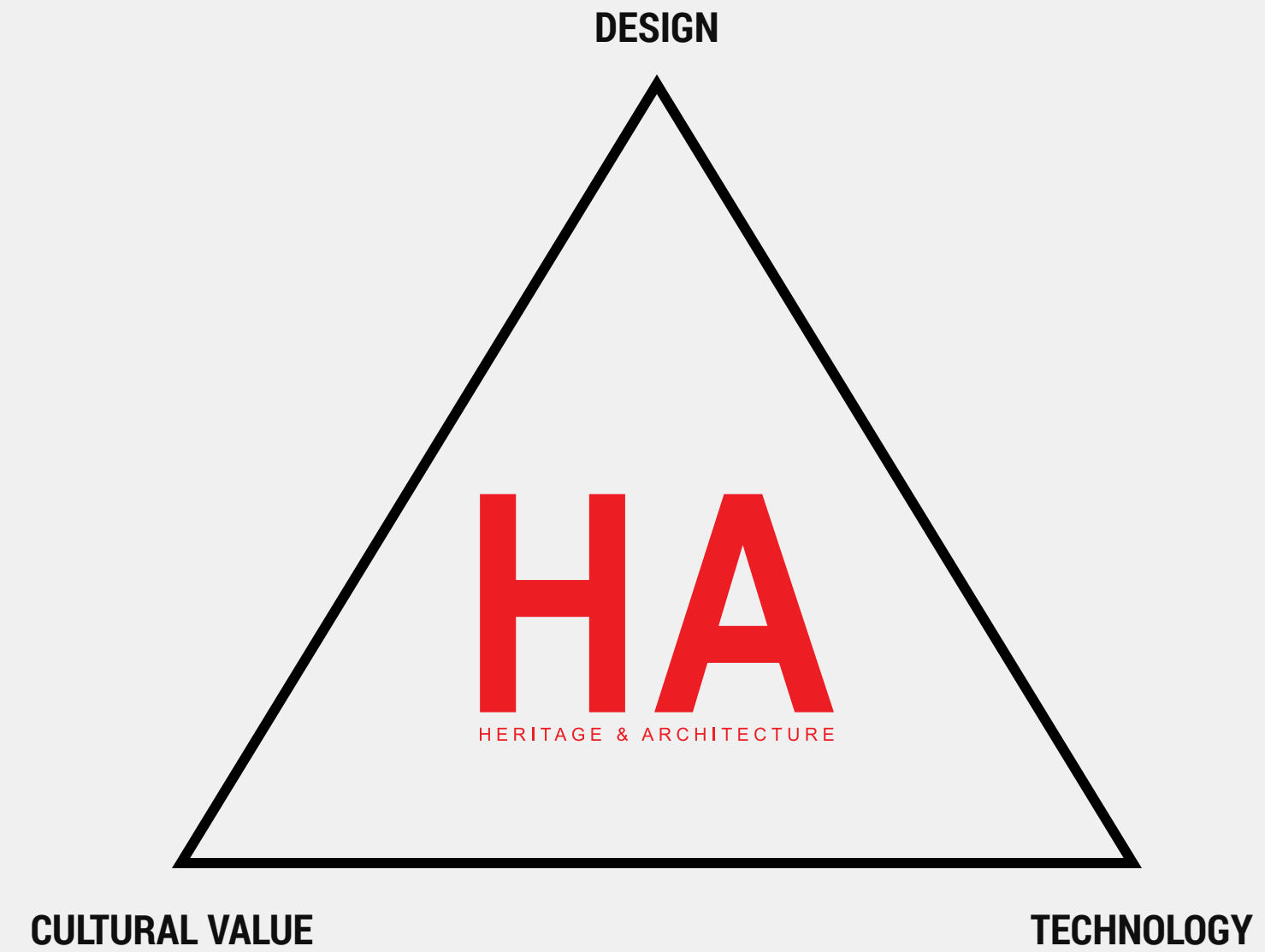


VALUES OF NON-INTENDED ARCHITECTURE

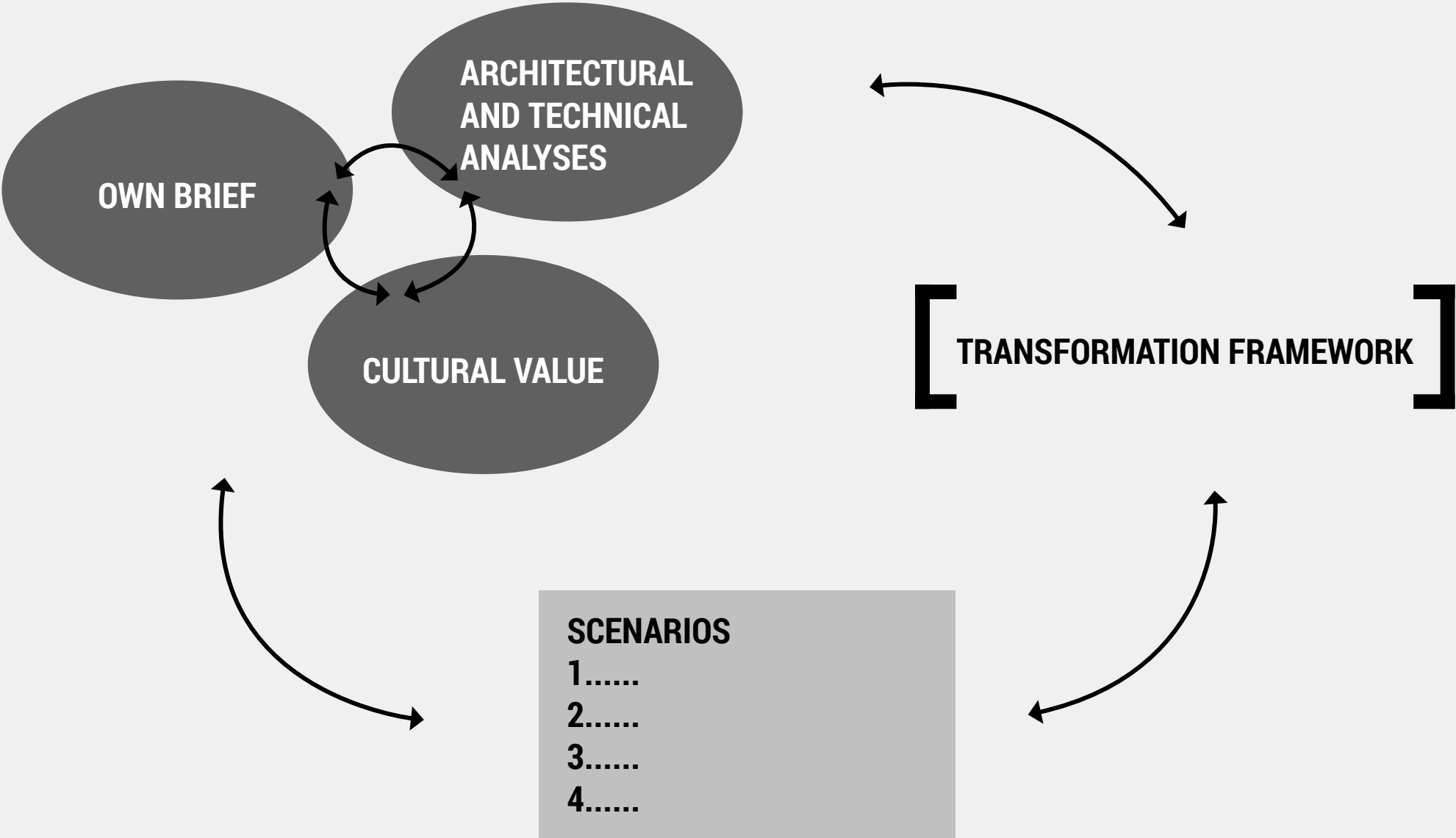
HERITAGE & ARCHITECTURE

“In this professional field the starting point for design is not just a functional brief and a blank sheet of paper but the challenge of an existing spatial setting and cultural-historical context.”



RESEARCH METHOD

• Transformation framework as filter during the design process



1. INTRODUCTION STUDIO

CONTEXT STUDIO

- Manutenção Militar
- Industrial facility
- Substituted by a public enterprise in 2015
- New sustainable use



Image
Overview complex (photo mid-term presentation workshop
group 6)

PLAN AREA

• Lisbon, Portugal



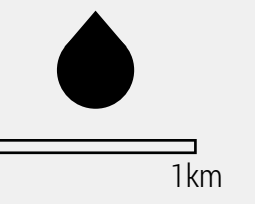
Image
Overview complex (photo mid-term presentation workshop group 6)

PLAN AREA

• Tagus Riverfront



Image
Areal view (screenshot Bing Maps, own editing)



PLAN AREA

• Beato

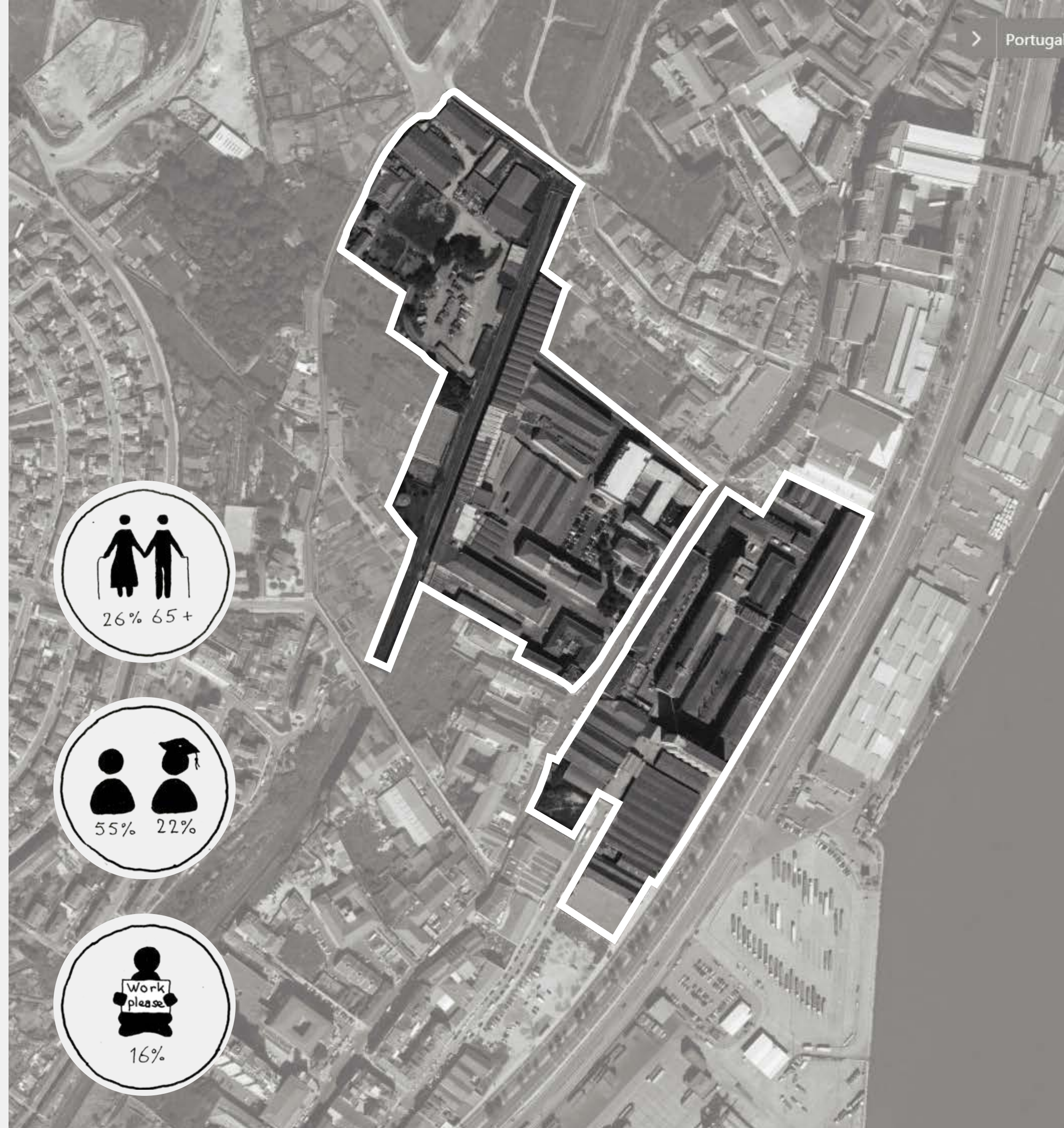


Image
Areal view (screenshot Bing Maps, own editing)

MANUTENÇÃO MILITAR

- Contribution surroundings
- Ultramar War
- Decline caused void Beato



Image
Employees leave the complex (photo provided by Docomomo)

FOCUS



Image
Bird's eye view MMC (image provided by Guido Martin)

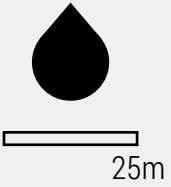




Image
Bird's eye view former convent (photo by Hielkje Zijlstra, 01-09-2016)



Image
Bird's eye view supermarket (photo provided by Guido Martin)



Image
Silo (photo by Daan Masmeijer, 06-09-2016)

OBSERVATION

- Industrial atmosphere
- Surroundings empty and meaningless
- Decrease population Beato



Image
Ground floor milling (photo by Hielkje Zijlstra, 04-09-2016, own editing)



Image
Manutenção Militar Complex (photo by Hielkje Zijlstra, 04-09-2016, own editing)



Image
Rua do Grilo (photo by Hielkje Zijlstra, 04-09-2016, own editing)

FASCINATION

- Construction typologies and machinery

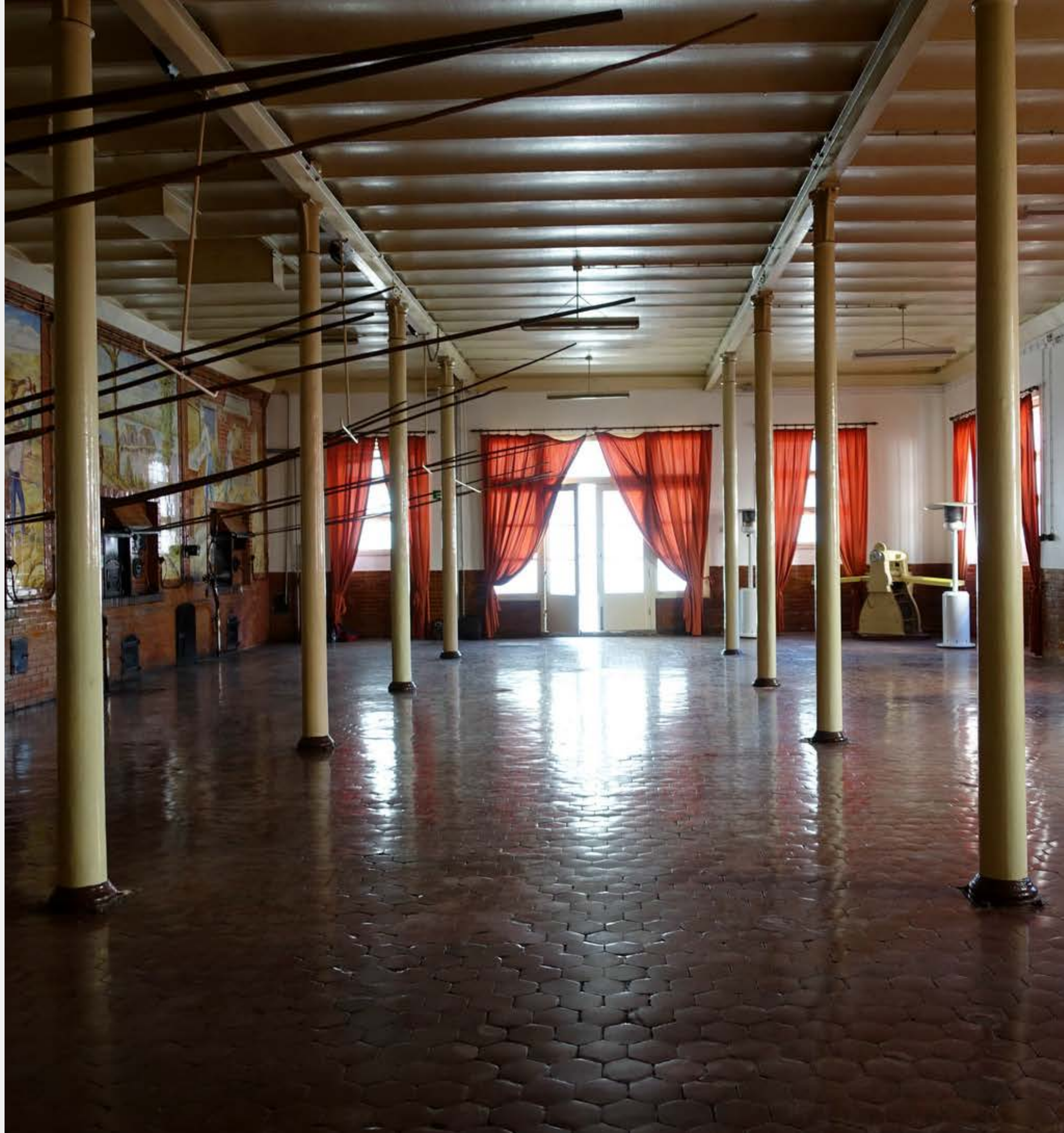


Image
Construction bakery (photo by Hielkje Zijlstra, 04-09-2016, own editing)



Image
Construction middle part milling (photo by Hielkje Zijlstra, 04-09-2016, own editing)



Image
Machinery milling (photo by Ruben Klinkenberg, 25-11-2016,
own editing)

BUILDING CHOICE

Represents the *'Timeline of technological evolution of the buildings, which is considered exceptional within the industrial heritage in Portugal'*

- Contrast conservatism during Salazar Regime

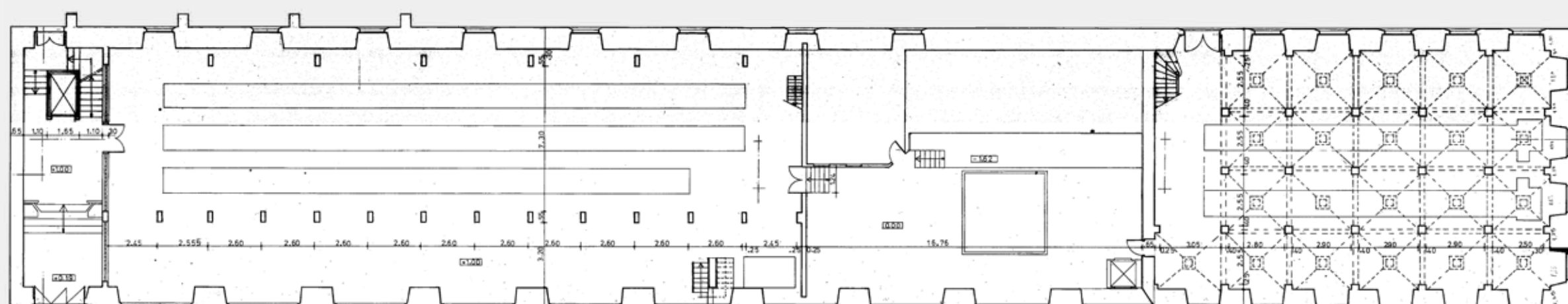
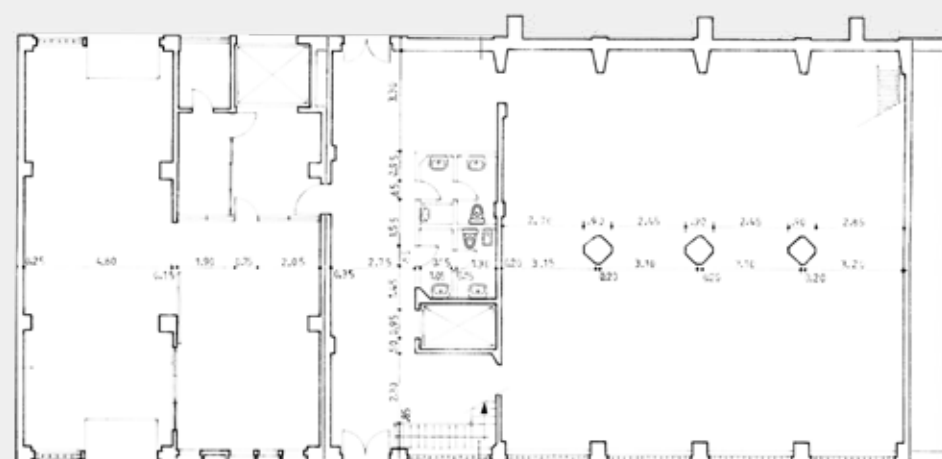
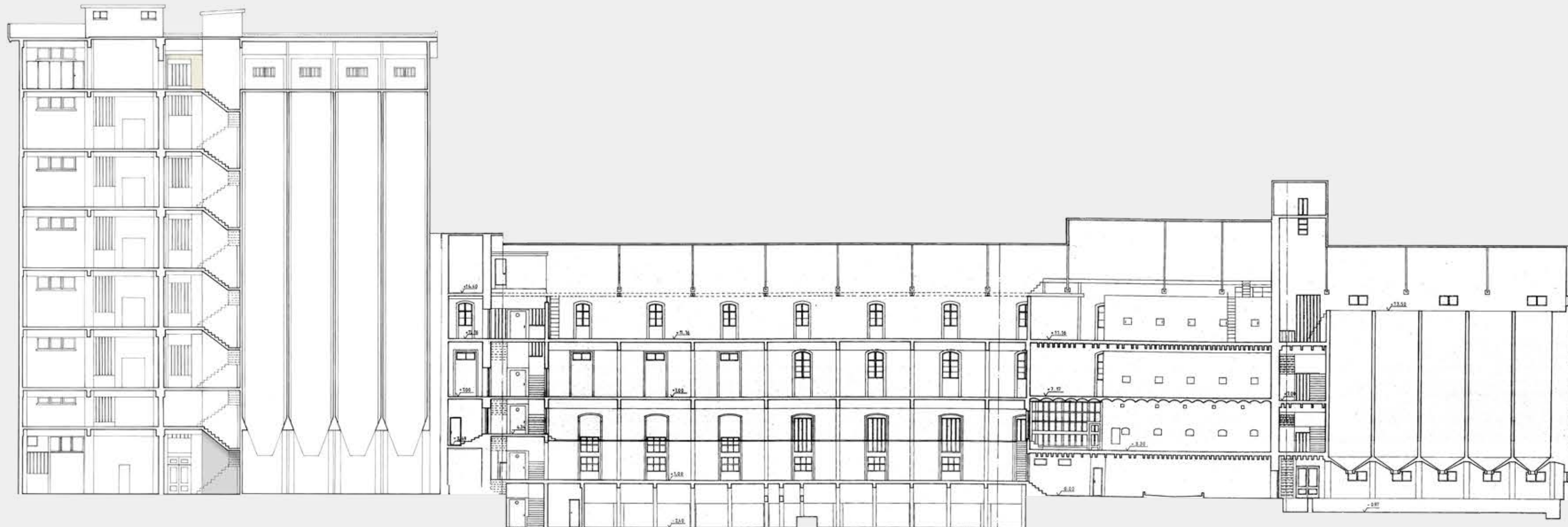


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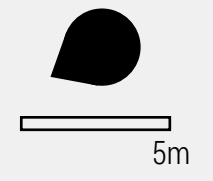
Colenbrander, B. (1990). *Chiado, Lissabon. Alvaro Siza en de strategie van het geheugen*. Rotterdam: Nederlands Architectuurinstituut

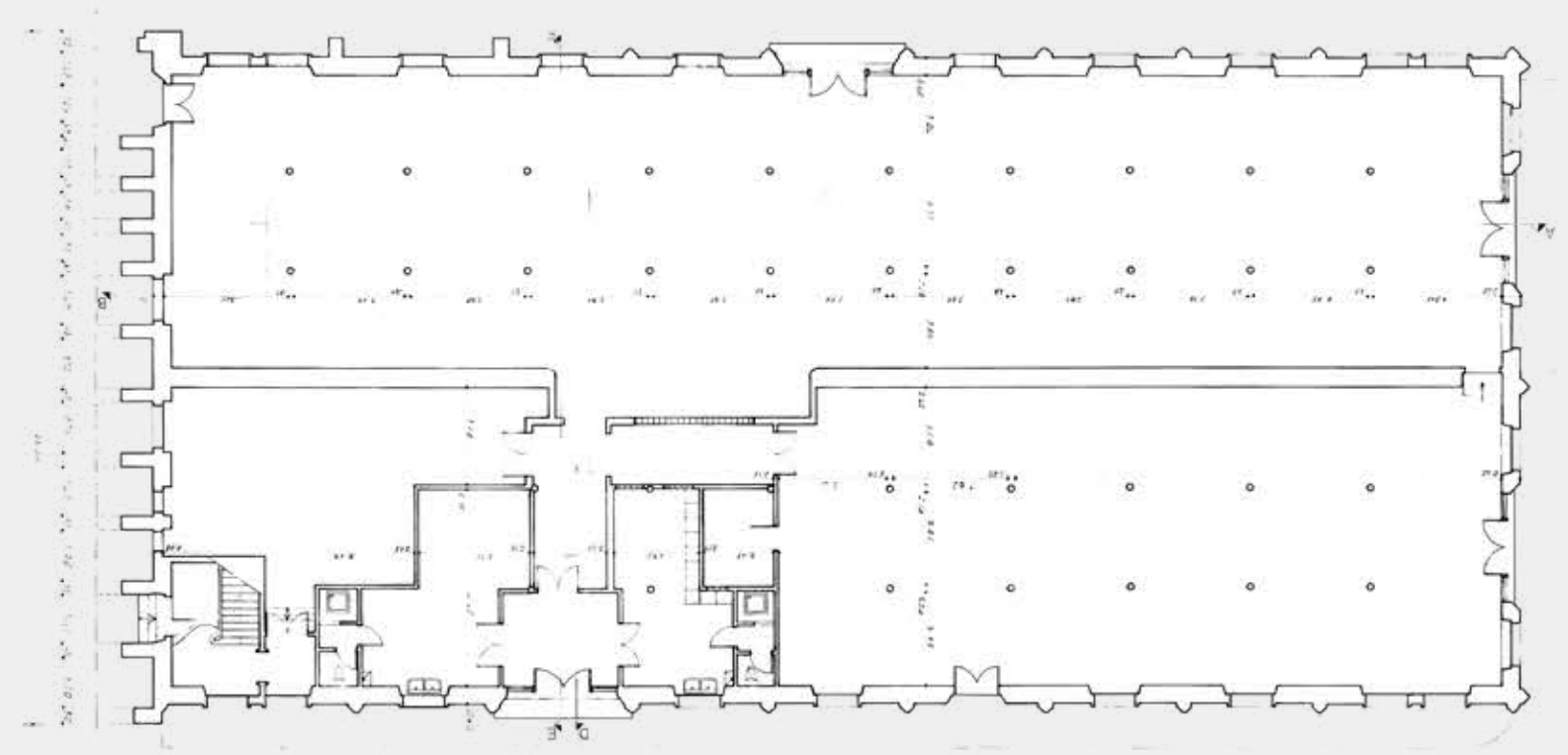
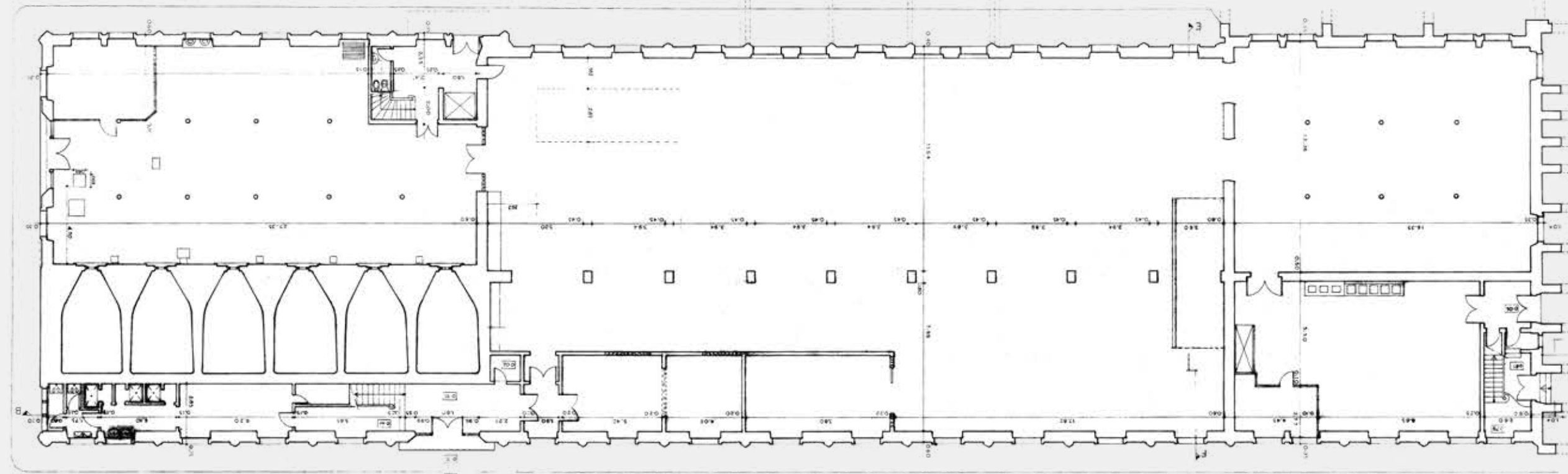
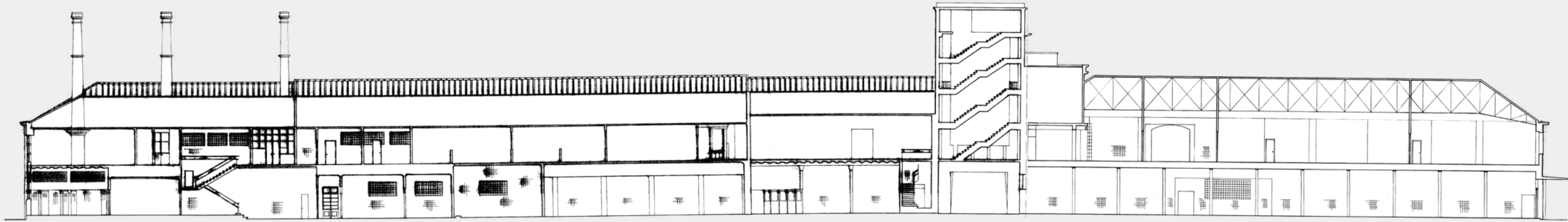


Image
Bird's eye view ensemble (photo provided by Guido Martin)

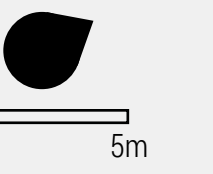


Images
 Section and floor plan milling (drawings provided by
 Docomomo)





Images
Section and floor plan bakery and cookie factory (drawings
provided by Docomomo, own editing)



2. DEVELOPMENT ENSEMBLE

STAGE 1 >1911

- The government took possession of the site in 1896
- Construction bakery and milling
- Cast iron columns and brick vaults

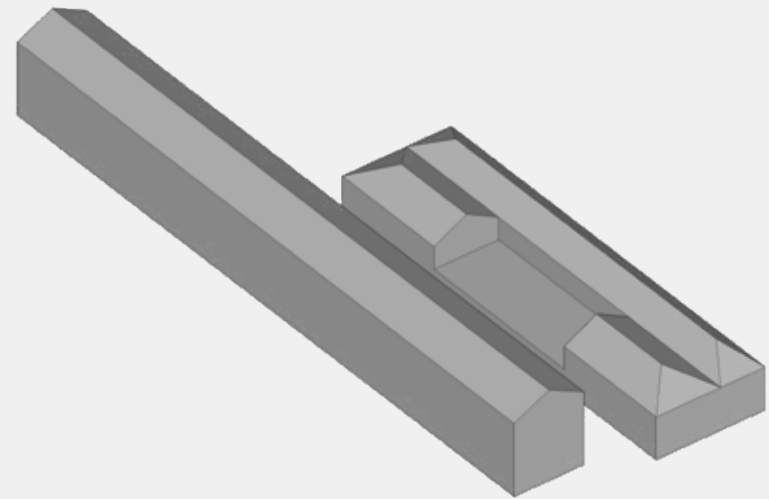
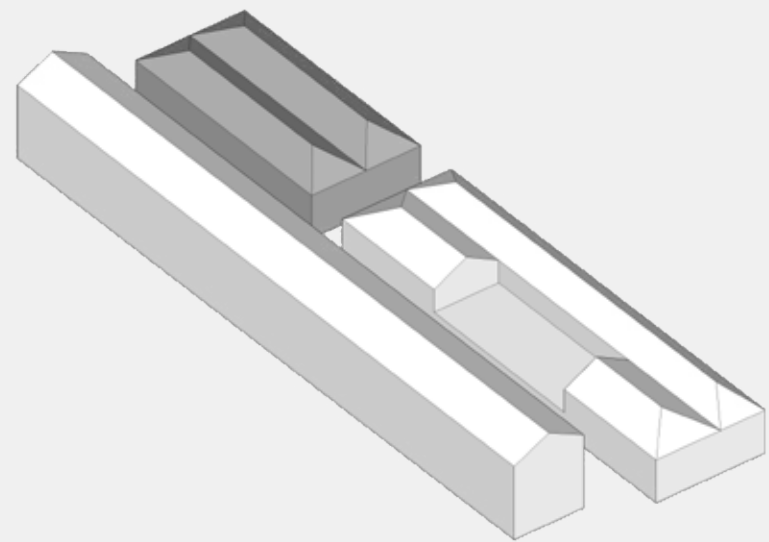


Image
Bakery 1917 (photo Facebook MMC)

STAGE 2 1920s

- Period of industrialization
- Implementation baker system
- Construction cookie factory (cast iron columns and wooden floors)
- Distribution milling over three floors¹



Text

1. Folgado, D., & Custódio, J. (1999). *Caminho do Oriente – Guia do Património Industrial*. Lisboa: Livros Horizonte.

Image

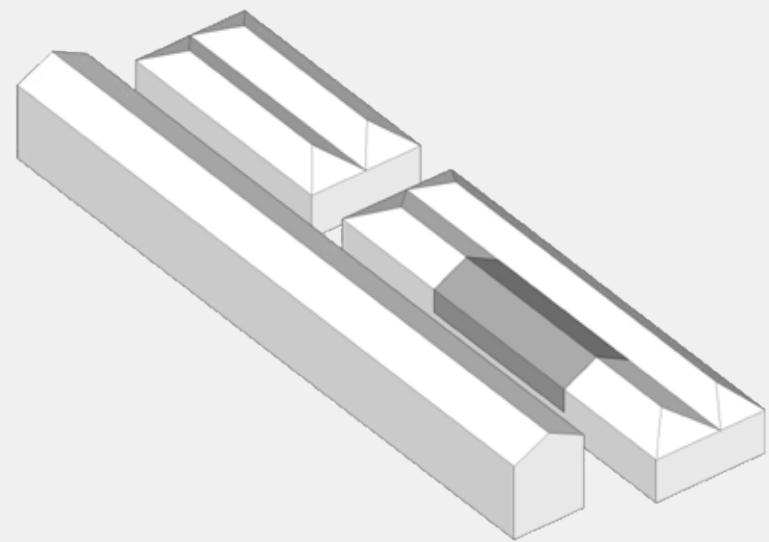
Baker system bakery (photo provided by Docomomo)



Image
First floor milling with 22 mills (photo provided by Docomomo)

STAGE 3 1955

- Baker system replaced by automatic ovens¹
- Monolithic concrete structure



Text

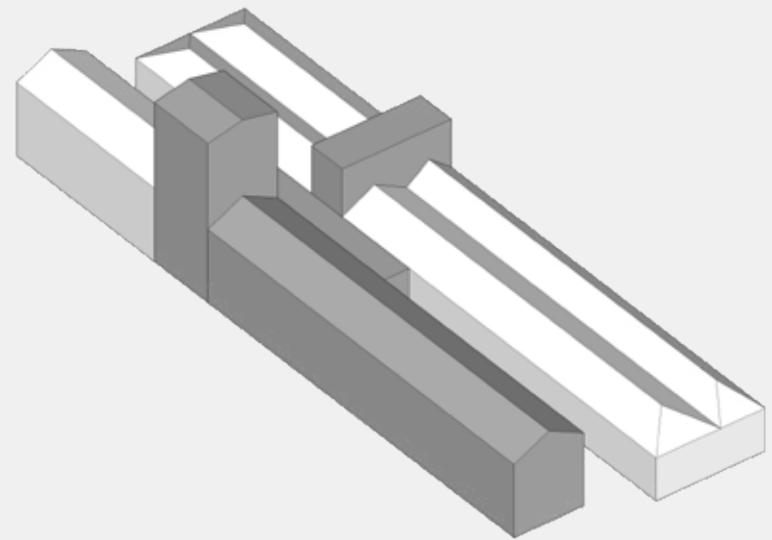
1. Texts exhibited at Manutenção Militar Complex by Lisbon Municipality

Image

Automatic ovens bakery (photo provided by Docomomo)

STAGE 4 1970s

- MM reached maximum level of production
- Construction silos and modernization production process¹
- Small silo as distributor in production process
- Monolithic concrete structure



