

MUSEUM VAN KINDERDIJK

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MSc3+4 Revitalising Heritage : Maritime Heritage Studio
Delft University of Technology, Faculty of Architecture and the Built Environment
Graduation year 2023/2024

MARITIME HERITAGE

Shaping the country's relationship and Identity

Maritime Heritage

All about the water

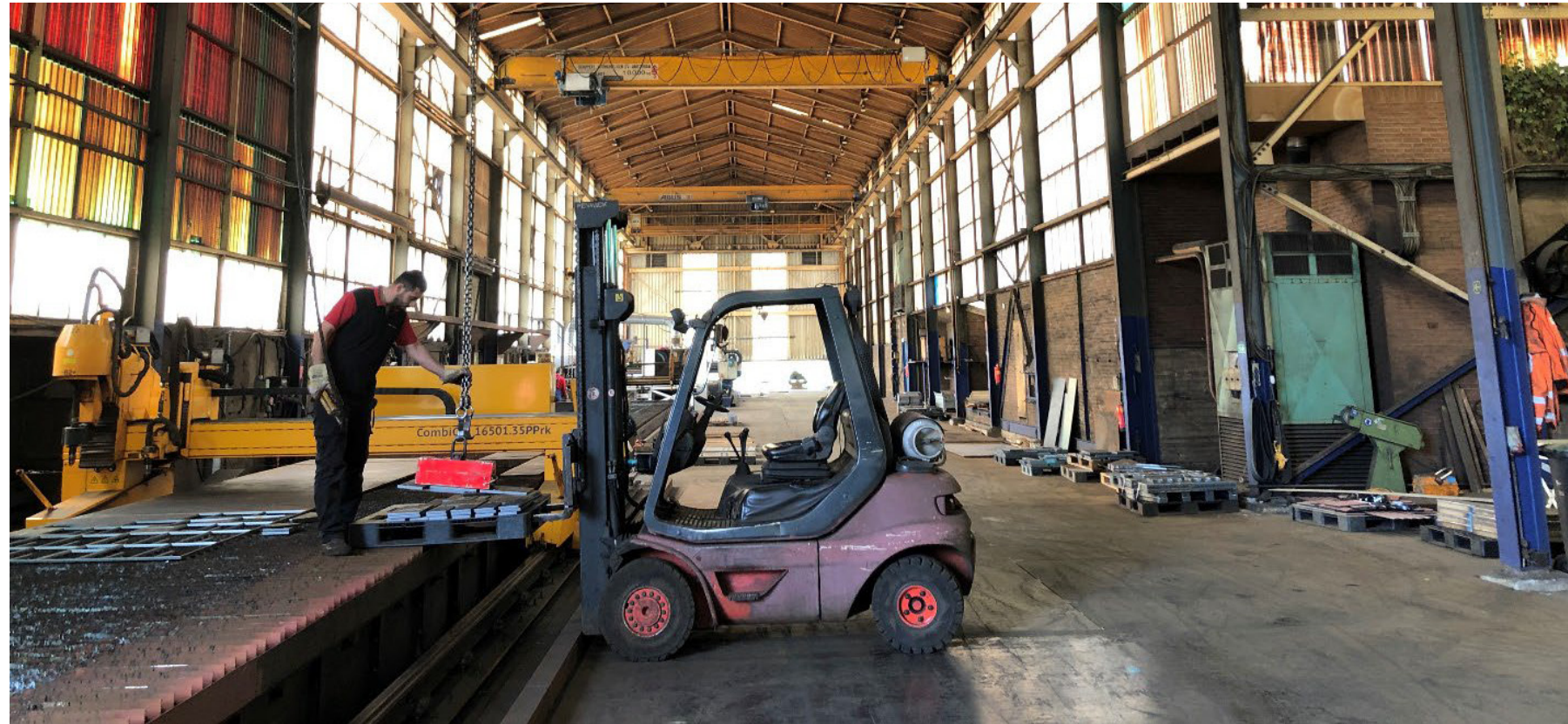


Fig 1. the photos from Studio Manual

The Netherlands is a country shaped by water. Throughout history, to protect life from water and manage it effectively, various water management systems have been developed. In this process, the Netherlands not only safeguarded life from water but also utilized it to foster various industries. Water is not just a part of the Dutch landscape but also a vital element intertwined with their way of life.

Values and Assessment

Values, hidden stories, and Now

Arriving Kinderdijk
Congestion on Entrance



Fig 1. Entrance of Kinderdijk



Fig 2. Heritage with Kinderdijk



Fig 3. Playground near the entrance

As soon as you get off the boat, you can see that many things are focused around the entrance and it feels crowded. The scenery at Kinderdijk shows cultural heritage sites, the entrance, and the nearby community all close together.

Over the landscape
Stories of Kinderdijk



Fig 4. Entrance of Kinderdijk



Fig 5. Photos of miller's family



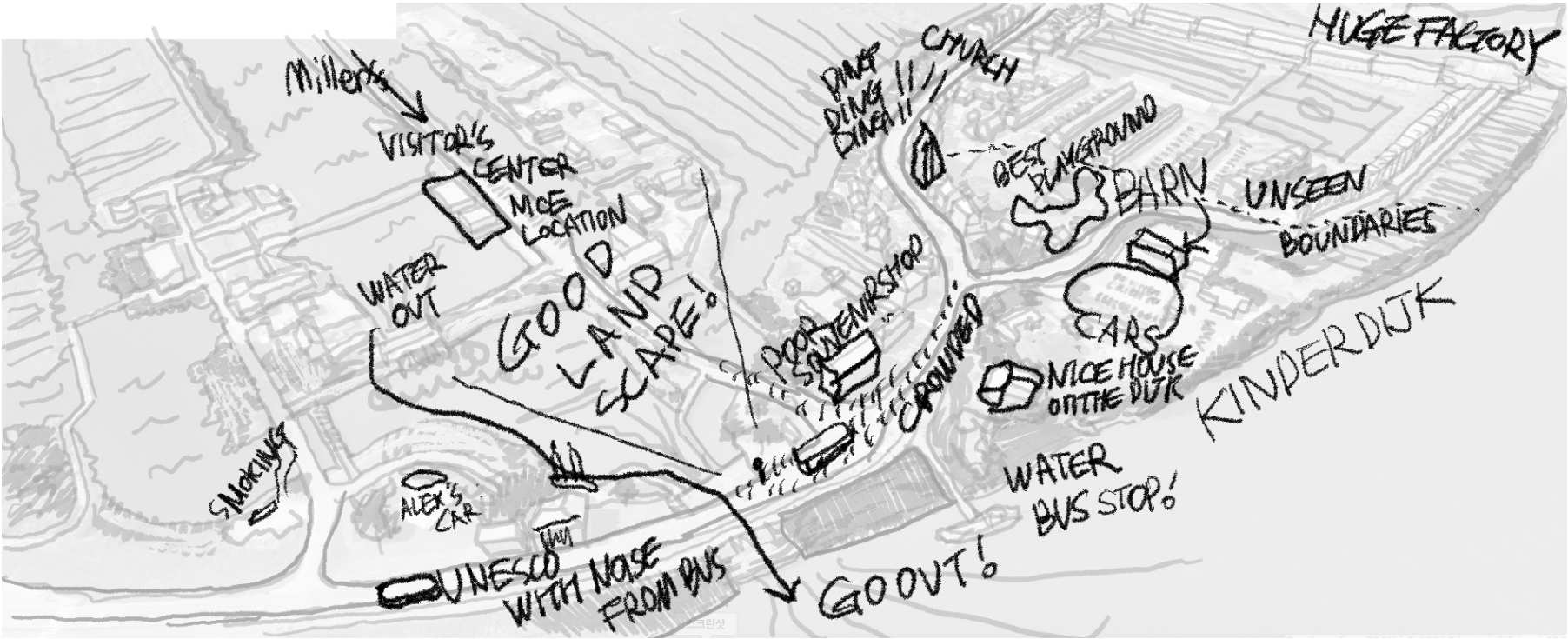
Fig 6. Stories on small window

Drinking tea on a Sunday afternoon in summer. With family outside in front of the mill dressed up for Sunday.

Hidden behind the scenery of Kinderdijk are the lives of the millers and the cultures they have sustained, which are scattered throughout the area. These stories and artifacts have shaped the Kinderdijk we see today. So, does Kinderdijk, often referred to as an open-air museum, effectively exhibit these stories and histories?

Motivation

Images and Events



Motivation Sketches of Kinderdijk

As I entered Kinderdijk, I realized that there are more hidden stories than just the landscapes and windmills I was seeing. The thoughts and tales I heard from the locals suggested a rich tapestry of history and culture waiting to be discovered. Is it possible to present these hidden stories to visitors in a multifaceted way? Additionally, can these narratives be integrated with the surrounding community to create a harmonious experience?

Ensemble



Fig 7. Landscape of Kinderdijk

How can we address the interconnectedness of stories and the invisible hidden values of the landscape and its people?

Values in Kinderdijk
Outstanding Values from UNESCO



LANDSCAPE

WATER MANAGEMENT SYSTEM

ARCHITECTURAL ENSEMBLE

Exceptional man-made LANDSCAPE

Canals, dikes, reed and meadows and the vertical rhythm of the windmill system.

The ingenious hydraulic system, the rhythm of the 18th century windmills

A unique example of dutch technological development of water drainage

Architectural ensemble and cultural landscape

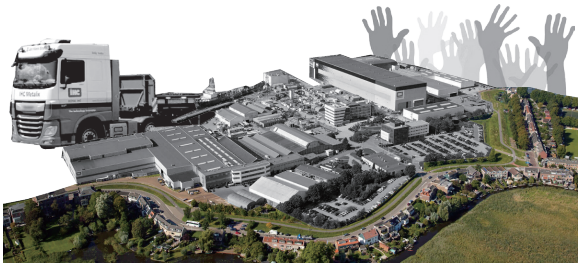
High and low polders, drainage canals, dikes and quays, 19 windmills, 3 pumping stations, 2 locks and 2 water authority buildings.

Hidden values
water and community



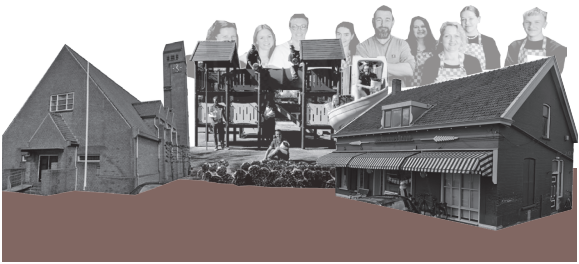
Stories & History with Water

Water holds crucial value and embodies significant intangible cultural heritage with historical significance in this locale. It is intricately connected to the lives of the millers, showcasing technological advancements, and the management of water is an indispensable aspect of Kinderdijk's identity



Industry and Water

The industrial structure that originated from water is a significant background story supporting Kinderdijk, where the majority of the residents are workers contributing to the Kinderdijk's iconic windmills. These industrial narratives are crucial elements hidden from plain view in Kinderdijk.

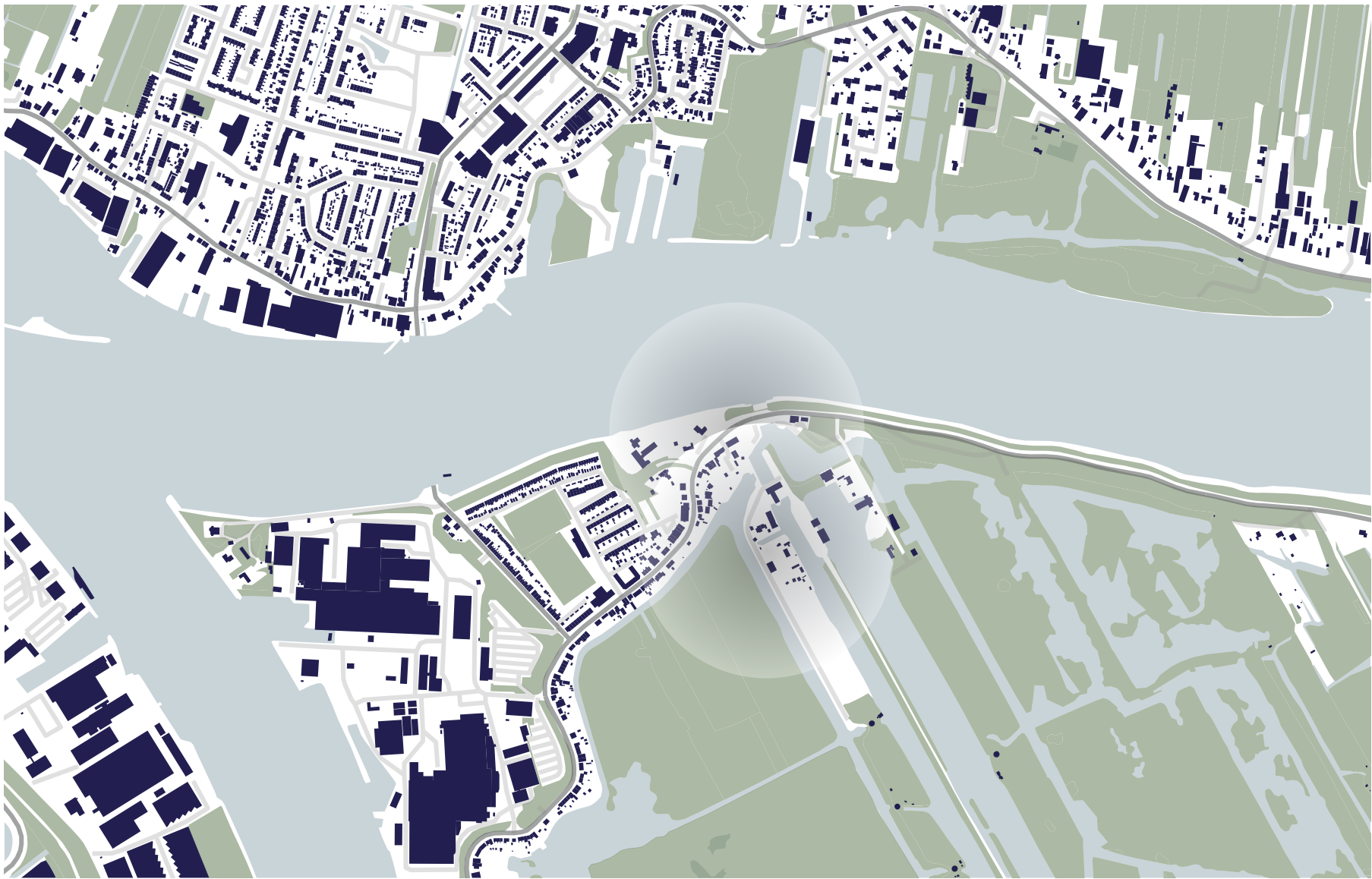


Community in Kinderdijk

The community shaping this place is a vital factor in fostering pride for Kinderdijk and maintaining its unique identity. Particularly, the church, bakery, gathering spaces, and events are essential elements that reveal the essence of this place

Management World Heritage Kinderdijk-Elshout

Future plans



NEEDS

1. Tourist hotspot and sustainable tourism

Open for visitors

Control of the flow of tourism

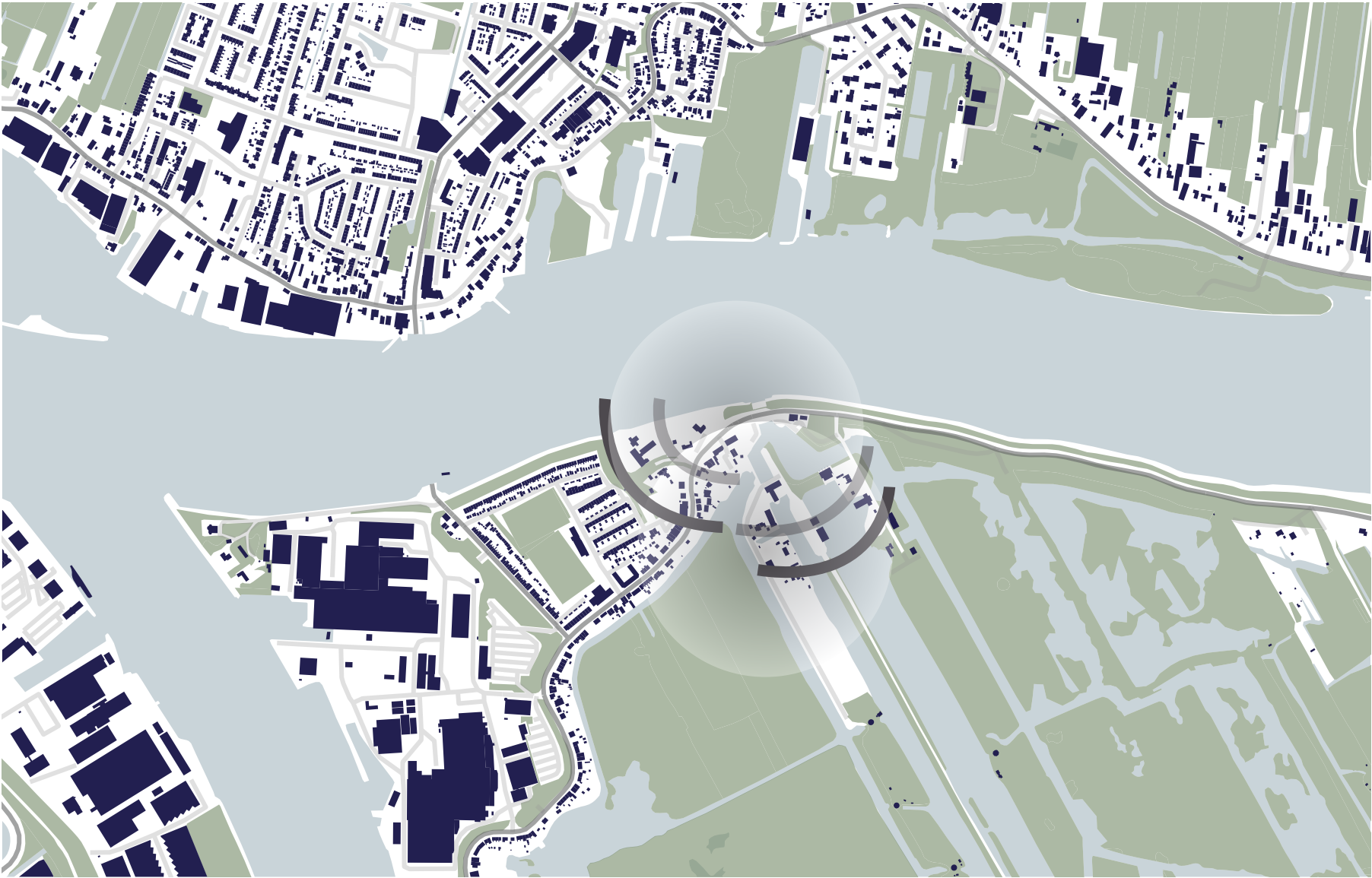
Too many tourists in the area.

Needs for more spaces for visitors and indoor museum.

How to control the visitors

Management World Heritage Kinderdijk-Elshout

Future plans



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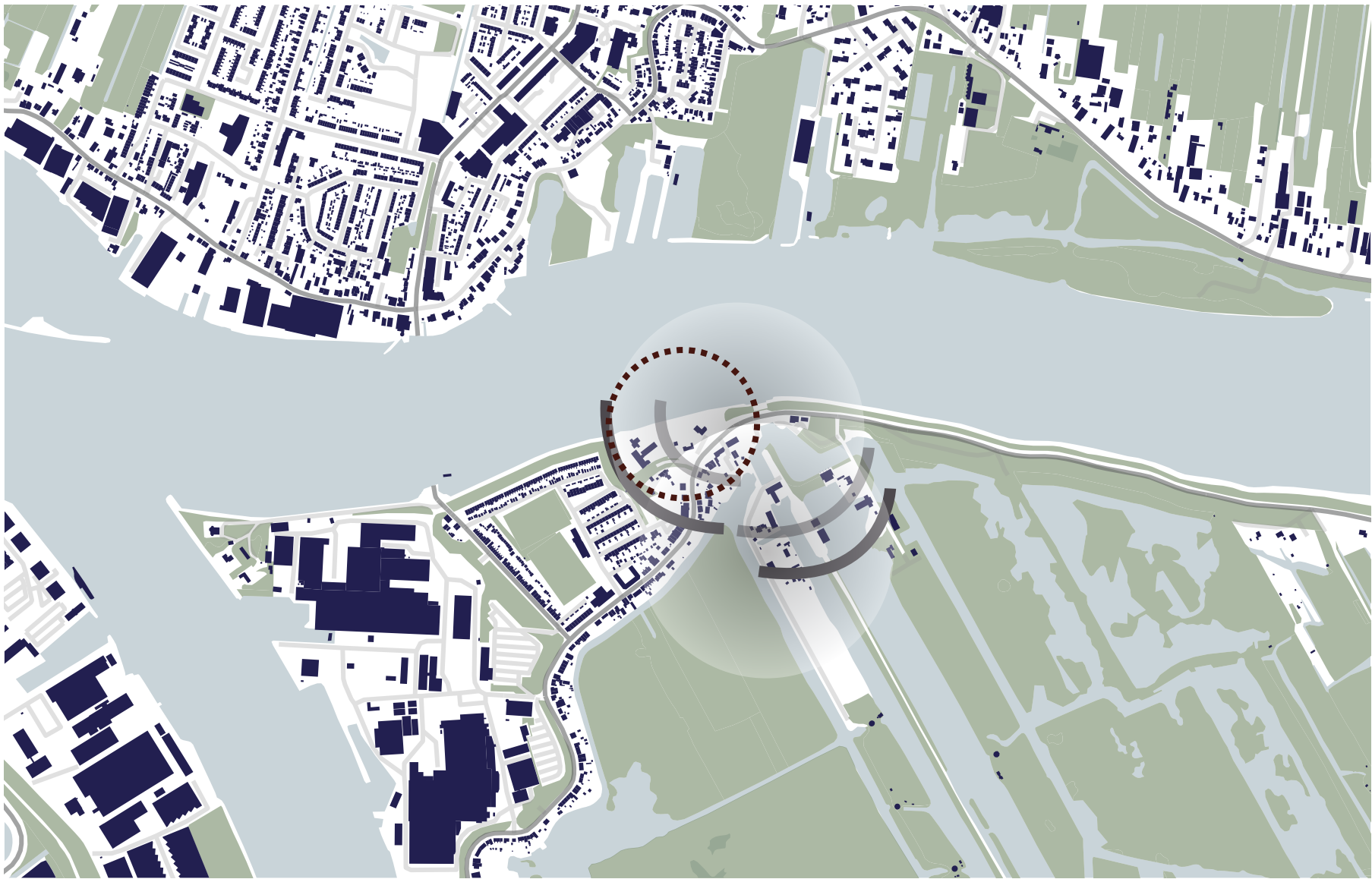
2. Buffer zone

Need Buffer zone between locals and visitors

Need boundary and space for locals

Management World Heritage Kinderdijk-Elshout

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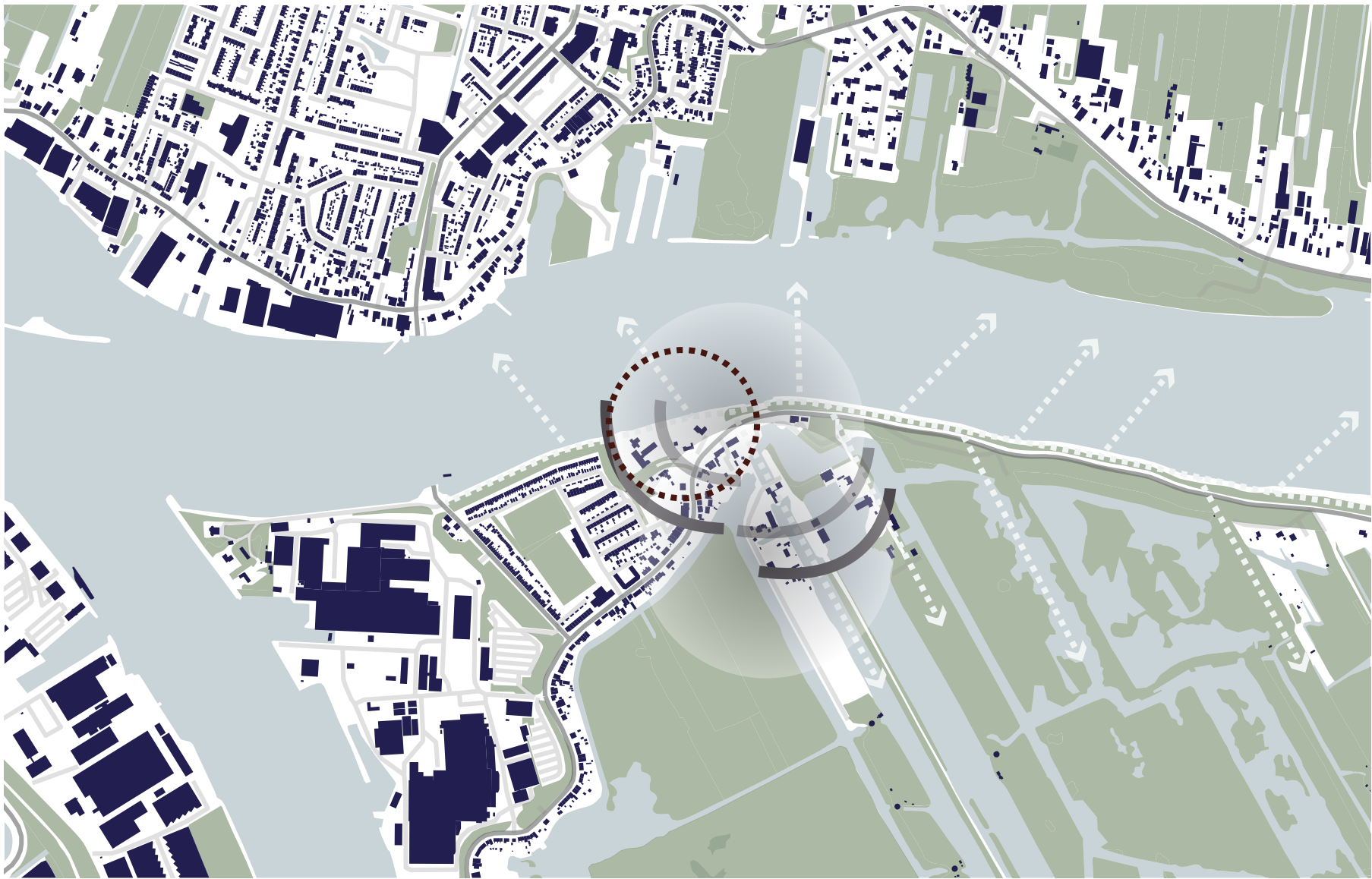
3. Improve the entrance of the area

The infrastructure, parking situation

Parking and infrastructure

Management World Heritage Kinderdijk-Elshout

Future plans



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Parking and infrastructure

4. Sight lines and landscape

Outstanding Values of Kinderdijk

Respect the OUV of Kinderdijk

Management World Heritage Kinderdijk-Elshout

Future plans



NEEDS

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- Parking and infrastructure

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- Outstanding Values of Kinderdijk
- Respect the OUV of Kinderdijk

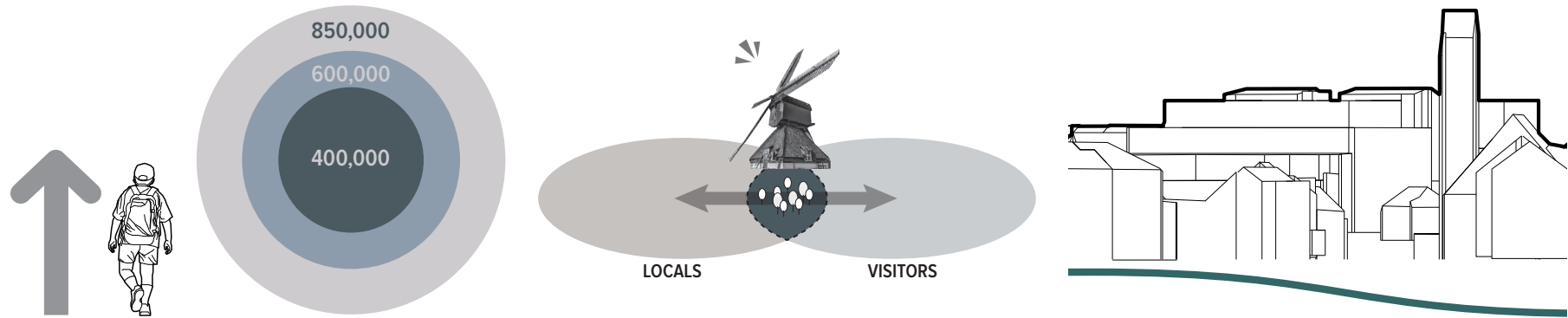
5. Educational functions

- Transfer of knowledge and improving educational materials
- Needs for spaces of event and educational function

6. For the millers

- Part of this heritage

Dilemmas
Tourism and Buffer Zone



Mass Tourism

Buffer Zone

Open Air Museum

The number of tourists increases every year. While this rise is necessary for revenue, it is challenging to manage.

