

## WATERSCAPES

INFRA - *UNDERNEATH*  
STRUCTURE - *FITTING TOGETHER*  
*A CELEBRATION OF ROOTLESSNESS*

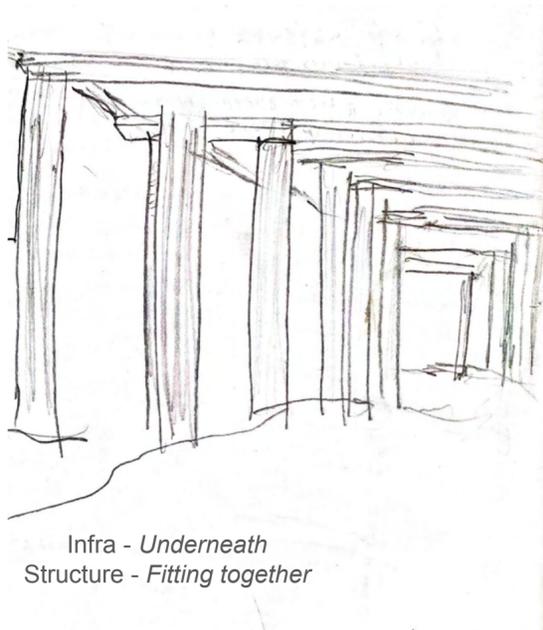
*Kelli Berg McIlroy*

### 1.1 HYBRID SPACE

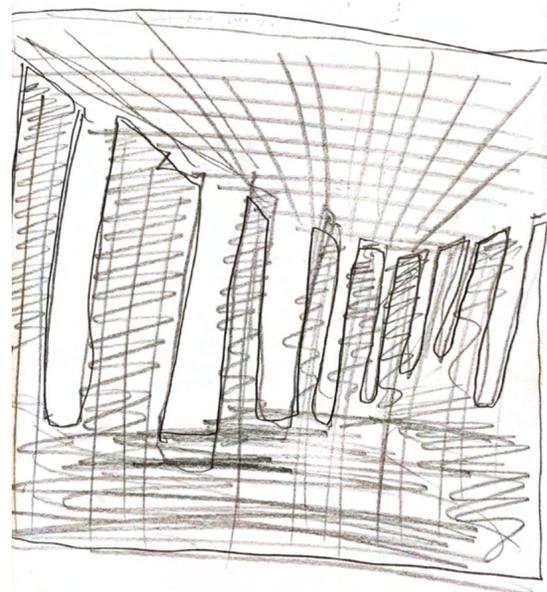
- 1.1.1. Infrastructure Type
- 1.1.2. Human Space Type
- 1.1.3. Hybrid Space Concept
- 1.1.4. Hybrid Space System
- 1.1.5. Hybrid Space Design Procedure
- 1.1.6. Hybrid Space Variations

INFRASTRUCTURE TYPE

Under the bridge - Defining scale, space & parameters



Infra - Underneath  
Structure - Fitting together



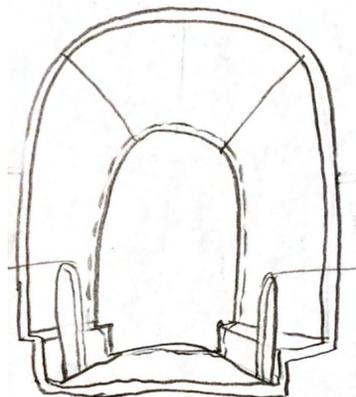
Acknowledging void of a territorial  
boundary underneath bridge  
environment.



Framework :  
Positive space

Under the bridge. A place often neglected by society, often perceived as problematic, dark and scary. The infrastructure type has indeed the function of an elevated road, transporting one from point A. to point B.

However, the intention is to discover how the infrastructure could be attractive to society and actually provide contributions on the urban scale.



Negative space

INFRASTRUCTURE TYPE

Under the bridge - Small scale



Footbridge in  
Přebor  
/ Petr Tej + Marek  
Blank + Jan Mourek,  
BoysPlayNice,  
Czech Republic,  
2018



Reflections from below. Sculptural-qualities, a minimalist object, designed from shiny smooth concrete. The footbridge has a simple beam with a span of 35 meters, created by enclosure double-chamber segments of 7,2 m in length, 2,5 m in width and 0.8 m in height. Its segments are longitudinally fastened by prestressed cables, raised cables of parabolic course.

INFRASTRUCTURE TYPE

Under the bridge - Intermediate scale



The side spans of the bridge are not supported by suspension cables, but instead supported by viaducts. Williamsburg bridge acts as the link between Brooklyn and New York city. One could drive, walk and bike across the Williamsburg bridge. There is a ferry service under the bridge. It takes 60 minutes to walk across the bridge, 60 minutes of transition time.

Under the Williamsburg Bridge, Philippe Bouclainville, Manhattan, n.d.

INFRASTRUCTURE TYPE

Under the bridge - Large scale

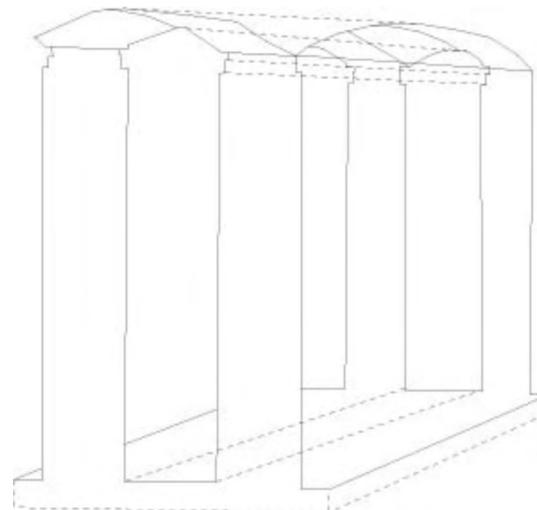


Hong-Kong Zhuhai-Macao Bridge, HITACHI ABB, China, Guangdong province, 2020

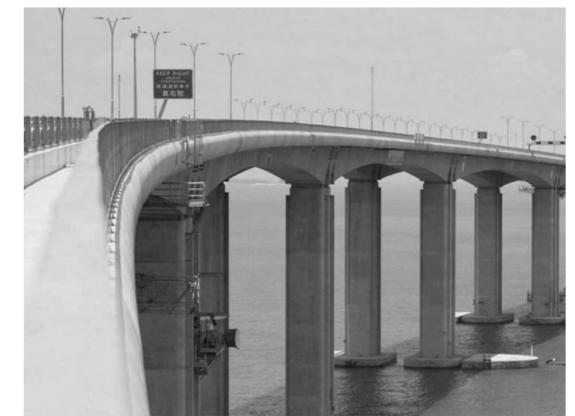
The Hong-Kong Zhuhai-Macao Bridge connects HongKong, Macao with Zuhai in Guangdong province. Consists of three compartments - an offshore bridge, an undersea tunnel and artificial islands. The main bridge is 30 kilometers long.



Williamsburg Bridge, Liberty Moving & Storage, Brooklyn NY, 2021



Space + framework for intention Human space inbetween loadbearing strutures



Hongkong Zhuhai Macau Bridge Shuttle Bus Ticket, viator, China, Guangdong province, 2021

HUMAN SPACE TYPE  
Small scale



Tom Ravencroft, Architects of Air  
creates "sense of wonder" with inflatable  
architecture maze, 2019

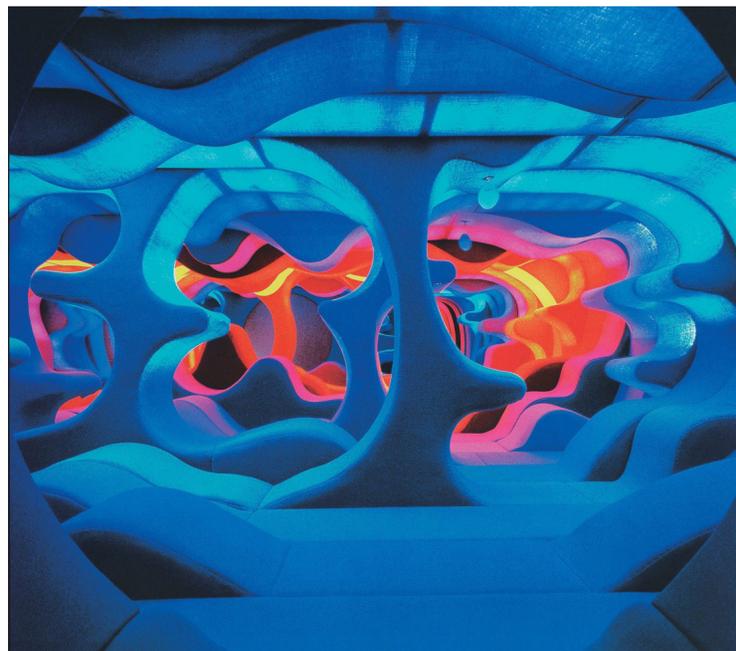
Exterior inflatable material to meet  
water and land.

HUMAN SPACE TYPE  
Intermediate scale



A limited space, still with intimacy, an  
almost residential ambience.

Chongqing IV (Sunday Picnic), Chongqing  
Municipality, Kander, Nadav, 2006



Verner Panton,  
VISIONA 2,  
FANTASY LAND-  
SCAPE, furniture fair  
Cologne, D 1970

Interior qualities. A textile structure  
of organic forms and vibrant colours  
with installed lightings.  
Creating a cell-like environment with  
an intimate ambience.

Human space type  
Large scale



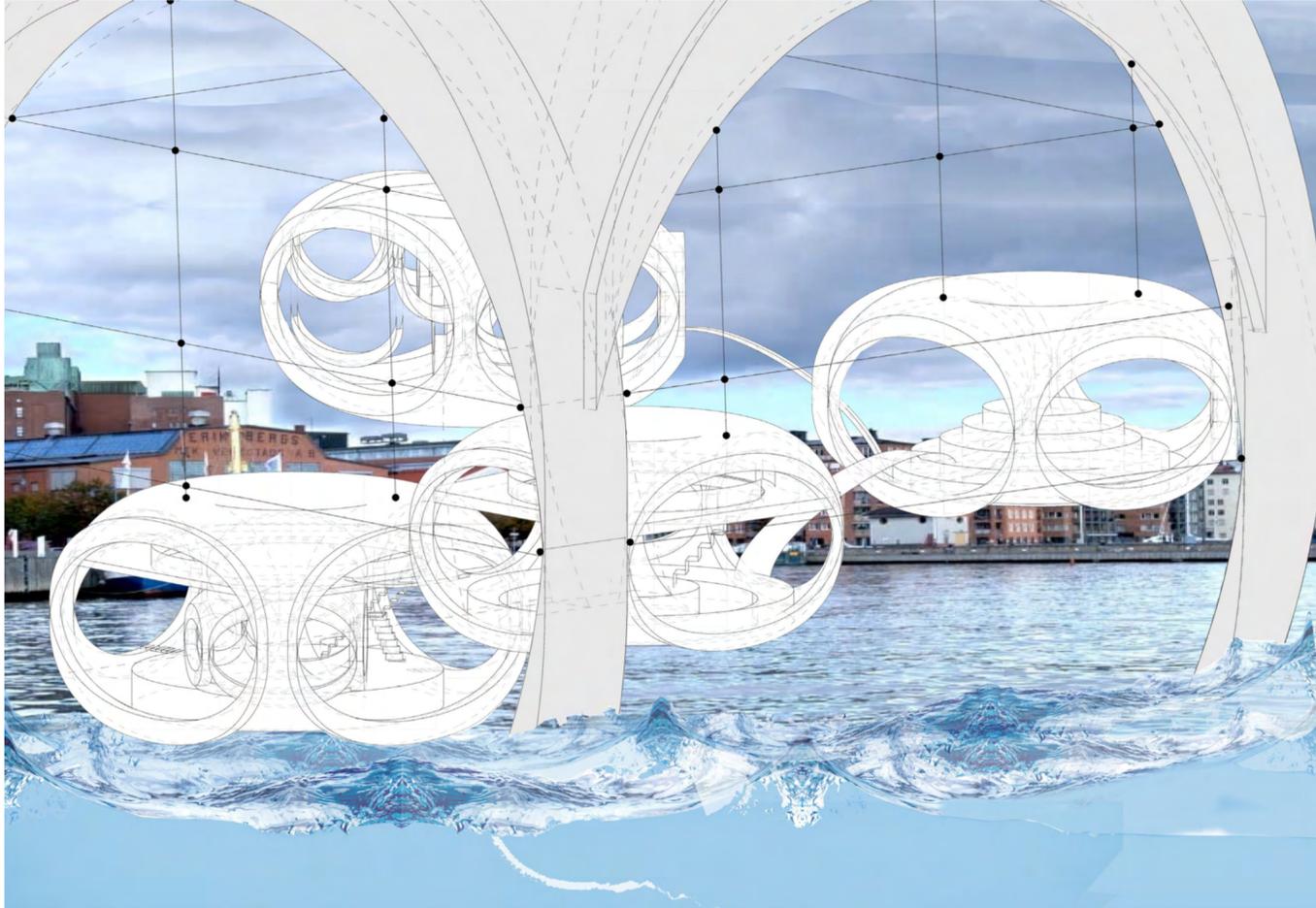
About landscape impact. An area  
former occupied by drug addicts and  
gamblers, neglected by surrounding  
societies. The area was transformed  
into a lush garden with recreational  
space and lush pathways.

Tupule Flyover, Mumbai, Journal of Art and  
Architecture & Built Environment, JAABE,  
Chandana, 2017

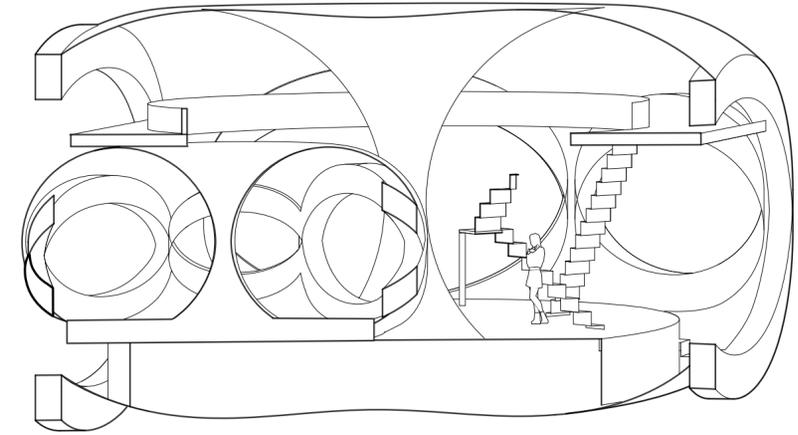


Celebrating rootlessness & making room for diversity  
Inbetween the bridge and under the bridge  
Equals a residential space for human empowerment.

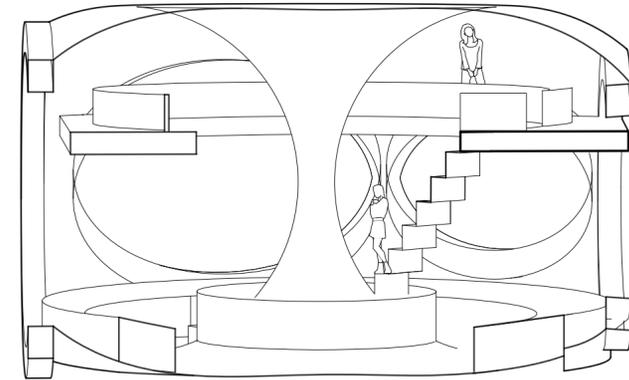
HYBRID SPACE CONCEPT  
In urban context



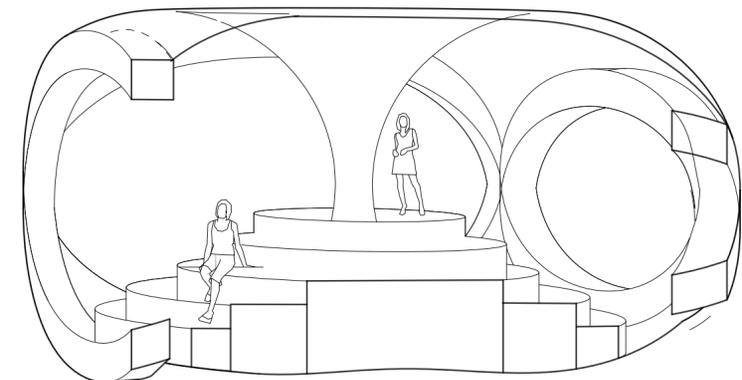
HUMAN SPACE CONCEPT  
Activity under shelter



Learning by doing



Exhibition space

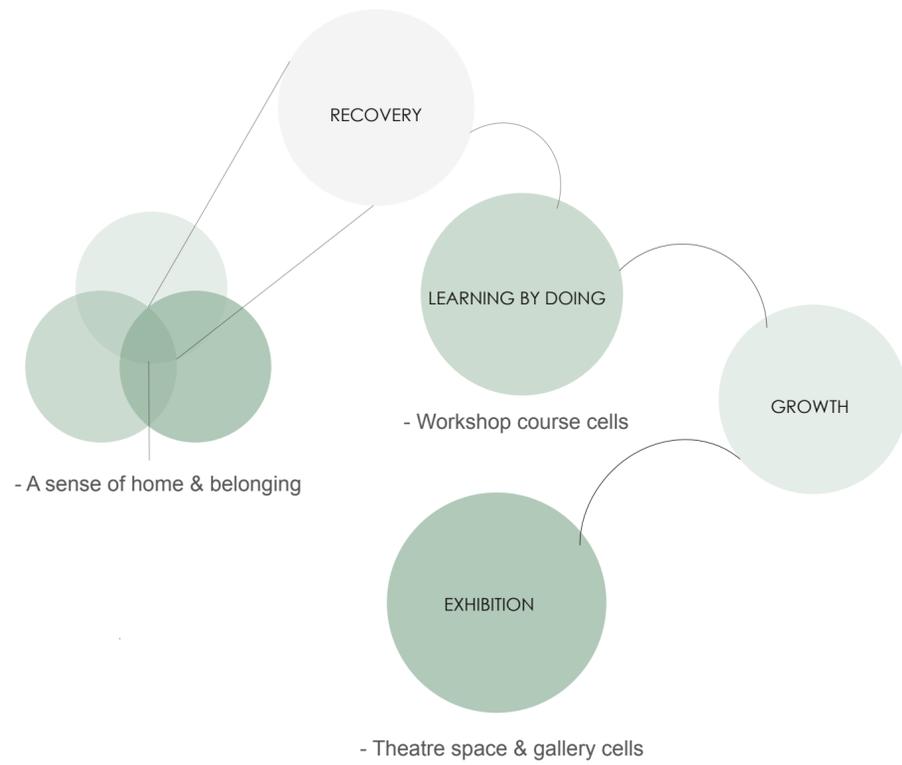


Lecture space

Focusing on the intermediate scale impact, the hybrid space is to shelter and provide an alternative infrastructure underneath the bridge.

The concept of empowerment is taken under consideration and further described in a hybrid space system. This, since the concept is dependent on the system and vice versa.

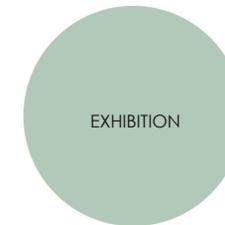
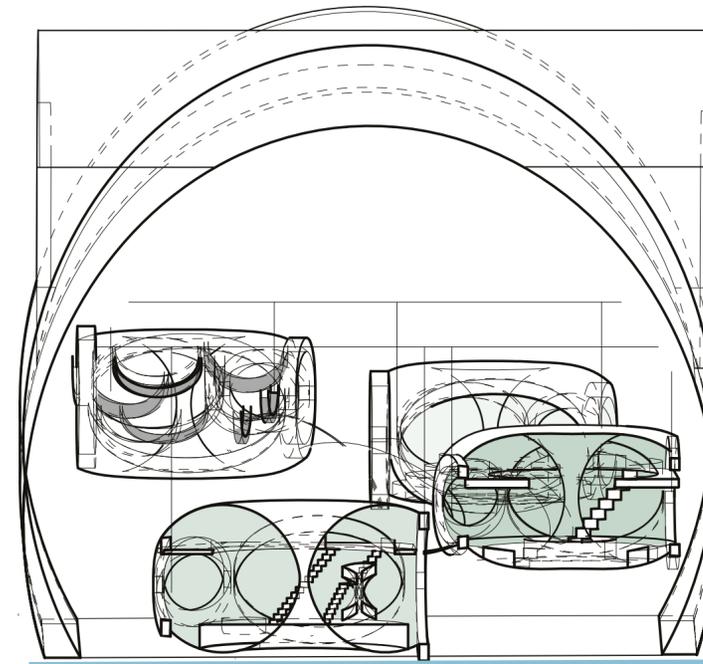
HYBRID SPACE SYSTEM



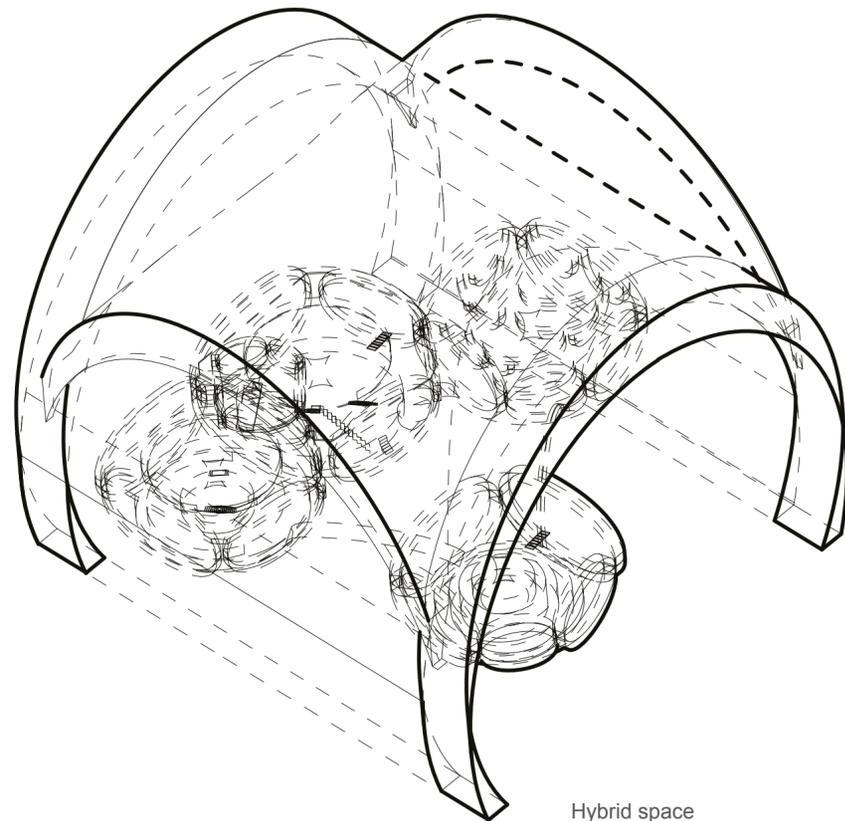
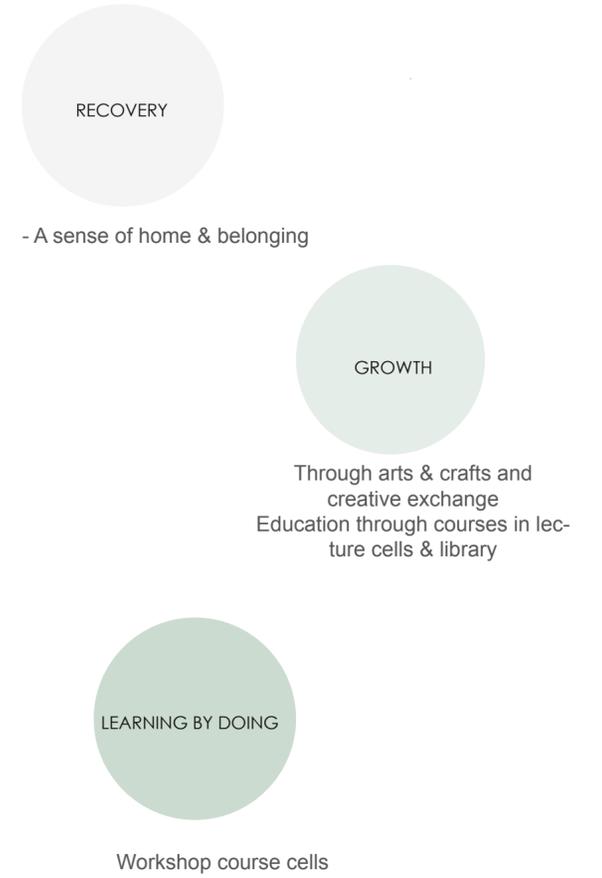
Horizontal distribution

