

The exploration of design strategies that can be used to transform an existing building by splitting it into smaller segments, transforming a theater and library building into a live/work area

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Studio: Resourceful Housing- adapting 20c Heritage

Studio code: AR3AH105

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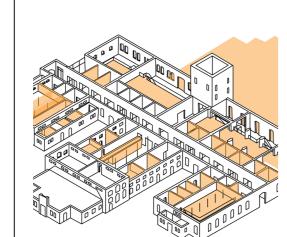
DESIGN FOR BUILDING QUALITIES

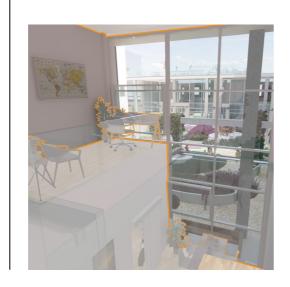
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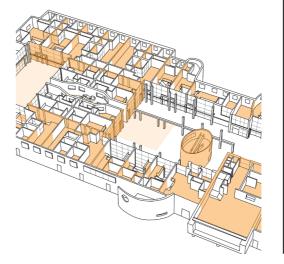
CONCLUSION

Design strategies
Usability of the
strategies



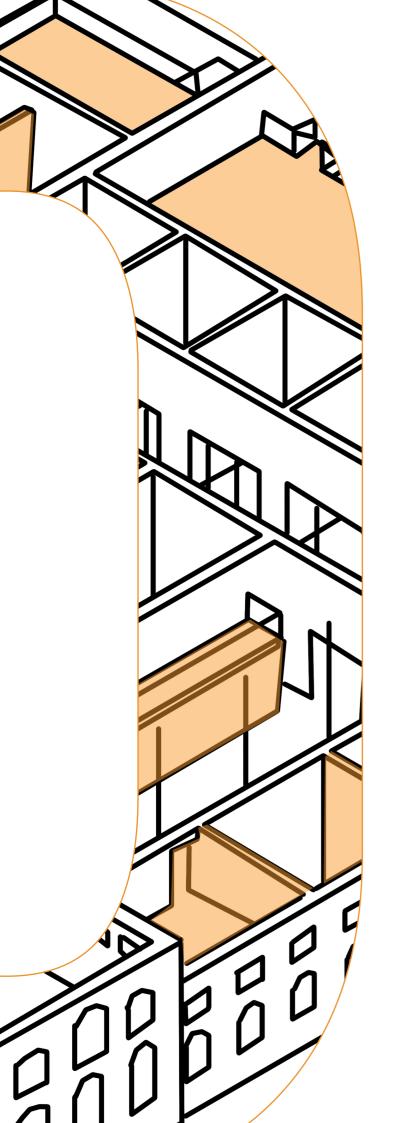


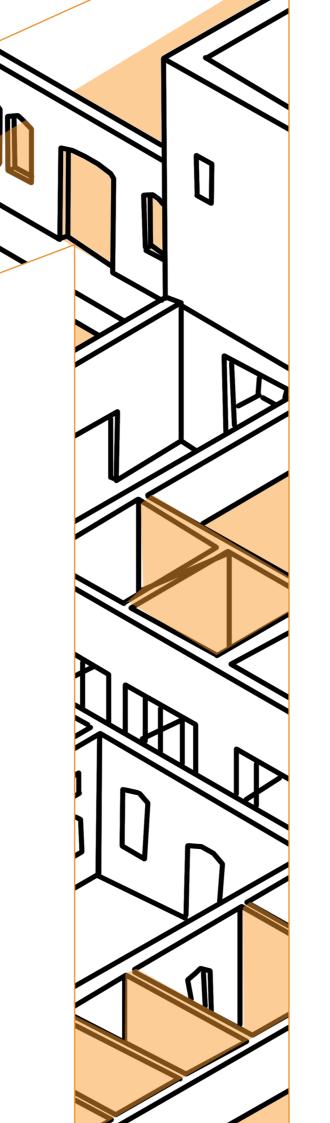






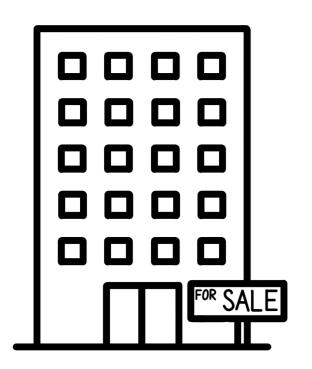


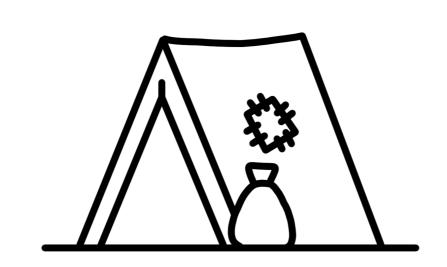


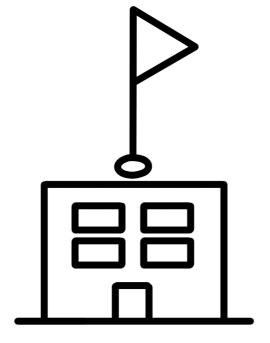


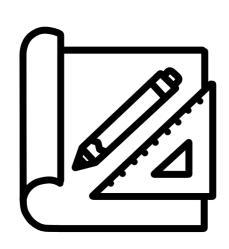
RESEARCH

Problem statement









Vacant buildings whose function has been relocated

The housing crisis in the Netherlands

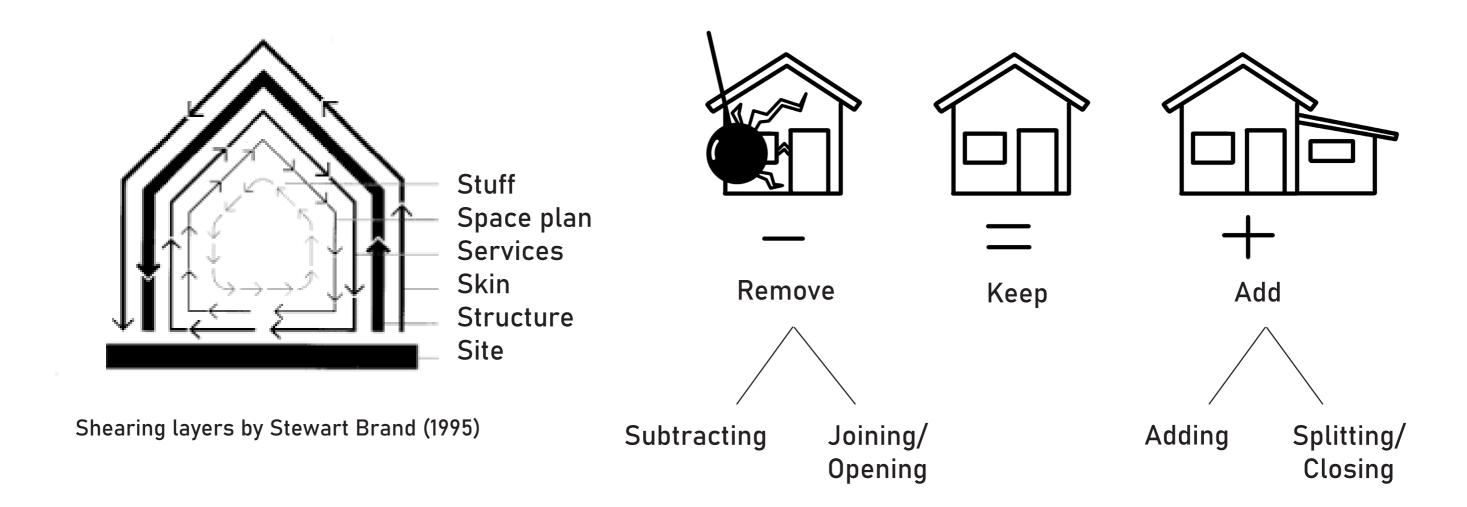
The demolition of buildings that have been important in the history of their surroundings

The difficulty of design plans in transformations

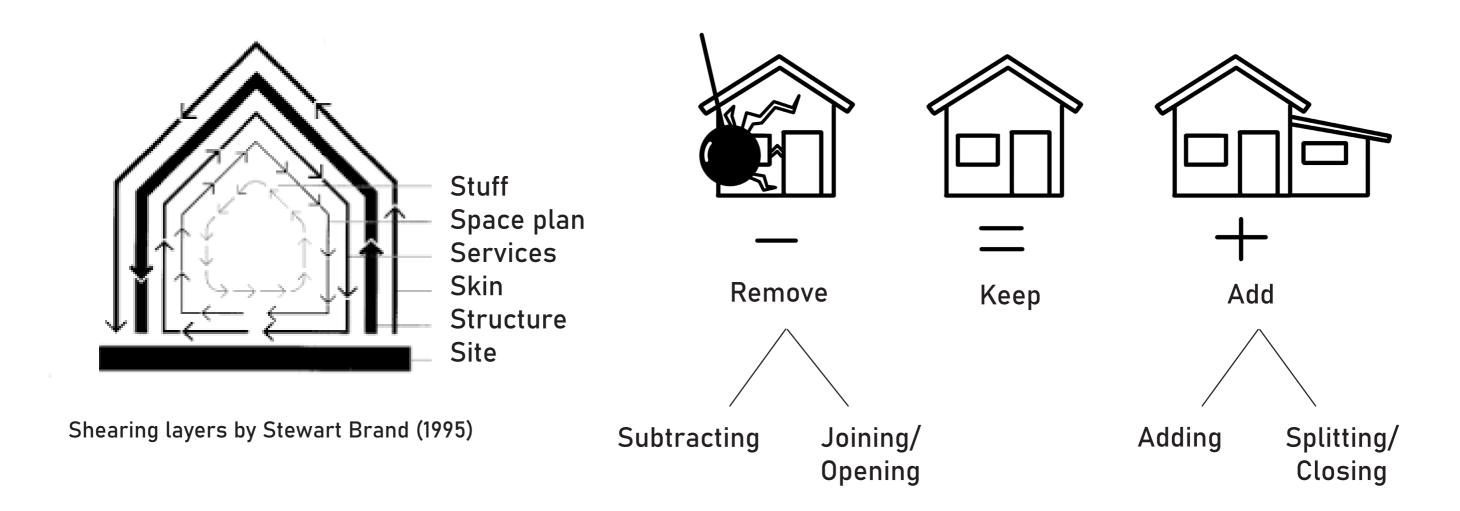
Research question

What design strategies can be used during the design process to preserve a building when it is split into smaller segments, and to what extent do these design strategies help in designing a building to be transformed?

Methods



Methods



	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Shearing layers of Brand						

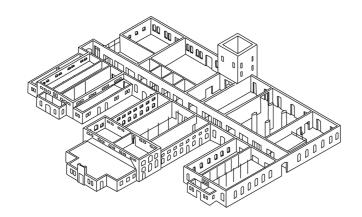
Old situation

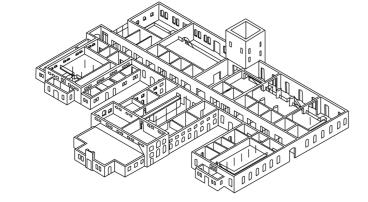
New situation

The Slaughterhouse



(Van Heeswijk Architecten, z.d.)

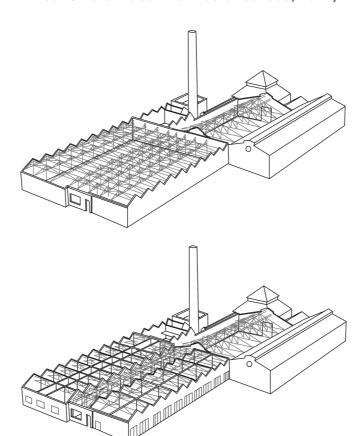




The Old rope factory



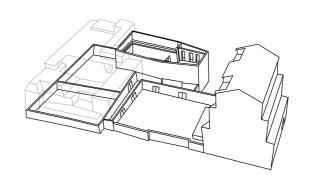
(Touwfabriek, Oudewater – Braaksma & Roos Architectenbureau, 2023)

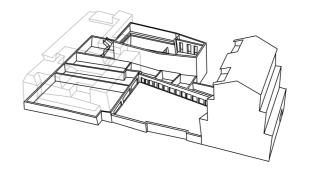


The Twentse theater



(Herbestemming Twentse Schouwburg -De Zwarte Hond, z.d.)





Classification of the Slaughterhouse

Adaptability

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Spaceplan						
Services						
Skin						
Structure						
Site						

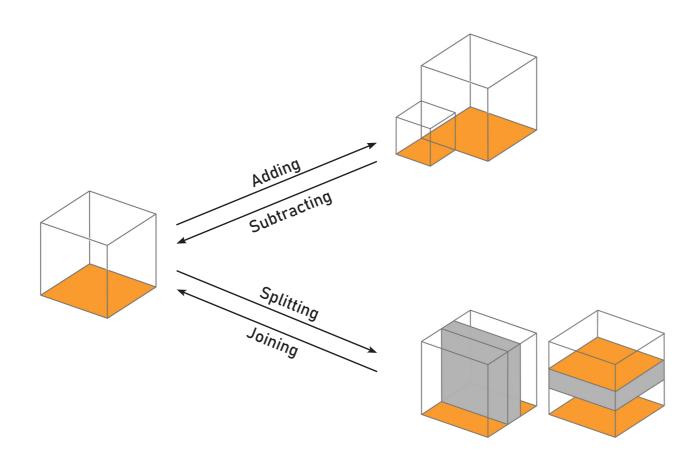
Layers

Adaptability

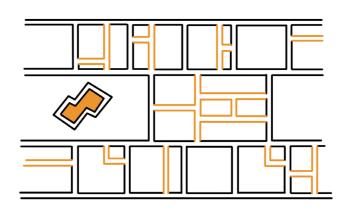
		Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
	Slaughterhouse						
Case studies	Rope factory						
	Theater						

SpaceplanServicesSkinStructureSite

Principles:



Strategy:



The space plan of the building should be kept the same in main plan as much as possible, where additional walls and floors can be added. It is added that a distinctive area of the building's floor plan should remain unchanged.

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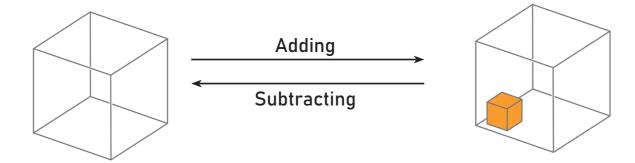
Adaptability

Splitting/Closing Adding Subtracting Joining/Opening Changing Keep the same Slaughterhouse Case studies Rope factory Theater

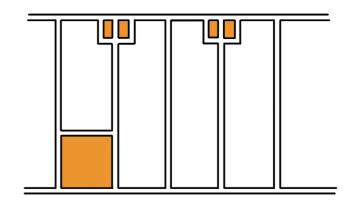
Spaceplan Services Skin Structure Site

The principles and strategy of the services

Principles:



Strategy:



More services should be added per apartment and part of the general service spaces should be kept.

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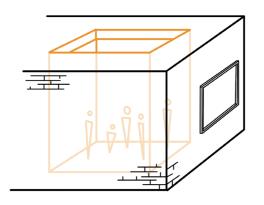
Adaptability

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Slaughterhouse						
Rope factory						
Theater						

Spaceplan Services Skin Structure Site

Principles: Subtracting Adding Opening

Strategy:



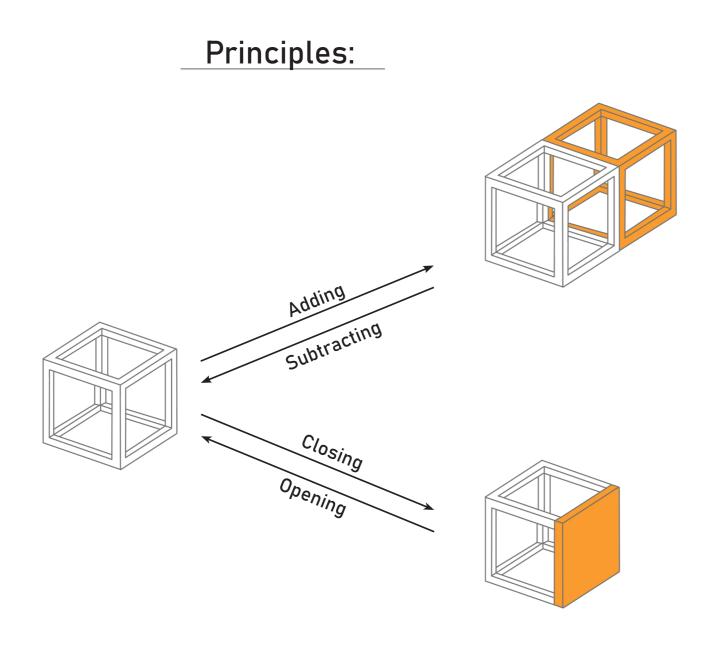
The facade should be kept as much as possible and only an subtraction in the roof should be made where people gather.

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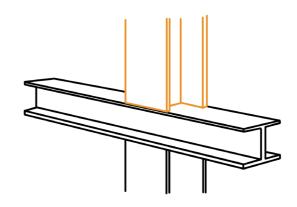
Adaptability

		Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
	Slaughterhouse						
Case studies	Rope factory						
	Theater						

Spaceplan Services Skin Structure Site



Strategy:



Keep the structure visible where it was already visible and keep the structure the same much as possible.

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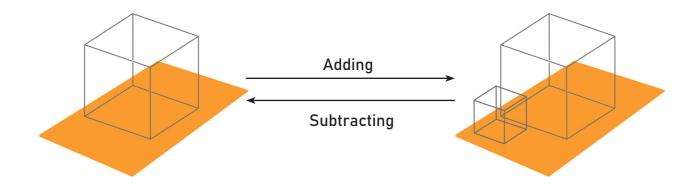
Adaptability

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Slaughterhouse						
Rope factory						
Theater						

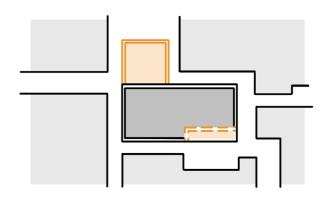
Case studies

Spaceplan Services Skin Structure Site

Principles:



Strategy:

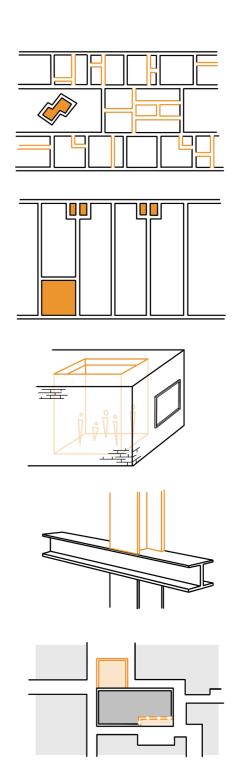


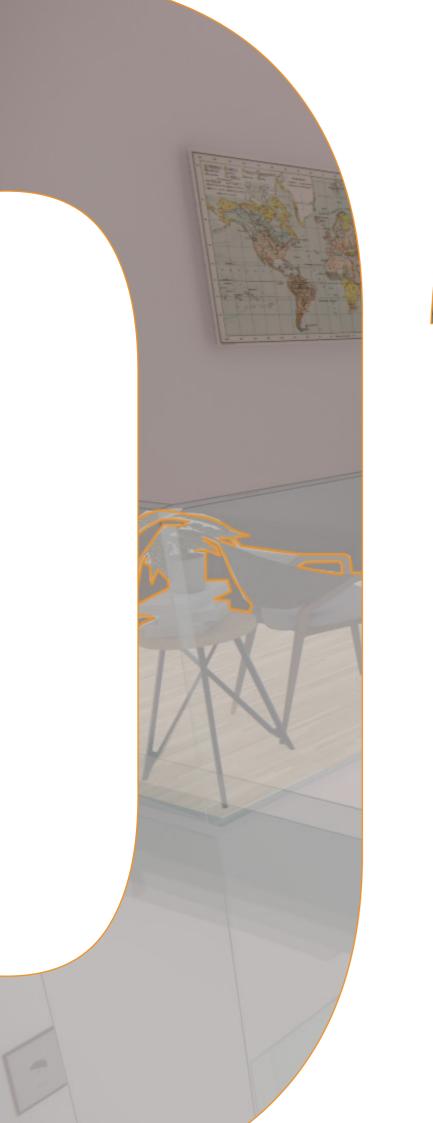
The site can be added, taken away or kept the same. This involves considering the possibilities of the surroundings and the new function of the building.

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Conclusion of the design strategies

- 1. The space plan of the building should be kept the same in main plan as much as possible, where additional walls and floors can be added. It is added that a distinctive area of the building's floor plan should remain unchanged.
- 2. More services should be added per apartment and part of the general service spaces should be kept.
- 3. The facade should be kept as much as possible and only an subtraction in the roof should be made where people gather.
- 4. Keep the structure visible where it was already visible and keep the structure the same much as possible.
- 5. The site can be added, taken away or kept the same. This involves considering the possibilities of the surroundings and the new function of the building.







DESIGN BY THE STRATEGIES

The assessment building, the Meervaart

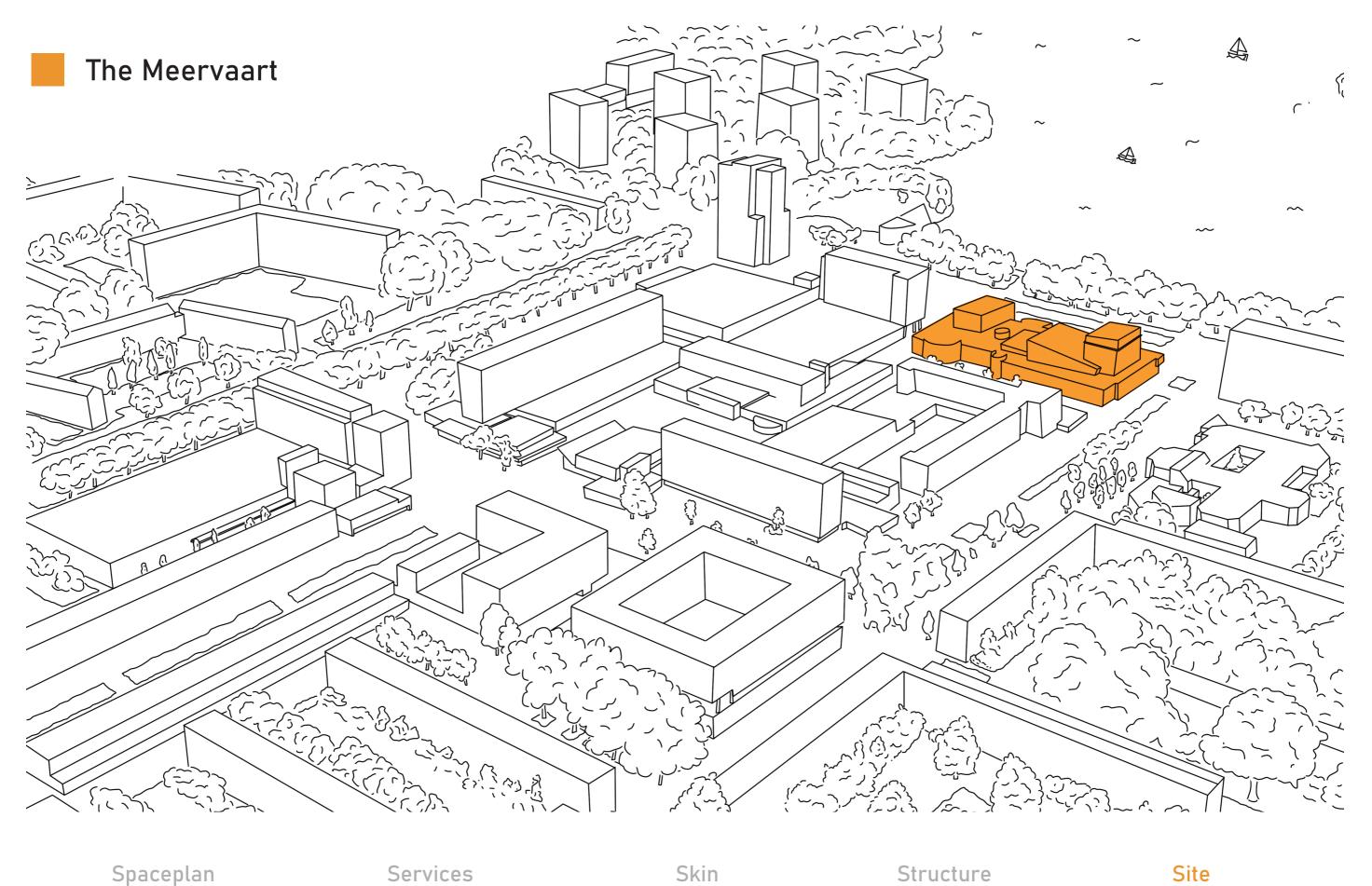


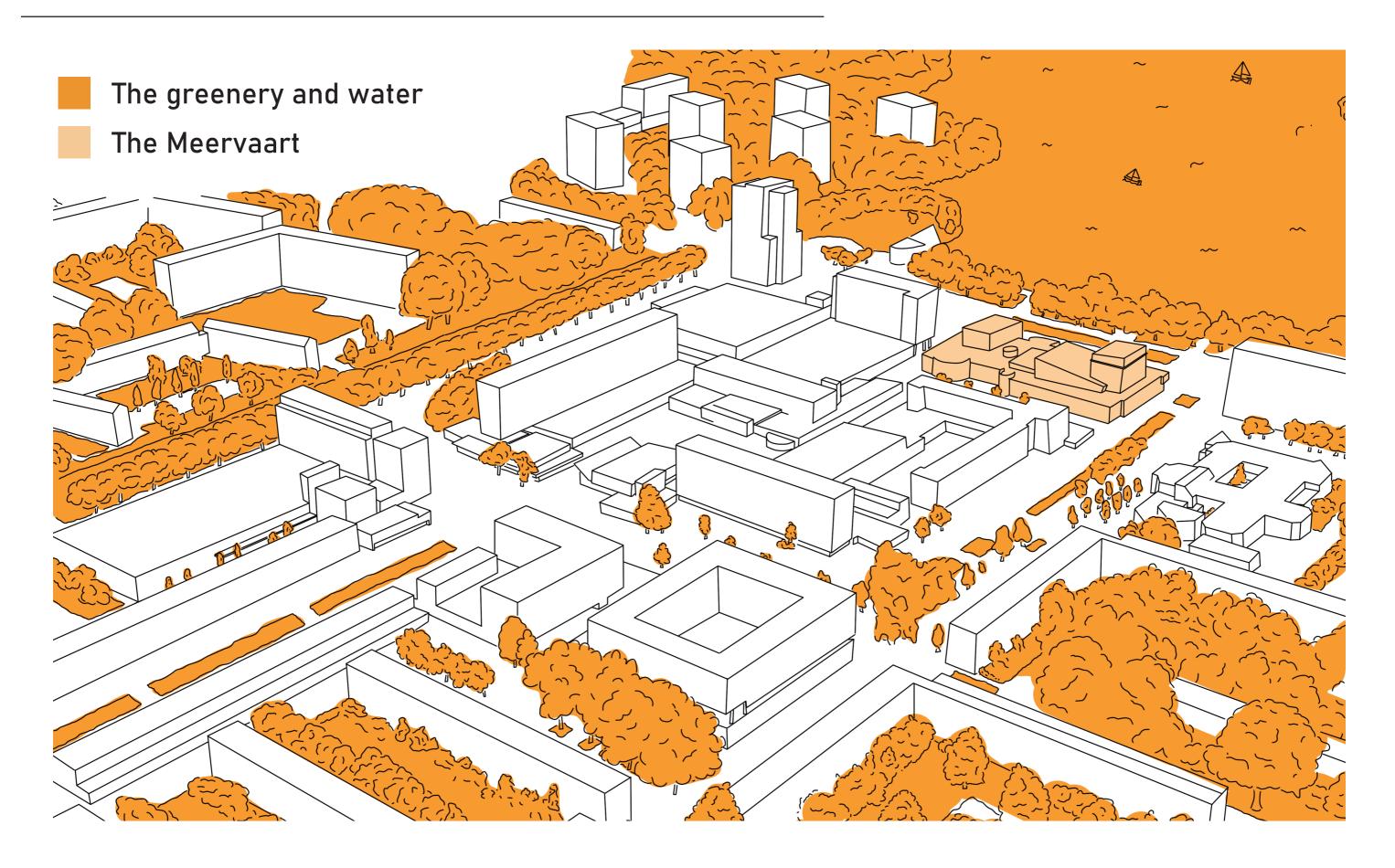
Architect of the first building: Poul van der Wal Architect of the renovation: Zaanen Spanjers