The museum is closely intertwined with the residents' areas, their lives are being disrupted by the influx of tourists.

The museum is open and accessible to visitors, but its openness makes it highly susceptible to weather conditions. Additionally, due to its expansiveness, it encroaches on the residents' areas.

Values and Assessment

Values, hidden stories, and Now

Research

Intangible Heritage to Museum with Community

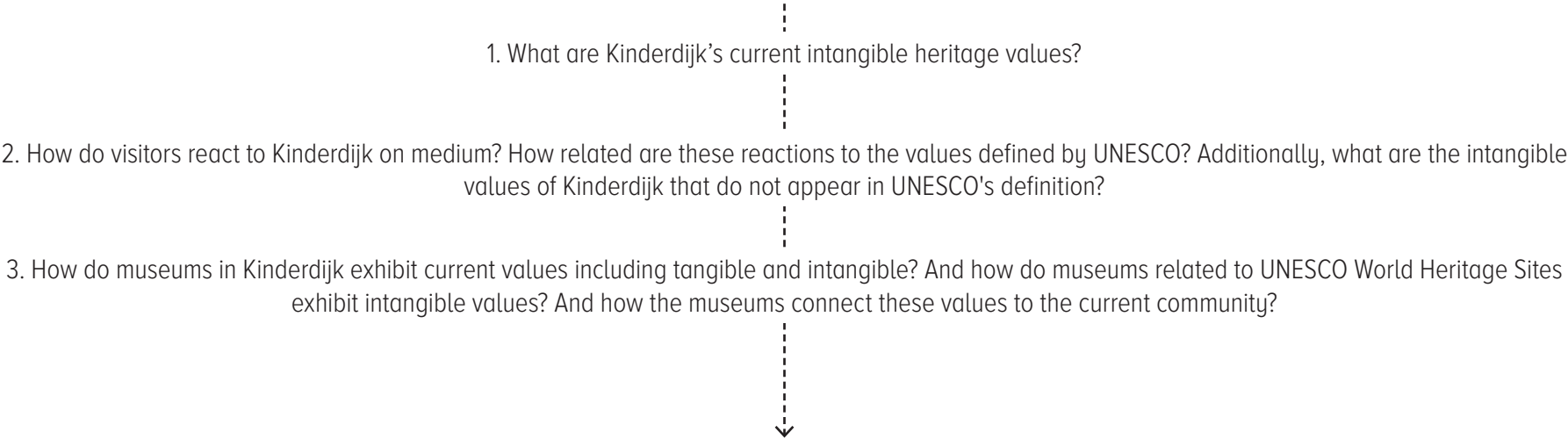
Research Plan

Problem Statement

**HOW CAN WE ENHANCE THE VISITOR'S EXPERIENCE BY REVEALING
INTANGIBLE CULTURAL HERITAGE TO THE MUSEUM IN THE
KINDERDIJK?**

Research Plan
Sub - Questions

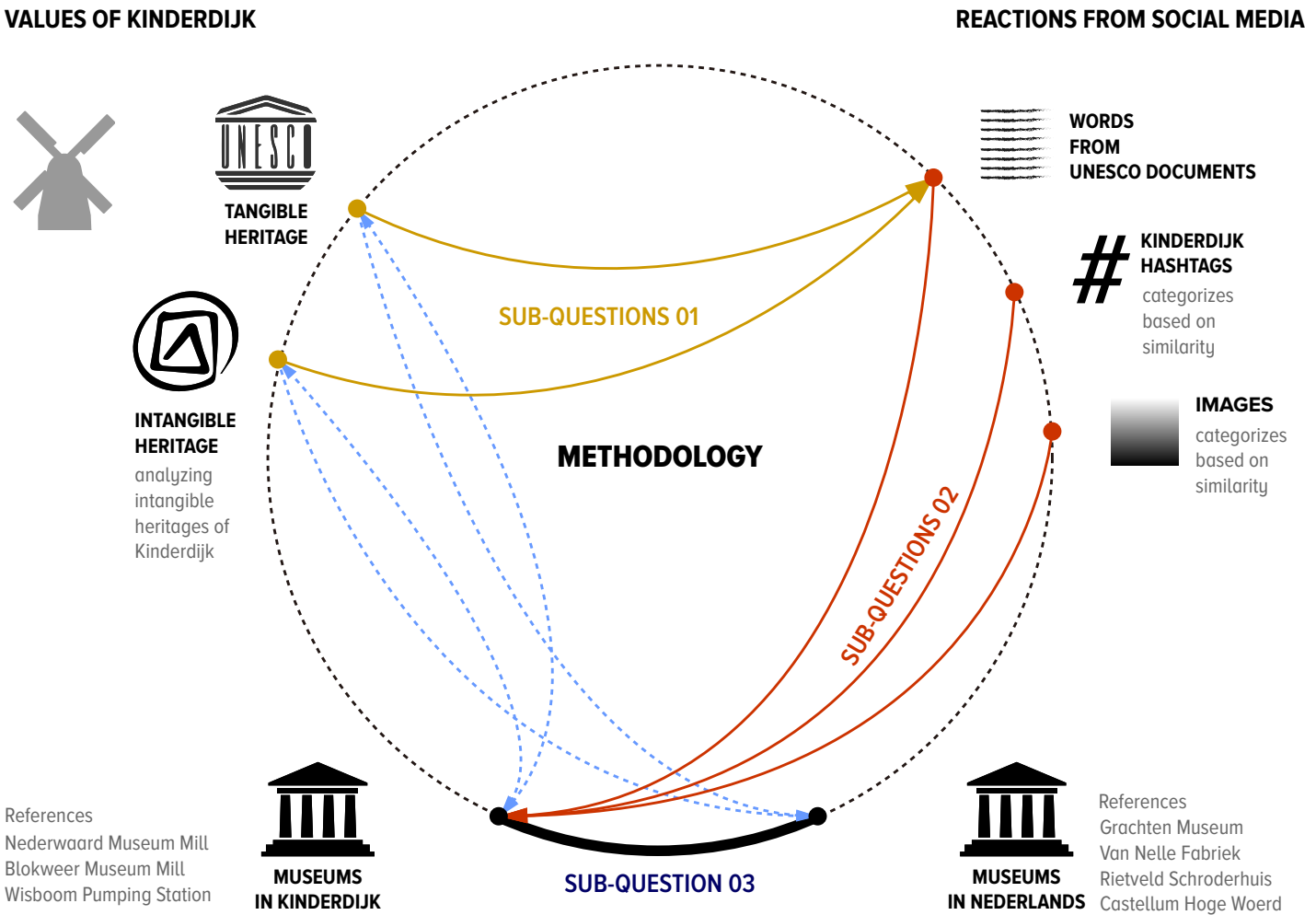
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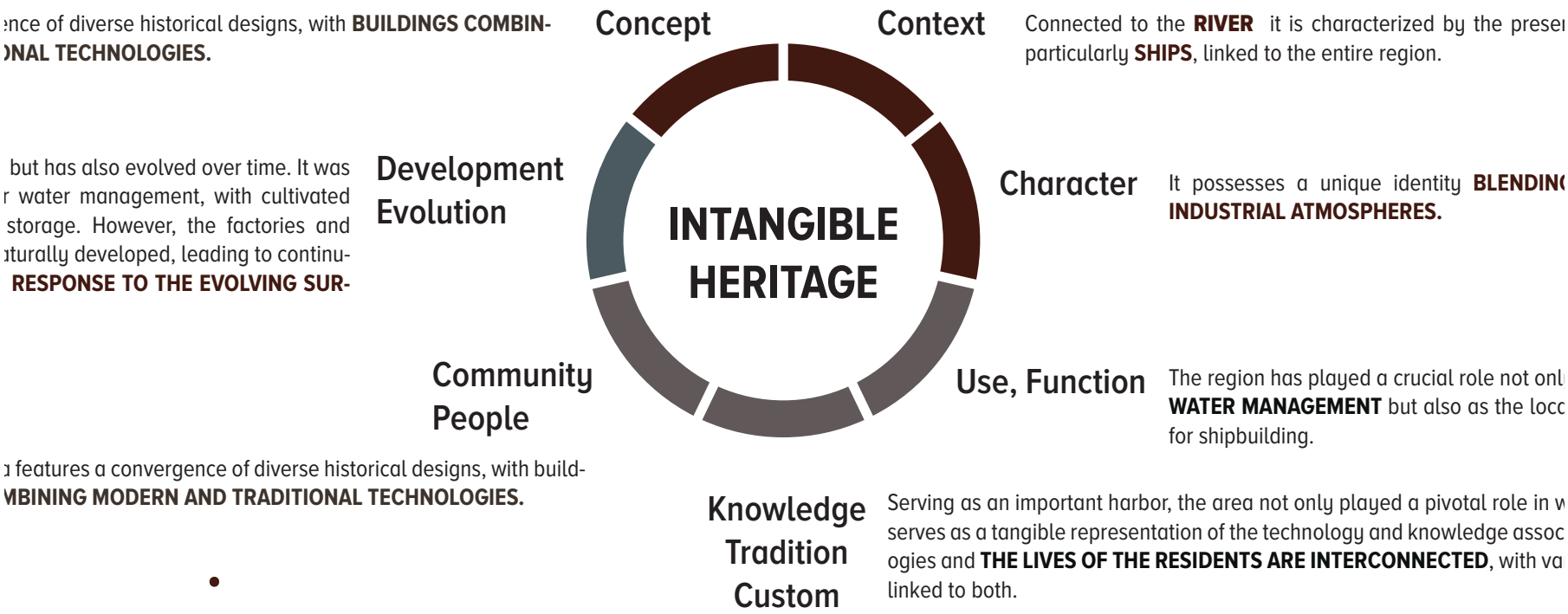
Research Plan
Methodology

HOW CAN WE ENHANCE THE VISITOR's EXPERIENCE BY REVEALING
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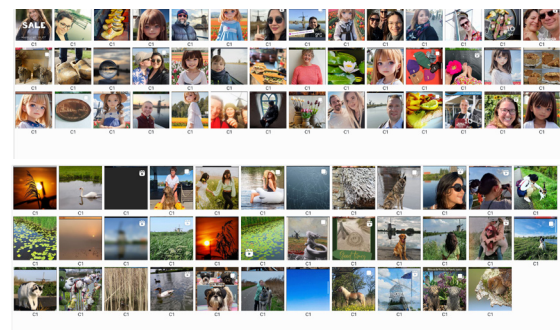
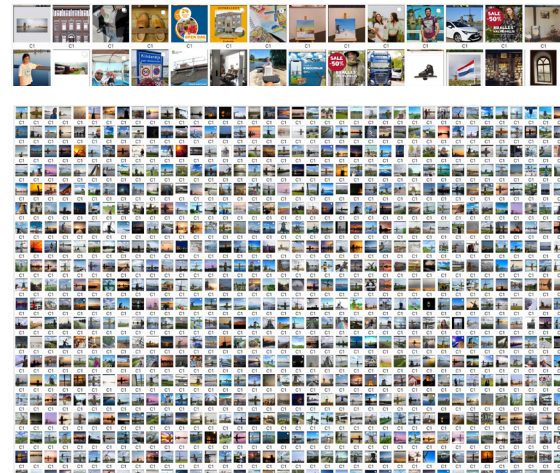
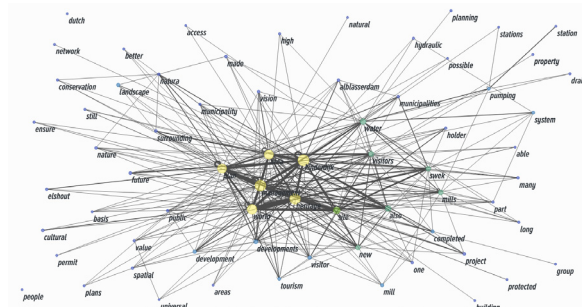
1. What are Kinderdijk's current intangible heritage values?
2. How do visitors react to Kinderdijk on medium? How related are these reactions to the values defined by UNESCO? Additionally, what are the intangible values of Kinderdijk that do not appear in UNESCO's definition?
3. How do museums in Kinderdijk exhibit current values including tangible and intangible? And how do museums related to UNESCO World Heritage Sites exhibit intangible values? And how the museums connect these values to the current community?



Research Plan
understanding Kinderdijk



Collecting Reactions



Cluster 1.

42 images

Activities, commercial advertisements, and related content associated with Kinderdijk

Cluster 2.

1041 images

Landscapes and windmills of Kinderdijk

Cluster 3.

42 images

Portraits taken with
Kinderdijk in the background

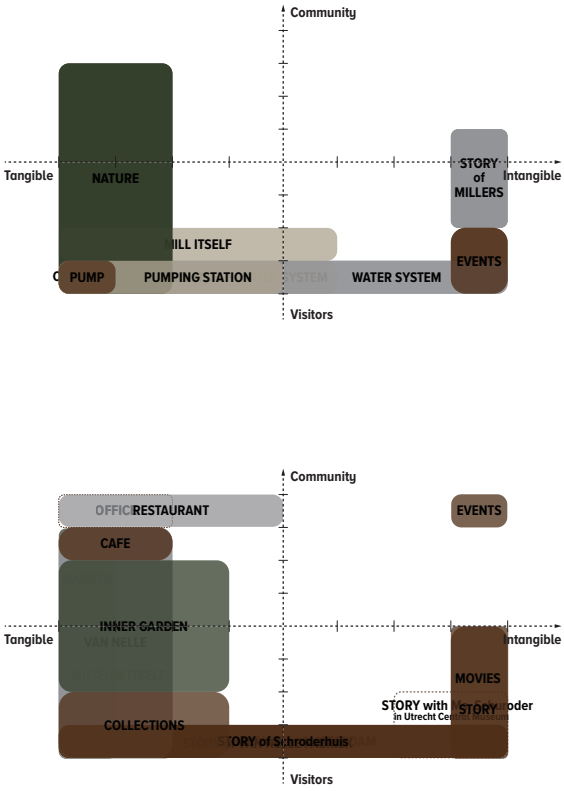
Cluster 4.

35 images

Research Plan
Museums in Nederlands

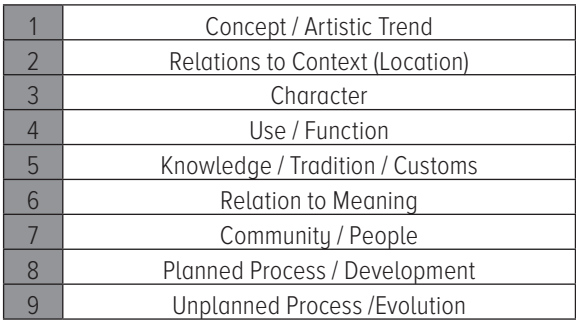


WORLD UNESCO Heritage



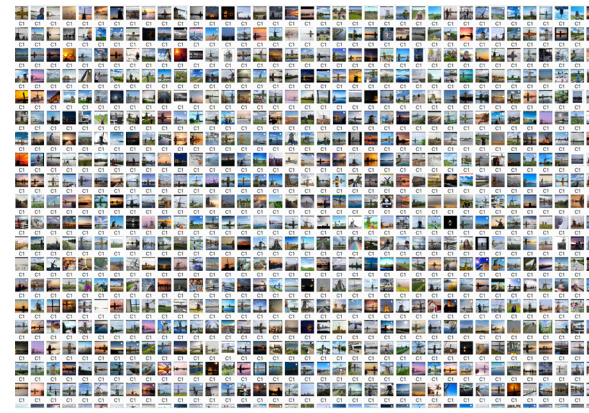
SPACE Composition and Community

understanding Kinderdijk



Value Assessment of Kinderdijk

A word cloud visualization of terms related to water management and heritage sites. The most prominent words are "plan", "area", "heritage site", "water", "management", and "world". Other visible words include "discharge", "provisional", "including", "possible", "outstanding", "assembly", "challenges", "sufficiently", "abandonment", "property", "building", "criteria", "set", "conservation", "surrounding", "ensure", "station", "restoration", "board", "stamp", "pumping", "visitors", "project", "cultural", "vineland", "functions", "term", "limited", "divide", "catch", "nature", "tourism", "plans", "develop", "others", "goes", "role", "used", "guarantee", "chennai", "first", "public", "mill", "land", "yug", "hydrology", "visitor", "setting", "urban", "past", "also", "spatial", "kindred", "mills", "many", "listed", "winston", "canon", "fortification", "city", "integrity", "built", "system", "works", "young", "long", "without", "grand", "purpose", "completed", "world", "landscape", "protected", "back", "count", "historic", "human", "basis", "high", "development", "uses", "permit", "character", "attention", "access", "planning", "abilities", "drainage", "created", "sites", "modern", "need", "effective", "manage", "centre", "network", "municipality", "elevated", "roadway", "illustrate", "control", "protection", "governments", "represented", "specifically", "awareness", "comparable", "construction", "demarcate".



KINDERDIJK

Activities, advertisements : 42 images
Landscapes and windmills : 1041 images
Portraits taken with Kinderdijk : 42 images
Water-related images associated : 35 images



Case Studies of UNESCO Museum in Netherlands



**MUSEUM
VAN
KINDERDIJK**

Findings
experience and community



Intangible Heritage of Kinderdijk

Currently, Kinderdijk preserves the core values designated by UNESCO, but there is a need for a space that can effectively showcase its hidden stories.

Findings
experience and community



Intangible Heritage of Kinderdijk

Museum

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Unlike other UNESCO museums, Kinderdijk is closely connected to its surrounding context and is an open space. Therefore, the museum at Kinderdijk requires a different approach compared to other UNESCO museums.

Findings
experience and community



Intangible Heritage of Kinderdijk

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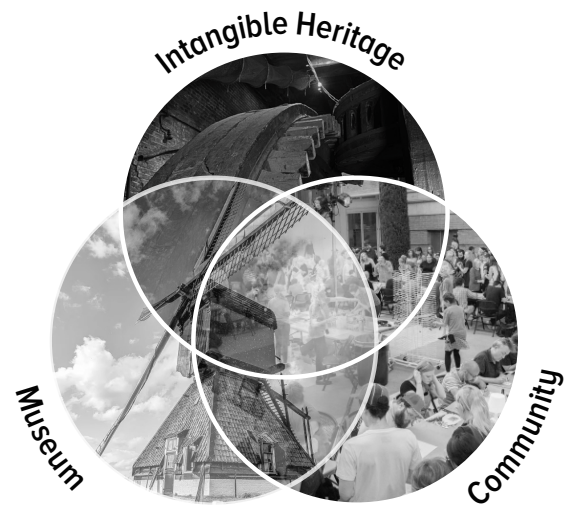
Museum with Unesco

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Findings
experience and community



Intangible Heritage of Kinderdijk

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Values and Assessment

Values, hidden stories, and Now

Research

Intangible Heritage to Museum with Community

Approach

Ensemble

Context
Around Kinderdijk



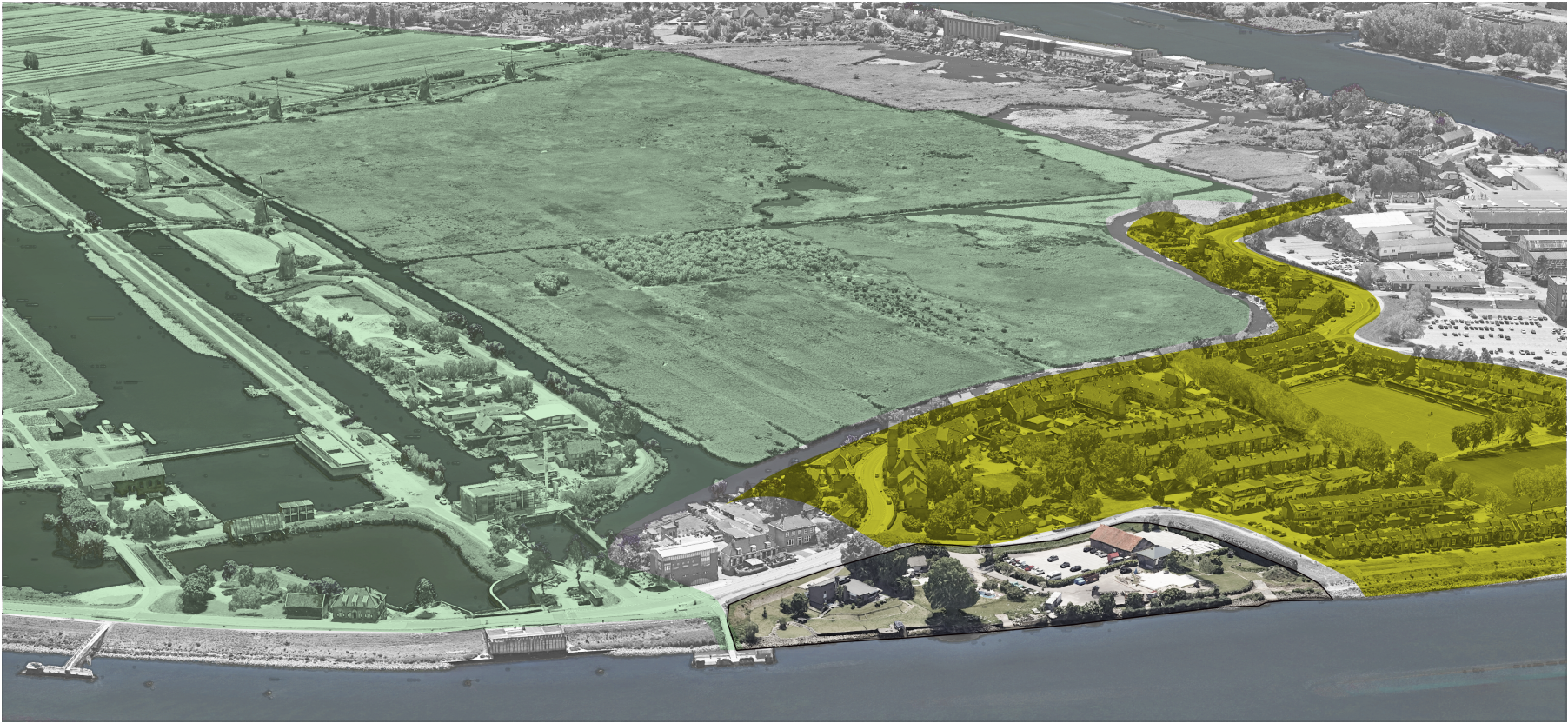
- Needs for more spaces for visitors and indoor museum. How to control the visitors
- Need boundary and space for locals
- Parking and infrastructure
- Respect the OUV of Kinderdijk
- Needs for spaces of event and educational function