Text

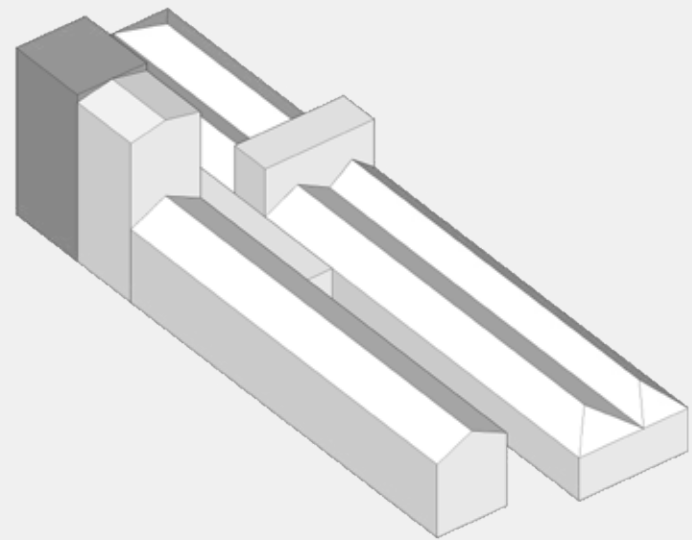
1. Texts exhibited at Manutenção Militar Complex by Lisbon Municipality

Image

New mills and concrete structure mill building (photo by Hielkje Zijlstra, 04-09-2016)

STAGE 5 <2016

- Independence former colonies in 1975
- Construction warehouse



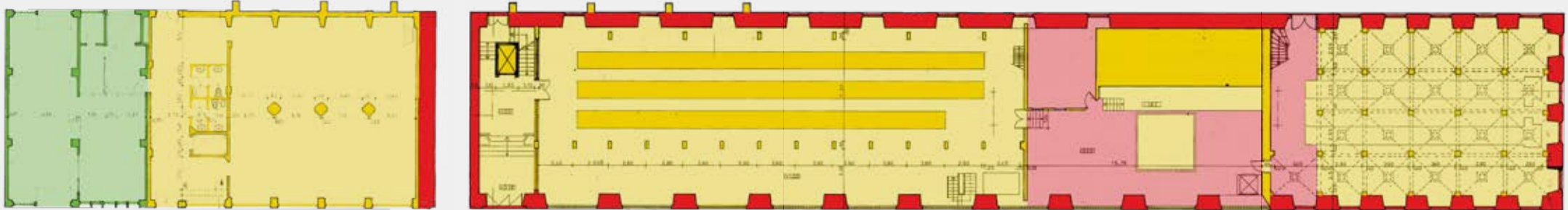
Image

Warehouse milling (photo by Hielkje Zijlstra, 04-09-2016)

DEVELOPMENT ENSEMBLE

- Age value structural elements
- Time layers milling

- High value (<1911)
- Average value (1955, 1970s)
- Low value (<2016)



DEVELOPMENT ENSEMBLE

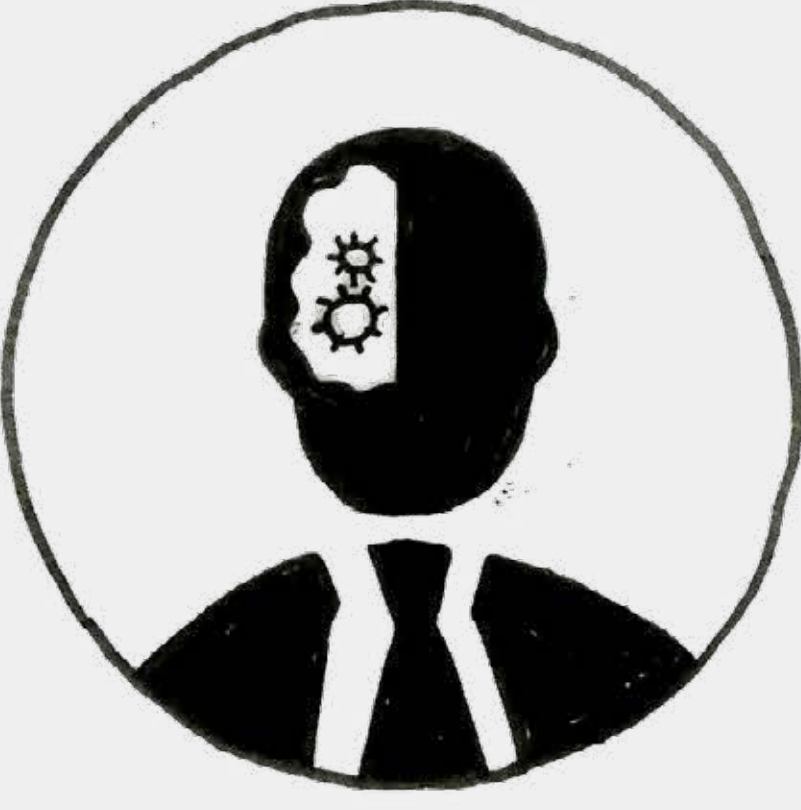
- Modernization production process determines development and evolution ensemble
- Military history, character and pragmatics



MILITARY HISTORY



CHARACTER

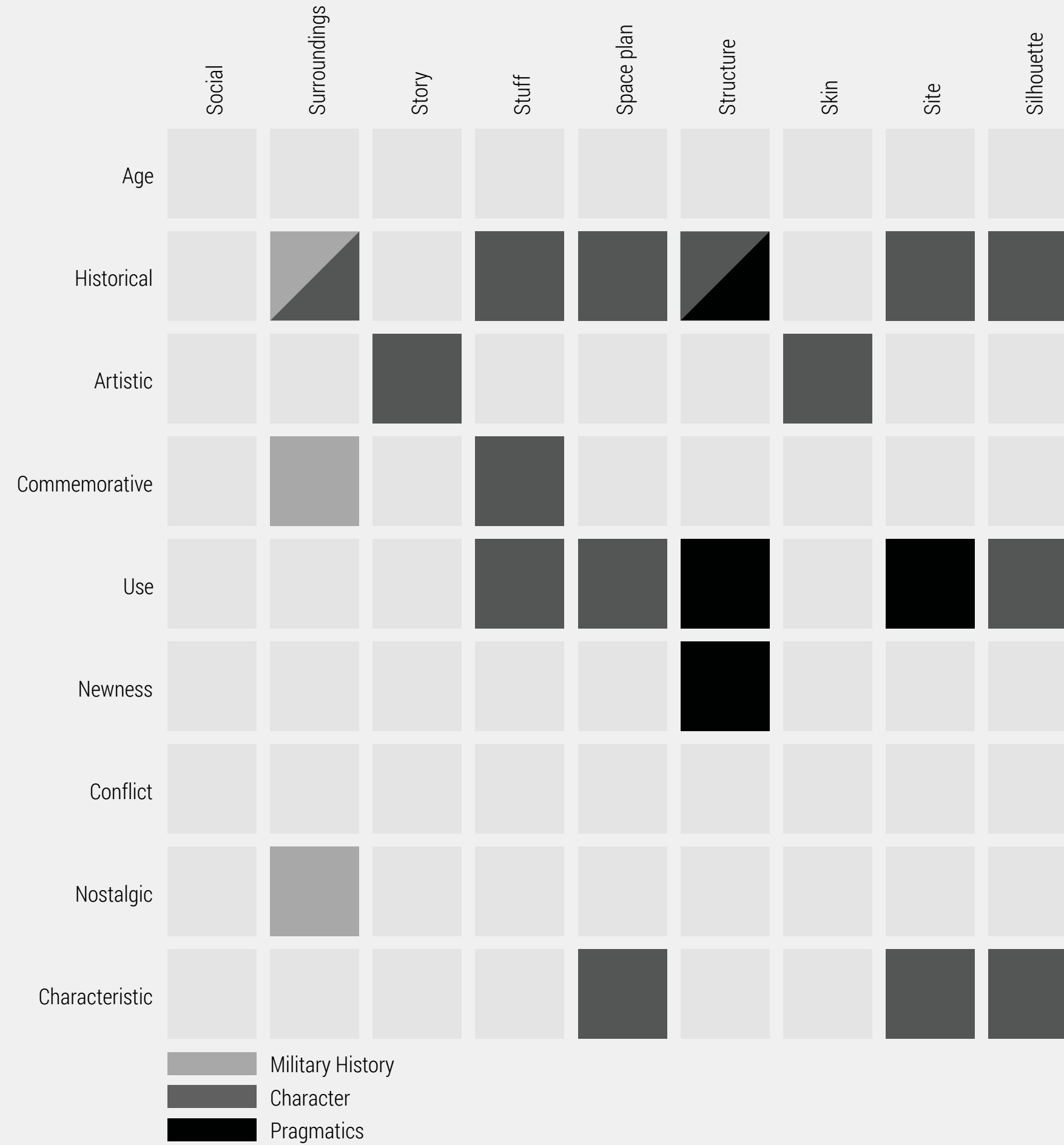


PRAGMATICS

3. CULTURAL VALUES

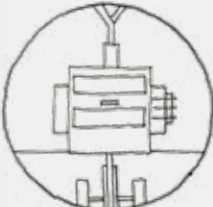
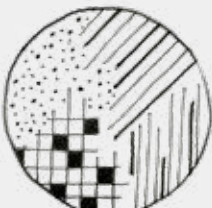
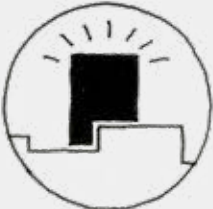
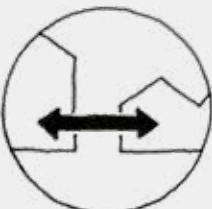
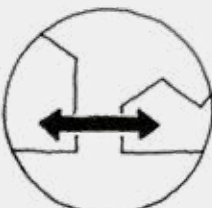
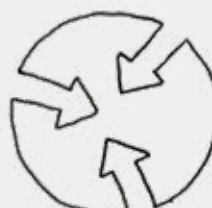
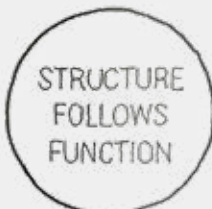
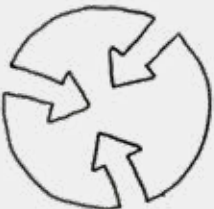
CULTURAL VALUES

- Values subdivided into three themes
- Values depicted with a symbol



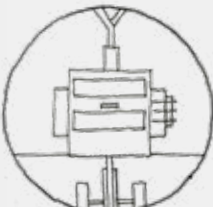
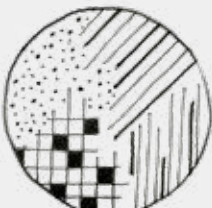
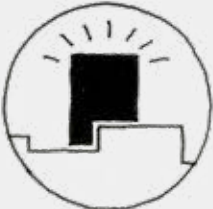
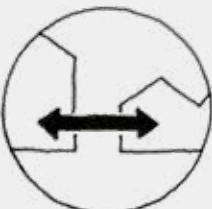
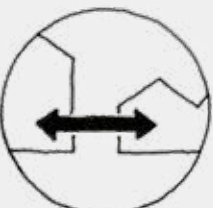
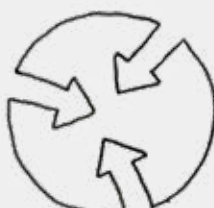
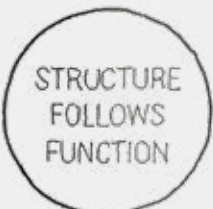
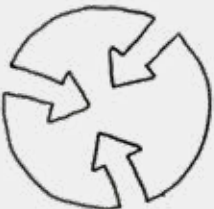
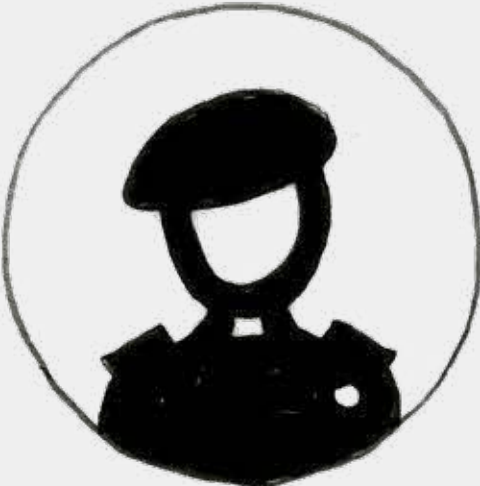
TRANSFORMATION FRAMEWORK

- Elements you want to bring (back) to the future
- Framework for scenarios



DIFFERENTIATION

- Values of non-intended architecture
- Site-related



CHARACTER SITE

historical - surroundings / site, characteristic - site

- Closed character
- Character military architecture
- Determines character space plan complex



closed character



Image

Defensive wall/fence MMC (photo by Ruben Klinkenberg, 05-09-2016)

CHARACTER SITE

characteristic / use - space plan

- Streets and squares with different characters
- Intimate character



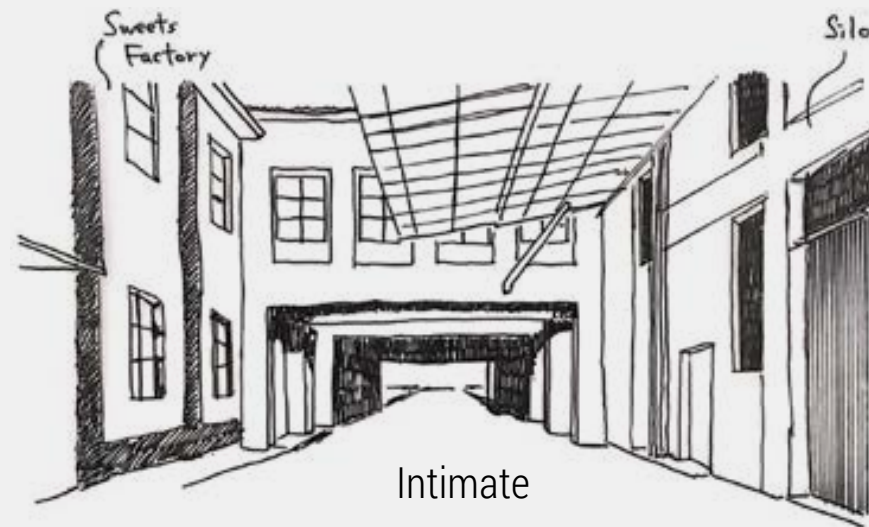
intimate character



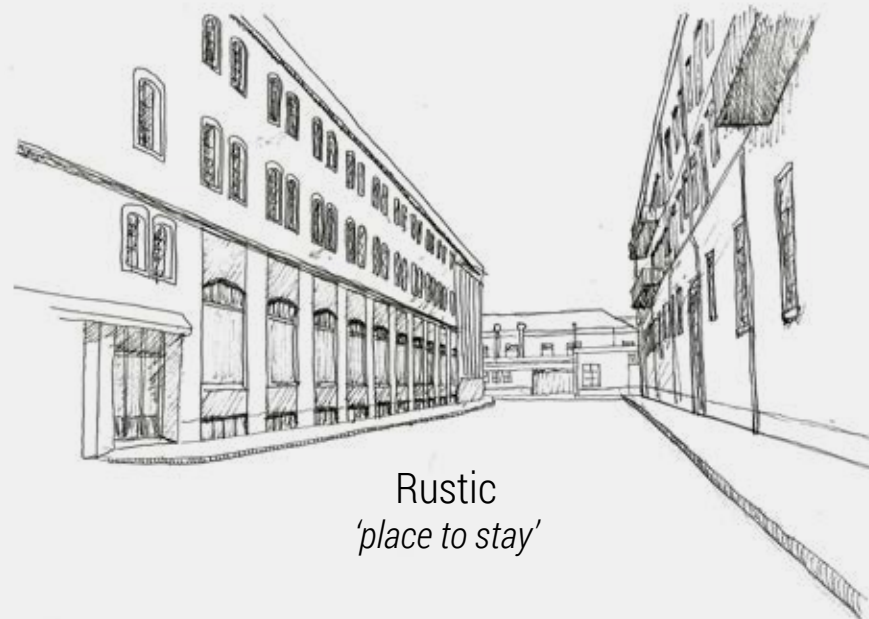
space plan



Industrial
'place to move'



Intimate



Rustic
'place to stay'

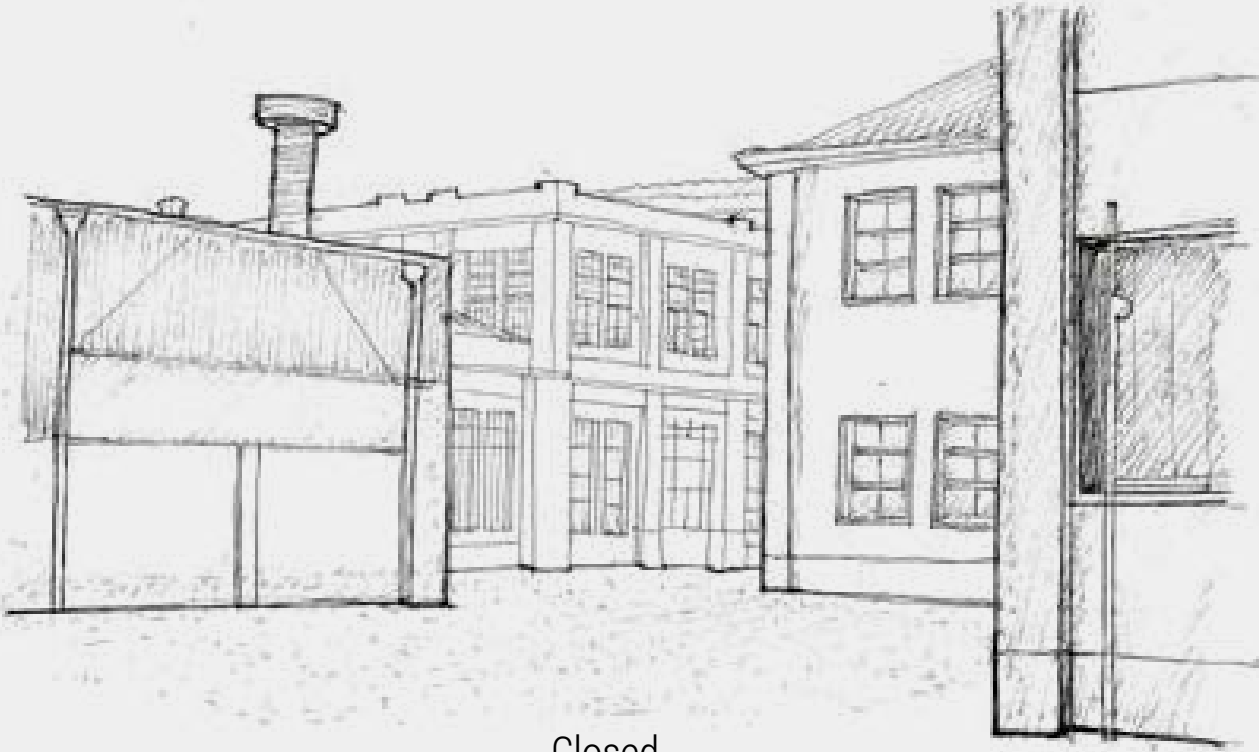
CHARACTER SITE

characteristic / use - space plan

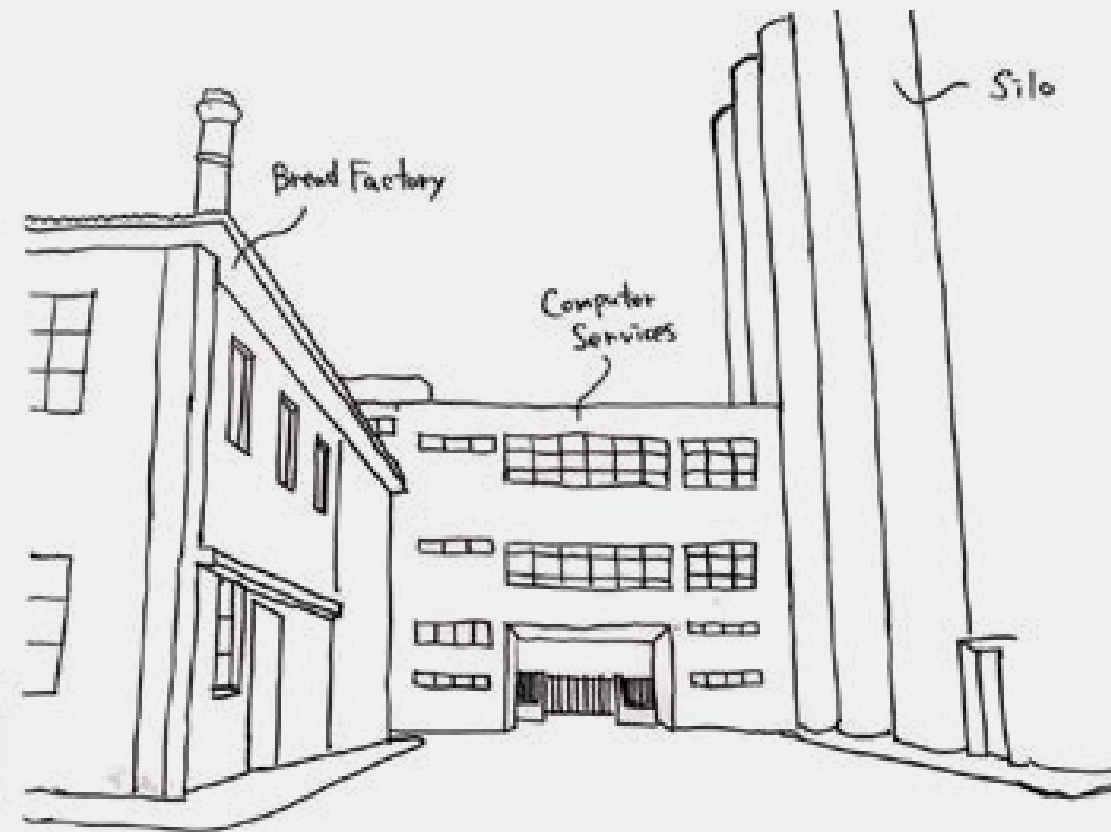
- Northern square closed and private
- Southern square open and public



space plan



Closed
'private character'

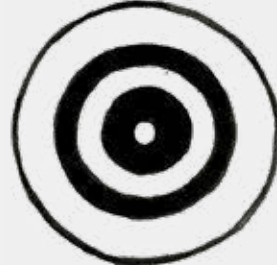


Open
'public character'

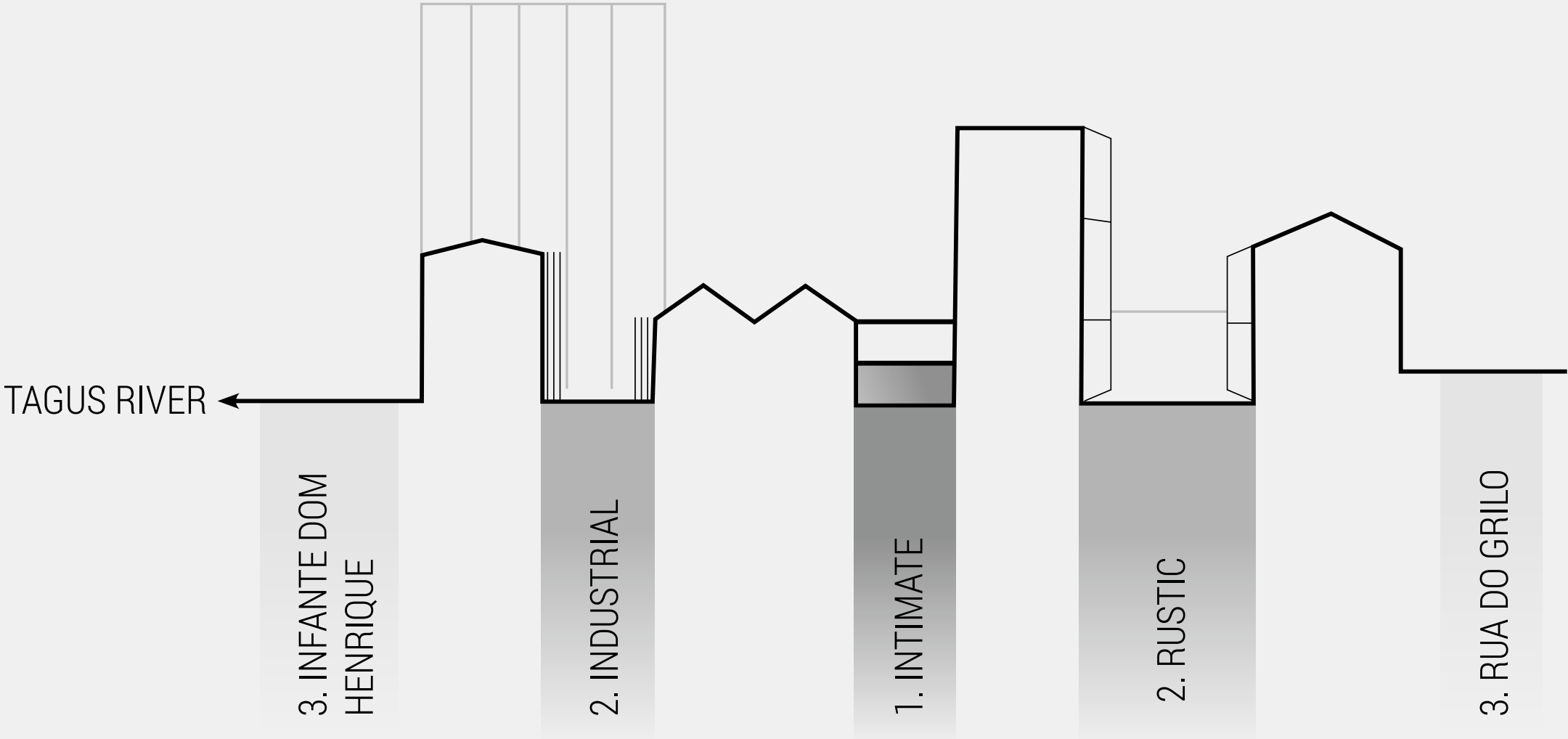
CHARACTER SITE

characteristic / use - space plan

- Three layers of intimacy

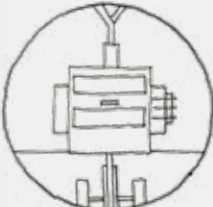
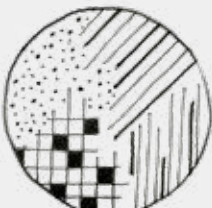
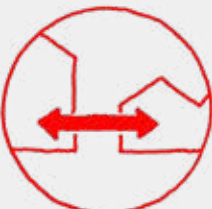
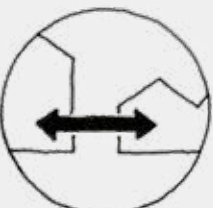
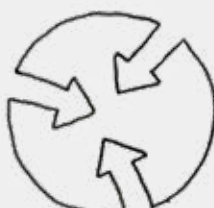
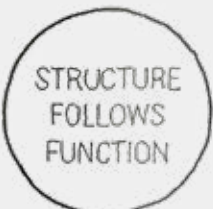
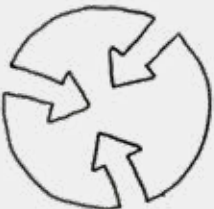
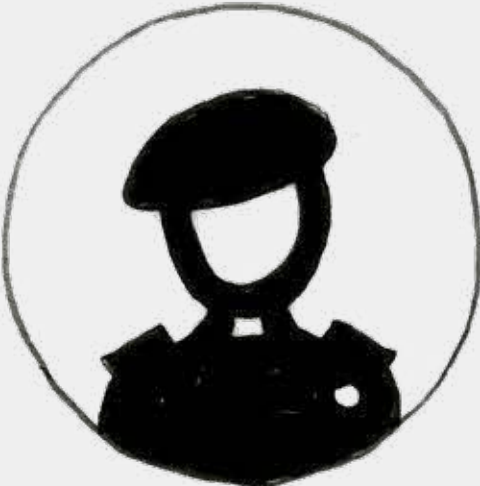


three layers of intimacy



DIFFERENTIATION

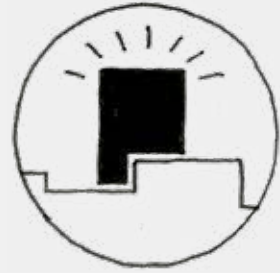
• Ensemble-related



CHARACTER ENSEMBLE

historical / use / characteristic - silhouette

- Silo and storage milling landmark



silo constitutes landmark



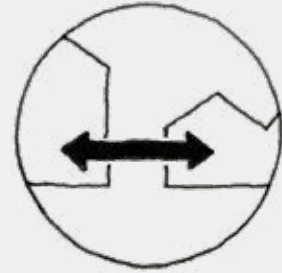
Image

The silo and storage of the milling as landmark (photo by Ruben Klinkenberg, 05-09-2016, own editing)

CHARACTER ENSEMBLE

historical / use - space plan, characteristic - silhouette

- Connection for the purpose of the production process
- Contributes to intimate character



connection buildings

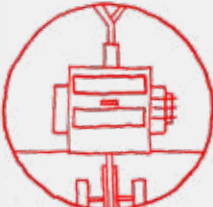
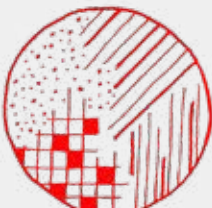
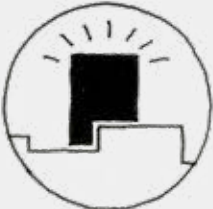
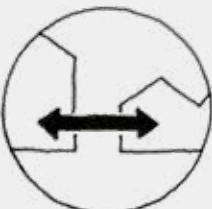
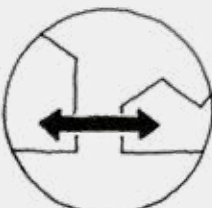
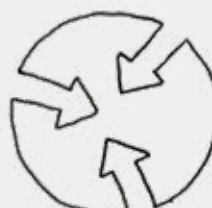
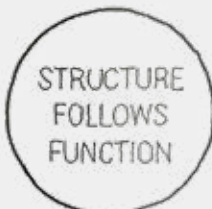
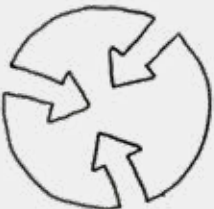
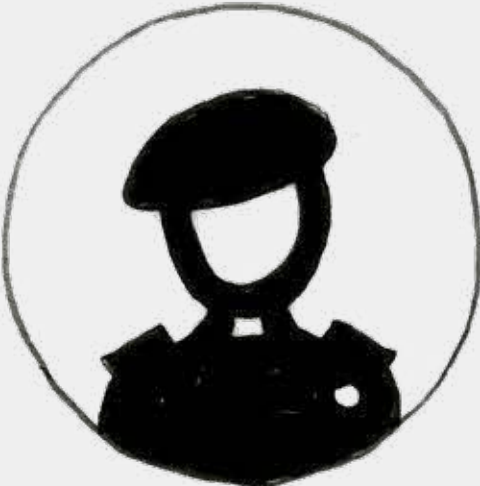


Images

1. Connection bakery and cookie factory (screenshot video of 1927, www.cinemateca.pt)
2. Connection cookie factory and milling (screenshot video of 1927, www.cinemateca.pt)
3. Storage (photo by Hielkje Zijlstra, 01-09-2016, own editing)

DIFFERENTIATION

• Interior-related



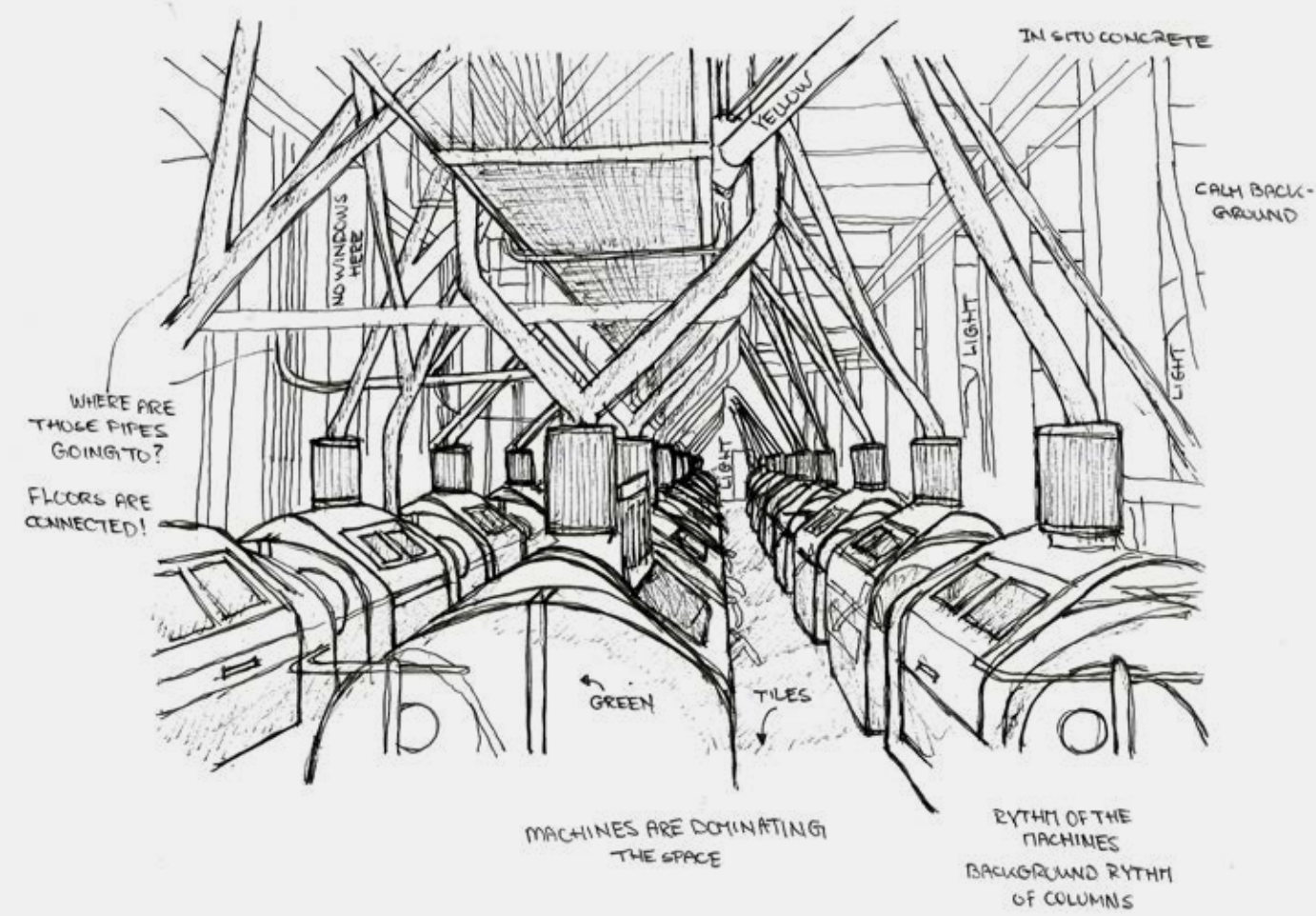
CHARACTER INTERIOR

use / characteristic - space plan

- Oversize of space characteristic for industrial buildings
- Spaces and structures adapted to often large machinery (inseparable)



oversize of space



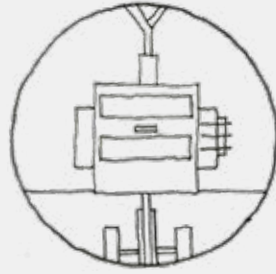
CHARACTER INTERIOR

historical / commemorative / use - stuff, use / characteristic - space plan

- The machinery still seem to function when active
- Determines spatial character (contraform)



contraform machinery



presence machinery



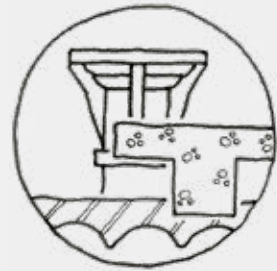
Images

Machinery former pasta factory (photo by Ruben Klinkenberg, 01-09-2016)

CHARACTER INTERIOR

historical - structure

- Layering shows development buildings
- Development characteristic for military architecture



layering structures



1



2



3

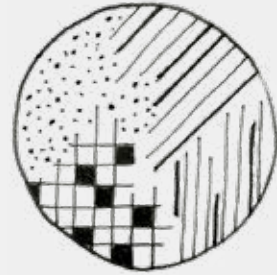
Images

1. Construction bakery (photo by Hielkje Zijlstra, 04-09-2016, own editing)
2. Construction mill building (photo by Hielkje Zijlstra, 04-09-2016, own editing)
3. Construction mill building (photo by Hielkje Zijlstra, 04-09-2016, own editing)

