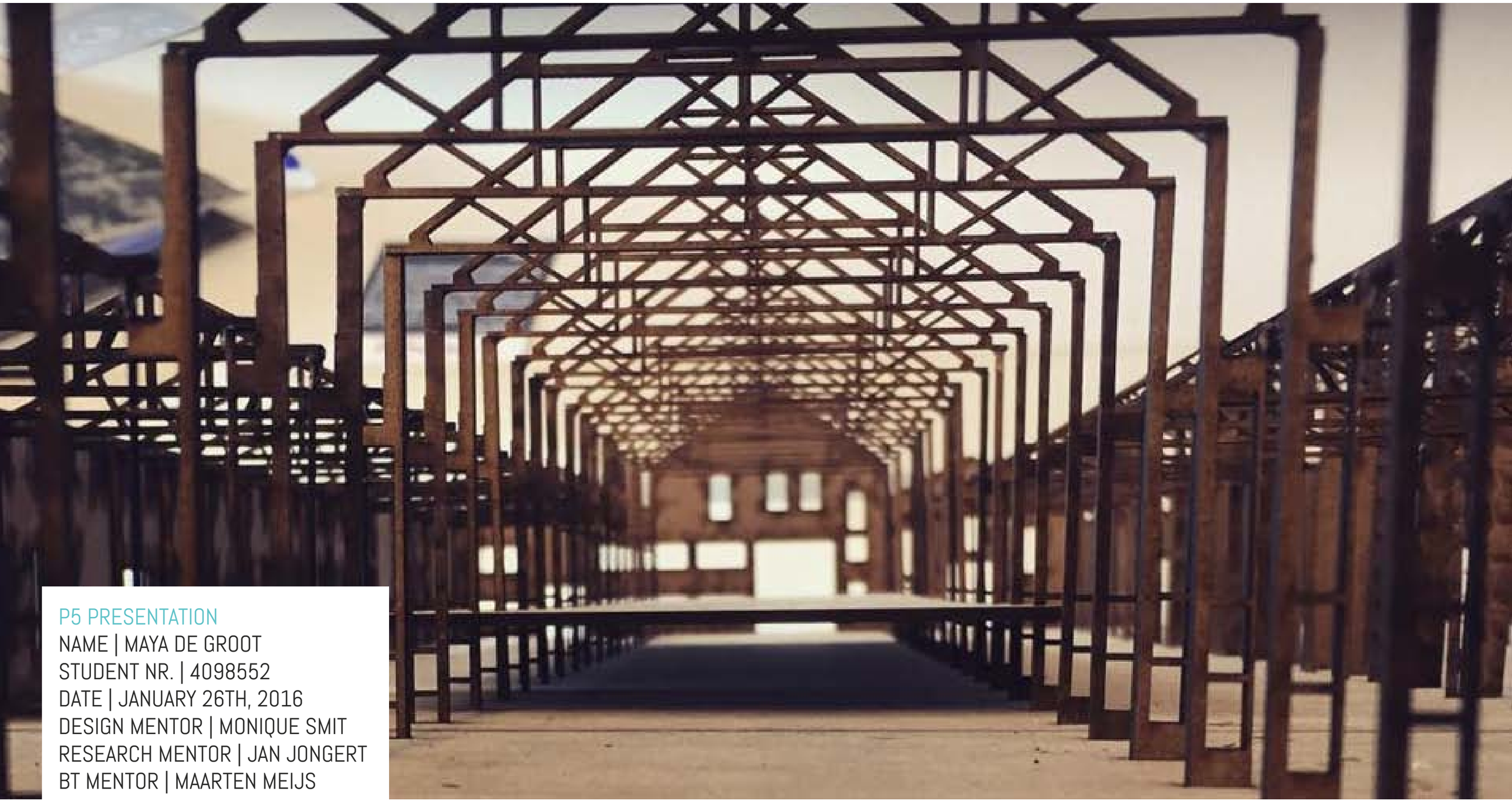
DUTCH DESIGN DOCK

REDEVELOPMENT OF THE VACANT VAN GENDTHALLEN, USING RECLAIMED MATERIALS



P5 PRESENTATION

NAME | MAYA DE GROOT
STUDENT NR. | 4098552
DATE | JANUARY 26TH, 2016
DESIGN MENTOR | MONIQUE SMIT
RESEARCH MENTOR | JAN JONGERT
BT MENTOR | MAARTEN MEIJS

INTRODUCTION

DUTCH DESIGN IS A TERM USED TO CONNOTE DESIGN IN THE NETHERLANDS, PARTICULARLY PRODUCT DESIGN.

More specifically, the term refers to the design esthetic common to designers in the Netherlands. Dutch Design can be characterized as minimalist, experimental, innovative, quirky, and humorous.

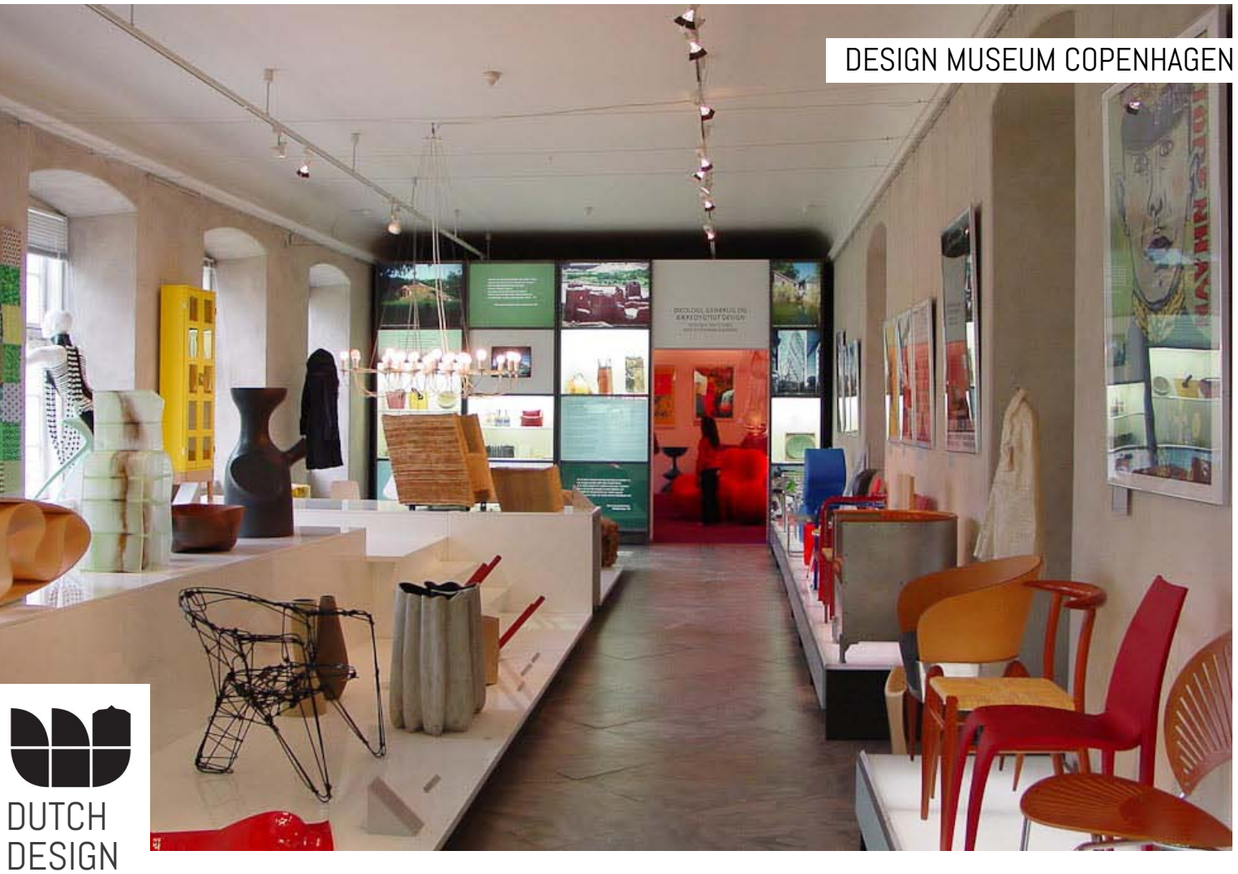
EEMHUIS, AMERSFOORT - NEUTELINGS RIEDIJK

MARKET HALL, ROTTERDAM - MVRDV

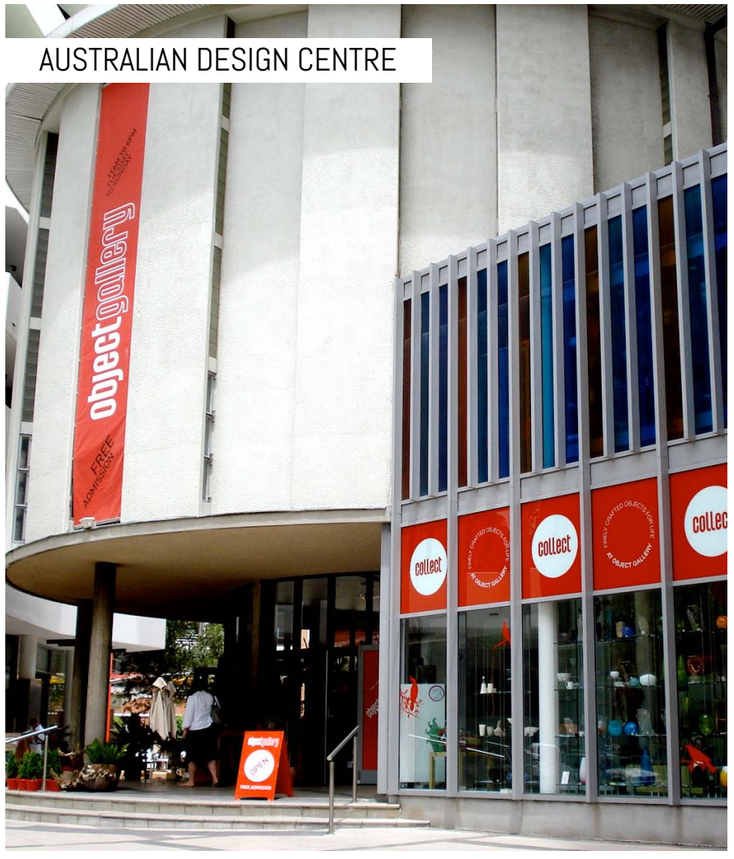
inhabitat.com

DESIGN MUSEUM LONDON

DESIGN MUSEUM LONDON



DESIGN MUSEUM COPENHAGEN

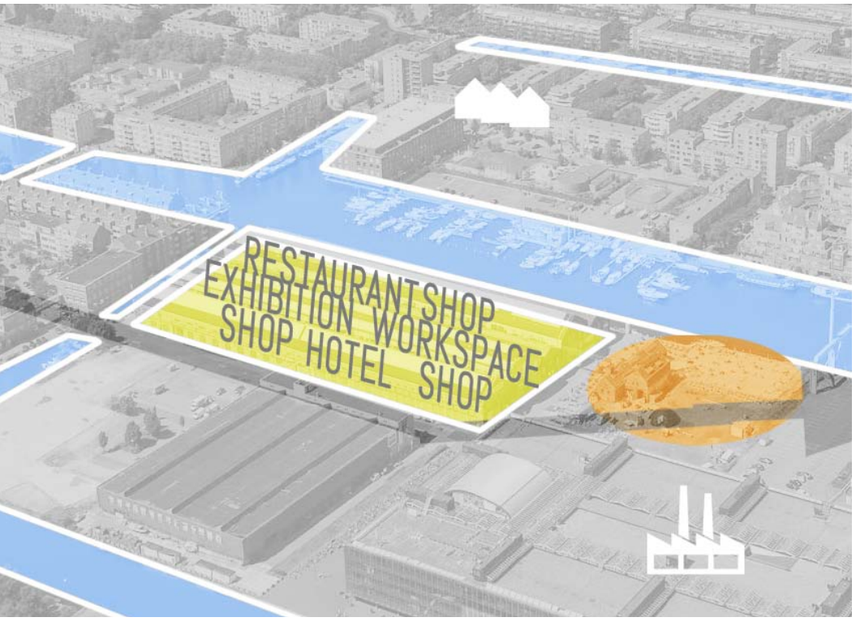


AUSTRALIAN DESIGN CENTRE

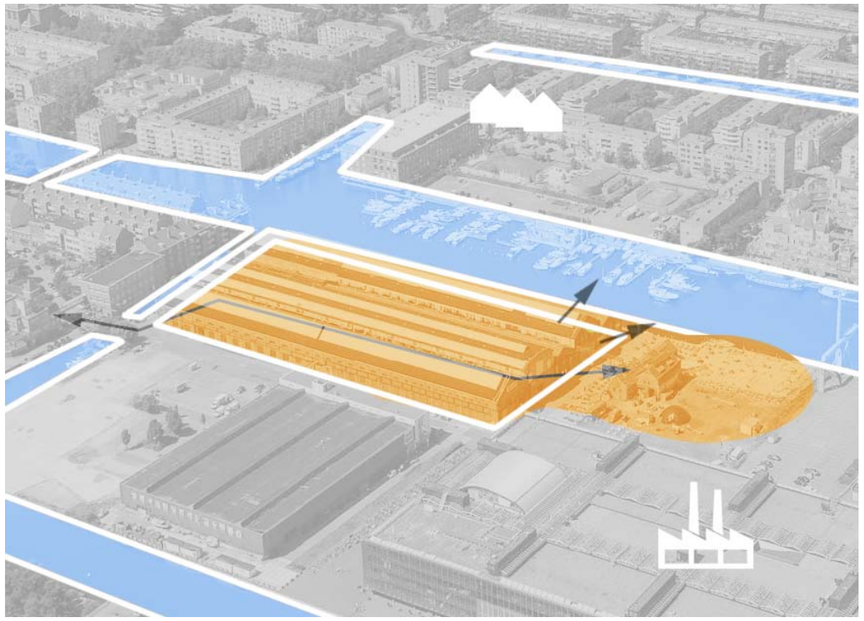
DUTCH DESIGN WEEK IN EINDHOVEN


maand
geschi-
denis
I amsterdam

MIXED USE



URBAN PLACE



USE OF RECLAIMED MATERIALS

MIXED USE

THE CREATIVE CHAIN INCUBATOR

"Anyone who wants to understand the mechanisms of interaction and quality within the creative industries must follow the value chain. That is the way a (creative) product takes from conceiving, to creating, to distributing to the public."

"Wie de mechanismen van interactie en kwaliteit binnen de creatieve industrie wil begrijpen moet de waardeketen volgen. Dat is de weg die een (creatief) product aflegt van het bedenken, naar het maken, naar het verspreiden onder het publiek."

"Promoting chain collaboration can be an important tool for growth and help gain a stronger position in the creative industries."

"Het bevorderen van ketensamenwerking kan een belangrijk middel zijn voor groei en een sterkere positie van de creatieve industrie."