Condition in Kinderdijk

Site Analysis

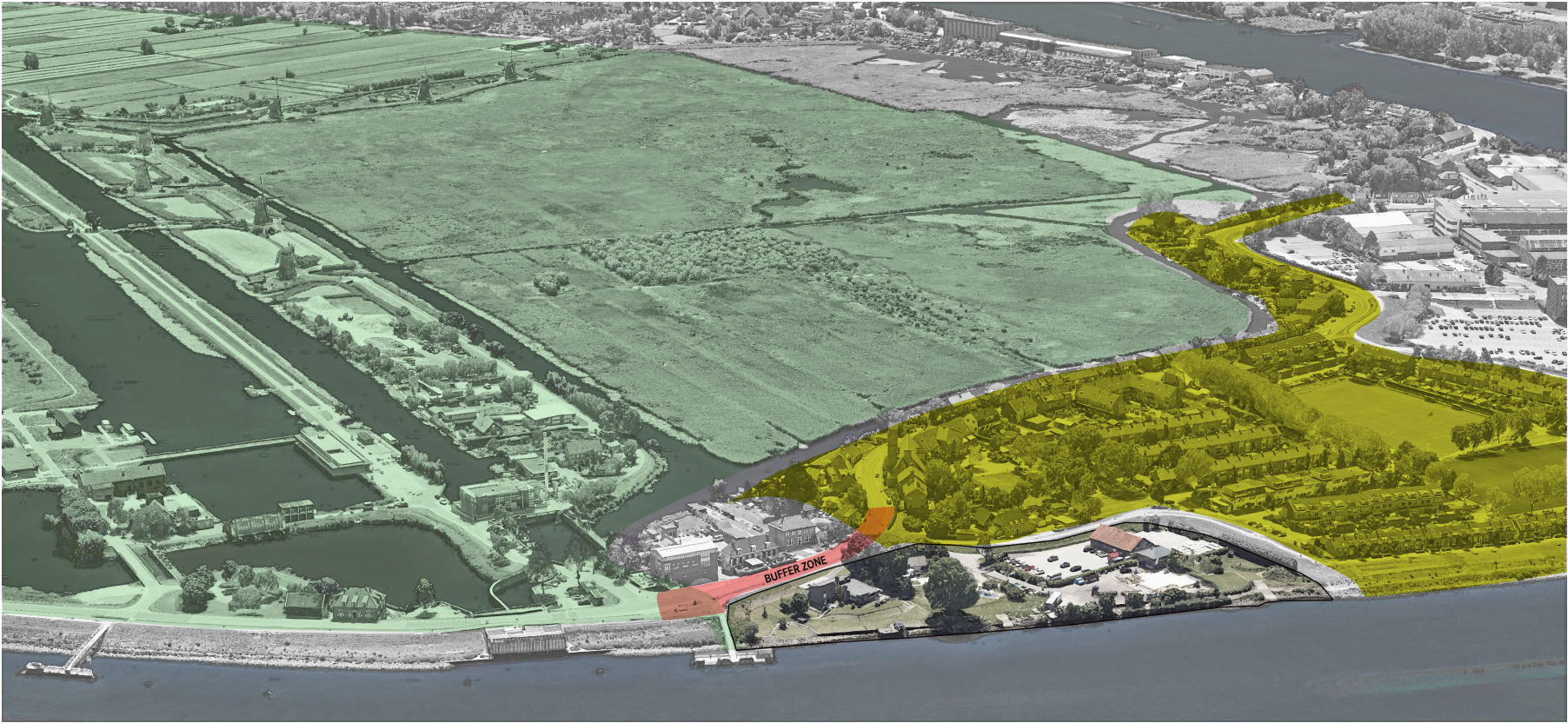


Condition in Kinderdijk
experience and community



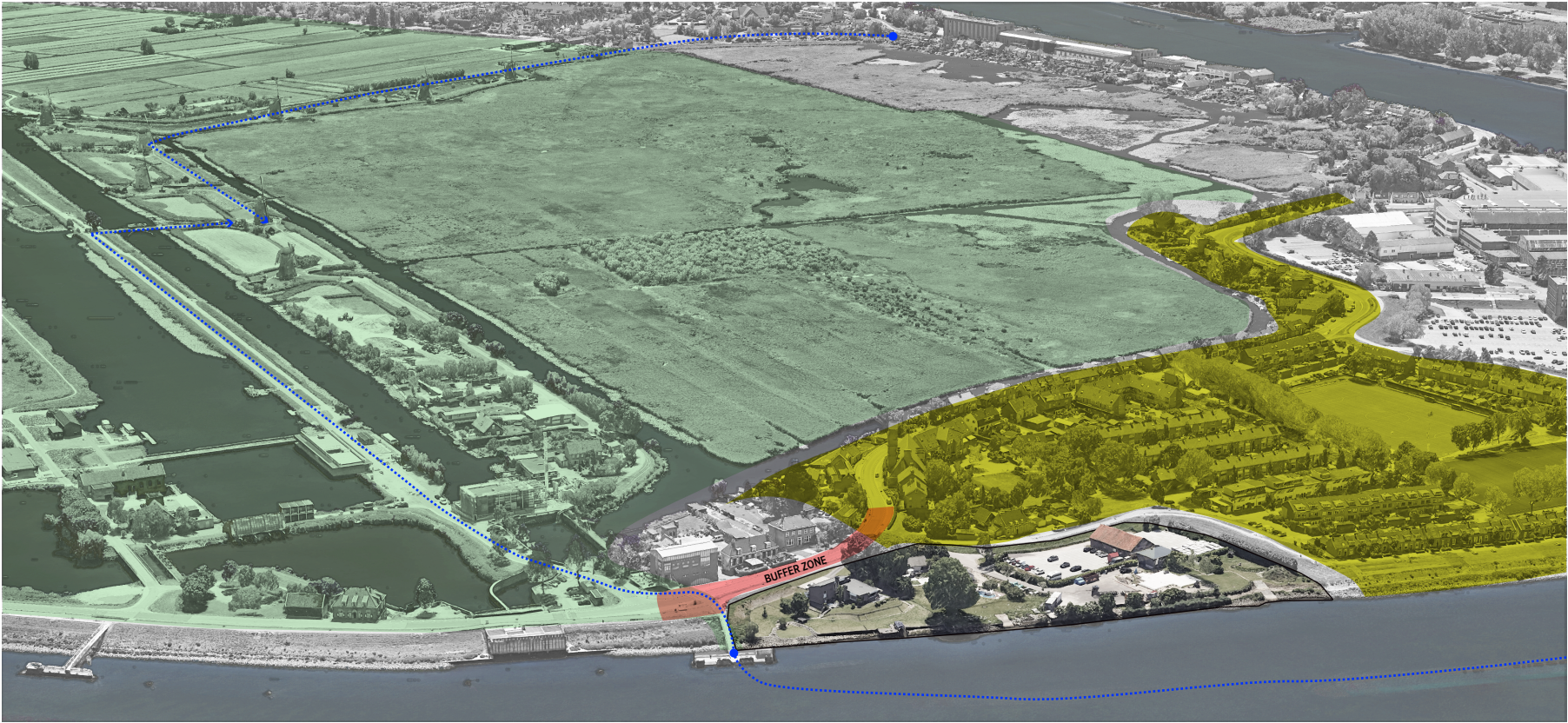
 *Kinderdijk Museum*
 *community*

Condition in Kinderdijk
experience and community



- Buffer Zone
- Kinderdijk Museum
- community

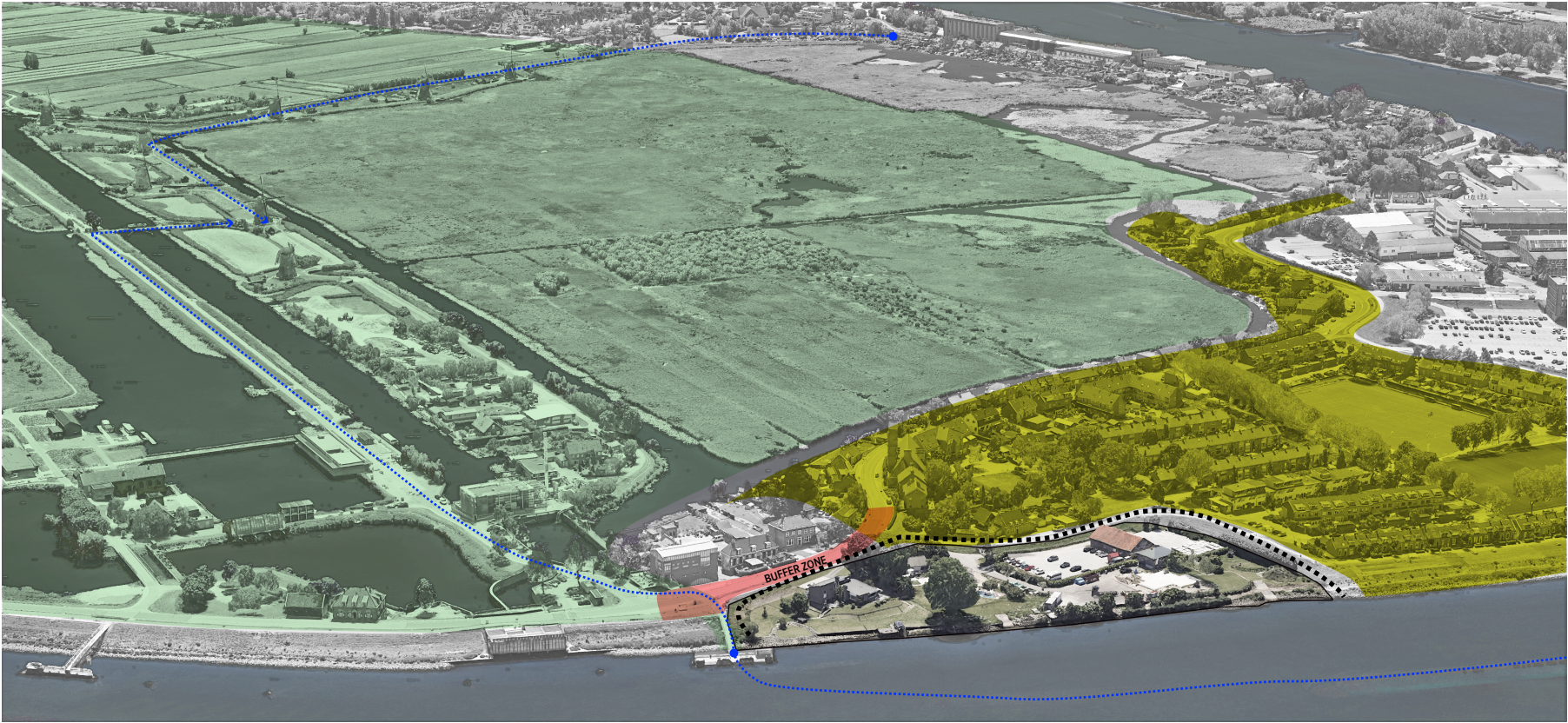
Condition in Kinderdijk
experience and community



- Access Point
- Buffer Zone
- Kinderdijk Museum
- community

Condition in Kinderdijk

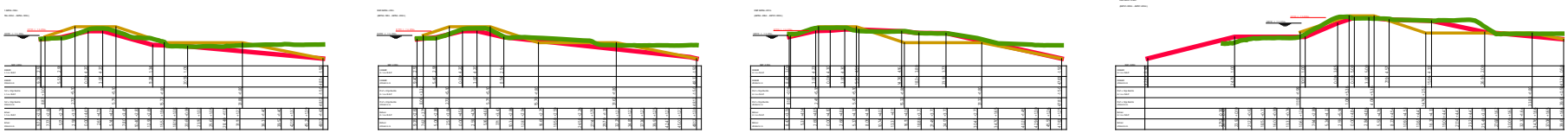
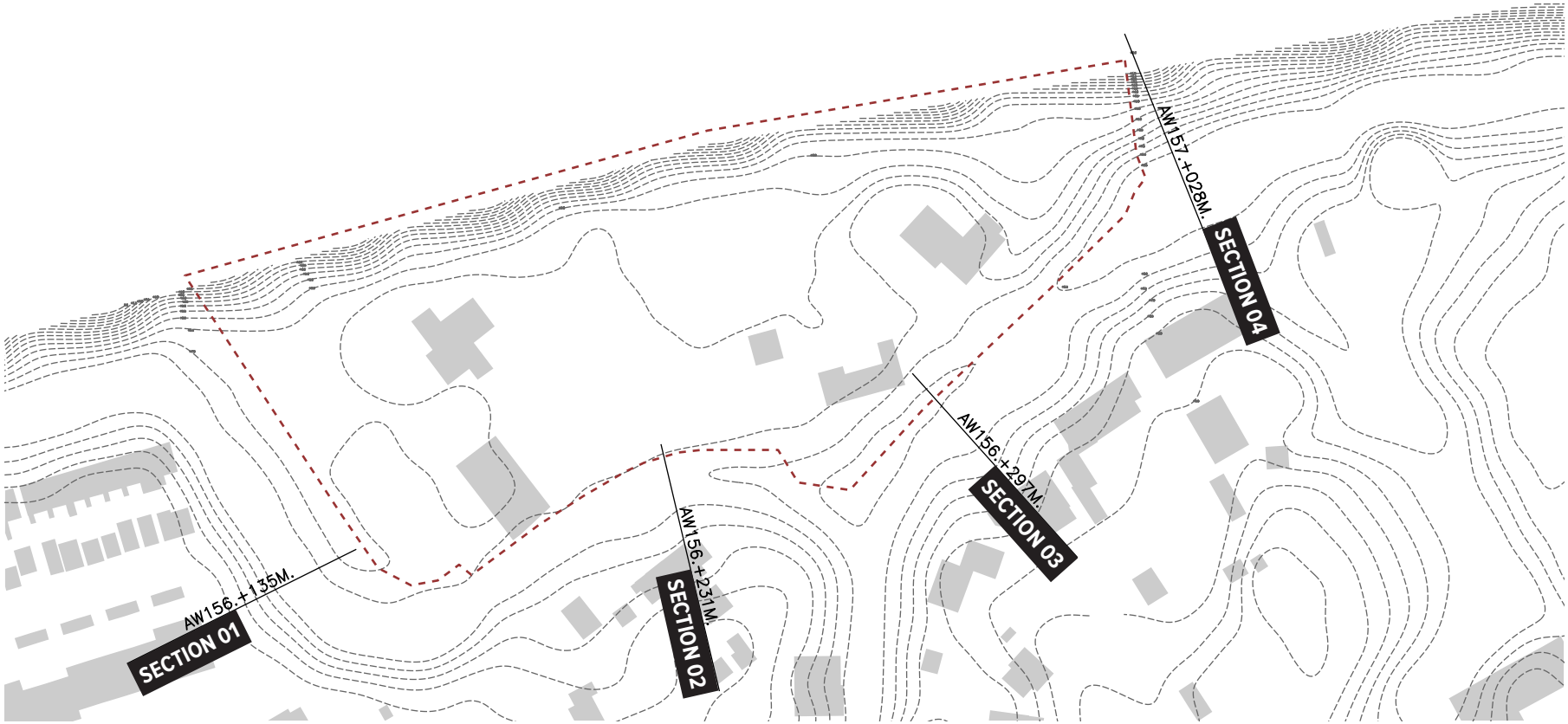
experience and community



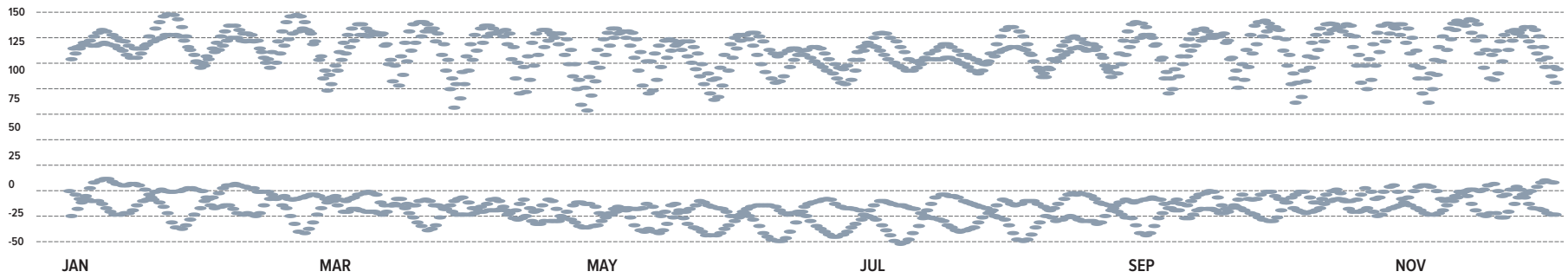
- Dijk
- Access Point
- Buffer Zone
- Kinderdijk Museum
- community

Dijken and Water Levels

Water level and how to approach



Section 01 - AW 156 +135M. Section 02 - AW 156. +231M. Section 03 - AW 156. +297M. Section 04 - AW 157. +028M.



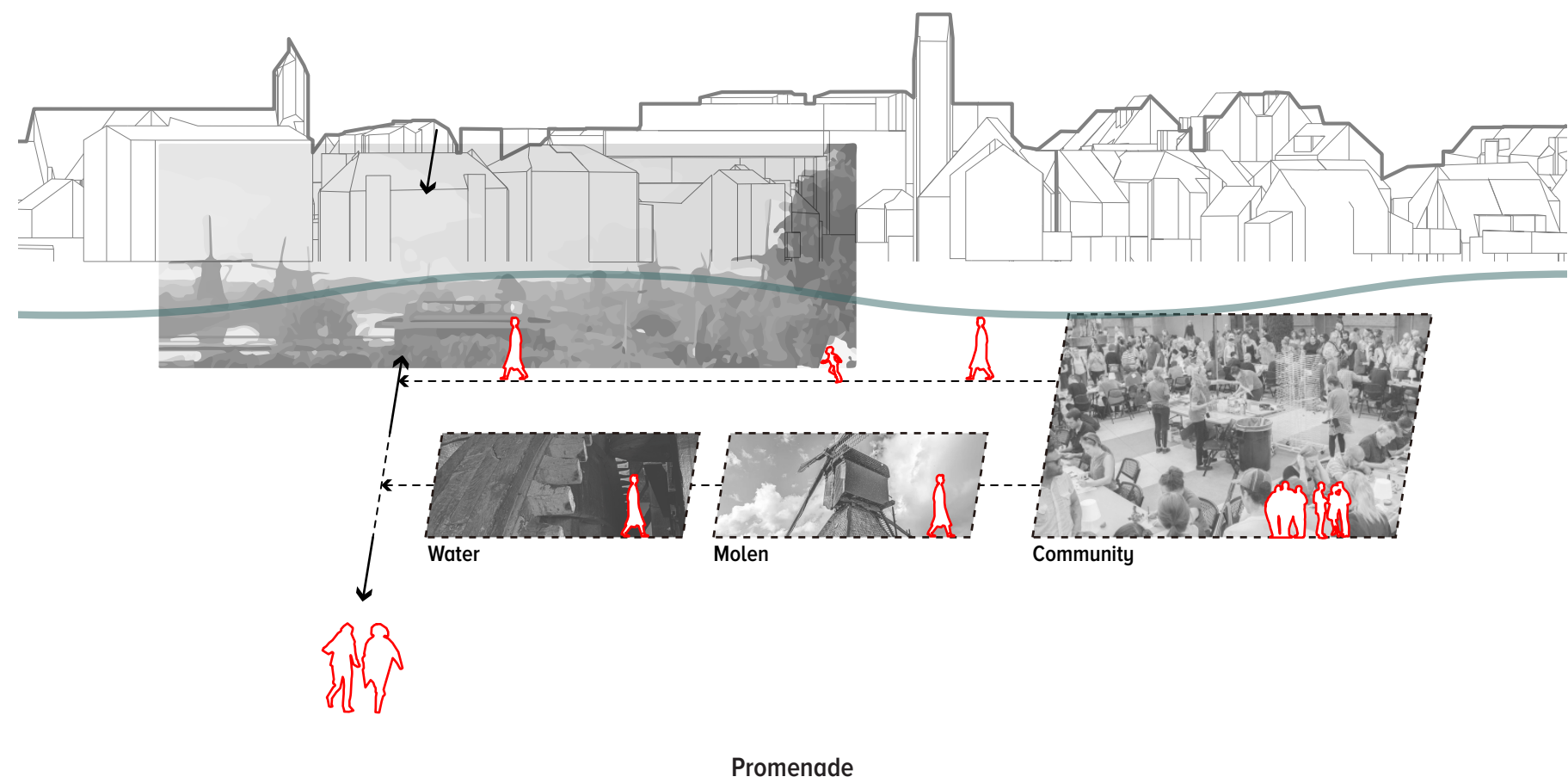
Values and Assessment
Values, hidden stories, and Now

Research
Intangible Heritage to Museum with Community

Concept
Ensemble

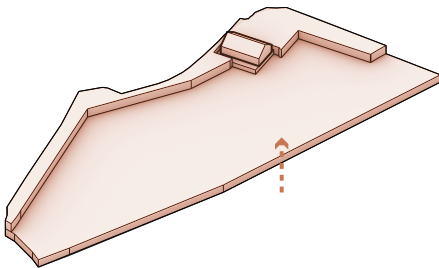
Design
Museum van Kinderdijk

Concept
Experience with Promenade

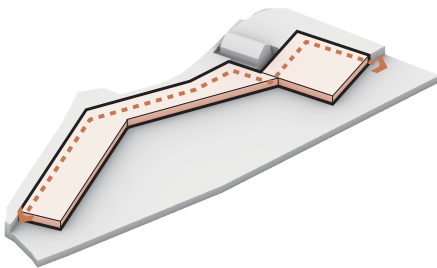


Expanding knowledge about the experience before entering Kinderdijk extends the pathways for visitors. As they follow these pathways and learn about the intangible heritage, they will see Kinderdijk in a new light upon their return. This process can also work in reverse. After experiencing Kinderdijk, acquiring new knowledge deepens their understanding, offering an integrated perspective that combines experience and knowledge.