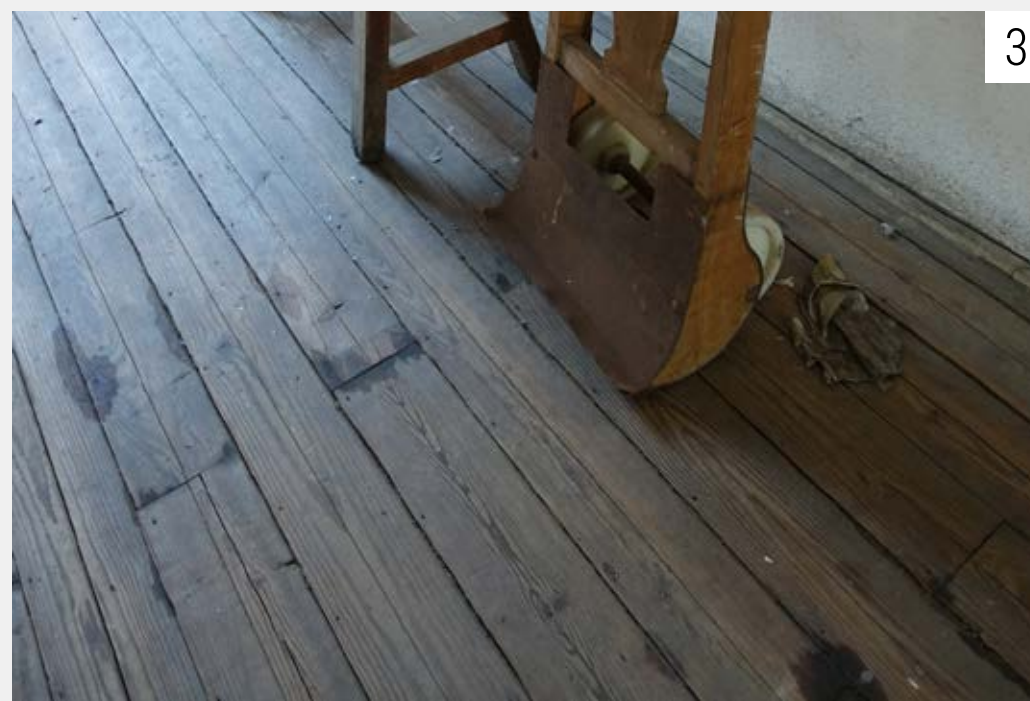
CHARACTER INTERIOR

artistic - story / skin

- Finishes contribute to the character of the spaces



different finishes

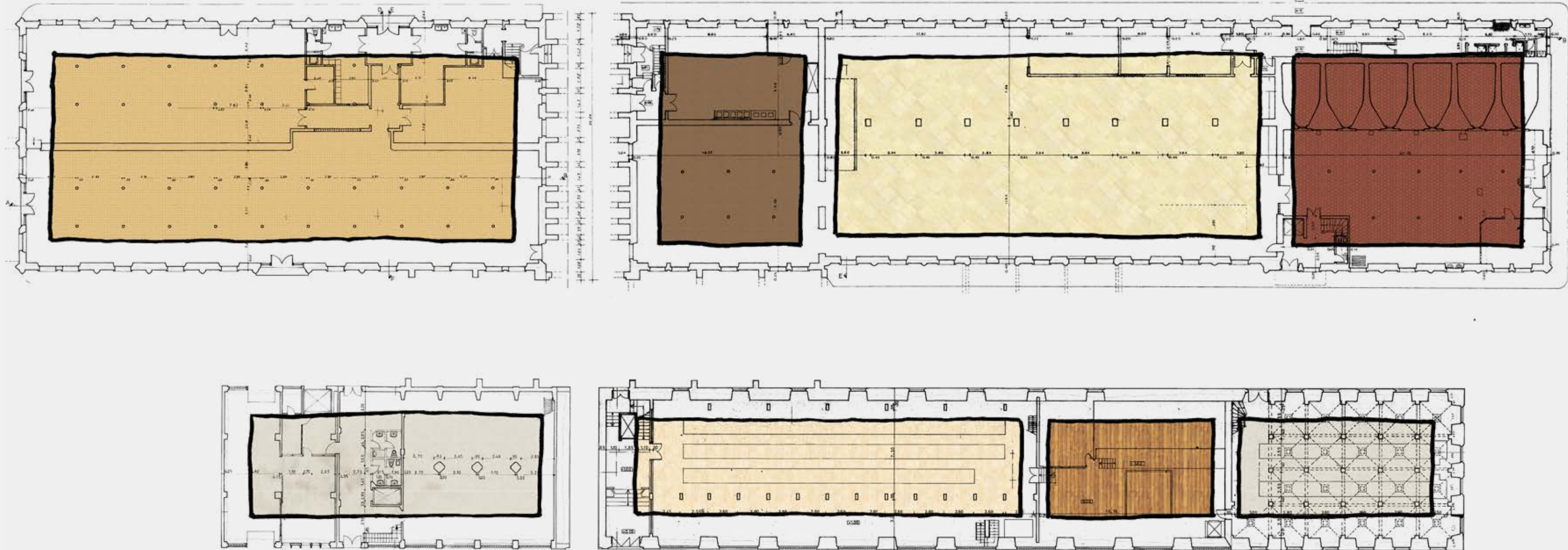


Images

1. Flooring bakery (photo by Hielkje Zijlstra, 01-09-2016)
2. Flooring and wall finishing milling (photo by Hielkje Zijlstra, 04-09-2016)
3. Flooring milling (photo by Hielkje Zijlstra, 04-09-2016)

CONCLUSION

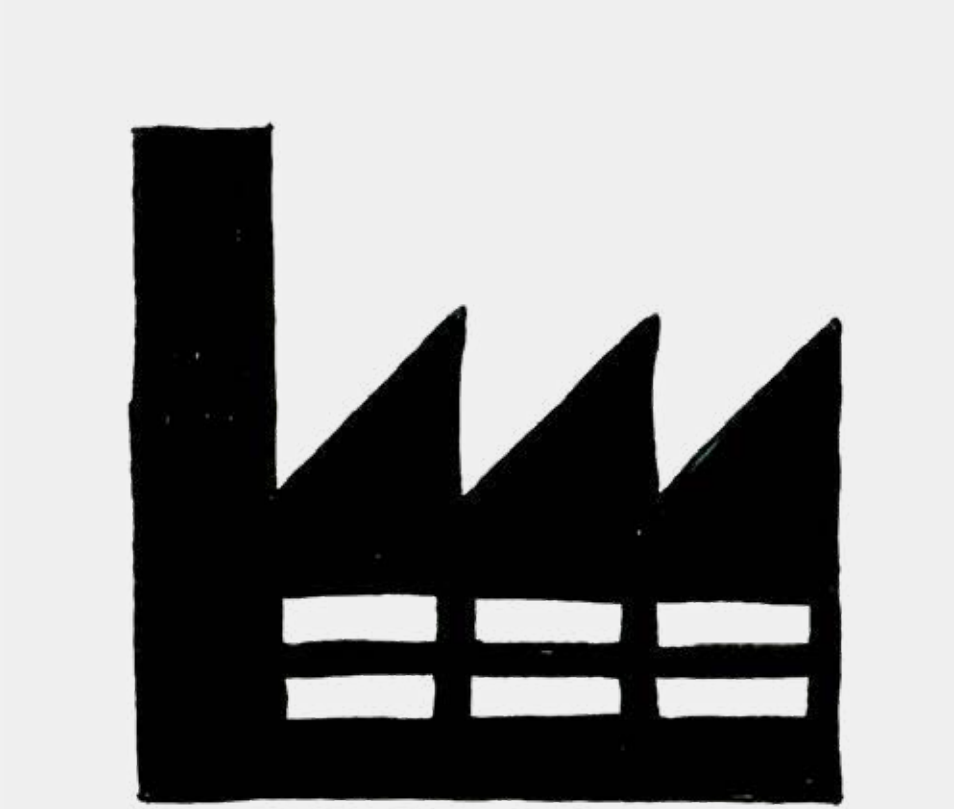
- These values create building components with different spatial characters (layout)
- Represents development, which makes the MMC unique
- Starting point building design



4. OWN BRIEF

FUNCTION & DILEMMAS

- University of Architecture
- Based on demographics
- Dilemmas



Factory
Designed for machines



University of Architecture
Designed for people

RESEARCH QUESTION

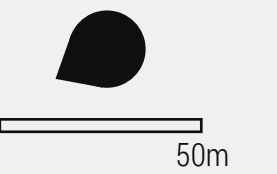
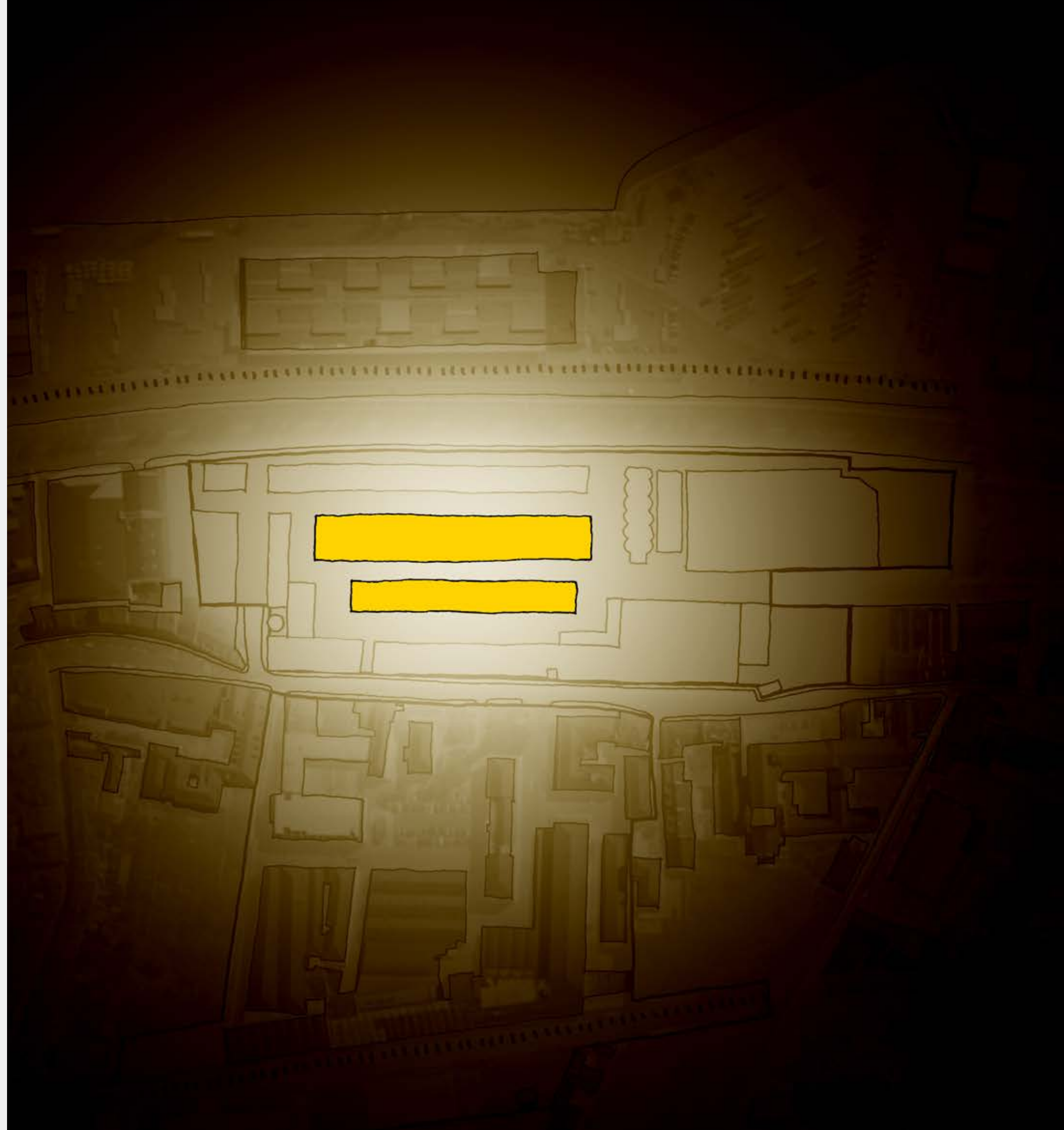
- Based on conclusion analysis

HOW CAN THE SPATIAL CHARACTER OF INDUSTRIAL HERITAGE BE TRANSLATED INTO A SPATIAL DESIGN THAT FACILITATES FUTURE USE OF THE SITE AND BUILDINGS?

5. APPROACH

APPROACH

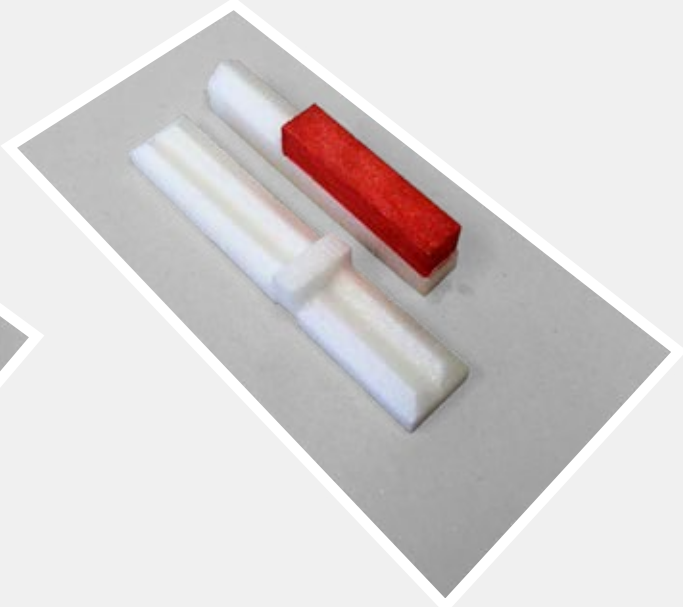
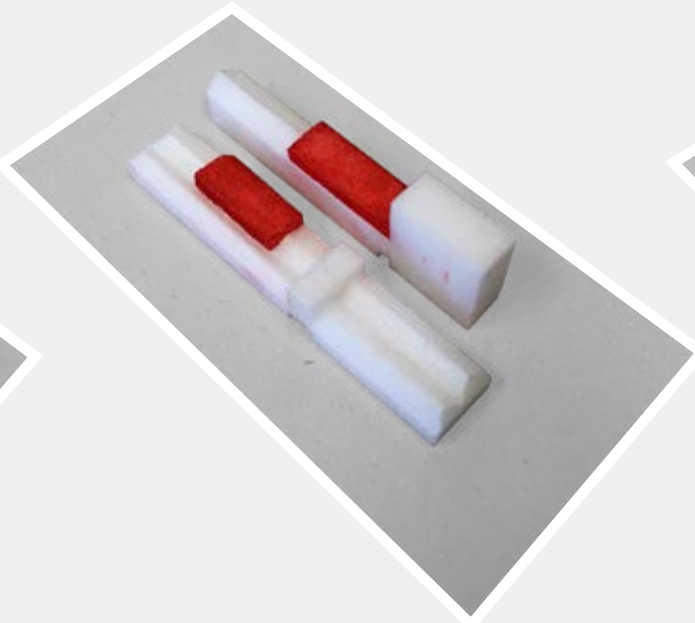
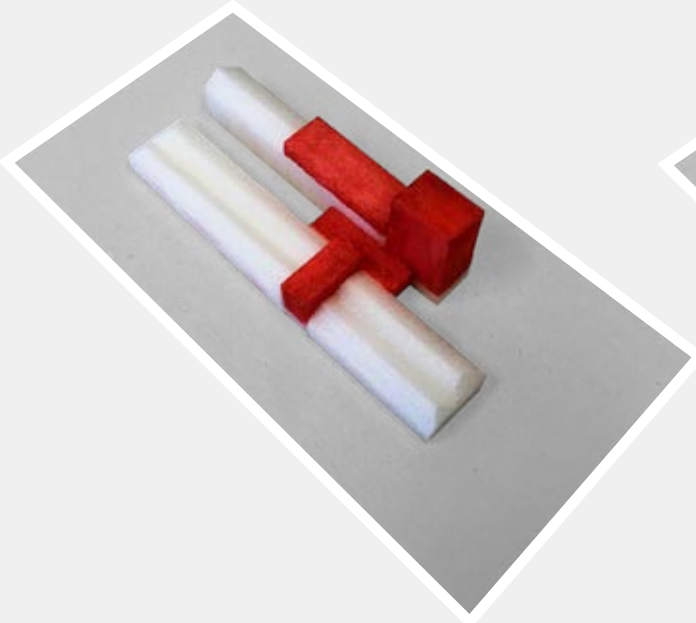
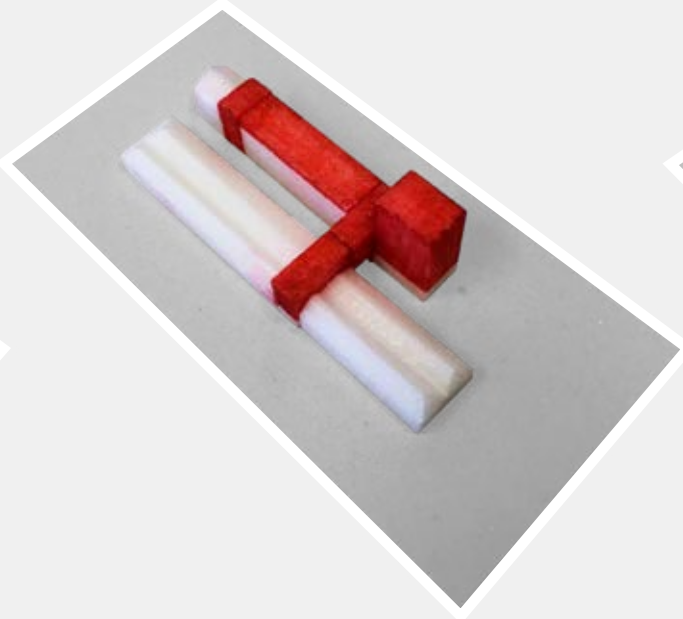
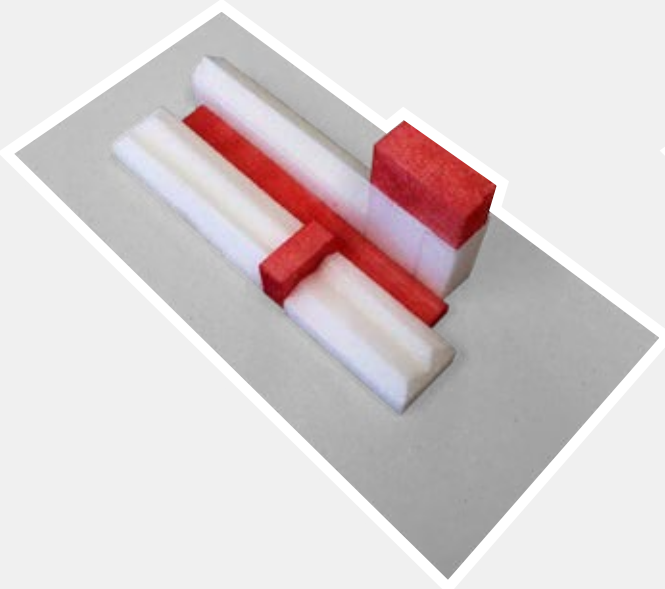
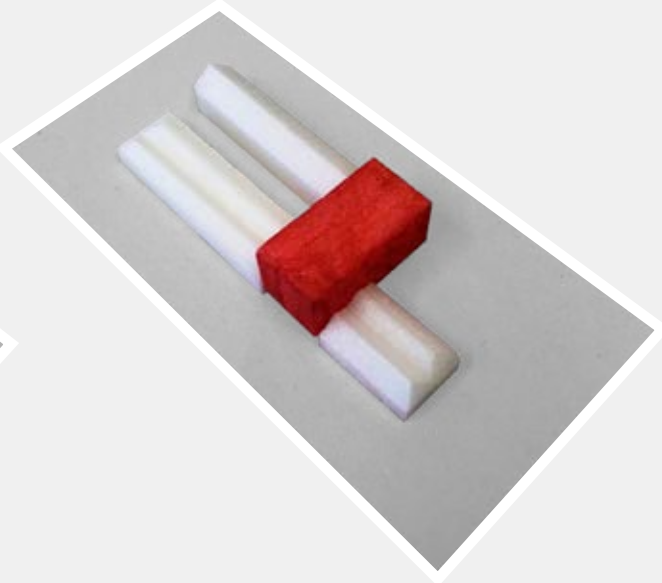
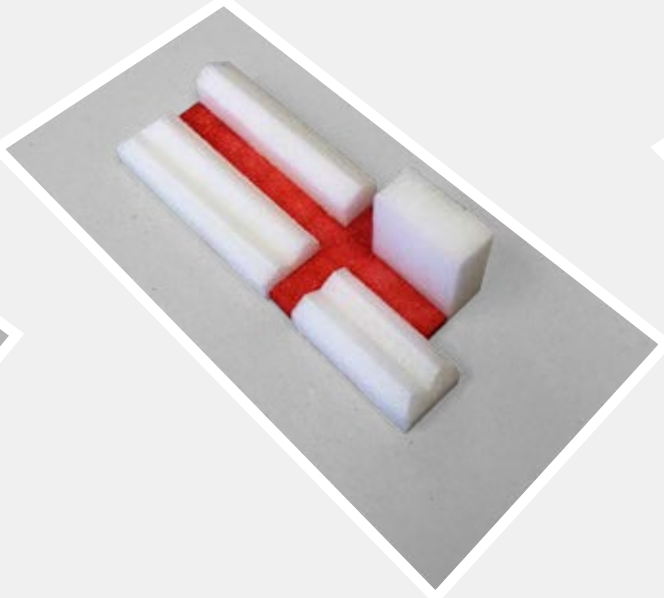
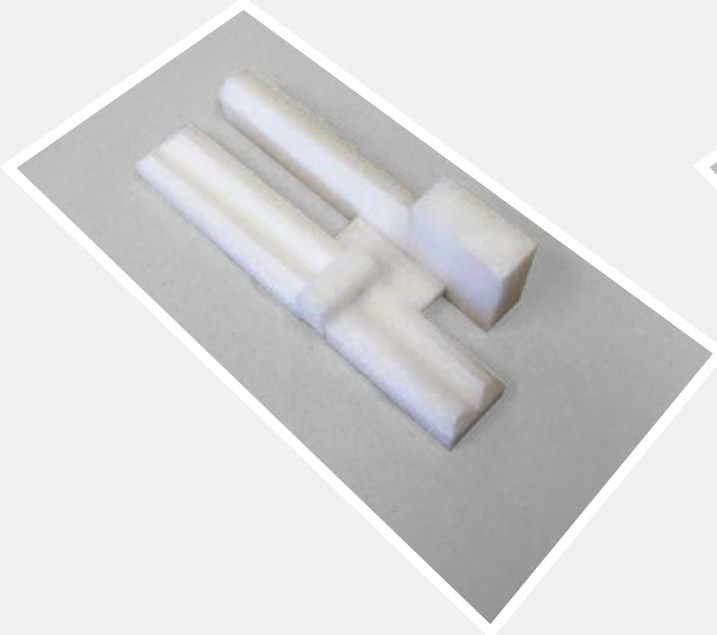
- Observation
- Approach from the smaller scale
- Utilizing the qualities of the ensemble



6. CONCEPT

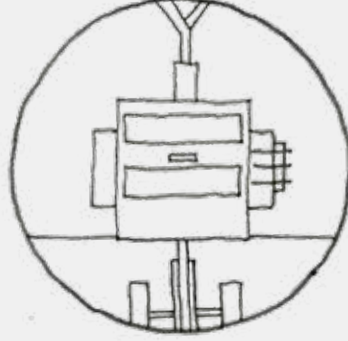
CONCEPT

- Increase total surface area (dilemma)
- Preserve layout building



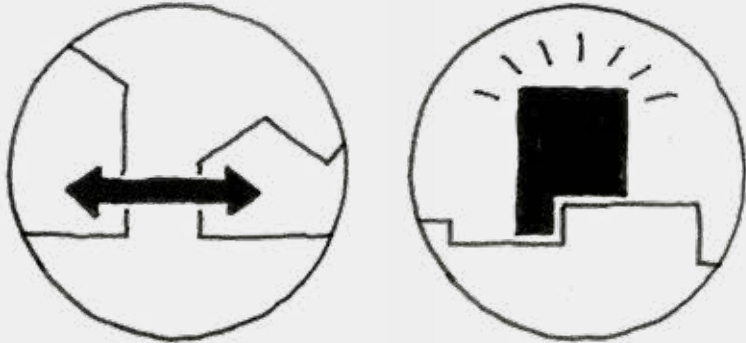
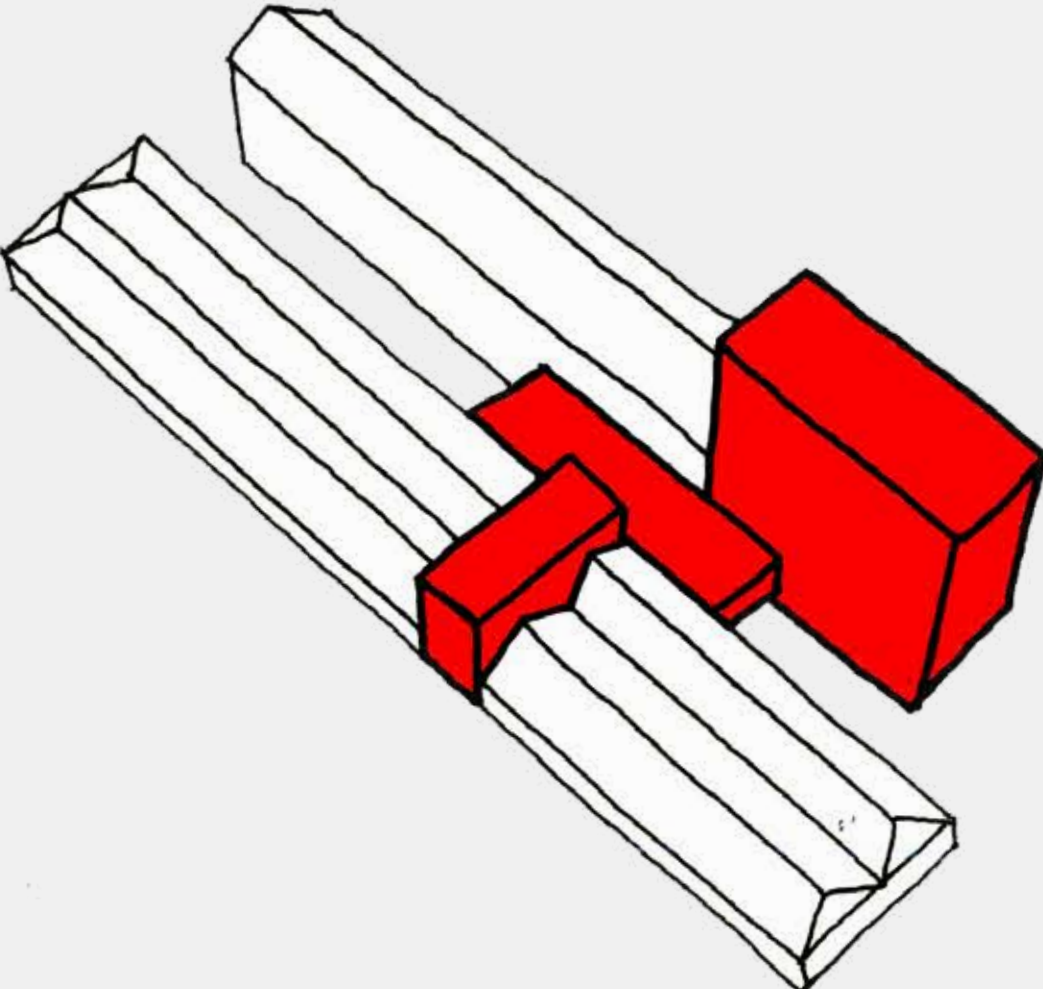
CONCEPT

• Adding volumes



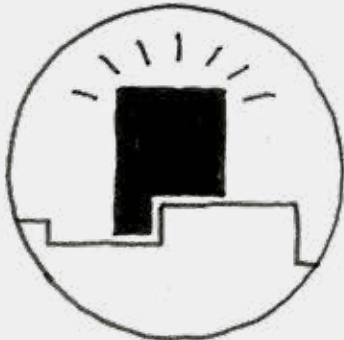
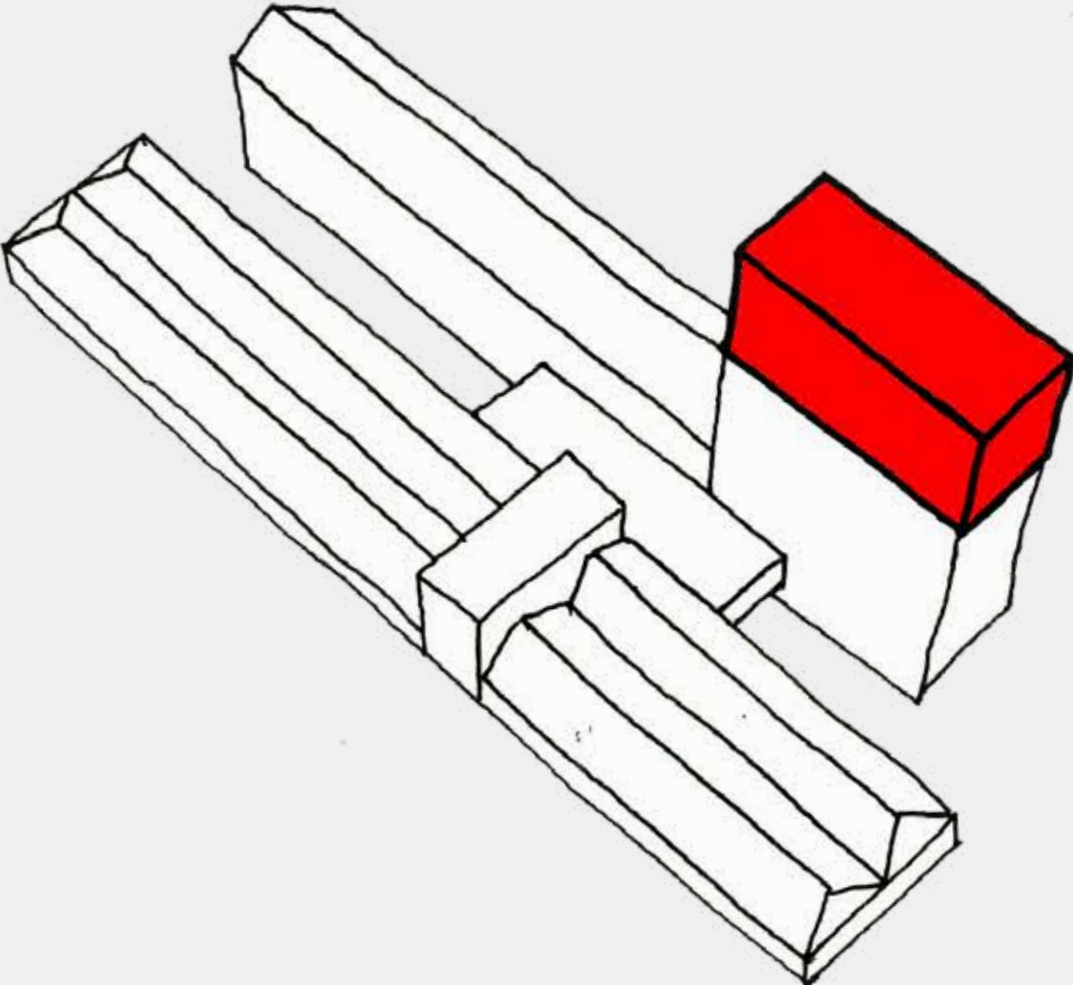
CONCEPT *EXISTING*

- Building components 1970s as inspiration and carrier of the design
- Symbolize development



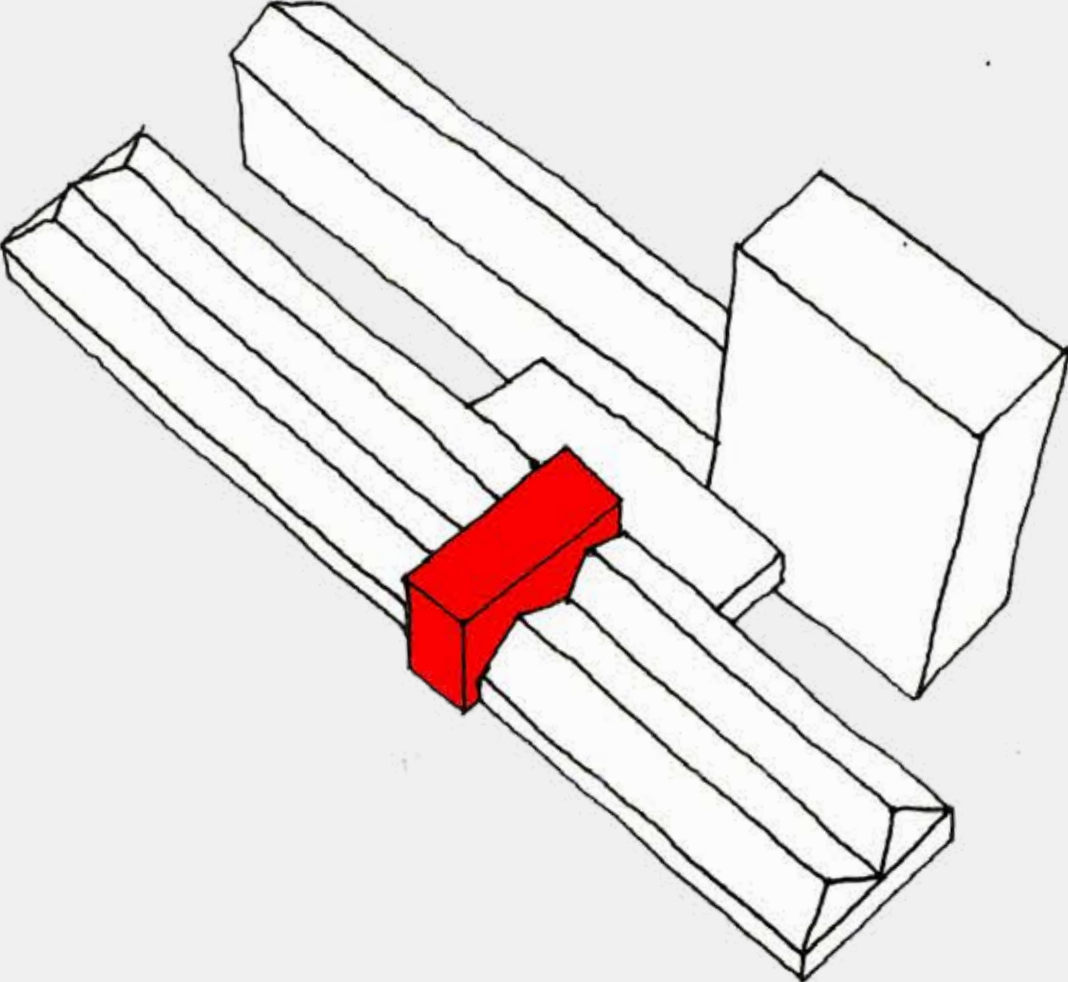
CONCEPT STEP 1

- Topping up the silo
- Future extension



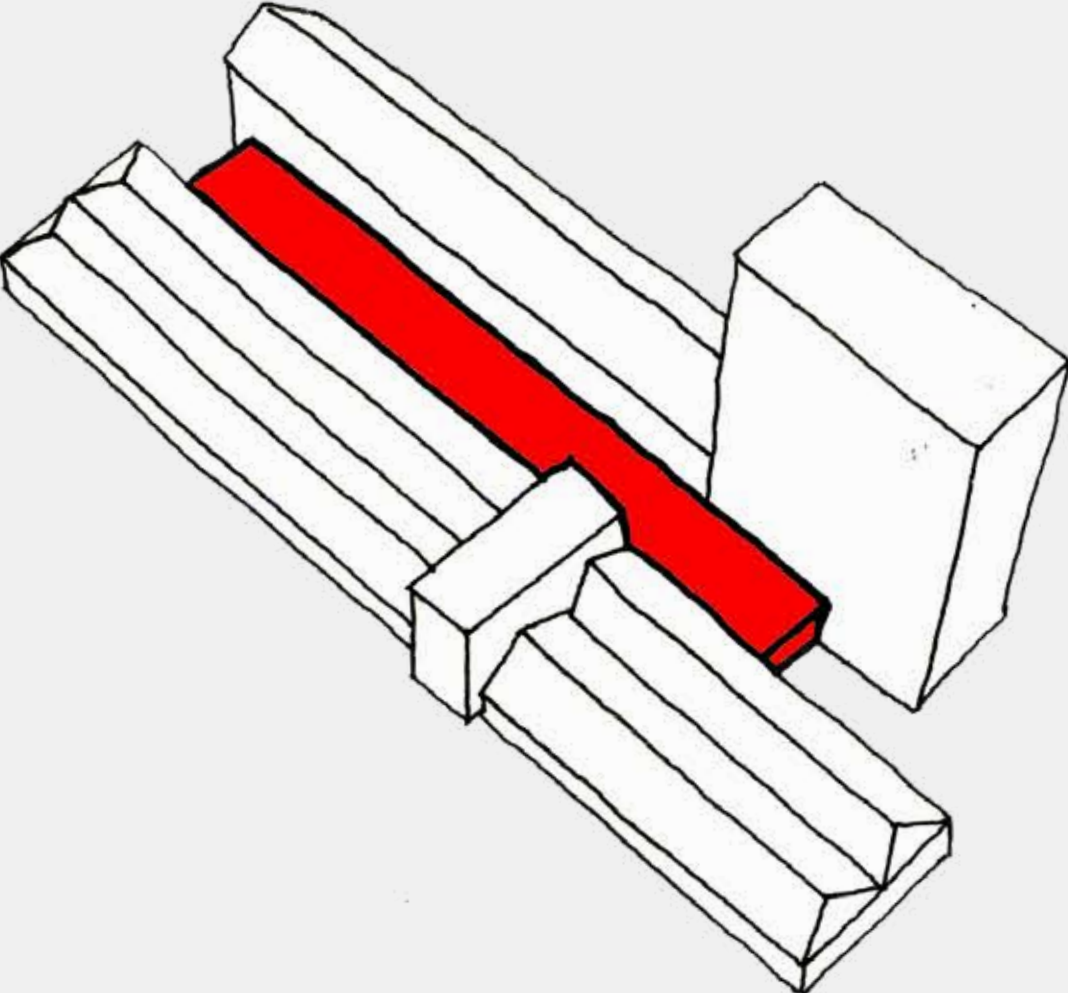
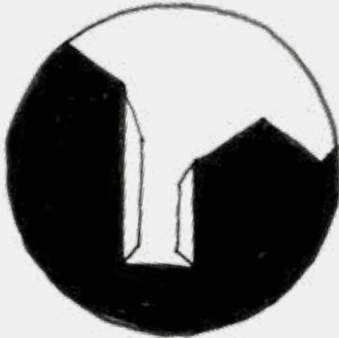
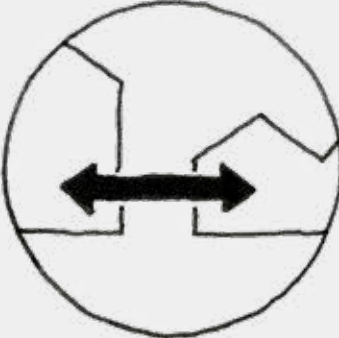
CONCEPT *STEP 2*