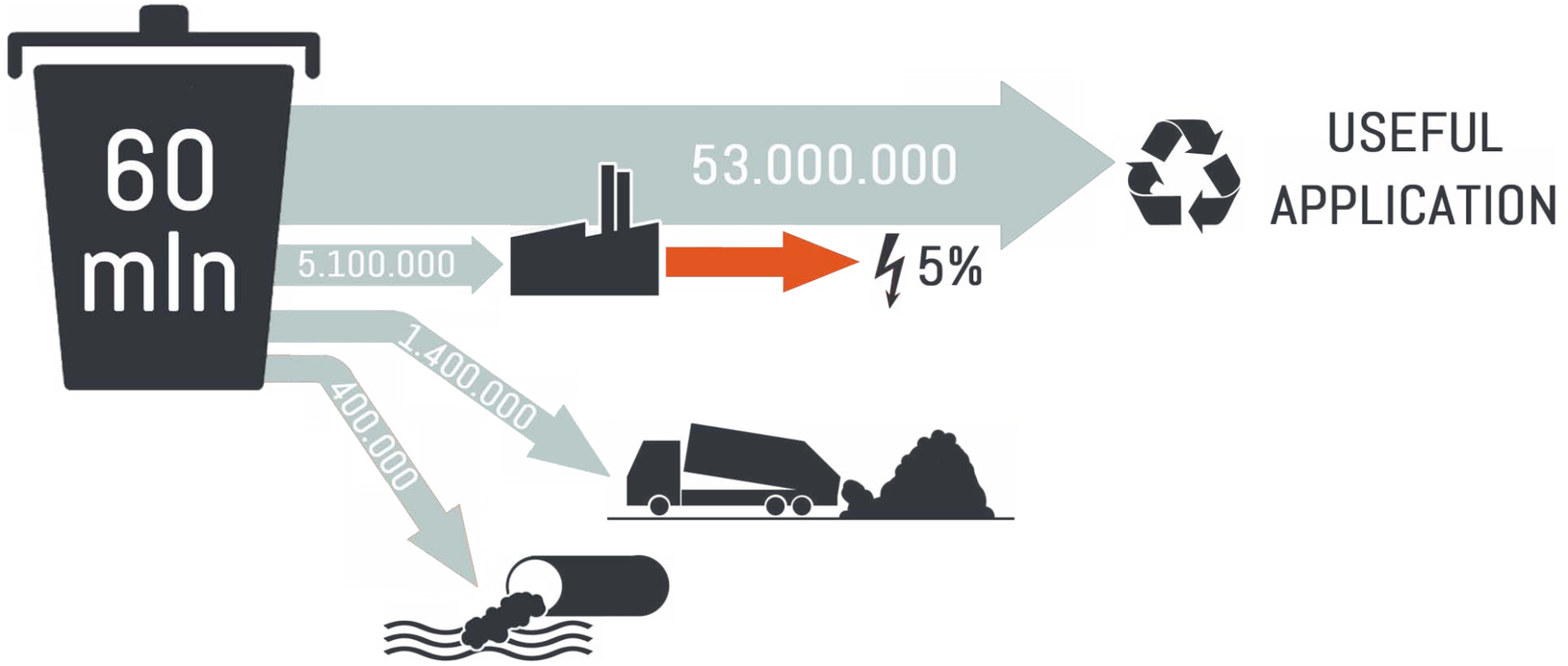
- Stipo

URBAN PLACE

* Connection the island to the surrounding areas

* Revival of the area by implementing a mixed use building

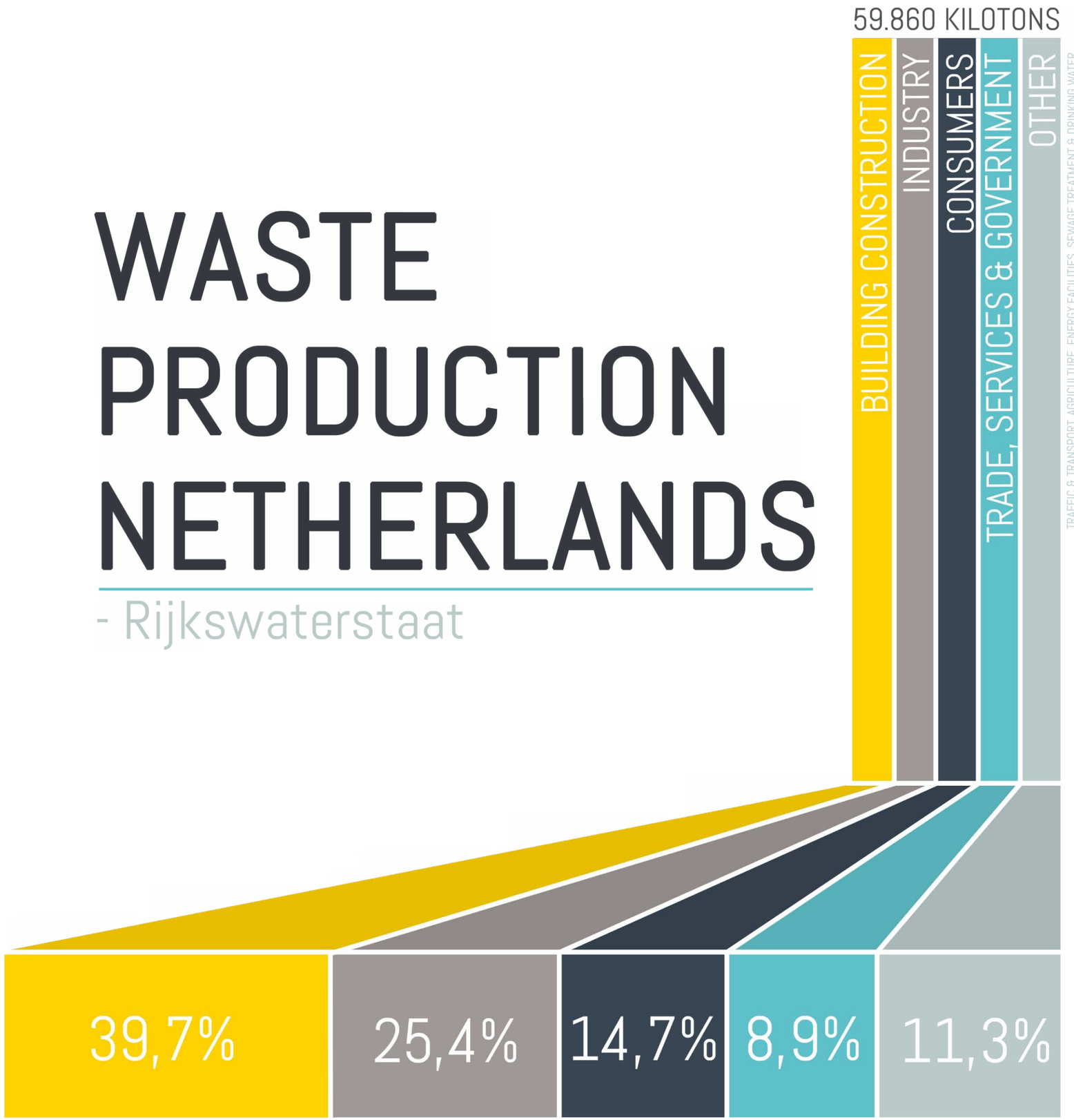
USE OF RECLAIMED MATERIALS



INCREASING VACANCY

WASTE PRODUCTION NETHERLANDS

- Rijkswaterstaat



MIXED USE

Mixed-use development is—in a broad sense—any urban, suburban or village development, or even a single building, that blends a combination of residential, commercial, cultural, institutional, or industrial uses, where those functions are physically and functionally integrated, and that provides pedestrian connections.