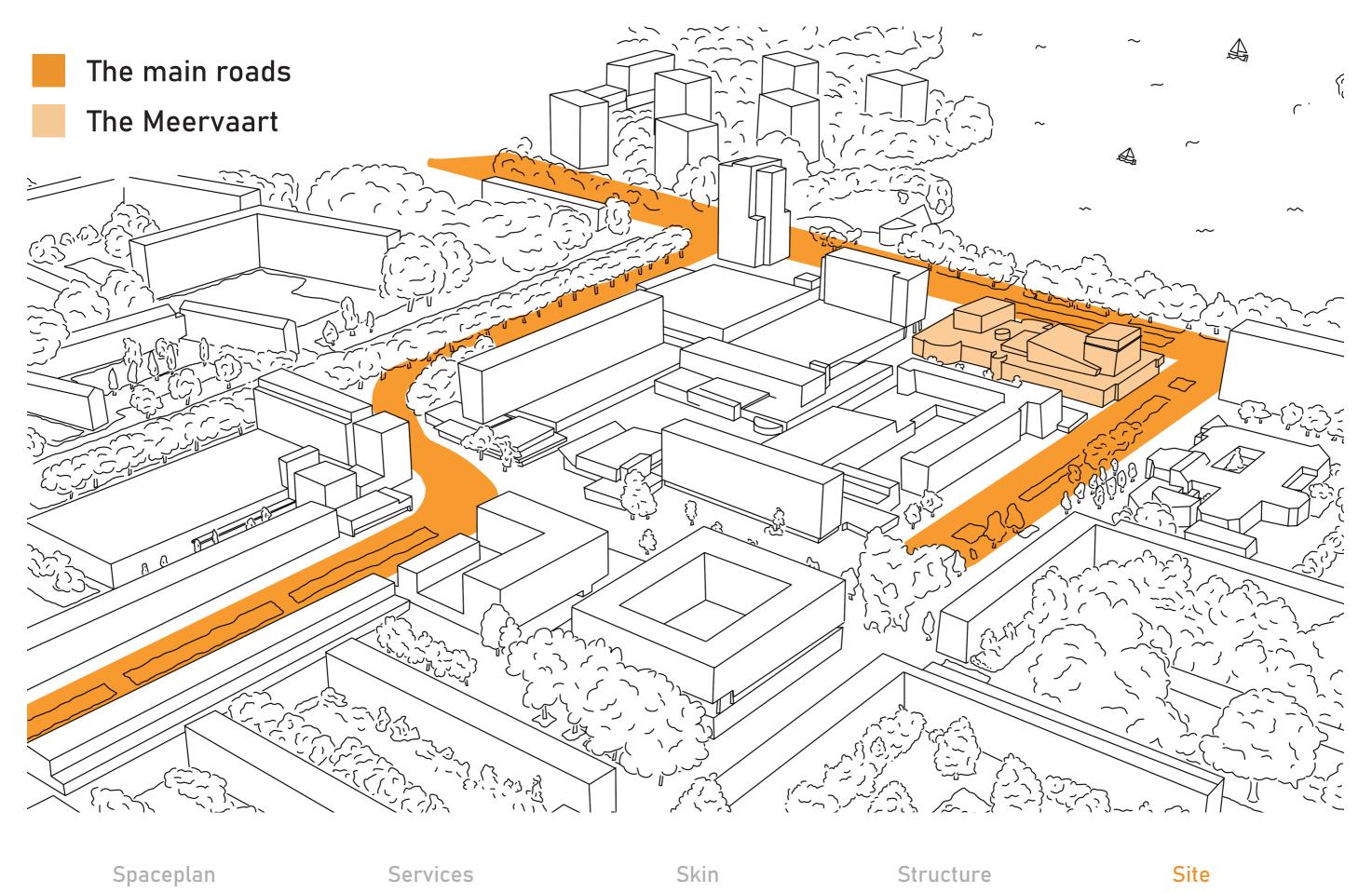
Built in 1977 Transformed in 1999

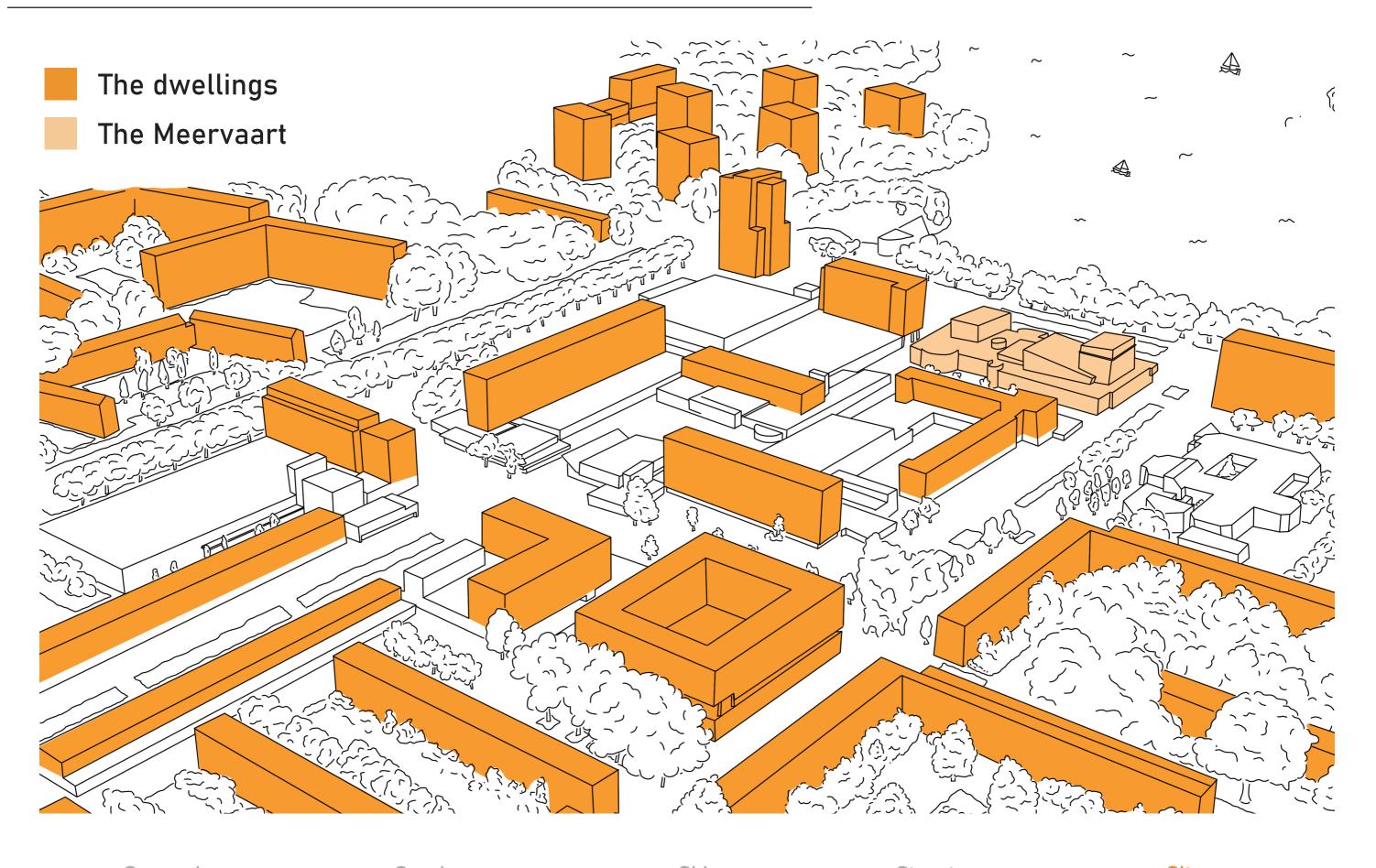
The location of the Meervaart within Amsterdam New West

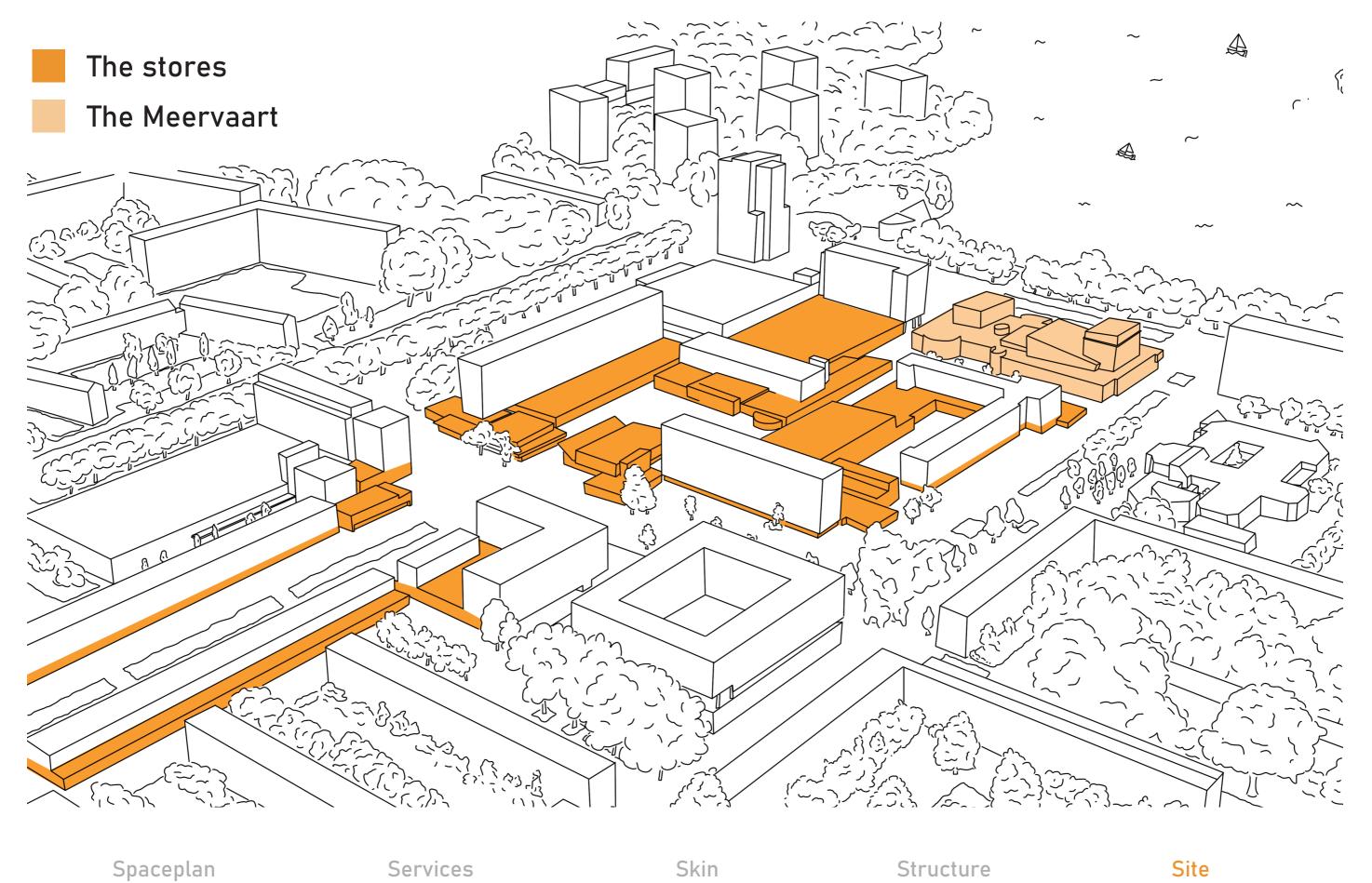




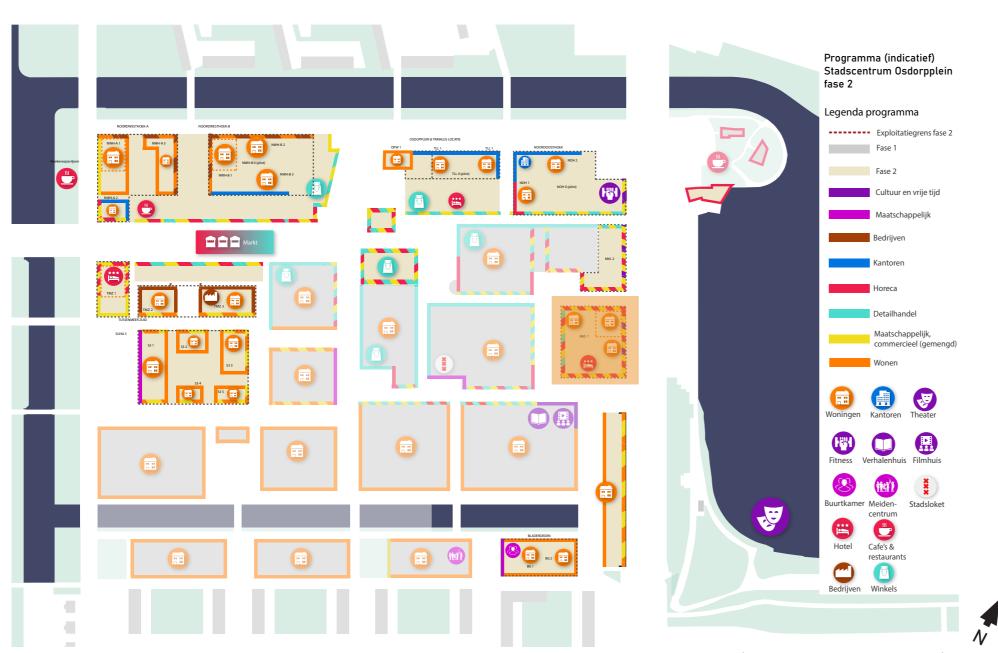




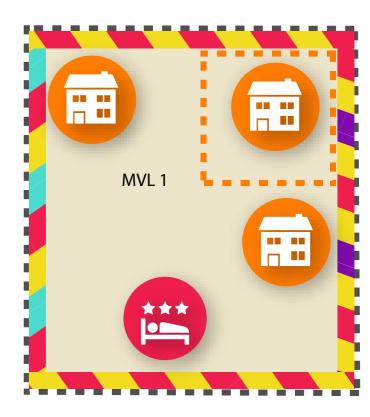




Municipality's draft plans for Osdorp

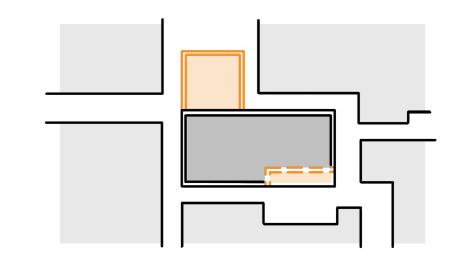






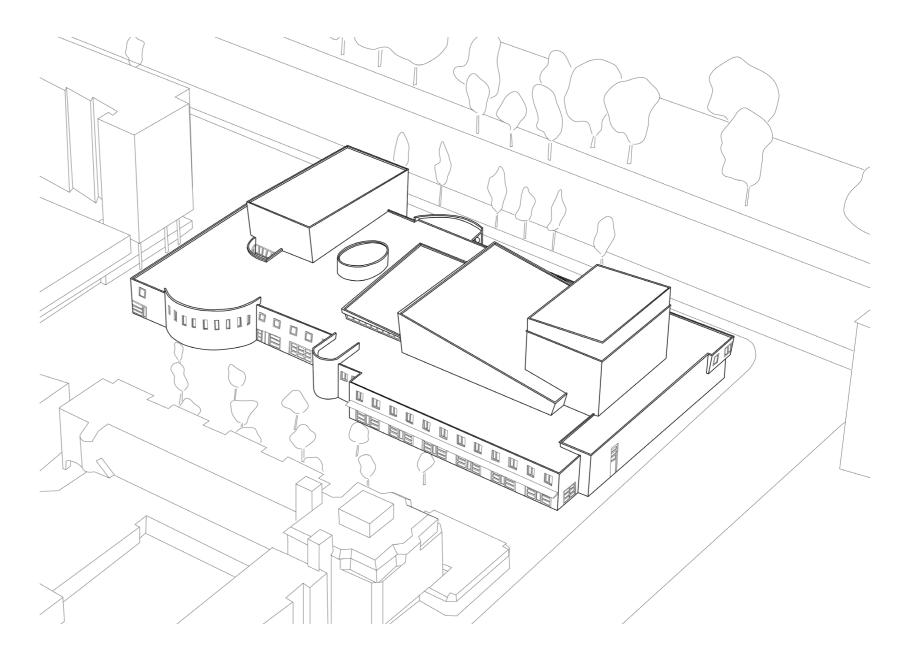
- Housing
- Stores
- Restaurant
- Culture and recreation
- Hotel

Design starting points for the site



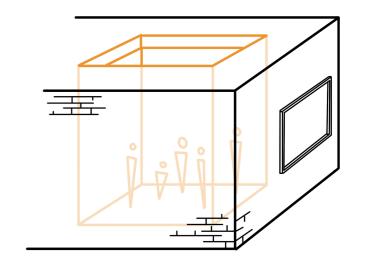
The site can be added, taken away or kept the same. This involves considering the possibilities of the surroundings and the new function of the building.

- No space opportunity
- Space used as optimally





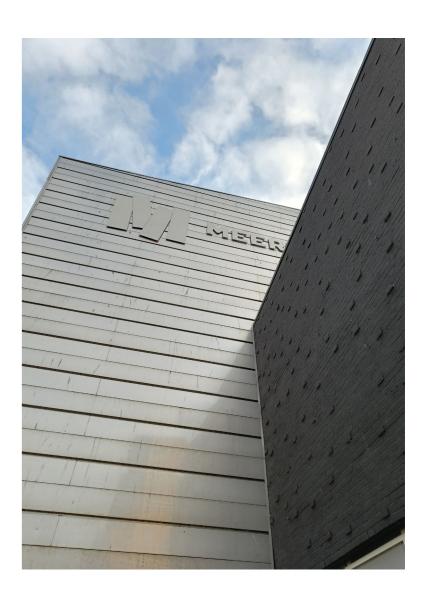
Design starting points for the skin



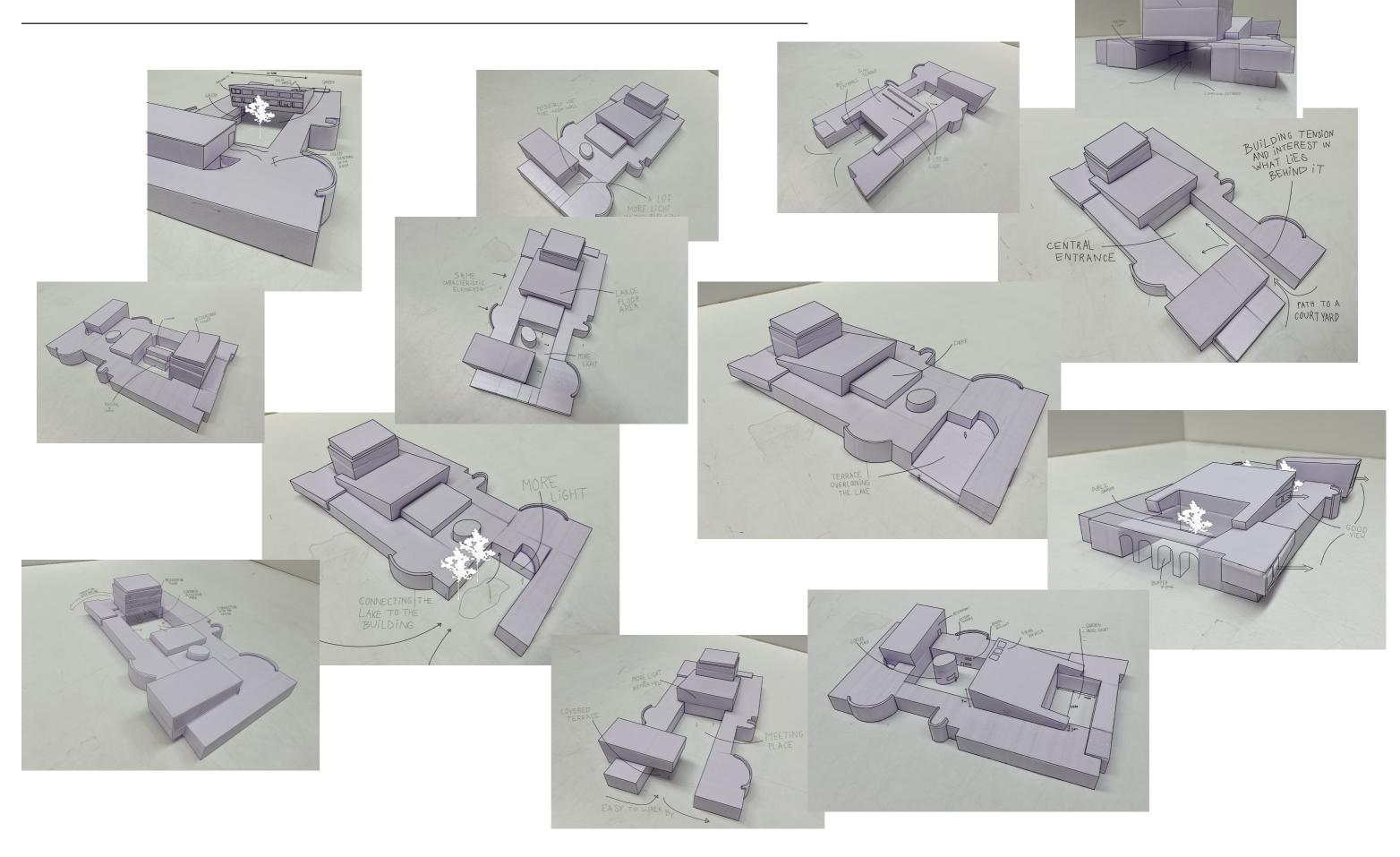
The facade should be kept as much as possible and only an subtraction in the roof should be made where people gather.

