

GARDEN AS A MICROCOSM OF CITY

The Post-war Landscape of Mostar, Bosnia and Herzegovina

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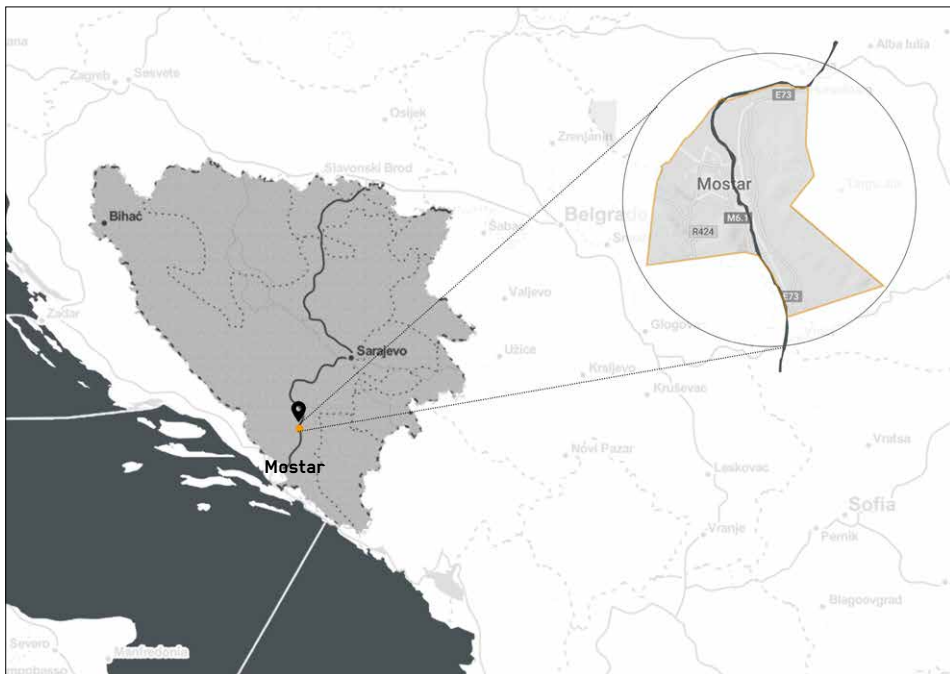


img a.
Donja Mahala and
Luka, Mostar, B&H
by the author

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img 1.1

The location of Mostar, Bosnia and Herzegovina
*illustration by Author,
edited over open street map*

I. INTRODUCTION

Garden as a microcosm of city

The concept of microcosm - the constriction of the nature and ingredients of the entire universe within some smaller entity emerged in my mind in the process of analysis. This microcosm theory originates from the theories of Macrocosms and Microcosms, that portions of the world which vary in size exhibit similarities in structures and processes, indicating that one portion imitates another or others on a different scale.¹ Among this theory, the most well-known notion is that man as a world in miniature in which the universe or some parts of it are reflected. However, when adapted into a broader philosophical field, the theory of microcosm also refers a greater world and the relationships of its parts, by expressing analogies of the structures and processes to a certain extent of these parts.

In this sense, a garden can be conceived as a microcosm. Not only in a way it creates a fantasy world which allows the visitors to experience time and space within certain boundaries, but also it represents a completeness, not least because from it emerges an accumulation of meanings.² The problem is how this garden as a microcosm is keeping its balance between the polarities of a garden itself and the relationship with the world beyond it. This greater world could be cosmos, a paradise, or a city. There are many precedents in exploration.

The idea that garden as a microcosm of the world starts before the 16th century. Persian Paradise Gardens were typically divided into four sections to represent the four "corners of the world." With the exploration of the New World, the "corners" became continents and places to discover and collect God's creations.³ There are many other gardens such as the early botanical

¹ Conger, G. (1967). *Theories of macrocosms and microcosms in the history of philosophy*. New York: Russell & Russell.

² Aben, R. and Wit, S. (n.d.). *The enclosed garden*. Rotterdam: O10 Publishers, p.16.

³ Potteiger, M. and Purinton, J. (1998). *Landscape narratives*. New York: J. Wiley. p163

gardens have created microcosms. A famous example is the vast mid-17th-century garden of Versailles, which presents the larger universe. Louis XIV, known as the Sun King, created a garden with Le Notre which placed his palace and him on the east-west axis of his universe, where the images and naming of the rooms, fountains, paths, and pools were related to the planets and gods to the solar system. Taking a contemporary instance, Parque Tezozomoc, which is built in the 1980s in Mexico City, brings together the history of urban development and culture into an identifiable place by reconstructing the ancient lakes that were destroyed by the development of the world's largest city.

img 1.2

Persian Garden: Bagh-e Fin, Kashan, Iran.
by Kive, S. M. (2012) 'The other space of the Persian garden' *Polymath: An Interdisciplinary Arts and Sciences Journal*, 2: 3.



Fascination

Garden as a microcosm of city

Inspired by all the instances, I am obsessed in how the garden as a microcosm shows the urban and environmental processes both in the phases of site analysis and desk studies, especially when talking about the garden as a microcosm with the reference is the city in which it's part of. It has been widely considered that garden acts as a condensed earthly paradise which simulates in one or another way the image of the utopia. It provides an image of the world, a space of simulation for paradise-like conditions, a place of otherness where dreams are realised in an expression of a better world.³

Perceived as a microcosm of the city, the garden unfolds a new synthesis of a functioning place which offers the private seclusion with public access and uses in the city, and also acts as a stage where to re-create or to redefine what has been lost during the development of the city within controlled bounds.

3 Meyer, S. (2003)
Midlertidige Utopier
[Temporary Utopia] Oslo:
Museum of Contemporary
Art

img 1.3
Versailles fountain and
gardens.
*Photograph: Alberto Coto/
Getty*



Fascination

The agency of the city - carriers

The carriers are the tools which empower the garden conceived as a microcosm of the city, which could be distilled from the certain distinctive environmental and urban processes of the city. As a form of infrastructure or a natural body, it's which allows the various flows in the city to circulate. However, with urban development, in many cases, the carriers are starting being detached from providing multiple functions for people's daily life. As their roles change along with the development in bigger scale which they are part of, such as a city, they somehow reflect the change of the bigger context. As artifacts or natural body with interventions, they simultaneously bear and reflect the consequences of urban development and human collective decisions. They exist outside of the finite lifetime of the individual, but which nonetheless carries in it our ideas and experience that we have had, the techniques that we have learned, the tools and artifacts that we have created. They are all forms of memory support.⁴

⁴ Barnett, B. (2013). *Memory machines*. Anthem Press.

What is fascinating about the microcosm is how it gathers together of these carriers into some meaningful configurations, within which the events, characters, processes of the city are carried. Likewise, the configurations of natural and cultural processes. It is through this way to make sense of both experience and place.

In this sense, by tying together and digging out the new potentials of the carriers, the garden as a microcosm of the city reminds us of the characters that set this city apart from others as well as the changes that have taken place, where the past is carried towards to the present in light of reactivation of the carriers.





img 1.4

A Bosniak soldier on the temporary bridge in 1995, Mostar, B&H

Photo credit: Pascal Guyot

Problem Statement

Background - The divided city Mostar

Bosnian conflict, ethnically rooted war (1992-1995) in Bosnia and Herzegovina, a former republic of Yugoslavia with a multiethnic population comprising Bosniaks, Serbs, and Croats⁵, which brought the worst violence in Europe after the Nazi-era. It has been over for more than 22 years. However, the wounds of war continue to plague this withered country - as an excuse for constant dysfunction, a painful memory, a mental scar, and a malaise.

As the most important city in the Herzegovina region, Mostar is famous for the Stari Most, the world-known Ottoman bridge stretching across the river Neretva. After its construction in the 16th century, the Old Bridge became the symbol, the representation of the beauty of the city Mostar, which also became the center of life in this city. Once, bridges, river Neretva and its banks were an integral part of inhabitants' public life.

Later, with the destruction of the Stari Most in 1993, It became a powerful symbol of the violent atrocities during the war in Bosnia and Herzegovina. As a consequence, river Neretva and her existing organic system started to be contaminated and abandoned. Despite its very mixed and intermingled population, the city's urban space now is not shared by the differing communities. Instead, It is fragmented and polarised by the two biggest national groups, leading to a re-aligned Croat West bank and a Bosniac/Muslim East bank.⁶ It's almost as if Mostar is two different cities, awkwardly smashed up against each other. There are two separate bus companies, two soccer teams, two hospitals, two post offices, two taxi companies...two of almost everything. As a result, Mostar has had, in many aspects, two completely different parts of the same city.

⁵ En.wikipedia.org. (2019). Bosnian War. [online] Available at: https://en.wikipedia.org/wiki/Bosnian_War

⁶ En.wikipedia.org. (2019). Bosnian War. [online] Available at: https://en.wikipedia.org/wiki/Bosnian_War [Accessed 5 May 2019].

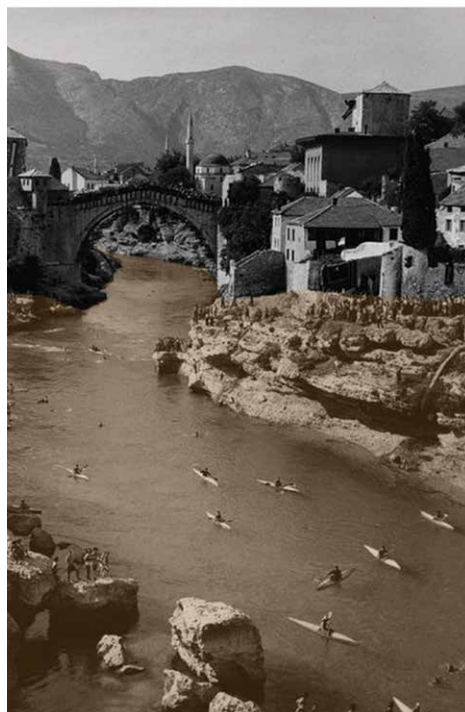


"The city was the bridge, and the bridge was the city. It served as both the symbol of the city and as a public space where people got together."⁷

⁷ Macki, A. (2014). *The Irreversible Disappearance of Mostar* - Studio L A. [online] Studio L A. Available at: <http://studio-la.org/research/the-irreversible-disappearance-of-mostar-2/>

img 1.5

People were having different activities in the river Neretva, Mostar illustration by Author, edited over the photographs available at: <http://www.cidom.org>



Problem Statement

Background - The divided city Mostar

The damaged buildings caused by the war cannot be rebuilt because of the dispute over ownership issues, therefore they can only maintain the broken status. In addition, the fear of conflict of the inhabitants is stoked to avoid tackling real problems. They avoid talking about what happened and what is going on. Even on weekends, it's hard to see inhabitants having activities in public spaces in the city.

Tourists pour into the old bridge and its surrounding commercial streets, while local men crowd in various indoor bars and cafes along the streets, which are not really accessible for local women, the elderly and children. As the most important stage to connect inhabitants before, the river was carried various activities and collective memories. Yet, despite the superficial beauty, it has become a physical, mental barrier with serious contamination from the war and daily human activities.

Whether physically or psychologically, the city Mostar is considered the division continues.



img 1.6

The river Neretva becomes
a barrier between east and
west bank

*illustration by author,
edited over photograph
from lonely planet*

Problem Statement

Public space in Mostar

Despite many attempts to revive the multi-cultural post-war city Mostar, it is still facing socio-spatial segregation after the conflict, which is also shown in the city's public space situation.

In order to explore the research objective, it's necessary to analyze the spatial problems in an architectural context.

1. Lack of public space which serves to the whole city's inhabitants, where activities can take place, especially on the eastern side, where the main activities happen in the bars along the street, which are not really accessible for local women, the elderly and children to have activities.
2. Lack of community green space for inhabitant's daily life;
3. The river Neretva was a most distinctive element in the daily life of the citizens of Mostar, acting as a public stage. It is abandoned and nature takes over. There is barely public space for visitors along the river.



img 1.7
The public space map,
2018
illustration by author

Problem Statement

From carrier to barrier - river Neretva

Among all the consequences of the war, the change in the role of the river Neretva in people's lives intuitively reflects the segregation. The river Neretva has been a very important element of the cultural identity of the Mostar. From a place of leisure, to a diving spot, and attraction and the subject of poems, stories and paintings, as the most important public space to connect inhabitants before, the river was carried various activities and collective memories.

Before the war, the Neretva was a fundamental element in the daily life of the citizens of Mostar. Specific qualities of the landscapes along different parts of the river banks made a variety of daily social practices possible: sunbathing, swimming, fishing, diving, training. Yet, nowadays, these activities are almost lost.

During the war, the Neretva river was still an important element in the daily life and it was seen as landscape of survival or unsafe landscape in relation with specific spatial qualities. For instance, view points east/west for sniper were positioned to look at open landscapes (no protection). Dense landscapes were good for providing protection during the war. These physical and functional dualities are still present today: places that were safe during the war are now not used anymore, these left over spaces where vegetation took over and are not easily accessible. On the other side, those spaces that people avoided during the war have been adapted to the new conditions, cleaned and are now reuse by citizens.

Yet, despite its superficial beauty, it has become a physical, mental barrier with serious contamination from the war and daily activities. The domestic sewage of residents is directly discharged into the river water;



The accesses towards the river are becoming dead ends occupied by personal use, plenty of rubbish and overgrown vegetation; Garbage from the river is scattered everywhere on the riverbank especially the parts suffered from seasonal flooding; The traces of artifacts and human activities are there without uses. The river is abandoned and becomes a barrier now.



img 1.8

The current situation along the river Neretva
photograph and illustration by author

Hypothesis

Garden as a microcosm of city Mostar

Under this extremely difficult and complex context in the post-war situation, any proposal is facing tough pressure to coordinate and implement. That's why transforming a place full of potential to a garden as a microcosm could be a good choice to first light the current situation.

In order to address the problems mentioned above, a garden as a microcosm of the city Mostar is supposed to help to inspire how to re-introduce the river to the city again and improve the living quality of inhabitants related to the research objective. By gathering and expressing the features in the carriers which reflect the history of the city's development and culture into one coherent, memorable and recognizable place. It also expresses the desire to re-create or to redefine what has been lost during the development of the city. Visitors of this garden could experience directly the beauty of Mostar spatially but are also encouraged to empower different perspectives towards to city Mostar itself, to develop another version of what is possible in Mostar in future linking what happened before.

Research and design objective

An essential synergy between the own polarities of the garden as a microcosm of the city and the relationship between it and the city of which it is part

As a garden of a microcosm, it seeks to provide visitors the experience with freedom and restriction. Trying to compressing larger places, and the processes and ideas inside into a smaller identifiable space to re-control and re-construction, the garden as a microcosm is a way of remembering, regaining, preserving, and recreating what is desired or lost in the city through the interventions towards the distinctive shared memory carriers. In this sense, it gives the freedom to the visitors to develop their own interpretations towards the garden, and beyond it to the city. Yet, as an architectural object, the mediums of what it can offer is also restricted. They are something direct, something touchable, something could be used, seen, heard and etc. To keep this garden work for both aspects, on the one hand, it aims to offer universal enjoyable experience within the physical boundary as a garden, on the other hand, encourages the own particular interpretations of the visitors to rethink the history of the city, and develop other insights towards what it could be in the near future.

Research and design objective

Development of tools derived from the processes of the city's development

The garden as a microcosm of the city, is supposed to distill and reconstruct the certain distinctive environmental and urban processes of the city, by gathering and expressing the features which reflect the history of the city's development and culture into one coherent, memorable and recognizable place. That requires certain carriers on which the memory was shared, the history was carried. By re-interpreting these carriers, it allows a way to re-look at the events that have occurred in these places, creating the potentials for new stories in the future.

The research objective of this research is focused on the development of design strategies addressing not only to explore the spatial and cultural potential within the new garden but also seeks to explore the relations of the affordances and expressive qualities combining with the use of technology and analysis of human's perception and reaction.

Design assignment

The design assignment will be formulation of design principles in order to approach properly the concept that garden as microcosm of city Mostar through the interventions on the carriers, and detailed design for the garden along the river to re-introduce the river to the city again and improve the living quality of inhabitants.

How can garden as a microcosm of the city, simultaneously integrate with the urban fabric and empower people to develop multiple perspectives, thereby, will interact with the natural and urban processes dynamically?

Sub questions:

1. In what way could garden be conceived as a microcosm of the city?
2. As microcosm, how are different carriers where processes that have taken place in history reflected in the garden?
3. Under this difficult context, what are the potentials and restrictions of the spatial and social context of the garden in relation with the urban development?
4. What are the design principles that could be developed and applied in order to re-introduce the garden in the abandoned riverscape landscape?
5. As microcosm, how could the renovation of the garden influence and be beneficial in all scales, from local to city scale?

Scope and Relevance

Social relevance:

Full of the cultural, social, and religious diversity, the city Mostar is more divided now after two decades of the civil war. Under this extreme mental and physical post-war segregation, this projects aims to explore how landscape help to rebuild the hope and the sense of belonging to the city for the citizens, by spatial experience and reflection of the city.

In addition, restoring a site that was affected by war activities and recover its natural landscape, it also aims to transform it into a place of contemplation and calmness, where visitors can get close and enjoy the riverscape again, and meanwhile be in touch with a part of anthropological experience to refresh the perspectives towards the city.

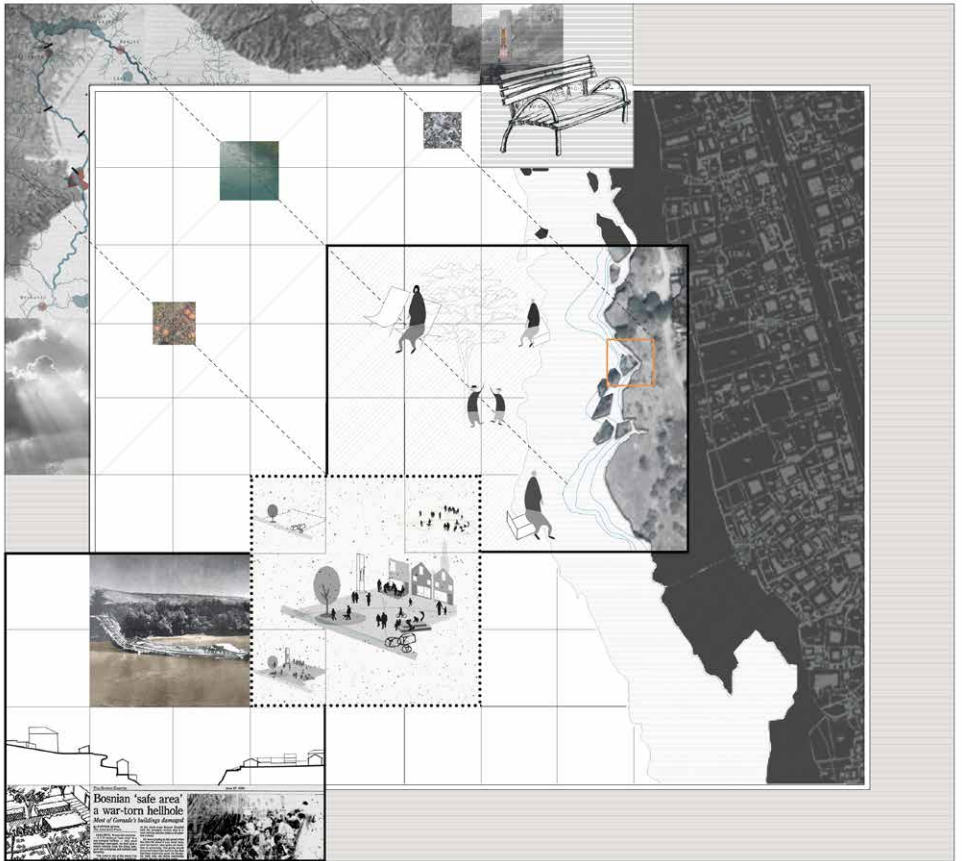
Hence, the project addresses to the question how we landscape architecture can contribute to building a place within which the visitors could experience the private seclusion in a country with an endless variety of cultures, ethnicities, identities, and truths, but also develop their further multiple understandings towards the city where the garden is in, to see more possibilities the city could have.

Scope and Relevance

Scientific relevance:

This project seeks to contribute to the discipline of Landscape Architecture by researching and proposing ways of trying to dealing with a deep mental and social issue of the post-war urban complexes: how to connect and practice the two polar notions that creating a garden as a microcosm by adopting affordance theory. Designing with affordance is a way to design certain activities based on the analysis and prediction of the feature that an environment has, which is direct in light of behavior. Yet, the concept of the microcosm is a way of representation and reinterpretation, which is designing the reflection and the meaning within the activities. Depending on the abilities of the perceivers have, the possibilities of what could happen on certain combinations objects are predictable, however, the interpretations of visitors develop towards the microcosm in which the objects are located are uncontrollable. It's decided by their own standpoints towards the object which the microcosm is reflected to.

Therefore, this present project helps to develop the stratification which deals with the "freedom" and "restriction", by designing a garden with abstract or detailed reflection of a larger world beyond it, a place of seclusion to develop fresh interpretations towards the world, but based on the translation and interventions on the certain existing condition and meanings that the world already has with its parts. In a short, this project aims to find a way to design a place not only satisfying the possible use as an architectural object, but also encourages to develop multiple reflected meanings and interpretations to a larger world beyond the place itself. This new design way could contribute to inspire similar spatial types, especially under some difficult context when bigger interventions seem impossible to achieve.



Linking the characteristic carriers of the city, combining the possible activities, the features of the environment, and the events which have taken place in history on the selected site, a future with possibilities is expected.

img 2.1
 The graphic showing how the carriers, activities of the people, and the history events interwoven together
illustration by author

II. METHODOLOGY

PROBLEM ANALYSIS

EV

MOTIVATION

PROBLEM STATEMENT

Background Study

Sequences of events or timeline
Religion and faith
Post-war aspects
Political stakeholders
River as an achive
Precedent study

Therotical Framework

Pre-war aspects
Post-war aspects
Affects
Affordances
Microcosm
Minimal interventions

Mapping

Historical landscape formation
Geomophology
Urban trends development
Infrastructure
Public space
Routing

S

EVALUATE POTENTIALS

Opportunities

Flood risk management
 Water purification
 Stormwater management
 Memory landscape
 On-site resources
 Low maintenance
 construction

Operation

Site Visit
 Interviews
 Study models
 Cognitive mapping
 Process analysis

POSSIBLE DESIGN PROPOSALS

Spatial Design

Design Principles
 Spatial phasing
 Material and technique
 innovation
 Prototype of landscape
 architectonic
 fragment of flood risk
 management
 Design for processes
 Design for possibilities

REFLECTION

img 2.2

Method description
by the author

All the introduced elements in the introduction chapter are related through the methodological framework, in order to lead in the design proposal and address the research objective. The thesis's starting point was the problem field - how to rebuild the communication between the city and its citizens in a post-war landscape, followed by the fascination - the relation between a garden which could be perceived as a microcosm of the city and the city itself. Based on the theoretical research and the analysis done on site, concerning the processes, the riverscape, the ways was defined that the research objective was formulated and the thesis was developed.

The following notions have a crucial role defining the methodological framework.

Microcosm

As it is mentioned in the problem statement, in the post-war city, the reconstruction of buildings, bridges and other infrastructures could not re-establish the connection of the different groups of people in the city. People get emotionally traumatized when their cities are destroyed: they lose their physical point of reference.⁸ By ignoring the war or acting like it never happened, the inhabitants and the city could not really restore from the destruction. The past needs to be retold while the future filled with possibilities also needs to be clarified. Under this difficult context where all the united spatial proposals are put on hold because of the political controversy, the notion of the Microcosm offers a more feasible hypothesis.

Instead of simply representing and simulating the city's structures in miniature, the theory here is used to distill and reconstruct the certain distinctive environmental

⁸ Macki, A. (2014). *The Irreversible Disappearance of Mostar* - Studio L A. [online] Studio L A. Available at: <http://studio-la.org/research/the-irreversible-disappearance-of-mostar-2/>

and urban processes of the city to rebuild the communication between the city and its citizens in a contained and identifiable space. Within the definite bounds, the story of remembering, regaining, preserving, and recreating is allowed to be told by means of controlling the meaning within a closed system of signification.

Moreover, the Microcosm plays a significant role as a prototype to give a hint of how to deal with the challenges that the city is facing, for instance, the river contamination, the transformation of ruins, and the seasonal flooding in a way maintaining the structure, function and integrity of the landscape in which the city resides. As a microcosm, in order to accommodate not only past, present, and future, but also machine and organism, the project is supposed to develop along with the environmental and urban processes dynamically. Such a notion will affect both the analysis and design part of the thesis, focusing on the distinctive carriers of the city's characteristics and at the same time on its relations with the development of the city.

Affect and Affordance

Affect is the ability to affect (take action) and to be affected (experience affection). It relates to the execution of the multiple capacities that a body has, through its encounters with an environment (material and expressive components). In this sense, the body could be considered as a composition of relations with the world and these relations are its affects.⁹ The theory of Affects will be the guide for the analysis of the relation that is developed between the selected carriers and the different meanings they contain and indicate to the people under different historical context: how and why people use these carriers differently under different phases of the city? What are the triggers of the environment which make them change their

⁹ Karampournioti, A. (2018). *the gardens of deviation*. Master. TU Delft Faculty of Architecture.

activities along with the different period of the city's development? Social relationships cannot be divorced from environmental relations, and environmental factors necessarily affect social development.¹⁰ People enjoy particular types of environments, especially the places locally colored with memories. Therefore, the notion of Affects is crucial for this project to act as the motive and the way in which to redesign the garden, that could offer new affective relationships to the bodies, creating new forms of becoming.

The theory of Affordances which is very close to the one of Affects, will be used specifically for the analysis and exploration of the selected site. According to Chemero, a theory of affordances is outlined according to which affordances are relations between the abilities of animals and features of the environment.¹¹ The affordances are not in the environment alone. Instead, they are the relations between the perceiver and the environment. Due to the different spatial and qualitative characteristics in each different environment, it affords a certain behavior to the body, and the affordances denote to the potential capacities for actions that one environment offers. Perceiving affordances is placing features, seeing that the situation allows a certain activity.¹² In order to achieve an experience that empowers people to develop multiple perspectives towards the city, I need to examine which features are there both in the city and the selected site, and the practices that are missing in the city while existing in the site, which could be enriched further. Therefore, this concept is a useful tool for extracting both the features of the environment which are distinctive in the processes of the city's development and the behaviors of people in the past and present in the city, but also for involving and imagining virtual groups of people through design to test the interventions. Moreover, this notion also plays an important role as a way to think of the

¹⁰ Mallgrave, H. (2018). *From Object to Experience*. London, UK: Bloomsbury Visual Arts, Bloomsbury Publishing Plc.

¹¹ Chemero, Anthony (2003). *An outline of a theory of affordances*. *Ecological Psychology* 15 (2):181-195.

¹² Chemero, Anthony (2003). *An outline of a theory of affordances*. *Ecological Psychology* 15 (2):181-195.

relationship between detailing and atmosphere to help the design process.

Minimal Interventions

Finally, the notion of minimal interventions will have a crucial role in the design phase. As Lassus said "The fact that a place exists before one proposes to do something to it has repercussions on the nature of the intervention and poses, in a radical way, the question of knowing whether or not one has to intervene."¹³ The minimal interventions, which are designed in spots in a small scale, could become parts of composition in a larger scale. Based on the existing context, it can be a juxtaposed layer but also add an extra dimension to the original city. These interventions could then further create more affect through scale. After distilling the carriers from the analysis mentioned above, the definition of minimal interventions through the design phase in this project is characterized by the necessary design interventions - from handrails to the introduction of a new water flow, in order to re-construct and re-activate the relation and interaction between the detached elements of the city and the people. It aims to the introduction of minimal interventions in crucial - transitional points and highlights their great impact on the landscape.

¹³ Lassus, B. (1998). *The landscape approach*. Philadelphia: University of Pennsylvania Press, p.71.

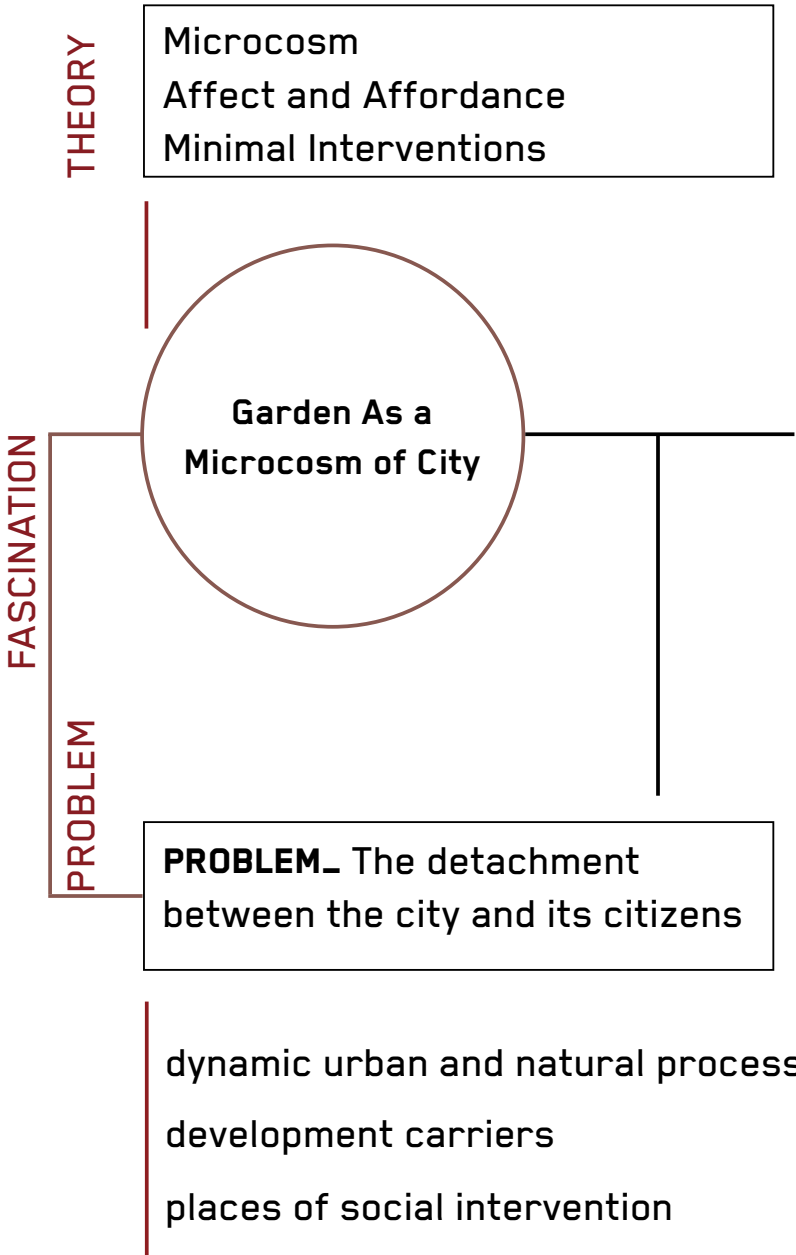
Combined all the notions mentioned above, the research is composed both in site analysis and desk studies following the timeline of events, in order to gather and express the city's distinctive characters. On the city scale, the focus is on the analysis of the relations of the fragmented carriers in the city along with the city's development, emphasizing on the situation of the public space, by comprising different layers and revealing the internal attributes and potentials of the carriers.

When jumping to selected site, after the detailed analysis of the existing elements and configurations on site, the goal is to identify new approaches to interact and interrelate these elements relating to what are distilled by the last step to transform the abandoned river part to the garden as a microcosm of city, with the connection to the urban fabric and the surrounding landscape through the design process, not only physically, but also mentally.

The formulation of design principles and strategies will be developed responding to both the spatial experience and the perception. Adopting minimal interventions on the existing elements of the carriers on site and their relations, this project will adapt small transformations of the landscape, awaiting the visitors in suggestion and not in the direct message. Moreover, the precedent studies, referring to such relations - between the elements of the river and the city or the natural processes that take place on the riparian landscapes will be examined, in order to extract useful principles.

The final proposal will be components of two-dimensional designs (a masterplan, sections, and detailed explanation drawings) and also three-dimensional drawings and images, but special emphasis

is also placing on the representation of the fourth dimension - the development of time. Physical models representing both the overview of the design and the focal points are also expected, explaining how the design principles will formulate the design and how it will interact with the natural and urban processes dynamically.



R.Q. How
the city,
the urban
develop m
will inter
processes

L

Und

D



Research Approach

The research approach of this thesis can be summarized in the diagram above, explaining the steps and also the relations between different components.

It begins with the relation between the fascination - garden as a microcosm of city and the problem statement, looking into the potentials of transforming the abandoned river part of city Mostar into a garden where the city is reflected with the help of the notion - carriers as the agency of the city's urban and environmental processes, which are also tools to guide the design process. After the fascination, it results in the shaping of the research and design objectives, the goal and the spine of this project, consisting of two main parts. In order to achieve the research objective, it's necessary to distill the carriers from the city Mostar with the help of theory Microcosm, Affects and Affordance, which carry the memory and meaning along with the development of the city. In this part, the process of extracting these certain characteristic carriers and the way of adapting them into site analysis and design process will be explained. After analyzing the carriers, the selected site could be confirmed, where there is full of potentials to re-introduce the existing carriers mentioned above. In the site analysis part, the Affordance theory helps to dig out the possibilities the elements on site have, and point out what the future interventions could be implemented, in order to achieve the design objective. Combined with the analysis before, it comes to the final step of the design process. Guided by the notion of Minimal Intervention, the necessary interventions will be crucial to create more affects and highlight the impact of the carriers on the landscape. There is reflection taking place to evaluate and critique the relevance and to what extent the research and design objectives are achieved.

As the methodological framework and the research approach of the project is complete, the next procedure is to define and analyze the carriers, which carry the history and memory of the development of the city and have the potentials to re-link to the people's daily life.

Microcosm

the constriction of the nature and ingredients of the entire universe within some smaller entity

Portions of the world which vary in size exhibit similarities in processes, indicating that one portion imitates another or others on a different scale.¹⁴

By compressing the carriers distilled from the city Mostar into a smaller identifiable space- a garden, the garden as microcosm is a way of remembering, regaining, preserving, and recreating what is desired or lost in the development of the city, as well as a way of creating a more coherent world to inspire what could be done in a larger scale-the city. With definite boundaries and differences in scale, the garden as microcosm of city enables visitors to condense, collapse, and continue time in space.

Affect

the ability to affect (take action) and to be affected(experience affection)

Through the encounters of a body with one environment, affects involves the execution of multiple abilities that the body has. Studying the city as the environment that offers specific affects is helpful to present in depth what motives are behind the different movement based on the different triggers due to the elements in the city. Furthermore, the analysis of affects gives guidance of new affective relationships which are missing in the city but could be explored in the garden.

14 Conger, G. (1967). *Theories of macrocosms and microcosms in the history of philosophy*. New York: Russell & Russell.

15 Chemero, Anthony (2003). *An outline of a theory of affordances*. *Ecological Psychology* 15 (2):181-195.

Affordances

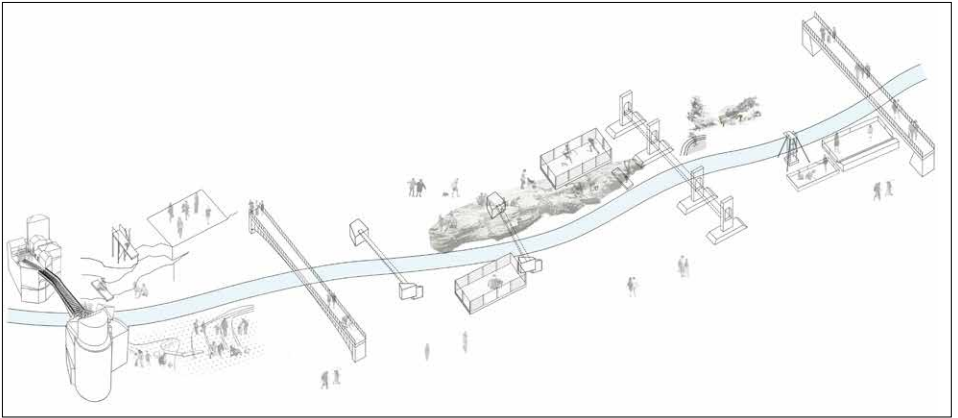
*the relations between the abilities of animals and features of the environment*¹⁵

The affordances are the relations between the perceiver and the environment. Due to the different spatial and qualitative characteristics in each different environment, it affords a certain behavior to the body, and the affordances denote to the potential capacities for actions that one environment offers. The concept is used in this project to examine what activities are triggered by what distinctive features the city holds to distill the tools to be implemented on the selected site. Furthermore, it also helps the design process, by involving virtual visitors to test the design and thinking of the relationship between detailing and atmosphere.