HOUSING NOT IN INCLUDED

URBAN SPACE

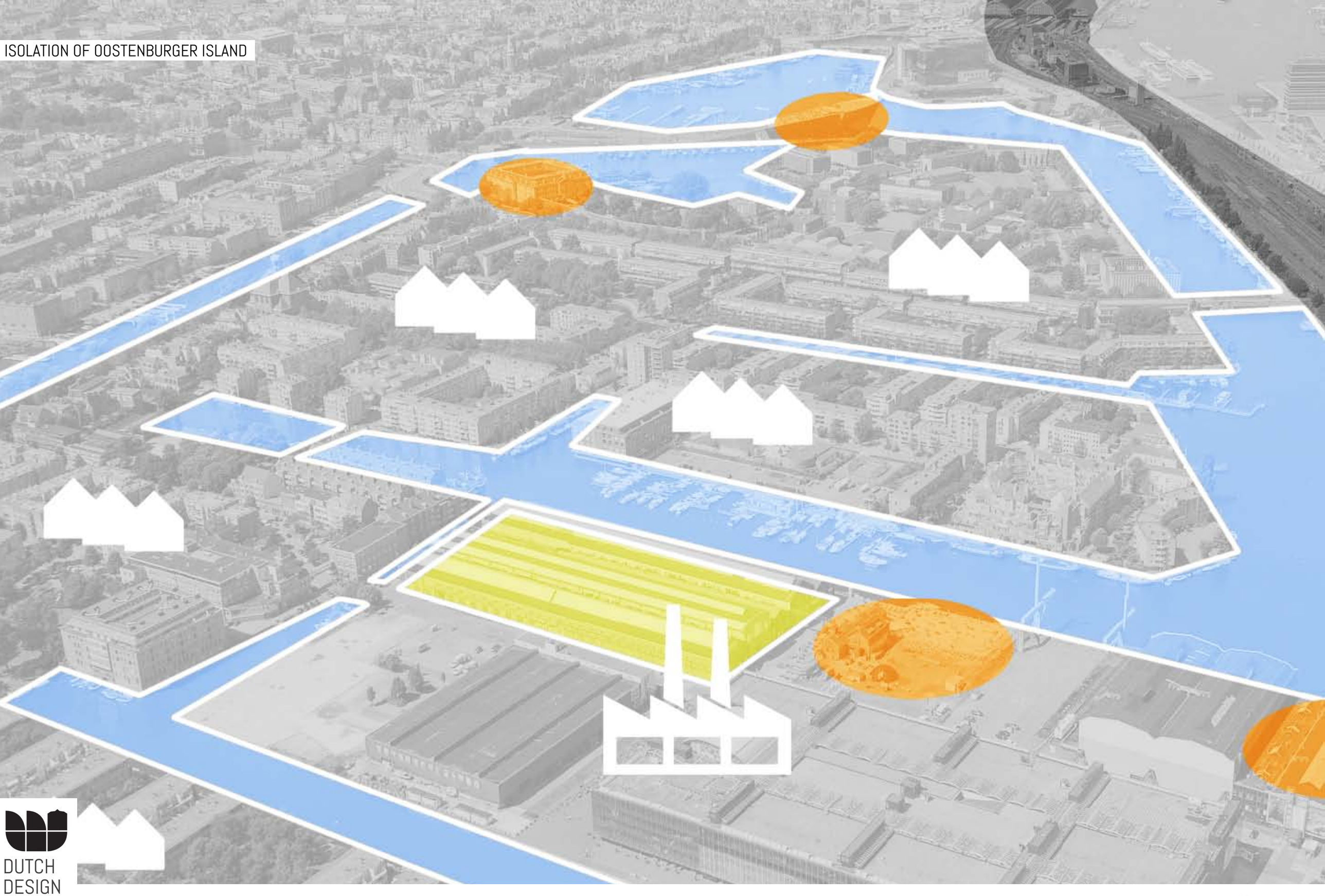
EAST WEST AXIS THROUGH THE BUILDING

RECLAIMED MATERIALS

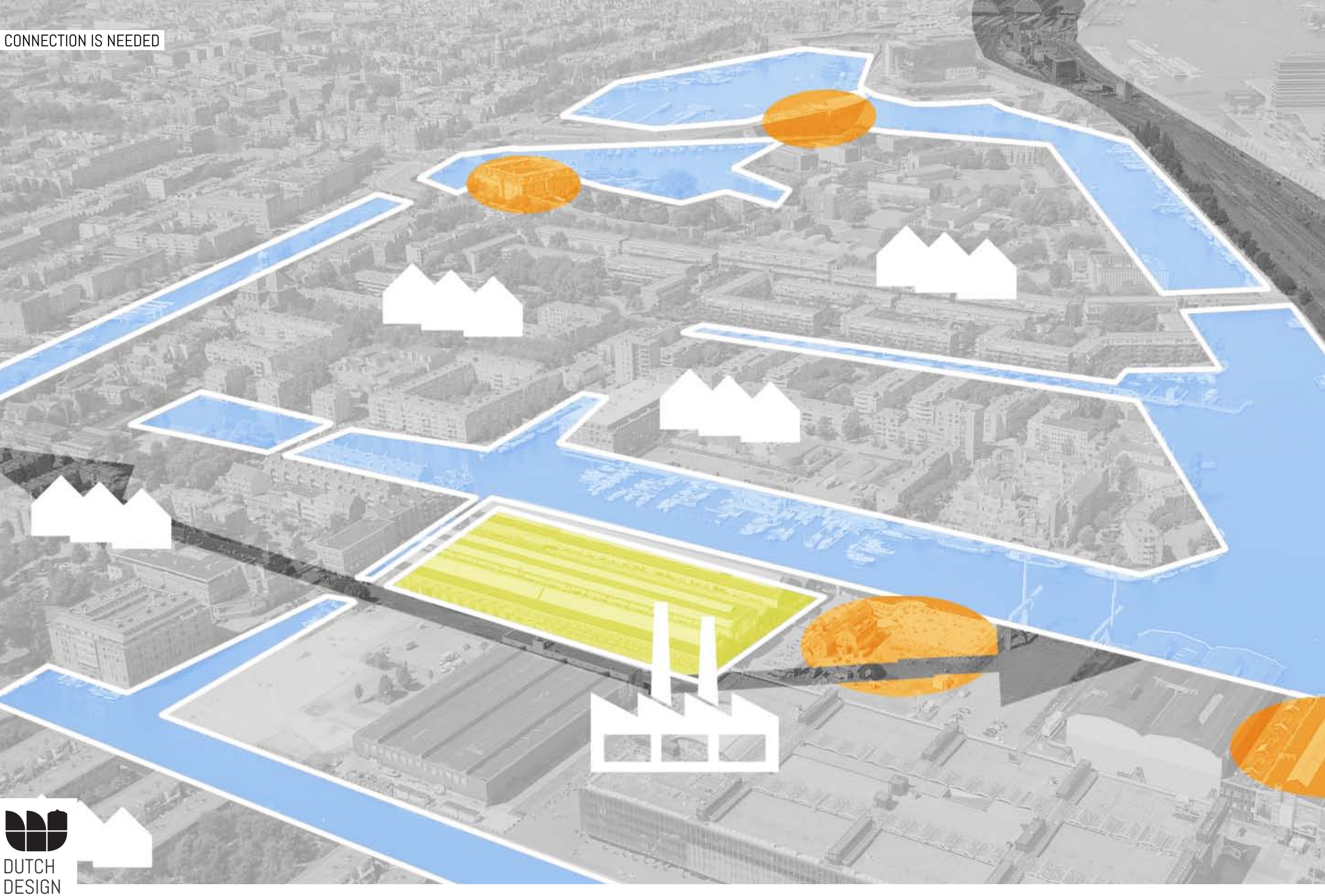
NEW MATERIALS VS. RECLAIMED MATERIALS

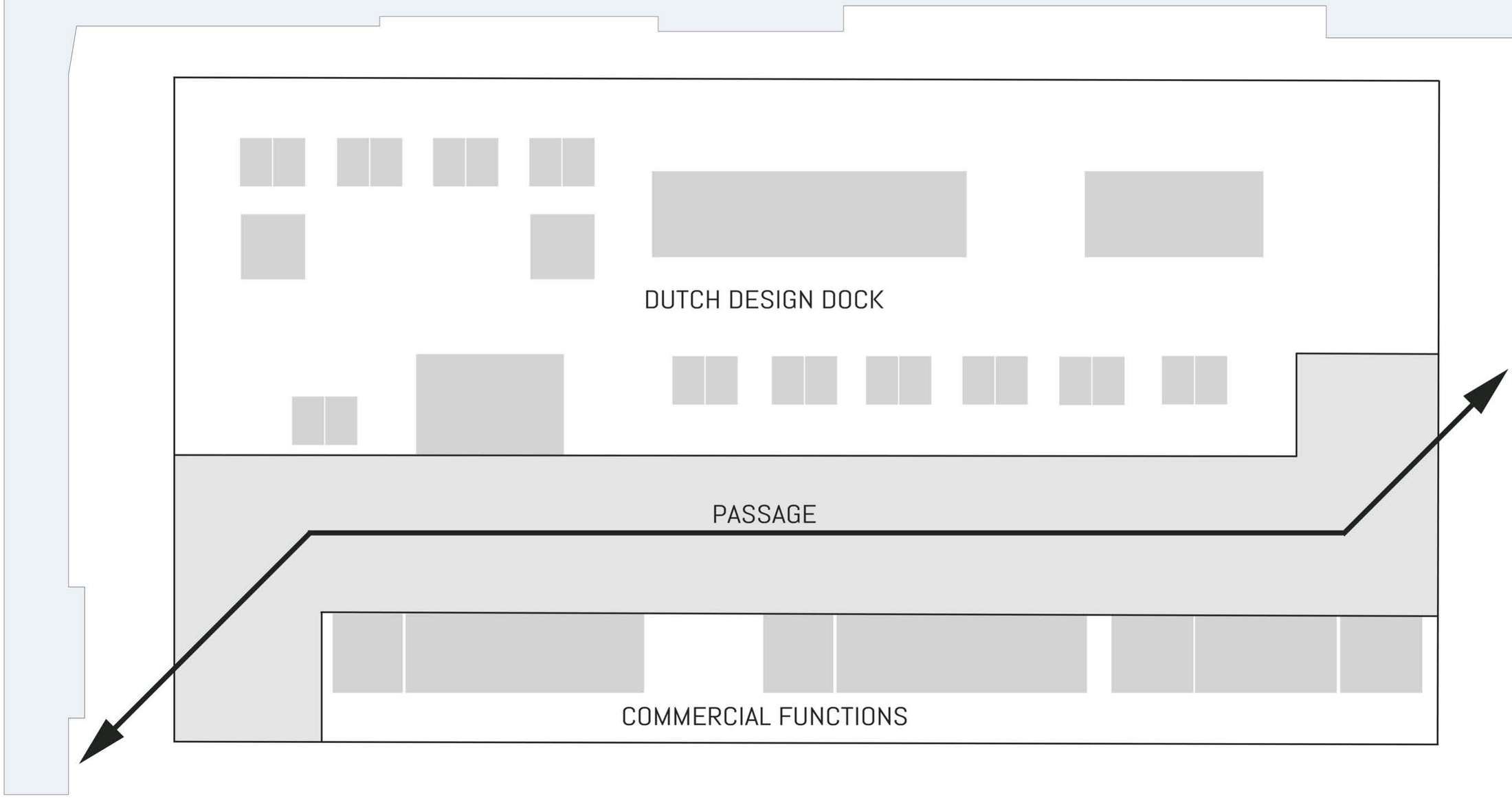
DESIGN

ISOLATION OF OOSTENBURGER ISLAND

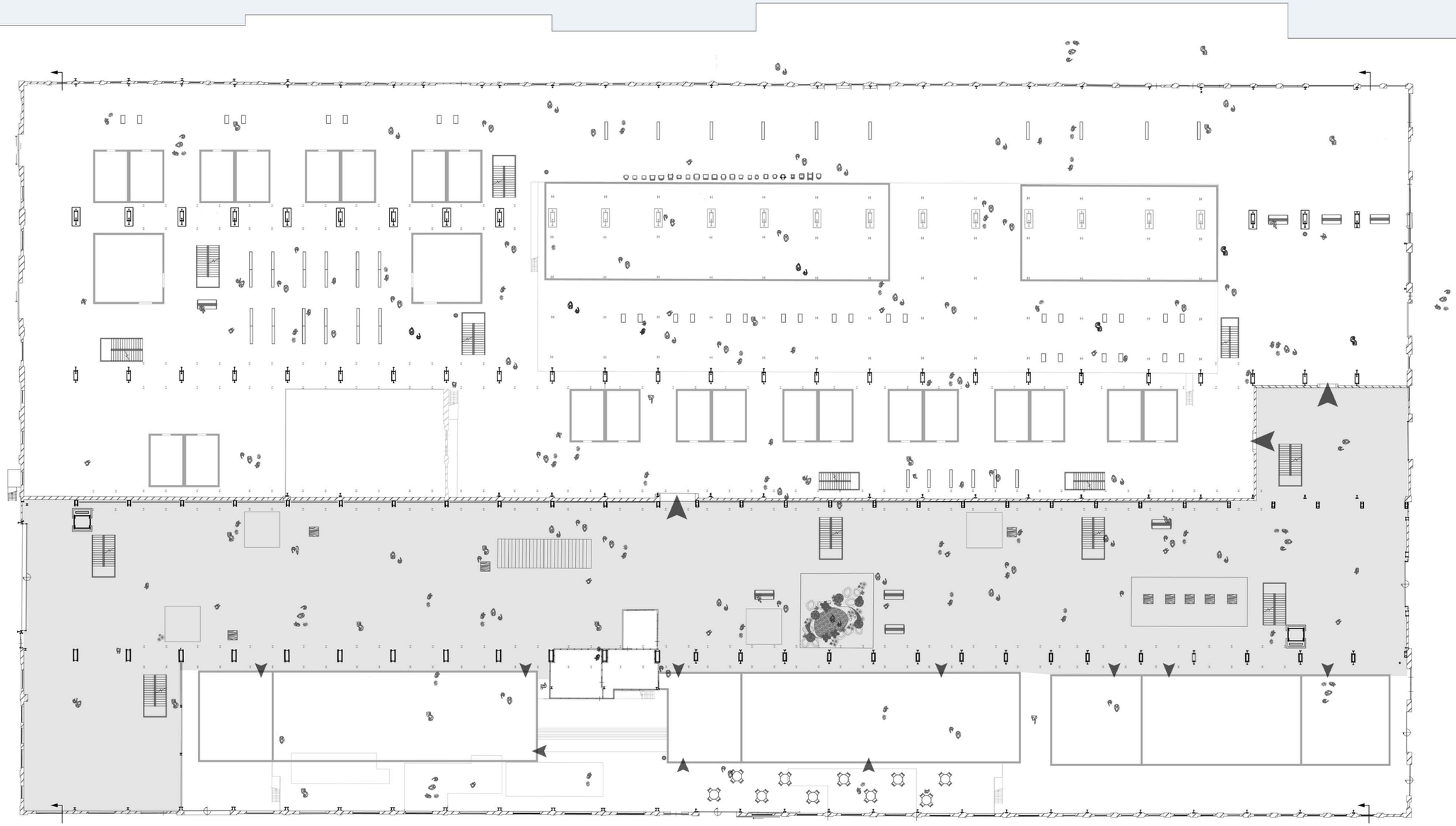


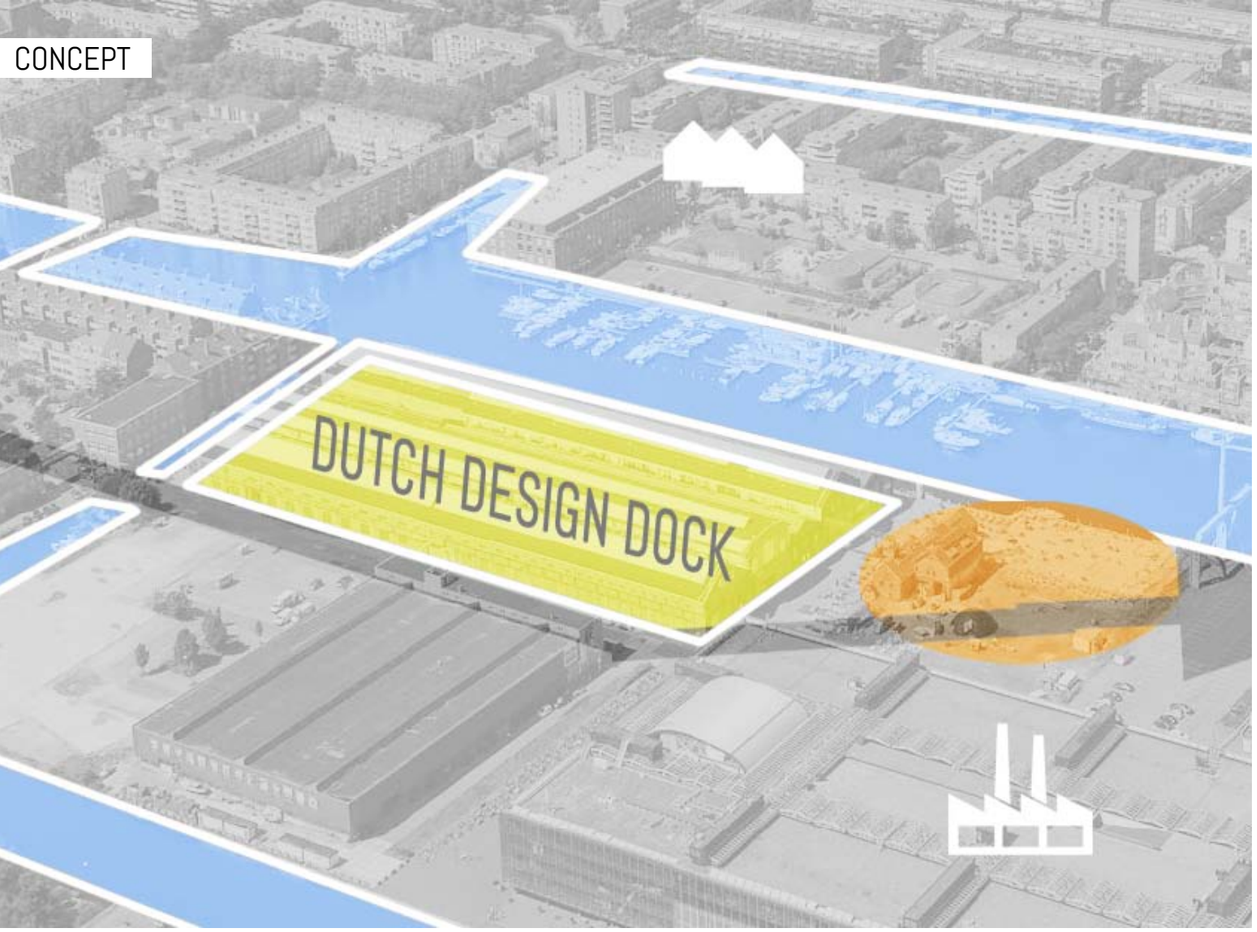
CONNECTION IS NEEDED

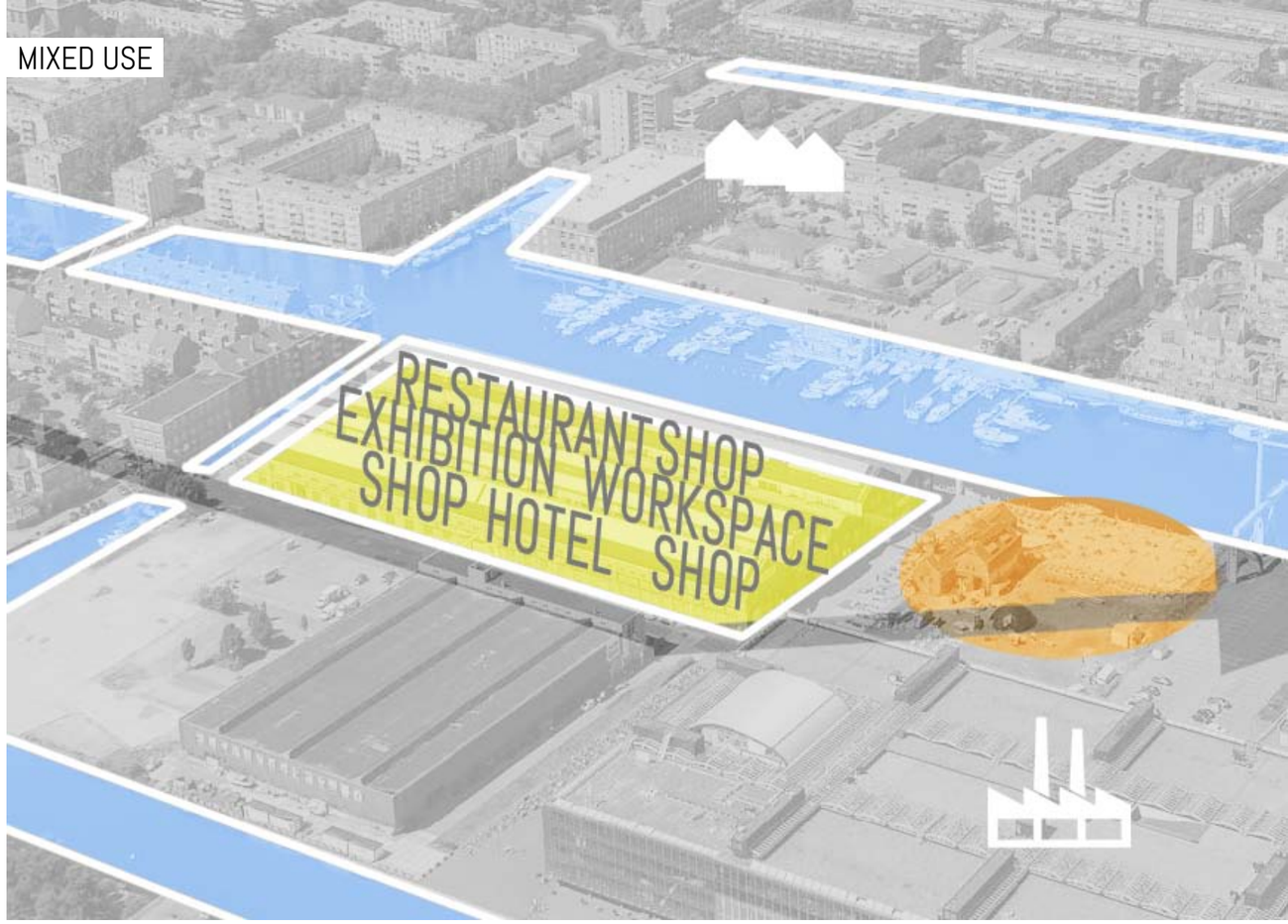


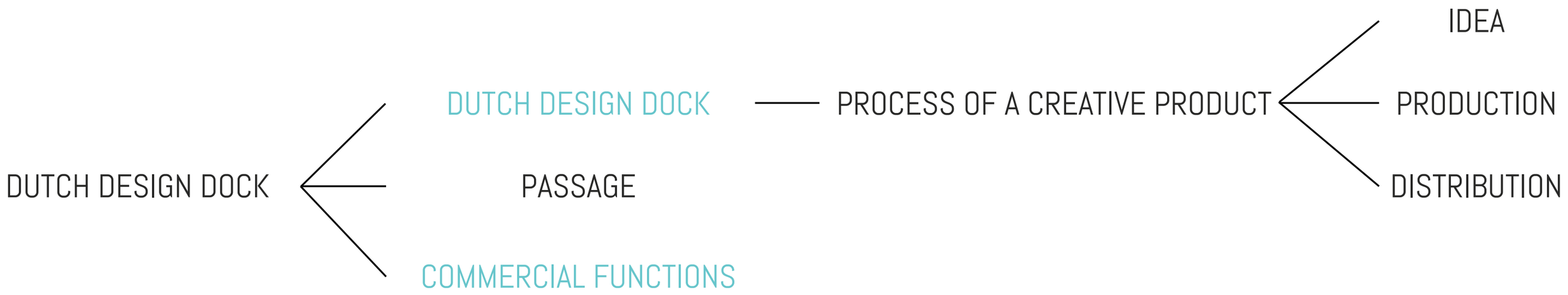

DUTCH DESIGN DOCK
PASSAGE
COMMERCIAL FUNCTIONS

GROUND FLOOR




CONCEPT
DUTCH DESIGN DOCK


MIXED USE
RESTAURANT SHOP
EXHIBITION WORKSPACE
SHOP HOTEL SHOP


DUTCH DESIGN DOCK
DUTCH DESIGN DOCK
PASSAGE
COMMERCIAL FUNCTIONS
PROCESS OF A CREATIVE PRODUCT
IDEA
PRODUCTION
DISTRIBUTION