Vertical distribution

SECTION THROUGH HYBRID SPACE SYSTEM



SYSTEM REQUIREMENT

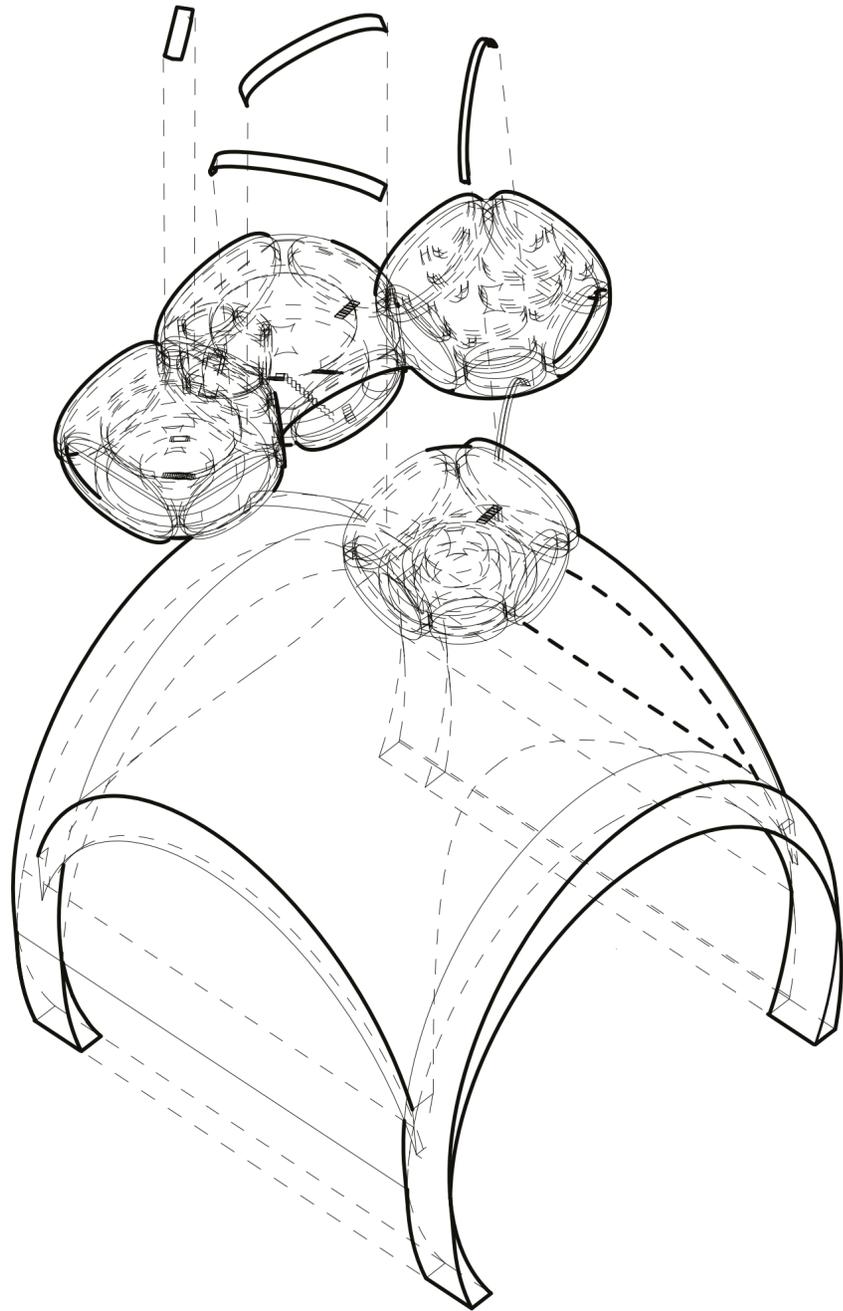


Hybrid space

Access:  
Has to expand to be reached from a pedestrian level.  
Connectivity to surrounding urban context and activities via bike and walkroutes is to be considered.

What could be ...  
-Sound qualities ?  
-Smell qualities ?  
-Light qualities ?

HYBRID SPACE SYSTEM  
Small scale intervention

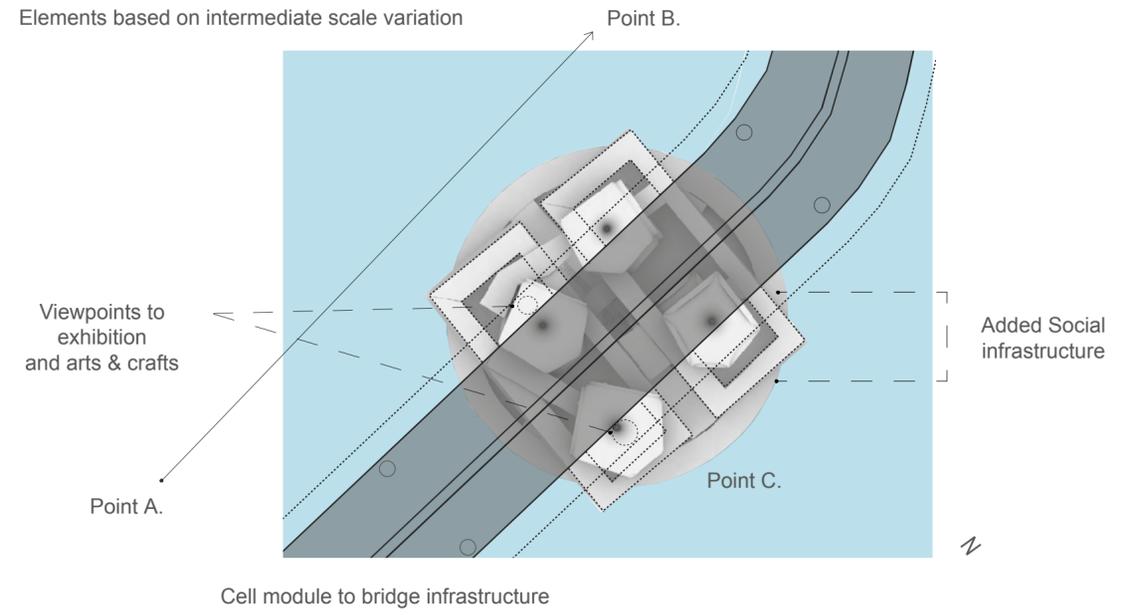


Circulation  
Semi-public

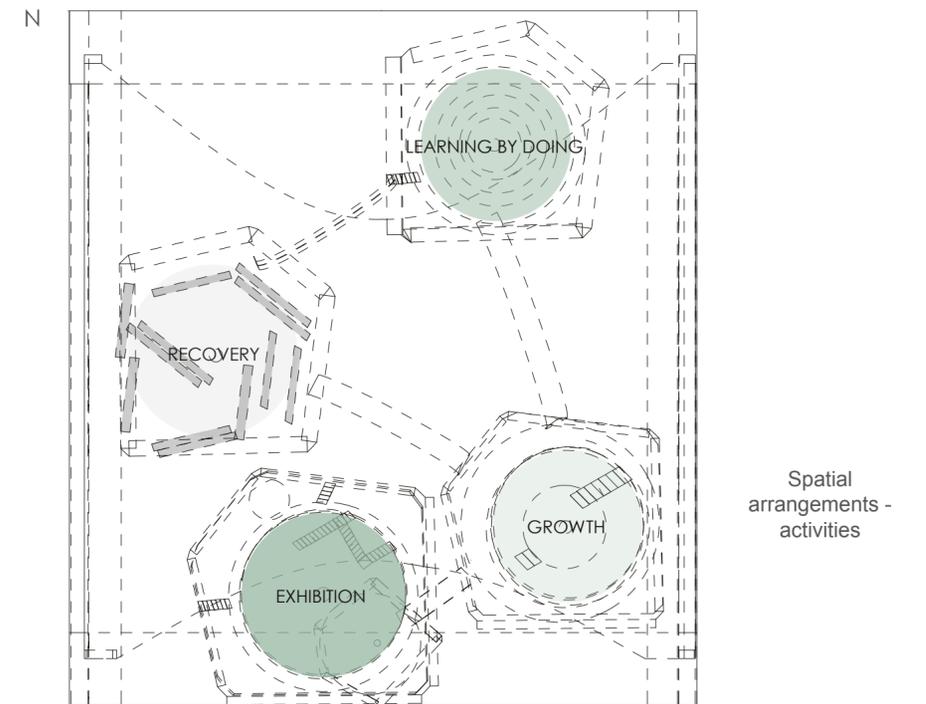
Cells  
Private

Infrastructure  
Public

HYBRID SPACE DESIGN PROCEDURE  
Elements based on intermediate scale variation

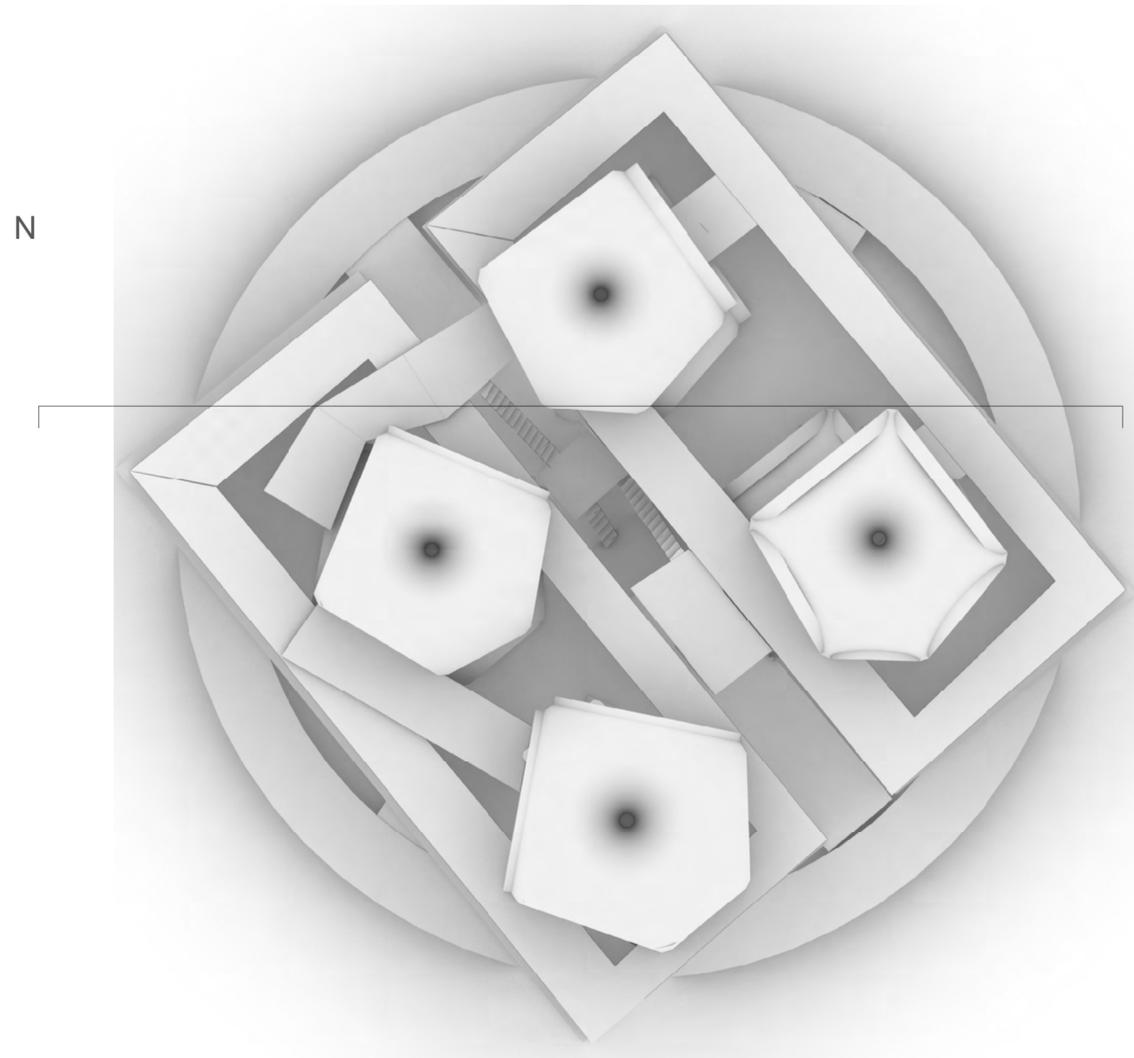


Cell module to bridge infrastructure

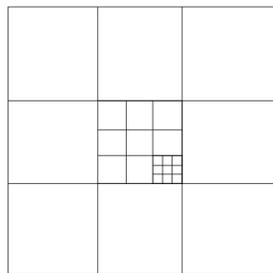
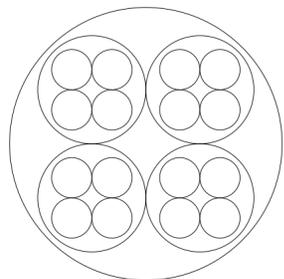


Spatial  
arrangements -  
activities

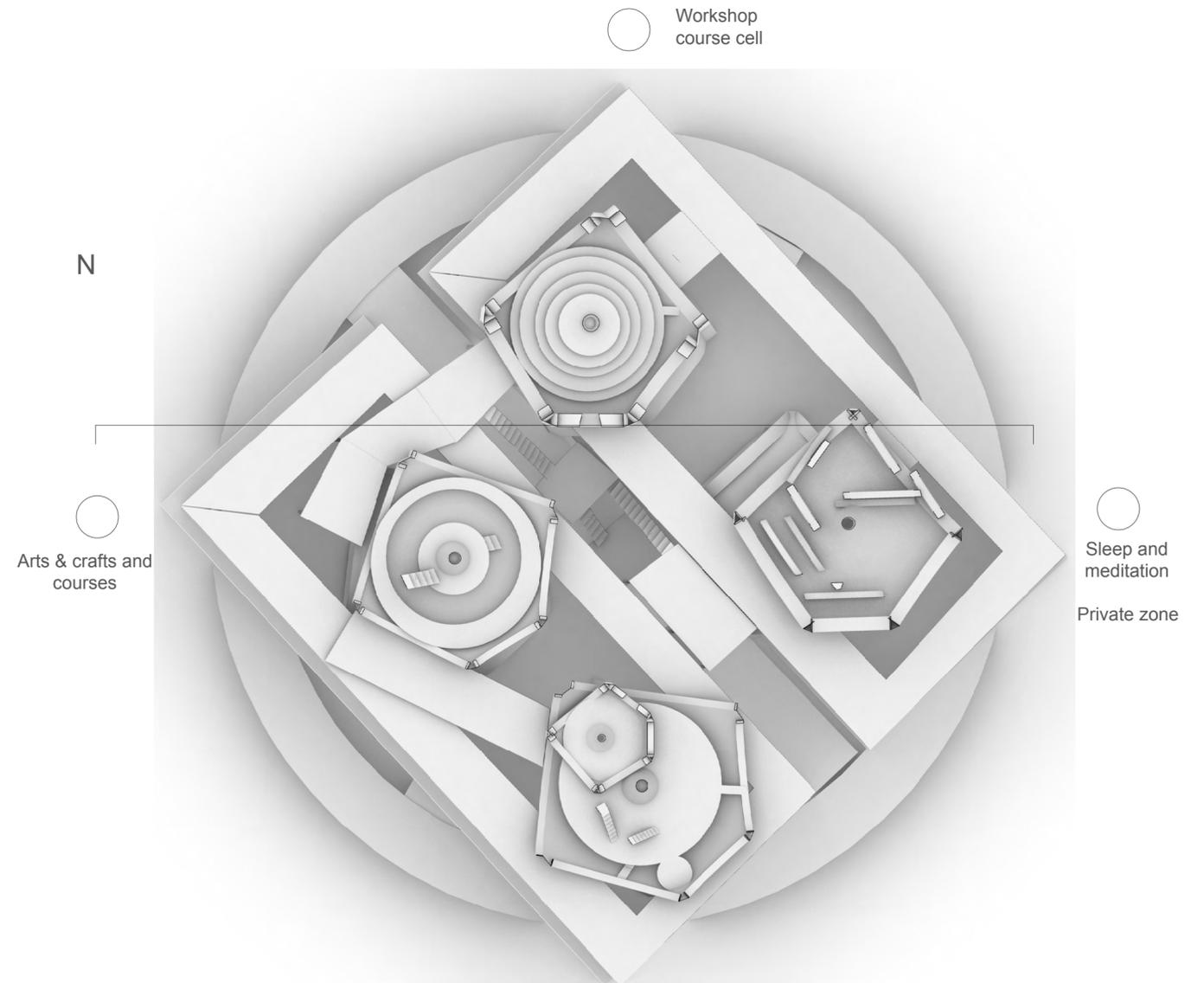
HYBRID SPACE DESIGN PROCEDURE  
Intermediate scale intervention



Roofplan - Cell module



Definition of metageographical patterns and networks. Layers of interconnecting and overlapping space. Design rules analytics of creating an enriched urban grid. The shape of an urban grid is attempted to be recreated within a cell module.



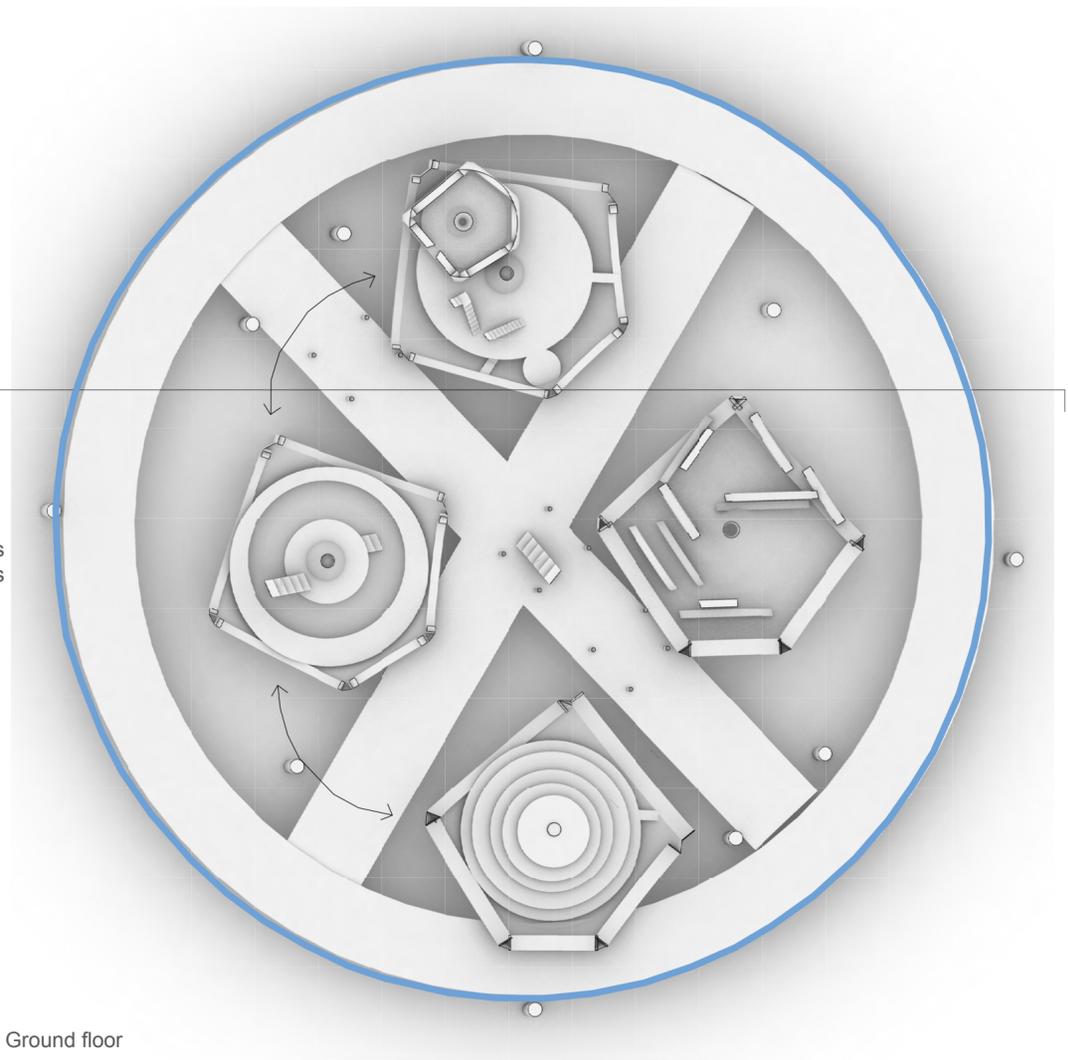
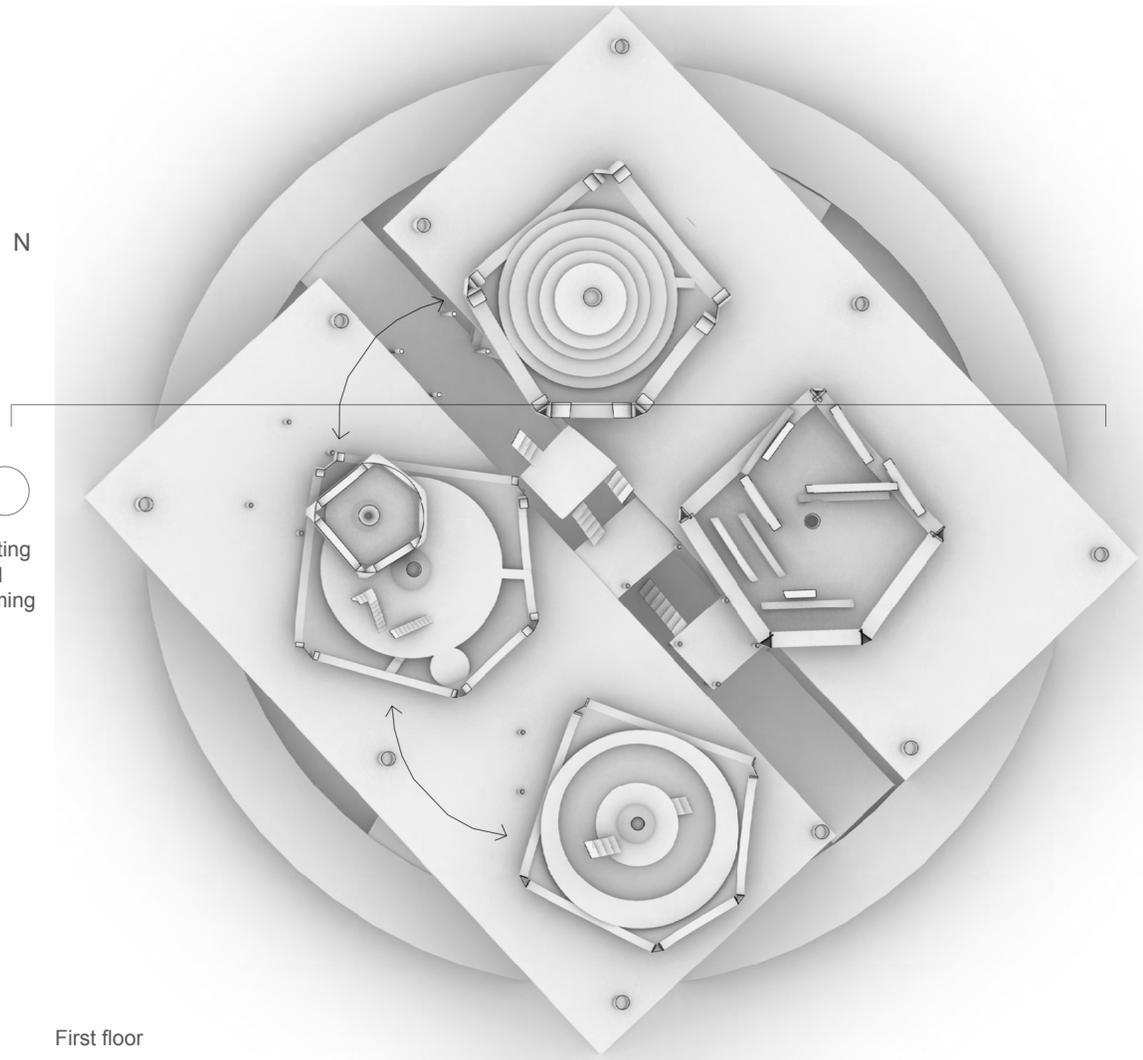
Second floor

Points of access and connectivity to surrounding urban context is explored via replicating the urban grid and ways of interlinking territories, nodes and activities. This equals the cell within its road network. Circulation and further connection to bridge and urban context is elaborated in phase 2 and phase 3.

