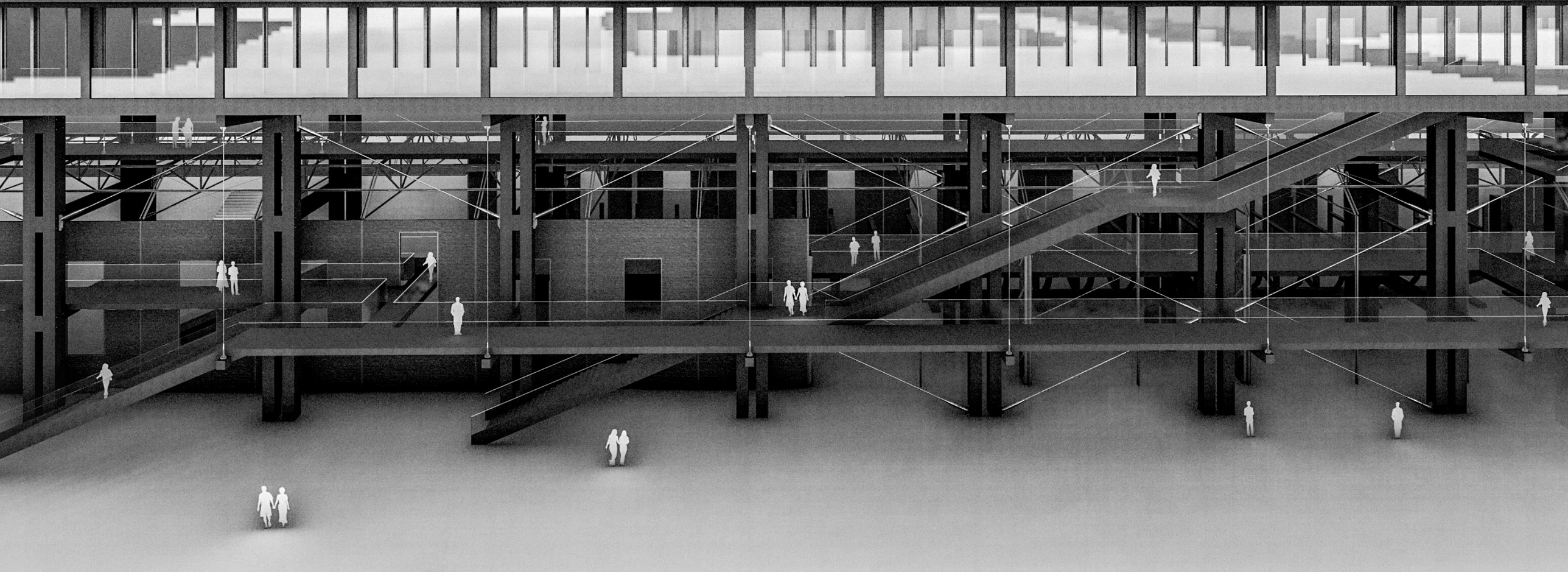
GRADUATION STUDIO REVITALISING HERITAGE

CLOSER TO KLOOS KINDERDIJK

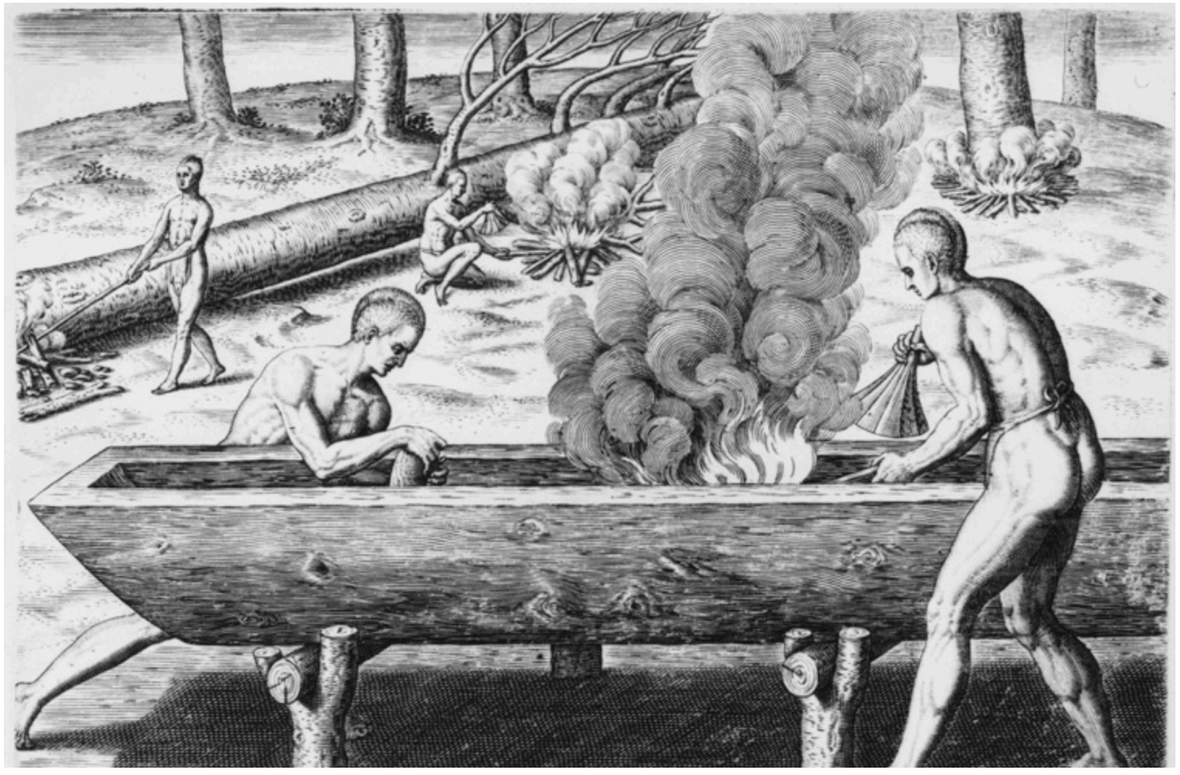
Feline van Lierop

24.06.2024



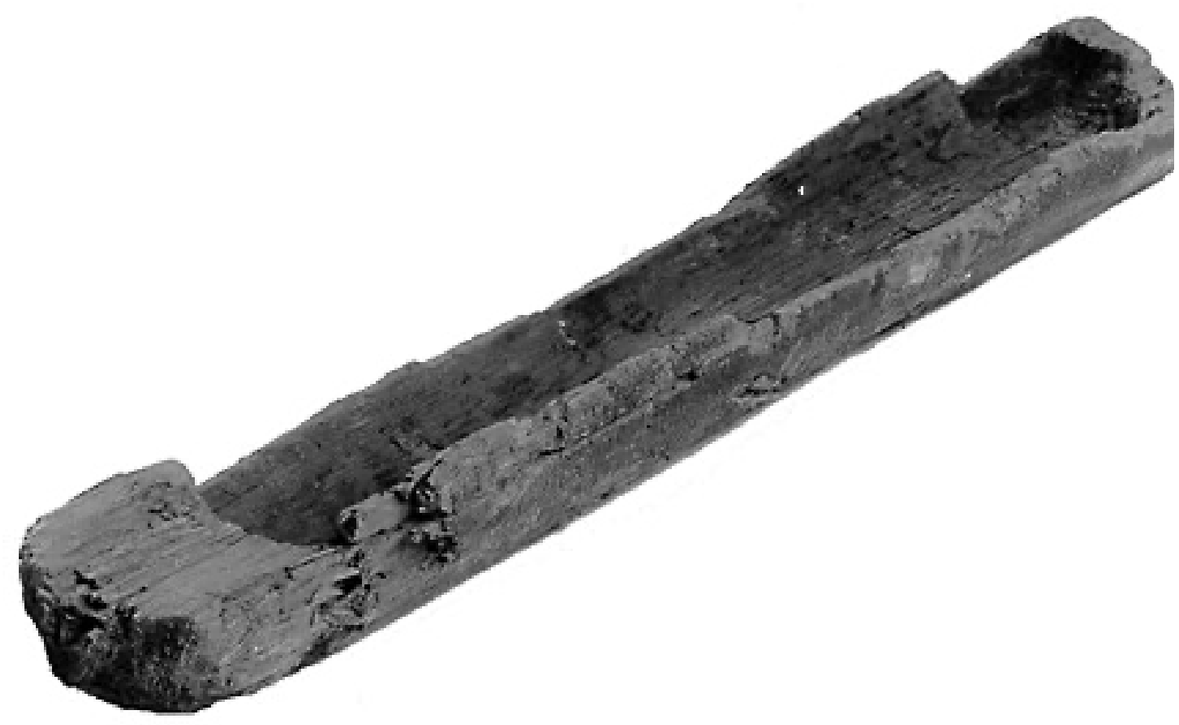
HISTORY

MARITIME DISCOVERIES



A fragment of a ‘boomstamboot’ was found in Alblasserdam dating back to Roman times. And nearby, even a ‘boomstamboot’ dating back to 6000 BC.

Source:
Maritime Stepping Stones (MaSS)

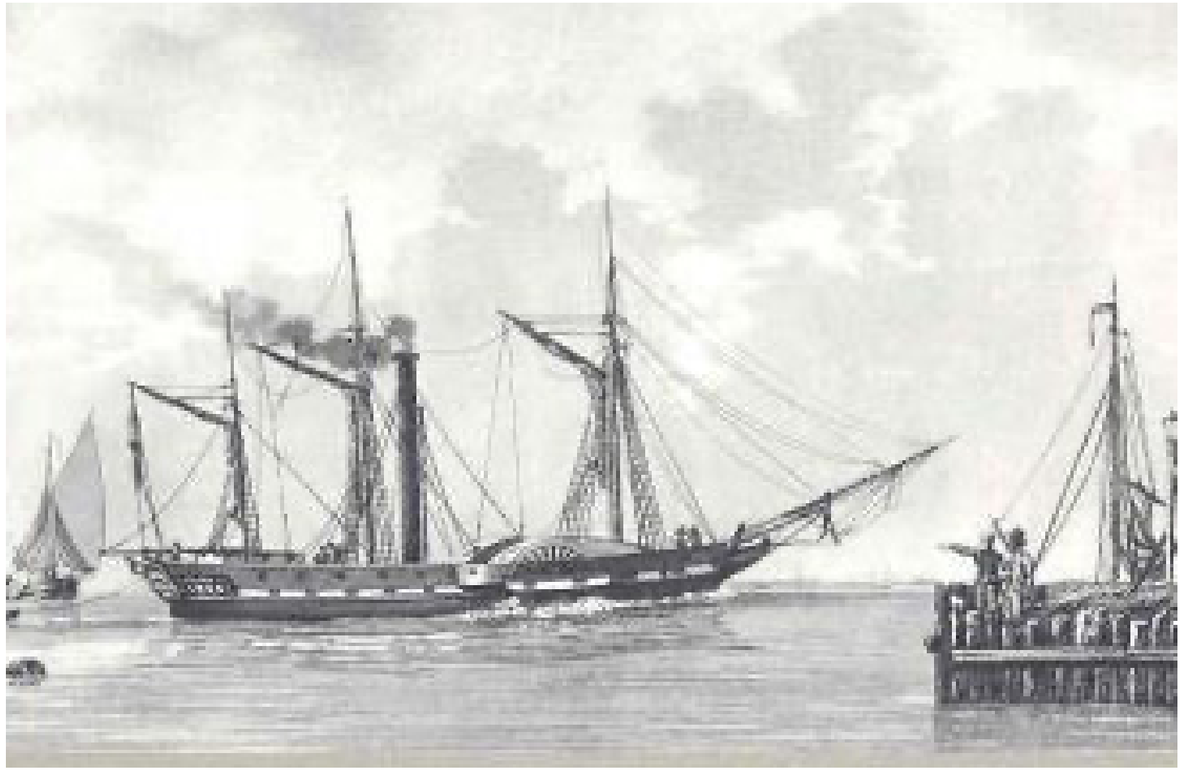


A fragment of a ‘boomstamboot’ was found in Alblasserdam dating back to Roman times. And nearby, even a ‘boomstamboot’ dating back to 6000 BC.

Source:
Maritime Stepping Stones (MaSS)

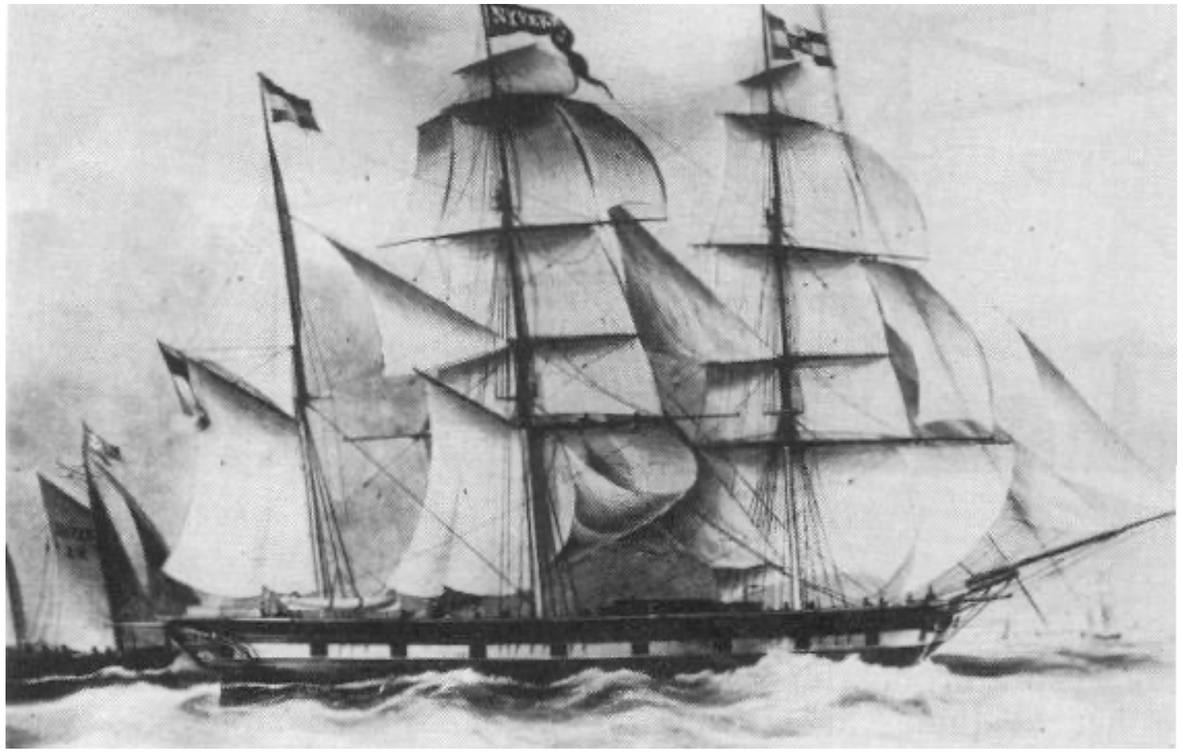
HISTORY

MARITIME HIGHLIGHTS



The first ‘stoomschip’, to travel to Dutch East Indies ‘Pylades’, was built in 1826-1834 at Kinderdijk by Smit

Source:
Maritime Stepping Stones (MaSS)



The first ship built at Kloos-Kinderdijk is De Nijverheid in 1843-1851

Source:
Maritime Stepping Stones (MaSS)

HISTORY

300 MARITIME SHIPYARDS

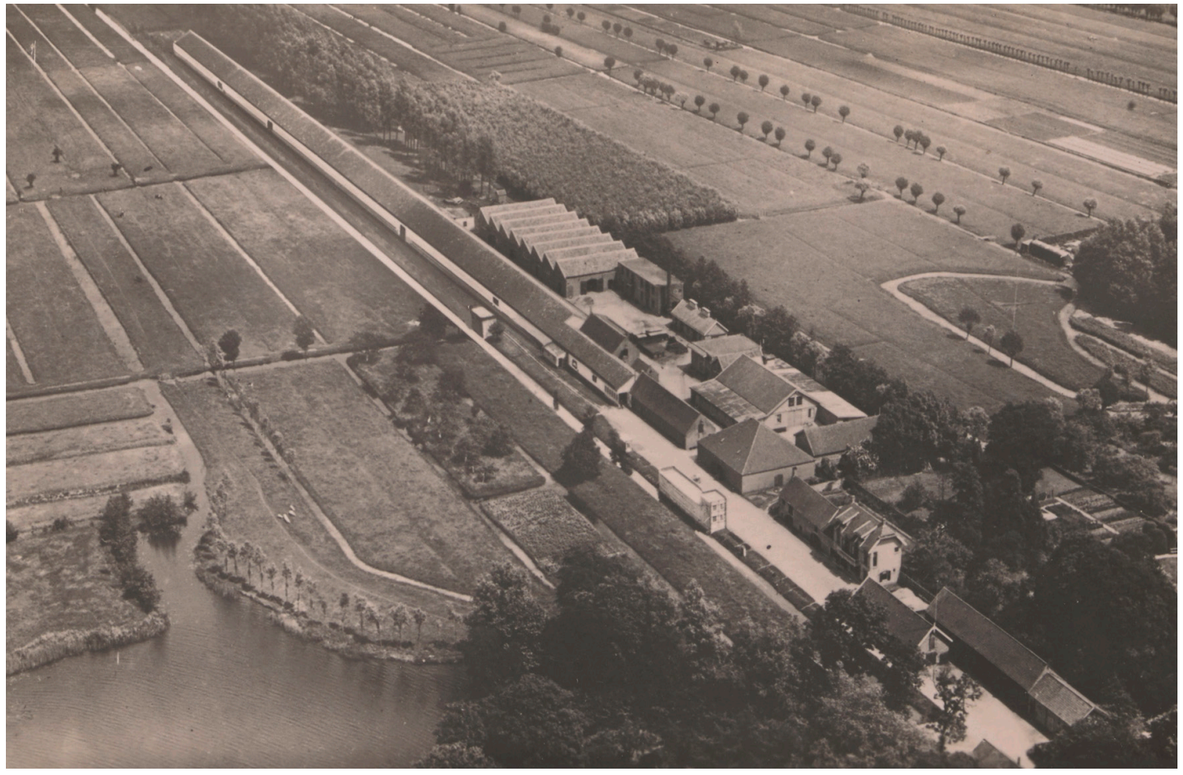
Source:
Regionaal Archief Dordrecht
Afbeelding 1241_1918

Source:
Regionaal Archief Dordrecht
Afbeelding 1241_1904

HISTORY

MARITIME RELATED INDUSTRIES

1837



Largest rope factory of the Netherlands: ‘Touwfabriek Lijnbaan’, Alblasserdam

Source:
Regionaal Archief Dordrecht
Afbeelding 1241_1924

1842

Biggest wood sawmill of The Netherlands: ‘Ons Genoegen’, Alblasserdam

Source:
Regionaal Archief Dordrecht
Afbeelding 1241_3254


IKEA

TABLE OF CONTENTS

1. RESEARCH

A NEW WAY OF THINKING ABOUT HERITAGE

1. RESEARCH

RESEARCH QUESTION

How can radical architectural interventions add value to maritime-industrial heritage,
while stimulating people to think about future challenges through the lens of the past?

1. RESEARCH

NEW ARCHITECTURAL INTERVENTION STRATEGIES

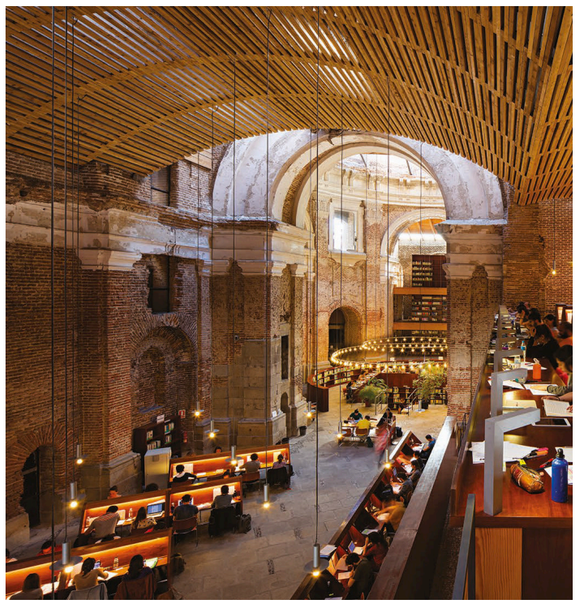
Aemulatio

1. Fusion of the old and new

Facadism

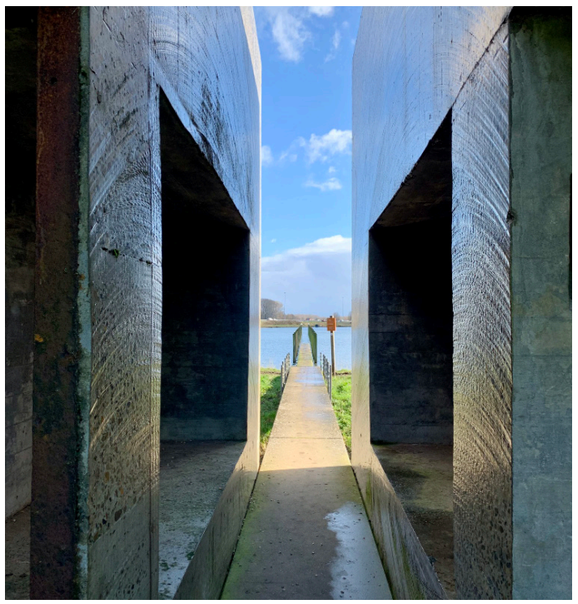
1. Preserving historical facades but focusing on is conras beween old and new

Ruination



1. Builds on the ephemeral characeristics of a crumbling sructure

Hardcore Heritage



1. Breaks through existing conventions

2. Breaks through a seemingly indestructible structure

3. Breaks through different disciplines

4. Breaks through past and presen, looking for a new meaning in the future

Photo 1. De Kampanje (Van Lierop, 2023)

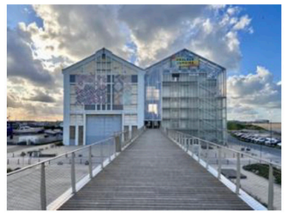
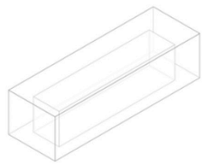
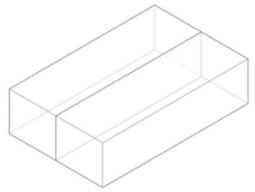


Photo 2. Frac Grand Large (Van Lierop, 2023)

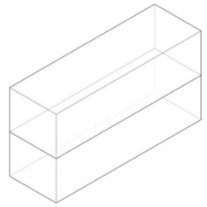
Photo 3. Kraanspoor (OTH, 2007)



Heritage intervention largely within existing structure



Heritage intervention next to existing structure



Heritage intervention on top of existing structure

Strategies	Criteria	De Kampanje	FRAC	Kraanspoor	Kloos Kinderdijk
Aemulatio	*Fusion of the old and the new*	+	-	-	-
Facadism	*Preserving historical facades but focusing on its contrast between old and new in the interior*	+	-	-	+
Ruination	*Builds on the ephemeral characteristics of a crumbling structure*	-	+	+	+
Hardcore Heritage	*Breaks through existing conventions*	+	+	+	+
	Breaks through a seemingly indestructible structure	+	+	-	+
	Breaks through different disciplines	+	+	-	+
	Breaks through past and present, looking for new meaning in the future	-	+	+	+

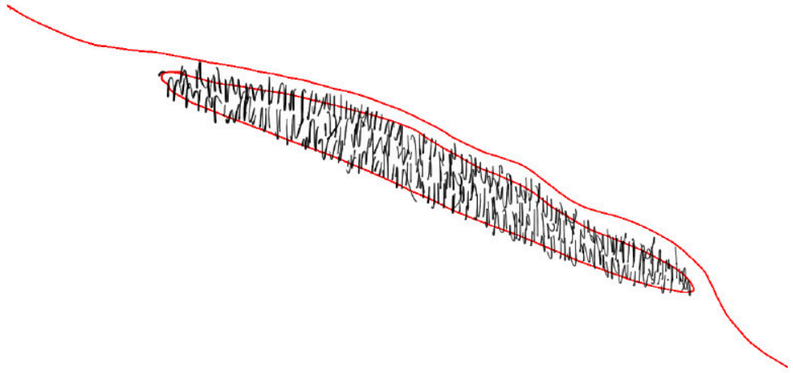
2. ANALYSIS

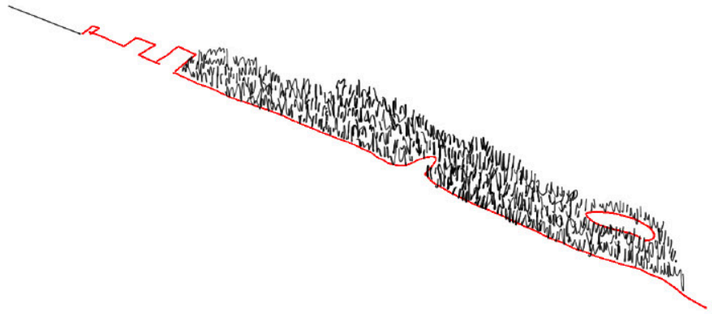
KLOOS KINDERDIJK: SITE, BUILDING AND CONTEXT

