

KATOENVEEM RECONNECTED

RESEARCH AND DESIGN OF KATOENVEEM (KEILESTRAAT 39, ROTTERDAM)

P5 PRESENTATION_25JAN2018//XIHAO YI_4506995 // TUTORS=ALEXANDER DE RIDDER+FRANK KOOPMAN+SARA STOUX

- 1/ URBAN CONTEXT
- 2/ EXPERIENCE
- 3/ ANALYSIS
- 4/ CULTURE VALUE
- 5/ DESIGN

1/ URBAN CONTEXT

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Imagery ©2017 Google, DigitalGlobe, Aerodata International Surveys, Map data ©2017 Google 200 m

BETWEEN 2 CITIES

Distant from city centers, no direct public transportation access. No major public buildings nearby.

At the end of the pier, close to the New Maas River.



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THE MERWE-VIERHAVENS

Historical harbor area

New functions happening in the industrial environment

Future housing and urban economy area

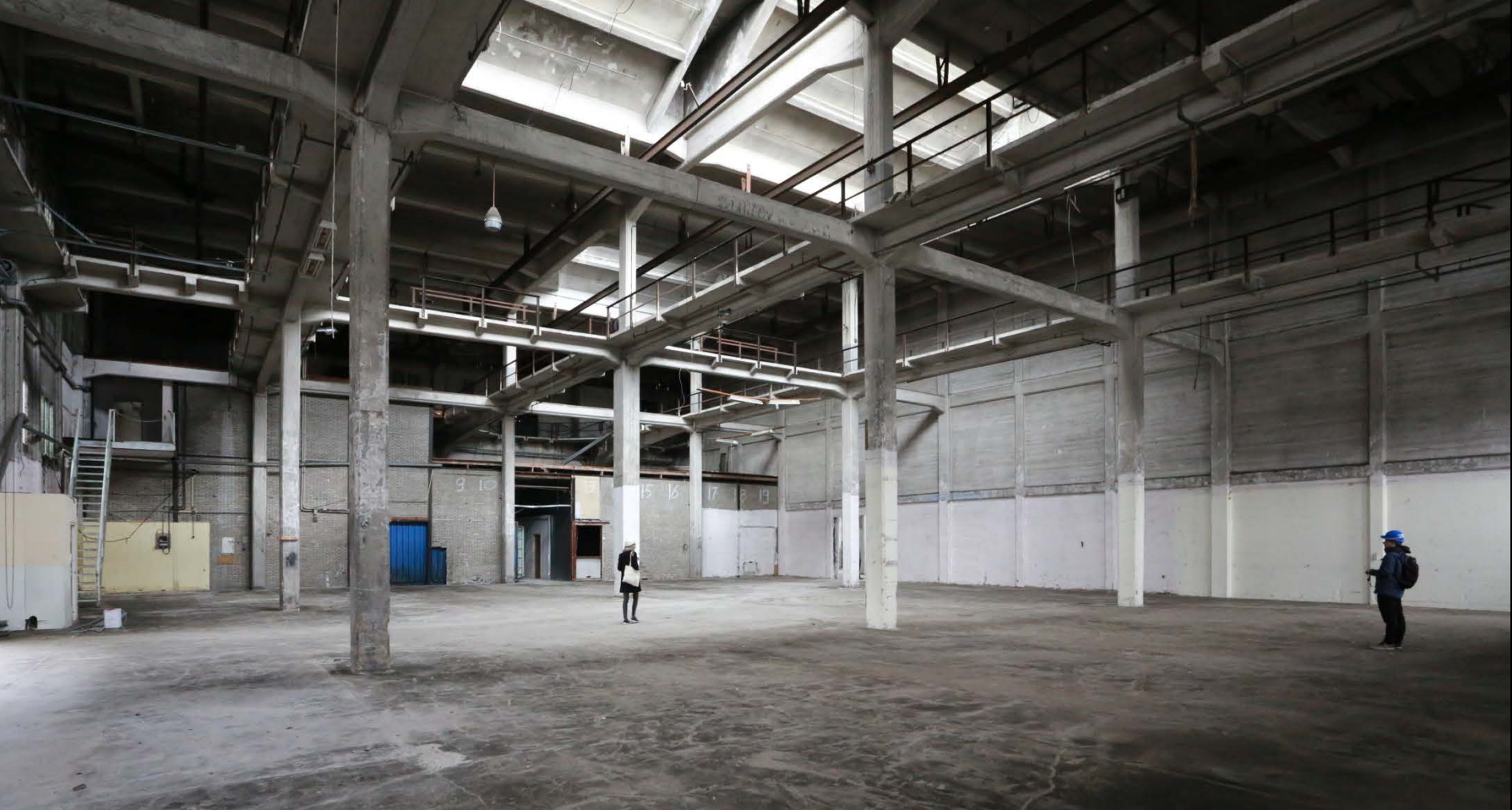
1/URBAN CONTEXT
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IMAGE : FREE STANDING FIGURE



EXTERIOR: CLOSED , REPETITIVE AND LONG



INTERIOR : SEPARATED GRID SPACE WITH SKYLIGHTS

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1920

Construction of the cotton warehouse



~2005

Storage for other goods



1916

Establishment of Katoenveem by entrepreneurs

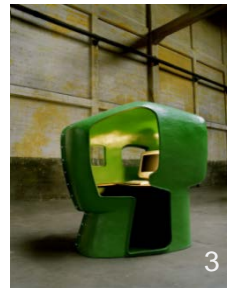


1964

End of cotton storage

1995-?

Atelier Van Lieshout



2017

Empty monument



BRIEF TIMELINE

1920-1964 was the functional period of the Katoenveem as the cotton warehouse, hence it is also the focus of the analysis.

Source:1,2,4. M. Enderman and R. Stewart, *Bouwhistorische Verkenning Katoenveem*, Keilestraat 39 Rotterdam, Utrecht(2005), p38

3. <https://www.lensvelt.nl/en/lensvelt-avl-skull-atelier-van-lieshout-4>-<https://www.lensvelt.nl/en/lensvelt-avl-skull-atelier-van-lieshout-4-3-2/3-2/>



KATOENVEEM IN ITS PRIME

Birds view Keilehaven 1937

Source: <http://www.vertrekehaloranjelij.nl/historie/trefwoord/keilehaven/#222>

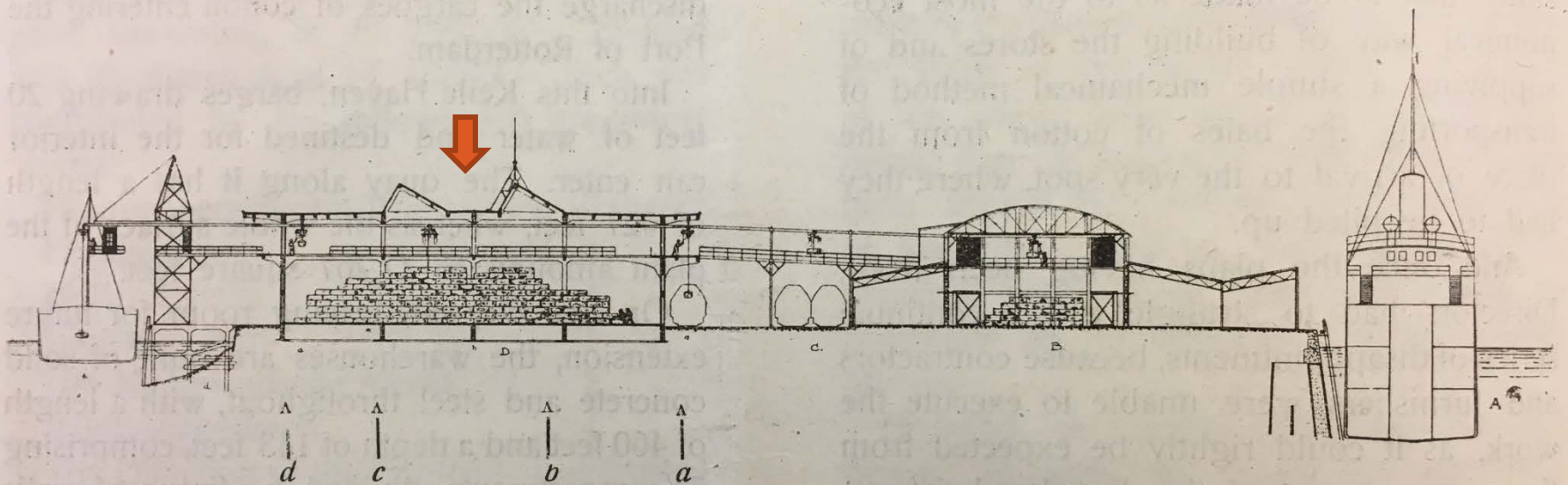


Fig. .5 TRANSVERSE SECTION SHOWING HANDLING OF COTTON.

KATOENVEEM IN ITS PRIME

Source of section: H.H. Van Dam, 'The Cotton Warehouse of Katoenveem', The Pioneer For the Shipping and Trade of the Nethetlands and Her Colonies (1919),p65

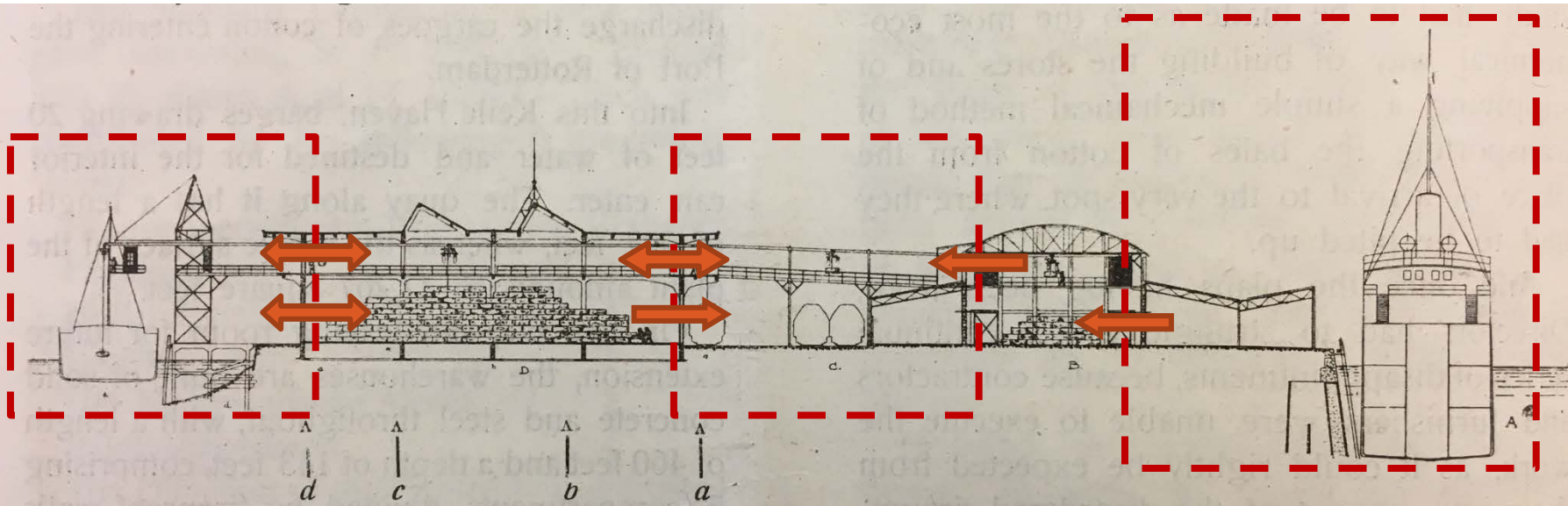


Fig. .5 TRANSVERSE SECTION SHOWING HANDLING OF COTTON.

KATOENVEEM IN ITS PRIME

Source of section: H.H. Van Dam, 'The Cotton Warehouse of Katoenveem', The Pioneer For the Shipping and Trade of the Nethetlands and Her Colonies (1919),p65



