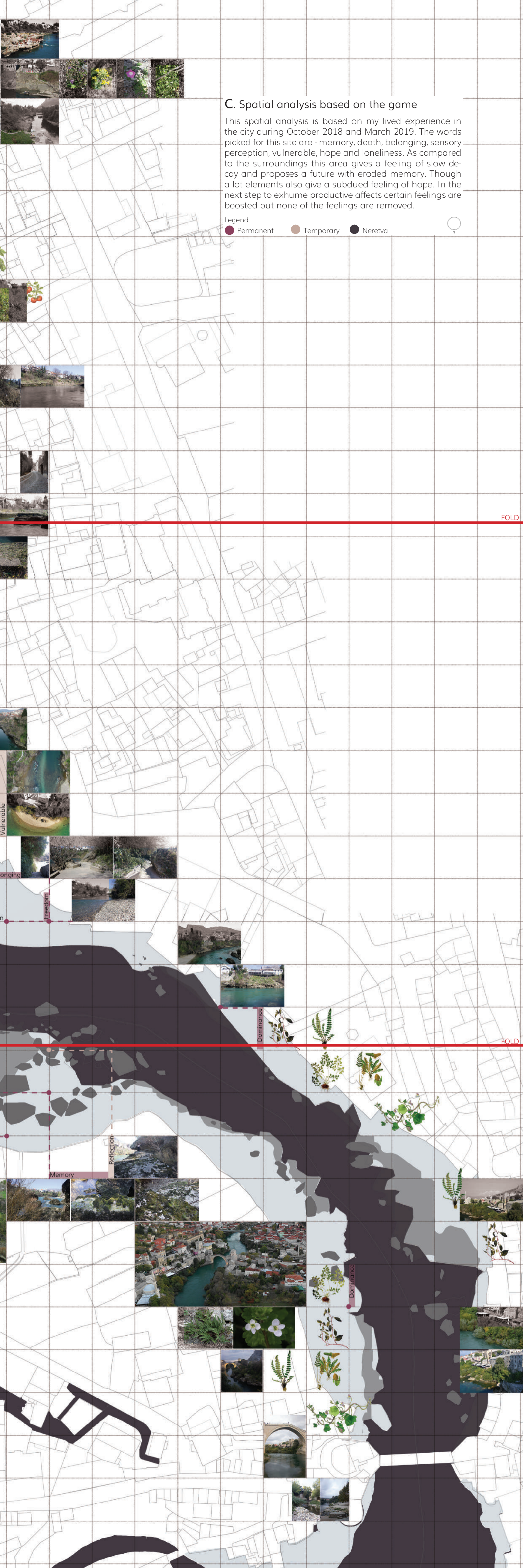
Memory

Abuse

C. Spatial analysis based on the game

This spatial analysis is based on my lived experience in the city during October 2018 and March 2019. The words picked for this site are - memory, death, belonging, sensory perception, vulnerable, hope and loneliness. As compared to the surroundings this area gives a feeling of slow decay and proposes a future with eroded memory. Though a lot elements also give a subdued feeling of hope. In the next step to exhume productive affects certain feelings are boosted but none of the feelings are removed.

Legend
● Permanent   ● Temporary   ● Neretva

N

FOLD

Vulnerable

onging

Freedom

Dominance

FOLD

Reflection

Memory

Dominance

Elements used for the design

Based on the derivations from the analysis, in order to work with the existing affects it is important to pick from these numerous possibilities and border them. In order to unearth or maximize the potential the design is based on a framework that works on a collaboration of the elements below.

Path	0.75M 1M 1.5M 2.5M
Staircase/Ramp	
Platform	
Wall	
Volume	Diameter 3M 5M 6M Opening
Pole	
Material	
Vegetation	

Plan

Overlay

Neretva

Riverbank

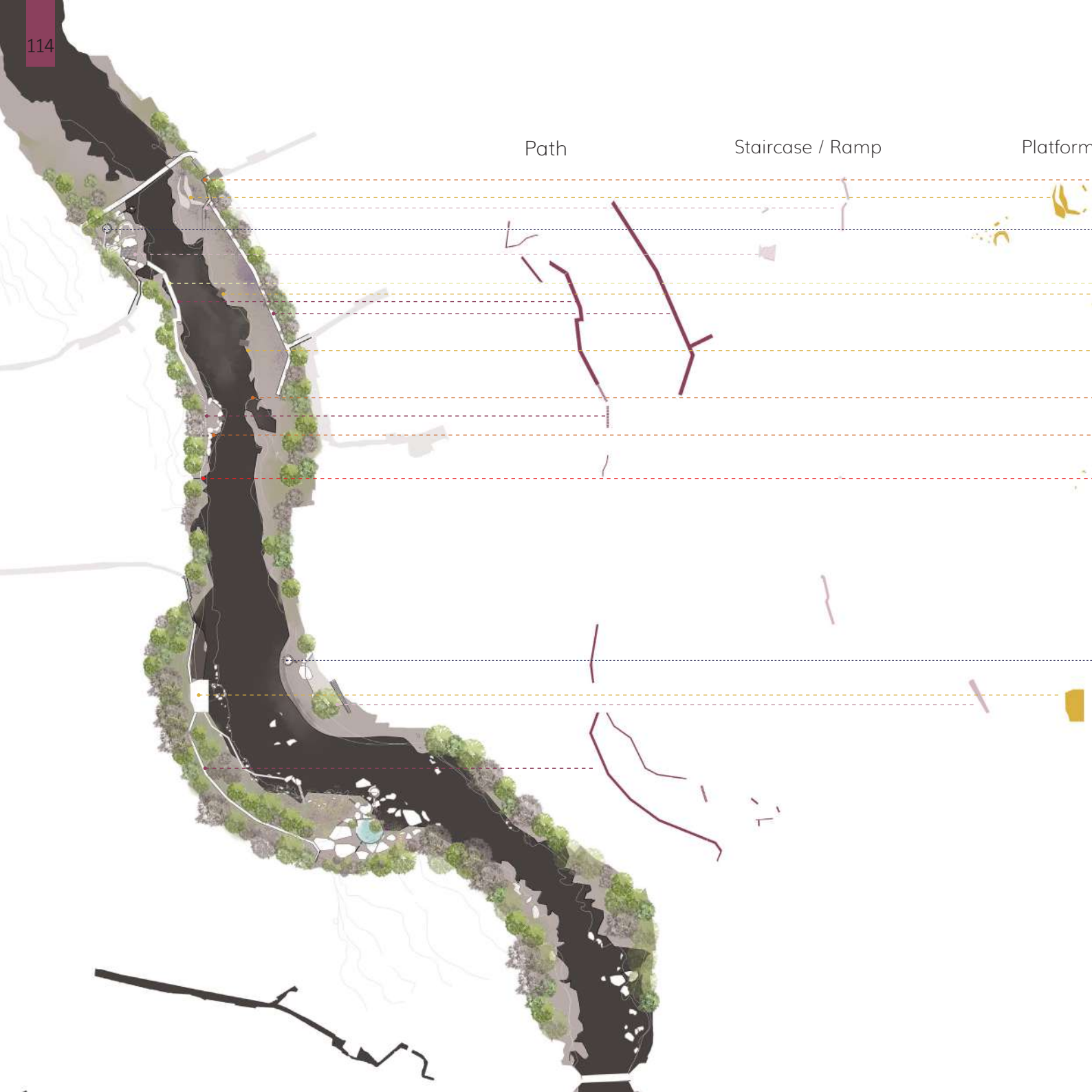In the case of flood

N

0 10 30 50 100 M

Path

Staircase / Ramp

Platform

Wall   Enclose   Pole   Erosion management
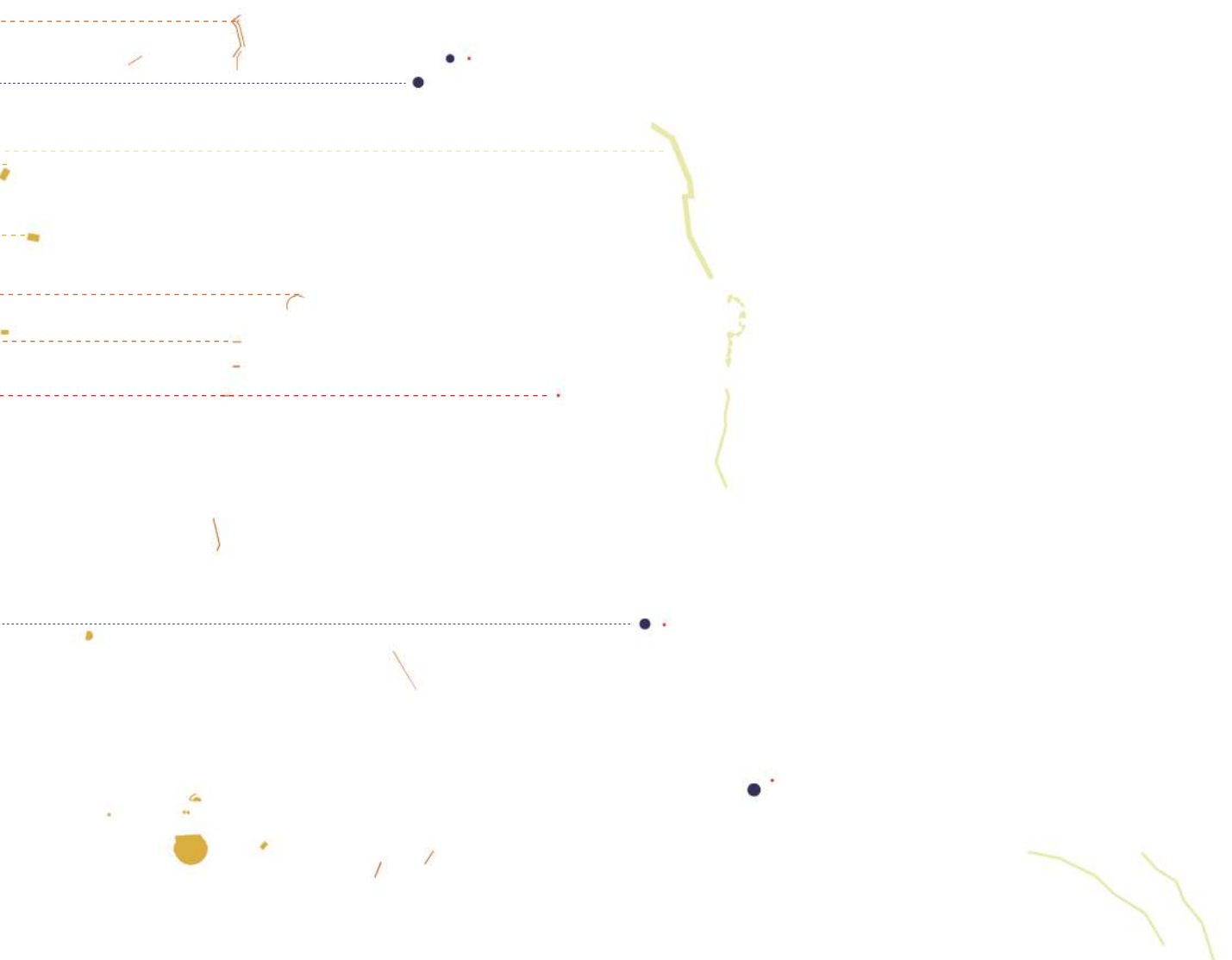
Elements test site 02
Legend
■ Path   ■ Volume/enclosure
■ Staircase / Ramp   ■ Poles
■ Platform   ■ Erosion management
■ Wall

Location

N

0 2   5   10   20
                            M

Detailed layout at P

Solitude

Vulnerable

+13 M

+2 M

±0
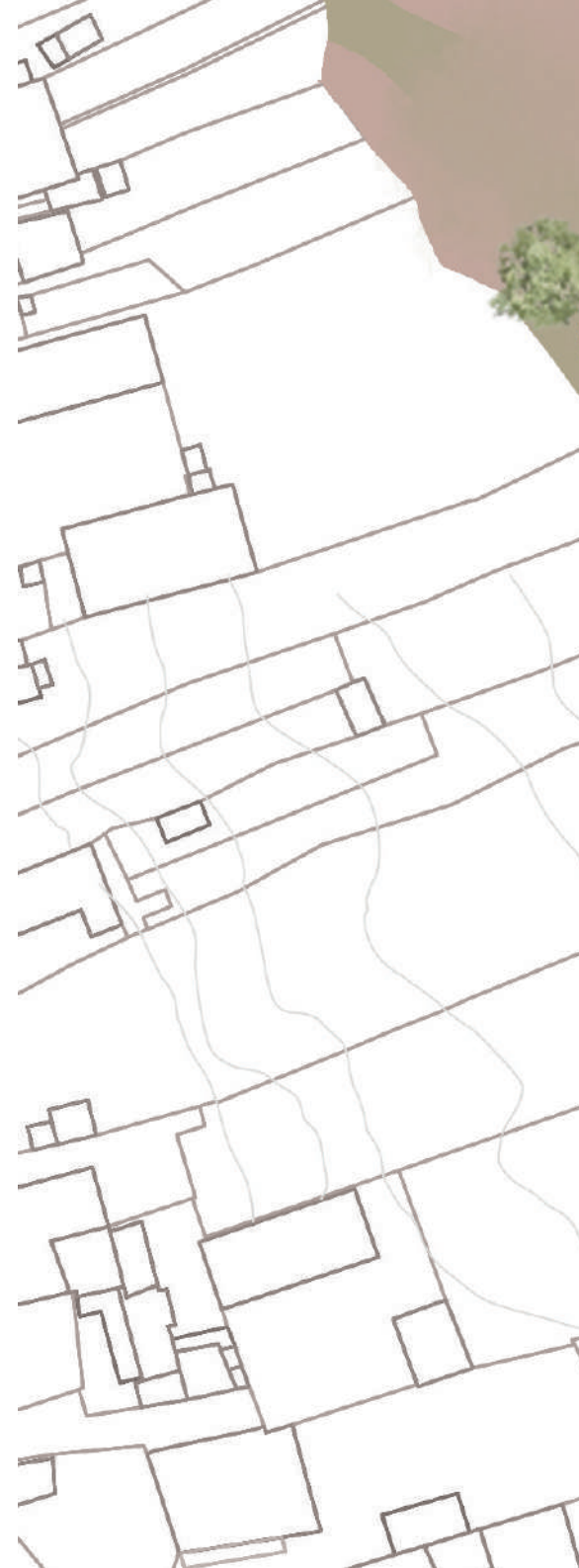
Section QQ'

This sections explains the how design works utilizing the potential of existing landscape qualities. Two sensory experiences -solitude and vulnerability are visible here.