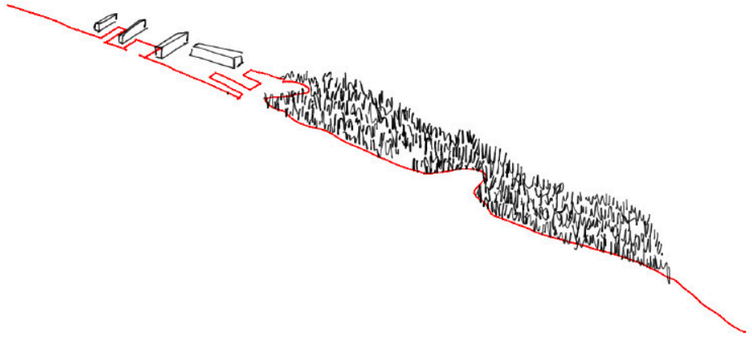
2. ANALYSIS - BUILDING SITE

KLOOS KINDERDIJK SITE

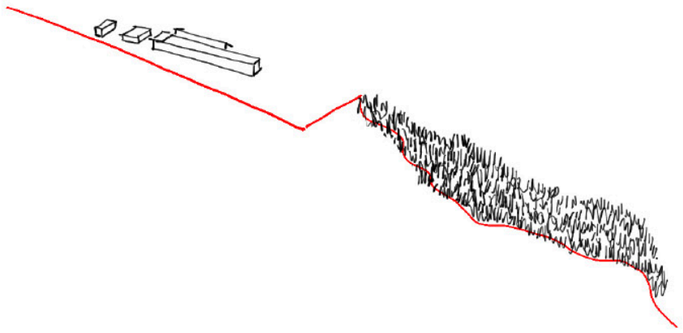
GRIENDEN

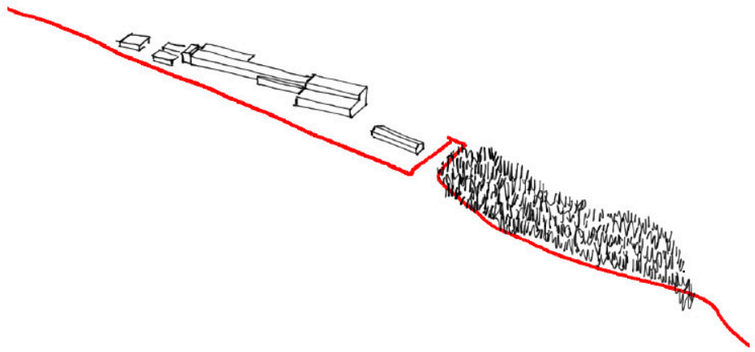


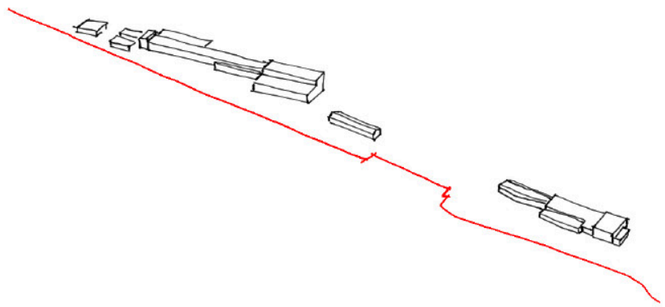




KLOOS TODAY







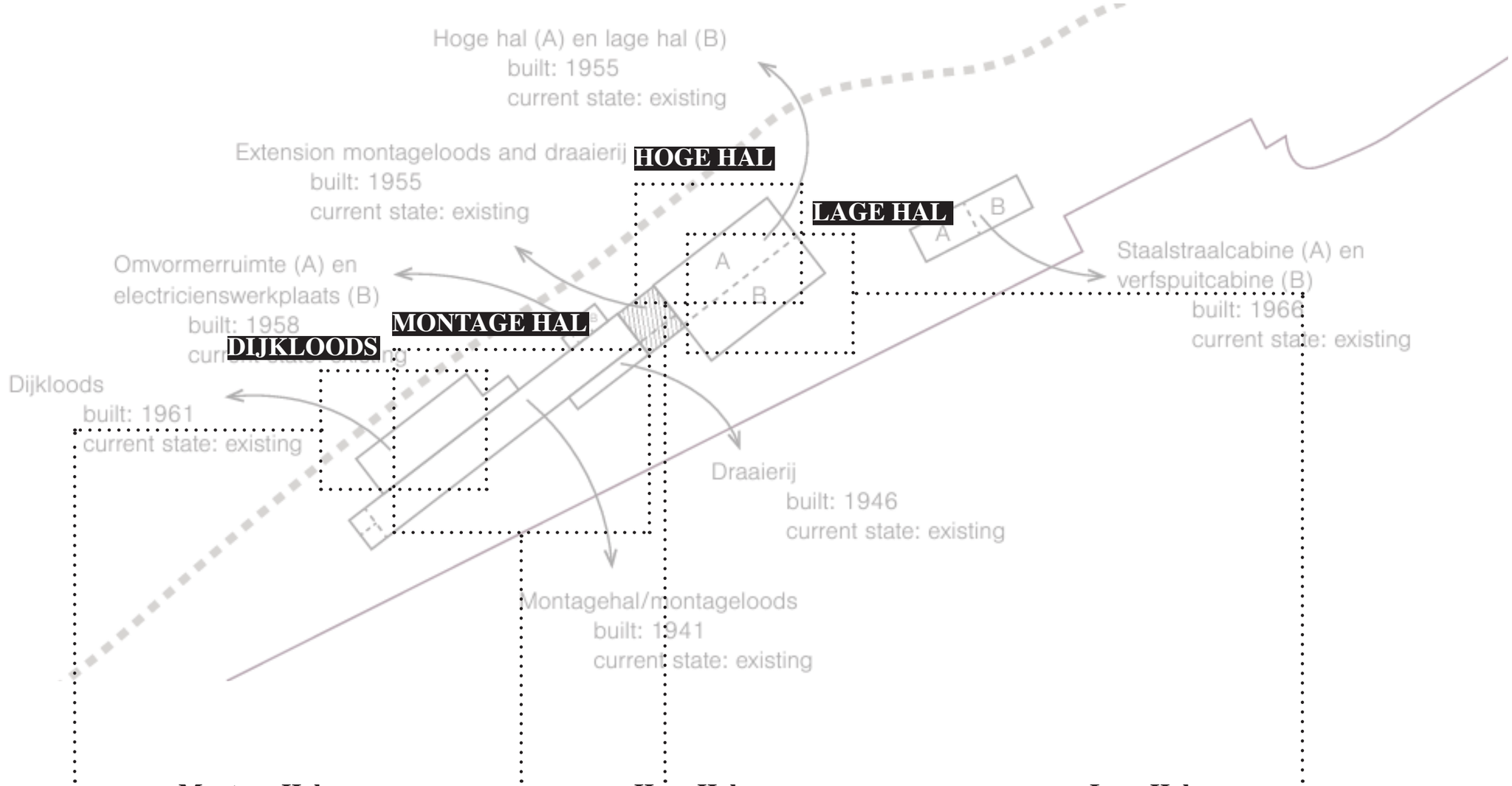
1950

1960

1970

2. ANALYSIS - BUILDING SITE

KLOOS KINDERDIJK FACTORY HALLS



Dijkloods

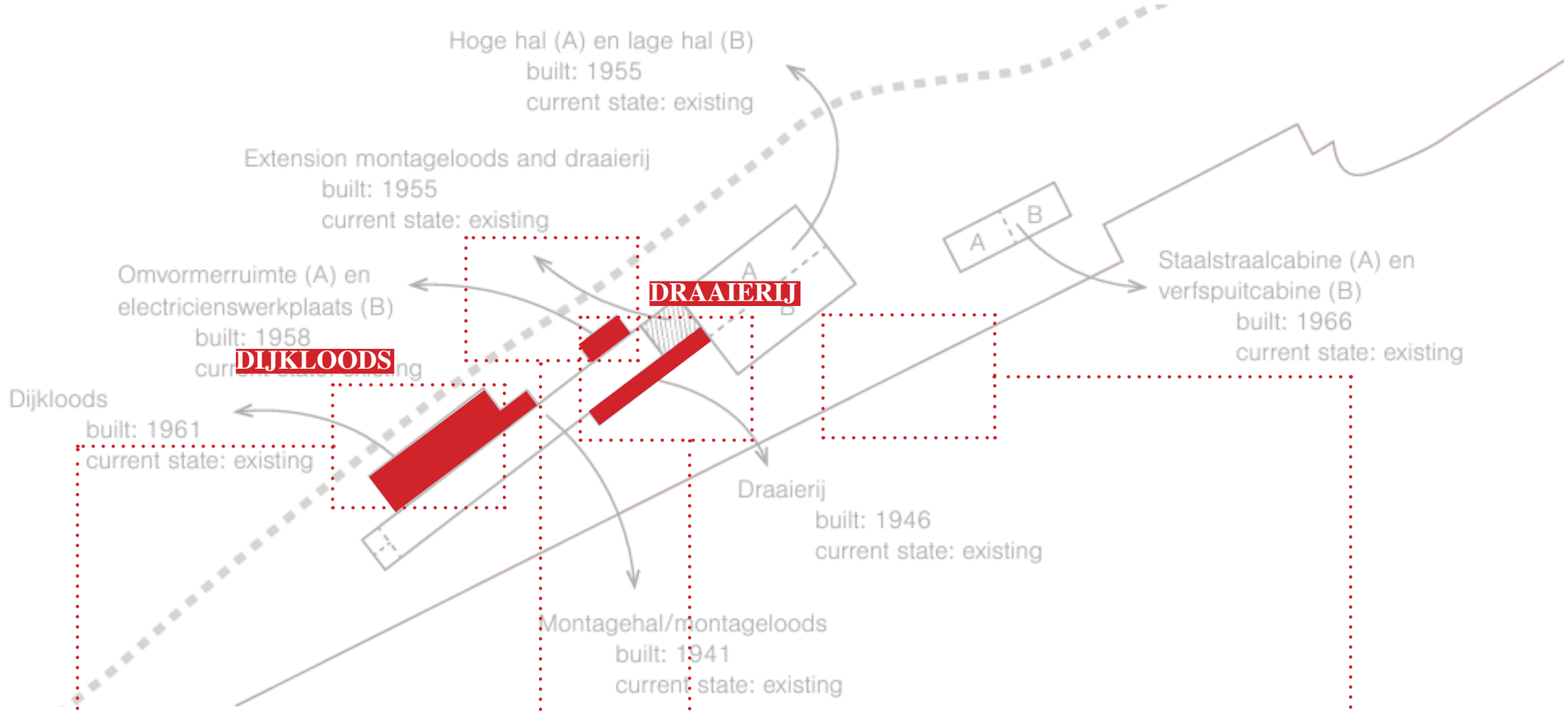
Montage Hal

Hoge Hal

Lage Hal

2. ANALYSIS - BUILDING SITE

KLOOS KINDERDIJK BUILDING STATE



Dijkloods

Elektriciteitsruimte

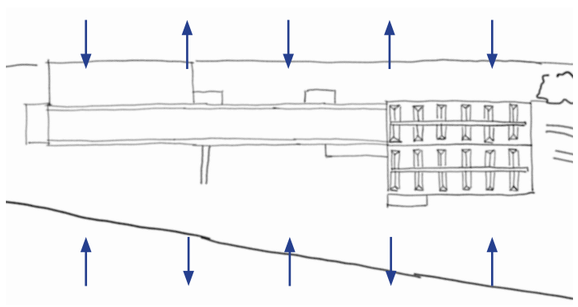
Draaierij

Garden

2. ANALYSIS - VALUE ASSESSMENT

POSITIVE VALUES KLOOS KINDERDIJK

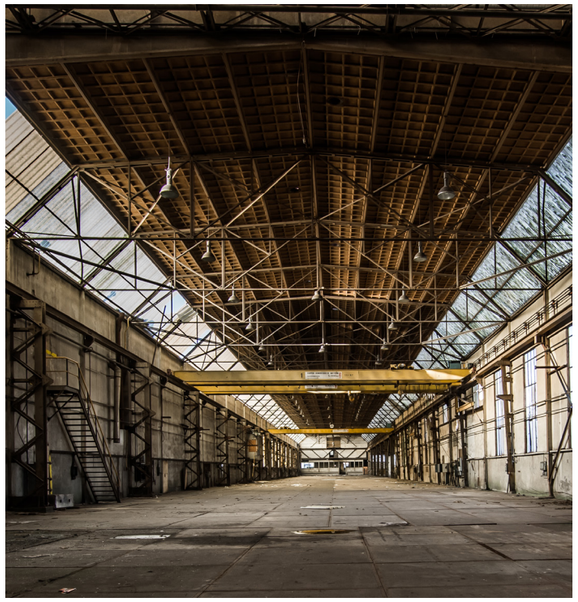
Landscape of the surroundings

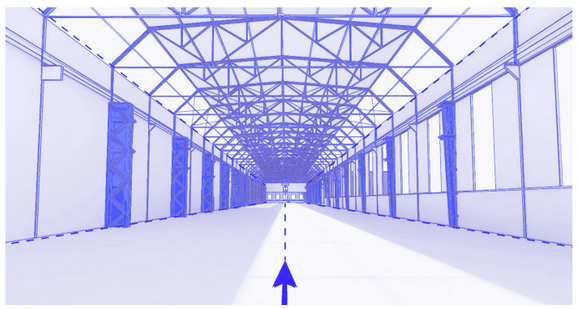


Retain:
That Kloos is situated between two typical Dutch landscapes: the robust river landscape and the small polder landscape.

Starting point:
Accentuate the robust river landscape and the horizontal polder landscape.

Rythm of windows, skylights and trusses

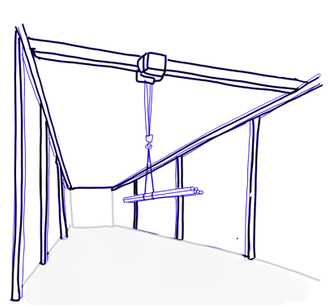




Retain:
A strong repeating rhythm of trusses, tall windows and skylights.

Starting point:
Accentuate the strong vertical rhythm of trusses and windows that interrupt the horizontality of Kloos.

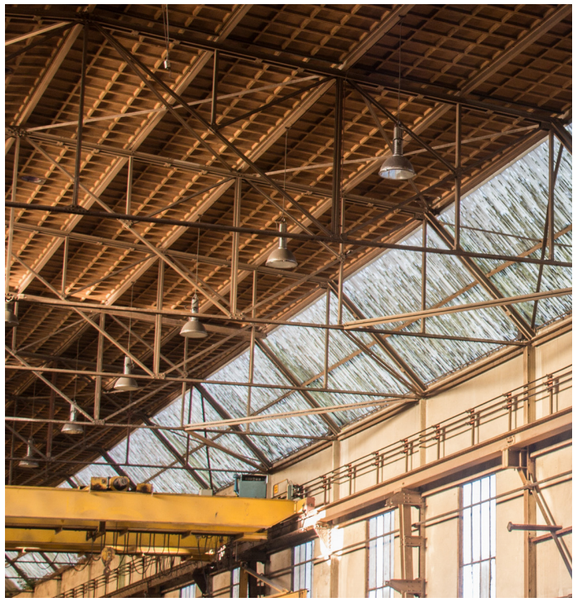
Historic factory cranes

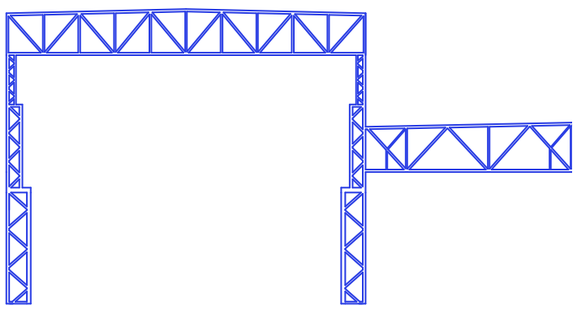


Retain:
There are still hanging old yellow cranes situated on the steelwork that used to serve in the factory.

Starting point:
Repurpose the historic factory cranes.

Steel bolted trusses





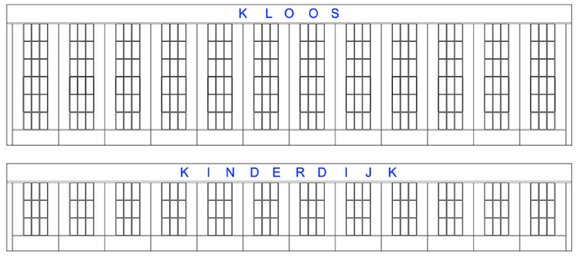
Retain:
Steel structures and trusses were all bolted. This method was also used in the production of Kloos & Zn.

Starting point:
Maintain all the bolted steel structures that are still in place.

2. ANALYSIS -VALUE ASSESSMENT

NEGATIVE VALUES KLOOS KINDERDIJK

Kloos Kinderdijk

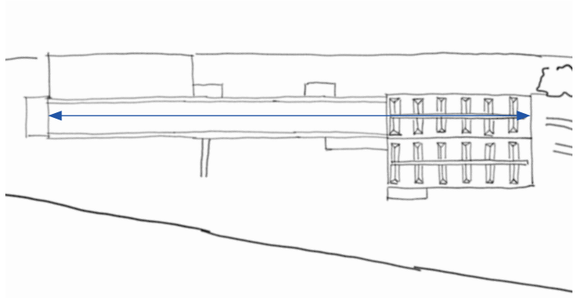


Retain:
Revert to the past of the services of Kloos Kinderdijk.

Remove:
No Mercon.

Starting point:
Showcasing the history of Kloos and drawing inspiration for the new programme from its past as a mill and ship factory.

260 metres in length

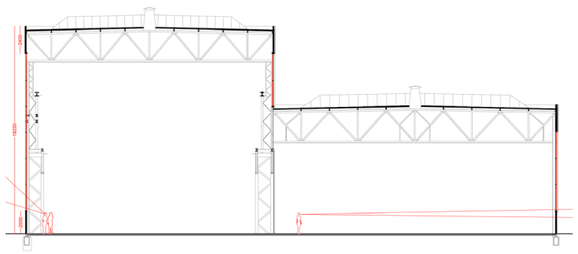


Retain:
The factory required a length of 260 metres.

Remove:
Create openings to the outside so it becomes publicly accessible.

Starting point:
Maintaining the 260-metre length so that people can experience the building as it was built rather than dividing the factory into smaller spaces.

Big windows

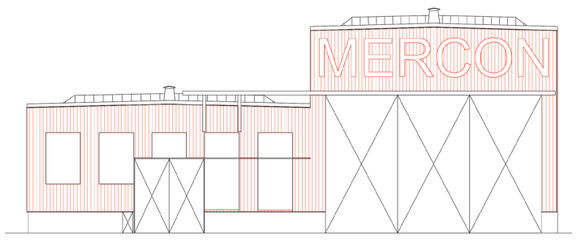


Retain:
Retaining the big and tall windows.

Remove:
The current big windows could offer nice views, but the windows start at a height of 2 metres, so it is not possible to look outside.

Starting point:
Making a connection with the surroundings.

(Former) combination of brick & steel



Retain:
Combination of brick and steel for factories was common during the Industrial Revolution, but this method is no longer common today.

Remove:
Removing the blue corrugated sheets.

Starting point:
Reveal the original brick façade.

2. ANALYSIS - CONTEXT

2. ANALYSIS - CONTEXT

2. ANALYSIS - CONTEXT

ALBLASSERDAM AND KINDERDIJK

2. ANALYSIS - CONTEXT

ALBLASSERDAM AND KINDERDIJK

UNESCO KINDERDIJK

MARITIME INDUSTRY

KLOOS

Current maritime industry

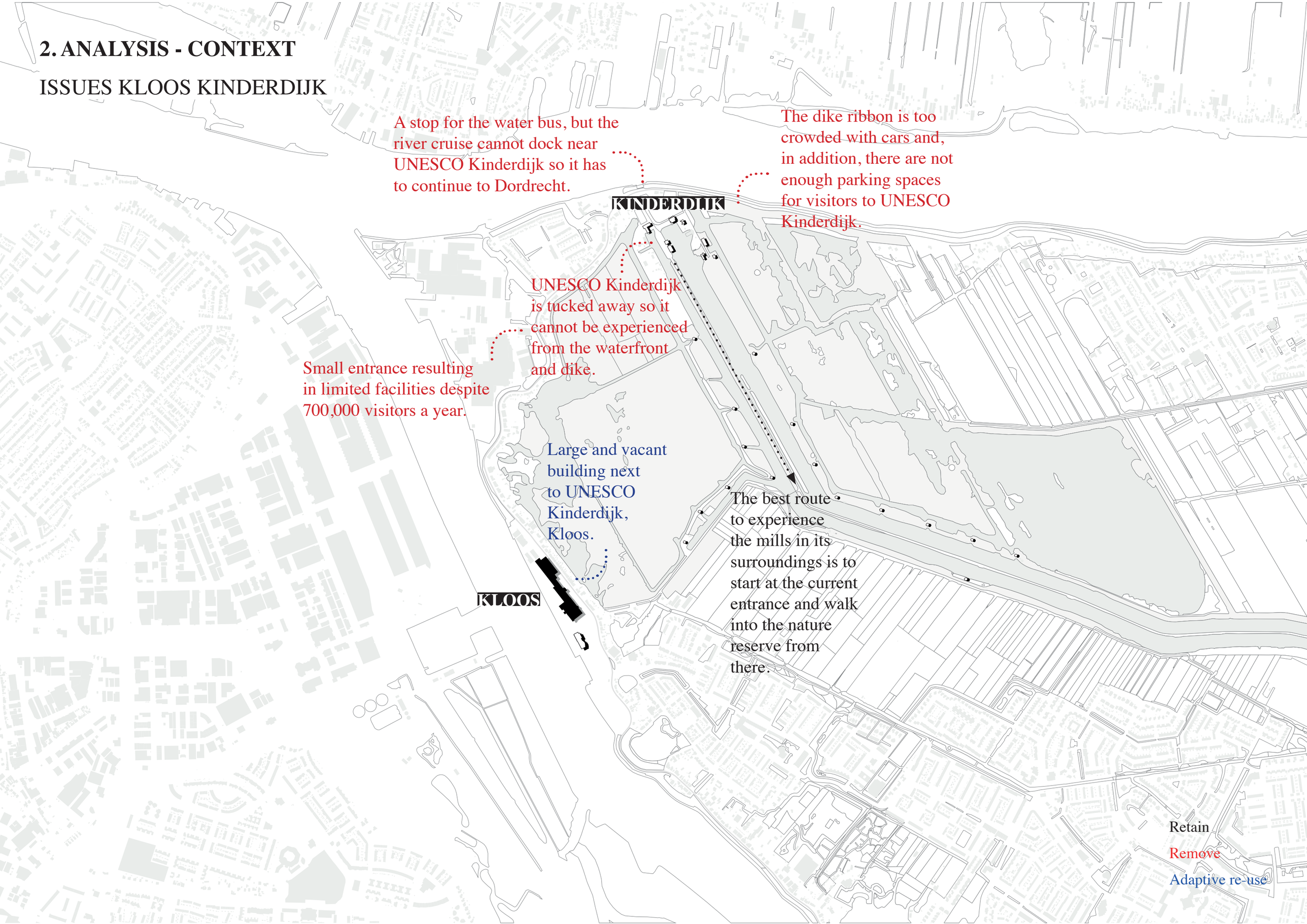
Kloos Kinderdijk

UNESCO Kinderdijk: entrance

UNESCO Kinderdijk: windmills

2. ANALYSIS - CONTEXT

ISSUES KLOOS KINDERDIJK



3. MASTER PLAN

UNESCO-WORTHY ENTRANCE FOR KINDERDIJK

3. MASTER PLAN - KLOOS KINDERDIJK

UNESCO-WORTHY ENTRANCE AT KLOOS KINDERDIJK

UNESCO Kinderdijk (mills and pumping stations) with tour boat, museum shop and cafe

Widening the embankment for a walking and cyeling path

New entrance of Kinderdijk at Kloos with ticket counter, water museum, viewing platform, restaurant and hotel

Arrival by water bus, river cruise and boat

Car parking on the other side of the river for arriving by car with a bike rental

Walking and cycling bridge

A 7-minute walk with overview of Kinderdijk

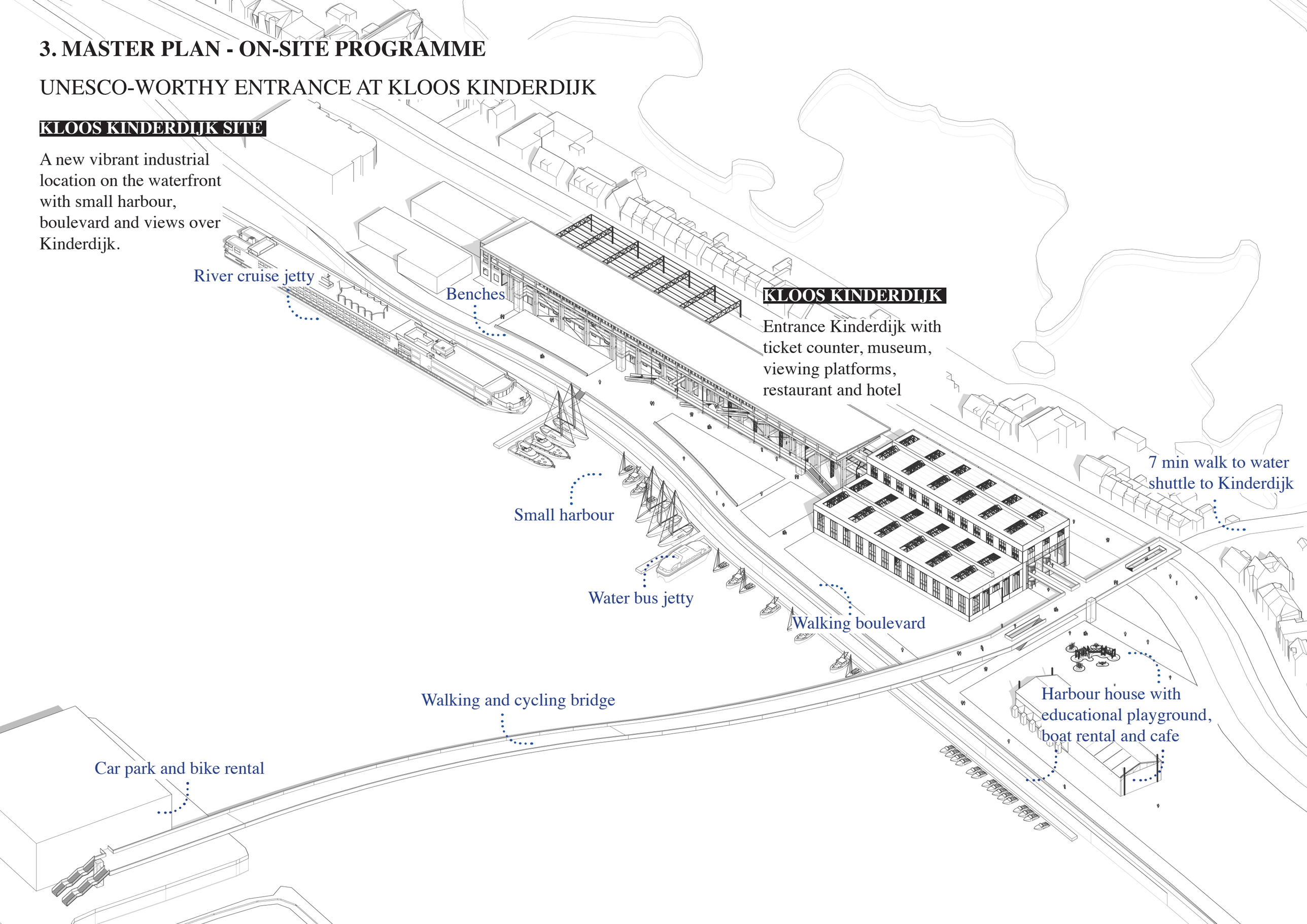
From there, a water shuttle to Kinderdijk

3. MASTER PLAN - ON-SITE PROGRAMME

UNESCO-WORTHY ENTRANCE AT KLOOS KINDERDIJK

KLOOS KINDERDIJK SITE

A new vibrant industrial location on the waterfront with small harbour, boulevard and views over Kinderdijk.