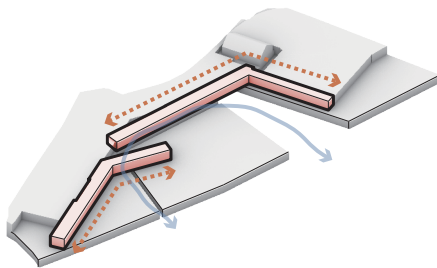
PROCESSING
Massing



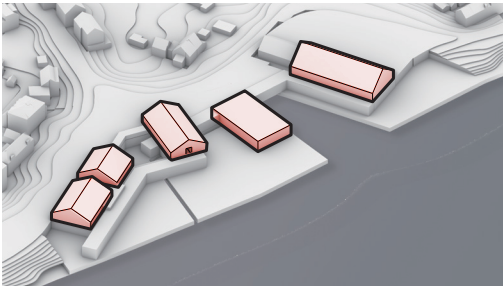
Lifting the site Upon the Water Level



Placing the Mass Along the Dyke

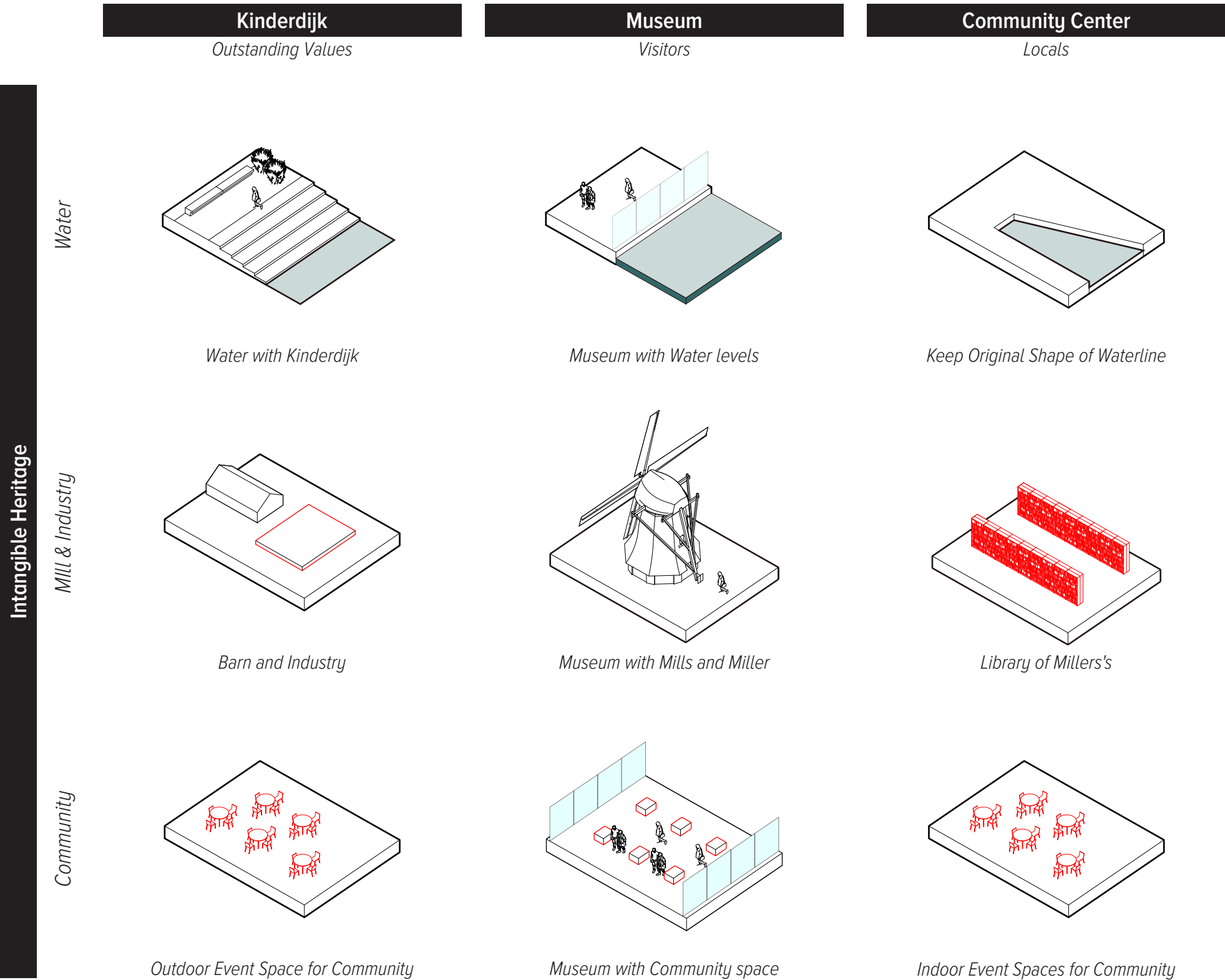


Connect between the Program



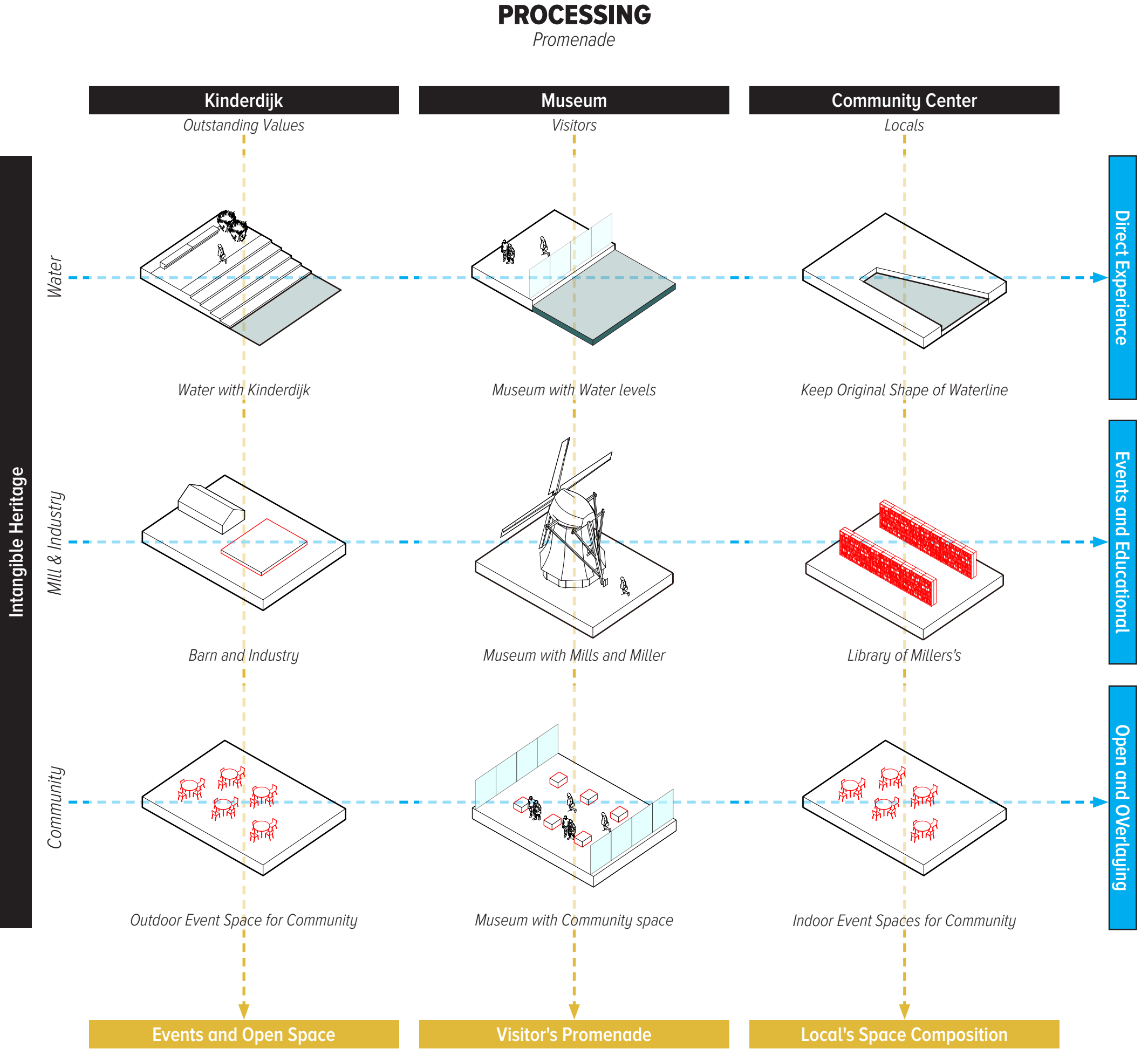
Ensemble with Mass

Program
Space Organization



Kinderdijk	Museum	Community Center
Outstanding Values	Visitors	Locals



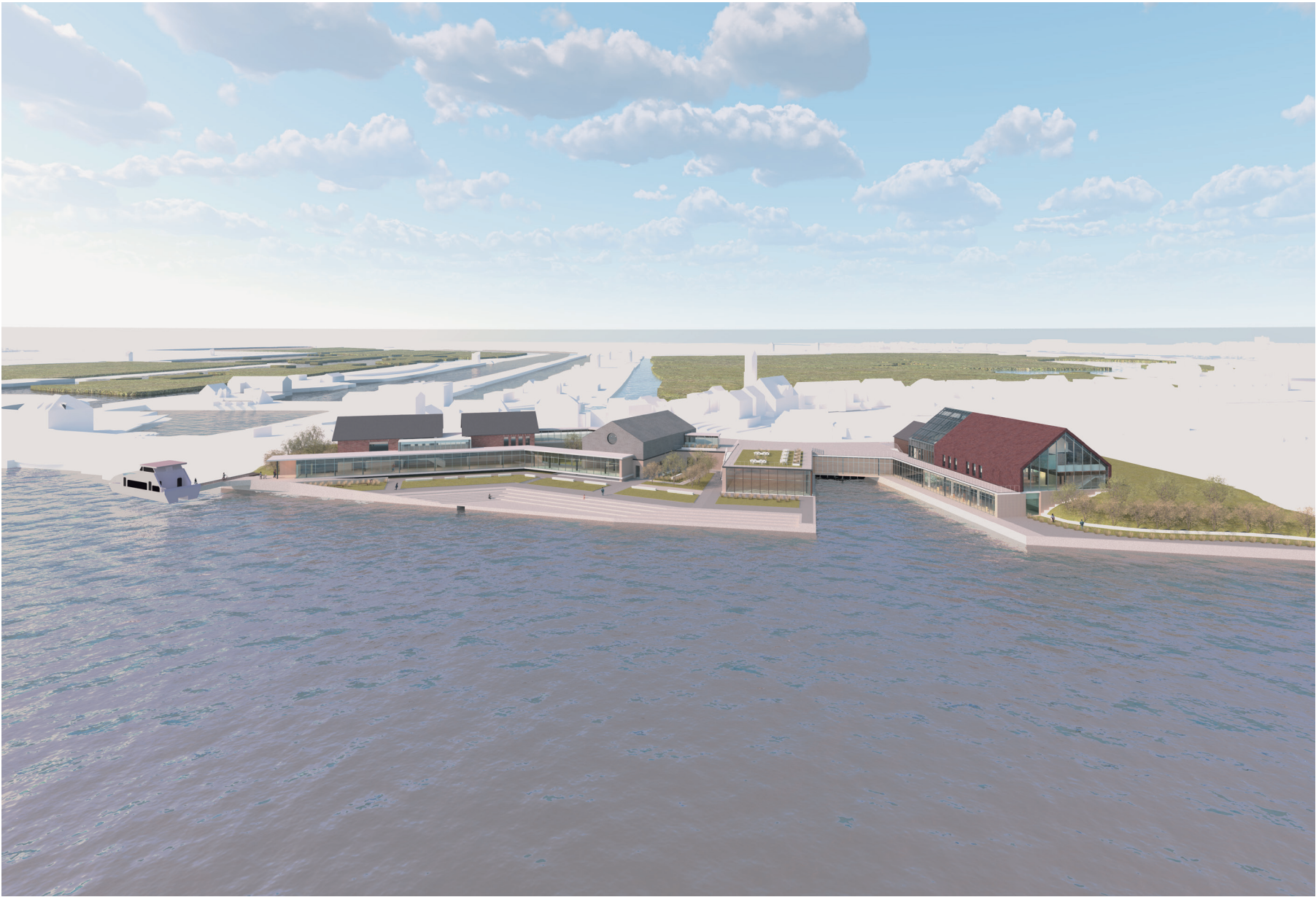


Masterplan
Enesemble with surroundings



A museum is located along the way to Kinderdijk, blending harmoniously with the landscape of Kinderdijk. The buffer zone is used to separate two programs, allowing both locals and visitors to coexist and interact seamlessly.

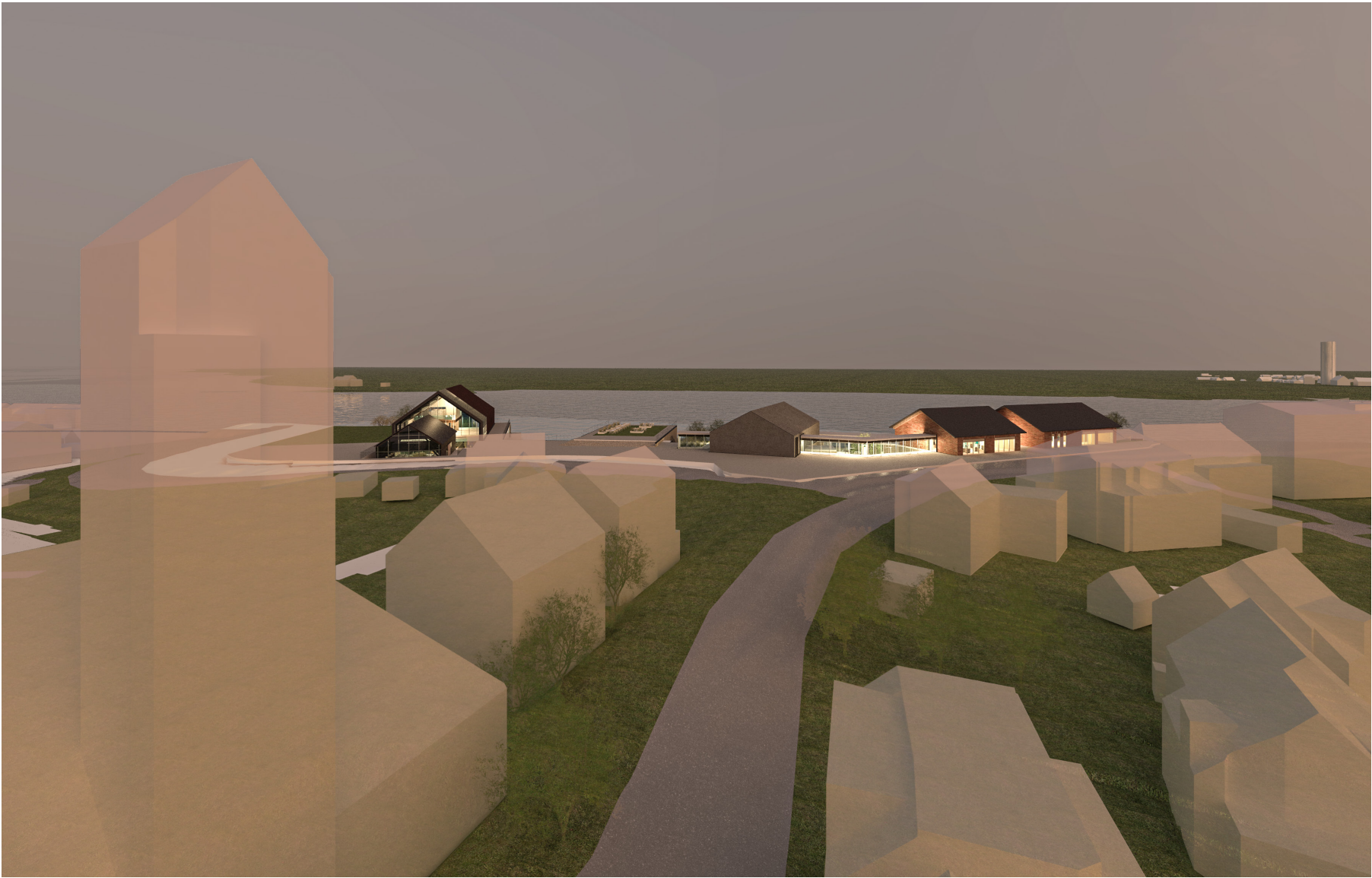
ENSEMBLE
Eneseemble with surroundings



Front Elevation

The design alters the massing to resemble the forms of surrounding buildings, ensuring that the original values of Kinderdijk are preserved.

ENSEMBLE
From the locals



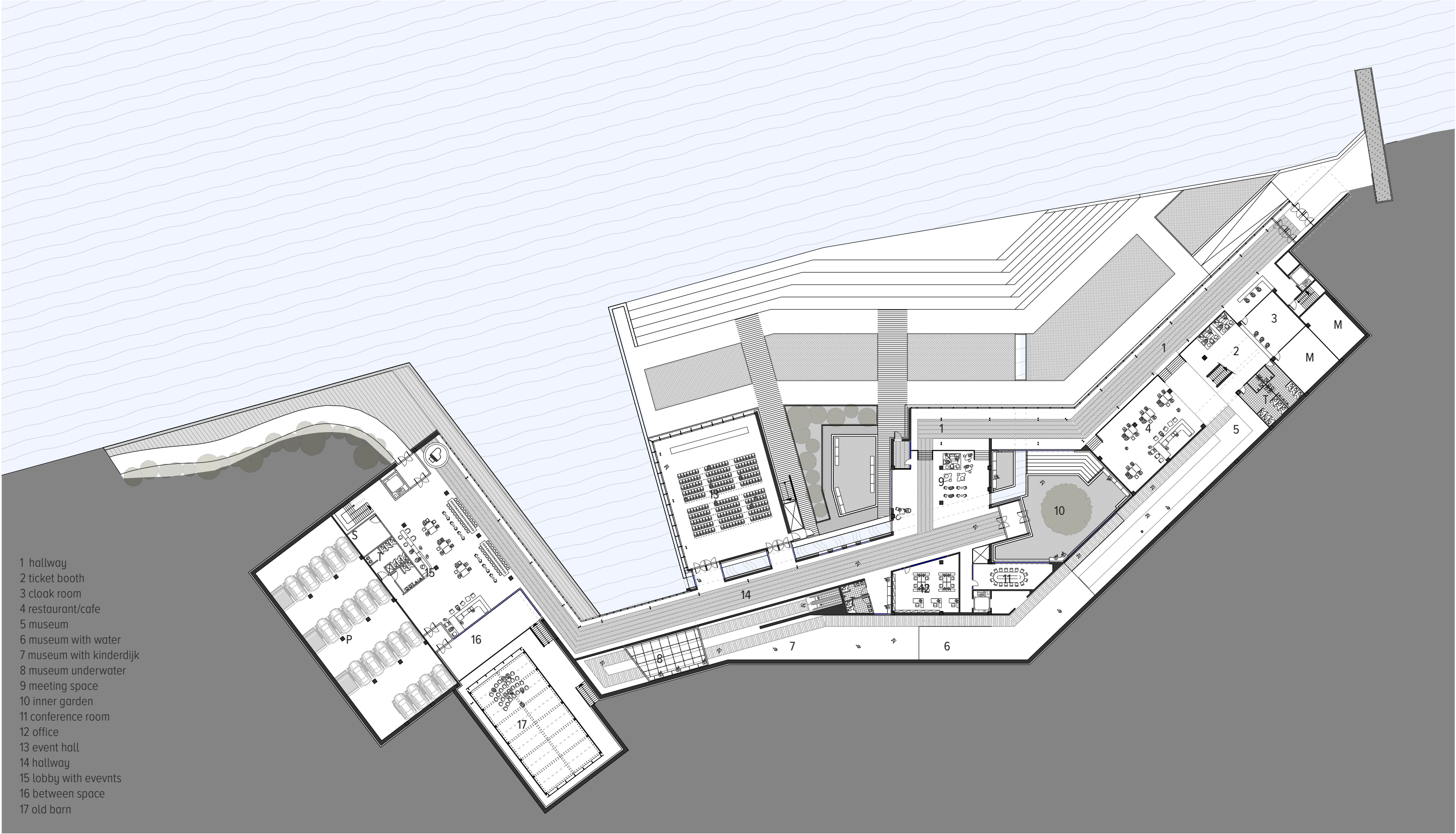
West Elevation



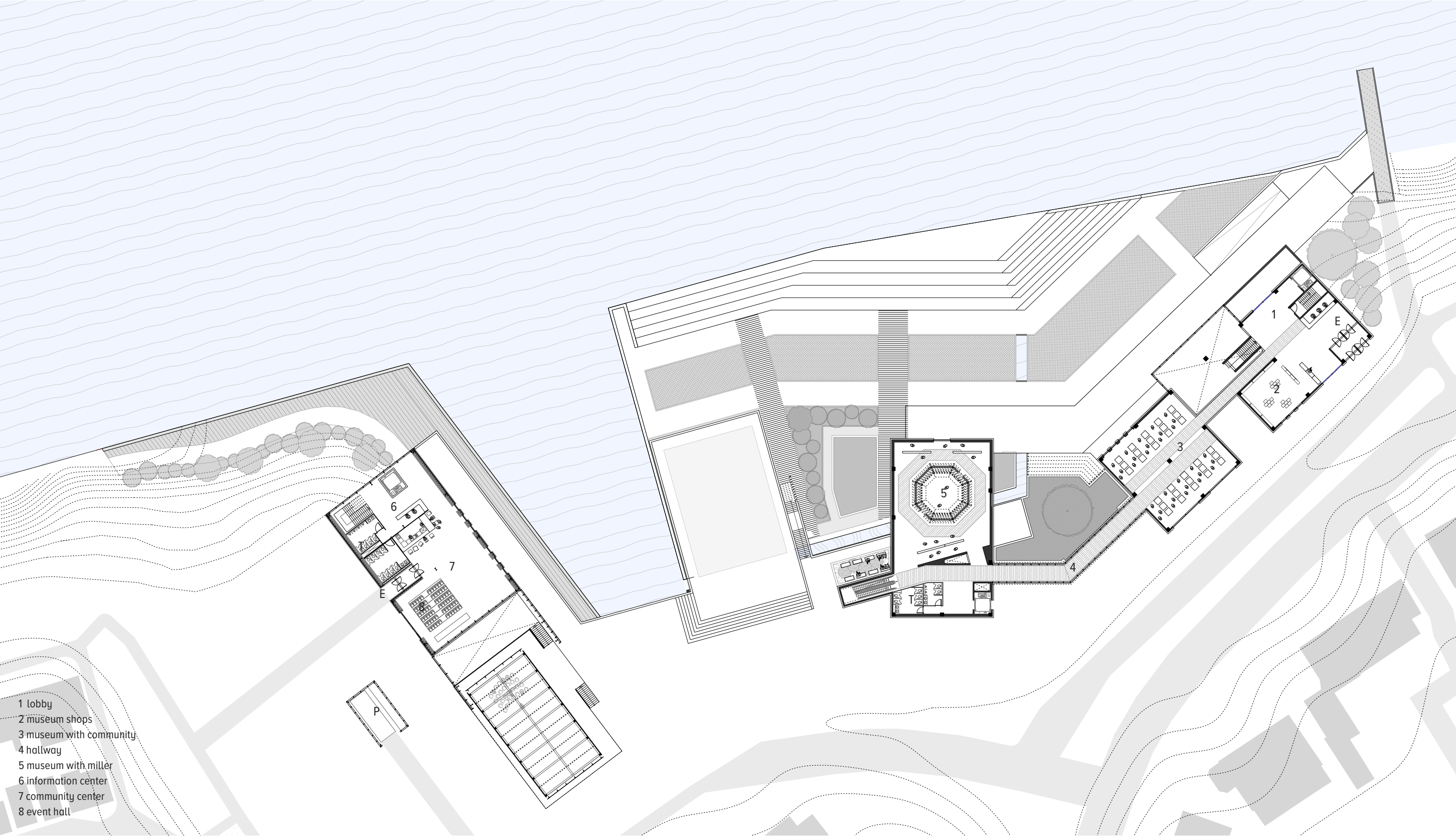
East Elevation

The design alters the massing to resemble the forms of surrounding buildings, ensuring that the original values of Kinderdijk are preserved.

GF PLAN
Eneseemble with surroundings



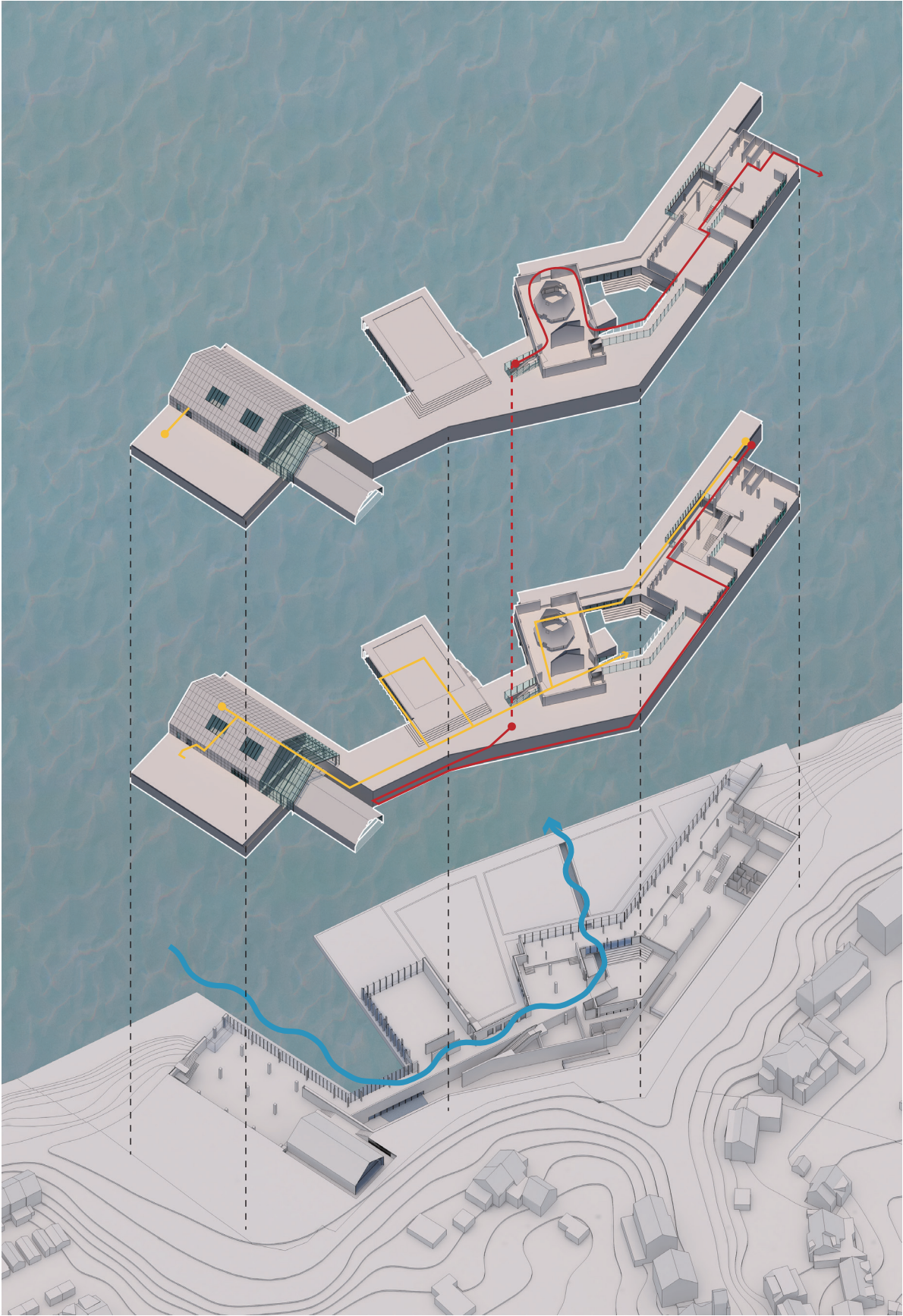
1F PLAN
Eneseemble with surroundings



- 1 lobby
- 2 museum shops
- 3 museum with community
- 4 hallway
- 5 museum with miller
- 6 information center
- 7 community center
- 8 event hall

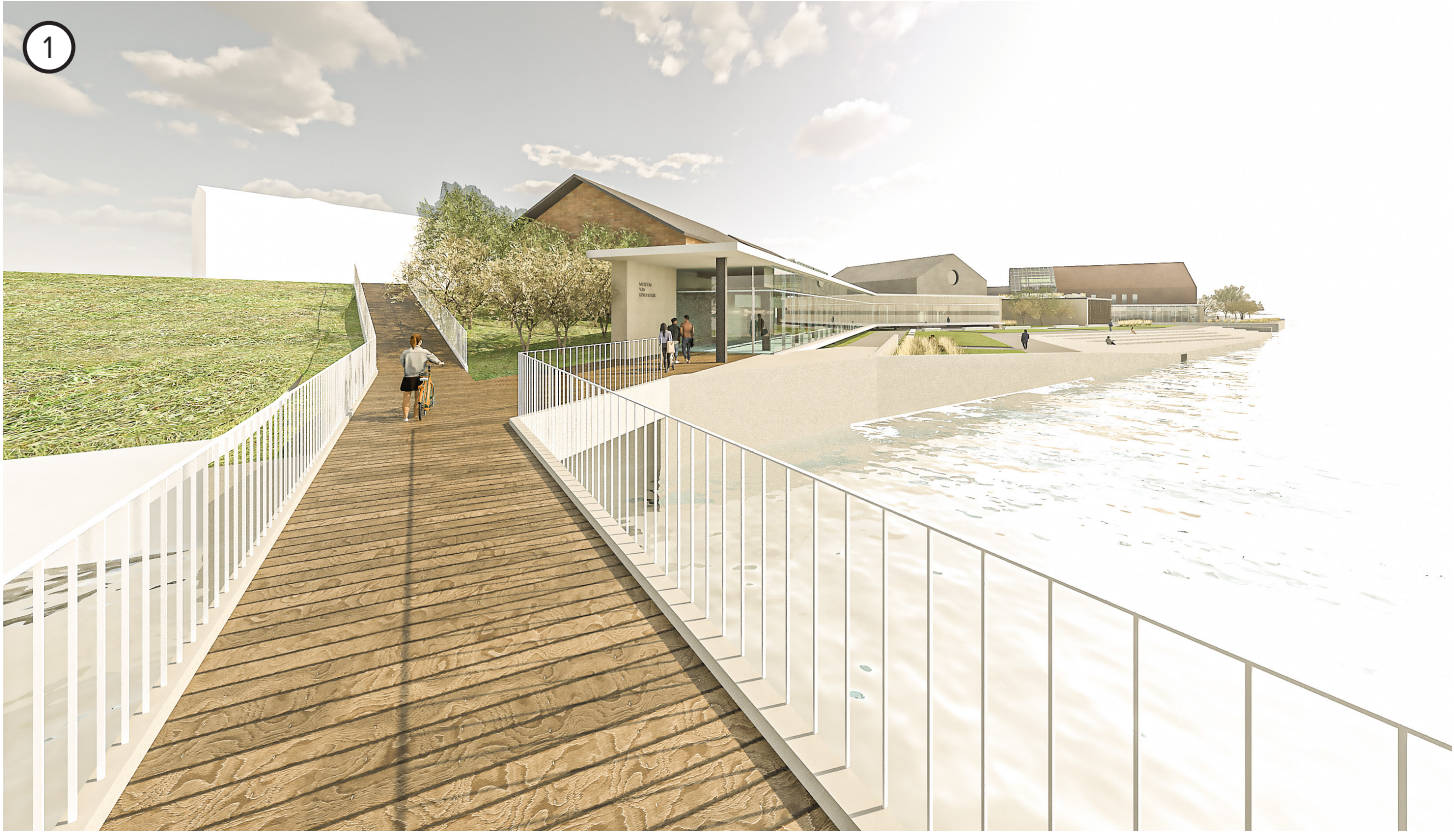
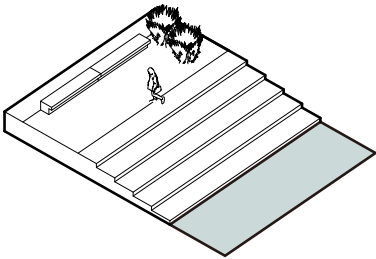
CIRCULATION

Connection and Overlaying



- Promenade Of Visitors
- Promenade Of Locals
- Promenade Of Waters

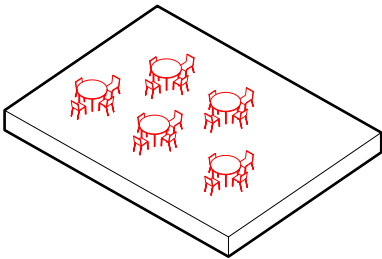
PROMENADE IN MUSEUM
Entrance of Museum



Arriving at Kinderdijk, I headed towards the museum entrance before taking in the scenery. Instead of going directly to Kinderdijk itself, I was drawn to explore the museum, fascinated by how it blended harmoniously with the surrounding water.