- Distributor
- Back entrance students



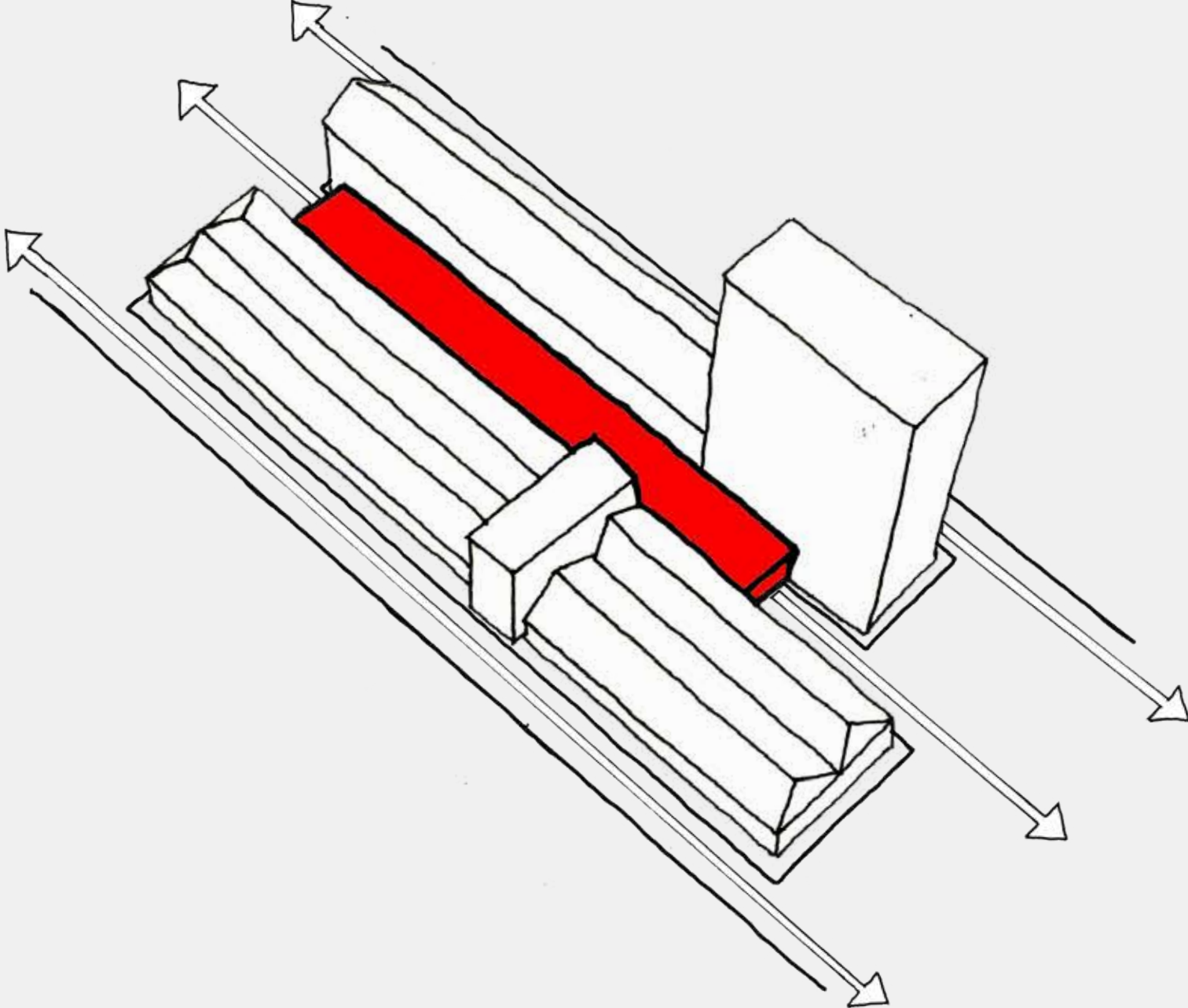
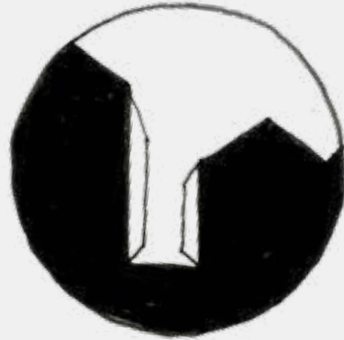
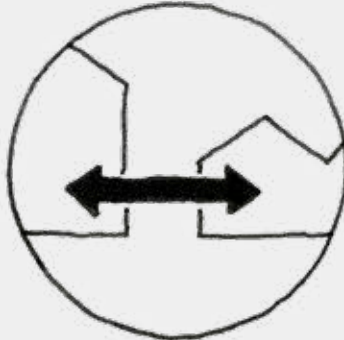
CONCEPT STEP 3

- Covering the street to connect
- Function-wise
- Emphasize intimate character
- Don't intervene in layout site
- Street publicly accessible



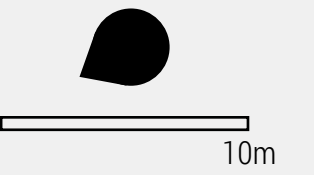
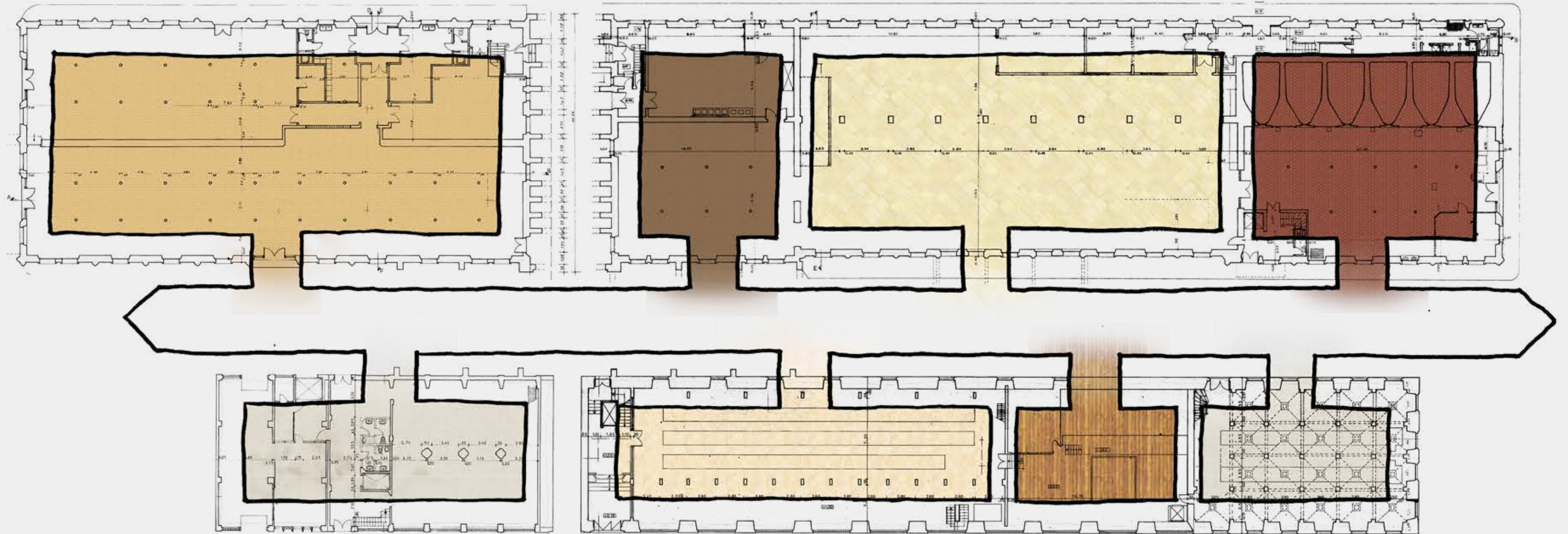
CONCEPT STEP 3

- Covering the street to connect
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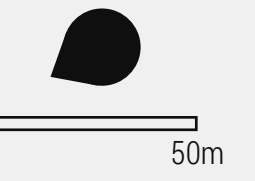
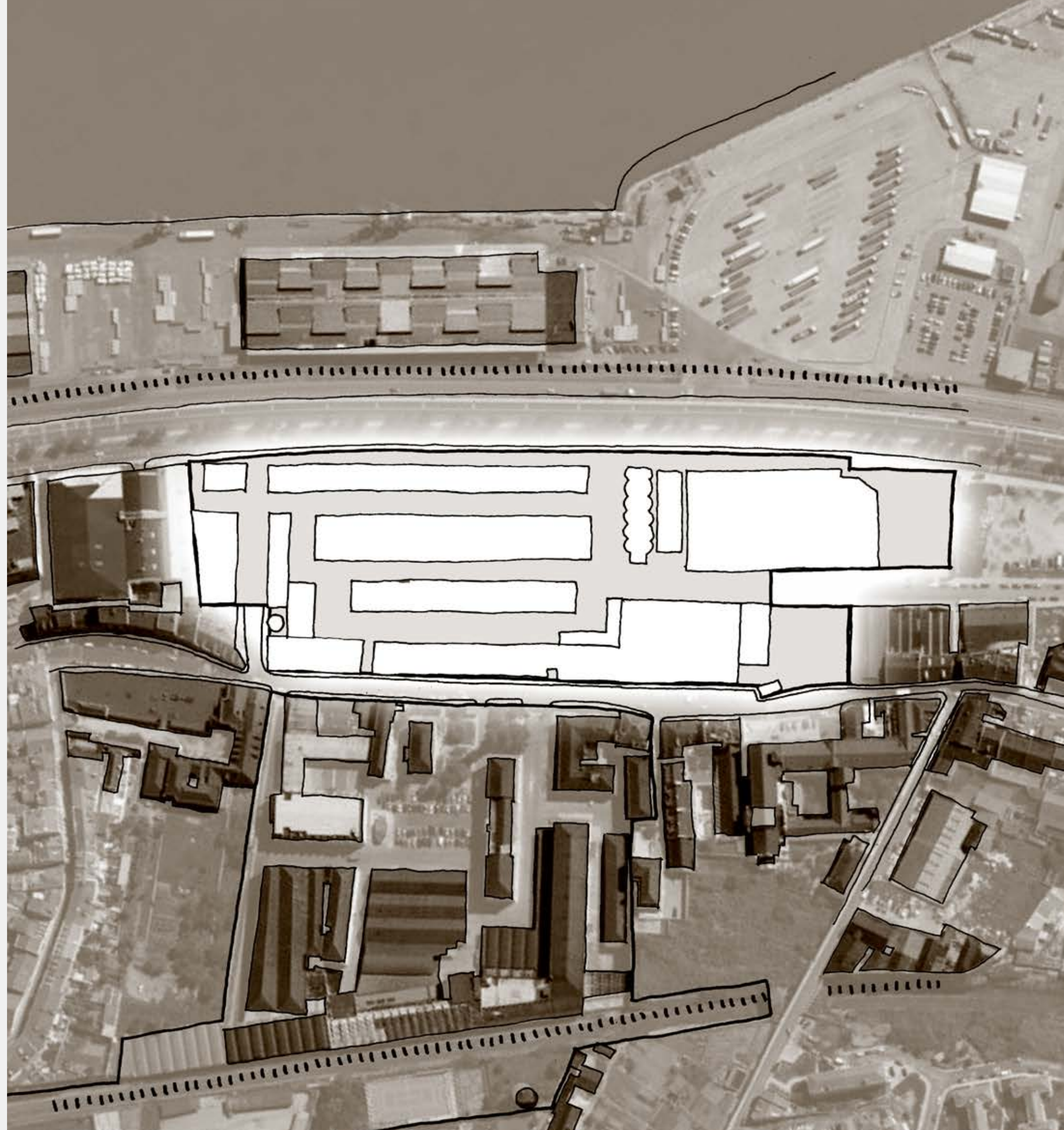
CONCEPT

- Covering the street to connect
- No internal breakthroughs
- Preserve layout buildings
- Value of non-intended architecture



7. STRATEGY

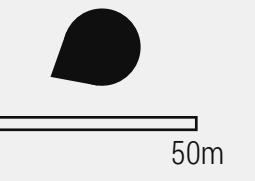
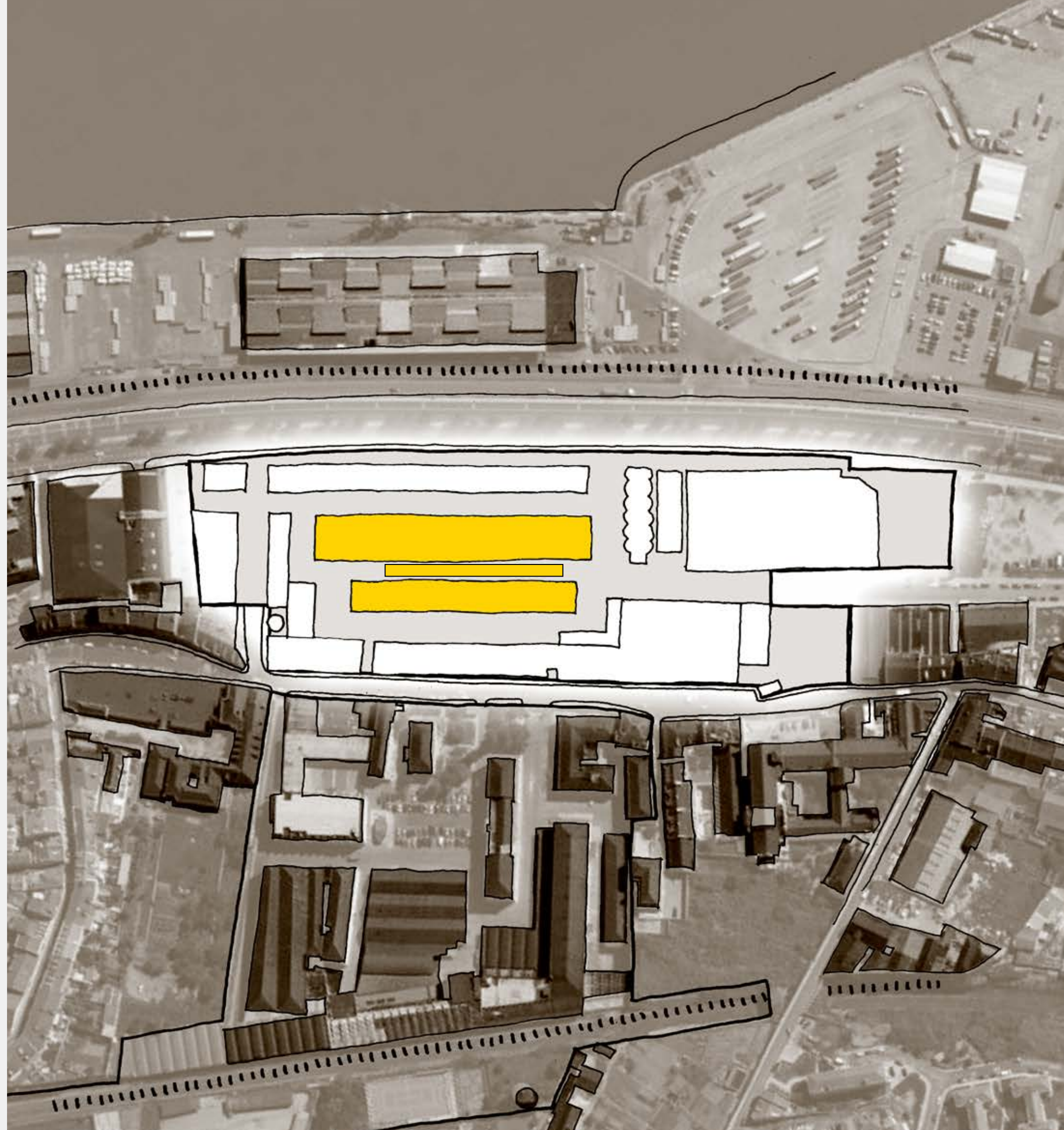
STRATEGY
CURRENT SITUATION



STRATEGY

1. UNIVERSITY OF ARCHITECTURE

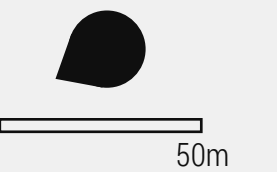
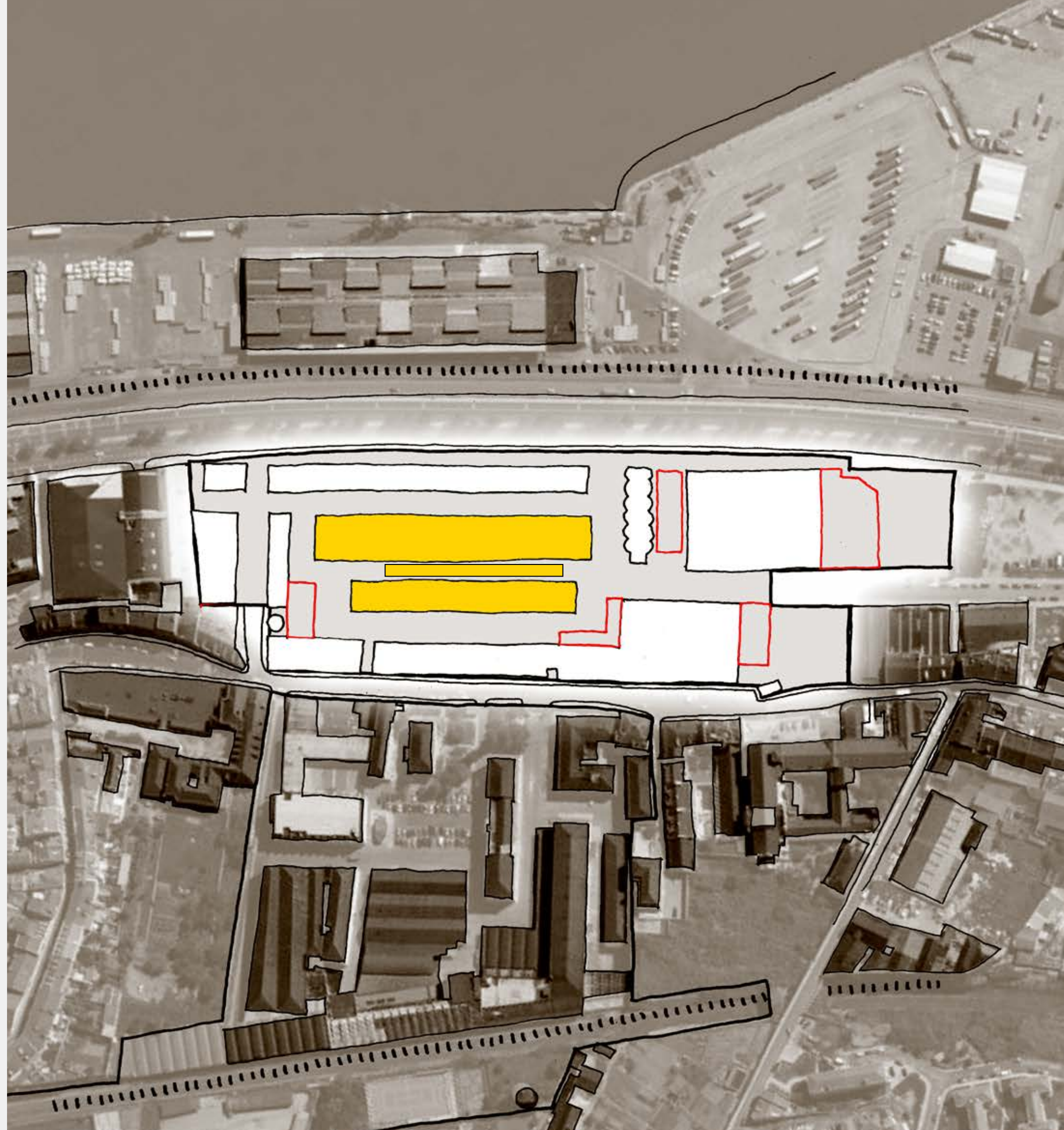
• Concept



STRATEGY

2. DEMOLITION OF BUILDINGS

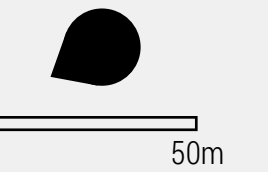
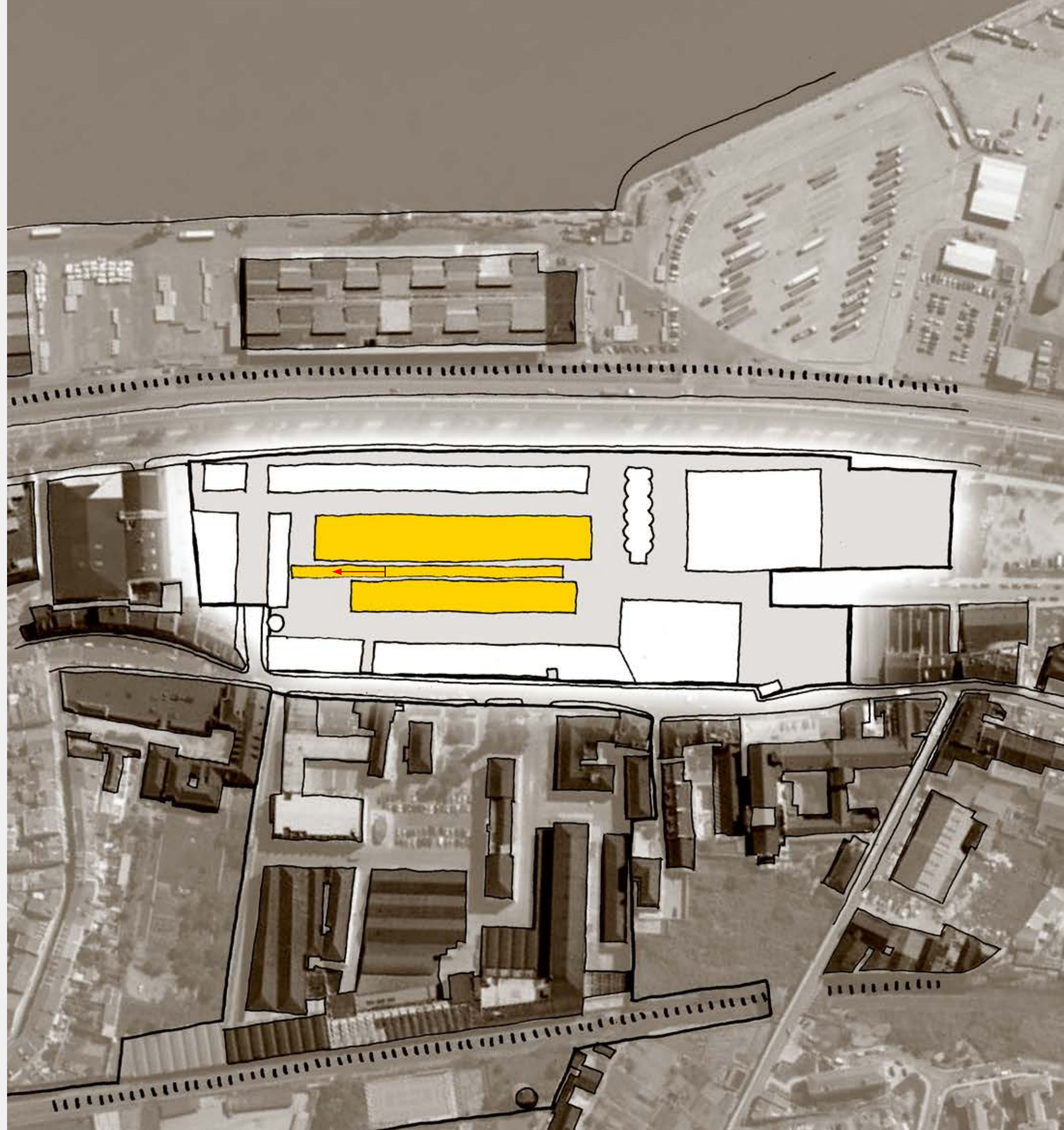
- Create more space for the squares (dilemma)
- Improve accessibility
- Closed character northern square affected



STRATEGY

3. EXTENSION STREET

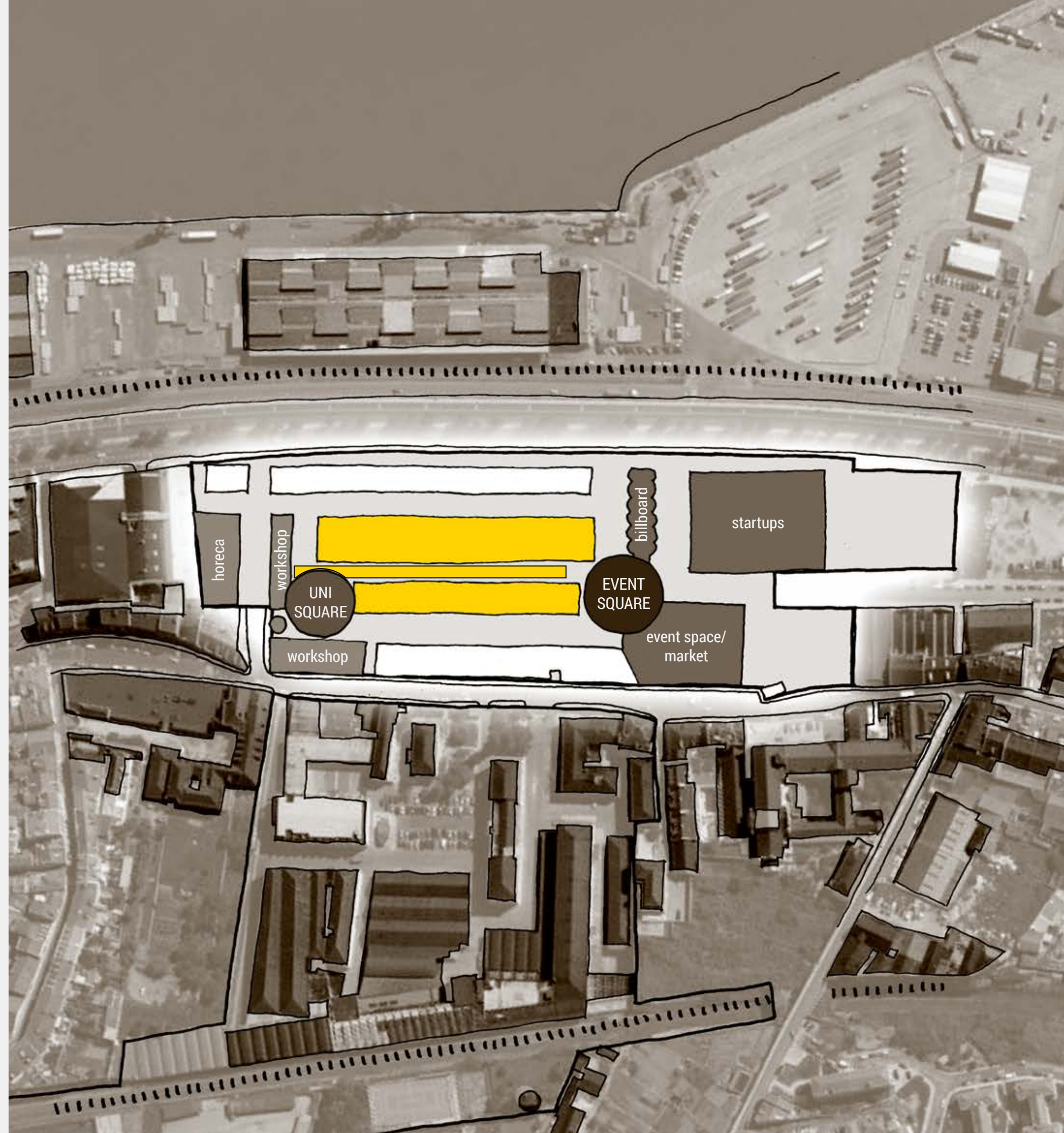
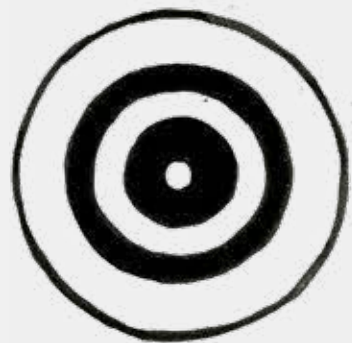
- Street extended to the north



STRATEGY

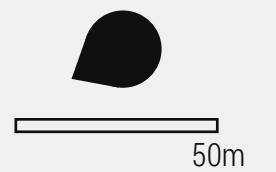
4. SQUARES AND SURROUNDING FUNCTIONS

- University square and event square
- Second layer of intimacy
- Surrounding functions



Use university square

Image
Square Rotterdamse Academie van Bouwkunst (Accessed on
November 1st, from www.ravb.nl)



STRATEGY

5. CONNECTING MMC WITH THE CITY

- Introduction bus- and waterbus stop
- Connection with city centre and world expo

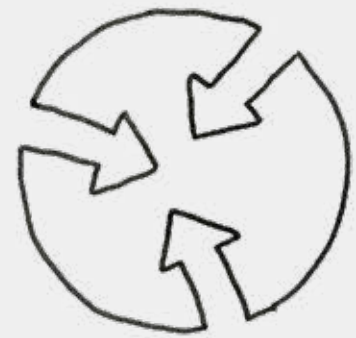
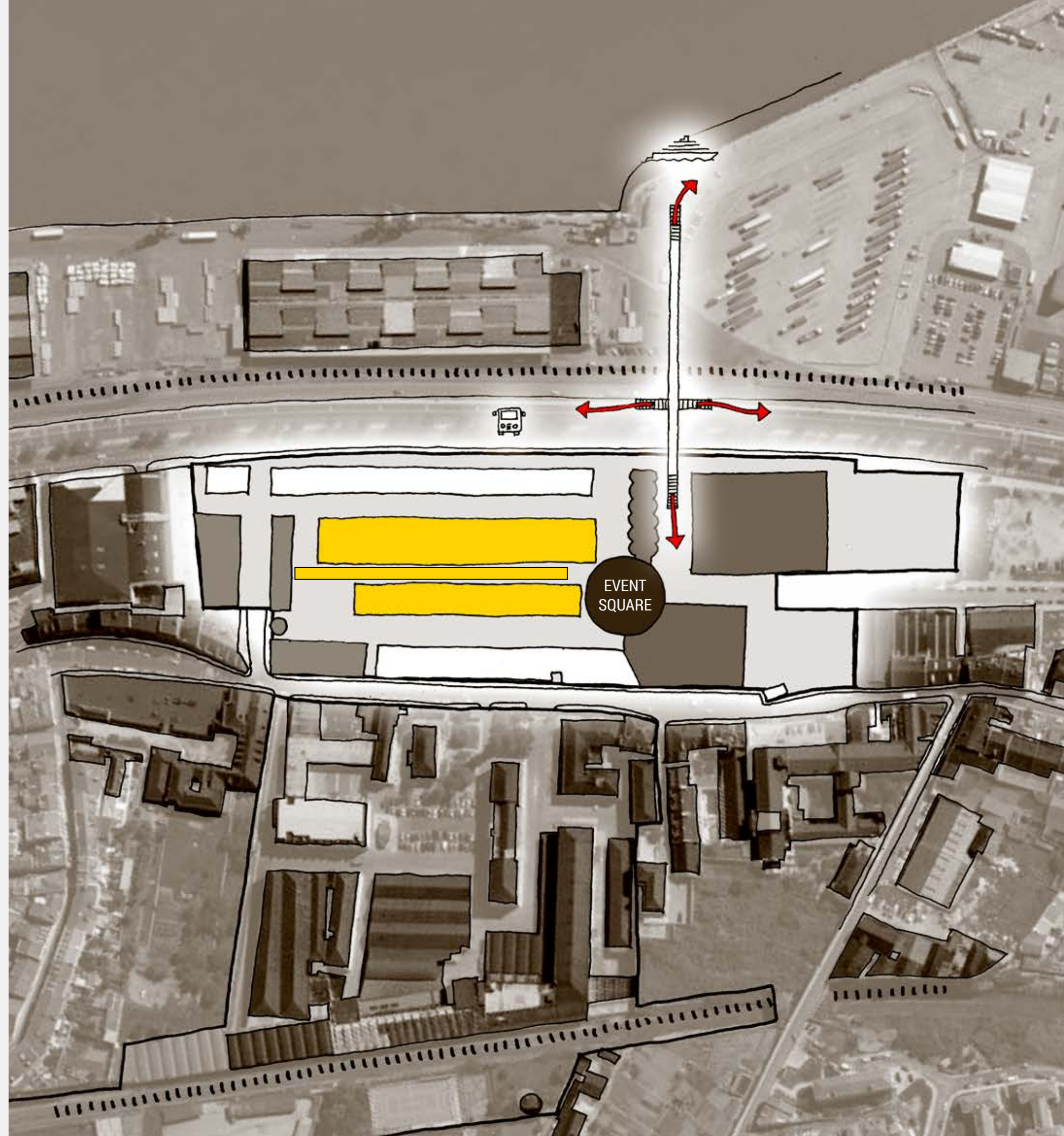
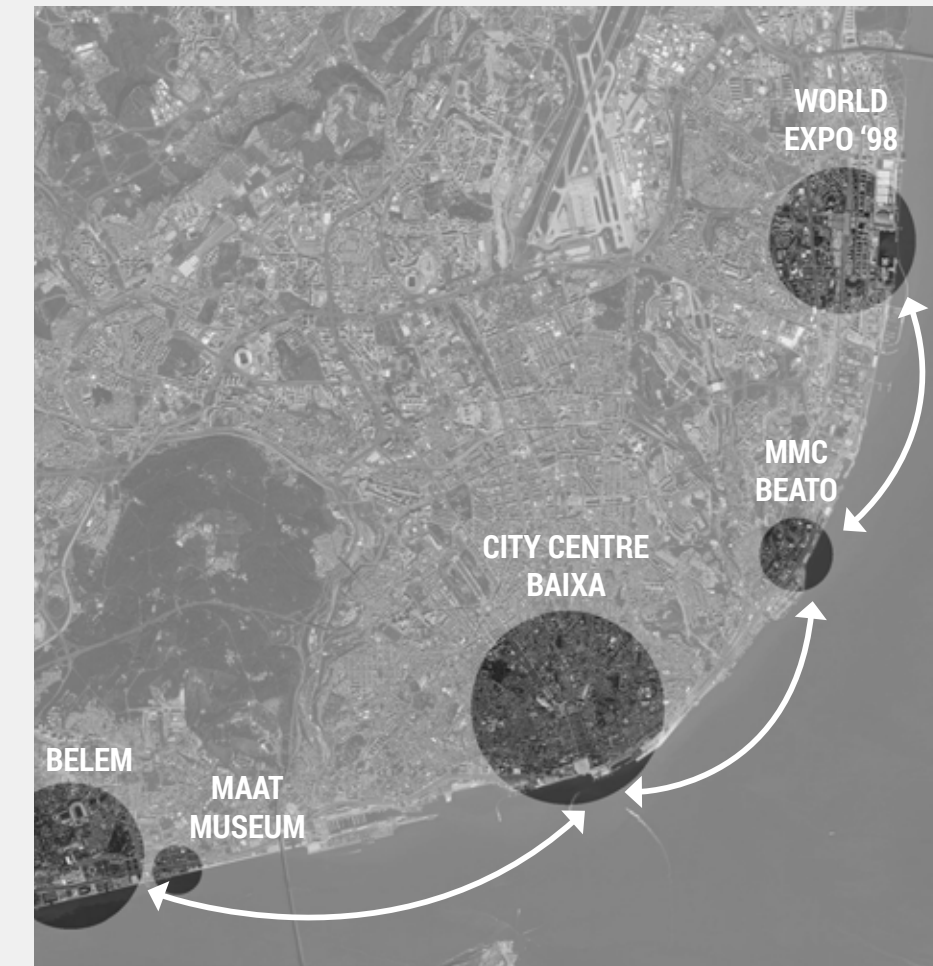
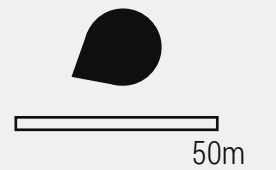


Image
Aerial view (screenshot Bing Maps, own editing)



Waterbus connects MMC with city centre and world expo



STRATEGY

5. CONNECTING MMC WITH THE CITY

- Introduction bus- and waterbus stop
- Connection with city centre and world expo