FLOORPLAN (GROUND FLOOR) DUTCH DESIGN DOCK

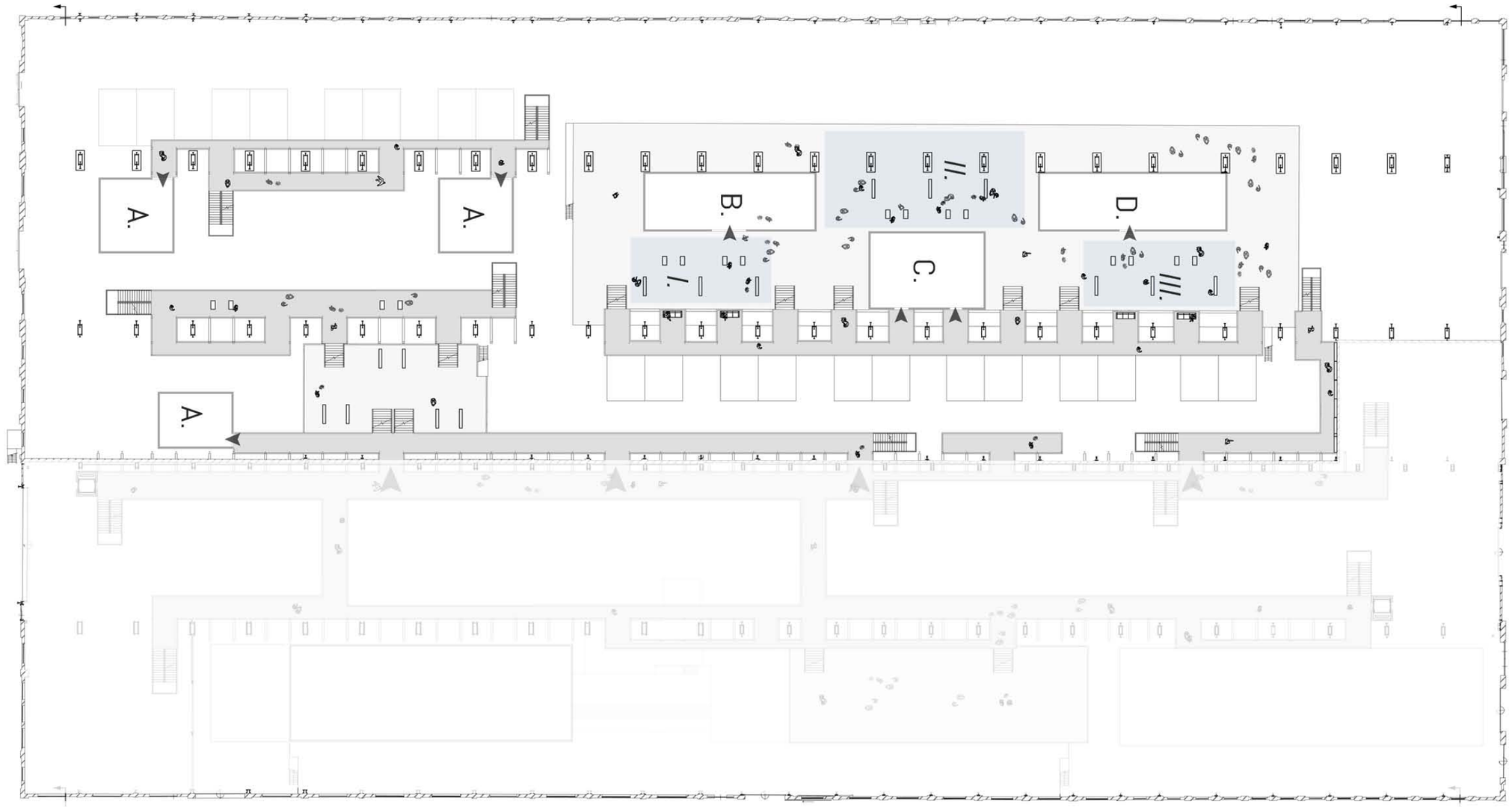
DDD | Functions

A. Small Atelier [24m²]
B. Large Atelier [40m²]
C. 3D Printing Lab
D. Workshop / Machinery
E. Expeience Lab

DDD | Exhibition Areas

I. Product Design
II. Furniture Design
III. Graphic Design
IV. Architecture

FLOORPLAN (FIRST FLOOR) DUTCH DESIGN DOCK



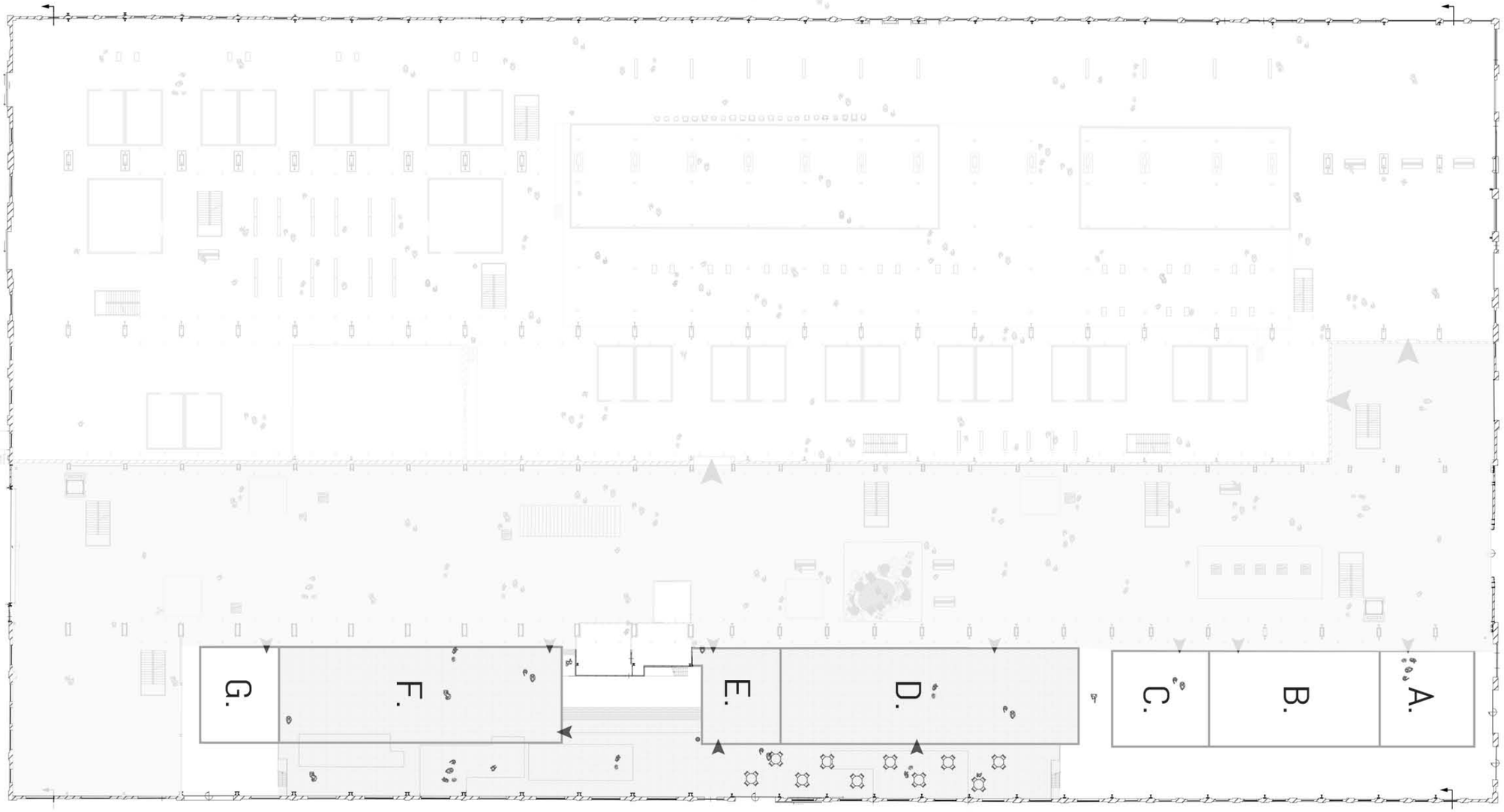
DDD | Functions

A. Large Atelier [40m²]
B. Theatre
C. Workshop space
D. Library

DDD | Exhibition Areas

I. Changing Exhibition
II. Changing Exhibition
III. Changing Exhibition

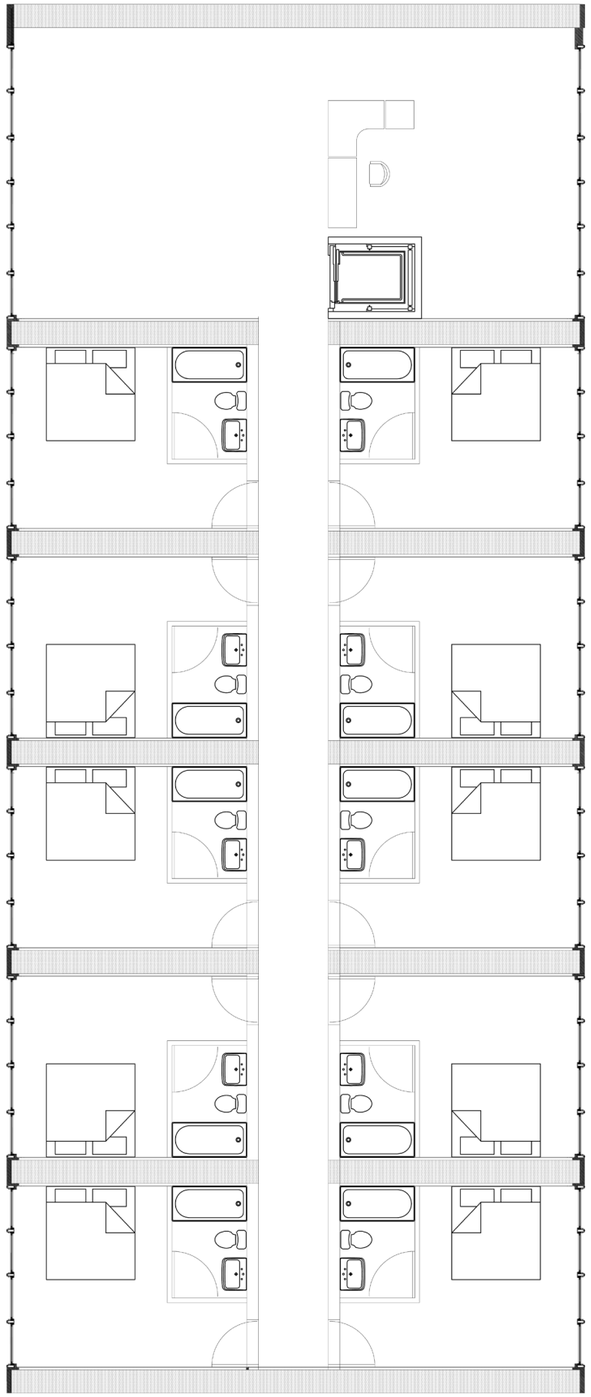
FLOORPLAN (GROUND FLOOR) COMMERCIAL FUNCTIONS

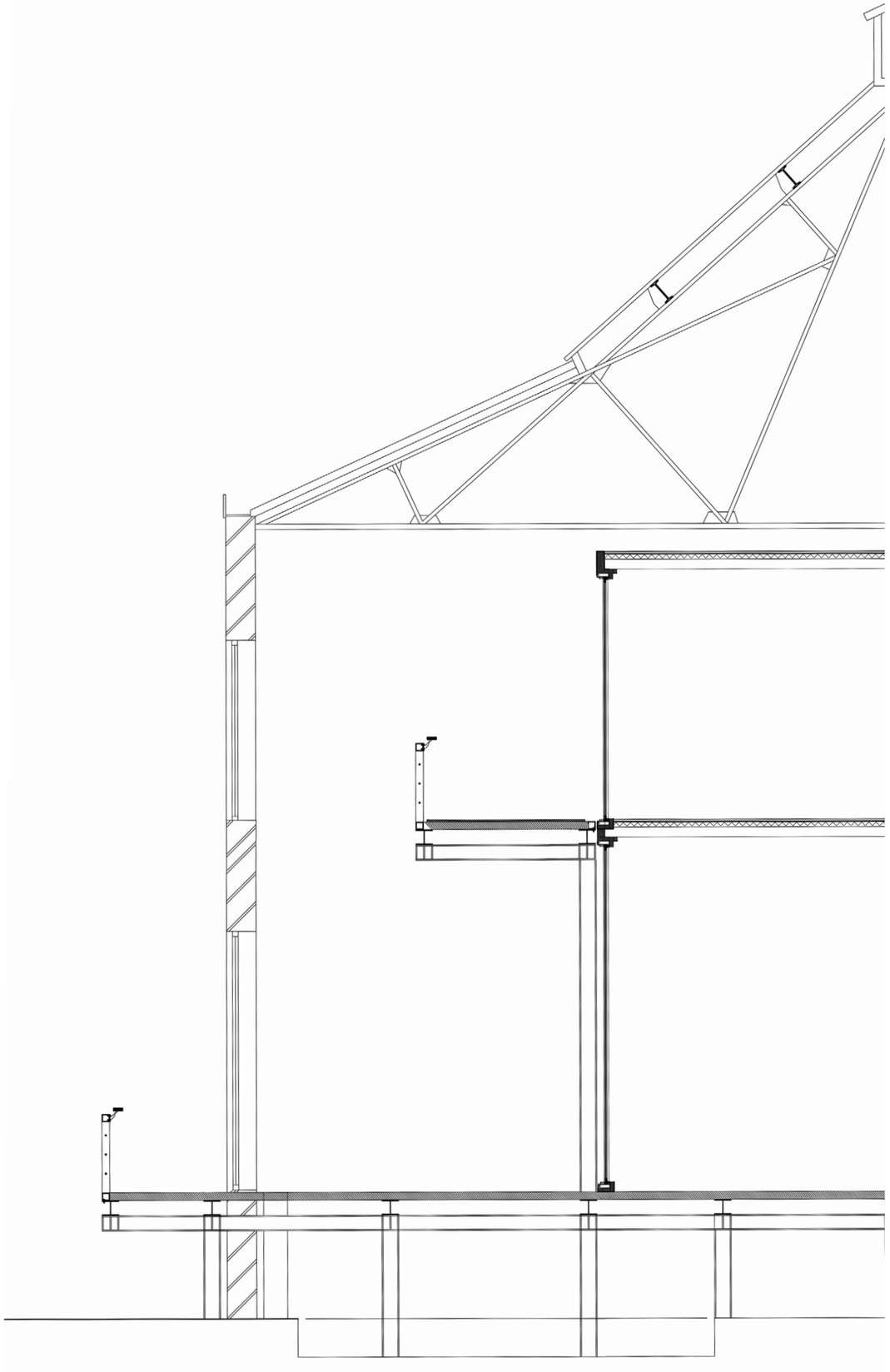


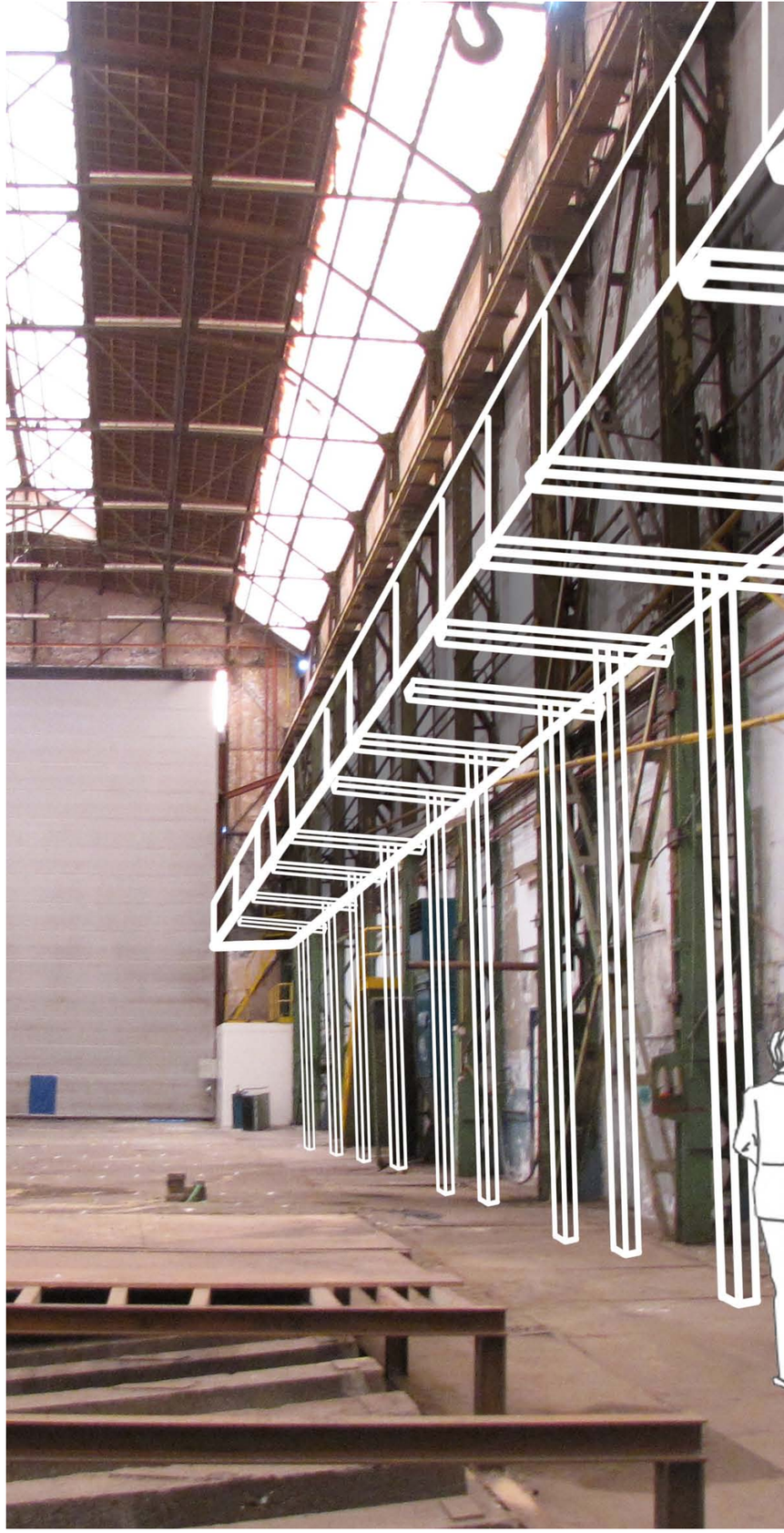
Commercial Functions

A. Shop
B. Shop
C. Shop
D. Restaurant
E. Bar
F. Hotel
G. Information point

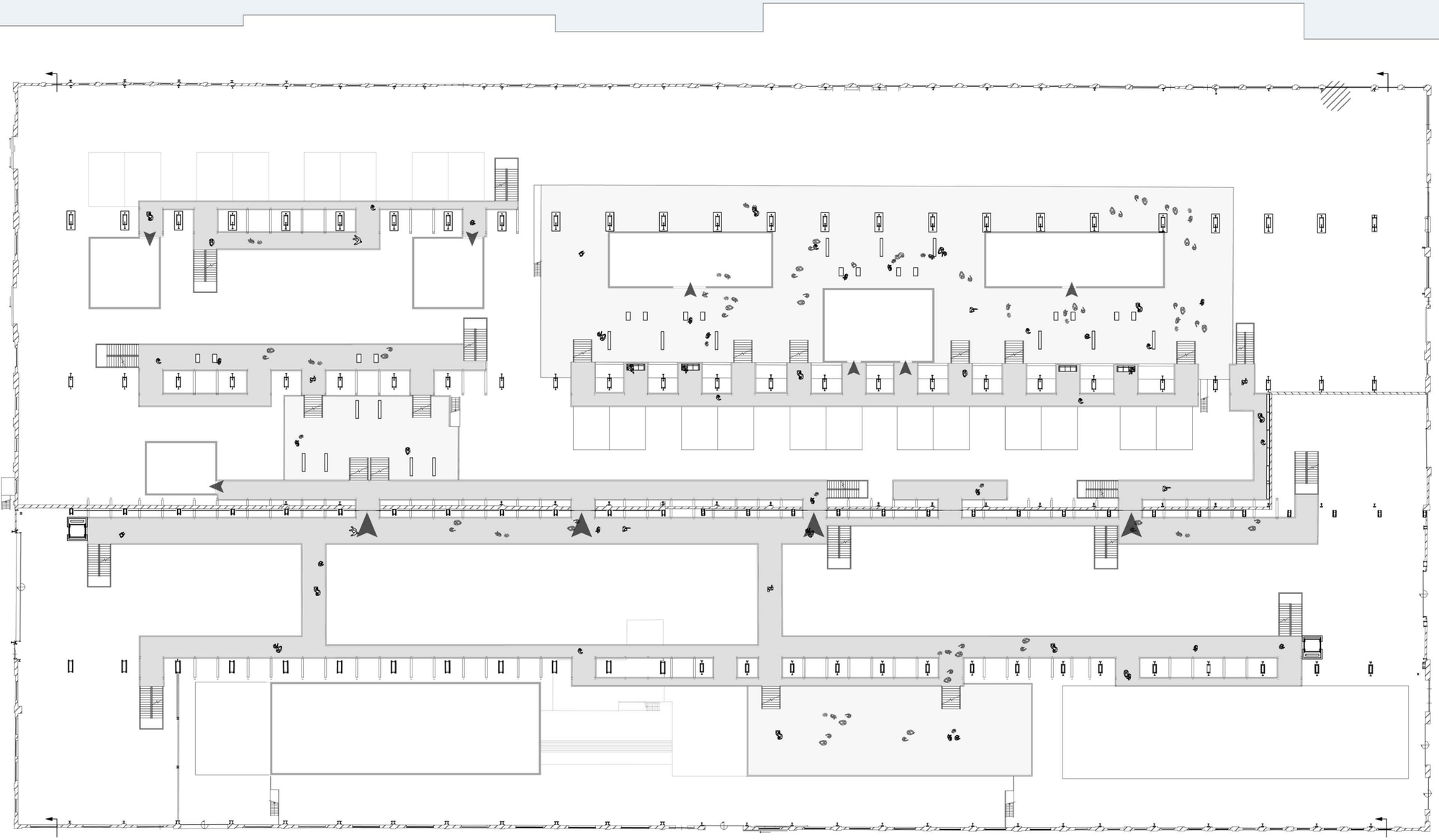
The area around 'D, E & F' is the '24h zone' has direct access to the street and can be closed of from the passage