Carrier

The carriers are the main urban elements in the city Mostar

The carriers in the city Mostar are defined as the river Neretva, the bridge, and the stone, which are the most distinctive elements setting this city apart from others and allowing most characteristic flows to circulate during different phases of the city's development. They are also the tools which connect the notions of Microcosm, Affects and Affordances. As the mediums, the interventions by digging out the potentials of these carriers through the garden can be the first step to inspire bigger change to re-activate the theses detached characters in the whole city.



img 3.1

The axonometric shows the overview of the combination of the river Neretva, the bridges currently and once existed and the stones.

illustration by author and Shiqi

**III. IDENTIFYING CARRIERS - THE AGENCY
OF THE CITY MOSTAR**

RIVER



BRIDGE



STONE



img 3.2

The illustrations show
the three carriers of city
Mostar

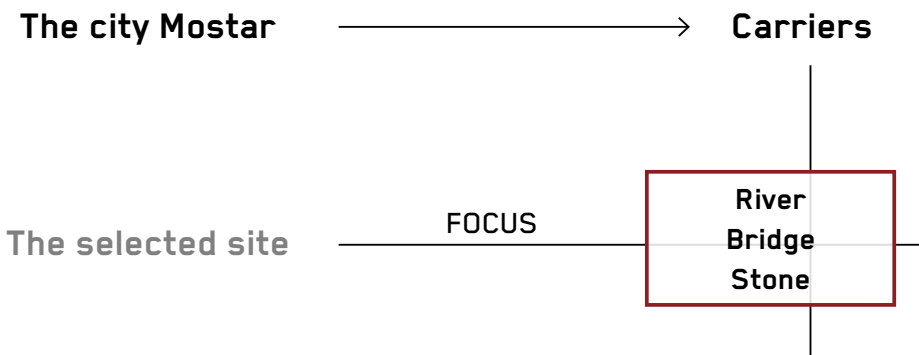
illustration by author

Identifying carriers - the agency of the city Mostar

By analyzing the reason why a garden could help to re-introduce the river to the city again and improve the living quality of inhabitants related to the research objective, the next step is to look closer for unique relation between the carriers of the city.

Combined with the timeline of the event - the Bosnian war, the selection of the carriers was a result of research on the urban and environmental processes of the city Mostar.

Finally, after distilling the carriers and examining their attributes and their inner different relations, the final site is defined.



The focus lies on how to distill and reconstruct the certain distinctive environmental and urban processes of the city. For Mostar, there are three stages which influenced mostly in the urban fabric and the life of the inhabitants: firstly, the phase of the first urban settlements of the city- the Ottoman Period, secondly, the phase of rapid urban development- the Austro Hugarian Period and the current one, post-war rebuilt phase of the city.

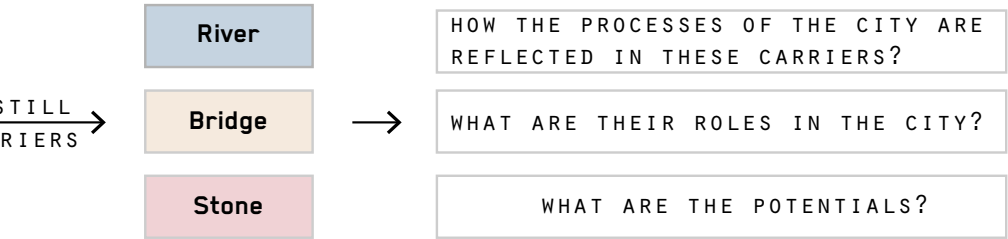
According to this time nodes, it's clear to see there are three carriers which are involved in every stage of the city's dramatic changes and in the daily life of the inhabitants. They are infrastructure, the stage of people's activities, as well as the foundation for future change. So closely related to people's daily life, the value of these carriers lies exactly that people know these carriers are there, even they are not used as often as they were before. However, as long as Mostar is there, they are there. More importantly, they are the places which changes start with. They are the river Neretva, the bridge, and the stone in the city Mostar.

As the most Gathering and expressing these features which reflect the history of the city's development and culture in a spatial way, they are the keys to make the garden as a microcosm of the city into one coherent, memorable and recognizable place by making them into expressing configurations.

In the following pages, the relation between these carriers with the development of the city, and their inner connections will be analyzed.

City

D I S
C A R

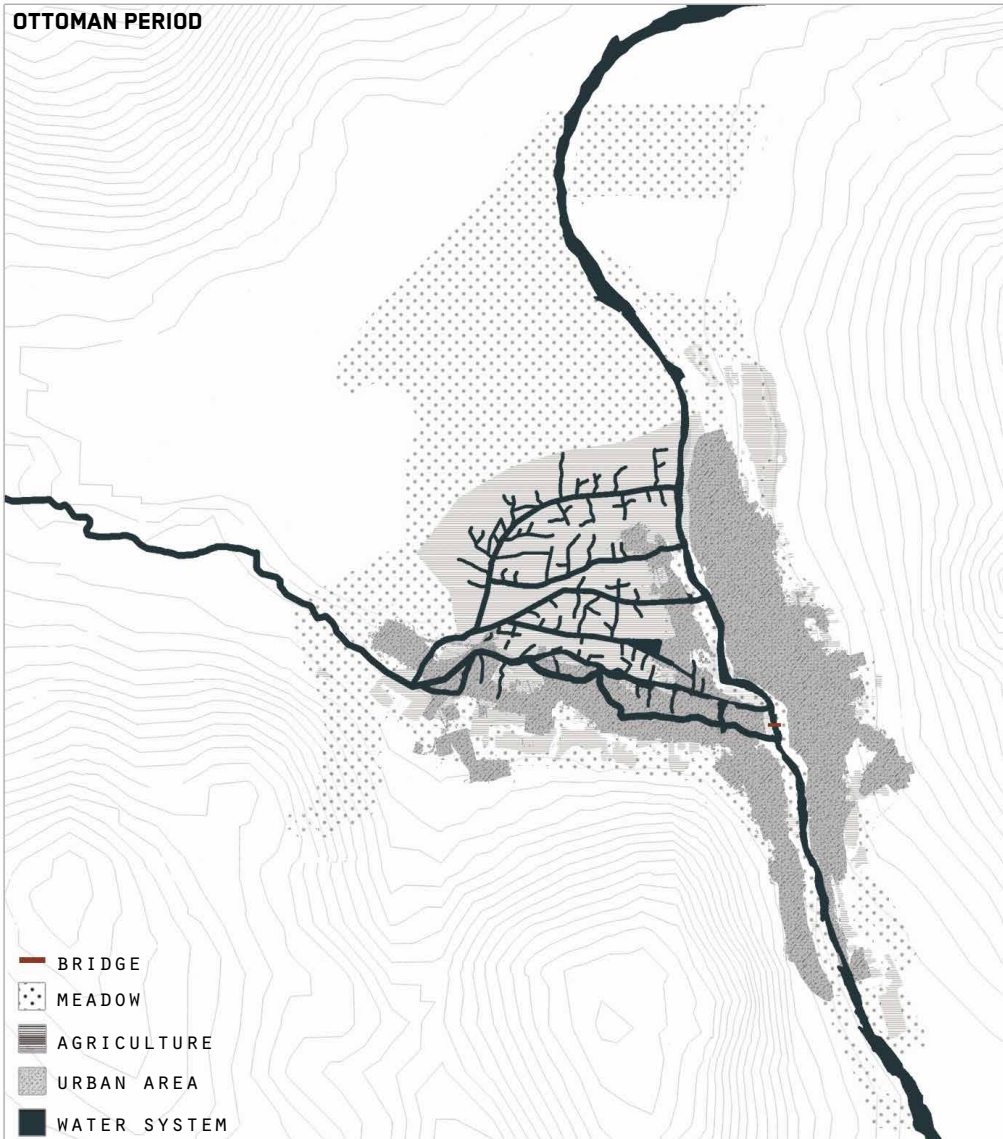


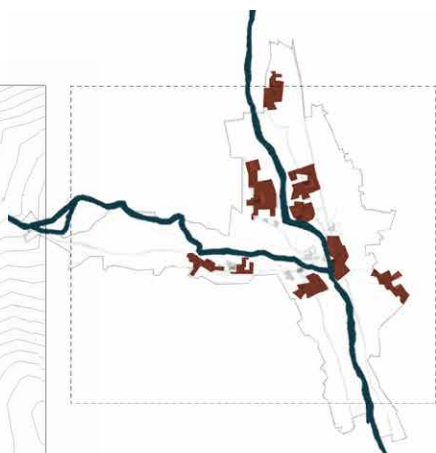
Identifying carriers - the agency of the city Mostar

Distill carriers along with the development of the city Mostar

img 3.3

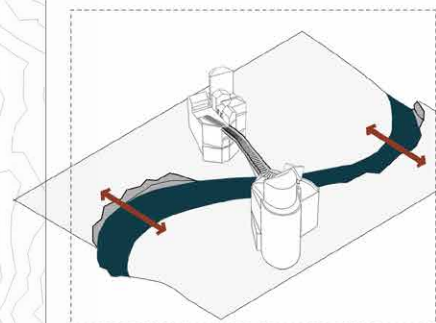
The urban development of Mostar in Ottoman period
illustration by author





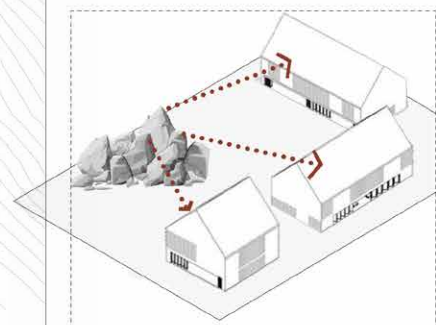
The river Neretva

The first settlements of the city in the Ottoman Period were scattered along the river Neretva for various reasons, for example, the commercial water trade, the irrigation and etc.



The bridge

Along with the development, the first bridge - the Stari Most was constructed to break the segregation caused by the river. After this, the two banks were connected.



The stone

The constructions of inhabitants' buildings in the city Mostar were based on the uses of the different types of stones

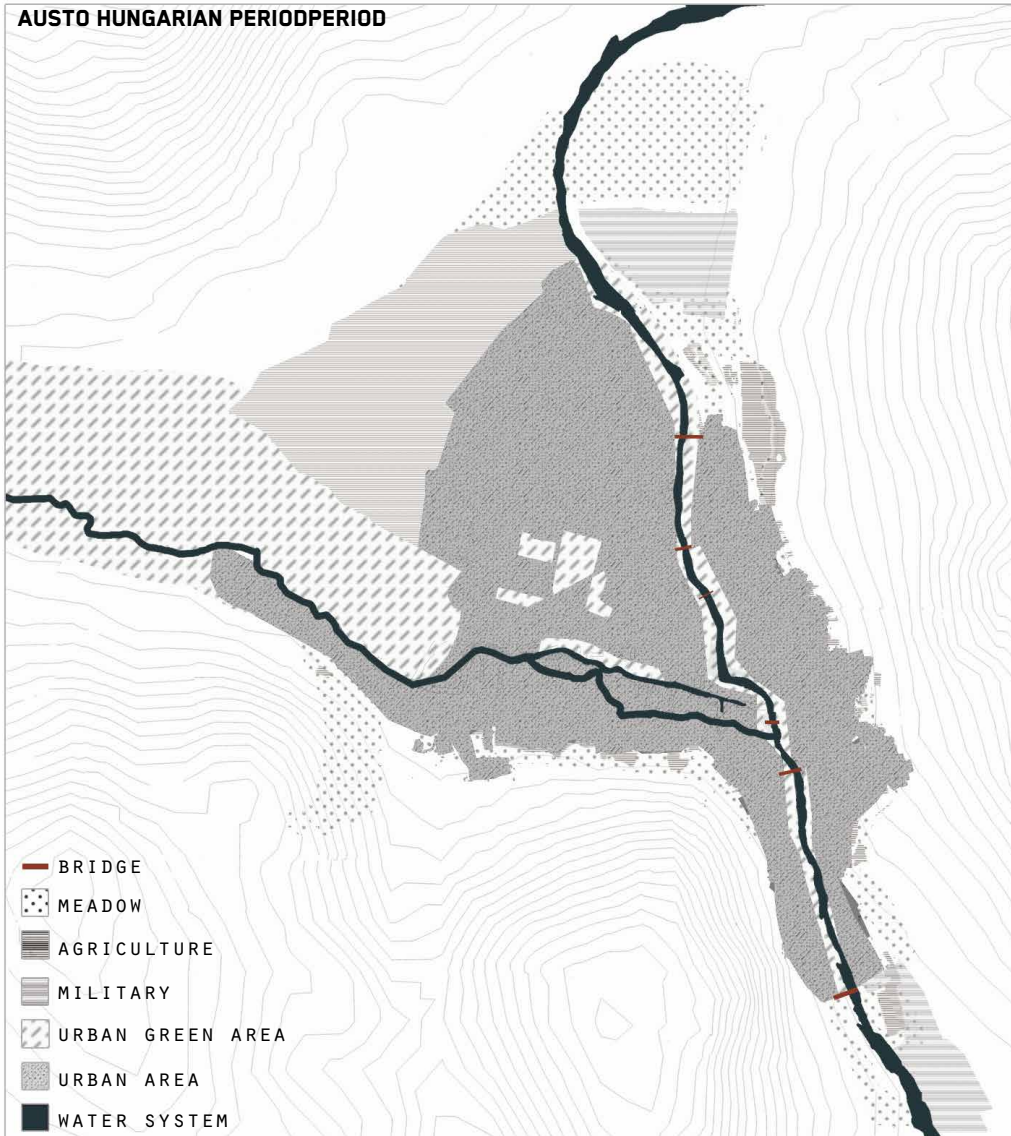
Identifying carriers - the agency of the city Mostar

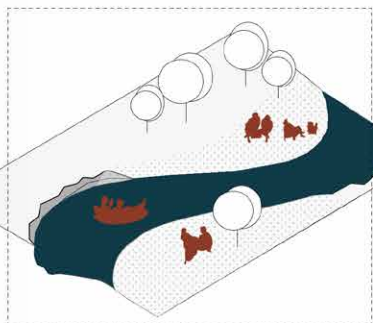
Distill carriers along with the development of the city Mostar

img 3.4

The urban development of Mostar in Austro-Hungarian Period

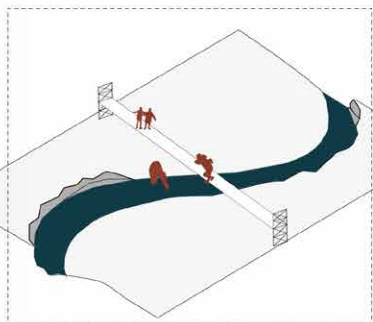
illustration by author





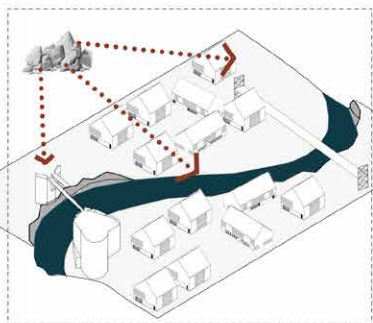
The river Neretva

Along with the development of the city, people started to have multitudinous activities along and inside the river, for example, diving, fishing, swimming and etc.



The bridge

Not only an object to connect both sides, but the bridge also acted as a public stage where inhabitants meeting friends, taking photos and even having their first dating with lover.



The stone

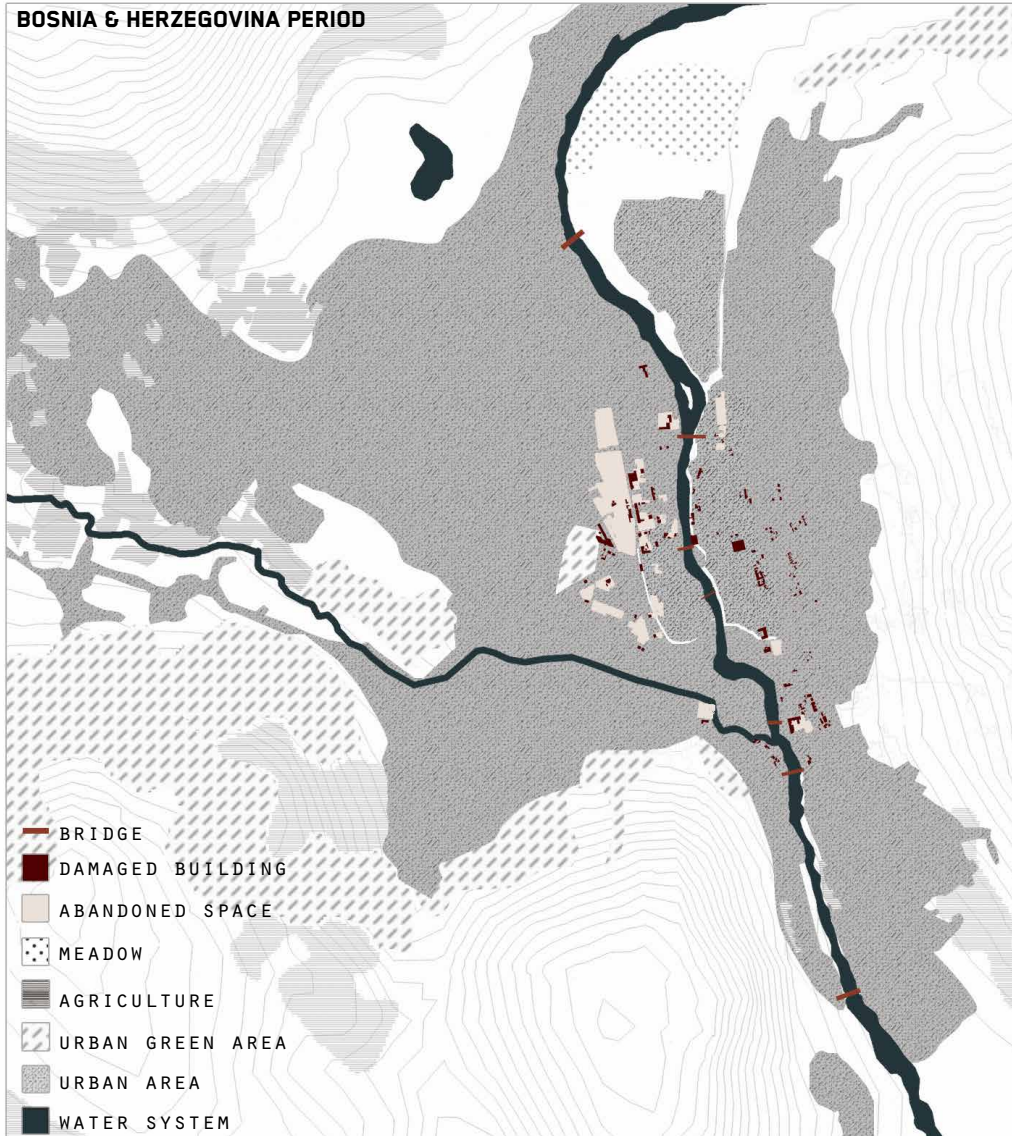
The advanced usages of stone allowed the rapid expansion of the city Mostar to happen. More buildings, more bridges, and more trades appeared and boosted the economy.

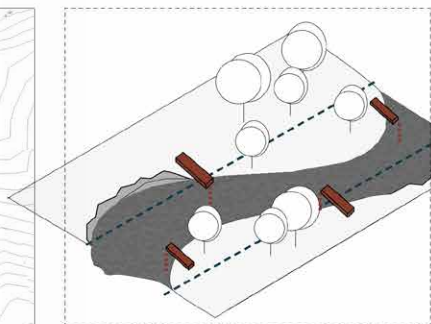
Identifying carriers - the agency of the city Mostar

Distill carriers along with the development of the city Mostar

img 3.5

The urban development of Mostar in Bosnia & Herzegovina Period
illustration by author

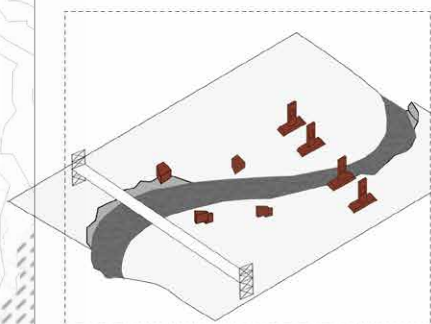




The river Neretva

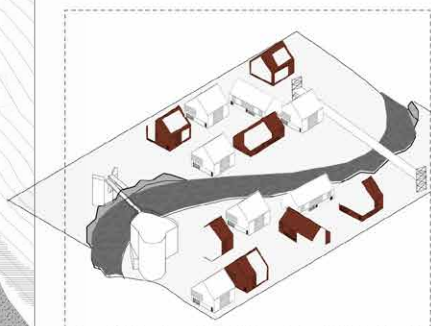
While after the war, the river is heavily contaminated by the materials damaged during the war, and the daily human activities such as the sewage drainages.

It is taken over by nature and lost its vitality with barely human activities.



The bridge

Many temporary bridges were built during the war to empower the flows. After the war, the destroyed bridges were rebuilt while the temporary bridges were wildly abandoned with remaining pieces standing in the city.

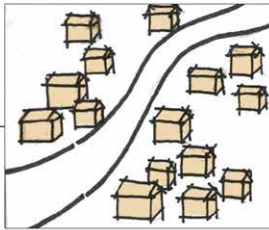


The stone

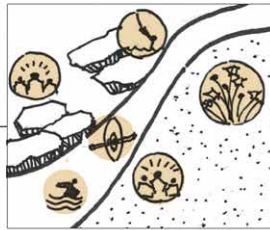
The stone itself, as well as the buildings or bridges made by it, were heavily damaged during the war. Due to the complex context, the ruins are still everywhere in the city.

58 **Identifying carriers - the agency of the city Mostar**
The river Neretva

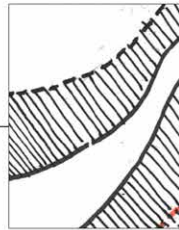
No matter in any phase of the city's development, the river Neretva is always a very important element in the daily life of the citizens of Mostar. Even now they don't really access to it as often as before, the river Neretva still remains the impression as the city Mostar itself in people's mind.



START OF THE FIRST SETTLEMENT



STAGE FOR ACTIVITIES



AREA UNDER THE

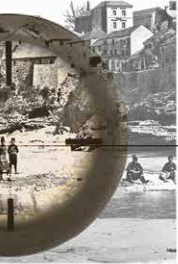
FIRST URBAN CONSTRUCTION

BEFORE THE WAR

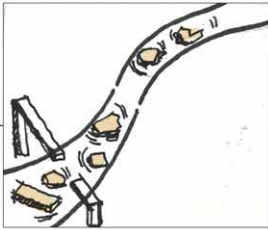
DURING

img 3.6

The dynamic process of different role of the river with urban development
illustration by author



SCOPE OF SNIPERS



CONTAINER OF FRAGMENTS



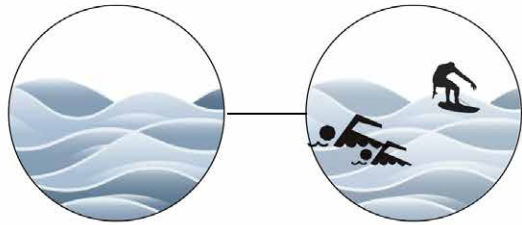
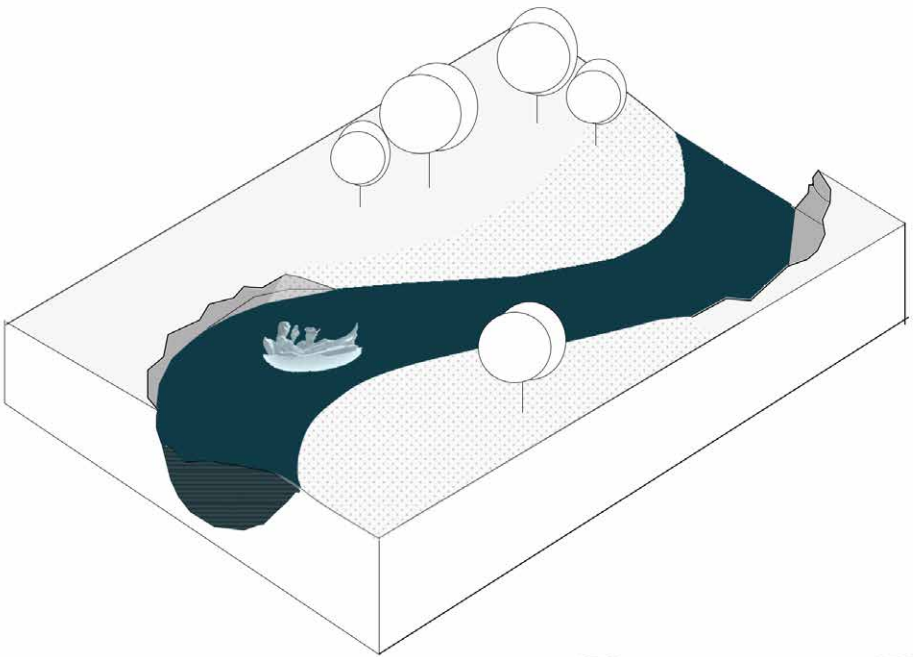
DEPOSITORY OF DEBRIS

BEFORE THE WAR

DURING THE WAR

AFTER THE WAR

60 Identifying carriers - the agency of the city Mostar
The river Neretva



WHAT ARE THEIR ROLES IN THE CITY?



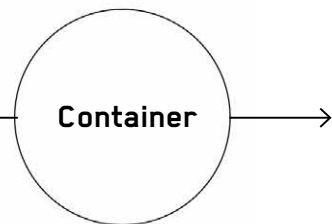
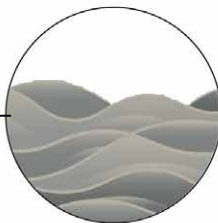
Container

This analysis gives an insight to us into the relations between the river and the status of the city's development. Before the war, the river water was even able to drink directly. After the initial use, as the source of irrigation and as a carrier of commercial activities, people developed various activities along and inside the river. During the war, the damaged materials came directly into the river, bringing heavy contamination to it until now. The quality of the water in the river is no longer suitable for any recreation activities inside.

The process of the changes on both social practices in the river and the spatial qualities of the river inspire us that how river acting as a container through the history of the city Mostar. What the river accommodates inside, from cleaning water to the pollutions, indicates the different phases of the city. Therefore, it provides us the possibility to make the thing inside the container clean again, to re-introduce to the inhabitants, to re-invite more activities to happen around the river.

img 3.7

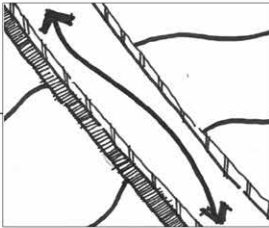
The diagram embodies the next step for the river
illustration by author



62 **Identifying carriers - the agency of the city Mostar**
The bridge

“The city was the bridge, and the bridge was the city.”¹⁶
The bridge in Mostar acted as both the symbol of the city and also the public space for the generations. Before the war, the bridge was the symbol of identity to people in Mostar. However, the bridge becomes only a road sign and the reminder of the violence, losing its cultural layer to the people.

16 Macki, A. (2014). *The Irreversible Disappearance of Mostar* - Studio L A. [online] Studio L A. Available at: <http://studio-la.org/research/the-irreversible-disappearance-of-mostar-2/>



CONNECTION OF TWO BANKS



PUBLIC SPACE FOR ACTIVITIES



TARGET OF DESTROY

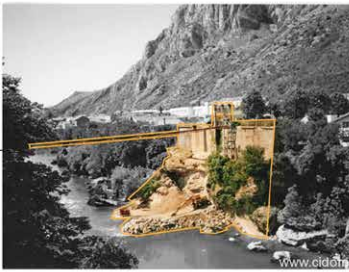
FIRST URBAN CONSTRUCTION

BEFORE THE WAR

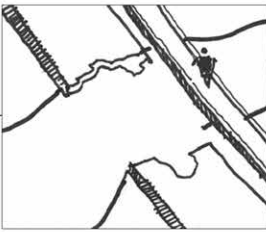
DURING

img 3.8

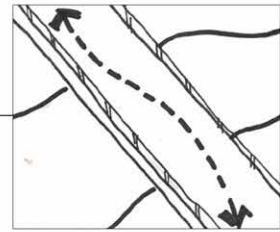
The dynamic process
of different role of the
bridges with urban
development
illustration by author



CONSTRUCTION



TEMPORARY CONNECTION FOR FLOWS



CONNECTION OF TWO BANKS

BEFORE THE WAR

DURING THE WAR

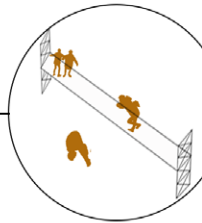
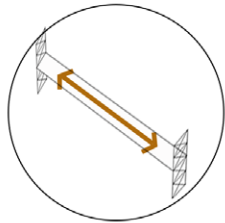
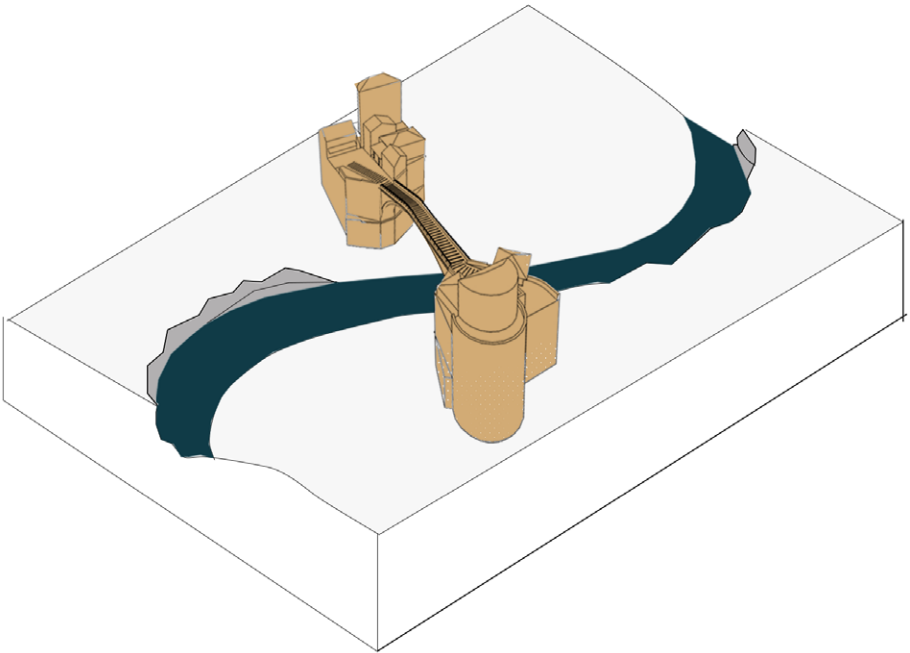
AFTER THE WAR

64 Identifying carriers - the agency of the city Mostar
The bridge

City

DISTILL CARRIERS →

Bridge



WHAT ARE THEIR ROLES IN THE CITY?



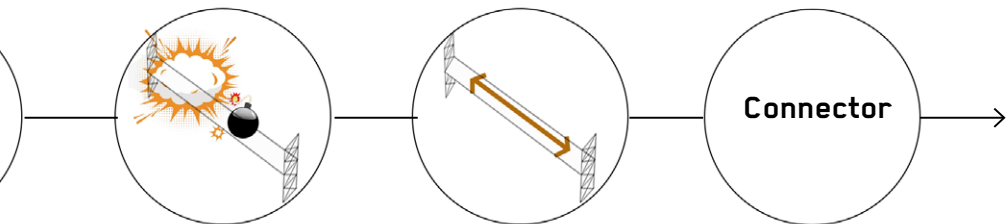
Connector

By analyzing the change of the role the bridge serves along with the time, from an infrastructure, a road sign which connected the both two banks to the public stage where people met and had various activities, the temporary ones which allowed necessary flows during the war, until now, a connection again, it gives the insight into how these artifacts reflect the processes happening in the whole city by adapting to new shapes and functions.

Therefore, studying the bridge in Mostar also helps us to understand the whole history of this city, how the bridge showed up as positive movements of culture and civilization, and how it was destroyed to visualize the violence during the war. It also provides the possibilities to be the medium to remind of people what they shared in common - the memory and the image of destruction, in order to create together something new in the future.

img 3.9

The diagram embodies the next step for the bridges
illustration by author

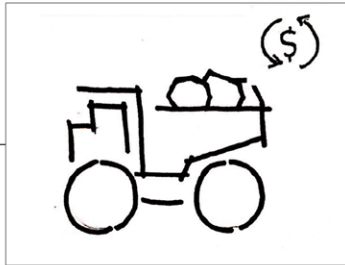


66 Identifying carriers - the agency of the city Mostar
The stone

The city Mostar is set in a large basin surrounded by mountains of limestone along the banks of the river Neretva, that has created deposits of rock conglomerates, of travertine and deposits of sand and gravel. All of the architecture of the city is characterized by these materials which have been used from past to present.



FOUNDATION OF URBAN CONSTRUCTION



SOURCE OF ECONOMY



DESTRUCTION TA...

FIRST URBAN CONSTRUCTION

BEFORE THE WAR

DURING

img 3.10

The dynamic process of different role of the stone with urban development
illustration by author



TARGET

MATERIAL FOR RECONSTRUCTION

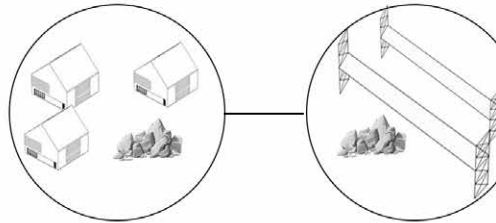
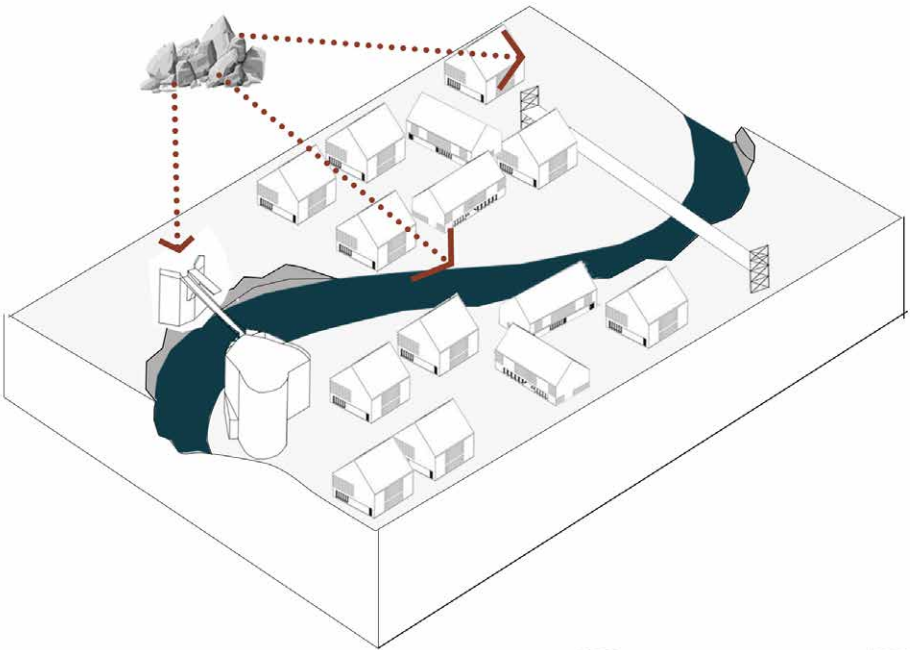
PLATFORM OF BOTH NATURE AND CITY

BEFORE THE WAR

DURING THE WAR

AFTER THE WAR

68 Identifying carriers - the agency of the city Mostar
The stone



WHAT ARE THEIR ROLES IN THE CITY?