3. MASTER PLAN - ON-SITE PROGRAMME

UNESCO-WORTHY ENTRANCE AT KLOOS KINDERDIJK

KLOOS KINDERDIJK GARDEN



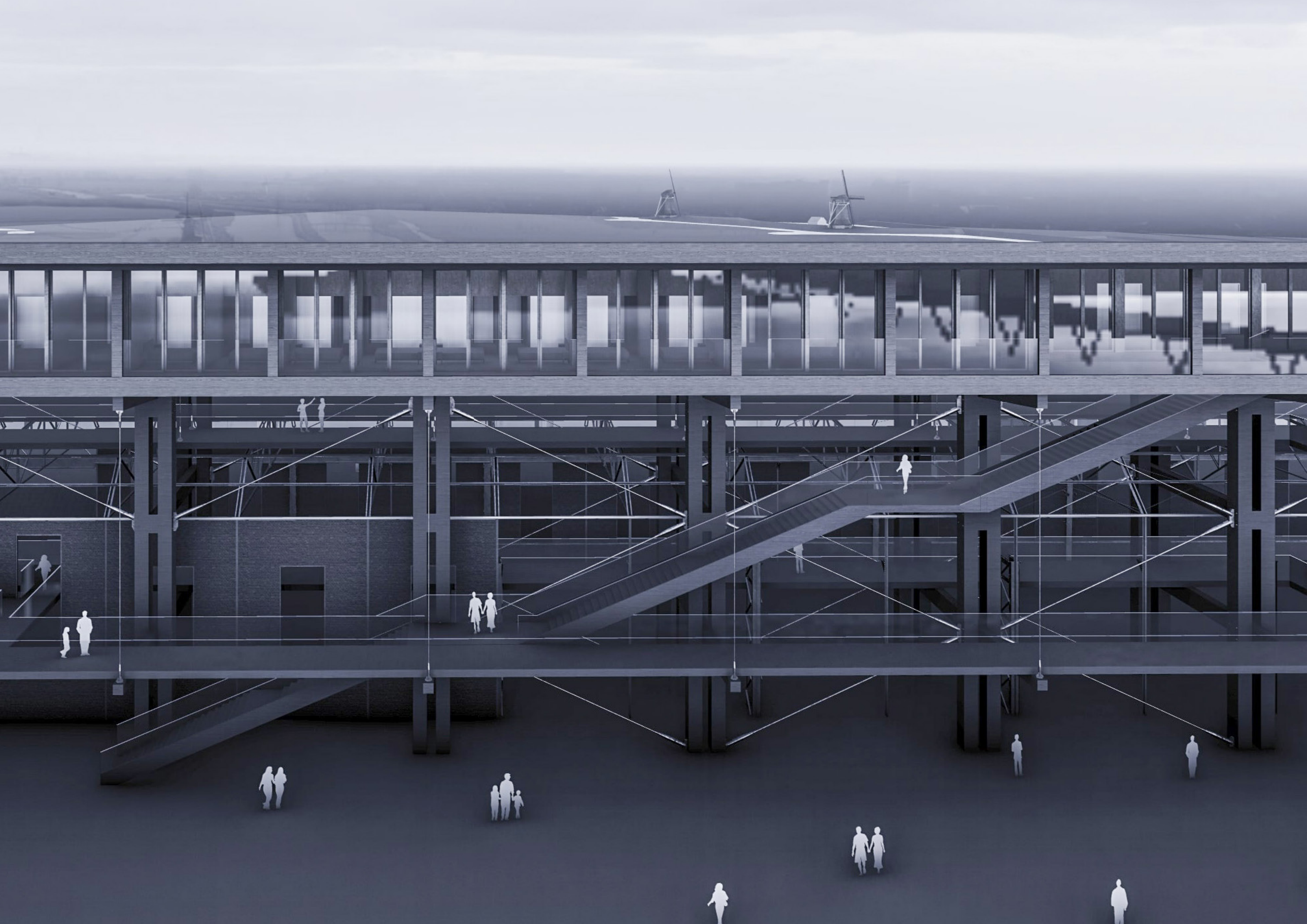





Level 2: *Entrance*

Project: Closer to Kloos Kinderdijk
Drawings: Floorplans 1:100
Date: 24 - 06 - 2024
Student: Feline van Lierop
Location: West Kinderdijk 120, Alblasserdam
Scale: 1:250
Dimensions: mm

0 10 20 30



4. FUNCTIONAL ASPECTS

UNESCO-WORTHY ENTRANCE FOR KINDERDIJK WITH ADDITIONAL PROGRAMME

4. FUNCATIONAL ASPECTS - BUILDING PROGRAMME

OVERVIEW

KLOOS KINDERDIJK

Entrance Kinderdijk with a museum about the battle against water (Kinderdijk), the fight over water (maritime history) and the future struggle against water (sea-level rise) and other facilities.

HOGE HAL
NEW ENTRANCE BUILDING UNESCO KINDERDIJK
- Ticket counter
- Waiting area
- Coffee corner
- Restroom
- Lockers

ADDED VOLUME
NEW FLOATING VOLUME
- Viewing pathway
- Hotel
- Restaurant
- Viewing terrace

DIJKLOODS
WALKING AND CYCLING PATH

LAGE HAL
NEW WATER MUSEUM
- New water museum
- Educational theatre

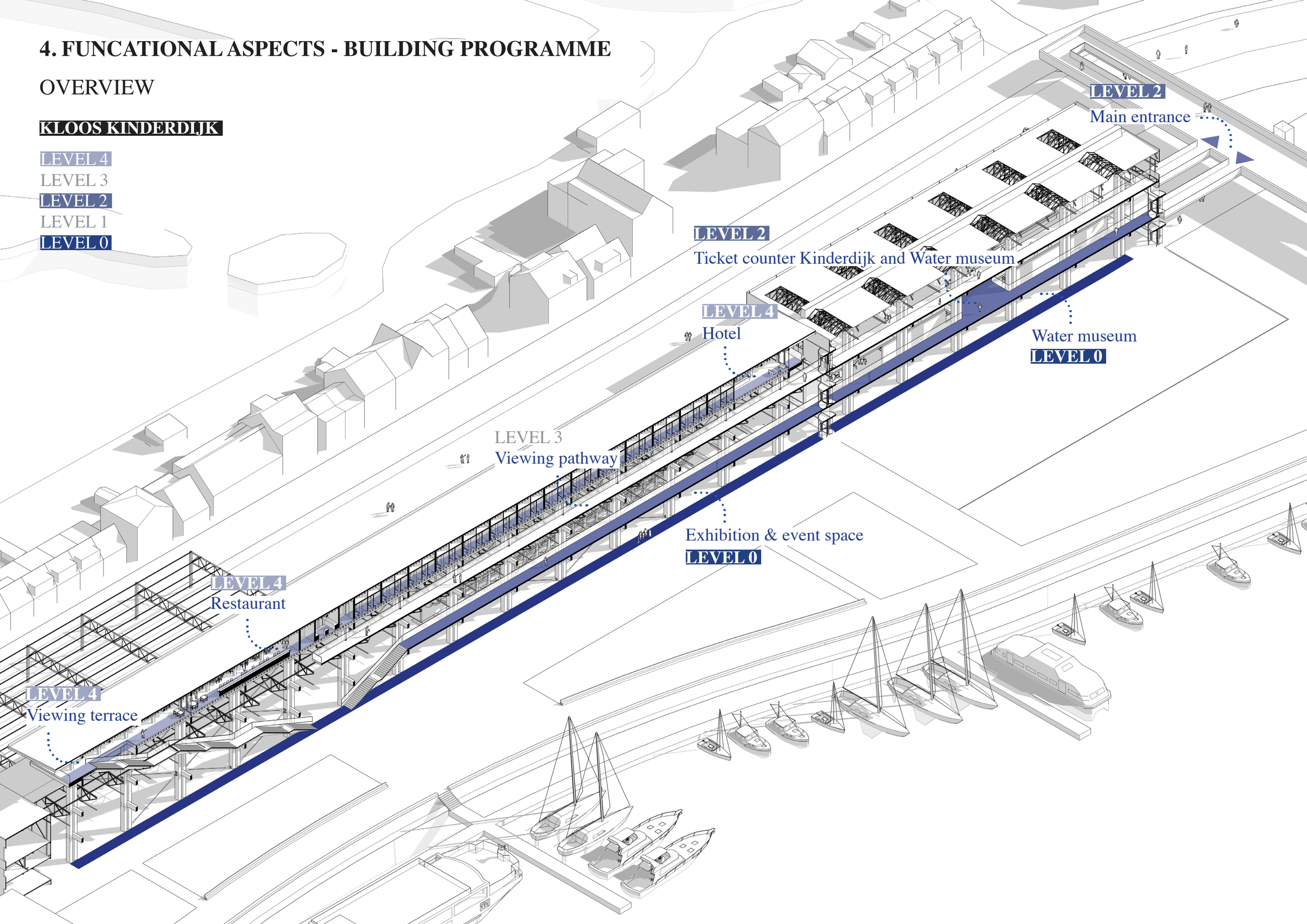
MONTAGE HAL
EXHIBITION SPACE AND EVENT LOCATION

4. FUNCATIONAL ASPECTS - BUILDING PROGRAMME

OVERVIEW

KLOOS KINDERDIJK

LEVEL 4
LEVEL 3
LEVEL 2
LEVEL 1
LEVEL 0



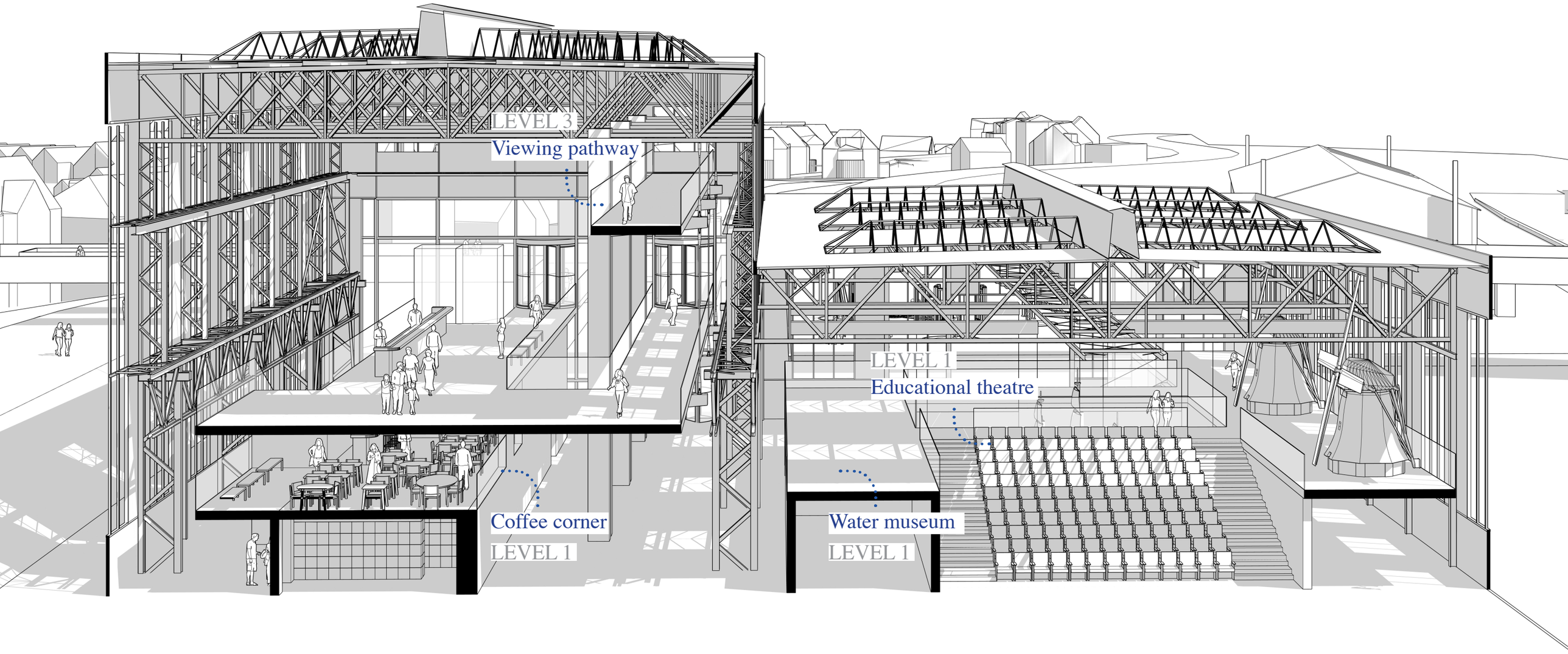
4. FUNCATIONAL ASPECTS - BUILDING PROGRAMME

OVERVIEW

KLOOS KINDERDIJK

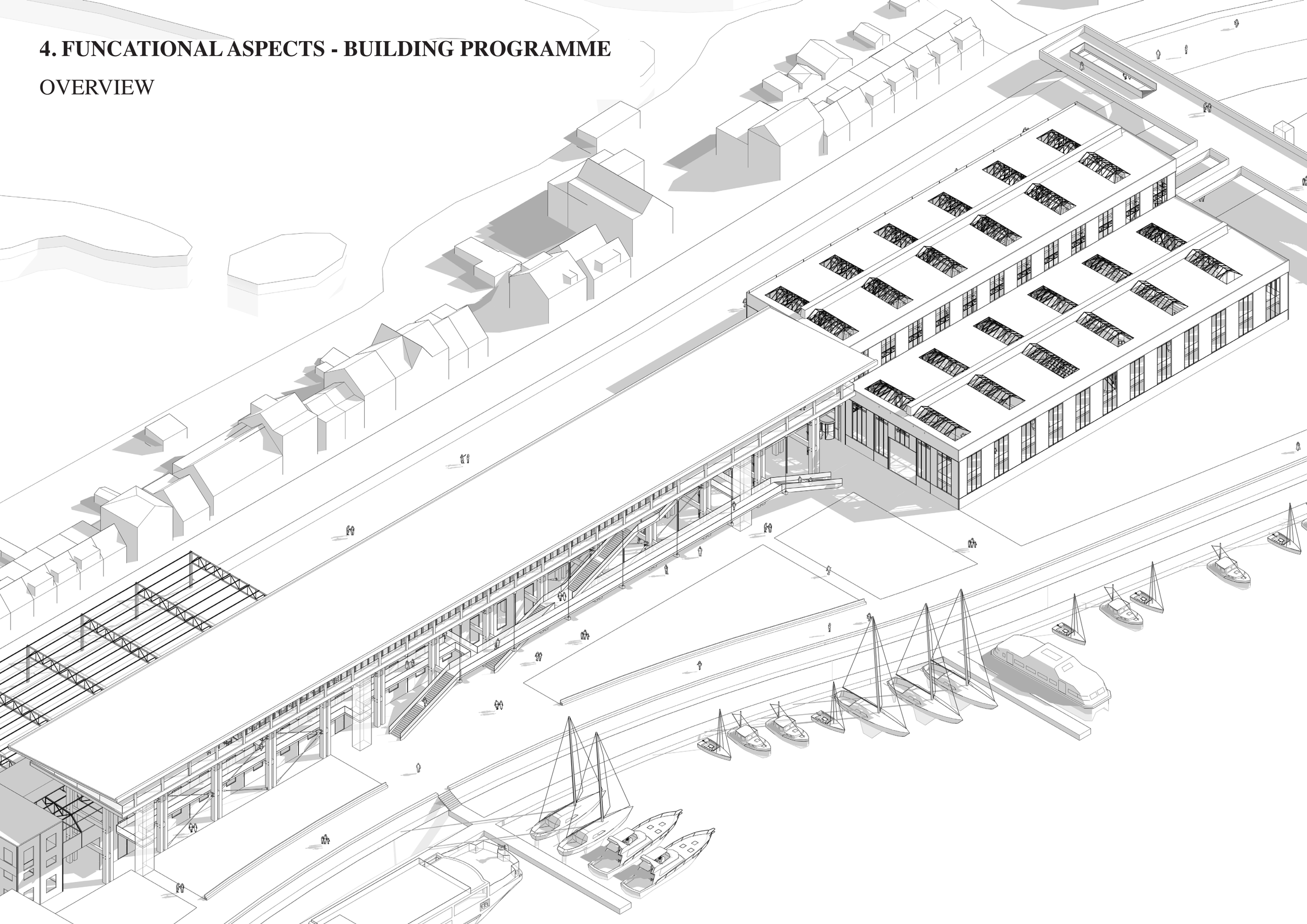
LEVEL 3

LEVEL 1



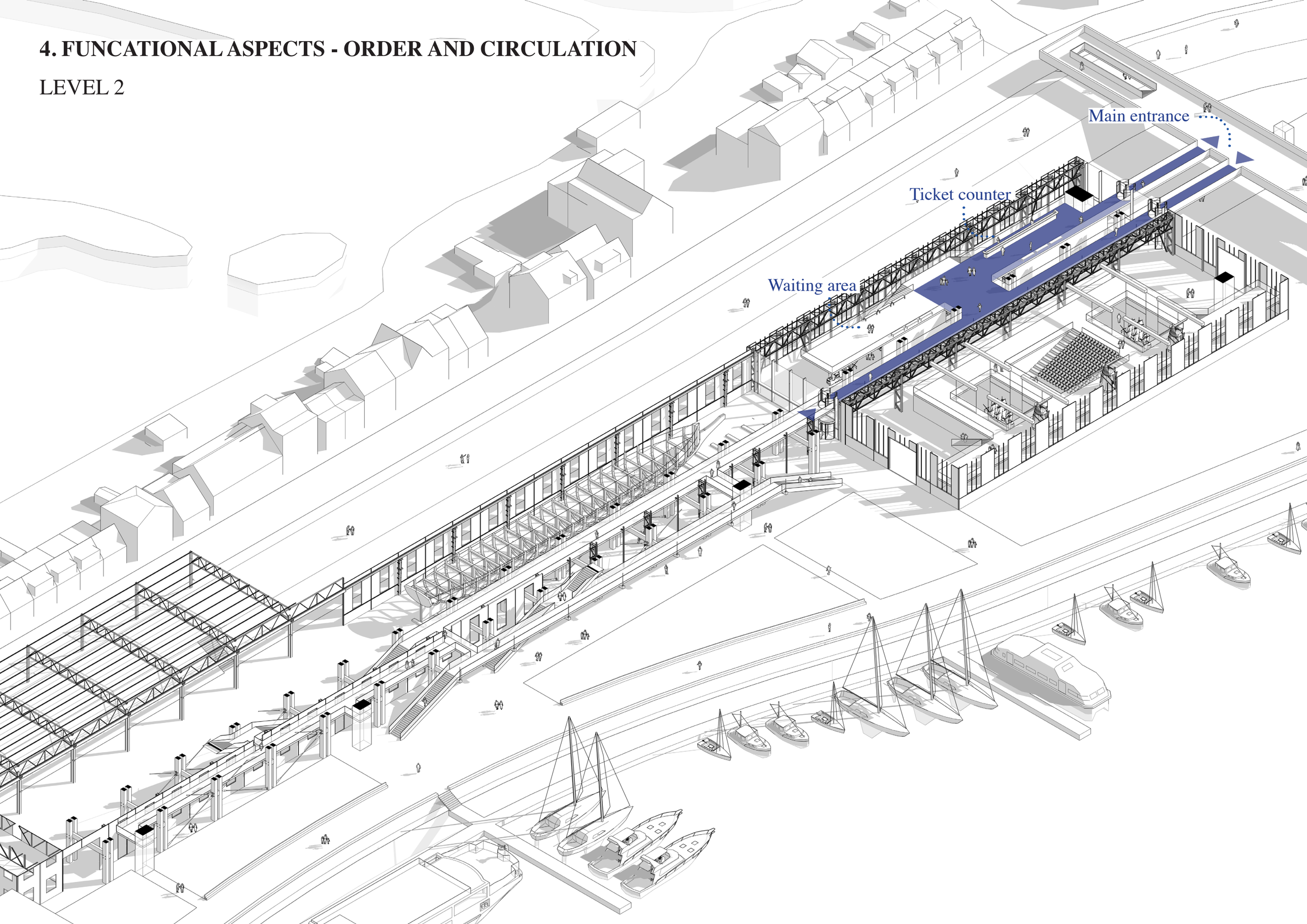
4. FUNCATIONAL ASPECTS - BUILDING PROGRAMME

OVERVIEW



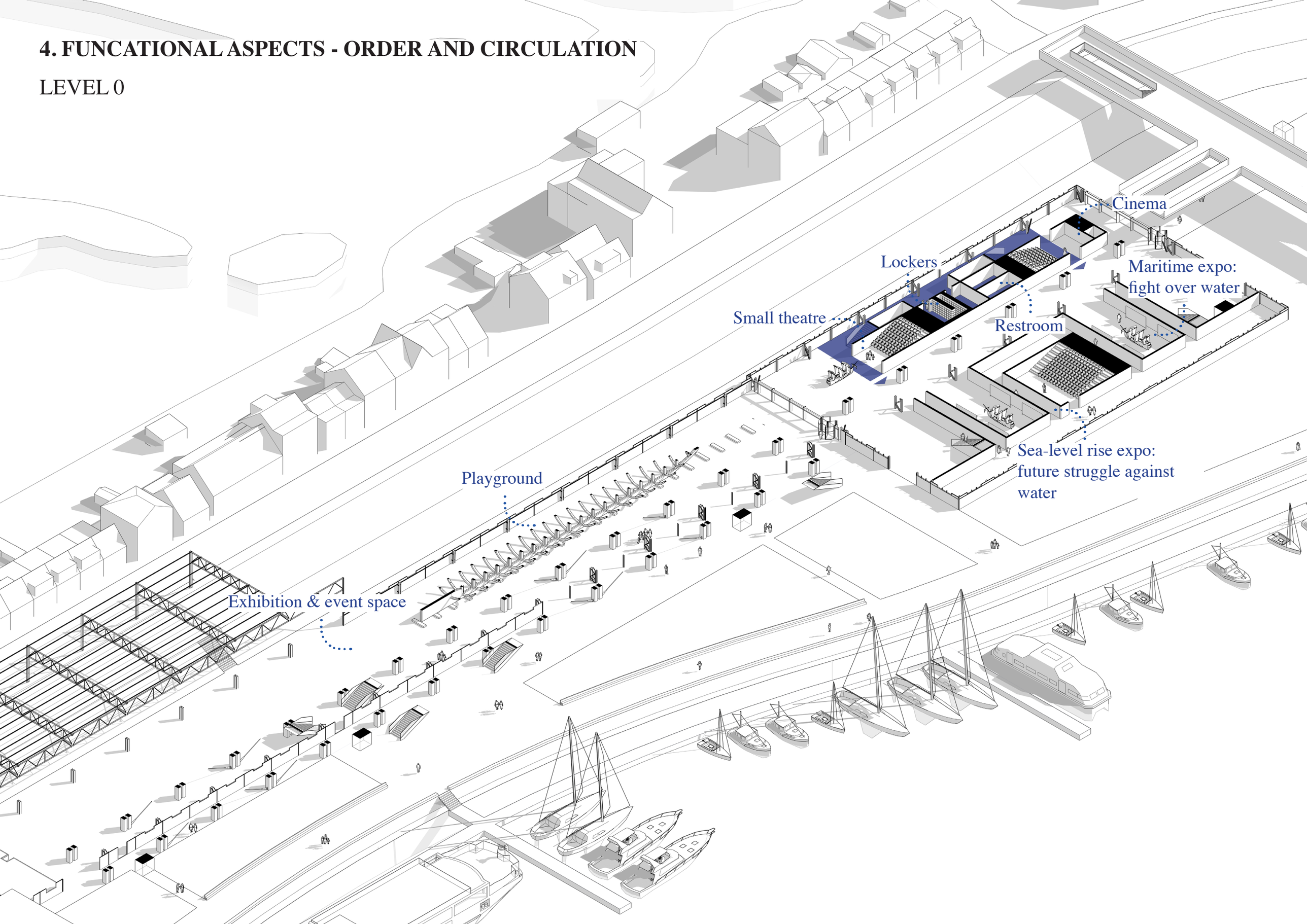
4. FUNCATIONAL ASPECTS - ORDER AND CIRCULATION