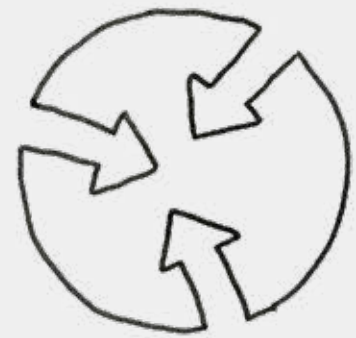
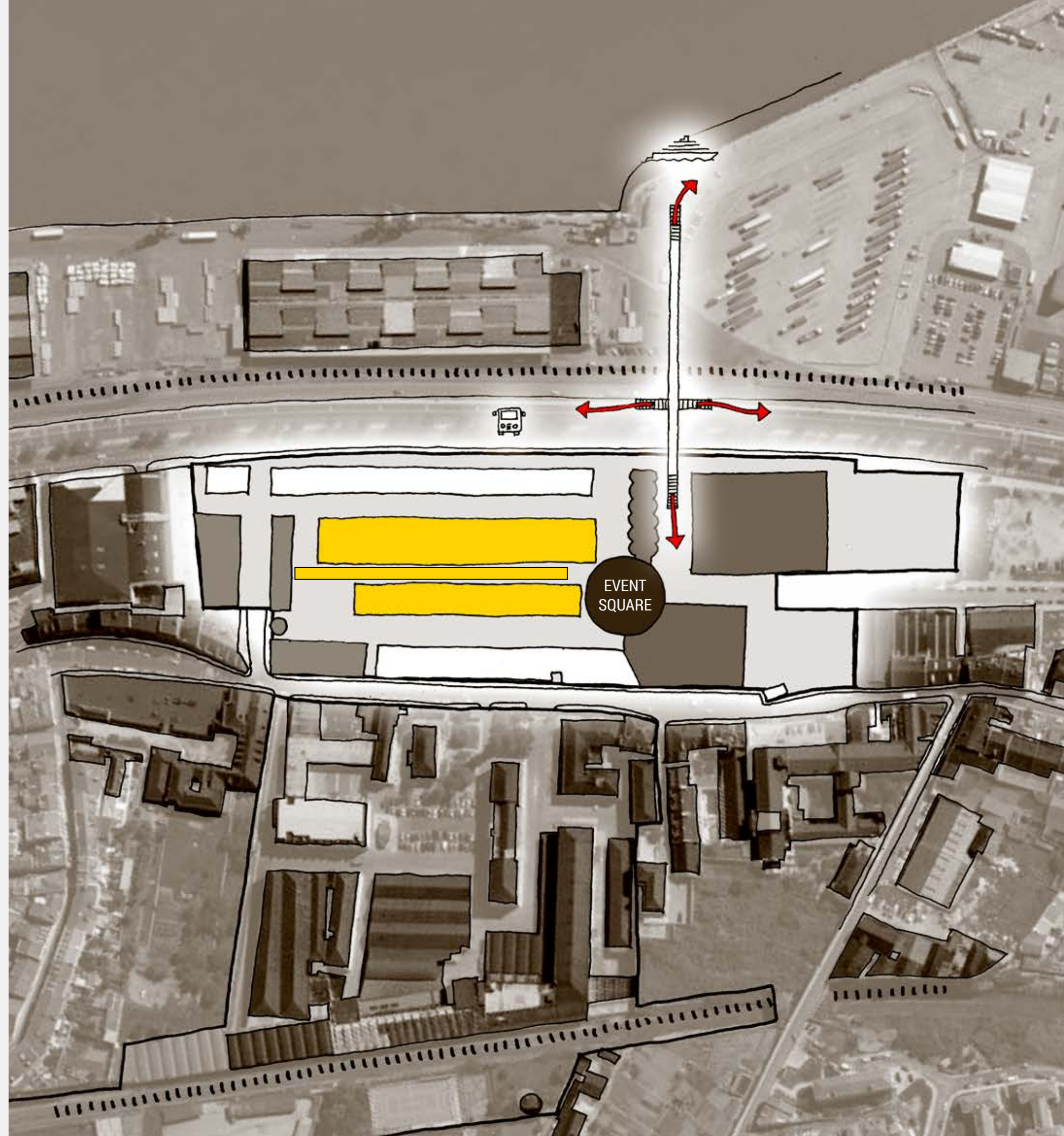
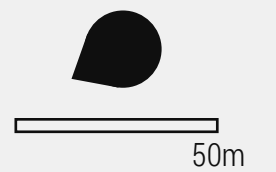


Image
Bike- and footpath (photo by Daan Masmeijer, 27-11-2016)



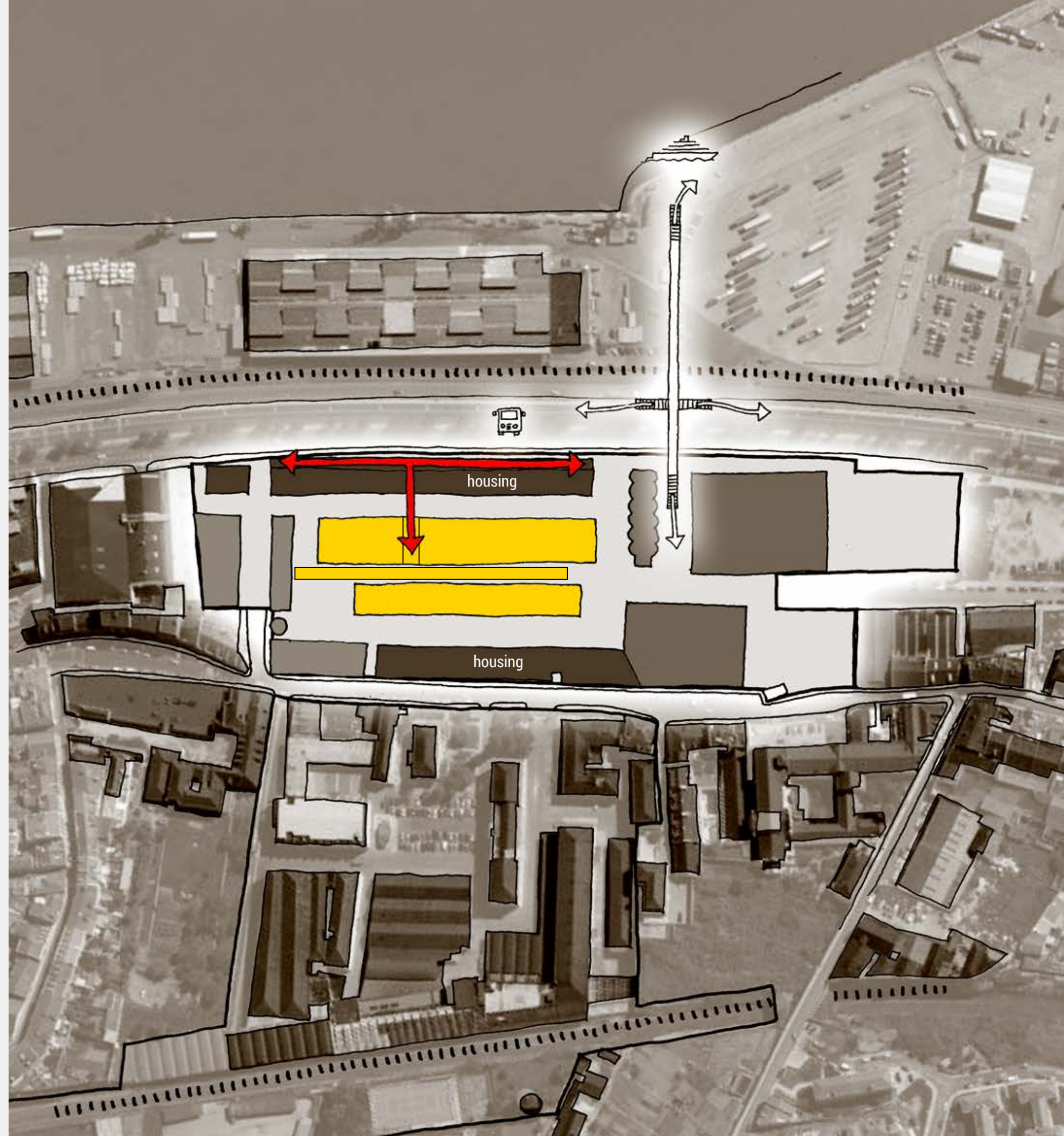
Existing bike- and footpath



STRATEGY

6a. HOUSING

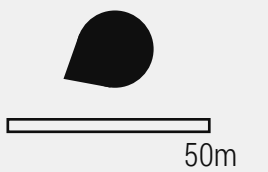
- Student housing and social housing
- Addition
- Entrance student housing in line with back entrance university



Before and after intervention

Image

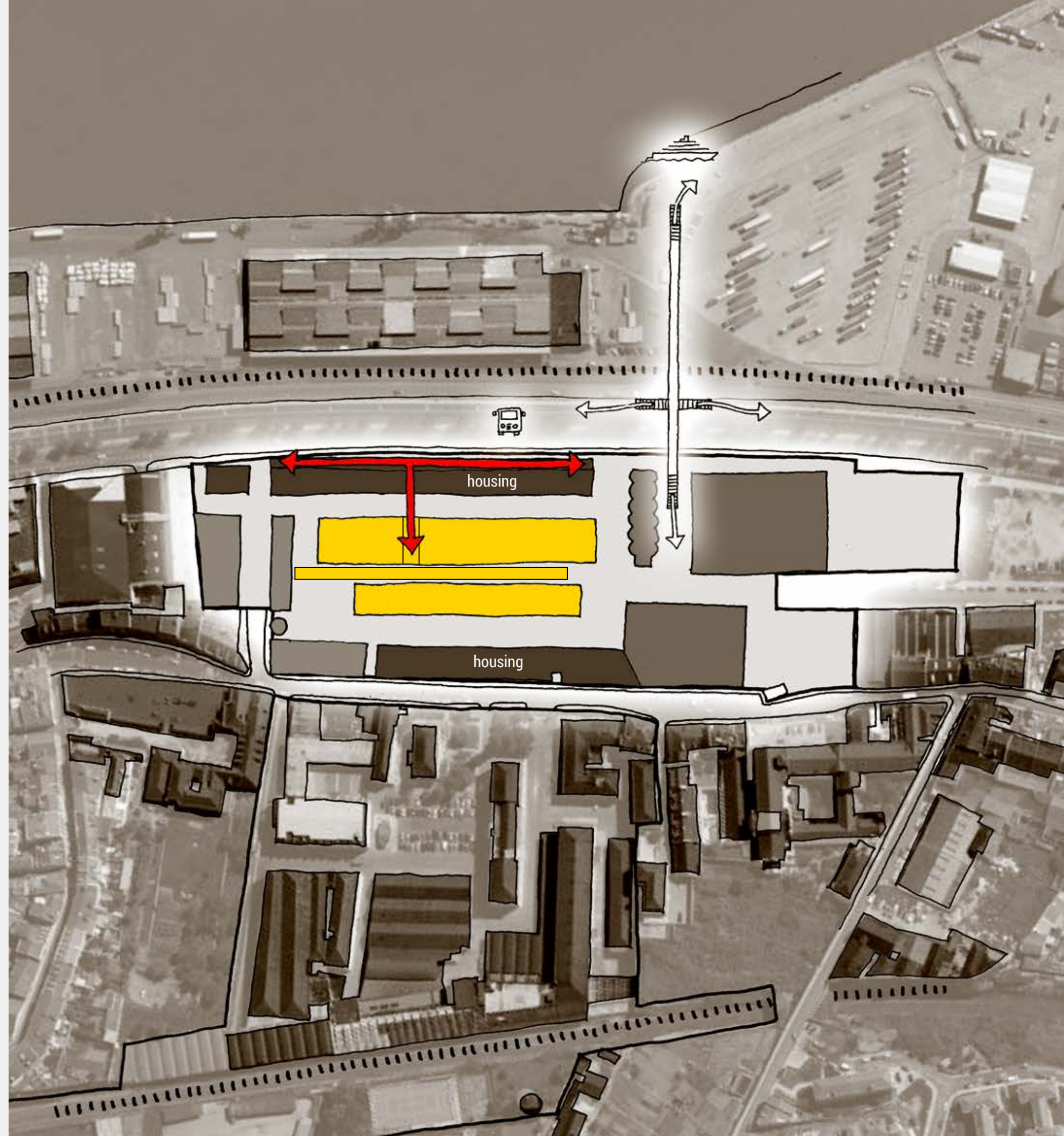
Housing quartier du Grand Parc, Bordeaux (photo by Philippe Ruault, 2016. Accessed on January 5th, www.lacatonvassal.com)



STRATEGY

6a. HOUSING

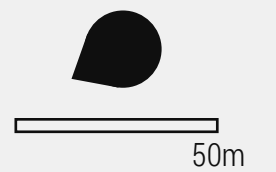
- Student housing and social housing
- Addition
- Entrance student housing in line with back entrance university



Former pasta factory

Image

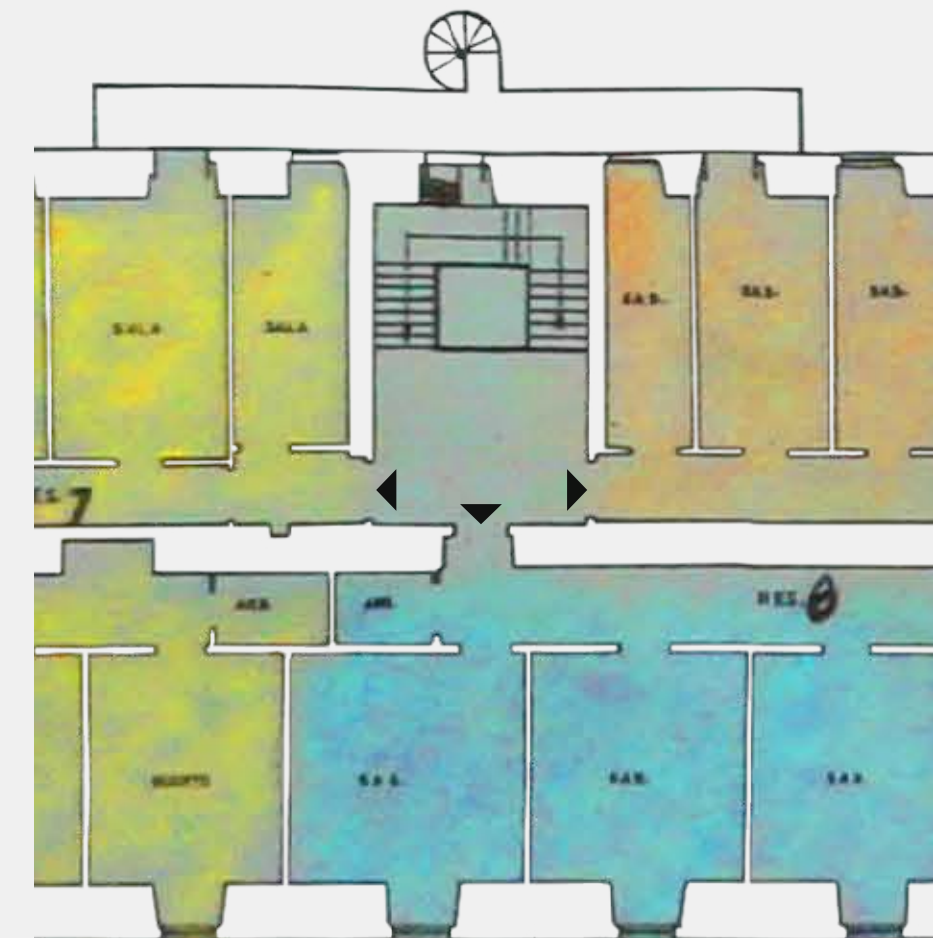
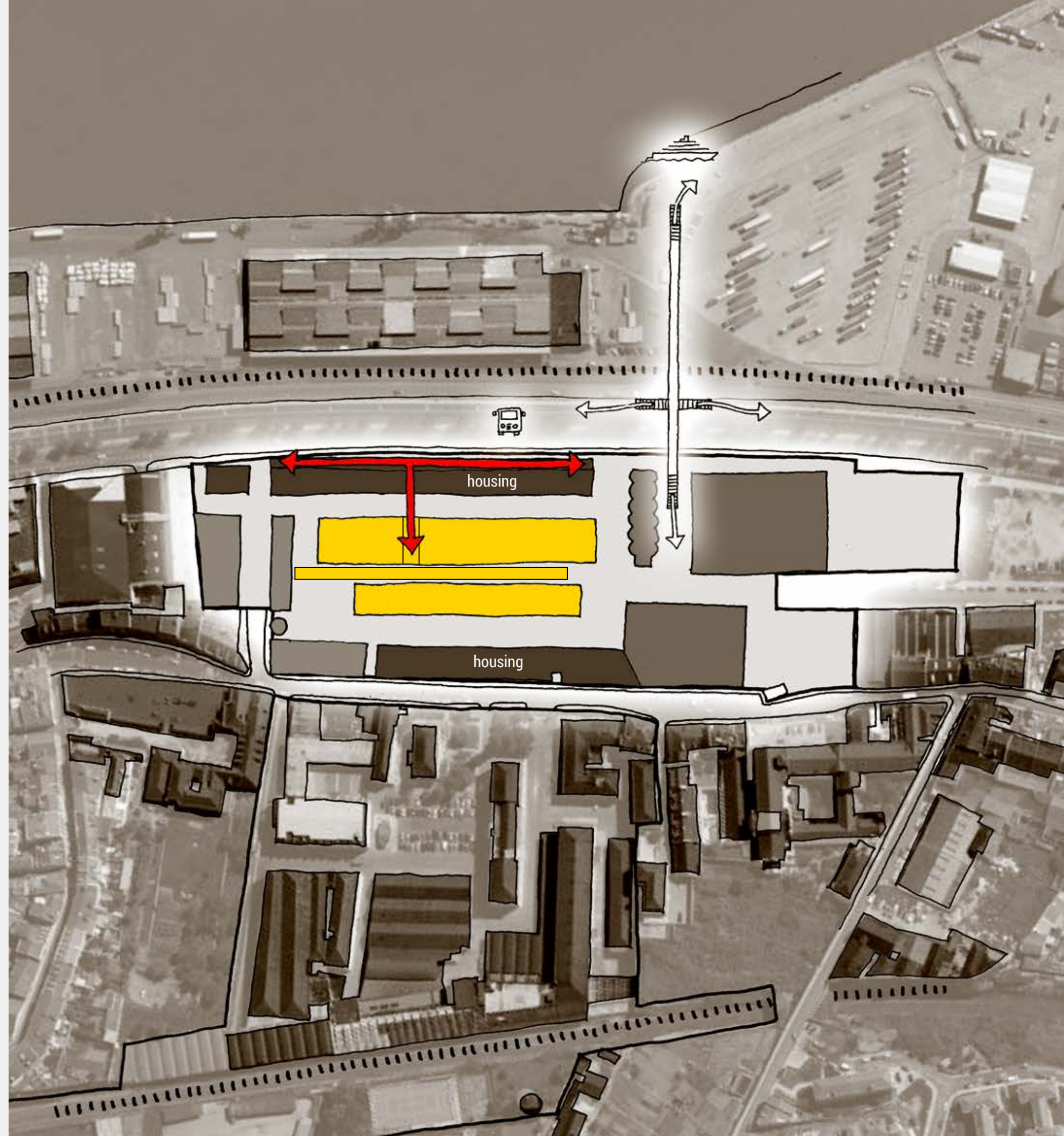
Former pasta factory from Av. Infante Dom Henrique (photo provided by Guido Martin, own editing)



STRATEGY

6a. HOUSING

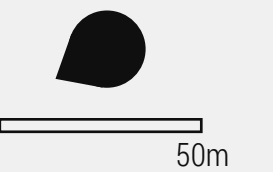
- Student housing and social housing
- Addition
- Entrance student housing in line with back entrance university



Indication apartments former convent

Image

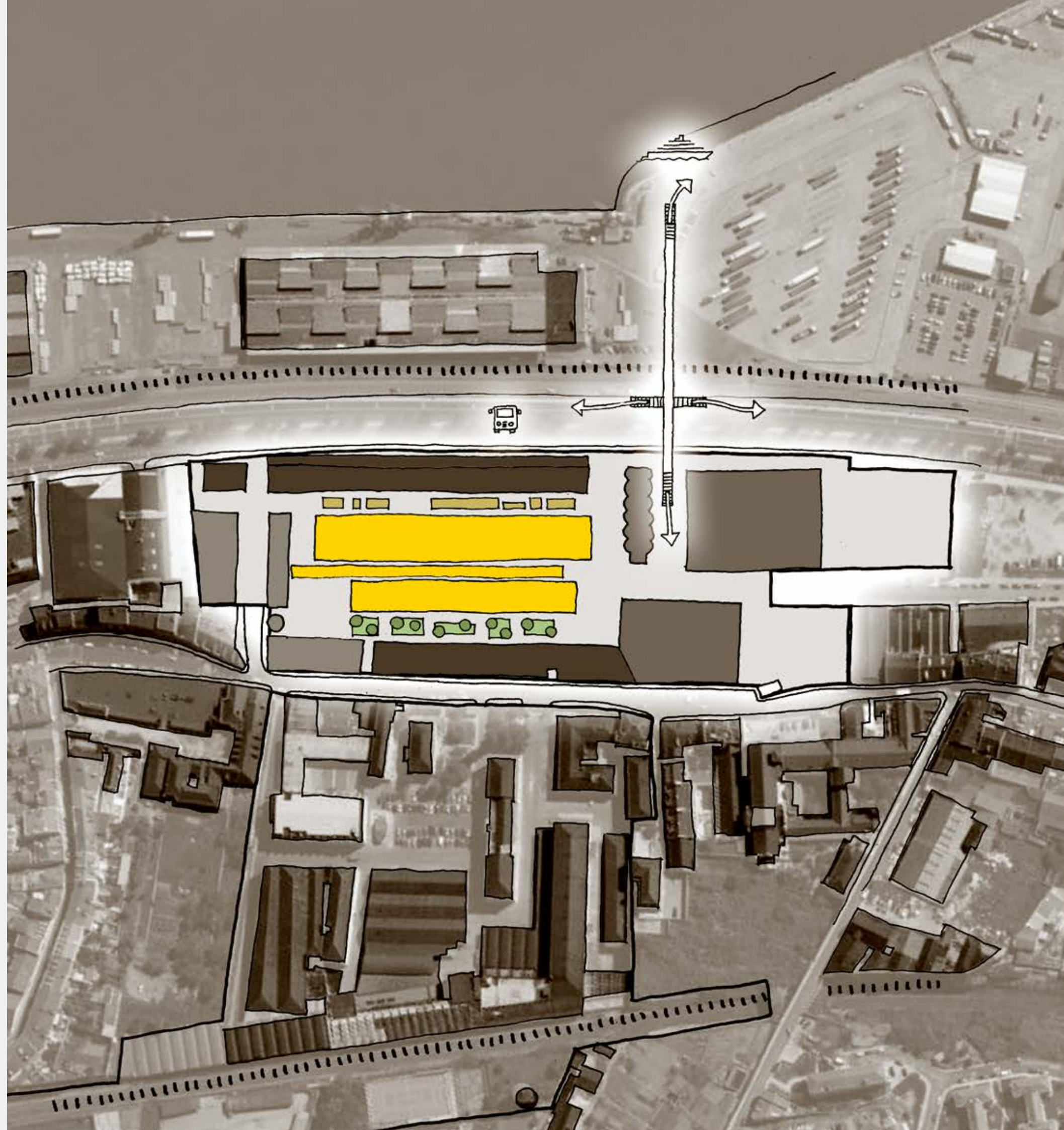
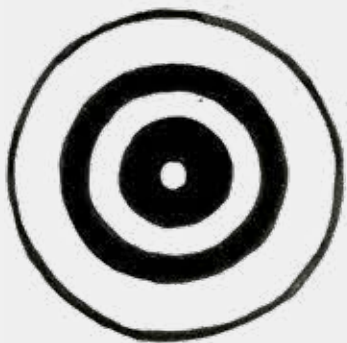
Floor plan former convent on which apartments are indicated
(photo by Ruben Klinkenberg, 24-11-2017, own editing)



STRATEGY

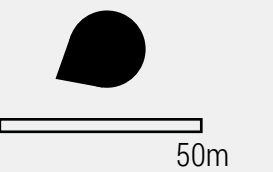
7. DESIGN SPACE PLAN

- Activity street (place to move)
- Garden (place to stay)
- Second layer of intimacy



Skatepark Westblaak, Rotterdam

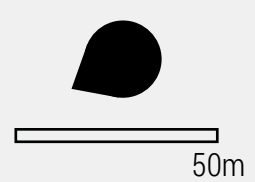
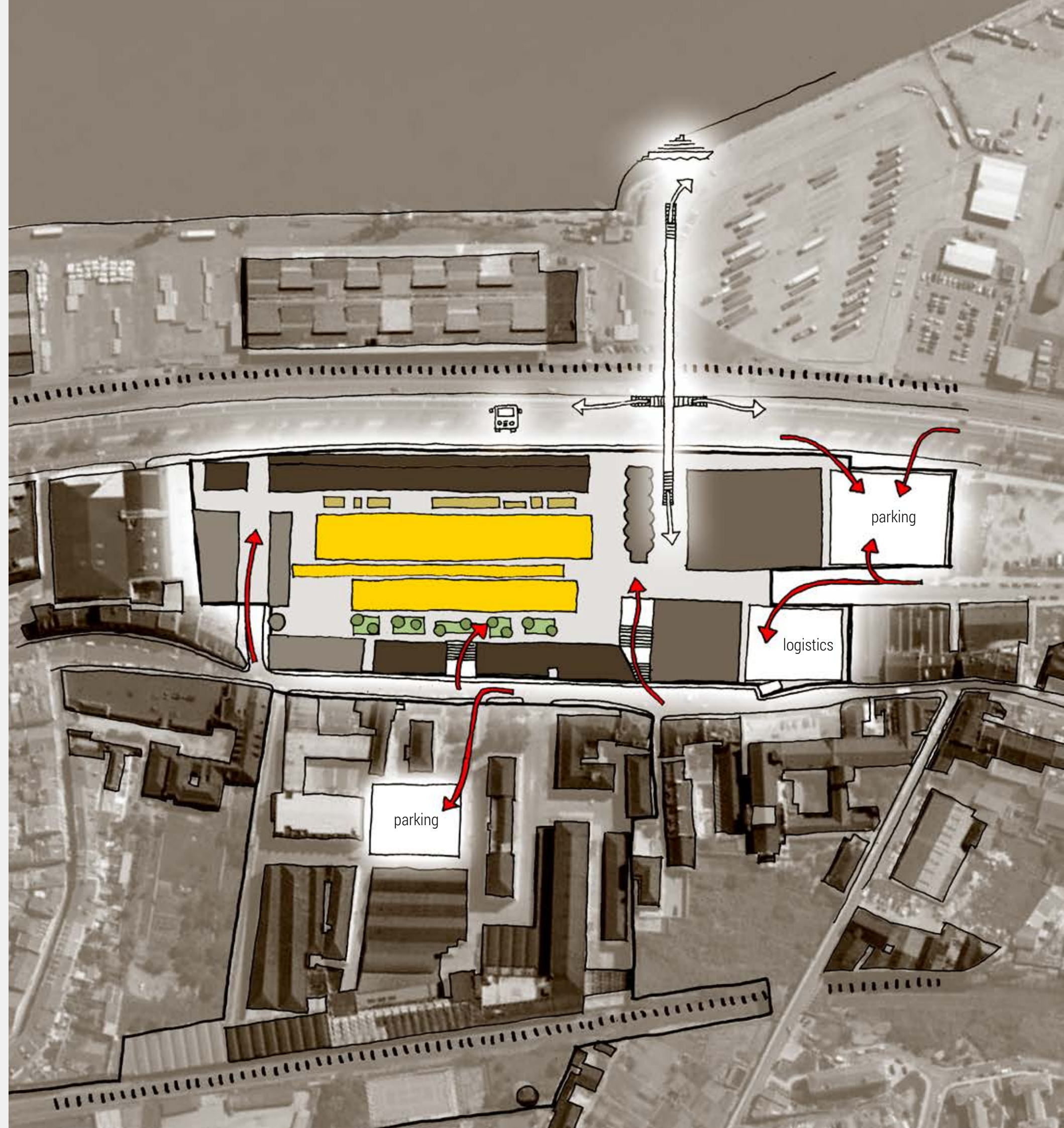
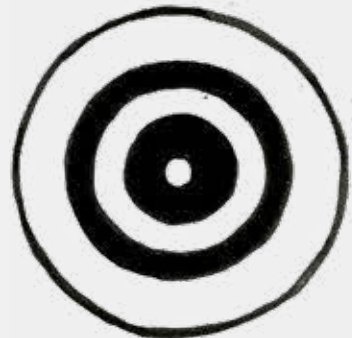
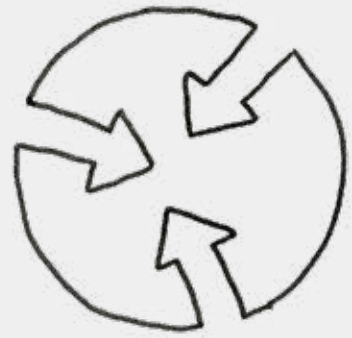
Image
Skatepark Westblaak, Rotterdam (photo by Janne Saario
landscape architecture, 2016. Accessed on January 5th, www.jannesaario.com)



STRATEGY

8. ACCESSIBILITY

- New entrance to improve accessibility complex and status Rua do Grilo
- Parking spaces



STRATEGY

CONCLUSION

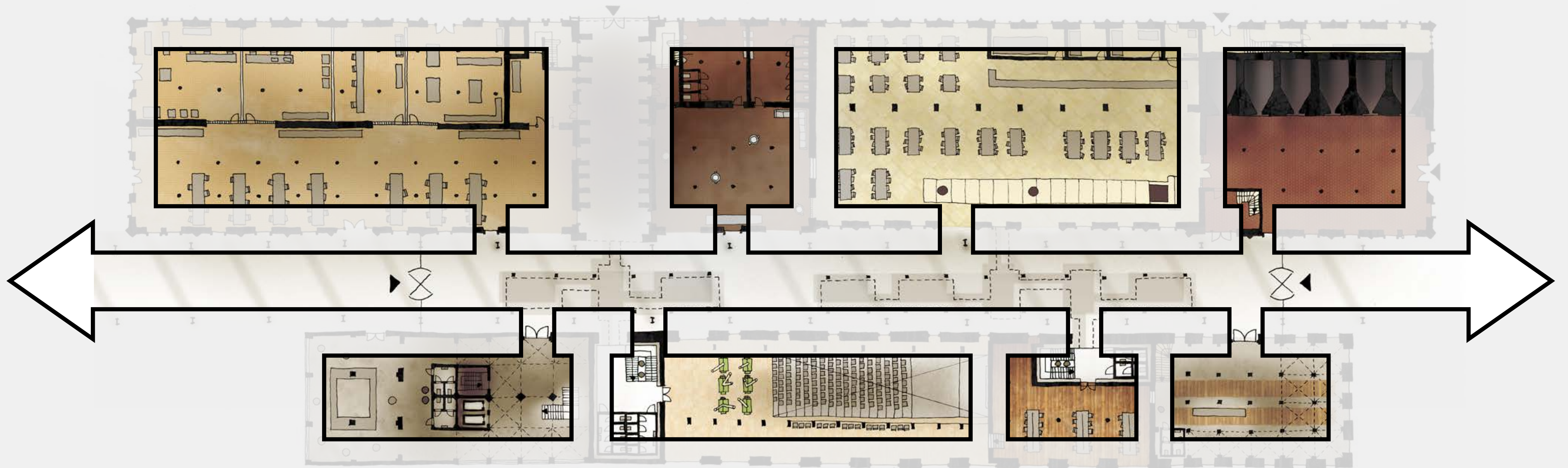
- Three layers of intimacy



8. BUILDING DESIGN

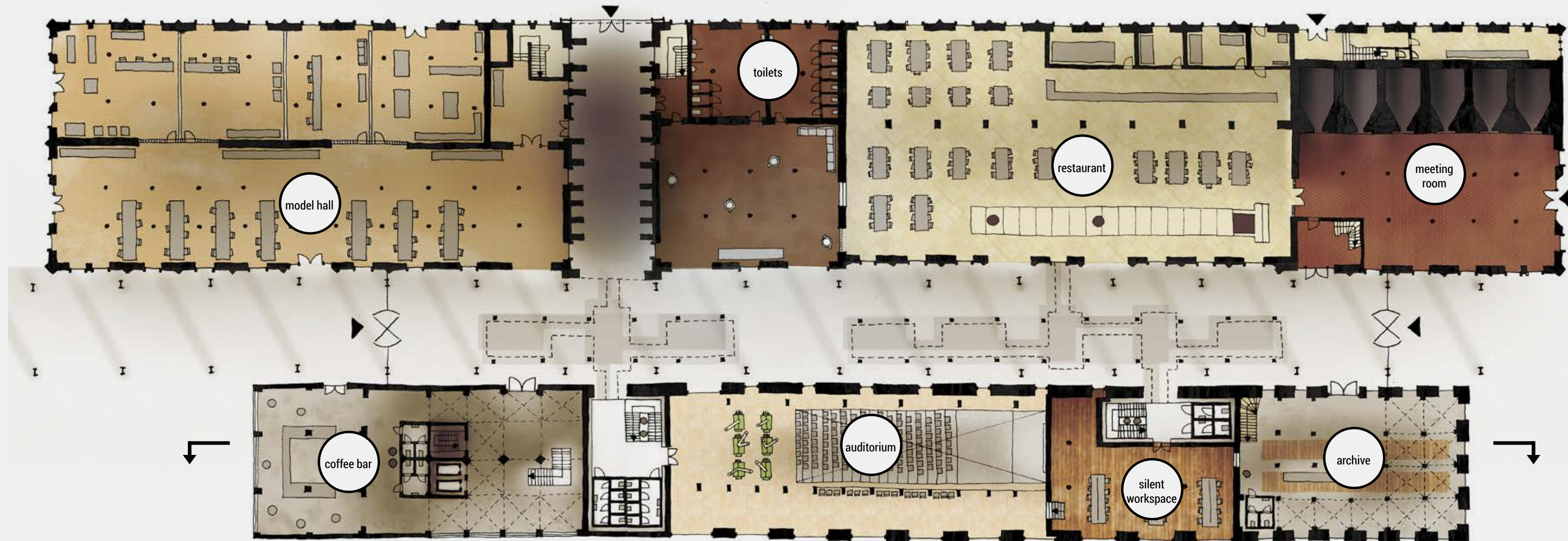
BUILDING DESIGN

- Covering the street to connect
- Preserve layout buildings and function-wise
- Value of non-intended architecture