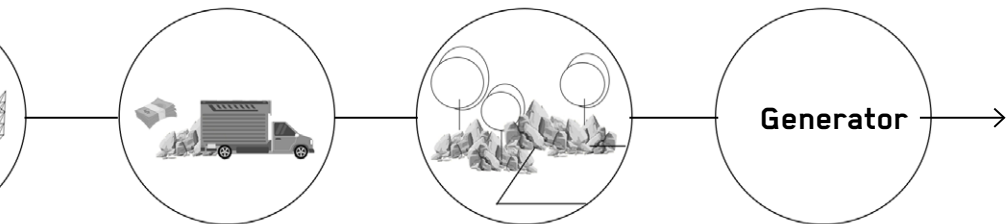
Generator

The story of stone in Mostar helps us to understand how the stone acts as the role of the generator of the city Mostar. Before the war, it was used far and wide as the main materials of the buildings, bridges and etc. It was also the most accessible material for temporary construction during the war.

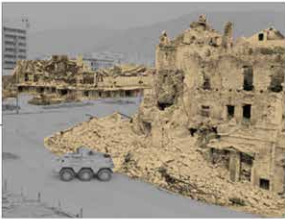
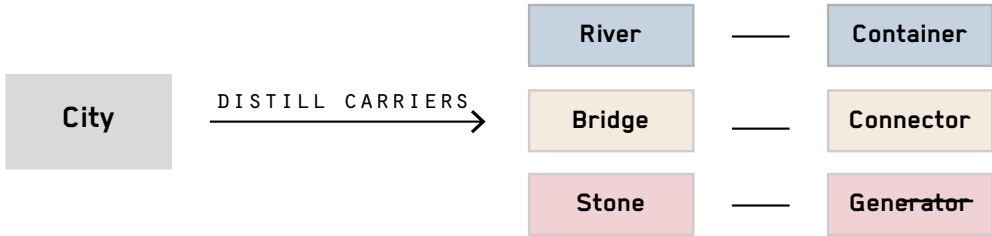
Furthermore, in the post-war phase, it is necessary for restoration to take place with the use of the same materials and for the characteristics of the stones to be well known. The works for the reconstruction of the city, particularly of historical buildings, may lead to a revitalization of the activities of extraction and working of stone, with positive consequences on the image of the city and on the economic sphere.

img 3.11

The diagram embodies the next step for the stone
illustration by author



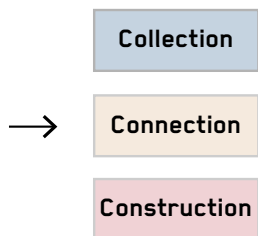
70 Identifying carriers - the agency of the city Mostar
Conclusion



BUILDING

RIVER

BRIDGE



img 3.12

The diagram embodies the next steps for the carriers
illustration by author
illustration by author

img 3.13

The current situation of the carriers
illustration by author



The process of distilling the carriers of the city Mostar, and digging out both their practical and symbolic layer attached to the city of which they are part of, presents the unique relations between these carriers and the city. Despite the dramatic changes in the context, the river Neretva, bridge, stone remain to be the most distinctive characteristics of the city Mostar.

However, nowadays, though the carriers are lost their vitality after the war, they show as detached characters from the whole city. The destroyed buildings made by stone are exposing their inner structure, remaining damaged status; The garbage was thrown into the river directly, in which the quality of water is not suitable for swimming; The big bridges are rebuilt to exactly the same shape as they were before the war while without acting as the public space for people anymore, what's more, the pieces of the temporary ones are left there without any further movements. The carriers are becoming barriers, part of the ruins in the post-war landscape. On the other hand, after figuring out the processes of these carriers and their current status in the city, it also provides the potentials to re-activate these ruins again.

STONE



img 4.1

The overview of the Luka
area in Mostar

photograph by author

**IV. APPLICATION OF CARRIERS - LUKA AREA
AS A TESTING SITE**

74 **Application of carriers - Luka area as a testing site**

Brief introduction

Name: Luka

Location: At the south of the Lucki bridge

Length: 420m

Area: Around 8500m²

The selected site is located in the Luka area, which is at the very south of Lucki bridge, about 350 meters from the Old Town, where the Old Bridge is located.

Luka is one of the most famous and oldest settlements in the city Mostar. During the first urban period of Mostar, which is called the Ottoman period, Luka area was already developed as a residential zone, which was called Mahala Ibrahim-age that time. Nowadays, the majority population in this area is Bosniaks.

The site is located on the shores of Neretva, where the speed of the water changes, creating a meandering river bank and different scenes of landscape.



img 4.2

The location of the site in

Mostar

illustration by author

Potentials in the riverscape of Luka area

Experience the riverscape of Mostar

Visual Sequences

The illustrations on the left side show the walking experience in the site from north to south by analyzing the visual sequences. What is worth to notice here is that these analyzed images, represent not merely visual sequences, but are sequences of “sensations” or “revelations”, bearing witness of all kinds of human interaction with space, of periodic occupation and appropriation of space, and of social interaction informed by spatial characteristics.¹⁶

Explained in detail, the walking experience in the site is full of surprise. For instance, passing one patch of wild vegetation towards the river, an apparent ruin may appear suddenly to stand quietly and eternally on the stone as a sculpture. It is incompatible with the surrounding nature due to the obvious destruction traces, triggering the curiosity of the visitors. There are so many these artificial traces along with the walking, the platform, the stone path, the ruined building structure, the remaining of the temporary bridge, the bench...At the meantime, the river is there. Sometimes it allows to be close to, sometimes it's invisible, only with the sound of it to remind of the visitors its existence.



¹⁶ Wit, S. (2018). *Hidden Landscapes*. Amsterdam: Architectura & Natura.



img 4.3

The visual sequences in
the site from north to
south

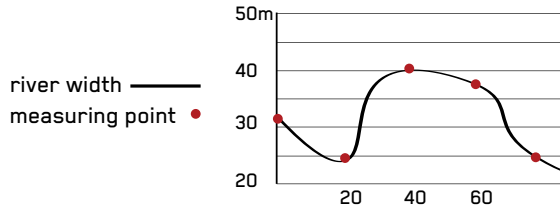
*illustration by author
based on the photograph
by author*

Potentials in the riverscape of Luka area

Experience the riverscape of Mostar

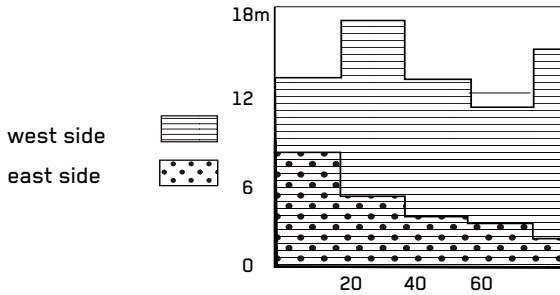
From this diagram, it can be clearly seen that the width of the river varies very much, resulting from the different speed of the water flow, offering different visual and auditory experience during the walking along the river.

river width score



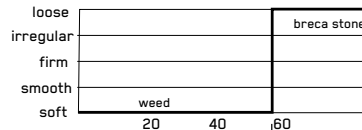
At the same time, the relative height of the east and west banks are very different. The left diagram presents that the west bank is much steeper, while the east bank could have more potentials for activities close to water.

relative height of banks to the river level score



Walking along the site, there are plenty of pavement changes here that bring a completely different sensory feel. Most of them are natural paving, but even there are many different types of stones existing on site, which is really intriguing.

pavement score

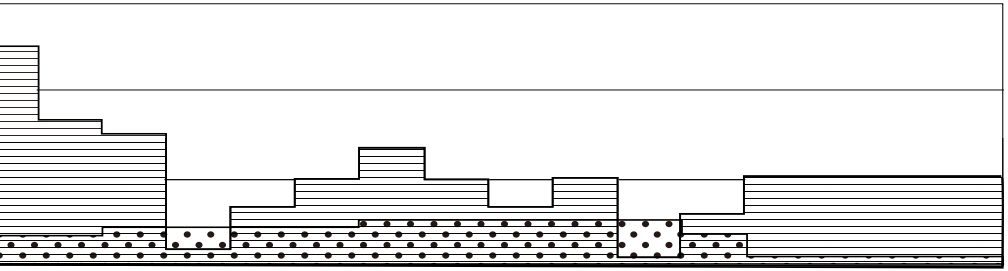
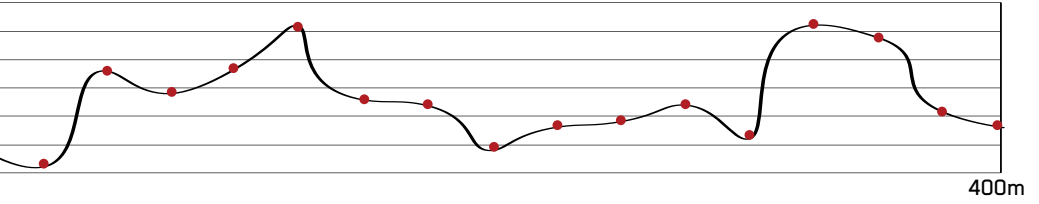


img 4.4

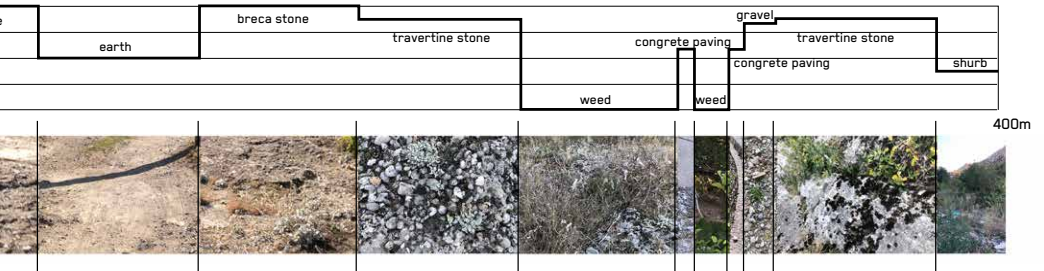
The scores of the walking experience on site

illustration by author





400m

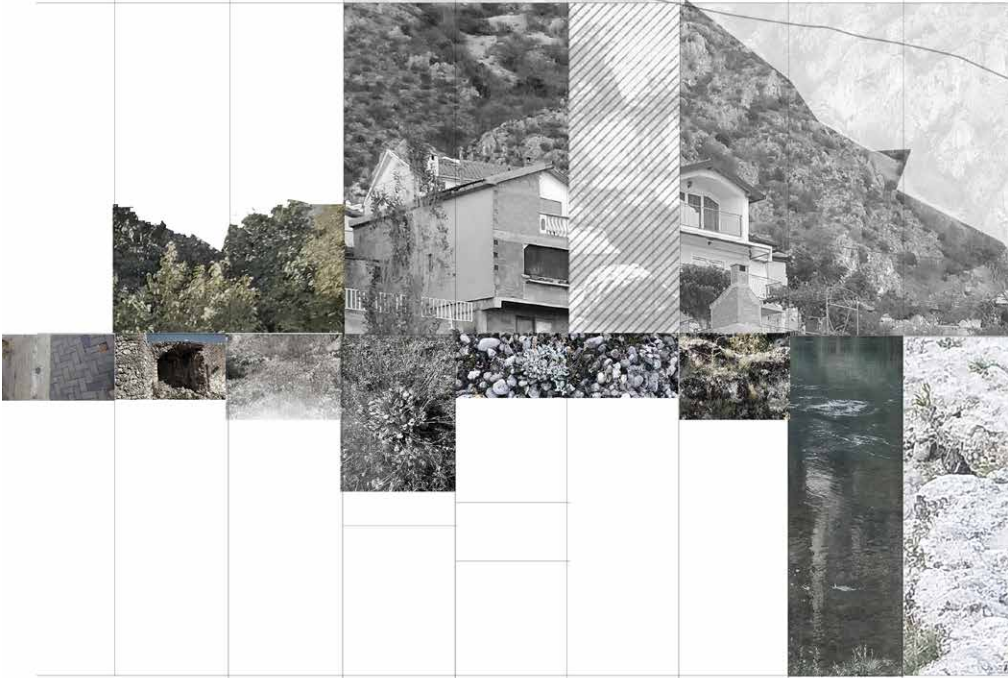


400m

Potentials in the riverscape of Luka area

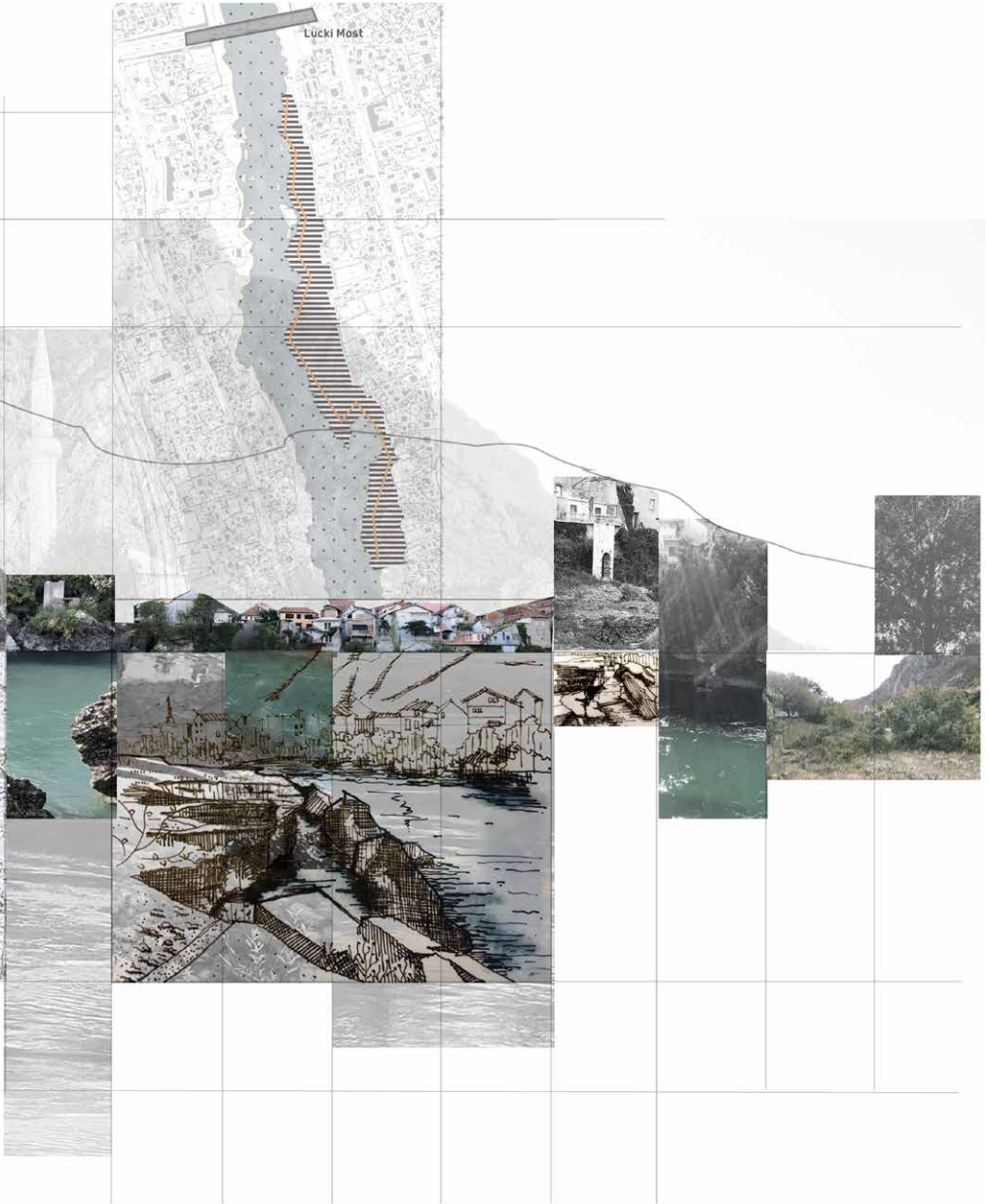
Experience the riverscape of Mostar

In conclusion, walking in the site, visitors can get intimate and diverse space experience, with various sensory cooperating with each other. Embellished with various intriguing artifacts, this site allows visitors to experience not only the natural scenery of Mostar composed by the river Neretva, the stones, but also the rhythmic changes of perceptions arises from a variety of emotions from the artificial traces that were made in the different periods of the city Mostar.



img 4.5

The collage expresses the general experience walking along the site
illustration by author



Potentials in the riverscape of Luka area

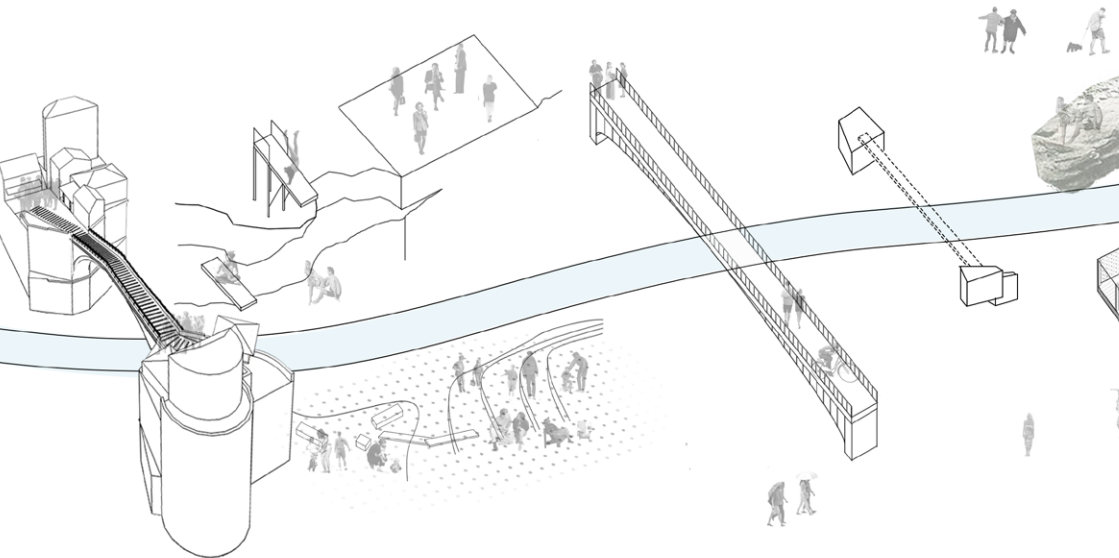
Respond to the carriers of the city Mostar

As a part belonging to one of the most famous and oldest settlements, the site is a place where a lot of human construction works are concentrated and where the majority of material transitions occurred during the war. It is the synergy of carriers with an intriguing presentation which makes the experience of this site special among other riverside parts in the city.

In order to emphasize the process, a series of drawings express how the materiality of these artificial interventions changed over time as well as how people used them; thereby visualizing spatial and functional transitions before, during and after the war. The shifting statues, shapes, materials, and functions of these riverine constructions also reflect the impact of war on the larger scale territory and on the entire city of Mostar – of which the site is a crucial part. Especially the bridges have been chosen to represent the idea of deconstruction: by displaying their alterations and destructions, it aims to contribute yet another layer to Neretva's narrative of war.

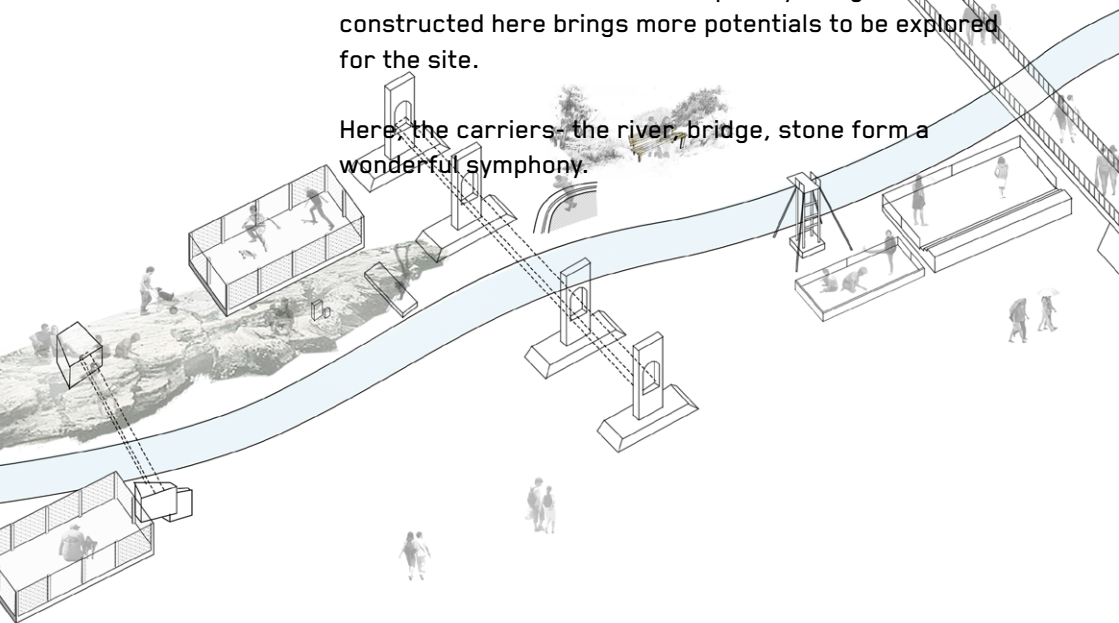
img 4.6

The axonometric shows the site with the synergy of the carriers
 illustration by author and Shiqi, Peng



Firstly, the gentle slopes on the terrains here make the river Neretva touchable. The sound of it could be heard; the shape of it changed sharply due to the different width of two banks. Secondly, the texture of the stones along the coast varies widely due to the different sedimentation speeds, on which plant patches form different densities affected by light and slope, forming a naturally open and close pace in the site. What's more, the stones along the coast are washed into different shapes, sometimes scattered from the shore, providing possibilities for a variety of activities. Finally, the fact that there were three bridges made downstream from the Old Bridge for the flows during the war, they are all in this site. These all temporary bridges were constructed here brings more potentials to be explored for the site.

Here, the carriers- the river, bridge, stone form a wonderful symphony.



Potentials in the riverscape of Luka area

Respond to the carriers of the city Mostar

img 4.7

The illustration shows the overlay of the site under different periods of city Mostar

*illustration by author,
photograph from the
CIDOM*



1913
Lučki most was built

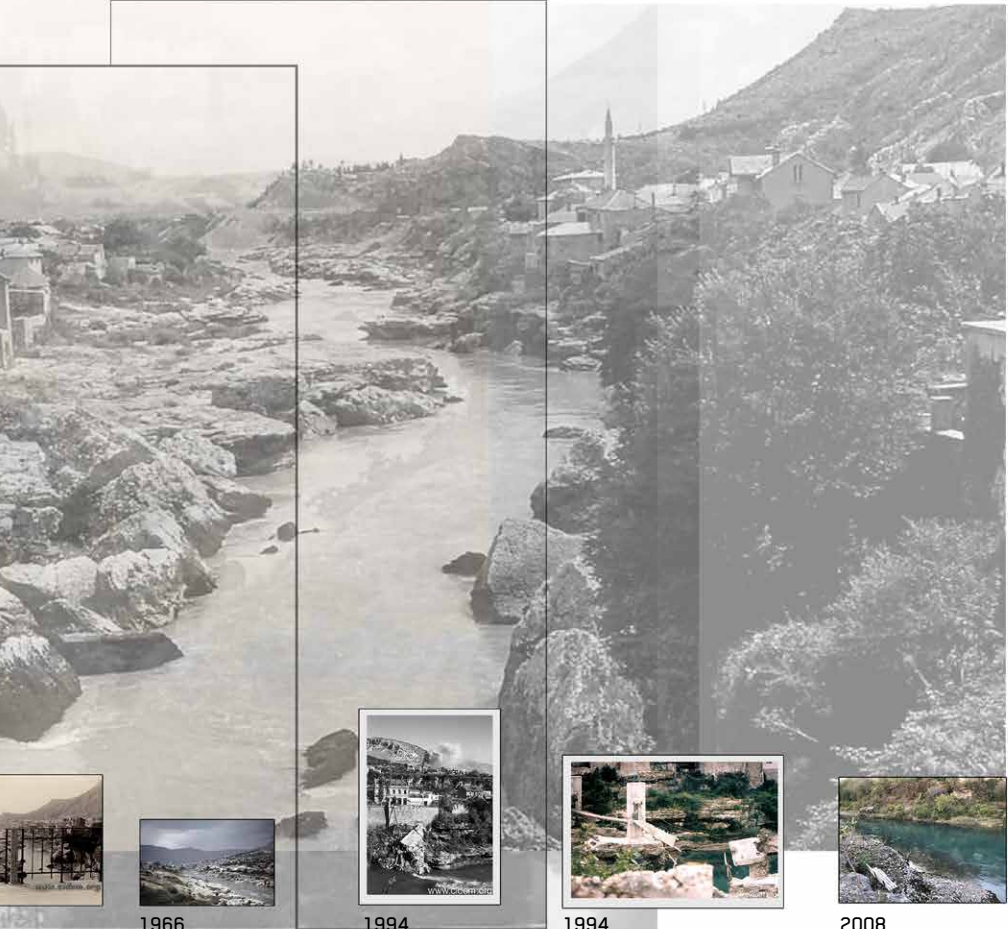


1930
Neretva

AUSTRO HUNGARIAN PERIOD (1878-1918)

OTTOMAN PERIOD (1468-1878)

YUGOSLAV PERIOD (1918-1991)



Luka



1966
Donja Mahala



1994
Lučki most was destroyed



1994
Ratni was destroyed



2008
Desire

1918) www.c... INDEPENDENT BOSNIA AND HERZEGOVINA (FROM 1992)

AVIA PERIOD(1919-1992)

Potentials in the riverscape of Luka area

Respond to the carriers of the city Mostar

Bridge

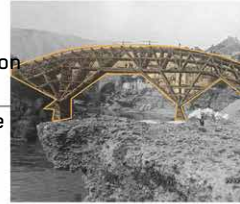
When zooming into the analysis of the carrier - bridge, taking the war as the dividing line, the process of the bridges' construction, destruction, reconstruction and abandonment of the bridges reflect the different phases of the bigger context in the city Mostar each to each.

img 4.8

The illustration shows the processes of different bridges in the site
illustration by author

Lučki most

1912 under construction
1994 destroyed
1994 temporary bridge
2018 restored



Luke

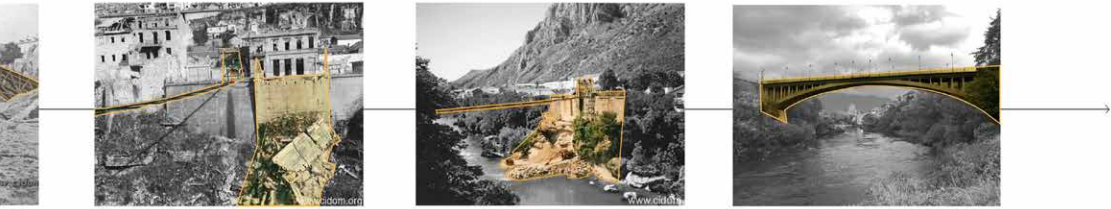
1940 before the war
1994 temporary bridge
2018 destroyed



Kamenica

1992 under construction
1994 destroyed
1994 restored
2018 destroyed





DURING THE WAR

DURING THE WAR

AFTER THE WAR

Potentials in the riverscape of Luka area

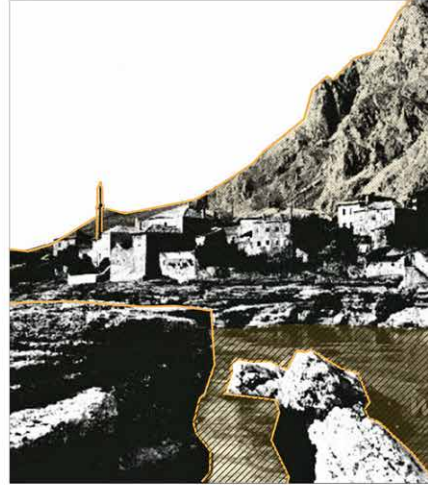
Respond to the carriers of the city Mostar

Stone

There are diverse shapes and types of stone on the site. Besides that, how the stones reveal the power of nature under the test of time is impressive. From the contrast of the two images on the left side, even after more than 100 years, the view from the same standing point is still recognizable in spite of the war. Technology is changing with each passing day, leading the buildings on the other side higher and firmer. Yet, it's the stone that still stands there everlastingly.

img 4.9

The contrast of two photos of site, focusing on stones.
*illustration by author,
 based on the photograph
 by the CIDOM*



River

Along with the development, people transformed the riverbank from cemeteries to playgrounds, but the river itself just looks the same and never stops flowing. With the meandering shapes variable speed, the river part in the site still looks very fascinating. However, the contamination inside prevents further proximity.

img 4.10

The contrast of two photos of site, focusing on the river Neretva.
*illustration by author,
 based on the photograph
 by the CIDOM*





1900_Luka Mosta



2018_Luka Mosta



1900_Luka Mosta



2018_Luka Mosta

Potentials in the riverscape of Luka area

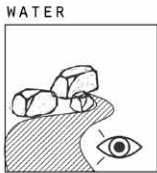
Respond to the carriers of the city Mostar



walking

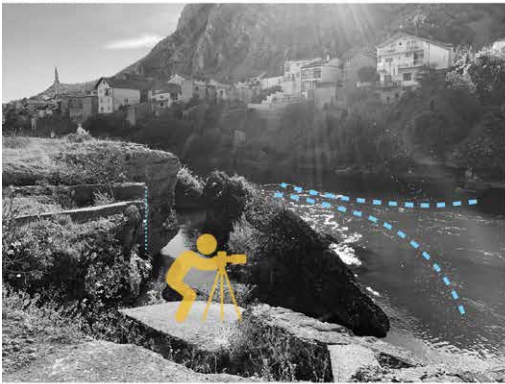


walking



watching

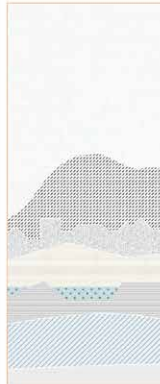
EXPERIENCE

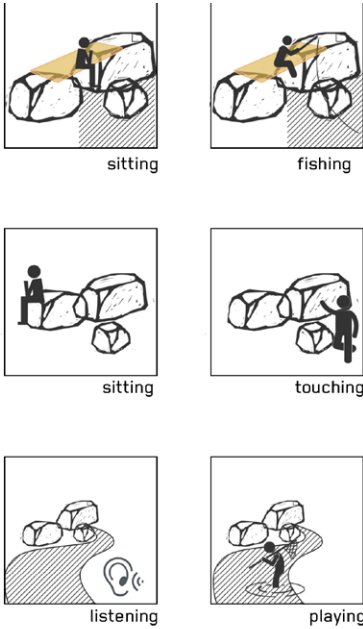


watching



watching

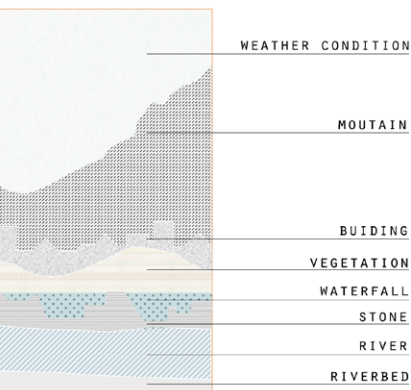




Elements on site

Stone path

The first element which I want to elaborate is the path made to connect the bank and the stones in the river. This path is made of stone and sets a new possibility in the place where the part itself of the site is sunken. It provides an opportunity to extend. Going forward along the stone path leads to reach a gentle slope. In this sinking space, the visitor can be surrounded by stones. Listen to the sound of the water discharged from the canal in front of the slope. This is an unexpected, yet appropriate, simple design from the inhabitants, which fully demonstrated their determination and desire for the river, for a better life. This is an excellent example of the ingenious and natural combination of various elements of the site.



img 4.11

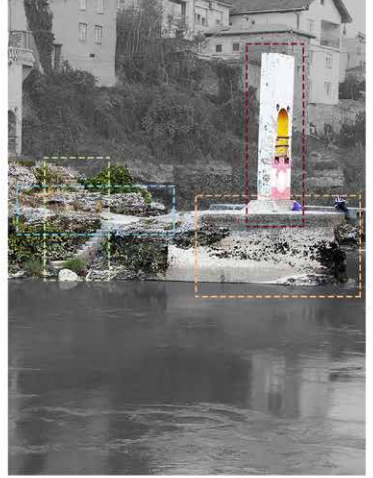
The analysis based on the stone path element found on site

illustration by author

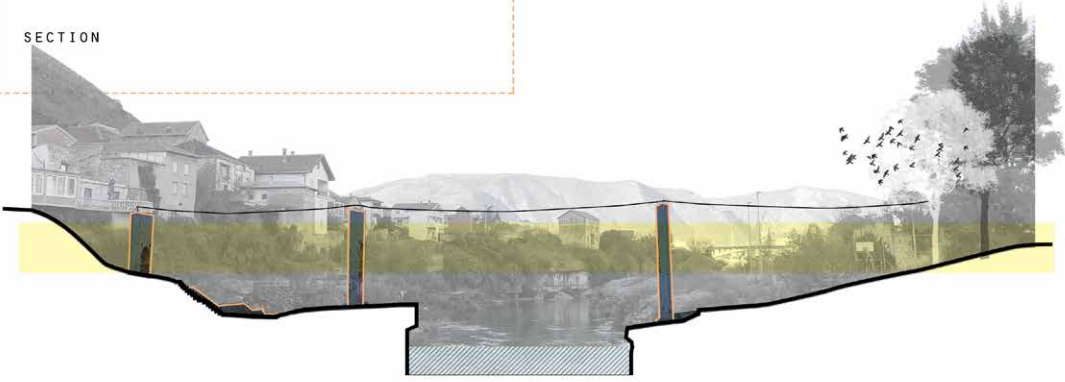
Potentials in the riverscape of Luka area

Respond to the carriers of the city Mostar

STRUCTURE REMAINING



SECTION



PLA
ST
STA
STO

AT FORM



fishing

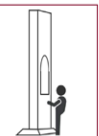


jumping

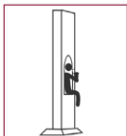


overlook

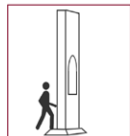
STRUCTURE



drawing



sitting



overlook

AIRS



climbing



sitting



close to water

ONES



climbing



sitting



touching

Elements on site

Kamenica bridge remaining

If it's the first time you see these structures with colorful graffiti, against which people are fishing, you will ask this question spontaneously: what is this? It's the remaining pieces of the Kamenica, a temporary bridge that was built during the war. As the reconstruction of demolished bridges was not possible due to the war conditions, the implementation of alternative, enforced solutions was launched.