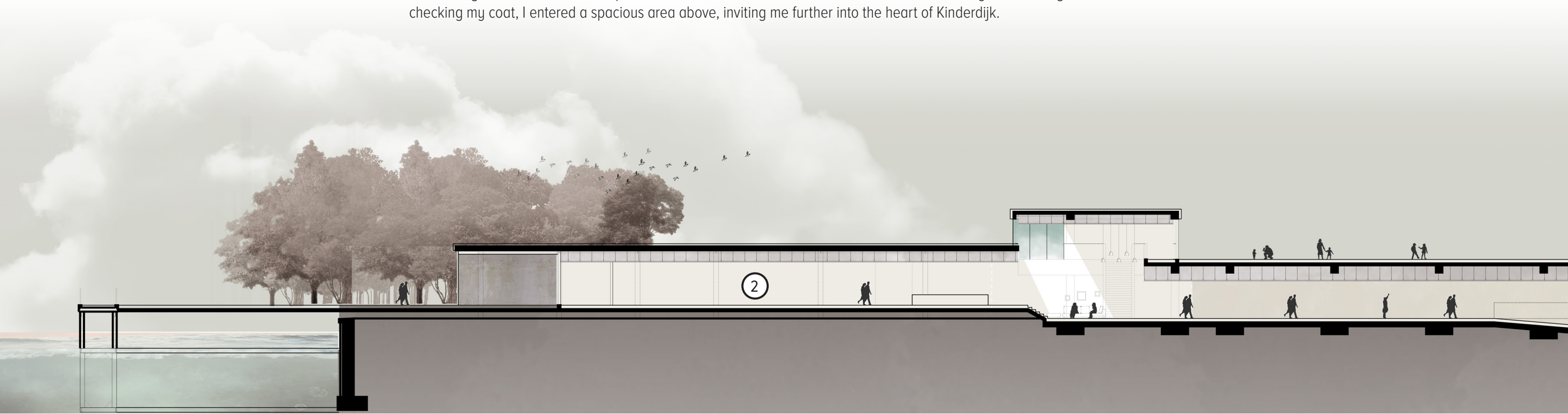
PROMENADE
Hallway



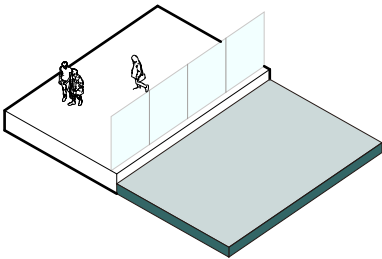
Outdoor Event Space for Community



Inside, large windows offered expansive views of both the museum's interior and the lively surroundings outside. After checking my coat, I entered a spacious area above, inviting me further into the heart of Kinderdijk.



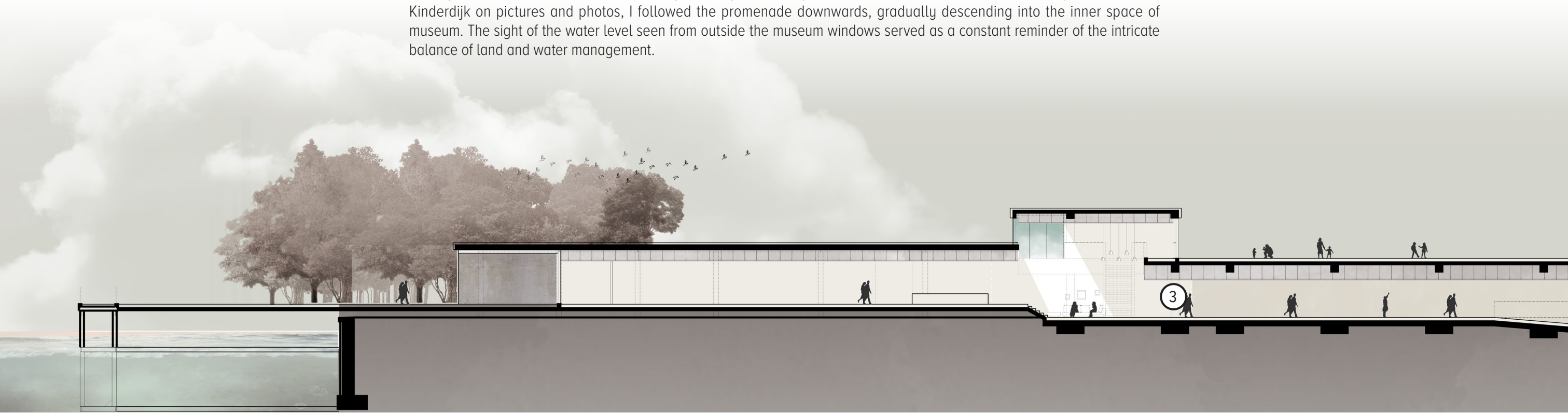
PROMENADE
Museum van Kinderdijk



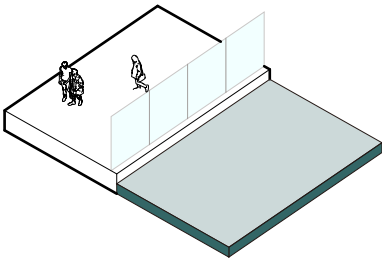
Museum with Water levels



Moving forward, I noticed exhibition arranged along a pathway in the distance. As I explored the history and stories of Kinderdijk on pictures and photos, I followed the promenade downwards, gradually descending into the inner space of museum. The sight of the water level seen from outside the museum windows served as a constant reminder of the intricate balance of land and water management.



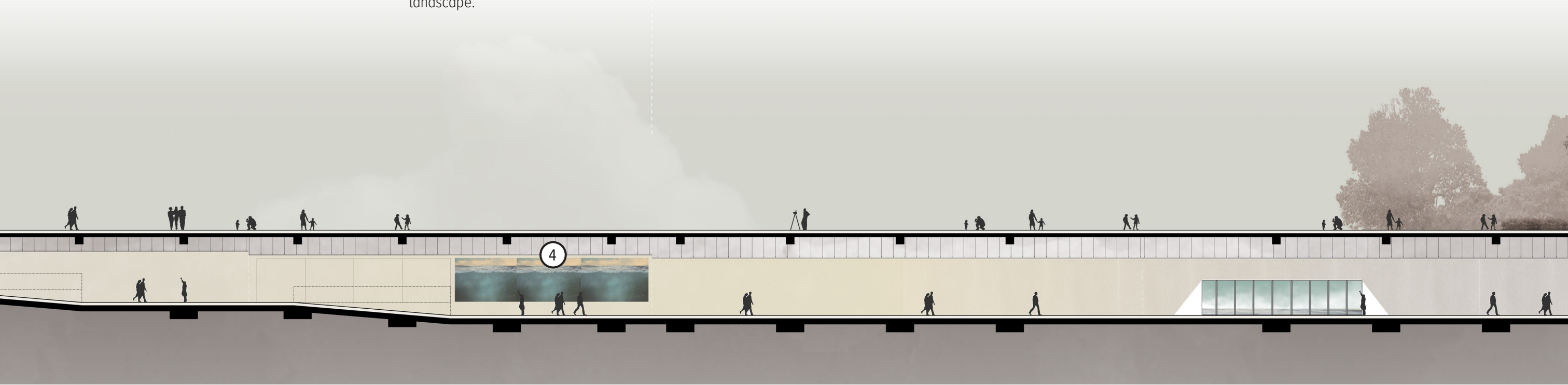
PROMENADE
Museum with Water



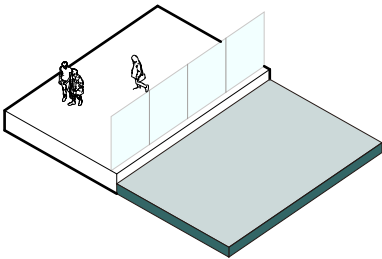
Museum with Water levels



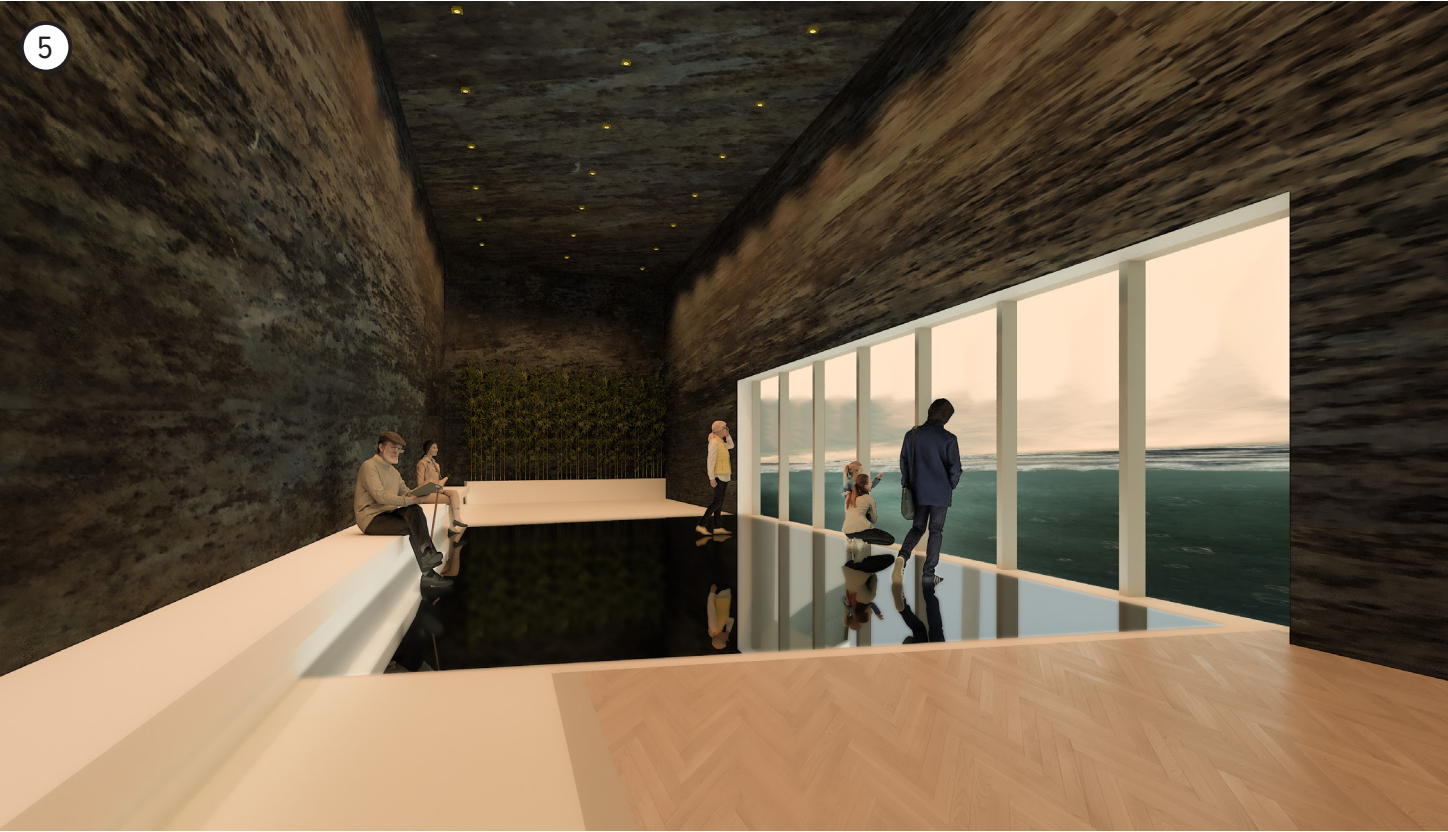
Through interactive screens, I observed the current water levels at Kinderdijk, their management linked to weather situations like raining. This display deepened my understanding of how crucial water management was to sustaining this unique landscape.



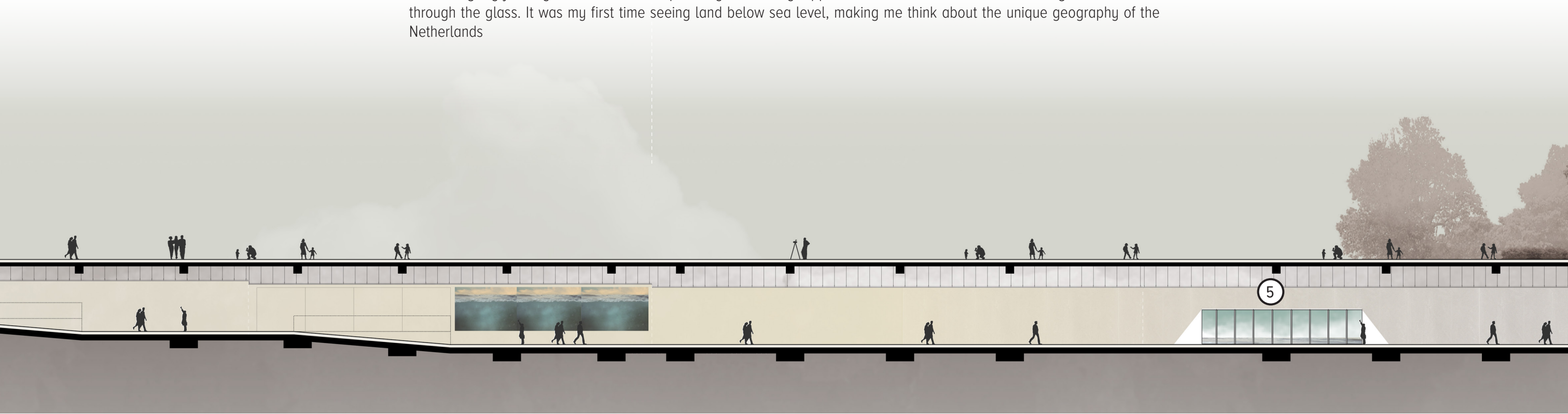
PROMENADE
Kinderdijk and Water



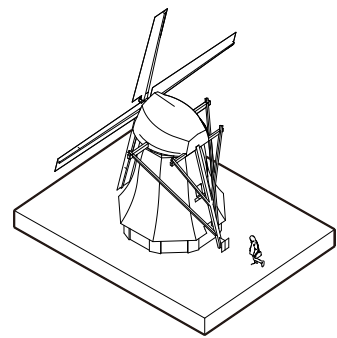
Museum with Water levels



Continuing my journey, I walked down a pathway that subtly dipped below the water's surface, offering a surreal view through the glass. It was my first time seeing land below sea level, making me think about the unique geography of the Netherlands



PROMENADE
Miller's Museum



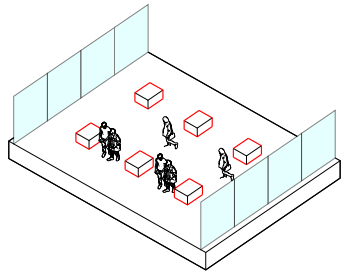
Museum with Mills and Miller



Ascending an escalator, I emerged above the waterline once more, greeted by panoramic views of the surrounding landscape. Walking into a dark room, I explored the cultural stories of Kinderdijk, especially interested in the lives of millers and industrial workers shown in a film inside a windmill.



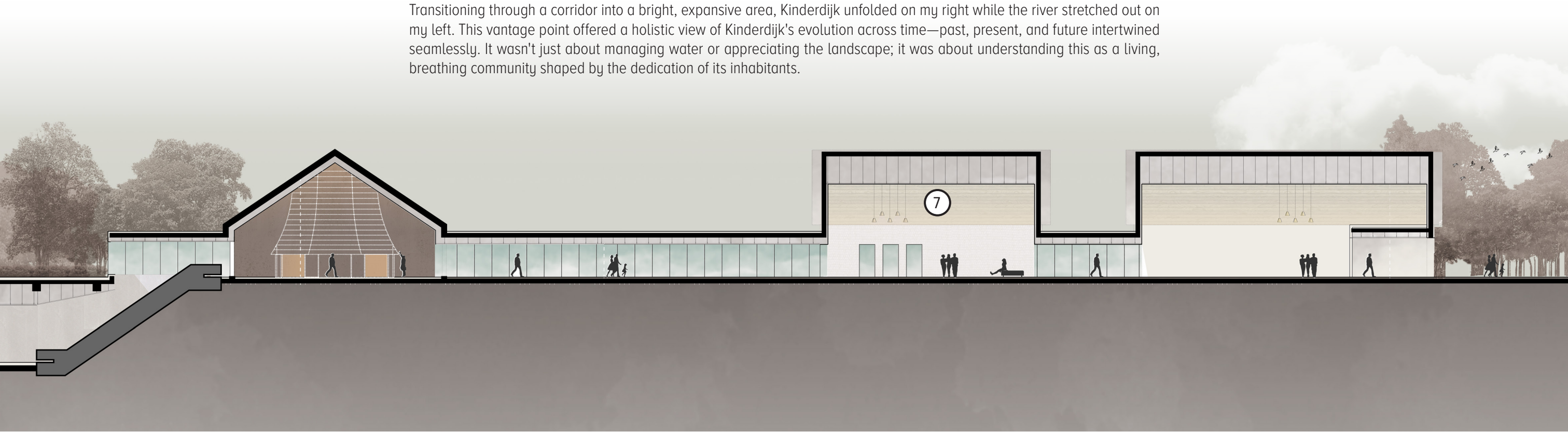
PROMENADE
Museum with community



Museum with Community space



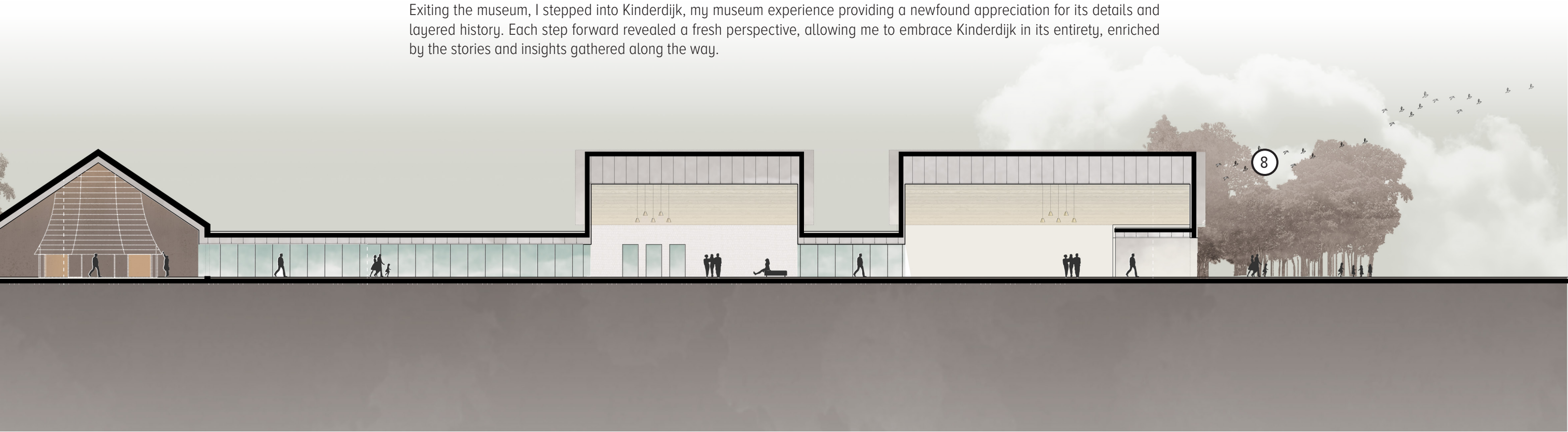
Transitioning through a corridor into a bright, expansive area, Kinderdijk unfolded on my right while the river stretched out on my left. This vantage point offered a holistic view of Kinderdijk's evolution across time—past, present, and future intertwined seamlessly. It wasn't just about managing water or appreciating the landscape; it was about understanding this as a living, breathing community shaped by the dedication of its inhabitants.



PROMENADE
To the Kinderdijk



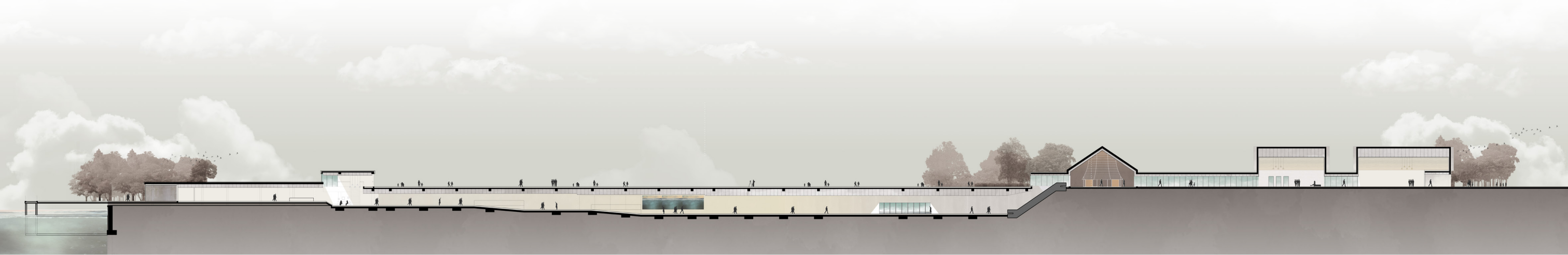
Exiting the museum, I stepped into Kinderdijk, my museum experience providing a newfound appreciation for its details and layered history. Each step forward revealed a fresh perspective, allowing me to embrace Kinderdijk in its entirety, enriched by the stories and insights gathered along the way.