○ Exhibition and performance

○ Workshop course cell

○ Exhibiting and performing



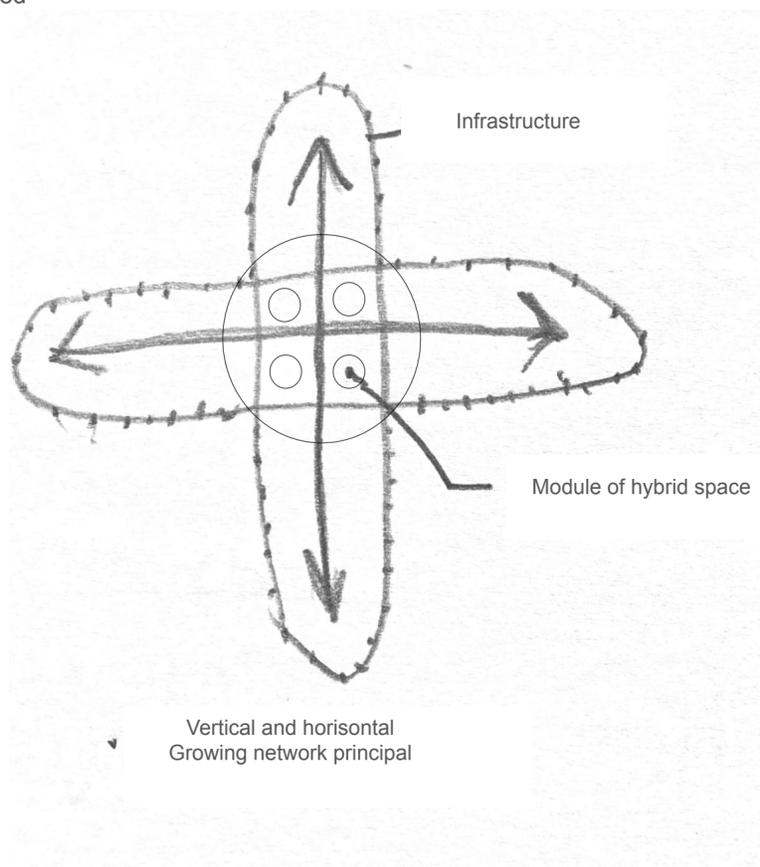
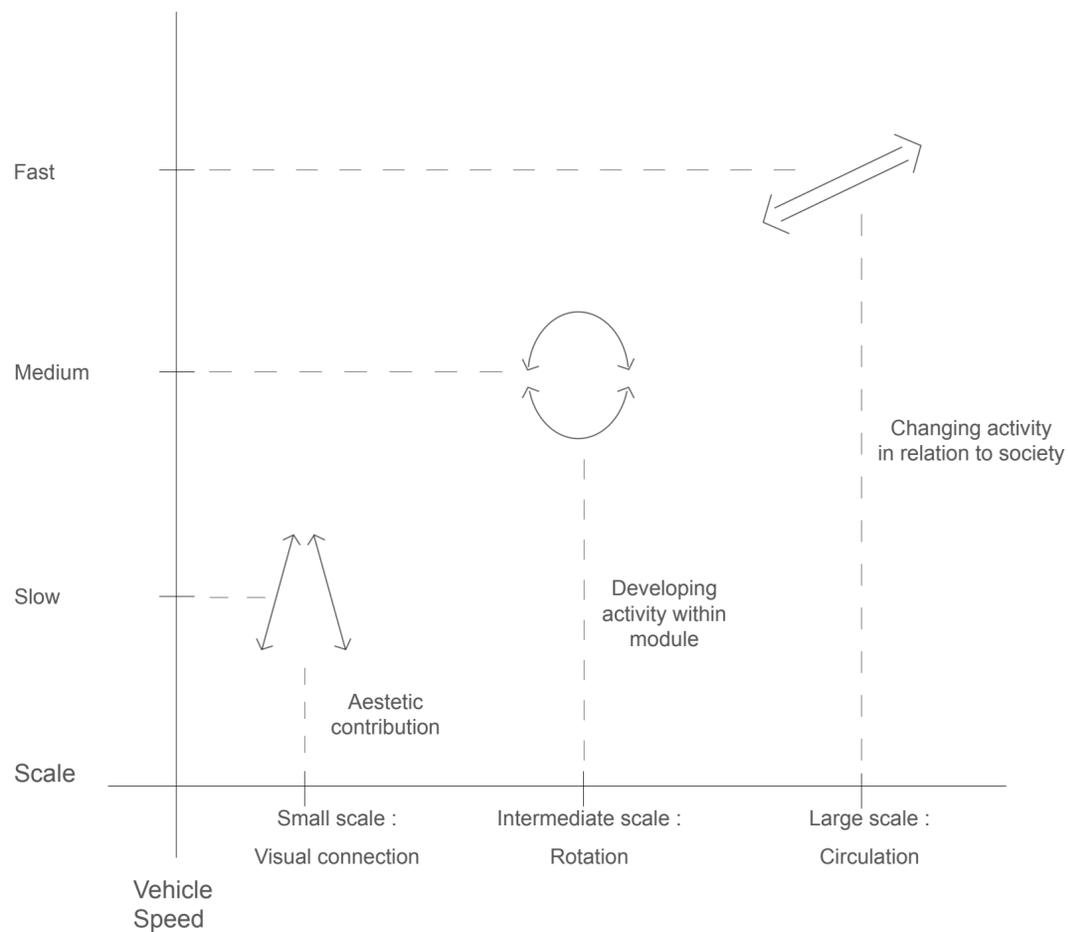
○ Arts and crafts via courses

○ Workshop course cell

In order to create a dynamic activity center, the themed cells are in movement, they change place with one another. Notice that the sleep and meditation area remains on the same area, to create a private zone.

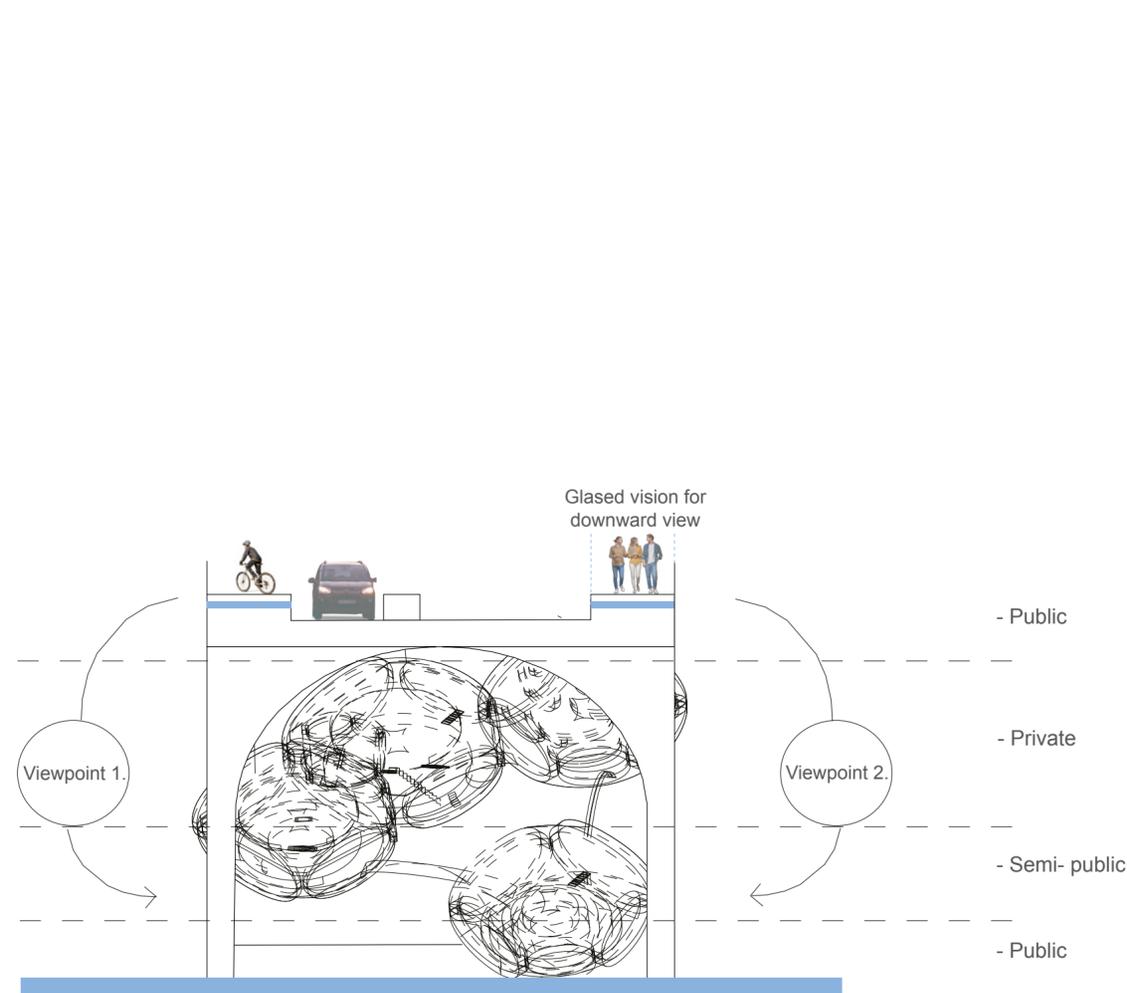
HYBRID SPACE VARIATIONS

Small scale to Large scale effect



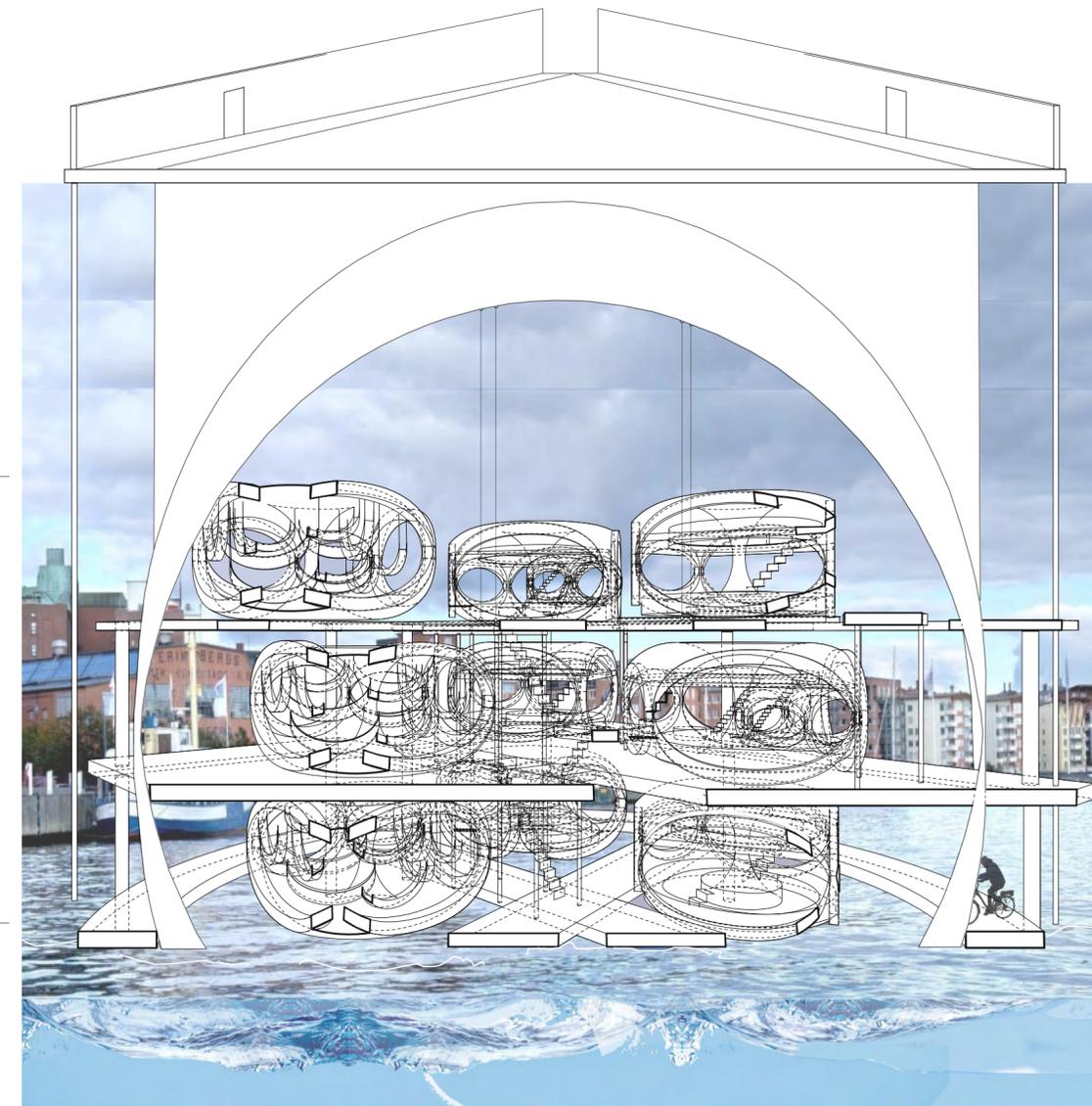
HYBRID SPACE VARIATIONS

Elements based on small scale variation



Visual connectivity and intended gradience of human interaction. Common and private spaces via intervention.

HYBRID SPACE VARIATIONS  
Elements based on intermediate scale variation



Vertical private recovery zone

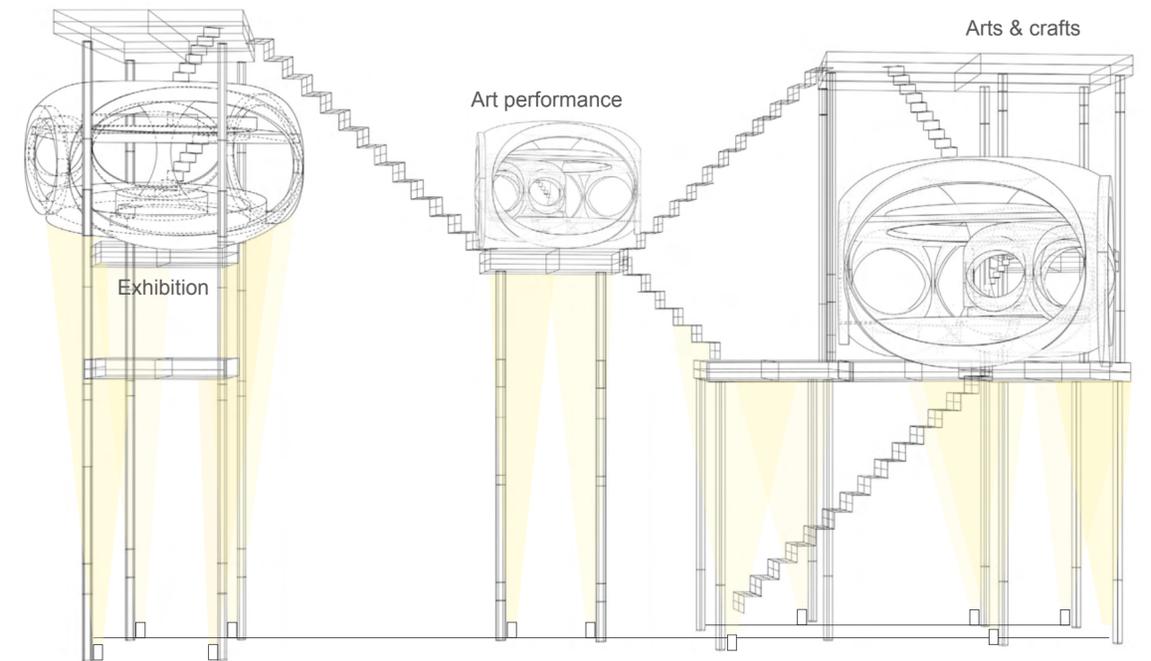
Semi-private  
- Agent

Semi-public  
- Locals & guests

Public  
- Visitors & curators

Developing activities

HYBRID SPACE VARIATIONS  
Elements based on intermediate scale variation

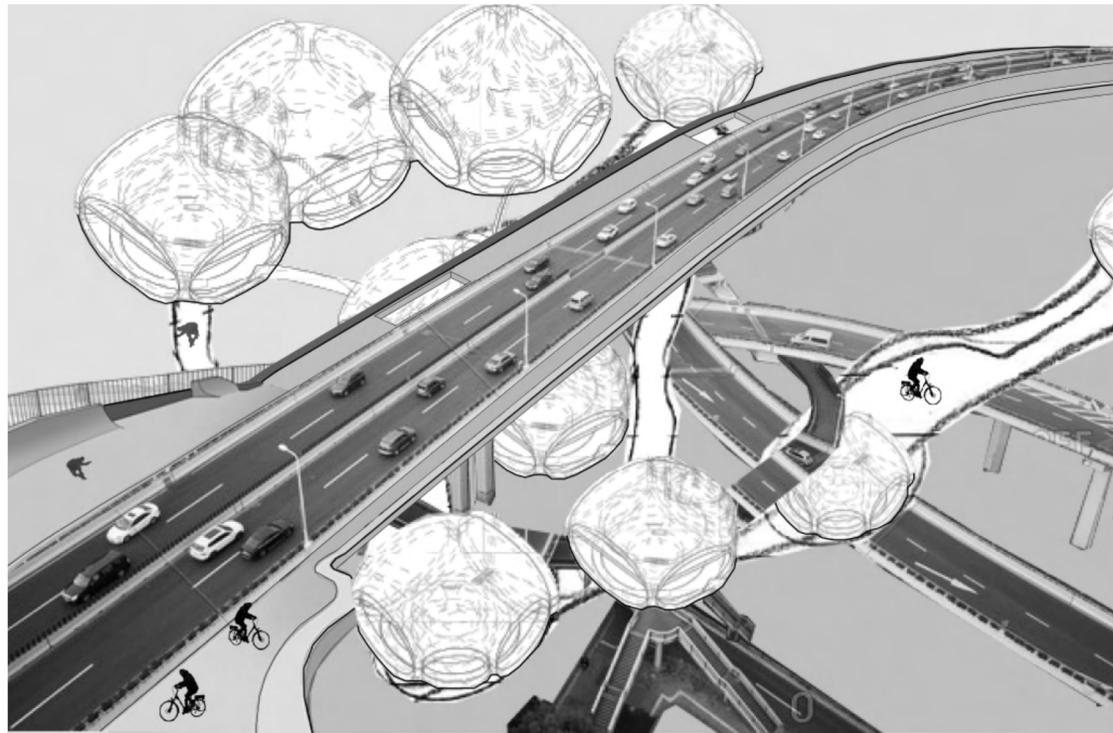


Vertical effect.  
Add-on structure  
with light  
intervention

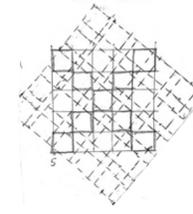
Interlinking platforms with arts and craft workshops and art exhibition units. The aim is to connect with fast driving cars, creating space for them to stop and participate within intervention activities.

The provision of light is another aspect needed within the growing network. As the area increases in size, so does the need to counteract the sense of darkness and cold underneath the bridge : to create a sense of safety.

HYBRID SPACE VARIATIONS  
Elements based on large scale variation



Horizontal effect.  
Ramps & paths are to interfere and  
merge with current infrastructure.  
They are to be overlapping, crossing  
and underneath



## WATERSCAPES

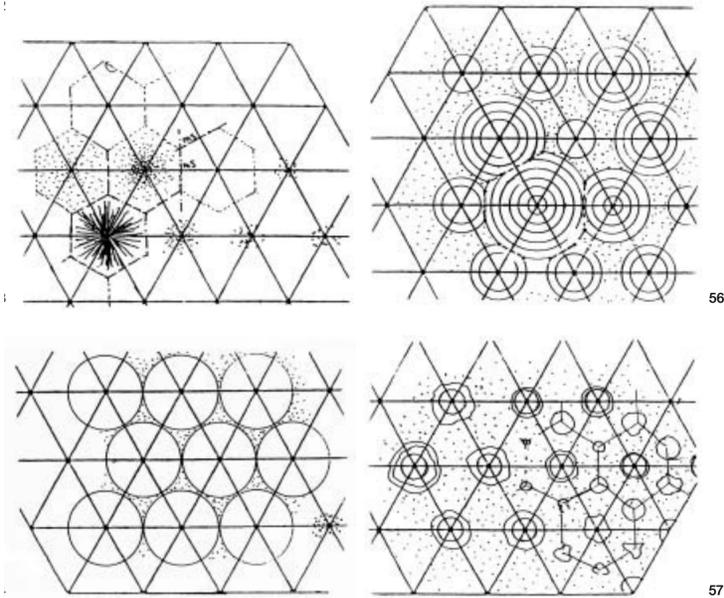
INFRA - UNDERNEATH  
STRUCTURE - FITTING TOGETHER  
A CELEBRATION OF ROOTLESSNESS

*Kelli Berg McIlroy*

### 1.2 GROWTH NETWORK

- 1.2.1. Growth Network Type
- 1.2.2. Growth Network Concept
- 1.2.3. Growth Network System
- 1.2.4. Growth Network Variations

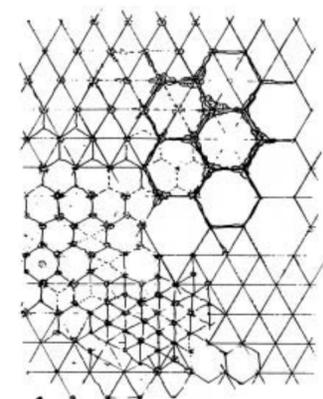
GROWTH NETWORK TYPE  
 Notion of territory through small,  
 intermediate & large scale investigation



56  
 57  
 25

Territories within an equilateral triangle grid are equilateral hexagons. Territories can be expanded and shrunk. The triangular grid allows subdivisions with corresponding smaller territories. The only urban territory possible to be designed are to consist of flexible character, governed by self-designing processes.