The Kamenica Bridge was built in the winter of 1992, connecting the two oldest settlements in Mostar to Donji Mahal and Luka. Four concrete pylons were joined by cables, all of which complemented the wooden footbed. Kamenica did not have the beauty of the bridges that Mostar knew widely. But in those years the Kamenica bridge really meant a lot - it served for the transport of food, wounded, military equipment...After the war, it was abandoned. However, until nowadays, there are still many wishes from the citizens to rebuild this bridge to save the time of bypassing the Lucki bridge or the bridge of Hasan Brkic. Among all the three temporary bridges downstream from the Old Bridge, the Kamenica is the most widely used, the most complete and the most likely to be restored one.

img 4.12

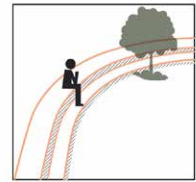
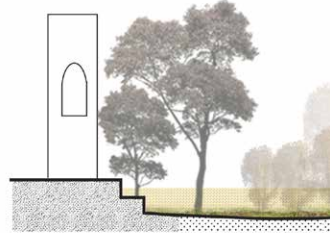
The analysis based on the Kamenica bridge remaining found on site
illustration by author

Potentials in the riverscape of Luka area Respond to the carriers of the city Mostar

GARDEN REMAINING



SECTION



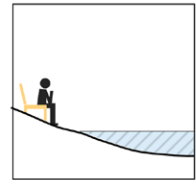
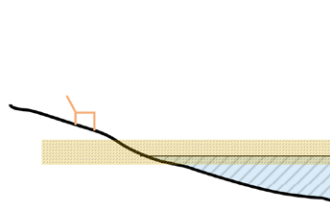
sitting



BENCH ON LAND



SECTION



sitting

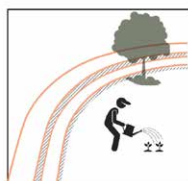
img 4.13

The analysis based on the elements of the stone round trace and the bench found on site

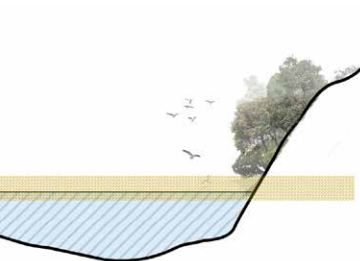
illustration by author



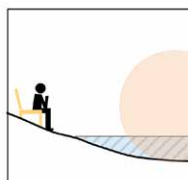
walking



gardening



fishing



watching as a whole

Elements on site

Stone round trace

Next to Kamenica bridge, under the cover of dense plants, there is a very strong circular artificial sinking space, which is defined by the surrounding round trace. Why does this artifact exist here? There is no fixed answer yet, only the fact that it came together when the kamenica bridge was built. However, it does bring freshness and surprise to the natural scenery in the wild.

Bench

Walking deep into the site, a bench suddenly appeared behind the waist-high shrubs. Empty beer cans were thrown on the ground next to it. This is a place of seclusion for residents to enjoy the river and the scenery on the opposite side.

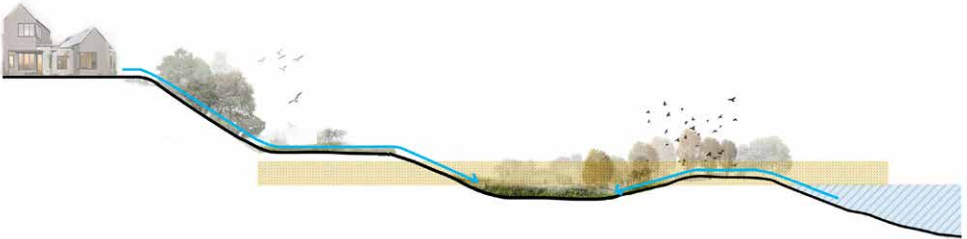
Potentials in the riverscape of Luka area

Respond to the carriers of the city Mostar

FLOODING AREA



SECTION



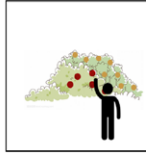
LOW RIVER LEVEL



clear up the litter



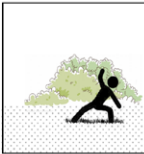
planting



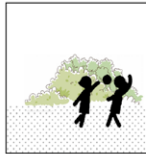
pick the fruit



meditation

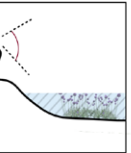


exercise

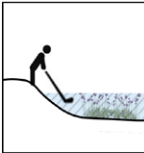


playing

HIGH RIVER LEVEL



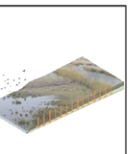
watching



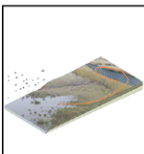
salvage



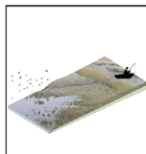
close to water



sedimentation



water storage



shipping

Elements on site

Flooded area

On the shore, the existence of the river can still be traced. In the south part of the site, the slope near the river is relatively gentle, resulting in greatly affected by seasonal flooding. As the river was heavily polluted, when the river receded, the garbage in the river was retained by the shrubs on the shore. In that sense, the vegetation on the shore becomes natural purifiers. However, this situation reminds us that attention should be paid to water management in this area. Uncontrolled garbage, flooding, and storms are parts of the important reasons why this site is abandoned.

img 4.14

The analysis based on flooded area on site
illustration by author

Potentials in the riverscape of Luka area
Respond to the carriers of the city Mostar





Elements on site

Ruins

Besides the elements analyzed above, there were other ruins remaining on site. Coming from technology, they are hidden in nature. They help to form the unique atmosphere of the site and present the pace of “freedom” and “restriction” by acting as the triggers of the story of the microcosm.

img 4.15

The analysis based on the ruins existing on site
illustration by author



Potentials in the riverscape of Luka area

Respond to the carriers of the city Mostar

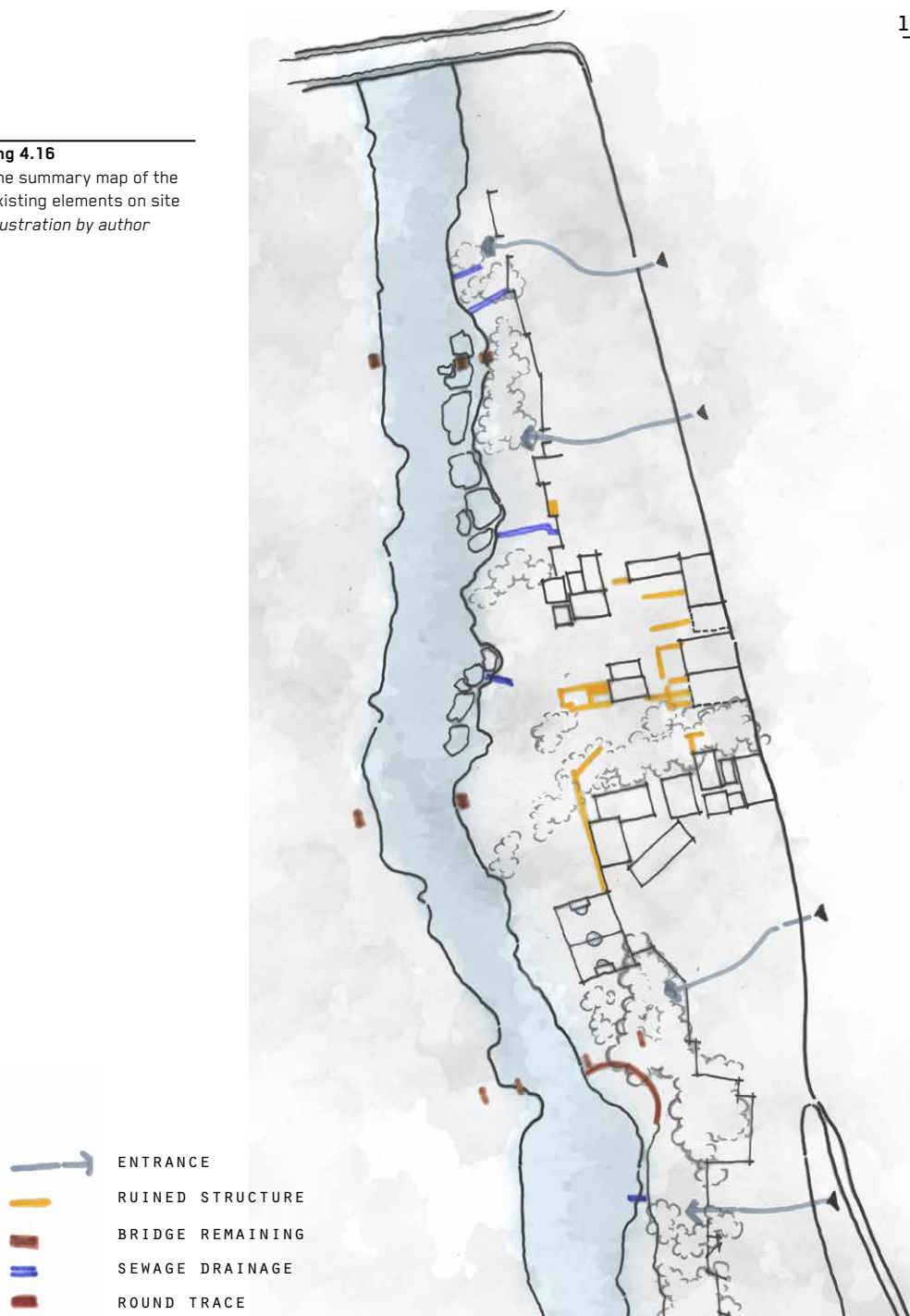
Elements on site

Conclusion

The map on the left side summarizes the existing elements of the site relate to the carriers of the city Mostar. It illustrates that the three carriers - the river, the bridge, and the stone all exist in the site but presenting in various forms. They are really inseparable parts of the history of the city Mostar. They either existed already at the beginning phase of the city or were created when the city experienced the dramatic ordeal - the war. In any case, they are now collectively abandoned at this beautiful riverside site in the post-war painful period of the city Mostar. It is for this reason that they have offered the chance to make this site a place from which a new chapter in the entire city starts.

img 4.16

The summary map of the existing elements on site
illustration by author



Problems

From the carriers on-site to the city Mostar

in spite of the potentials mentioned in the last part, there are several main categories of problems that can be identified in the site which are related to the research objectives of this thesis.

Accessibility

There are several reasons for this problem. On the one hand, the geography of the city Mostar makes the route to the site steep and difficult to find, especially when there is a lack of management, nature takes over and the bushes block the entrance. On the other hand, due to the urban expansion, there are more houses and gardens occupied the land between the river and the city, making many roads to the site a dead end.

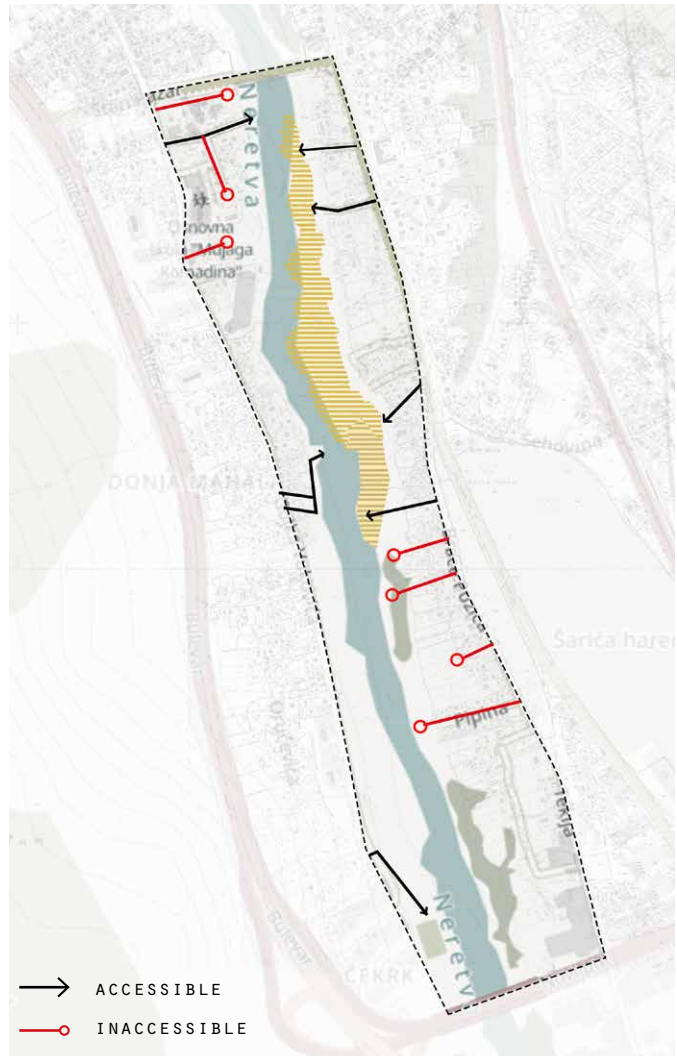
Water management

There are several aspects that need to be improved in the field of water management in the site, also belonging to the whole city's problem field. Firstly, there are no specific strategies to deal with the serious contamination problems in the river caused both during wartime and after the war. Nowadays, people even discharge domestic sewage directly into the river. The quality of the river is not up to standard for many activities, such as swimming, diving, and interacting with the river. Secondly, flooding also presents a crucial problem in the whole city Mostar, inevitably showing its strong influence on the site. Without effective drainage and planning, the seasonal flooding inundates the low section of the site. As a result, inhabitants here built higher walls for their private gardens and abandoned the riverside site as a buffer zone to keep the flooding outside.

Spatial configuration

As mentioned above, there are abundant architectural and natural elements on-site that have big potential

to be re-organized into an ordered way to reveal the narrative about the site and city which is developed by the visitor itself. So far, there is a lack of organization and emphasis between these elements, which need to be linked in a planned way. That's also the problem what the city Mostar is facing: how to retell the story between the city and its people, based on what they share together- the image of destruction.



img 4.17

The map shows the accessibility to the site in the Donja and Luka area
illustration by author, based on open street map

Conclusions

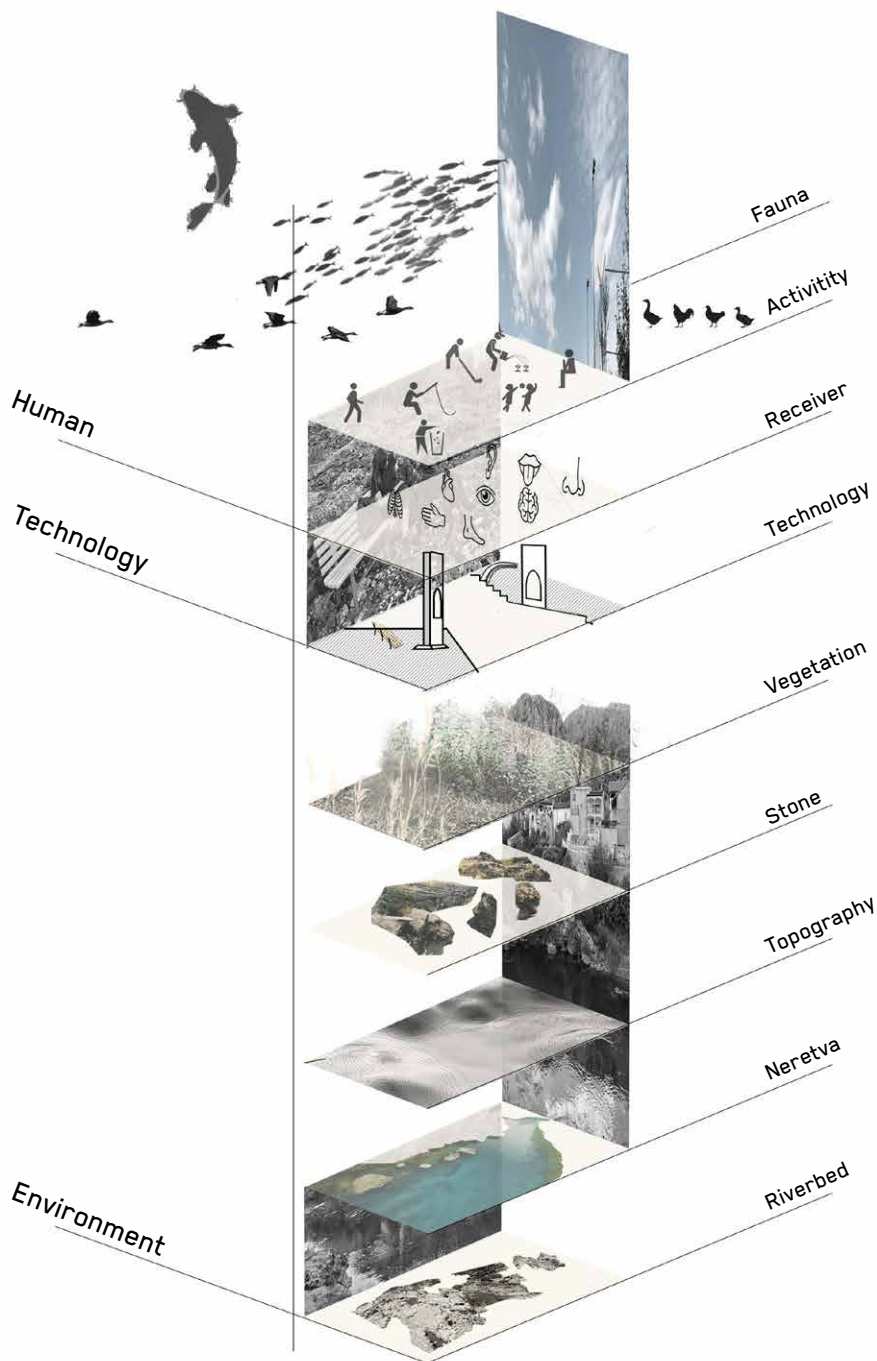
As an overall conclusion of the site analysis chapter, it's important to keep in mind that the potentials and the problems showed in this certain site also relate to the city Mostar of which the site is part.

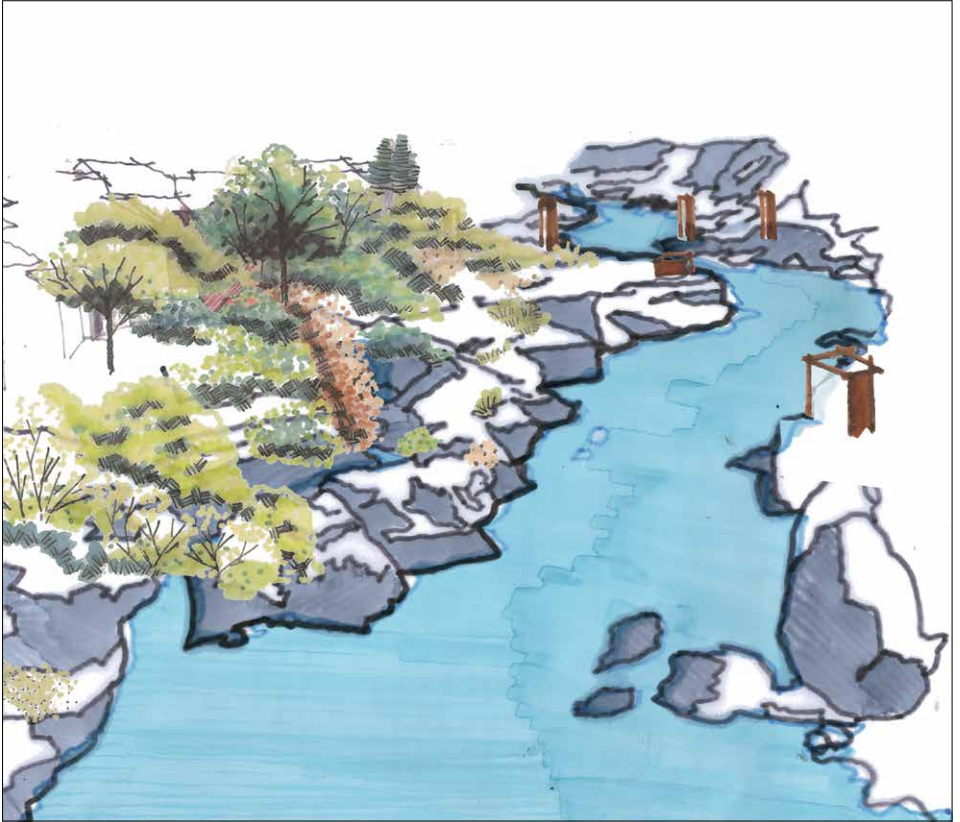
Based on all the analysis, it is fair to say that there are great potentials in the site. First of all, creating a garden on its location can respond to the problems of lacking public space on the east coast in terms of the urban public space. Besides, transforming the site into a garden provides the opportunity to start re-introducing the detached river again to the city and its citizens. By this, the three carriers- the river, the bridge, the stone could be re-activated together, by re-emphasizing their roles in the progress and their internal connections both in the site and the city. Because of the reason that these carriers are also present in the same state, perhaps in different forms throughout the city, emphasizing and interpreting them in this site can extend such links beyond the site itself but to the whole city.

However, it calls more spatial interventions to bring this site to the people. For example, the accessibility needs to be strengthened, the expressing qualities of the elements analyzed before need to be improved. In order to tell the story of the city through this microcosm, a scattered series of events, characters, processes, and places need to be activated into meaningful configurations.

img 4.18

The illustration shows the stratification of the site, needing to be interwoven
illustration by author





img 5.1

The illustration shows the selected site, composing with three carriers and vegetation.

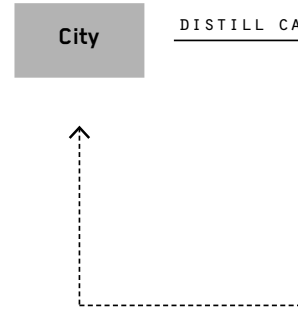
illustration by author

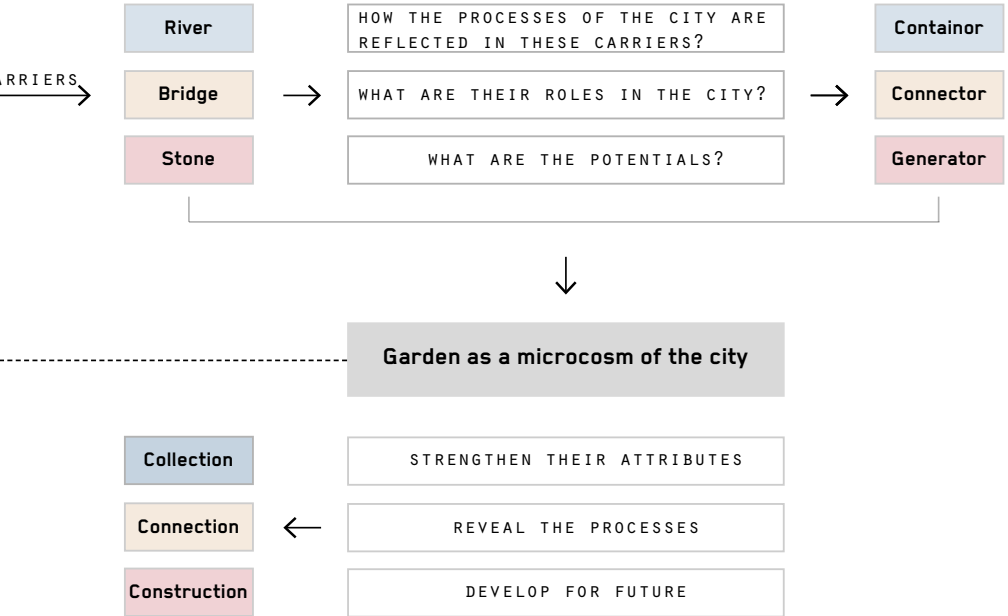
V. CREATING GARDEN AS A MICROCOSM OF CITY

Based on the analysis of the carriers in the former chapter, the inner attributes of the carriers that are exacted to stand for the distinctive characters of the city have been revealed. In the last chapter, there are elements belonging to the carriers with specific conditions. In order to respond to the research and design objectives, the design principles are supposed to link both the conclusions from these two chapters, focusing on re-activate this riverside part to bring the riverside back to peoples' lives with the interventions, that could be applied in other similar situations in the city.

Functioning as a microcosm of the city, it means the garden offers the connection between the garden and the city through the experience. This connection could be perceived physically, visually and mentally. Therefore, adopting the principles to the site will result in design proposals that enhance the relations between the carriers and the city.

In order to define these principles, it's helpful to analyze precedent study with similar objectives and project conditions, in order to learn from the process and finally introduce the specific principles to the site.





Precedent Study

Cap de Creus - EMF Landscape Architecture

This project is an excellent example of the projects that landscape driven nature restoration.

Asked to reclaim habitat strictly through demolitions, it managed to achieve the landscape restoration development in a creative way. ThroughT inexpensive, simple, and thoroughly considered interventions, the project silfully coordinates destruction and construction to celebrate the natural and culturall characteristics of the site. It proposes ways to choreograph on-site visitors into a narrative that stimulates the culture in nature in an innovative approach to finally question whether erasing and voiding is just as valid as filling in and adding.¹⁷

By re-organizing the topography and drainage systems of the site, it succeeds to reveal the ecosystem dynamic processes, by which the original flows of the sediments are established. Besides, the experience it creates on-site is culturally fulfilled. The subtle interventions were promoted to remind of visitors the overwhelming force of nature, by leaving the features of the environment as they are to establish the bond between the visitors and the landscape.

The approach of raising and emphasizing the curiosity of the users is adoped widely in this project. In stead of showing everything directly in front of everyone, it makes sure the astonishing features and stories are hiddend to be discovered behind the interventions. The narrative in Cap de Creus projects awaits the user in suggestion and not in the direct message. This way the user interacts with the meaning, making the experience far more intense and memorable.¹⁸

¹⁷ Asla.org. (2019). *ASLA 2012 Professional Awards | Tudela-Culip (Club Med) restoration project in 'Cap de Creus' Cape.* [online] Available at: <https://www.asla.org/2012awards/365.html>

¹⁸ Paisatge, E. (2019). *EMF | Estudi Martí Franch | Arquitectura del Paisatge.* [online] Emf.cat. Available at: <http://www.emf.cat/en/team.html>



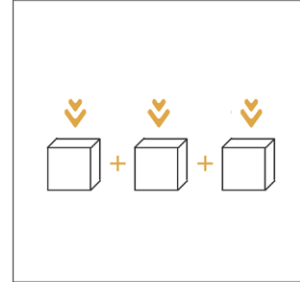
img 5.2

Landezine.com. (2019). *Tudela-Culip Restoration Project in Cap de Creus* by EMF Landscape Architecture « Landscape Architecture Platform | Landezine. [online] Available at: <http://www.landezine.com/index.php/2011/03/tudela-club-med-restoration-in-cap-de-creus-by-emf-landscape-architecture/>

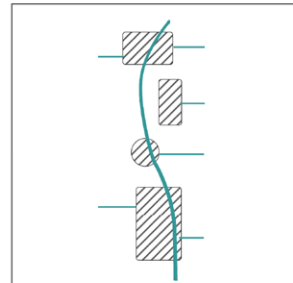


After identifying the potentials and problems of the site in terms of carriers and its relation with the city through the analysis of the site, and looking in similar landscape architectural proposals from precedent study, it is necessary to define a series of principles that will be applied in the Luka riverside area as a way to guide the design process and answer the research objective. The following principles are its developed strategies are referring to all the scales.

The design principles consist of a key point between the analysis and the design phase, aiming to re-activate the riverscape with interventions on the carriers. Guided by the design principles, the design process can act as a reflective part of the thesis, by testing itself repeatedly with principles and objectives. Finally, after the particular carriers on-site and design principles are defined, the application of the principles through the design process is following.



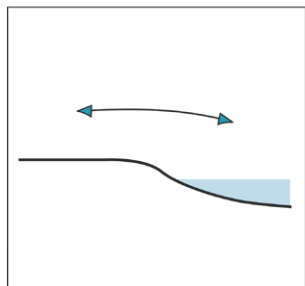
Enhance the attributes of the carriers



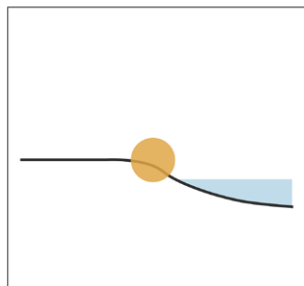
Enhance accessibility

img 5.3

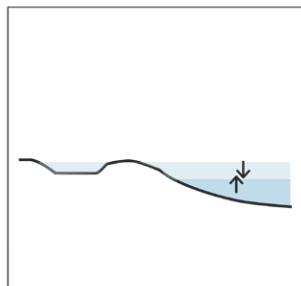
The diagram shows the principles and strategies extracted for the project
illustration by author



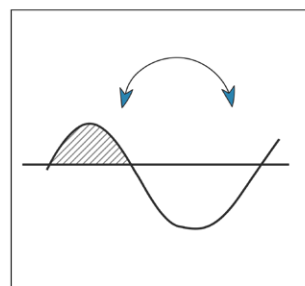
Work with flows



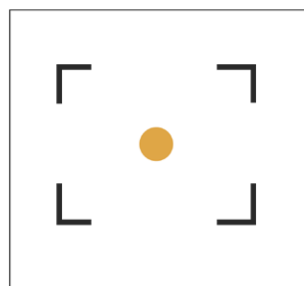
Re-activate the river edge



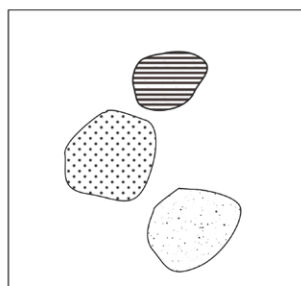
Reveal the natural processes



Cut and Fill

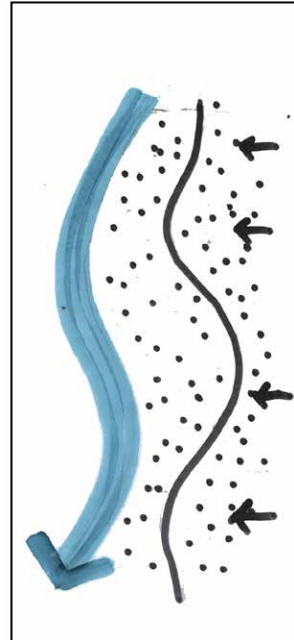


Frame and view

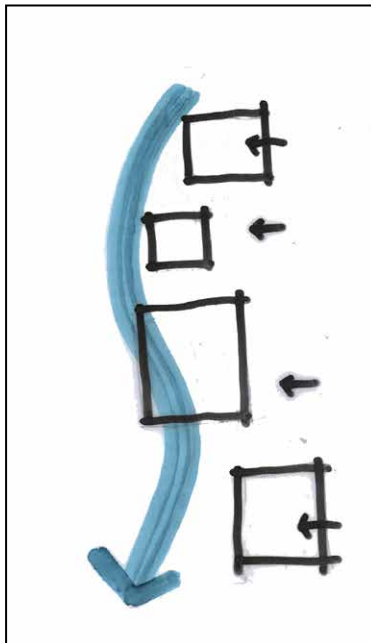
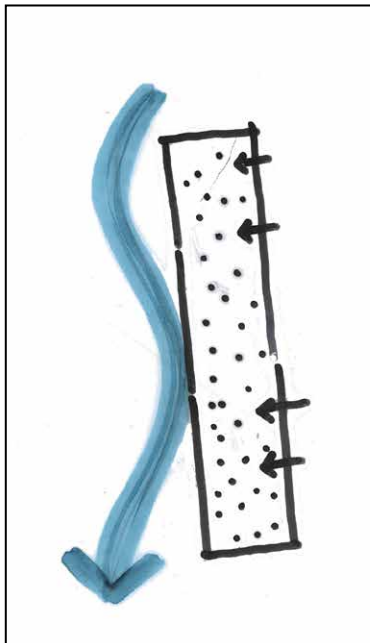


Introduce new vegetation patches

In order to achieve the essential synergy between the own polarities of the garden as a microcosm of the city and the relationship between it and the city of which it is part, it's crucial to discuss the way to organize the garden to control the experiential pace of freedom and restriction. The diagram on the left side concludes three ways to realize this control. The first one, the main road clearly runs through the garden, with elements scattered. The second one, there is no guidance with a definite road, therefore visitors are free to explore the garden in the clear, fully controlled boundaries. The last one, it proposes a way that the interventions are concentrated in certain areas while other areas are relatively left as what they are. In this case, the last approach is adopted to choreograph visitors on-site into their own narratives that stimulate their interpretations in nature, as well as to realize the freedom within controlled void and filling.



img 5.4
The three different ways
of organizing the garden
illustration by author



The key to this design strategy is to determine the area of filling and void. In the site analysis chapter, elements that respond directly to the carriers are indicated in the map at the left side, from which it indicates clearly that there are some parts where these elements most densely distributed. This is one of the reasons for the decision of the "filling part". In these areas, the interventions made to carriers can be presented more coherently and consistently as meaningful spaces.

To make the garden a place to expose the particular material both evident and hidden, and present the riverside rocky landscape with the metaphorical hints, the interventions should be carefully selected and taken. They could be regarded as the transformations, to connect the gorgeous nature and the landscape image accommodated in it by expressing the specific context. Therefore in that sense, the voiding of design means can be an effective design method to form the contrast with areas with more dense proposals to display the potentials within the carriers and makes the experience in the garden more intriguing.



img 5.5
The principle of controlling
and releasing on the site
illustration by author

The masterplan

The site Luka area has an important and brilliant history, which is one of the oldest and most famous neighborhoods in Mostar. During the war, the most temporary bridges are built here to connect the flows, which are unavailable nowadays. After the war, residents spontaneously raised funds to build a playground, placed a bench, with every way they tried to regain contact with the river. The aim of this proposal is to create such a continuous base for relation and interaction between the carriers in the riverscape area as well as present as a showcase to return the liveliness to the River Neretva, the city and the people. In order to achieve the objectives, skillful water management, abundant experience by movement, as well as various natural and urban processes, are introduced in the area, based on the design principles to create the garden as a microcosm of the city Mostar.

One of the main characteristics of the proposal is the introduction and formulation of a new water flow taking advantage of the existing terrain and connecting to the river body, but showing a total brand new system involving the processed of purification, interaction, flooding management, and drainage control, with the cooperation of other two carriers.

Besides, the time development will be taken into account when the processes and changes will take place to ensure the garden developed dynamically along with the city. A garden is a place of a continuum, a zone of flows and interrelation and new ecological qualities. All the layers of the proposal will affect each other, by digging most potentials of the existing carriers on-site and enhancing the landscape characteristics.



img 5.6

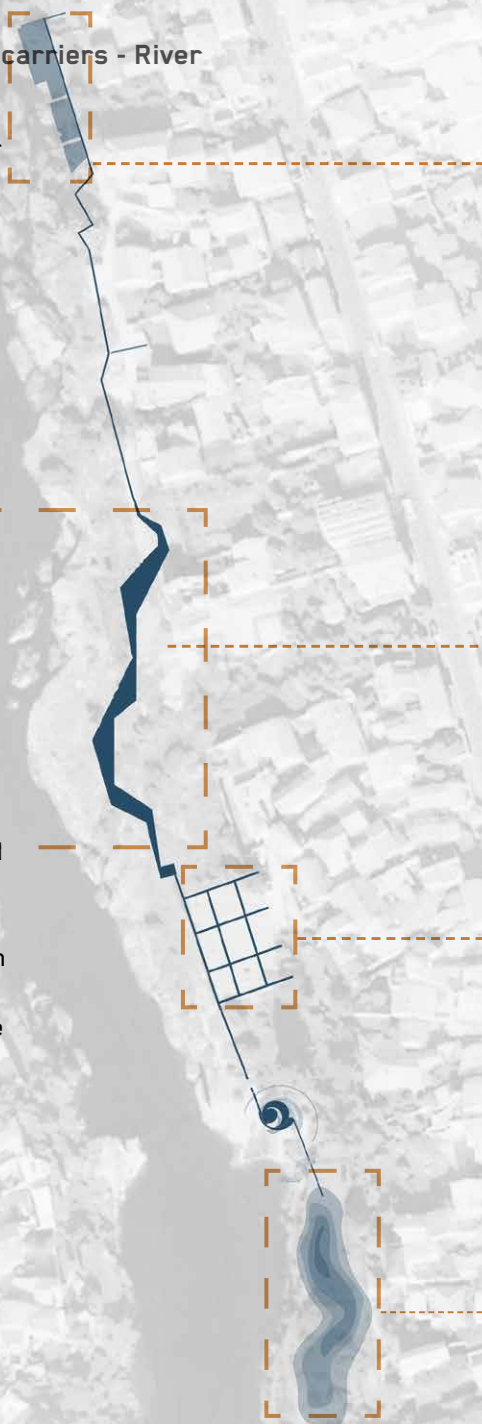
The masterplan of the garden as microcosm of the city Mostar
illustration by author

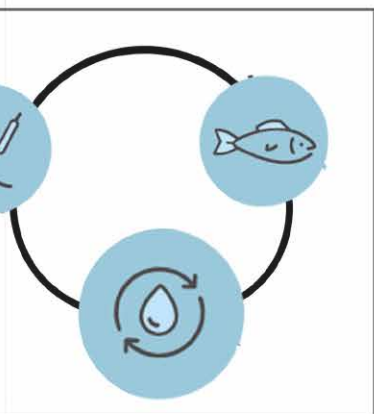
The application of the design principles in the Luka area

Enhance the attributes of the carriers - River

To achieve the goal both stimulating the reuse of the river but also achieving the garden as a microcosm of the city, this layer seeks to introduce four different phases to summarize and inspire to a bigger scale about how to make the river reused. This principle refers to not only the river Neretva itself but the water bodies from it to realize the transitions.