PROMENADE
Along the Museum



ENTRANCE ←-----→ ENTRANCE



Barn and Community
Heritage and Structure



Heritage - Barn



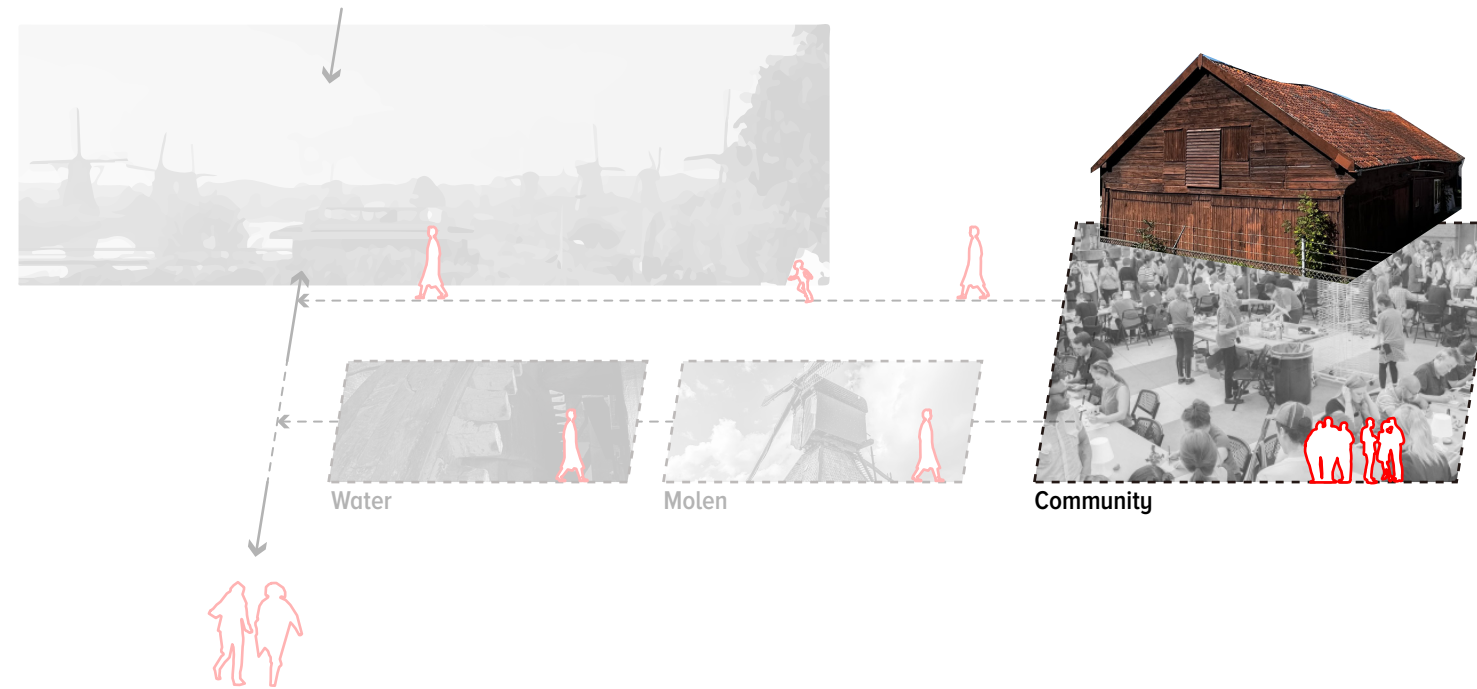
Near community on Kinderdijk



Structure of Dutch Barn

Community Space

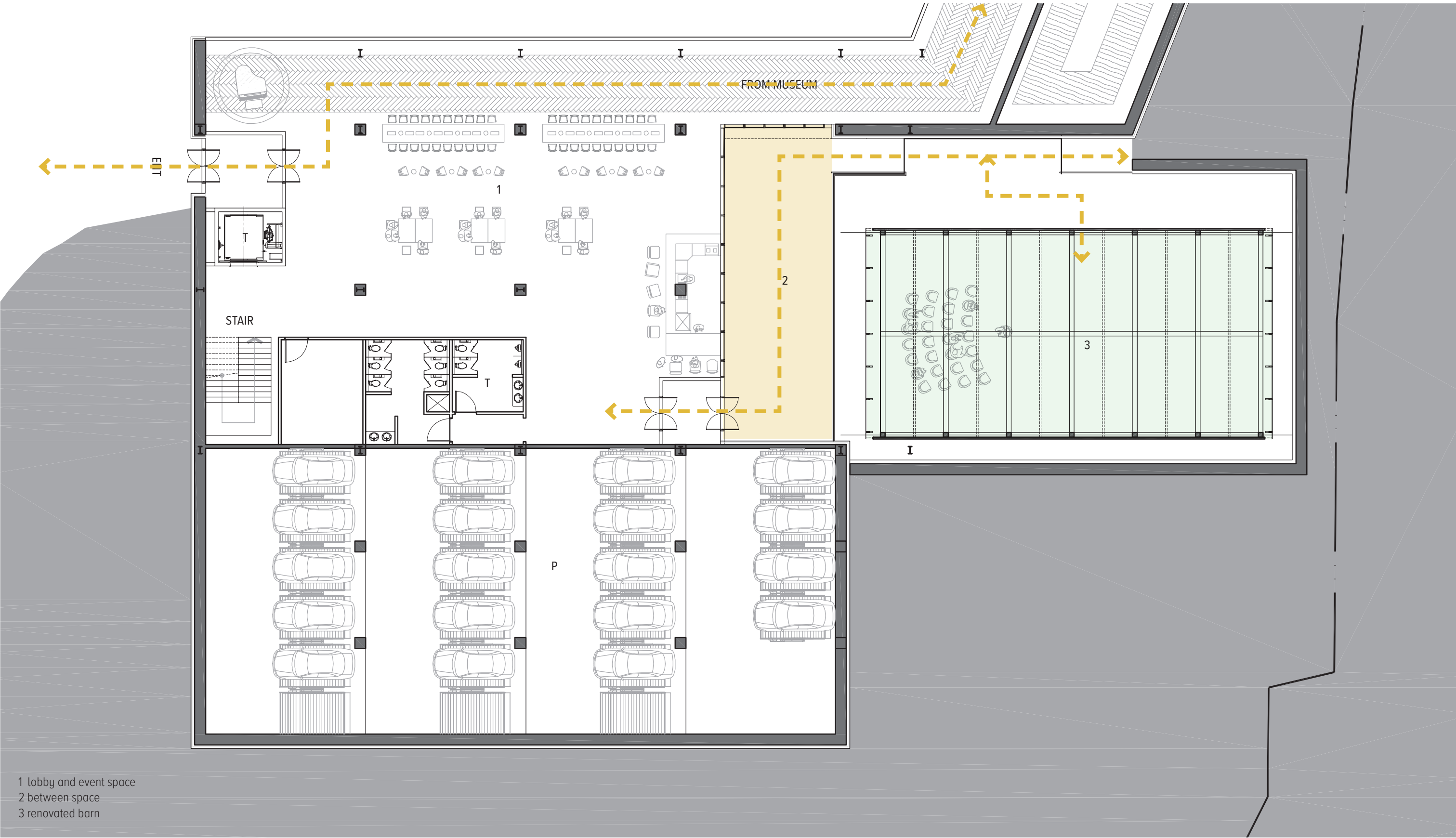
Community space with Barn



Barn and Community Center

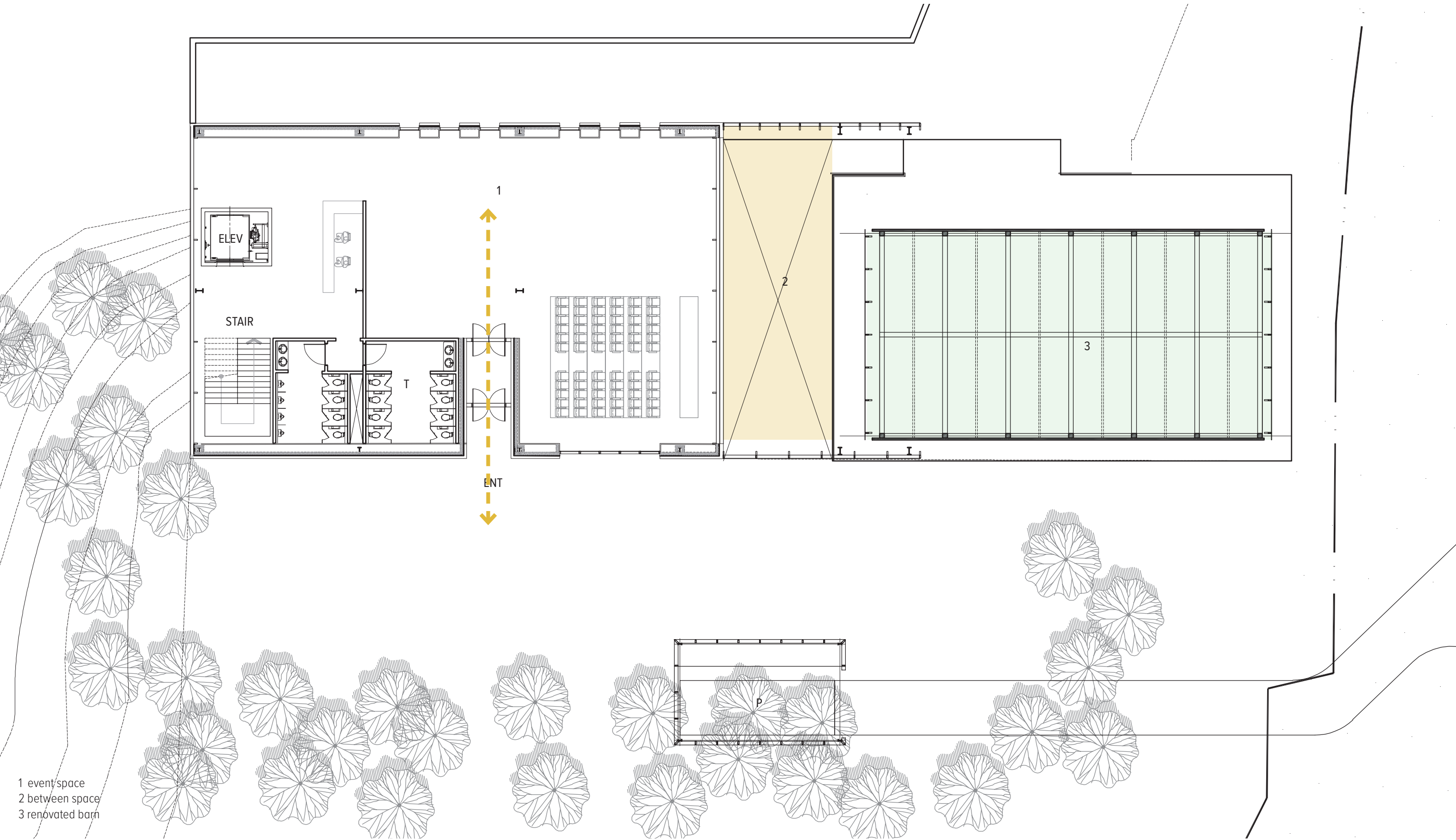
The community center has been designed to be easily accessible and in close proximity to the current community. It allows easy access from pathways and creates a rich interior space with diverse areas and event spaces. By incorporating the old barn, it blends cultural heritage with contemporary elements.

Community Space
GF

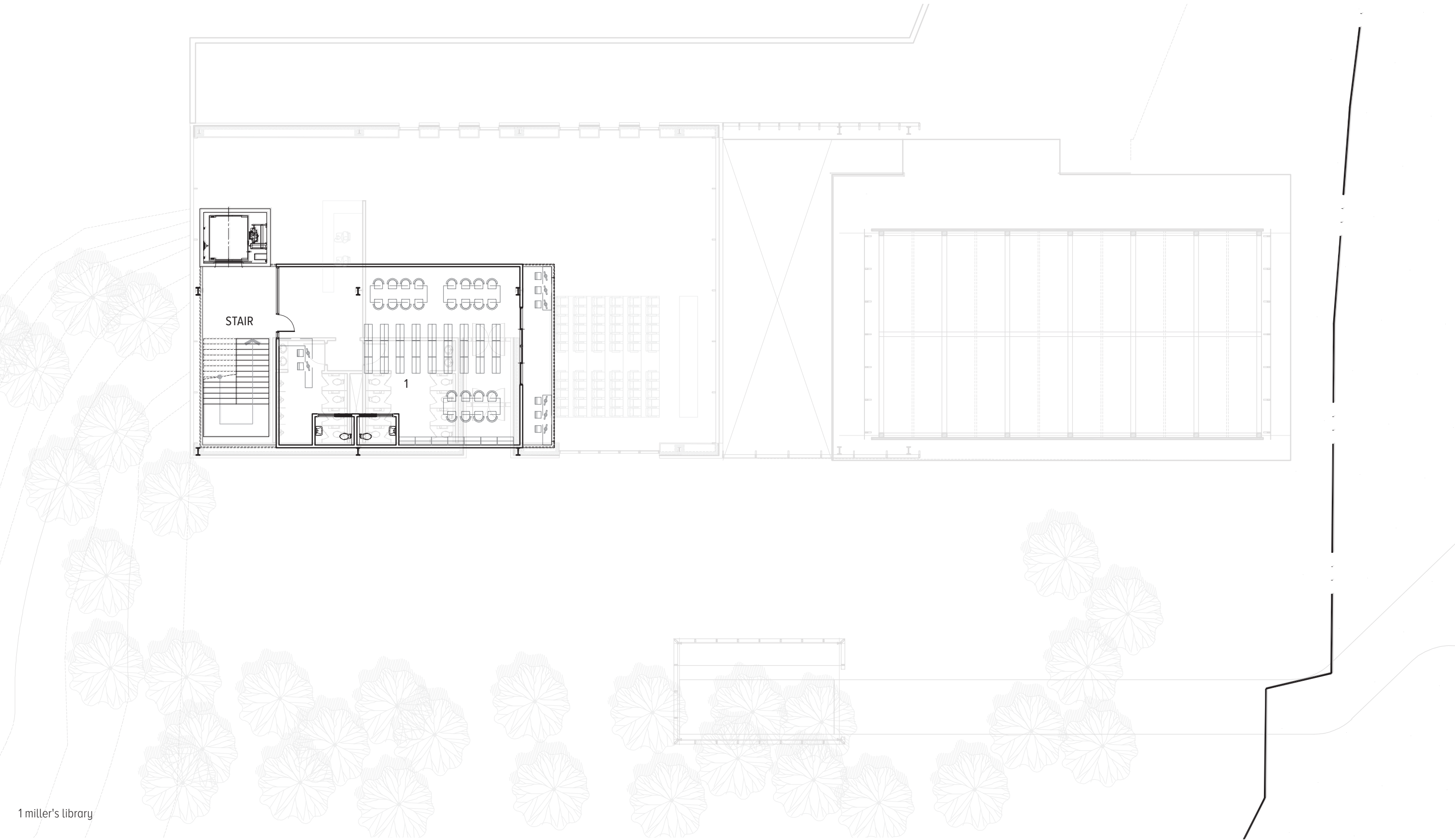


- 1 lobby and event space
- 2 between space
- 3 renovated barn

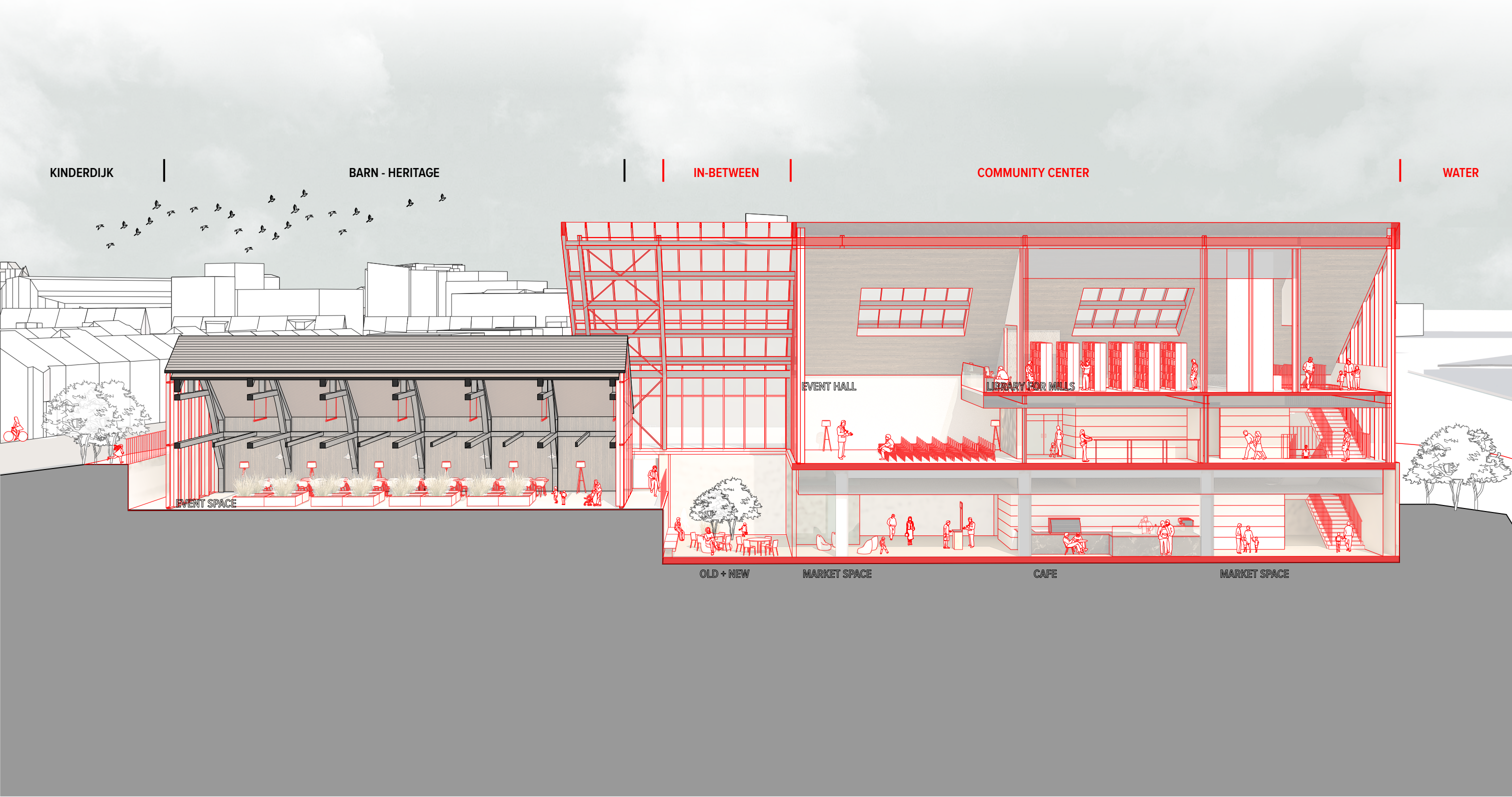
Community Space
1F



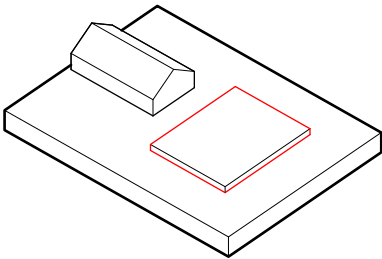
Community Space
MF



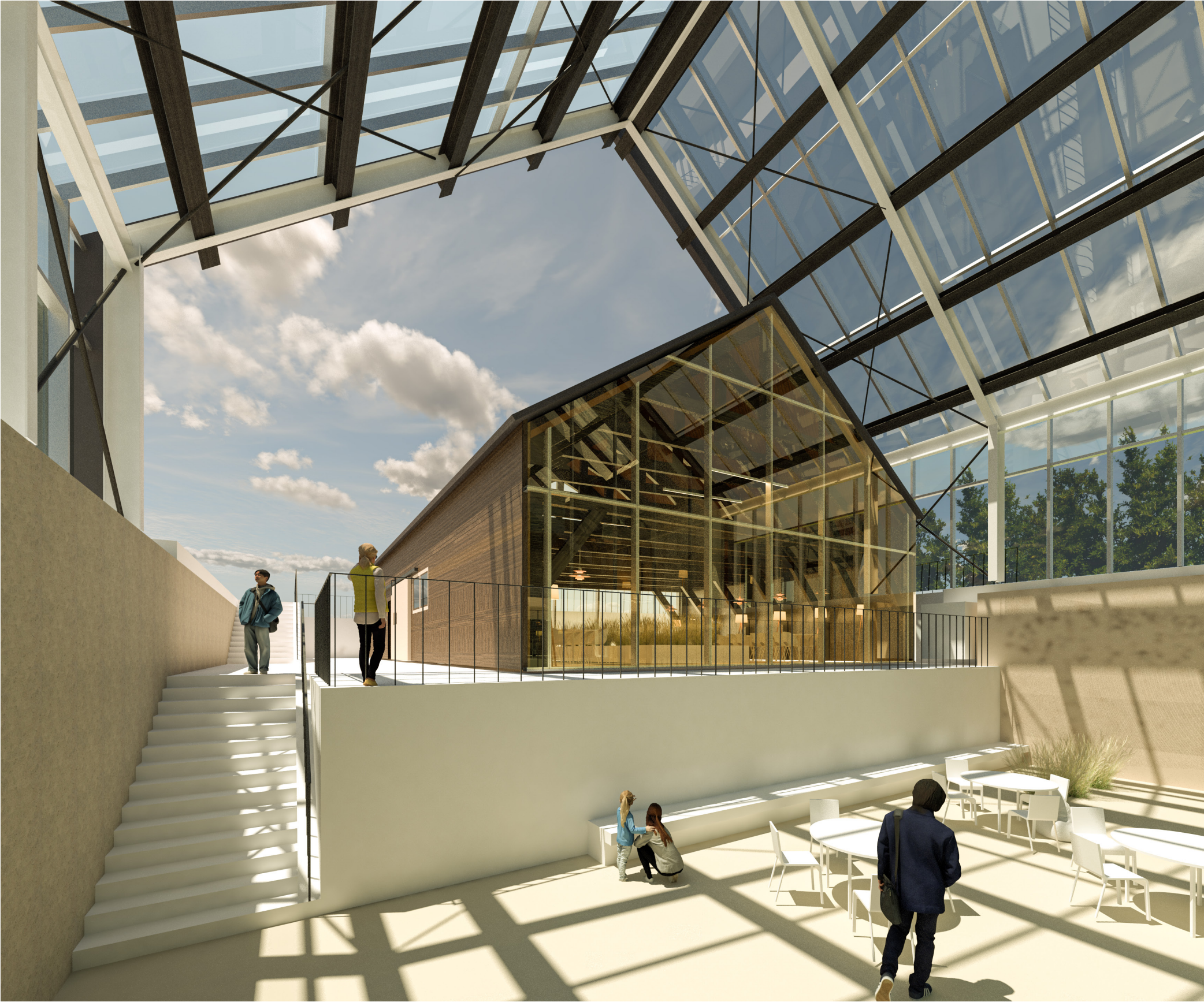
EVENT in BARN and COMMUNITY CENTER
Activities on Community Center



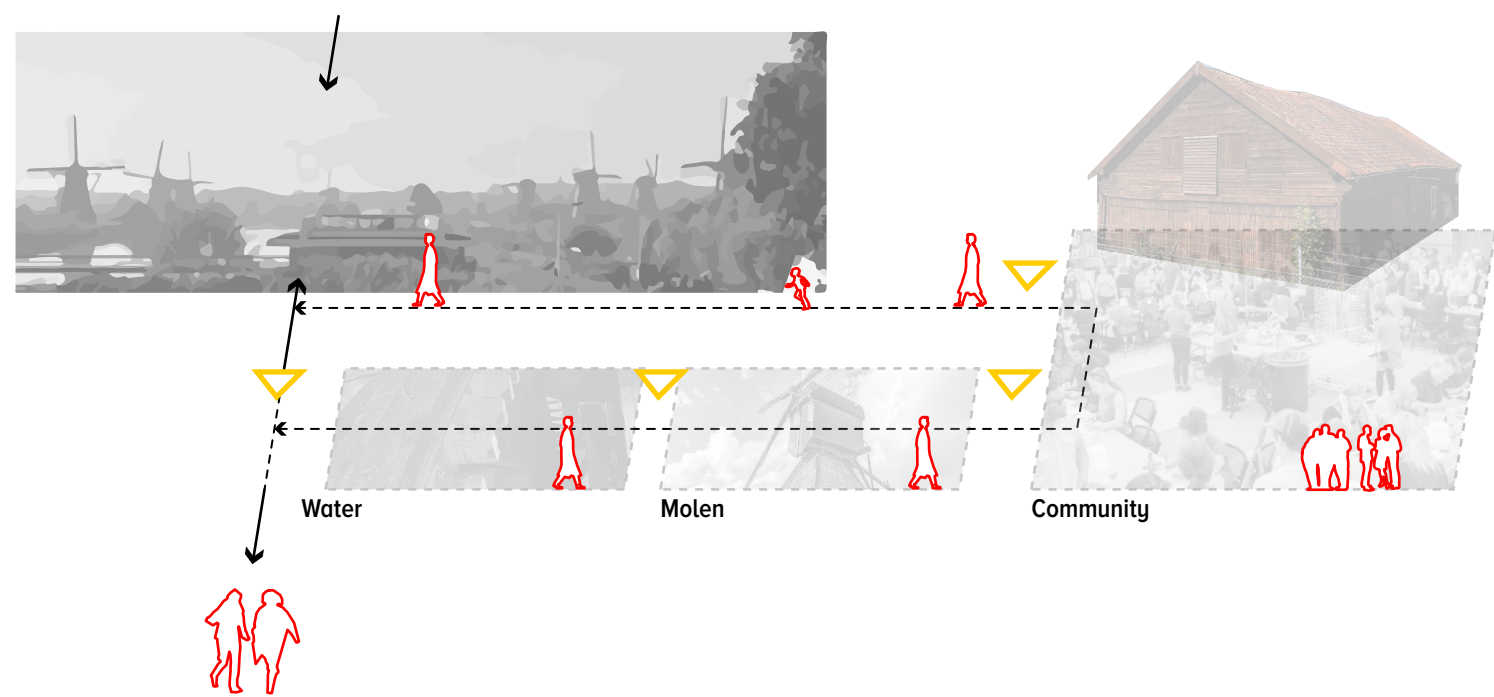
Between Old and New
Experience with Old and New



Barn and Industry



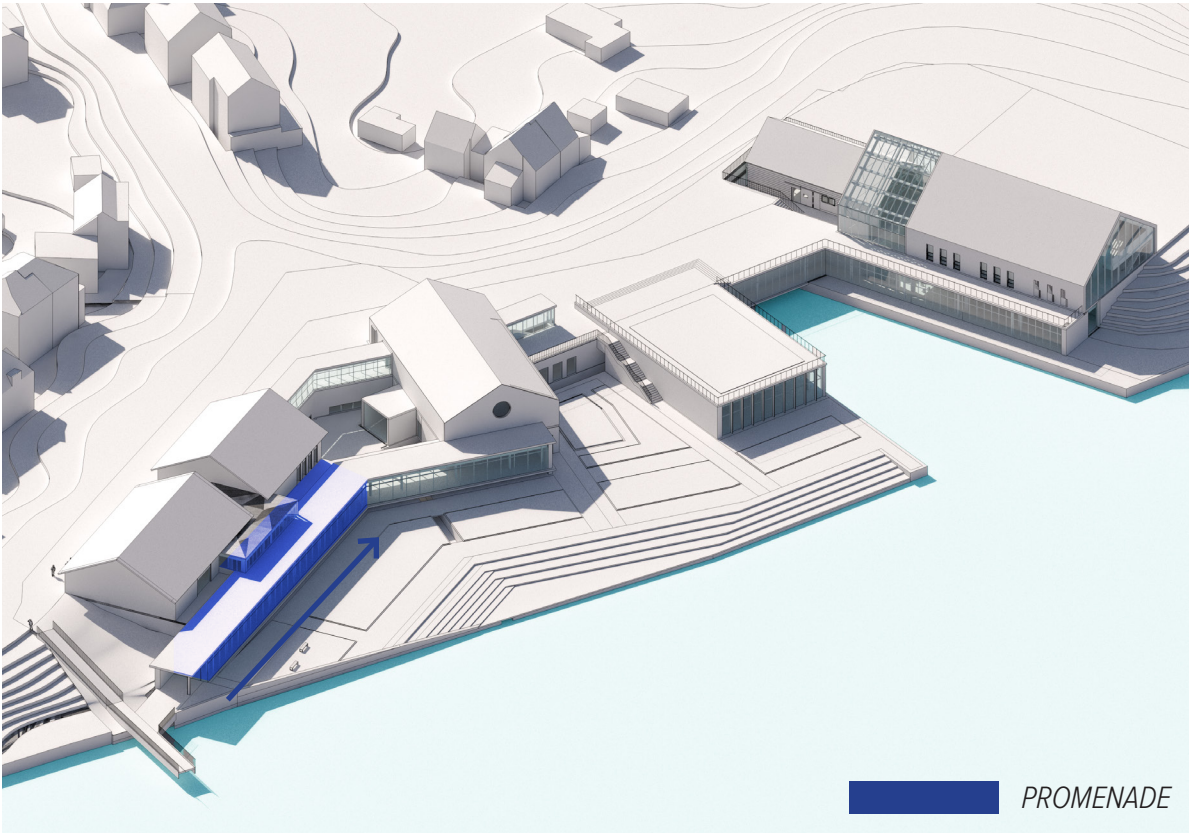
Meeting Place
Overlay of Circulation



Barn and Community Center

By extending the promenade and placing community spaces where people’s paths intersect, we create gathering areas. This arrangement of spaces helps connect them and foster relationships.