BREAKDOWN OF THE COMPLEX

1921 full complex



BREAKDOWN OF THE COMPLEX

1931 Demolition of two former warehouses and connection bridges



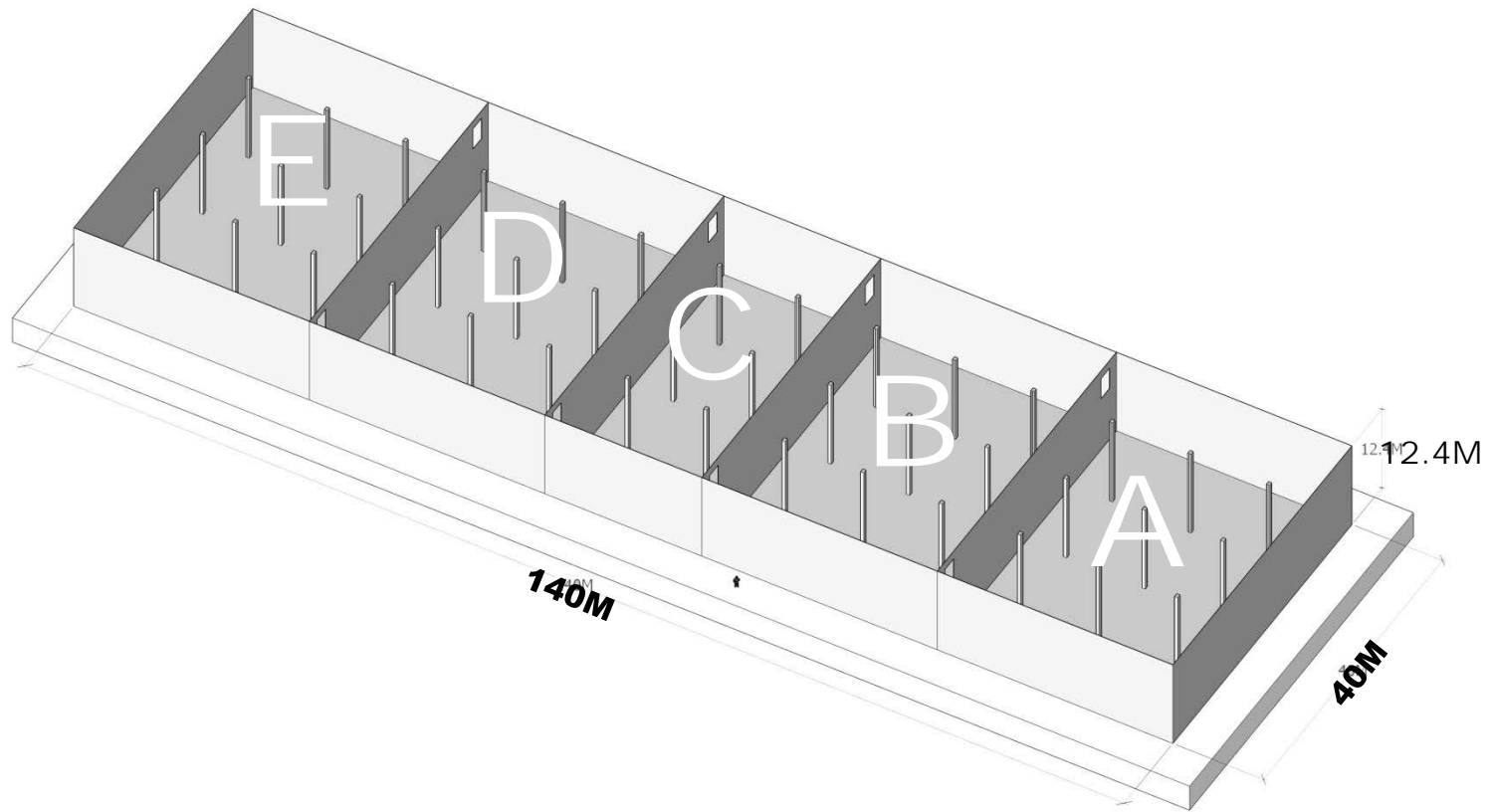
BREAKDOWN OF THE COMPLEX

1964 Demolition of cranes. End of function as cotton warehouse



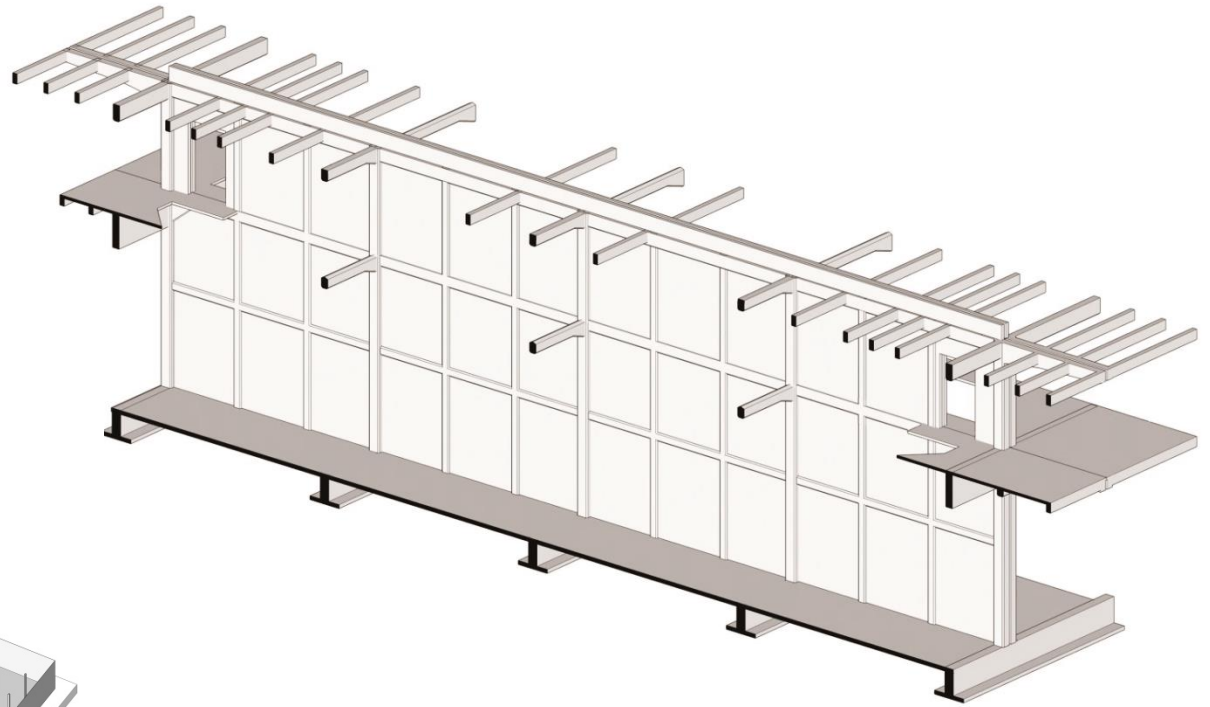
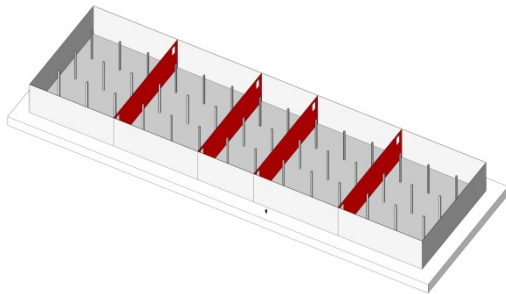
BREAKDOWN OF THE COMPLEX

1966 Demolition of water tower and shed. Katoenveem became an isolated building.



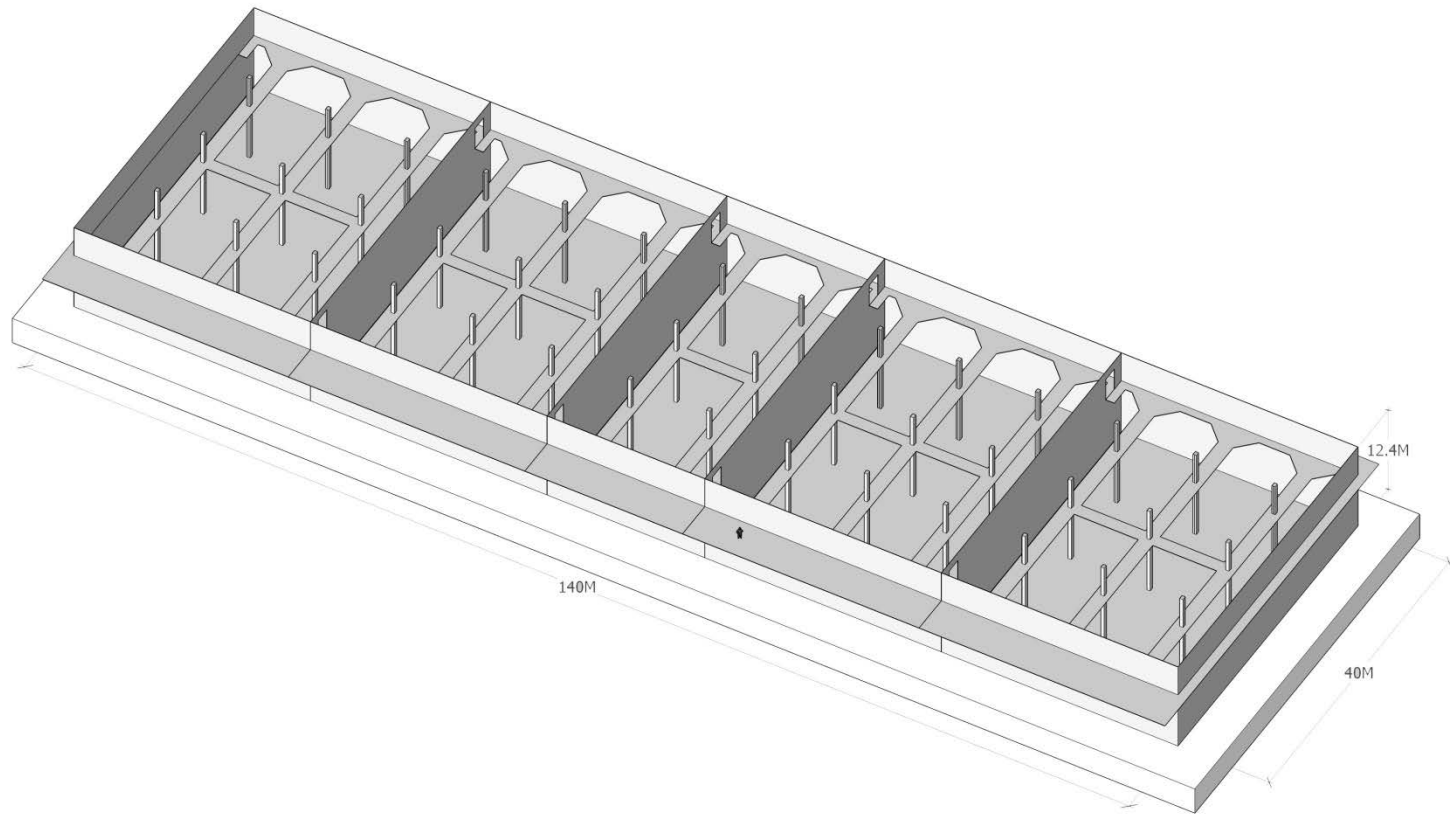
SPECIFIC DESIGN FOR COTTON

Dimension and Separated 5 compartments



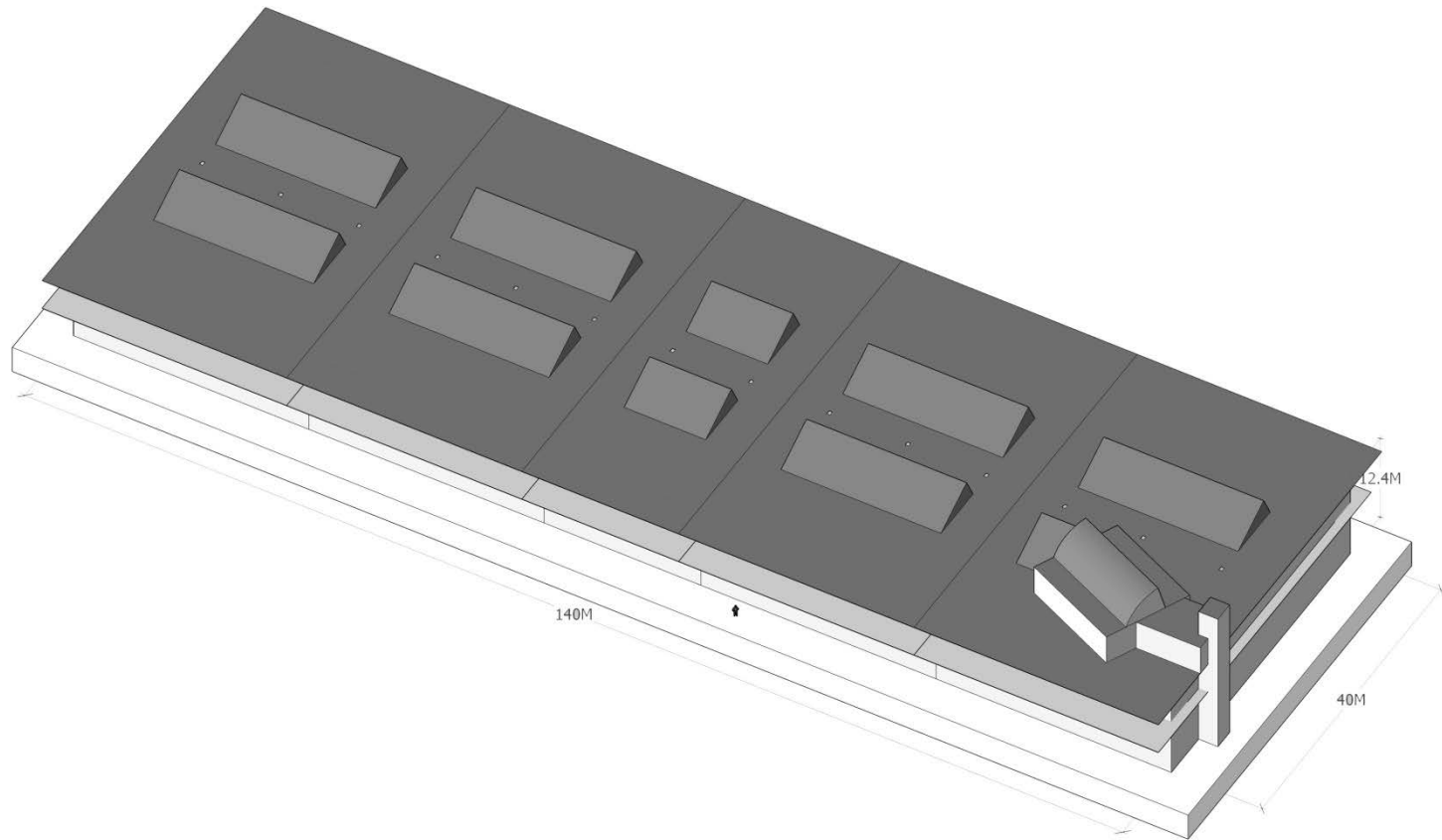
SPECIFIC DESIGN FOR COTTON

Compartment walls



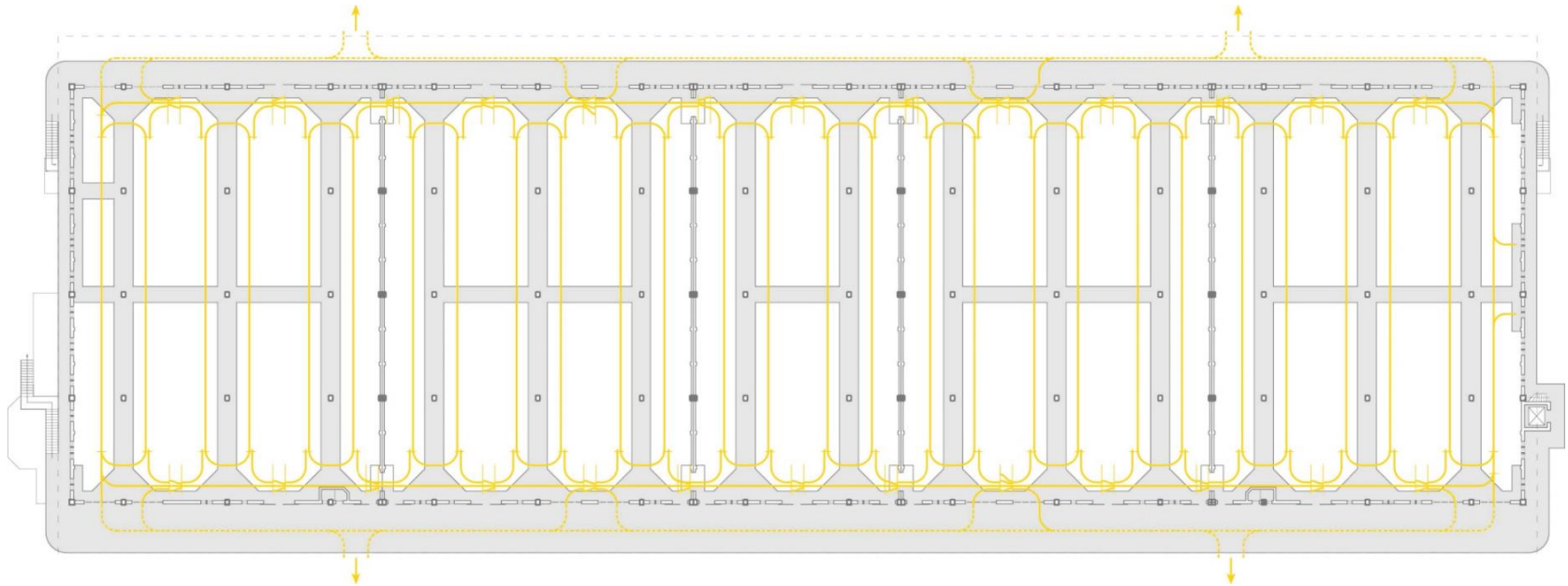
SPECIFIC DESIGN FOR COTTON

Walkways on the first floor



SPECIFIC DESIGN FOR COTTON

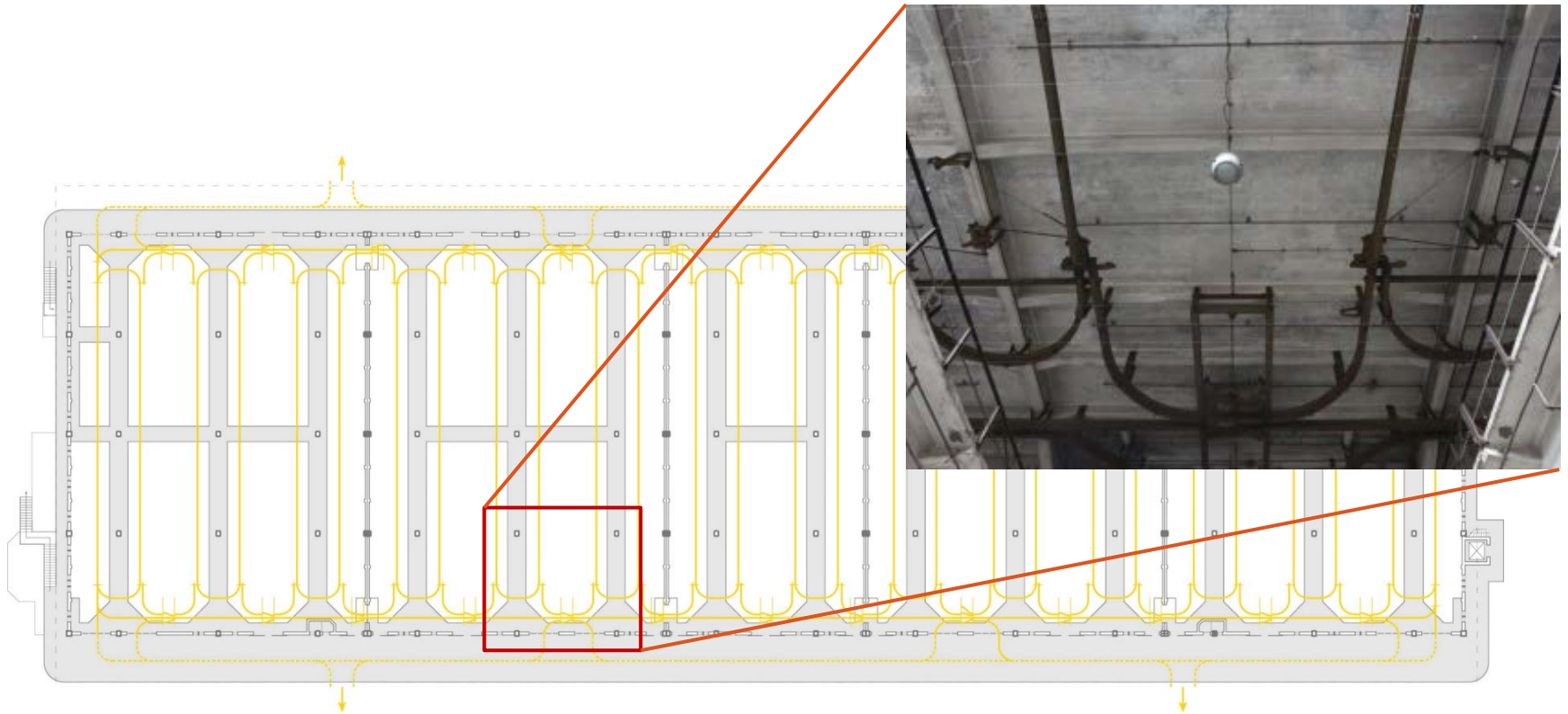
Skylights and a sample room facing north