- Keep the distinctive facade
- Subtraction of the roof where people congregate

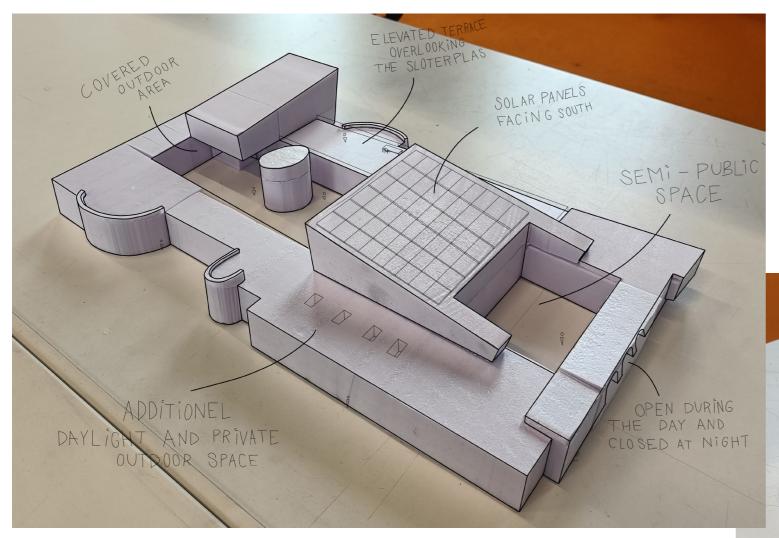


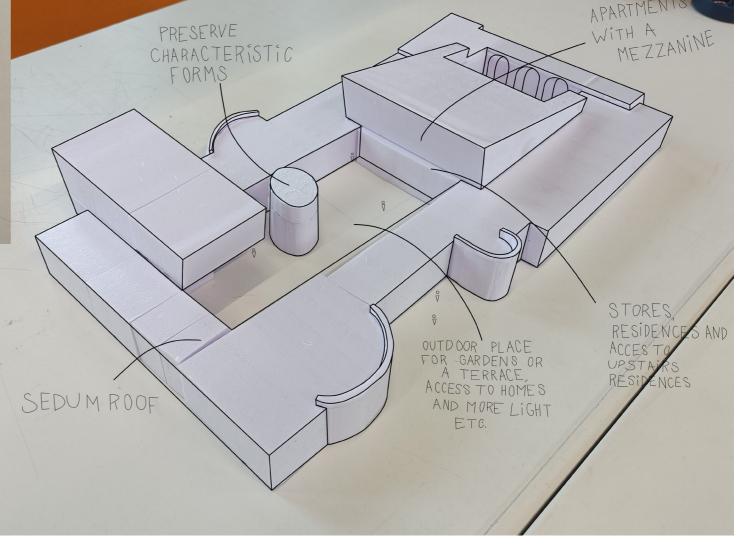


The mass studies

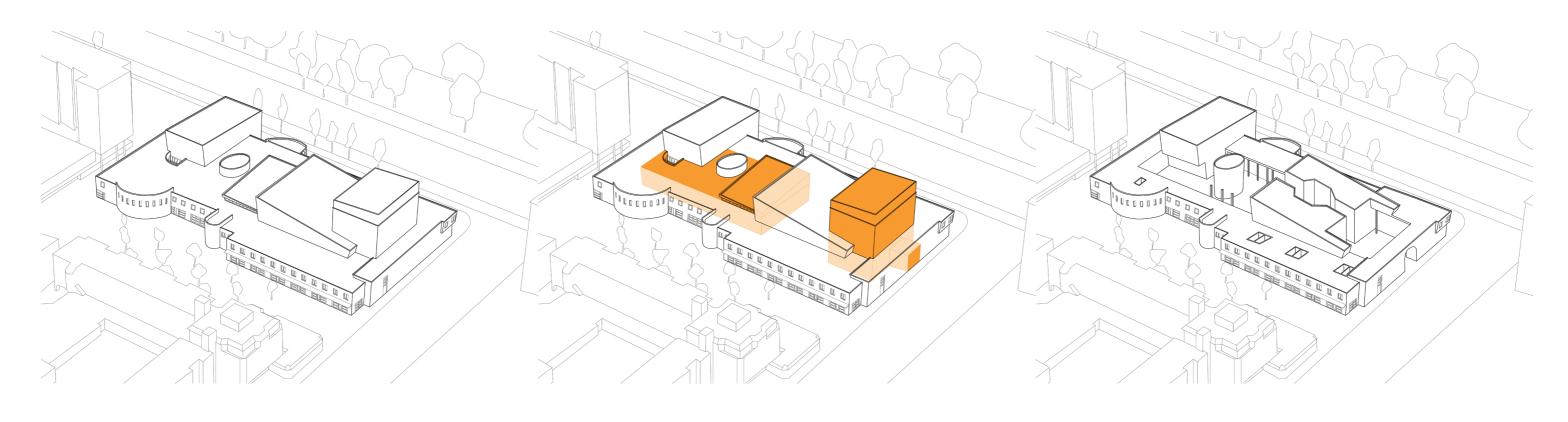


The mass studies chosen form



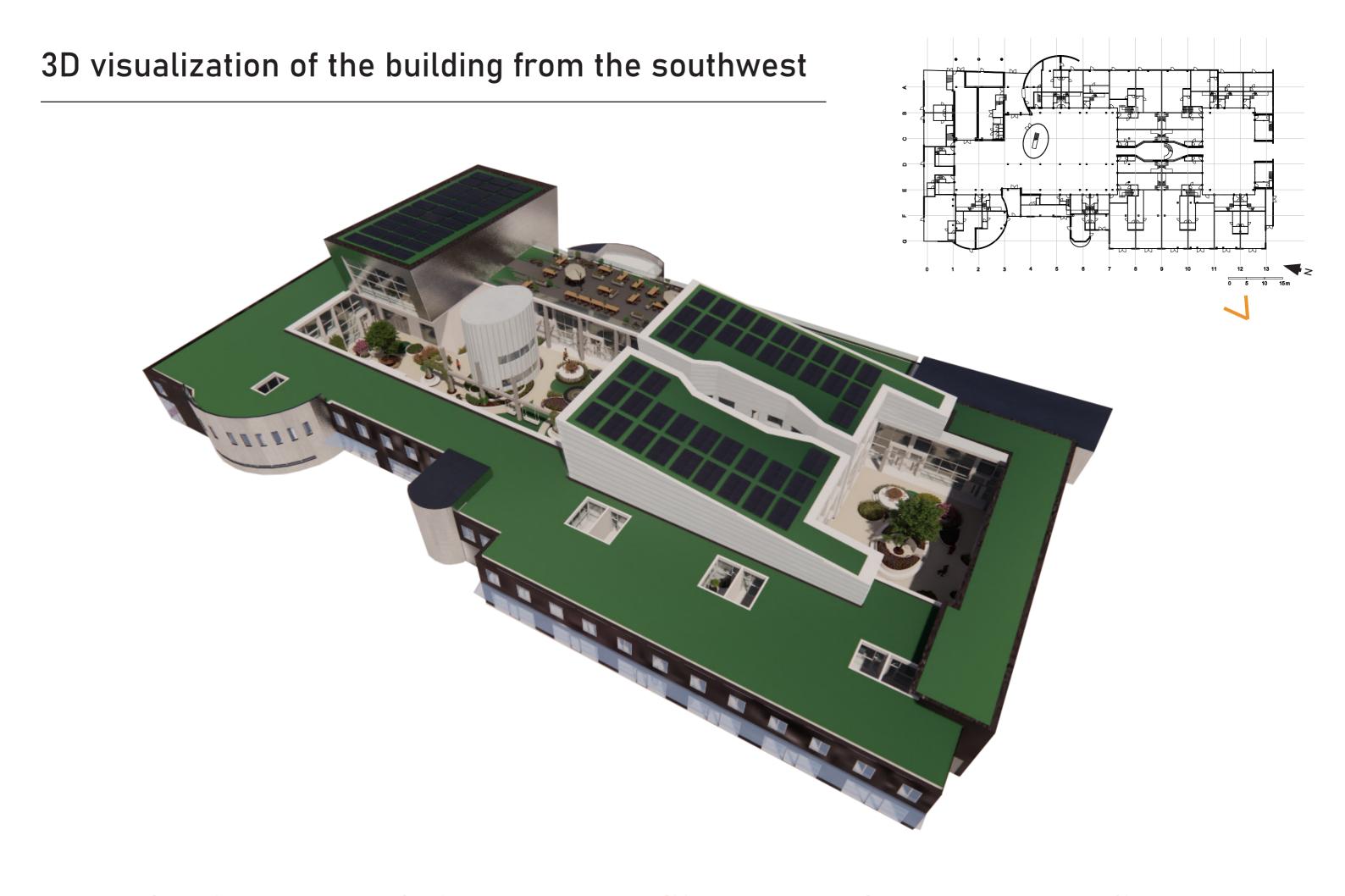


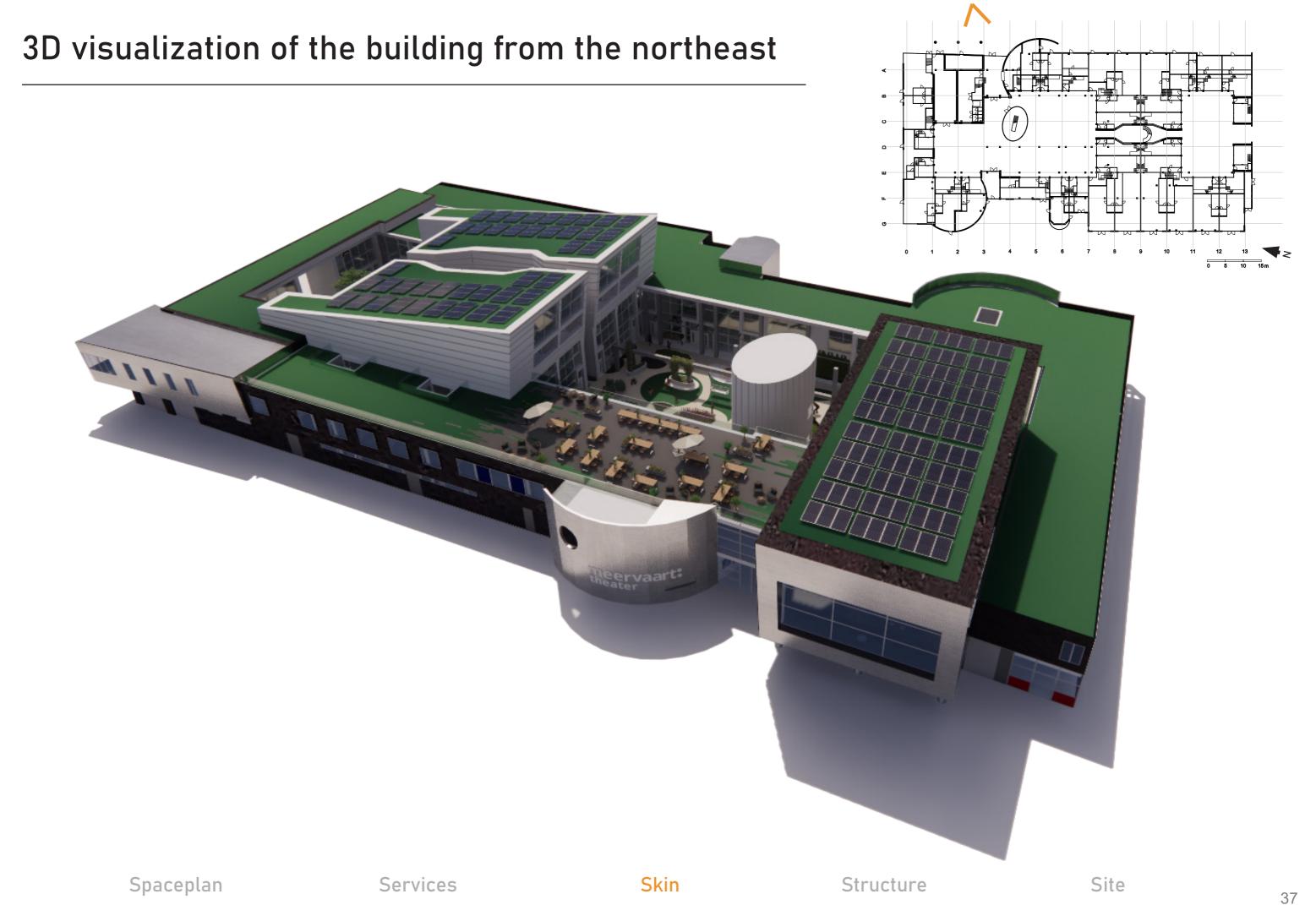
Transformation of the skin



Current situation Subtracted parts New situation

Spaceplan Services Skin Structure Site

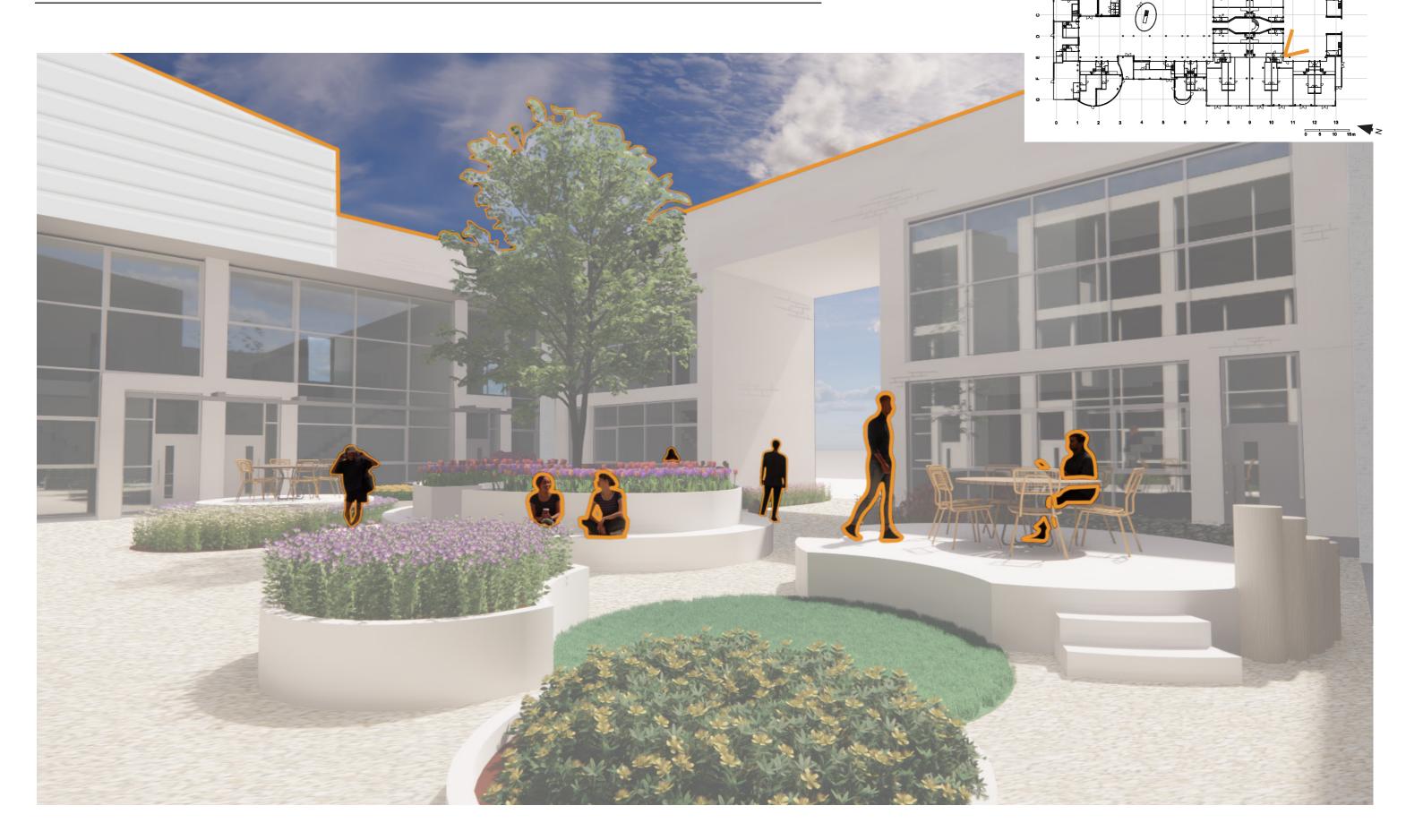




Subtraction of the roof

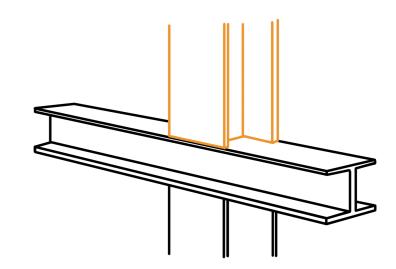


Subtraction of the roof



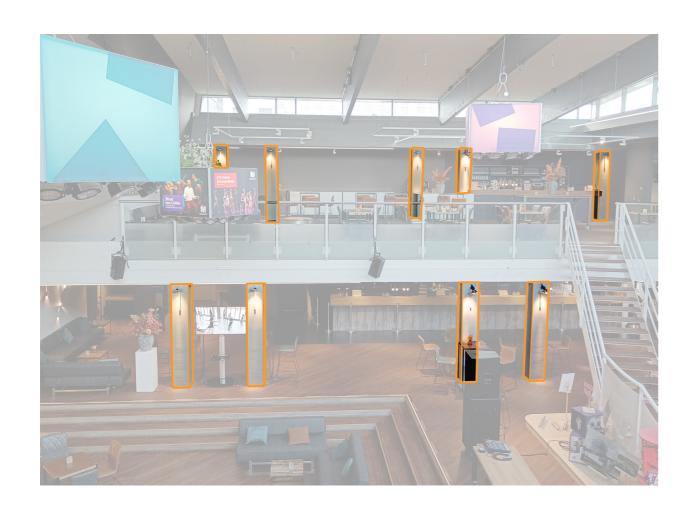


Design starting points for the structure



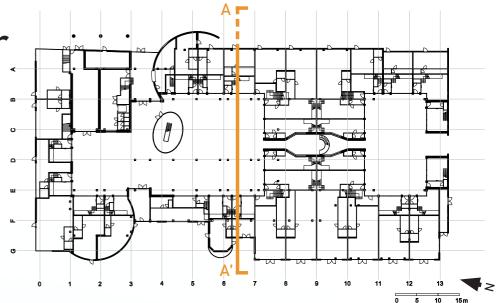
Keep the **structure visible** where it was already visible and keep the structure **the same** much as possible.

- Distinctive places so remain visible.
- The variable load complies so the structure is kept





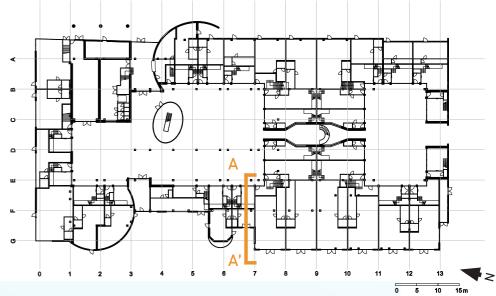
Cross section from the Sloterplas to the shopping center