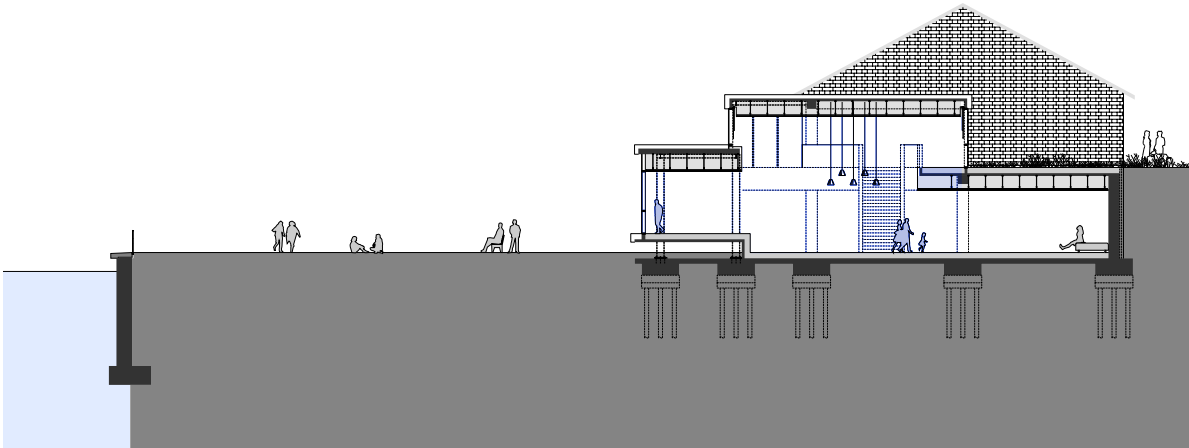
Meeting Space
Lobby and Meeting Point



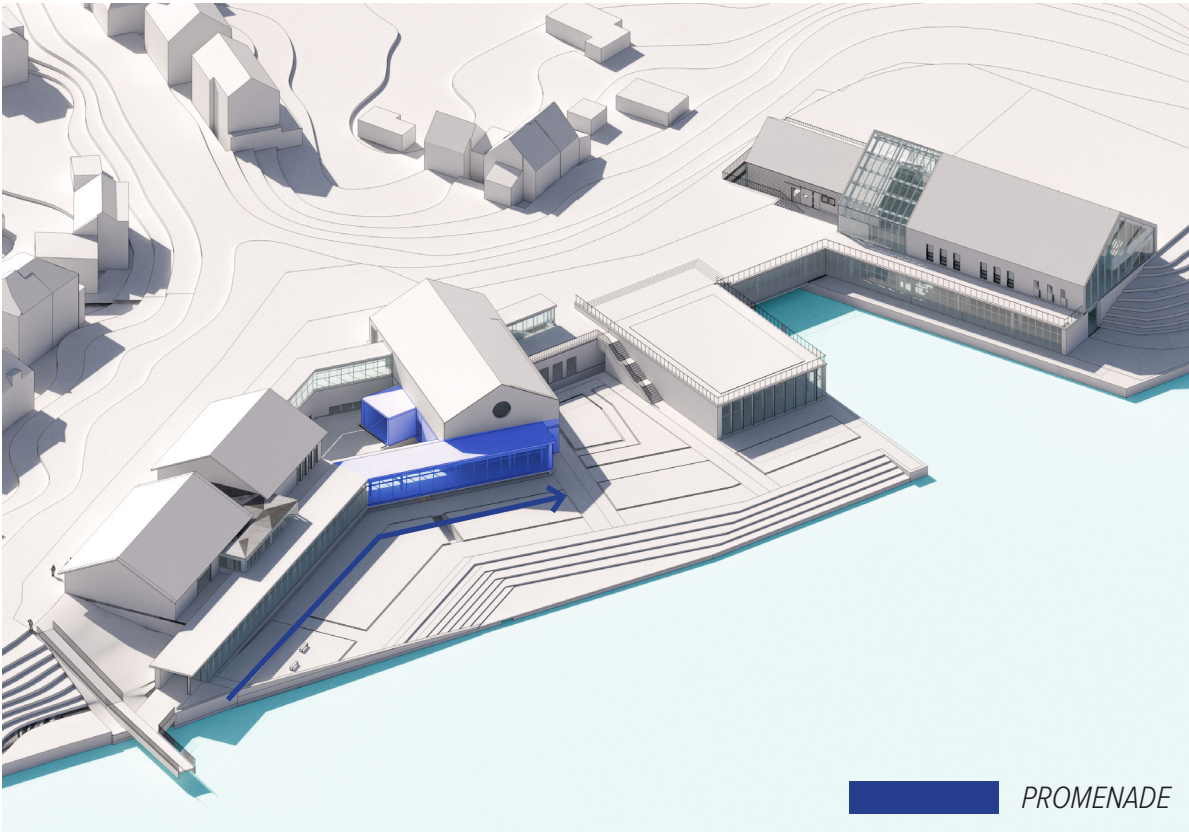
GF - Museum Lobby & Restaurant

SECTION

The meeting spaces extend from the promenade's expansion. The first meeting space harmonizes with the museum entrance and integrates with the exterior landscape views. It serves as a place where visitors and community users can come together.

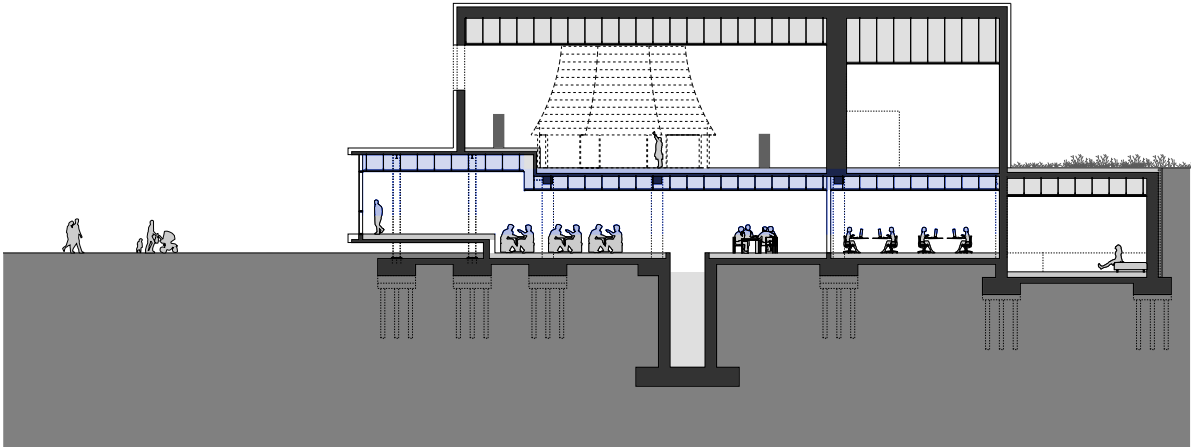


Meeting Space
With Water space



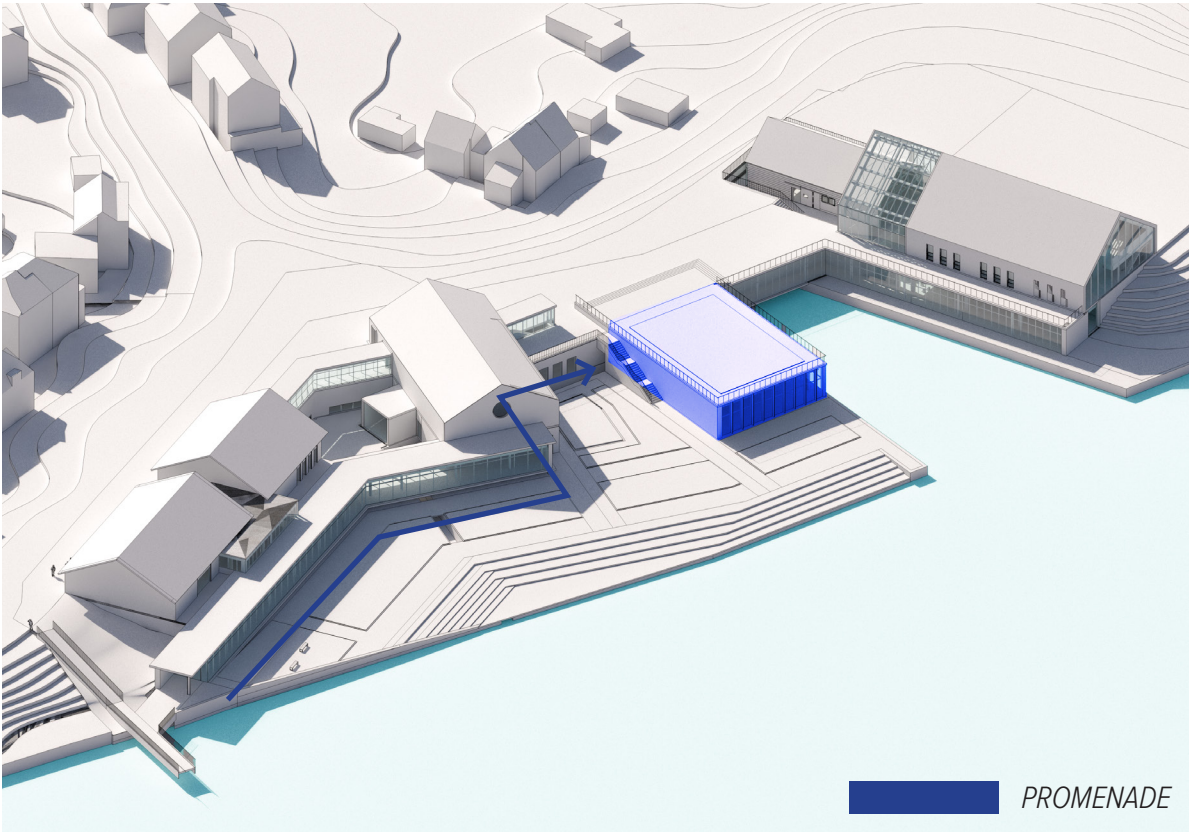
GF - Office and Meeting

SECTION



The second meeting space is integrated with offices and blends with the surrounding people.

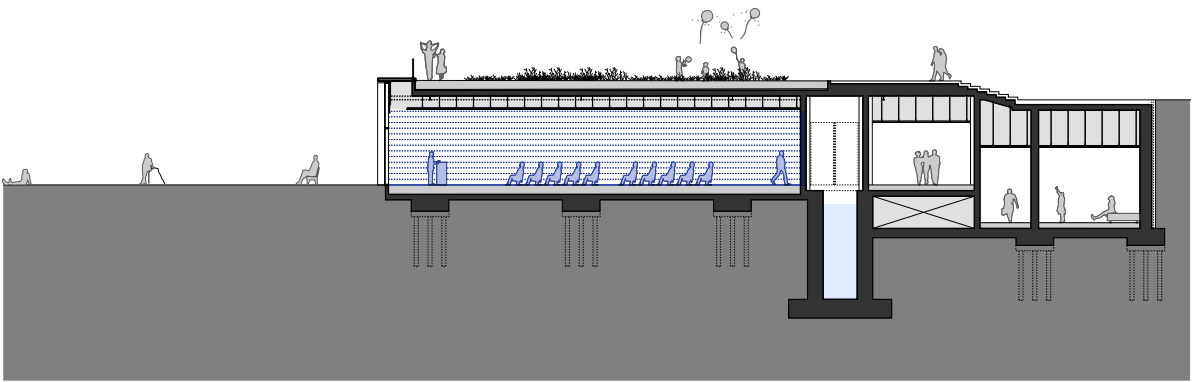
Meeting Space
Meeting Hall



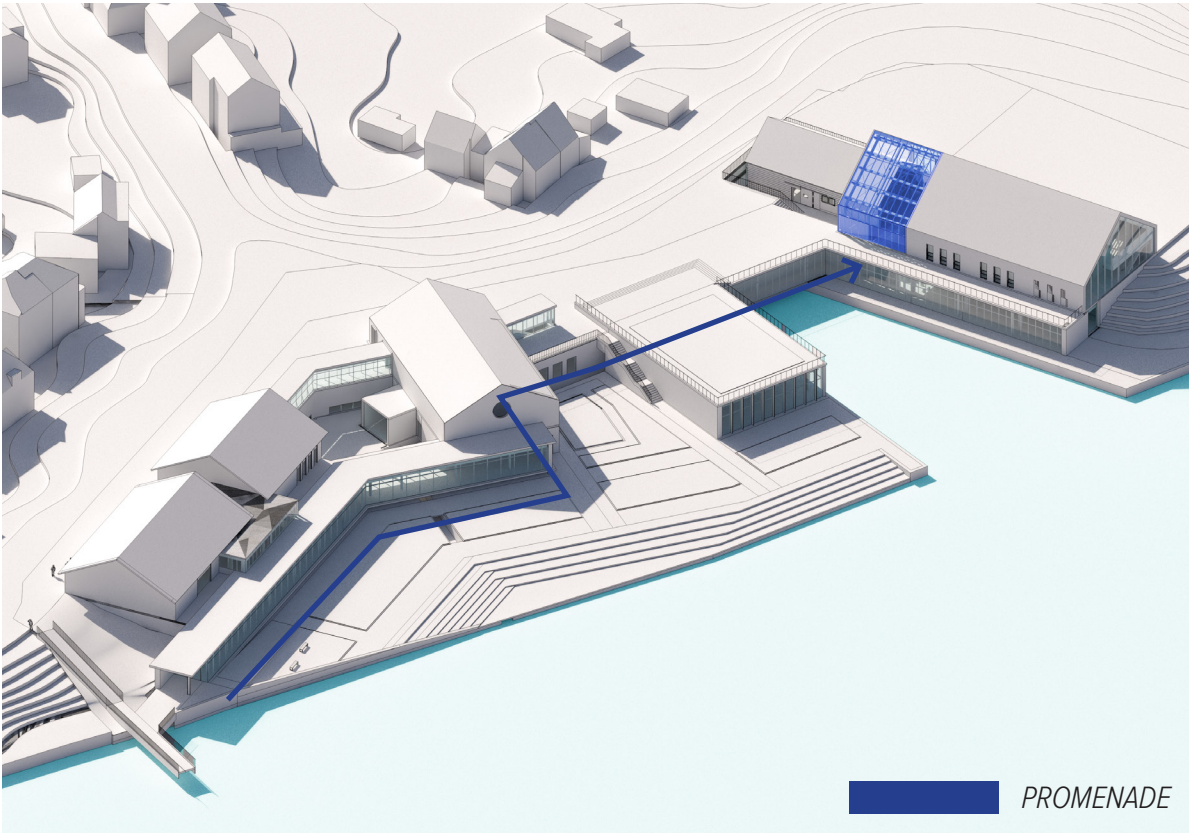
GF - Event Hall

SECTION

The meeting spaces extend from the promenade's expansion. The first meeting space harmonizes with the museum entrance and integrates with the exterior landscape views. It serves as a place where visitors and community users can come together.



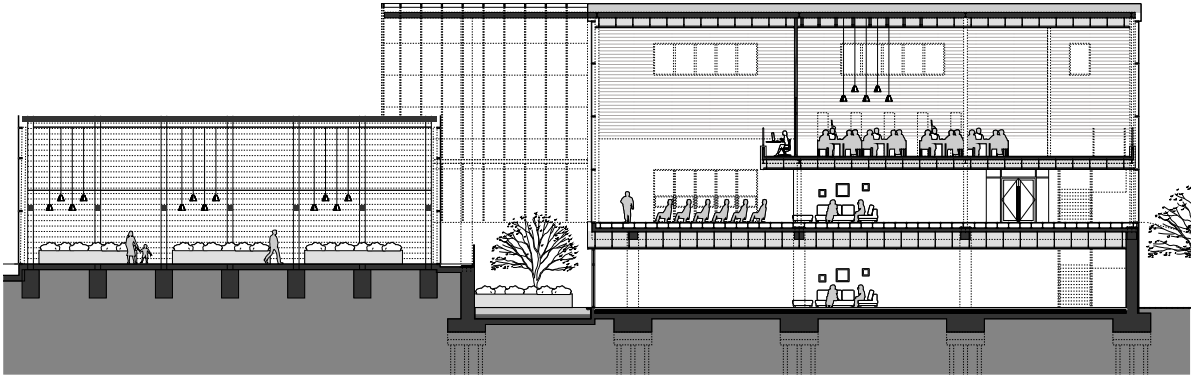
Meeting Space
Between Barn and Community Center



Between Barn and Community Center

SECTION

The juxtaposition of the cultural heritage barn and the new community center creates a new space. This formation contrasts the timber structure of the barn, which reflects its historical origins, with the dramatic steel framework of the new community center. Through this contrast and spatial composition, people are brought together to reconcile the past and present, creating a space for new encounters.



Values and Assessment
Values, hidden stories, and Now

Research
Intangible Heritage to Museum with Community

Concept
Ensemble

Design
Museum van Kinderdijk

BT
Museum van Kinderdijk

BT Concept



STRUCTURE

- Structural Design
 - The structure shifts following the circulation
- Following the Dijk
 - The structure following the Dykes
- Blocking the Water
 - Strong, Durable the structure with piles toward the water



MATERIALITY

- Material Design
 - Resemble with vernacular material
- Re-use the materials from industrial site
 - Reusing the materials
- Sustainable Concrete
 - Using industrial waste aggregate around



WATER SYSTEM

- Using the water to use in the building
 - Re-use the water inside the buildings
- Heating and cooling system with the water
 - Using the heating and cooling system with the water
- Blocking the Water
 - Strong, Durable the structure with piles toward the water

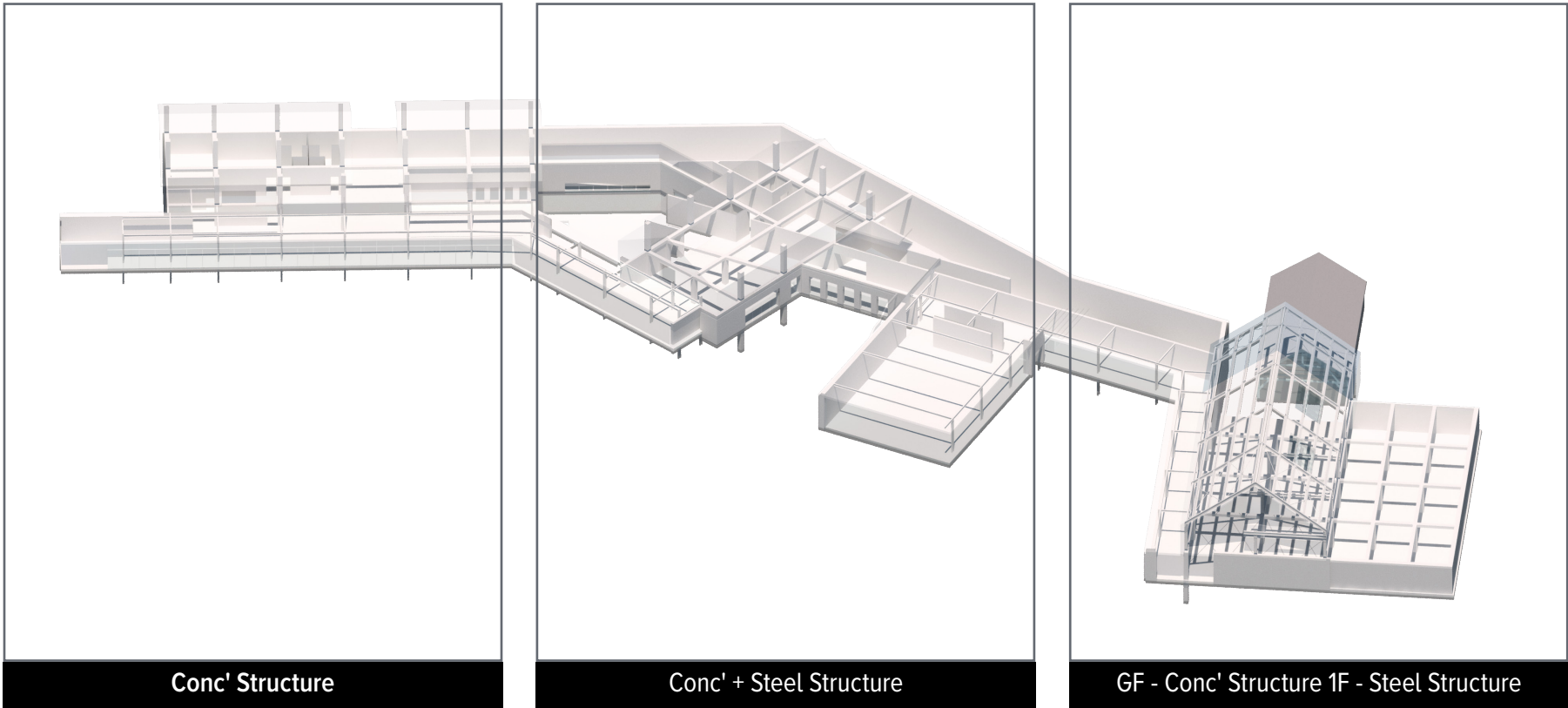
Structural Concept

Along the dijk



STRUCTURE

- Structural Design
- The structure shifts following the circulation
- Following the Dijk
- The structure following the Dykes
- Blocking the Water
- Strong, Durable the structure with piles toward the water



The entrance and welcome area near Kinderdijk are constructed with buildings of similar concrete structures to the surroundings. Concrete walls reinforcing the dyke extend along the dike, with rectangular frames and surrounding pathways connected by steel beams.

The large hall are constructed with steel frames, allowing for natural structural changes, while connecting to the concrete structures in between. Specifically, the space connecting the museum interior to the dike is planned with concrete structure, while the large spaces are designed with steel frames, enabling flexibility for future spatial modifications.

The community hall is primarily planned with a steel frame structure. Particularly, in connection with the heritage barn, it showcases the evolution of industrial structures by exposing them through curtain walls. Specifically designed with a steel frame structure resembling the form of factories, it can also exhibit similarities with surrounding industrial buildings.