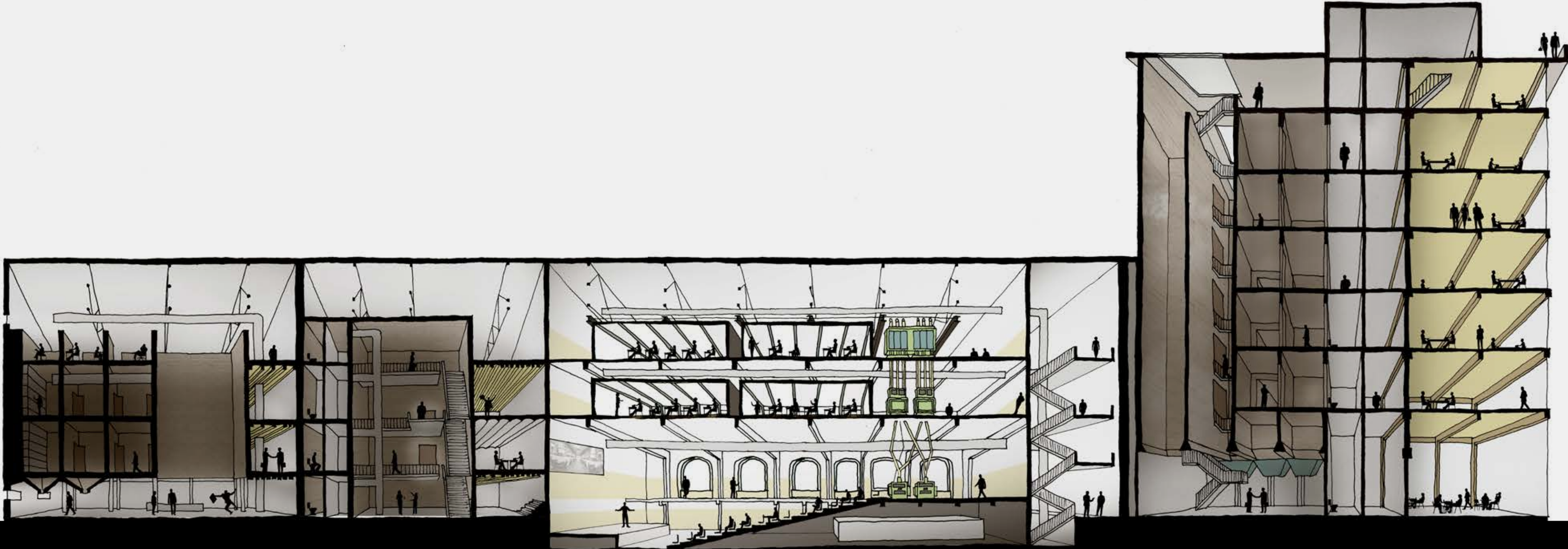


BUILDING DESIGN

- Each building component houses function
- Public functions ground floor



BUILDING DESIGN



archive

silent workspace

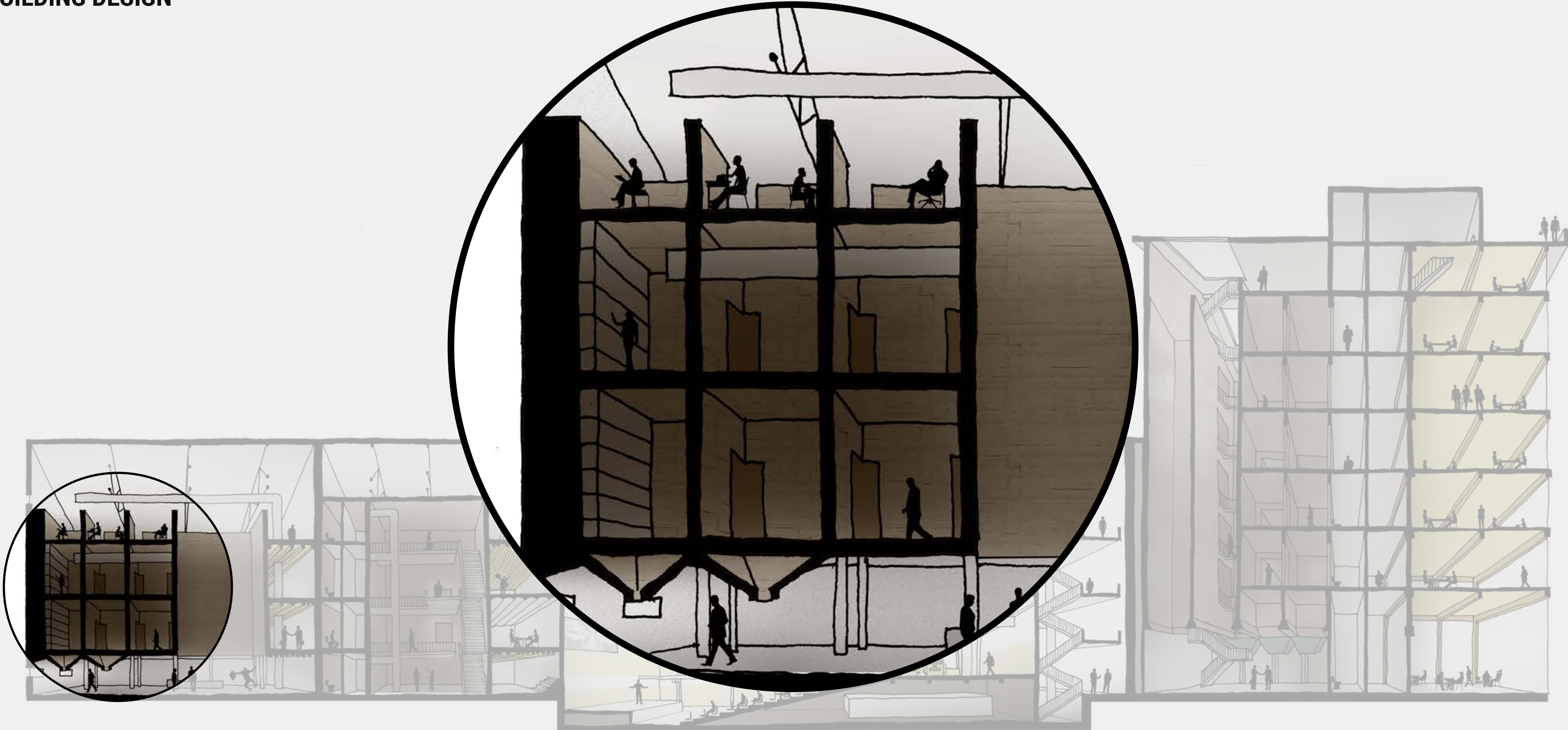
auditorium

classroom

coffee bar

studios

BUILDING DESIGN



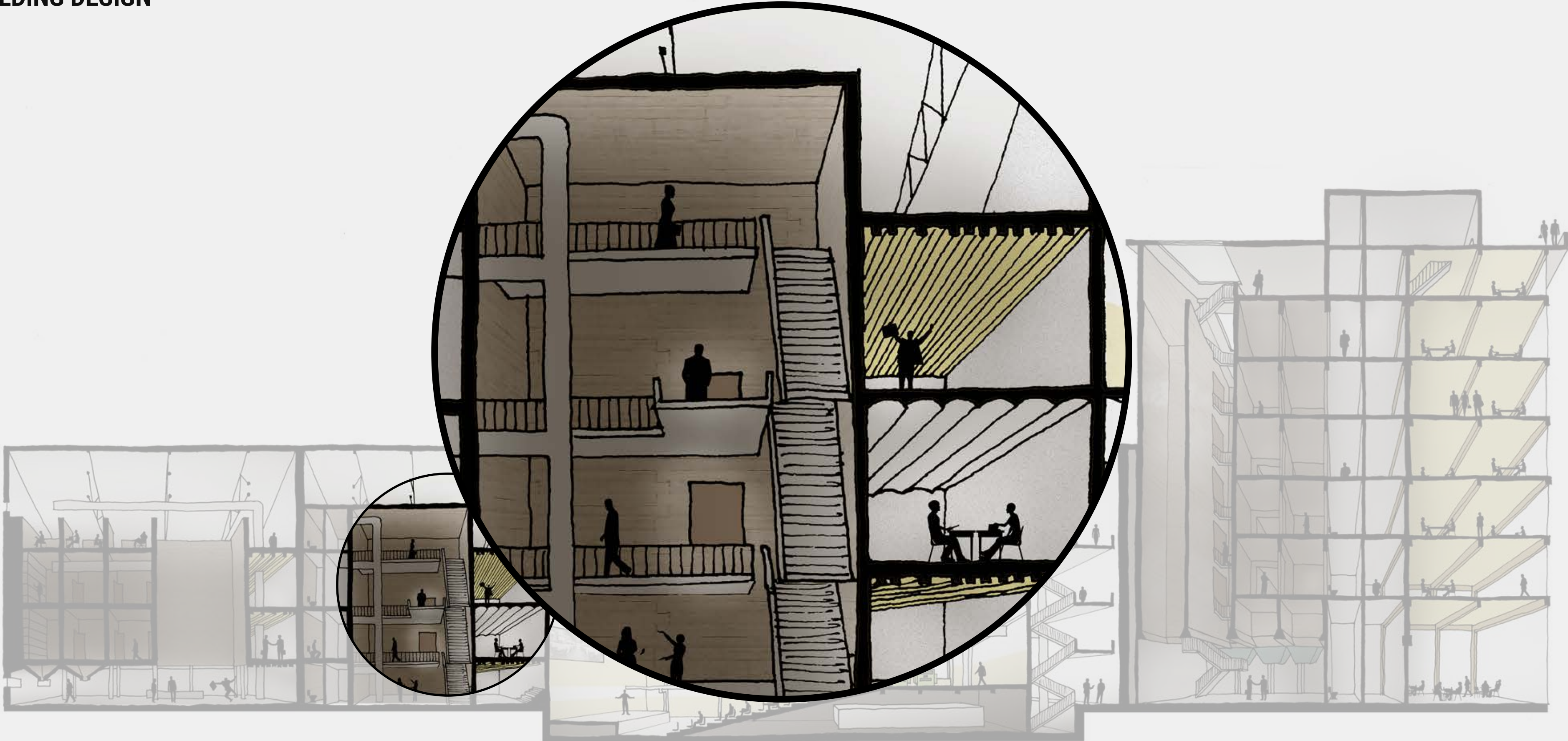


Images

Sudhaus Adambrau, Transformation House of Architecture, Innsbruck (photo Lukas Schaller. Accessed on January 6th, www.miesarch.com)



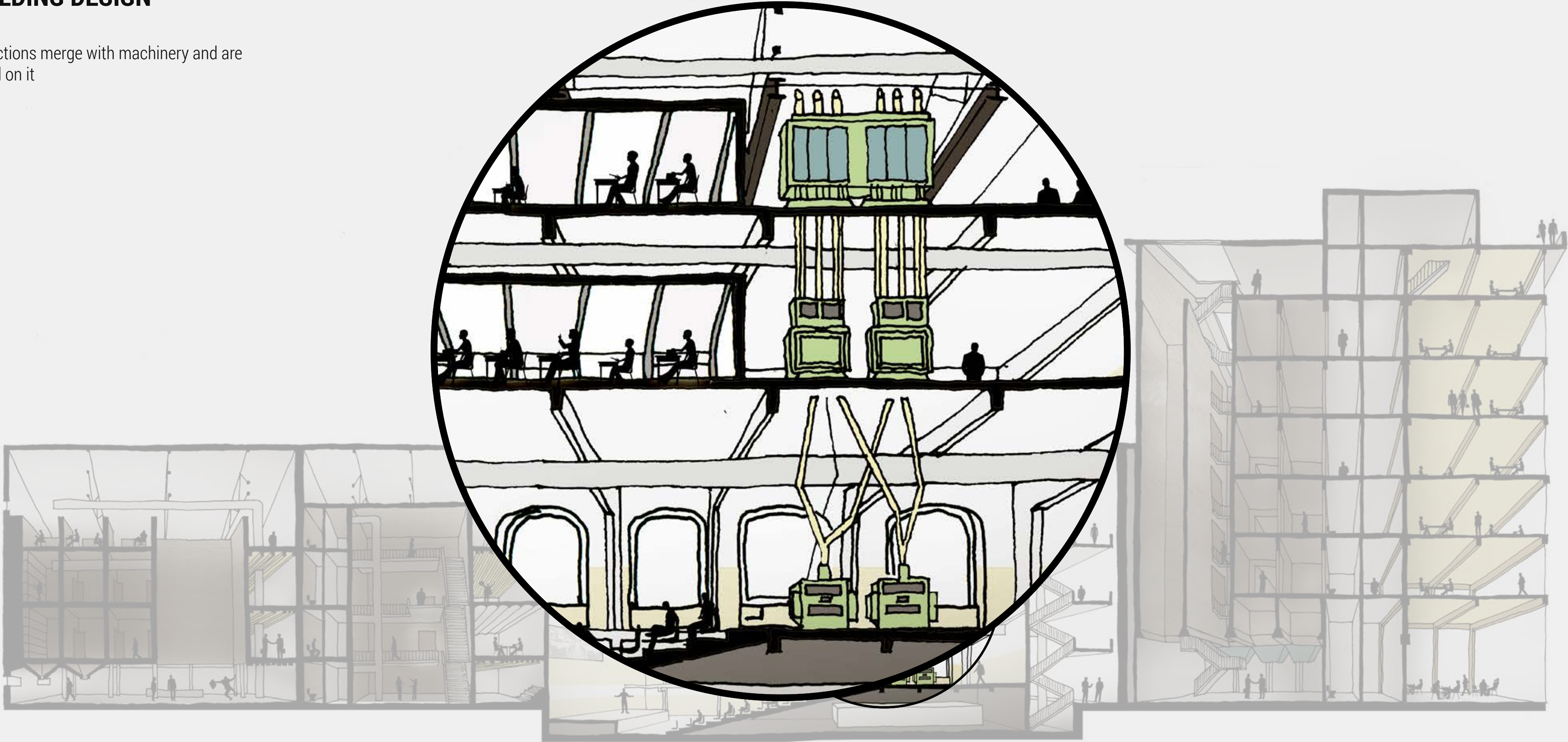
BUILDING DESIGN





BUILDING DESIGN

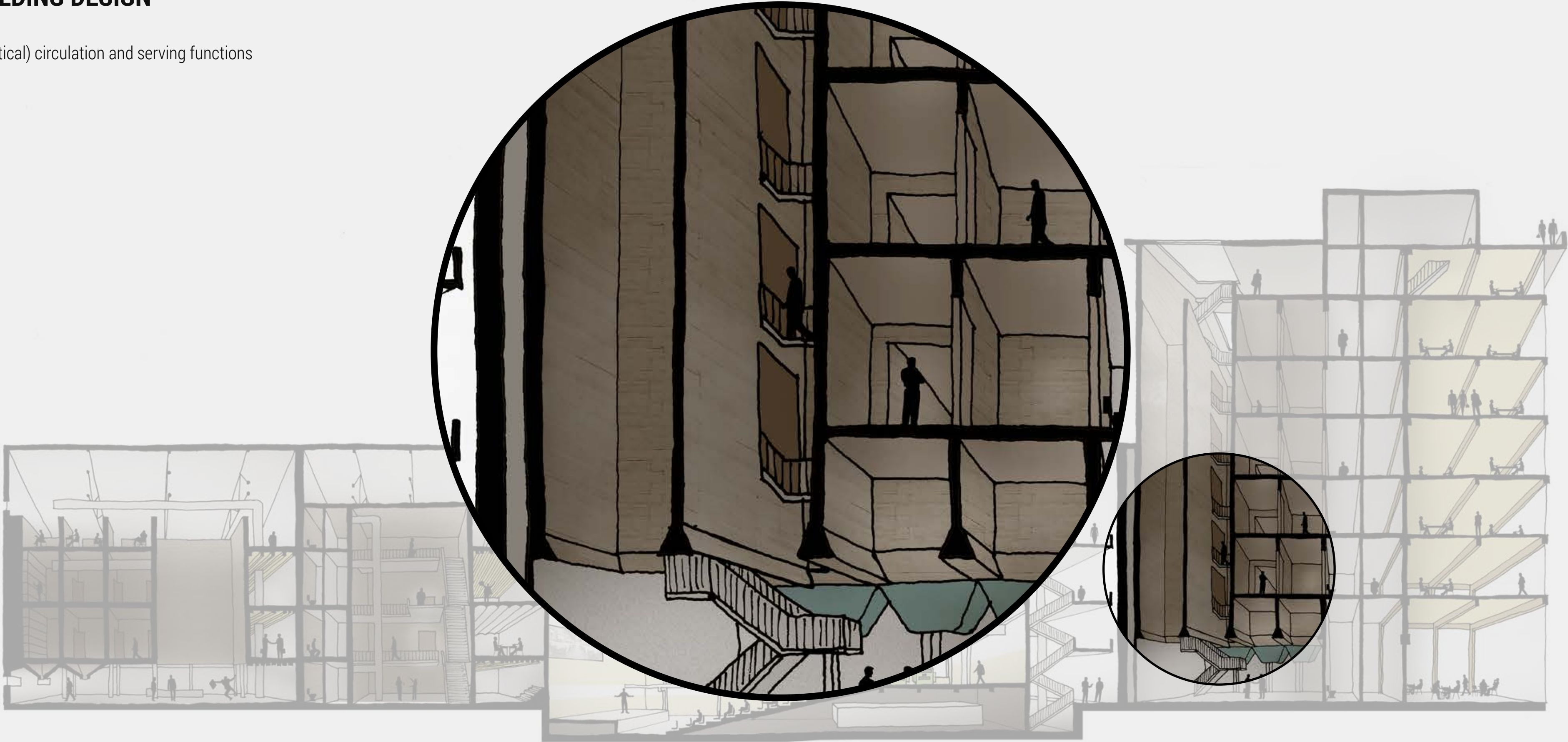
• Functions merge with machinery and are based on it





BUILDING DESIGN

• (Vertical) circulation and serving functions



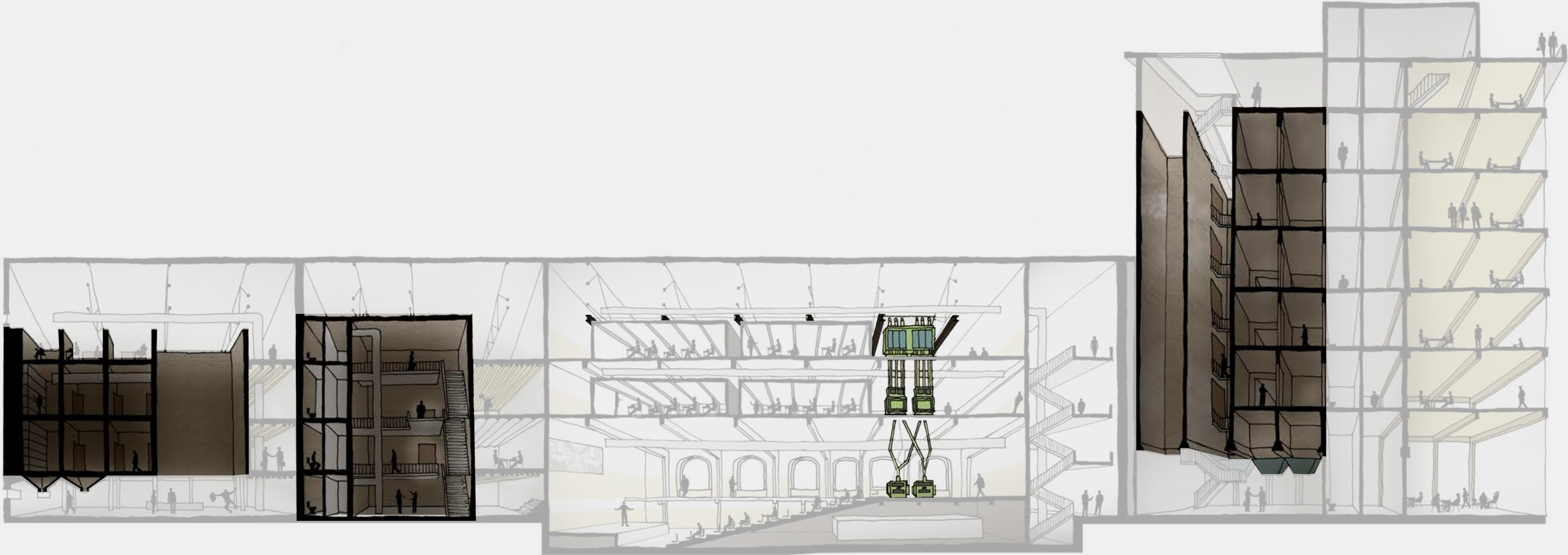


Images
Ruhr Museum, Essen (Accessed on January 6th,
www.fotocommunity.de)



BUILDING DESIGN

- Production process recognizable



BUILDING DESIGN

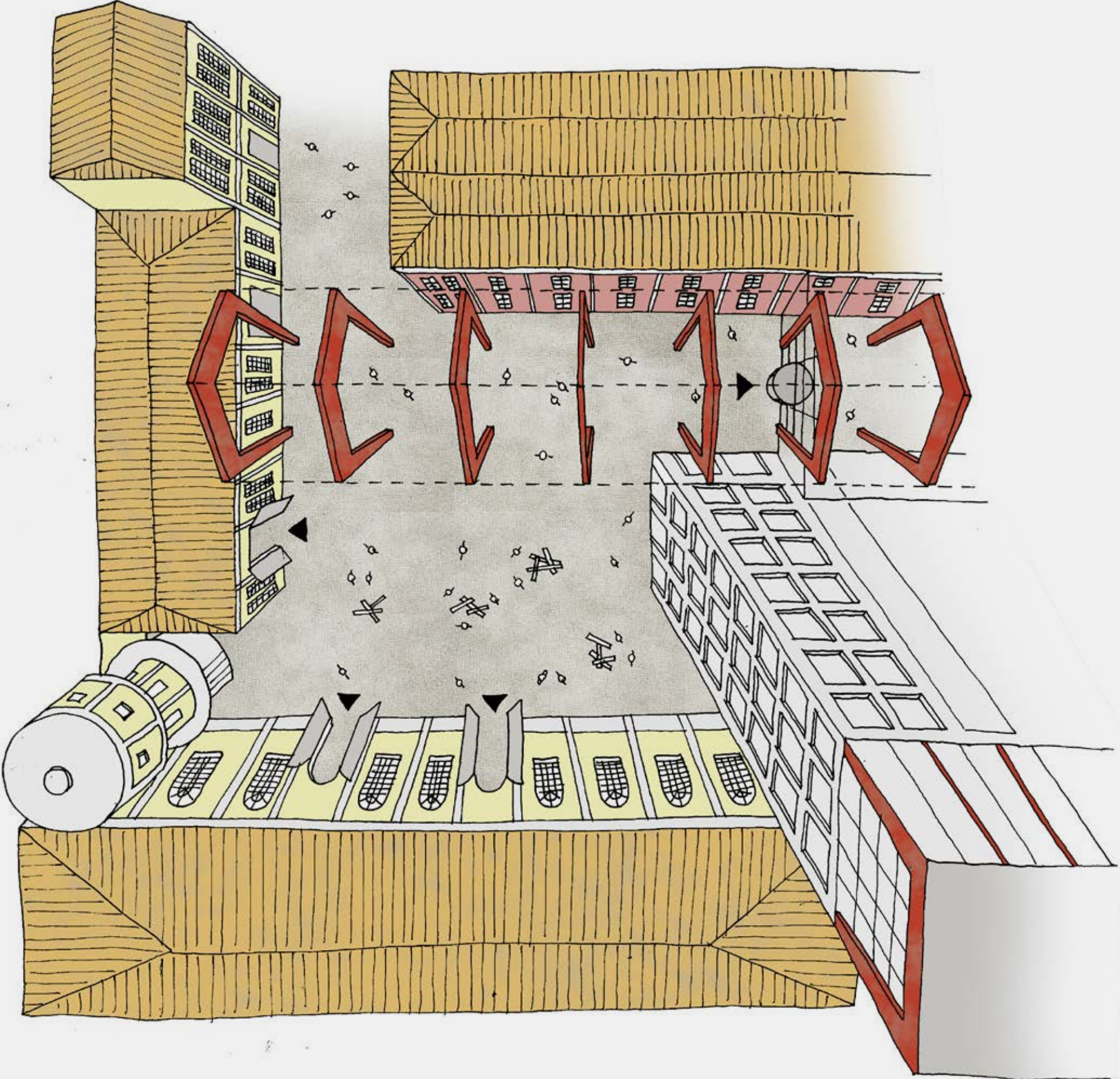
• Connection studios and university square





DESIGN

- Re-establish closed and private character university square





BUILDING DESIGN

- Emphasize layout buildings and connecting function street
- Silos for vertical circulation

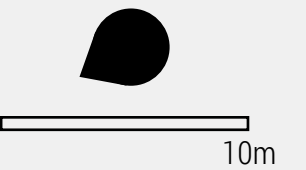
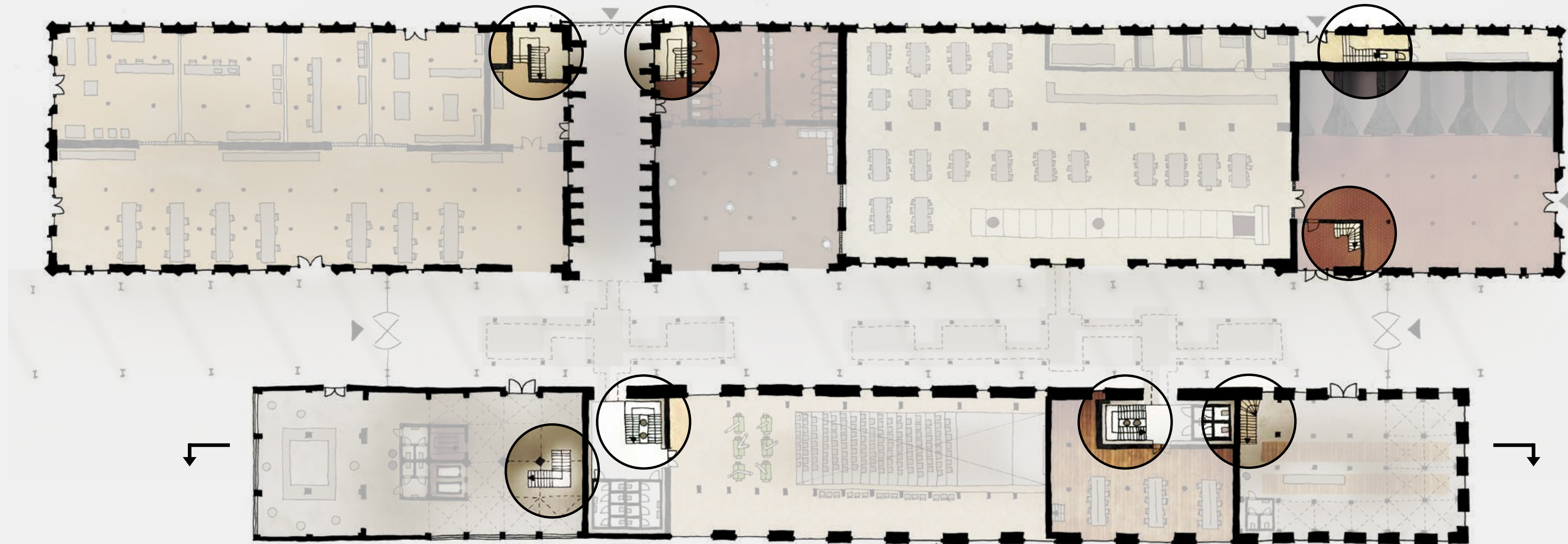
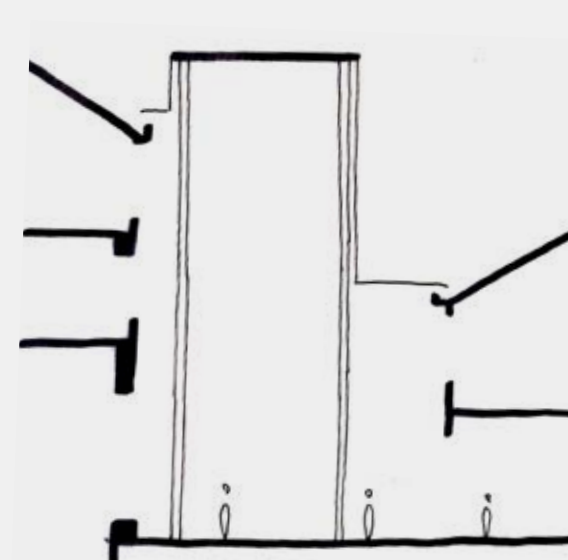
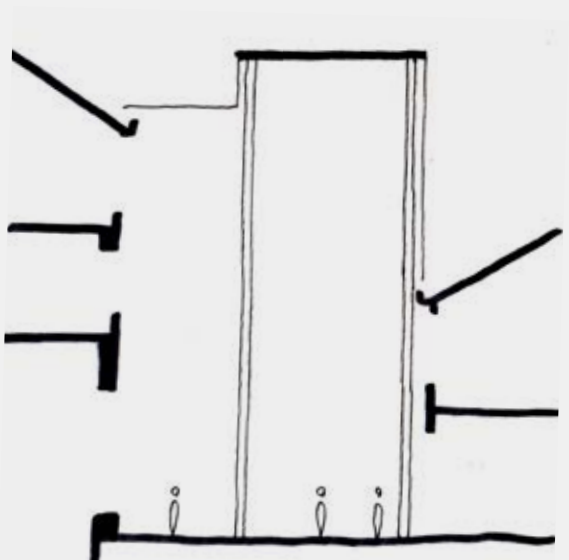
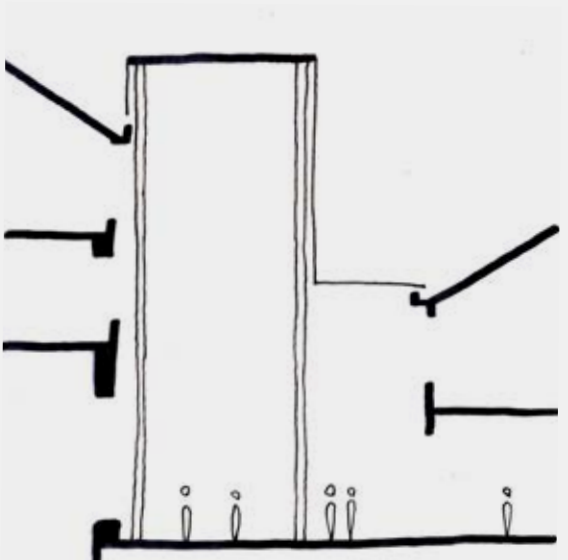
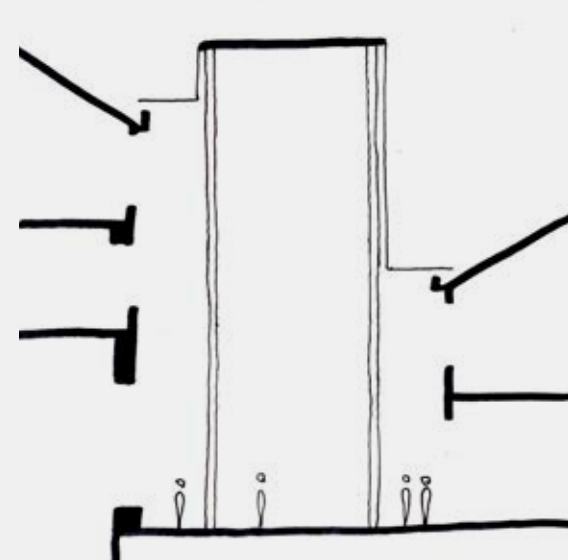
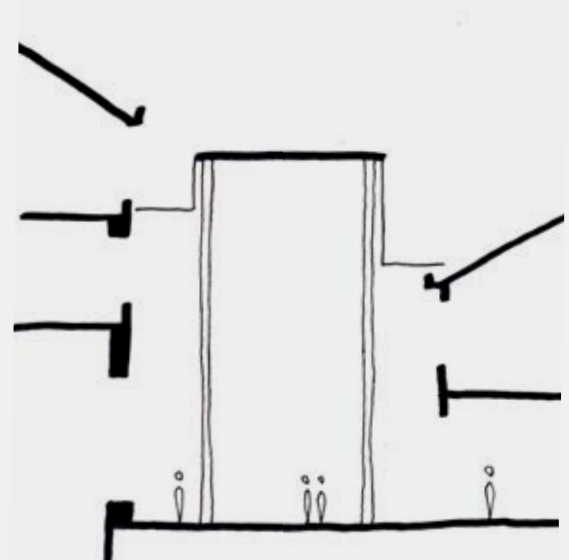
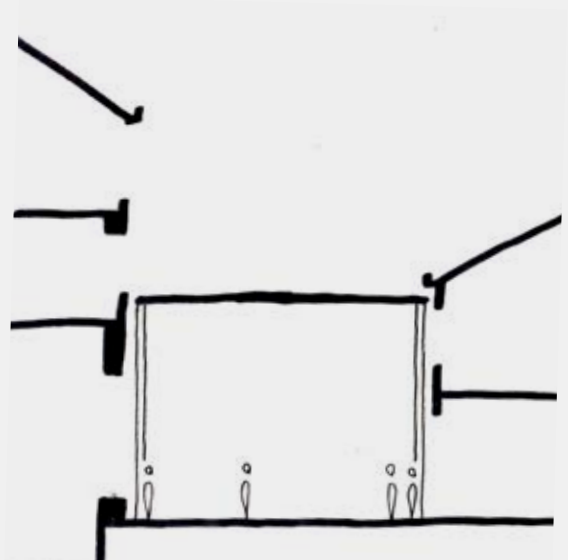
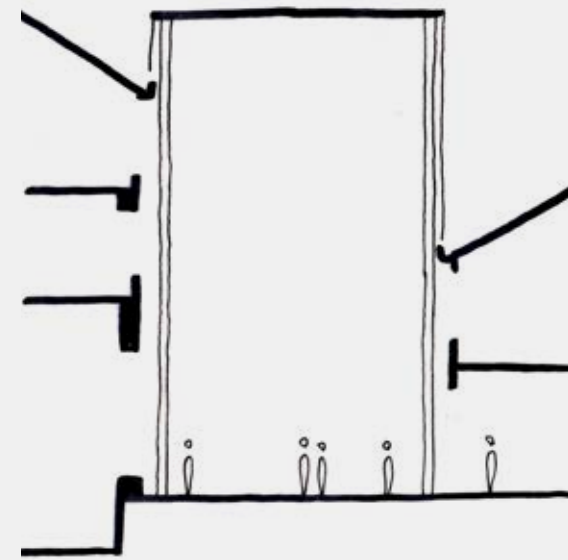
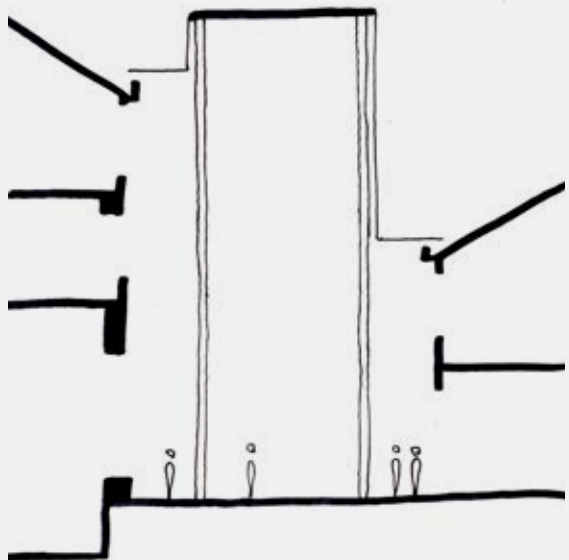
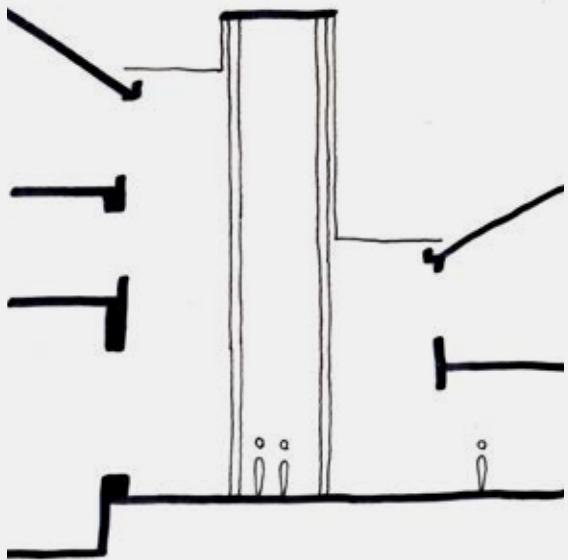




Image
Reuse staircase small silos milling (photo by Hielkje Zijlstra,
04-09-2016)

BUILDING DESIGN



BUILDING DESIGN

- Technically advantageous (pragmatic)
- Rhythm columns connects buildings
- Oversize of space
- Own identity (still part of space plan)



BUILDING DESIGN

• Inspired by the structures of Jean Prouvé





Images

Ferembal Demountable House by Jean Prouvé (photo by Galerie Patrick Seguin. Accessed on March 14th, www.patrickseguin.com/en/designers/architect-jean-prouve/available-houses-jean-prouve/ferembal-house-1948/)

BUILDING DESIGN

- Shape
- Findings



Images
Ferembal Demountable House by Jean Prouvé (photo by Galerie Patrick Seguin. Accessed on March 14th, www.patrickseguin.com/en/designers/architect-jean-prouve/available-houses-jean-prouve/ferembal-house-1948/)