As temprality and river dynamics influence the feelings and experiences, so this section explains how the river banks work in coherence with that.

Solitude

1

2

Solitude

1. The improve the experience of solitude, the material and the sound plays an important role. Perforated raised pathway lets the vegetation grow and leads to the grotto. As the area is surrounded by dense vegetation the sound of the river is faint.
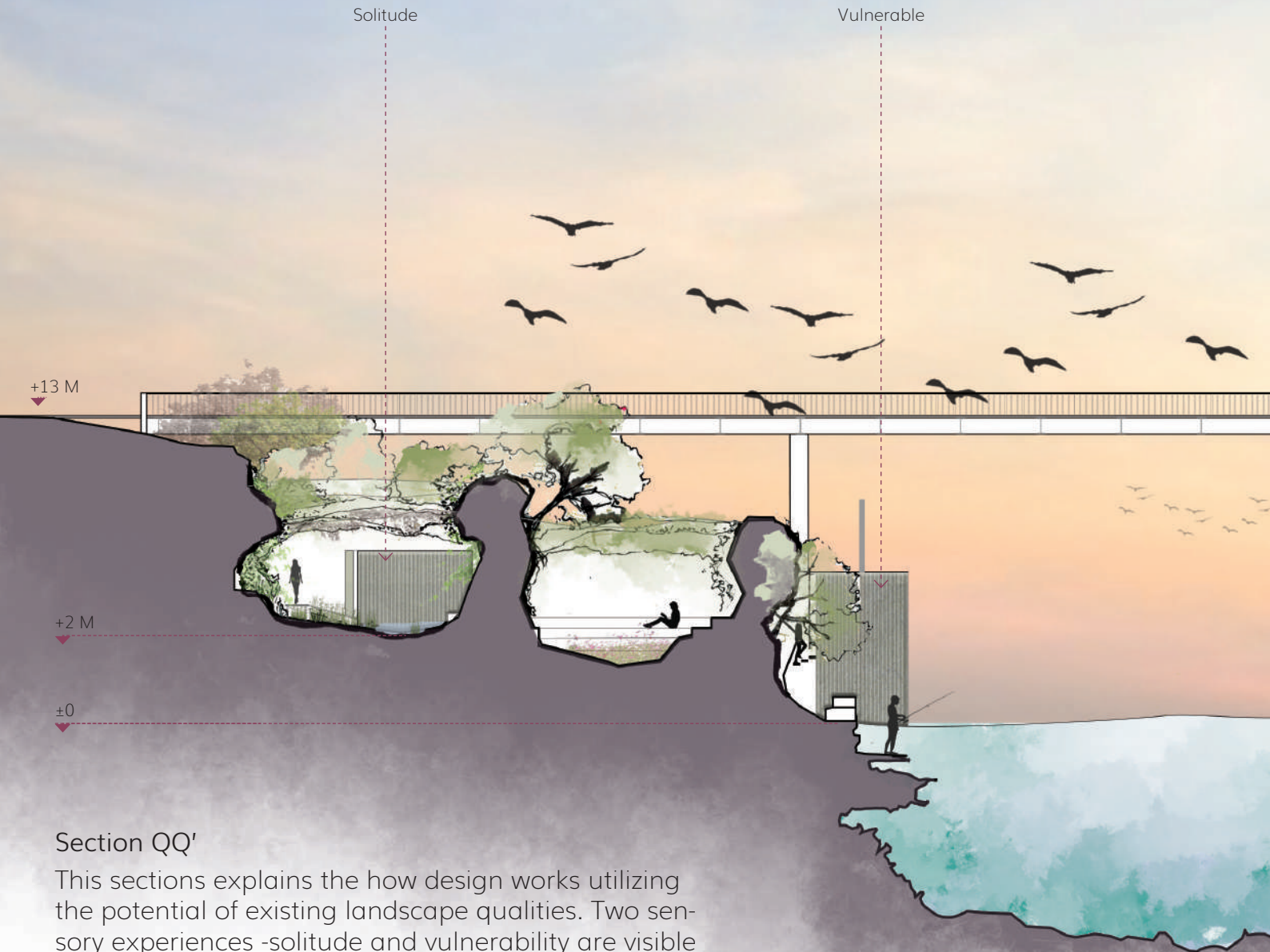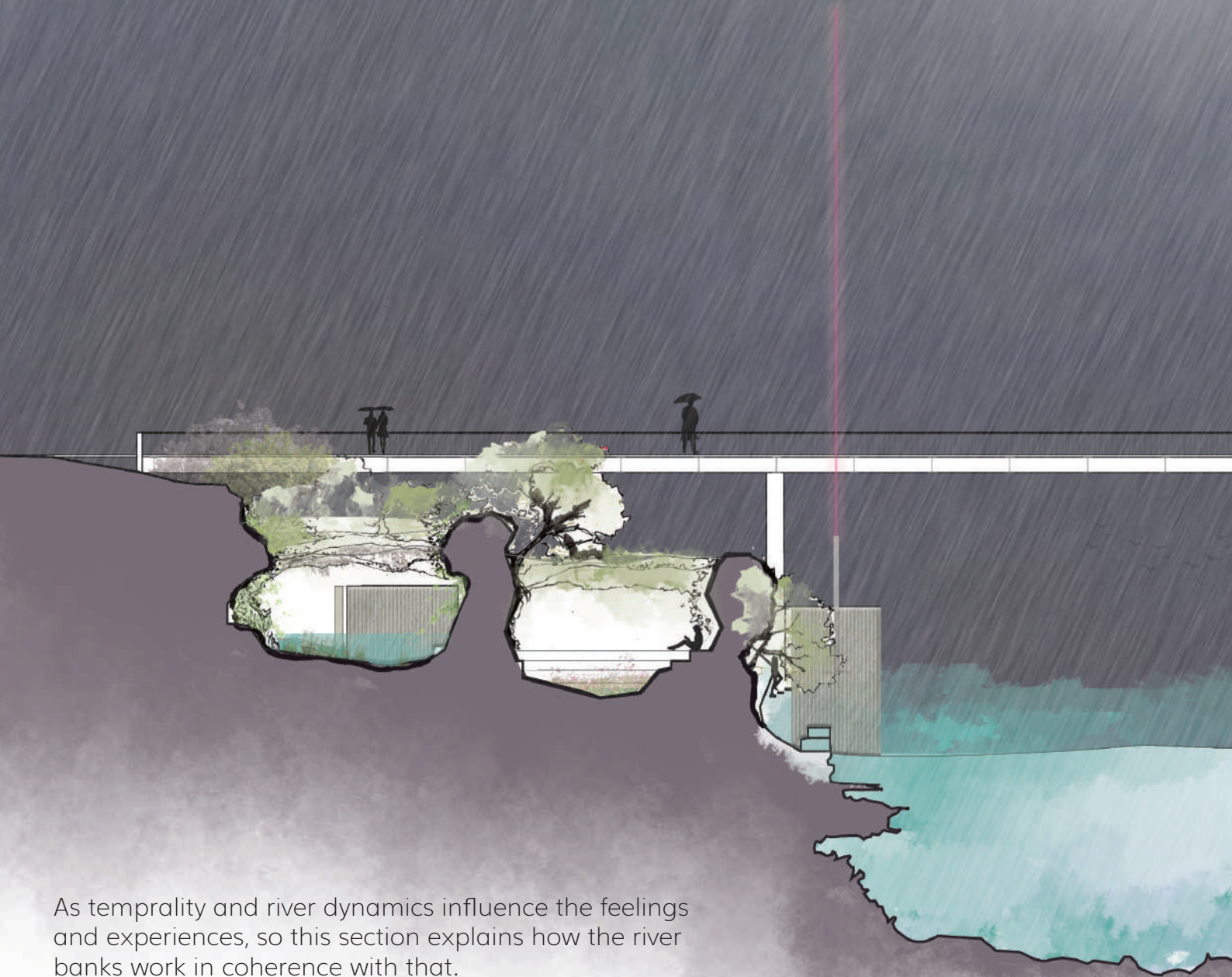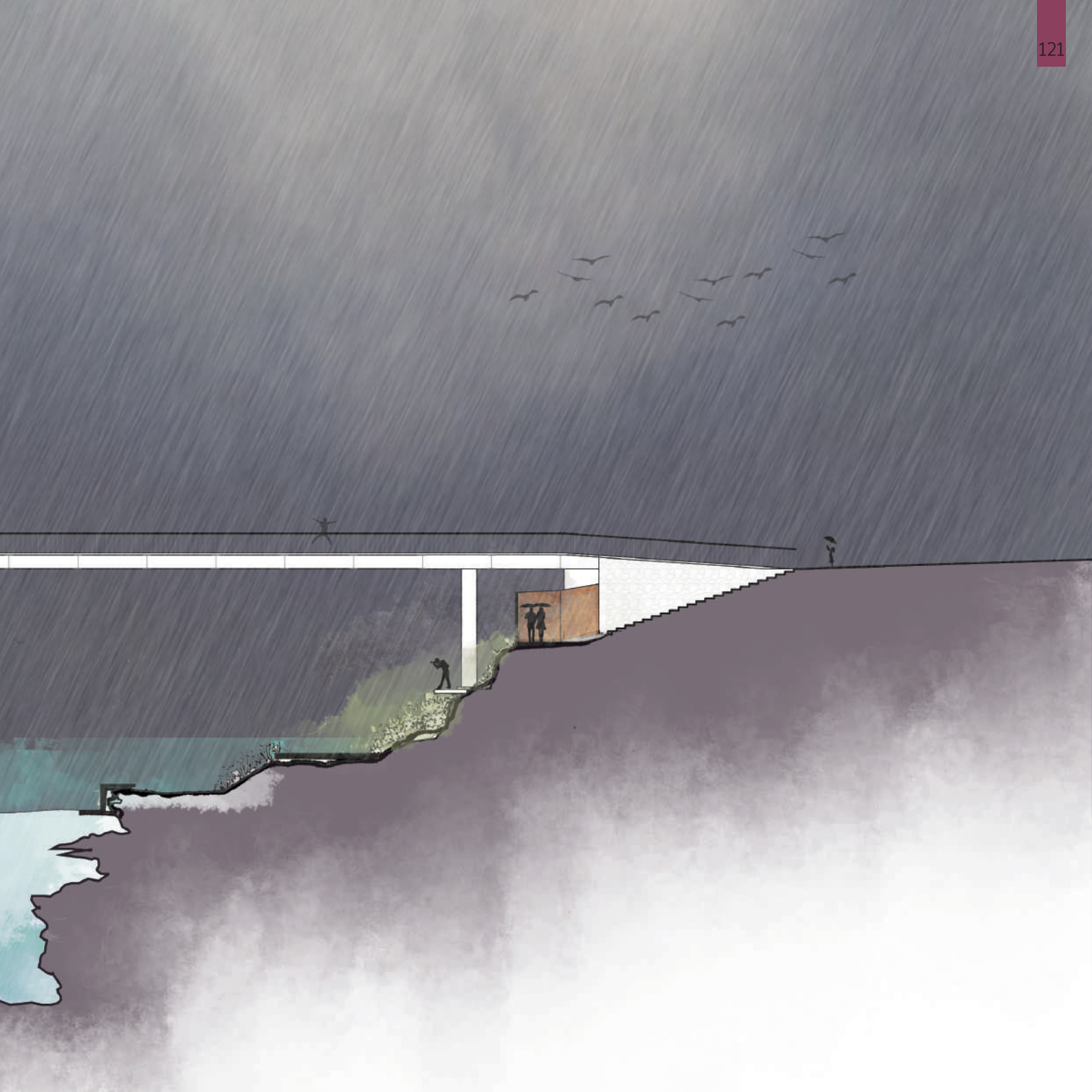
2. As the user move away from the banks, the pathway directs you to the acoustical space wrapped in a grotto and vegetation. There is just single entry and exit thereby, limiting the amount of people within the space.