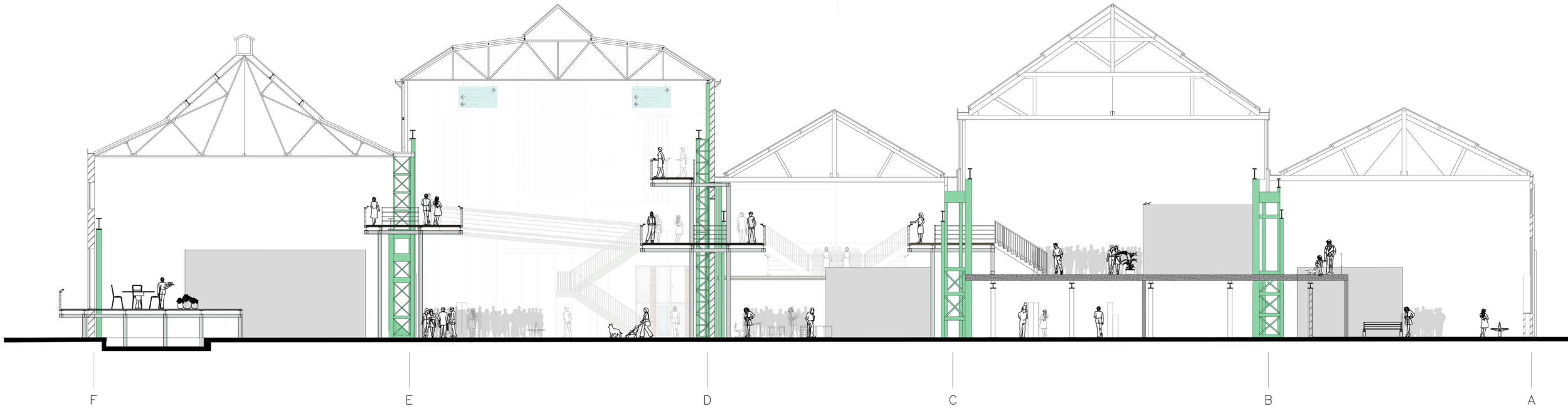




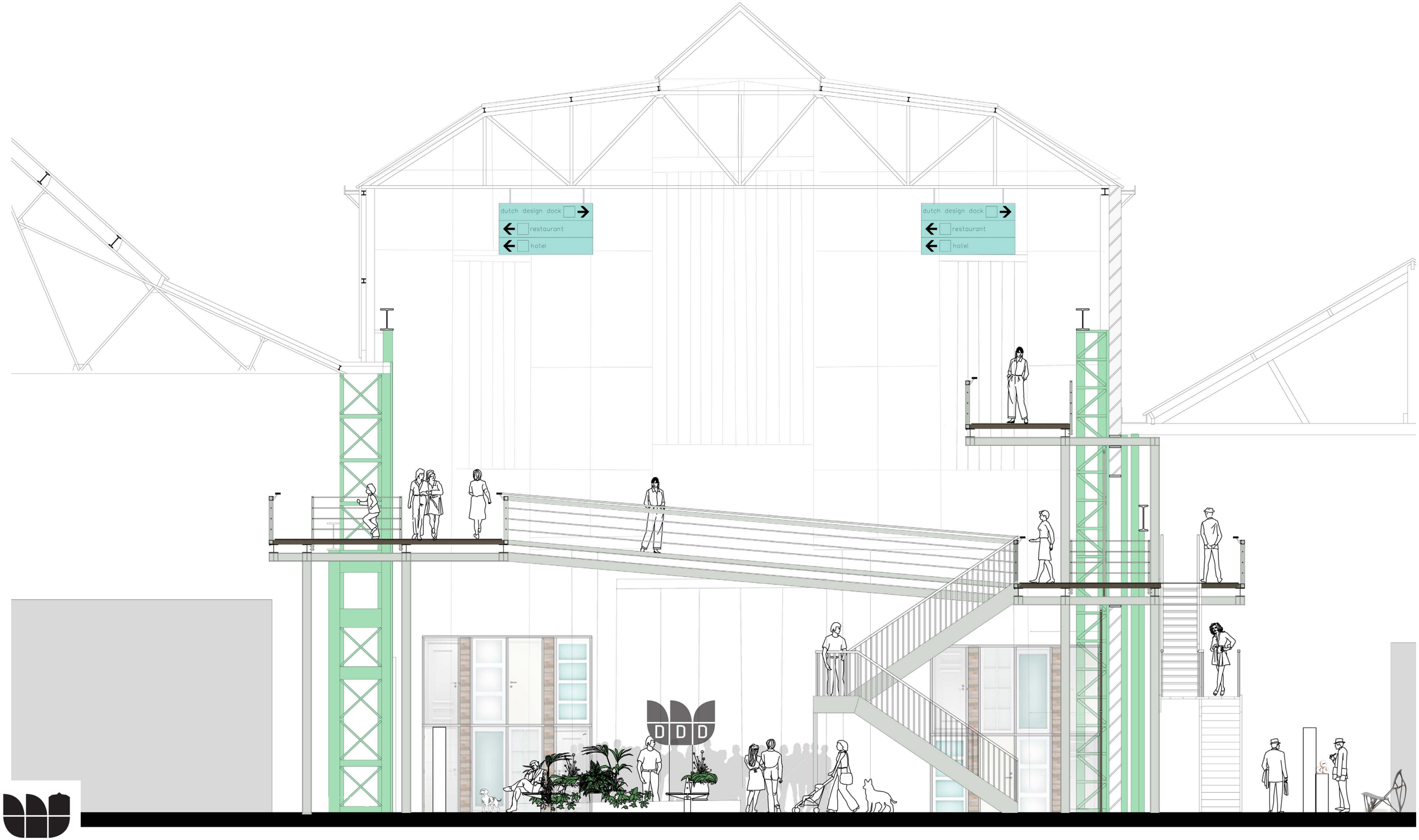


PATHWAYS





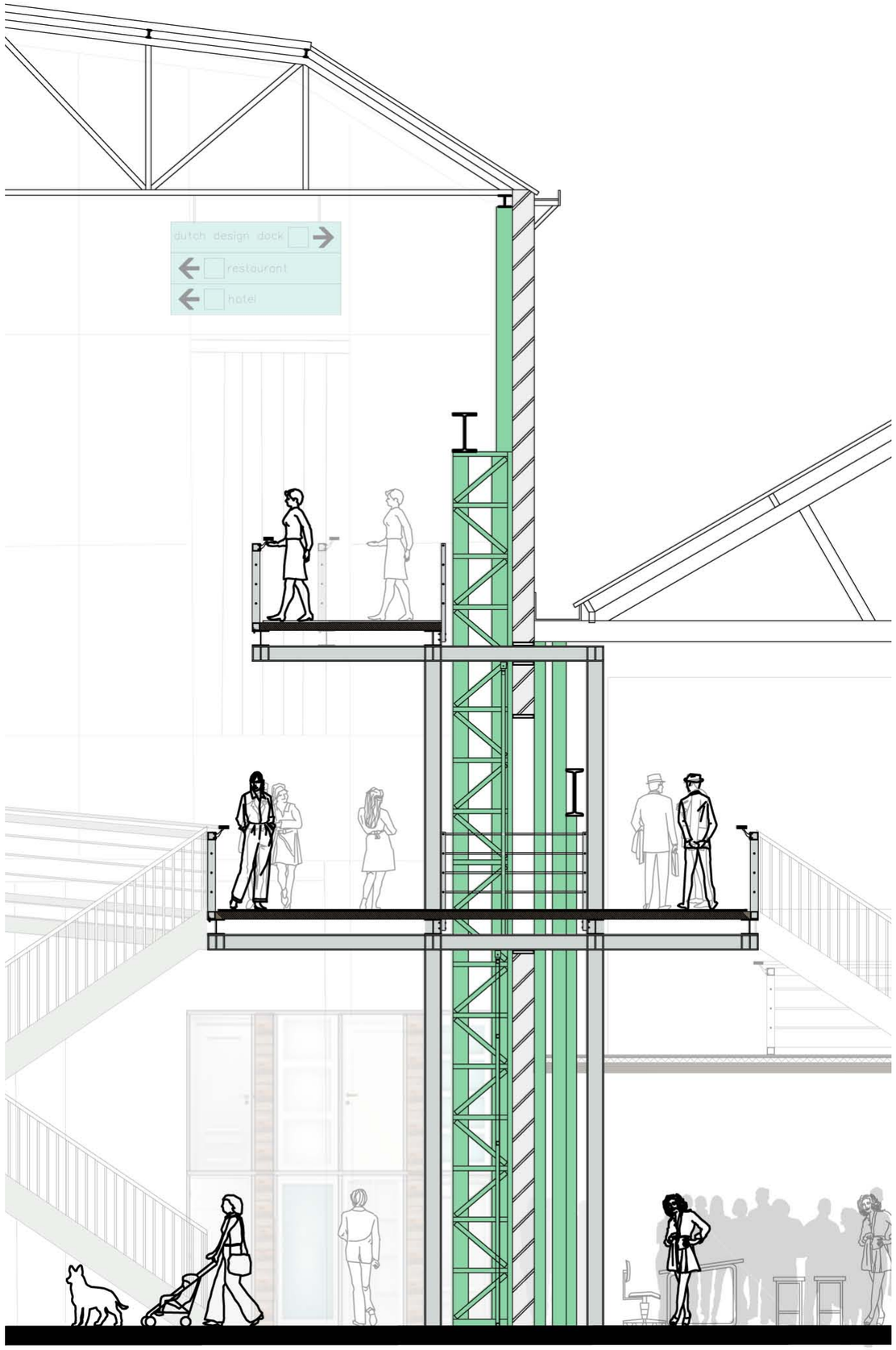
DUTCH DESIGN DOCK
VAN GENDTHALLEN, AMSTERDAM

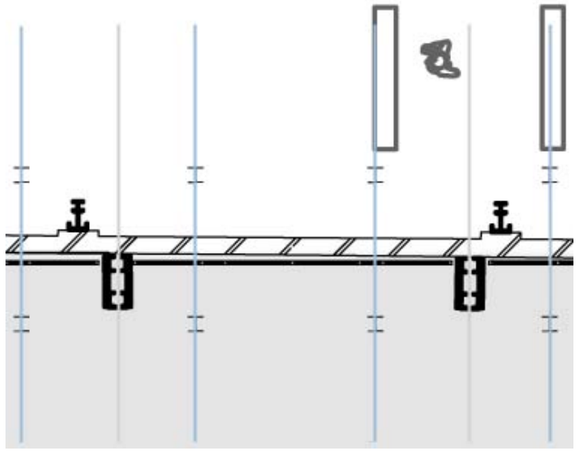


DUTCH DESIGN DOCK
VAN GENDTHALLEN, AMSTERDAM

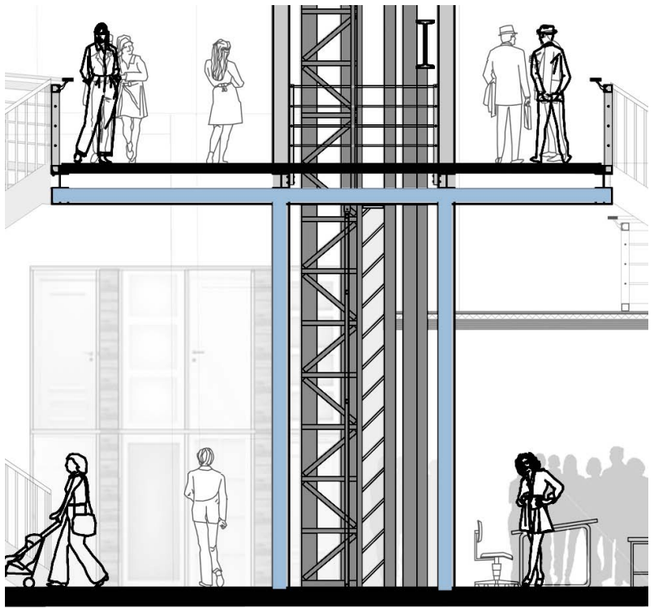
P5 PRESENTATION | 26 JANUARY 2016

Maya de Groot 4098552 AE Studio 14





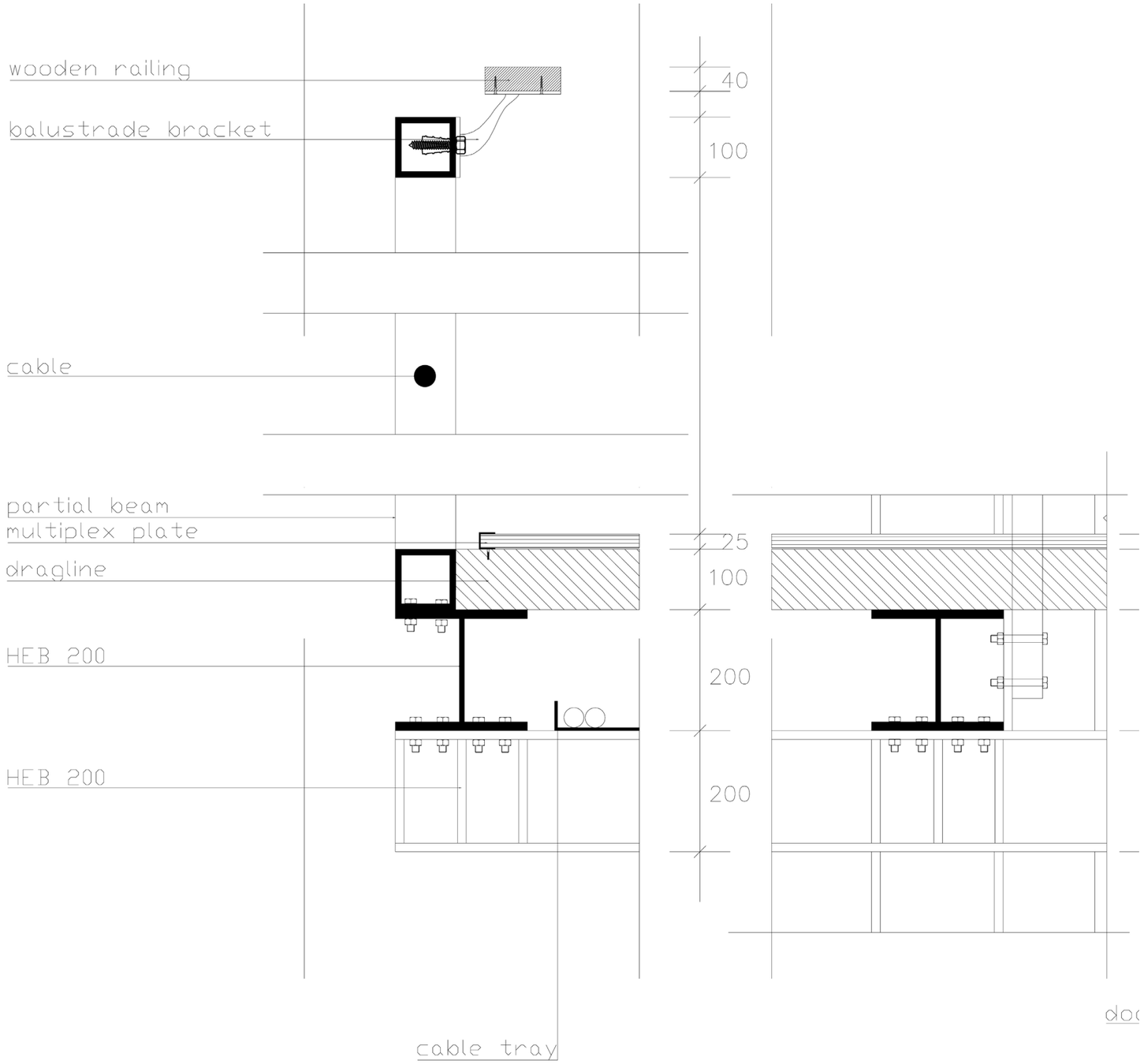
1.



2.

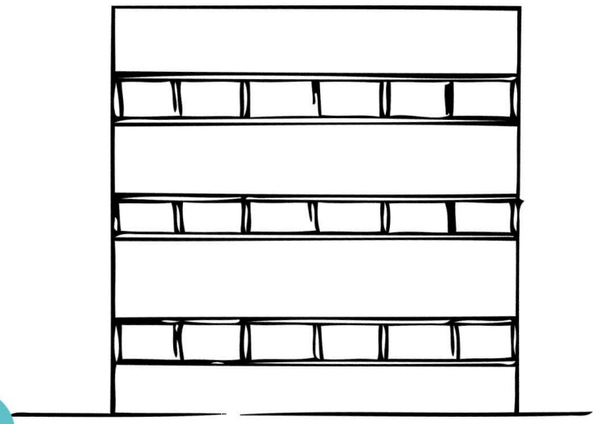
Construction

1. New grid for subconstruction
2. Cantilever table construction
2. Stability by braced floorfields and at the rising cores

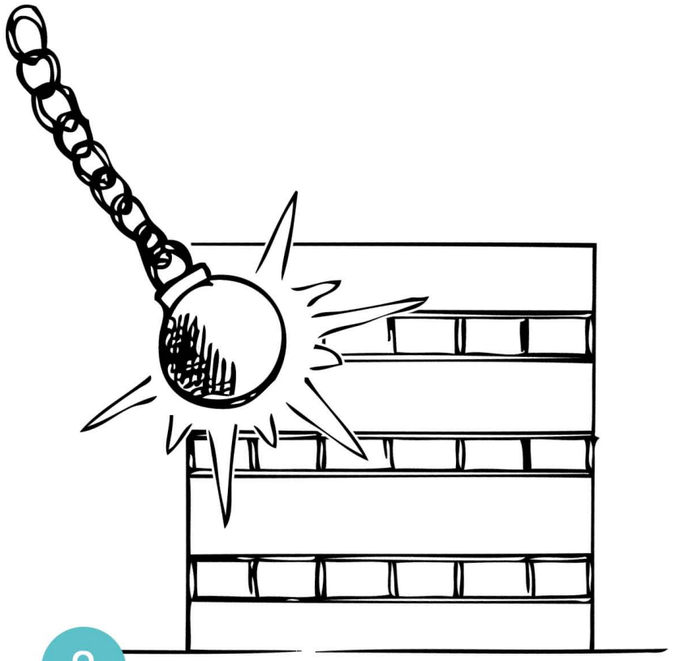


1:5 Ver. Detail Pathways

WHAT ROLE CAN LOCALLY RECLAIMED MATERIALS THAT ARE BOTH AVAILABLE IN LARGE QUANTITIES AND WITHIN THE COMING YEARS PLAY IN THE REDEVELOPMENT OF VACANT LARGE SCALE BUILDINGS?