Given the serious contaminated Neretva is, the first issue is to make the water qualified to be reused. Through a series of operations such as controllable valves, oxygen exposure, and phytoremediation, the river can be traced back to its previous functions beyond visually enjoyed - the recreation and irritation. Moreover, the new function introduces new geography, which allows the interactions between terrains and the river, relieve the pressure of the rainstorms and floods on the site.





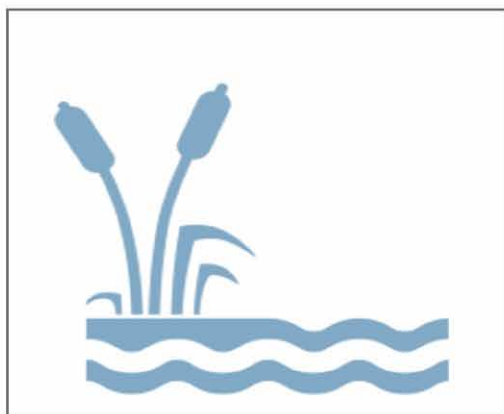
Purification



Recreation



Irrigation



Buffer

122 The application of the design principles in the Luka area

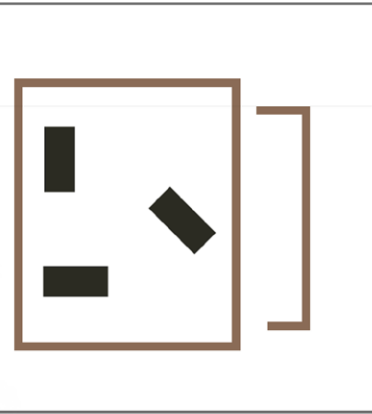
Enhance the attributes of the carriers - Bridge

The strategies towards bridges focus on activating the practical functions of bridges in the city, as well as presenting the bridge as a symbol for people to interpret the context. Due to the significant meaning the bridge has to the city Mostar and the people inside, the strategy frame and view set up a stage for the visitors, on which they are guided to arrive at the scene where they face the remainings of the temporary bridges - the broken pieces standing without any explanations. They are guided to question, answer and assume.

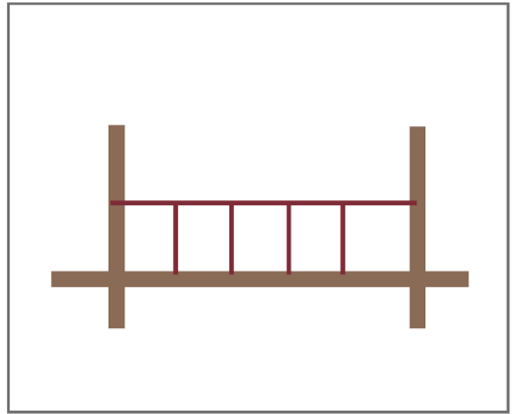
Meanwhile, the contrast between the bridge remaining and the newly rebuilt bridge also reminds people of the possibilities of what could be done based on now, and what is supposed to be carried all along.

Moreover, the restoration of the bridge fulfills the wished from locals, offering new light of restart the conversation between people, bridges and the city.

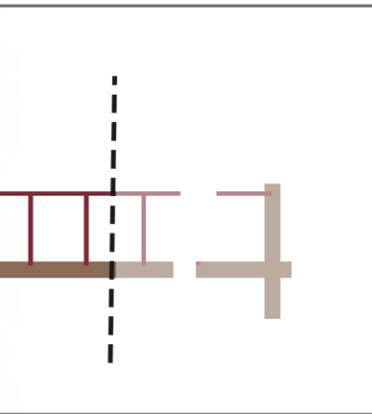




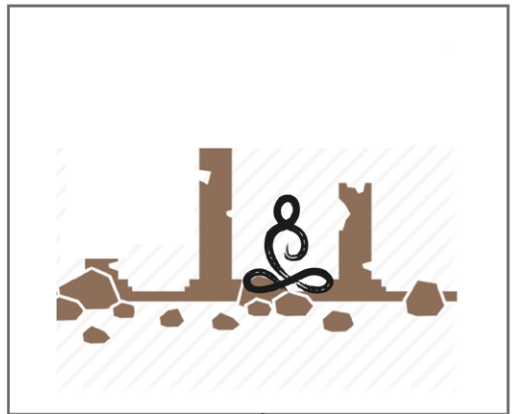
Frame and View



Connection



Contrast



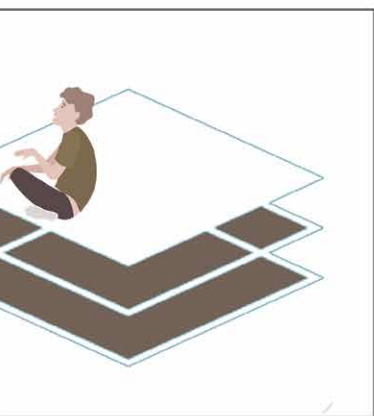
Meditation

The application of the design principles in the Luka area

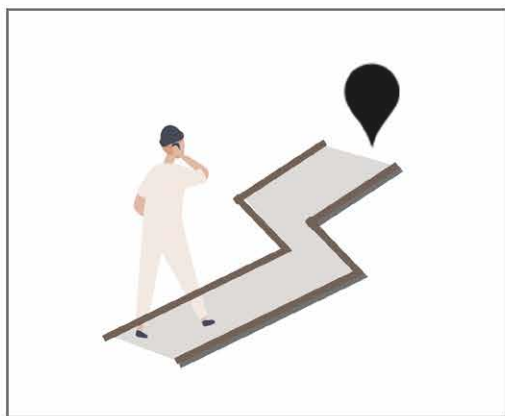
Enhance the attributes of the carriers - Stone

The activation of the stone focuses on enhancing accessibility to the riverside, providing platforms of all levels for the occurrence of various activities. Also, the adding stone path extends the existing attempts made by locals, forming a network with natural trails, leading to discovery. Besides this, the interventions explore more possibilities to this fundamental and most used material of the city. For instance, the use of stone to be natural filters to help purify the water and act as the planters to transform the playground into a community garden, generating new hopes.





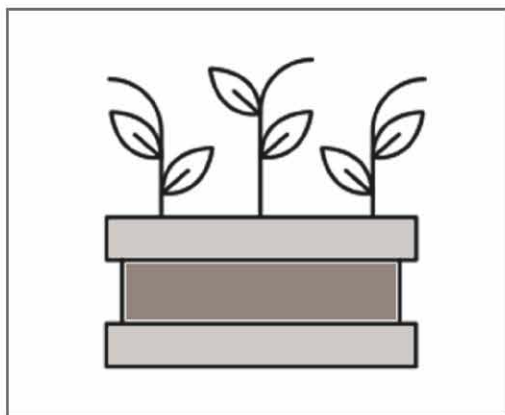
Platform



Path



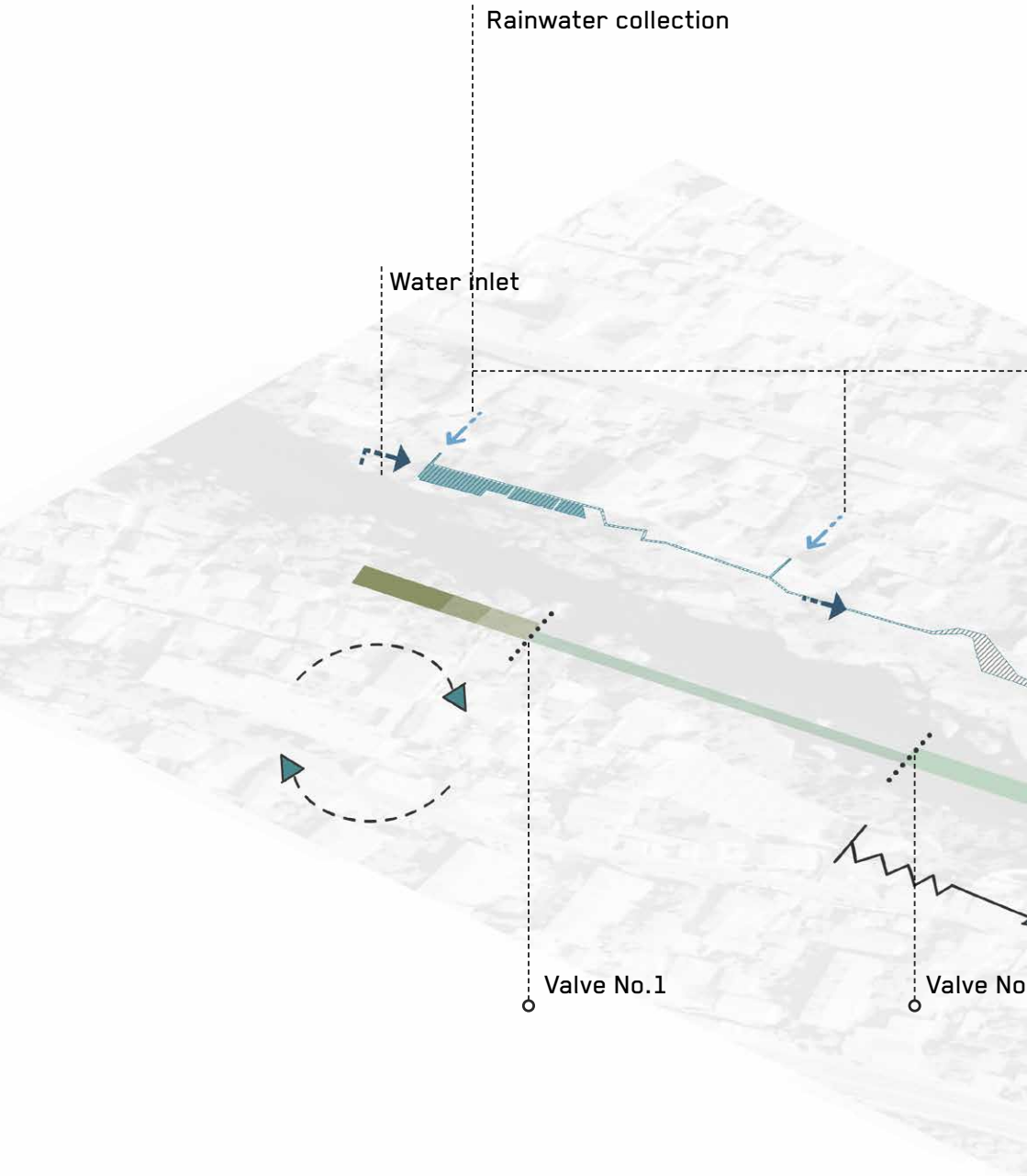
Filter



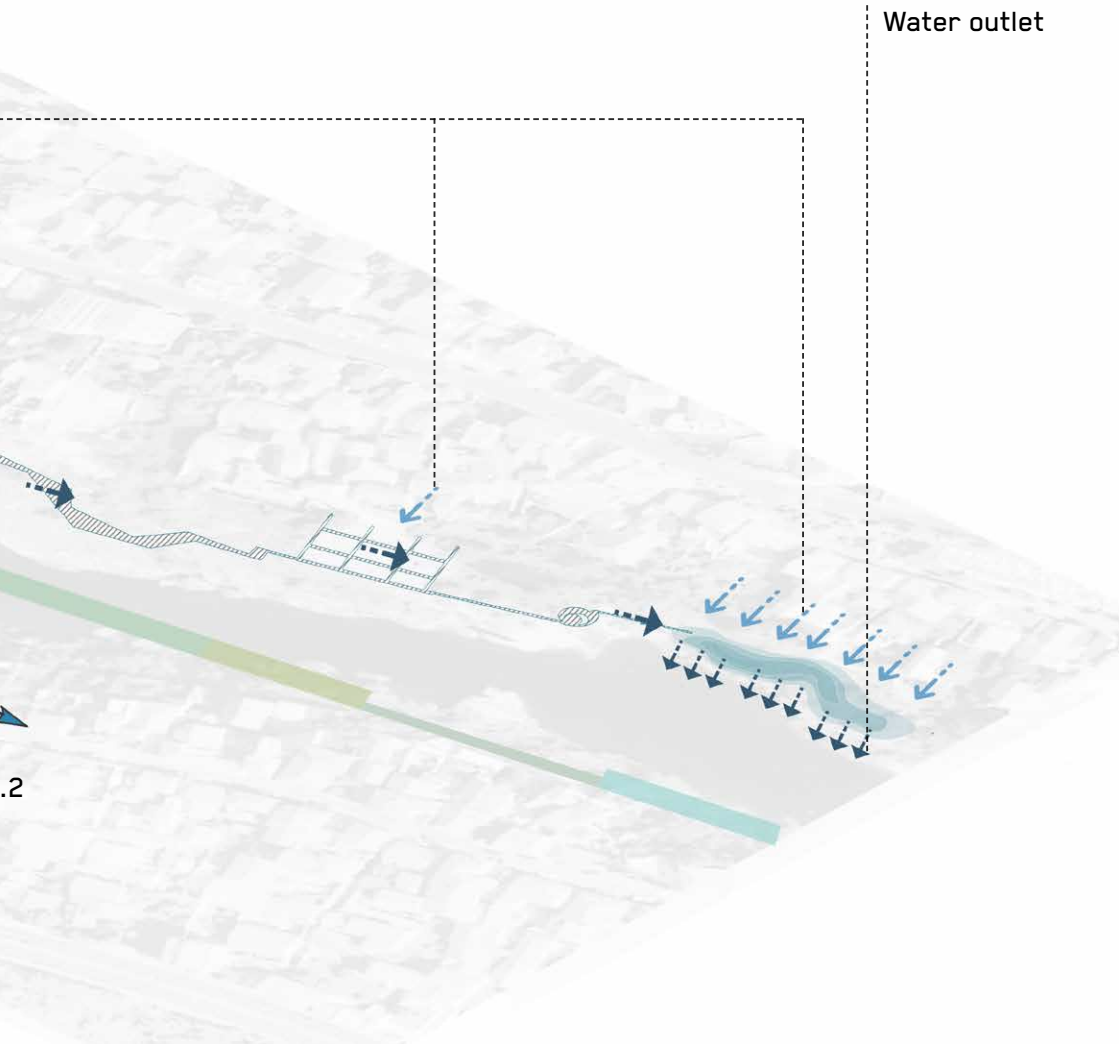
Planter

The application of the design principles in the Luka area

Work with water flows



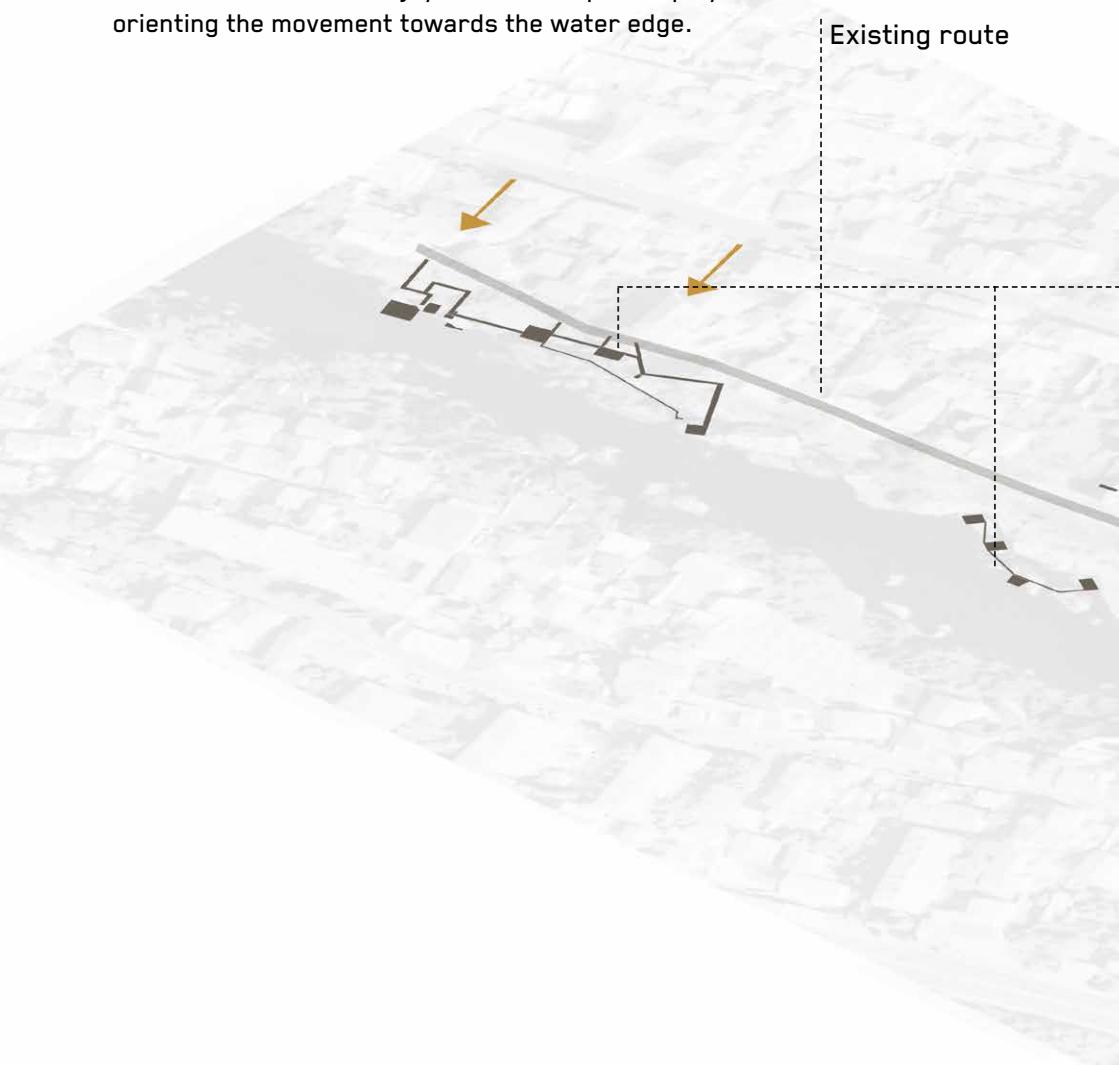
The diagram indicates the process of the water flows responding to the principle and the pollution and flooding issues on-site and the city. By purification in the first phase, the river regained the functions as recreation and irrigation. The discharge of water is controlled by the two valves until the water is qualified and meets the clock (the creek is watery for 2 hours a day in the afternoon). The new topography works to guide the rainwater from the slope, increase water storage and relieve flood pressure at high water levels in the proposed wetland part. By re-introducing these flows, the main problems are faced up while new areas of interaction are created.



128 The application of the design principles in the Luka area

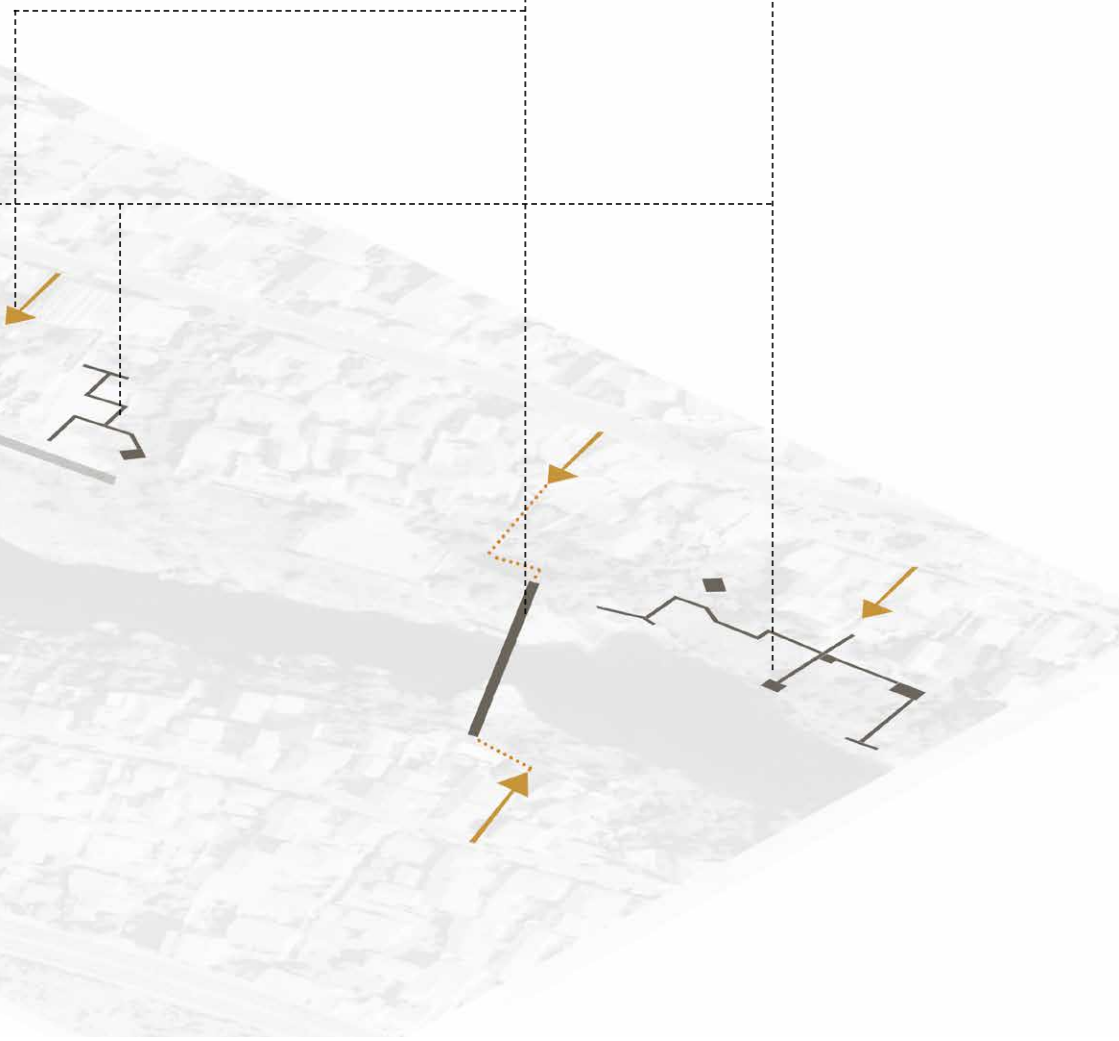
Enhance accessibility

The limited accessibility to the river remains one of the main reasons that people don't visit the riverfront area nowadays. Paths are either full of garbage or bushes. To deal with this, the adding connection - the restored bridge and newly opened entrance connect two banks' primary streets effectively. Besides, a more complex path system - having as a base the existing one - gives easier access for visitors to enjoy the riverscape and play with water in the area, orienting the movement towards the water edge.



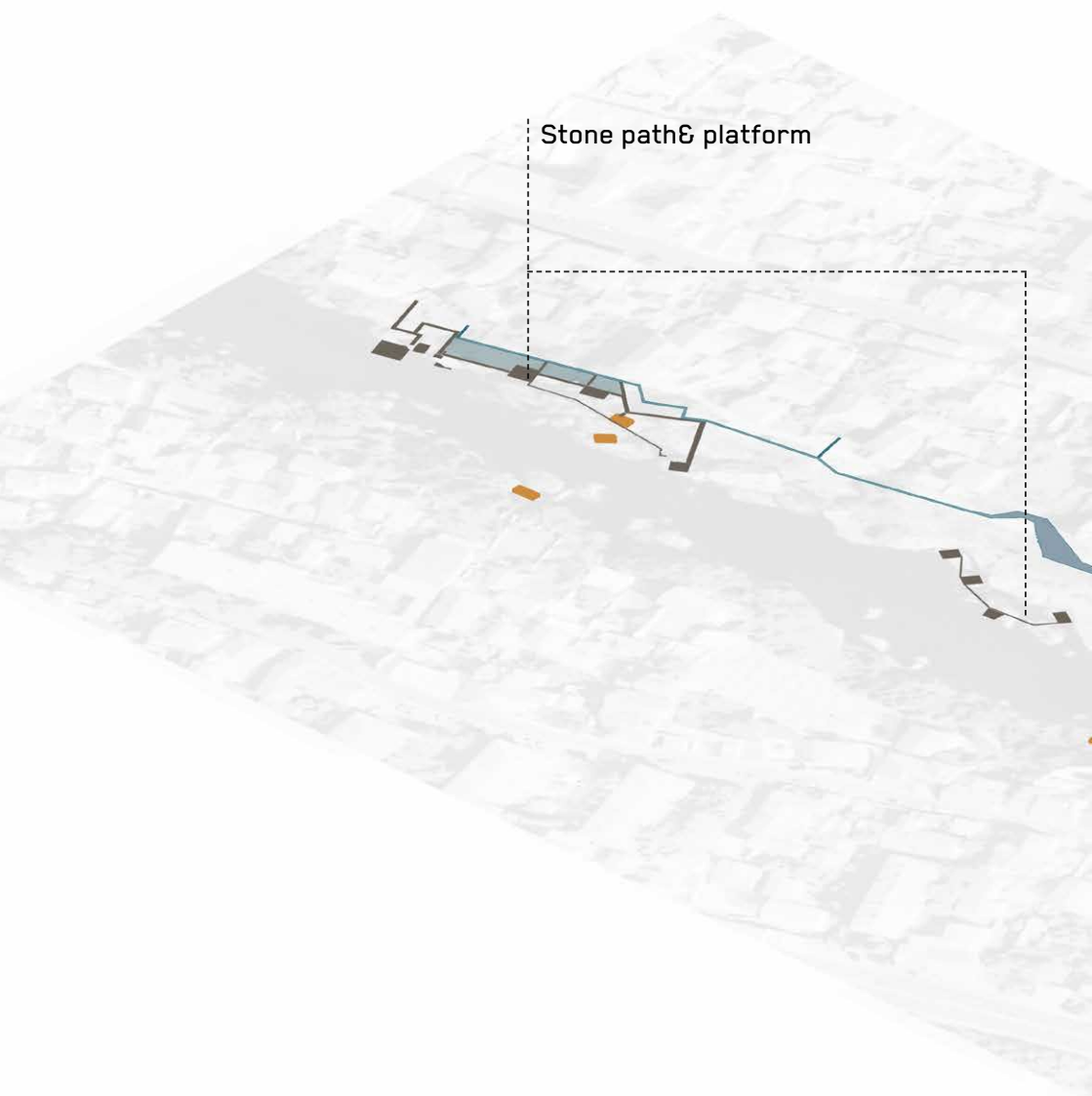
Adding connection

Proposed path



The application of the design principles in the Luka area

Re-activate the river edge



By introducing uses and activities closer to the river edge or to the re-formed waterfront are created new focal points, as transitional zones between the city and the river, where all the processes, flows, and changes take place. There are two water lines in the proposal. The strategy is towards on river Neretva, by introducing platforms with activities and trails on the floodplain areas to activate the river and relate the water level's changes with the river, providing possibilities for river activities. The other one is a representation of river, experimenting and presenting the many possibilities and combinations that can occur on a larger scale for specific riverside situations.

Emphasis on bridge

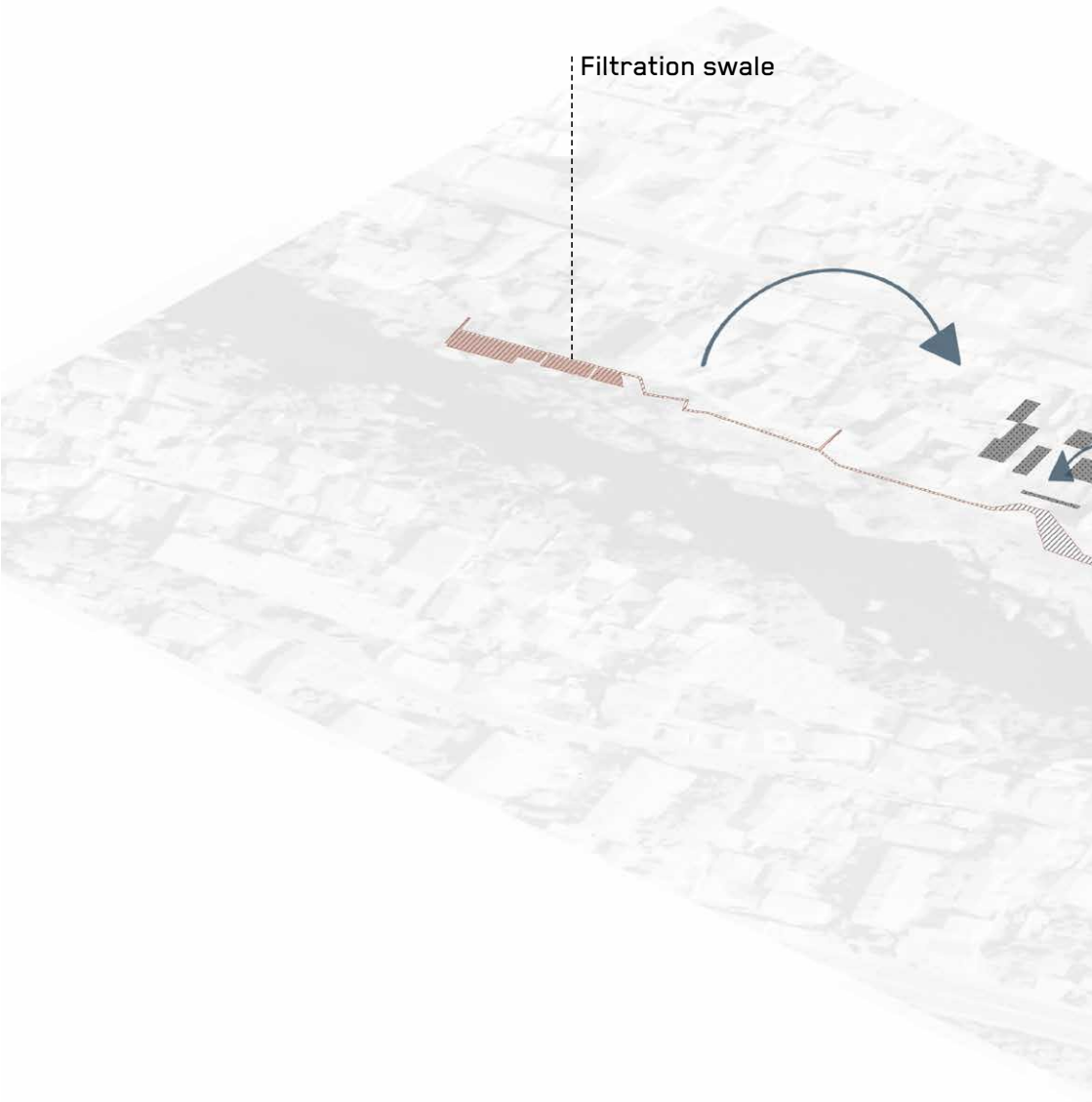
River reuse

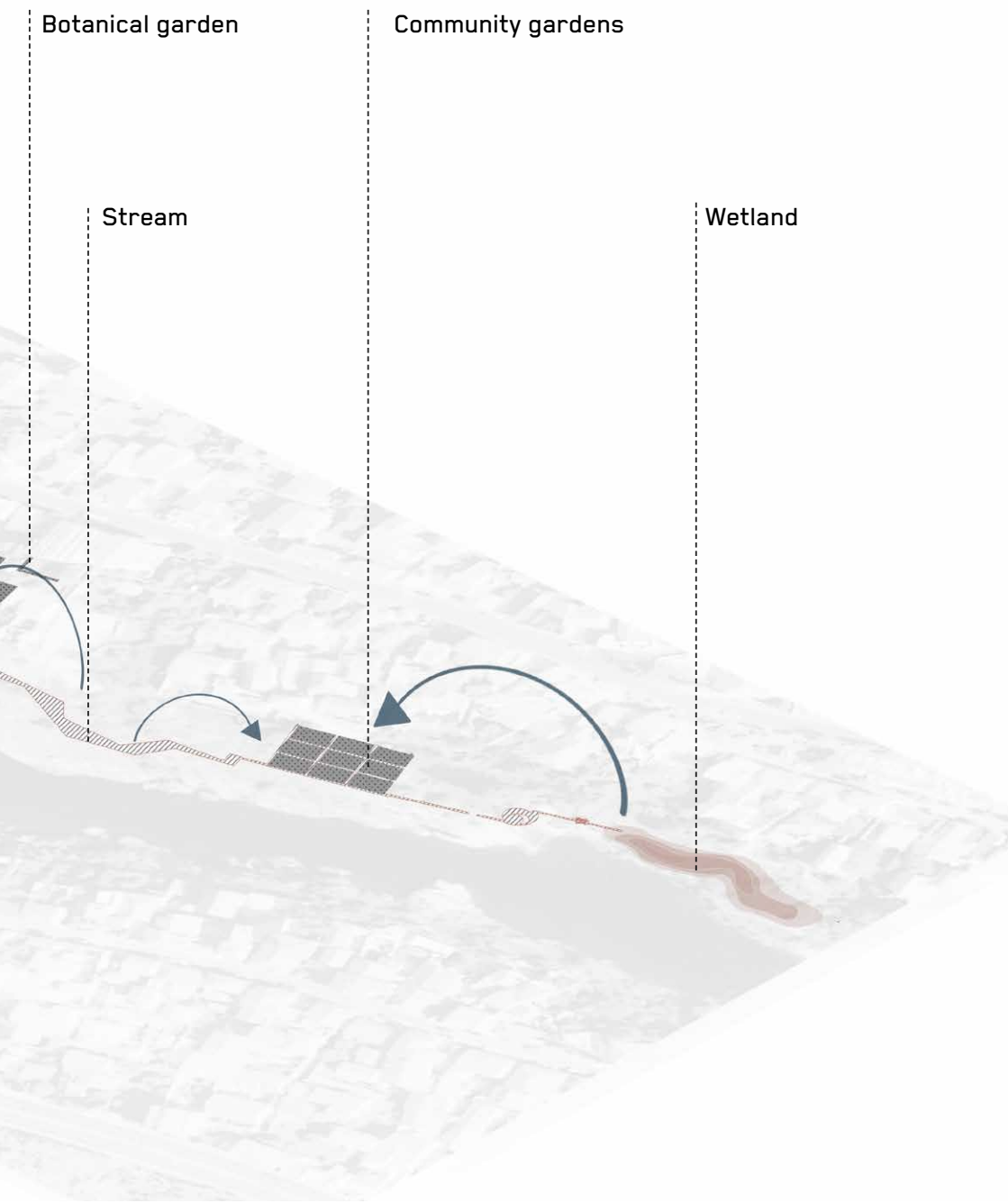


132 **The application of the design principles in the Luka area**

Cut and Fill

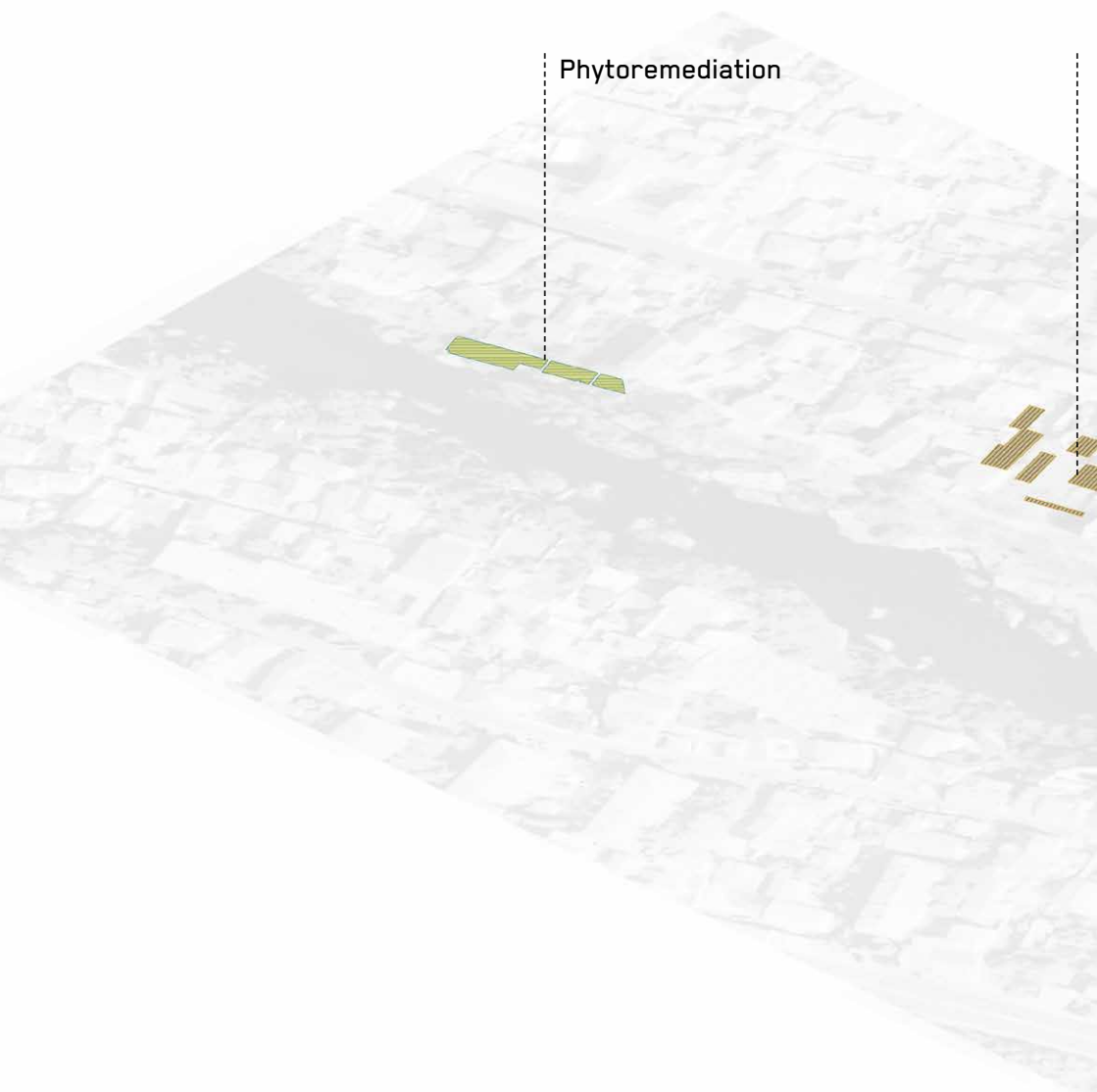
Soil is excavated from the designed creek and wetland area creating conditions for the new water flow and it is deposited on specific areas, such as botanical garden and community garden, creating higher grounds where new vegetation patches will be introduced.