3. Inside the acoustical space, a wooden platform sits in between which then directs through narrow stepping blocks to the concrete blocks which can be used as sitting spaces. During monsoon this area can be flooded and the platforms becomes a isolated peaceful space to be within nature.
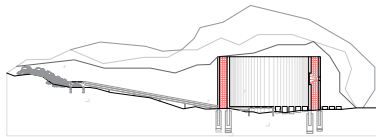
Section
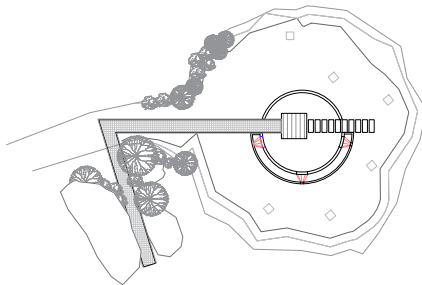
Plan
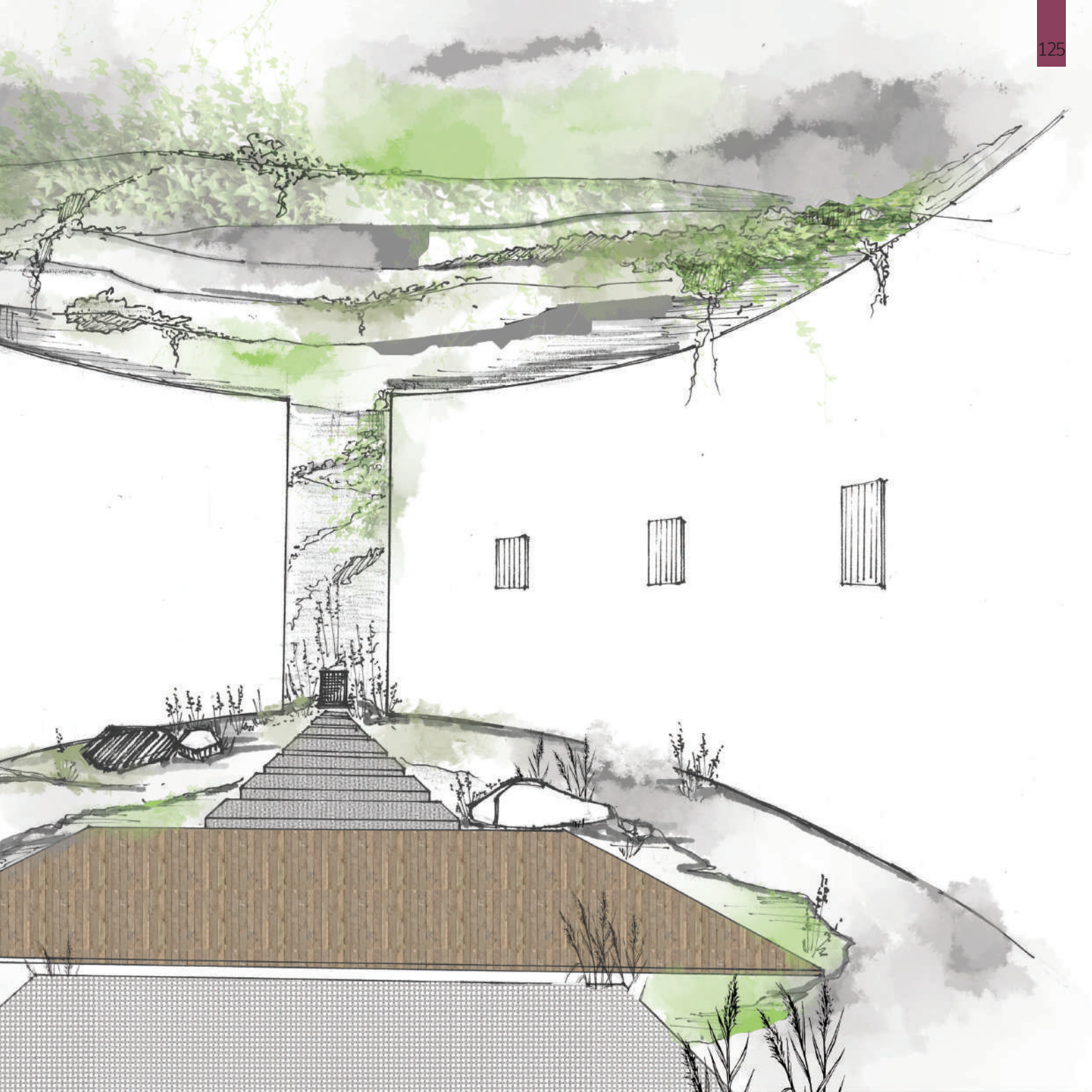
Overlay
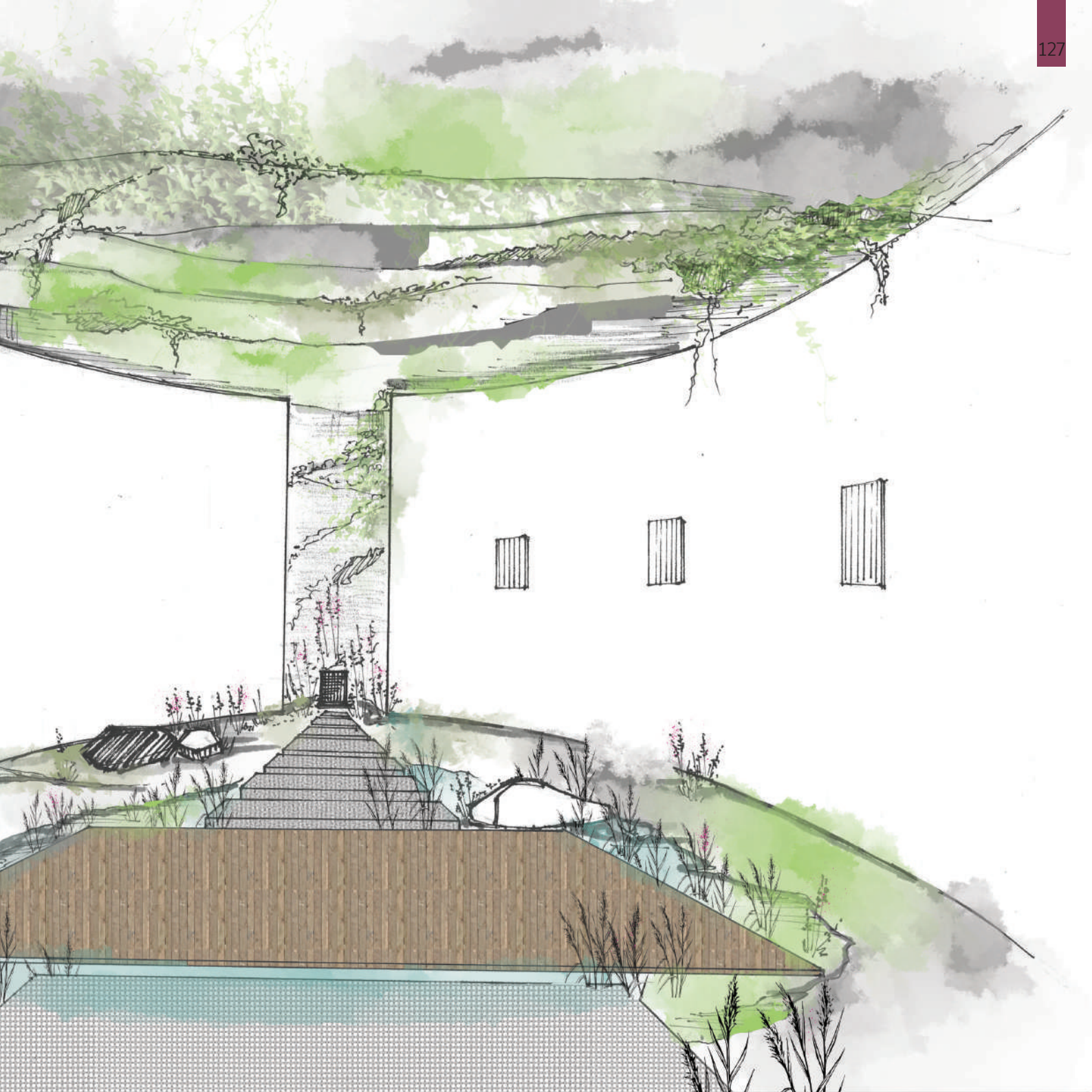
Vulnerability