For this, human engagement and the patterns of ecological and biological behavior must be taken into consideration. There is an idea of a mobile territory, as human settlements are compared to organisms.



About patterns and grids :  
 A hexagonal grid originated from the triangular grid have a large spectrum of application where subdivision and expansion is possible.

Frei Otto  
 Occupying and Connecting, Thoughts on Territories and Spheres of Influence with Particular Reference to Human Settlement, 2009

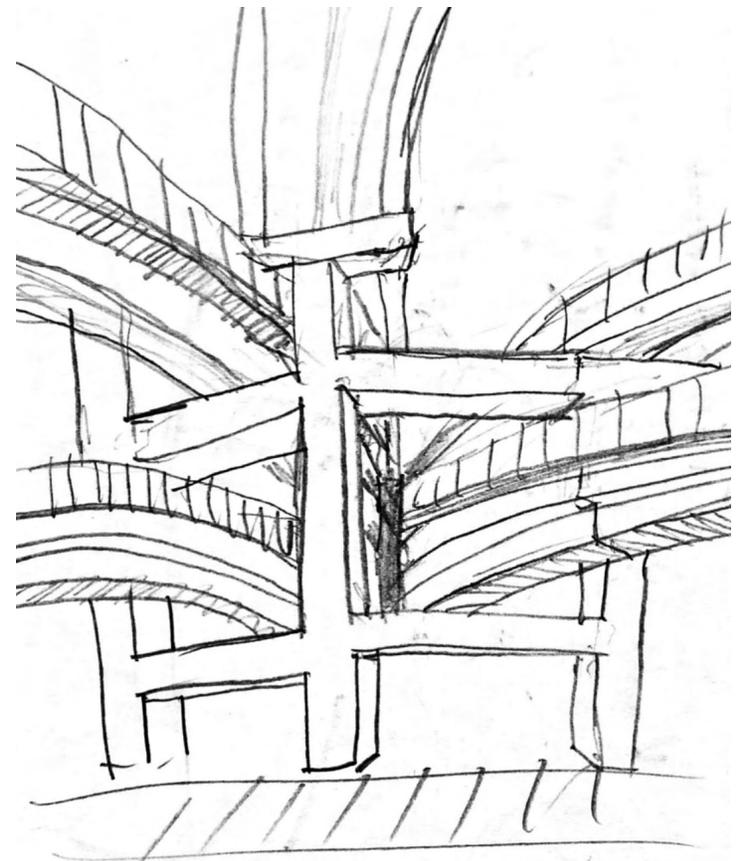
76

GROWTH NETWORK TYPE  
 Circulation development becomes structure development



Hakozaki Junction : A complex web of highway construction. Hakozaki, JCT, Suitengu, 2016

The Hakozaki Junction is a complex web of roads built in layers. A structure that almost resembles an octopus with its arms spreading out. It is a popular points across Tokyo where buses connect passengers to the popular airports Narita and Haneda.

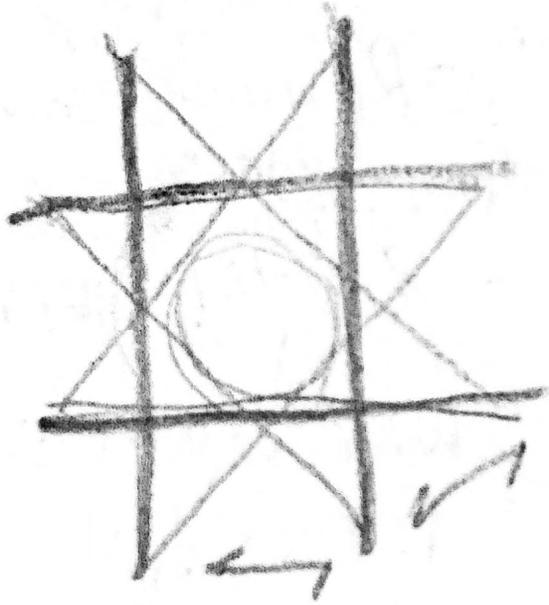


The intention is to create a linking network in the same manner as thoughts on territories and spheres of influence with reference to human settlement. Focus is on connectivity, circulation and structure framework.

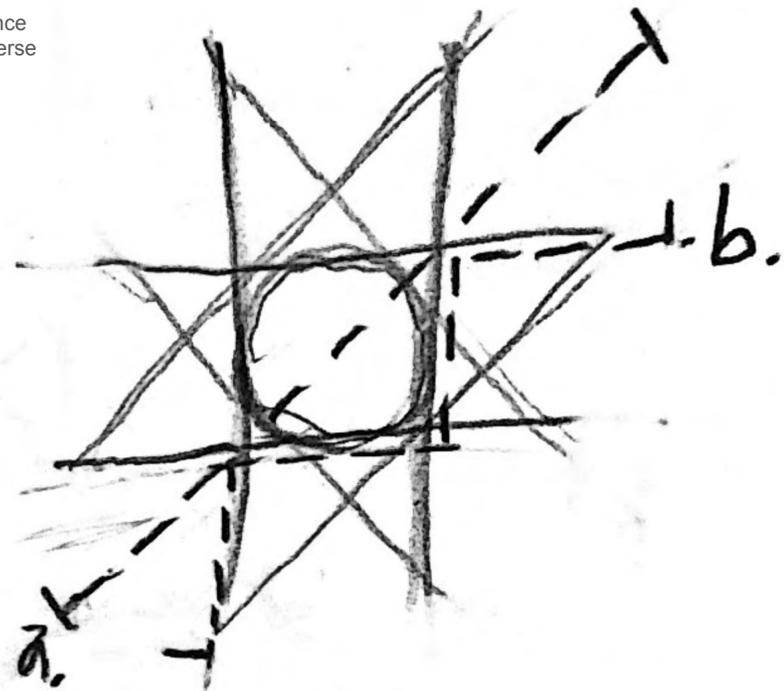
Precedence interpretation, Author's own, 2021

GROWTH NETWORK CONCEPT  
Effects

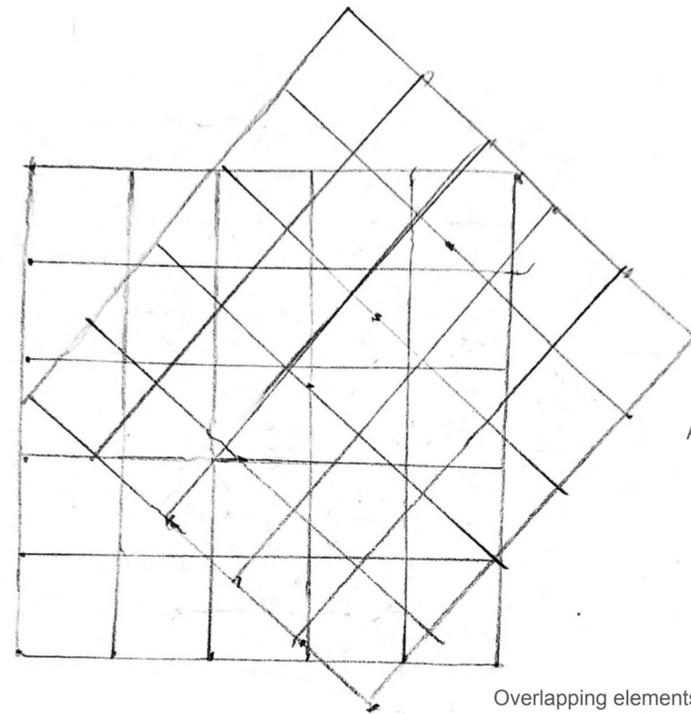
Architectural space :  
core with protective framework  
and extended structure



a. Classic for structure  
b. Investigating parallax sequence  
for diverse dimensions, from diverse  
points of views.

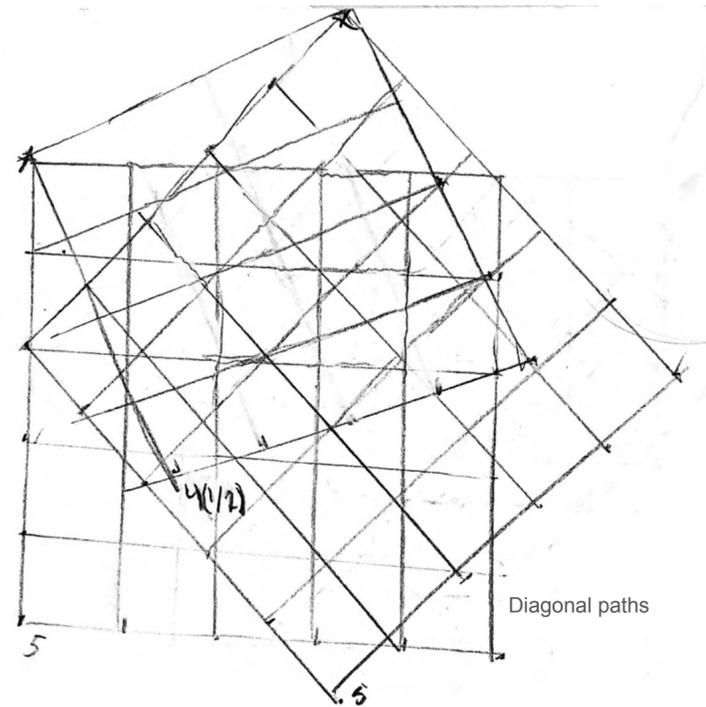


GROWTH NETWORK CONCEPT  
Introducing the notion of parallax effect



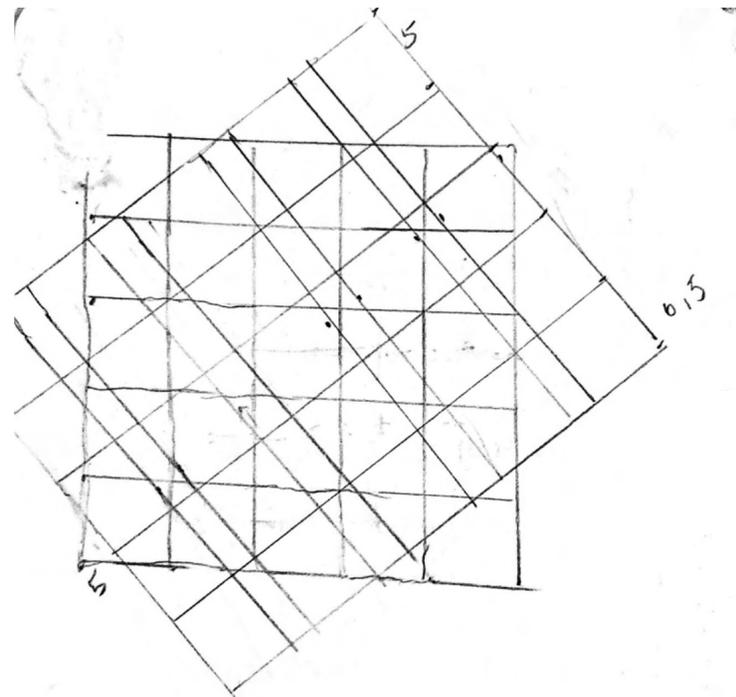
Apparent movement of objects when  
viewed from different positions.

Overlapping elements



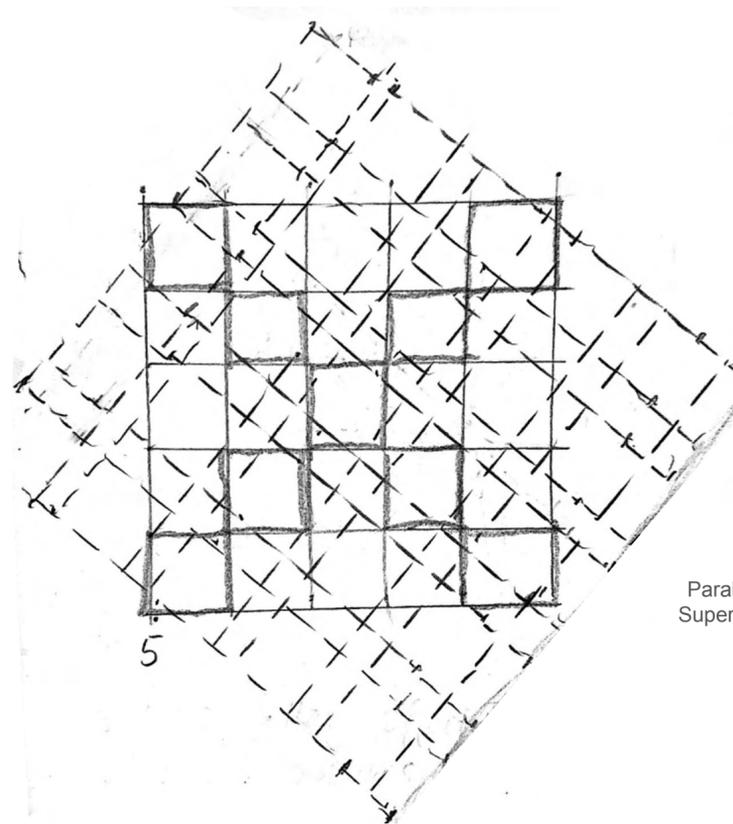
Diagonal paths

GROWTH NETWORK SYSTEM  
Introducing the notion of parallax effect



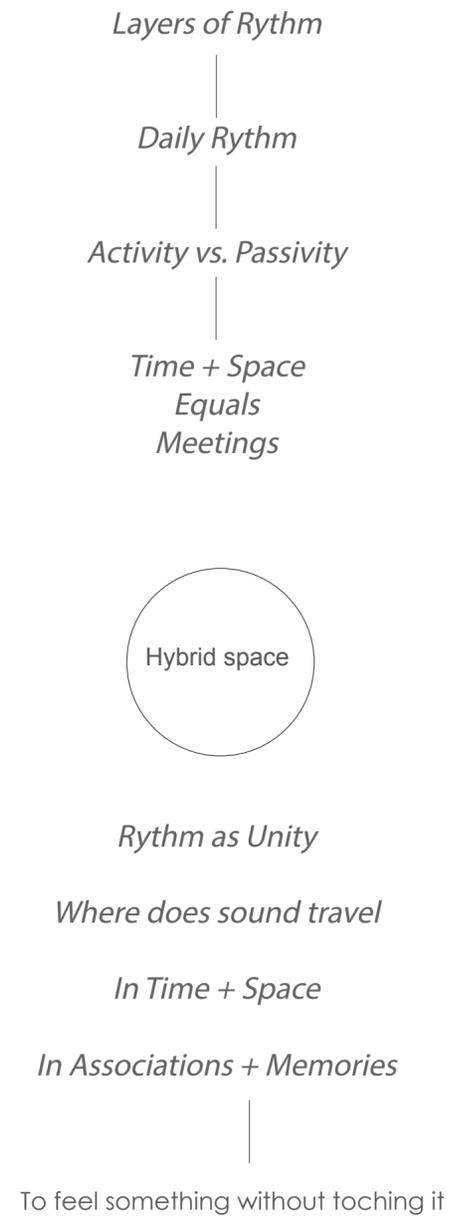
The parallax effect :  
 Foreground equals fast  
 Midground equals slow  
 Background equals almost still

Relation to velocity

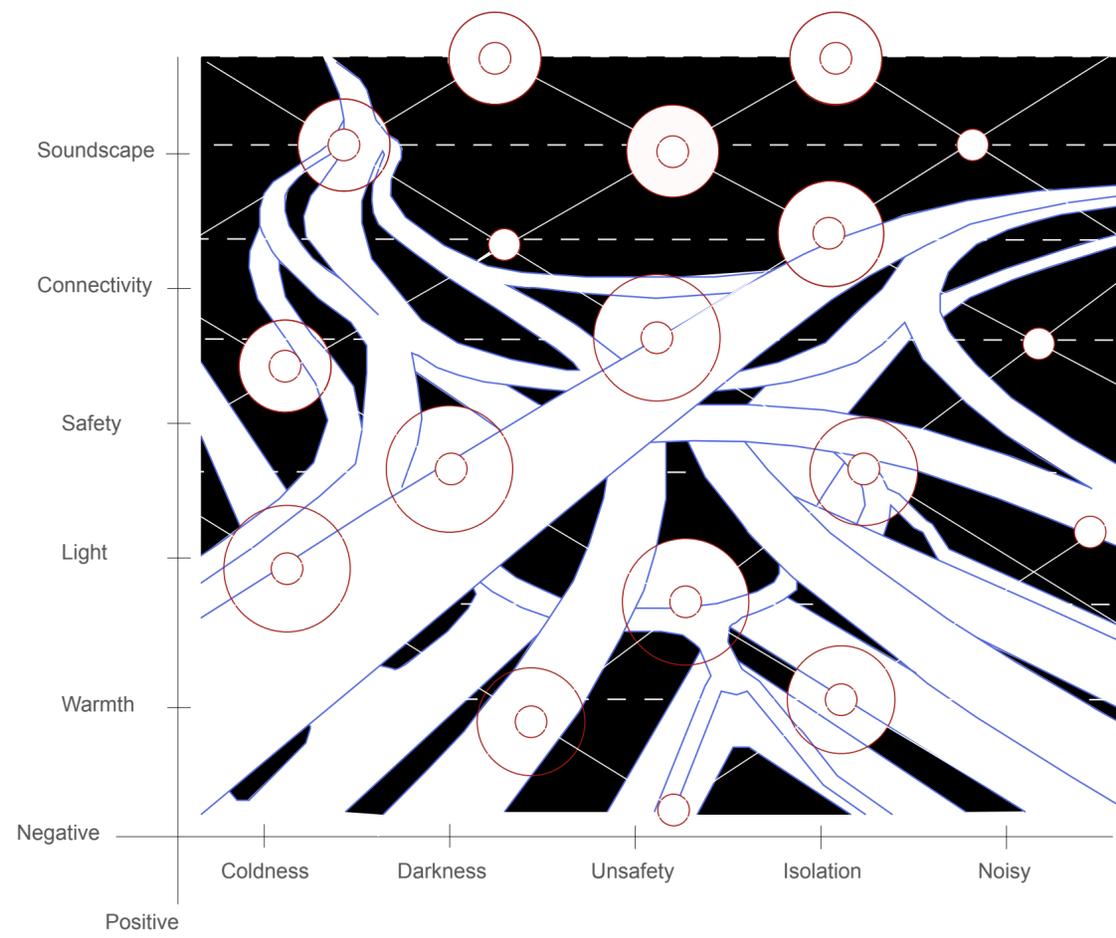


Parallax effect  
Superimposition

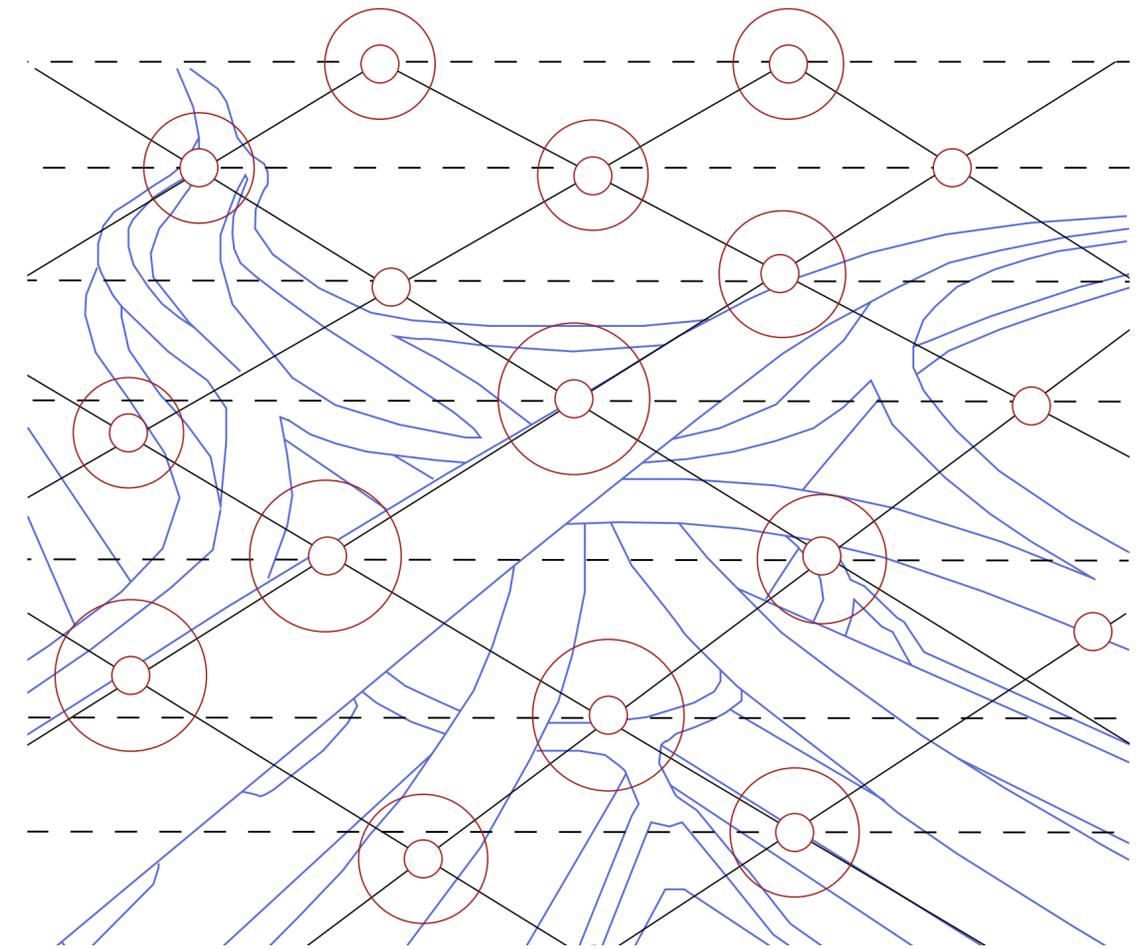
GROWTH NETWORK SYSTEM  
Urban effect speculation



GROWTH NETWORK SYSTEM  
 Negative features into qualitates, large scale effects & functionality



GROWTH NETWORK SYSTEM  
 Map of connotations



Imagined connectivity with  
 add-on elements in terms of  
 circulation, existing and  
 new elements.

- Imposed grid network
- ⊙ Cells
- ⊙ Expanding cells
- Infrastructure

GROWTH NETWORK VARIATIONS  
Intervention sequence



The imagined spread network with vertical and horizontal add-on elements. The mid node is a merge of the various elements interlinked. This is where most activities is imagined to take place.

The water is in this case exchanged with vegetation. The intention is similar: to imitate the aesthetic language of the roads and to cross and create a dialogue between the roads via introducing new paths connecting the nodes. It is to challenge the already existing infrastructure, but also to use it.