SPECIFIC DESIGN FOR COTTON

Location of conveyor system by Elmer Pietersma

1966 Demolition of water tower and shed. Katoenveem became an isolated building.



SPECIFIC DESIGN FOR COTTON

Location of conveyor system by Elmer Pietersma

1966 Demolition of water tower and shed. Katoenveem became an isolated building.

The Katoenveem **used to be well connected** with its surrounded industrial complex, as well as other linked cities for cotton transportation.

However, with the decay of cotton industry and gradual demolition of the building complex, the very **specifically designed cotton warehouse had become less and less functional.**

At present, the Katoenveem building appears to be an aged, introvert building on the end of the pier. It is **isolated** from its surroundings and the city of Rotterdam/Schiedam. In other words, the Katoenveem is not in its original context and has a serious **dislocation of time and place.**

CONCLUSION OF EXPERIENCE AND ANALYSIS

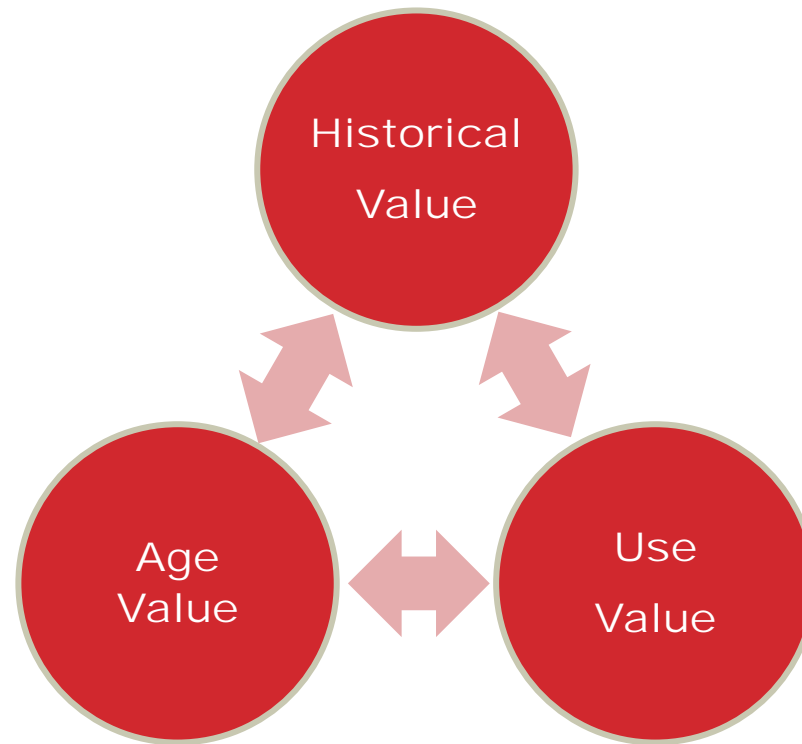
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RIEGL X BRAND	AGE	HISTORICAL	USE	ART	RARITY	BELEVINGS- WAARDE
SURROUNDING SETTING	 Creative restored buildings in the area	 Traces of stone walls Level of existing Part of the harbor	X	X	X	 Landscape plan Level of historical activity Historical site
SITE	 Traces of restored buildings	 Traces suggest a complex The area part are still some foundations showing traces of an old infrastructure Old perimeter of the concrete wall still remain	 The pier is still used regularly using reinforcement of stone and beams	X	 The only system storage in the harbor basin	 Strong before but This system is still active The pier over the water
SKIN	 Steel expansion remains stone and also sign of concrete wall and	 Traces of historically present steel bridge and before the steel gallery Wall present or great stone on walls and doors, which still demonstrate old features How to design to refer to stone expansion, suitable for the original function	X	 Different being used expansion of buildings (extension, renewal, renovation) as a reference to building Traces of steel structures. Even expansion sign on roof structure of	 Expansion to show a first frame to historic and contemporary	 Expansion to show a first frame to historic and contemporary
STRUCTURE	 The structure on the fire resulting continues in the 19th century design of the opening parts of the Katoenveem	 The structure is more or less preserved The structure of the building is directly linked to the original use of the building	 The steel structure design remains visible, which shows structural reinforcement of the concrete frame	X	 Building is constructed. The structure of the building is one of the main reasons for the structure and exterior pattern for the structure The structure is a building, which is a structure, which is a structure, which is a structure	 Structure is very striking and presents the building in a very original structure that is very original
SPACE PLAN	X	 The base plan of the structure is placed using the plan. The structure of the structure is a structure, which is a structure, which is a structure The structure is a structure, which is a structure, which is a structure	X	 With a little extension, the large, all space of each structure building is visible, which is a structure, which is a structure, which is a structure	X	 Without the plan of stone before and the structure of the structure, which is a structure, which is a structure, which is a structure
SURFACES INTERIOR	 Steel expansion remains stone and also sign of concrete wall and	 Traces of structure and frame of concrete structure	X	X	X	 Expand structure through color and materials, which is a structure, which is a structure, which is a structure
SERVICES	 Present original equipment and structure in the center area of structure, lights, steel, which is a structure, which is a structure, which is a structure	 All original equipment and structure, which is a structure, which is a structure, which is a structure	 New present structure and equipment will have a potential of use, which is a structure, which is a structure, which is a structure	X	X	 By the present original equipment and structure, which is a structure, which is a structure, which is a structure
STUFF	X	4 X X	X	X	X	X

GROUP CULTURE VALUE MATRIX

Brand Stewart x Alois Riegl Culture Value matrix for the systematic analysis of Katoenveem.

The Katoenveem has high culture value in general.



MAIN CONFLICTING VALUES

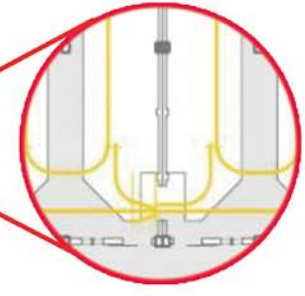
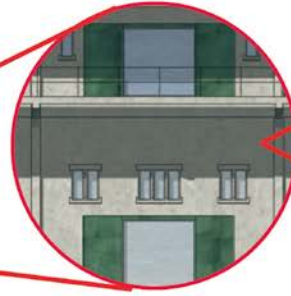
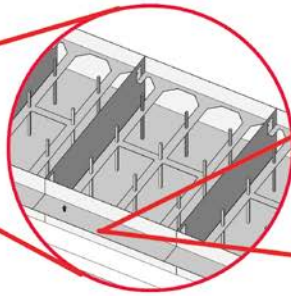
Making changes of the building will spontaneously affect more than one aspects of the culture value, which is a dilemma for design.

complex

space+
structure

surface

service



1 x CV

5 x CV

5n x CV

5n² x CV

CULTURE VALUE IN SCALES PRESERVE THE TANGIBLE AND INTANGIBLE

4 scales of culture value will justify the renovation process and clarify how the specific culture value is affected by it.

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HOW TO **RECONNECT** THE ISOLATED KATOENVEEM WITH ITS SURROUNDINGS AND PRESENT URBAN LIFE ?

RESEARCH QUESTION

Katoenveem is not in its original context and has a serious dislocation of time and place, which has resulted in its isolation. Therefore, the design concept is to reconnect the isolated and closed cotton warehouse to its surroundings and present-day urban life.



CURRENT MASTERPLAN



- Restore the sense of complex
- Center of the community
- Connection with surroundings
- Place for multiple purposes



MASTERPLAN

- 1/main axis
- 2/pedestrian loop
- 3/waterbus station
- 4/sightseeing deck
- 5/park
- 6/pedestrian bridge
- 7/outdoor exhibition
- 8/underground parking

0 50m



COMPOSITION



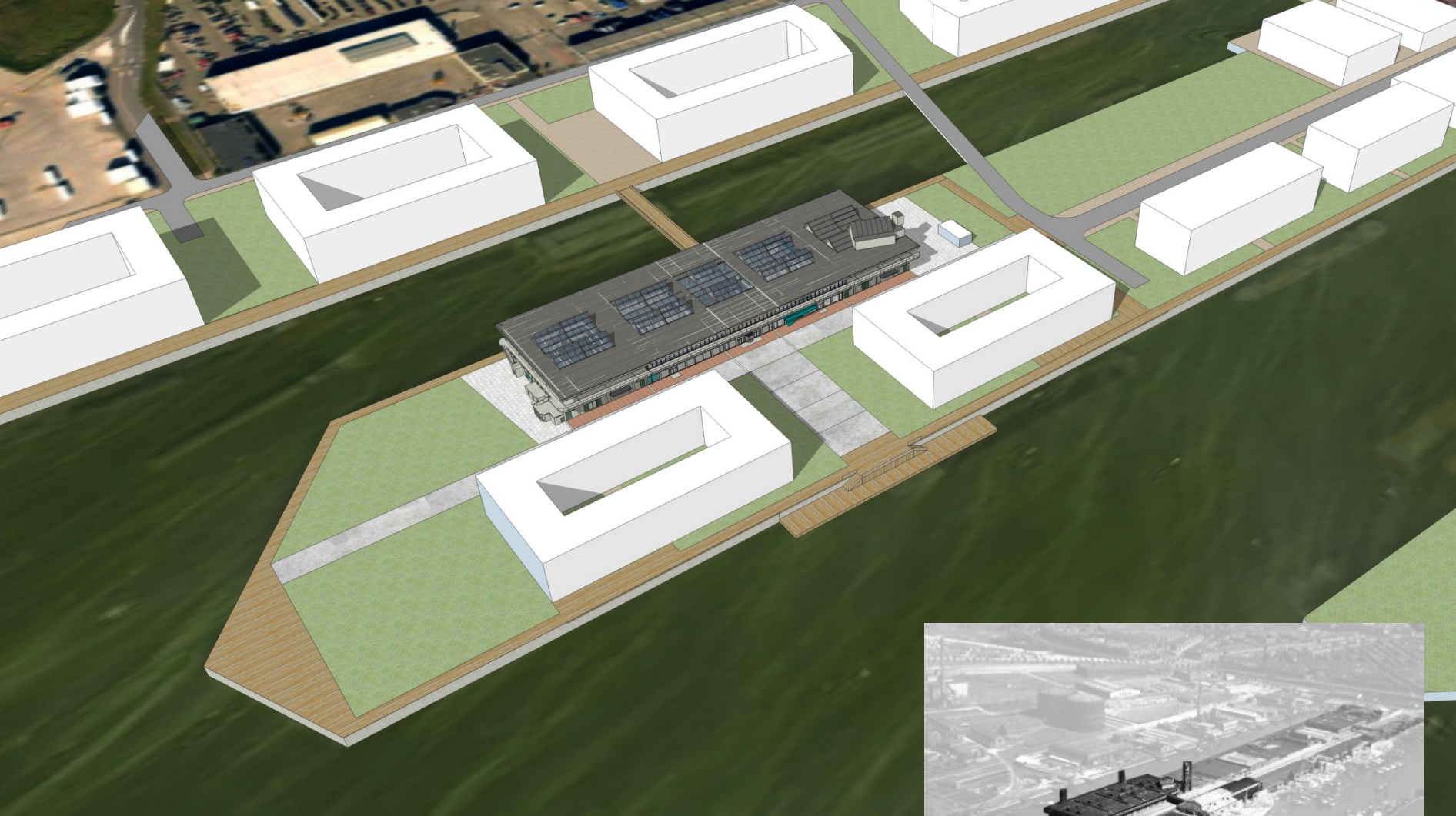
TRANSPORTATION



TRANSPORTATION



BIRDSVIEW

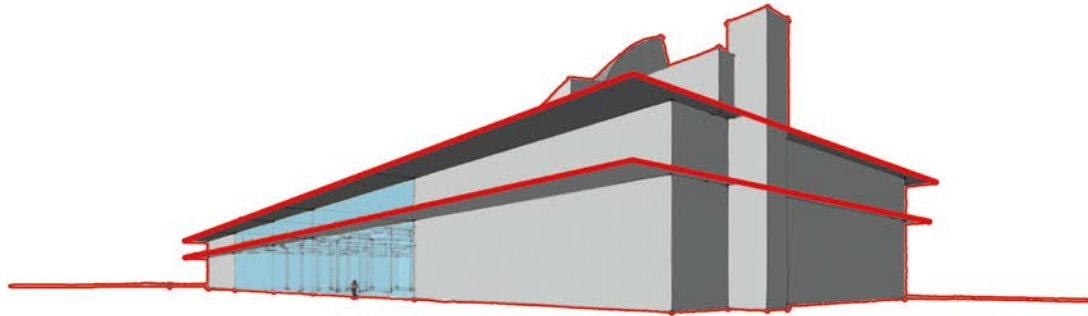
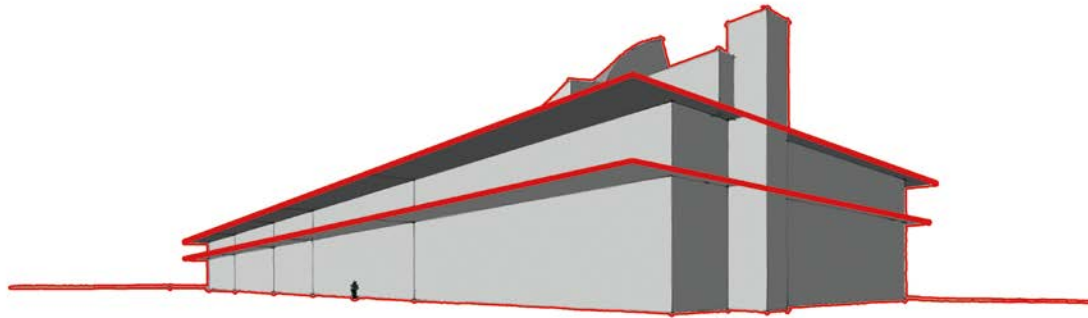


BIRDSVIEW



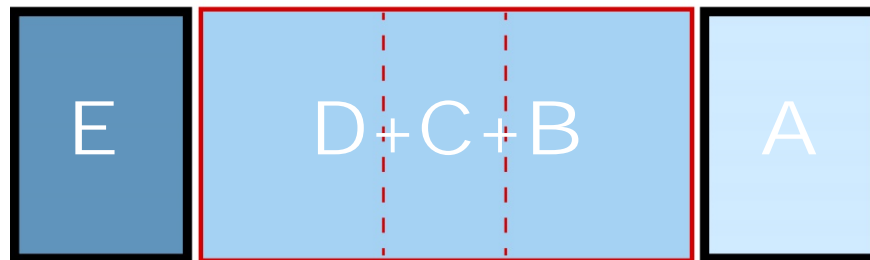
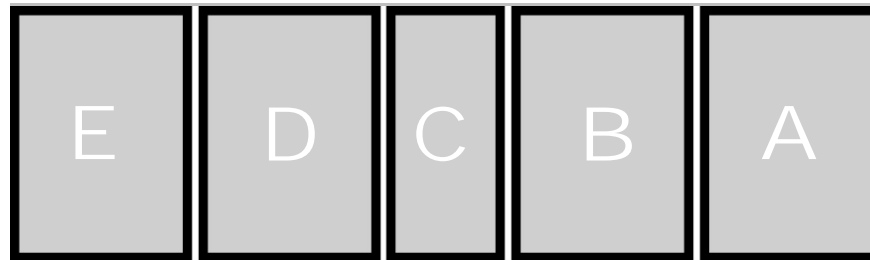


VIEW FROM SOUTH



CLOSE → OPEN

Opening up the middle part of the north and south façade makes the building not unreadable anymore. The transition between inside and outside is more smooth. This operation has maintained the contour of the building and hence the horizontal characteristic remains.