The element is projecting in the river and Neretva is extremely fast here. The sound of the fast water is quite prominent. As it lies on the eroding bank which also flood frequently, this limits the usability. The staircase without railing with the loud sound of tne river and water level fluctuation makes the user aware about river dynamics.
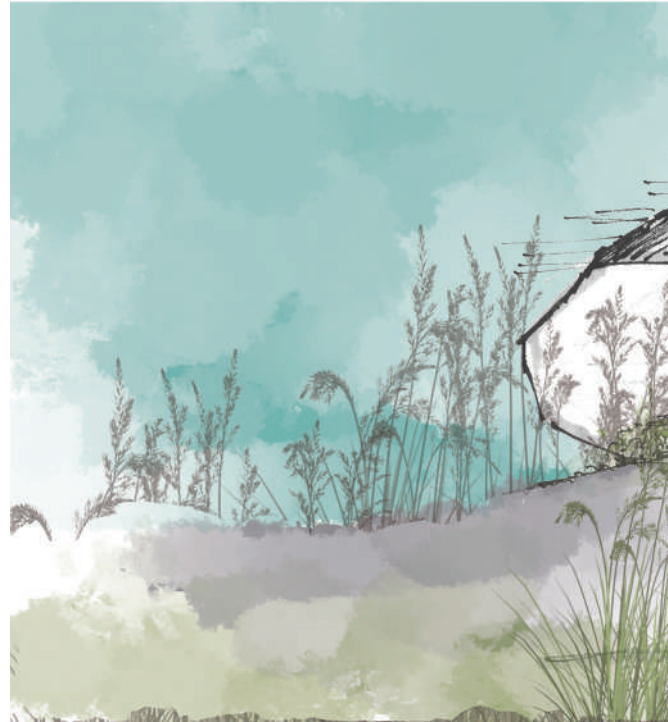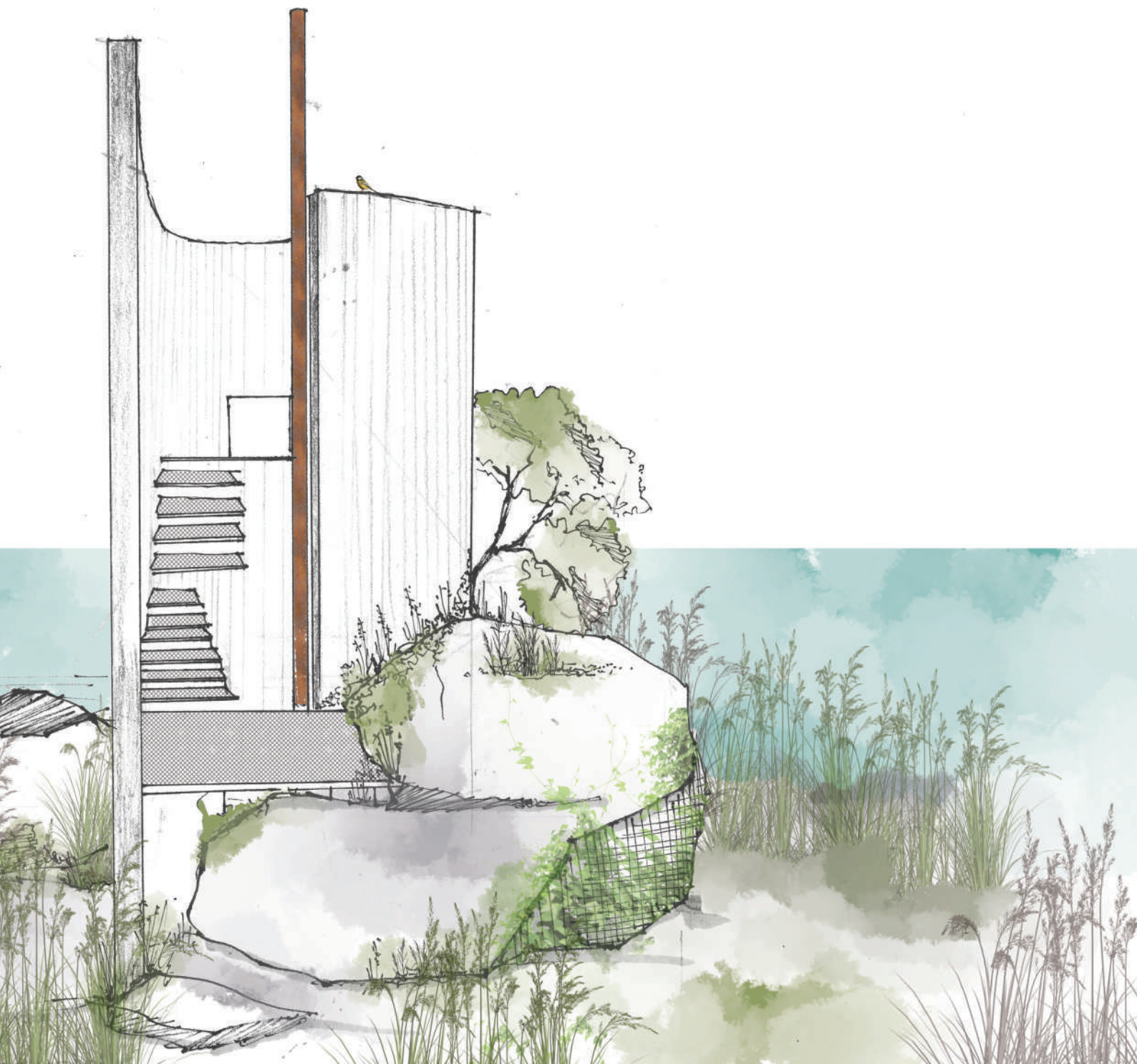
Overlay
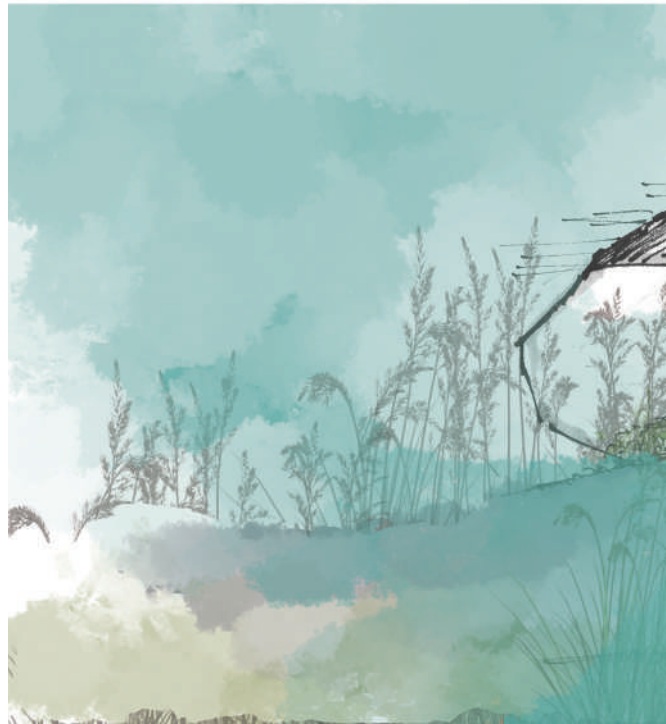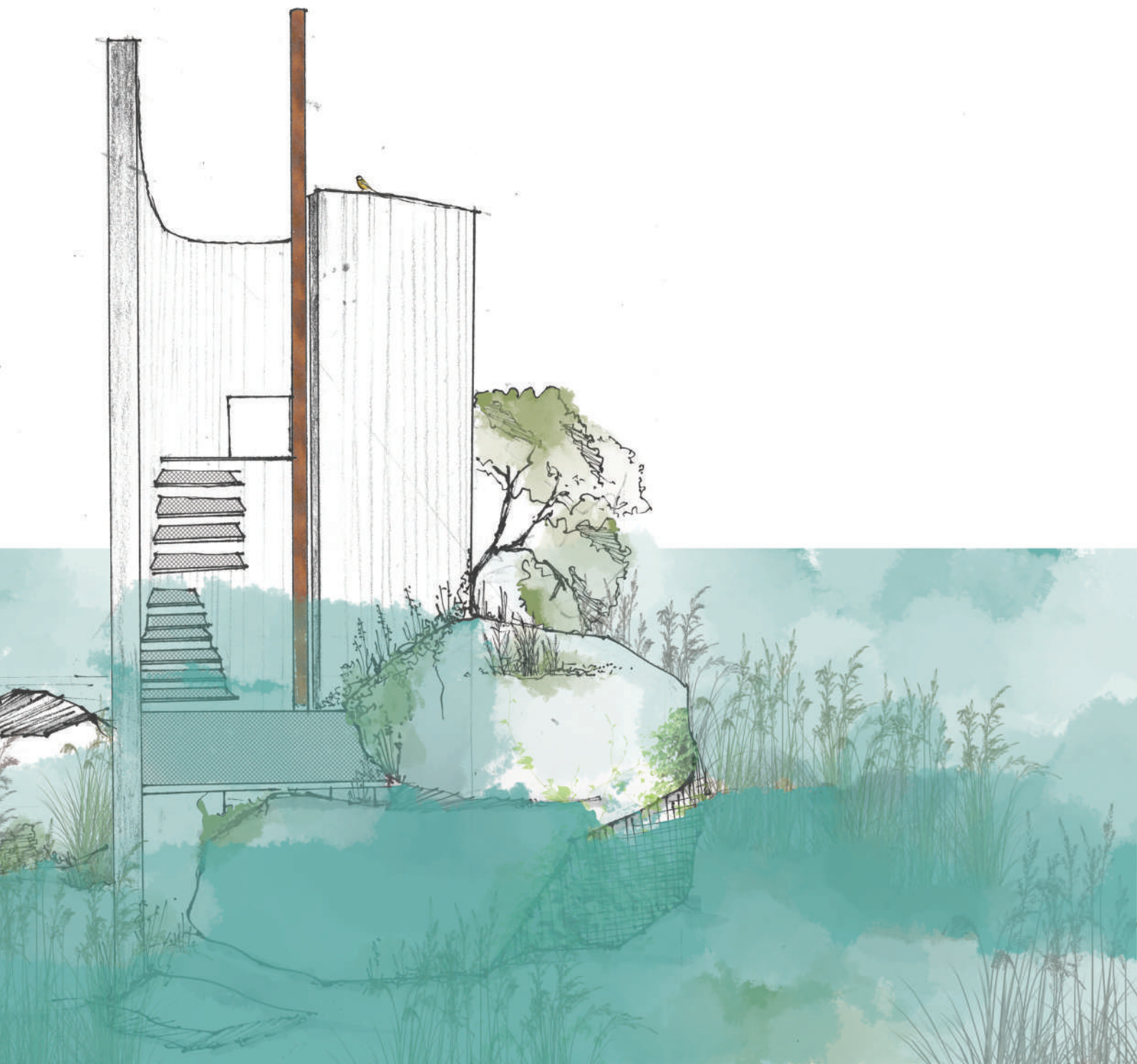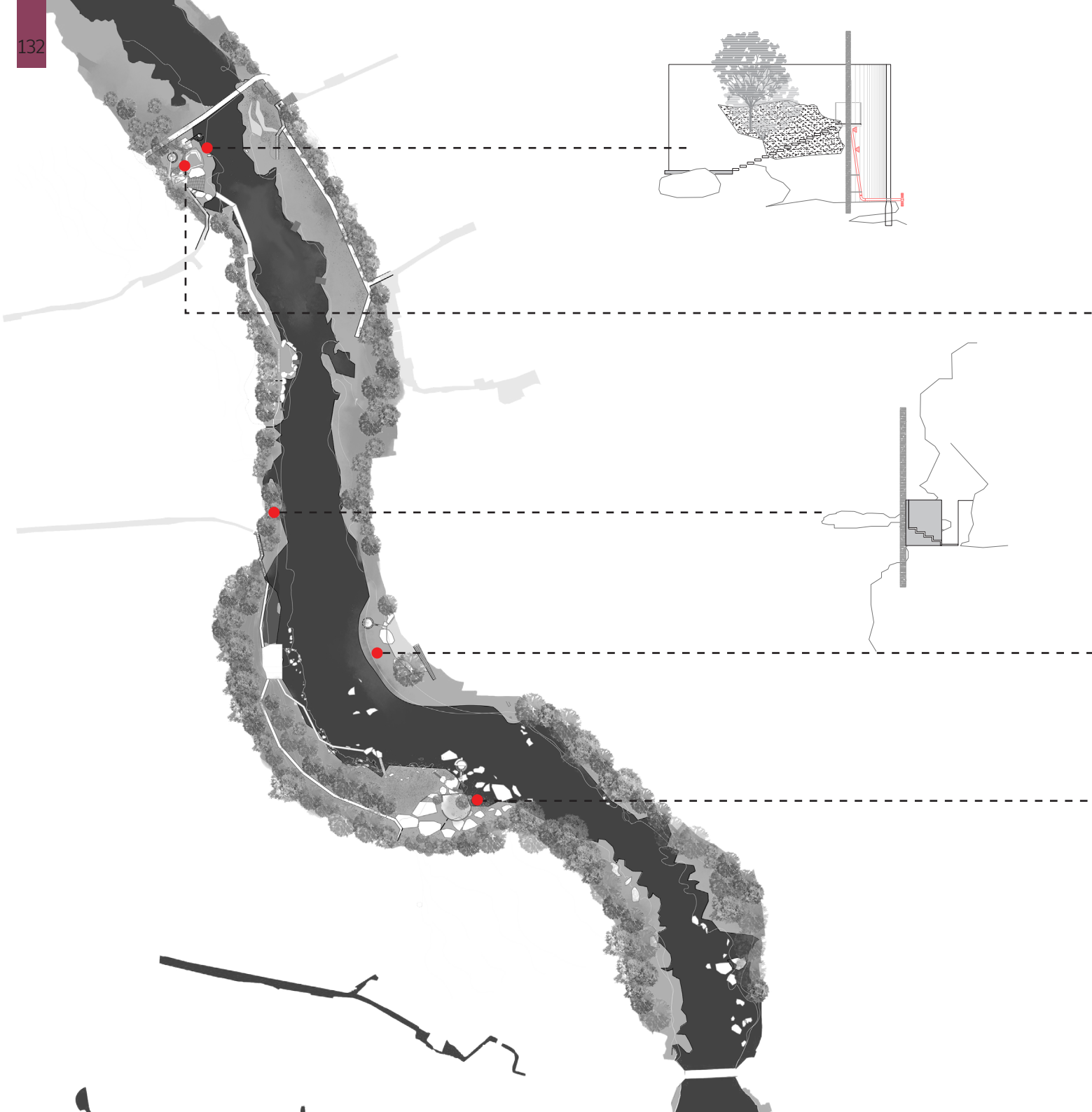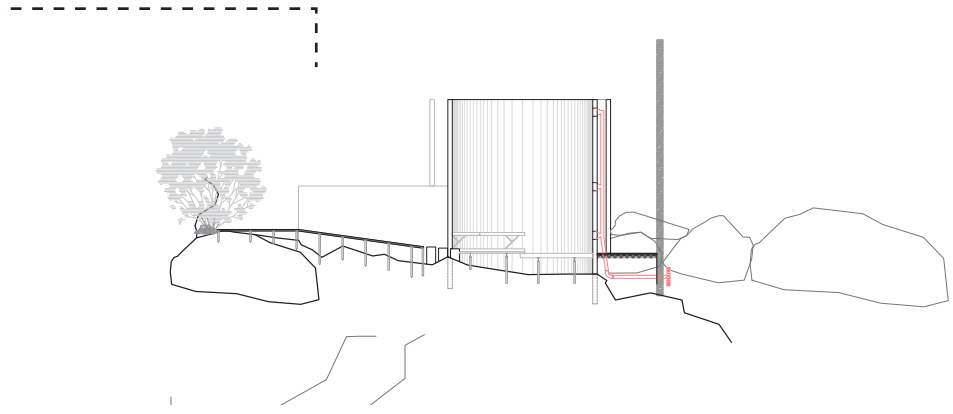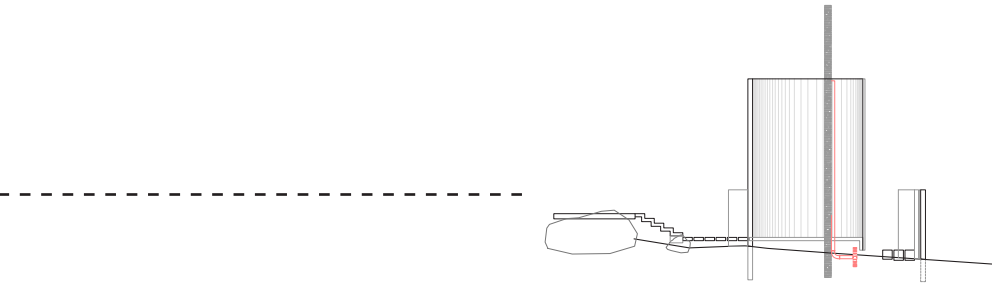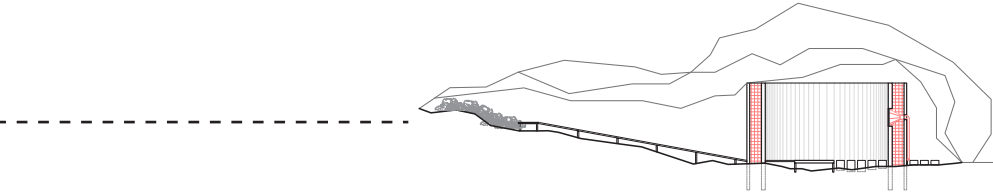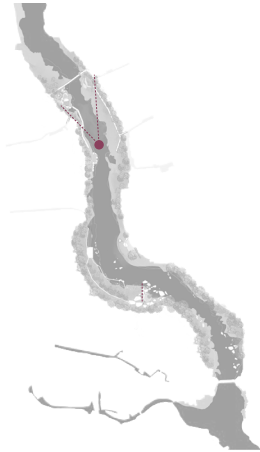
The impression on the right explains how the river banks adapt to the temporal dynamics of the river. The words for this part were dominance and vulnerability. The left bank responds to erosion by the erosion structures which also work as pathways. On the right, there are two pathways, during high tides they still keep the river bank accessible. These structures also trap sediments and create an environment for hydrophytes. The platforms create smaller territories within this landscape.
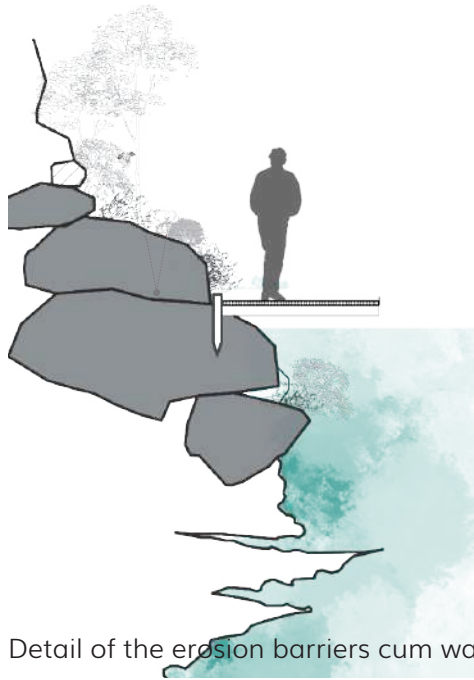
Detail of the erosion barriers cum walkway
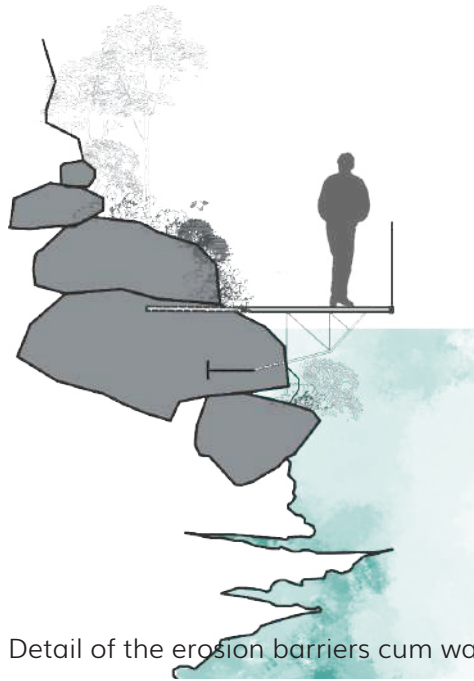
Detail of the erosion barriers cum walkway
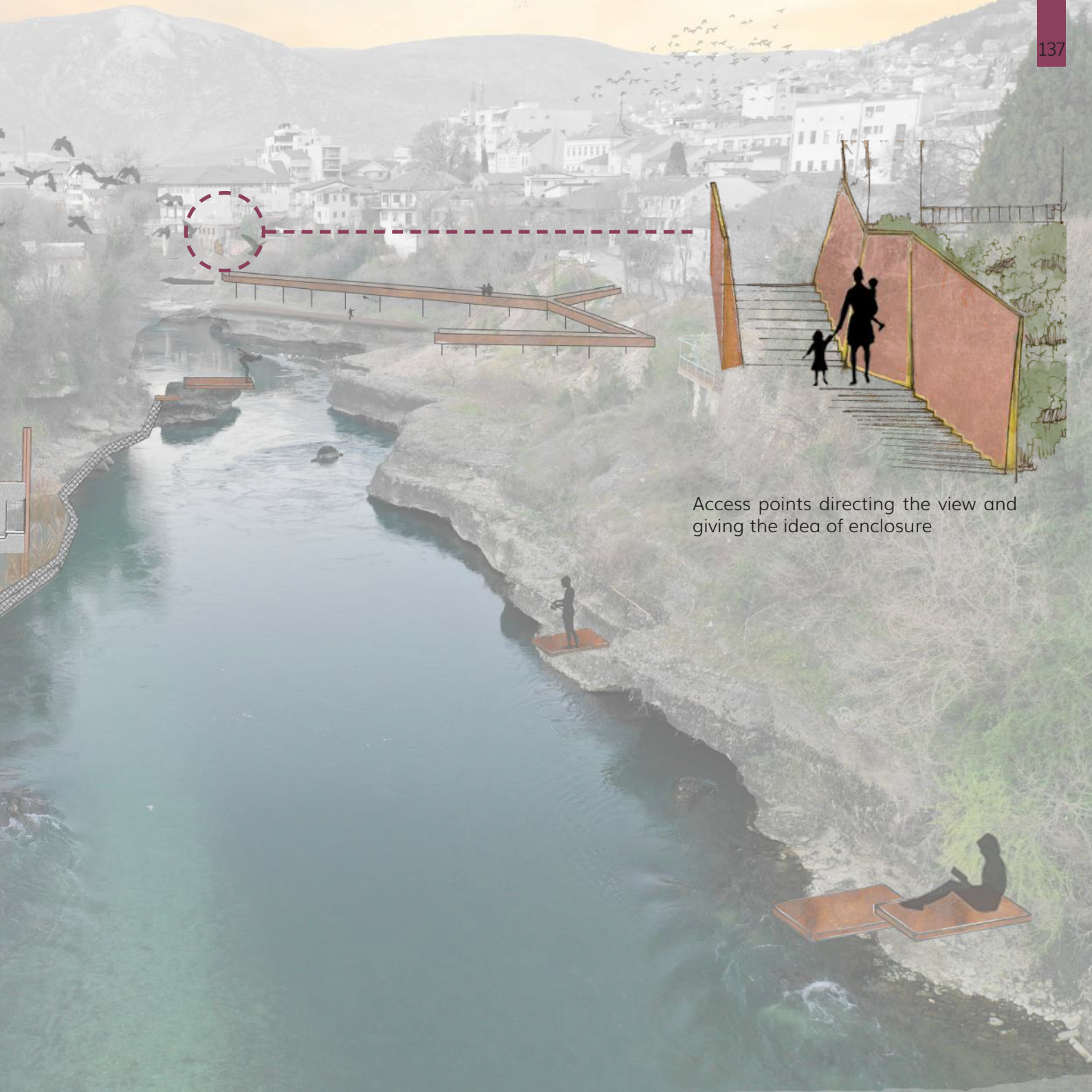
Access points directing the view and
giving the idea of enclosure
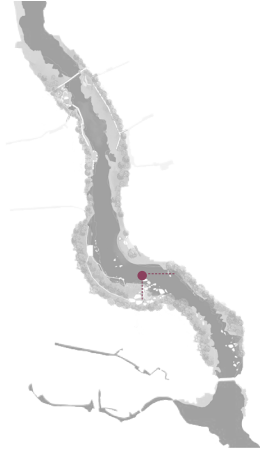
This words for this territory are Memory, Reflection, Dominance and Abuse.