LEVEL 2



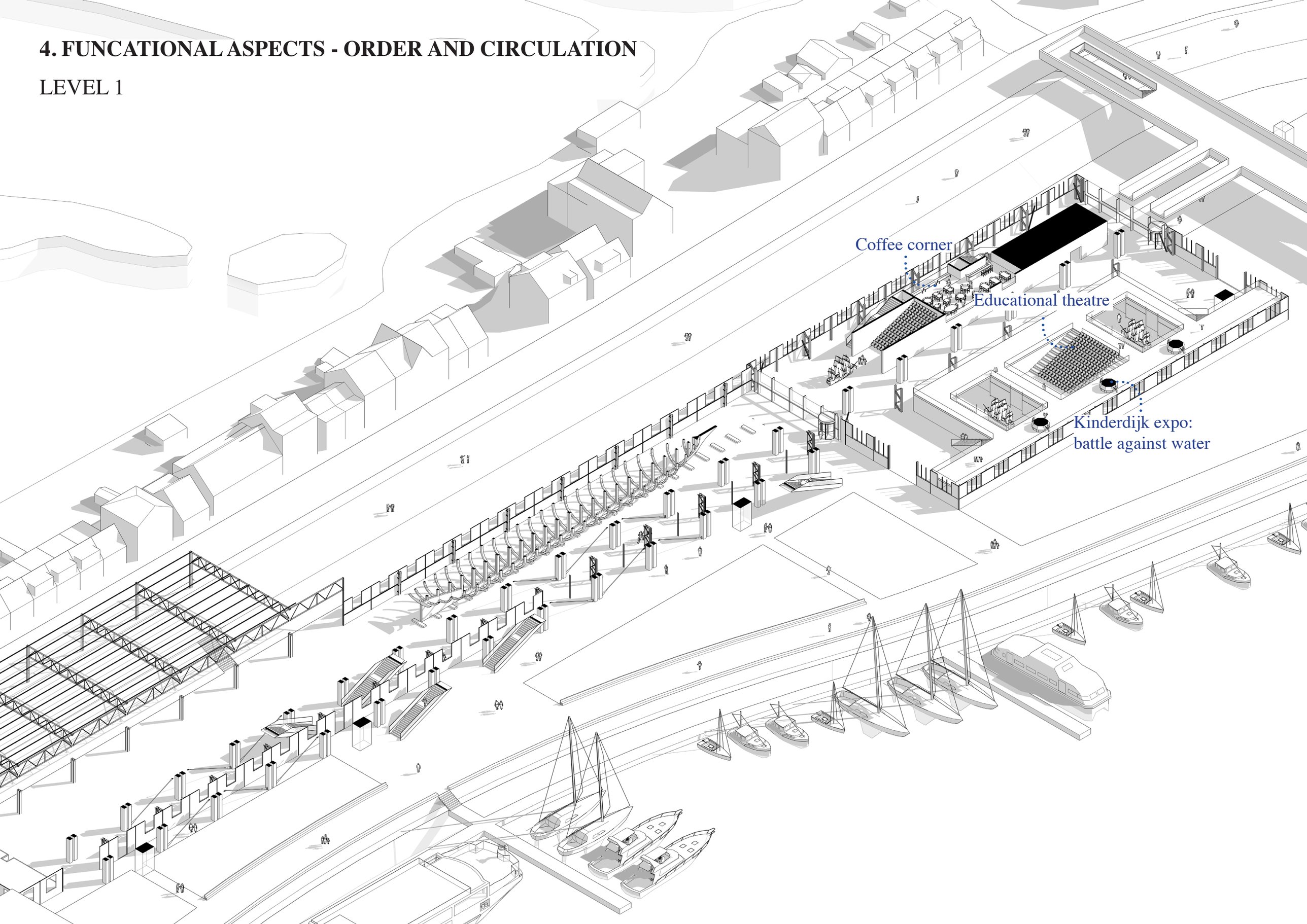
4. FUNCATIONAL ASPECTS - ORDER AND CIRCULATION

LEVEL 0



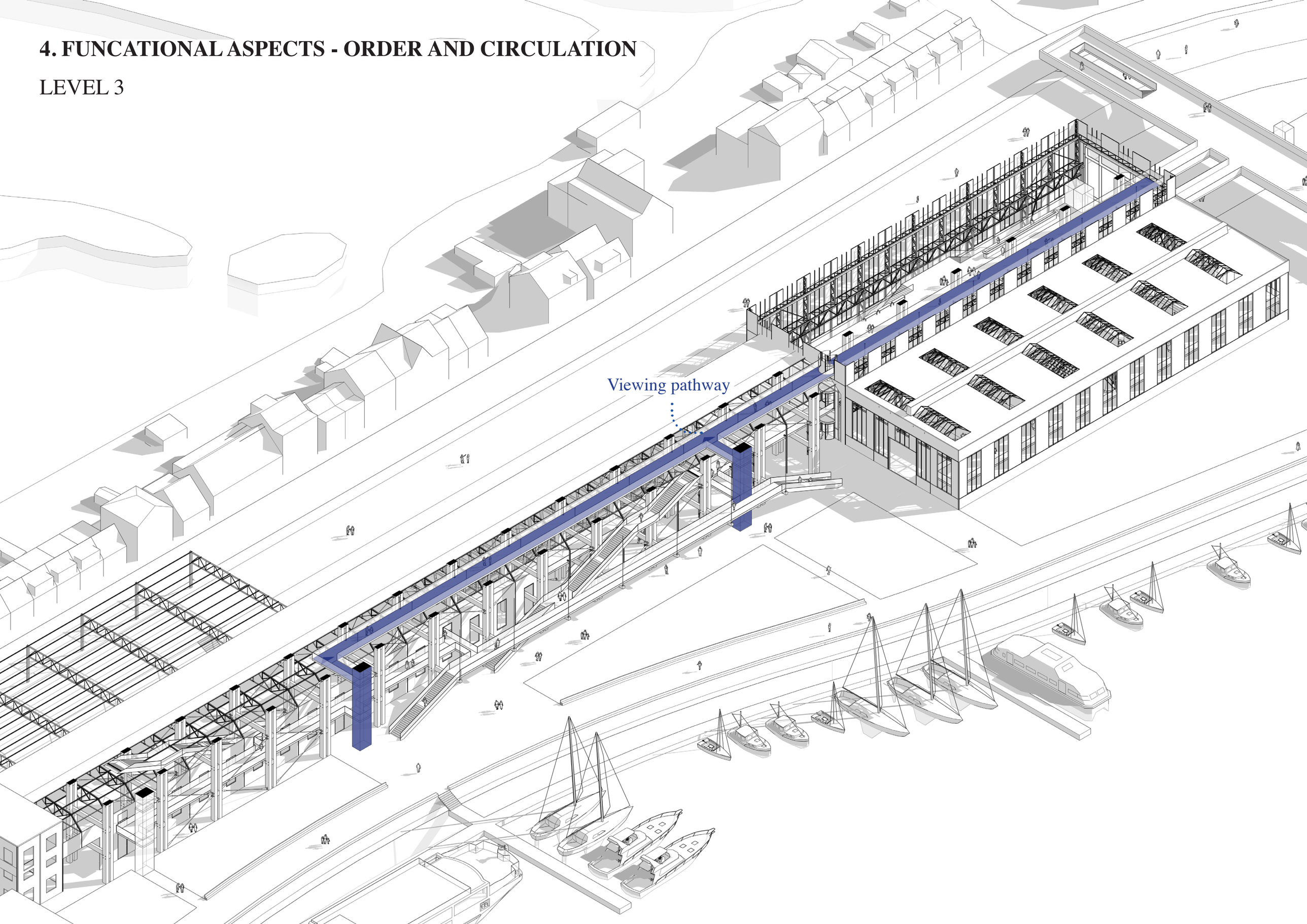
4. FUNCATIONAL ASPECTS - ORDER AND CIRCULATION

LEVEL 1



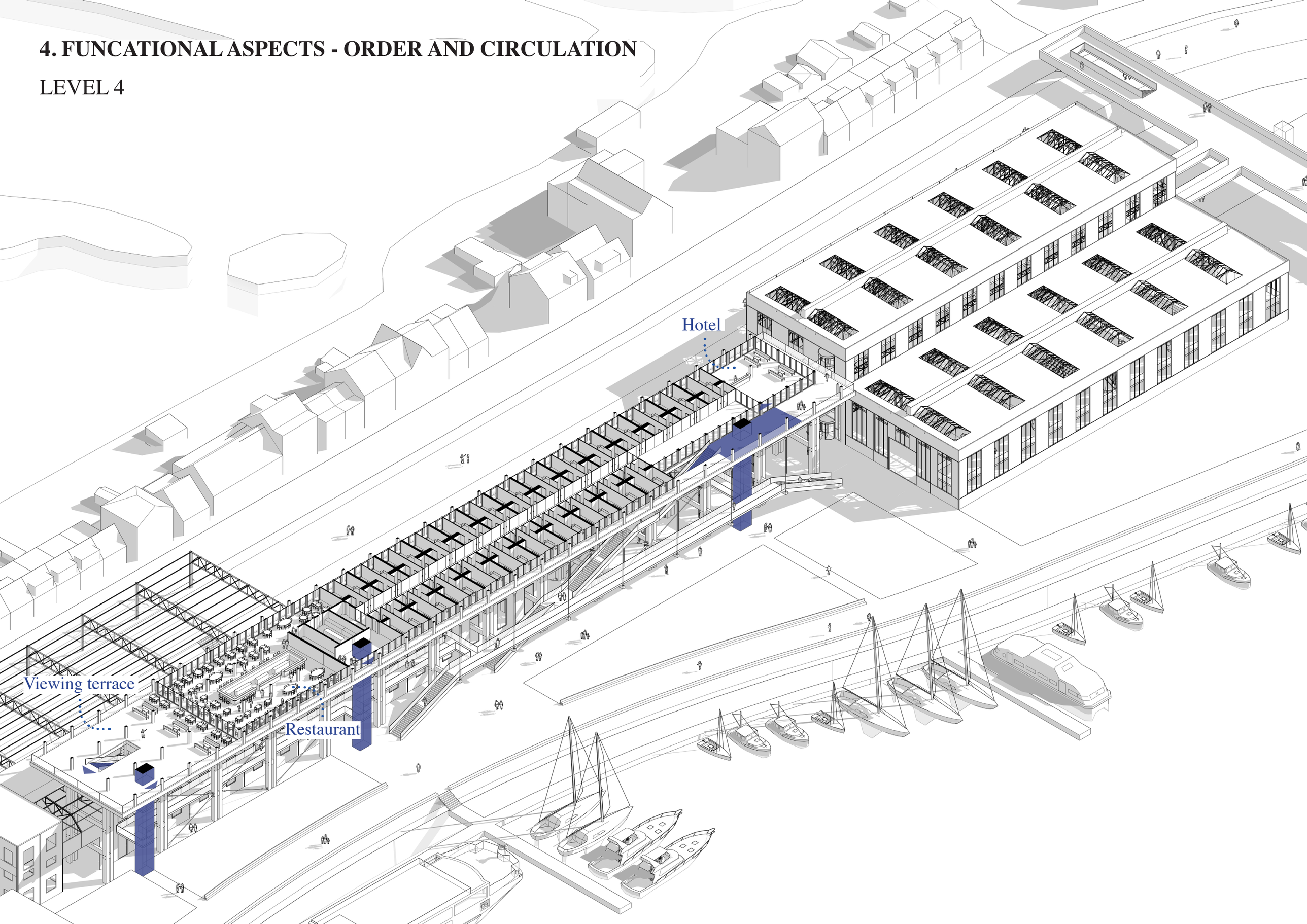
4. FUNCATIONAL ASPECTS - ORDER AND CIRCULATION

LEVEL 3



4. FUNCATIONAL ASPECTS - ORDER AND CIRCULATION

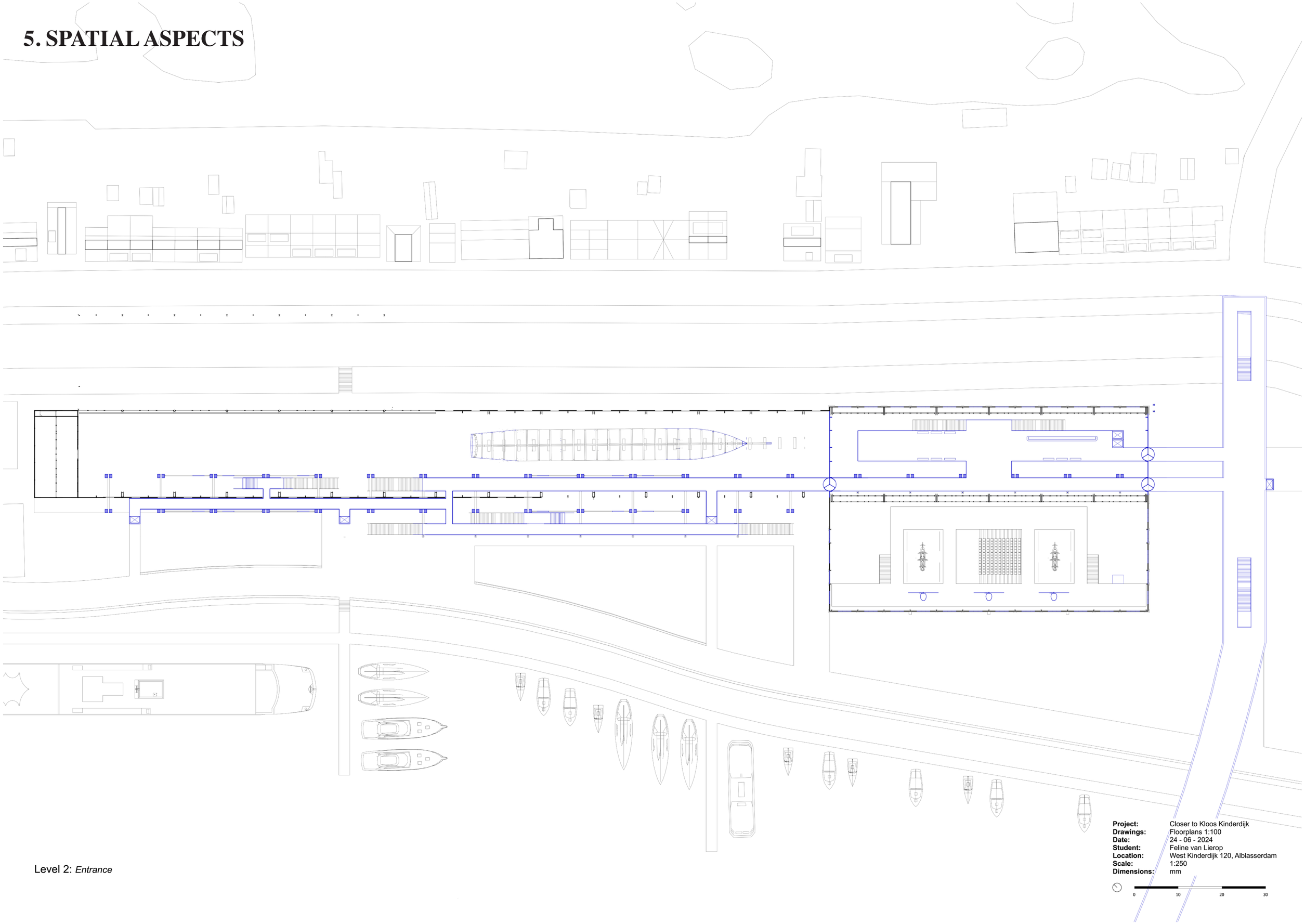
LEVEL 4



5. SPATIAL ASPECTS

DESIGNING WITH THE EXISTING HERITAGE

5. SPATIAL ASPECTS

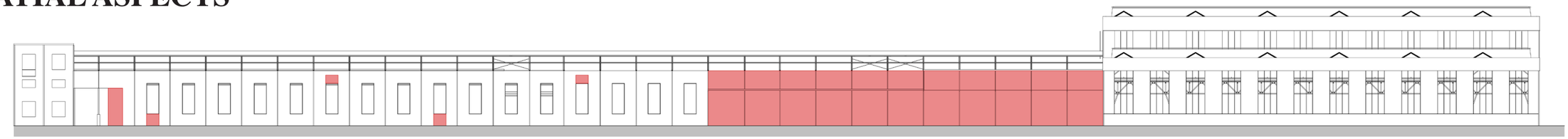


Level 2: *Entrance*

Project: Closer to Kloos Kinderdijk
Drawings: Floorplans 1:100
Date: 24 - 06 - 2024
Student: Feline van Lierop
Location: West Kinderdijk 120, Alblasserdam
Scale: 1:250
Dimensions: mm

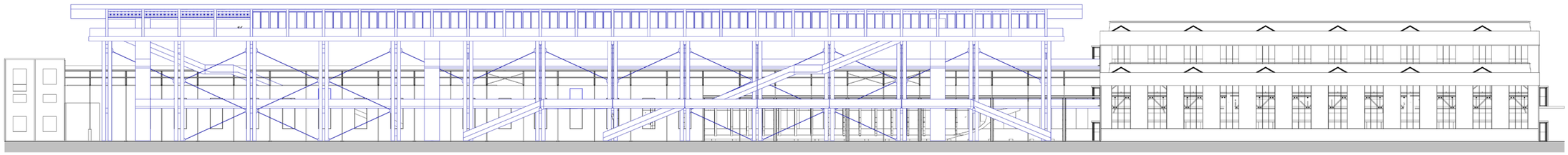
0 10 20 30

5. SPATIAL ASPECTS



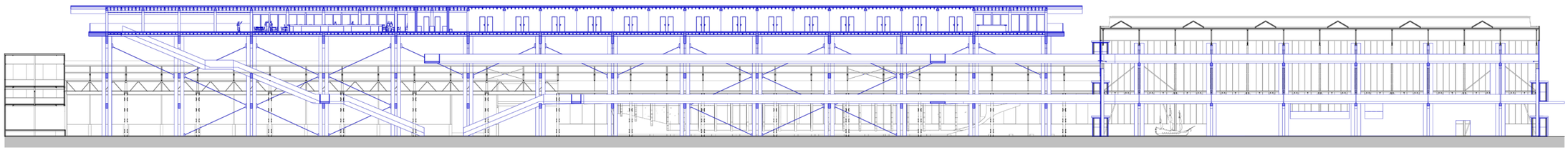
Existing Elevation: *Waterfront view*

with demolition in red



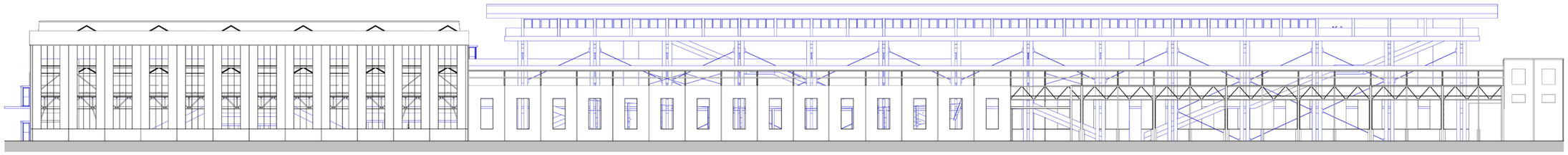
Elevation: *Waterfront view*

new build in blue



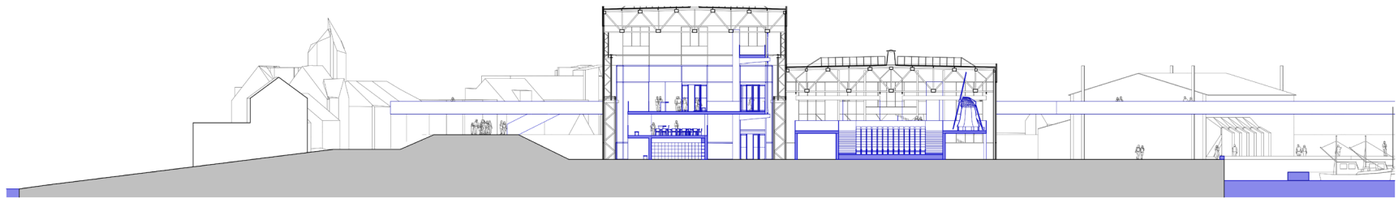
Section: *Waterfront view*

new build in blue

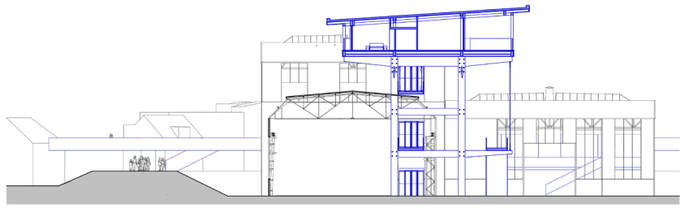


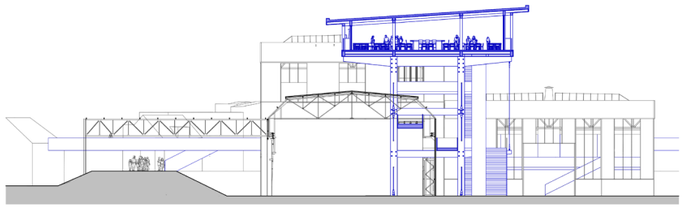
Elevation: *Kinderdijk view*

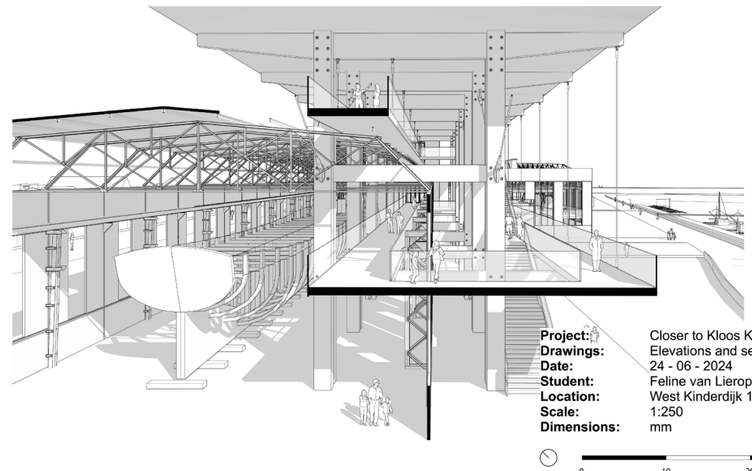
new build in blue



Cross-sections







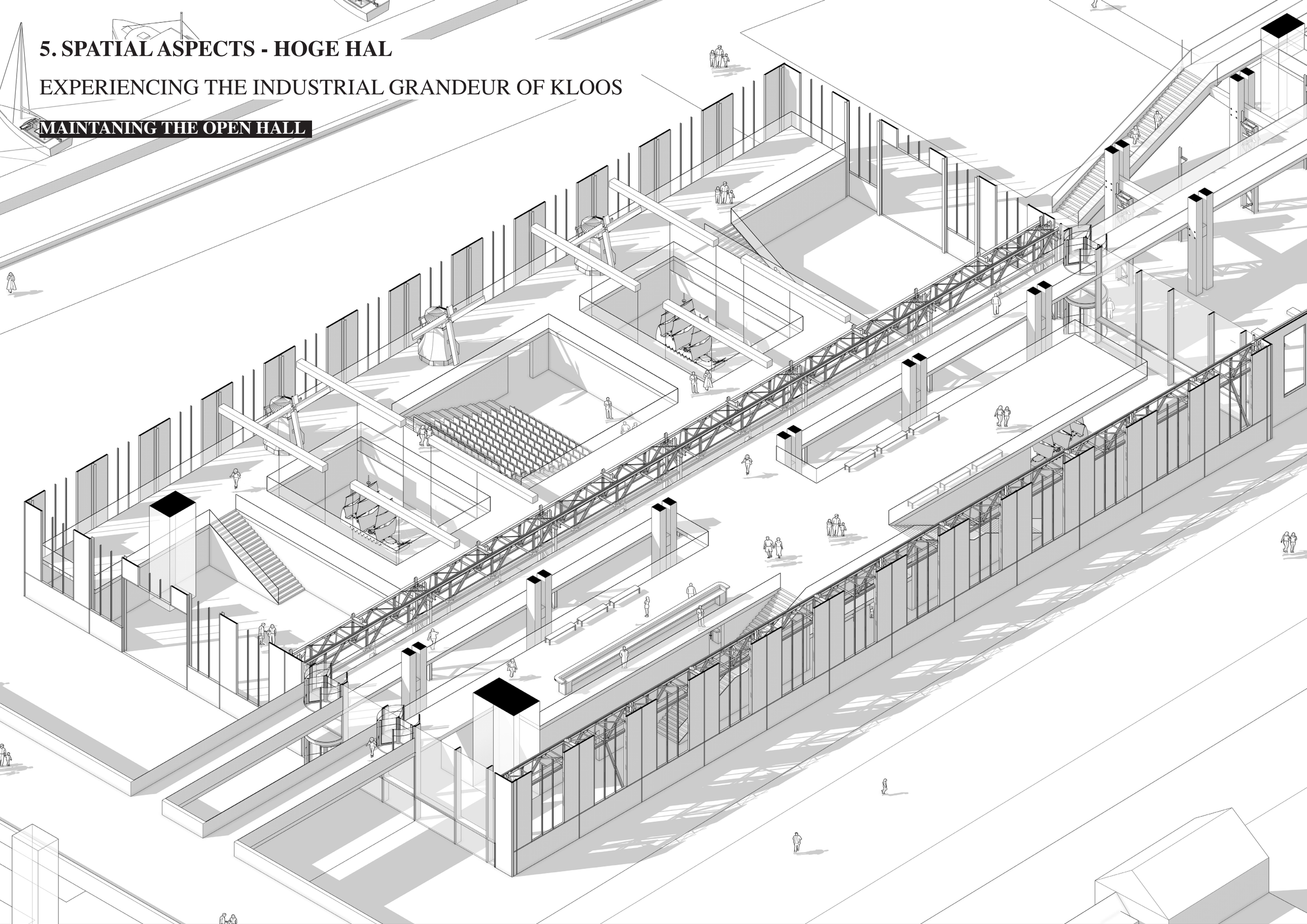
Project: Closer to Kloos Kinderdijk
Drawings: Elevations and sections 1:100
Date: 24 - 06 - 2024
Student: Feline van Lierop
Location: West Kinderdijk 120, Alblasserdam
Scale: 1:250
Dimensions: mm