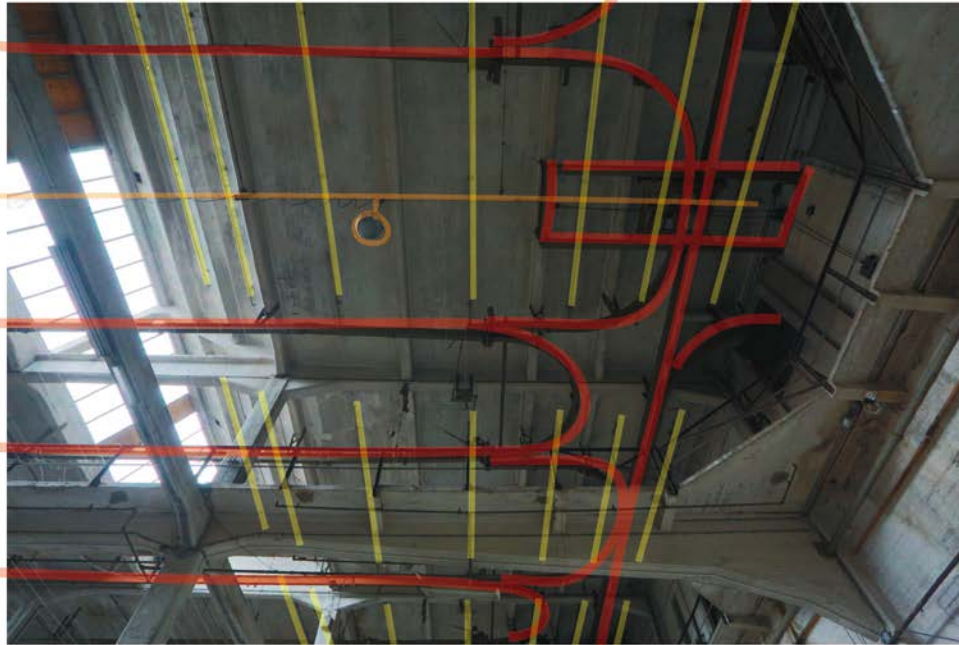
5 COMPARTMENTS → 3 COMPARTMENTS

With the demolition of 2 compartment walls in the middle, compartments B,C and D merge into one big compartment where more possibilities will happen. While compartment A is chosen as a representative of the compartmentation.



REPETITION → VARIATION

Part of the repetitive facade, mainly on the south and north façade, are to be replaced by transparent curtain wall.



SERVICES STAY

The services of the Katoenveem, including the conveyor system, sprinkler system, and moveable lights stay as vivid evidence of the original functionality.



RECONNECT BY RE-PROGRAM

Reference : Sesc Pompeia in Sao Paulo by Lina Bo Bardi.

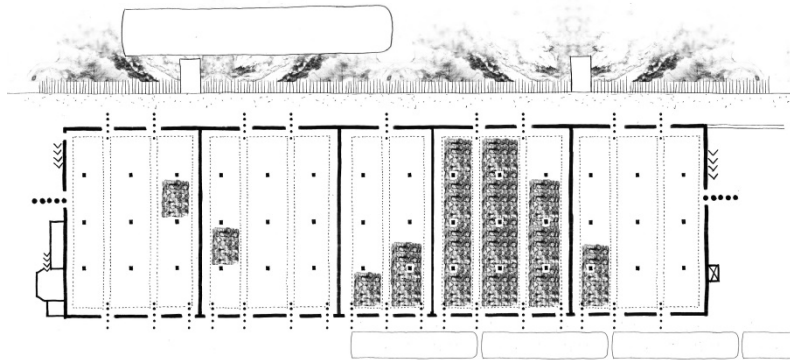
With limited architectural intervention, the project was successful because of the reprogramming.



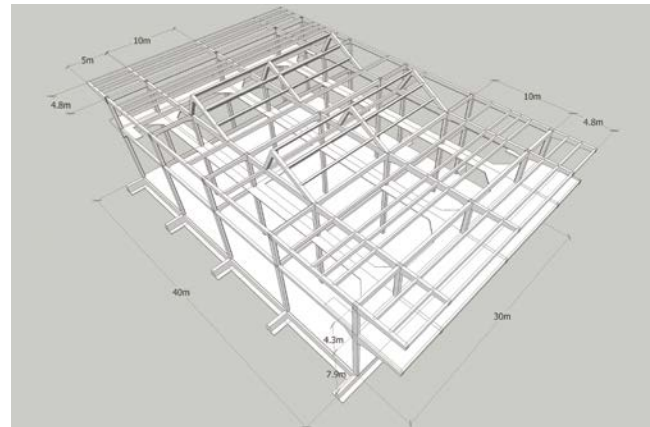
Architectural qualities



Center of community

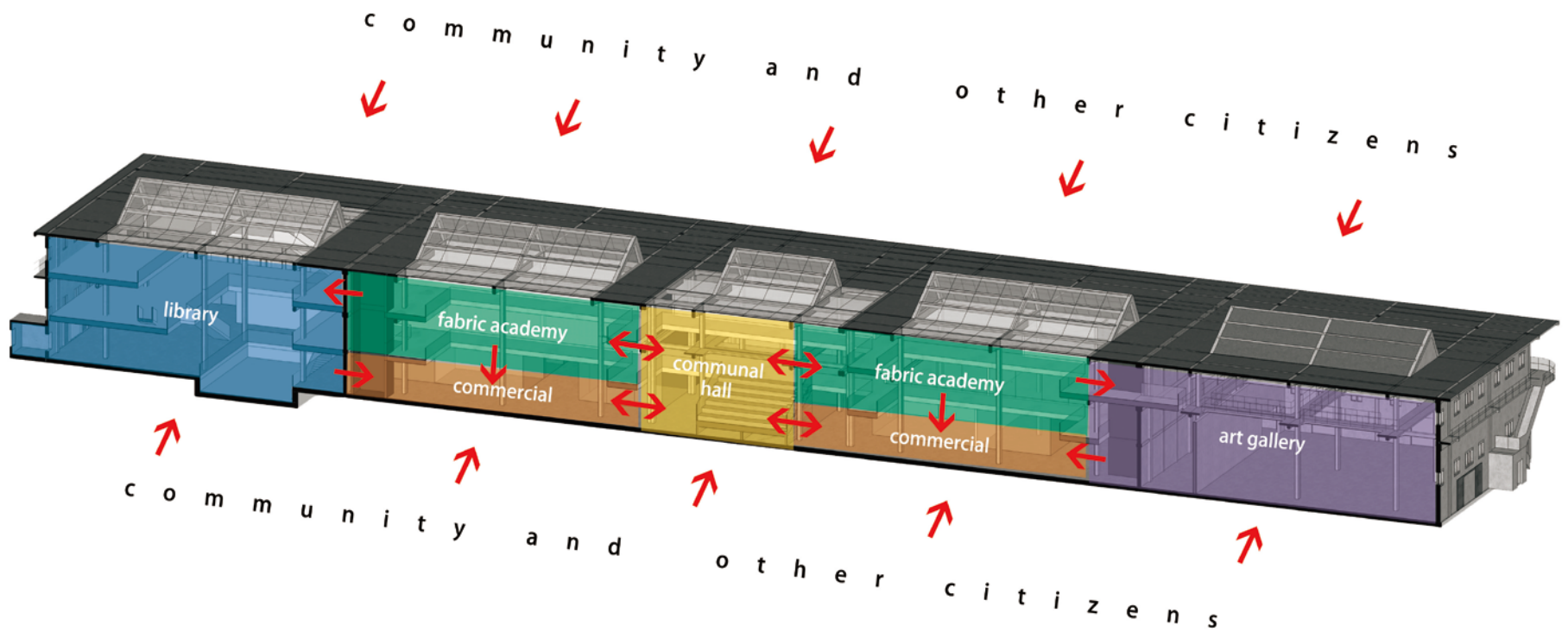


Historical use



Structural qualities

4 ASPECTS OF RE-PROGRAMMING



RECONNECT BY RE-PROGRAM

Library + Art school + Community commercials + Art gallery

Various programs used by different kinds of people makes the building a public center.



Techniques & yarns

The Textile has 6 different techniques . In addition, the Lab has an extensive collection of basic yarns . Read more about the different techniques and the kinds of yarn that the Lab.

WHAT IS THE FABRIC ACADEMY ?

The Fabric Academy involves with full-time fabric art education for students and part-time workshop for the public. The products of participants can be exhibited in the communal hall and the gallery.

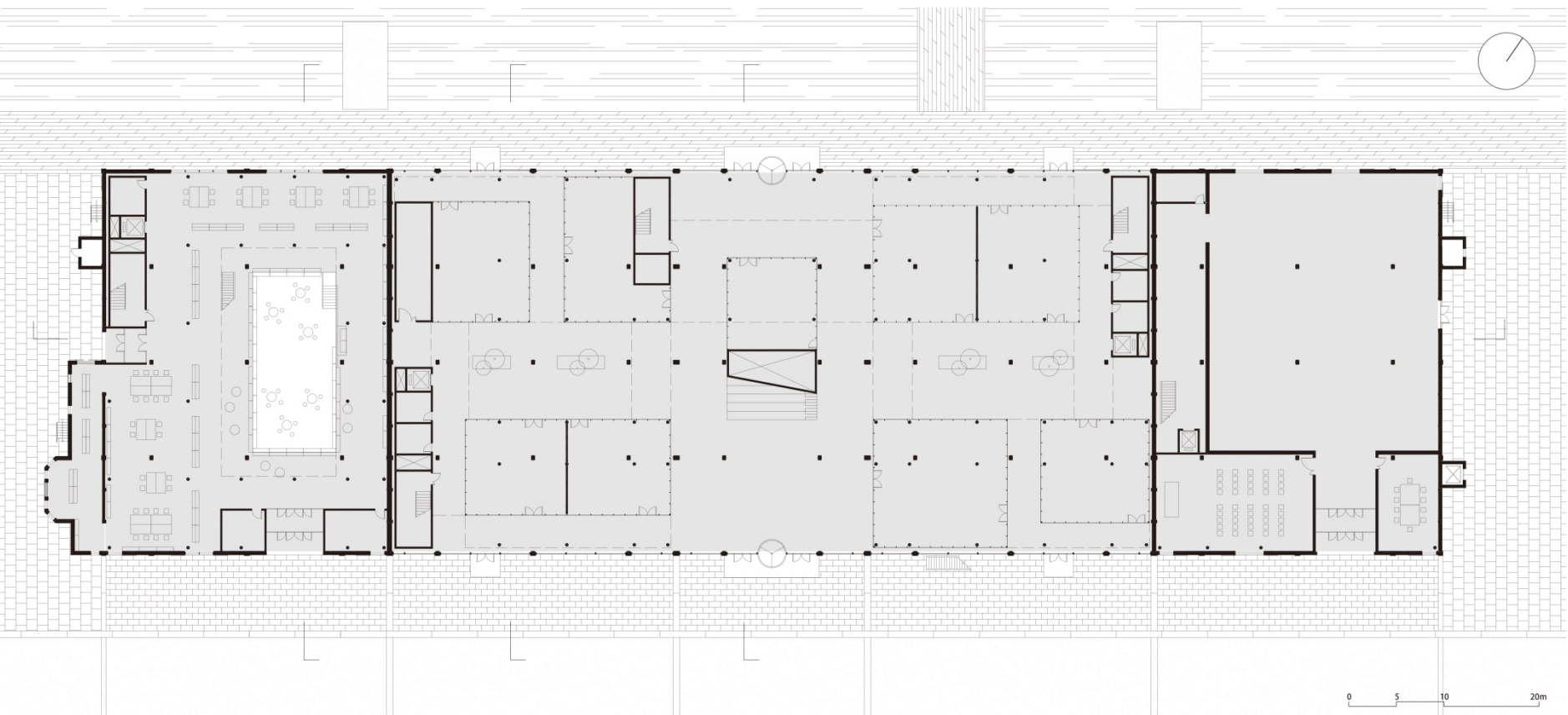
Image above: TextileLab of Textile Museum in Tilburg Source : http://www.textiellab.nl/uploads/pages/large/2013-008-019_1040x450px.jpg