Spaceplan Services Skin Structure Site

Making the load-bearing structure visible

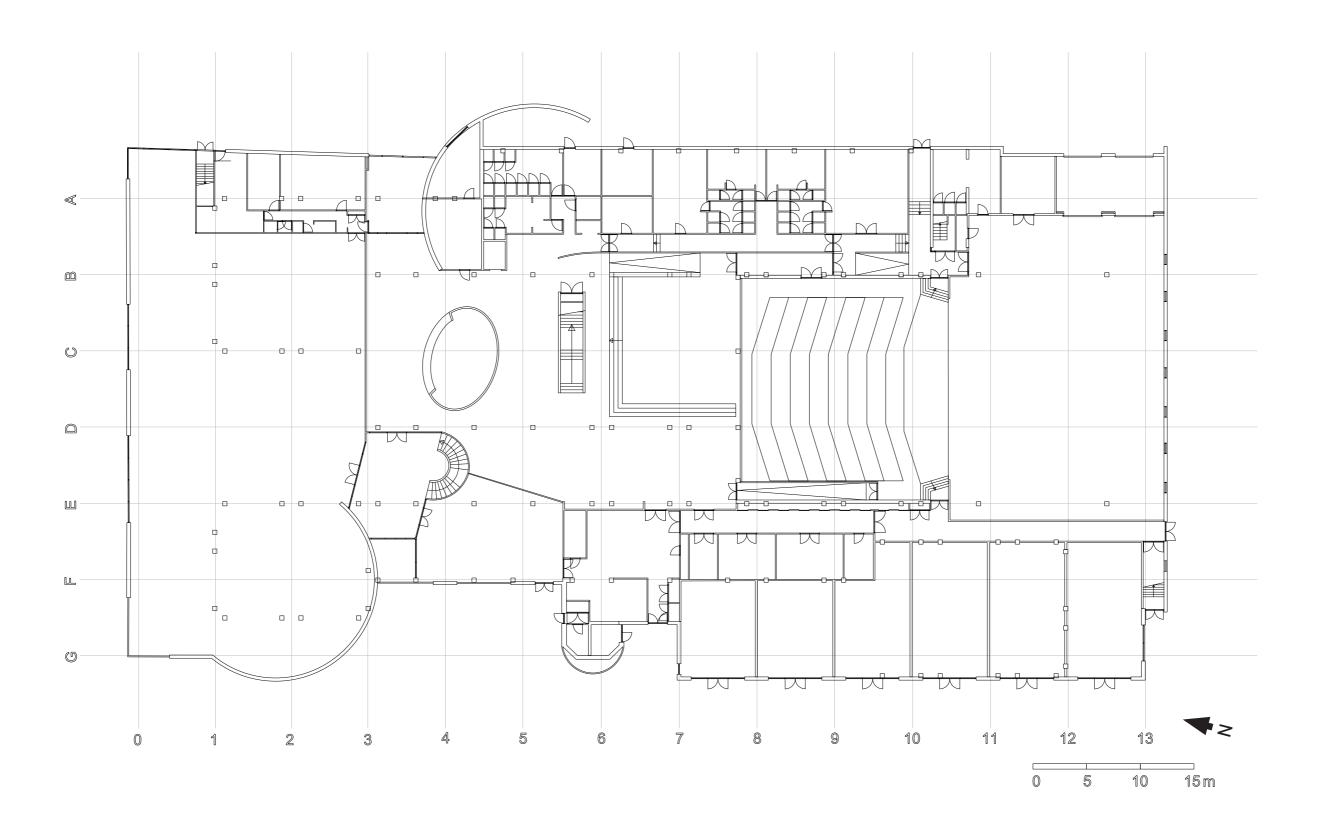




Keeping the load-bearing structure visible and usable

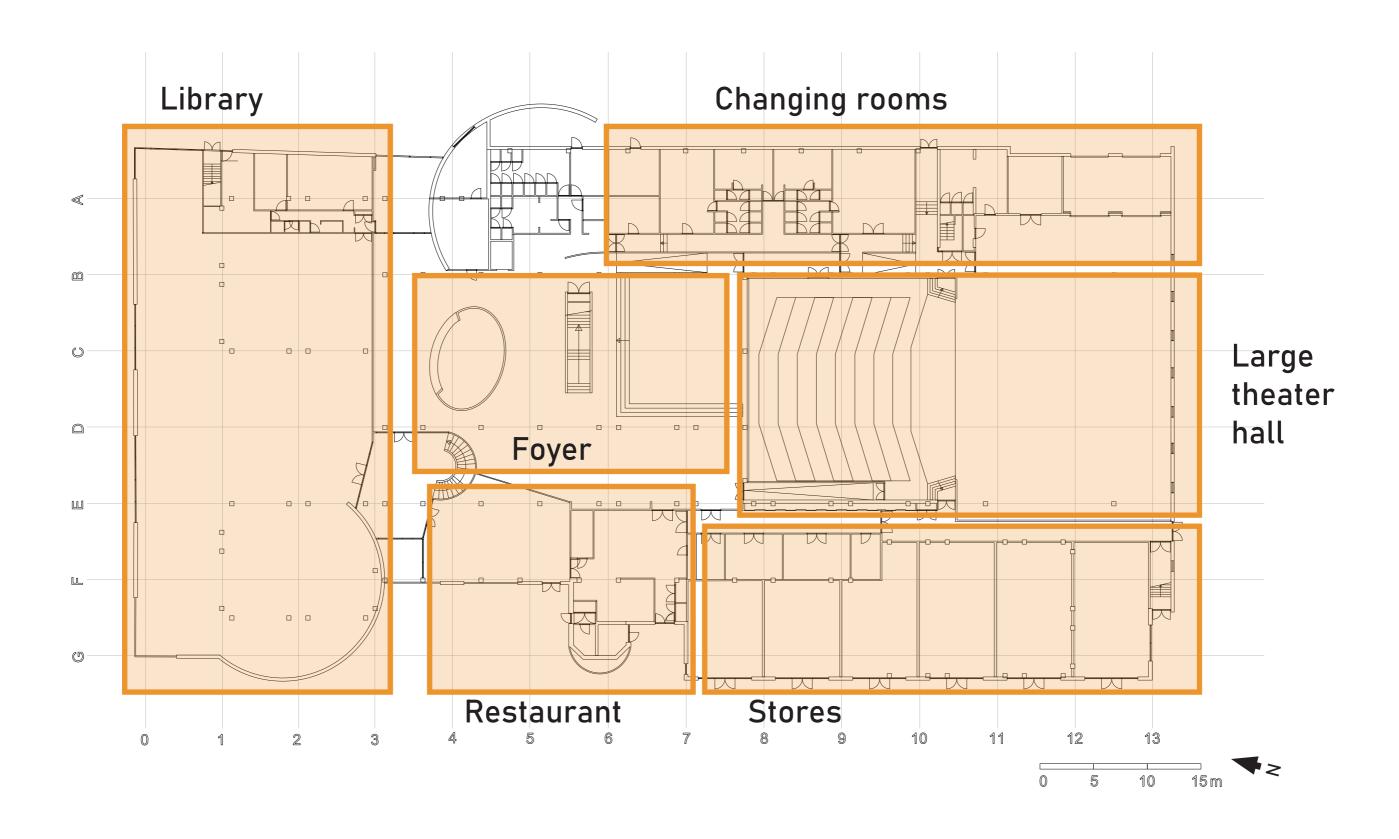


Current ground floor plan of the Meervaart



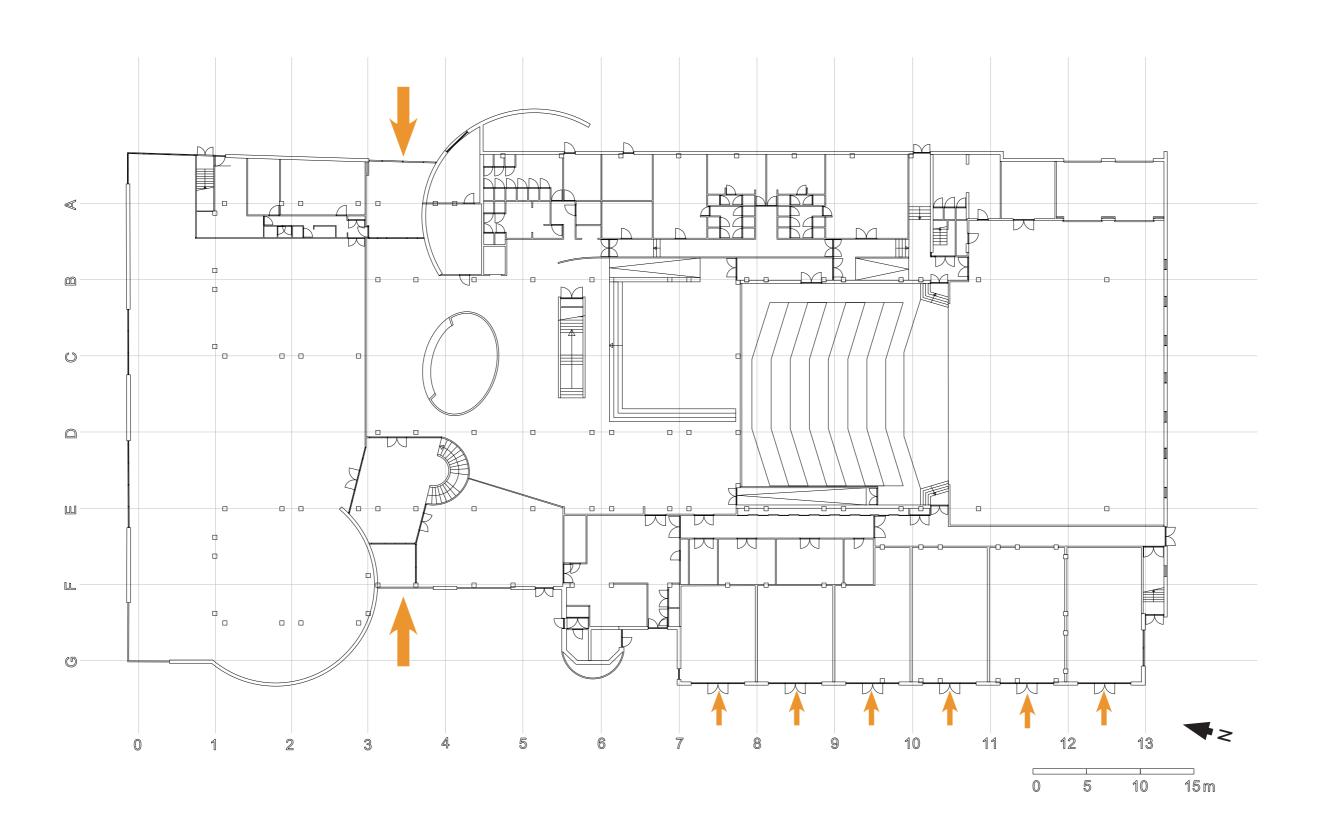
SpaceplanServicesSkinStructureSite

Current ground floor plan of the Meervaart, with function designation



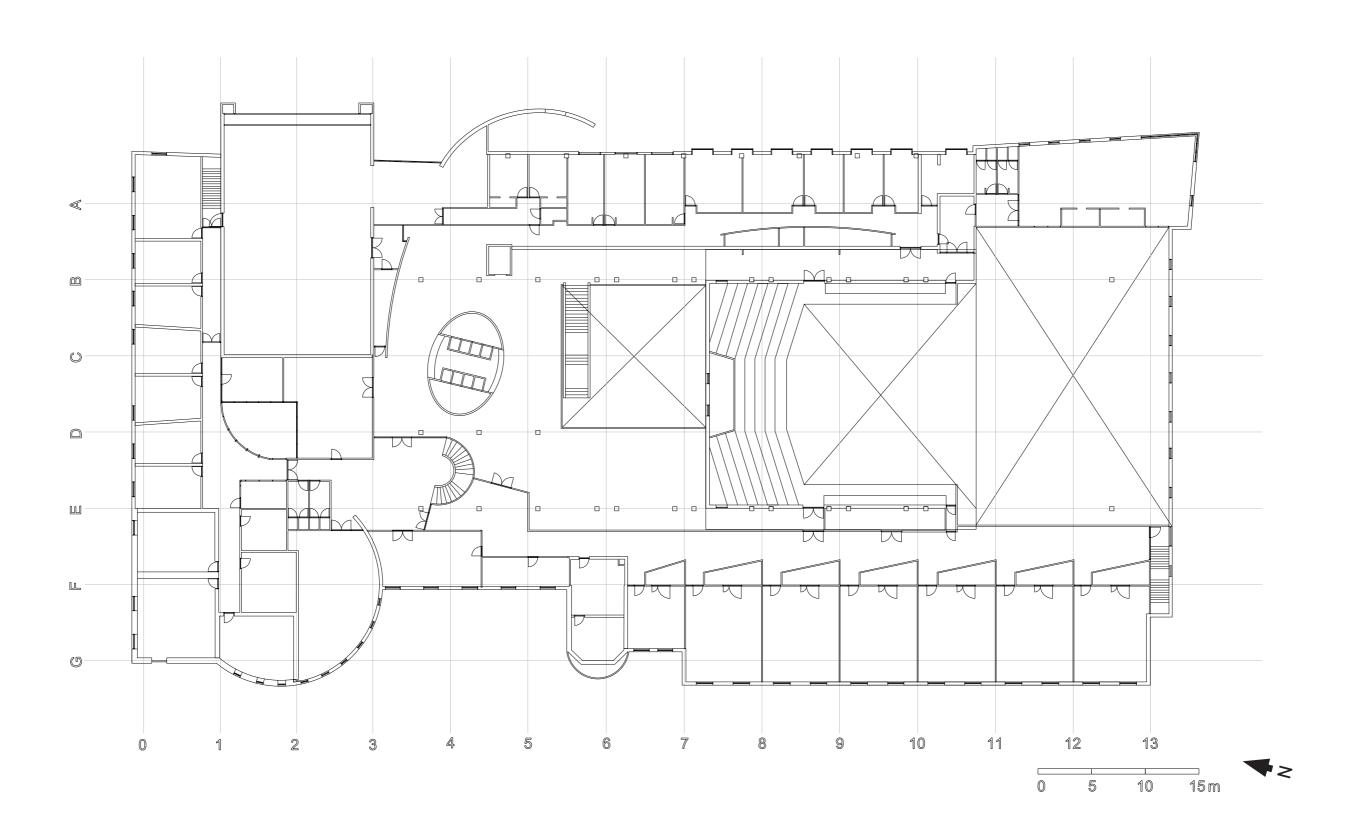
SpaceplanServicesSkinStructureSite

Current ground floor plan of the Meervaart, with entrance designation

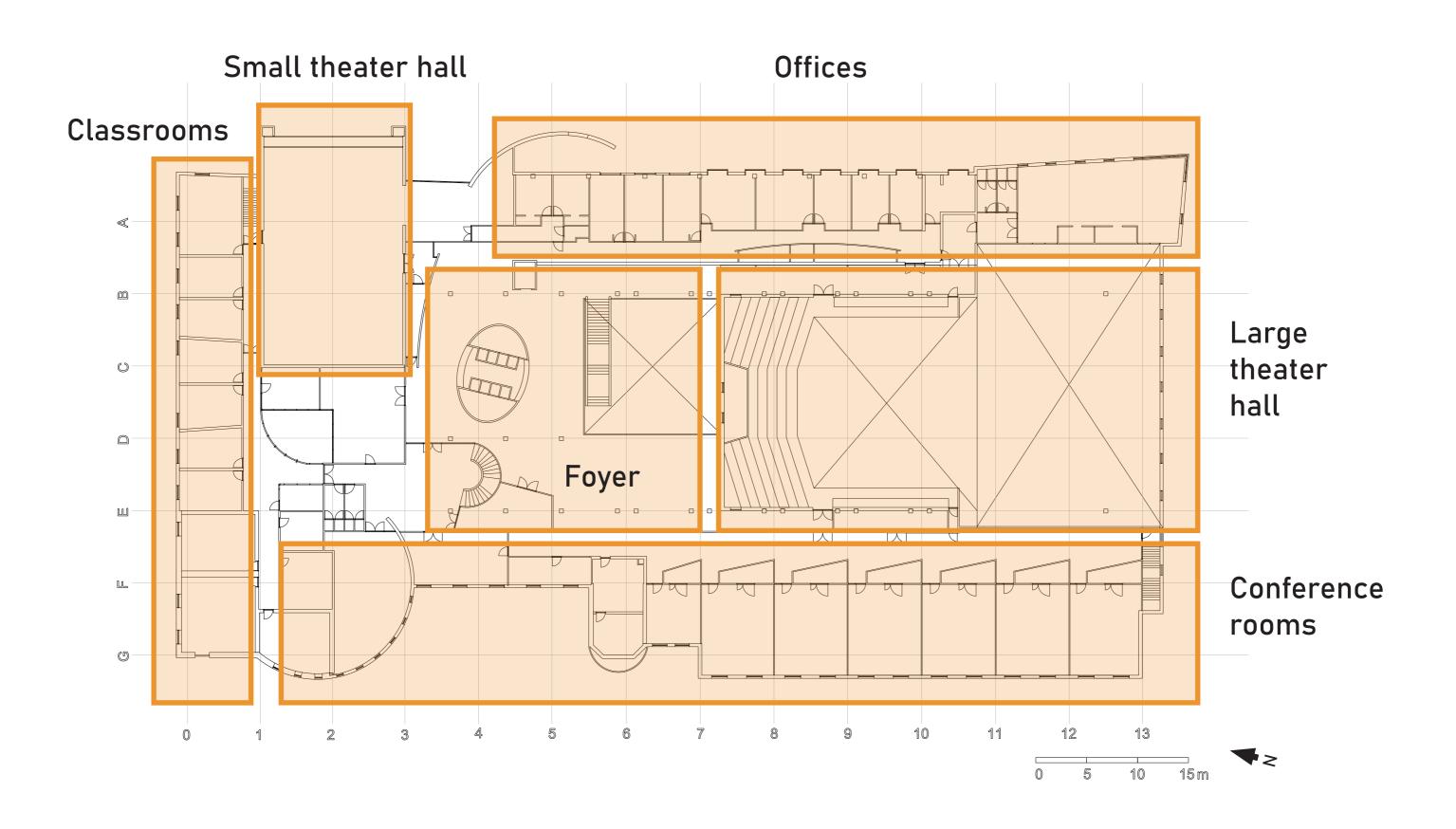


SpaceplanServicesSkinStructureSite

Current first floor plan of the Meervaart

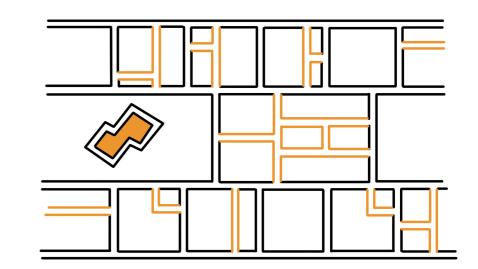


Current first floor plan of the Meervaart, with function designation



SpaceplanServicesSkinStructureSite

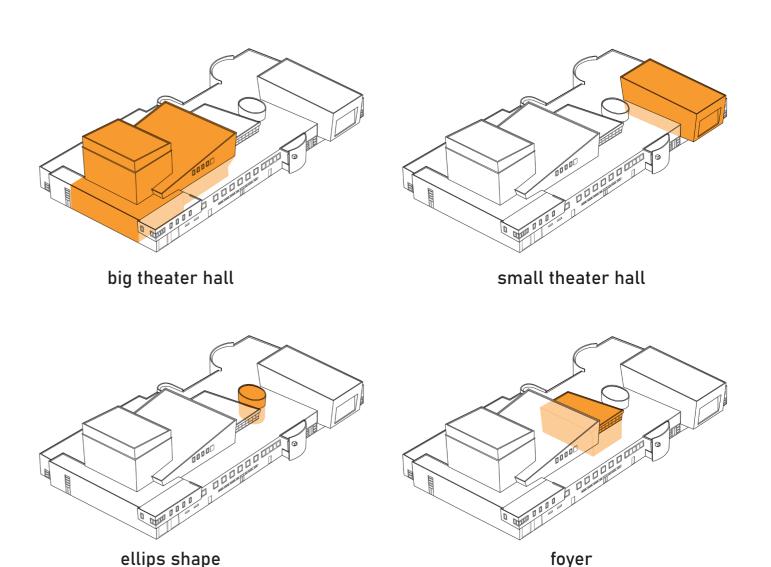
Design starting points for the spaceplan



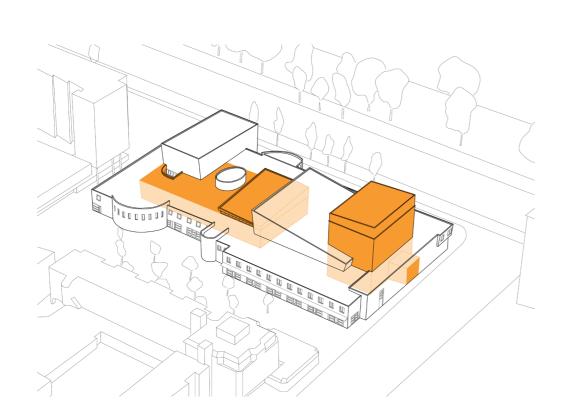
50

The space plan of the building should be **kept the same in main plan** as much as possible, where additional walls and floors can be added. It is added that a **distinctive area** of the building's floor plan should remain **unchanged.**

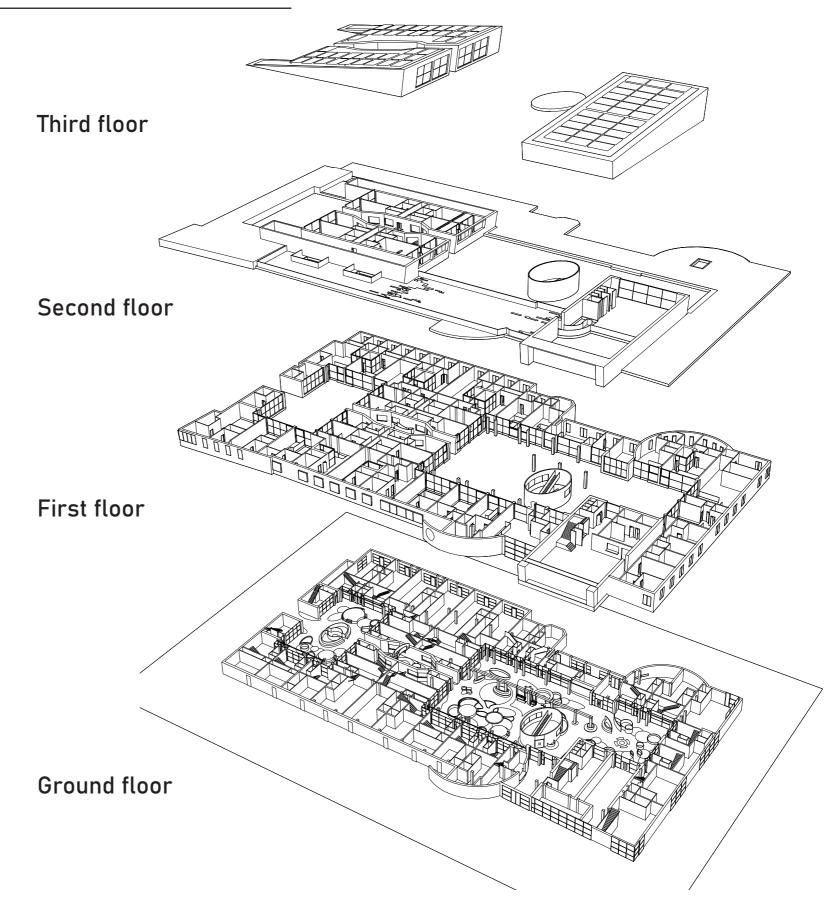
- Clear main plan of 7,2 meters
- Distinctive shapes
 - the small theater hall
 - the ellips shape
 - the big open foyer
 - the seating area
 - the open theater stage



Layers within the space plan of the new Meervaart

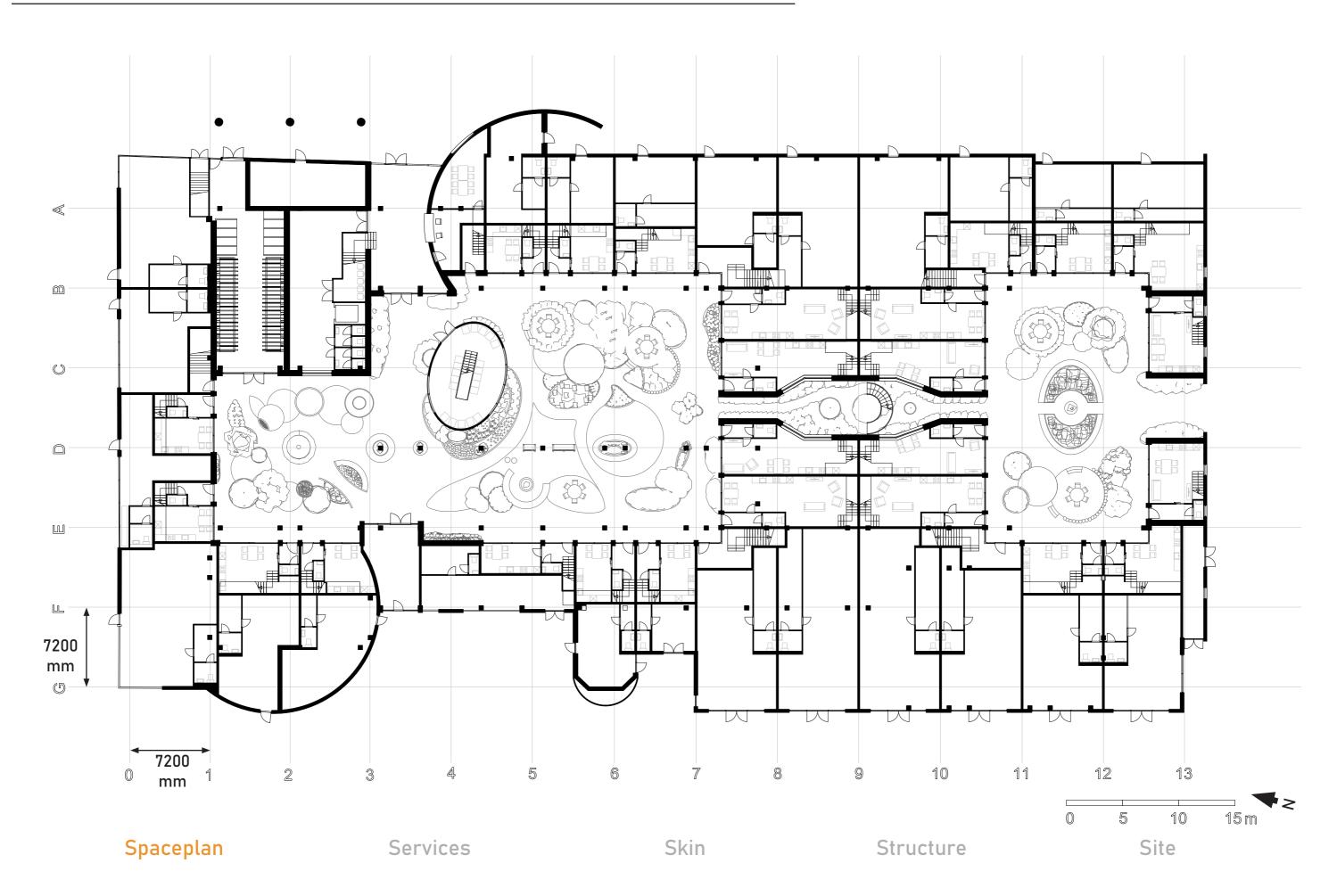


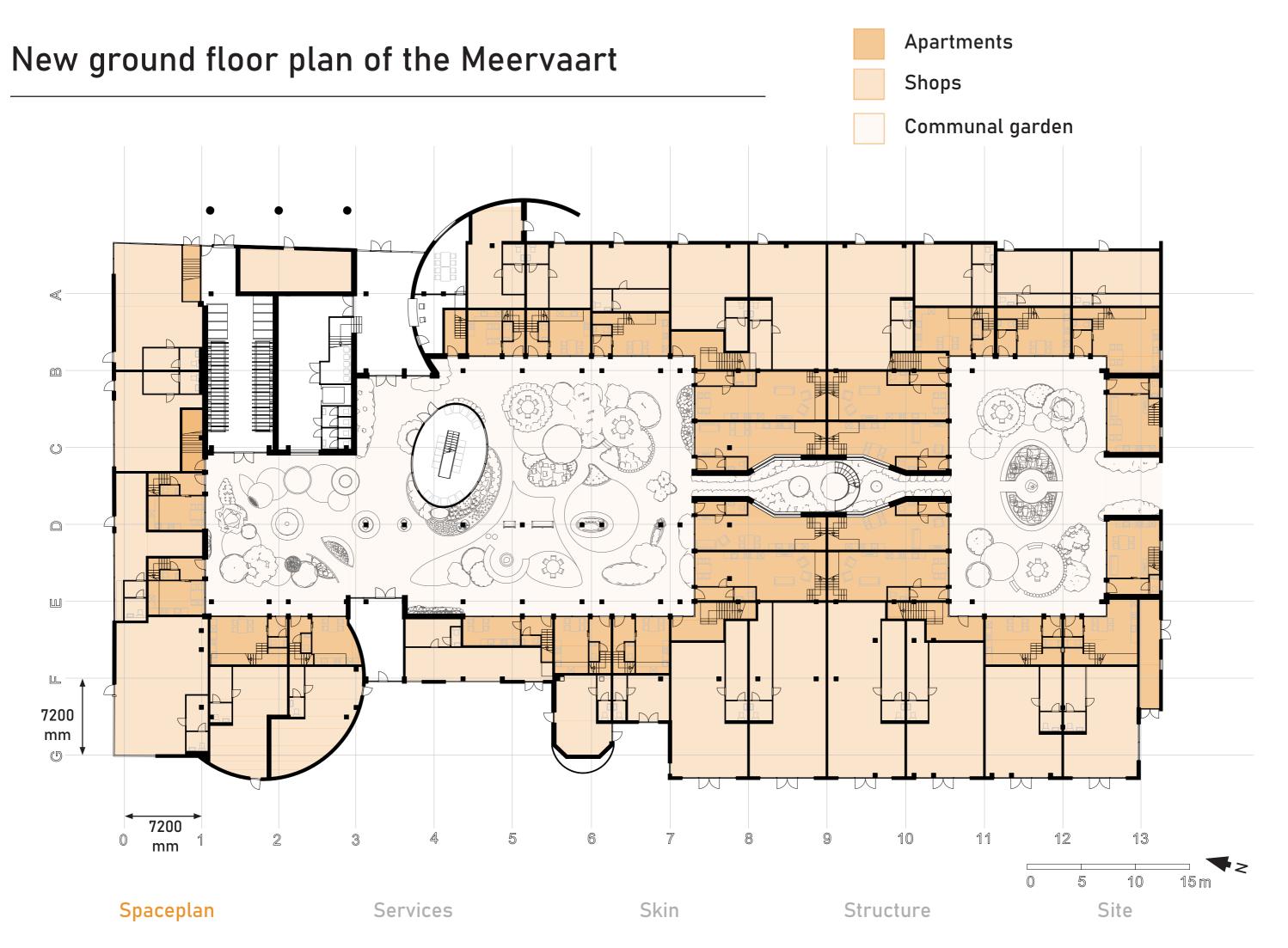
Subtracted parts of the building



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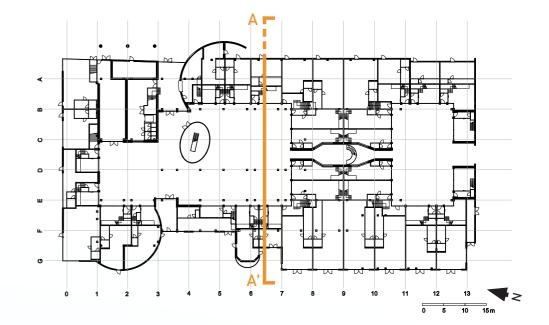
New ground floor plan of the Meervaart