134 **The application of the design principles in the Luka area**

Introduce new vegetation patches



Adding vegetation patches bring experiments of how new typologies of plants get used to the different environments in Mostar. Laying focus on their different functions, the chooses of species and their development are inspired to bigger proposals in the city scale in the future.

Plant spacing

Harvesting

Macrophyte



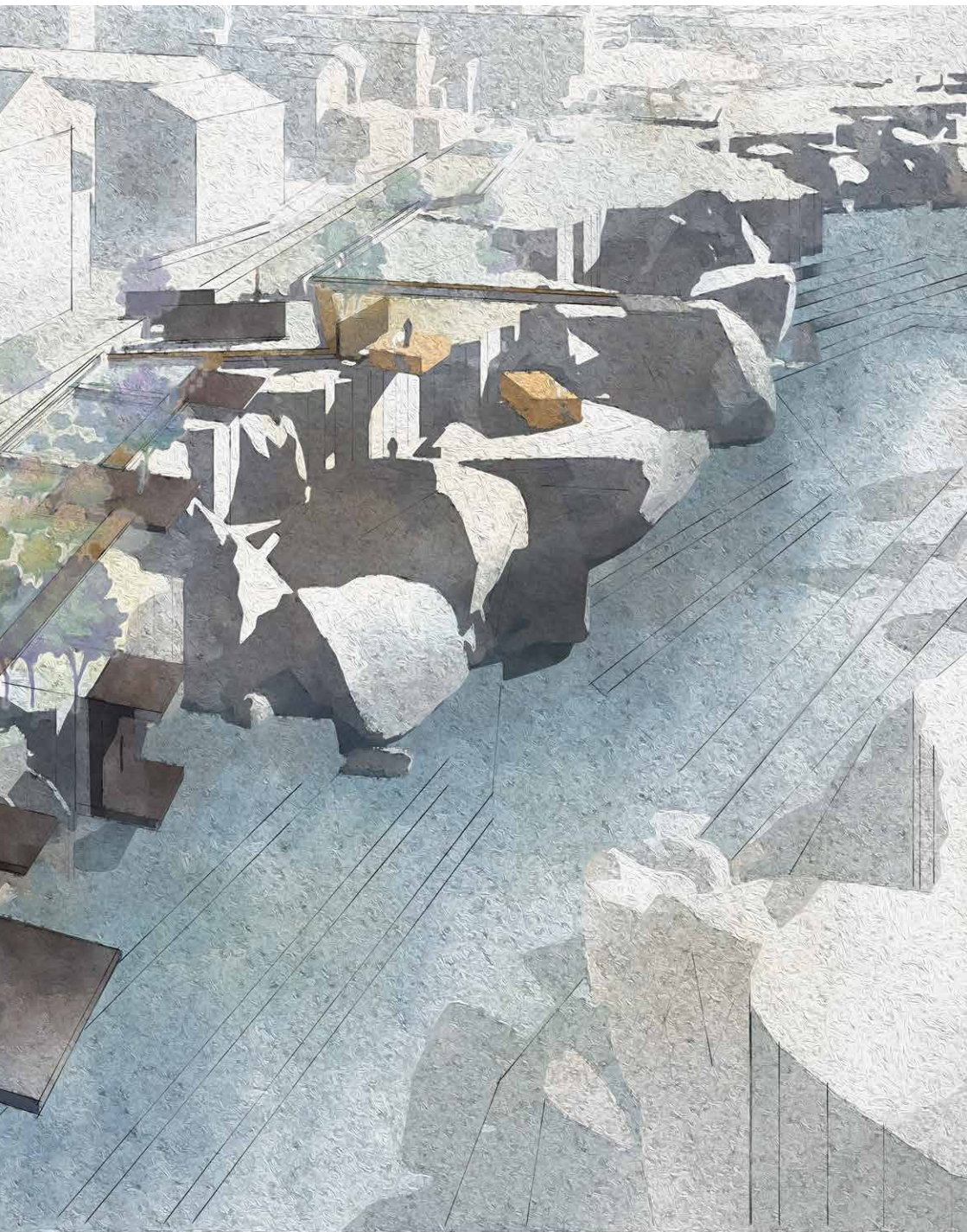
The application of the design principles results on the creation of a revived riverscape.

By constructing platforms of different heights and setting up copper walls to guide and frame, the key points are emphasized along the river. In addition, the terrains are designed for activities along with dynamic water level changes. In this way, the river itself can be activated to a certain extent. In the proposal, instead of a linear river waterway with limited interaction with visitors and surrounding landscape types, a broader dynamic zone with richer ecological value for the area and more inspiring experimental landscape processes is formed. Therefore, the water edges are not presenting barriers, on contrast they are becoming gradients related with the surrounding landscape. At the same time, the garden becomes a place where the three carriers of the city Mostar - the river, bridge, stone are interwoven richly again. Green and blue interactions penetrate into the site through the new creek shaping zones of processes translated into different places for social interaction. Also, the waterfront site becomes a zone of social and ecological relations as a pioneer affecting the whole city and the residents nearby. The riverside experience is extended beyond the limited space, triggered by certain elements on-site into personal and unbounded roaming.

According to the existing situation and the guidance by design principles, the four focus area where the interventions are relatively denser and concentrated appear. In order to examine close there relations and new conditions of the masterplan, focusing on the atmospheres on the human scale, the focus will be in four areas. With its characteristic position and its unique relation with the element of the river, each of them functions on different emphasis.







Focal Areas

Stone Platform



The first point is focusing on the reconstruction of riverside stones. Entering into the first access from north to south, crossing a thin layer of the trees, the river is directly presenting with overwhelm sound and fast flow. At this point, a bunch of combinations of rock form natural caves and platforms where the river is touchable and the sound is Adapt to this trend, new stairs to the river and new platforms. The material is likewise the natural rocks around. However, artificial shapes form a strong contrast with the natural scenery, embedded in this landscape.



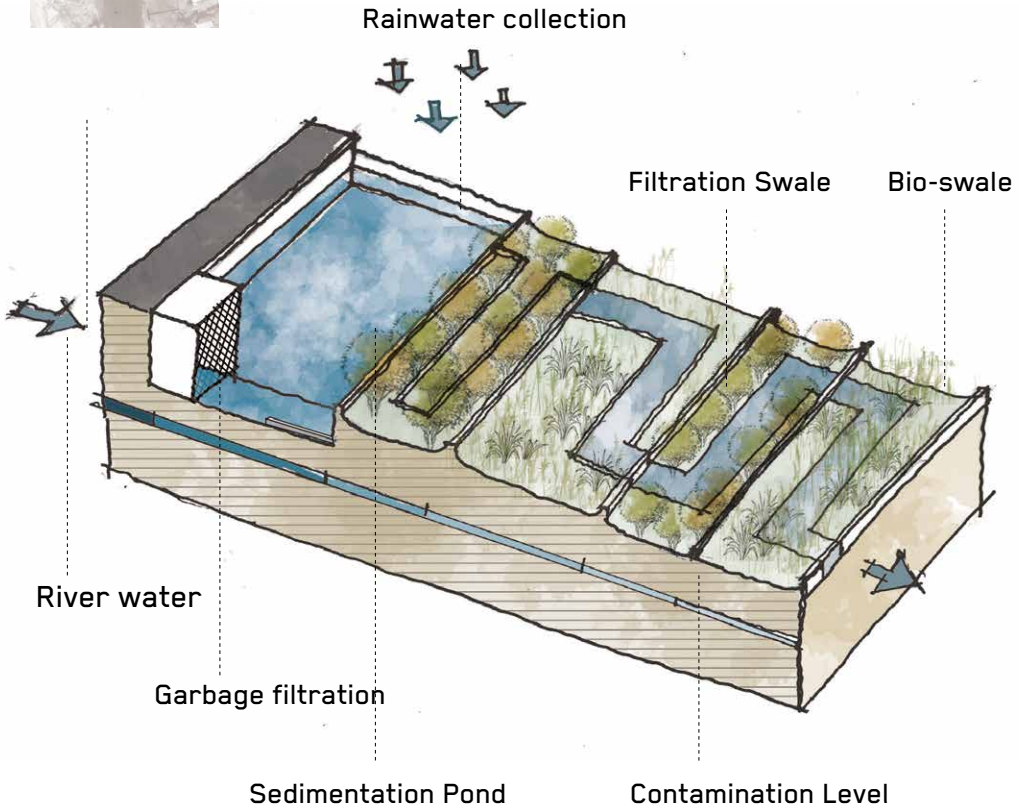


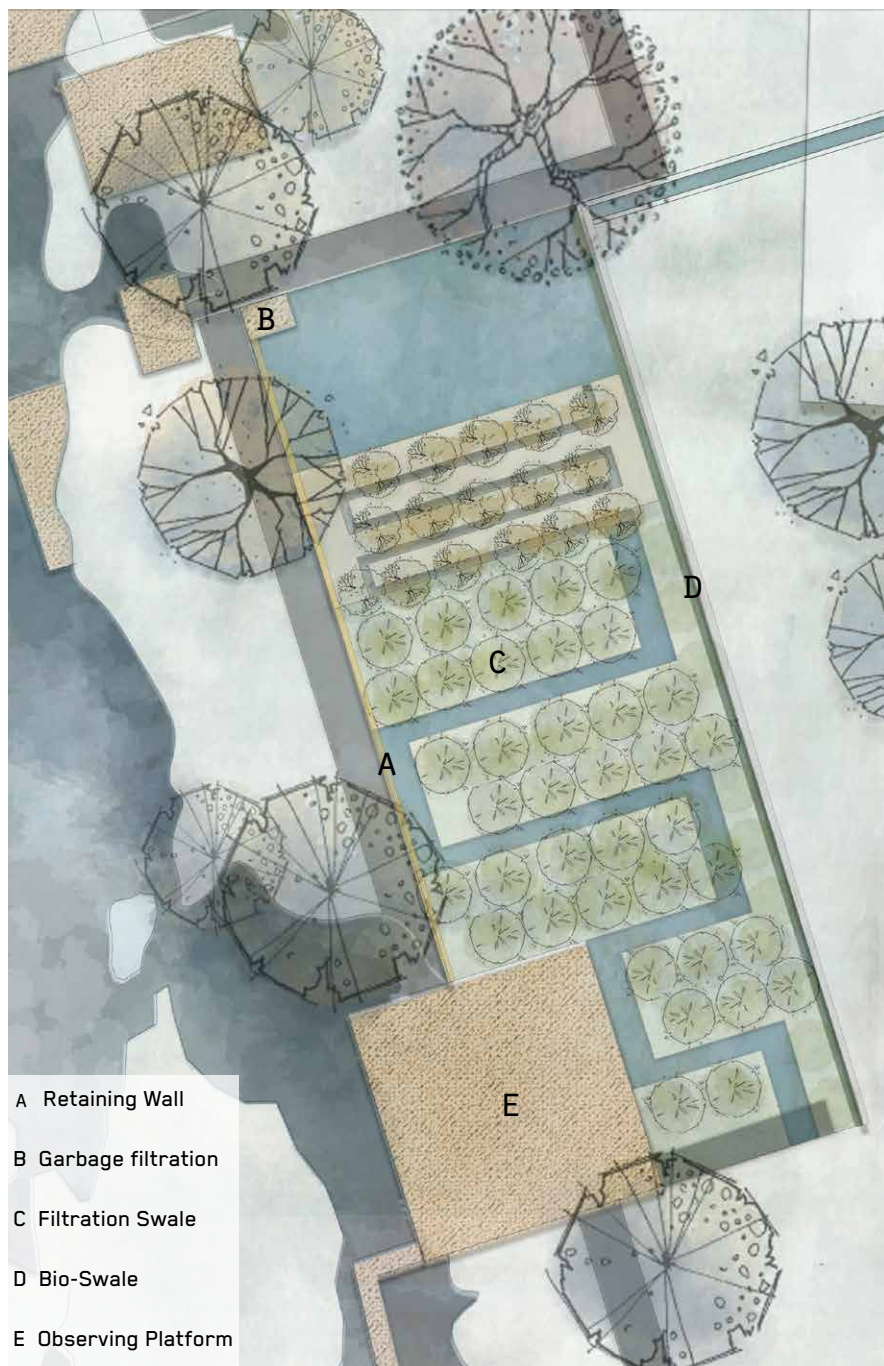
Focal Areas

Phytoremediation



By setting up the valve at the scooped part which used to be a drain, the river water is introduced into the whole phytoremediation process. The extra rainwater is stored in the bioswale. The retaining wall is preventing the river water from outside when there is flooding. Visitors are allowed to observe the process by the paths surrounded.



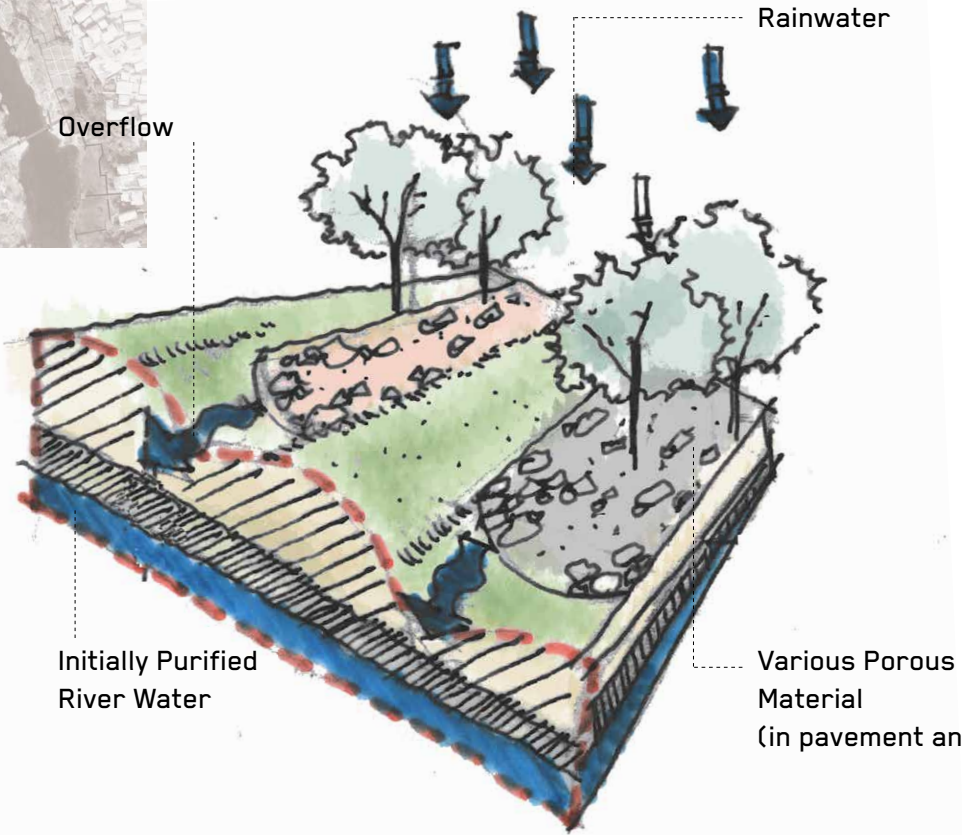


Focal Areas

Phytoremediation



The second phase of phytoremediation lies focus on accelerating the purification process and experimenting with the permeability of different materials. The different materials are placed between the rolling landform to test their permeability for infiltration. The retaining wall is holding the rolling landform. Decomposed granite places in other areas can provide permeable surfaces.



Wood Chips



Cobble



Travertine



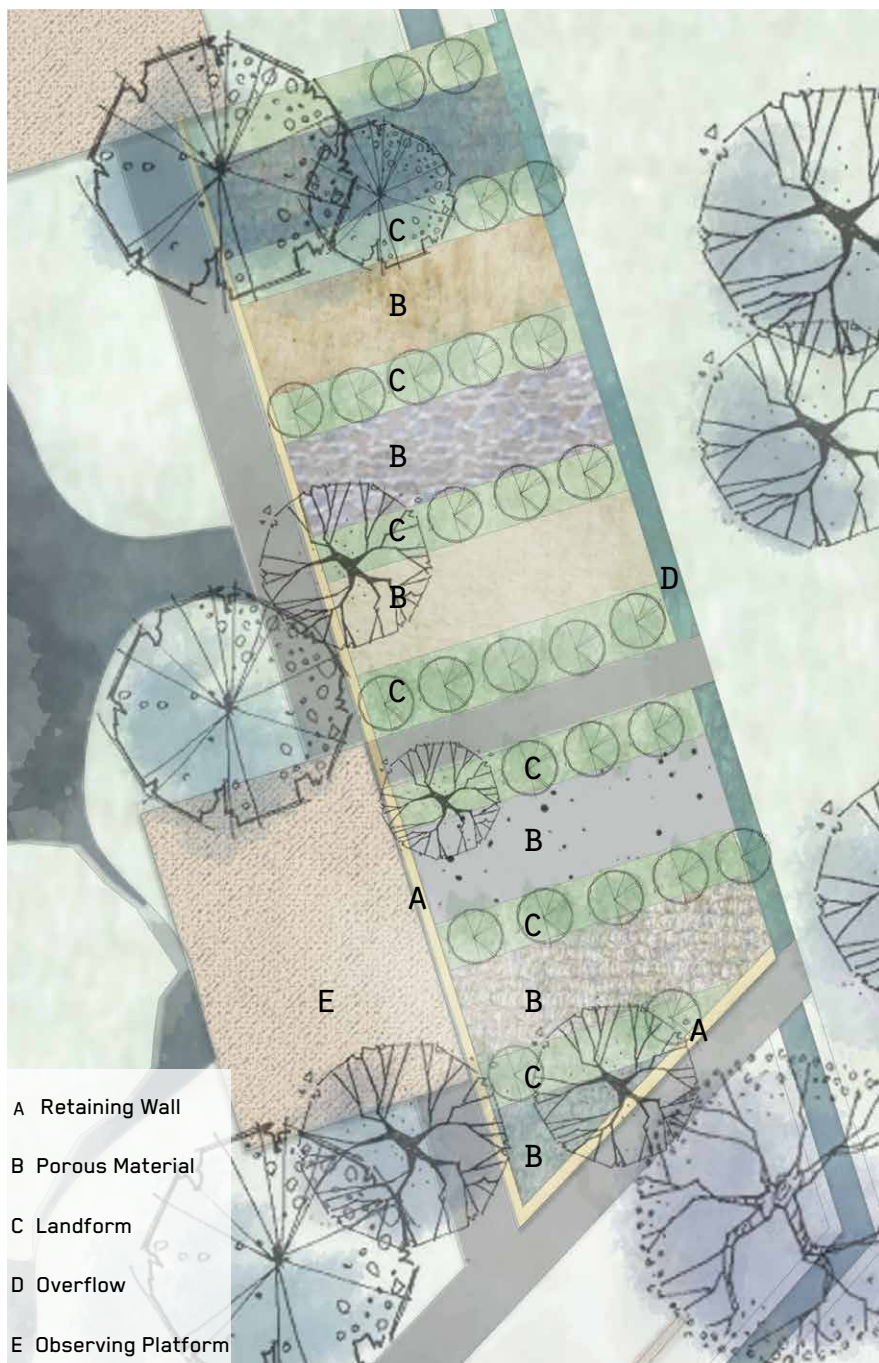
Gravel



Sand



Breca



Focal Areas

Stone reef ball



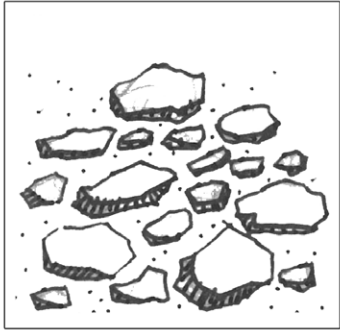
Inspired by the reef ball in the ocean, here we unite residents, use local materials, and make these river reef ball modules which are designed to create a sustainable aquatic habitat, collect the garbage in the river and achieve it in a safe, long term, environmentally compatible way.





Focal Areas

Stone reef ball



stones

+



waste

+



ce



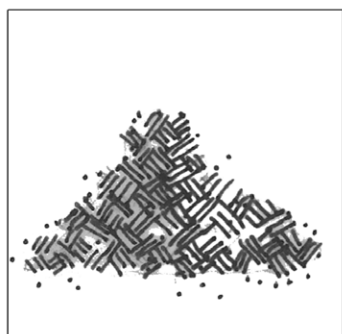
PEOPLE



PRODUCT



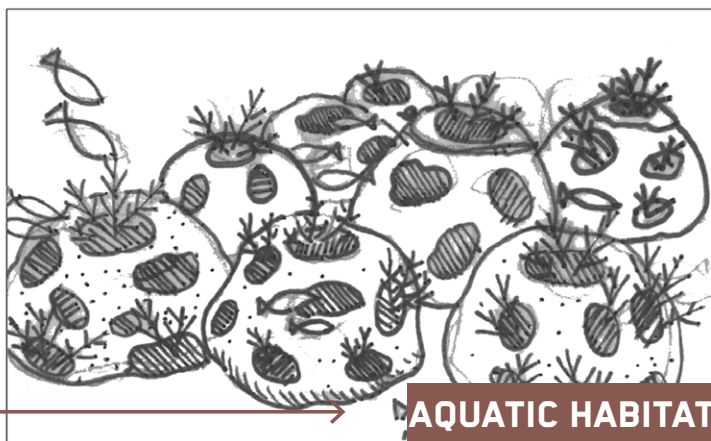
+



= Reef Ball

ment

dredge



AQUATIC HABITAT

Focal Areas

Bridge remaining



Continue the trip to the first temporary bridge. Here, several the copper walls are set up, and the pipeline for transporting the purified water passes through it. Wild plants - the drifting weeds and the dotted trees help the site with a closure atmosphere. Here visitors can explore freely, either through the opening frame of the wall or through the guided path, and finally reach the ruins of the bridge opposite the gaze. Layers of walls seem to be lenses, filtering out some of the complexity, leaving some thoughts. Finally, visitors face the river, the river landscape, the bridge remaining. It's a standing place to keep their questions and perspectives to themselves.



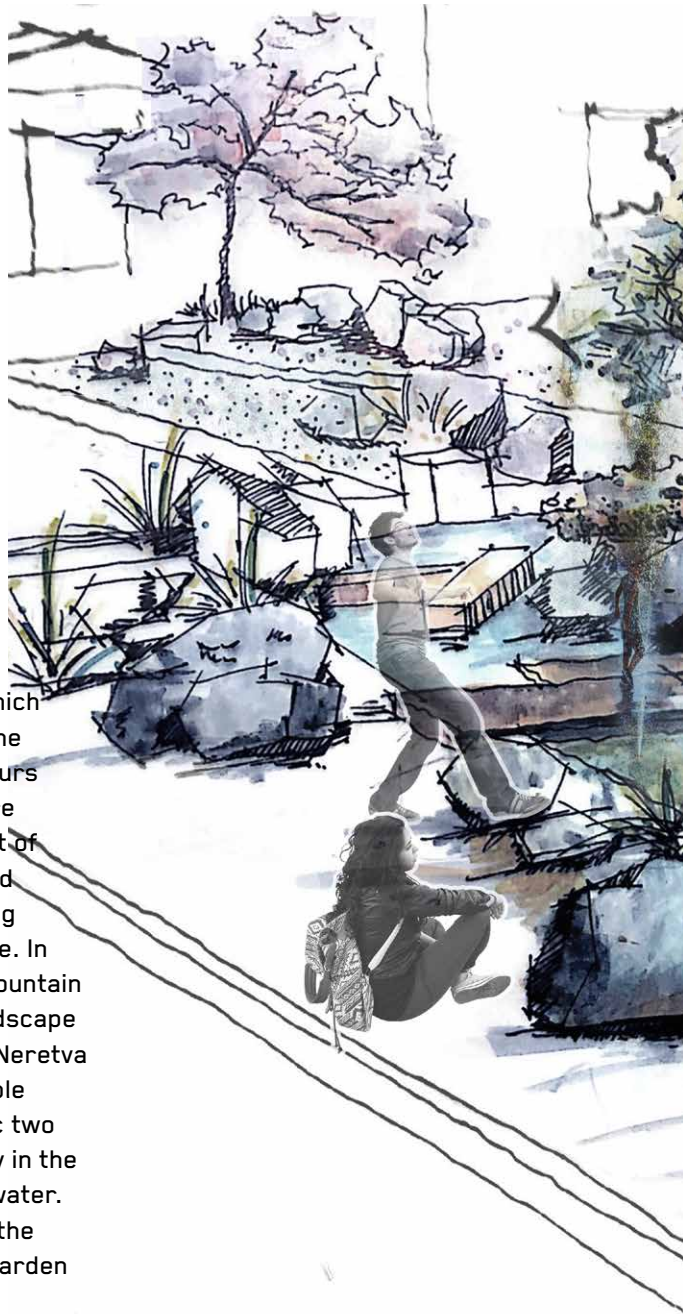
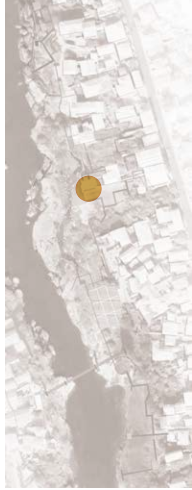






Focal Areas

Fountain square

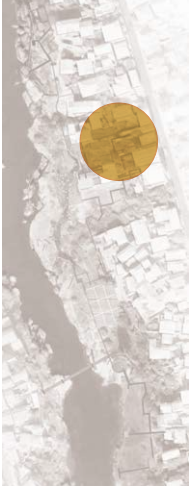


Next to the second valve which controls the discharge of the purified river water to 2 hours a day in the afternoon, there is a fountain square in front of the cafe that is transformed by a ruined building, offering maintenance fee for the site. In the history of Mostar, the fountain acts as a symbol of the landscape image. Here, It symbolizes Neretva and its commitment to people once again. For the specific two hours, the children can play in the fountain and step into the water. The time set specifically is the appointment between the garden and the visitors.



Focal Areas

Ruined structure



This part is distinguished by the ruined structures of damaged buildings. This site is hidden behind a natural entrance formed by plants and ruined walls. The site is celebrated by an ample mixed edge of herbaceous and low maintenance flowering perennials that respond to seasonal changes. Time here is the protagonist and one is encouraged to explore his/her own adventure here in the maze of walls and plants.

PLANT PRINCIPLE

- Suitable for The Soil:
terra rossa and brown soils on limestone
- Low Maintenance
- Abundant Seasonal Change
- Respond to Local Garden

1



Limonium
bellidifolium



Common Reed

2



Camellia

3

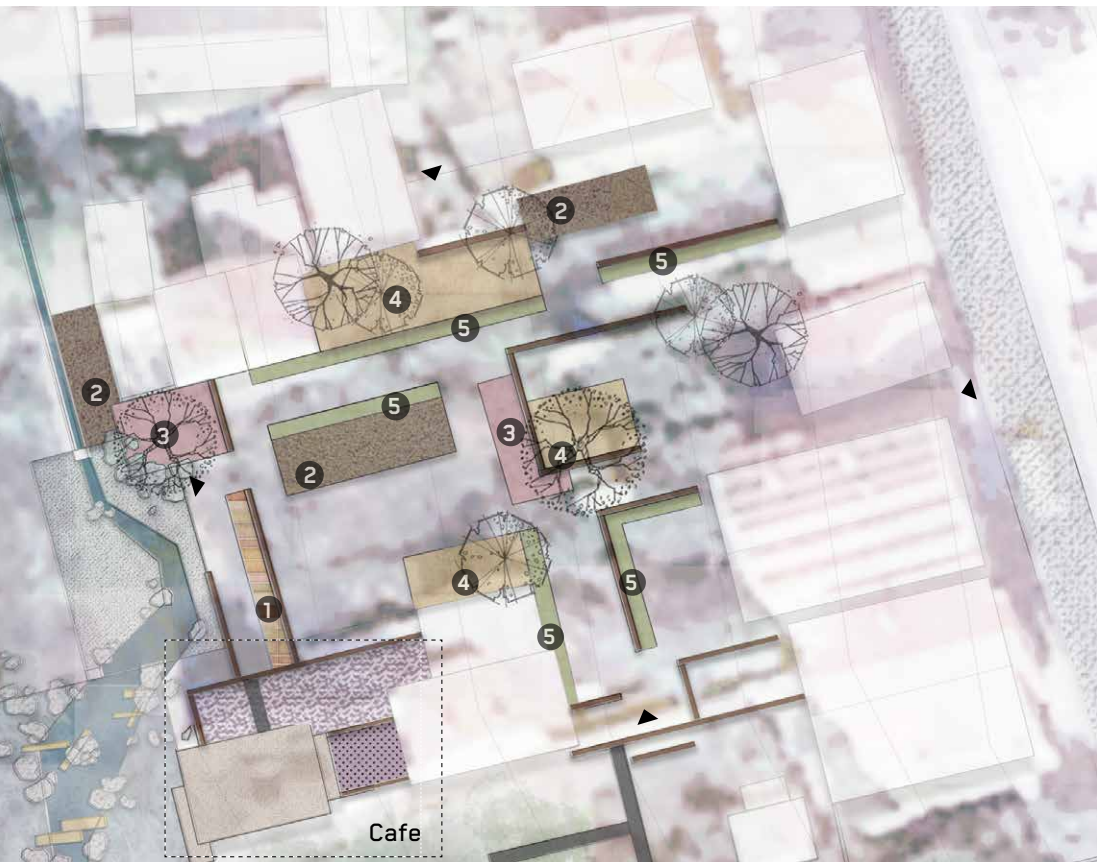


4



5





Arundo donax



Boxwood



Gerbera anandria



Prunus Cerasus



Bamboo

Focal Areas

Ruined structure

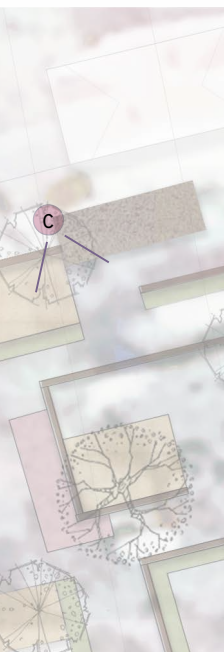
A



C

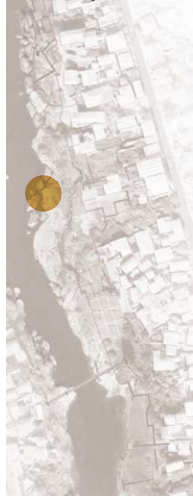


B



The different Theme parts

Stone path



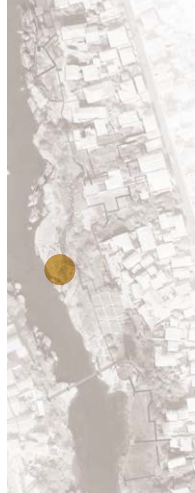
In this focal area, the newly laid stone path offers more opportunities to explore Neretva closer and deeper. The design was inspired by the stone path set up there years by someone. Through simple and straightforward design, people can walk down to the river, sit on the flat part of the stone, listen to the river running and drop sound from the drainage, meditate or look at the eternal scenery on the other side.





Focal Areas

Bridge remaining



At the second temporary bridge, the combination of copper walls and plants once again leads people to stop in front of the remaining of the damaged bridge. The creek with straight outlines symbolizes the river Neretva except for the fact that the water inside is purified, allowing people to interact more deeply with water. In addition, people can easily cross this creek to the other side. The intimacy with water is once again possible.