**BROKEN NARRATIVES** - Phase 2

Architecture and Urban Space Design (ARK128)

## 2.1 PROBLEMATIZED WATERFRONT

- 2.1.1. Problematization Type
- 2.1.2. Intervention Concept
- 2.1.3. Context Selection
- 2.1.4. Context Model
- 2.1.5. Problematization Cartography
- 2.1.6. Intervention Cartography

## 2.2. WATERSCAPE PROTOTYPE

- 2.2.1. Architectural Experimentation
- 2.2.2. Suprastructure Prototype

STUDY AREA - Göta Älv coastline



e 1:30000

NATURAL INFRASTRUCTURE

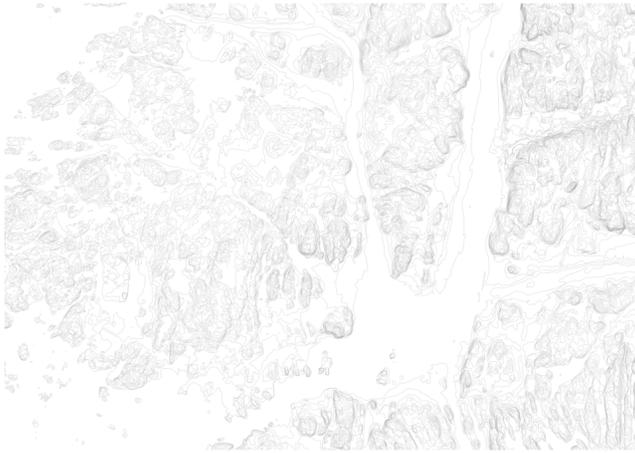
HUMAN INFRASTRUCTURE



*Water infrastructure*



*Industrial buildings*



*Natural elevations*



*Motorway network*



*Wood land*



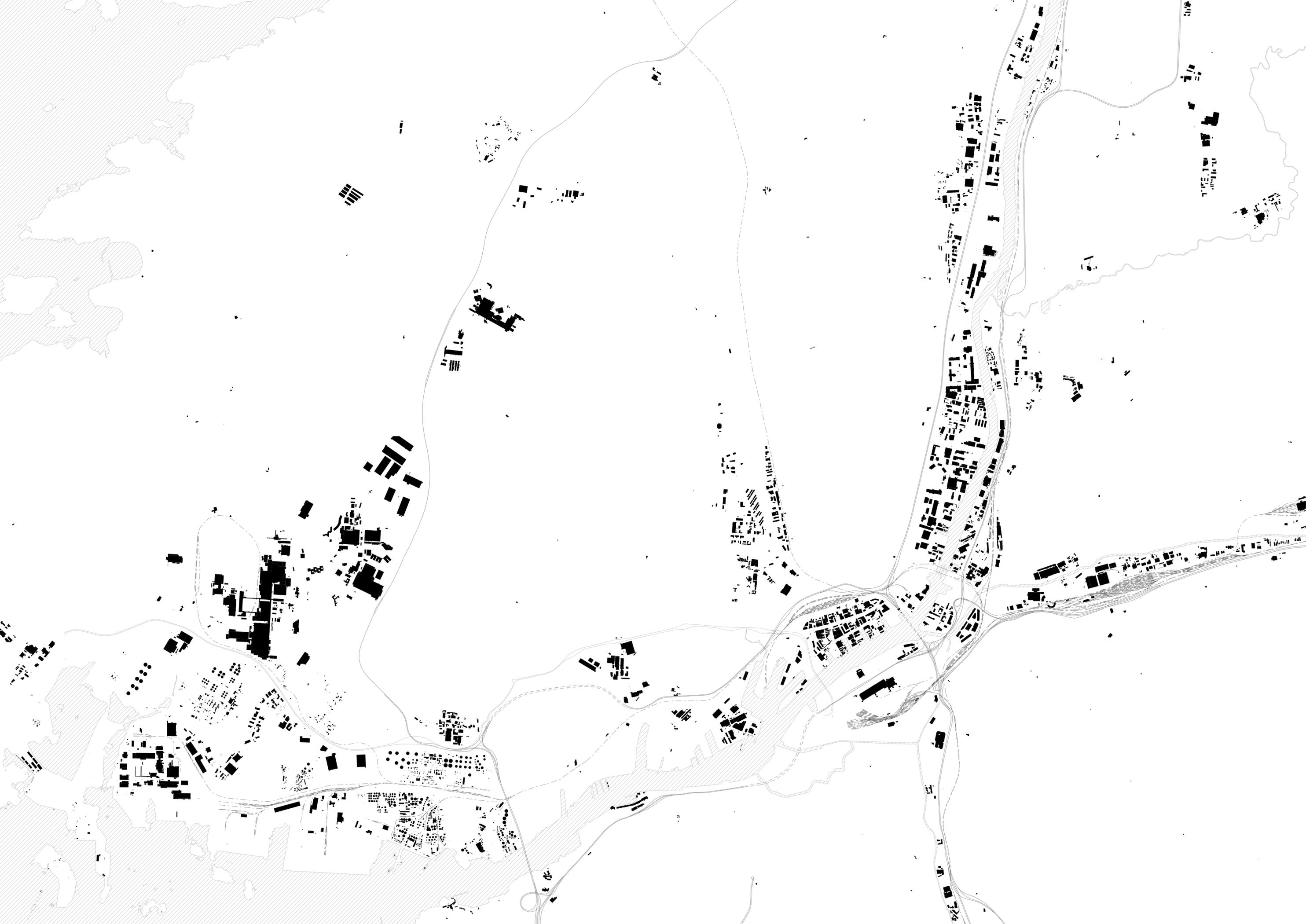
*Train network*



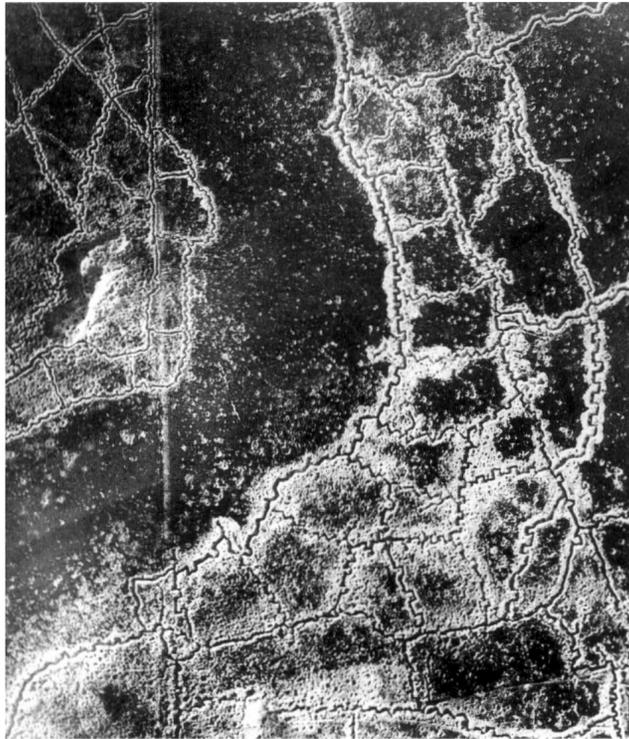
*Planted land*



*Port infrastructure*



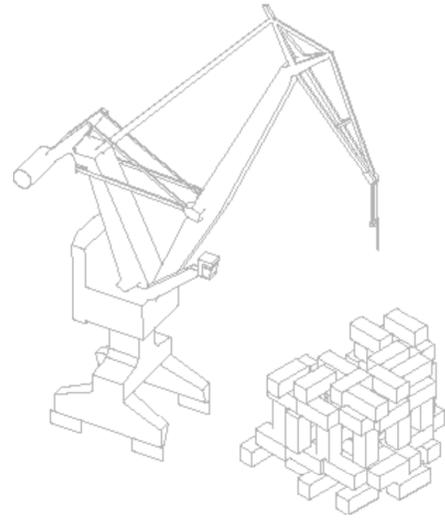




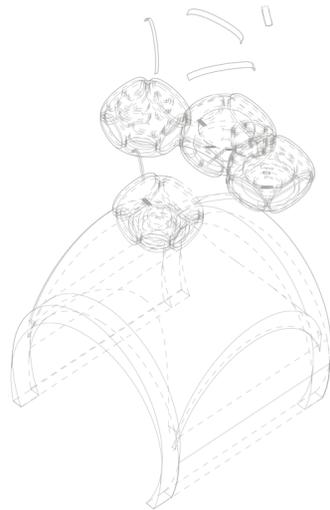
*Aerial view trench system.  
Artois, France. July, 1917.*

#### PROBLEMATIZATION

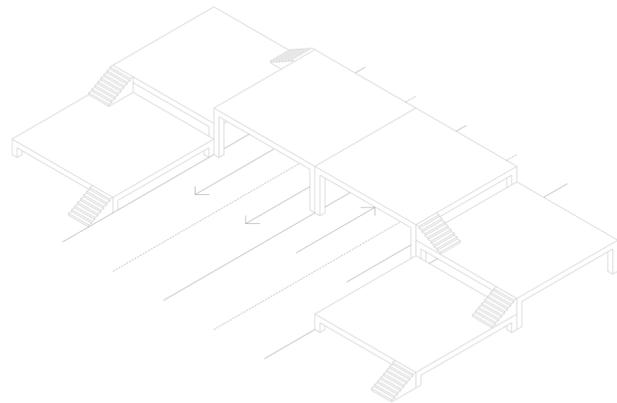
The industrial and high-speed infrastructure belt around the Göta Älv marginalizes the river from the urban fabric by forbidding an organic relation between the city and the river coastline.



(A) *City inside the city*  
cranes + spaces of connectivity  
Aleksandra Suszczak



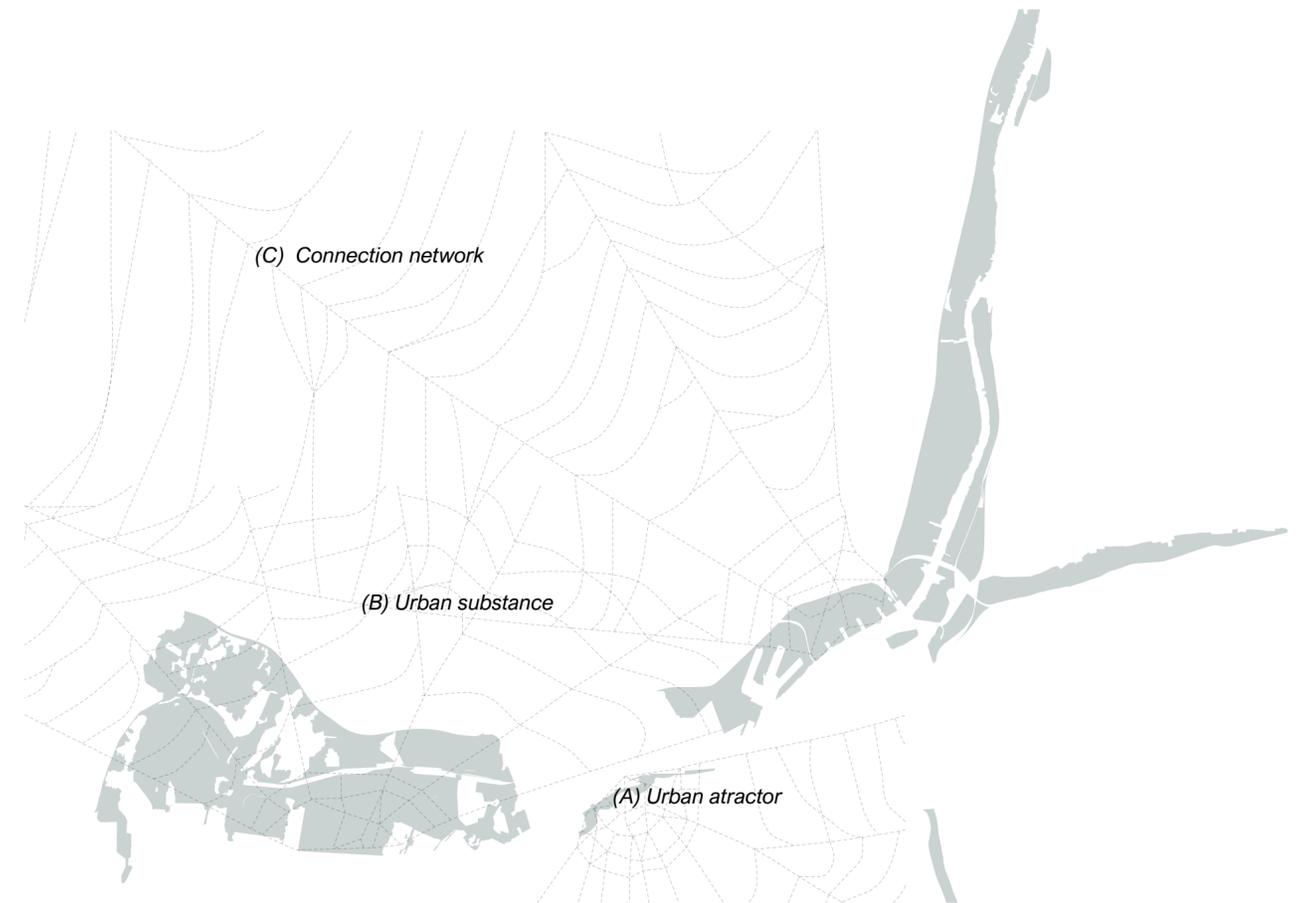
(B) *Cells of proactivity*  
bridge + passive education  
Kelli Berg McIlroy



(C) *Built topographies*  
the highway + the garden  
Antonio Macia Roger

CONCEPT

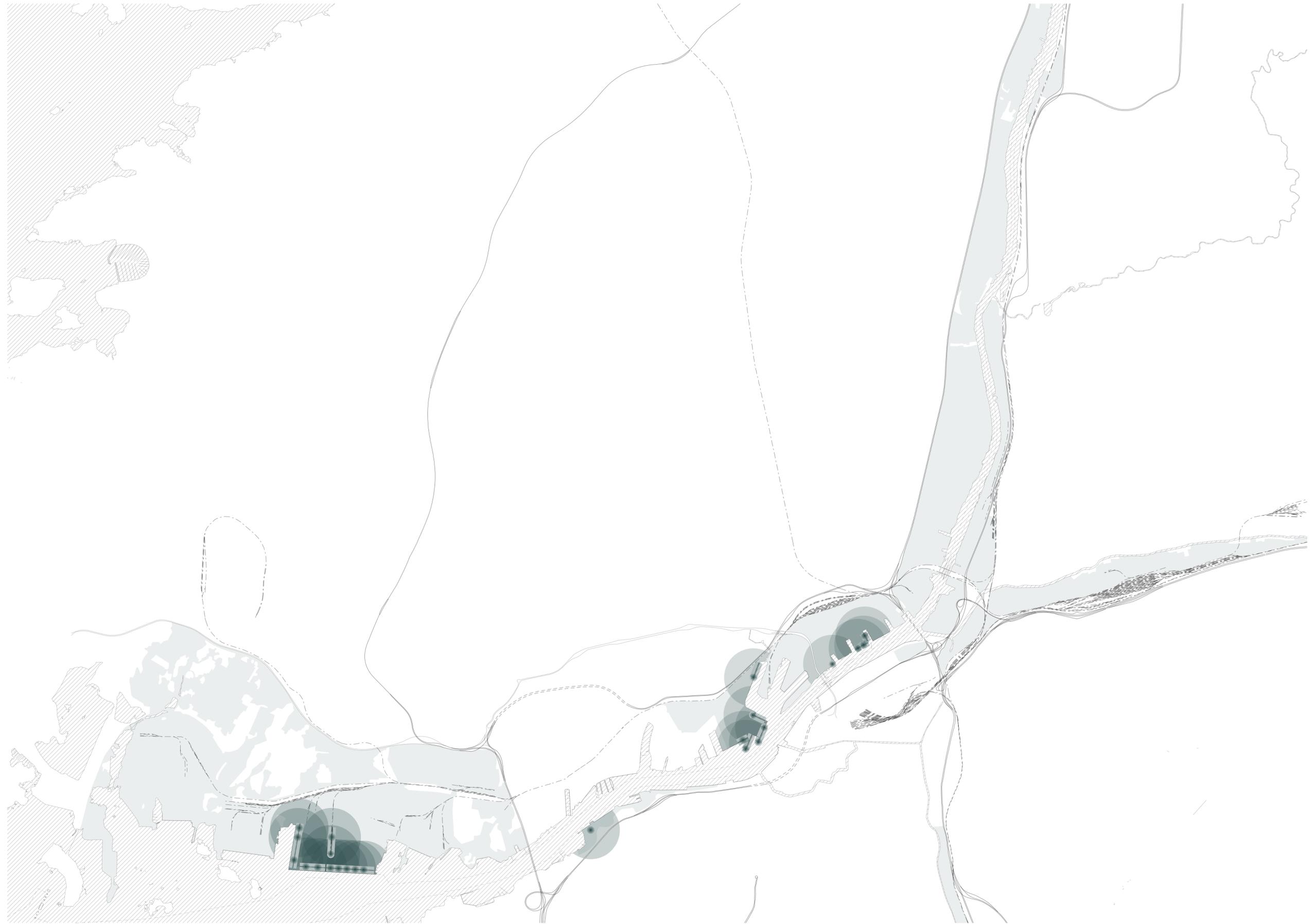
For the integration of the river coastline into the urban fabric, the spider web system promotes: *Diversification* of activities in the identified industrial areas; *Connection* of the identified industrial areas to the urban fabric.