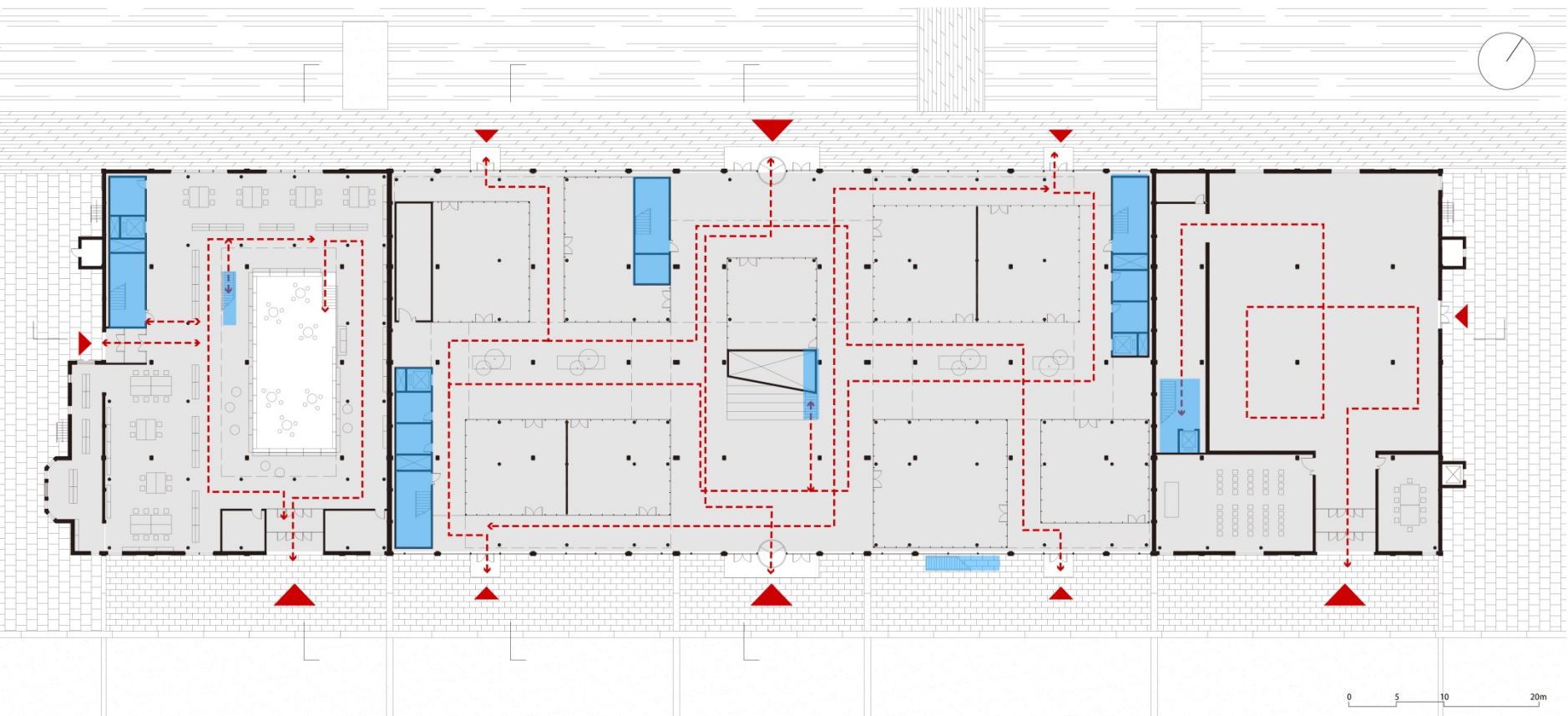
SPACE IMPRESSION

Distinctive impressions in compartments

Stuttgart City library--IMD Rotterdam--Center of Brain in Germany--IMD Rotterdam--Museum Punta della Dogana in Venice