0 10 20 30

5. SPATIAL ASPECTS - HOGE HAL

EXPERIENCING THE INDUSTRIAL GRANDEUR OF KLOOS

MAINTANING THE OPEN HALL



5. SPATIAL ASPECTS - HOGE HAL

EXPERIENCING THE INDUSTRIAL GRANDEUR OF KLOOS

PRESERVNG INDUSTRIAL CHARACTER

REINTRODUCING BRICK FACADE

5. SPATIAL ASPECTS - HOGE HAL

EXPERIENCING THE INDUSTRIAL GRANDEUR OF KLOOS

EMPHASIZING SIGHTLINES

5. SPATIAL ASPECTS - LAGE HAL

ENJOYING MUSEUM EXHIBITS WHILE EXPERIENCING THE INDUSTRIAL HALL AND SURROUNDING VIEWS

IMPLEMENTING STRUCTURED ZONING AND CIRCULATION

CREATING INTIMATE MUSEUM AREAS

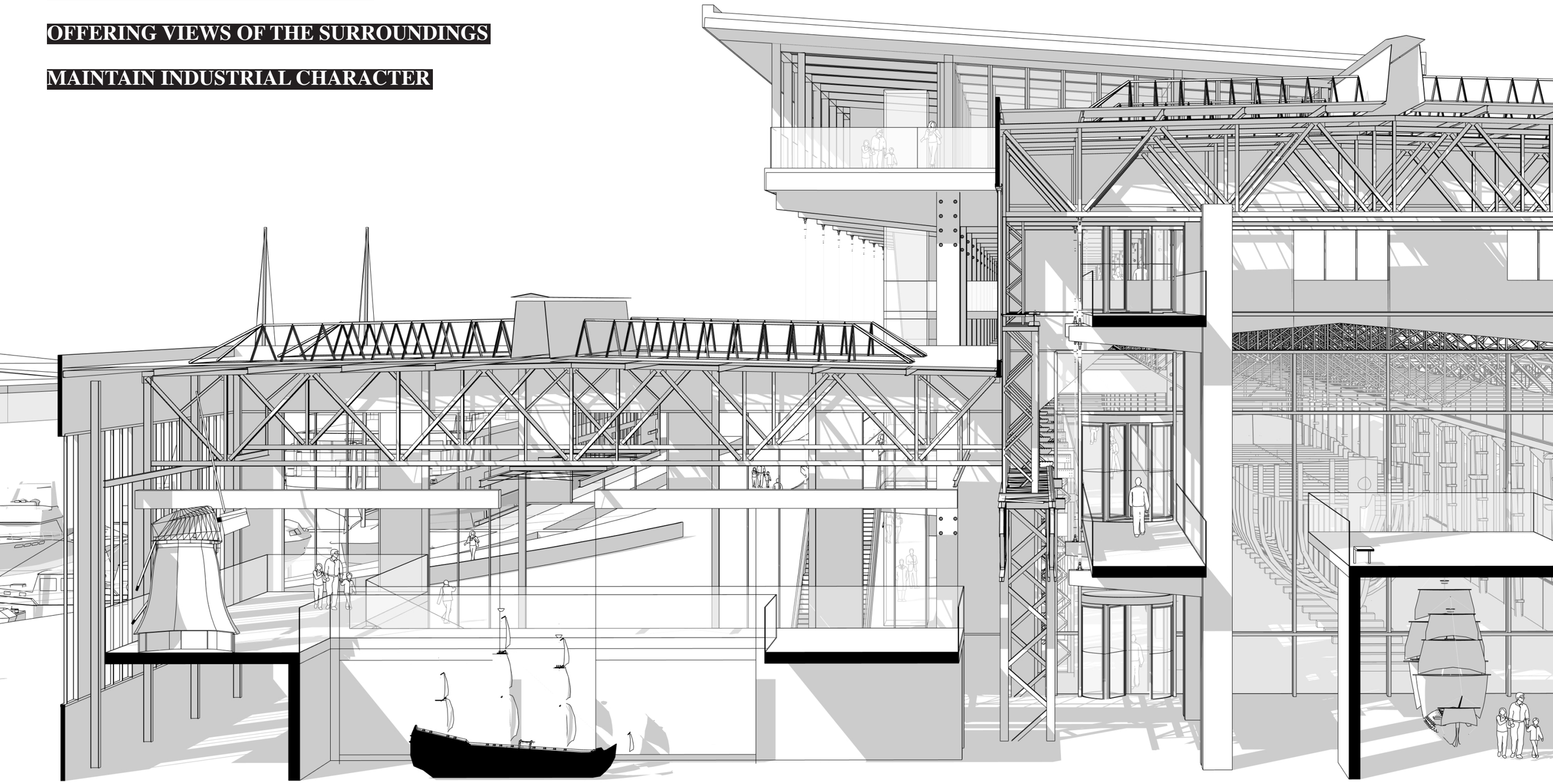
5. SPATIAL ASPECTS - LAGE HAL

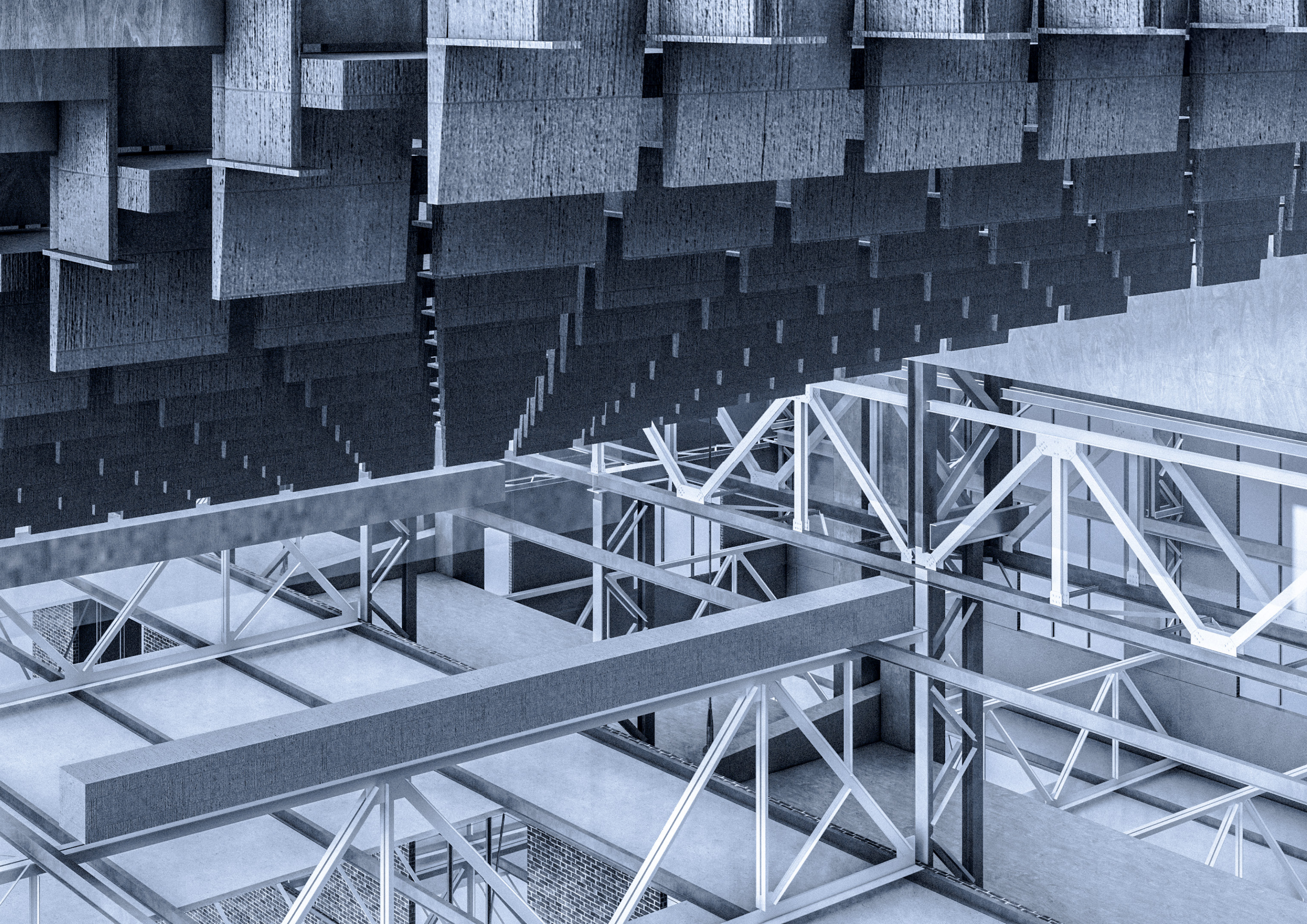
ENJOYING MUSEUM EXHIBITS WHILE EXPERIENCING THE INDUSTRIAL HALL AND SURROUNDING VIEWS