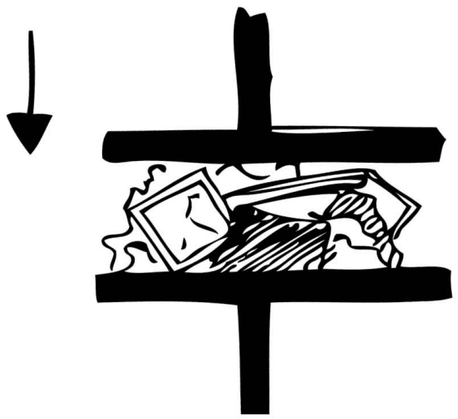


1 BUILDING



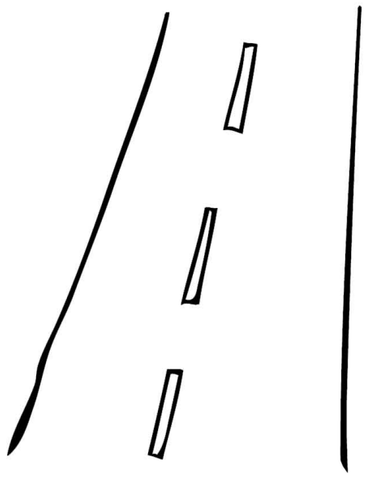
2 DEMOLITION

3 ROUGH DEBRIS

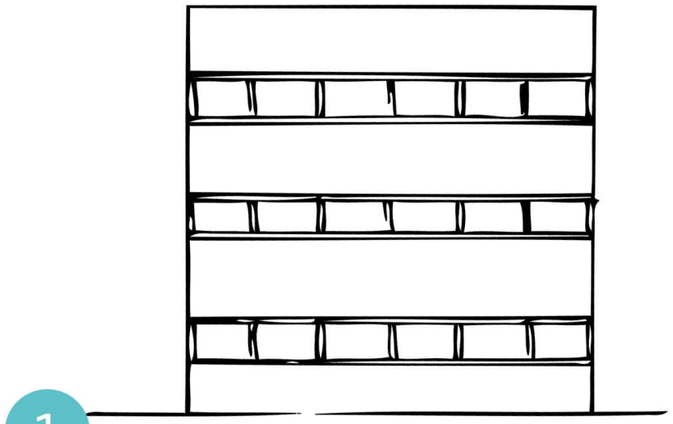


4 PROCESSING

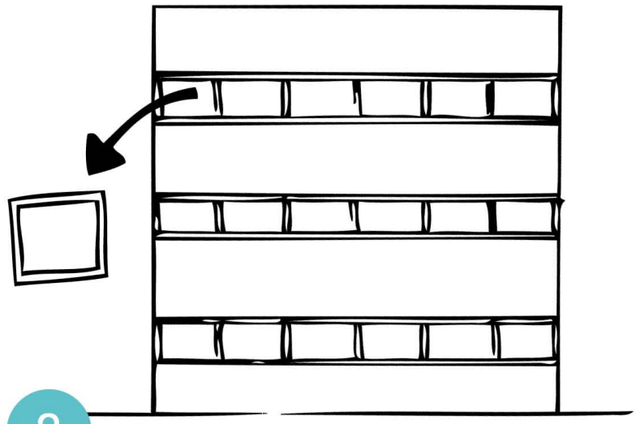
5 GRANULATE



6 ROAD CONSTRUCTION

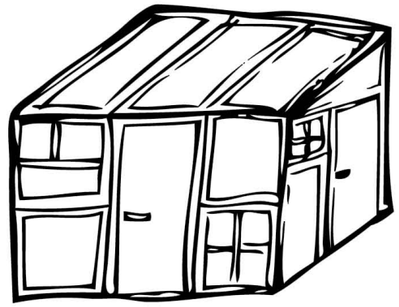


1 BUILDING



2 DISMANTLING

3 RECLAIMED GOODS



4 REUSING MATERIALS AS IS

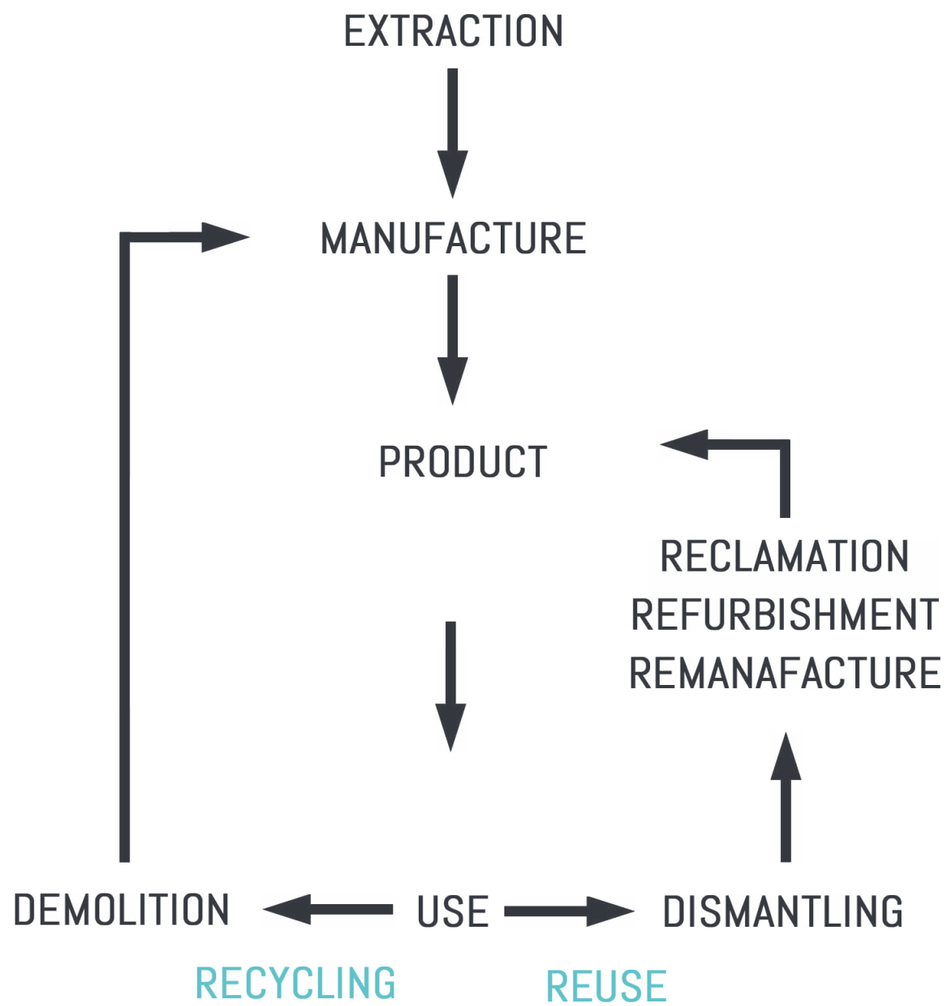
ELEMENT REUSE!

Recycle

the use of waste to create new products; which are often different from the products in which the materials were used during their previous life.

Reuse

reused materials are products and materials which were taken from the waste stream, but are reused in their original form (with minimal processing).



MATERIALS FROM THE INDUSTRY & BUILDING INDUSTRY

Production waste

Dead stock

Packaging waste

End of life products

LOOKING FOR MATERIALS AVAILABLE IN LARGE QUANTITIES & WITHIN THE COMING YEARS

SCENARIO 1 | RENOVATION OF OFFICE BUILDINGS

www.vastgoedjournaal.nl

SCENARIO 2 | THE HARBOUR OF AMSTERDAM

nl.wikipedia.org/wiki/Westpoort_(Amsterdam)

OFFICE RENOVATION

Carpet tiles

Doors

Windows

HARBOUR OF AMSTERDAM

Pallets

Draglines

Jute bags

Scenario 1 | Doors

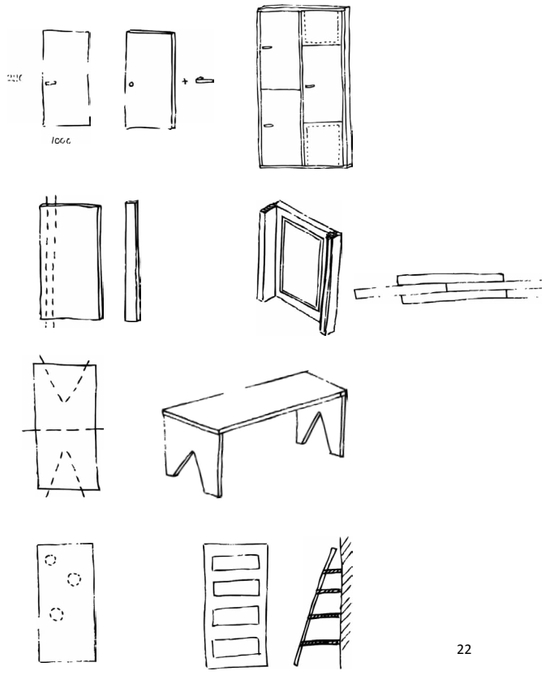
Background information
Within the general office, the individual workplaces are separated by system walls and these walls will contain doors. These doors are mostly made out of HPL (High Pressure Laminated) and are available in multiple sizes; but the most standard option is 1000 mm width and 2105 mm high (Hopman, n.d.).

Options for reuse
Doors do not necessary have to be dismantled before reuse; hinges and doorknobs might have to be removed or replaced first. As most doors are made from channel chip plates it might not be the best solution to cut the doors; but it could deliver interesting options for façade implementations.

Architectural Applications
Construction
- Combine doors as column
- Combine doors to wall element

Façade
- Use doors as cladding/ wall
- Use sheets as cladding
- Use perforated doors to create a half transparent element
- Use half doors as shading element

Interior
- Doors can be perforated and used as decoration
- Two doors can be transformed into one table
- Doors can be transformed in to storage element



Scenario 2 | Pallets

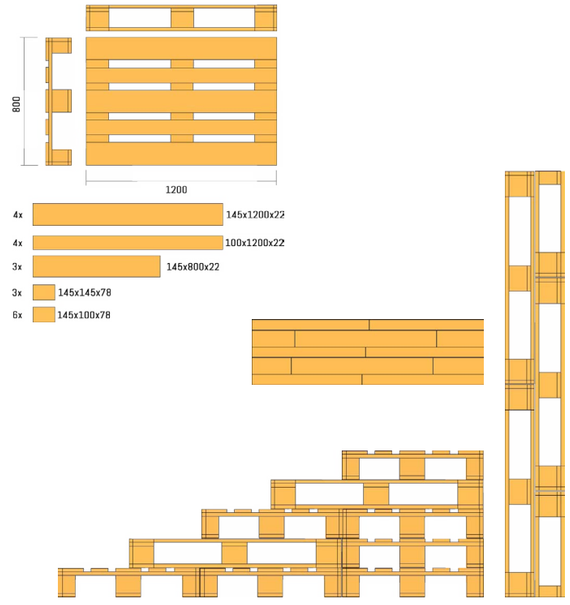
Background information
Euro pallets as the name suggests are used on the entire continent of Europe to help with the transport of goods. The pallets have a deposit value of approximately 10 euros. If the pallets are broken, they lose their value all together (Pallet Recycling Nederland, n.d.).

Options for reuse
Euro pallets are made of pinewood and have a HT treatment (prevent insects, etc.) and have standard dimensions (1200 x 800 mm with a thickness of 140 mm). The maximum static load is 2000kg (Pallet Recycling Nederland, n.d.). Pallets do not necessary have to be dismantled before reuse; but it can be of advantage to the design freedom.

Architectural Applications
Construction
- Stacking pallets as columns
- Interlocking pallets as wall element

Façade
- Connect pallets as façade element
- Use sheets as cladding

Interior
- Stack pallets to create a platform
- Combine pallets with cut pallets to create furniture



Scenario 2 | Jute Bags

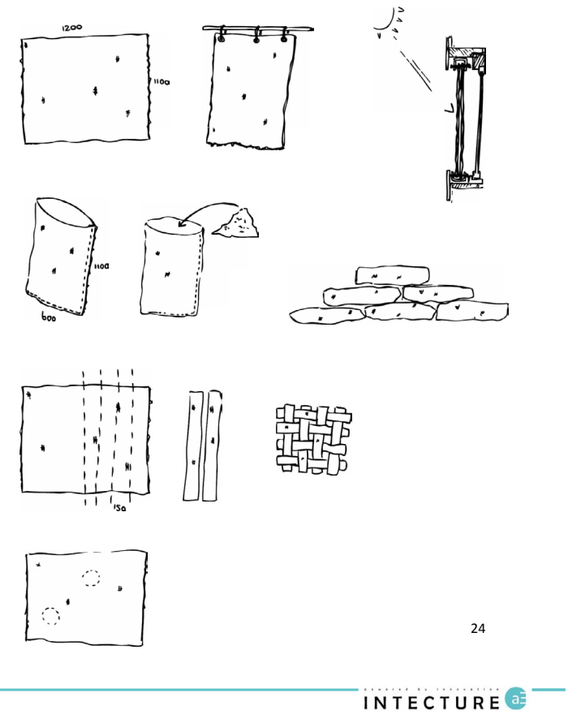
Background information
Jute bags have been and are still considered to be one of the main packaging materials for goods during transport. This is due to the unique combination of properties; it's strong, durable and it's able to ventilate (NNZ, n.d.). The jute bags found in the harbour of Amsterdam are used for transporting cacao until they are further distributed. The bags are cut open and the beans are transferred to big bags..

Options for reuse
The jute bags are available in different sizes; but they are most often made to hold up to 50kgs of goods. These jute bags have already been cut open; which results in a fabric sheet of 1100 x 1200 mm (NNZ, n.d.). The fabric sheets can either be put back together, or cut in different shapes and sizes.

Architectural Applications
Construction
- Filled the new bags with sand and stack the elements

Façade
- Fabric can be used as shading
- Sheets can be hung in a frame
- Fabric strips can be weaved

Interior
- Filled with wool or other fabrics the bags can be used as pillows
- Sheets can be used as curtain
- Sheet can be used as decorative element
-



Scenario 2 | Draglines

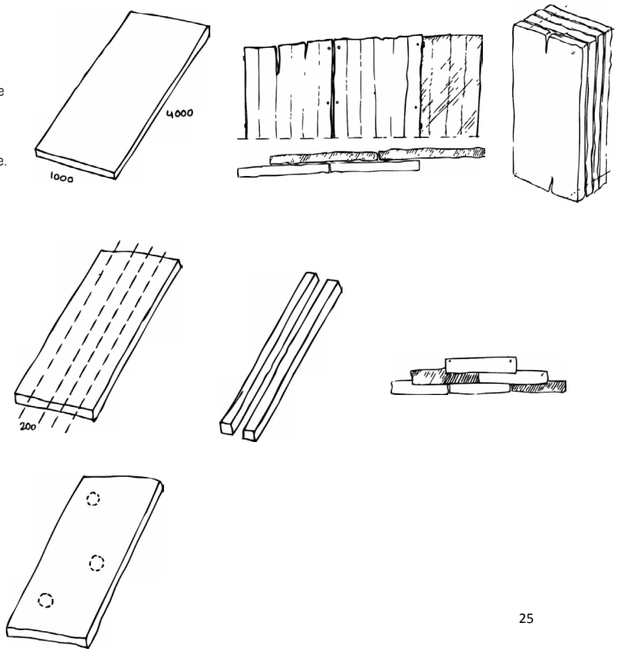
Background information
Draglines are available in two different types; with or without a metal framing. Draglines have a width of 1000 mm, a height of 100 mm and the length varies between 4000 and 12000 mm. The draglines form the harbour of Amsterdam are used to protect the quays (Lekkerkerker, 2015).

Options for reuse
These draglines do not have to be dismantled, they do not contain a metal frame. The draglines from Maja Stuwadoors are often damaged and do need to be processed. The draglines can be used as is depending on the size or cut.

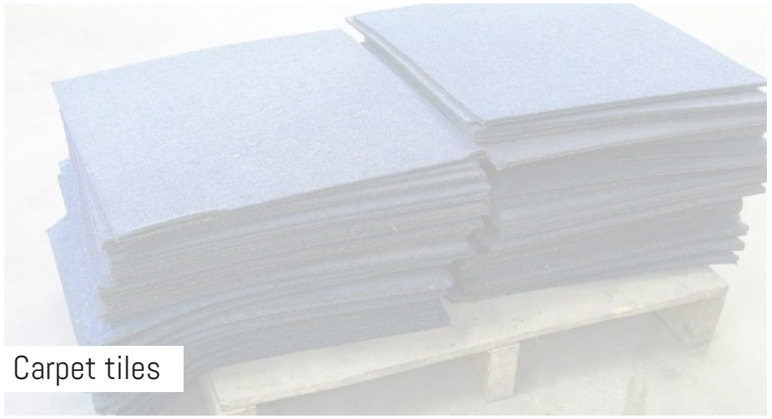
Architectural Applications
Construction
- Combine draglines to create columns
- Layer draglines to create loadbearing wall
- Use as beams

Façade
- Use strips as cladding

Interior
- Use perforated draglines as decorative elements
- Use perforated draglines as storage element
- Cut dragline into table pieces



OFFICE RENOVATION



Carpet tiles

Doors

Windows

HARBOUR OF AMSTERDAM

Pallets

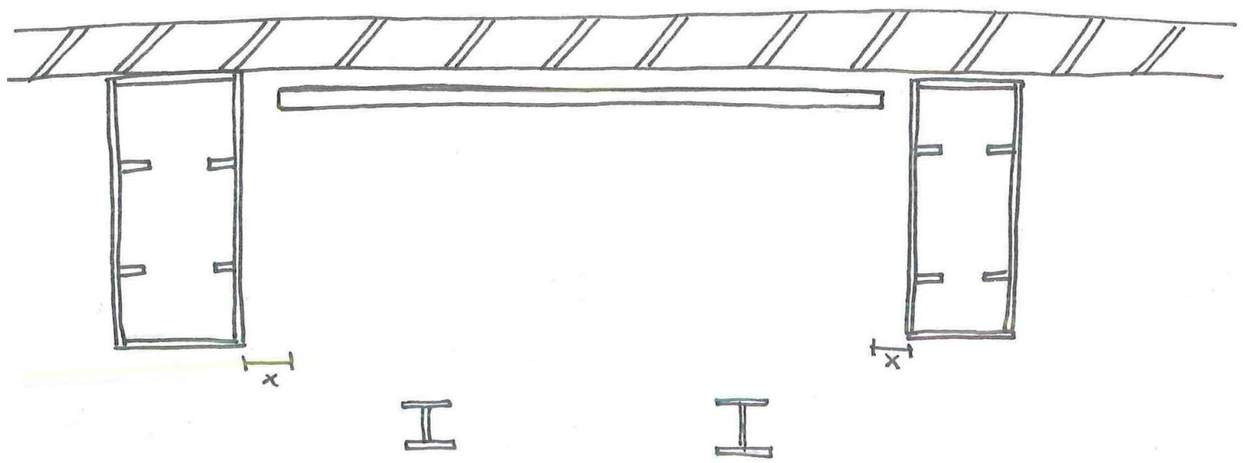
Draglines

Jute bags

INSPIRATION WALL FROM DOOR ELEMENTS

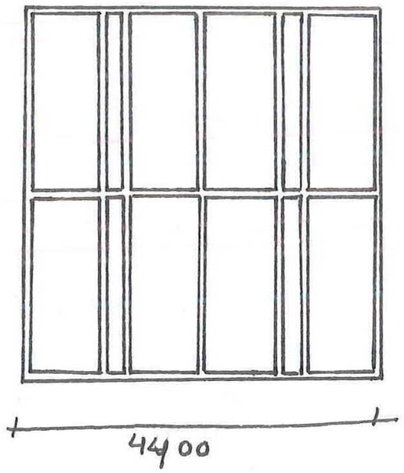
MADE TO FIT = NOT OPTIMAL FOR THE VAN GENDTHALLEN