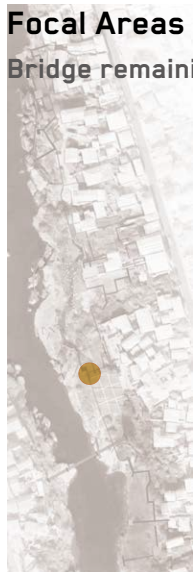




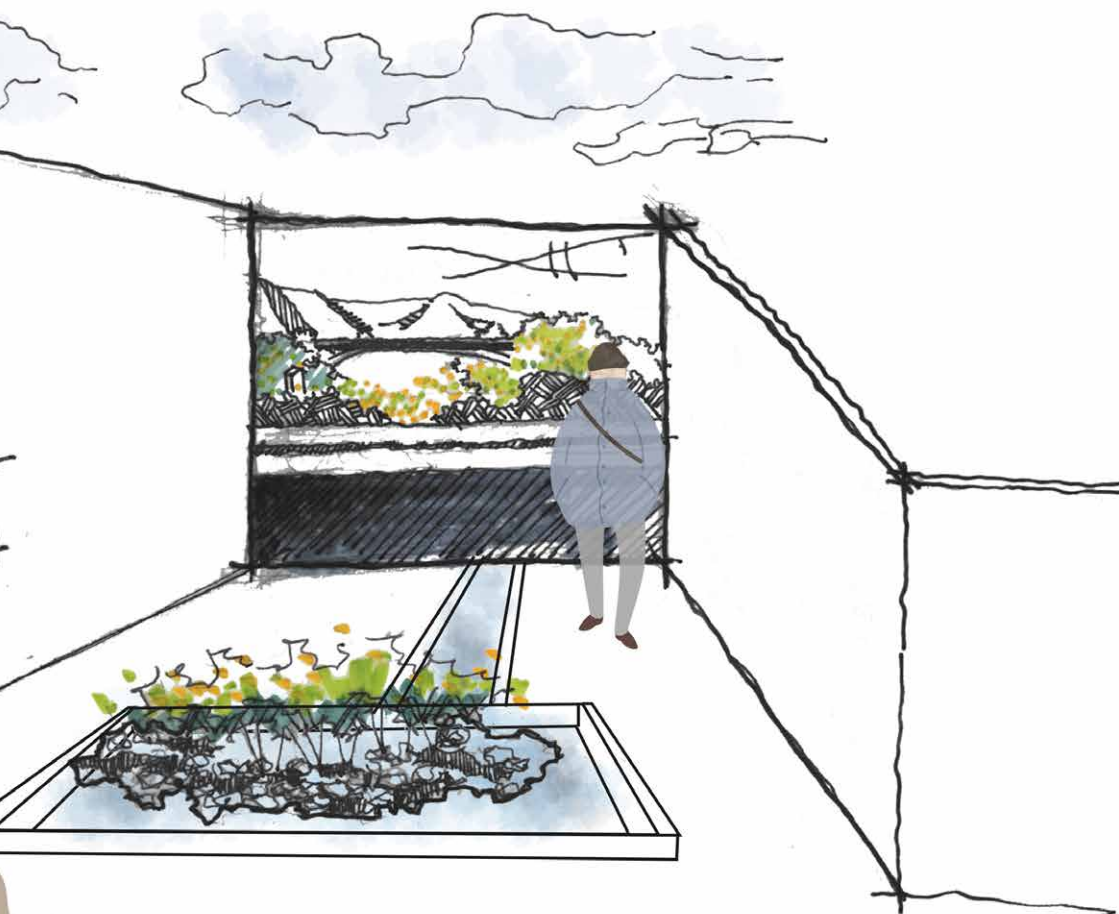


Focal Areas

Bridge remaining



The strategies - frame and view - is used here to form a confined space. In this space, one is faced with the newly rebuilt Lucki bridge and the wreckage of the abandoned temporary bridge. This is a place where time and space are intertwined. The past and the present are expressed here. The possibilities are waiting to explore.



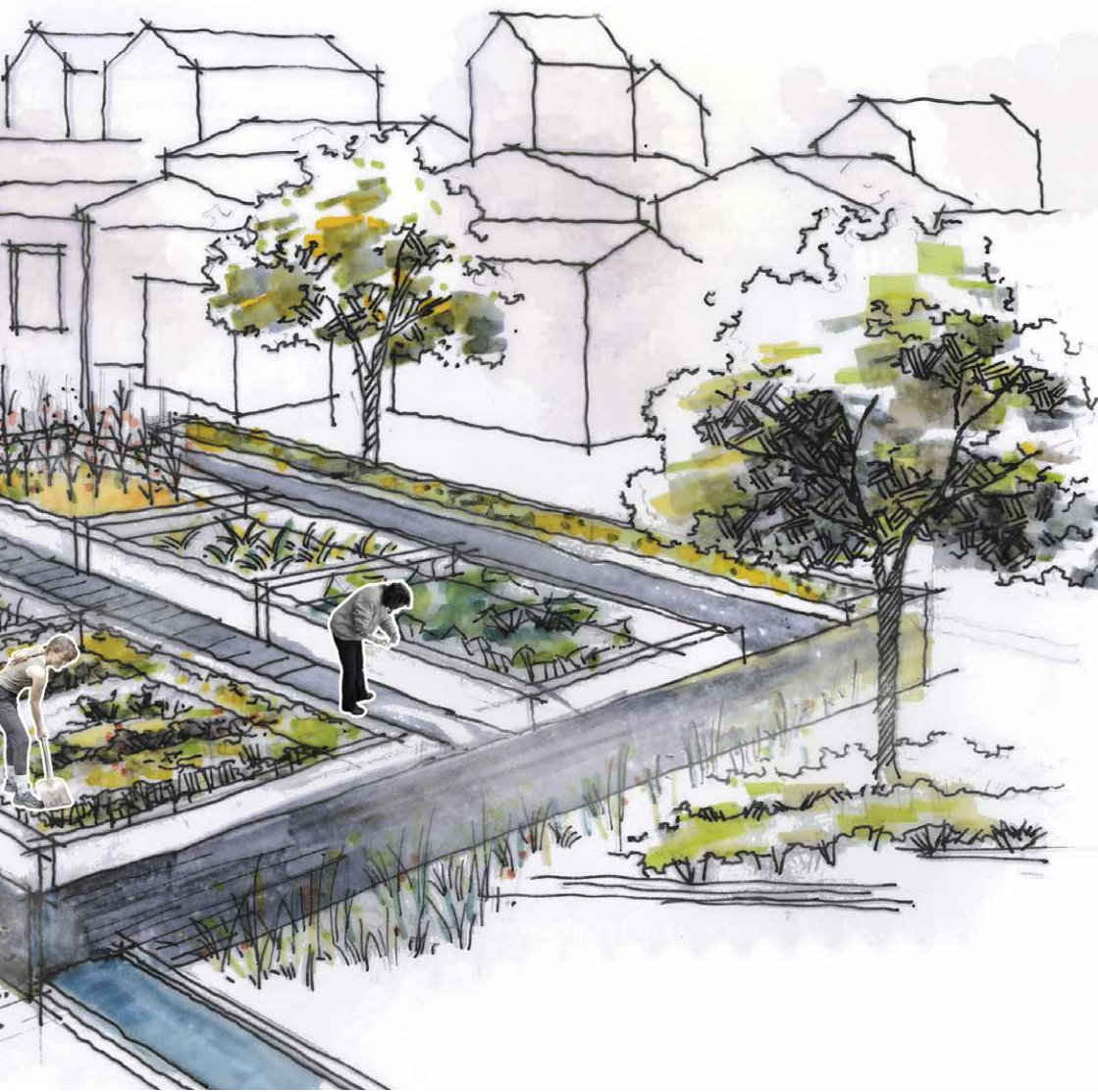
Focal Areas

Community garden



Going south, there was a playground with high fences funded by residents of Luka. The only narrow entrance leads to some uncertain place and no one was used during several visits. Unlike the north side of the site, the surrounding terrain is steep, so residents cannot build their own gardens. Therefore, it is transformed into a community garden, aiming to build up the conversations between residents, as well as adding more residential green spaces that can be utilized. At the same time, it responded to the history of the garden of Mostar, which is always partly carried the purpose of harvest.



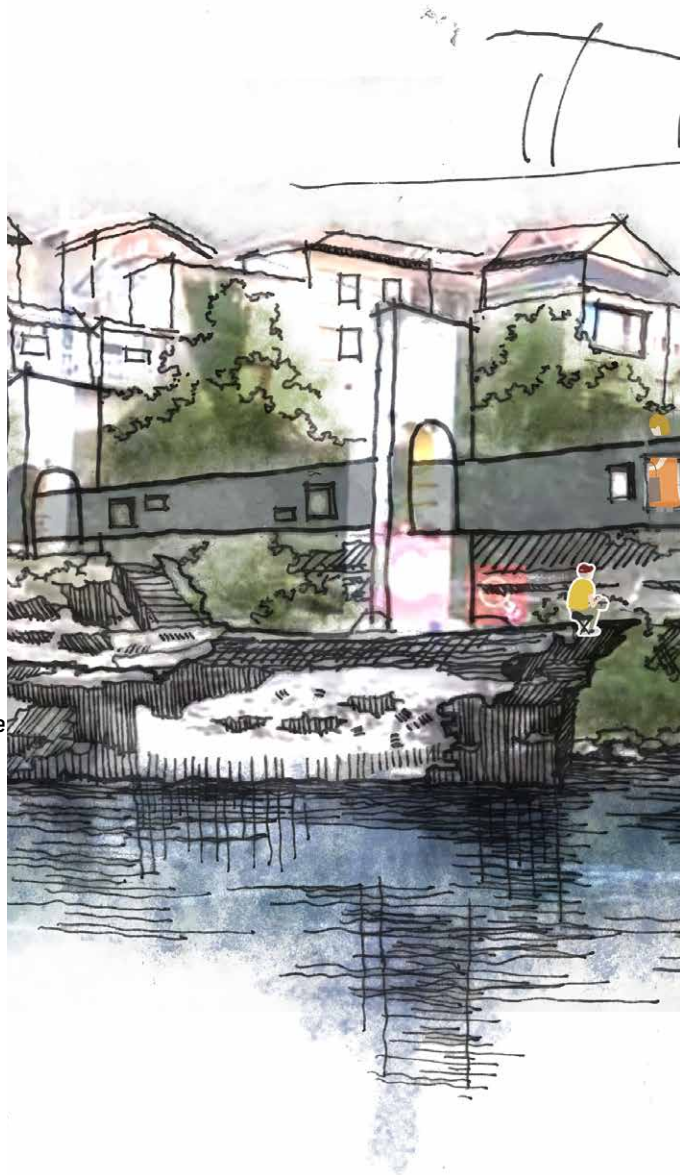


Focal Areas

Bridge remaining



The bridge Kamenica is restored in the proposal, which in a way fulfill the wishes from locals. Meanwhile, it enhances the accessibility to the garden from both sides. While made of the same materials as its pier, the bridge is semi-opened by the windows, continuing the strategy of frame and view while creating a more intimate atmosphere. A platform is set up at the corner of the bridge, for visitors to view, take photos, chat, and walk down the stairs to reach the river.





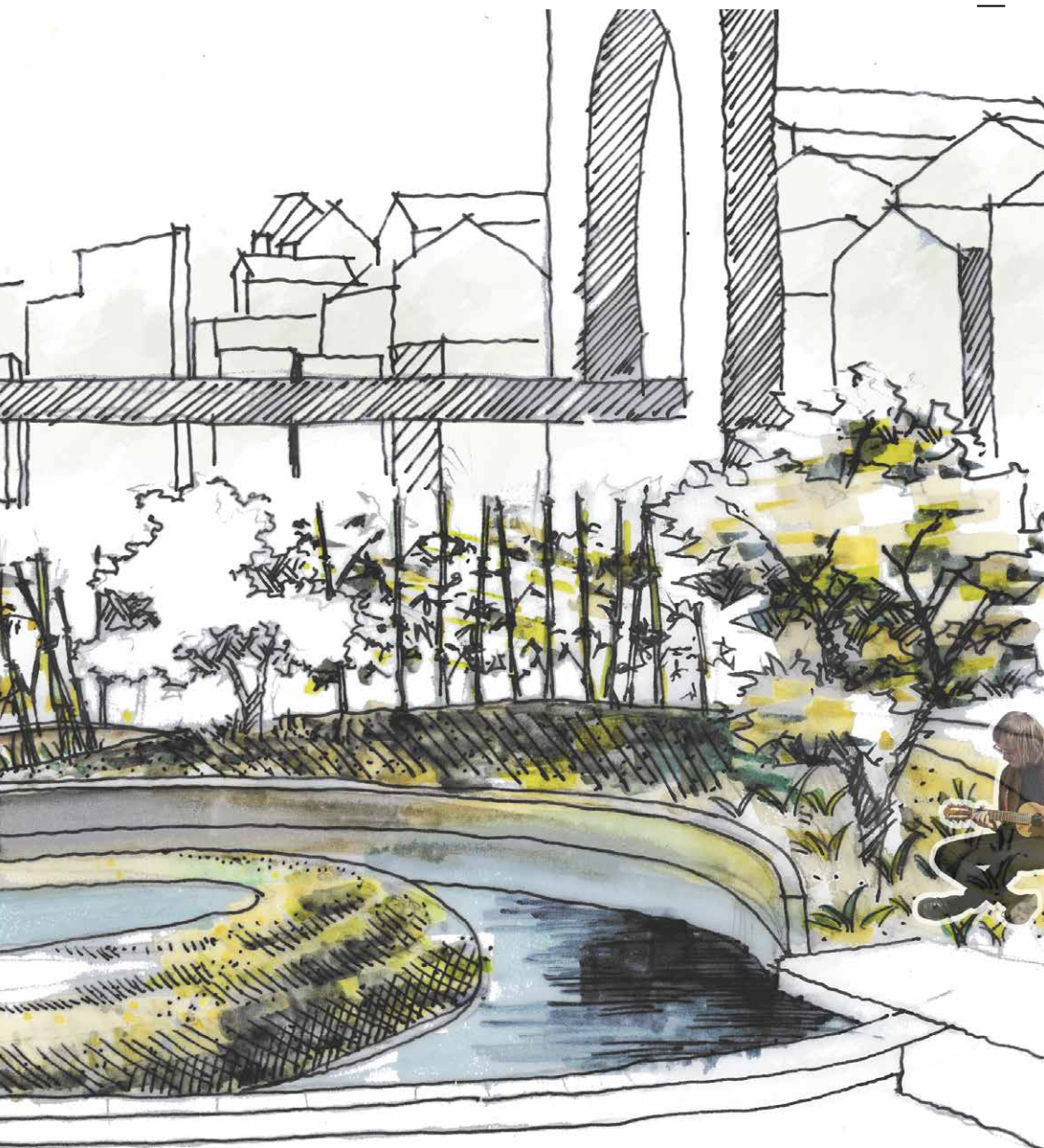
Focal Areas

Mediation pond

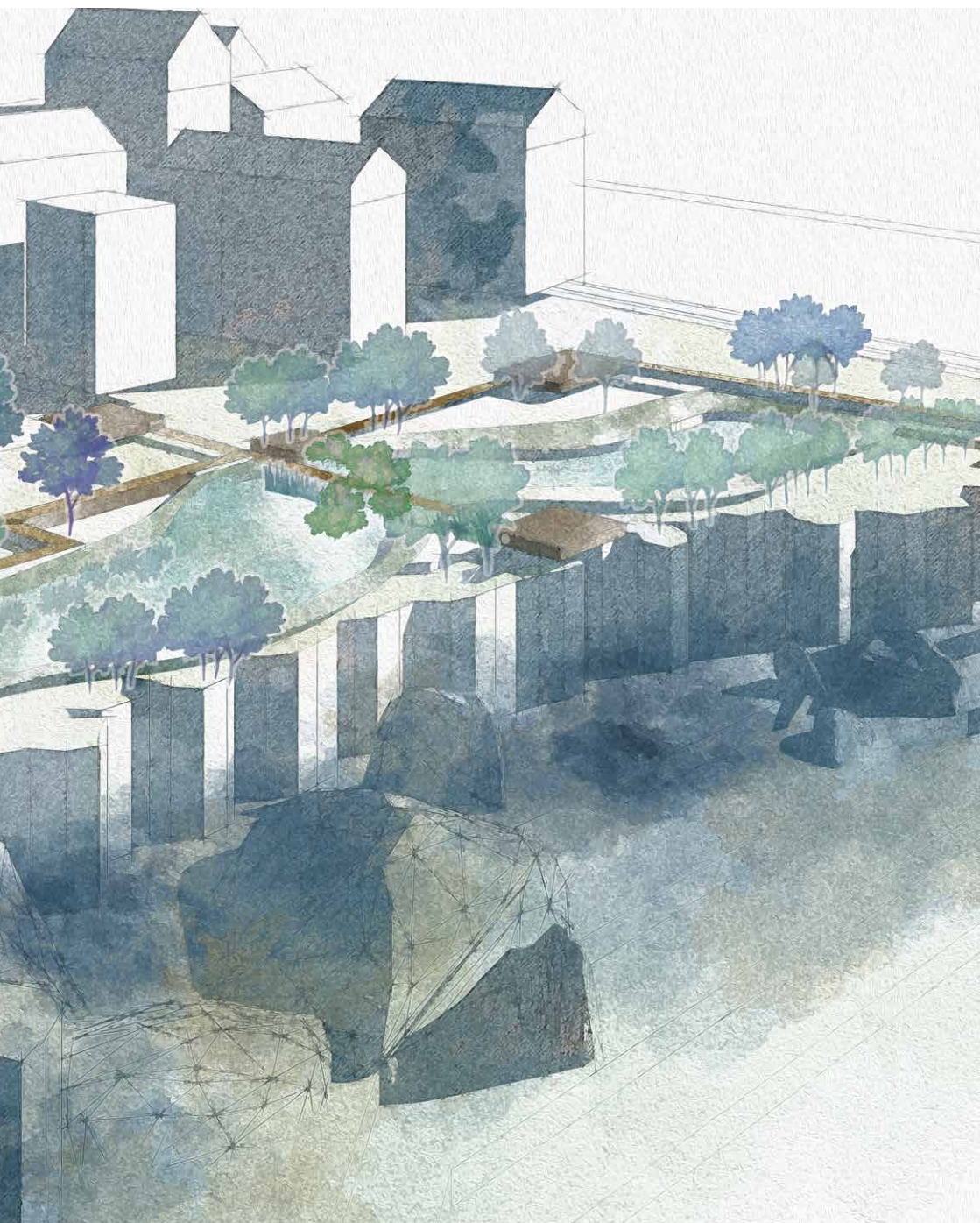


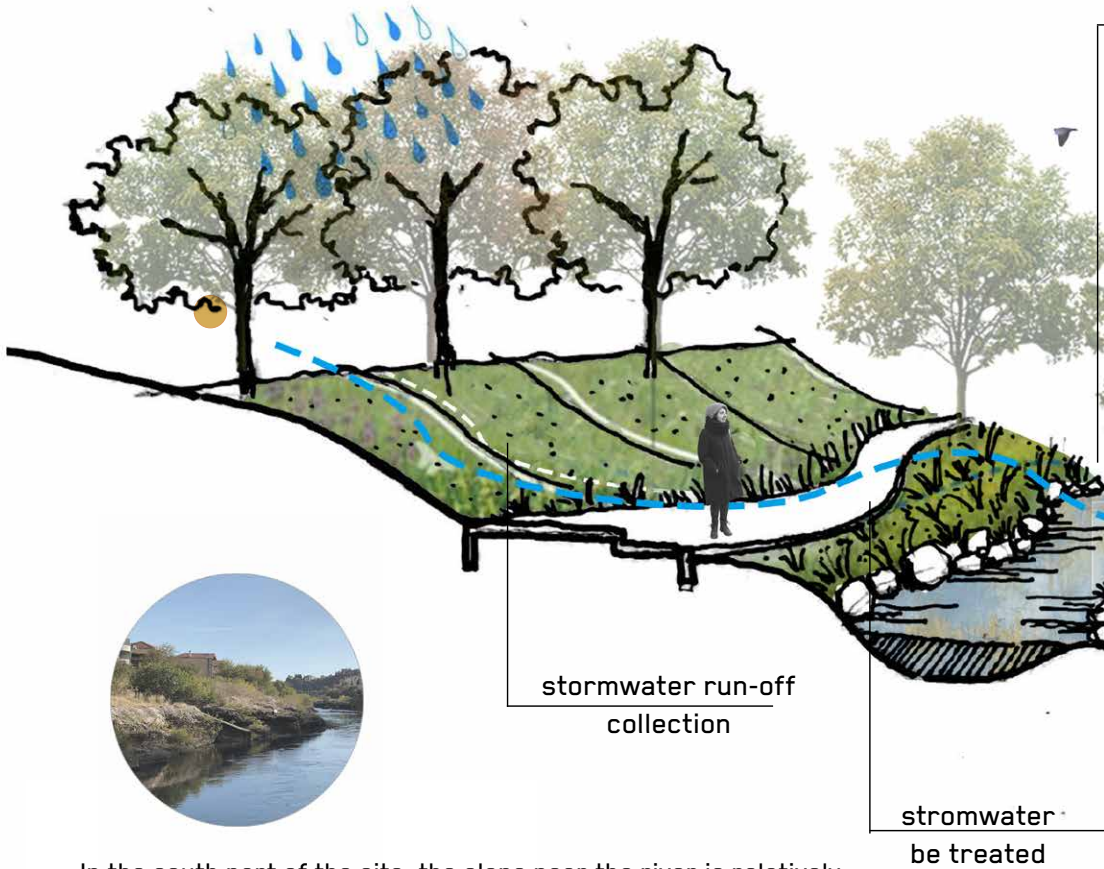
Under the temporary bridge, there is a round circle trace that no one knows its origin. With broken cement at the edge, piles of gravel inside the round pit, it is an enclosure place separated by the plants from the outside world. Recollected by the community garden, water gathered here into small pools. The bamboo hedge contrasts greatly with the surrounding trees, because of its restrained form, and the rustling it causes by the wind. The water and small mound in the pool symbolize the river and mountains. The reflection in the pool changes from the sun, the rain, and the observer.





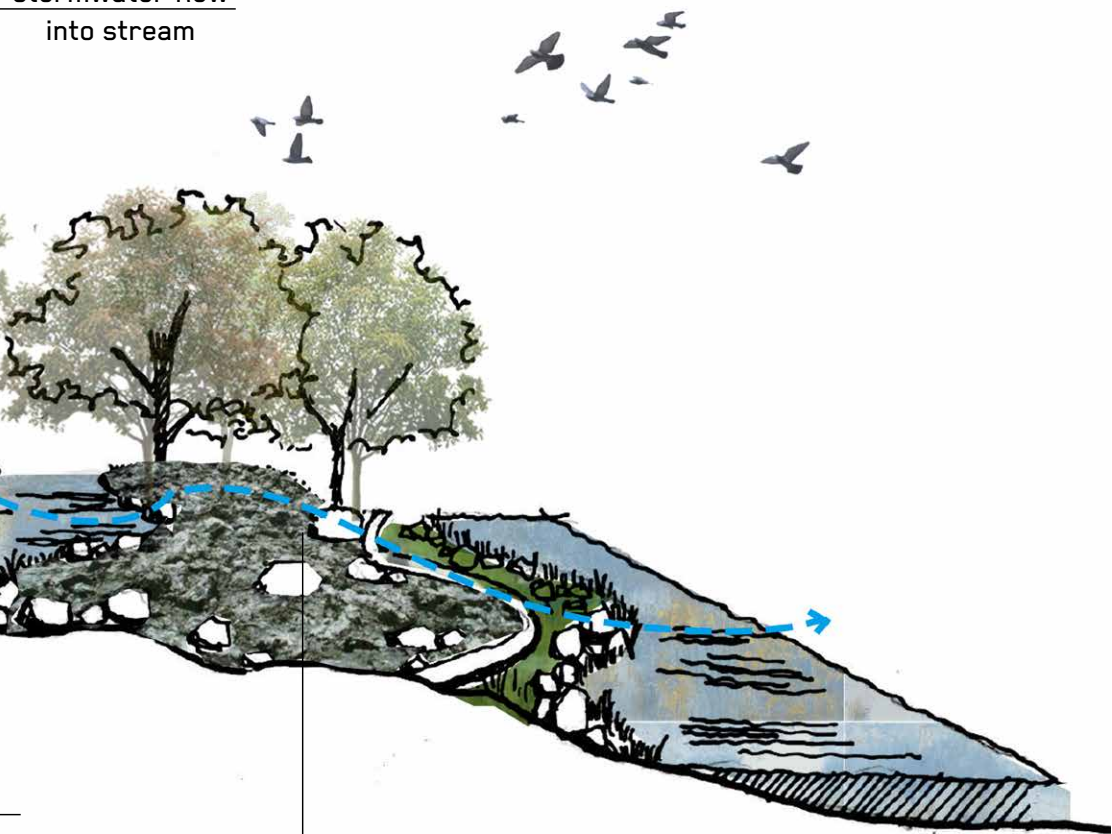






In the south part of the site, the slope near the river is relatively gentle, resulting in greatly affected by seasonal flooding. Therefore, the modified wetland is proposed to deal with this problem. Besides increasing the water capacity, guiding stormwater, acting as a buffer zone to keep the residences safe from the flooding, there is another layer attached. The buffer zone between the canal and the river is covered with a stone grid. When the flood fades, part of the garbage in the river can be left on the shore and cleaned up, partially purifying the river.

stormwater flow
into stream



stream flow into
major water way

Focal Areas



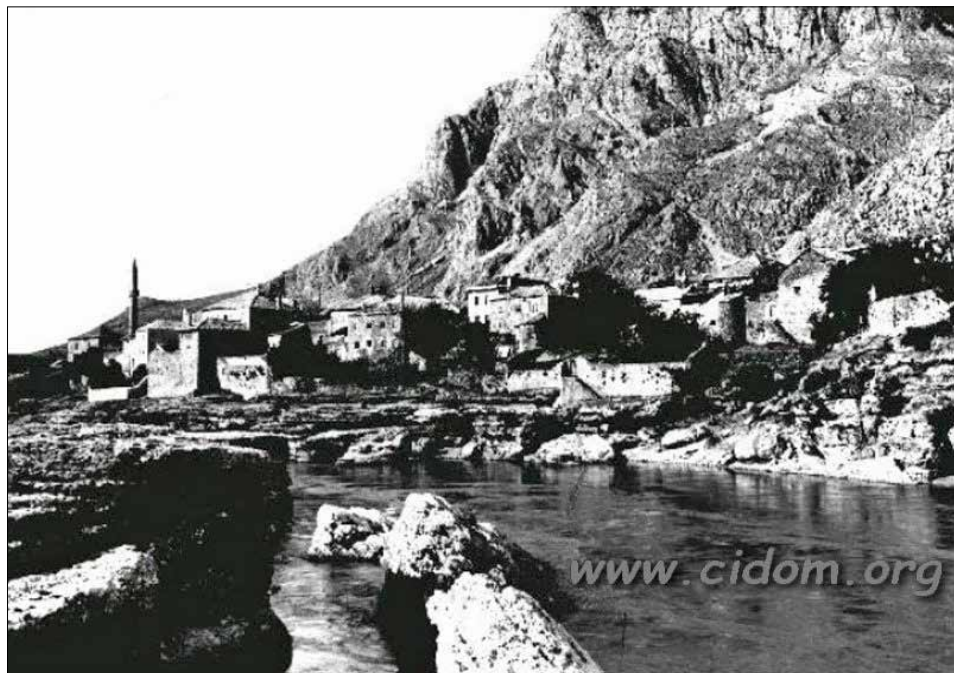
With the new paths, which are based on the existing trail and platform, visitors can get access to observe plane changes, different adaptations of wetland plants in the dry and rainy seasons, and enjoying the beauty on the shore. The world is left behind thanks to the luxuriant vegetation as a separating wall. With the chair, the rushing river, the houses, and mountains on the other side, the city is presenting the permanent rocky landscape, seemingly as many years ago.











img 6.1

The landscape 100 years ago is seemingly no different from today.
photography by www.cidom.org

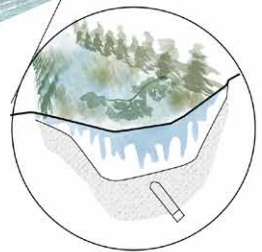
**VI. INTERACT DYNAMICALLY - LANDSCAPE
AS PROCESS**

Interact dynamically - landscape as process

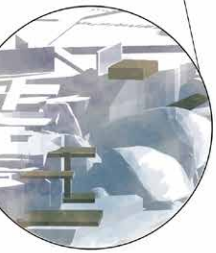
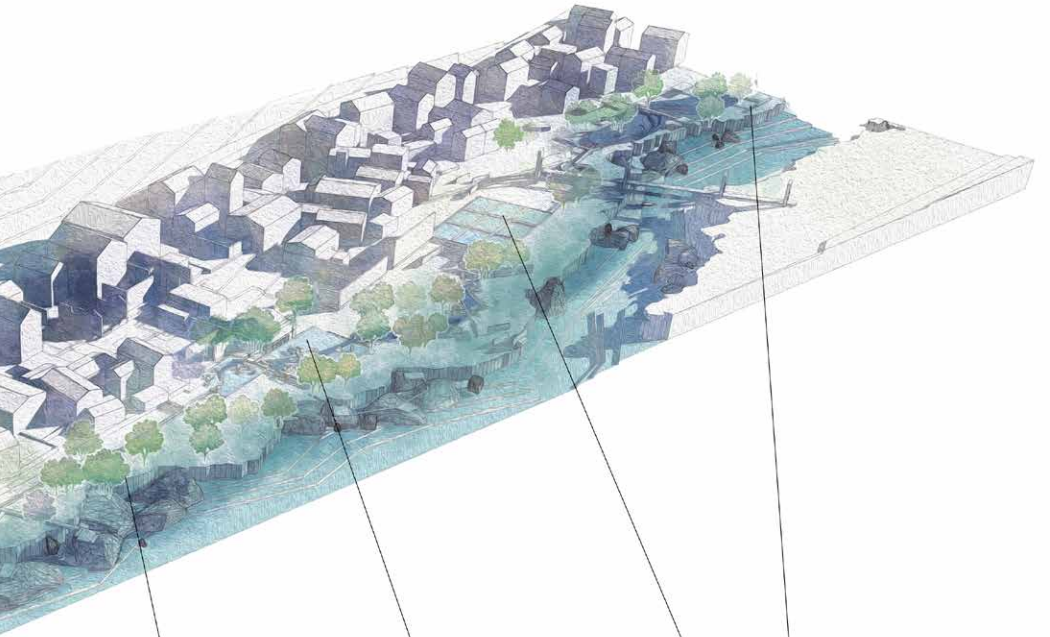
Flooding

The aspect of time is a crucial factor for this thesis, which allows the natural processes of the garden in the riverscape to develop and react with the proposed interventions. Focusing on the interaction between landscape processes and typo-morphological aspects, this chapter works on exploring an outcome of smaller interventions realized in the different environments over the years.

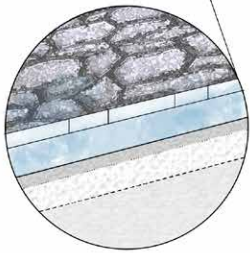
The first aspect is the flooding issue. Without effective water management nowadays, flooding is one of the most serious issues facing Mostar. In the proposal, there are several operations addressing this problem in order to keep the garden running in different circumstances, as well as bringing inspiration to other potential interventions in the city Mostar.



Infiltration



Interventions of
varying heights



Pervious Paving

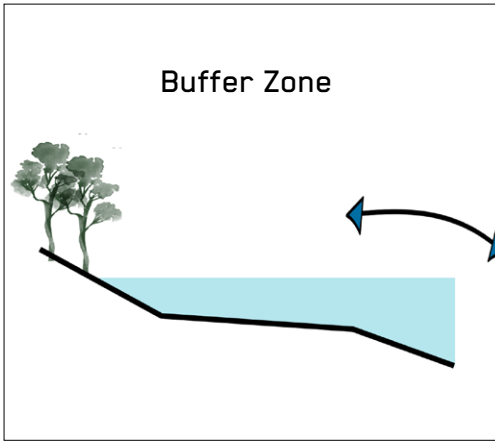


Community Garden

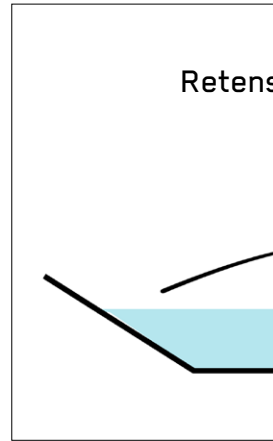


Wetland

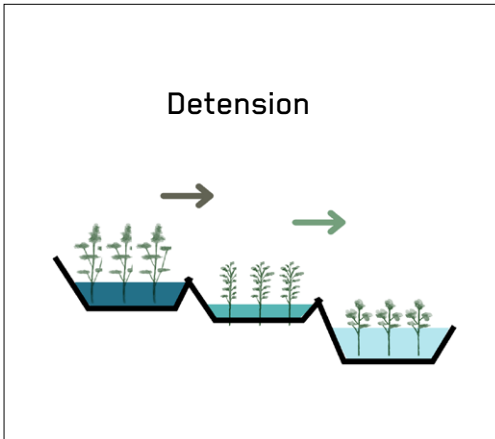
Flooding



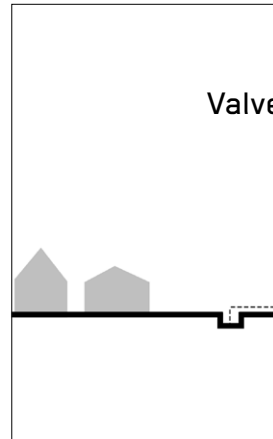
The wetland buffer helps shade and partially protect the stream from the impact of adjacent land uses



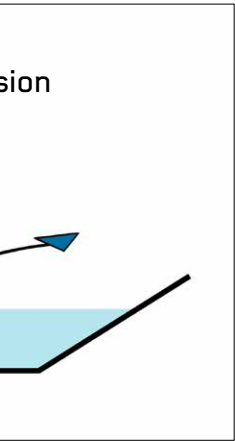
The creek and valley retention system, with its retention structure, helps manage water flow and momentum



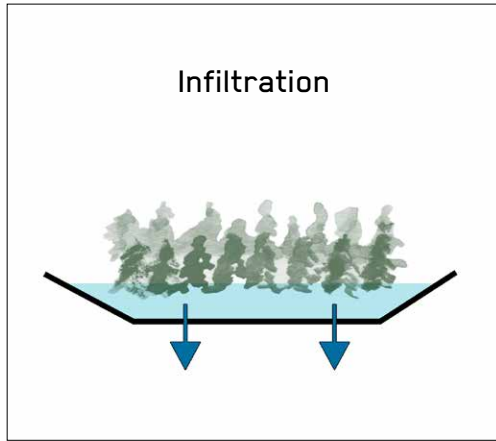
The purification pools and the channels comprise the detention system where the water is held, and stays wet throughout the year



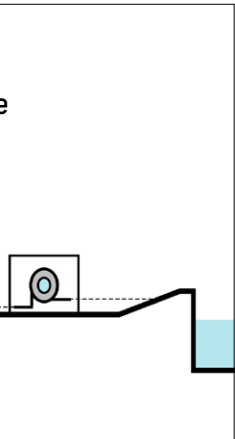
Pumps and valves introduce river water into the urban water supply



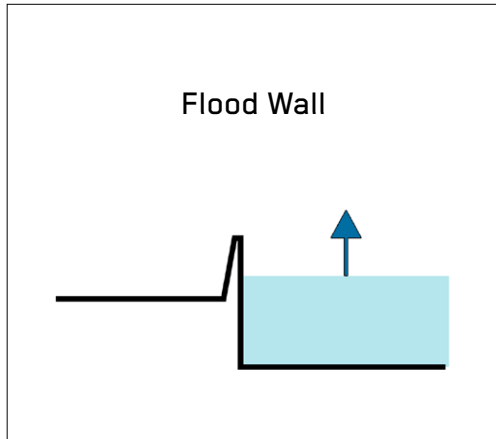
Retention basins consist of a channel where water is only held temporarily.



Infiltration basins hold excess water and slowly allow it to percolate into the ground.



Retention gates are activated to control river flow.



Retaining walls act as flood walls keep off the river's water when it rises to a certain level.