REUSING HISTORICAL CRANES

OFFERING VIEWS OF THE SURROUNDINGS

MAINTAIN INDUSTRIAL CHARACTER

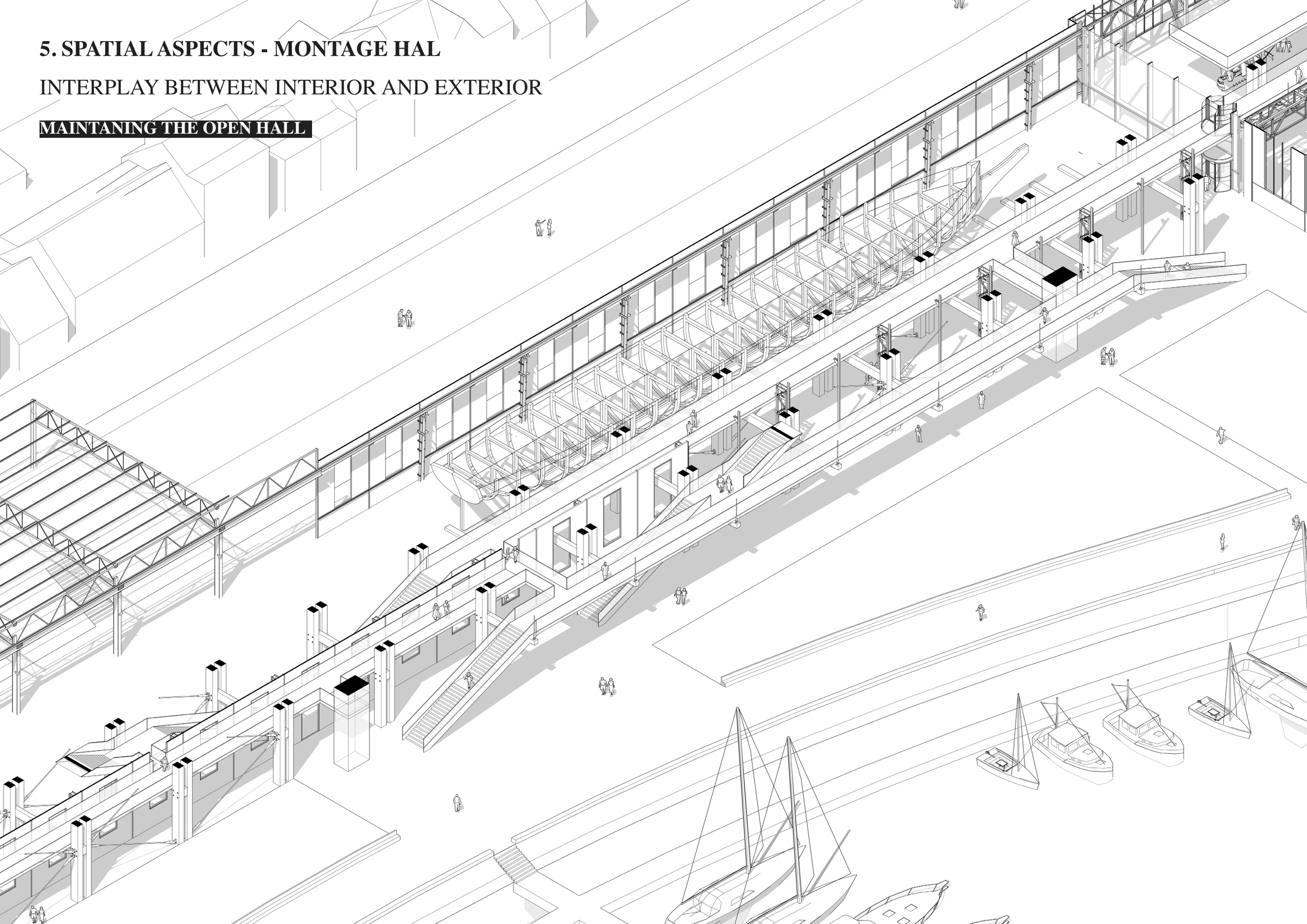




5. SPATIAL ASPECTS - MONTAGE HAL

INTERPLAY BETWEEN INTERIOR AND EXTERIOR

MAINTANING THE OPEN HALL

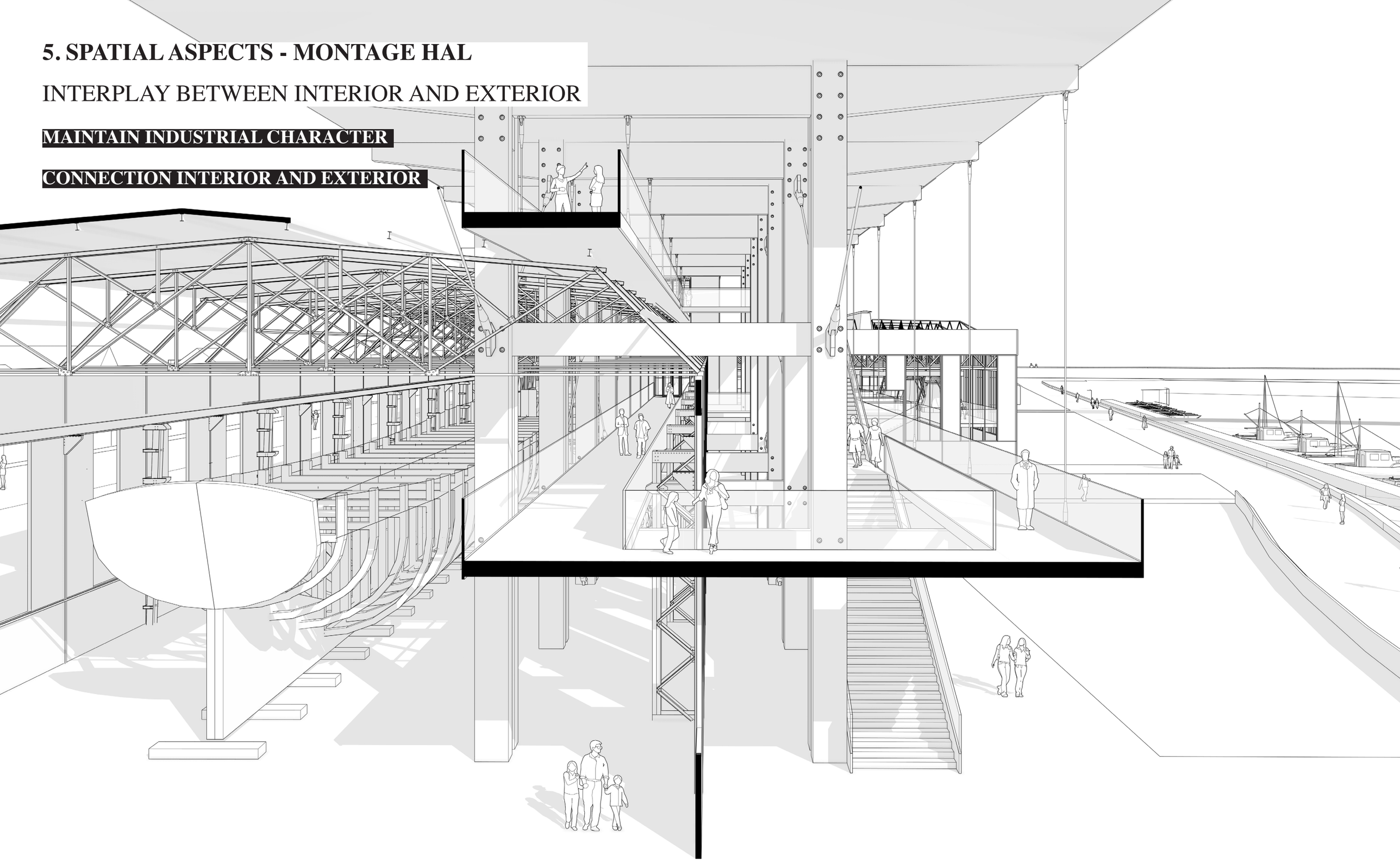


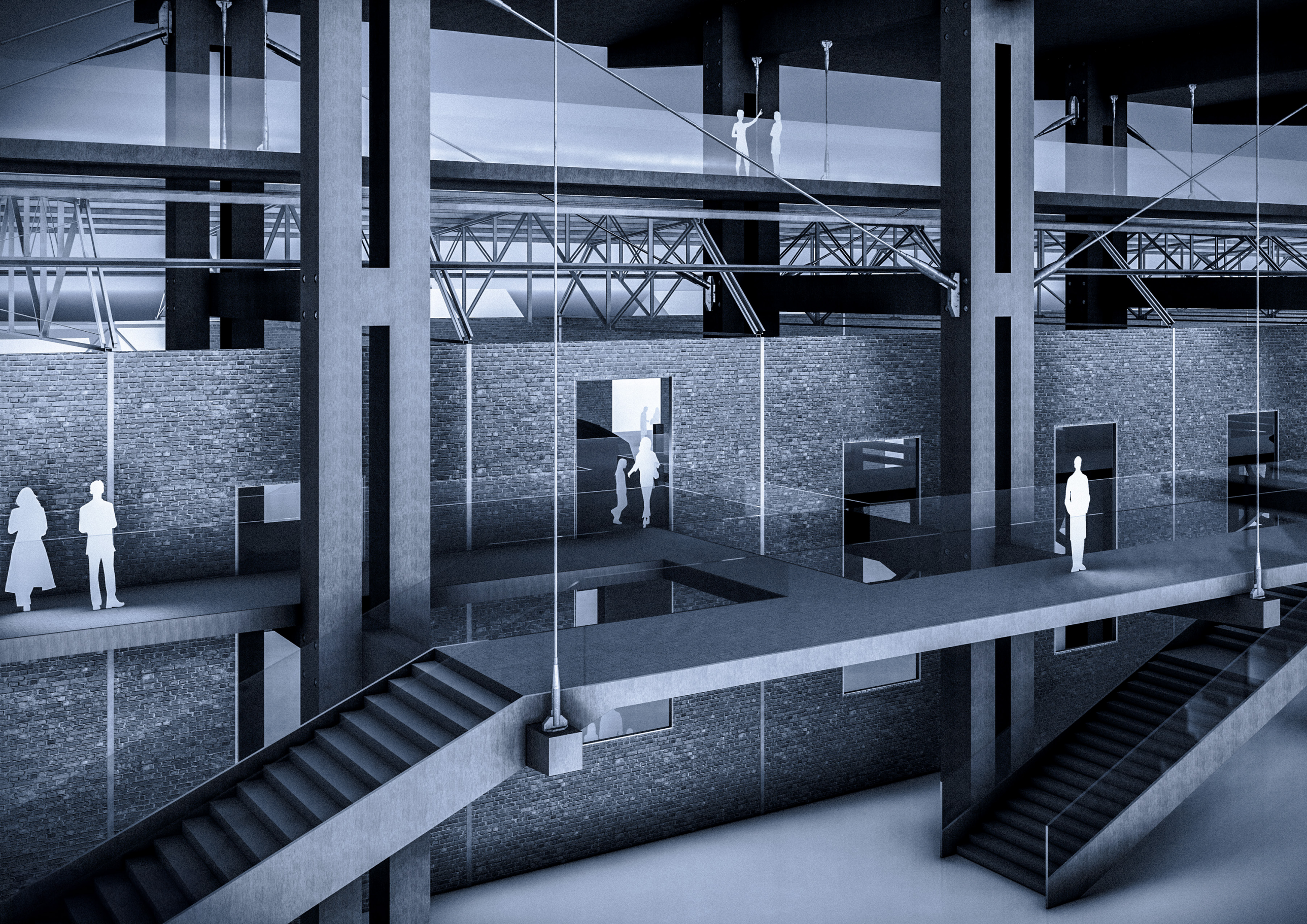
5. SPATIAL ASPECTS - MONTAGE HAL

INTERPLAY BETWEEN INTERIOR AND EXTERIOR

MAINTAIN INDUSTRIAL CHARACTER

CONNECTION INTERIOR AND EXTERIOR

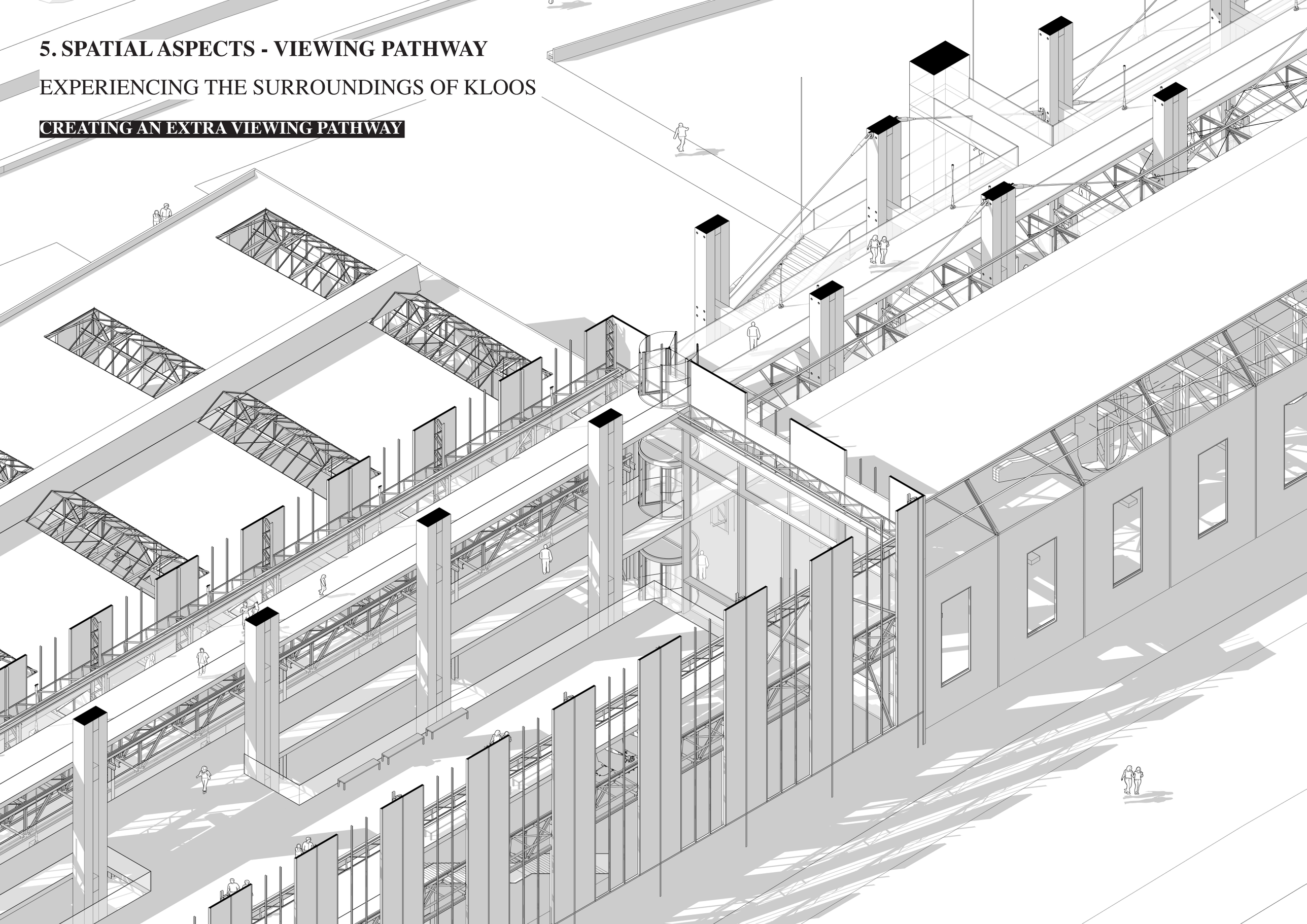




5. SPATIAL ASPECTS - VIEWING PATHWAY

EXPERIENCING THE SURROUNDINGS OF KLOOS

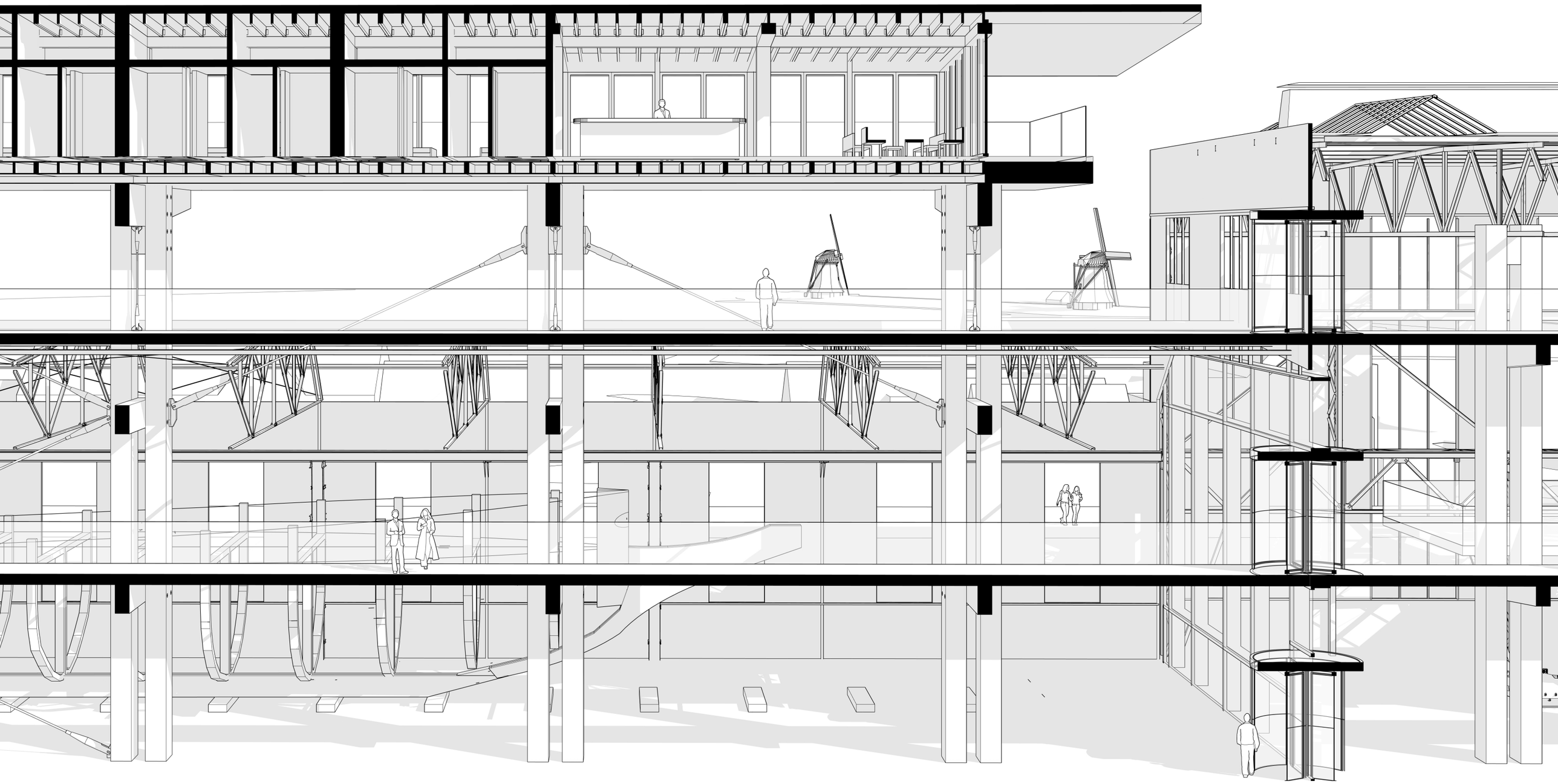
CREATING AN EXTRA VIEWING PATHWAY



5. SPATIAL ASPECTS - VIEWING PATHWAY

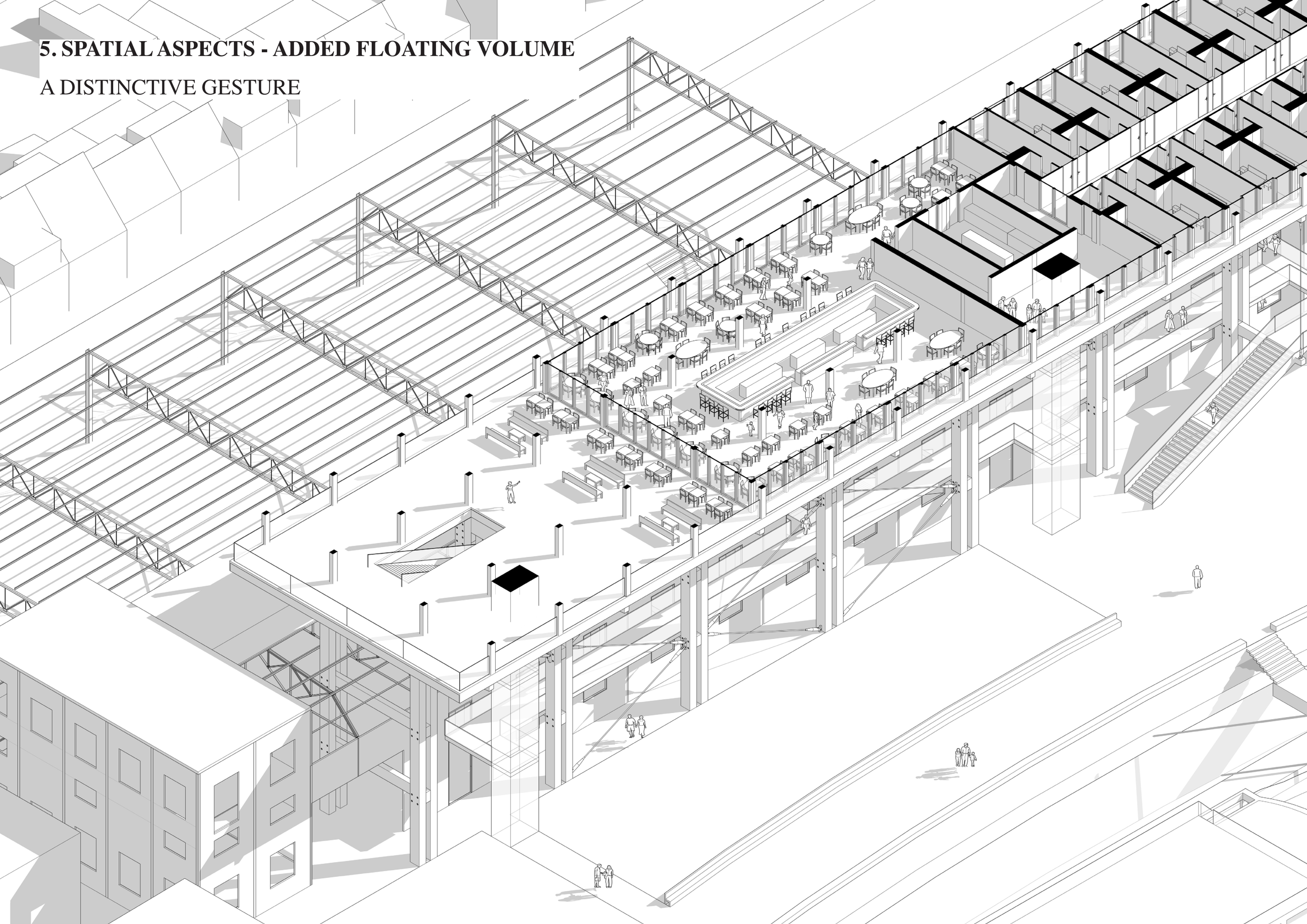
EXPERIENCING THE SURROUNDINGS OF KLOOS

OFFERING VIEWS OF THE SURROUNDINGS



5. SPATIAL ASPECTS - ADDED FLOATING VOLUME

A DISTINCTIVE GESTURE



6. CONTEXTUAL ASPECTS

DESIGNING WITH THE EXISTING CONTEXT

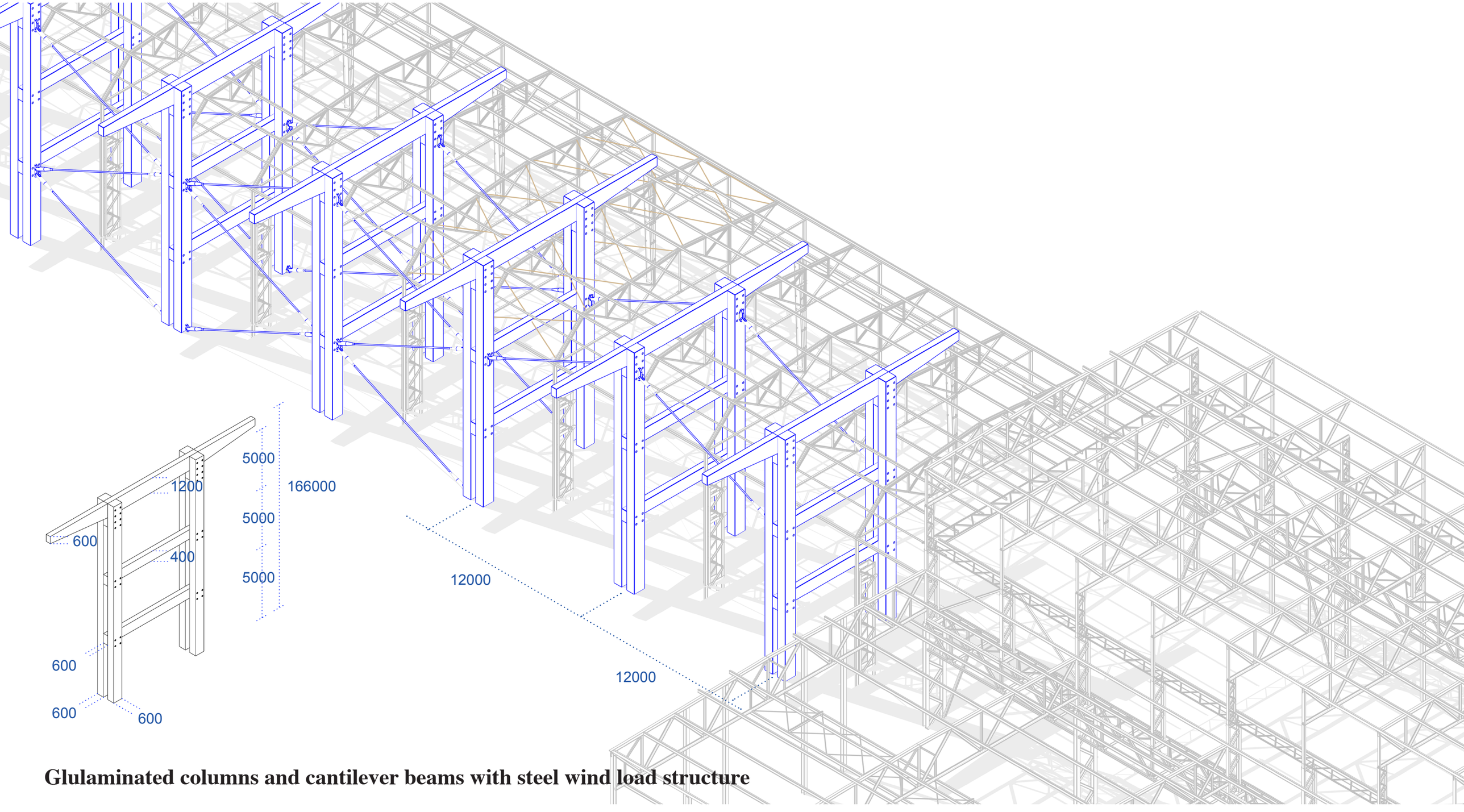
6. CONTEXTUAL ASPECTS

7. MATERIAL AND TECHNICAL ASPECTS

DESIGNING WITHIN THE EXISTING BUILDING

7. MATERIAL AND TECHNICAL ASPECTS - 3D REPRESENTATION

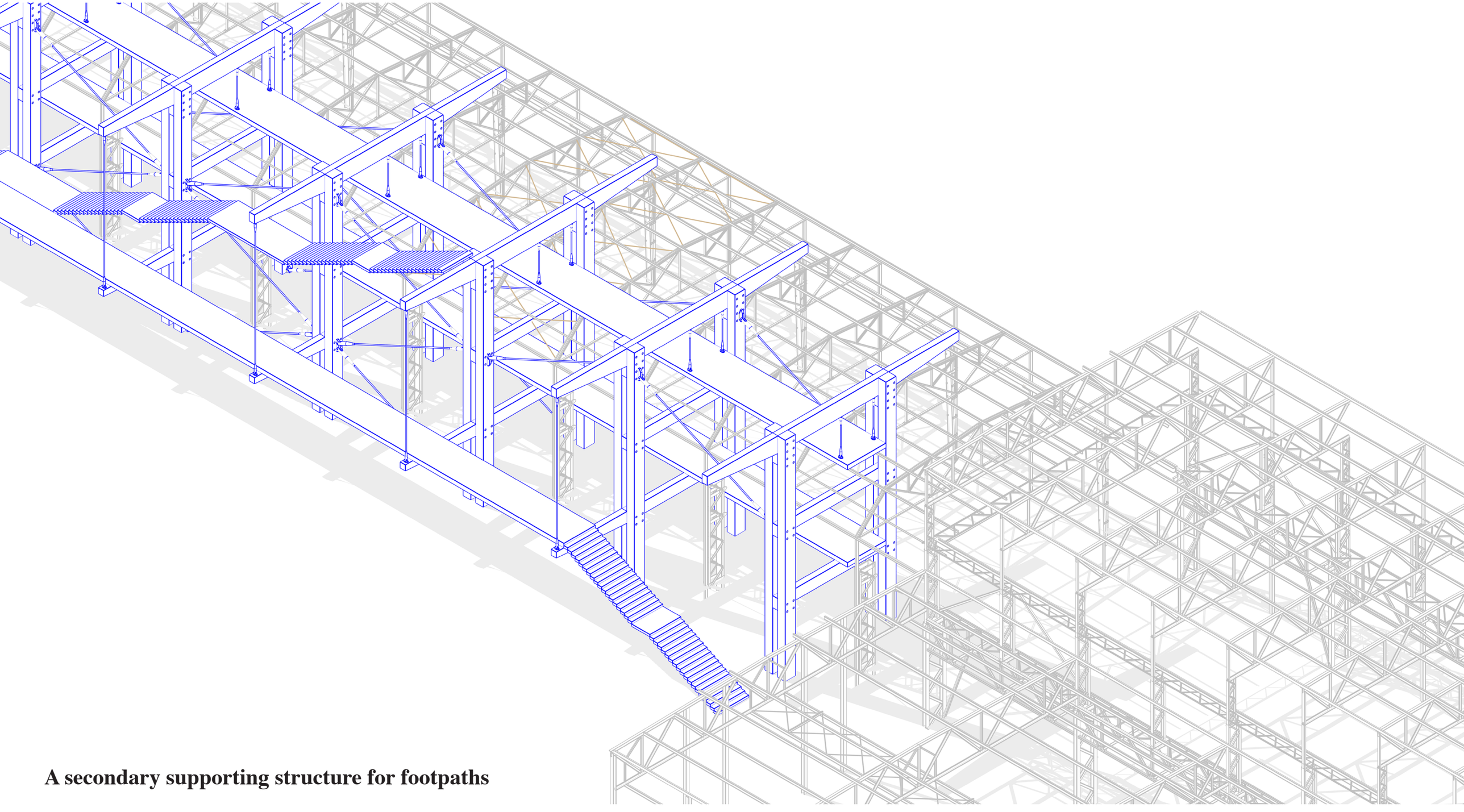
SUPPORT STRUCTURE AND BUILDING TECHNOLOGY



Glulaminated columns and cantilever beams with steel wind load structure

7. MATERIAL AND TECHNICAL ASPECTS - 3D REPRESENTATION

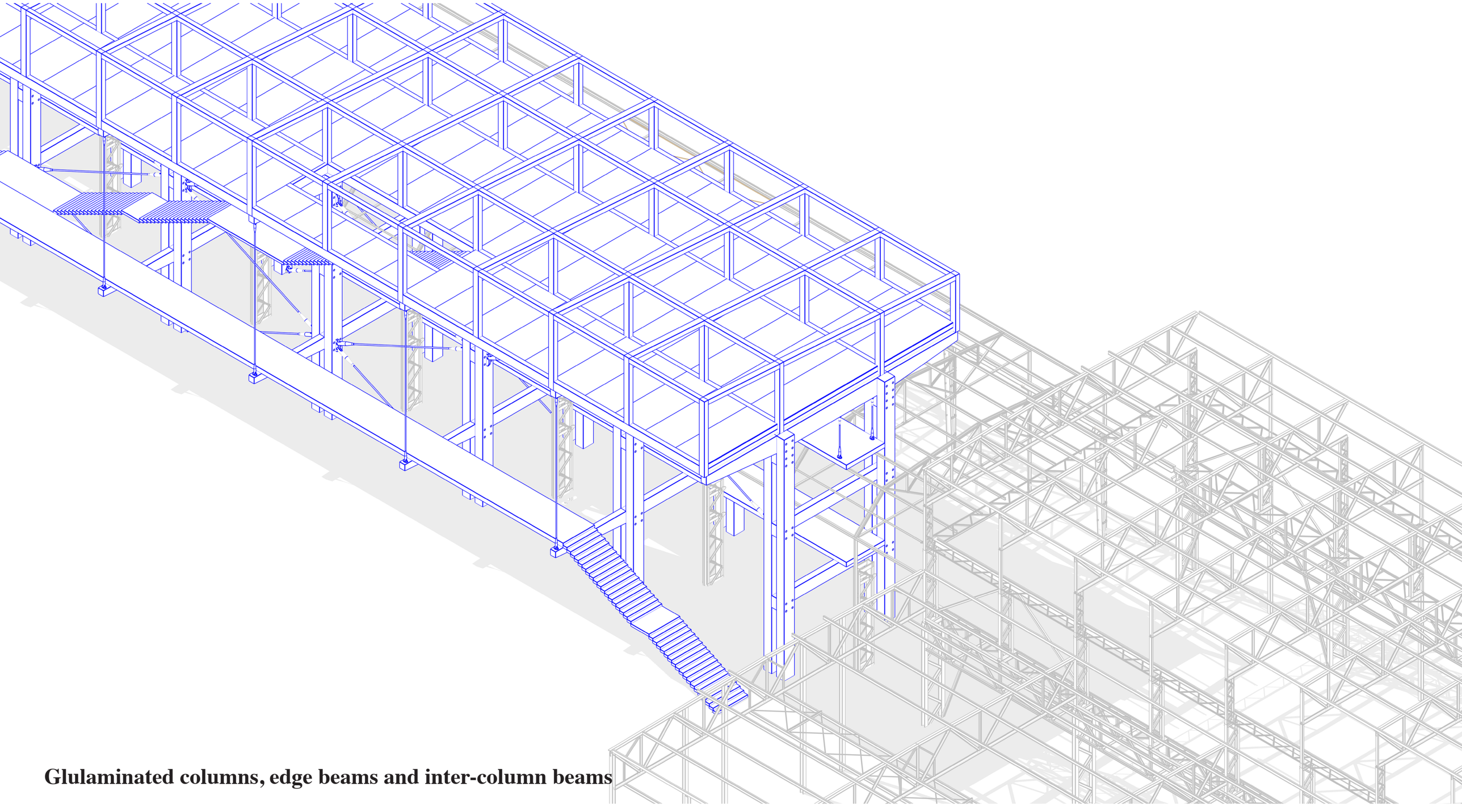
SUPPORT STRUCTURE AND BUILDING TECHNOLOGY



A secondary supporting structure for footpaths

7. MATERIAL AND TECHNICAL ASPECTS - 3D REPRESENTATION

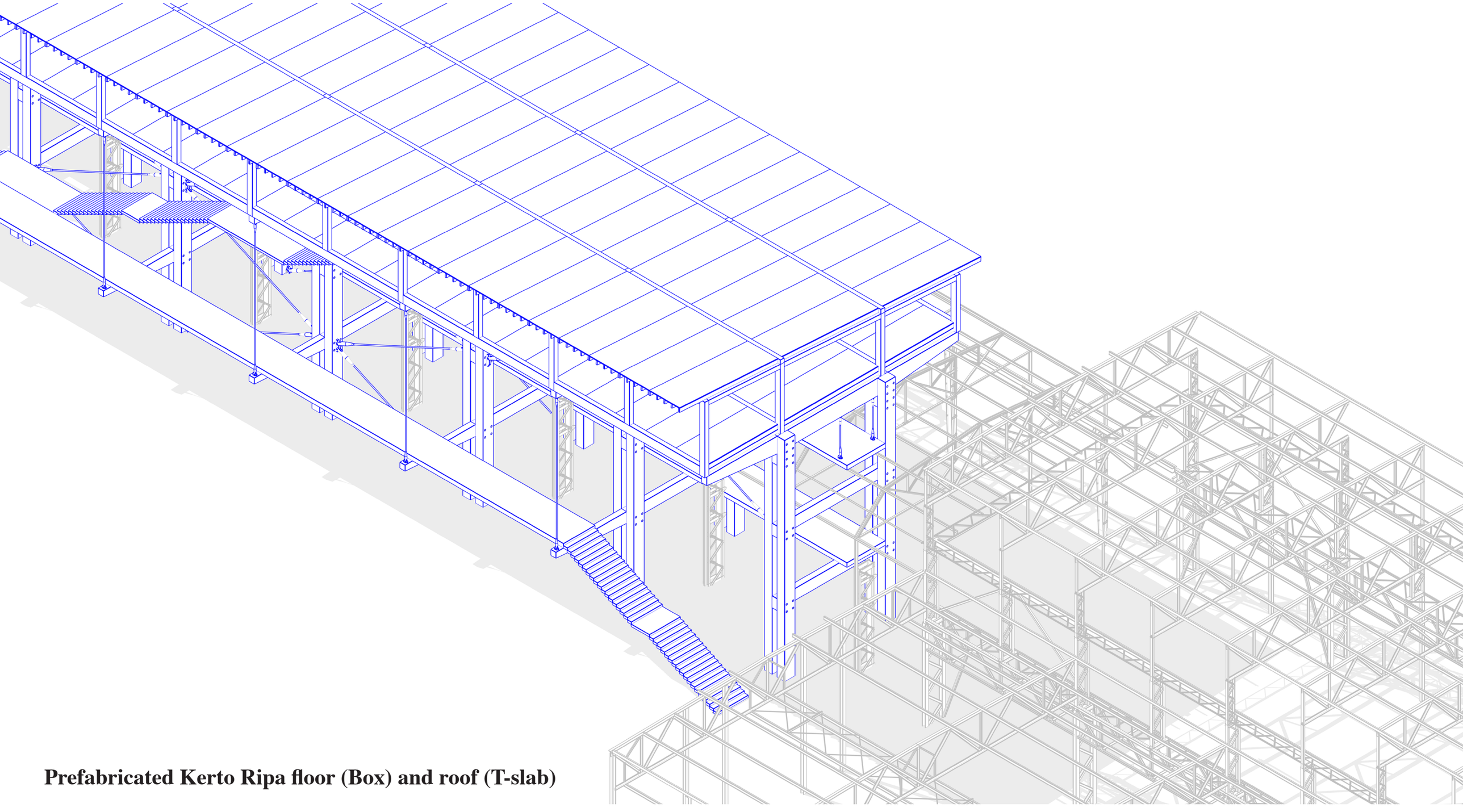
SUPPORT STRUCTURE AND BUILDING TECHNOLOGY