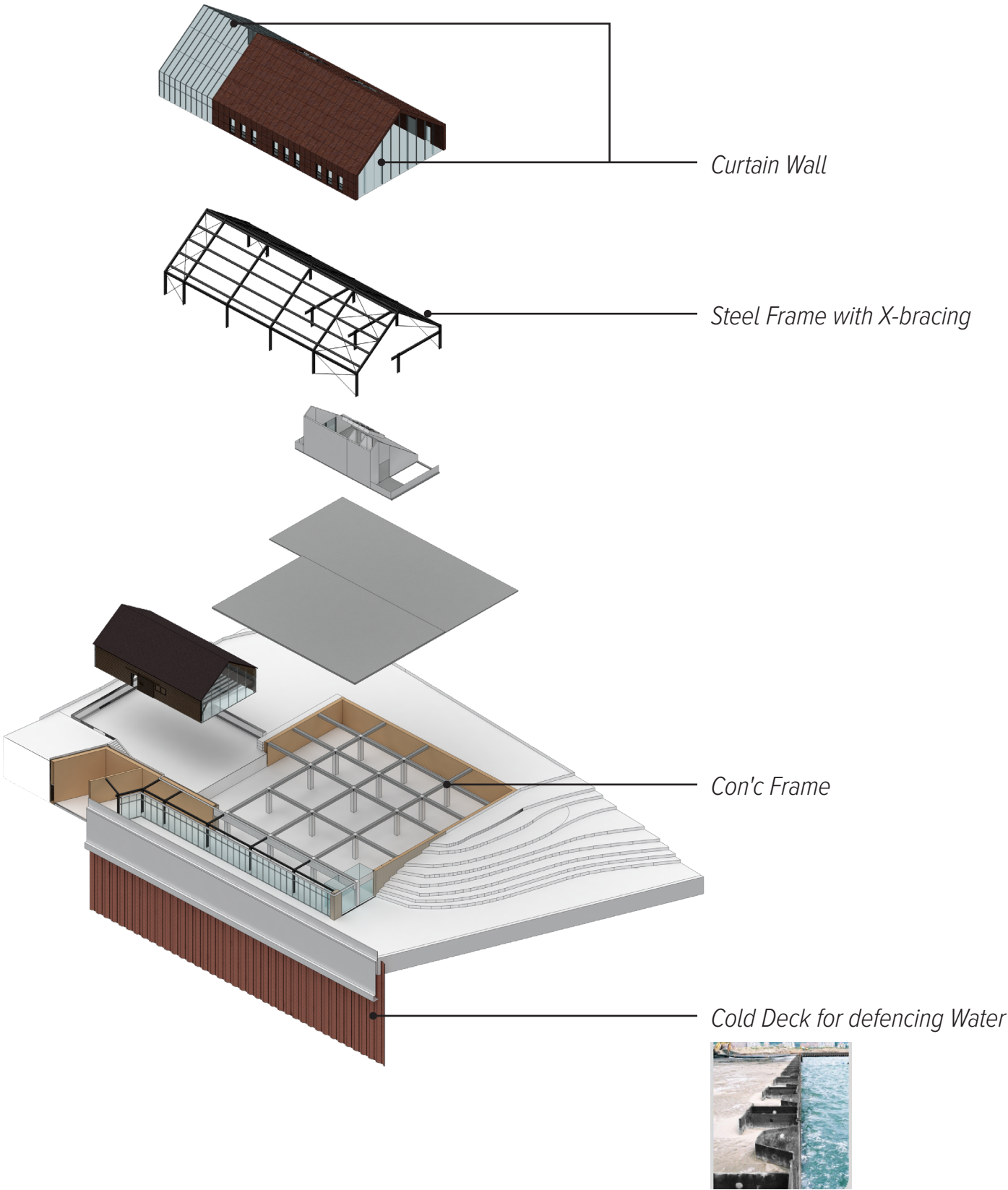
Structural Concept

Community Center

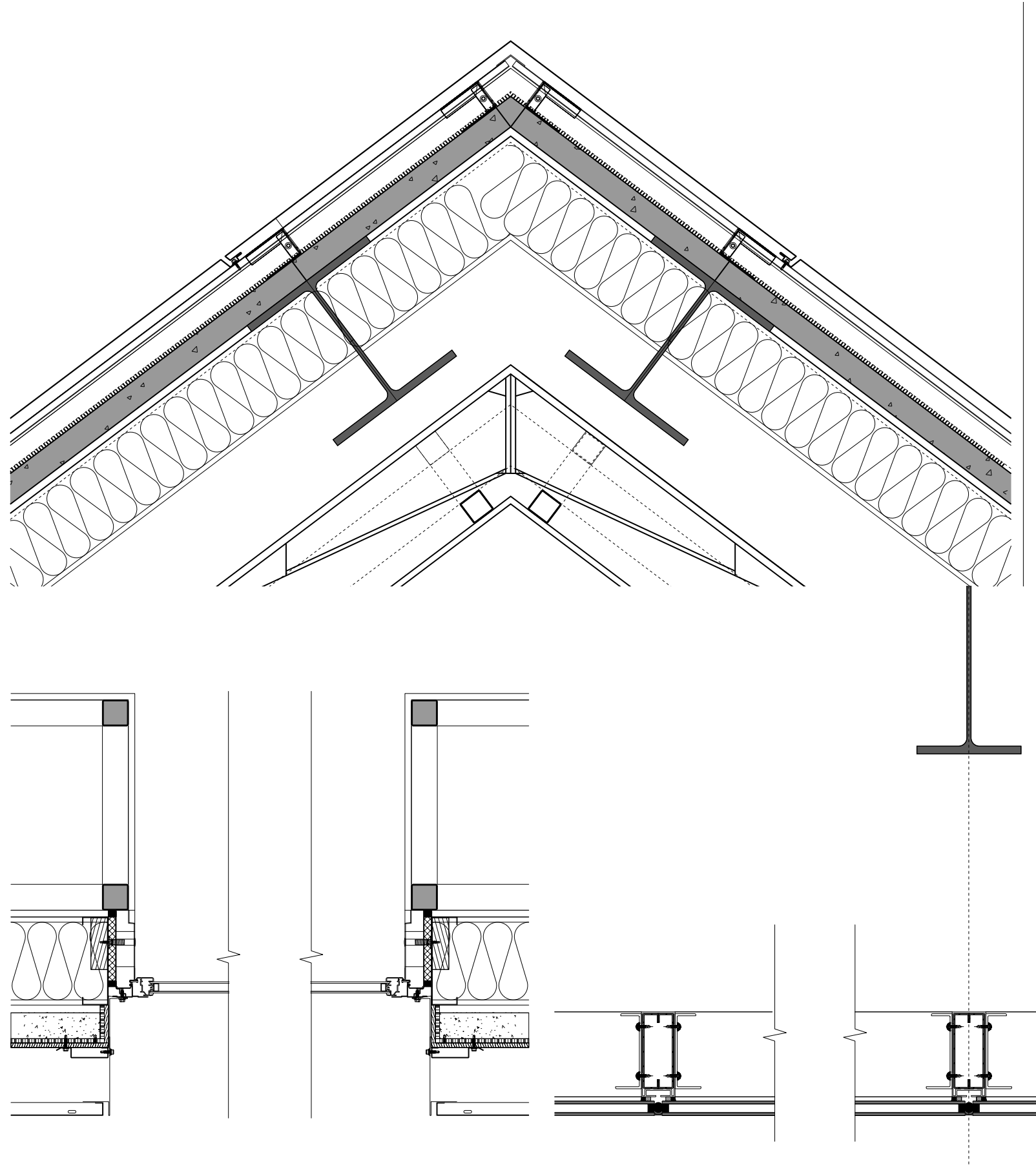
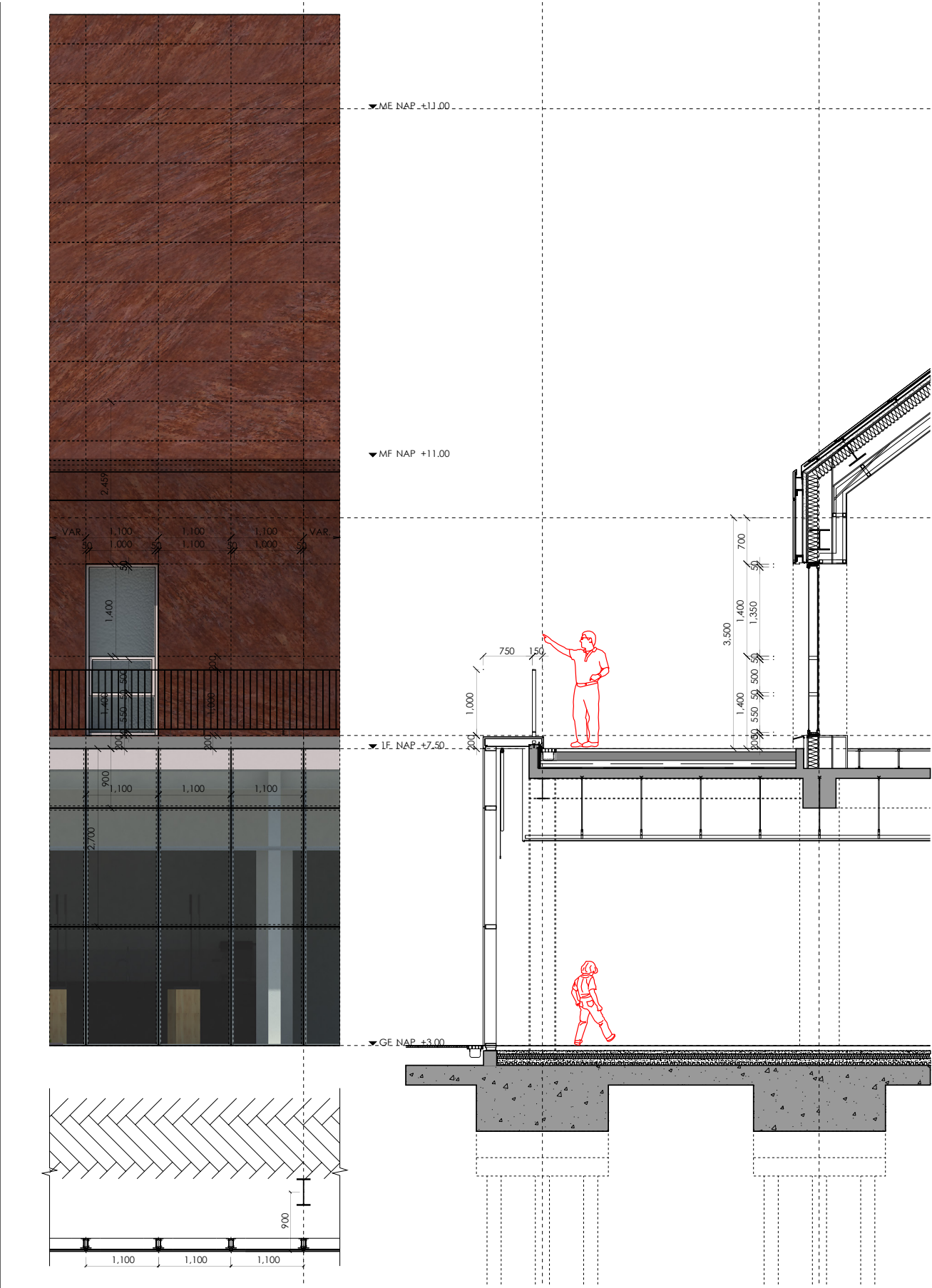


STRUCTURE

- Structural Design
- The structure shifts following the circulation
- Following the Dijk
- The structure following the Dykes
- Blocking the Water
- Strong, Durable the structure with piles toward the water



Structural Detail



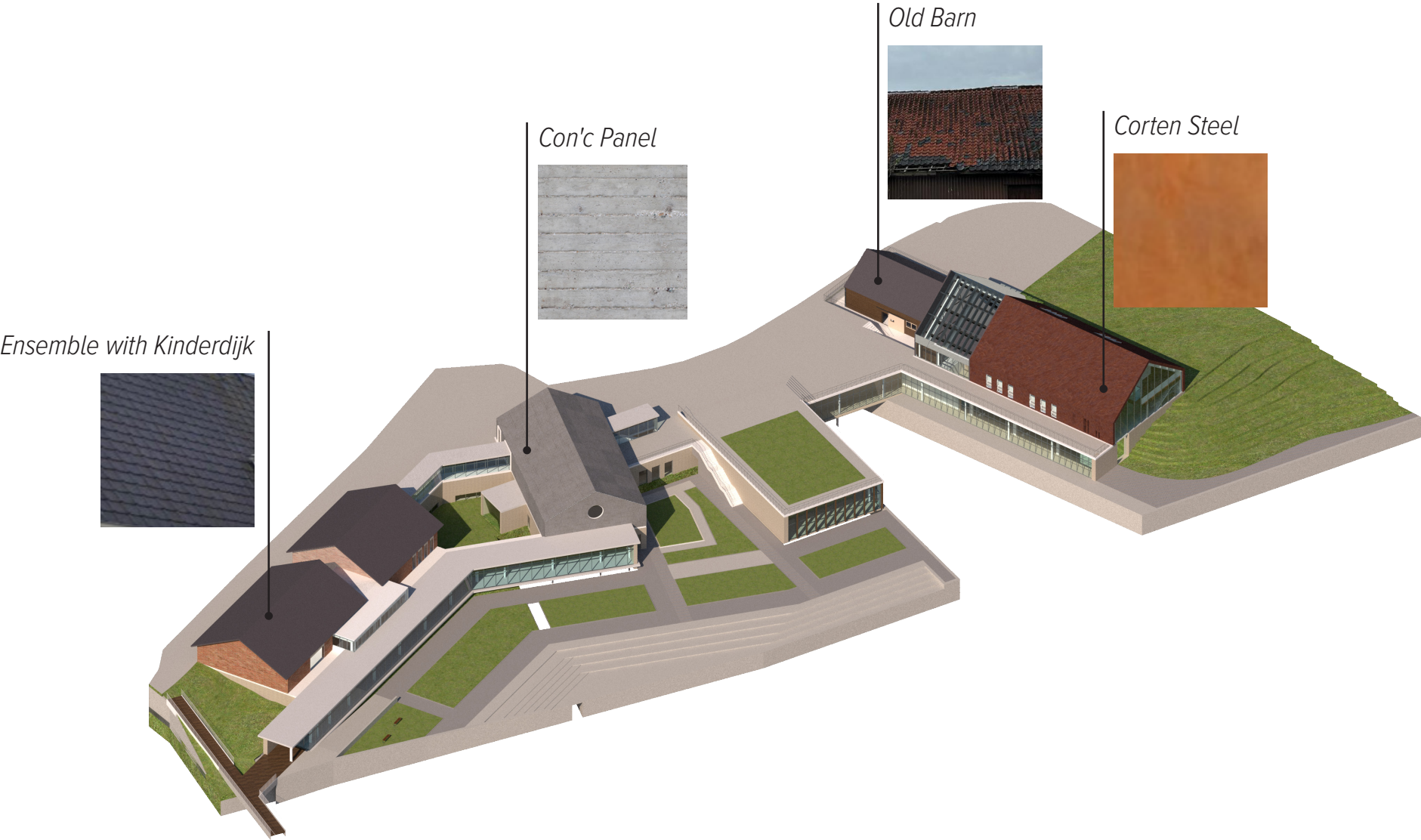
Material Concept

Ensemble



MATERIALITY

- Material Design
- Resemble with vernacular material
- Re-use the materials from industrial site
- Reusing the materials
- Sustainable Concrete
- Using industrial waste aggregate around



Transition of Materials



Material Concept

To the Kinderdijk



MATERIALITY

Material Design

- *Resemble with vernacular material*

Re-use the materials from industrial site

- *Reusing the materials*

Sustainable Concrete

- *Using industrial waste aggregate around*



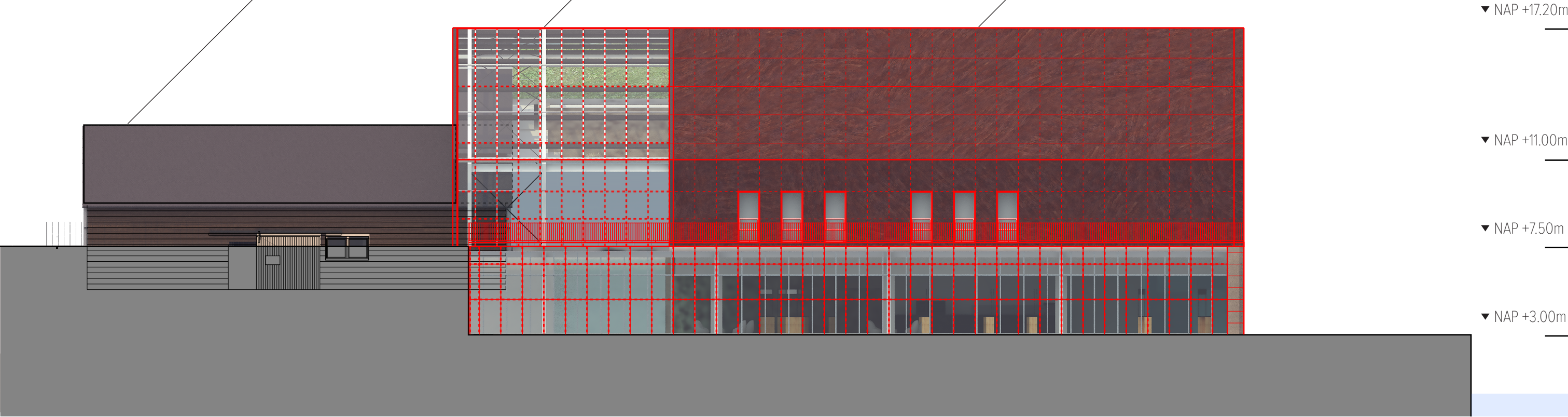
1
Old Barn



2
BIPV



3
corten steel



Water Systems

Re-use and Cooling



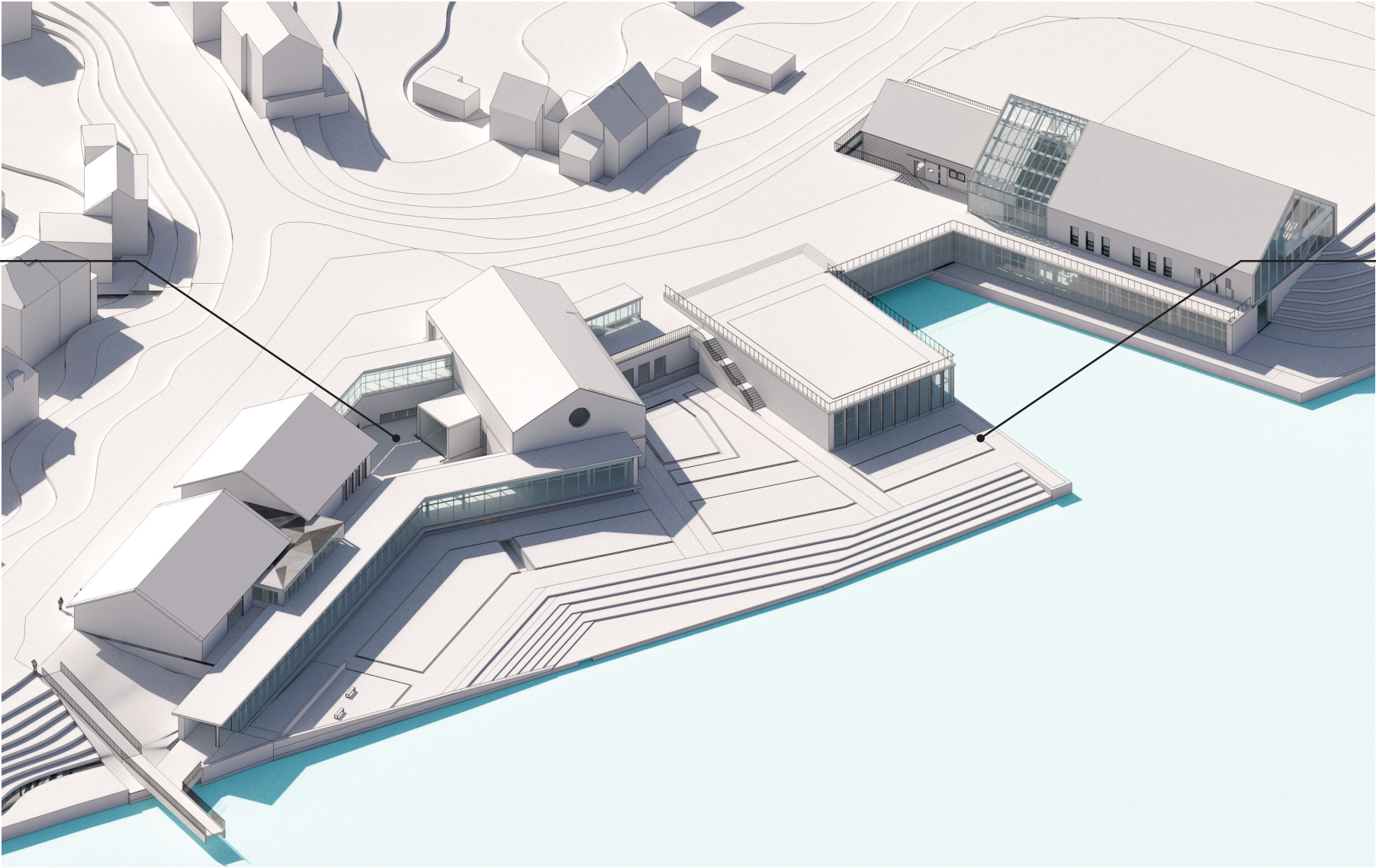
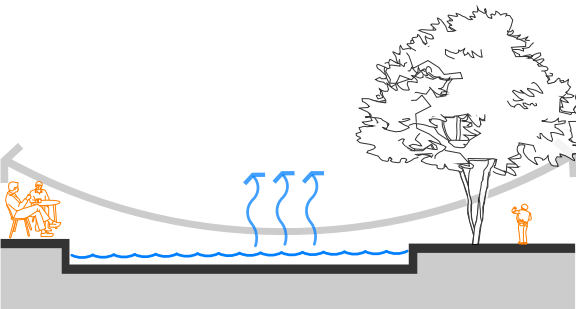
WATER SYSTEM

Using the water to use in the building
- *Re-use the water inside the buildings*

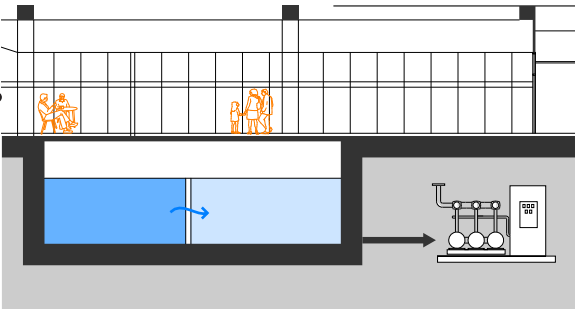
Heating and cooling system with the water
- *Using the heating and cooling system with the water*

Blocking the Water
- *Strong, Durable the structure with piles toward the water*

Climate control for inner garden



Collecting the water for reuse



Water Systems

To the Kinderdijk



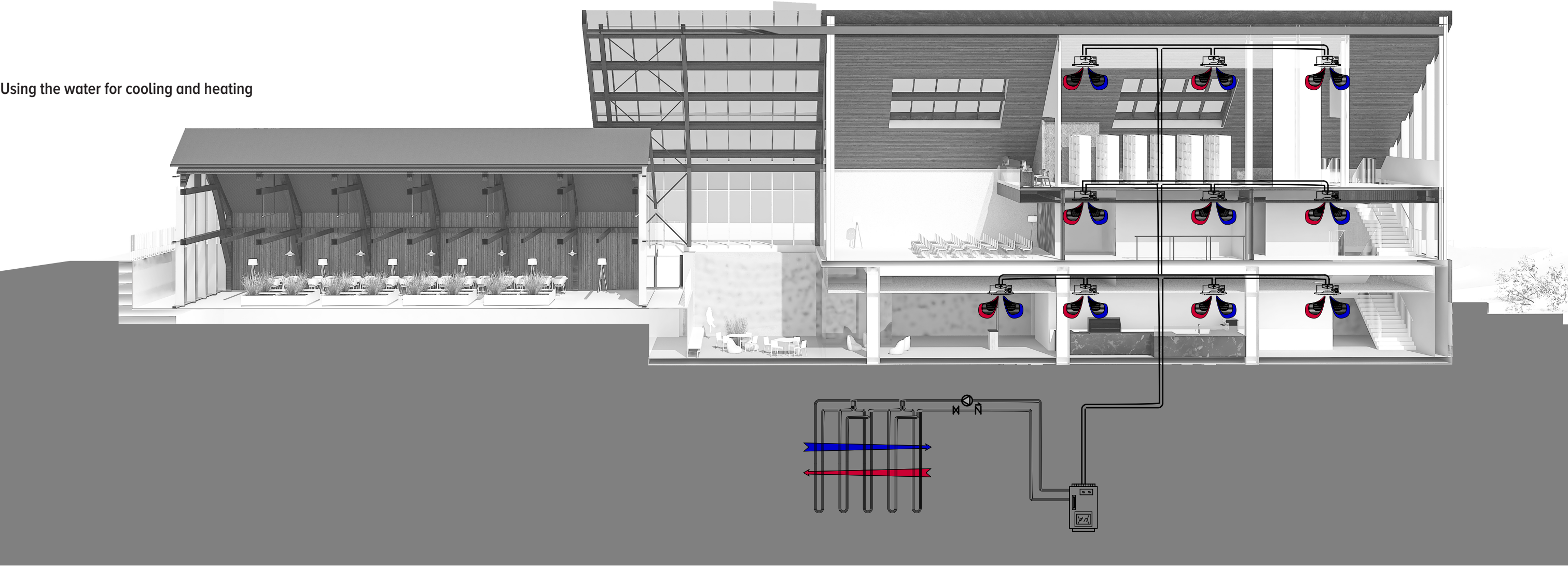
WATER SYSTEM

Using the water to use in the building
- *Re-use the water inside the buildings*

Heating and cooling system with the water
- *Using the heating and cooling system with the water*

Blocking the Water
- *Strong, Durable the structure with piles toward the water*

Using the water for cooling and heating



Museum van Kinderdijk





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