Interact dynamically - landscape as process

Flooding - wetland

Taking the wetland as an example, it functions as natural sponges that trap and slowly release surface water, rain, snowmelt, groundwater and flood waters. Trees, root mats and other wetland vegetation also slow the speed of flood waters and distribute them more slowly over the floodplain. A completely different landscape shows up in the rainy season and the dry season, leading to different activities. The tryout of these interactions between natural processes and human activities are also refreshing the city.



Before



After - sunny days

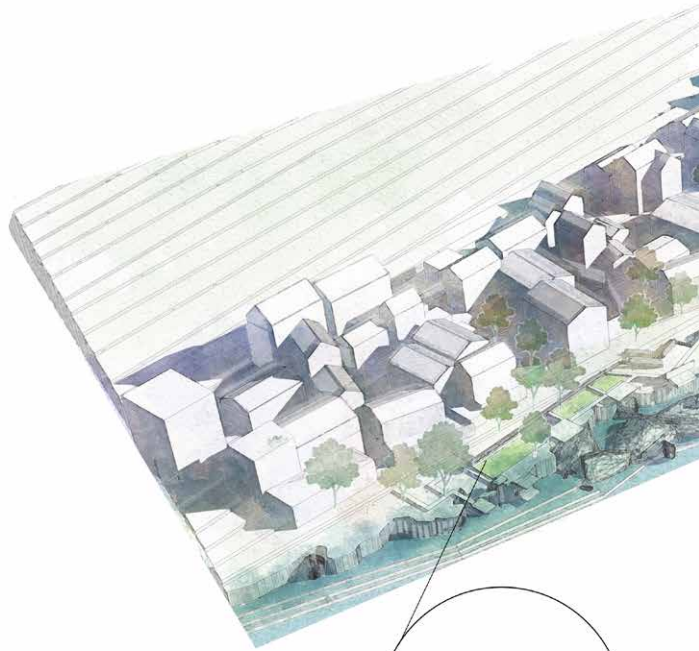


After - rainy days

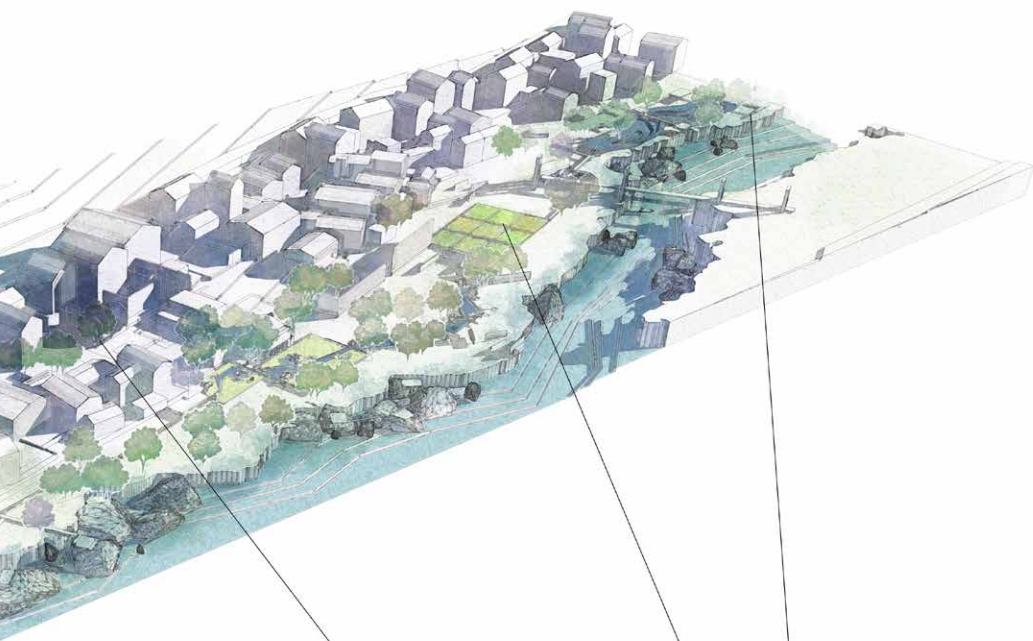
Interact dynamically - landscape as process

Plant

There are different types of vegetation in the project and each of them reveals the unique natural processes under different circumstances, which contributes the site to be an interesting experimental planting space for the city. In this way, the conditions could be compared in order to understand their influence on the changing plant communities along with the time. But also the interactions between the changes of plants and other elements are intriguing.



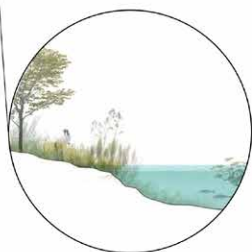
Infiltration



Ruin & Plant



Community Garden



Wetland

192 **Interact dynamically - landscape as process**
Plant - Ruine&Plant



Now



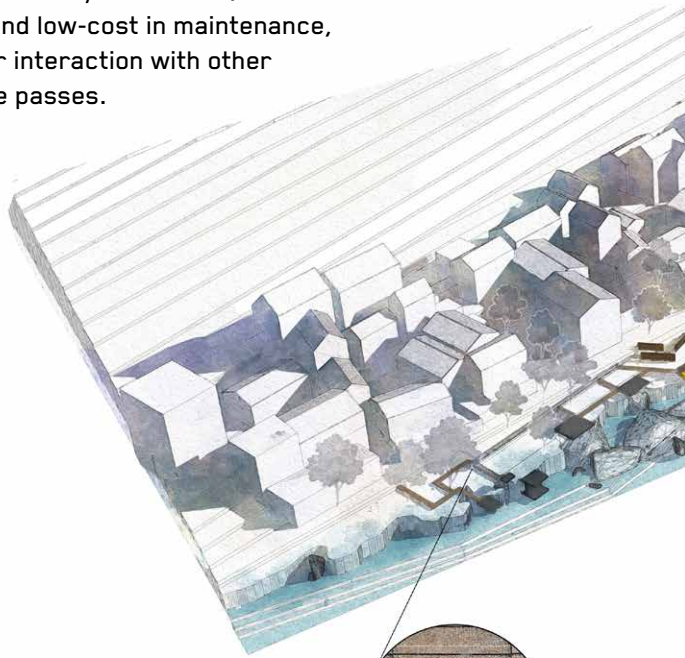
After 5 years

The ruined part is celebrated by an ample mixed edge of herbaceous and low maintenance flowering perennials that respond to seasonal changes. The ruined structures are anchored to the sloping terrain. Leaning against it, the result is a blending of vegetation and topography that allows for a complex inhabitation of the garden and a more dynamic perception of the surrounding landscape.

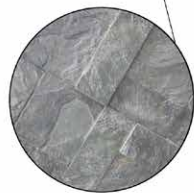
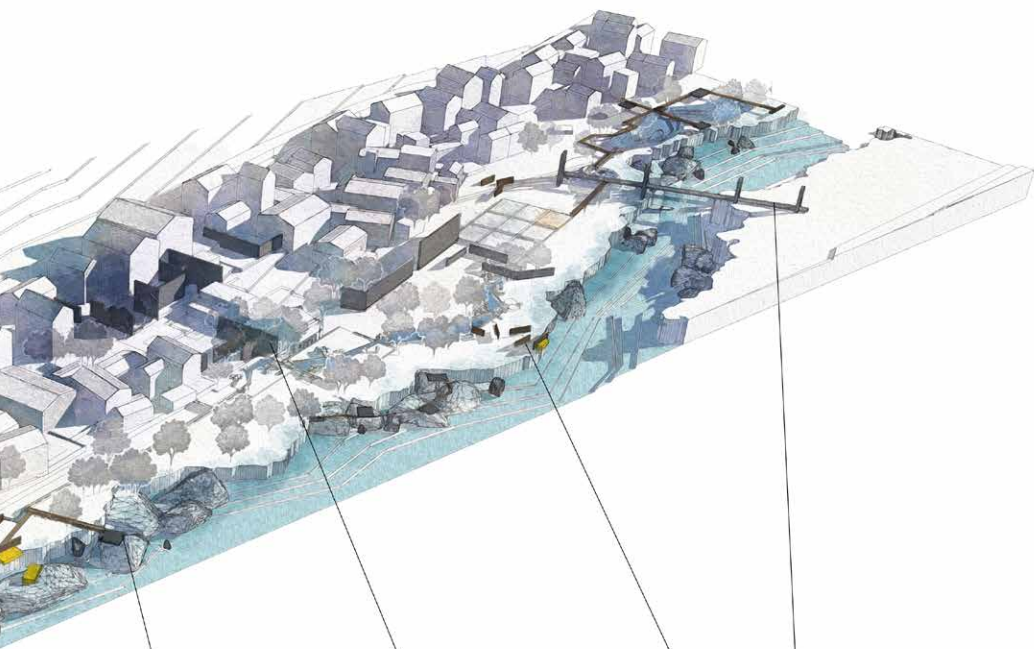
Interact dynamically - landscape as process

Material

The third aspect is material, which also plays an important role in the post-war context. It's one of the media which bridges the conversation between residents and the city, between the present reality and history. The localization of memory on the material is what negotiates its survival, and by removing the material it's the erase of memory. Therefore, it's always possible to relate the material adopted on-site with other constructions in the city. In addition, these materials are waterproof and low-cost in maintenance, on which the traces of their interaction with other elements are visible as time passes.



Tenelia



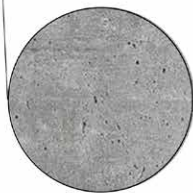
Concrete



Kracnjak



Copper



Plaster



Now

In spite of the fact that the garden is made of the same materials as other constructions in the city, it emphatically expresses the idealized combination of artifacts and nature by homogenization and contrast. The shapes, textures, and functions of these constructions also somehow reflect the impact of urban and natural processes on the larger scale territory and on the entire city of Mostar.



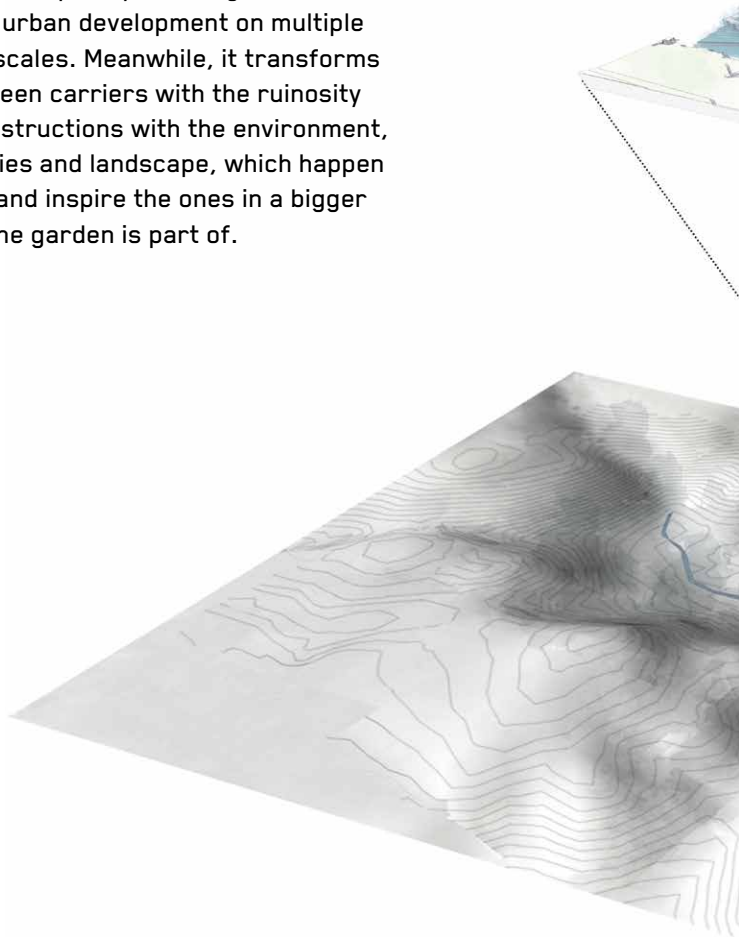
After 5 years

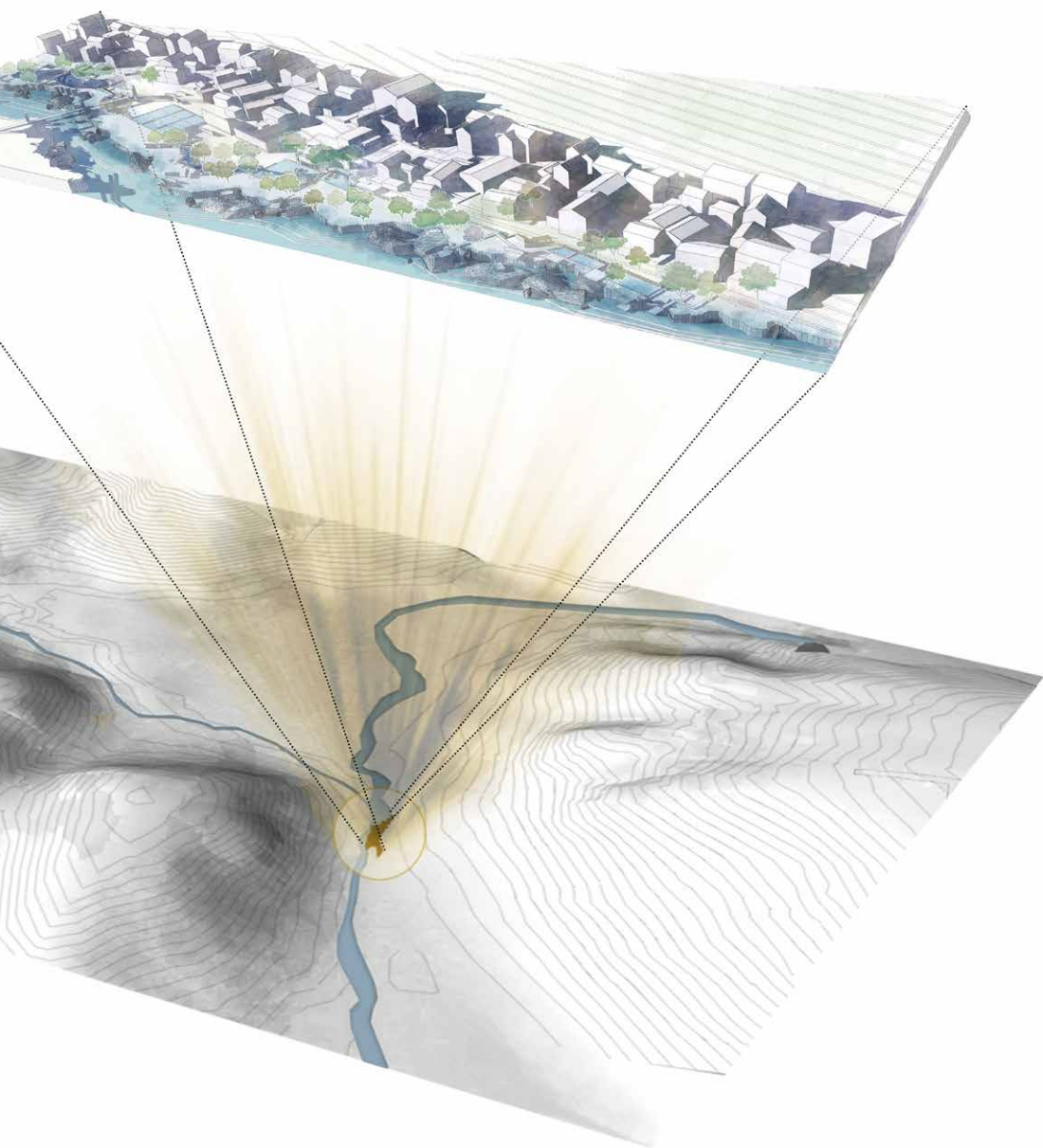
As time passed, the firm shape of the material was softened by the plant and gradually became part of the “self-growth” communities in the site.

Interact dynamically - landscape as process

Urban Process

As a microcosm of the city, it's essential for this garden to interact with the urban fabric and urban processes. Due to the multiple layers the garden implies, it responds to urban development on multiple levels and on multiple scales. Meanwhile, it transforms a set of relations between carriers with the ruinosity situation, between constructions with the environment, between human activities and landscape, which happen to retrospect, reflect and inspire the ones in a bigger scale, the city where the garden is part of.

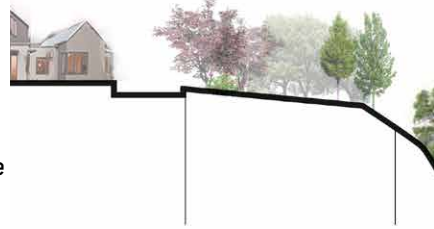




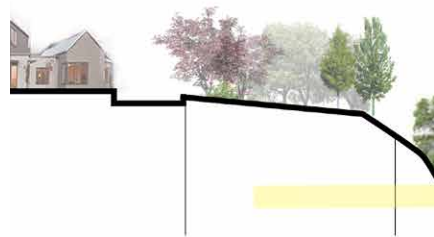
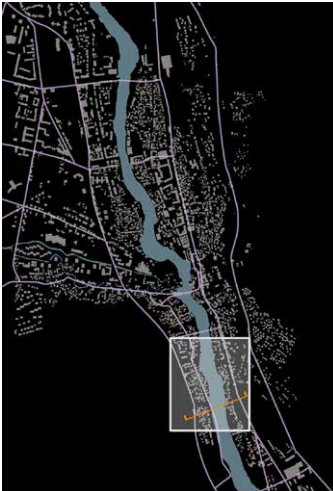
Interact dynamically - landscape as process

Urban Process

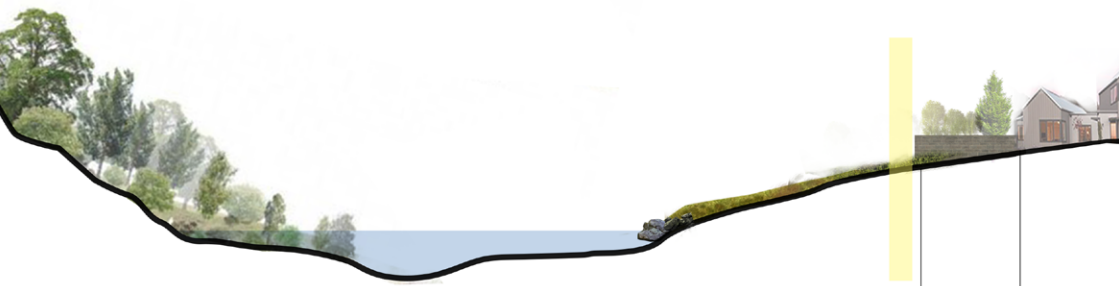
Firstly, the garden activates the re-use of the riverside space on the east side. Because of the steep terrain on the west bank, the neighborhood park is built along the cliff for the leisure. However, the residents on the east bank seek to build private gardens with high walls to satisfy the need for landscape despite the flooding. With the establishment of the garden, the river is no longer a barrier but becomes a blue&green corridor. In order to increase accessibility to the garden and enjoy the riverside scenery, the cold high walls will gradually tear down and the river bank will regain its vitality.



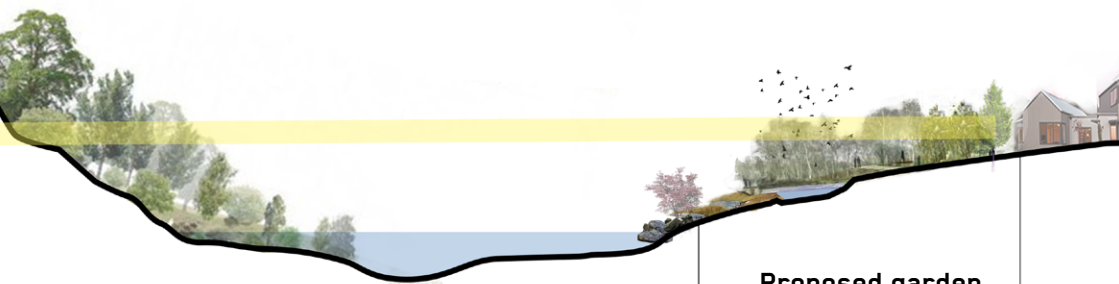
Neighborhood park



Neighborhood park



Personal garden



Proposed garden

Interact dynamically - landscape as process

Urban Process

This garden plays the role of the riverside landscape. It connects war-time memories, the accommodation of the garden, and other deposits. Therefore, the garden provides inspiration for a similar riverside space in providing a neutral space for seclusion, based on the original landscape. For dialogue between the river and residents.

- HIGHWAY
- BOULEVARD
- PRIMARY STREET
- SECONDARY STREET
- ACCESSABLE PATH
- BRIDGE



le of a new chapter of
Due to the traumatic
riverbank becomes the
rubble, sewage, and
re, the attempts of this
ions and examples for
n the city, on the aspects
pace for leisure and
principles respecting
Finally, re-establish the
ver Neretva and the



Interact dynamically - landscape as process

Urban Process

Secondly, this garden brings green space to the east coast which lacks traditional public spaces in the city. Although the fact that the garden provides a place for public spaces in the city helps to replace the painful memories of the old city by the garden. Therefore, the existence of this garden has transformed residents' public activity from a concentrated city park area to a south of the old bridge. It provides a large amount of public green space and provides convenience for entertainment and leisure.



- SITE
- CITY PARK
- SQUARE
- NEIGHBORHOOD GREEN
- WOOD

ings new vitality to the
natural public space.
The cemeteries act as
Mostar, due to the
war, it still cannot
nothing effects brought
e, the introduction
formed the city's
y center from the very
area to both north and
In response to the lack
n the east bank, it has
r various groups for
re.



Interact dynamically - landscape as process

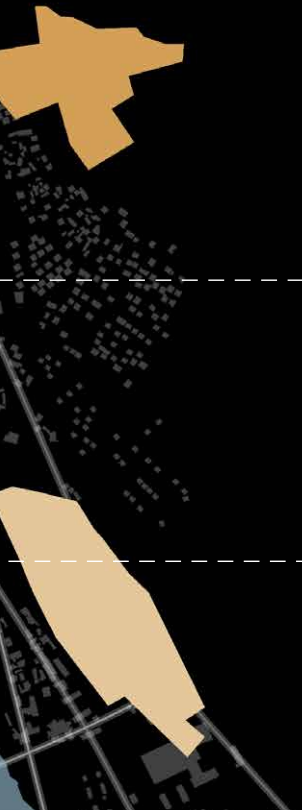
Urban Process

Thirdly, as a microcosm also expresses the landscape history can be seen even the impact of war on the residents, the garden er develop different persp also acts as a memorial the memorial network in However, what distingu other monumental space dynamic, and invites peo interact. It is not emotio also invited to temporar and revisit history with f

-  SITE
-  BOSNIAN
-  MUSLIM
-  CROATIAN
-  ORTHODOX
-  EXTERNAL NATIONALITY
-  CATHOLIC
-  UNIFICATION
-  MIXED



of the city, this garden
scape image layer, where
rywhere. By emphasizing
e site, the city and the
ncourages people to
ectives. Therefore, it
place which can fit in
the city Mostar well.
shes this garden from
es is that it is neutral,
ople to enter and
onal in itself. Visitors are
ily abandon their identity
fresh perspectives.



Interact dynamically - landscape as process

Urban Process

Finally, the garden stream
the two sides and activa
network in Mostar. Once
characterized by the imp
Square - Corzo - Musala
point - tourists flooded
new Garden connecting
old town - Danja Mahala.
This new axis, which is o
river, can help to drive t
surrounding area, while
on the old bridge, so tha
sides along the river hav
enjoyable public space,
more balanced and dyna

-  SITE
-  CEMETERY
-  NEIGHBORHOOD GREEN
-  SCHOOL
-  SQUARE
-  CITY PARK
-  PLAYGROUND
-  OLD TOWN
-  SPANISH SQUARE - CORZO - MUSALA SQUARE



Strengthens the links between
the new public space
the urban fabric was
important axis - Spanish
Square and the single
Old bridge. With the
the old bridge and the
a new axis shows up,
closely related to the
the development of the
alleviating the pressure
the residents on both
easy access to more
ultimately activating a
dynamic urban fabric.



The relationship between the graduation topic and the studio topic

The goal of the research and design studio 'Neretva Recollections: materiality of war, flowing memories and living archive', is to explore urban and landscape transformations of the Neretva River, the river banks and the city of Mostar started in the wartime between 1992-1996, and to express these explorations in a design intervention. By looking at the transitional spaces between the military, violent destruction and un-war inhabitants' non-violent spatial reactions to it, the topic is to examine what are the material and immaterial residuals of these spaces today, within the landscape system of the city and the river. In this sense, this graduation project directly responds to the studio topic in the three senses of the word: material, symbolical and functional.

Firstly, based on the concept of designing a garden as a microcosm of the city Mostar, this graduation project discusses the way of remembering, regaining, preserving, and recreating what is desired or lost during and after the event of the war by collecting and reconstructing the detached elements of the city. In order to transform these elements into one coherent, memorable and recognizable story, it's necessary to remind the inhabitants of the unique things they share regardless of their religions and backgrounds: the distinctive characteristics of this city, such as the river, the bridge, the stone, that are called carriers in this project. What glues them together is what is shared by all the citizens: the image of destruction. Secondly, it is within these materials where the memory of the inhabitants' is gathered and absorbed.

They remind us of the characters that set this city apart from others as well as the changes that have taken place. There are where the memory of this city lies buried. The common experience of the war acts as a bridge, connecting the material itself to the shared memory, adding a symbolic layer to the residuals. Therefore, throughout this project, the visitors are enabled to experience conceptually through time and space by linking the carriers in the site to a larger world - the city.

Moreover, the functions of these materials and their combinations are also changed according to the different phases of this city. By re-interpreting these materials and the events that have occurred with these landscapes, this graduation project also seeks to explore the potentials for new stories in the future within the residuals of the spaces, to improve a range of other symptoms and give answers to different problems, such as water management and ecology.

The relationship between research and design

After the desk studies and the site visit, I got fascinated by the idea to create a garden in this divided city, as a secluded place with public access where all the different groups of people could enter in and have their own personal perspectives. During this process, I got many inspirations by the project, Partisan Memorial Cemetery in Mostar, which was designed by the Serbian architect Bogdan Bogdanović. In such a place with an endless variety of cultures, ethnicities, identities, and truths, the way how he tried to build the inclusivity by using non-ethnic and non-confessional symbols to represent war and death, the conqueror, the conquered, above all the indestructible joy of life massively impressed me, which leads me to consider to create the experience in my project based on the

212 'anthropological memories' instead of designing scenarios for groups of specific faith. Therefore, I turned my research to discovering identifiable elements in the city that carry memories and reflect changes that have taken place in the city's history, which I called - carriers. The garden which gathers these carriers that absorb this memory of the city and its inhabitants and represent them in a meaningful way by which people can relate to the world beyond it - the city, is what I called a microcosm of the city.

However, the process of researching the ways in which how this garden could be perceived as a microcosm of the city was quite difficult and indeterminate at the beginning. The theory of macrocosm and microcosm was used widely in the representations of some objects in giant or miniature version, for instance, the best well-known practice of this theory that man as a "microcosm" of the universe, containing information and reference to another world, but in a way of display rather than productive interactions. That's where the theory of Affects and Affordances starts to help me to develop new insights to the story. This theory enlightened me because it can directly get to the point of the essence: all the exists around us could be described by the relations that human beings and other organisms have with their environment. These relations are triggered because of the affects that the environment has on them.

Parallely, the Affordances theory helps both in digging out the potentials within the selected site and guiding the design for the different possibilities of different groups of people. At the same time, the theory Microcosm makes these possibilities, which could have occurred with these elements extracted from the city's development, have a great impact back on the city in the future.

Since this project is available for all the inhabitants of the city Mostar regardless of their religions and backgrounds, the implementation and maintenance of this project will be paid for by the municipality. Combined with site visits and research, due to the backward economic situation and the danger of seasonal flooding along the riverside, this project will be low maintenance, which can be exchanged for long-term and interactive development at a lower price.

Yet, due to the lack of data on-site, there are some problems I encounter during the process of research and design which forces me to think outside of the box to address the objective. For instance, combined google earth, GIS and sketch up to restore the overviews of the city's geography, make up for the regrets without the contour data; By site visiting, we redefined maps of post-war ruined buildings and public space, providing data for analysis; Collecting the photos and documents through archive to overlay, I gradually extract the changes and different usages of the carriers. Sometimes the missing of the precise data even acts in a more effective way of designing. It makes the 'feeling' and the 'experience' on-site more prominent, thus transferred my focus from the exact width of the river and the height of the shore to the tendency of change triggered people's different activities and perceptions. It also made me more immersed in the experience of the site by observing and recording everything that I thought could be useful in the design. Even after the design principles are obtained due to the ample research, it is still necessary to switch back and forth between research and design in the actual design process to complement each other and combine the actual situation and the applied methods to adjust to achieve the research and design objectives.

After the war, whether physically or psychologically, the city Mostar is considered the division continues. Despite its very mixed and intermingled population, the city's urban space is not shared by the very different communities. Instead, it is now fragmented and polarised by the two biggest national groups on two banks, with two of almost totally separate systems. Because of the absence of the city council, most of the decisions to rebuild ruin and restore public space are put on hold due to ownership disputes. At the meantime, the fear of conflict of the inhabitants is stoked to avoid confronting any action that could lead to a controversial clash. The ruin keeps being ruin here. An urban planning project from the municipality, which aimed to revitalize the city center and boulevard, has not really begun after shelved for ten years. In Mostar, all the implementation of spatial transformation at the city level faces complex political pressures. Under this context, from my perspective, any ambitious urbanism project is too idealistic. Landscape architects could not really change this complex political actuality, while it's possible to create a place that allows the visitors to temporarily escape from the heavy pressure of daily life. This project is not to solve this complicated problem, but to provide new ideas for the current dilemma with minimal intervention when feasible.

As in this project, what people share, regardless of culture and background, is the experience of loss. Not an ideology visitors share, but the loss of ideology. It's not the hope for a better future that people work towards together here, but the loss of hope which brings them together. Not the conversation, but the loss of the ability to understand each other. Therefore, how many positions, likes and dislikes of the people hold towards the war and the history in the city, then how

many perspectives and explanations should there be, and also disgust and rejection towards the garden. However, by retelling the story about the image of the destruction of the city, this project still seeks to remind people of what they share in common based on the common loss in a way not the persuasion but encouraging the exchange of opinions.

For instance, in the design, especially towards the remaining of the temporary bridges, there are many places adapting the design way of frame and view to stimulate the visitors to question, gaze, and think. This may be cruel to people who are still immersed in the shadow of war by looking at the broken pieces of the bridges. Especially the bridges are considered the inseparable parts of the city which are easily related to the miserable time during the war. However, it's necessary to face what happened in order to accept the present and move on to the future. Besides, although for the design the notion of minimal intervention is used cautiously, it is inevitable that there must be conflicting interests: there must be part of people who can benefit more, while some not. The development of the project will bring more people to the site, which may somehow undermine the current environmental sensitivity and affect the way of existing uses. Regrettably, based on the current segregation of Bosniak and Croat, the location of the garden on the east coast makes it is more available to eastern Bosniak. With the restoration of the Kementica bridge in the design, this problem may more or less smoothen. But still, the time and effort each person takes to reach this garden are indeed different. Due to the complex political background of the project, any use of symbols with obvious religious significance is avoided in the project. In fact, the notion adopted by the project is to treat visitors equally, regardless of their background, religion and age, and encourage them to break away from their identity as

a citizen of a certain side in the city but develop new perspectives in the garden when they step back to re-experience and re-think the relation between what they gained and the lost along with the development.

Scientific relevance

This present project seeks to contribute to the discipline of Landscape Architecture by researching and proposing ways of trying to deal with a deep mental and social issue of the post-war urban complexes: how to connect and practice the two polar notions that creating a garden as a microcosm by adopting affordance theory, to achieve the experience of meaningful metaphorical and practical combination.

From the Methodology course, a scientific approach is introduced and promoted that design research and research-by-design can be combined into an integral entirety, wherein research-by-design as 'the formulation of new designs' serving the goal of research. Throughout the 'garden as a microcosm of the city' project, these two methods are merged into one coherent dialogue. The project starts with the analysis of the problems existing in the architectural field by overlaying the different networks, and events happened in history, as well as the precedents studies. Combining the analysis of space and timeline, this extensive research contributes to valuable conclusions that help to formulate new definitions of the carriers and a better structure of the design proposals. At this phase, the theories of Microcosm and Affects played key roles. By researching the relationship between the social development and environmental factors, these two notions allow me to grasp the features which lead to certain activities and perceptions of the city and develop more possibilities in light of the potential for new stories in the future.

However, these proposals call for further verification and more concrete data to be expressed into a coherent proposal, which implies more research on each detailed part and more considerations for the different groups of users. This is where the Affordances and Minimal Interventions notions play a major role. It's a process that provides me more insights into the expressive experience. Therefore, this present project helps to develop the stratification which deals with the "freedom" and "restriction", an issue of constraining or liberating potentials to set people free to do different activities according to their abilities, as well as to form different perspectives beyond the things presenting on-site. Restricted by the conditions the site presenting, the ways to express and implement spatial interventions is limited. But in order to achieve the research and design goal which aims to help people re-look and re-think what they experienced together and what they shared together firstly in order to move on to next phase with new possibilities, it's necessary to leave space in the design to the visitors, that's what called the "freedom". They are allowed to develop their own ways to use the facilities in the site, ulteriorly form fresh interpretations about the same carriers but in a bigger world - where the site is a part.

Hence, this new design way could contribute to inspire similar spatial types, especially under some difficult context when bigger interventions seem impossible to achieve. In a secret place, a place is chosen, bounded, it explores a way to look for the meaningful configuration to achieve the balanced pace of "freedom" and "restriction" at the same time.

Description of the societal and environmental relevance

This project could be regarded as part of an ongoing global discussion concerning the cultural, social, and religious diversity in the urban and rural areas, but also it seeks to address other genetic issues such as flooding management and water purification.

Firstly, the project is expressing the fears and desires of a society full of diversities that dreams of a future with better life quality. After the war, the city Mostar is more divided now after two decades. Under this extreme mental and physical post-war segregation, this project aims to explore how landscape help to rebuild the hope and the sense of belonging to the city for the citizens, by spatial experience and reflection of the city. Despite the site-specific carriers which address the city's unique characters, this project seeks to develop the approach and the principles of which can be extracted and applied in the similar urban context wherein the identities of its inhabitants are destroyed or the city is fragmented by the people of different religions, transforming it into a place where new conversations are possible. Hence, the project addresses to the question how we landscape architecture can contribute to improving people's life qualities by providing a secluded place where they can have qualified experience and put forward fresh perspectives under stressful and restless daily life in a society with an endless controversy and anxiety of conflict.

Moreover, this project can also provide an answer to how to conduct a more efficient, low-maintained way of water management which can be promoted in a larger scale. In areas where the economy is relatively underdeveloped and political conditions are complex, the vulnerable groups take more risks, such as suffering most from the flooding problem.

In this sense, the project can contribute to being a prototype for other riverside areas that face the same problems.

Generalization of results and thoughts

The site selected to create the garden as a microcosm of the city is supposed to give insights for the application of the method in other situations where the chosen carriers are included. With these methods, it can also inspire to other sites in other urban complexes but with the goal to achieve the metaphorical and practical balanced combination. The design is based on partially the specific conditions of the site but also on the insights from the theories. These insights could be tools for other applications in other cases. This attempt to rebuild the conversation between the city and its inhabitants by retelling the story of upon the common memory while also introducing new possibilities within the existing carriers can be a start for similar researches that deal with the experience of people and their relation-reaction to the different environment. To provide multiple answers to crucial issues, these researches could originate from many other fields. Multidisciplinary, hence, is vital to address these complex contexts. This indicates that various factors are supposed to be included and the considerations from different fields should be addressed.

So far, the most difficult procedure is the combination of all the insights from the theoretical research with the analysis and with the design. Especially the theories I am using could be contradictory to some extent. It requires me not to only learn how to combine theory and design during the whole process but also integrate the essential part of my project from different theories in one framework. This new tool contains a richer understanding of the city, the war, the academic knowledge and the emotions of mankind.

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