Pathways at different levels enable users to adapt with the river dynamics- flooding and also create a sense of curiosity. Reflection here can be interpreted in the terms of the condition of the river, personal spaces to sit back, as well the old pool becomes a reflection of the past. The water veil added to the pool affords the existing water fall and aids in increasing the condition of moss formation. The pool has now adapted as a moss garden. This creates desire to reconnect with the river again.

The area behind the pool is the largest dumping ground along the river with garbage thrown from above. The accessibility is improved for this area and it becomes a part of the garden. Dominance of vegetation is embraced and only smaller elements are added as affordances.

Neretva and Object

This part consists of the smallest level of intervention. It includes The sensory elements and how they work. As aforementioned, the project has 2 basic scales the city and object level and both help to define each other.

Sensory Markers

The seven existing bridges strengthen the horizontal connection (X), that is, the east to west connection whereas, the Neretva performs along the north-south axis (Y). The bridges were regarded as spiritual threads in the past, although in the present scenario while walking on them one never realizes what lies beneath them. The city and the river both look delusional from these bridges. However, the religious and political drama is visible from these spatial markers. The skyline is dominated by the towers of religious buildings constantly competing to over power each other.

Therefore, the Z is deceptive and not addressed. But it has the potential to provoke people to experience the underlying affects in the river as well as the city. In an attempt to trigger this process - sight and sound play a major role. These sensory spatial markers are based on the same principle of a light pole with a concrete cylindrical space acting as an amplifier to celebrate the sounds present in the existing landscape. The light also challenges the religious dominance by marking the sites within the city to influence the relationship between people, river and the city.

Referring back to the strategy of a *rhizomatic network* as explained in the section - Neretva and Mostar, these elements act as visual connectors for this network. Therefore, any part of the netowrk can be the beginning and the exploration can continue depending upon which marker the user spots next. Eleven such elements are designed to initiate the idea of the network. These elements also follow a temporal process for their construction in the city.

Verticality
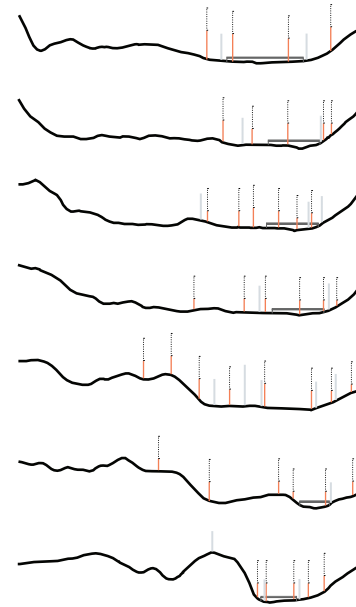
Schematic sections to show the placement and visual connectivity of the sensory elements

Religious markers

Sensory markers marking social cohesive spaces in the city
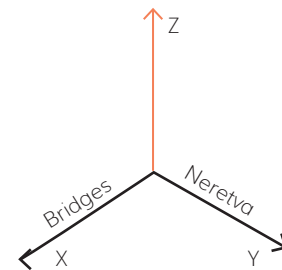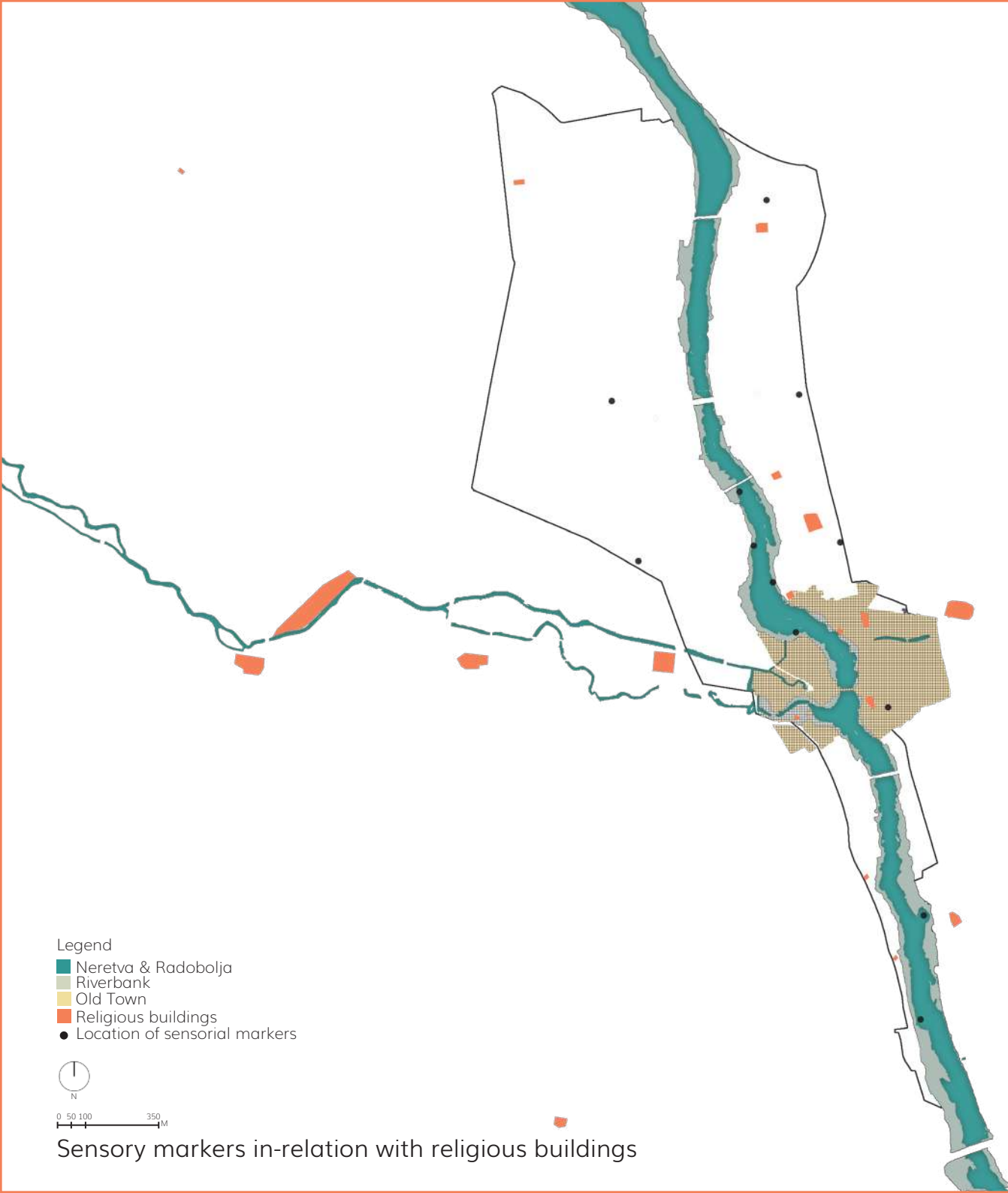
Legend

■ Neretva & Radobolja
■ Riverbank
■ Old Town
■ Religious buildings
● Location of sensorial markers

N

0 50 100   350
                        M

Sensory markers in-relation with religious buildings

Reference Project : Oor van Noach (Noah's ear)

Klankenbos, Neerpelt, Belgium
Artist : Robert Lambermont

This installation is made to make Dommel's identity audible (Klankatlas, 2010). The sound installation consists of a wooden barge that floats in the Dommel. The whole is connected with a long, bent arm and ends in a trumpet shape on the bank. The higher the water level, the deeper Noah's Ear bends. Just as the needle of a record player follows the groove of a full-length record, so the Ear scans the flowing water. The forces that the fickle Dommel exerts on the barge are partly converted into sound by a water wheel and leave the object on land through the horn. Noah's Ear produces three types of sound that refer to the materials the sculpture is made of and the water in which it lies: a throbbing woodblock, a vibrating, metal cymbal and splashing water (Fleur de Soufre et al., 2019).

It is Robert Lambermonts's path on the search of a universal language to express his wonder for things in relation to the passing of time. Seemingly slow processes like the turn of the seasons in relation to incidental events like the falling of a leave are the central theme of the installation (Klankatlas, 2010).

Reference Project : Le Cylindre Sonore

Parc de la Villette, Paris, France
Architect : Bernhard Leitner

Le cylindre sonore is embedded in the Bamboo Garden, a valley-like, sunken landscape of the Parc de la Villette in Paris. Coming from the park, you descend a long staircase into the sound room before entering the actual garden. On exiting it, you will go through the clay room again, before climbing up to the higher park. It is a place that, when inserted into hiking, already attracts from the outside through its sounds and invites you to linger by its statically static form. A closed architecture, only arched above by the open sky, which wants to be a deliberate delimitation from the vastness of the park. A cylindrical space that makes possible a concentrated listening of the place, a contemplative finding beyond this place (Bernhardleitner.at, n.d.).

The inside diameter of the double cylinder is 10m, the height 5m. Behind each of the eight perforated concrete elements, three loudspeakers are mounted vertically above each other like a column at ground level, in the height of 150cm and 350cm. The ring is a resonating body, which strengthens the sound through the weight and tension of the curved surfaces. From each concrete element runs along a narrow band of water into the basin, which surrounds the bottom of the cylinder space like an island. The soft noise distracts from the sounds of the urban environment, neutralizing the space. The waterbands acoustically accentuate the interior, they are the necessary condition for the acoustic sensors and cells, the ears, the skin, the body and the brain to concentrate concentrated on hearing(Bernhardleitner.at, n.d.).

Components and Working

Water   Waterwheel Horn   Waveguide   Horn   Reverberant
                                                                   listening space

Light pole
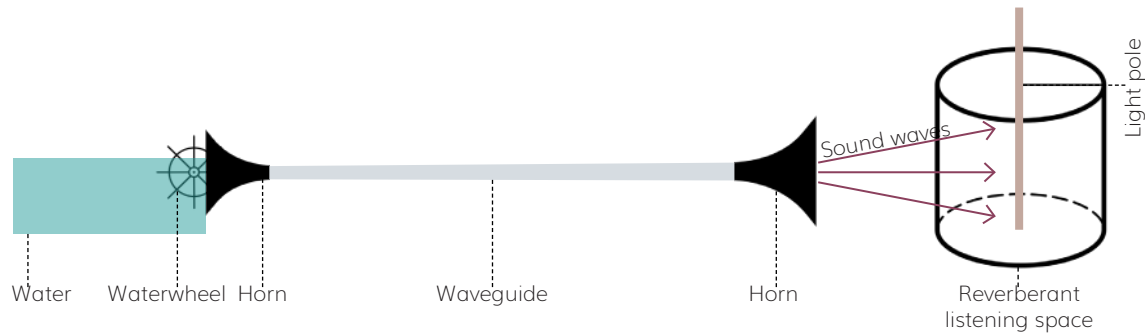
Sound waves

The elements work on the basic principles of acoustics to amplify the natural music of the landscape. The sound wave produced by the water splashing on the waterwheel is picked up by the horn. The horn should typically cover half of the wheel to trap in order to capture structure-borne sound (the material tensions and friction of the wheel itself) as well of the splashing water. This is then guided through a *waveguide* to another *acoustic horn* which releases the sound in the listening space (resonance chamber).