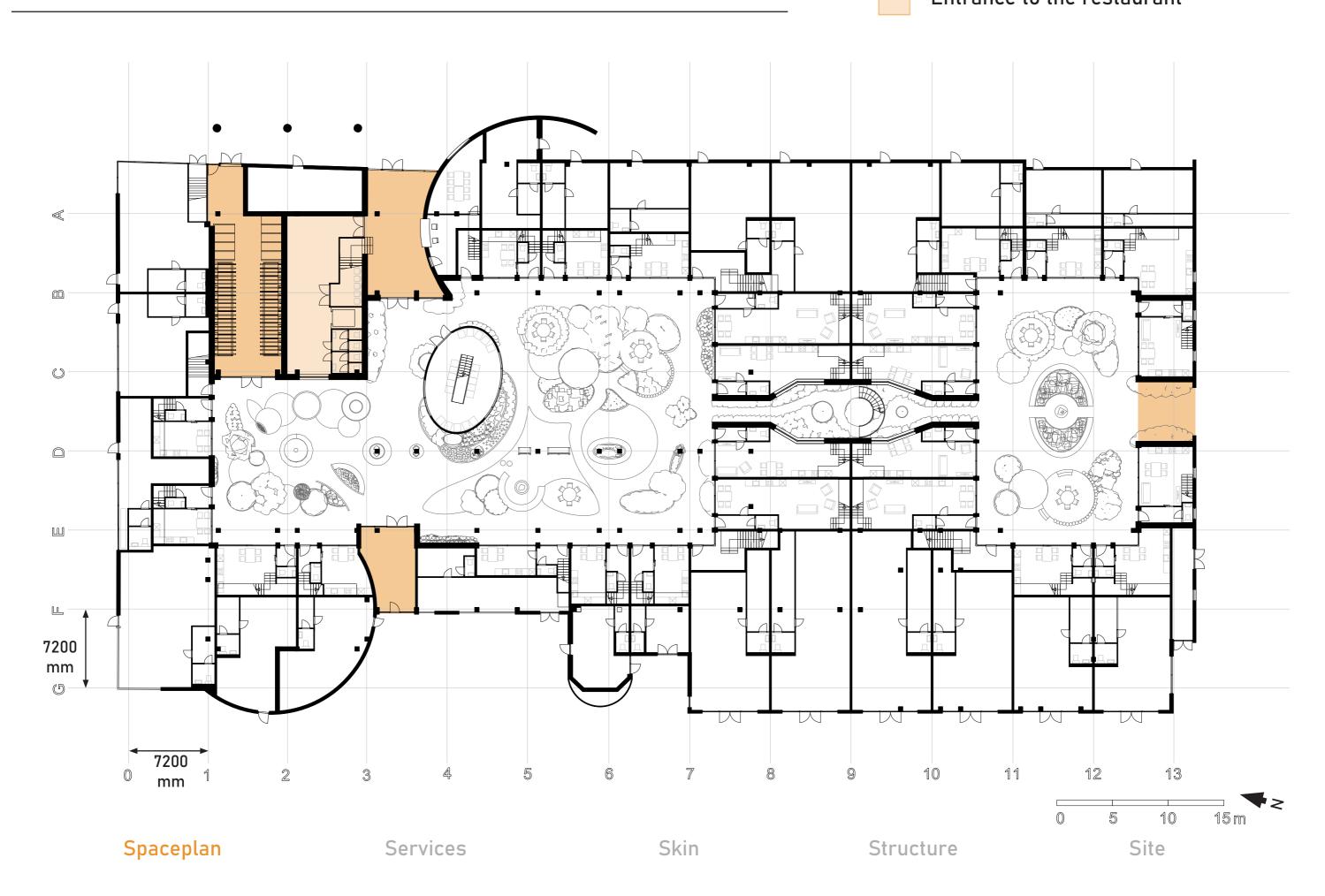


Connection between the apartments and the stores

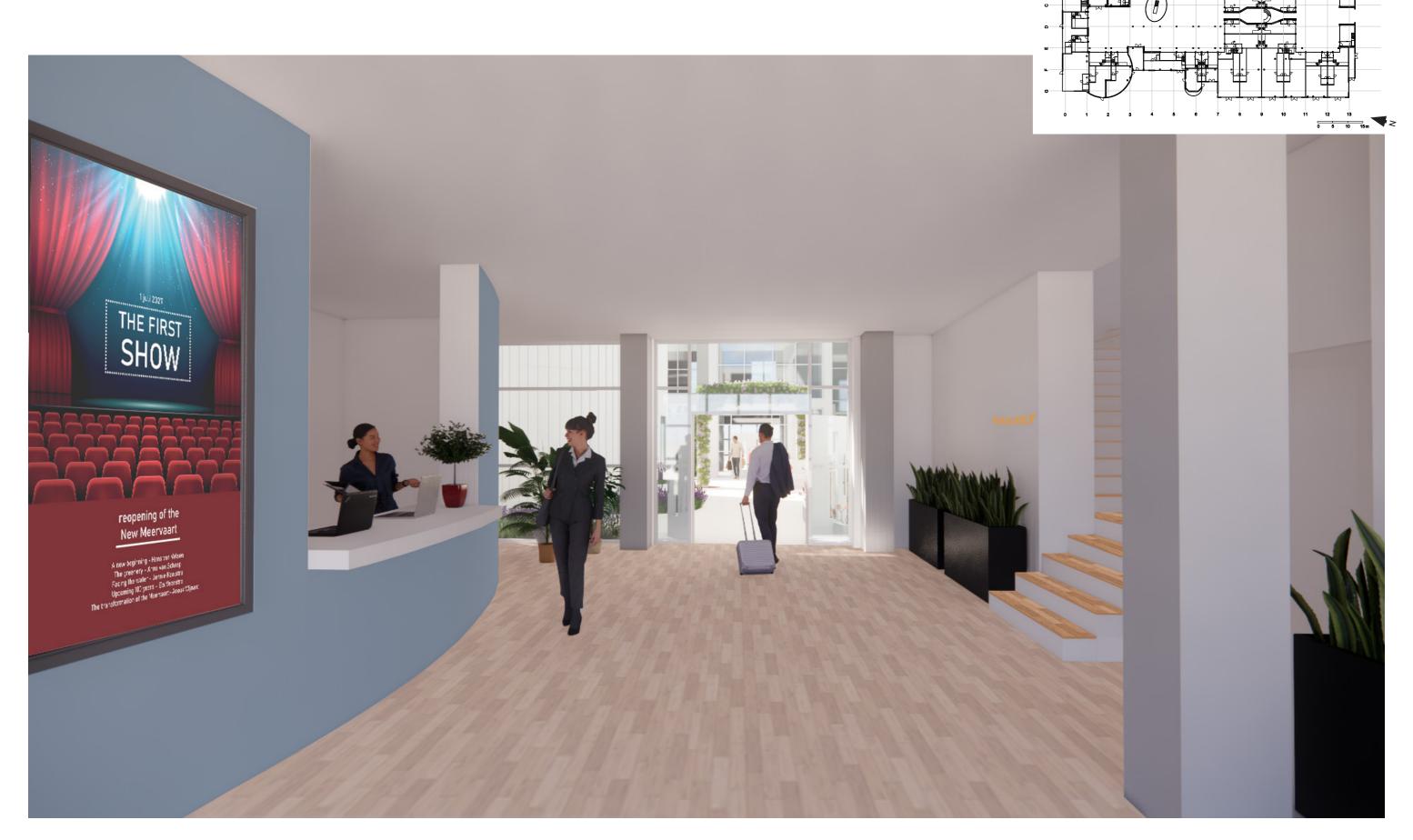
- Apartments
- Shops

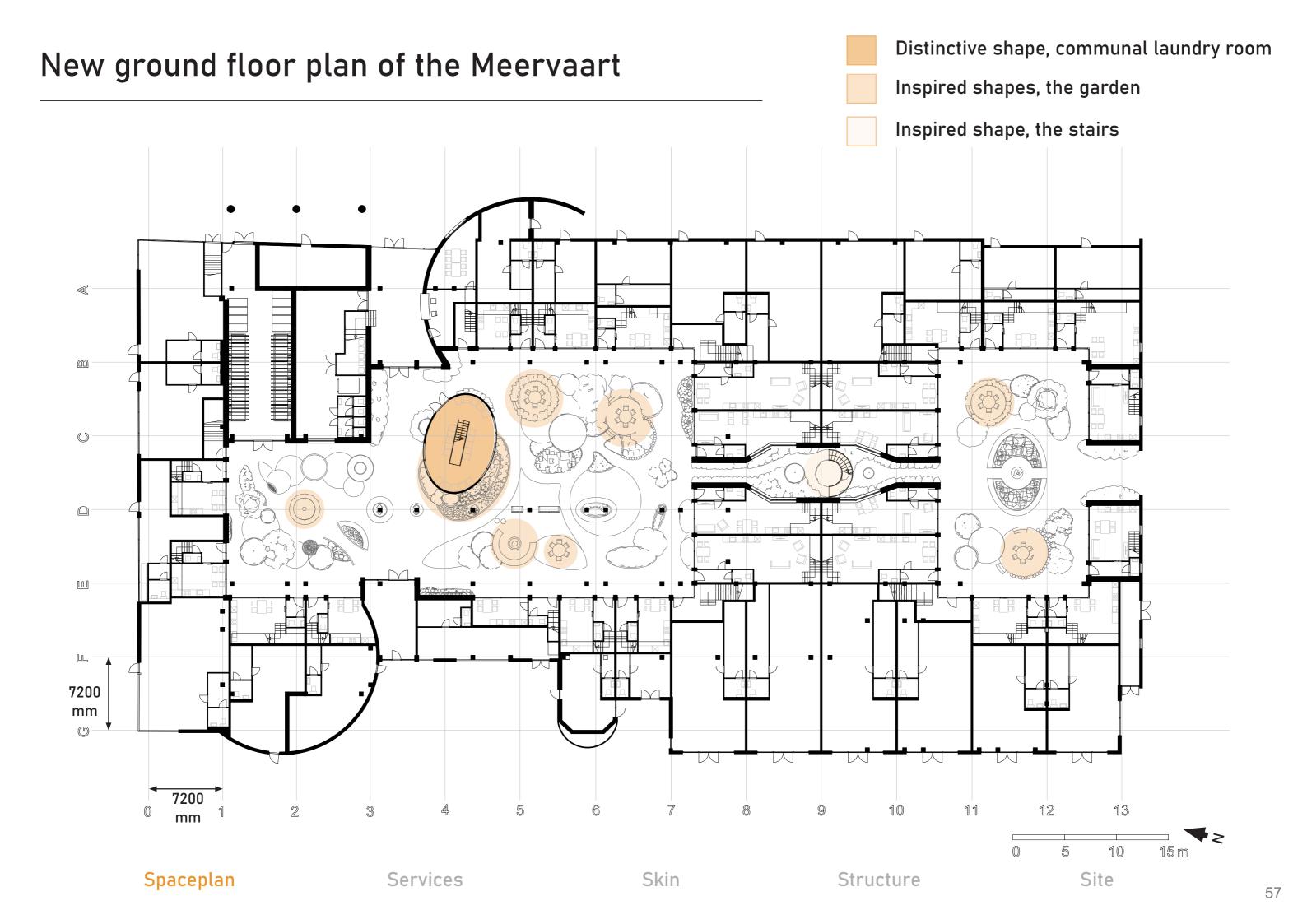






Keeping of a distinctive building entrance

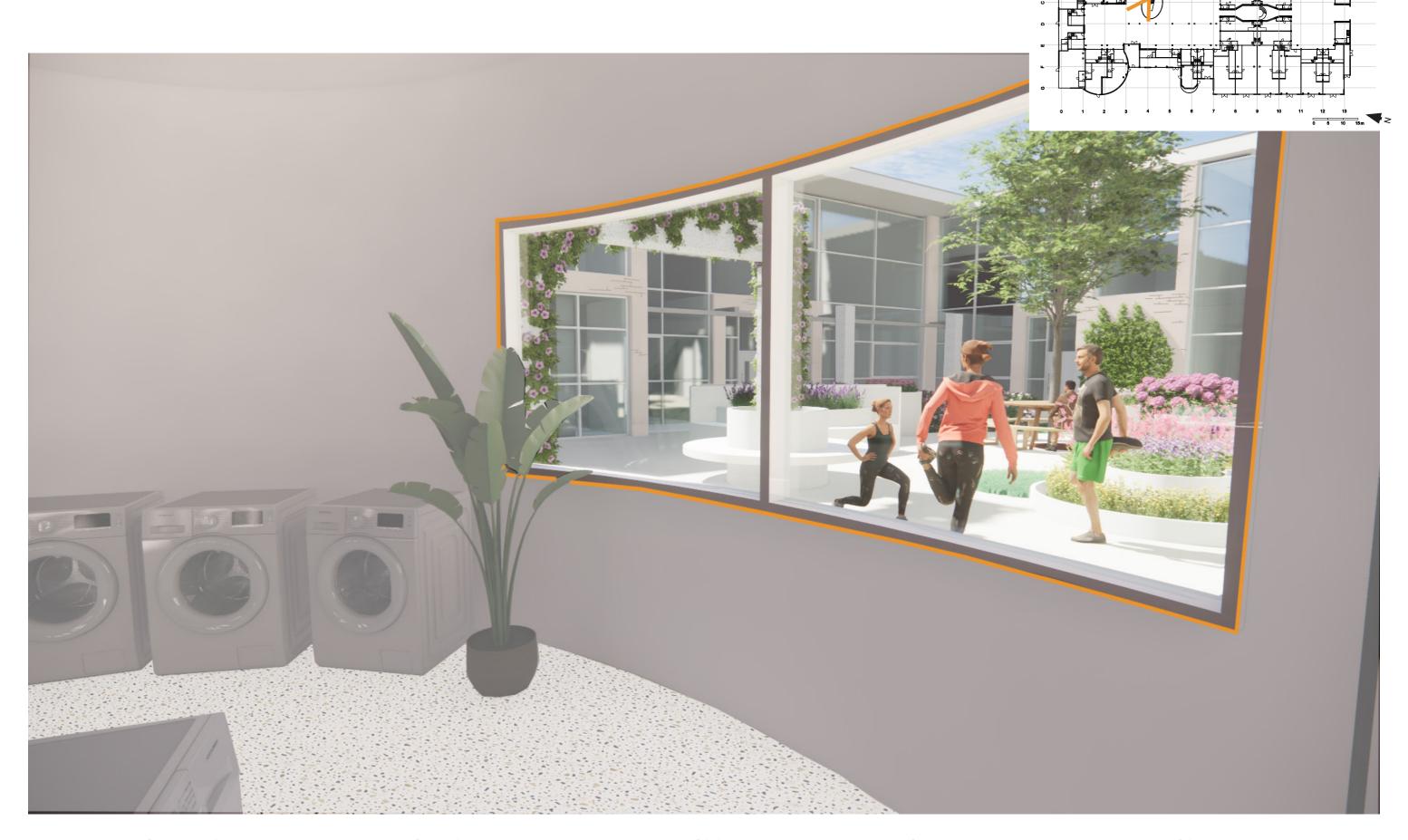




Keeping of a distinctive building shape



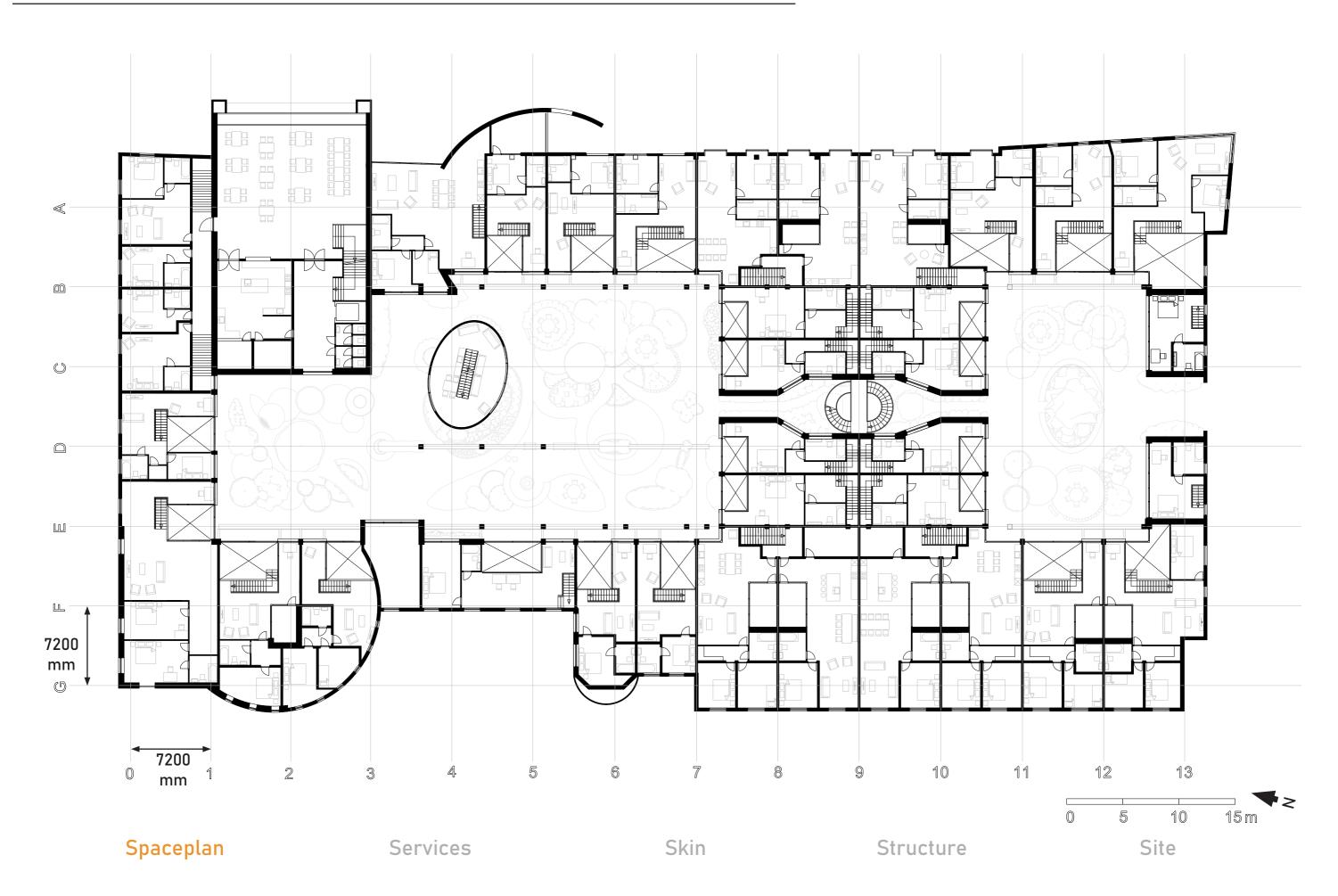
Keeping of a distinctive building shape



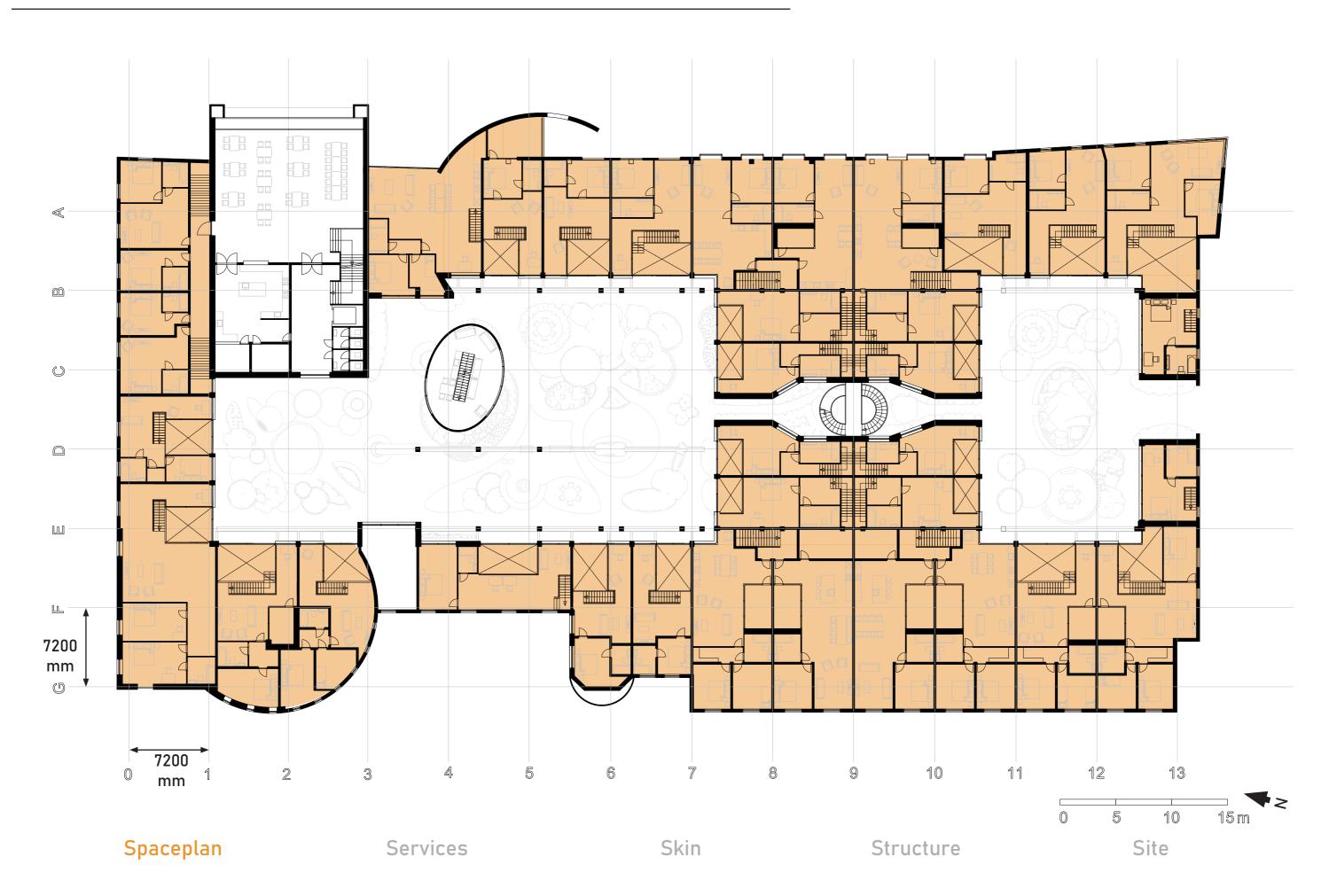
Adding a inspired building shape



New first floor floor plan of the Meervaart









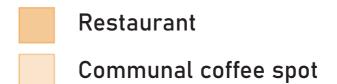
Spaceplan Services Skin Structure Site

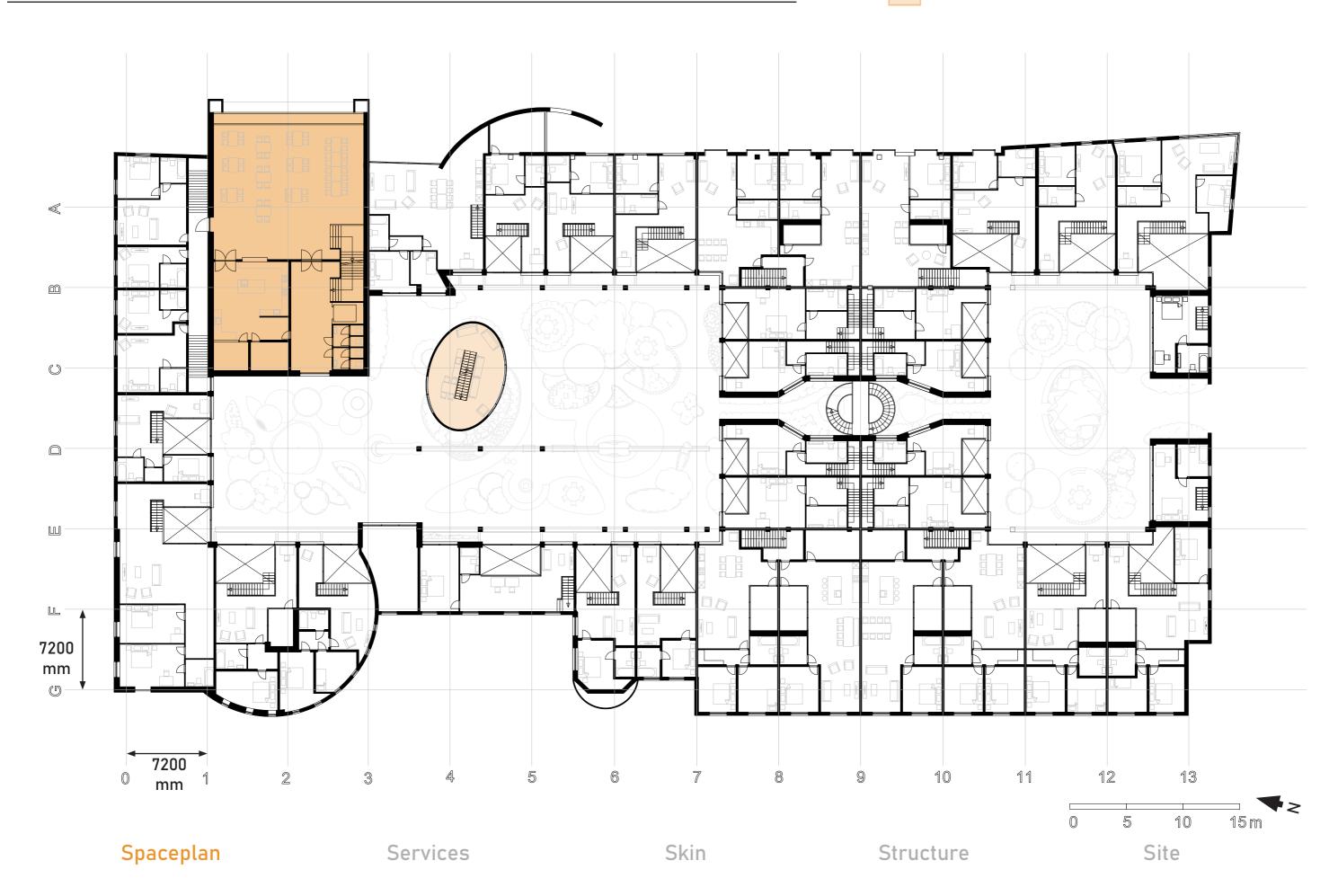




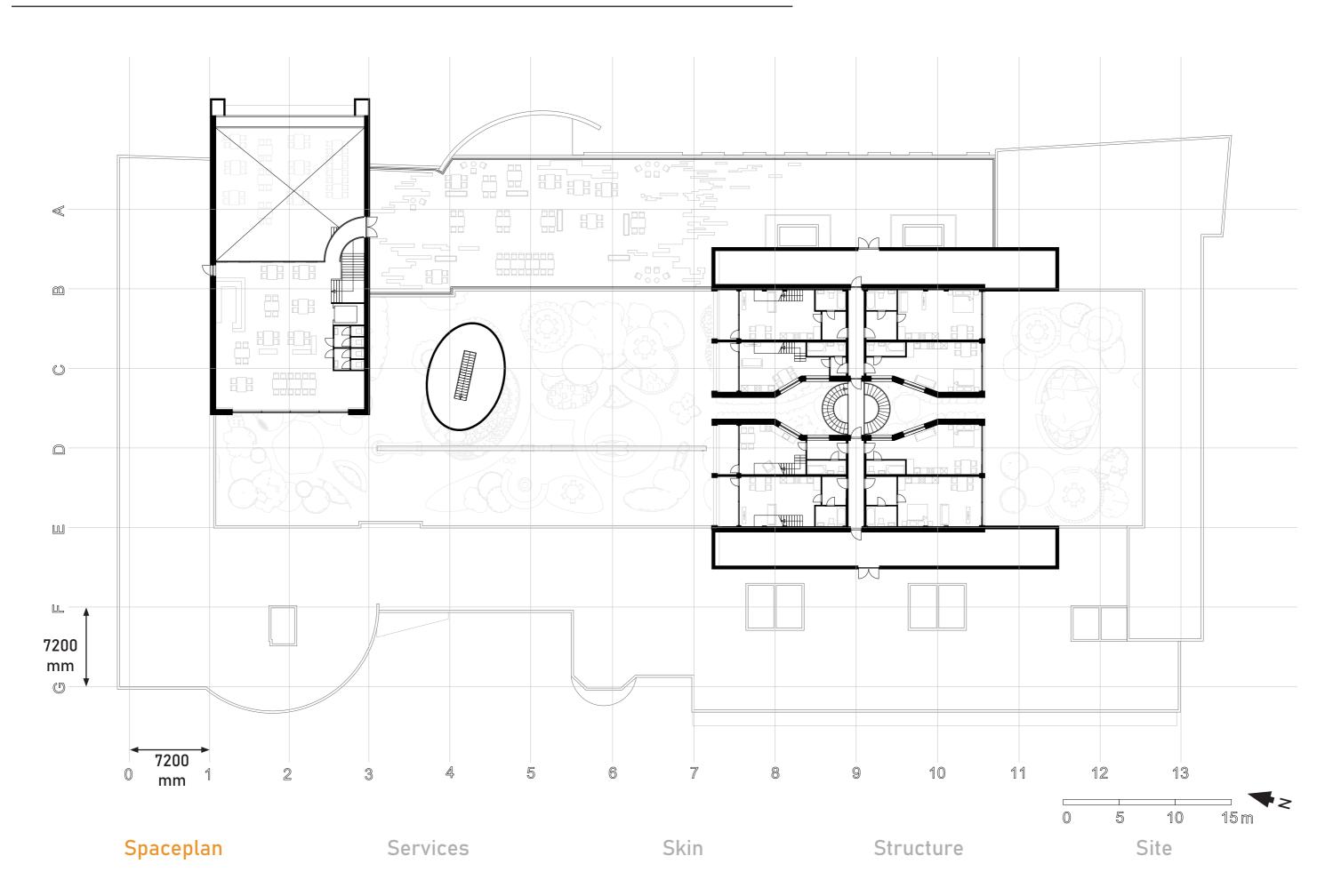
Spaceplan Services Skin Structure Site

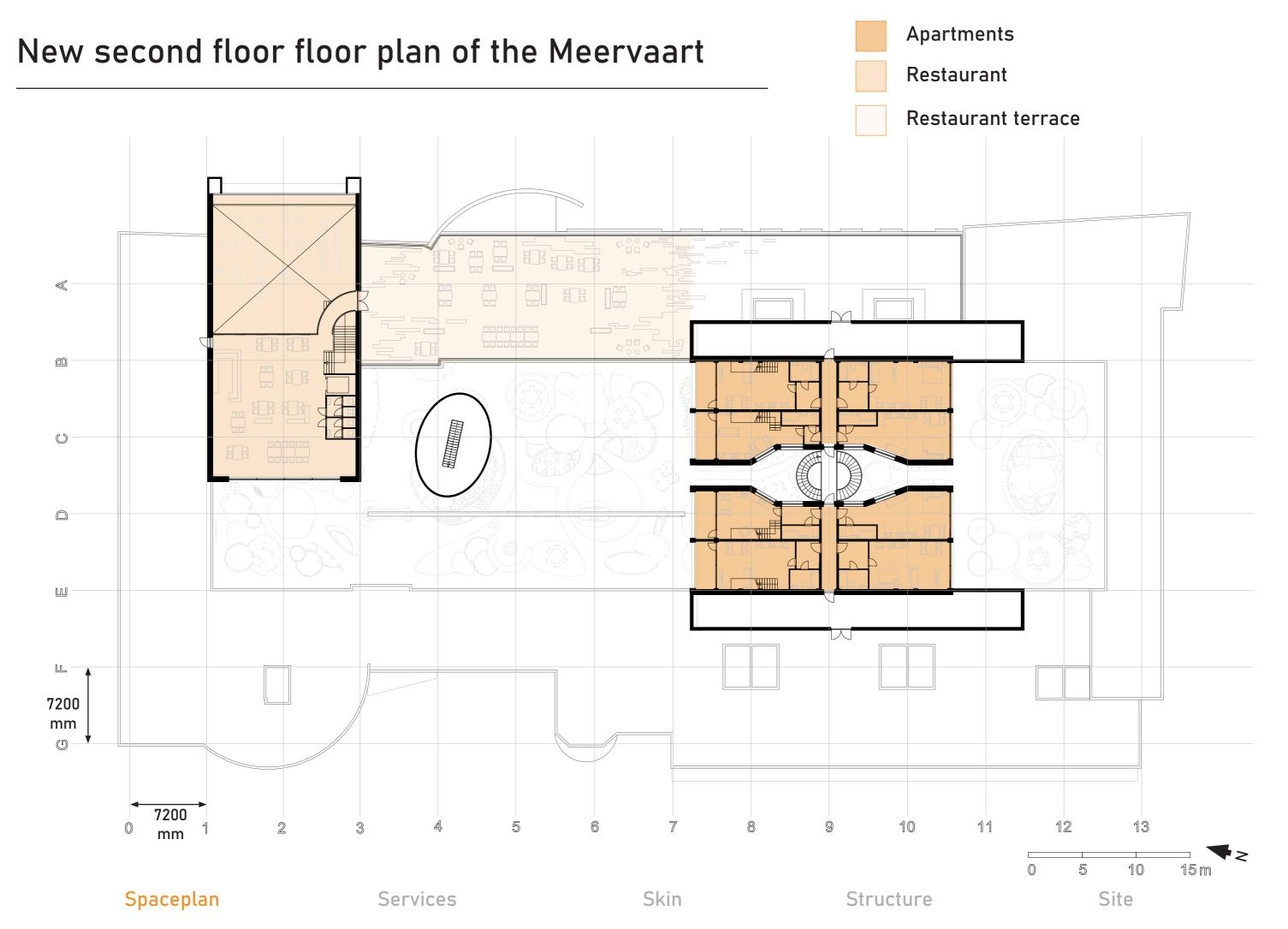
New first floor floor plan of the Meervaart