BUILDING DESIGN

• Atmosphere

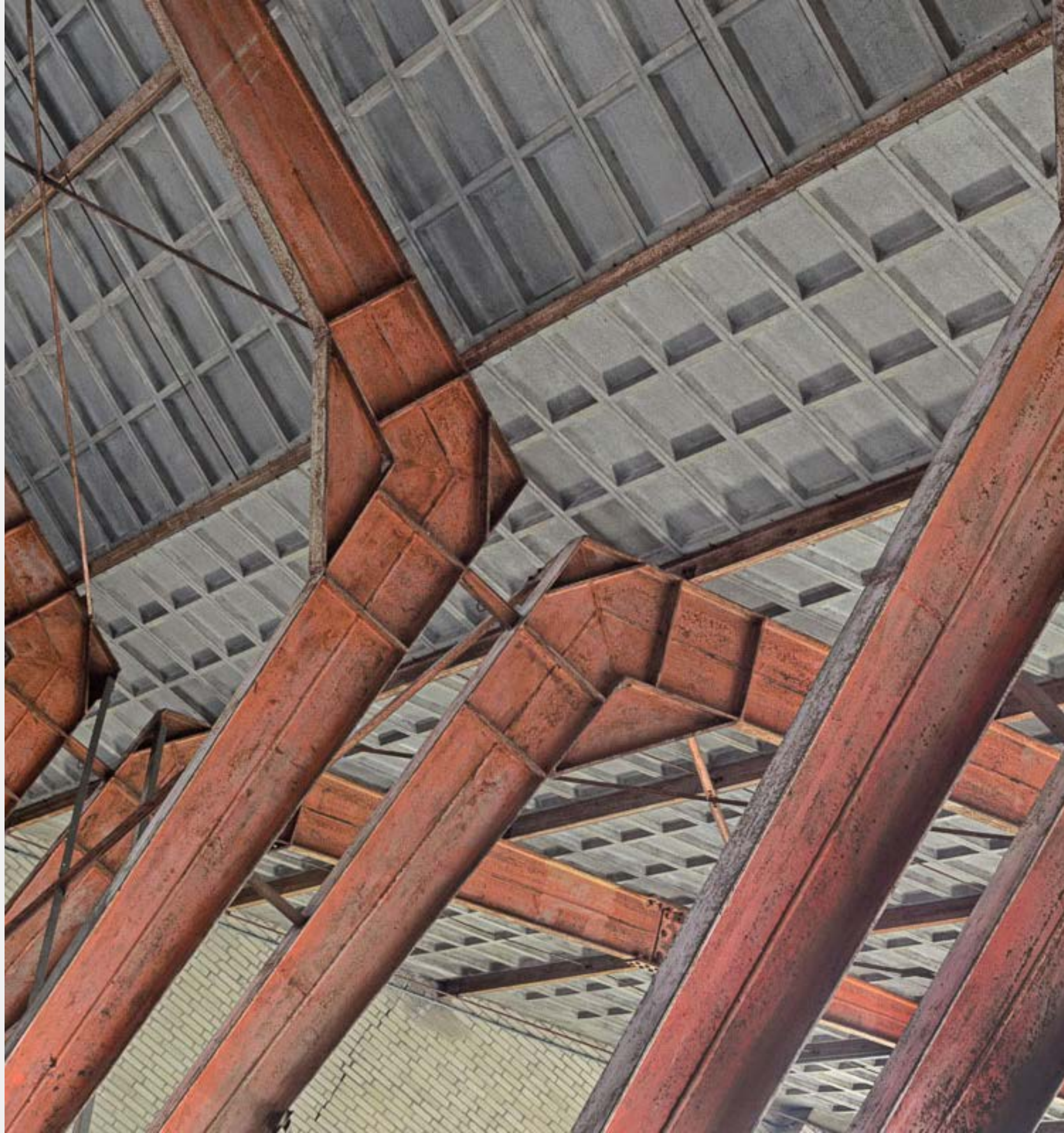


BUILDING DESIGN

- Straight contour
- Folded roof fits in roof landscape site



- Welded portals
- Industrial appearance



Images

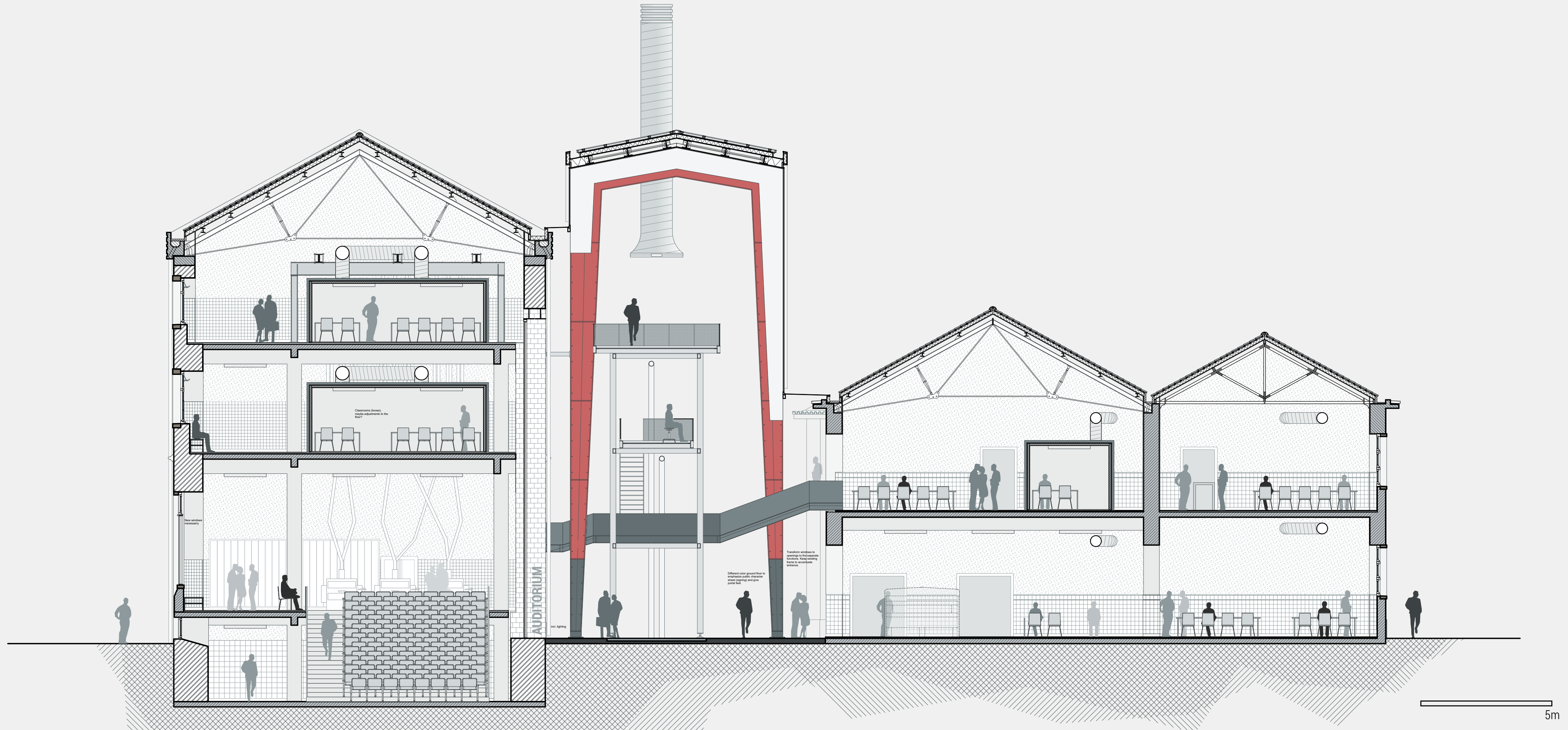
Warehouse former Zwitsalterrein Apeldoorn (photo by Jan Hof. Accessed on February 21st, www.janhof.nl/category/architectuur/industrie/)

BUILDING DESIGN

- Imperfection
- Expressive color gives identity to portals
- Patina and color present in existing buildings

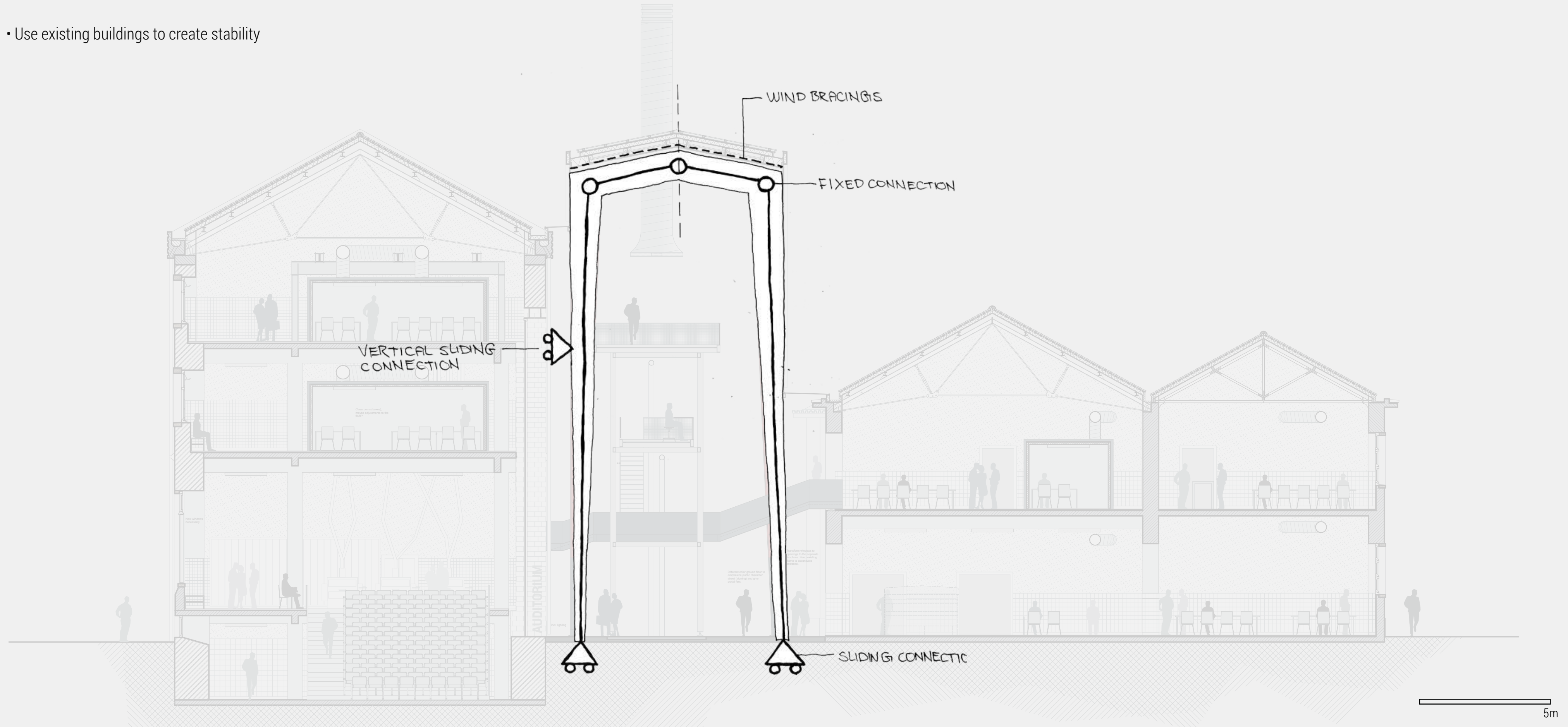


BUILDING DESIGN

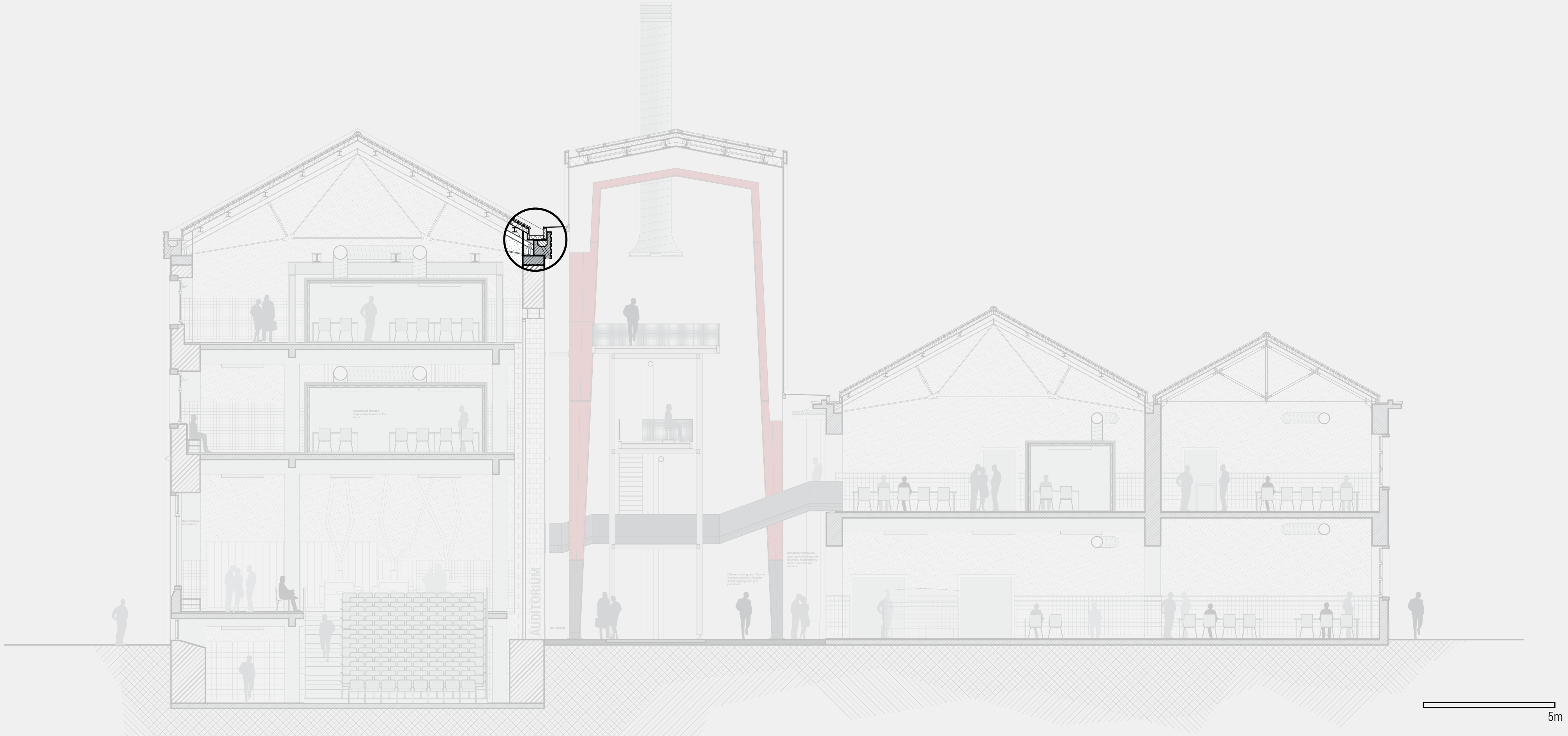


BUILDING DESIGN

- Use existing buildings to create stability

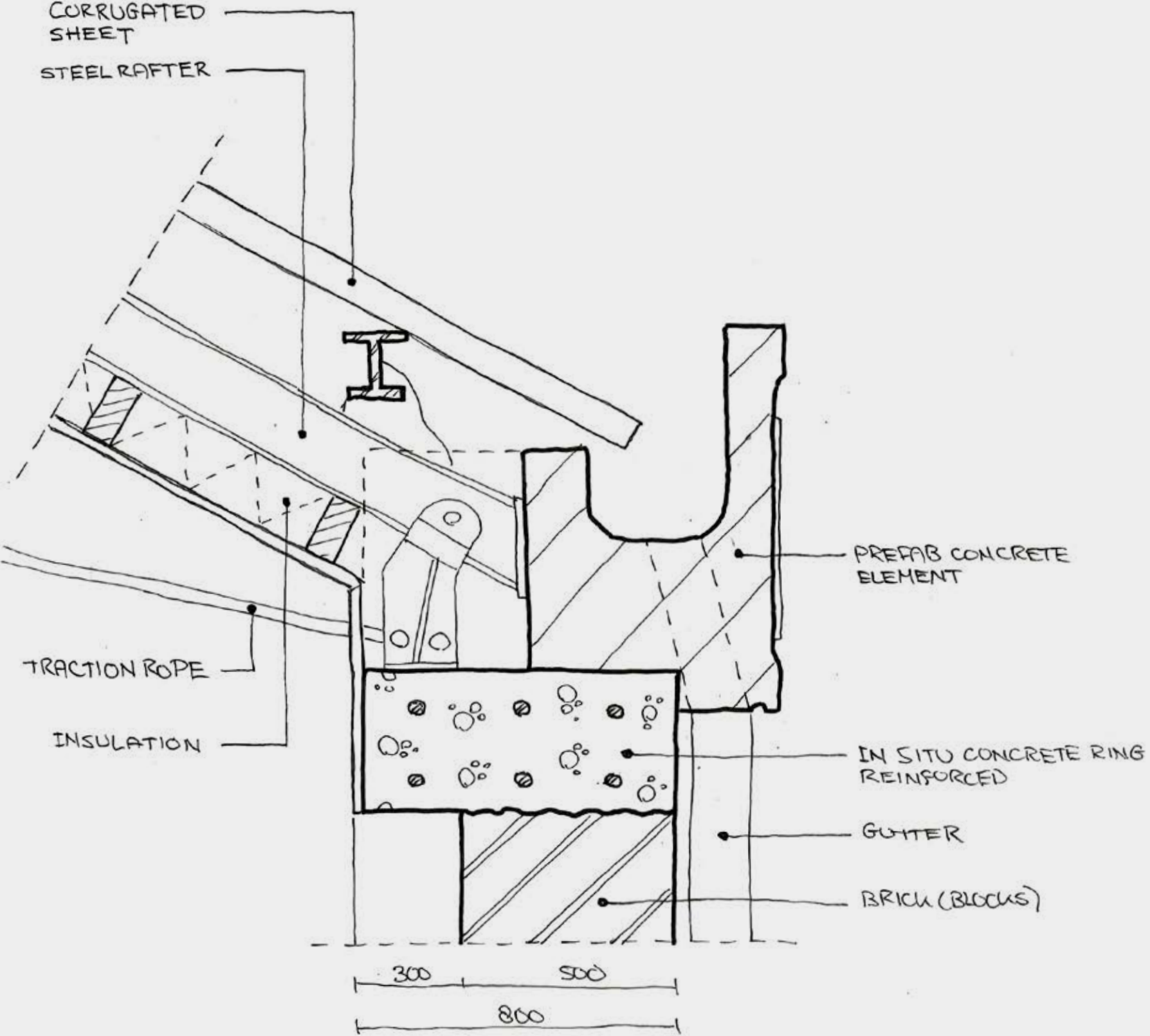


BUILDING DESIGN



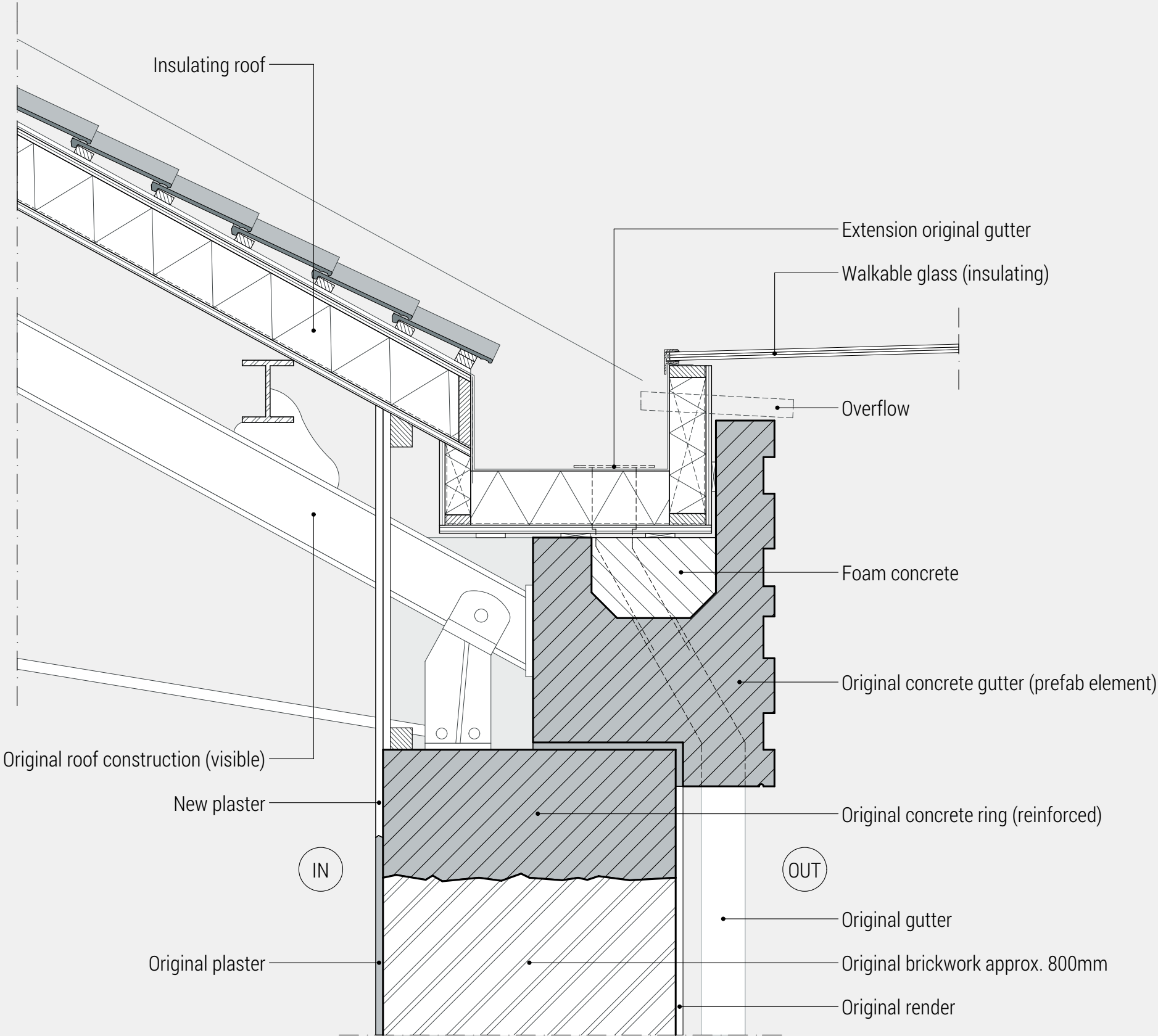
BUILDING DESIGN

- Insulation covers roof construction
- Moisture problems



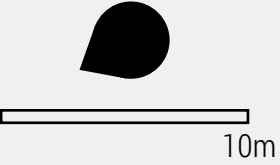
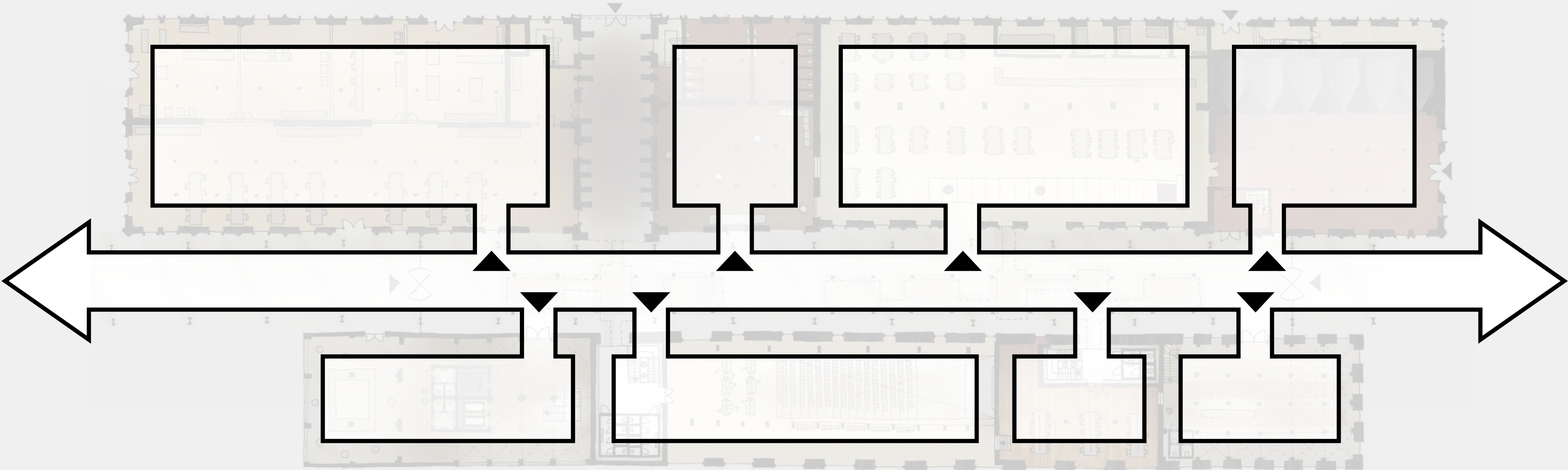
BUILDING DESIGN

- Insulation on the outside
- Street part of space plan site
- Same solution both sides



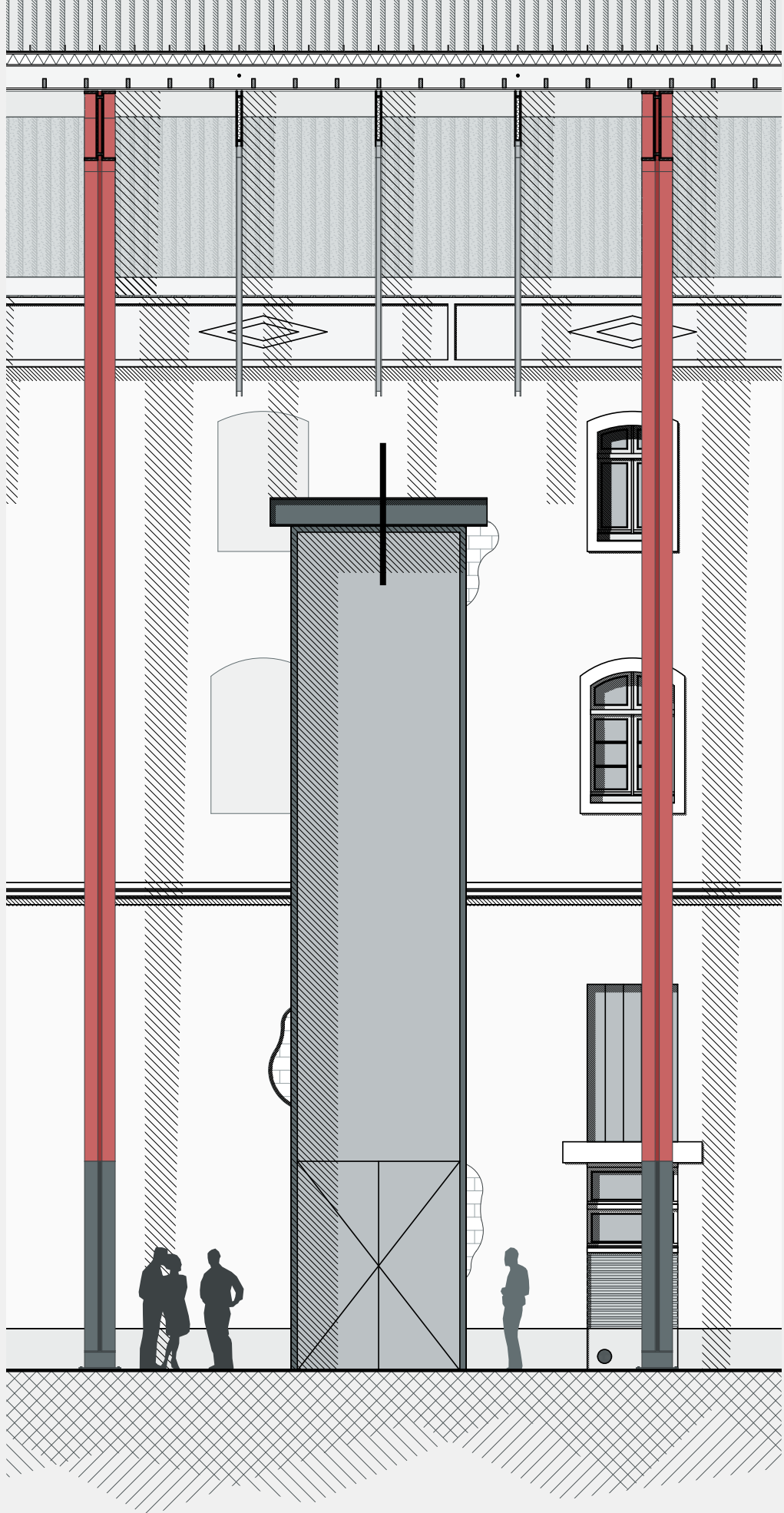
BUILDING DESIGN

- New entrances to building components



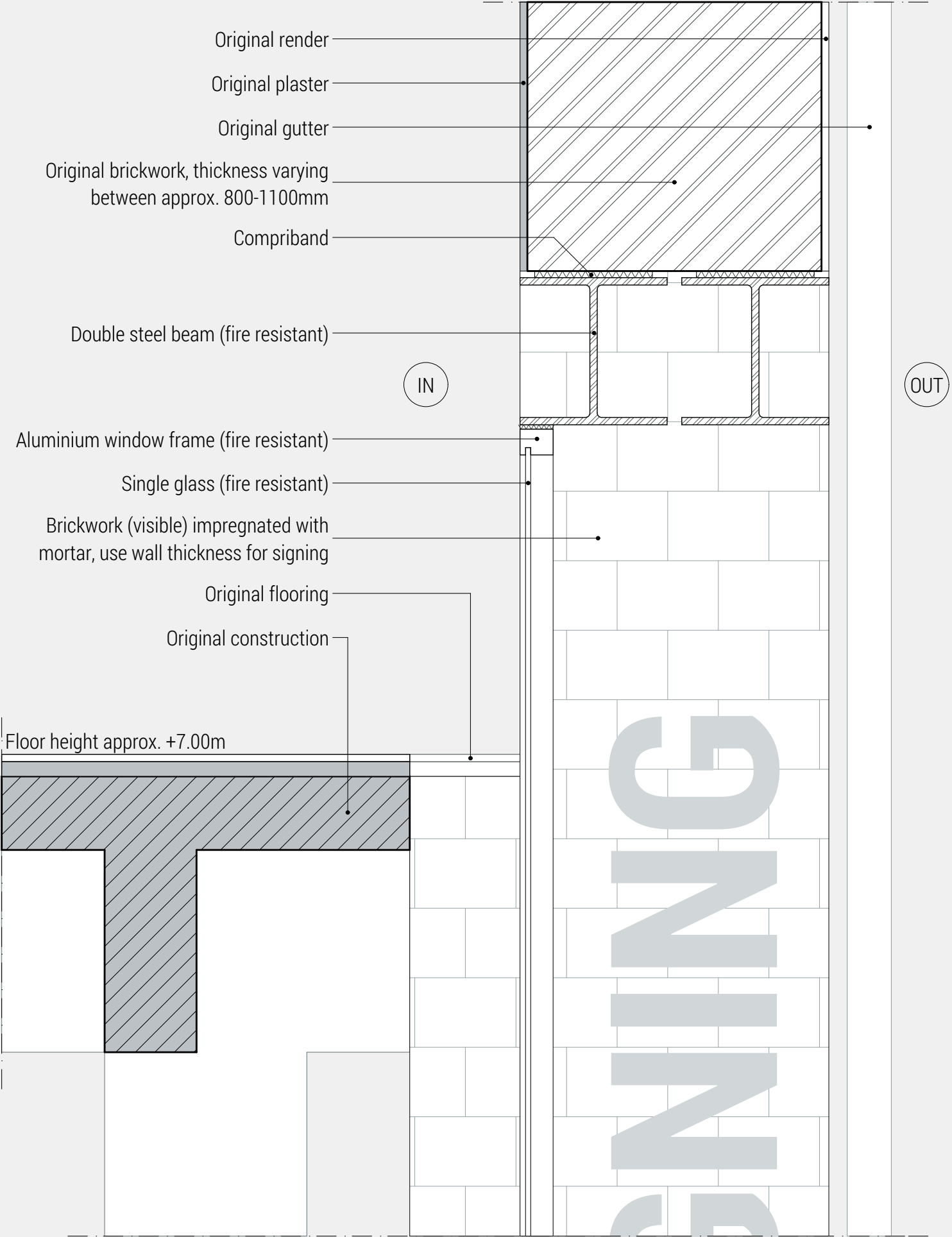
BUILDING DESIGN

- Entrances integral part street
- Positioned at the silos to utilize the free height of the space
- Fit within the grid of the street



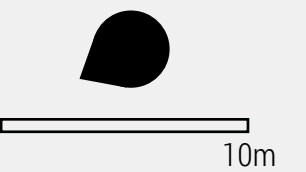
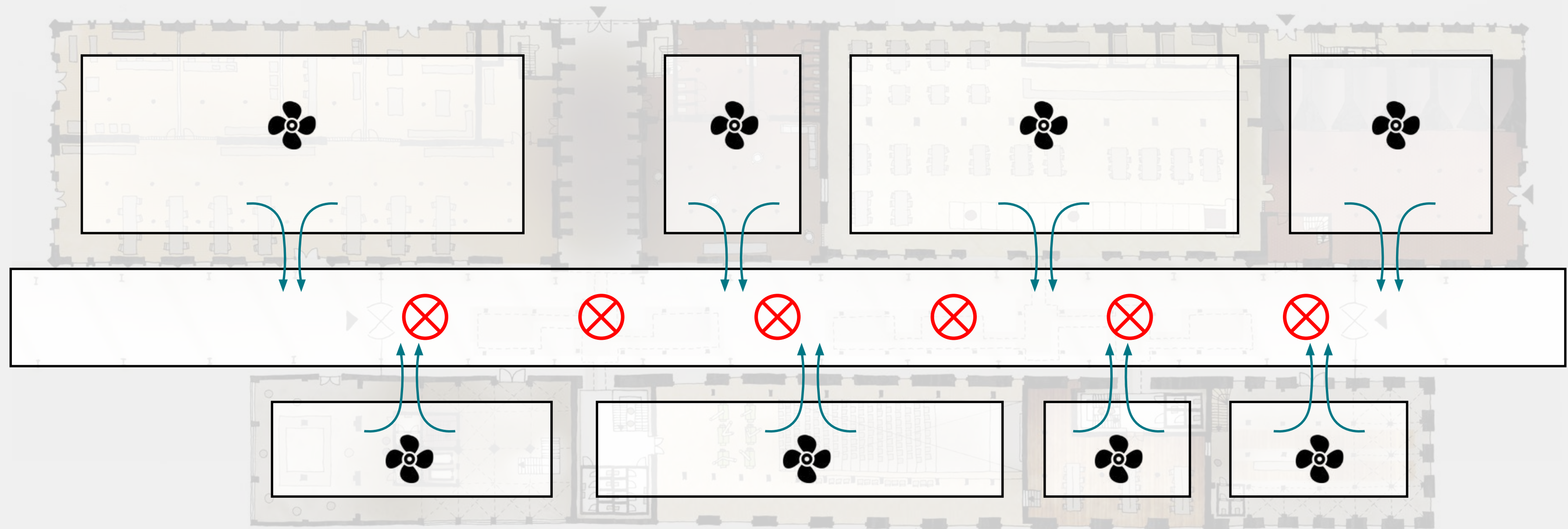
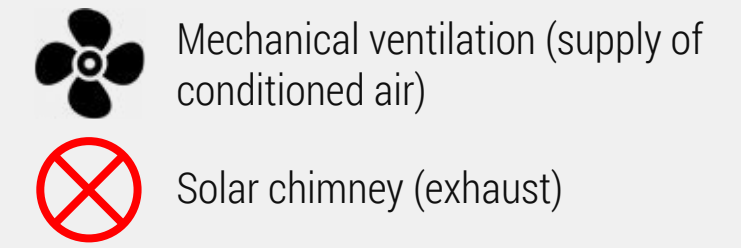
BUILDING DESIGN