Furthermore, a cylindrical concrete space is used as *resonance chamber* because of its *coefficient* of absorption. To understand this better, *reverb* or *reverberation* - each frequency from high to low, has a different reverberation time, which depends upon two major factors
1. the absorption/reflection of the surfaces (concrete reflects all frequencies)
2.the size and shape of the space (Cylindrical form directs the sound to the centre and creating an amplified centre).

In the following pages, each of these elements designed for the first phase of development have been explained spatially and experientially.

1. In the Ruin

This site was a theatre before the war and an important public space. Post-war this space lies derelict and decaying. However, the decay has lead to productive affects like the vegetation taking over the structure and new smaller ecosystems developing as a result of organic waste. This has the potential of becoming a green oasis and cohesive space for the dense surroundings. As this particular ruin is adjacent to wilderness, so the sound amplified here is not of the river but of the trees swaying, birds and other insects.

The typology of ruin can start developing as urban gardens which can later transform into productive social spaces for events, art installations, community parks.

1. Entrance to the ruin with metal mesh pathway (Source : Author)
2. Wooden pathway leading to the sound space (Source : Author)

Section - 1: 200

C   B   A

-1.35M

DN
+0.45M

-1.5M

-1.35M

+0.15M

+0.45M

1:12

±0
ENTRY

±0

Plan - 1: 200

Metal mesh pathway
c section
I section (120mm x75mmx6mm)
Column

Concrete footing

Detail at A (scale 1:25)

Retaining wall

Drainage pipe

Detail at C (scale 1:25)

Wood panels
Metal support members
Concrete slab
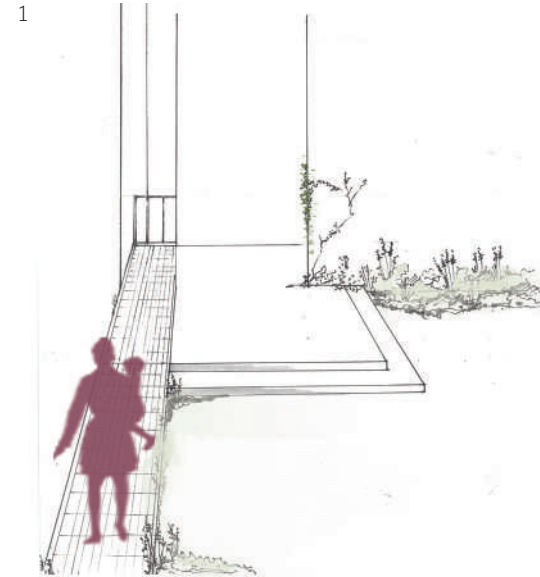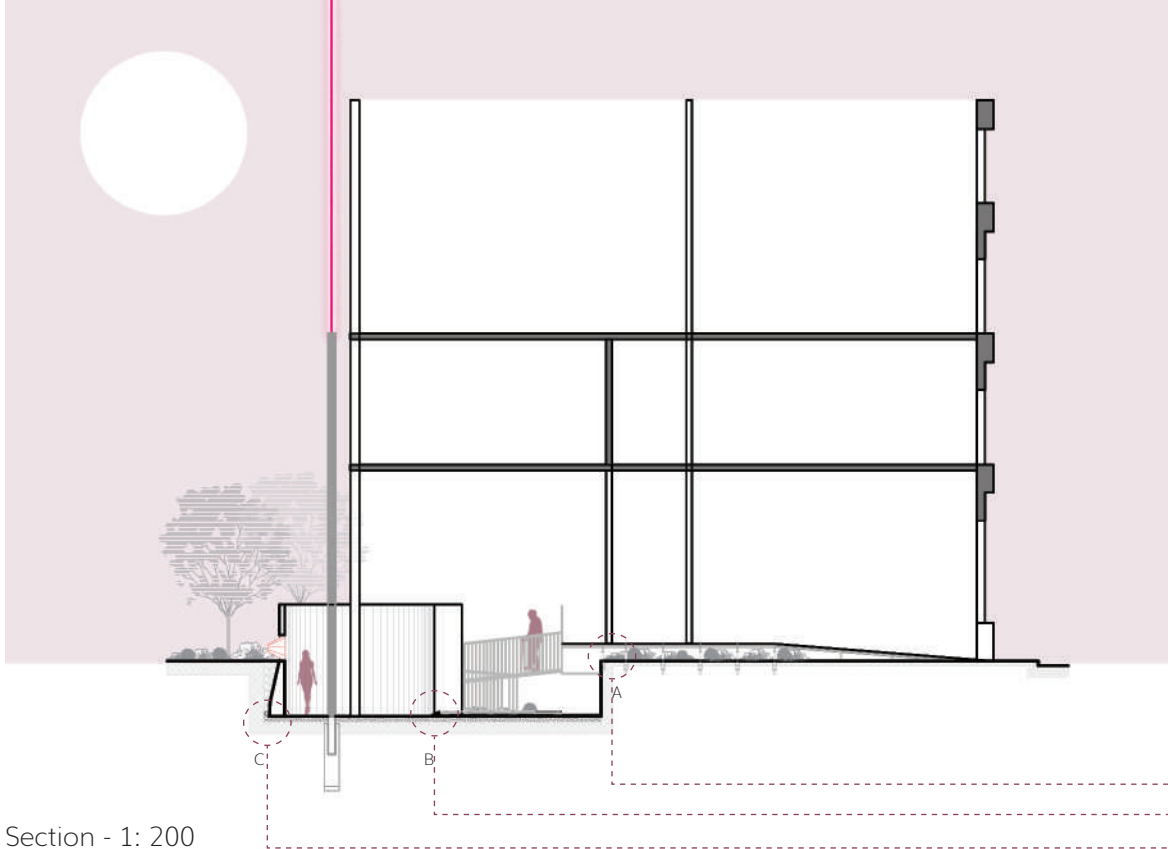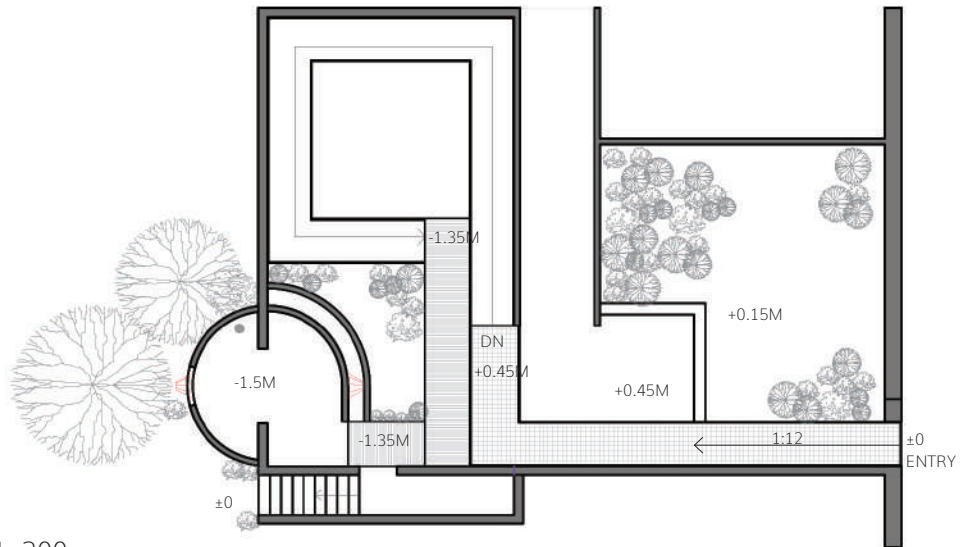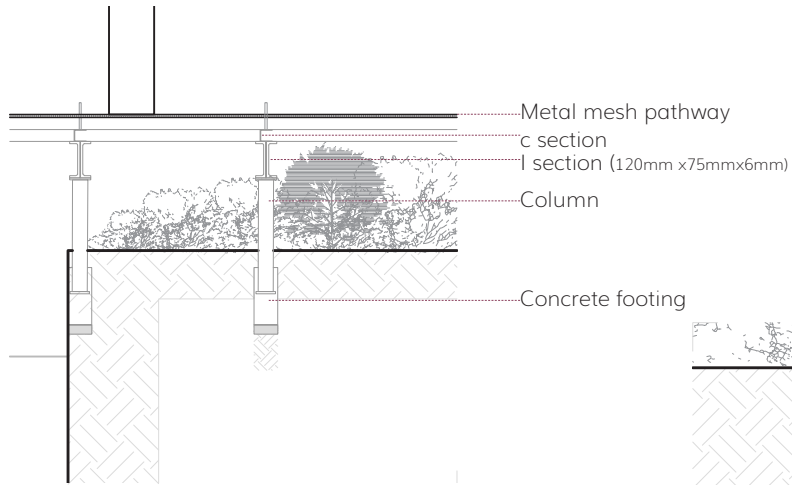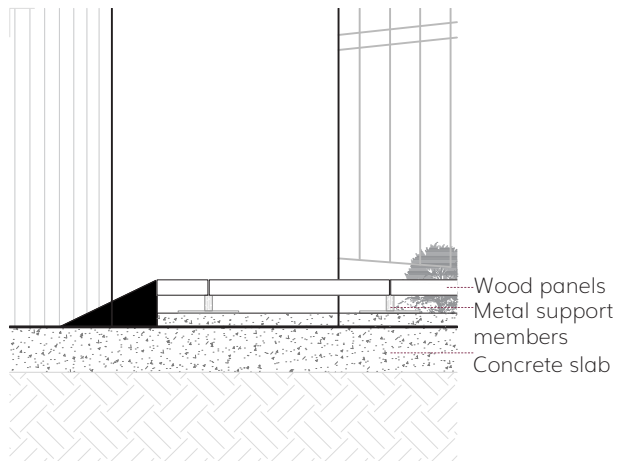
Detail at B (scale 1:25)

2. In the river along the rocky bank

This is one of the five elements designed along test site 02. This lies near the old pool and the area is characterized by numerous huge rocks forming smaller enclosed spaces. The element tries to capture the temporality of landscape as the water level fluctuates a lot here. It also has a variety of reeds and other marshy plant species. Platforms at different levels enable the use if it at different flooding levels. It only has singe entry and exist, therefore it tries keep the attention within the listening space where one can sit, view and hear Neretva. A narrow walkway leads to the light pole outside and can be used only by a single person.

The also marks the transition from the moss garden(old pool) which is more public to private space - element and light pole.
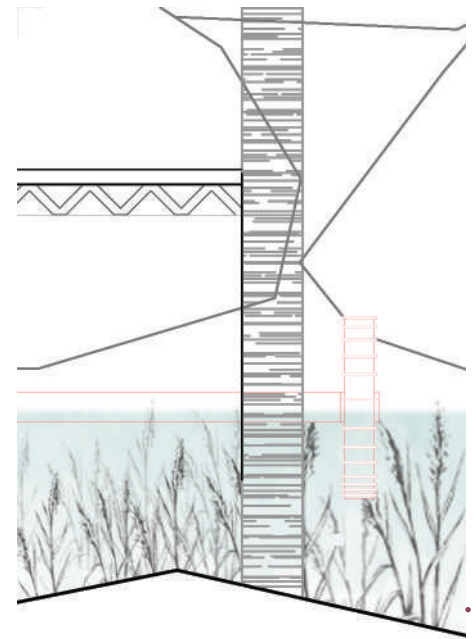
Detail at D (scale 1:25)
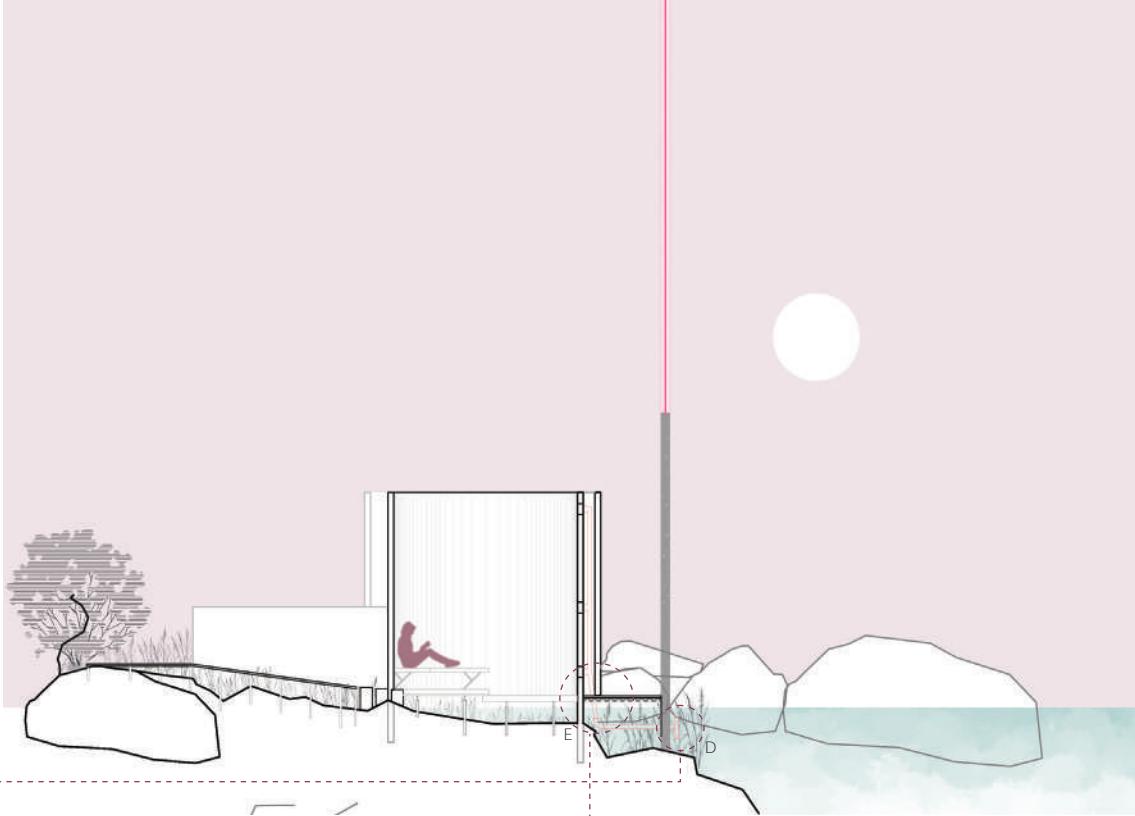
Section - 1: 200
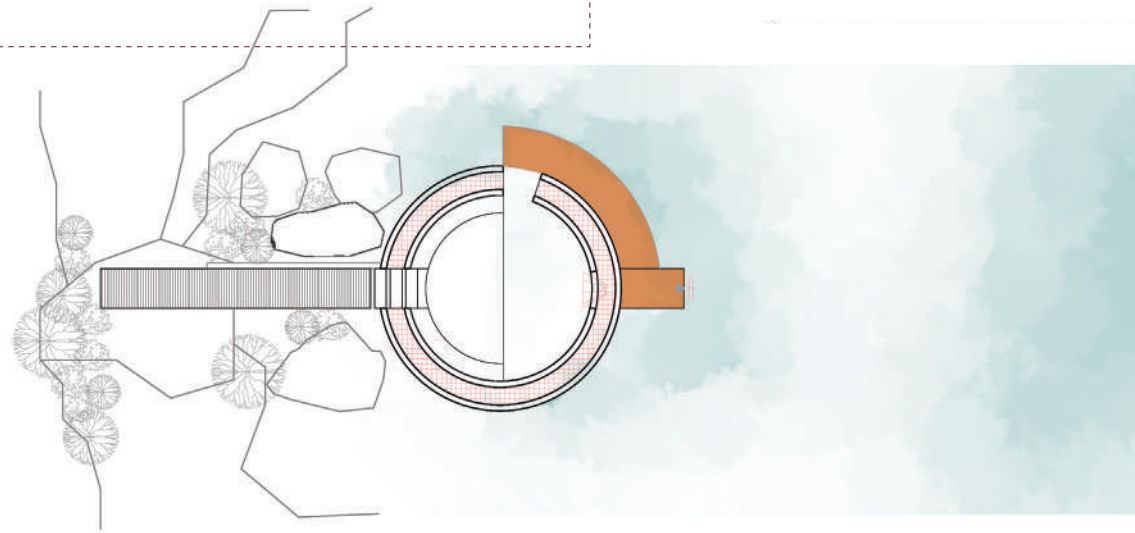
Plan - 1: 200