Problematization Cartography



Intervention Cartography



Problematization Cartography i

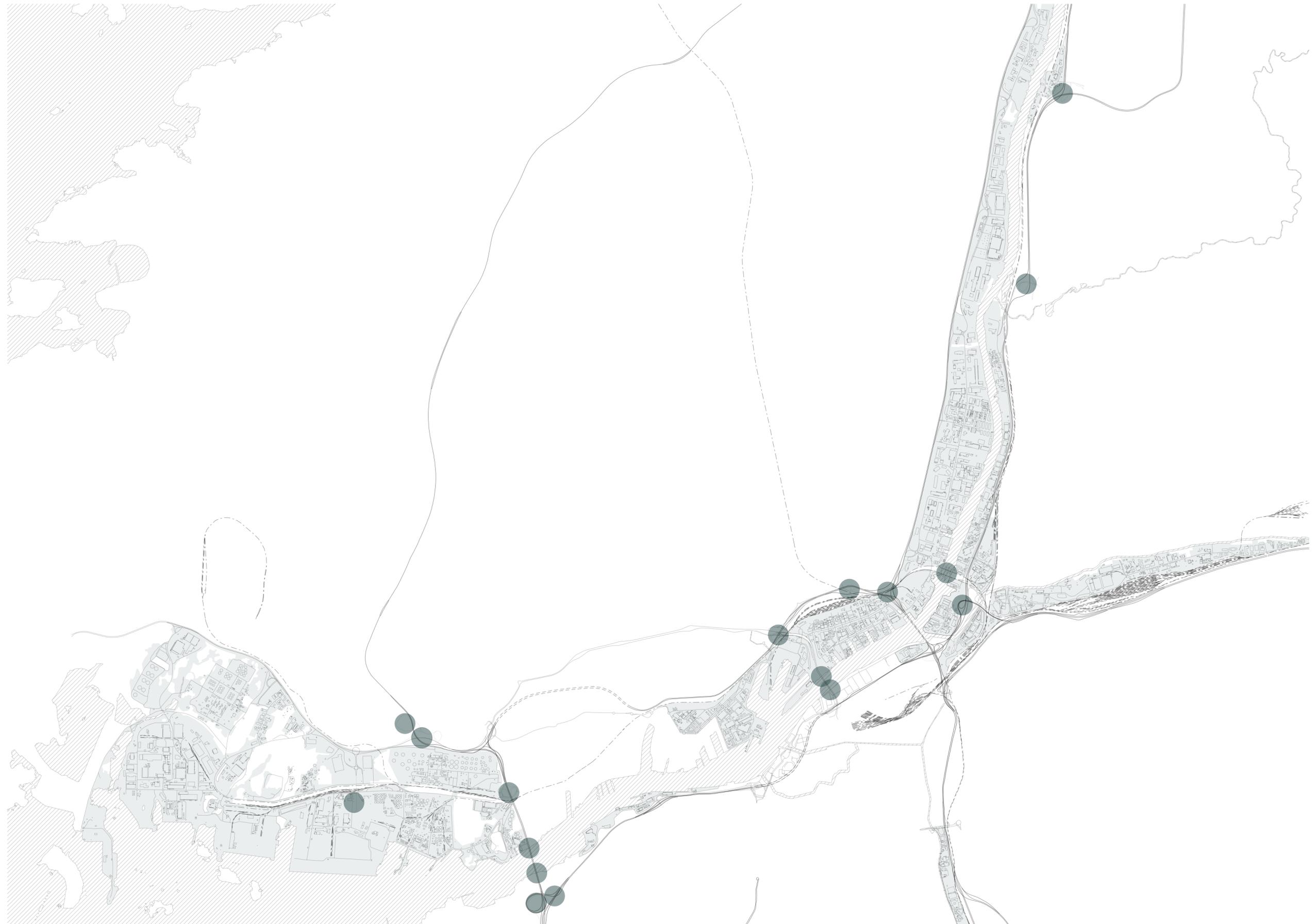


*Urban fabric highways, path infrastructure and bridges*

Problematization Cartography ii

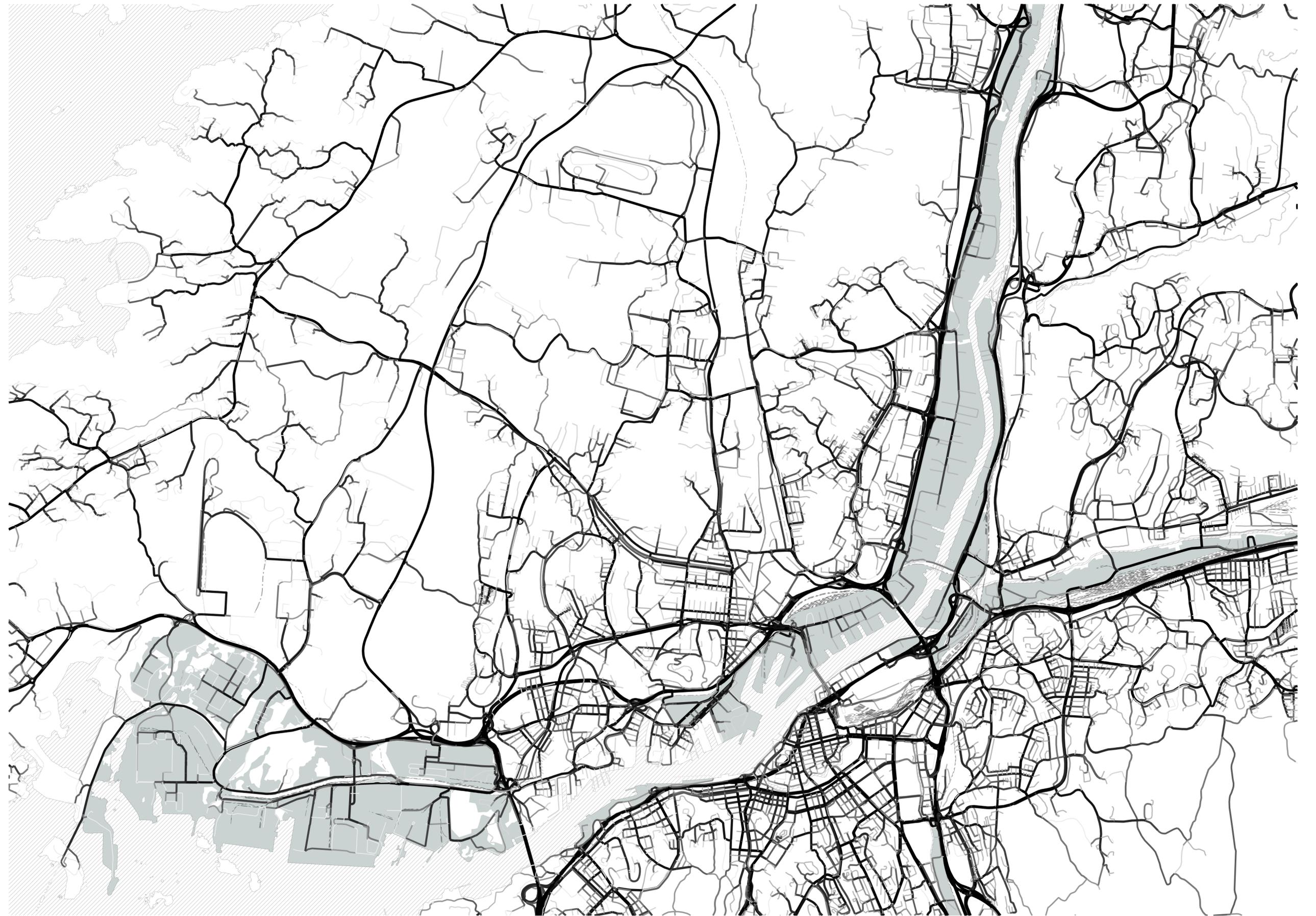


Intervention Cartography



*Effect within belt in relation to water and land with intervention*

Problematization Cartography i



Problematization Cartography ii

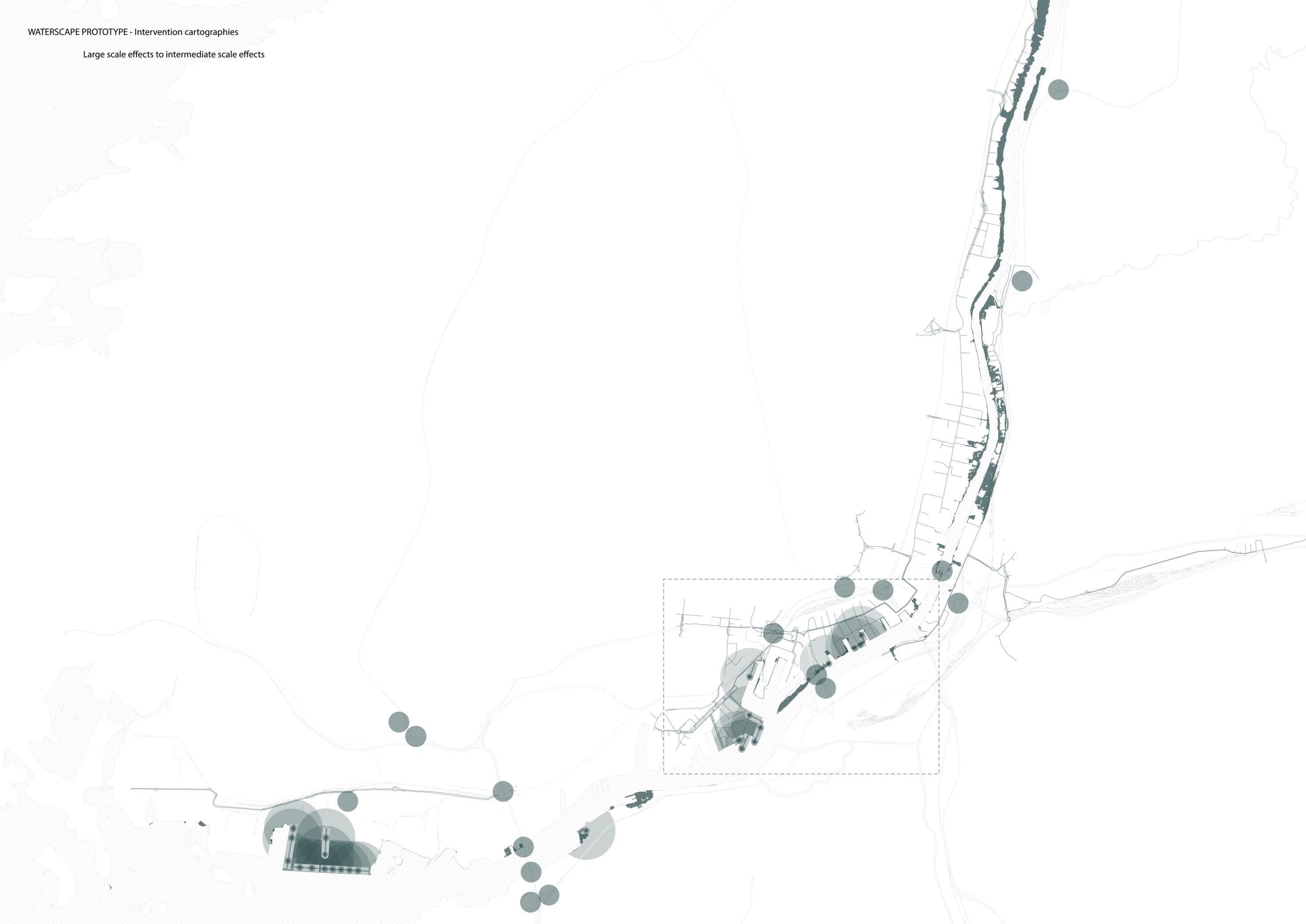


Local traffic flows

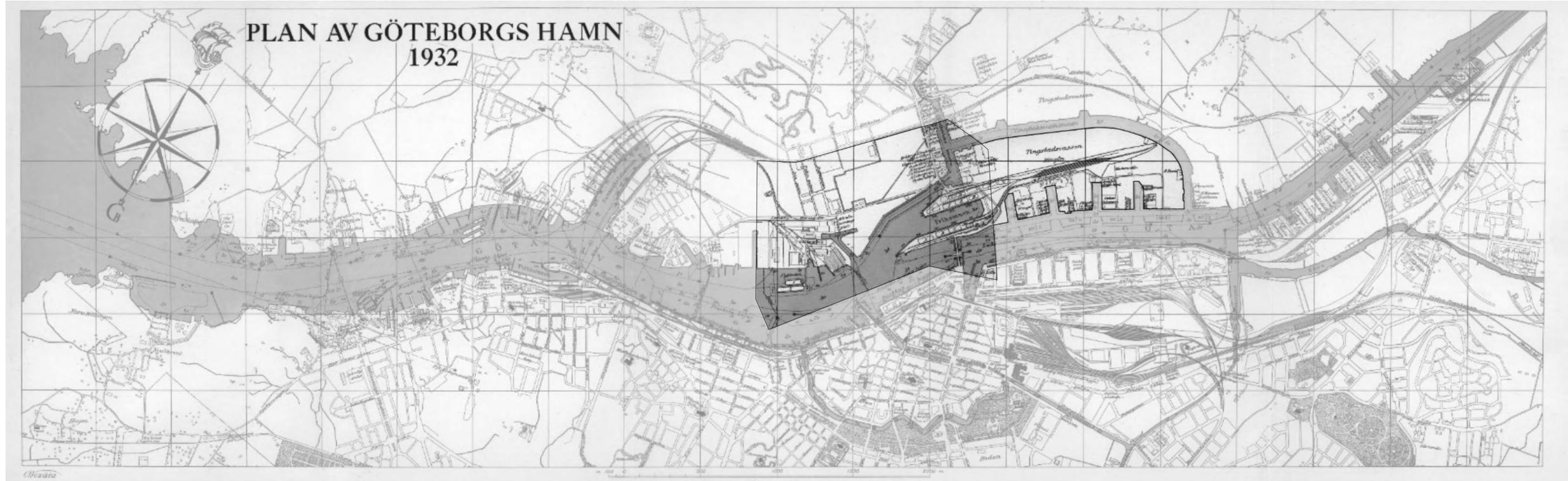
Intervention Cartography



Local traffic flows + Axis of intervention



## CONTEXT BACKGROUND



Gothenburg harbor 1932

### LUNDBYVASSEN

Lindholmsvassen and Lundbyvassen were once the same reef area and were often called Hisingsvassen. Lindholmsvassen belonged to Lindholmens farmhouse, and Lundbyvassen belonged to the farms in Lundby village. The water between Lindholmen and Hissingen was filled -up between 1855 och 1864. In 1906 Lundby village was incorporated into Gothenburg city.

The filled-up area included Lundbyvass and the lower parts of Lindholmen, also areas known as Frihamnen and Lundbyhamnen. Harbour basins were dug out from these filled-up areas at a later date. Lundbyhamnen was when newly built a modern dry cargo port that had balconies on the sheds and large quay surfaces for the handling of goods. The port was decommissioned in 1989.

The west part of Lundbyvassen came with time to be occupied by AB Götaverkens shipbuilding. As the business bit by bit was closed down, Lundbyhamnen has instead become an office area for various companies. Sverige Radio and Television are some of the other companies active in the area. The last shipbuilding activities were closed down in 2016. The remains of the activities are only a few cranes.

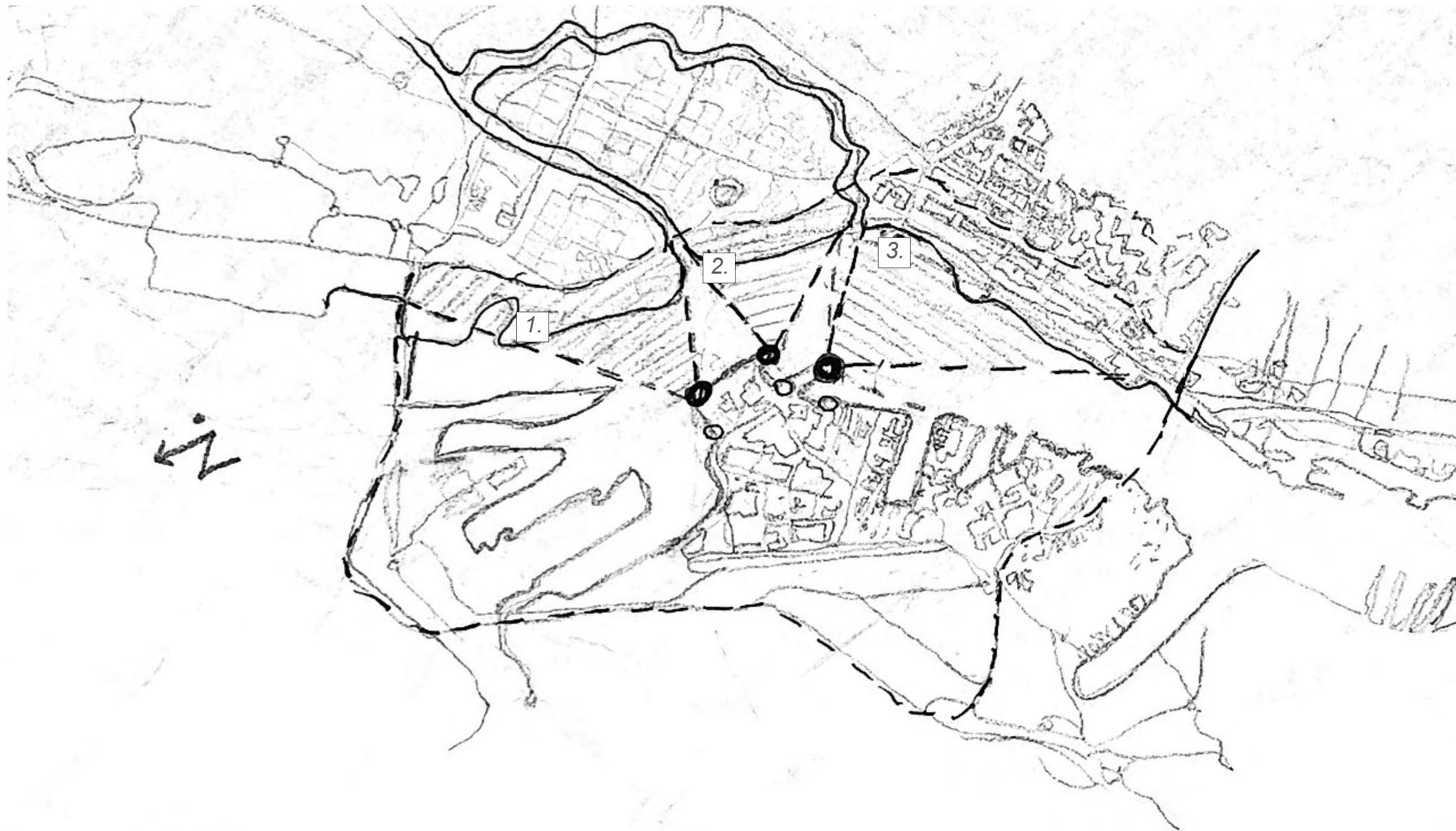
### RINGÖN

“The quarter of contrasts” is now a chaos of unused trail tracks, fences, and dead ends. The area is a former wetland that experienced a reconstructive phase with a port layout commenced during the 17th century. Connected to Kvillebäckskanalen via Ringkanalen, the area was still the sprawl of Gothenburg, with its only connection of two bridges.

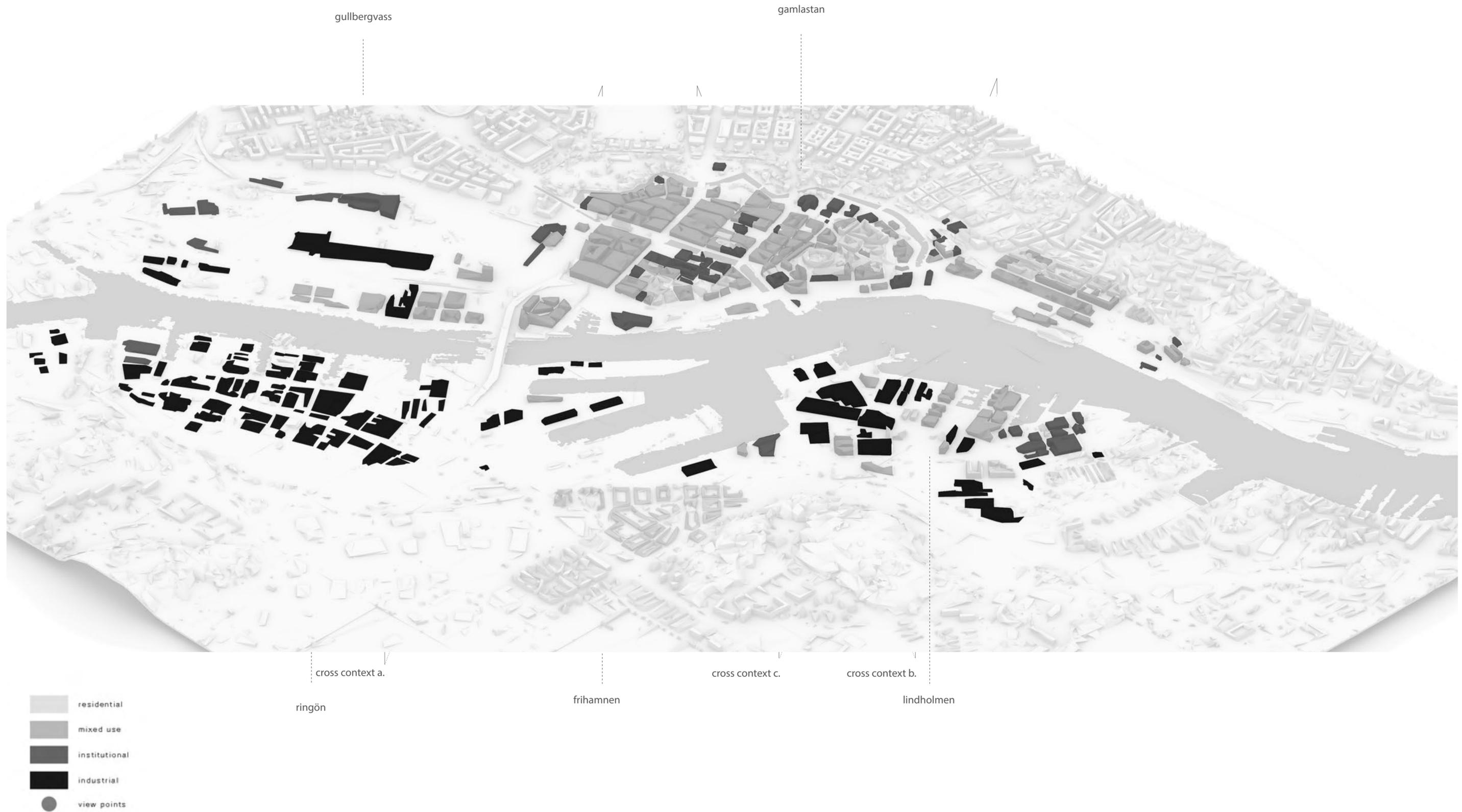
The idea of Ringön is to let the old face the new. It is also for the cheap to meet with the expensive. Various creative activities are occurring on the site and concern foremost artistic activities where well-known artists gather. There are several ateliers, which aim to connect artists via combining the existing, scattered atelier communities. A gentrification process is ongoing, where artists are to find a city quarter with other creatives adjacent to low rent to work and live. Upon an existing area of mere gravel and municipal-owned street stones, there is an opportunity for the prosperity of cheap housing areas for active artists.

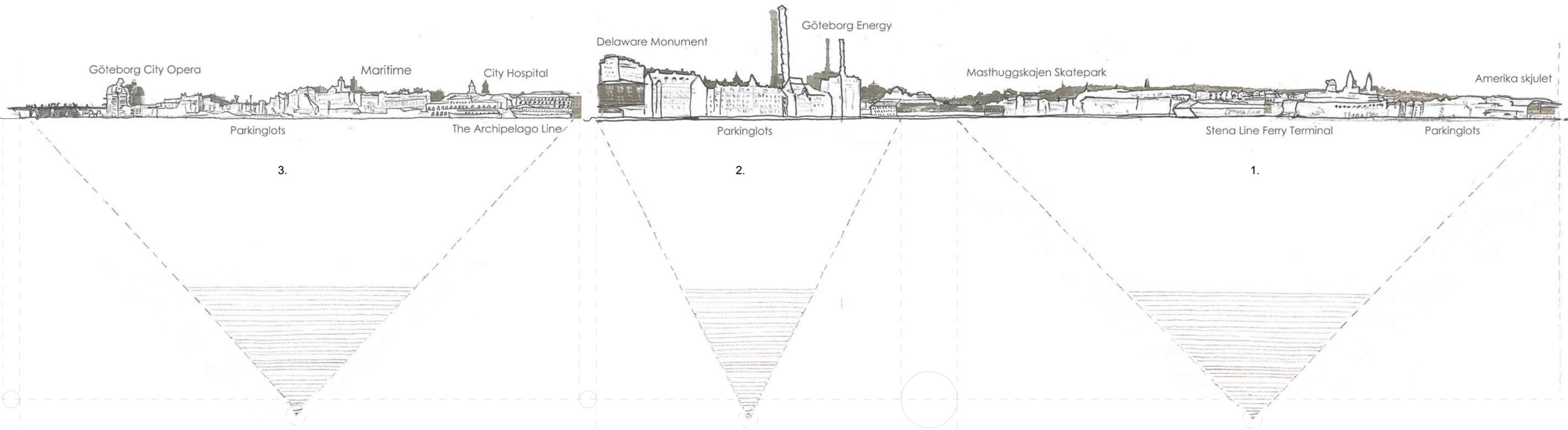
Based on viewpoints and site narrative, a spatial investigation is committed. The character of the site and potential space characters starts to be defined.

The intention is to answer to the problematization of the broken narrative of the river, the riverbank and the urban fabric. A connectivity is wished for and via investigtional sections attempted to be visualised.

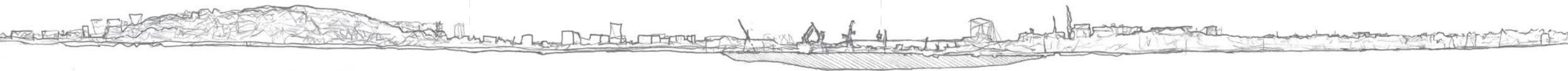


1. Göteborg stadsopera
2. Stenpiren with Delaware monument
3. Masthugget Skatepark





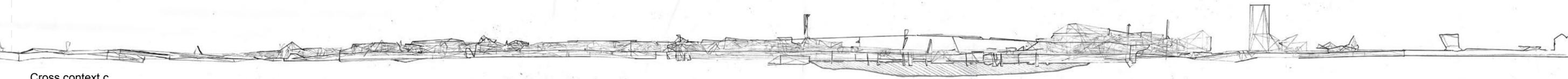
Cross context a.



Cross context b.



Cross context c.



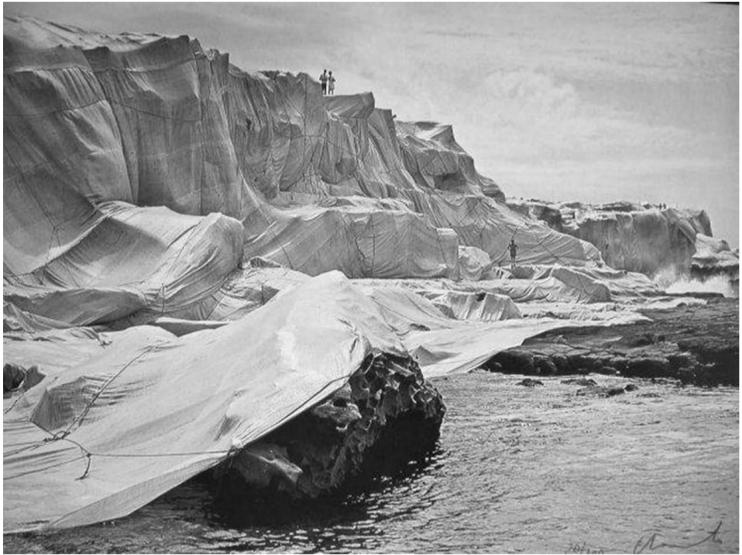
FINAL SITE SELECTION

After committed investigation

Upon realising the importance of Ringön, an area corresponding to our problematisation, the site territorium was redefined.

The spatial investigations still remains an important step in the process of defining the waterscape prototype.