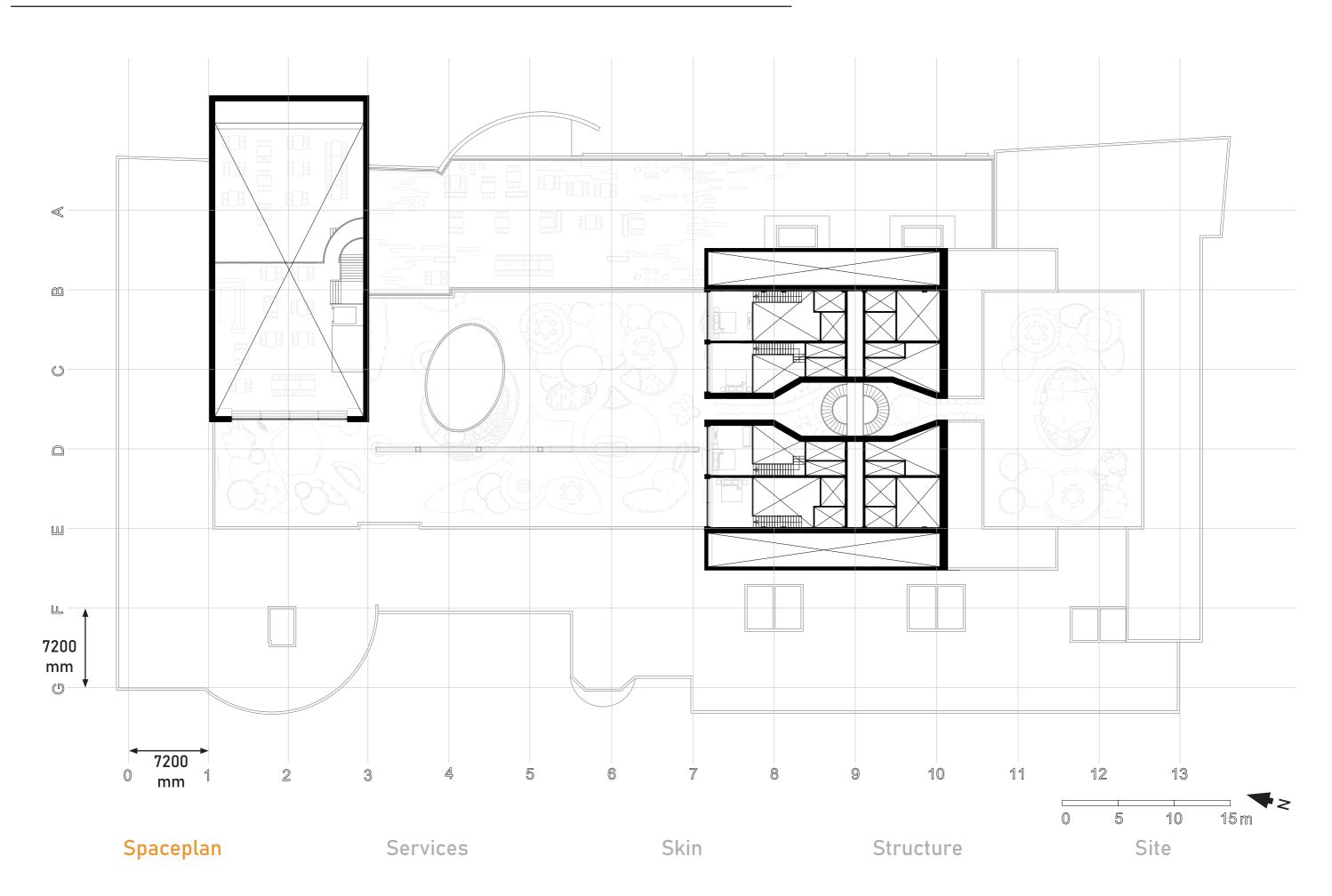
New second floor floor plan of the Meervaart





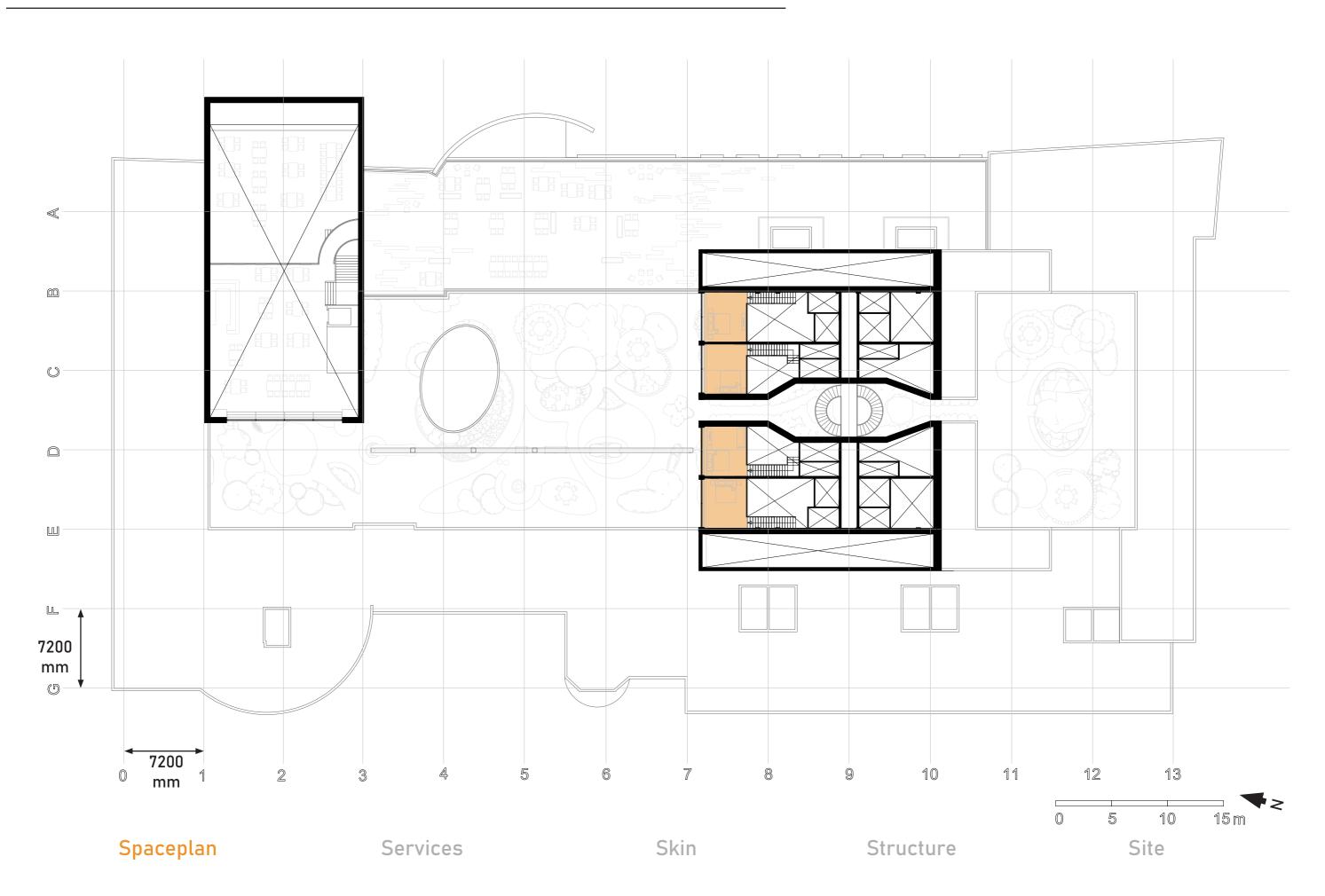


New third floor floor plan of the Meervaart

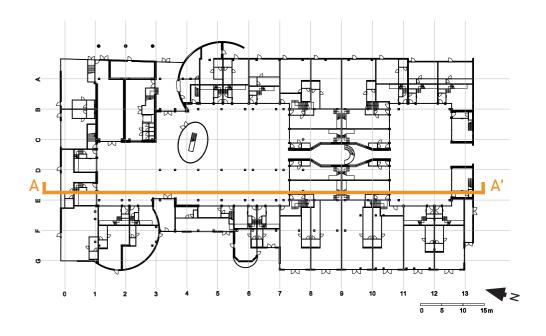


Apartments

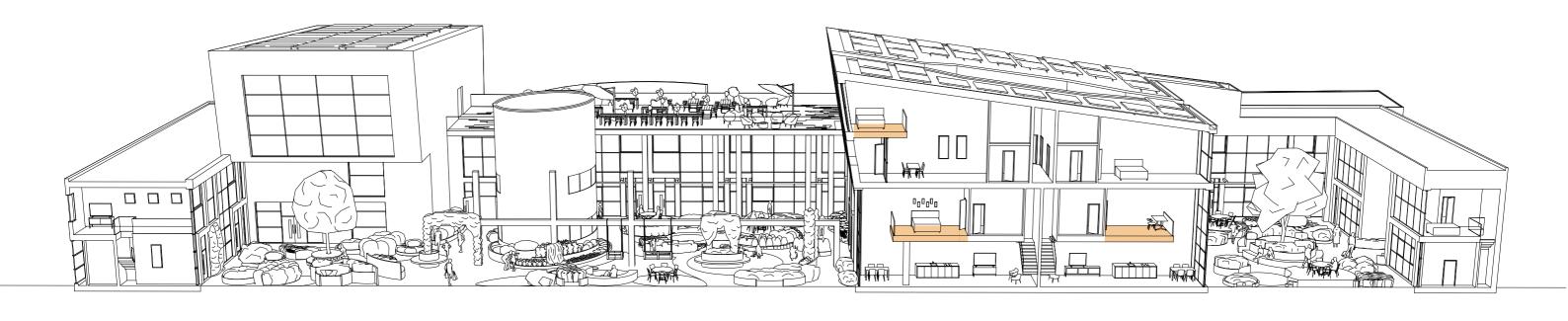
New third floor floor plan of the Meervaart



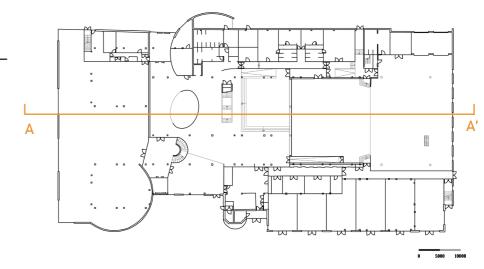
Mezzanine and maisonette dwellings



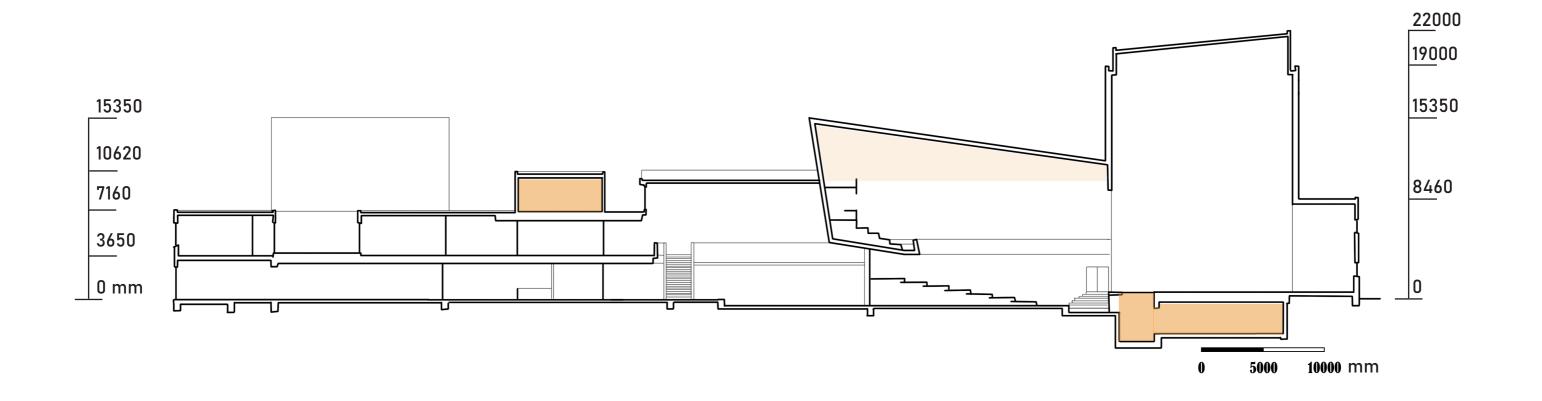
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Cross section with the services of the current Meervaart



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Spaceplan Services Skin Structure Site

Design starting points for the services

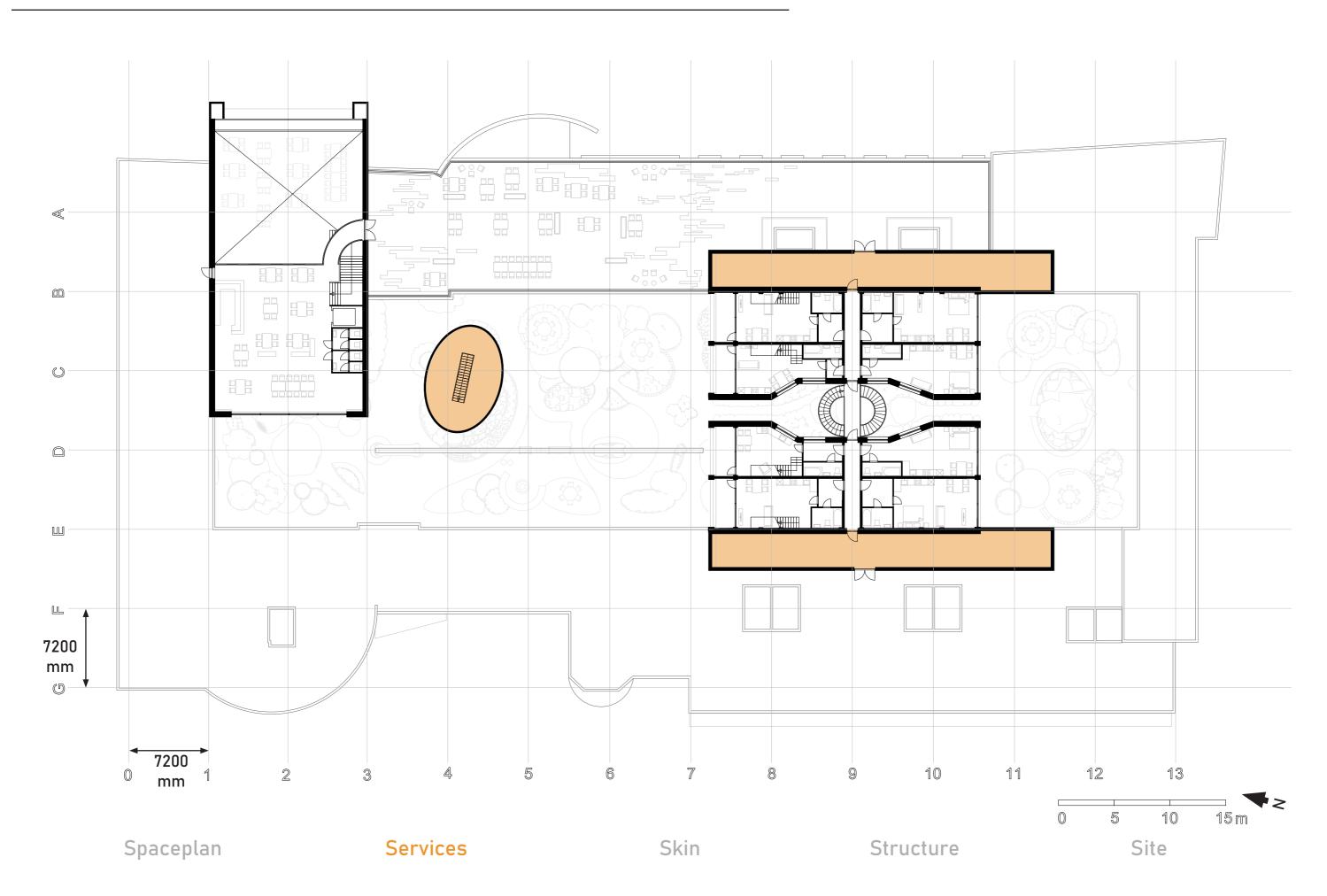
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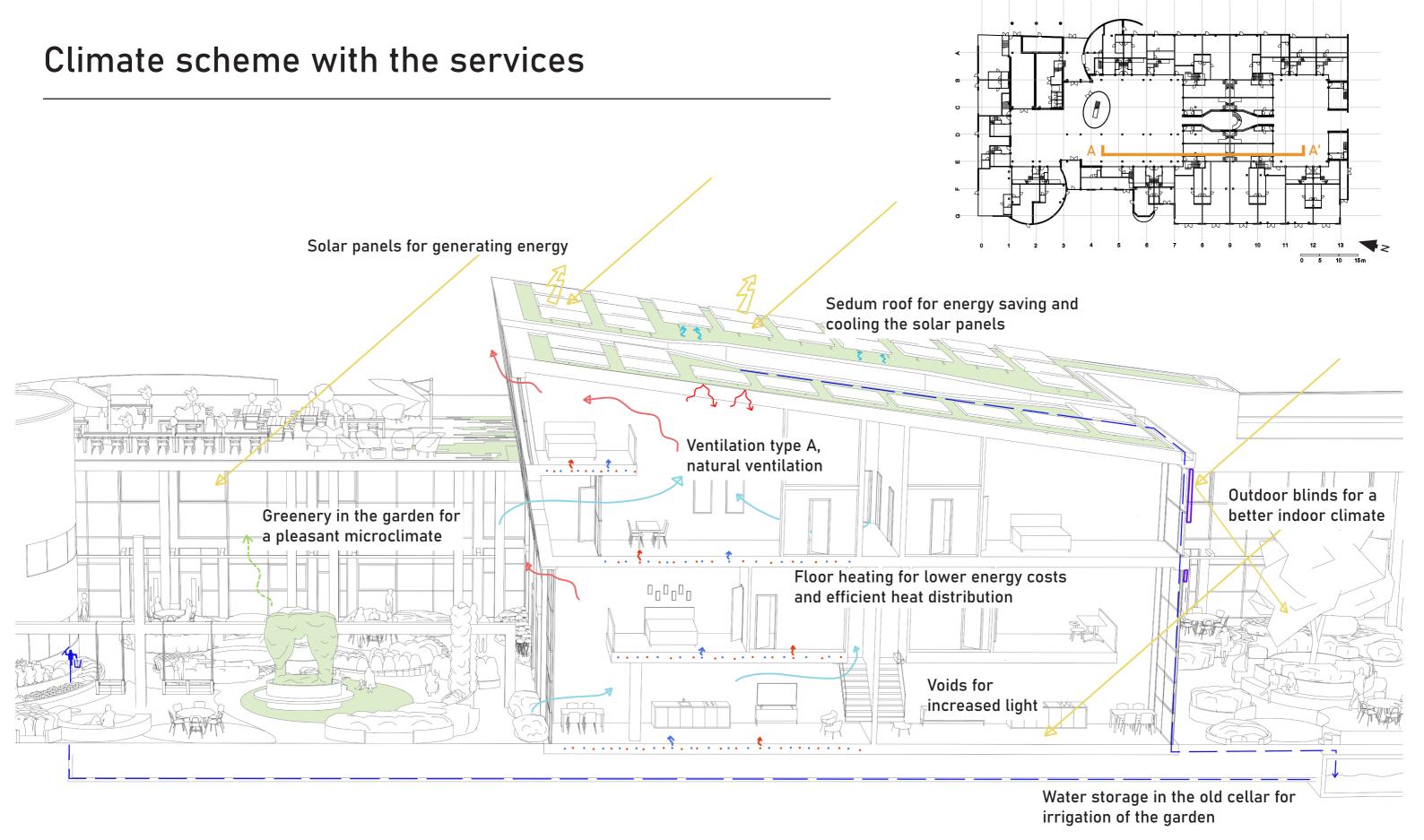
More **services** should be **added** per apartment and part of the **general** service spaces should be **kept**.

- The new function that need added services
- Some of the common service spaces will need to remain

Tecnical rooms

New second floor floor plan of the Meervaart

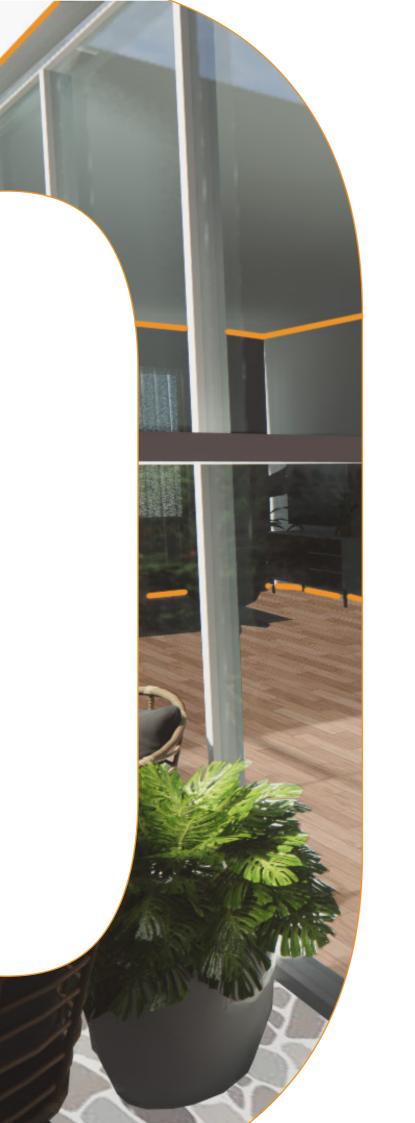




The stores and restaurant will use Type D ventilation with mechanical supply and exhaust through an air treatment cabinet with a heat exchanger. These cabinets are located in the stores' storage area.