3. On the terraces

This element is located on the south of the city and the characteristic of this area is the rocky natural terraces. These terraces were important social spaces but are not cut of from the city due to a lot of private gardens and dense vegetation. These natural platforms can be used along with smaller interventions to reinstall the missing dialogue.

Specifically on this site there is also a remnant of old temporary bridge. Perforated metal platforms let the existing vegetation grow and provide tangibility to Neretva. Also as per different water levels different platforms can be used.

Detail at F (scale 1:25)

Perforated
metal platform

Plate and bolt

I-section

Angle section
welded and
bolted

Column/ steel pole
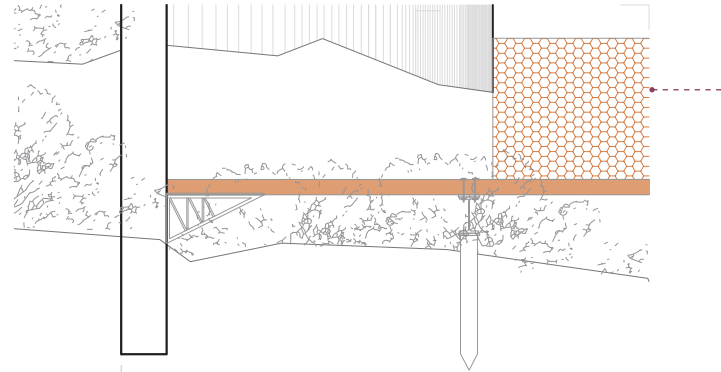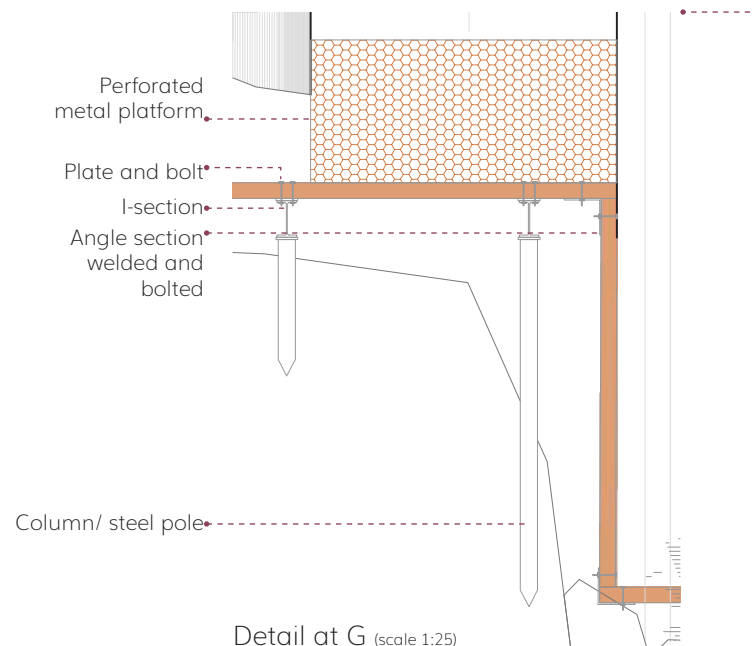
Detail at G (scale 1:25)
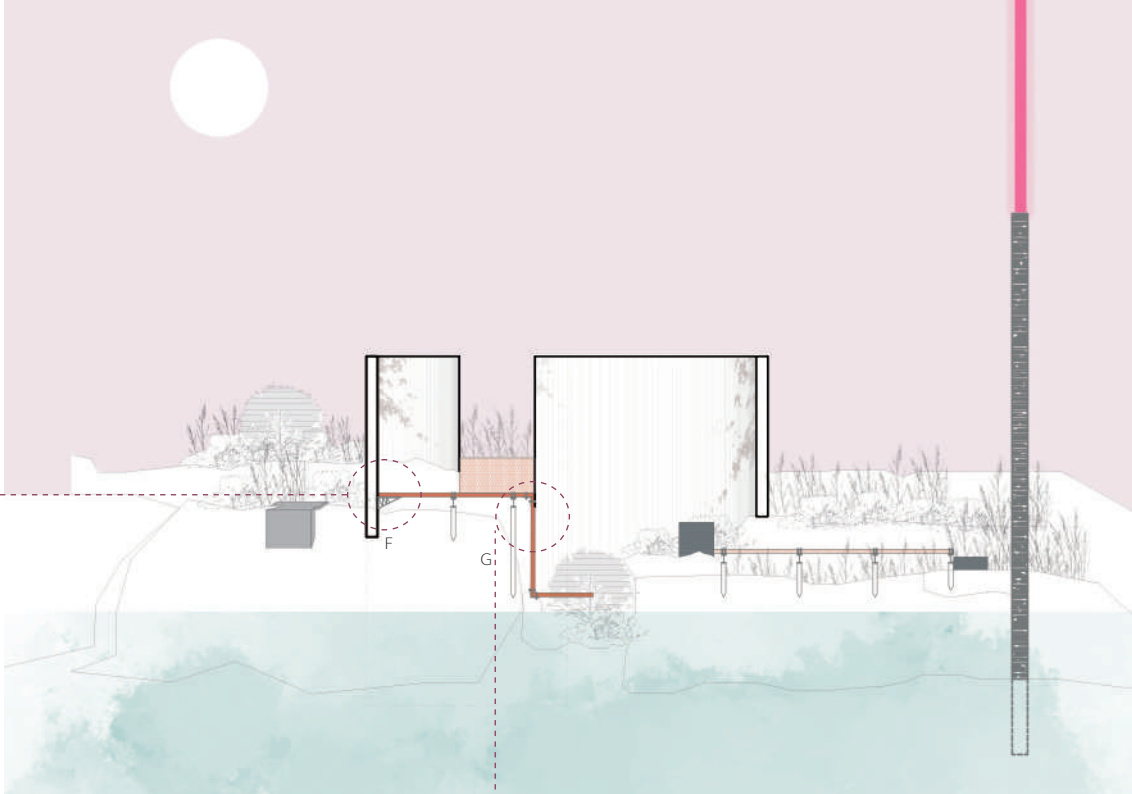
Section - 1: 200
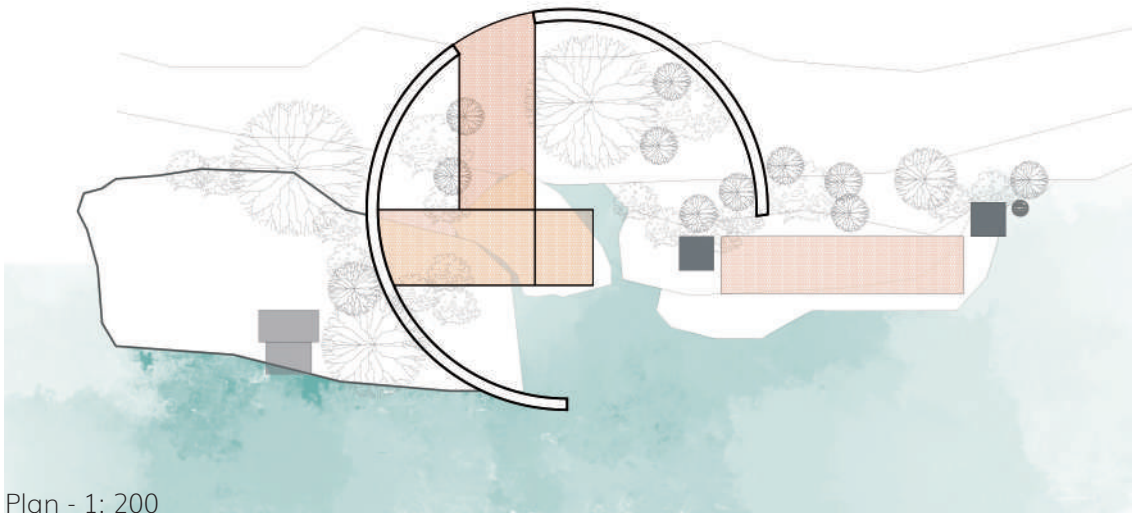
Plan - 1: 200

Time planning and phasing

0-6 Months

To initiate 3 spots at existing accessibility are selected. The two test sites are a part of this step. Only light poles are installed and i left for a period of 6 months to generate curiosity.

6 Months - 1.5 Year

Now, the accessibility is improved by adding pathways and also platforms along the river.

1.5 - 3

The concept of sou place at the 3 spo light poles are inst 01 of planning (pg 69

Years

Remaining acoustic spaces are add-
ed. The people become a part of the
first phase. Simultaneously, urban
sites are also developed with pro-
posed planting scheme.

3 - 7 Years

nd is brought into
ots and remaining
alled in the phase
.
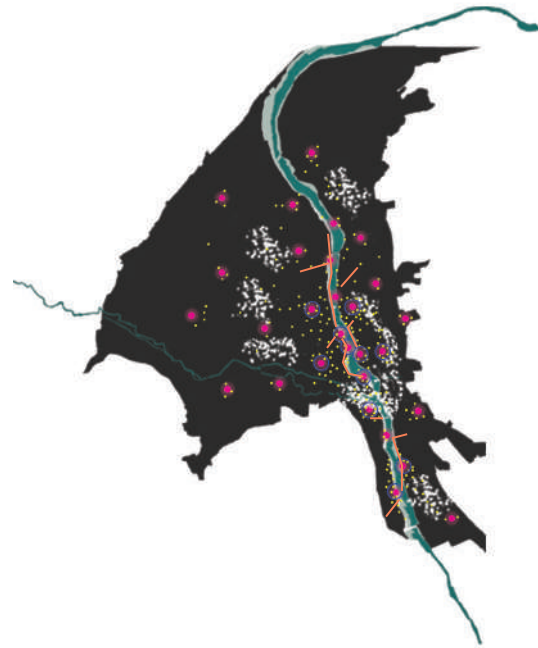
7 - 12 years

Ideal scenario where after the phase
01 the inhabitants completely take
over the process and grow the net-
work throughout Mostar.

Legend

Neretva
Riverbank
City footprint
Light poles
Major public concentration
Interested stakeholders
Pathways and connections
○ Acoustic space

N

Working in a complex city with heterogeneity in its urban structure, diversity in culture, impact of the war and the dynamics of a river landscape required the project to be approached in a multi-scalar way. As Mostar is defined by its people therefore, it is crucial to consider them at every step of the process and design. During the process a set of six sub-questions were asked and they concluded to answer the main research question together. In the following paragraphs how the design tries to answer these questions have been further elaborated.

In order to make a territory productive it is highly important to accept the existing affects or conditions, whether positive or negative. Therefore, all issues mentioned in the problem field both in the urban fabric as well as along the river needs to be seen as productive or a having a possibility of being turned productive.

How can the 'degree of power' (what it 'can do') of abandoned or not defined elements can be exhumed through design? In order to answer this question, the project initiates by understanding how the people used the river and social spaces before, during and after the war. These specific locations are picked and it guides the process both at the object level and at the territory level. The dynamics of the landscape like flooding and erosion are dealt with the developing pathways which not only prevent erosion but also provide accessibility to the river at different flooding levels. Due to the organic waste being discharged in the river, specific varieties of plants like tomatoes, walnuts, pomegranate have started growing on the banks and they are used to develop smaller urban gardens. In the case of urban sites, like HIT the existing affects are played with and minimal intervention is done to create different scenarios for the user. The addition of sensory elements bolsters the senorial and spatial quality of the river landscape thereby, developing a closer connection to it. The smaller interventions create a sense of curiosity and the time planning involves the users into the process. Hence it is also answers the next research question, how can social formation(infrastructure – affordances) reconfigure the concept of 'desire'. The desire or the drive is worked through various feelings experienced. The elements and smaller interventions translate these into spatial conditions. Specific spaces create this network of smaller territories which range from more personal to public spaces.   Due to the location and context specificity each intervention has a distinct experience and becomes the driving force - to *deterritorialise*. This also works on the larger scale - the sensory elements with their visual strength - height and light, bind the network and enable the user to move to another milieu.