GF PLAN +0.150



GF PLAN +0.150



EAST FACADE



SOUTH FACADE

0 _____ 10m



VIEW FROM STREET

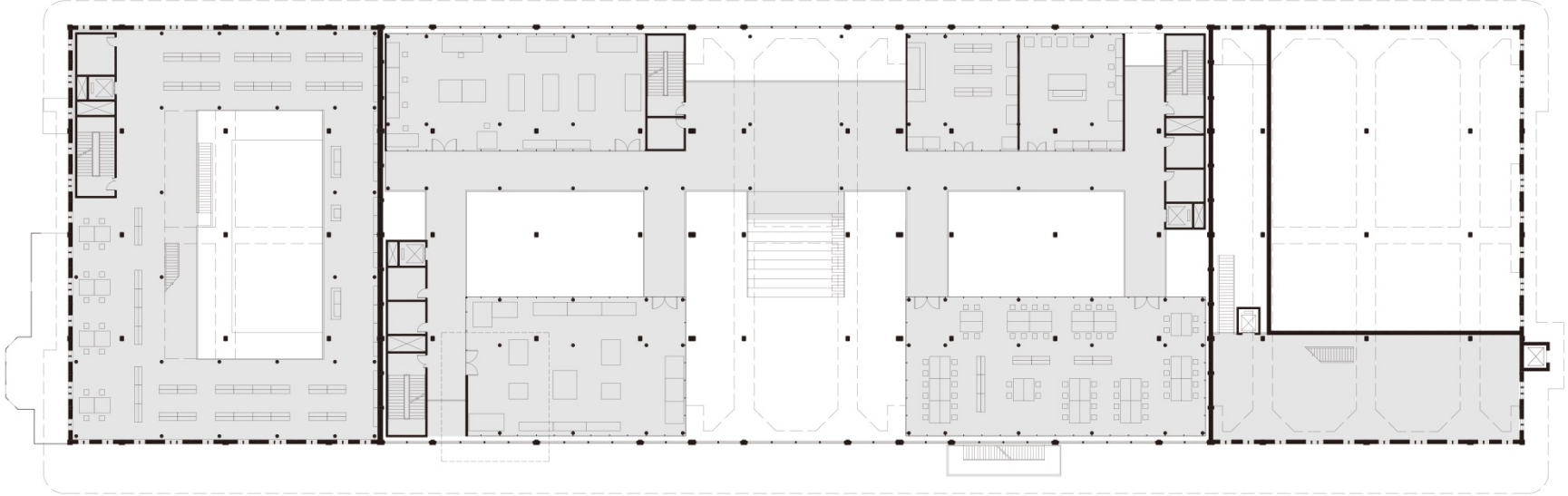


COMMUNAL HALL



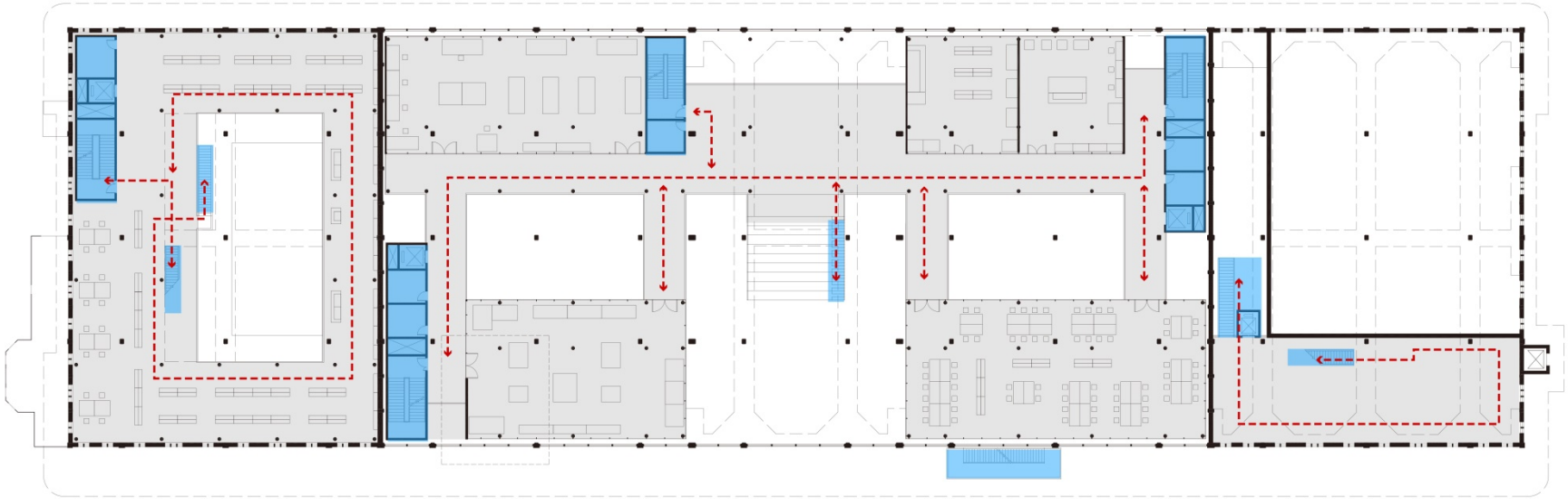
GALLERY

1F plan 1/200 floor height=3.900



1F PLAN +3.900

1F plan 1/200 floor height=3.900



1F PLAN +3.900



ATRIUM

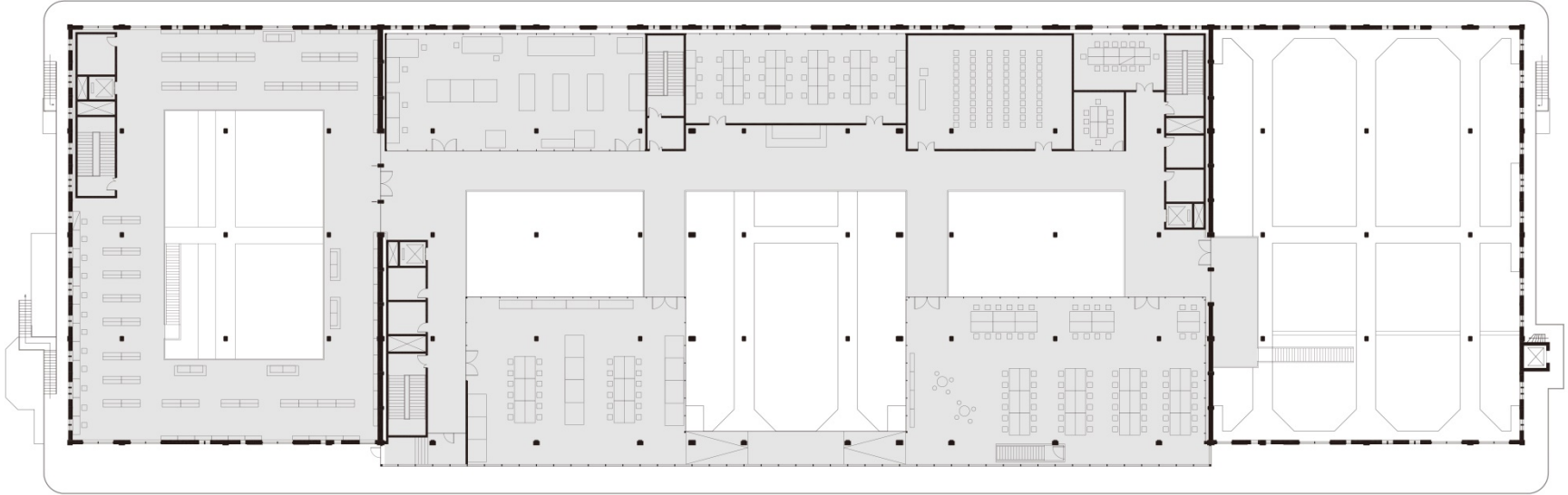


STUDIO



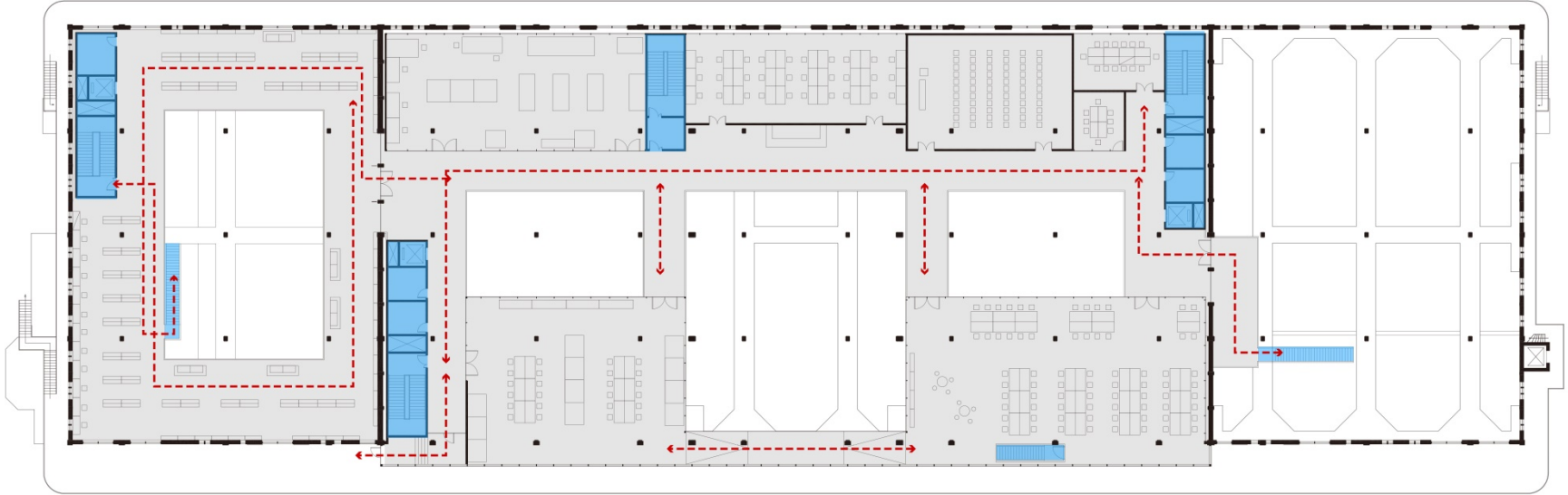
LIBRARY

2F plan 1/200 floor height=8.700



2F PLAN +8.700

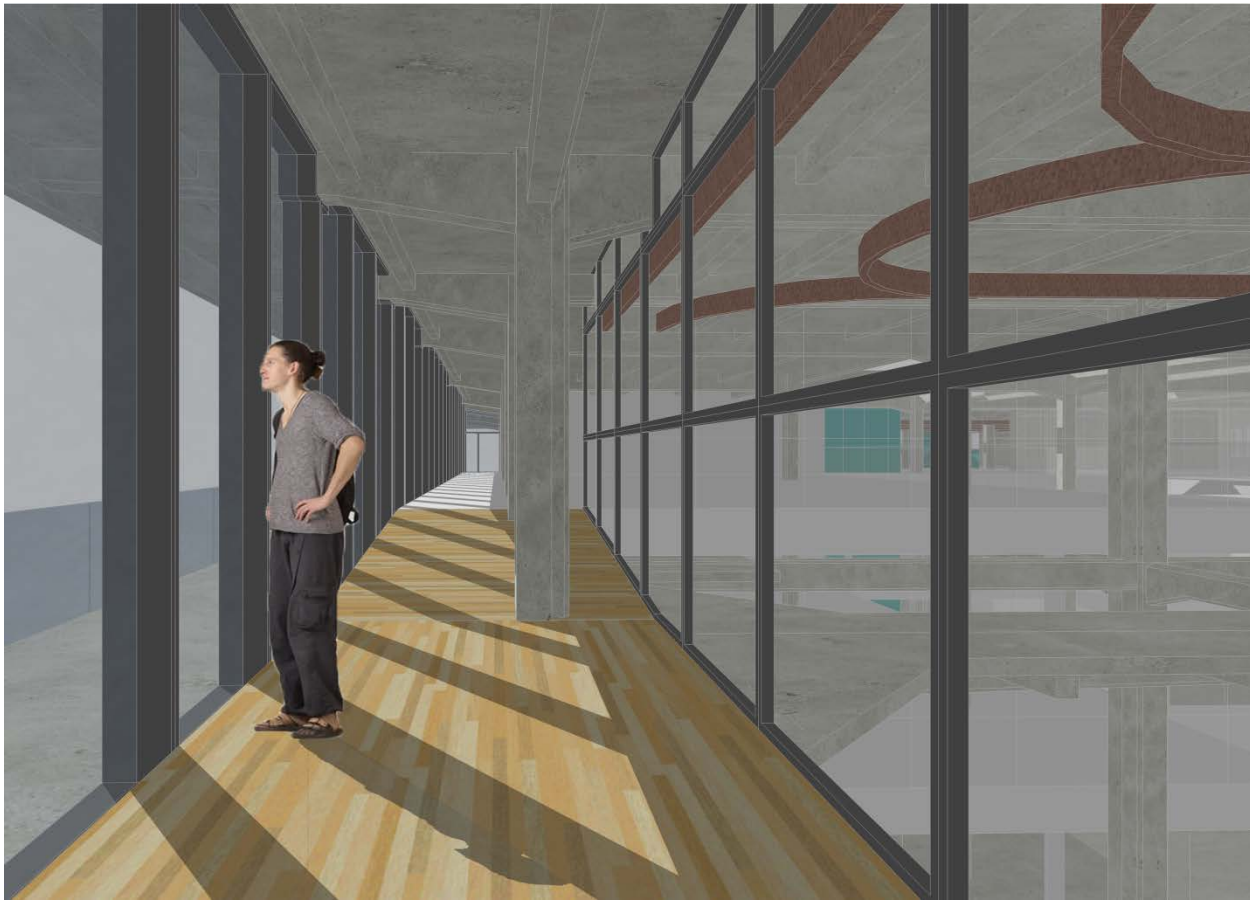
2F plan 1/200 floor height=8.700



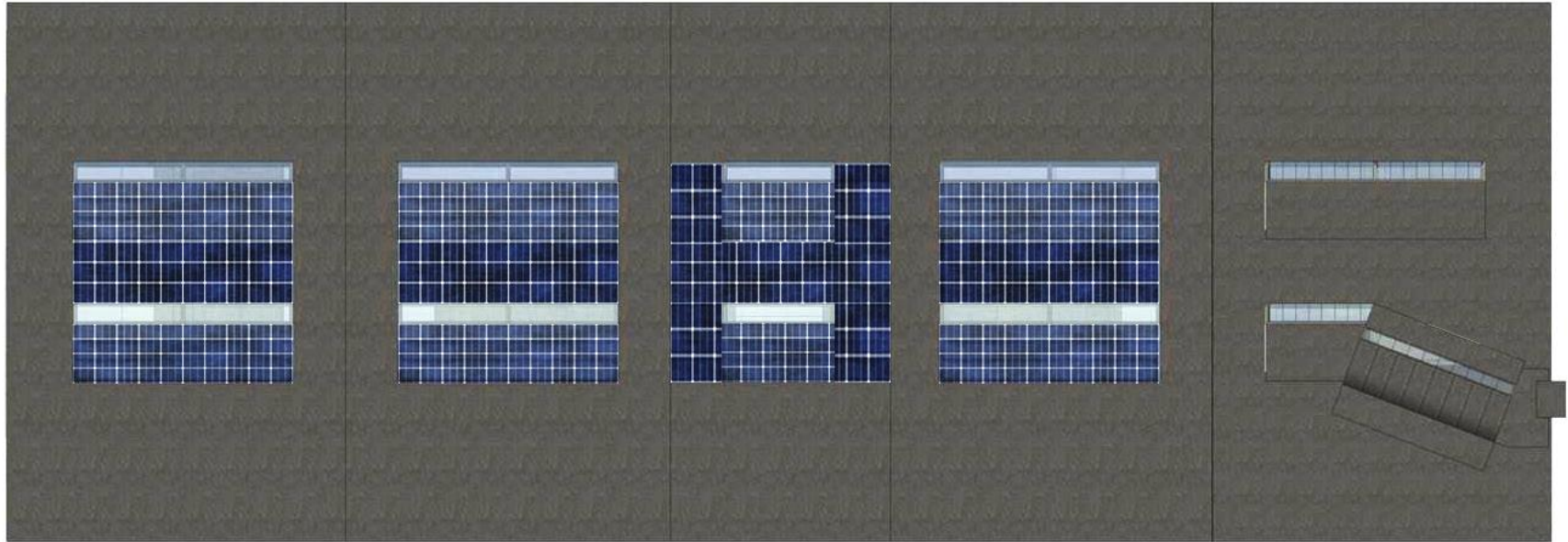
2F PLAN +8.700



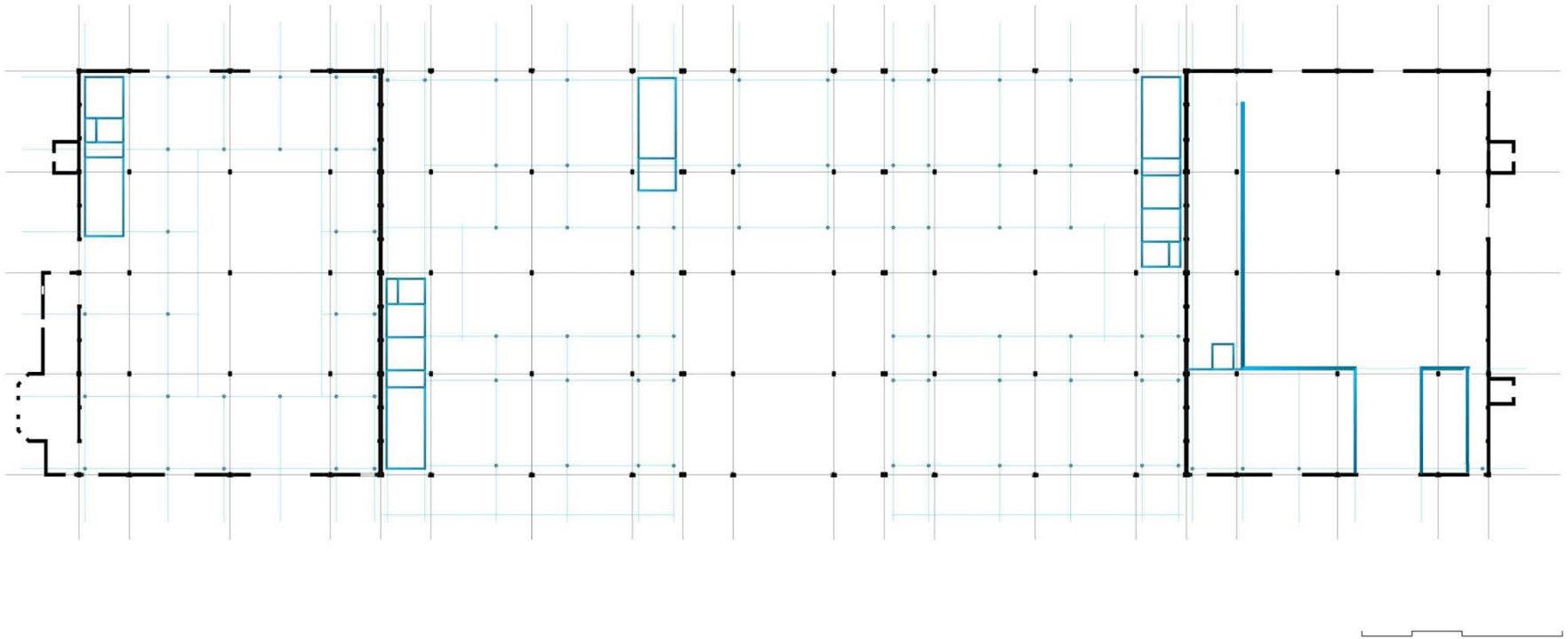
OLD WALKWAYS



NEW WALKWAY

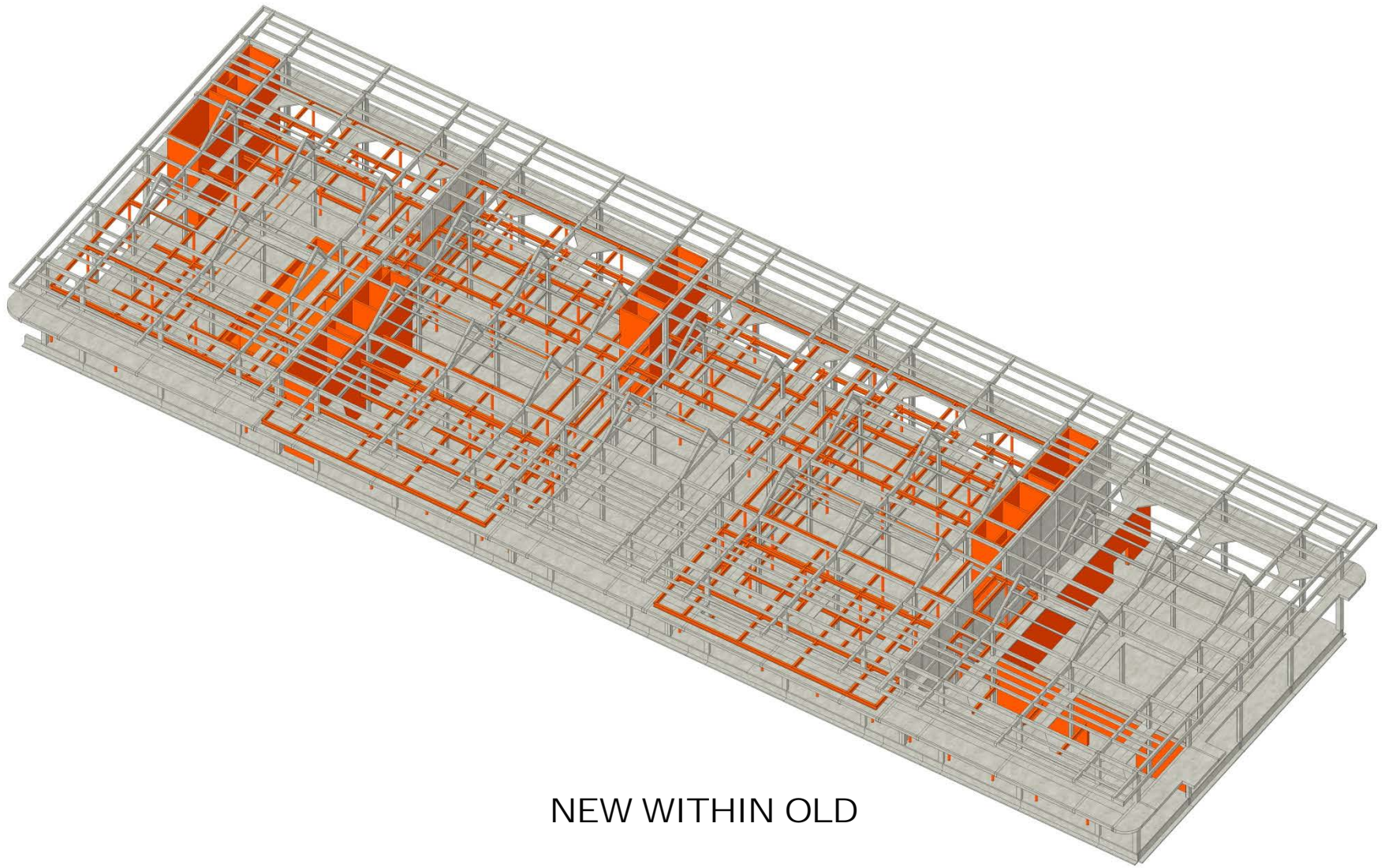


ROOF PLAN +12.600



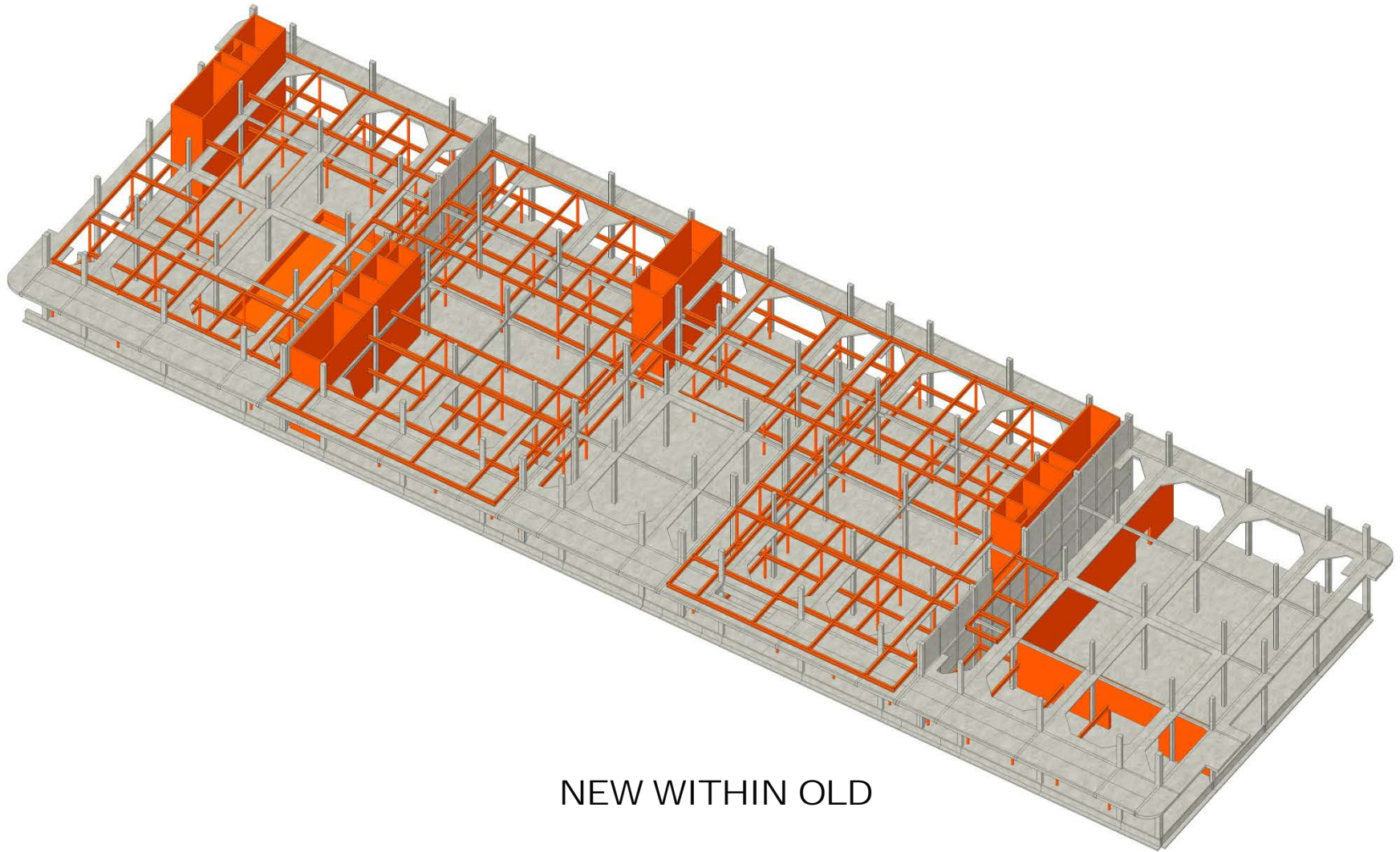
OLD AND NEW GRIDS

New grids of steel frames are parallel to the old grids, while do not intervene with the old beams and columns for the vast majority.