- What you see is what you get (pragmatic)
- Steel lintels
- Signing



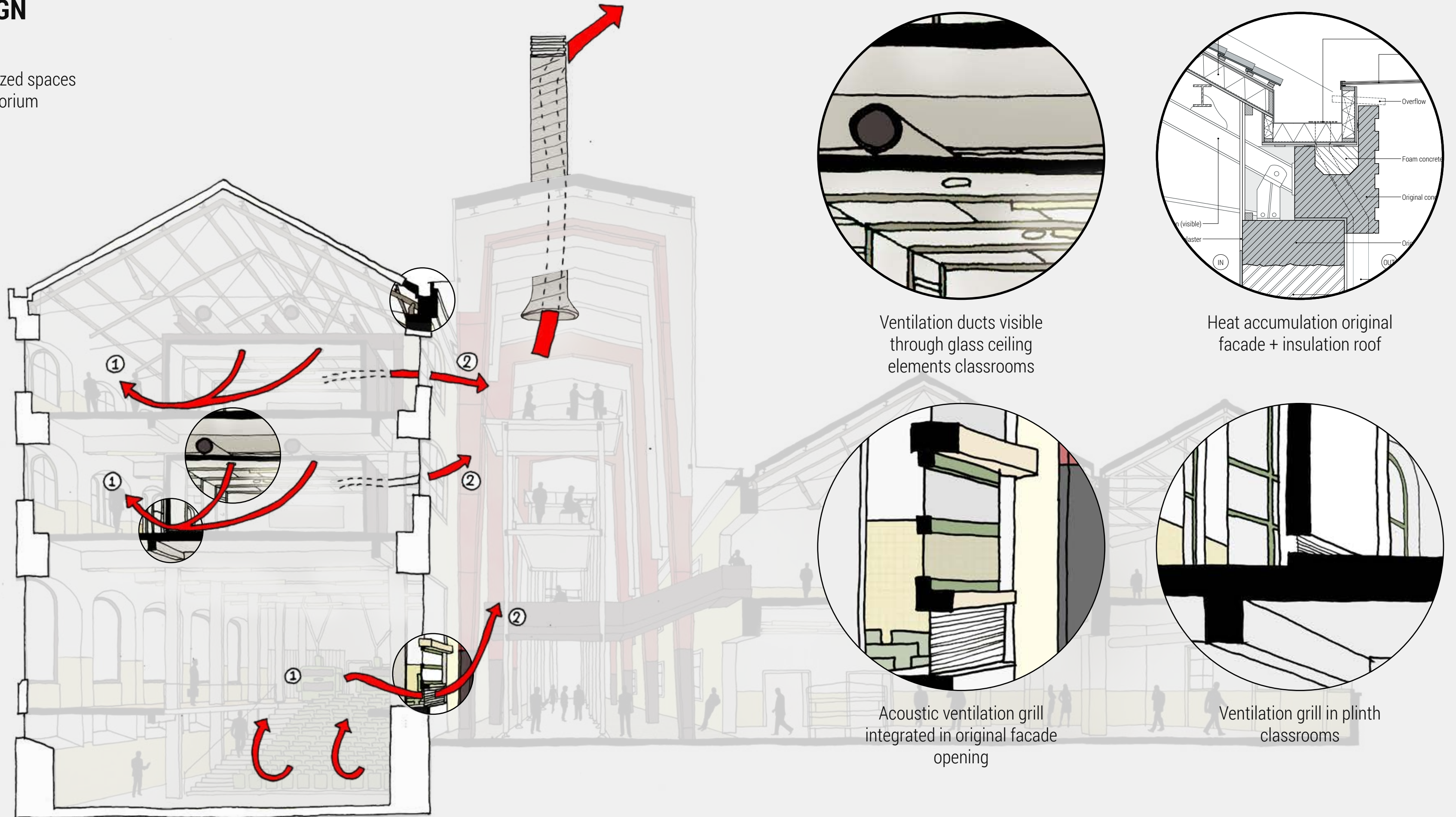
BUILDING DESIGN

- Street central exhaust system



BUILDING DESIGN

- Classrooms as climateized spaces
- Replace windows auditorium



Ventilation ducts visible through glass ceiling elements classrooms

Heat accumulation original facade + insulation roof

Acoustic ventilation grill integrated in original facade opening

Ventilation grill in plinth classrooms

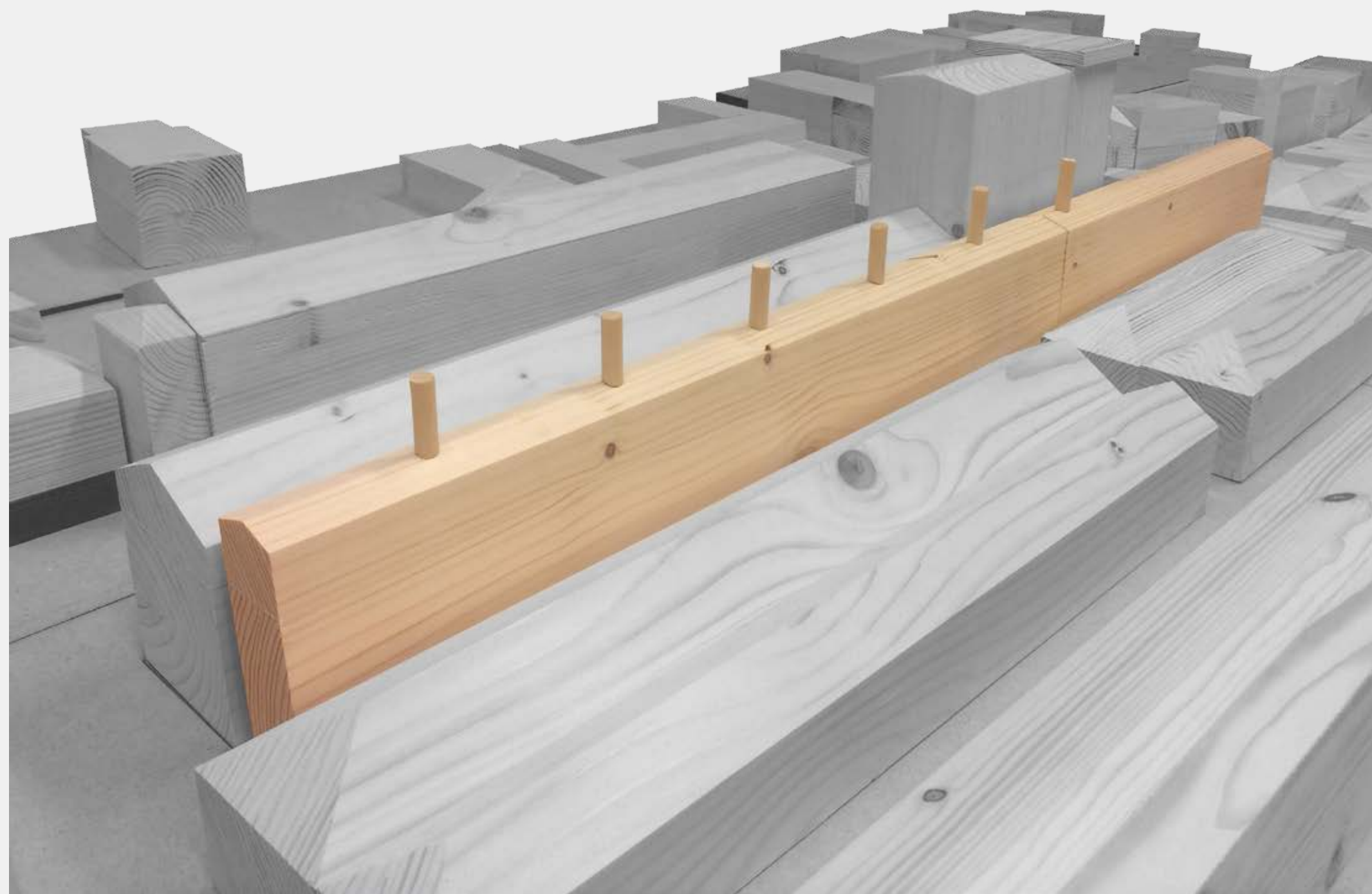


Image

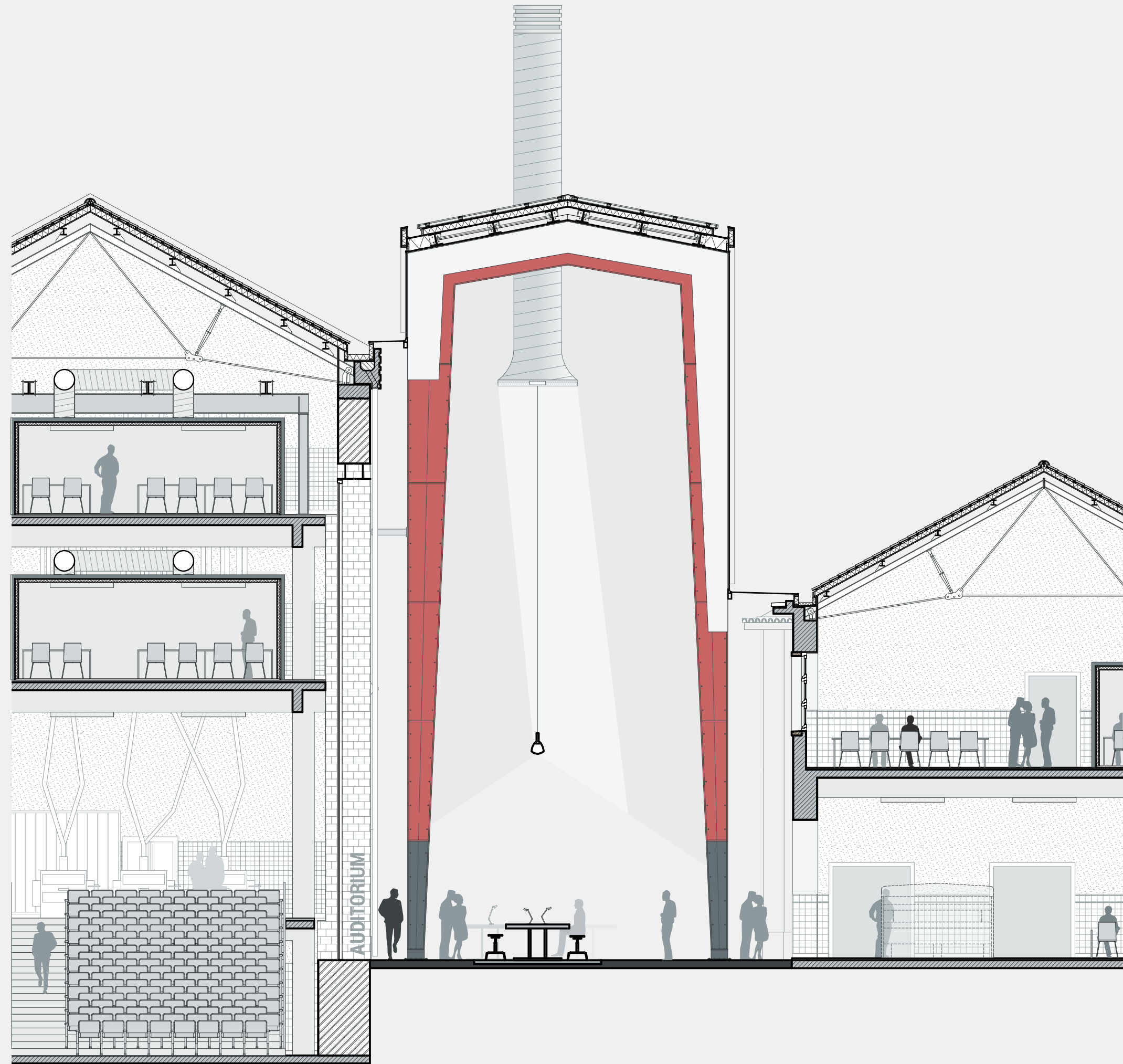
Community College ROC Twente by IAA Architecten (Accessed on March 14th, www.iaa-architecten.nl/projecten/12-community-college-roc-van-twente/)

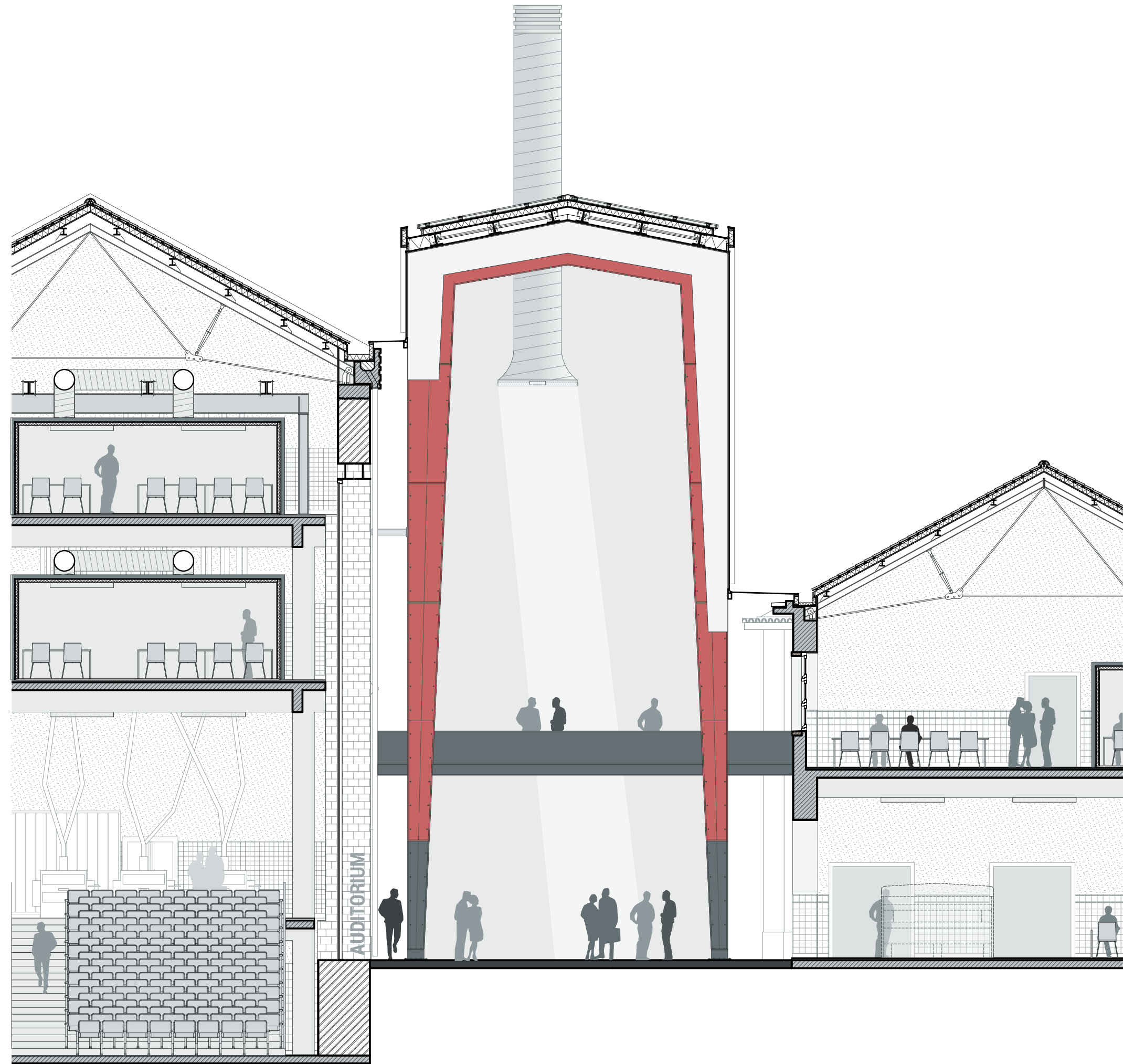


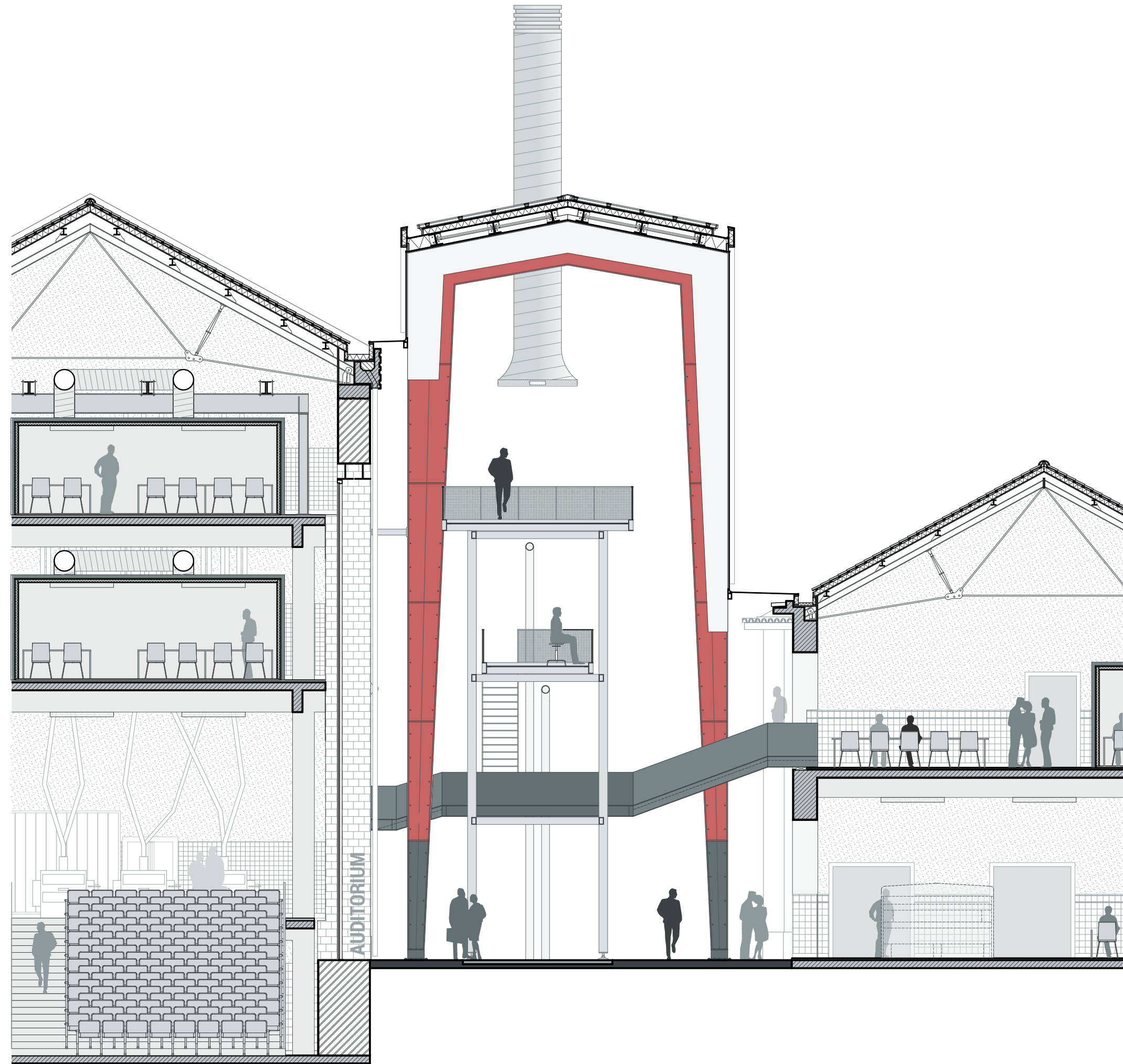
Image
Chimneys bakery (photo by Ruben Klinkenberg, 01-09-2016)





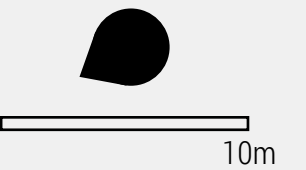






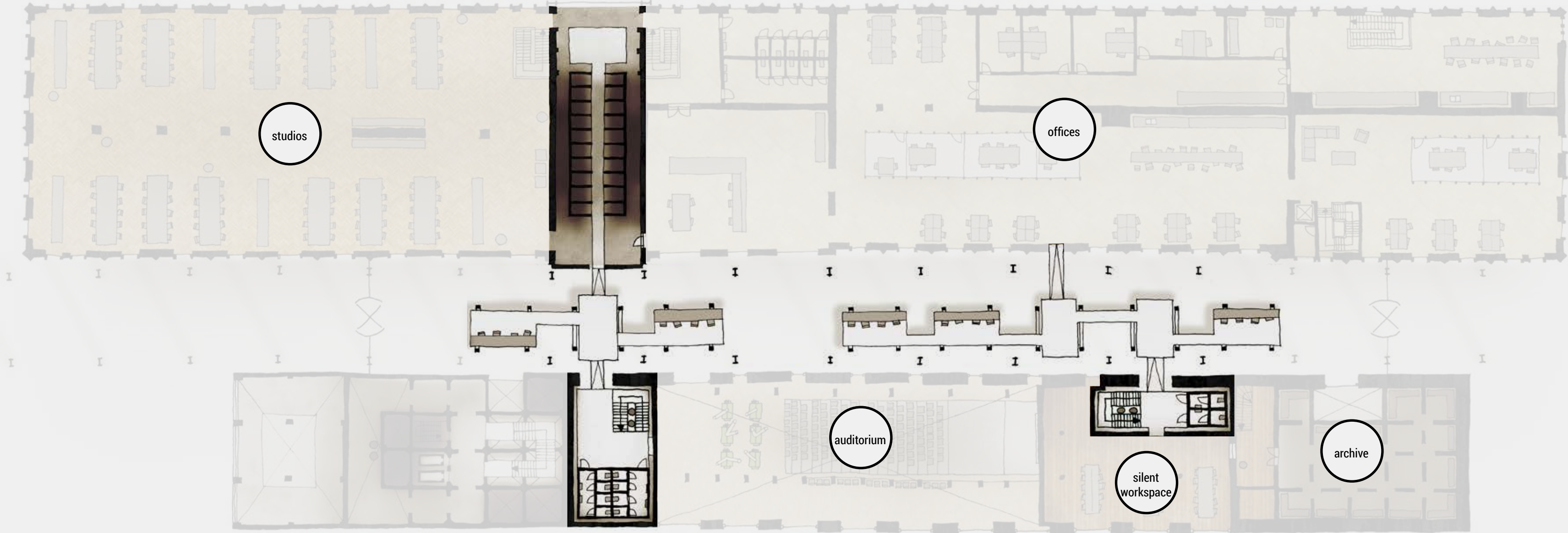
BUILDING DESIGN

- Public functions ground floor
- 'Private' functions first floor



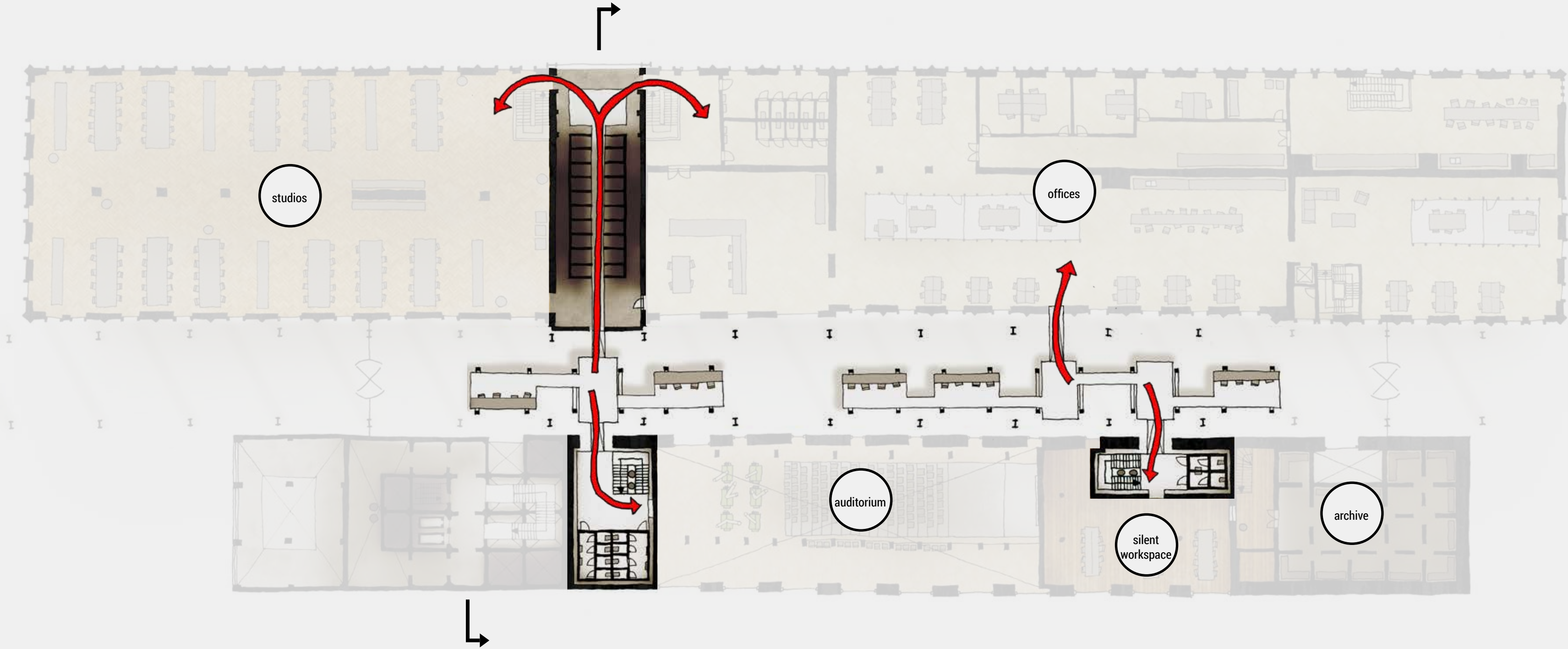
BUILDING DESIGN

- Machinery and structures inseparable
- New structures means new machine
- Introduction 'studentmachine'



BUILDING DESIGN

- Physically connection buildings
- Improve circulation
- Connected to new staircases



BUILDING DESIGN

- Machine integrated in existing buildings
- Silos part of the circulation (distributor)





BUILDING DESIGN

- Asymmetrical position studentmachine
- Buffer
- Emphasize public character street



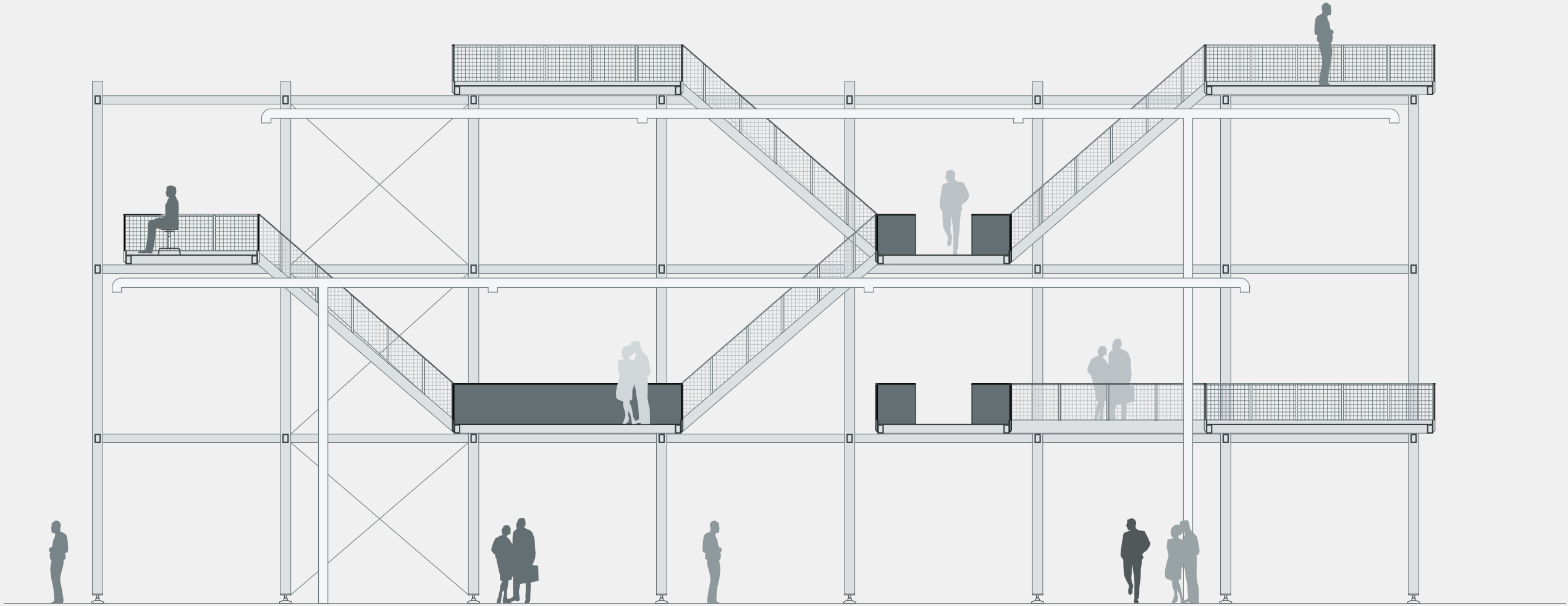
- Position machinery determines use of space



Image
Machinery pasta factory (photo by Ruben Klinkenberg, 01-09-2016)

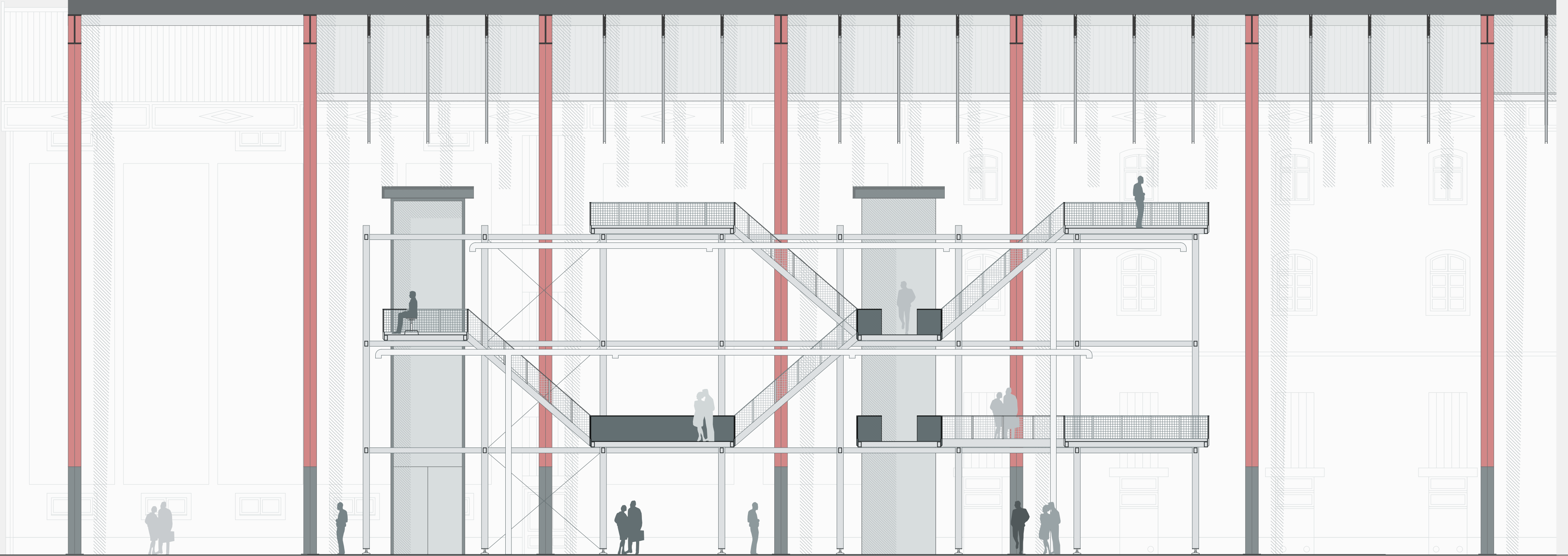
BUILDING DESIGN

- Flexible framework with workspaces



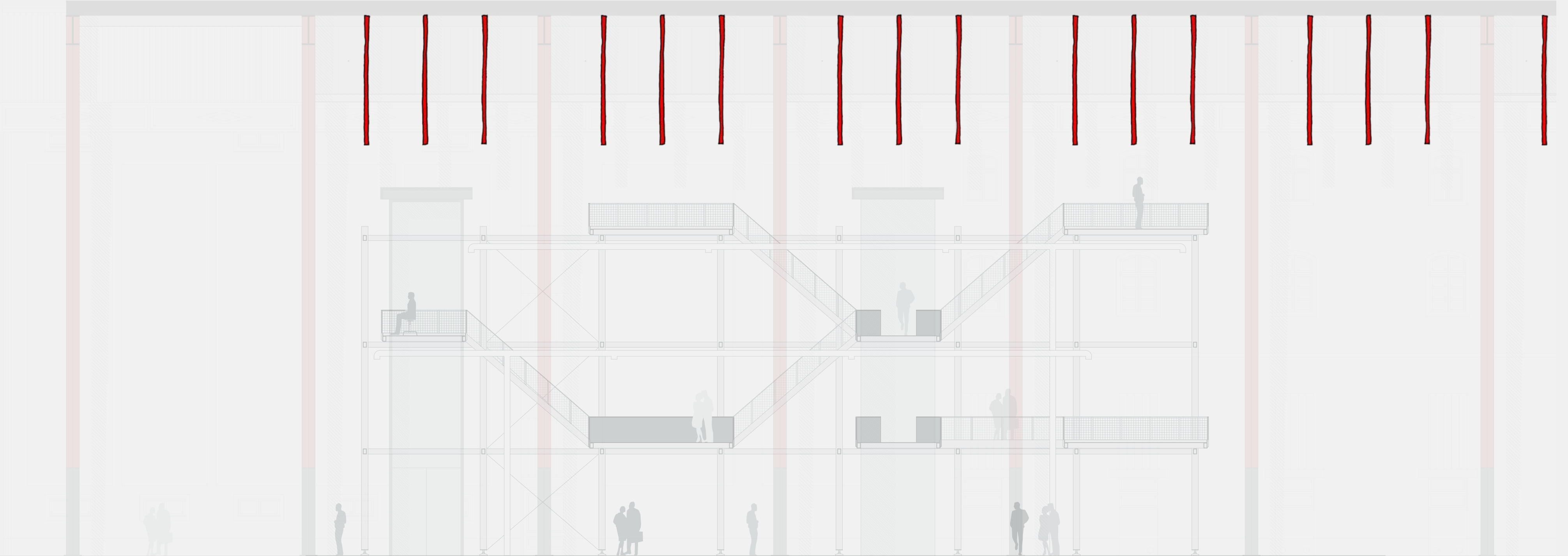
BUILDING DESIGN

- Machine and street part of the same grid
- Physical connections



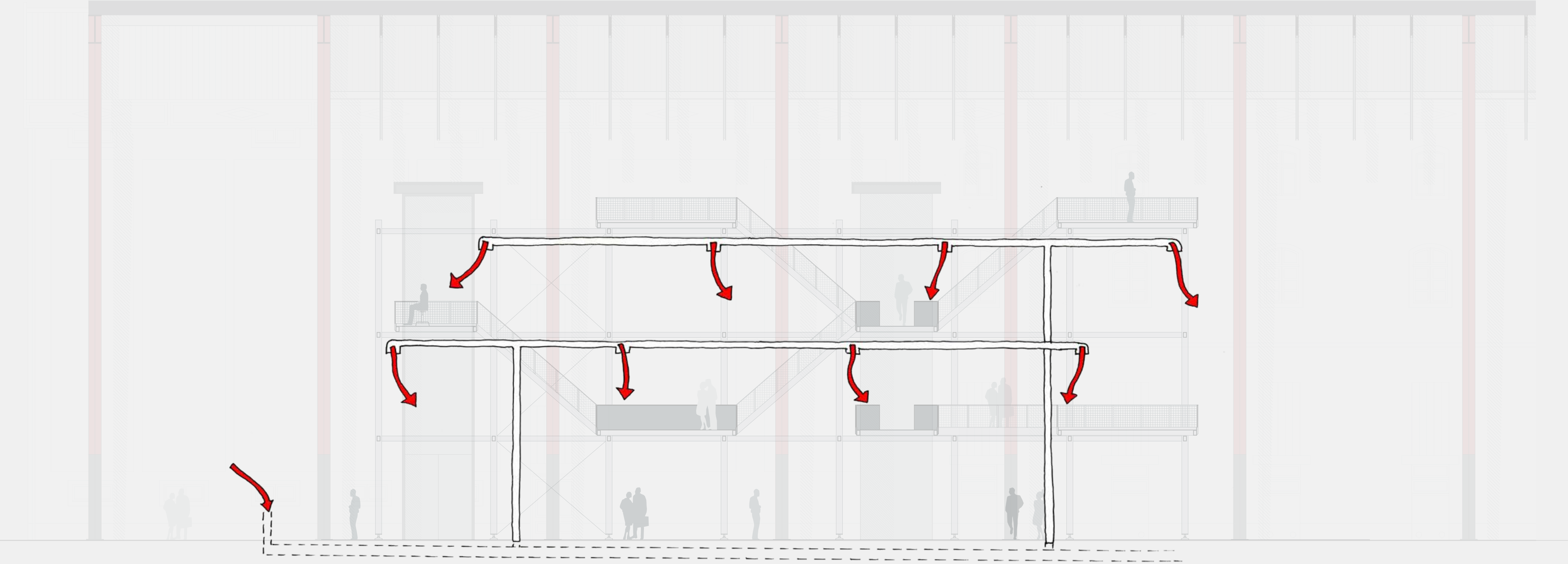
BUILDING DESIGN

- Street place to stay
- Acoustic ribs

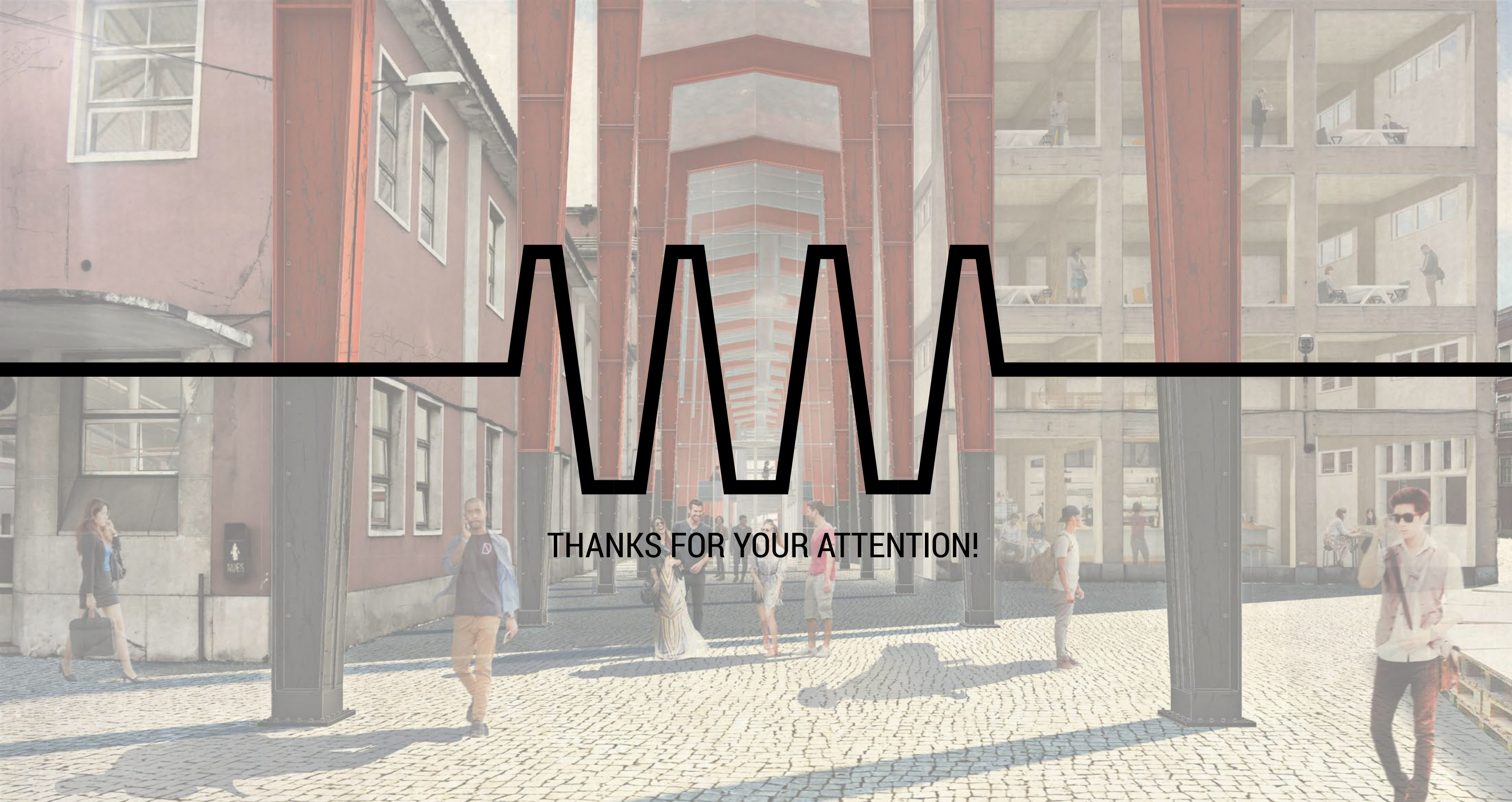


BUILDING DESIGN

• Earth ducts







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THANKS FOR YOUR ATTENTION!