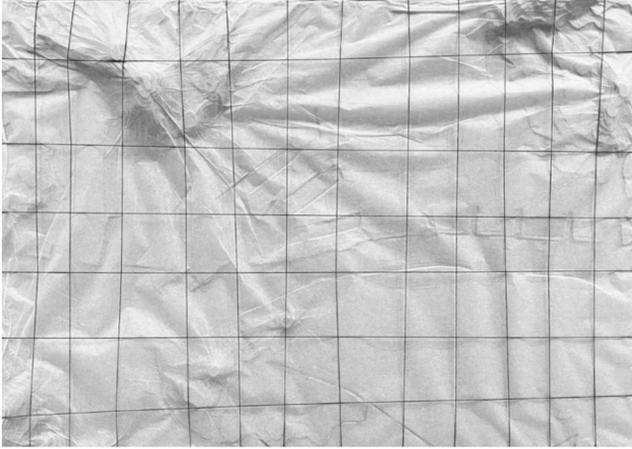




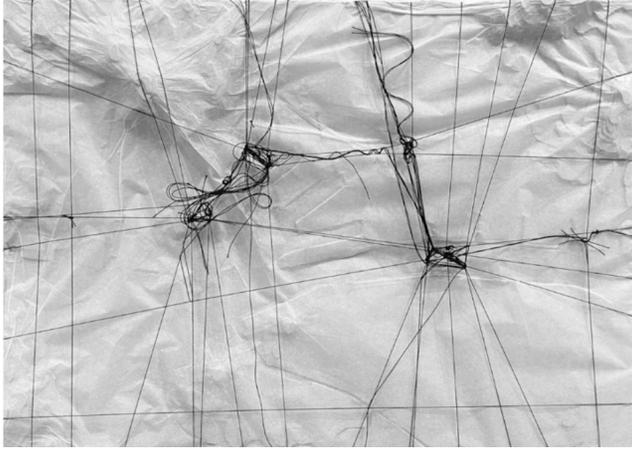
*Christo and Jeanne-Claude  
Wrapped Coast, One Million Square Feet, Little Bay  
Sydney, Australia 1968-69*



*Acknowledging the fixed context*

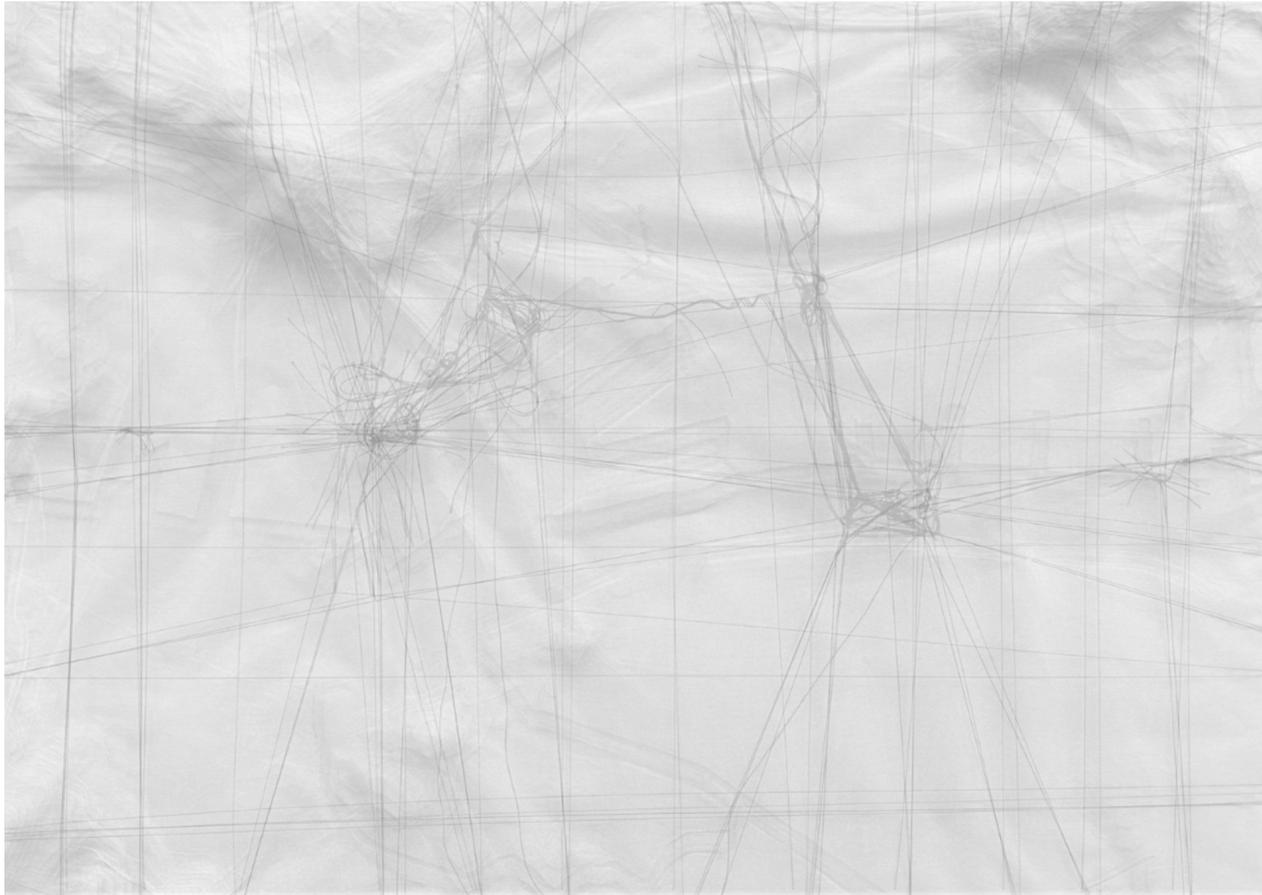


*Imposition of the urban grid*



*Stitching the broken narratives*

## SUPRASTRUCTURE PROTOTYPE



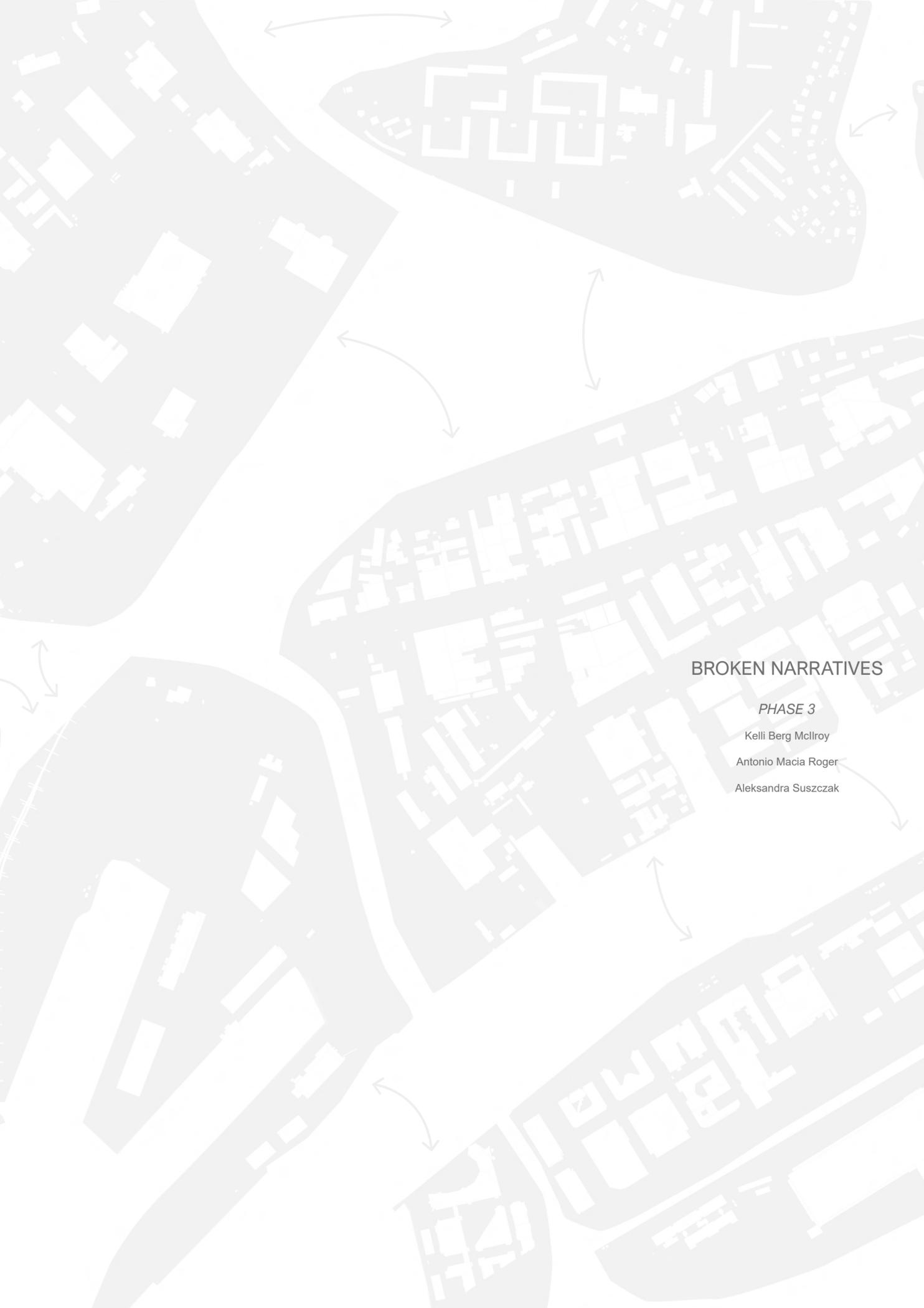
<https://kapwi.ng/c/hMAnDiG5-j>

In line with the wish for a new site narrative, the suprastructure model is wrapped up in an urban cloth. This, in order to see the new possibilities and qualities

What could this connective cloth be symbolized by?

To highlight the overlapping nodes and infrastructure connections, the tied weirs are taking over the site.

The topography and nature of the place is to be emphasized and the model is also speaking about a time lapse, how the connections are imagined to grow over time.



## BROKEN NARRATIVES

### PHASE 3

Kelli Berg McIlroy

Antonio Macia Roger

Aleksandra Suszczak

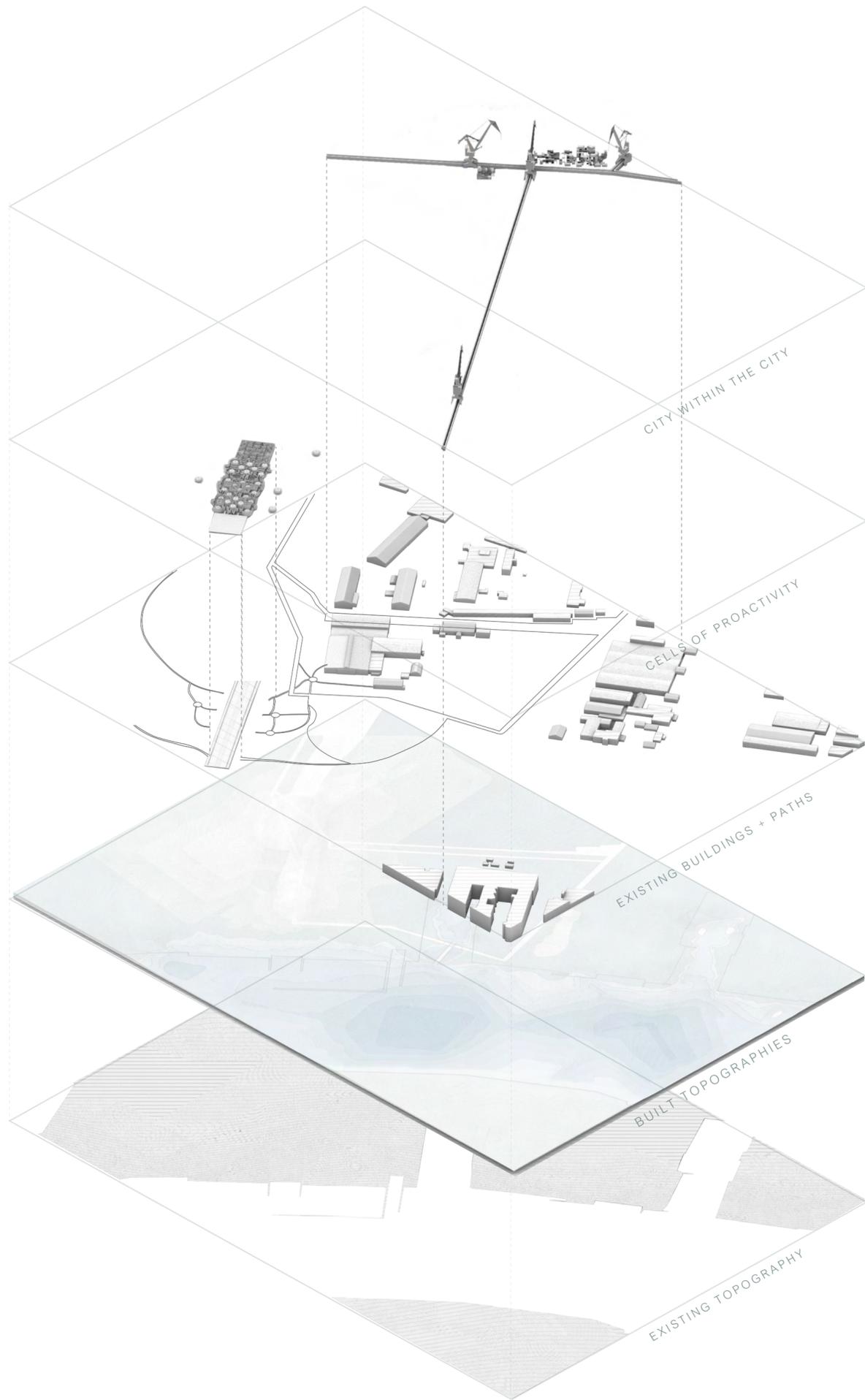
### 3.1 WATERSCAPE SUPRASTRUCTURE 3.2 WATERSPACE PROJECT

Being the city of islands, Gothenburg inholds a range of highways clearly cutting the urban tissue. Inbetween these highways are the remains of the urban substance, restricted and isolated.

The proposal is to create a unity via introducing a clear relationship to the water front, re-introducing the old railway on Ringön and diminishing the role of the highways. The work is to alter a human scale, strengthening the citizen bonds and their way of transcendence.

The broken narratives around Gothenburg riverbank is problematized and attempted to be revived.

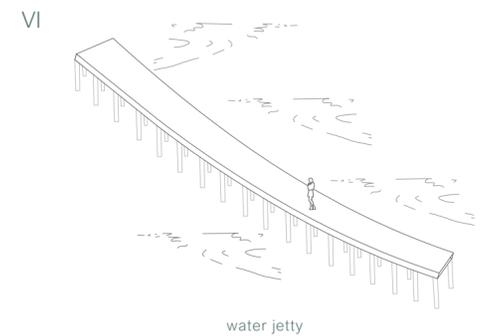
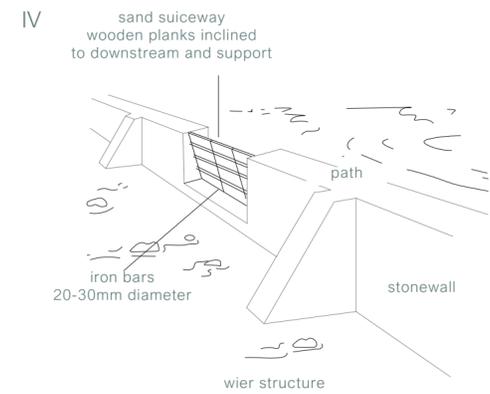
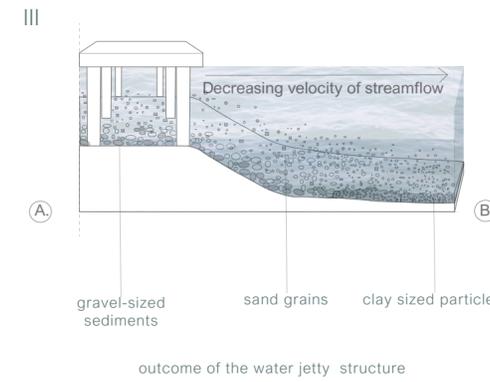
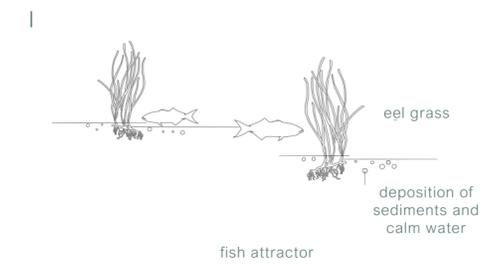




The old and the new. Land strategies versus water strategies. The paths are the connector between our interventions and it also informs the alternative narrative. The paths are to be roads on the human scale instead of the vehicle scale. Working on the portal area, so close to water, the humidity of the soil will create excellent opportunities for further implemented vegetation.

The intervention closest to the port handles the wild water with aid of wiers, also the water jetties, connecting to the proposed park via its amphitheatre. It inholds various elements to create a water experience, such as a floating Moses-bridge, and also a walk along the water jetties. Either feeling elevated above the waterline, or in line with it, dependent on the tidal water.

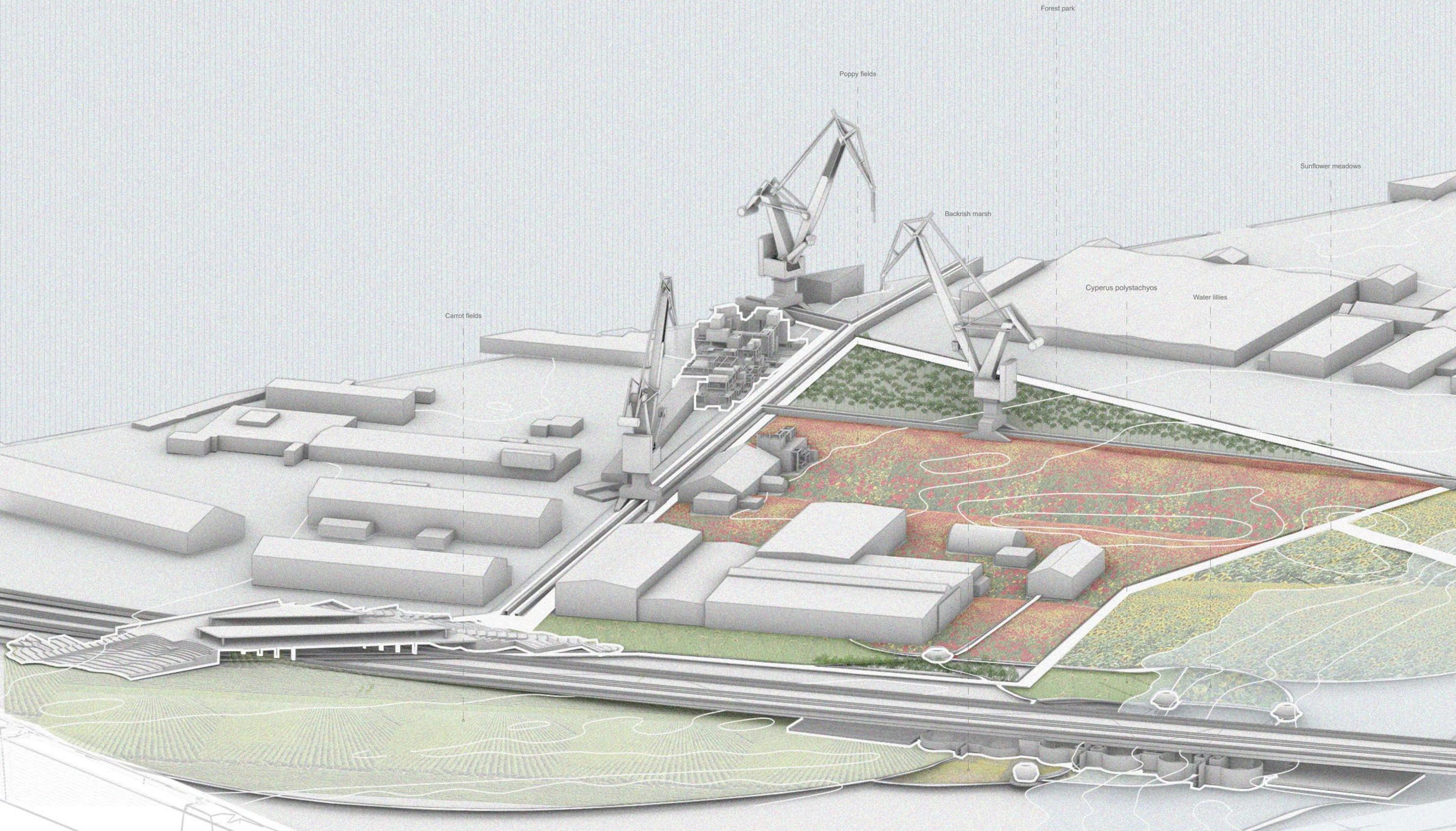
The outcome of placing the structures to the water will give rise to an underwater biodiversity and activity.



nature

infrastructure

experience





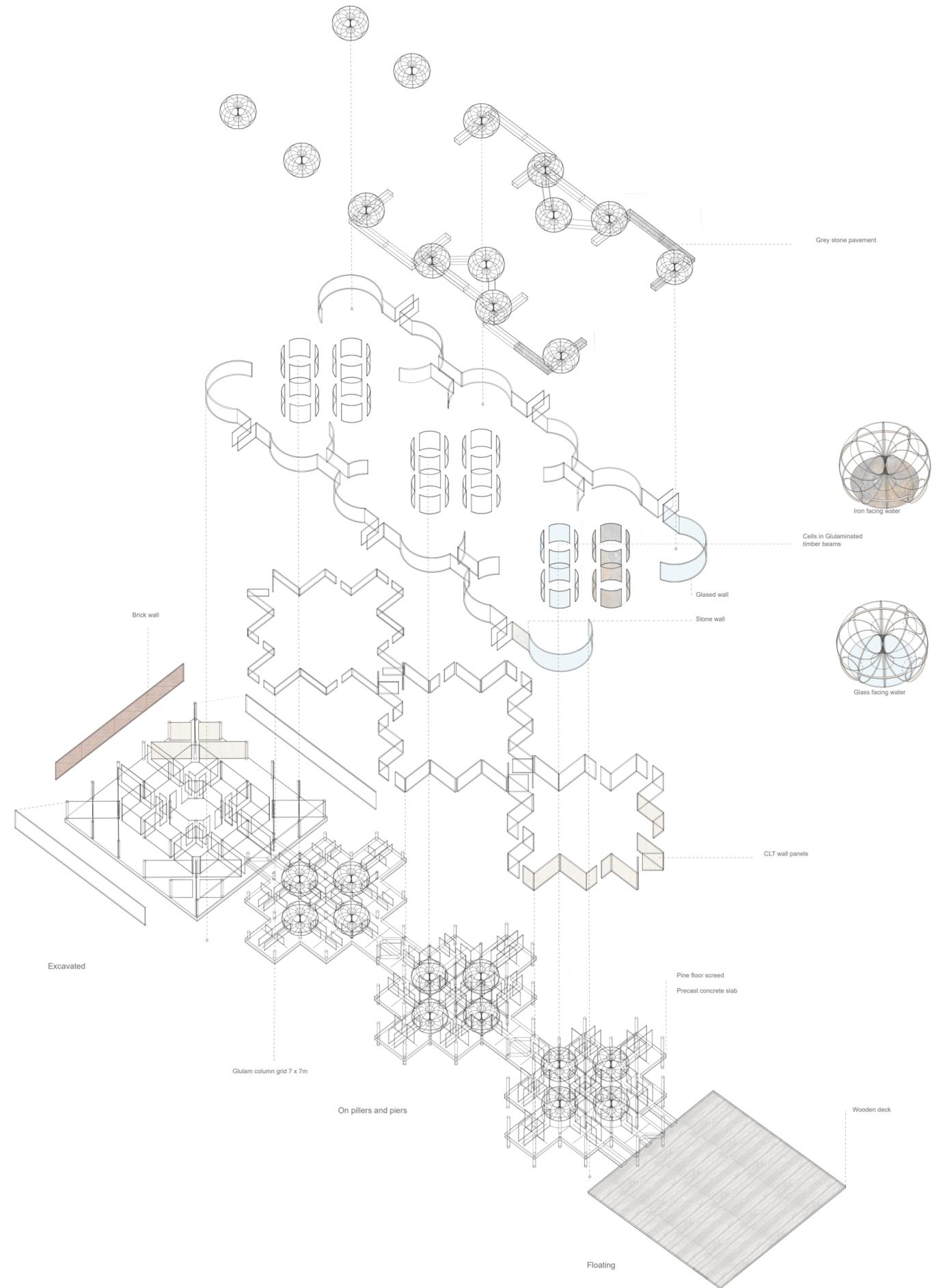
## THE PUBLIC MACHINERY

Kelli Berg McIlroy

Rebuilding the society, educating about empowerment. The proposal connects to the current ongoing activities of art hub facilities on Ringön, yet not so visible. Within a grid of 7 x 7 m, CLT panels, glulam timber beams on a pre-casted concrete base, the housing and crafting proposal is imagined possible to recreate for the beginner builder. As the number of agent users increases, they are encouraged to expand the machinery. The project built area is to hire employers and establish a machinery for self-builders.

Furthermore, the intention is to bring its activities to the now surrounding storage and office space typologies. Questioning the building typologies via proposing dismantling, to save materials and restore the riverbank.