Spaceplan Services Skin Structure Site

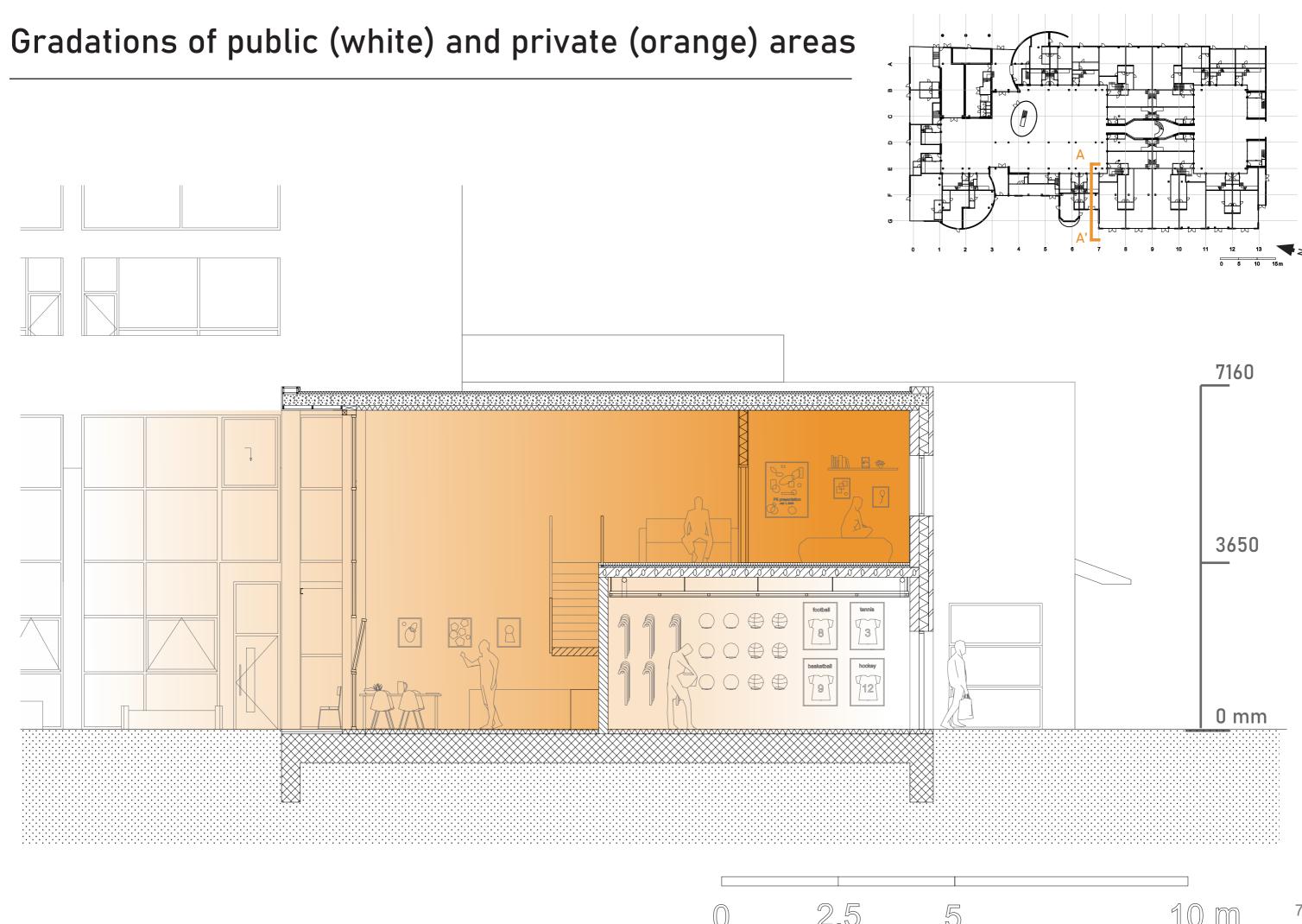
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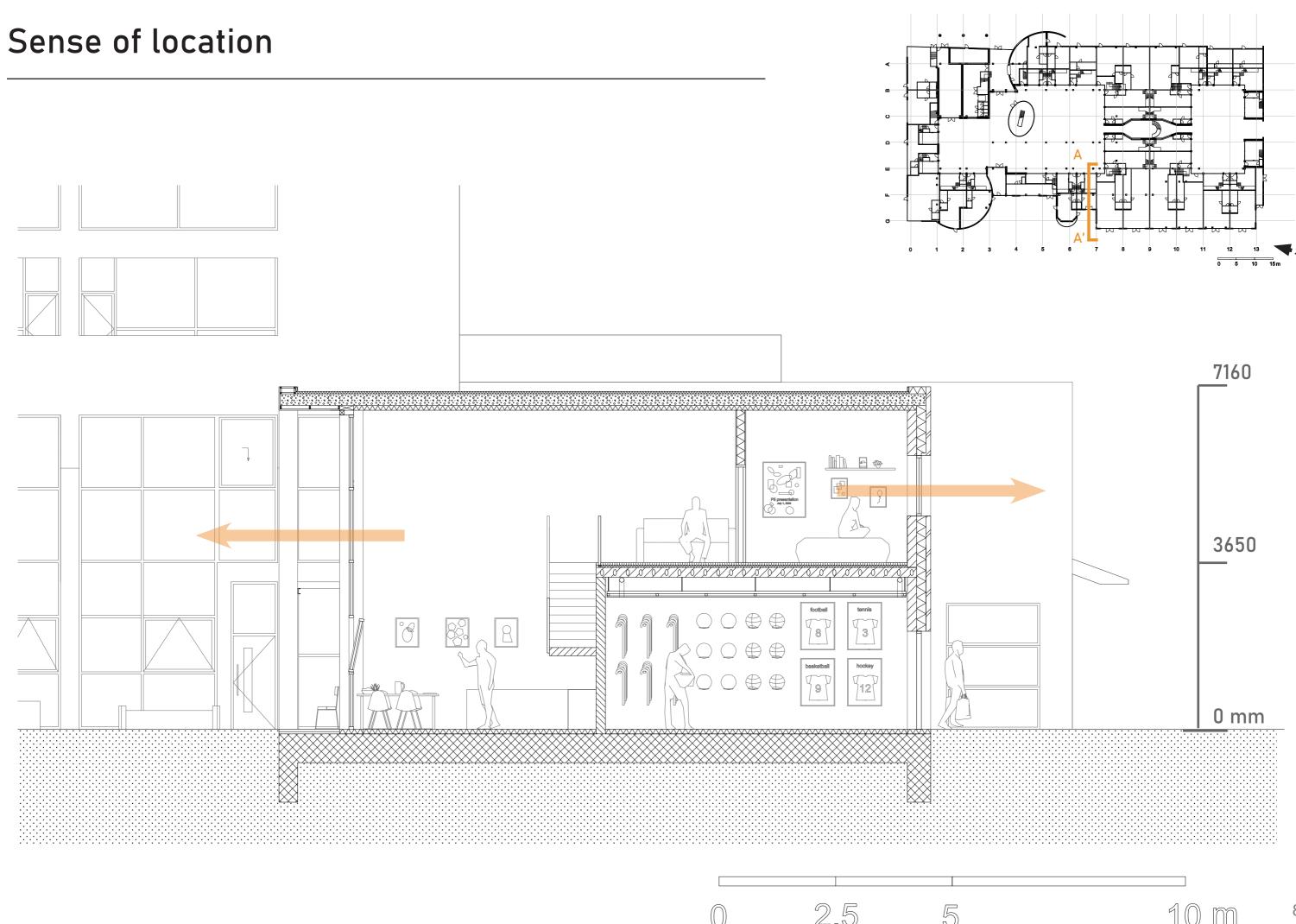