NEW WITHIN OLD

Orange: new structure. Grey: old structure



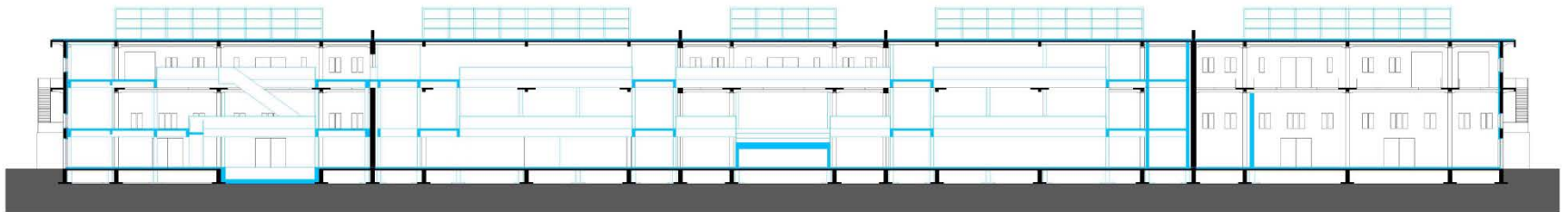
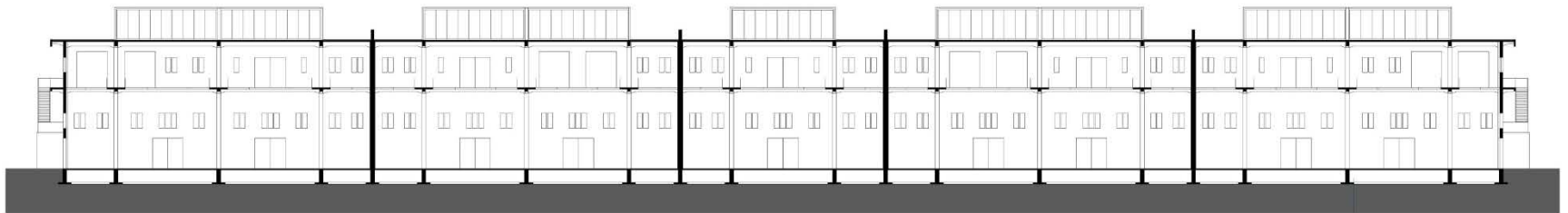
NEW WITHIN OLD

Orange: new structure. Grey: old structure

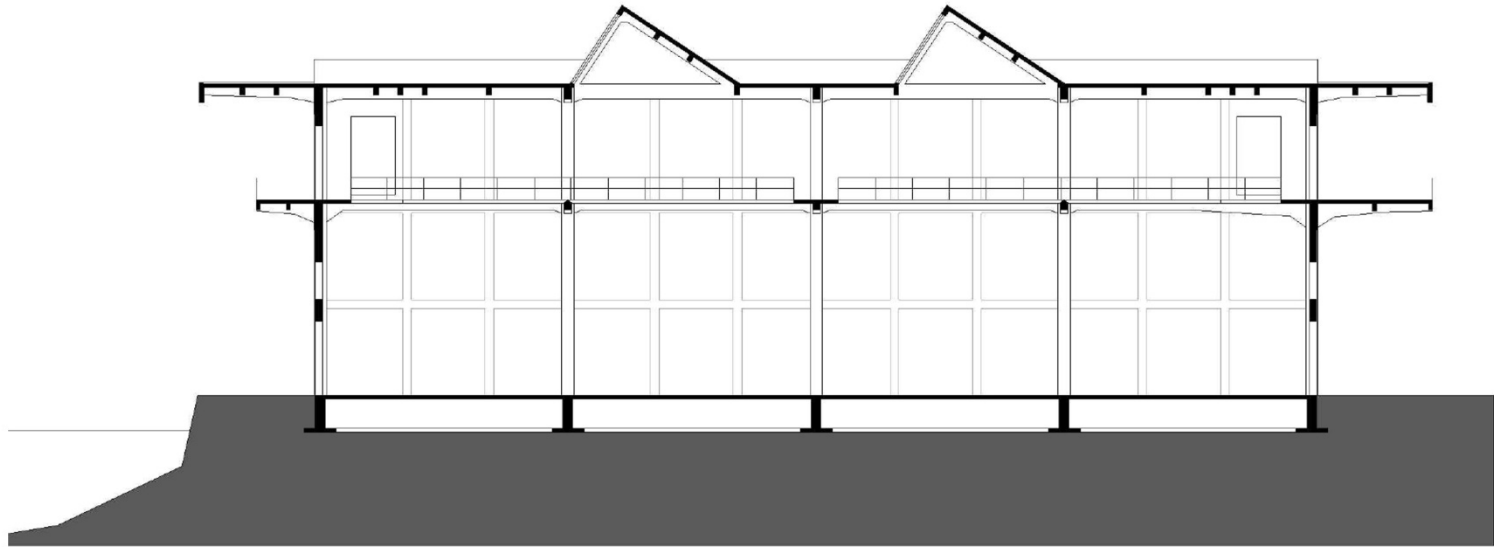


NEW WITHIN OLD

Orange: new structure. Grey: old structure

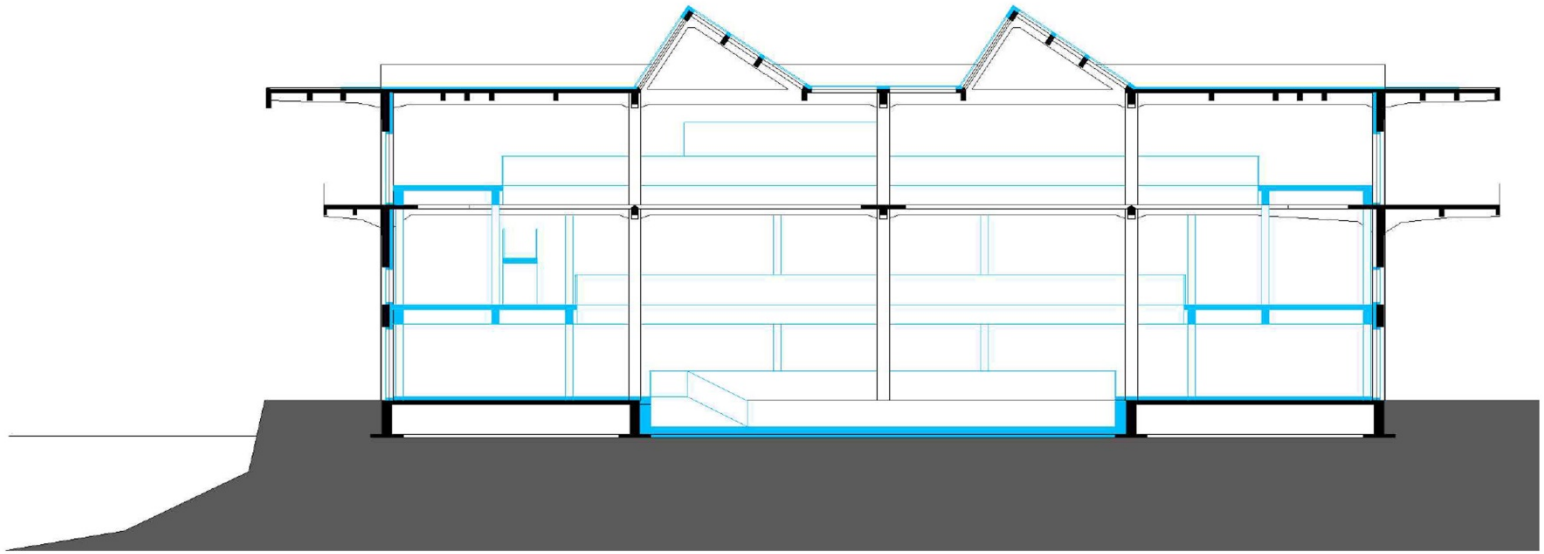


LONGITUDE SECTIONS OLD+NEW



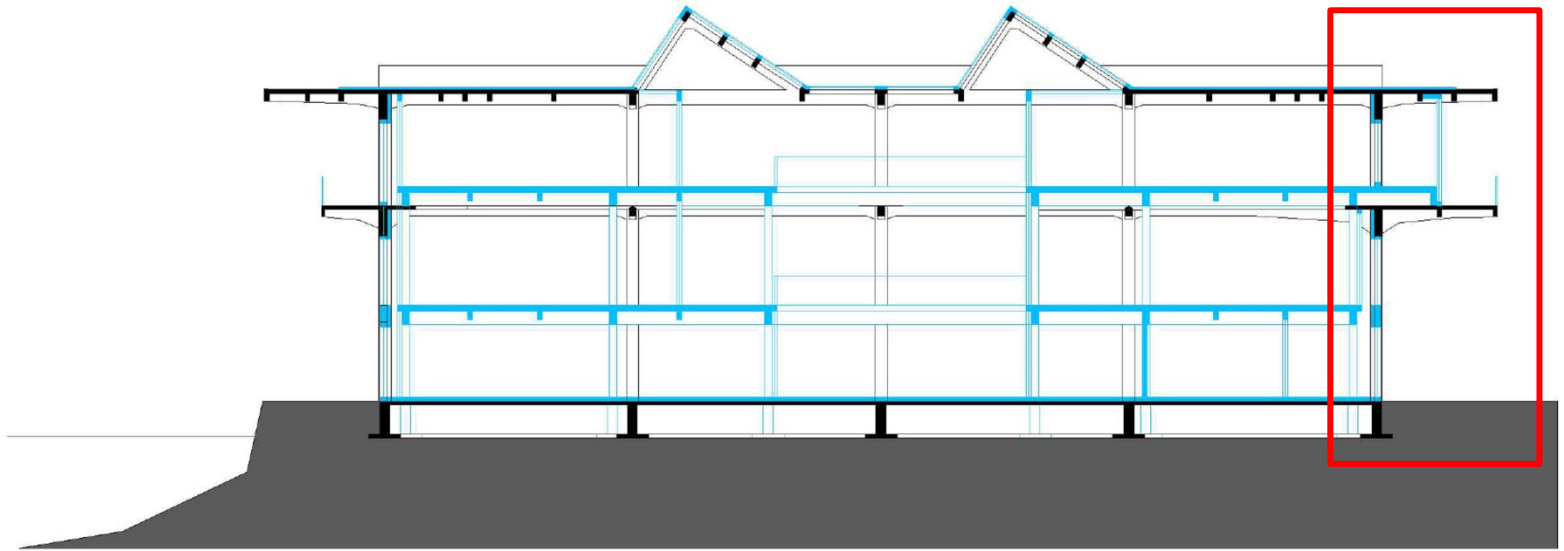
0 10m

TYPICAL OLD CROSS SECTION



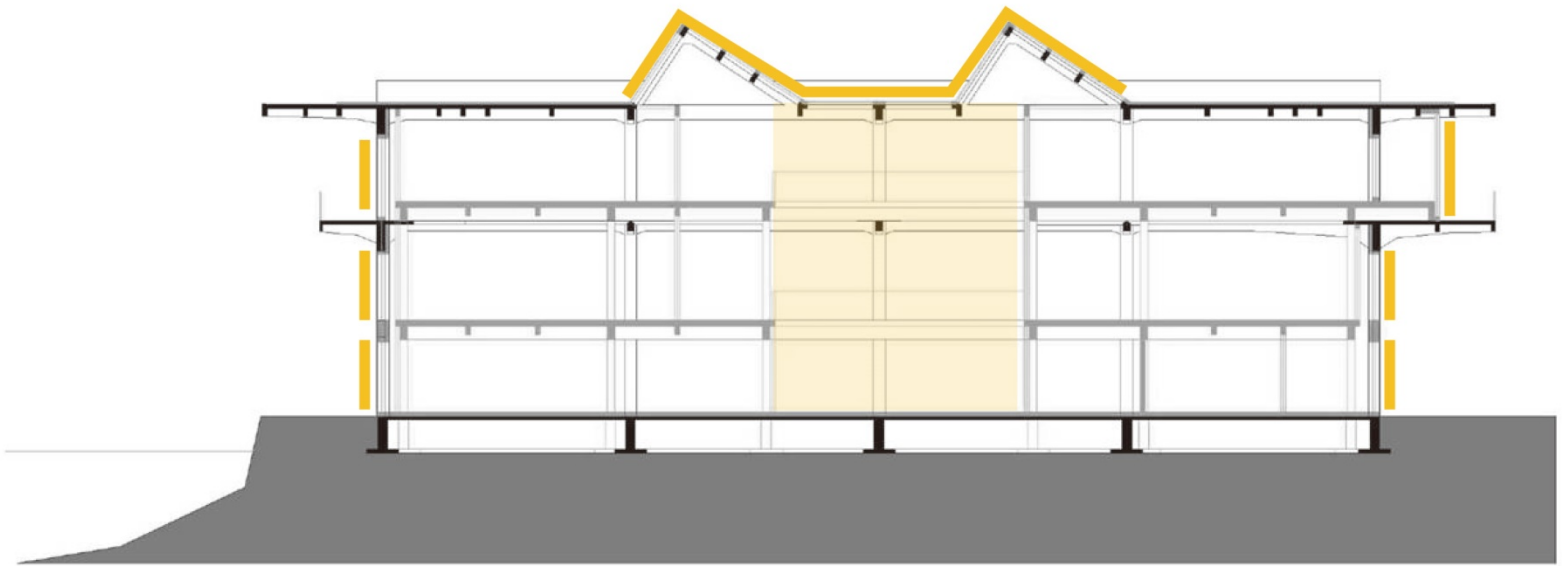
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SECTION LIBRARY



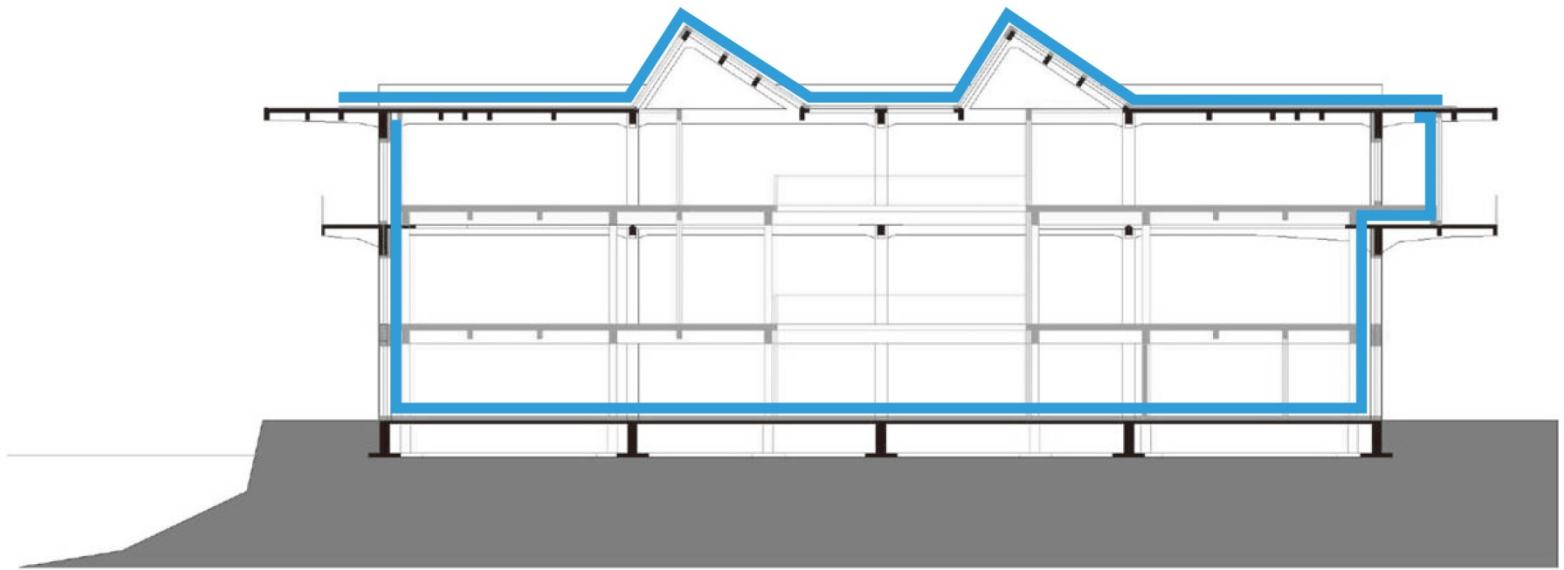
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SECTION STUDIOS