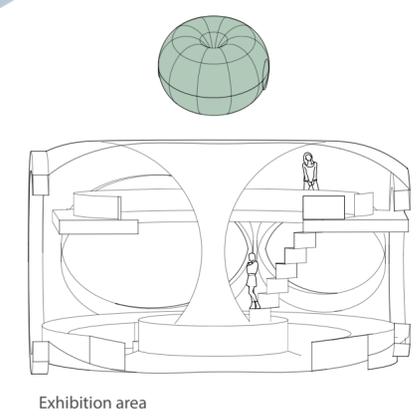
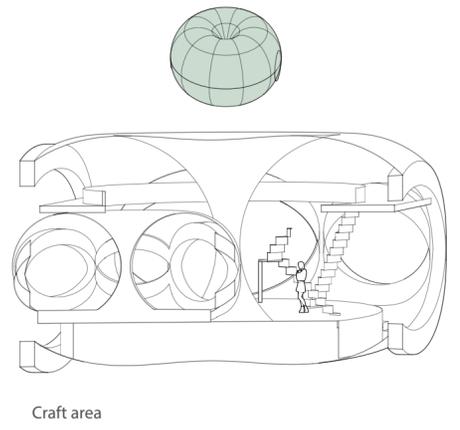
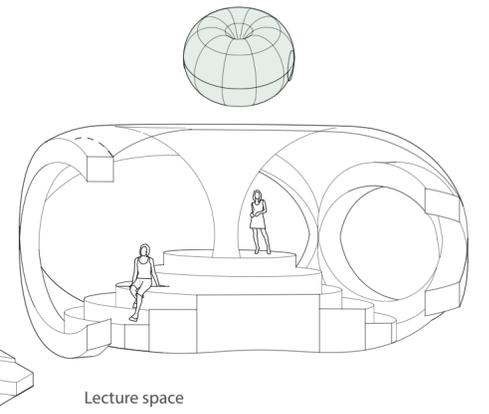
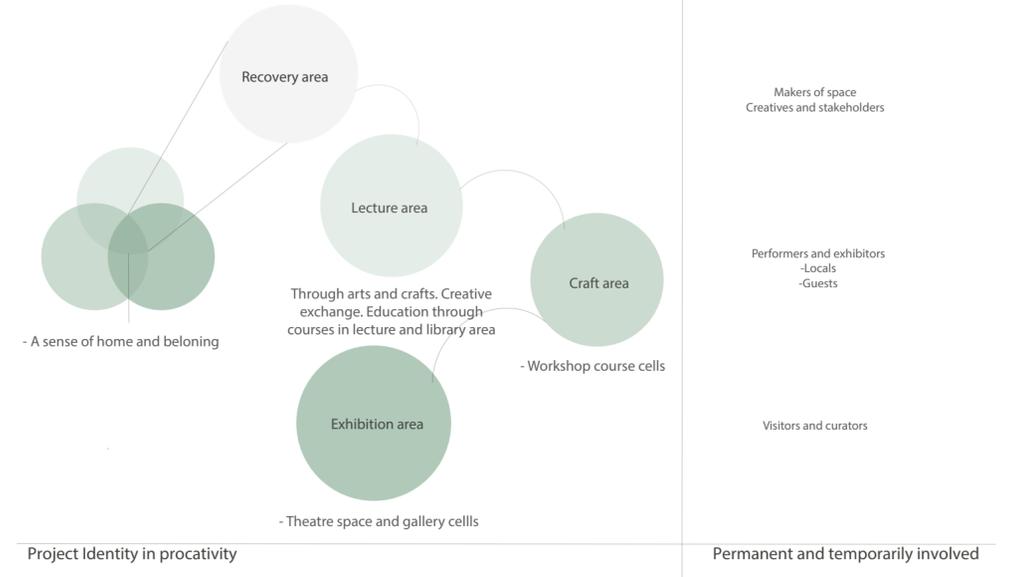
The attempt is to create a water and land connectivity to strengthen its broken bonds.



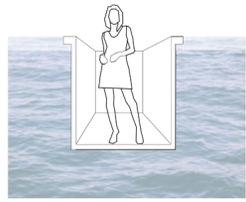
Urban scenario I



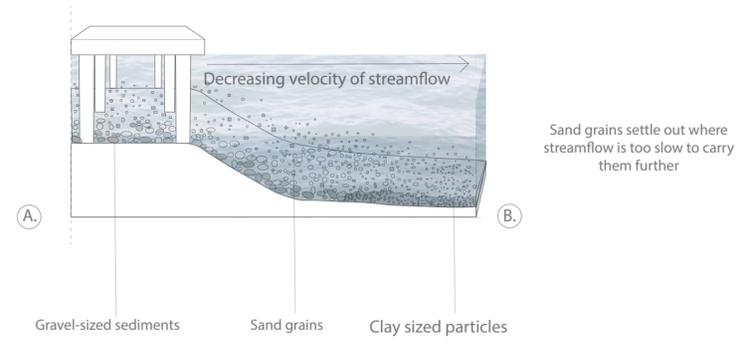
Project concept

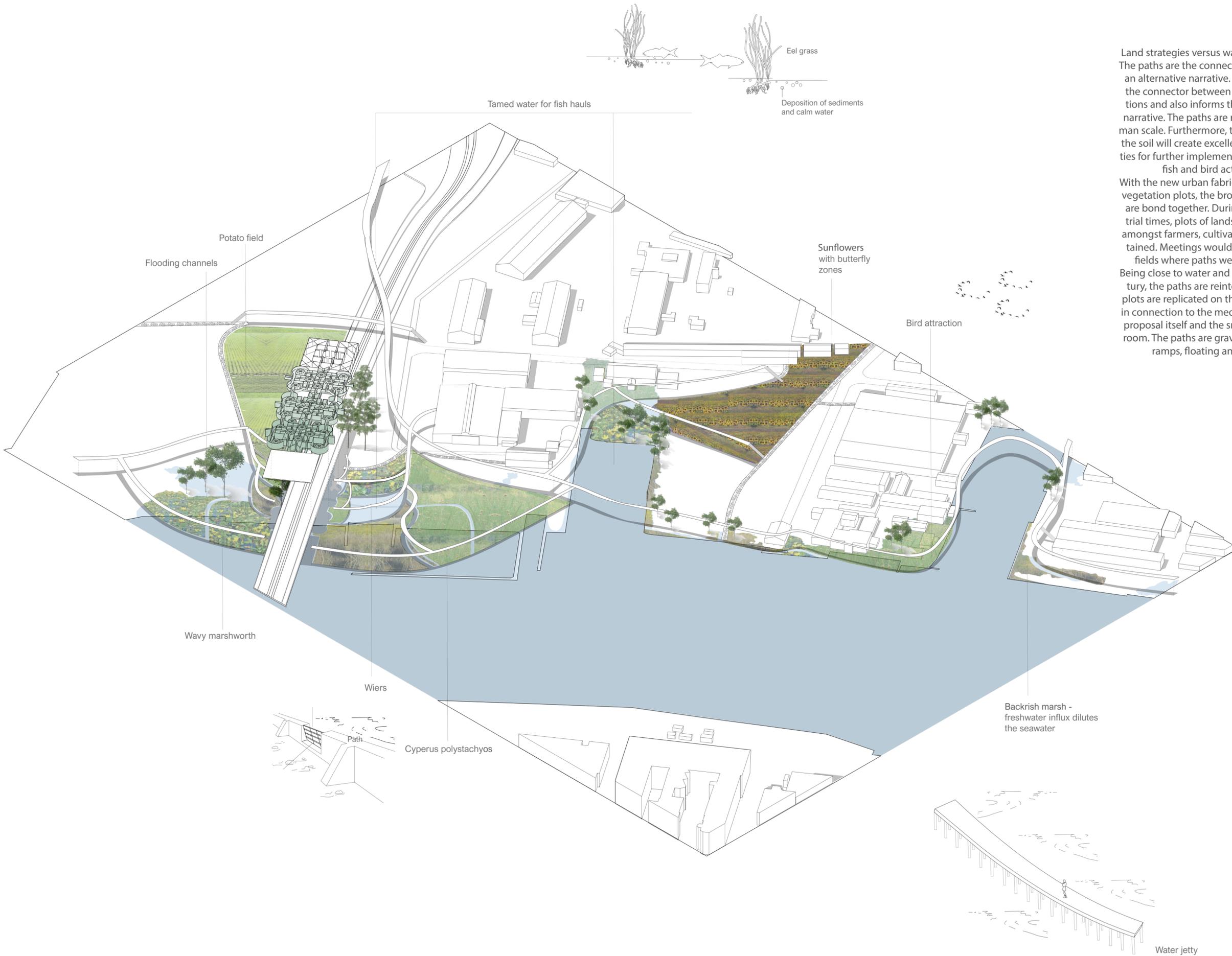


Urban scenario II



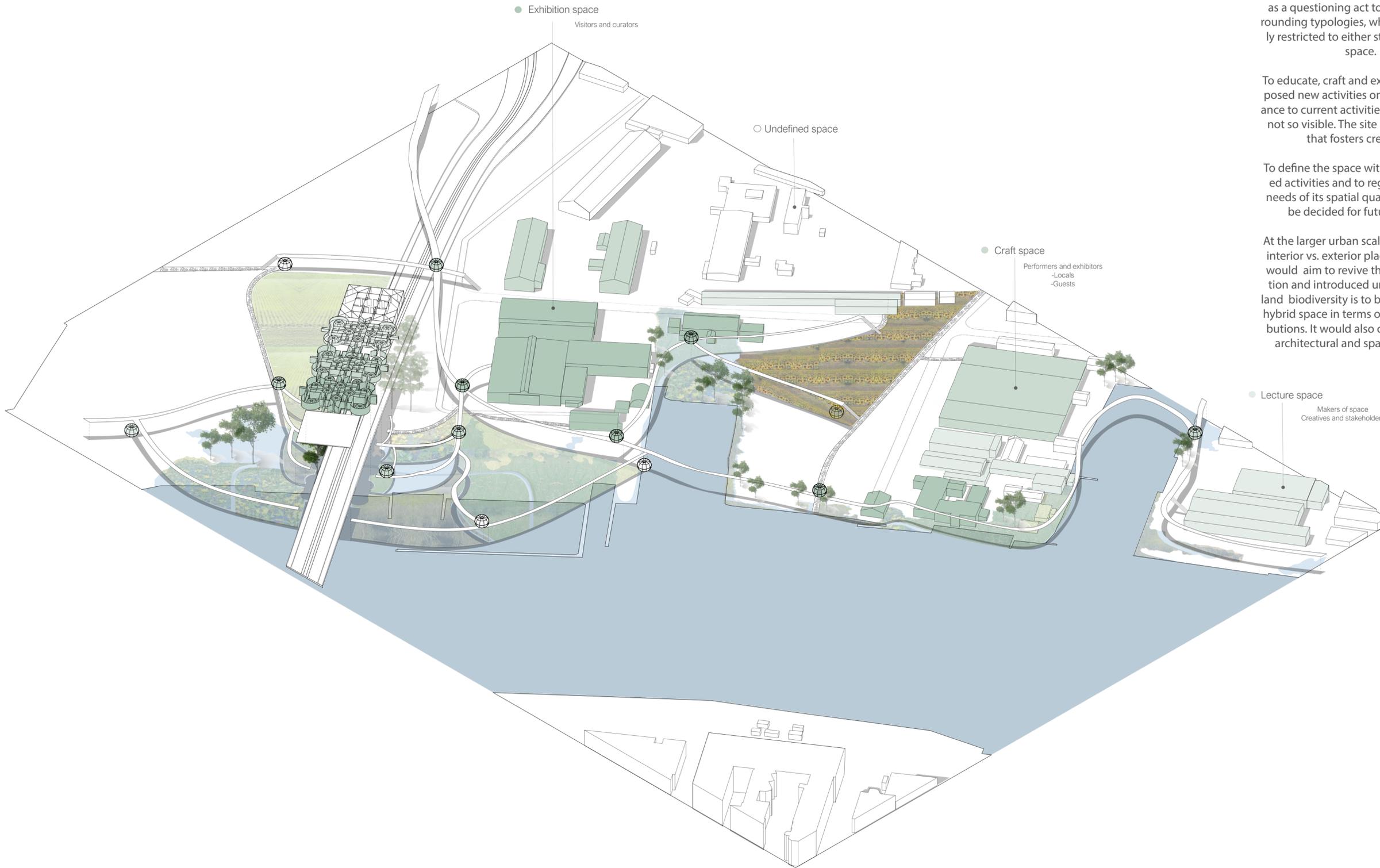
Mosebridge  
Eye-levelled water connection





Land strategies versus water strategies: The paths are the connectors, informing an alternative narrative. The paths are the connector between our interventions and also informs the alternative narrative. The paths are roads on a human scale. Furthermore, the humidity of the soil will create excellent opportunities for further implemented vegetation, fish and bird activity.

With the new urban fabric, consisting of vegetation plots, the broken narratives are bond together. During pre-industrial times, plots of lands were shared amongst farmers, cultivated and maintained. Meetings would occur on the fields where paths were crossing. Being close to water and in the 21<sup>st</sup> century, the paths are reinterpreted. The plots are replicated on the urban scale, in connection to the medium scale; the proposal itself and the small scale; the room. The paths are graveled, they are ramps, floating and fixed.



Cell integration onto site :

Dismantling buildings is to be done as a questioning act towards the surrounding typologies, which are currently restricted to either storage or office space.

To educate, craft and exhibit is the proposed new activities on site, in accordance to current activities on Ringön, yet not so visible. The site is to be a place that fosters creativity.

To define the space with locally oriented activities and to regain the future needs of its spatial qualities are left to be decided for future agents.

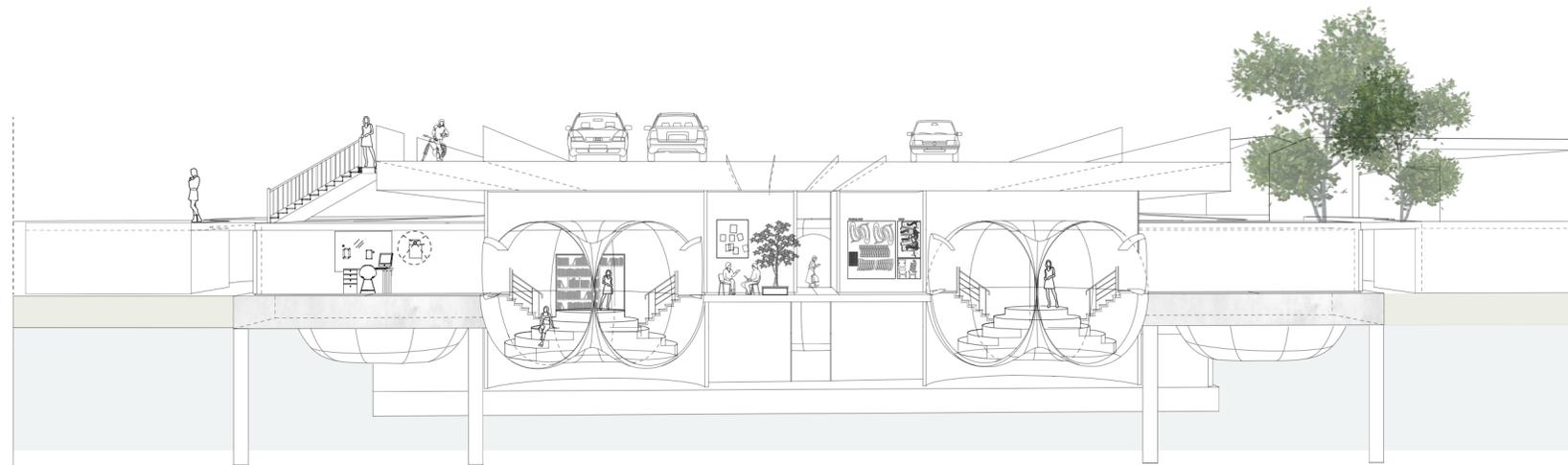
At the larger urban scale, the quality of interior vs. exterior placement of cells would aim to revive the area. Vegetation and introduced underwater and land biodiversity is to be offered by the hybrid space in terms of natural contributions. It would also contribute with architectural and spatial impacts...

● Lecture space  
Makers of space  
Creatives and stakeholders

● Craft space  
Performers and exhibitors  
-Locals  
-Guests

● Exhibition space  
Visitors and curators

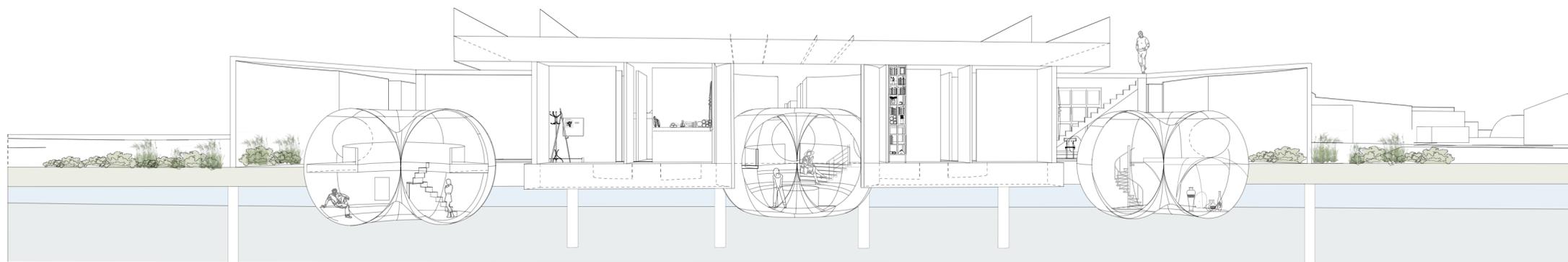
○ Undefined space



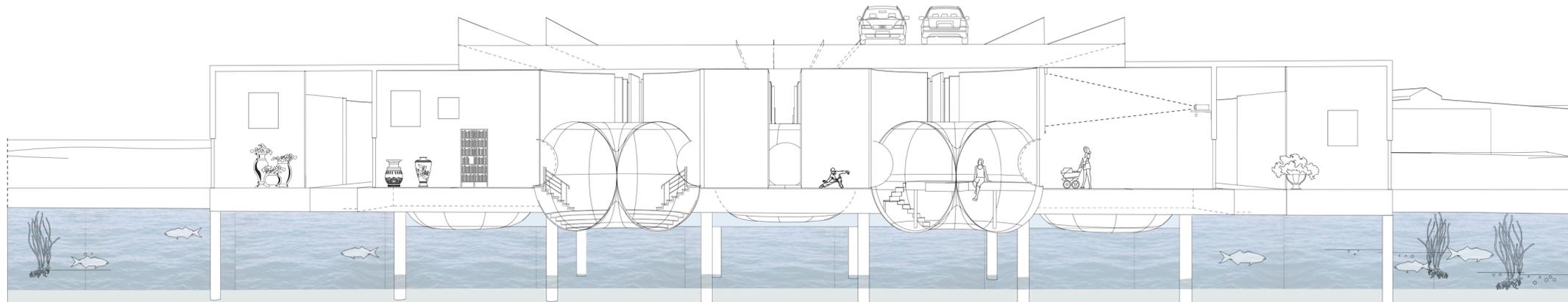
Lecture area 1.100

Within activity, both water and land is invited and are a part of this machinery. The vehicles are to in time be overtaken by bicycles and humans on their way from city center to Ringön. No cell nor space are the other alike, although they have themes connected to the activities of Lecture, Craft and Exhibition. They have gradiences of public and private areas, needed in the proposal.

When one receives information, it calls for more intimate space; the Lecture space. When one is later applying the taught information; in the Craft space, this is of a semi-public character. Later, to display the skills taught, in the Exhibition area; the more public space is introduced. This is where the proposal meets water, visitors and curators.

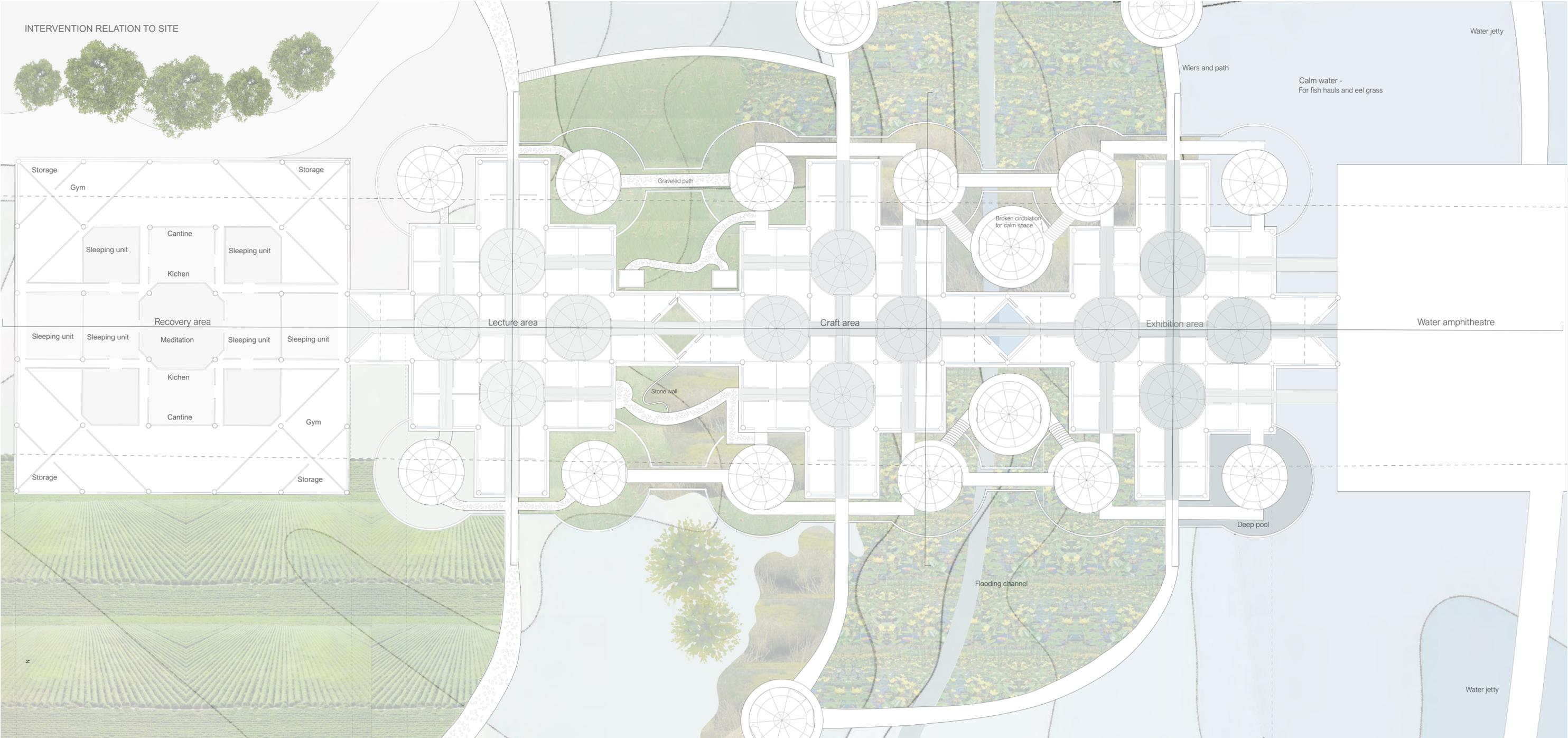


Craft area 1.100

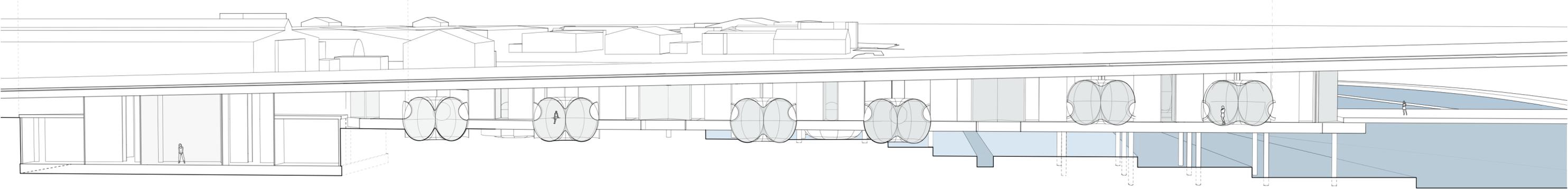


Exhibition area 1.100

INTERVENTION RELATION TO SITE



Basement -4m      Carrot fields      Ground floor +0.7m      Cyperus polystachyos      Backrish marsh - freshwater influx dilutes the seawater      Wavy marshworth



GROUND AND WATER RELATION 1.200