Conclusion

As the dynamics of the river are predominant and its affects are used to make the territory productive. All the elements whether platforms, pathways, poles and even the sound that is amplified depend on this. Also, working with existing species and creating smaller ecosystems along the banks helps to improve the biodiversity during the later stage of the project.

In the post-war context, there are a lot of such territories therefore, it become crucial how to pick interventions zones from this landscape of affordances. This directs to the next research question - Does limiting or being selective about affordances empowers a territory? How can more productive affordances be identified and highlighted through design? By creating a relevant field of affordances from the larger chaotic assemblage it becomes easier for all the stakeholder to maximize the potential. This directs towards a network of social spaces and is inter-related to the question related to the concept of a rhizomatic network by using the concept of territorialisation and de-territorialisation. The network connects the object level scale to the whole city. The first 11 sites picked act as catalysts to restructure the social spaces in the city. The sensory elements are the markers and tie the network together. As there cannot be a hierarchy as to why a particular site is more important therefore, rhizomatic approach works the best. The redevelopment strategy adopted generally for disputed and post-war cities focuses on specific parts and the system has no flexibility. In the case of Mostar, the whole attention on the old town has lead to the negligence of the river and failure of cities social system.

As guided by the theory of affect, the environment and the animal are equally important and are interdependent. Therefore, the last question focus on the role of stakeholders. First, the game enables to understand what the city needs and also the willingness of the people to be a part of this process which guides the time planning. Secondly, all the interventions give enough freedom to adapt the space as per user's needs or the natural factors. Though, certain behavioural aspects and feelings guide me as a designer but the project accepts any changes that occur with time or by the inhabitants. Working and highlighting the natural processes also educates the community.

To sum up, the proposal not only makes the existing landscape typology more productive but it also provides flexibility and adaptability. For a city like Mostar, the network which accepts the idea of war is river and river is war yet, exhumes the potential of these territories works the best.

Bordering Chaos birthed with my own moral and emotional connection to the Ganges. Growing up in a city situated on the banks of a river which was considered holy was a revelation in understanding the relationship between people, cities and water. The question which arises is then why Mostar in Bosnia & Herzegovina? It was fascinating yet strange to register how a city so heterogeneous yet amalgamated started developing, such that it acted as a stage for defining a Mostarki for centuries. And suddenly these Mostaki's ceded the spirit of the coherence and tolerance resulting in a torn city. The drama of the city was coagulated and displayed on and along Neretva, with the drama of the war. Post war Mostar not only reminds me of my relationship with Ganges but of humans to water, of humans to humans and of humans to war. In its depth Neretva has encompassed time, process and the complex human behaviour.

Inter-relationship and inter disciplinary approach between different fields –
Trained as an architect for five years and working on a graduation thesis in Landscape Architecture is a complex mix in terms of approach and scale. Personally, this MSc was supposed to be an extension of my architectural knowledge because I always felt a lack while working on the projects in an office. Landscape is about time, process, geomorphological conditions and multiple scales whereas architecture does deal with parallel aspects but in a more detailed and minute level. Though there are a lot of overlaps between these two yet there are many differences.
This thesis was my attempt to find a way or to experiment with this multi-scalar method which talks about temporality, natural factors and detailing parallelly. The romanticism of landscape should not overshadow the practicality of design. Yet just a problem solving approach would not do justice to the duality of a post-war territorial context. The cities make people and the people make cities, we are all more or less similar with our innate selves as humans. Which highlights why is it important for the project to be multi – scalar from to object experience to the city as a whole. The interventions at each scale would and should affect the larger one, resulting in an overall holistic intervention.
The research and design is predominantly landscape architecture oriented, besides that the project touches upon different disciplines such as human psychology, hydraulic engineering, acoustics, urban design and architecture.

Reflection

Research Method and It's scientific relevance

The adjectives that generally define Mostar are post-war, discordant, trauma, shame, disorganized. My entry to the project was to focus on human-environment relationships which was further strengthened by theory – Theory of Affordances.

To begin with it was extremely important to understand the physical context of the city therefore, I started analyzing the terrain, land use and sections at the municipality level to understand how the river fits into this valley, understand the various periods of social development and how the city grew. The bridges being the spatial markers, I initiated my research by studying the city horizontally, perpendicular to the river, thereby, comparing and understanding the east and the west. However, after visiting the city it dawned upon me while repeatedly crossing these multiple re-built bridges that what happens under and in between these spatial markers is neglected. Neretva that gives functionality to them lies completely abandoned. The theatre is eroded and is eroding the city as well. Moreover, the layer of war should act as a palimpsest rather than turning a blind eye and reinforcing a 'just' image.

Therefore, the thesis proceeds using two parallel yet interdependent approaches –

1.   Theoretical Framework
2.   Participatory Design

Theory, research and design

The theory maneuvered the research methodology, design decisions as well as my individual working style for this project. Theoretical framework channelized my research towards a more intuition driven design and it helps to extract beyond the superficial visual layer. If I were to approach the city in a more problem solving way, there are numerous entry points - the city was heavily destroyed by the war both physically and mentally, an abused and over controlled river, politically conflicted territory are a few examples of this. The solutions to all these issues can be very banal and direct but that wouldn't do justice to the multiple entangled affects that exist in the city. Whether it is landscape architecture, architecture or urbanism the context is a major factor influencing the design decisions.

The human-environment framework based on the ideas of Deleuze, Guattari, Gibson, Spinoza and Nietzsche, perceives the city as a Chaos : a plethora of orders (Kleinherenbirk, 2015) and affordances. Affordances continue to exist when an individual dies, because they are not related to a particular individual but to an entire practice; to a form of life (Rietveld, Denys & van Westen, 2018, Pg. 5). The design tries to frame or pick relevant affordances and make them more approachable. It also tries to introduce new affects in the existing territories based on intuition and present site conditions.

Reflection

River is War, War is River : Based on the analysis and understanding the affects this statement is an amalgamation of the all the different forces existing in Mostar. Metaphorically it does describe the situation of the city but it also highlights and guides the practicality of the project. Erosion by war and erosion by river are a part of the social and urban fabric of the city. But this hypothesis also brings forth the underlying productive affects created by these two destructive forces.

To understand the erosion by river (physically and metaphorically) – multiple techniques are used to analyse it like river pattern study, flooding levels and flood plain analysis and comparing images from different time periods to understand the extent of erosion; metaphorical erosion is the disconnect between people and the river. However, these forces have given rise to a new field of affordances which are accepted as a part of the process and their potentials are exploited.

The erosion by war is studied understanding the sniper locations and their range which also guides towards the landscape qualities of Neretva valley and how can it be made more productive. The heterogenous urban form – characteristic of Mostar, ruins and abandoned spaces with organic and inorganic forms colonising them gives a vast range of possibilities which is then further bordered or framed as per theory, analysis, precedent study and intuition.

The challenging aspect of working with theories related human psychology and more abstract concepts was how to translate them into spatial and architectonic forms. Precedent study helped in deciphering these concepts in a more tangible experiential design. Paley Park in Manhattan, USA by Robert Zion served as good basis for using urban acupuncture at the city level whereas Le Cylinder Sonore by Bernard Leitner in Paris and Robert Lambermont's Oor Van Noach (Noah's ear) in Klankenbos, Belgium worked at the object level to highlight sensorial quality of the landscape.

Participatory design : The scientific reliability and result of a card game

Human – environment relationship being the key raises the question, what about the stake-holders and who will be responsible for these interventions. One of the major concern was the make Neretva and erosion visible and a part of Mostarkis life. Therefore, designing one site from the inference of participatory design can be a feasible idea. The problem was how to communicate the various layers of theory to common people.

According to Rietveld , SIF(Skilled intentionality framework) calls attention to the close relation between skilled action and consciousness or lived experience (the invitational character of affordances)(Rietveld, Denys & van Westen, 2018, Pg. 5). Therefore, the landscape of affordances is not dependent on the abilities of a particular individual, but on the abilities available in the form of life as a whole; in the entire ecological niche or socio-cultural practice(Rietveld, Denys & van Westen, 2018, Pg. 16).

The lived experiences and desires have been used as a tool in developing the Game of Desire, to extract what Mostarkis think and want from their own city. The book War Childhood by Jasminko Halilović, which is a collection of 140 character short description pf feelings and experiences by the people who survived the Bosnian war, is used to pick 22 specific feelings. The game can later on work as method that can be used by the residents to develop the other parts of the proposed network.

Therefore, the research demanded a second field visit where a workshop with 35 participants was organised in Mostar in March 2019. The participants were of mixed ethnic backgrounds and age group ranging from 20 – 40 years. The results were intriguing and unexpected, it also helped me to step back and re-analyse my work and harmonize with the results from the workshop. The workshop was not intended to get spatial or functional solutions from the inhabitants, rather it was an attempt to understand what kind of feelings or experiences they relate to a particular location and why. Translating these feelings and desires to spatial elements was one of the most difficult part of this project. A paper by Ed Wall - Incomplete Cartographies A Methodology for Unfinished Landscapes inspired me to add an additional layer, that is, letting the participants draw their route on the map along the river and the results were astonishing. It gave me new insights about what the city needs.

Social Relevance

Affordances, Affects and Desires of a city

Contested territories often lie in the grey area where it becomes extremely sensitive to propose or design. Major post- war cities start by rebuilding and replicating the past, which somehow frames a similar image but is that really what the people and city require? By adopting the framework that works on affordances enables to exhume the desires and experiences which can be translated into the design. Moreover, the card game acts in this fun interactive way to involve the inhabitants to design their own city through their own lived experience. As experienced during my first visit to the city, inhabitants mostly refrain from talking about the war and opening up to strangers because of memories associated. And as expected it was easier to communicate with the game and make the re-think their relationship with Neretva and Mostar. One of the participants also mentioned that 'the game forced them to face their feelings which they had been suppressing for a long time'.

As per Henri Bergson , a skeletonization of objects : we perceive only that which interests us, is of use to us, that to which our senses have, through evolution, been attuned (Grosz, 2008, Pg. 06). Thereby, working with senses, feelings and memories to which the Mostarki's have been attuned can work an effective and innocuous way to enter the city and later on develop as a strategy for the city planning. A similar approach can also be adopted for other cities and territories with social, cultural and political tensions.

Over – controlled landscapes

Globally this issue has been present in both developed and developing countries. Energy needs and urbanisation have distanced cities and people from nature. Due to multiple hydro-electric dams the river is devoid of sediments leading to eroding banks and putting the city under the risk of landslide. Though the river is incising, which in one way reduces the probability of flooding theoretically but practically the city has been subjected to subsequent flooding in the past 50 years, the latest in 2014.

How can these supposedly destructive scenarios be worked with and how can these natural factors be adopted for productive outcomes? By making the city and people more adaptable to the natural processes not only makes the more responsible to towards the Neretva but empowers the river banks. Working with different water levels and designing activities that don't limit the accessibility to the river in any given situation is an underlying aim of the project, thereby influencing the affordance of Neretva and producing certain affects.

Reflection

Ethical issues and dilemmas

Working on a project which is strongly based on theory was challenging for me but it did help me as designer to be more exposed and experimental. The crucial step was to translate theory into design as well as not neglecting the process.

"Analyse your own analysis" as suggested by my mentors did help me to step back and look at the larger perspective. It further helped me to step outside my own theoretical fascination. It became a part of the process, to have this back and forth shift and critically analyse every intervention or conclusion that I made. Thereby, focusing on what I wanted to achieve and how it began.

The idea of designing two sites, one completely based on my own understanding, analysis and intuition and the other being an amalgamation of intuition and clues given by inhabitants empowered me to gauge what could be the future of this strategy and Mostar, if the inhabitants choose to continue this process.

The two parallel approaches for analysis and design also helped me to gauge the potential of an unconventional method of designing a city as a 'skilled individual'(Rietveld, Denys & van Westen, 2018) and based on 'lived experience'(Rietveld, Denys & van Westen, 2018). Though I feel the game would work better with a larger group in an ideal situation where the participants are divided as per various age groups. But the method is also a good tool to start a conversation with the inhabitants and to document the discussions they have amongst themselves while playing the game.

The tricky part of working with affordances and affects is the result is never 'just'. Which in a way supports my approach of developing a rhizomatic network with multiple entry points & no hierarchy. Therefore, the project develops as a system and as a process rather than an apt solution. The idea is not to organise the chaos but to frame or border it.

Art is the art of affect more than representation, a system of dynamized and impacting forces rather than a system of unique images that function under the regime of signs. (Grosz, 2008, Pg. 03)

Now lies the question, what about the political situation in Mostar which indeed is a very crucial part of this research lab – Neretva Recollection. I personally feel the issue is quite visible in the city and you do experience it once you move out of the touristic old town. Architecturally, the new and the old are quite vocal about the discordance. As a designer and from my interaction with the inhabitants, urban planners working with the municipality, NGO's and researchers, I do feel politically, the trauma is being capitalised and every reconstruction is glamourized with richer western countries highlighting their role to re-build Mostar. But the city and it's people are much more than trauma and grief. The project intends to accept the affects of war and the political disharmony by perceiving the city as a landscape of affordances and aims to develop a design that will create opportunities for its users to experience and reconnect to the soul of Mostar which lies within them.

IMAGES FROM THE WORKSHOP

Affordance : Affordances are relations.
The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill.

Affects : Impact an object, a living organism or an environment has on different subjects whether living or non-living.

Chaos : Plethora of orders, forms, wills- forces that cannot be distinguished or differentiated from each other.

Milieu : A 'semi-stable' selection from chaos – that is, framing specific similar or relevant affordances

Territory : It lies within milieu - framing and identifying specific affordances that could be exploited to its maximum potential. This happens when these components cease to be purely functional and become expressive.

Territorialisation and De-territorialisation : The process of identifying, defining and exploring the potential of a territory.
A territory is therefore always in the process of deterritorialization, in becoming what it was not before, perhaps even becoming something entirely new.

Degree of Power : "what I can do" rather than "what I must do" – capabilities and capacity. - Deleuze

Erosion : The process of slow decay of spatial conditions on the river banks as well also in the city.

Glossary

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