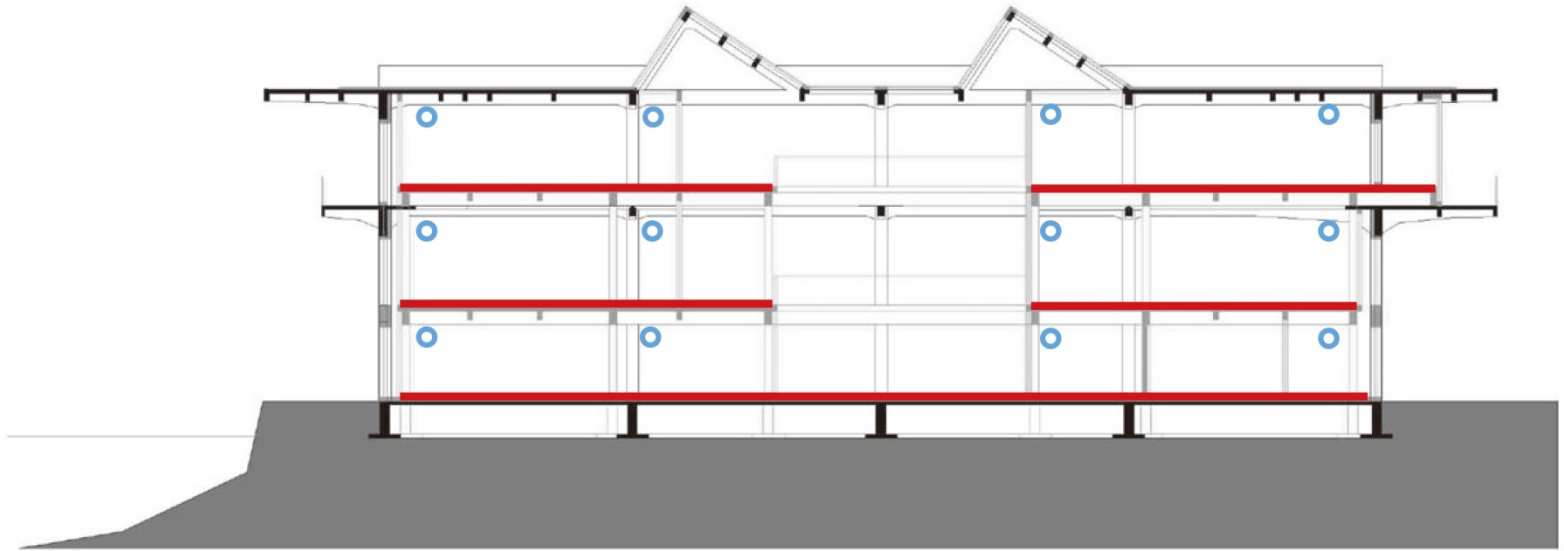
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NATURAL LIGHTING



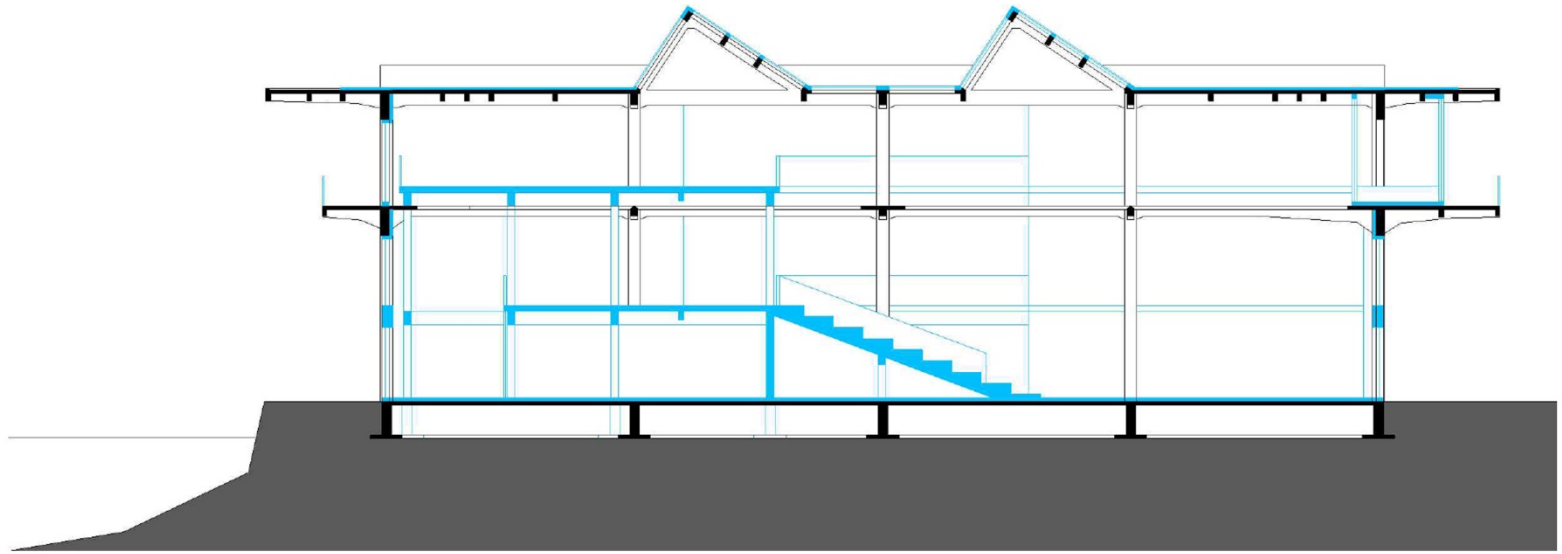
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INSULATION



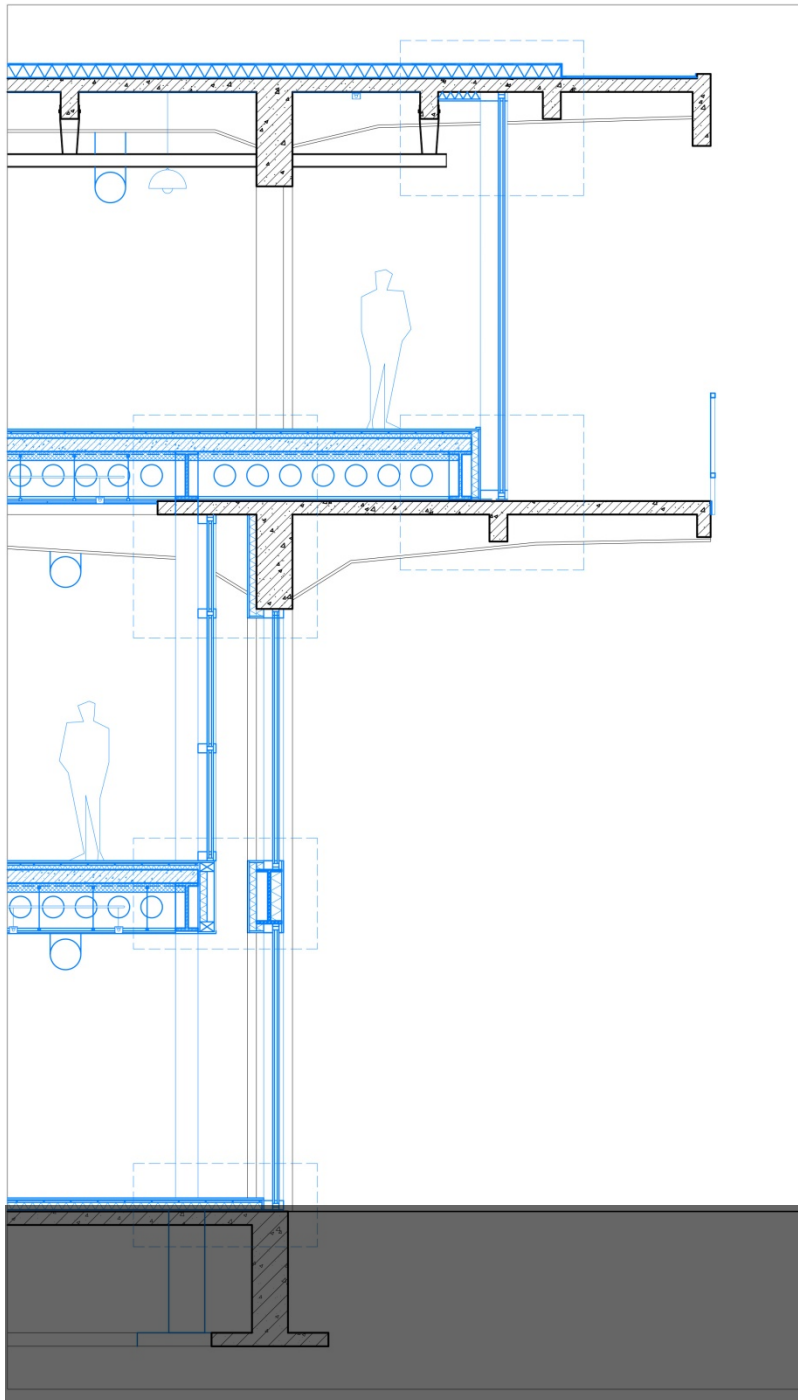
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HEATING AND VENTILATION

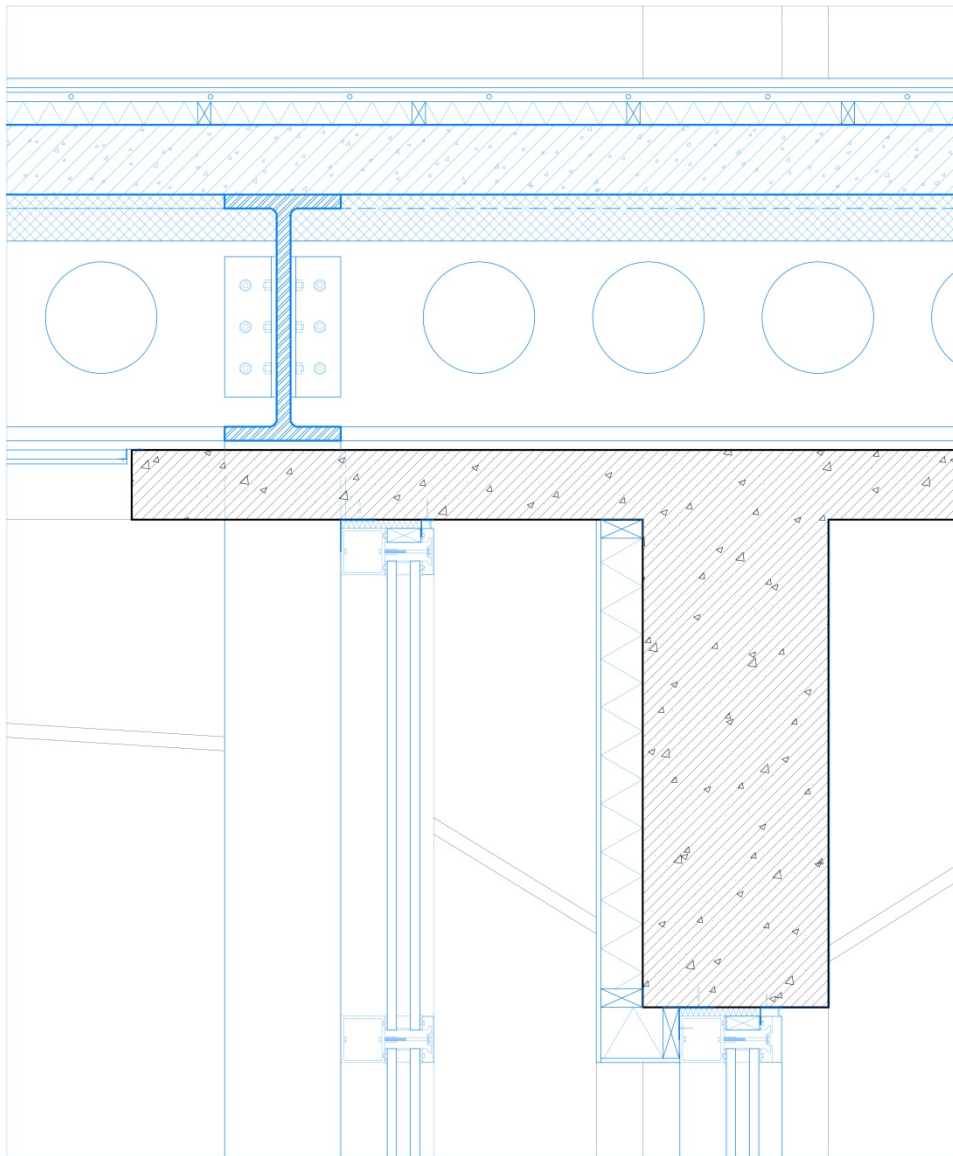


0 10m

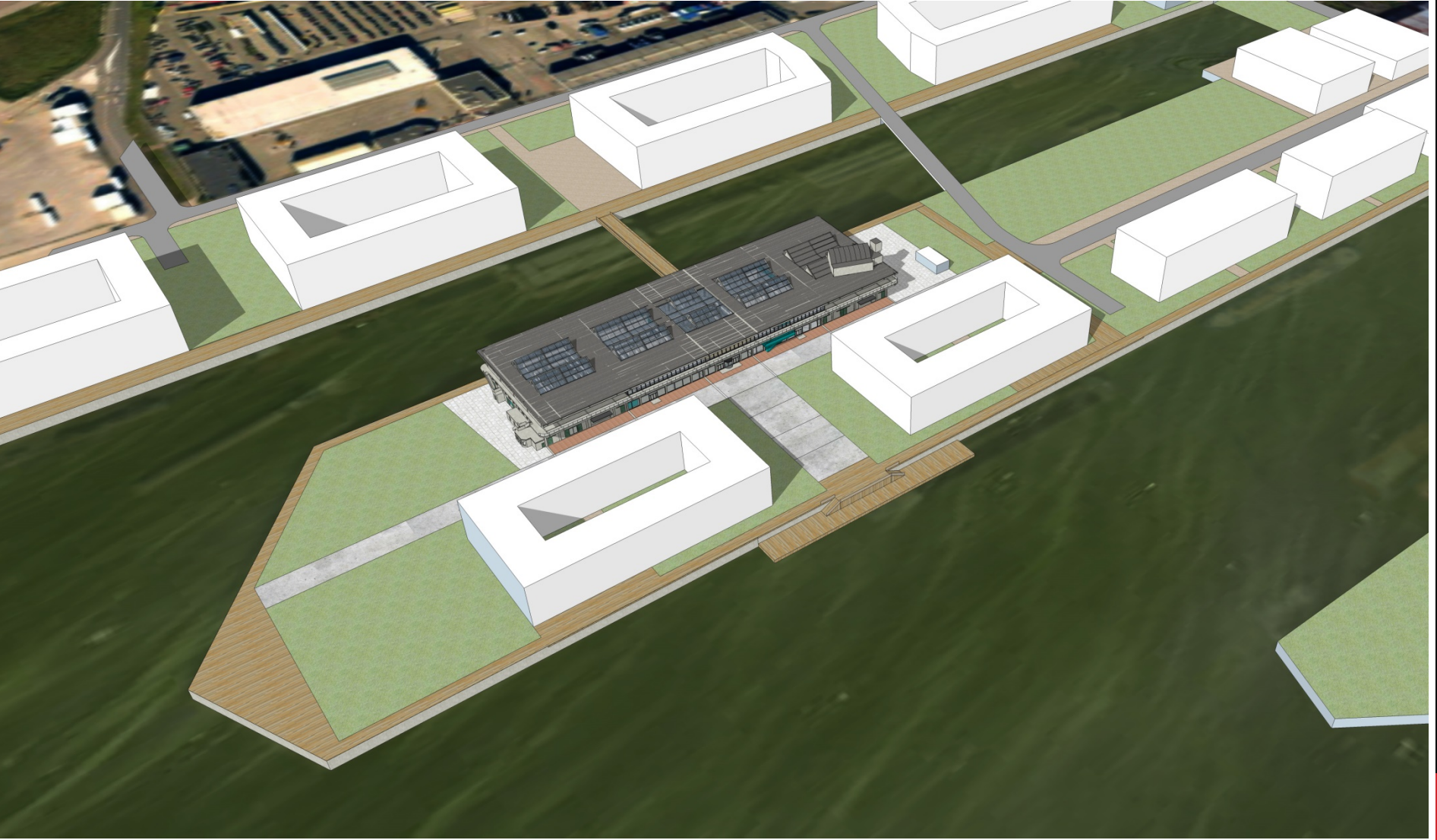
SECTION COMMUNAL HALL



WALL SECTION
FRAGMENT



DETAIL NEW AND OLD FLOOR



THANK YOU