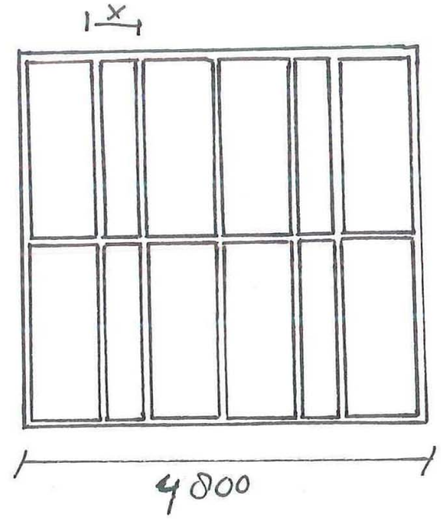
DESIGN PRINCIPLE

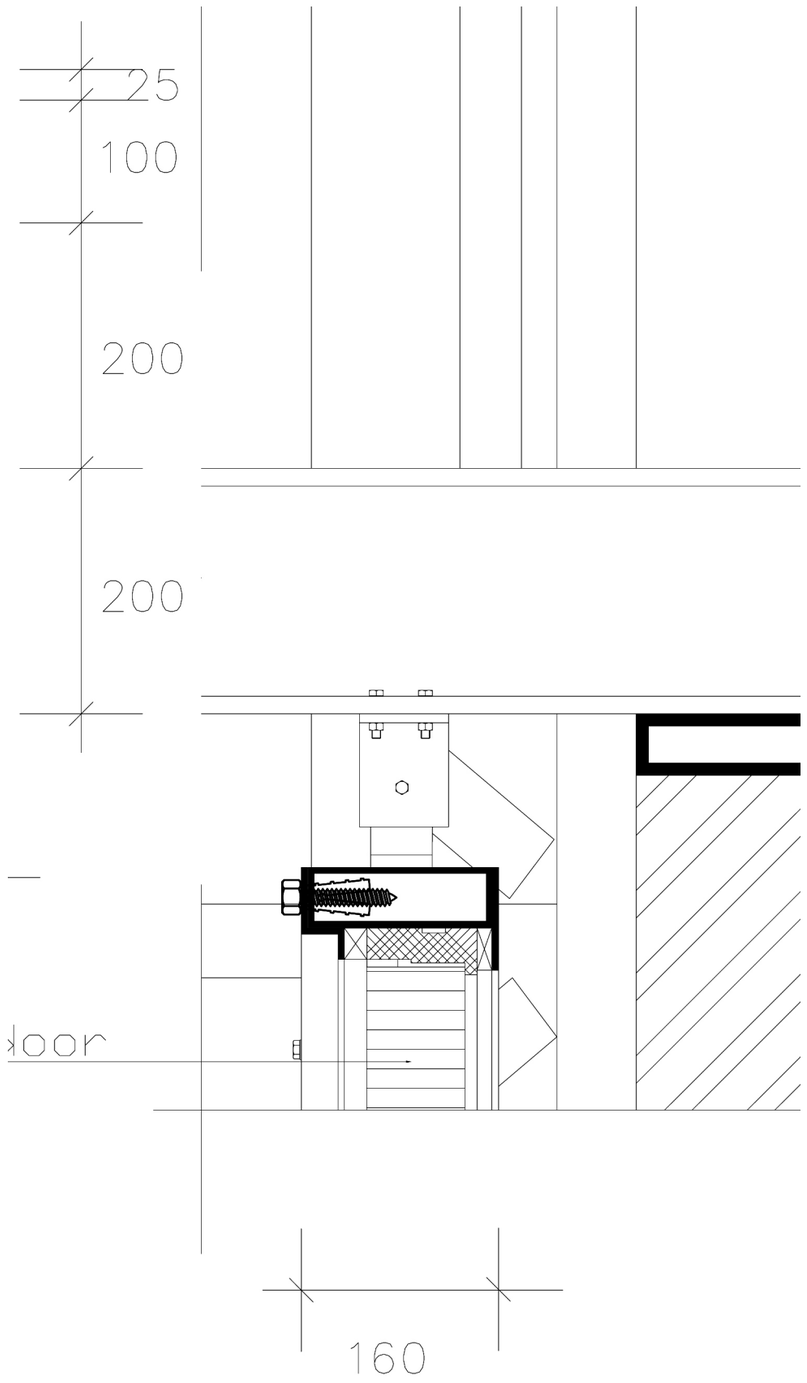


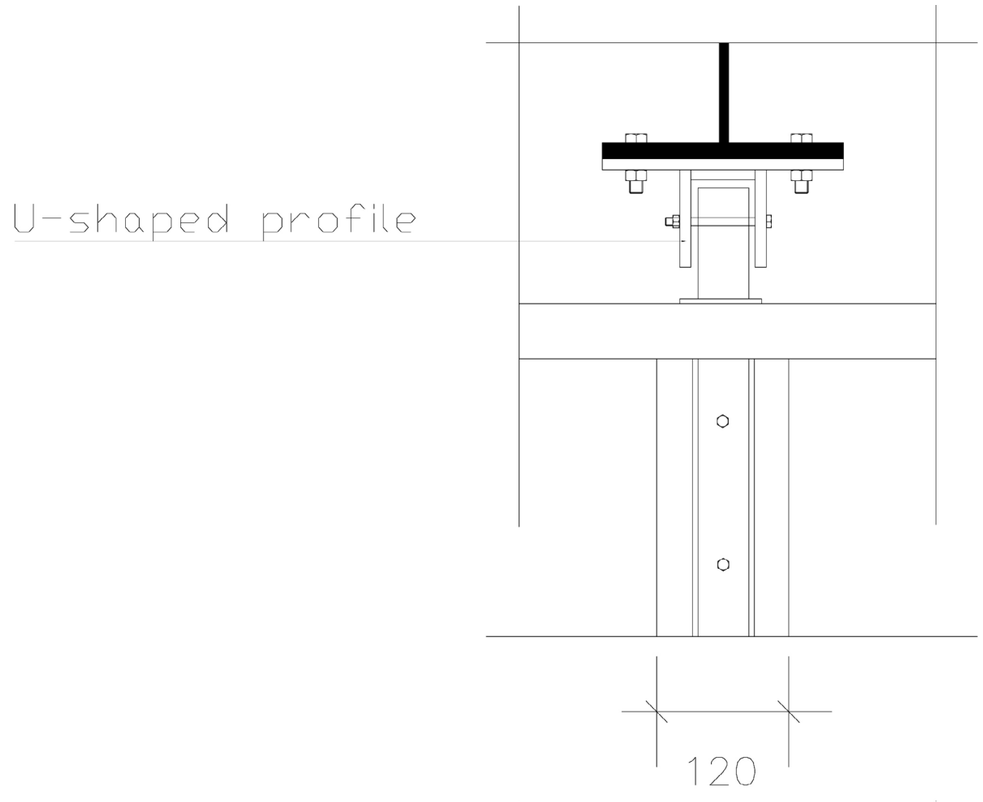
ELEMENTS BETWEEN THE EXISTING STRUCTURE

VARIANTS

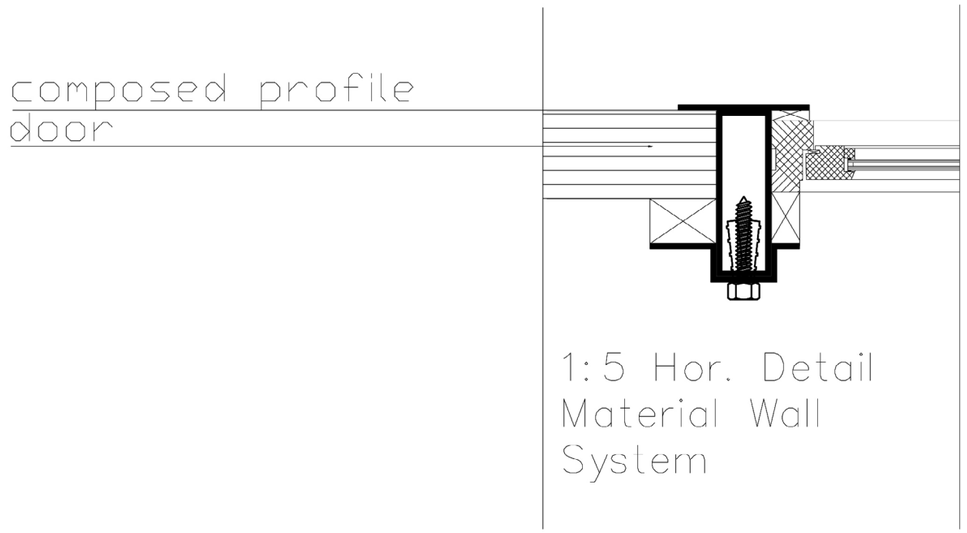








1:5 Ver. Detail Material Wall System



1:5 Hor. Detail Material Wall System

OFFICE RENOVATION

Carpet tiles

Doors

Windows

HARBOUR OF AMSTERDAM

Pallets

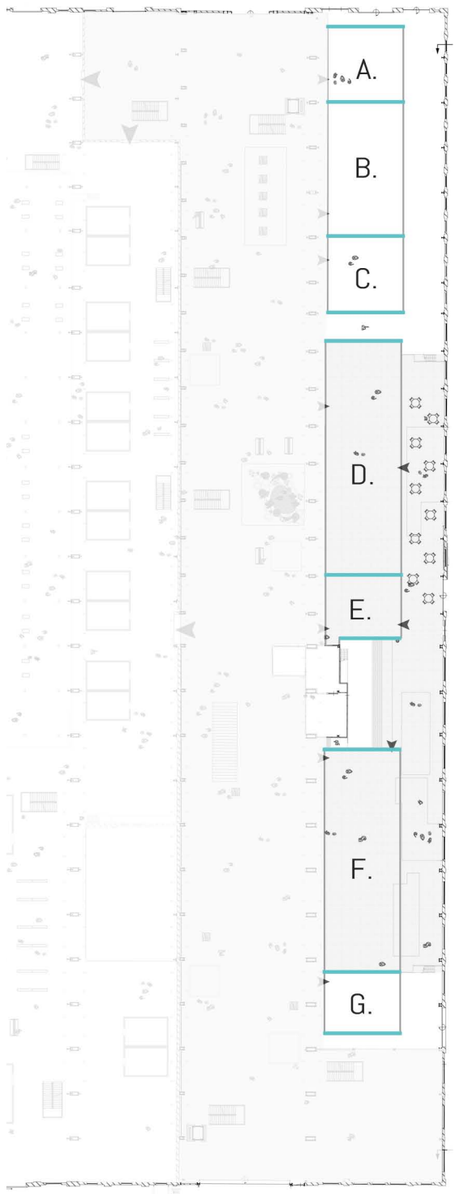
Draglines

Jute bags

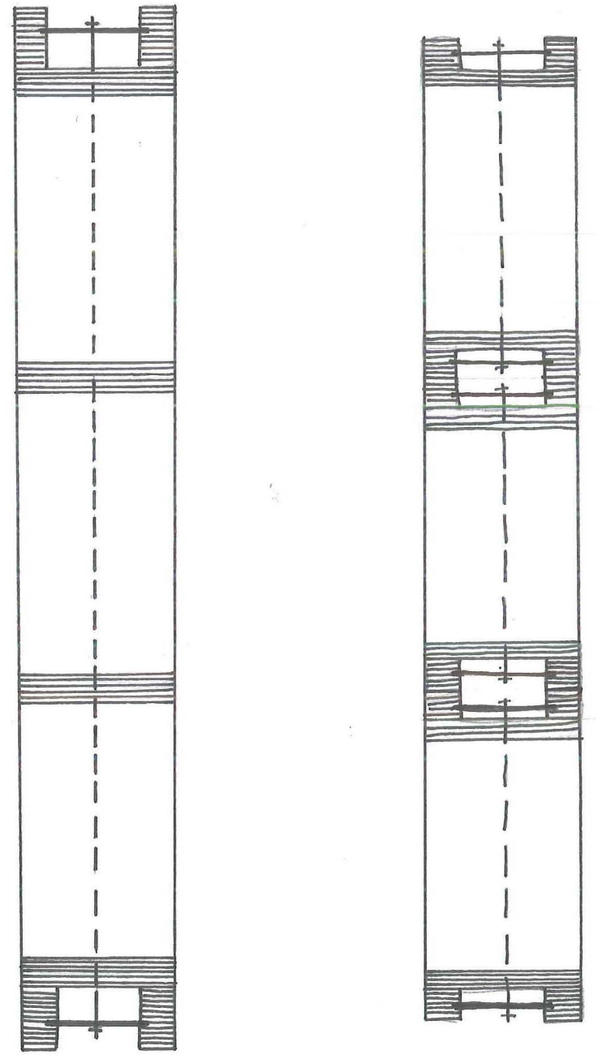
LUCY CARPET HOUSE

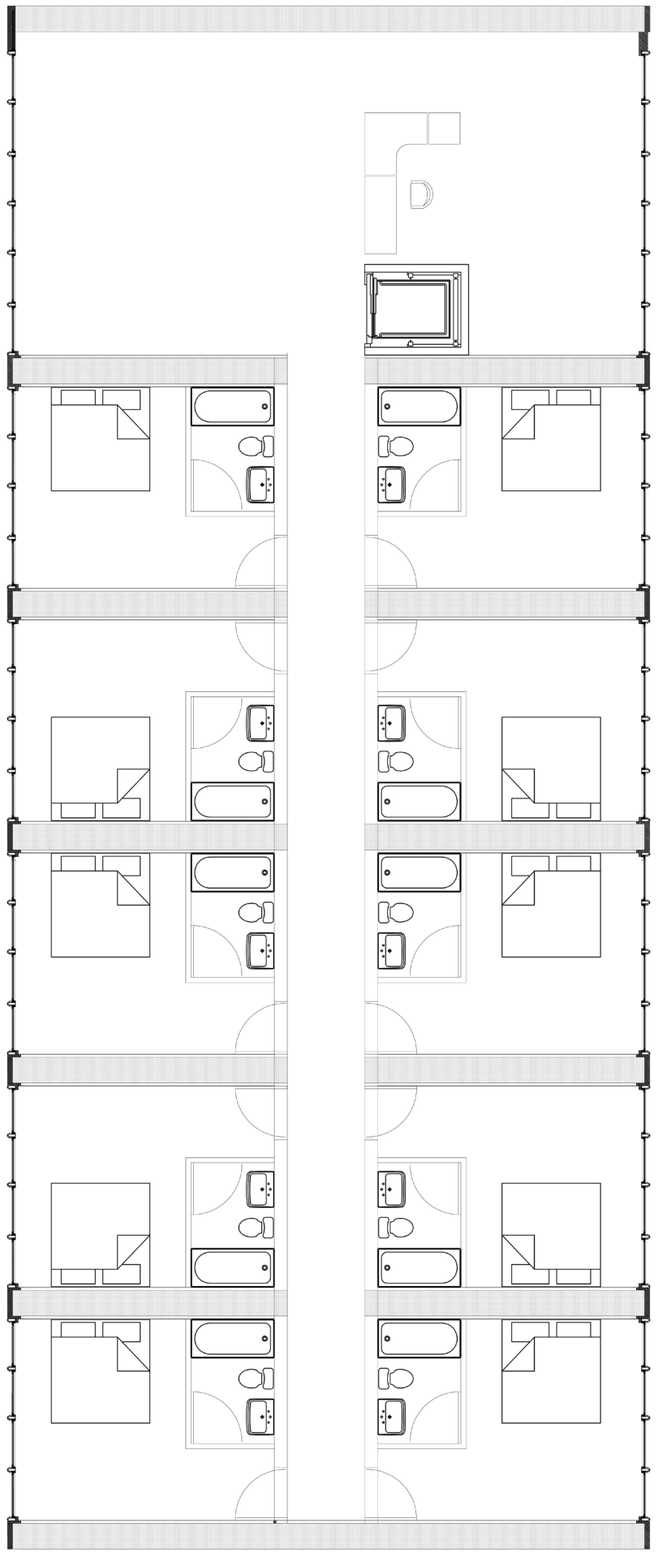
Tiles stacked as walls, held in compression by wooden ring