Glulaminated columns, edge beams and inter-column beams

7. MATERIAL AND TECHNICAL ASPECTS - 3D REPRESENTATION

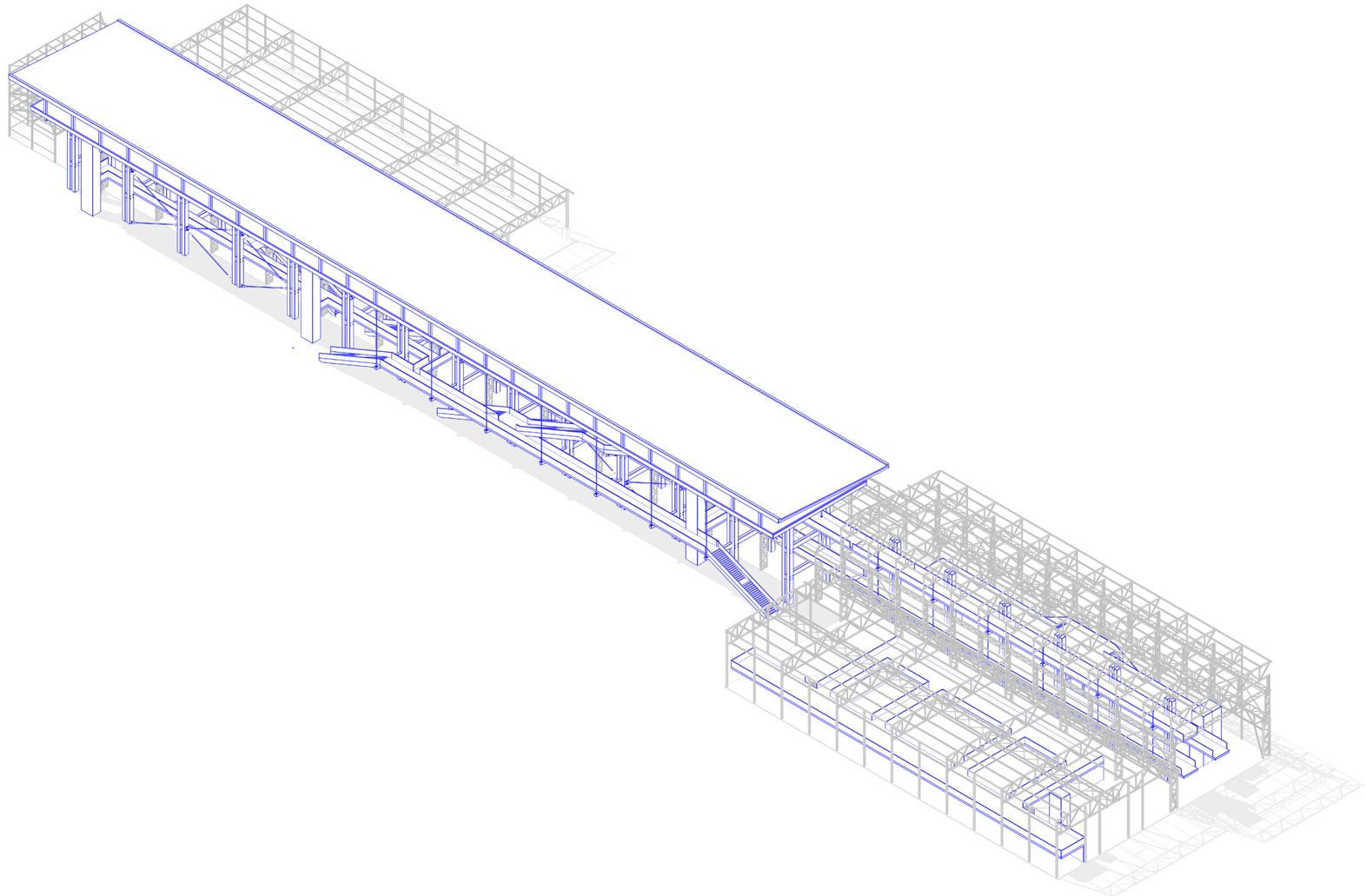
SUPPORT STRUCTURE AND BUILDING TECHNOLOGY



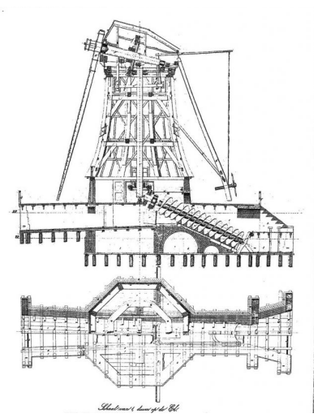
Prefabricated Kerto Ripa floor (Box) and roof (T-slab)

7. MATERIAL AND TECHNICAL ASPECTS - 3D REPRESENTATION

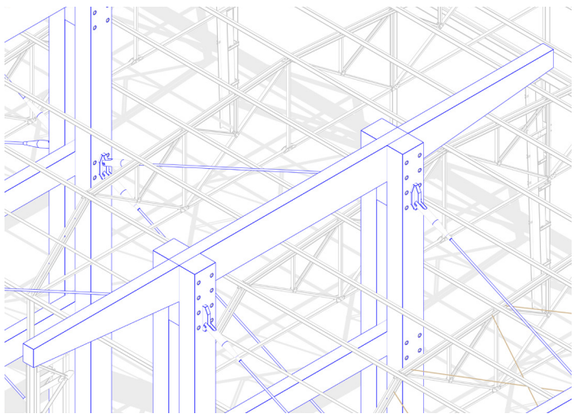
TECHNICAL CHARACTERISTICS



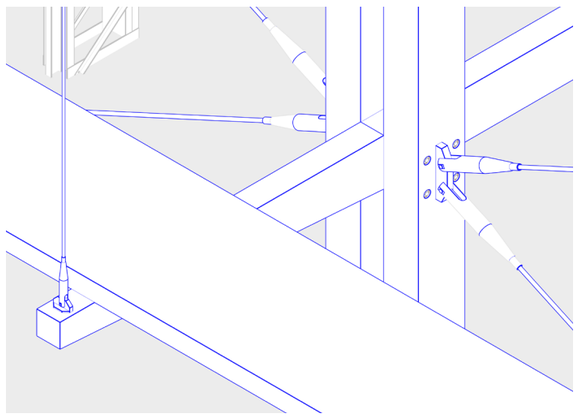
Octagonal shape Kinderdijk windmills



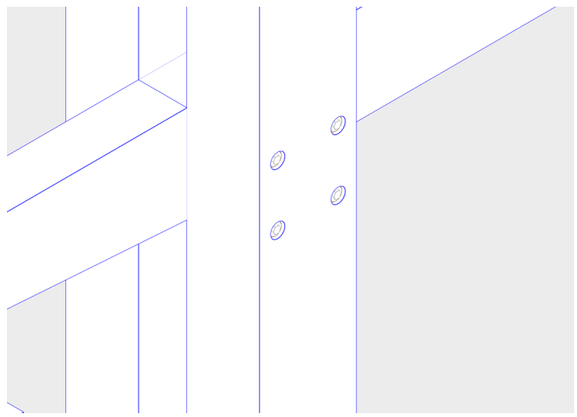
Cantilever beam shape



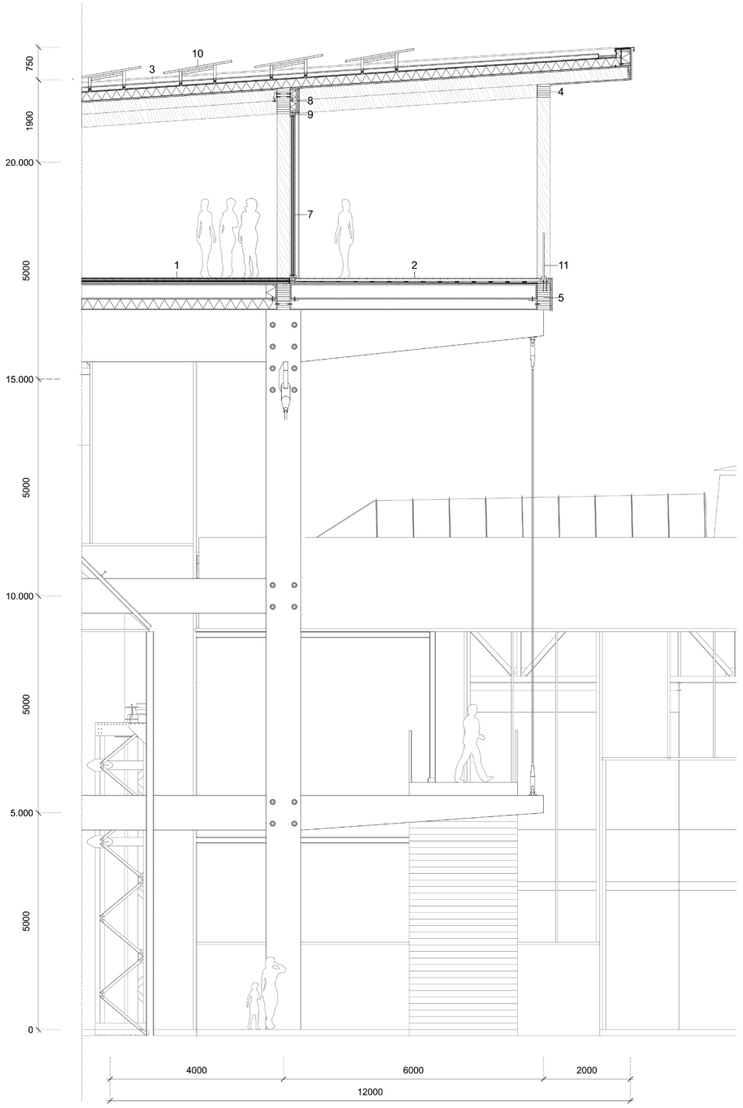
Cable attachments

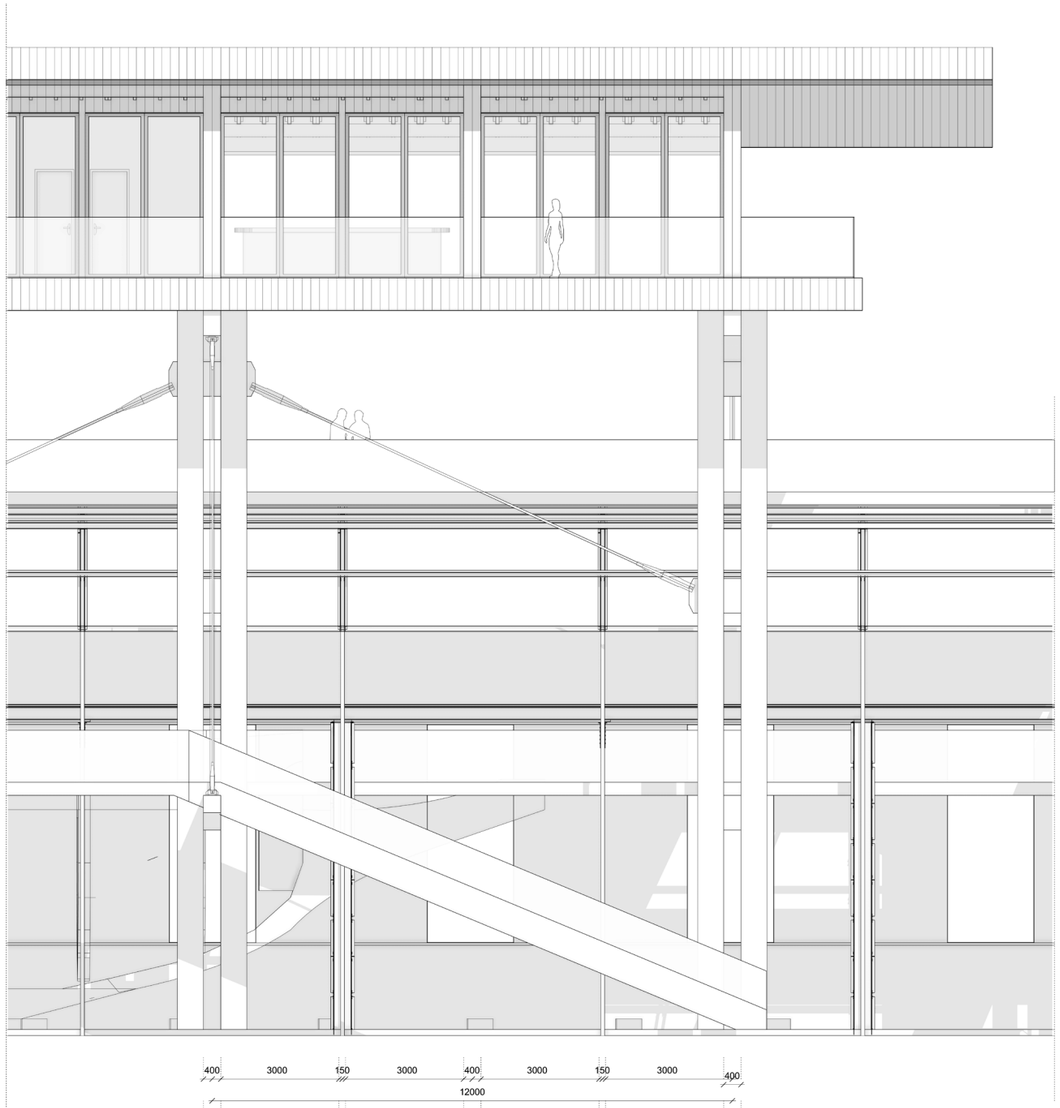


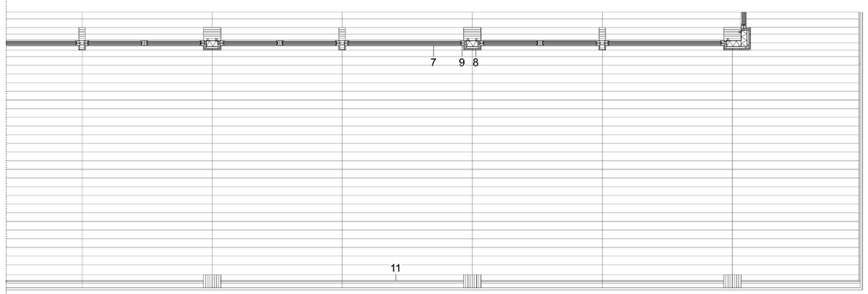
Fixed-moment connections



7. MATERIAL AND TECHNICAL ASPECTS - FAÇADE FRAGMENT







1. Floor construction:
20 mm pine decking
adhesive bond to 10 mm gypsum fibre board
25 mm gypsum fibre panel with integrated underfloor heating
adhesive bond to 10 mm gypsum fibre board
12 mm glass wool panel impact soundproofing
10 mm loose gypsum fibre board
17 mm levelling fill
30 mm heavy honeycomb fill
PE foil
360 mm Kerto Ripa Box
240 mm wood fiber insulation boards
20 mm oak glued

2. Terrace construction:
200/30 mm pine planks
terrace supporting structure plastic
Drainage rubber tiles
EPDM sealant
360 mm Kerto Ripa Box

3. Roof construction:
extensive green roof
80 mm substrate
filter fleece
20 mm drainage layer
EPMD sealant layer
200 wood fiber insulation boards
bituminous vapour barrier
300 mm Kerto Ripa T shape

4. Beam:
300/300 mm glue-laminated beam

5. Beam:
300/600 mm glue-laminated beam

6. Beam:
150/300 mm glue-laminated beam

7. Triple glazing:
U-value = 0,7 W/(m2K)
8 mm toughened glass
18 mm cavity
4 mm float glass
18 mm cavity
11 mm laminated safety glass

8. Wall construction:
20 mm pine planks on battens and frames
Vapour retarder
140 mm wood fiber insulation boards
Galvanised angle profile 102 x 63 x 40 mm and 2,5 mm thick
Vapour barrier
300/400 mm glulam column

9. Window frame
Pine window frame
Compresson tape between window frame and structural frame

10. Roof:
PV panel and solar collectors

11. Glass balustrade:
1400 mm glass balustrade
wooden balustrade support ceentre-to-centre 250 mm

Project:	Closer to Kloos Kinderdijk
Drawings:	Facade fragment 1:20
Date:	24 - 06 - 2024
Student:	Feline van Lierop
Location:	West Kinderdijk 120, Alblasserdam
Scale:	1:50
Dimensions:	mm

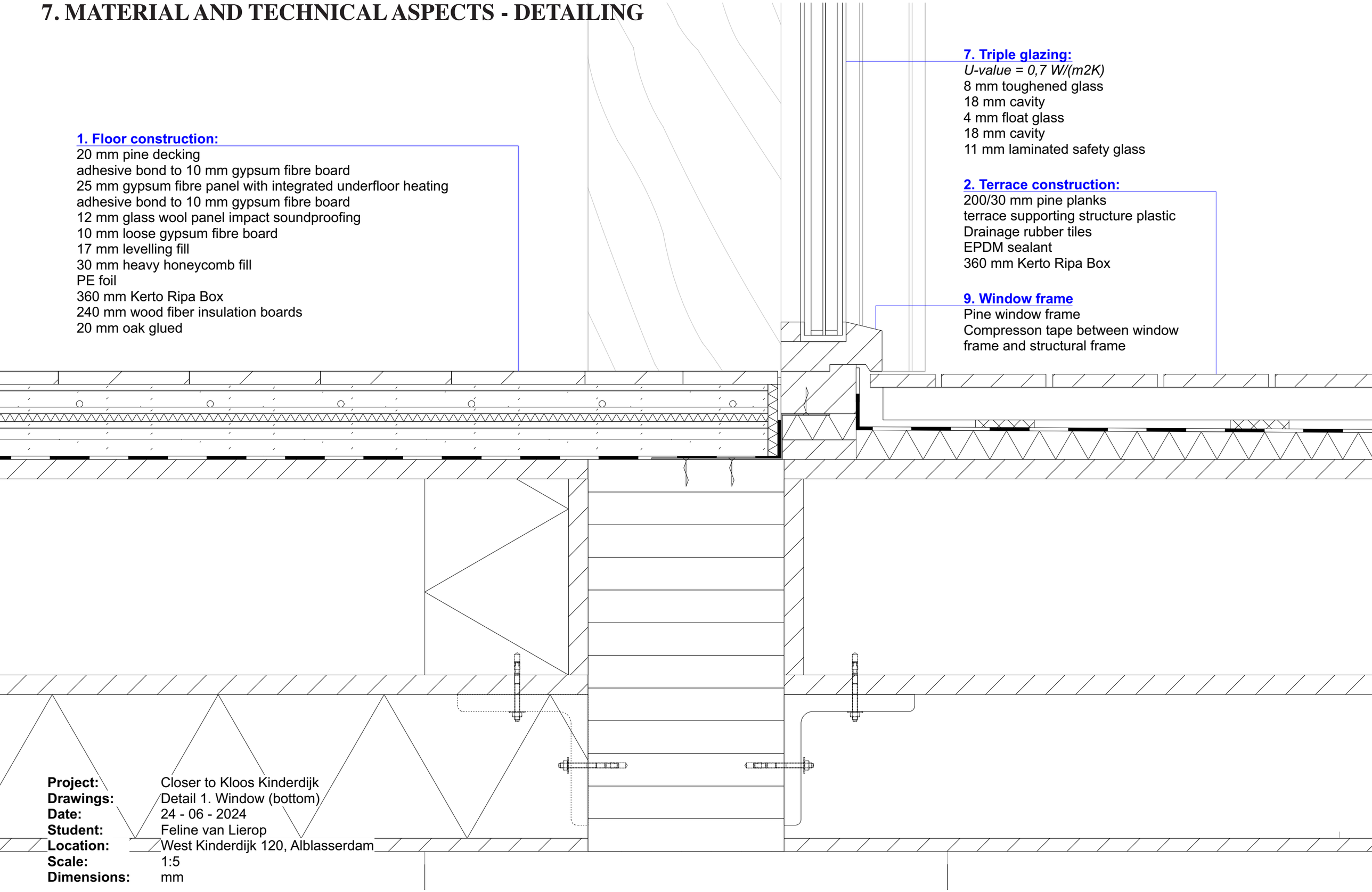
7. MATERIAL AND TECHNICAL ASPECTS - DETAILING

1. Floor construction:
20 mm pine decking
adhesive bond to 10 mm gypsum fibre board
25 mm gypsum fibre panel with integrated underfloor heating
adhesive bond to 10 mm gypsum fibre board
12 mm glass wool panel impact soundproofing
10 mm loose gypsum fibre board
17 mm levelling fill
30 mm heavy honeycomb fill
PE foil
360 mm Kerto Ripa Box
240 mm wood fiber insulation boards
20 mm oak glued

7. Triple glazing:
U-value = 0,7 W/(m2K)
8 mm toughened glass
18 mm cavity
4 mm float glass
18 mm cavity
11 mm laminated safety glass

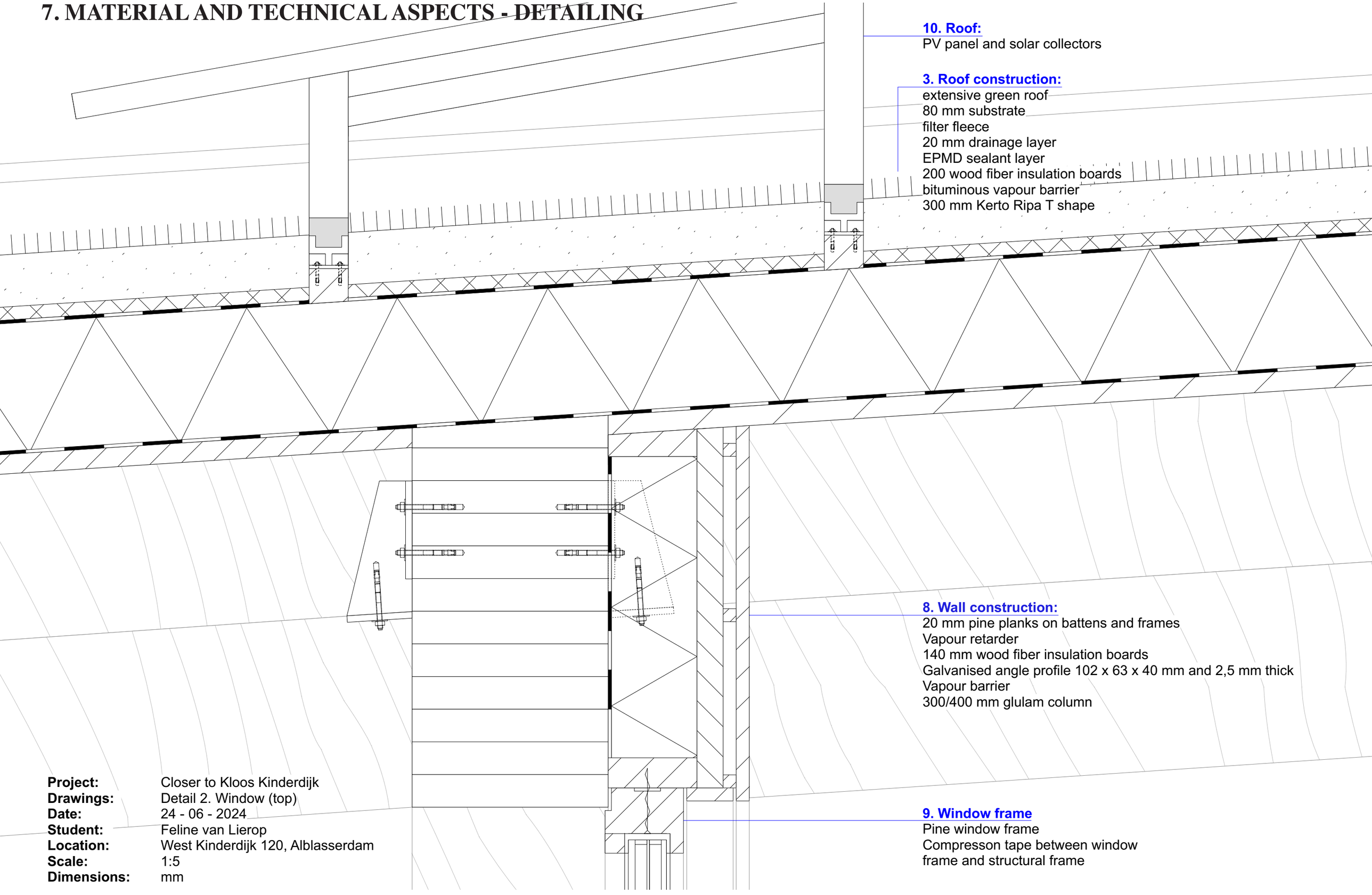
2. Terrace construction:
200/30 mm pine planks
terrace supporting structure plastic
Drainage rubber tiles
EPDM sealant
360 mm Kerto Ripa Box

9. Window frame
Pine window frame
Compresson tape between window frame and structural frame



Project:	Closer to Kloos Kinderdijk
Drawings:	Detail 1. Window (bottom)
Date:	24 - 06 - 2024
Student:	Feline van Lierop
Location:	West Kinderdijk 120, Alblasserdam
Scale:	1:5
Dimensions:	mm