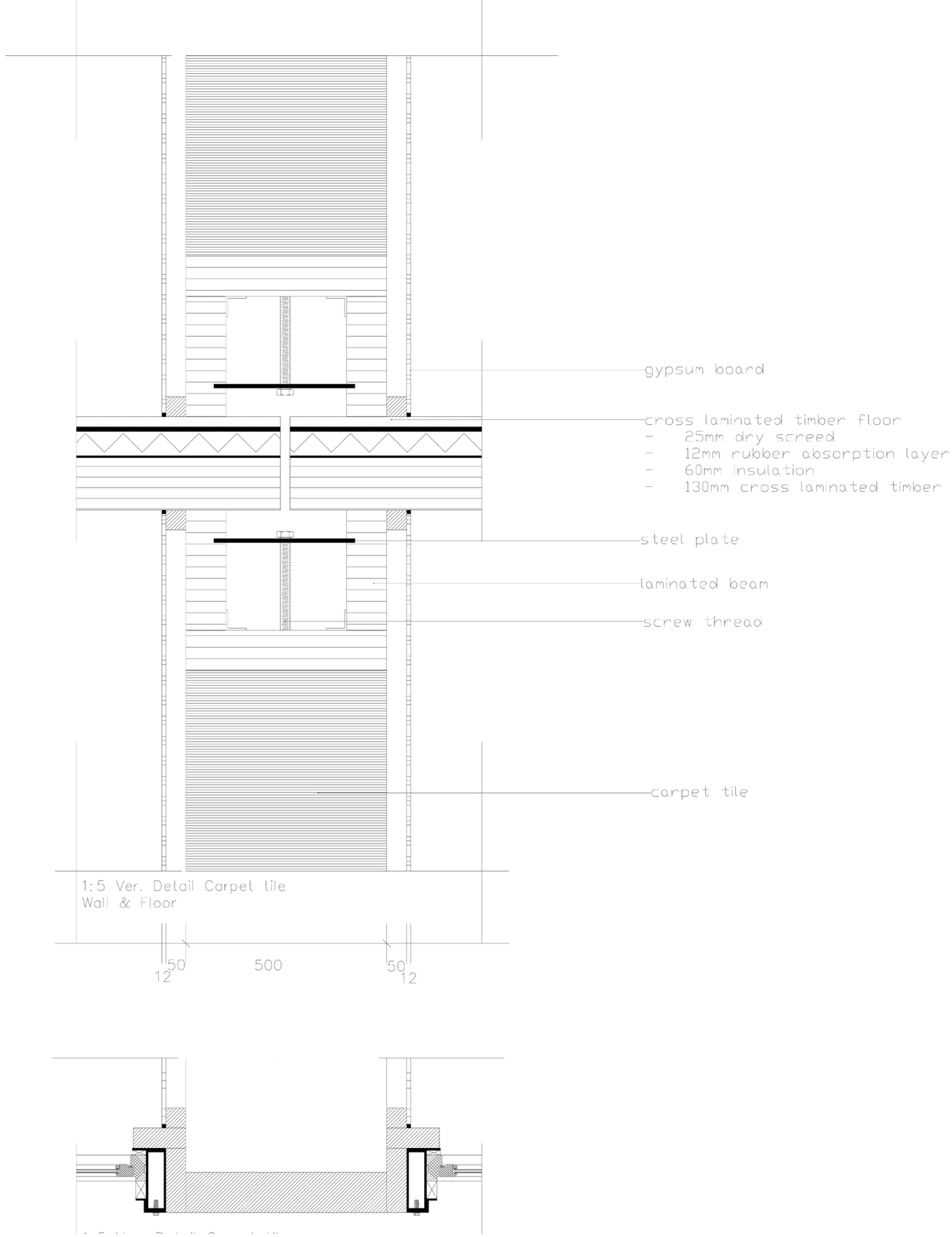
DESIGN PRINCIPLE



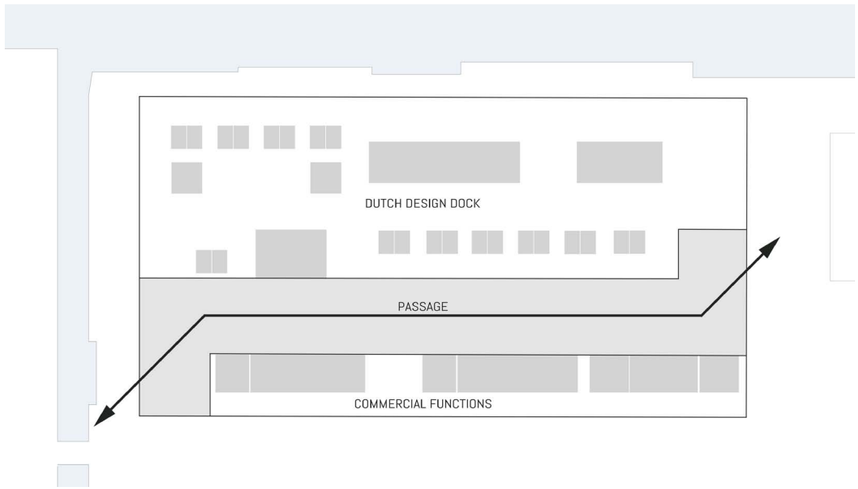
VARIANTS



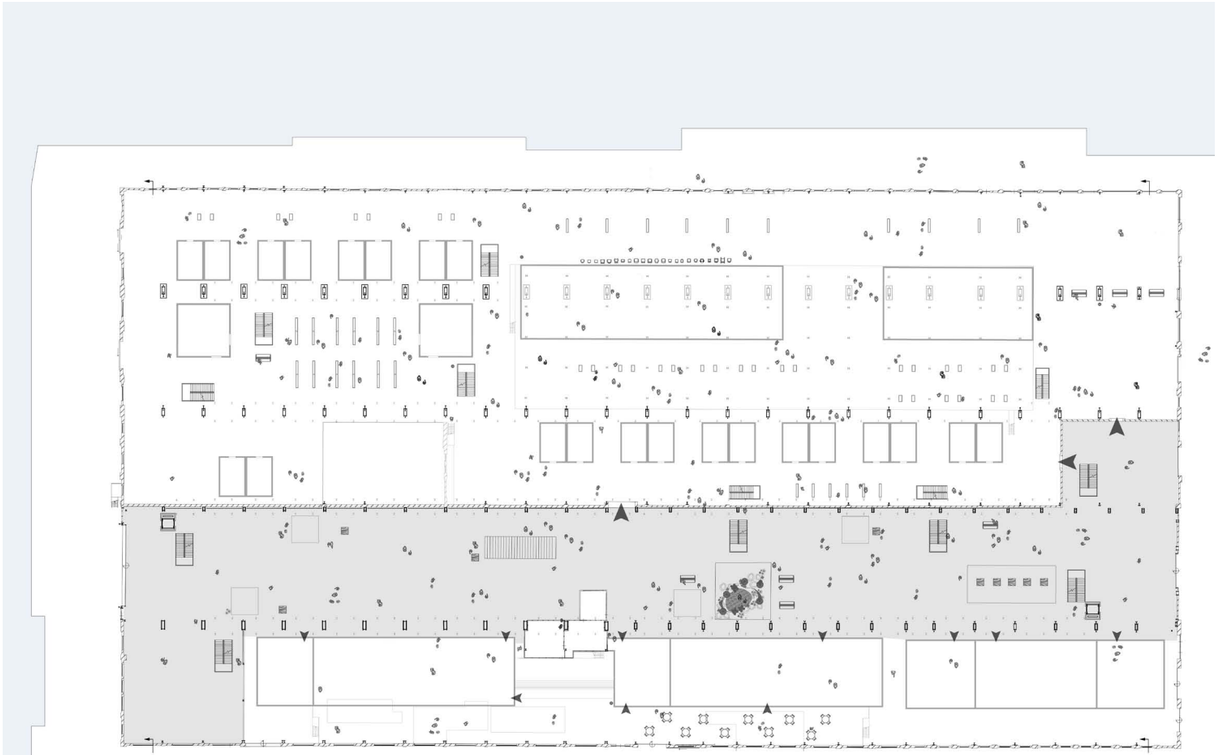



gypsum board
cross laminated timber floor
- 25mm dry screed
- 12mm rubber absorption layer
- 60mm insulation
- 130mm cross laminated timber
steel plate
laminated beam
screw thread
carpet tile
1:5 Ver. Detail Carpet tile
Wall & Floor
12
50
500
50
12

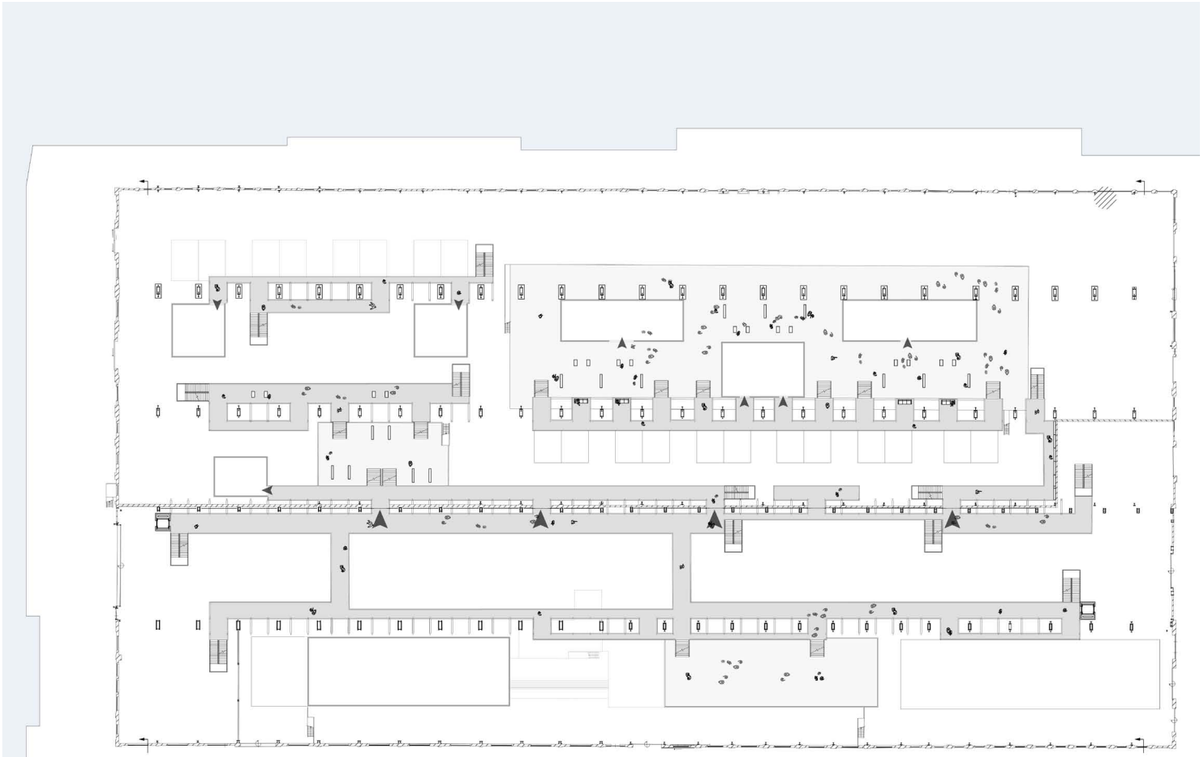
CONTEXT



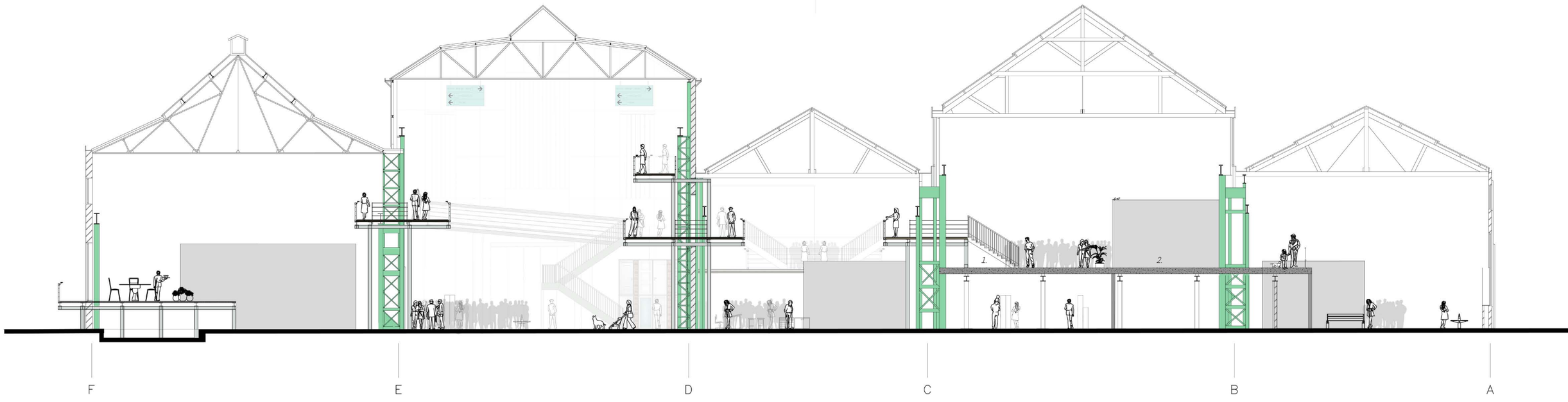
CONCEPT



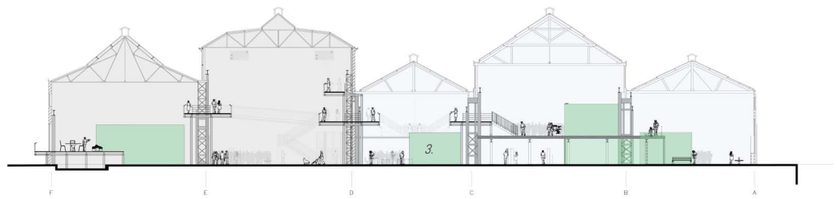
DUTCH DESIGN DOCK | GROUND FLOOR



DUTCH DESIGN DOCK | PATHWAYS

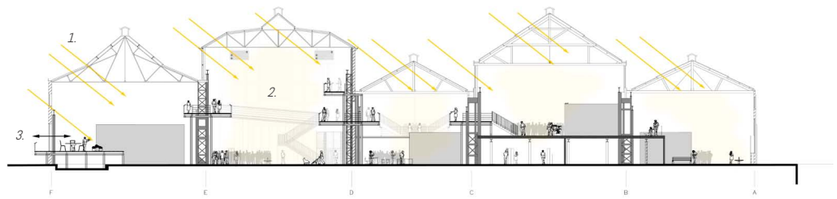


DUTCH DESIGN DOCK | SECTION



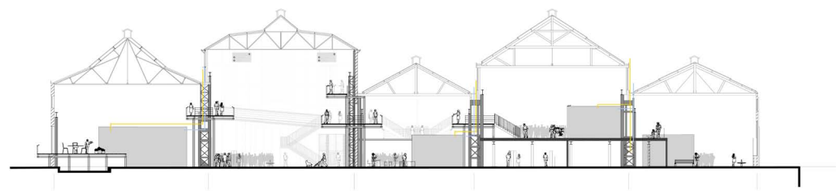
Climate zones

1. Outdoor climate
2. Semi outdoor climate
3. Indoor Climate



Lighting

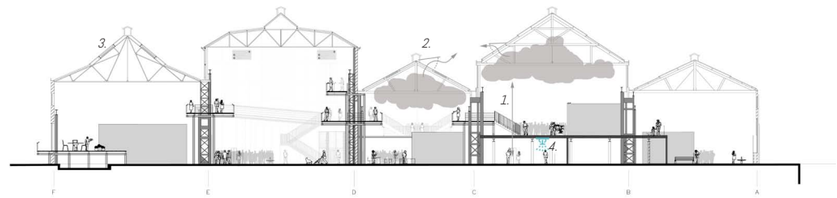
1. Entering of daylight through sky lights & facade openings
2. Pathways along existing construction, leaving the middle exposistion spaces open for daylight
3. Raised floor in hall 5, for a direct view and connection with the outside
4. Artificial lighting placed underneath the pathway systems



Ventilation

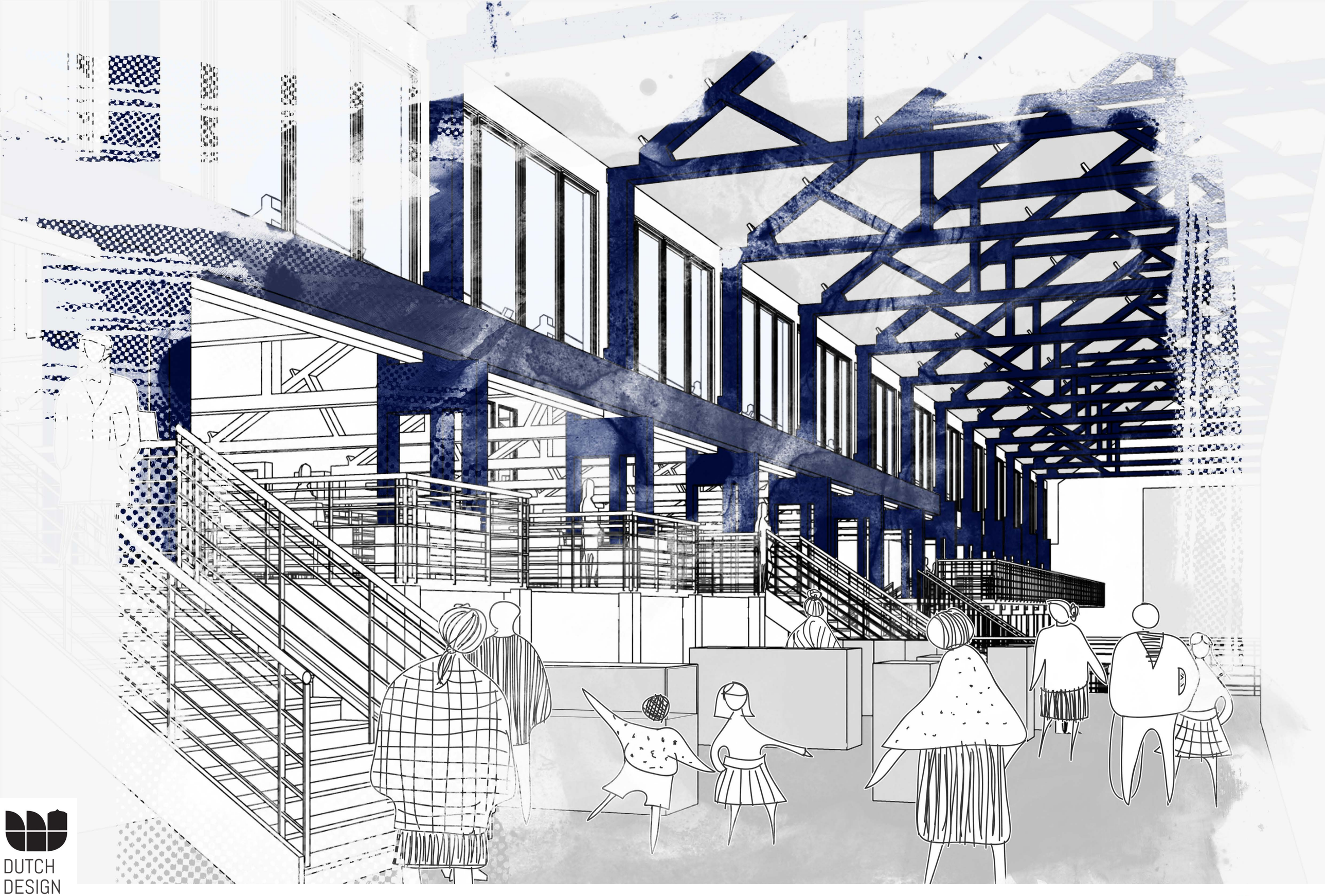
1. Halls itself are naturally ventilated
2. The closed of functions are individually regulated; inlet and

outlet shaft run under the patways and along the construction



Firesafety

1. The height of the halls delivers a larger smoke free area. Time for escaping increased to 60 seconds
2. The orgininal roof hoods will be reinstalted to help release smoke from the building
3. RWA system; smoke and heat extraction system
4. Sprinkler system installed underneath subfloors



DUTCH DESIGN DOCK
VAN GENDTHALLEN, AMSTERDAM

CONCLUSIONS

RESEARCH CONCLUSIONS

- Most references are small scale projects
- Scenarios are representative, but only a selection
- General solutions are only an indication of the possible design directions

DESIGN CONCLUSIONS

- Building is too big to house only one function
- For this function a box in box principle was the best solution

OVERALL REFLECTION

For a more realistic design the current research should be seen as a first step, a direction. A building that will be demolished or renovated needs to be found, followed by an analysis of the exact materials and their qualities.

Implementation of the materials could have been researched earlier on in the design process

THANK YOU FOR YOUR ATTENTION

QUESTIONS?