7. MATERIAL AND TECHNICAL ASPECTS - DETAILING



10. Roof:
PV panel and solar collectors

3. Roof construction:
extensive green roof
80 mm substrate
filter fleece
20 mm drainage layer
EPMD sealant layer
200 wood fiber insulation boards
bituminous vapour barrier
300 mm Kerto Ripa T shape

8. Wall construction:
20 mm pine planks on battens and frames
Vapour retarder
140 mm wood fiber insulation boards
Galvanised angle profile 102 x 63 x 40 mm and 2,5 mm thick
Vapour barrier
300/400 mm glulam column

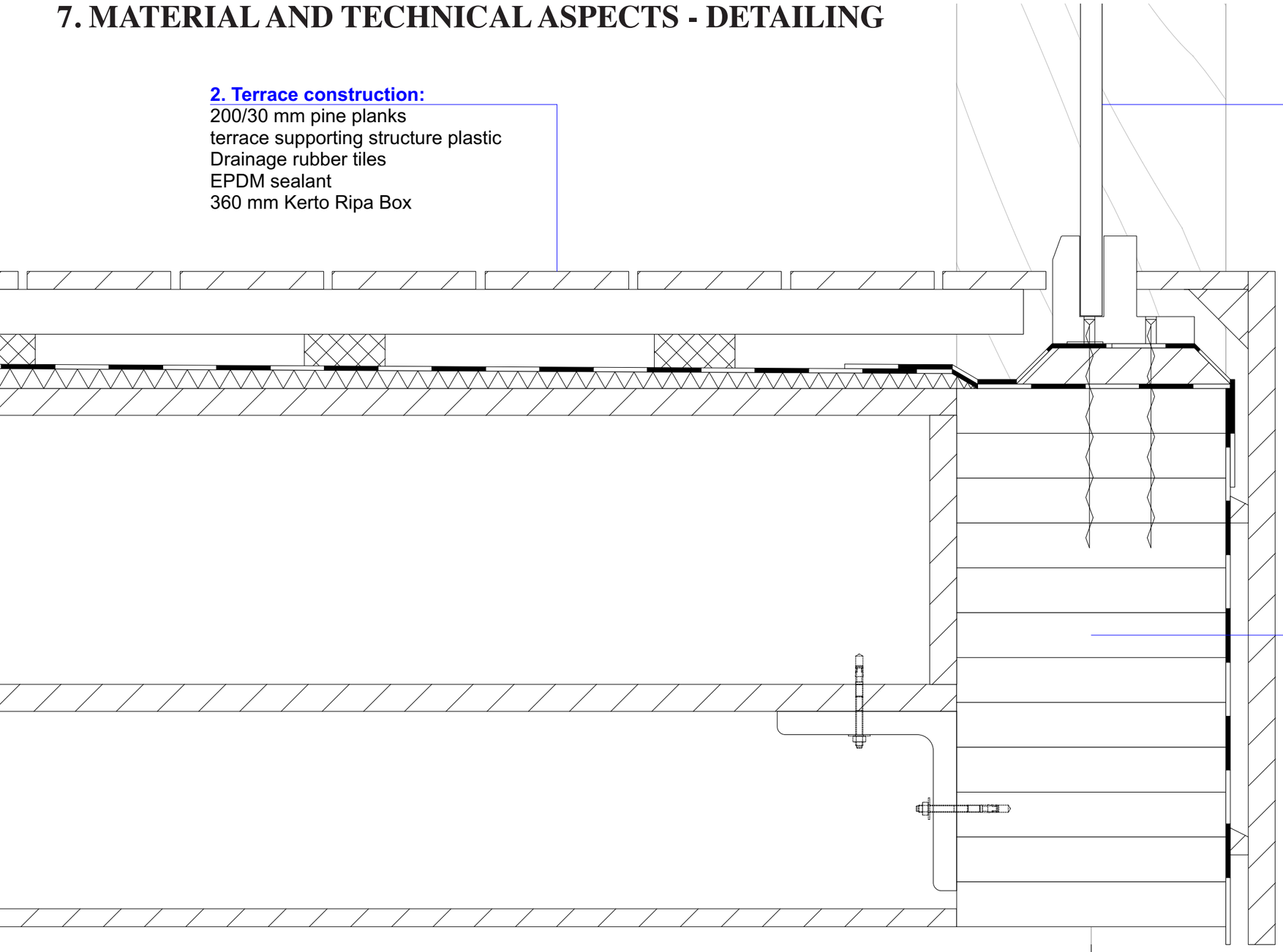
9. Window frame
Pine window frame
Compresson tape between window frame and structural frame

Project: Closer to Kloos Kinderdijk
Drawings: Detail 2. Window (top)
Date: 24 - 06 - 2024
Student: Feline van Lierop
Location: West Kinderdijk 120, Alblasserdam
Scale: 1:5
Dimensions: mm

7. MATERIAL AND TECHNICAL ASPECTS - DETAILING

2. Terrace construction:
200/30 mm pine planks
terrace supporting structure plastic
Drainage rubber tiles
EPDM sealant
360 mm Kerto Ripa Box

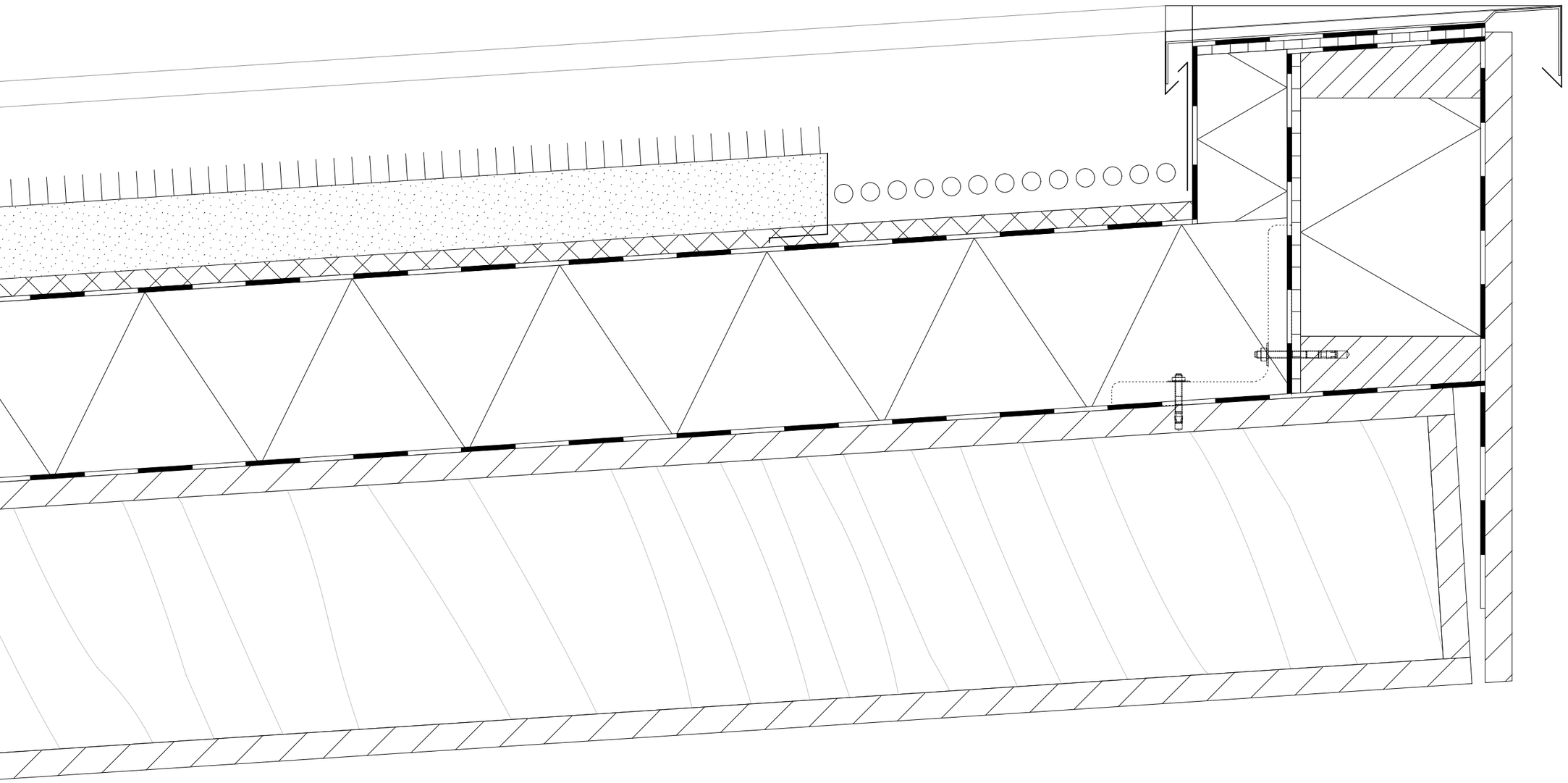
11. Glass balustrade:
1400 mm glass balustrade
Wooden balustrade support centre-to-centre 250 mm



5. Beam:
300/600 mm glue-laminated beam

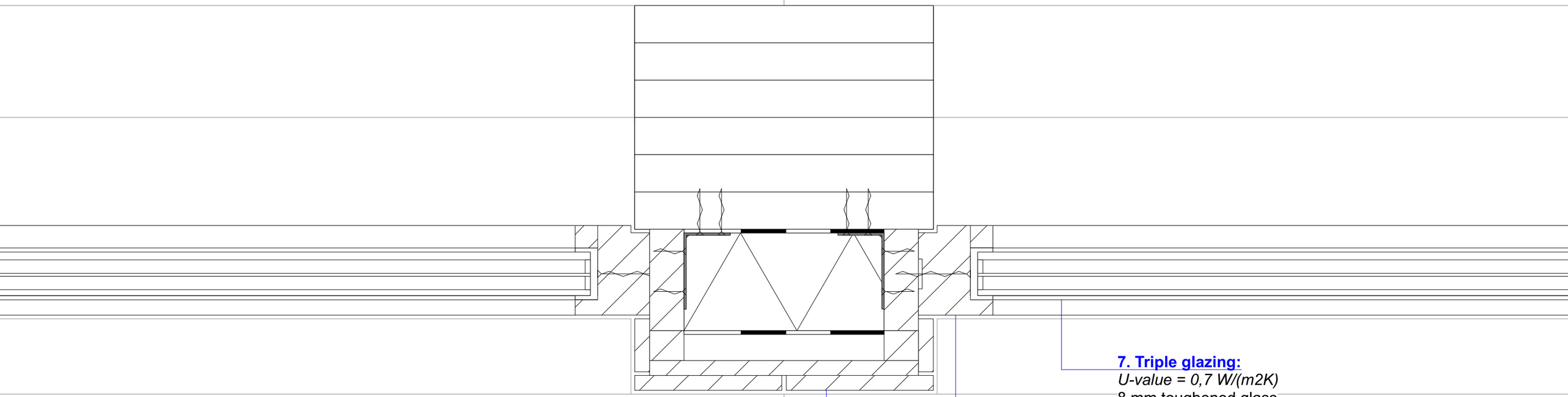
Project: Closer to Kloos Kinderdijk
Drawings: Detail 3. Balustrade
Date: 24 - 06 - 2024
Student: Feline van Lierop
Location: West Kinderdijk 120, Alblasserdam
Scale: 1:5
Dimensions: mm

7. MATERIAL AND TECHNICAL ASPECTS - DETAILING



Project: Closer to Kloos Kinderdijk
Drawings: Detail 4. Eaves
Date: 24 - 06 - 2024
Student: Feline van Lierop
Location: West Kinderdijk 120, Alblasserdam
Scale: 1:5
Dimensions: mm

7. MATERIAL AND TECHNICAL ASPECTS - DETAILING



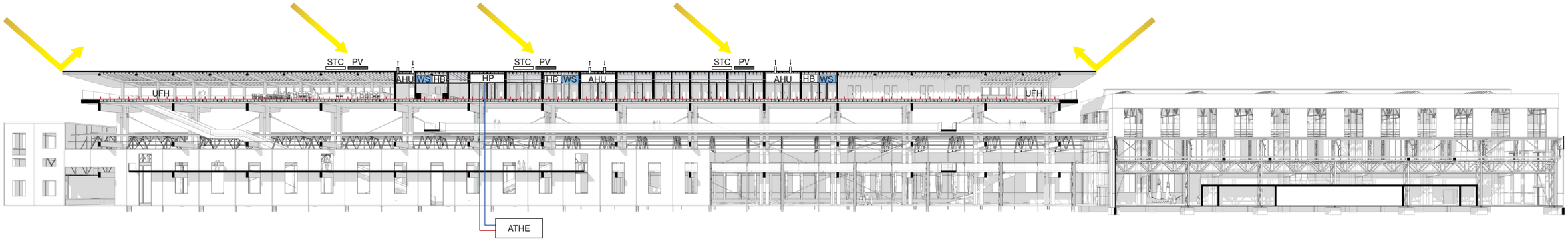
7. Triple glazing:
U-value = 0,7 W/(m2K)
8 mm toughened glass
18 mm cavity
4 mm float glass
18 mm cavity
11 mm laminated safety glass

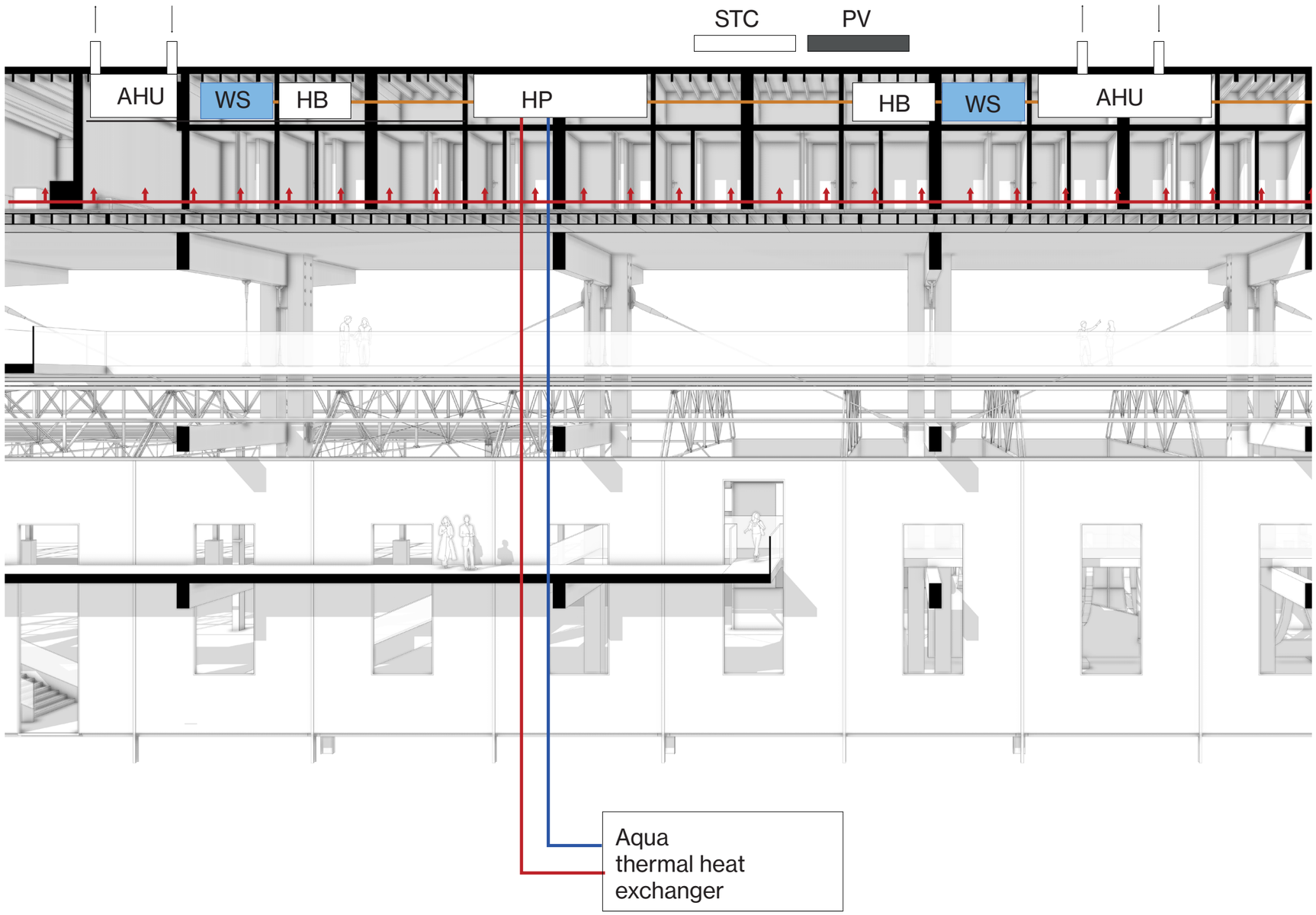
9. Window frame
Pine window frame
Compresson tape between window
frame and structural frame

8. Wall construction:
20 mm pine planks on battens and frames
Vapour retarder
140 mm wood fiber insulation boards
Galvanised angle profile 102 x 63 x 40 mm and 2,5 mm thick
Vapour barrier
300/400 mm glulam column

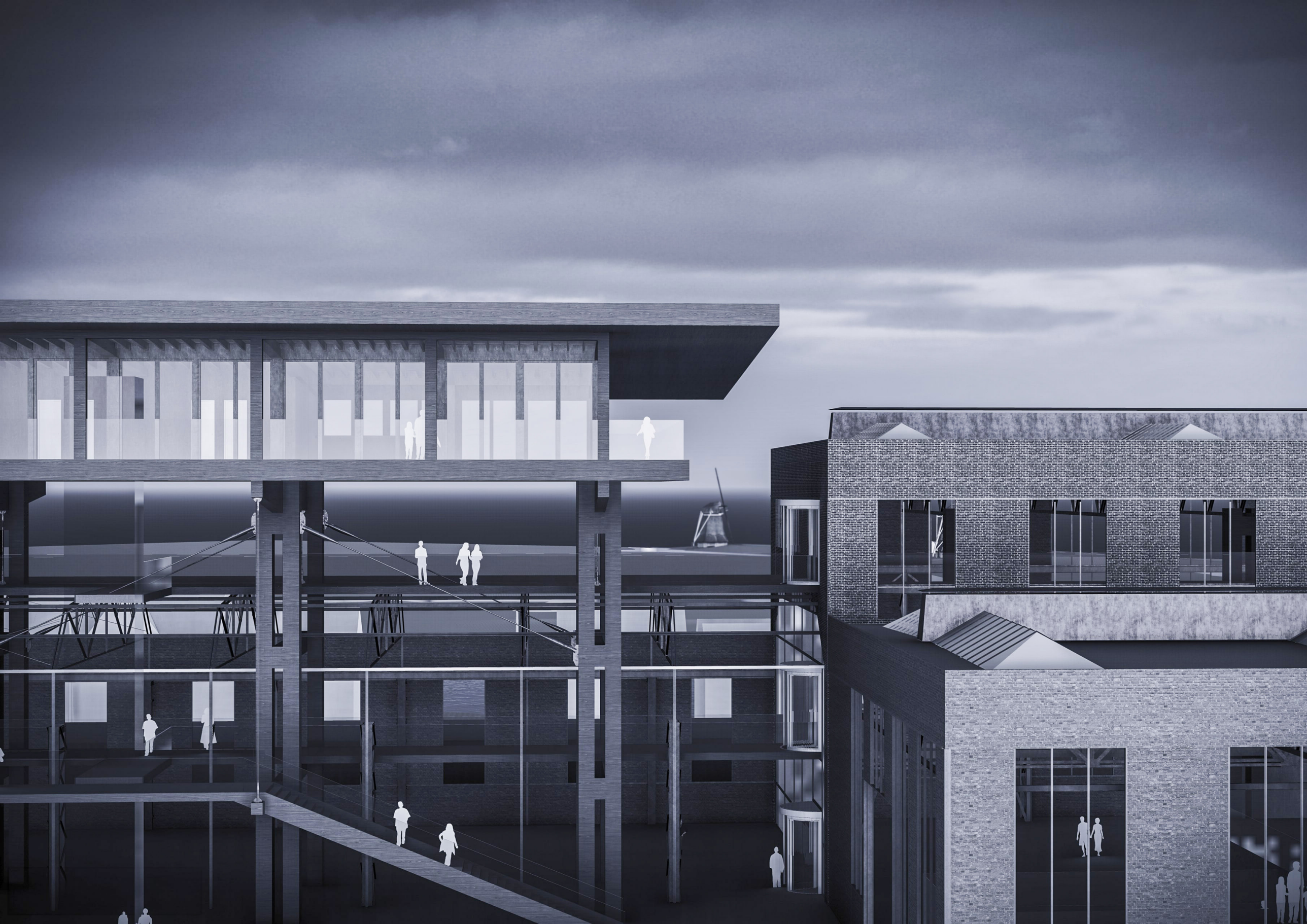
Project: Closer to Kloos Kinderdijk
Drawings: Detail 5. Window (horizontal)
Date: 24 - 06 - 2024
Student: Feline van Lierop
Location: West Kinderdijk 120, Alblasserdam
Scale: 1:5
Dimensions: mm

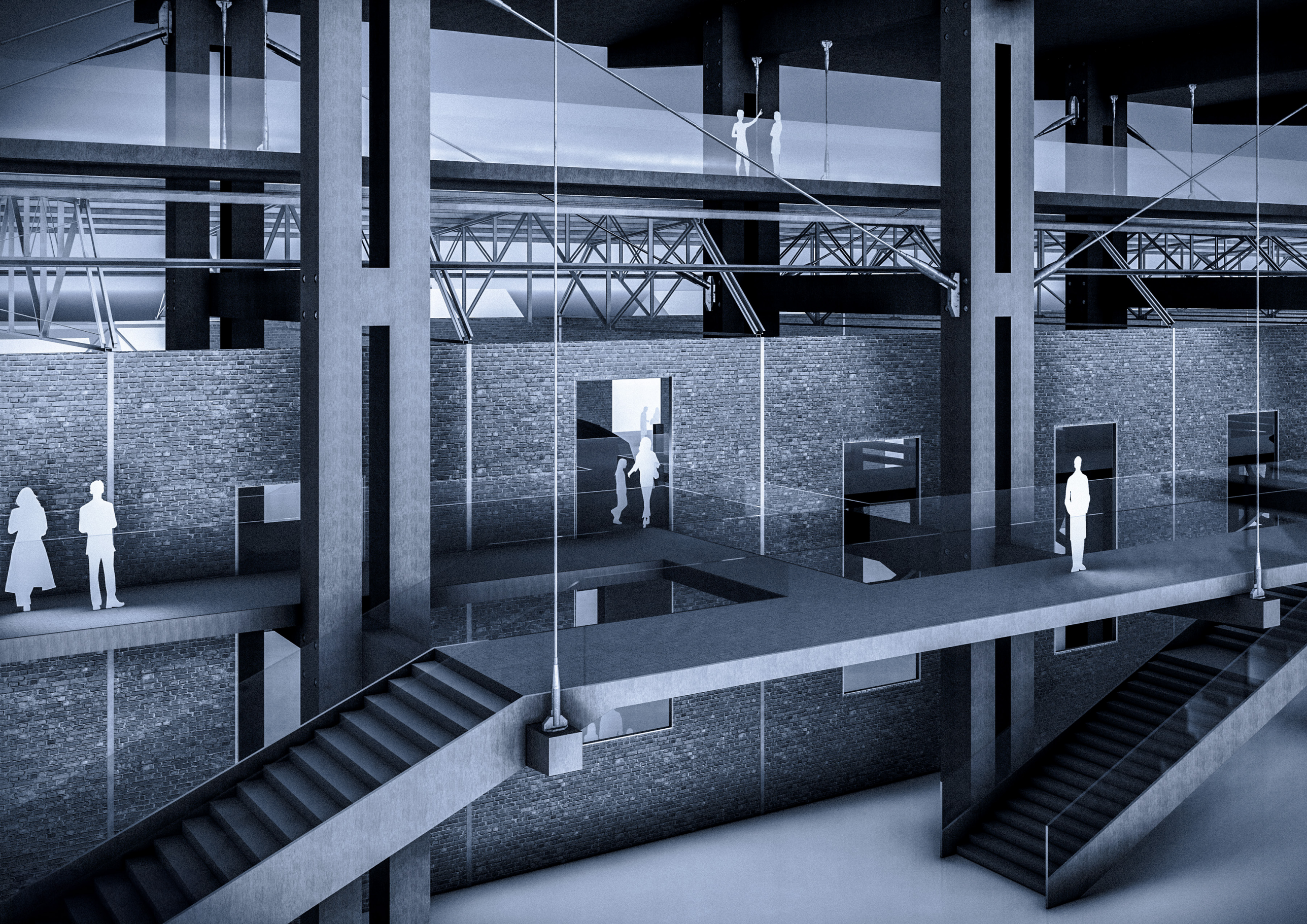
7. MATERIAL AND TECHNICAL ASPECTS - CLIMATE DESIGN





UFH = Under FLoor Heating
STC = Solar Thermal Collector
PV = Photovotaic panel
AHU= Air Handling Unit
WS= (warm) Water Storage
HB= Heatpump Booster
HP = Heatpump
ATHE = Aqua Thermal Heat Exchanger





GRADUATION STUDIO REVITALISING HERITAGE

CLOSER TO KLOOS KINDERDIJK

Feline van Lierop