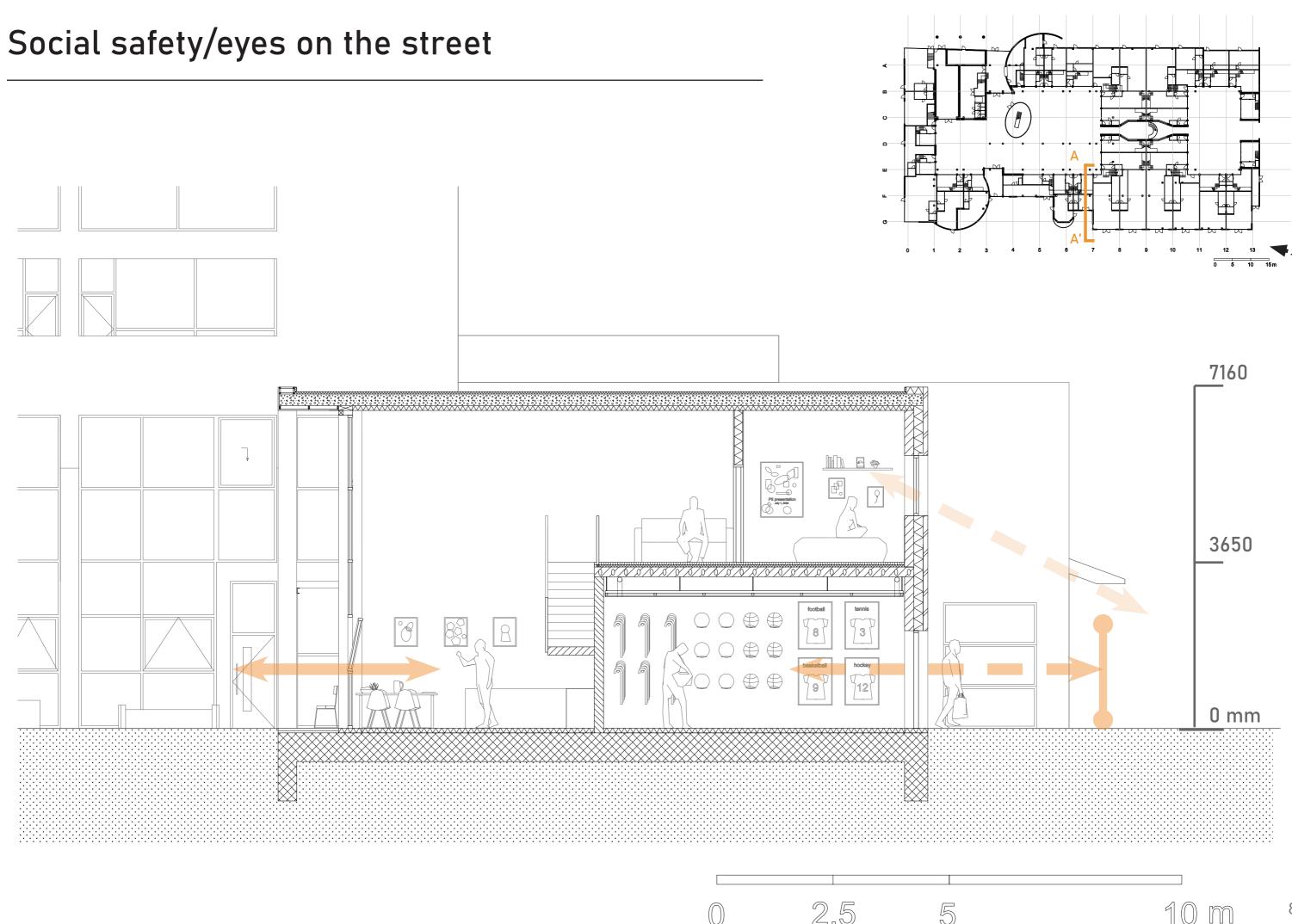


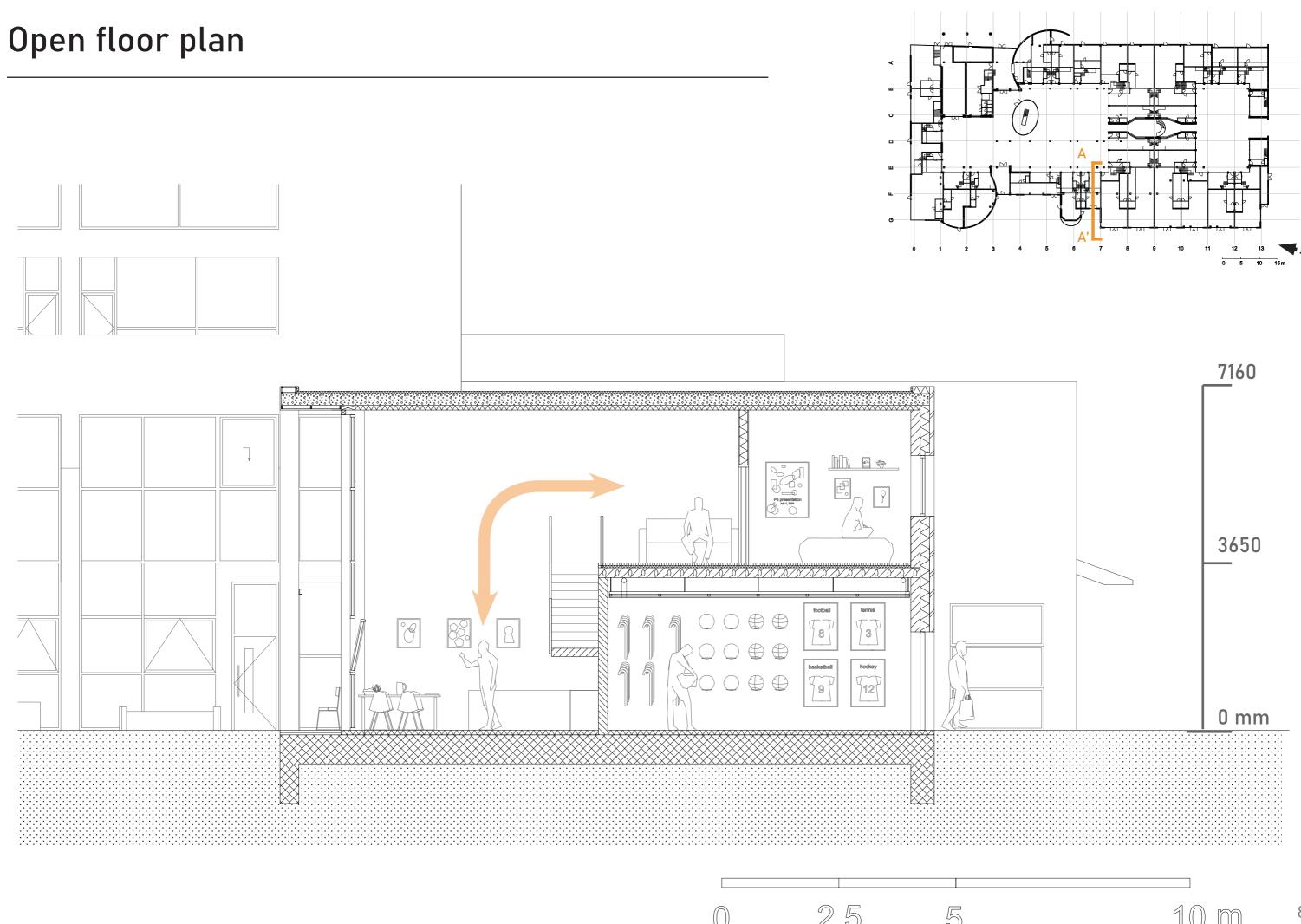
DESIGN FOR BUILDING QUALITIES

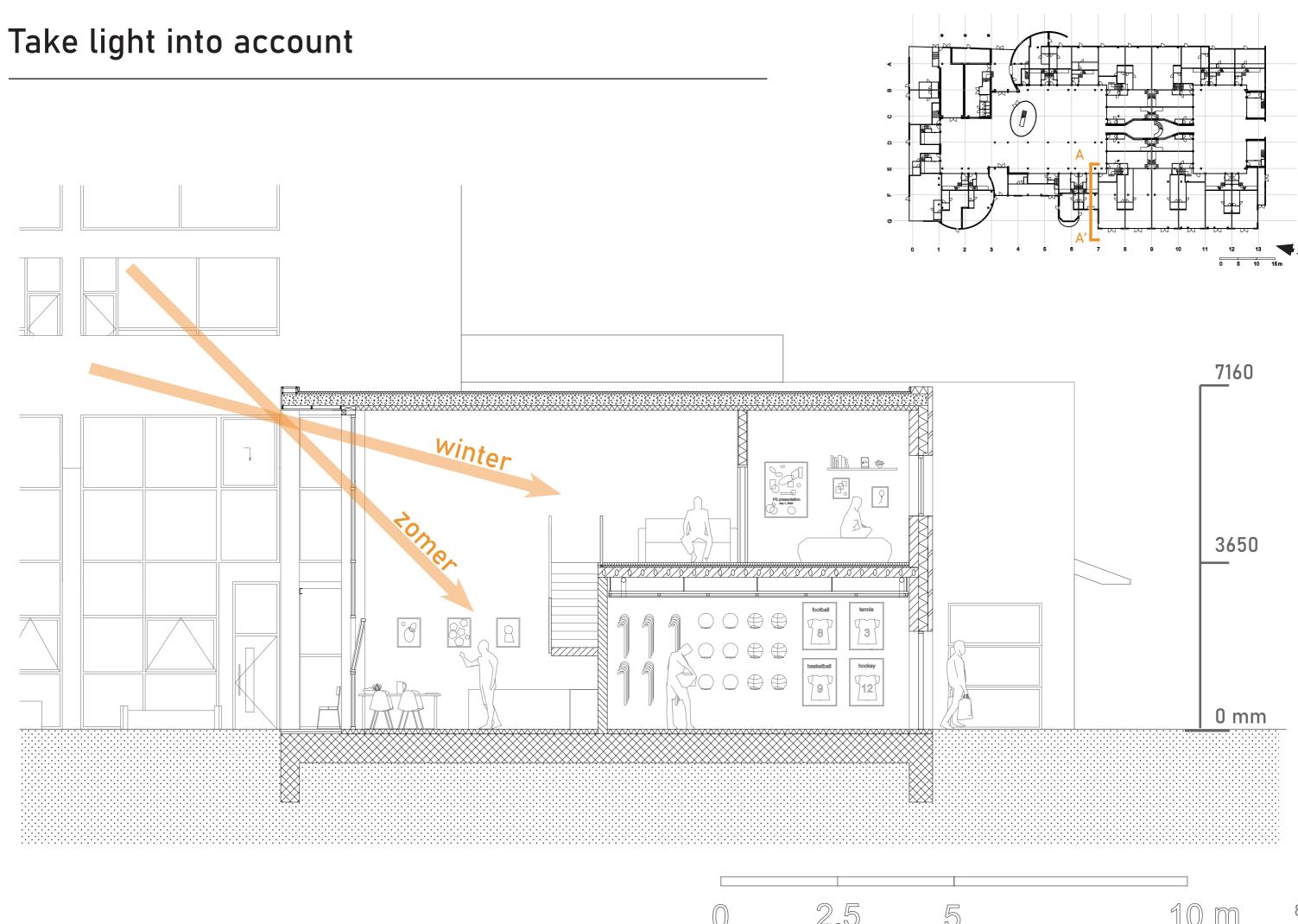


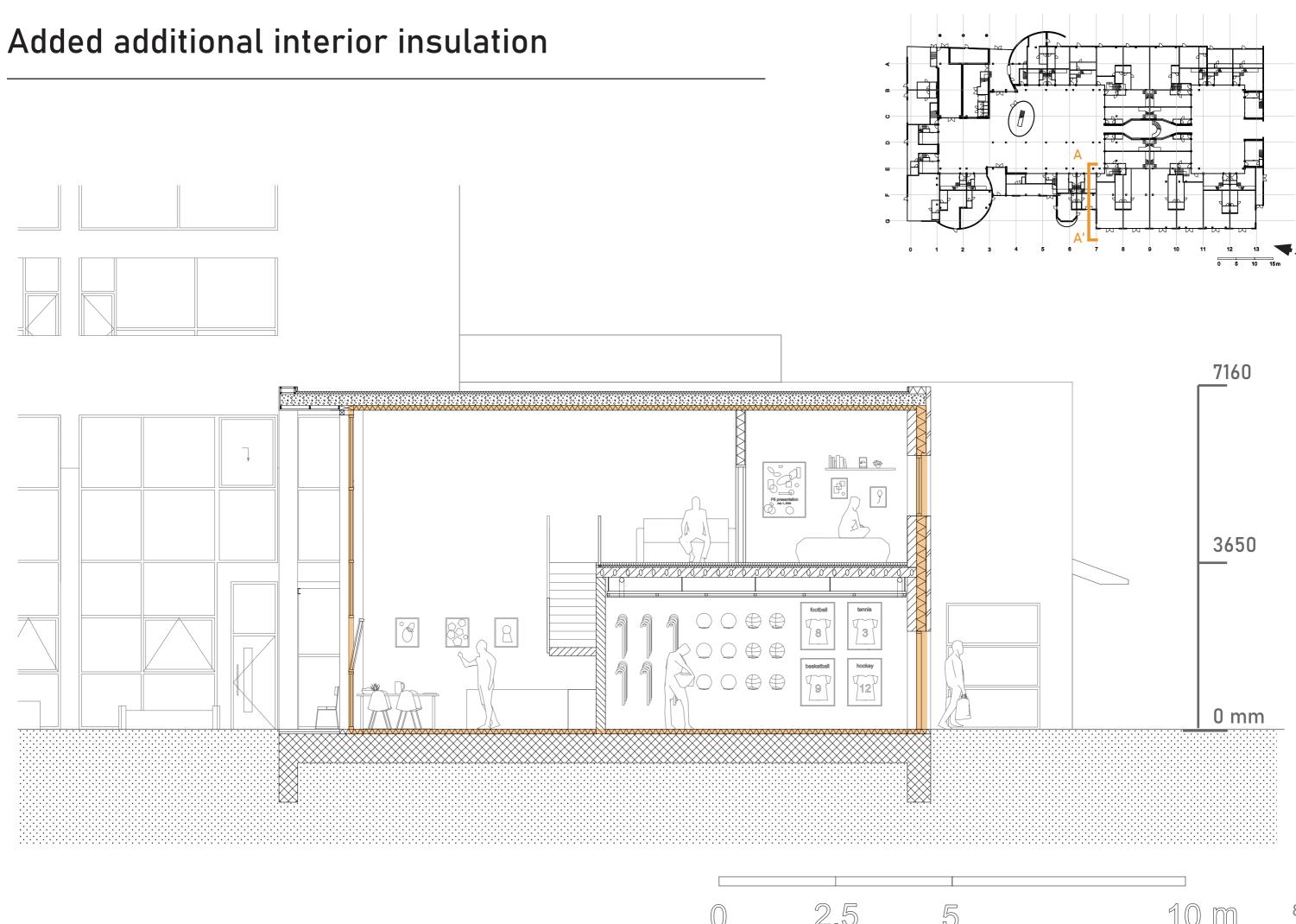


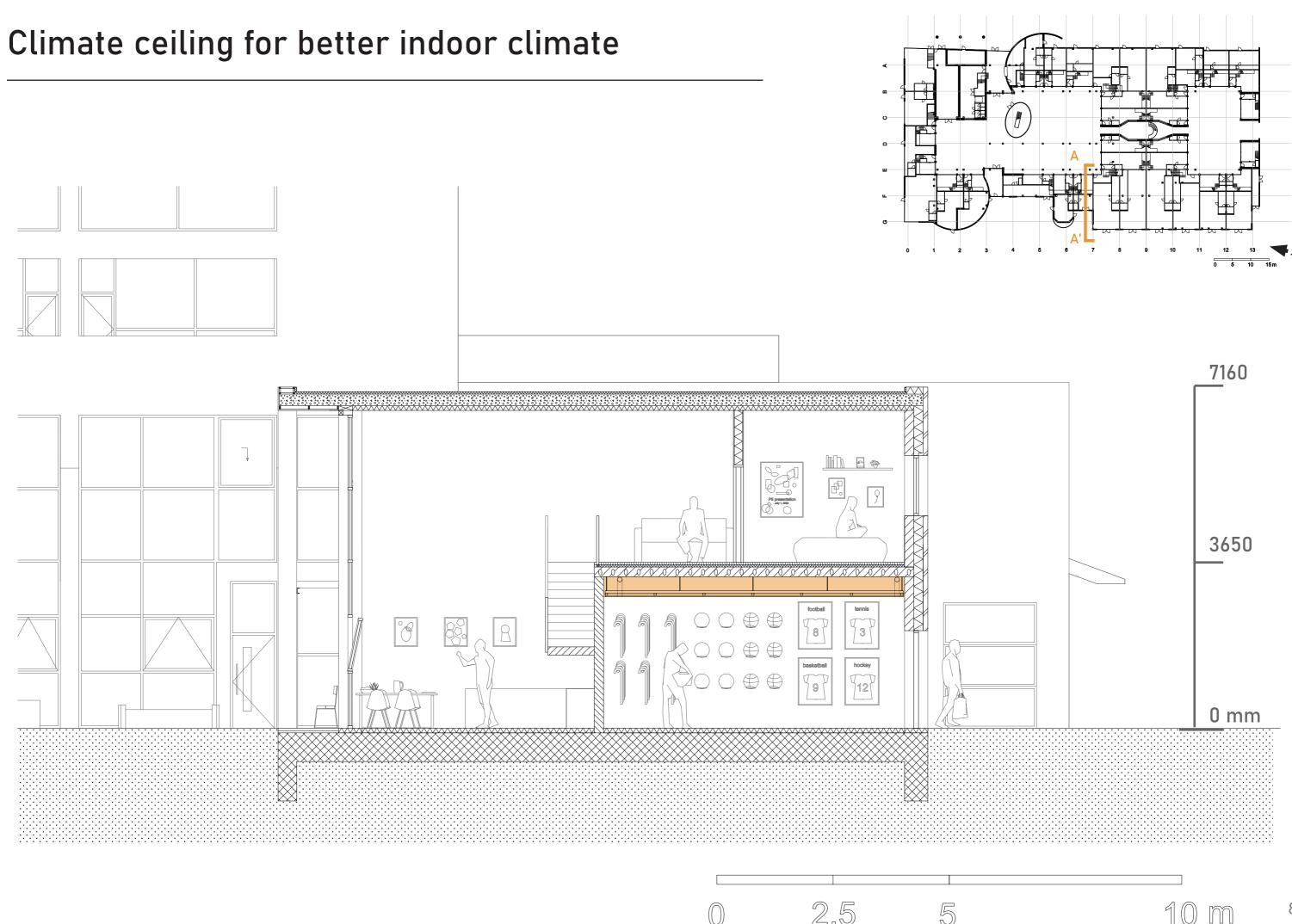




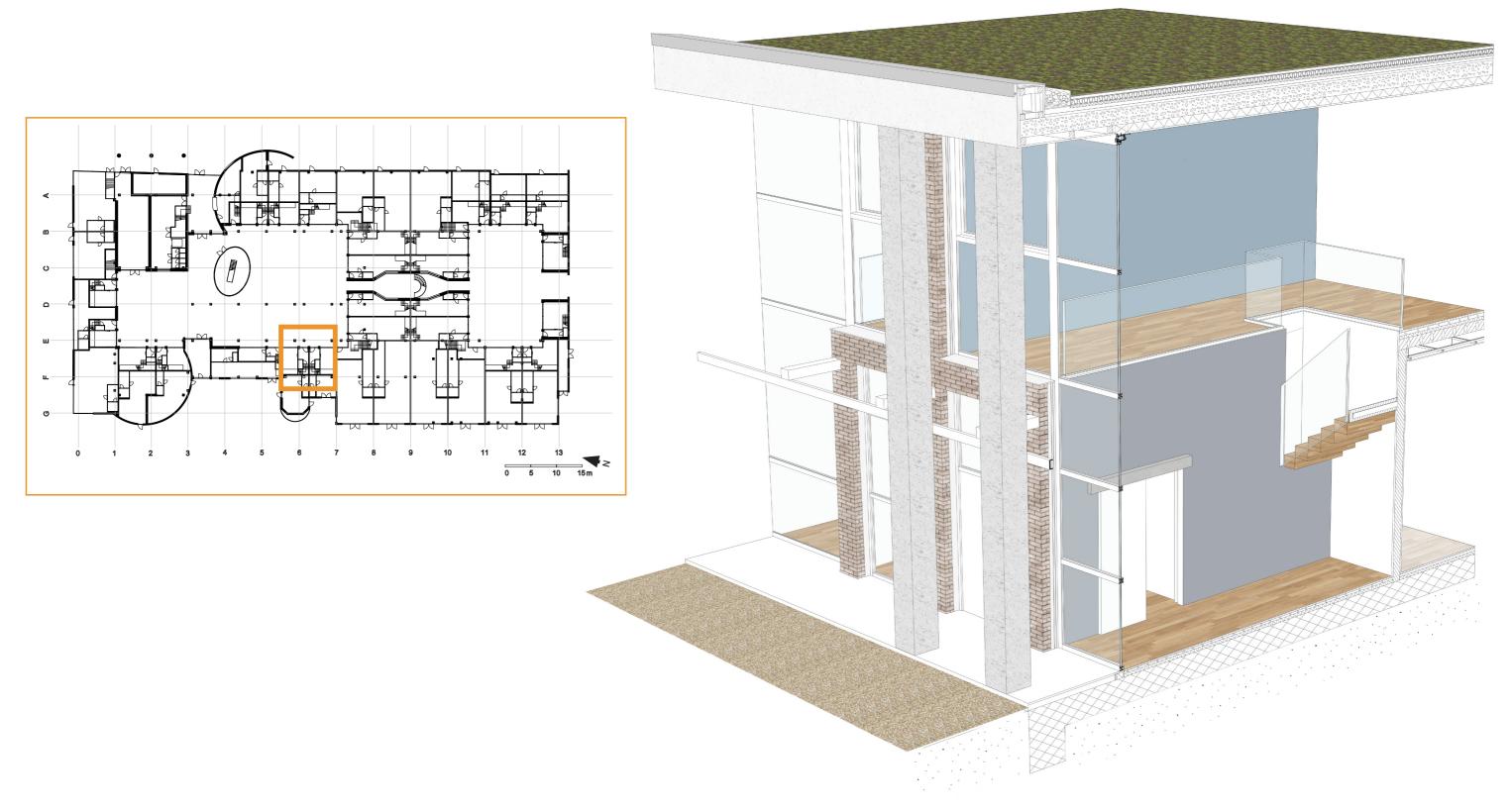




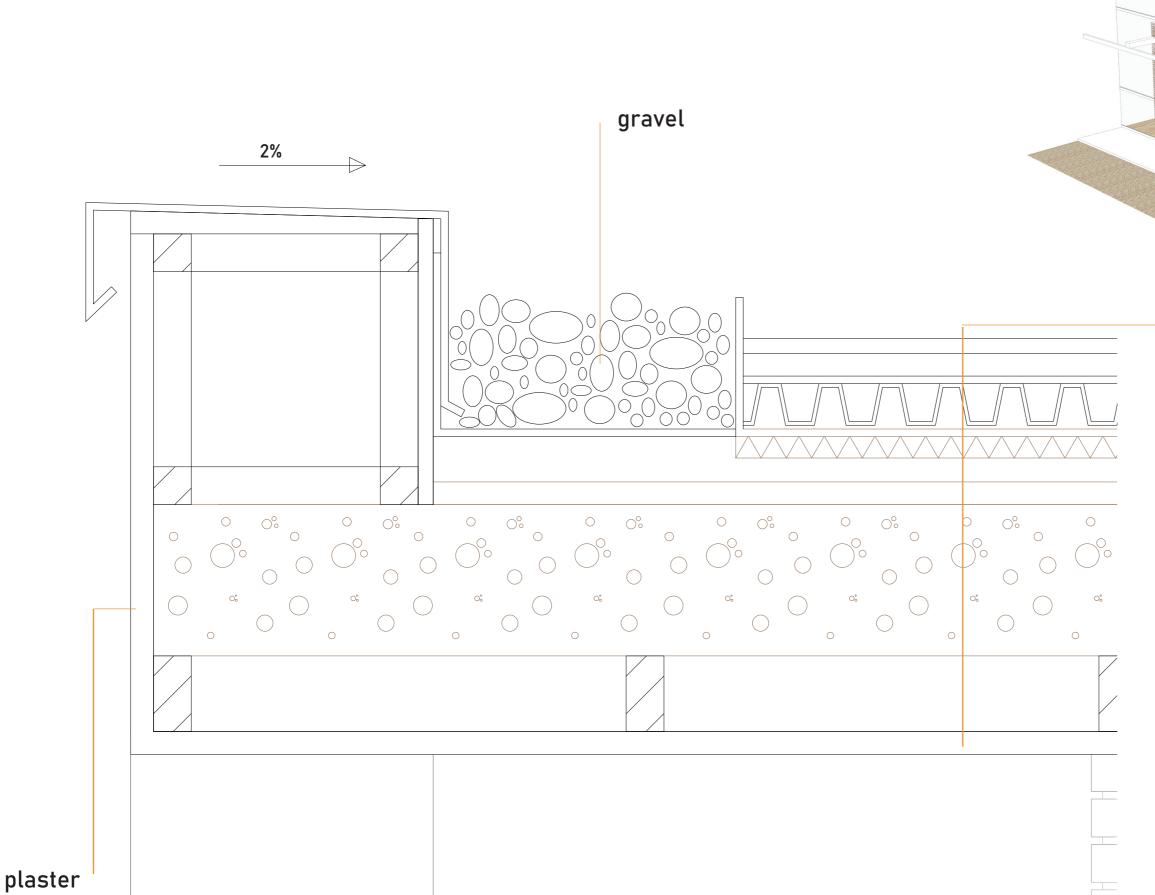


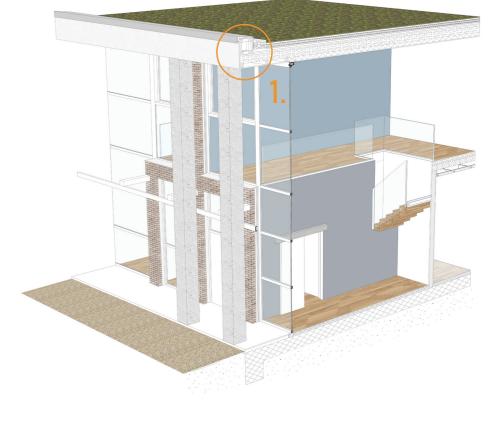


Materialization detail



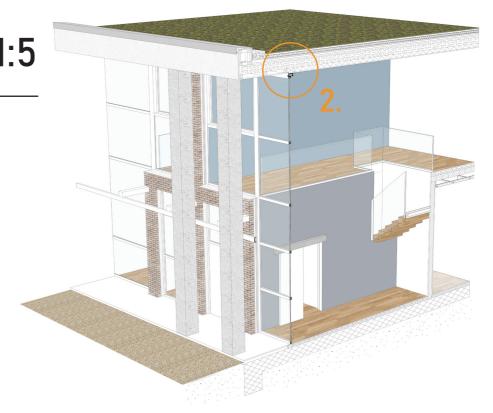
Detail of the roof edge 1:5

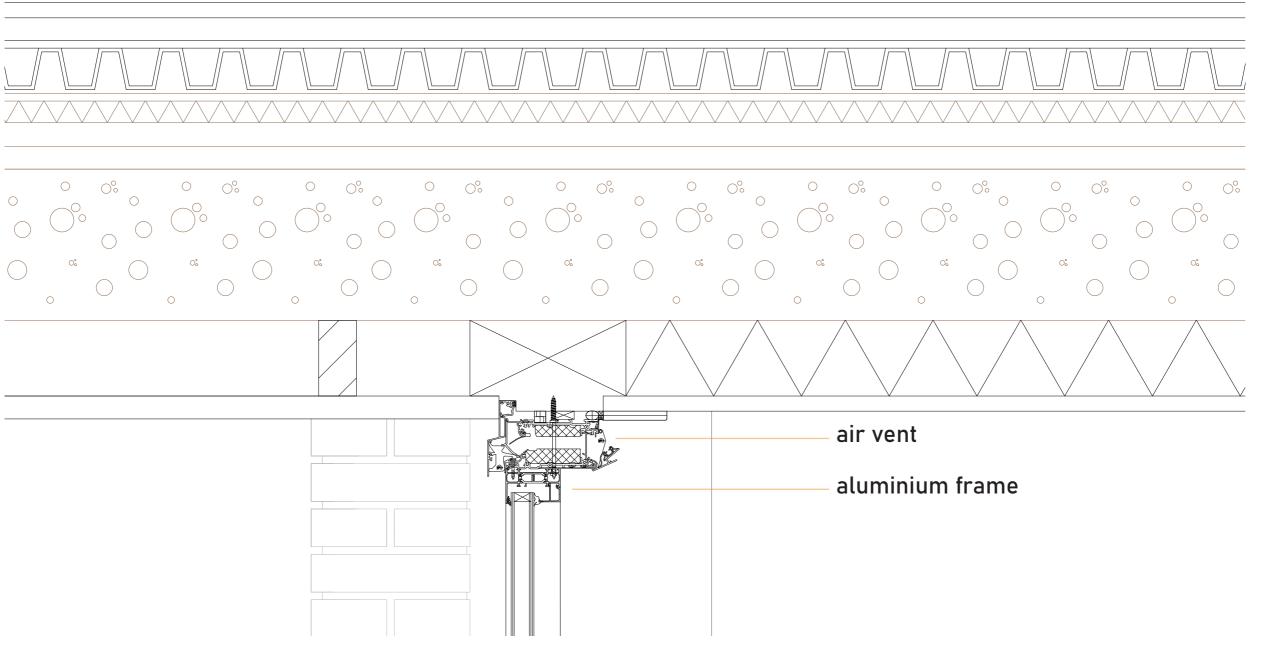




sedum layer
substrate layer
filter layer
drainage layer
protection layer
roofing
water barrier foil
insulation 80 mm
drainage layer 20-120 mm
vapor barrier
compression layer 70 mm
aerated concrete 200 mm
insulation layer
ceiling finishing

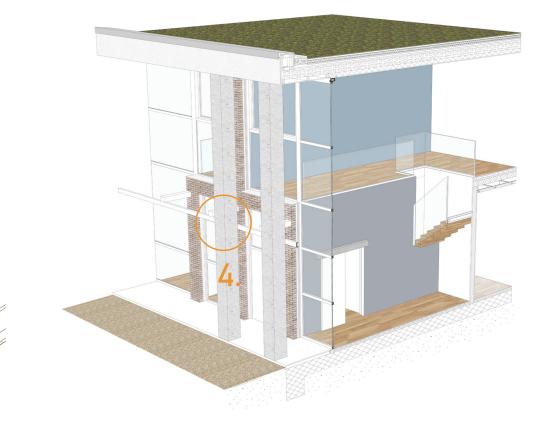
Detail of the connection of the window frame to the roof 1:5





Detail of the partitional wall 1:5 floor finish 25mm floor heating 25mm 0 \bigcirc 0 0 \bigcirc 0 0 \bigcirc \bigcirc insulation 70mm hollow core slab floor 150 mm climate ceiling wall finish 20 mm limestone 160 mm wall finishing 20 mm

Explanation of the construction connection



HE200A sheathed with insulation

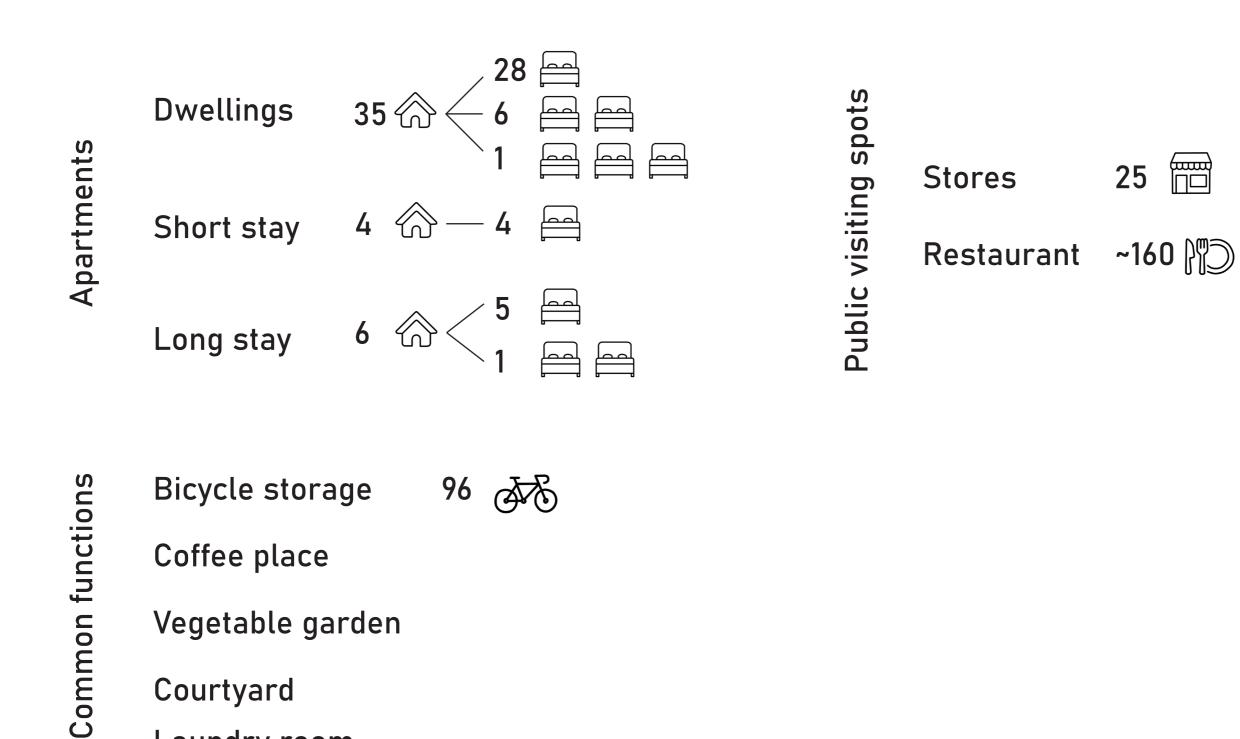
concrete column 400x400 mm

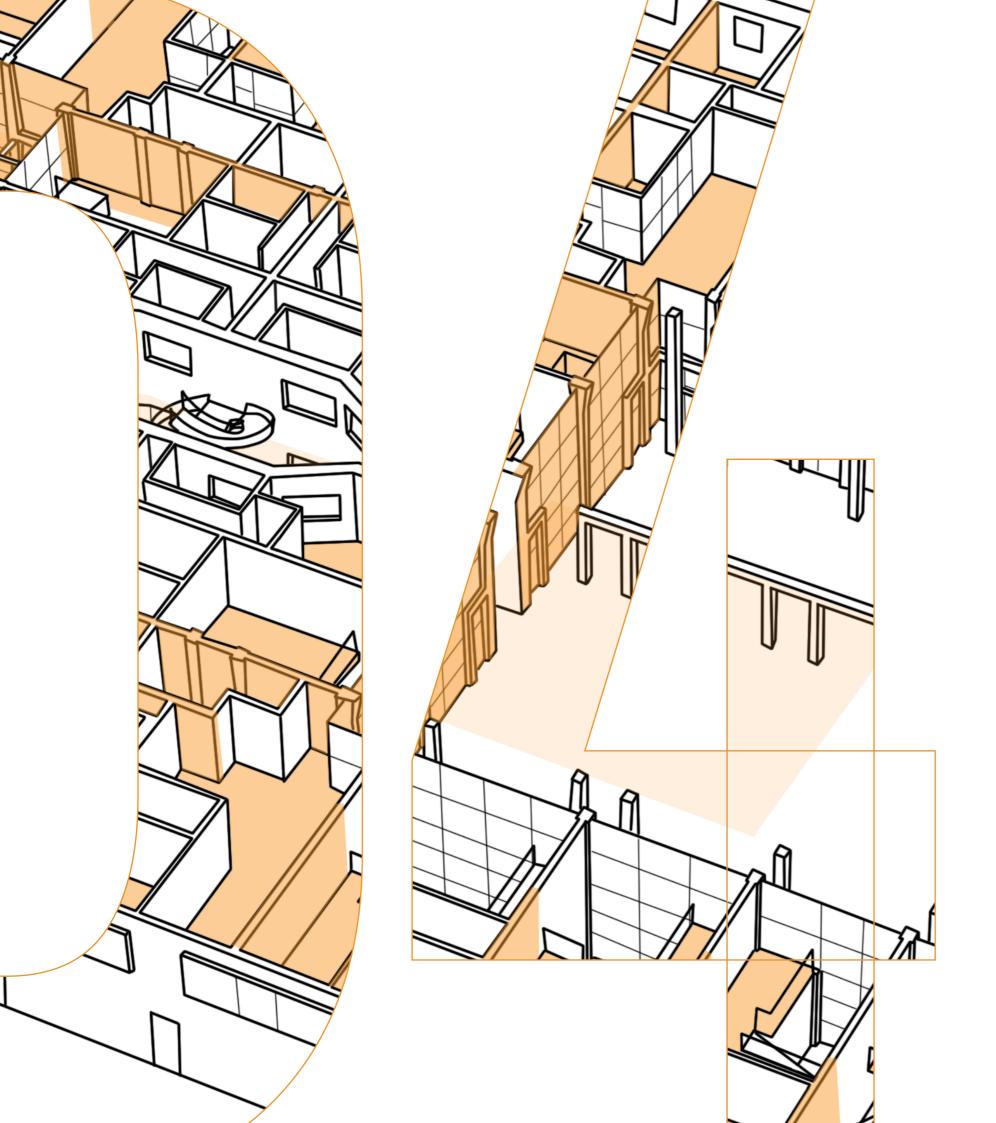
variable loads 5 kN/m2 meeting room 1.75 kN/m2 living area

Belasting berekening Eurocode 1. (z.d.). https://www.mile17.nl/belasting.php

Numbers of functions

Laundry room





CONCLUSION

Conclusion of the design strategies

What design strategies can be used during the design process to preserve a building when it is split into smaller segments.....

Spaceplan

1. The space plan of the building should be kept the same in main plan as much as possible, where additional walls and floors can be added. It is added that a distinctive area of the building's floor plan should remain unchanged.

Services

2. More services should be added per apartment and part of the general service spaces should be kept.

Skin

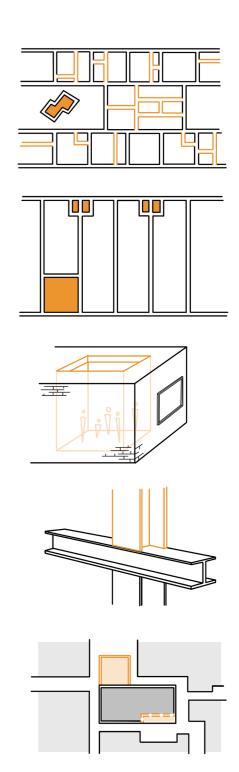
3. The facade should be kept as much as possible and only an subtraction in the roof should be made where people gather.

Structure

4. Keep the structure visible where it was already visible and keep the structure the same much as possible.

Site

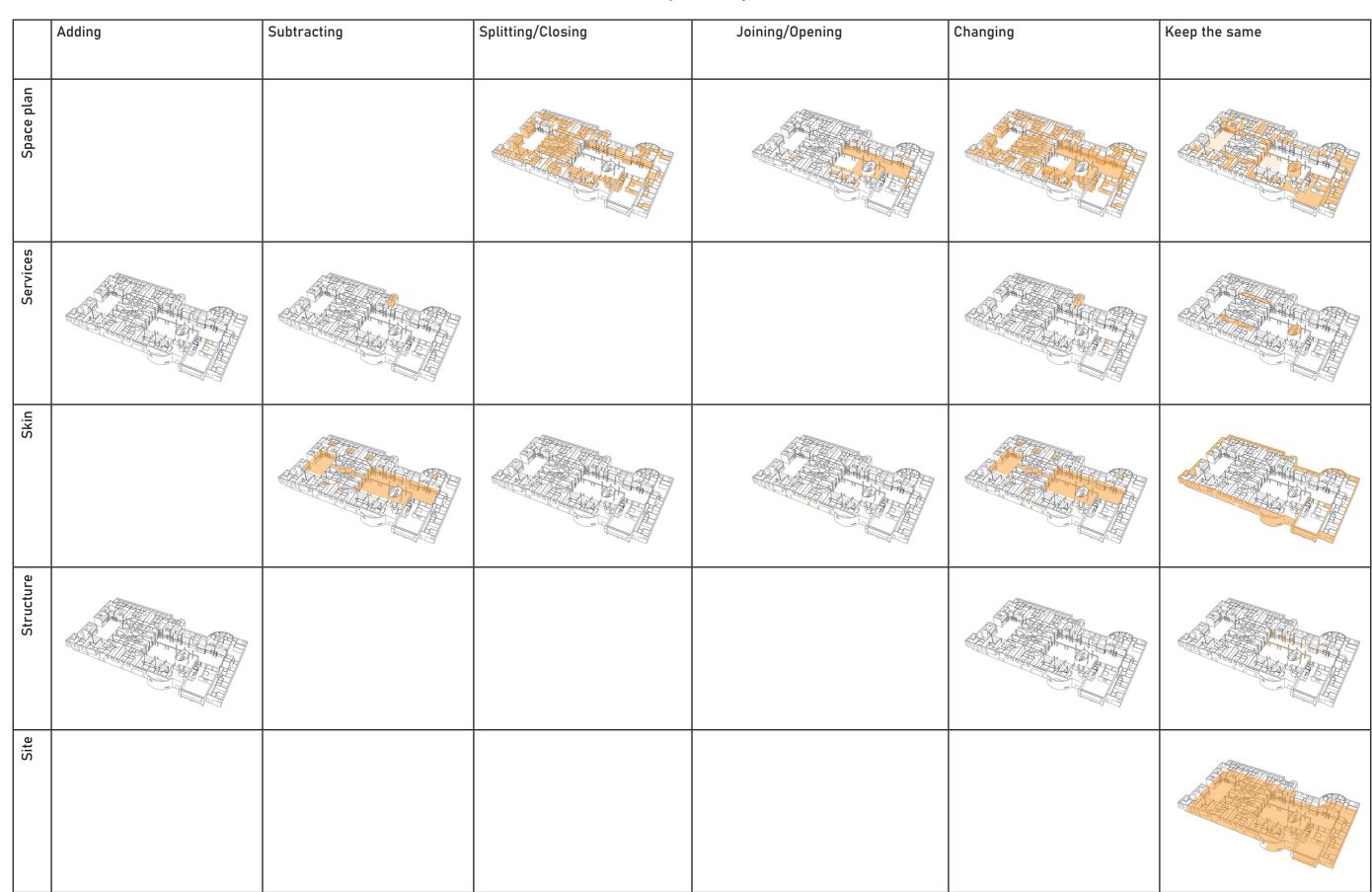
5. The site can be added, taken away or kept the same. This involves considering the possibilities of the surroundings and the new function of the building.



Classification of the Meervaart

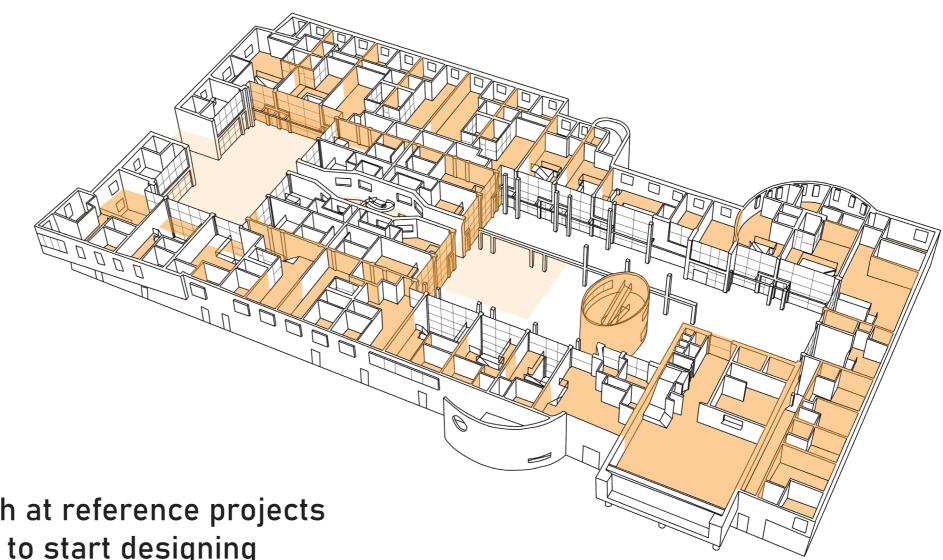
Layers

Adaptability

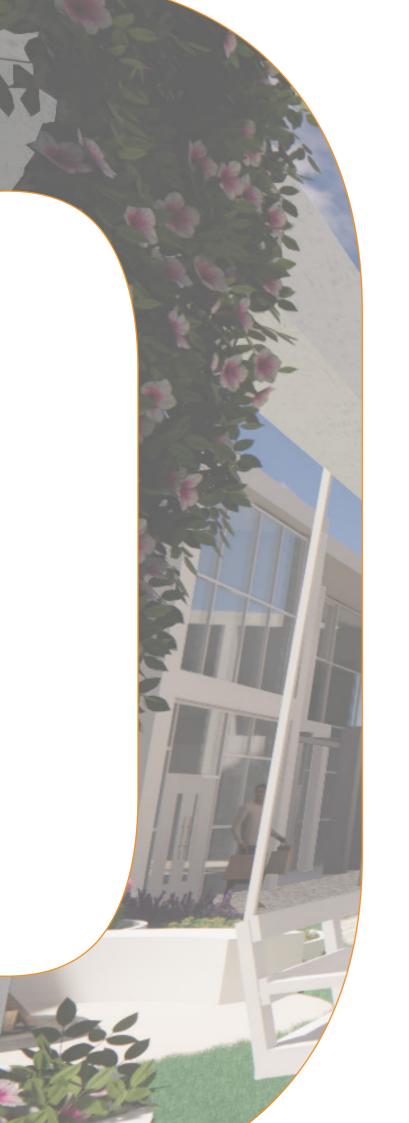


Conclusion of the usability of the strategies

... and to what extent do these design strategies help in designing a building to be transformed?



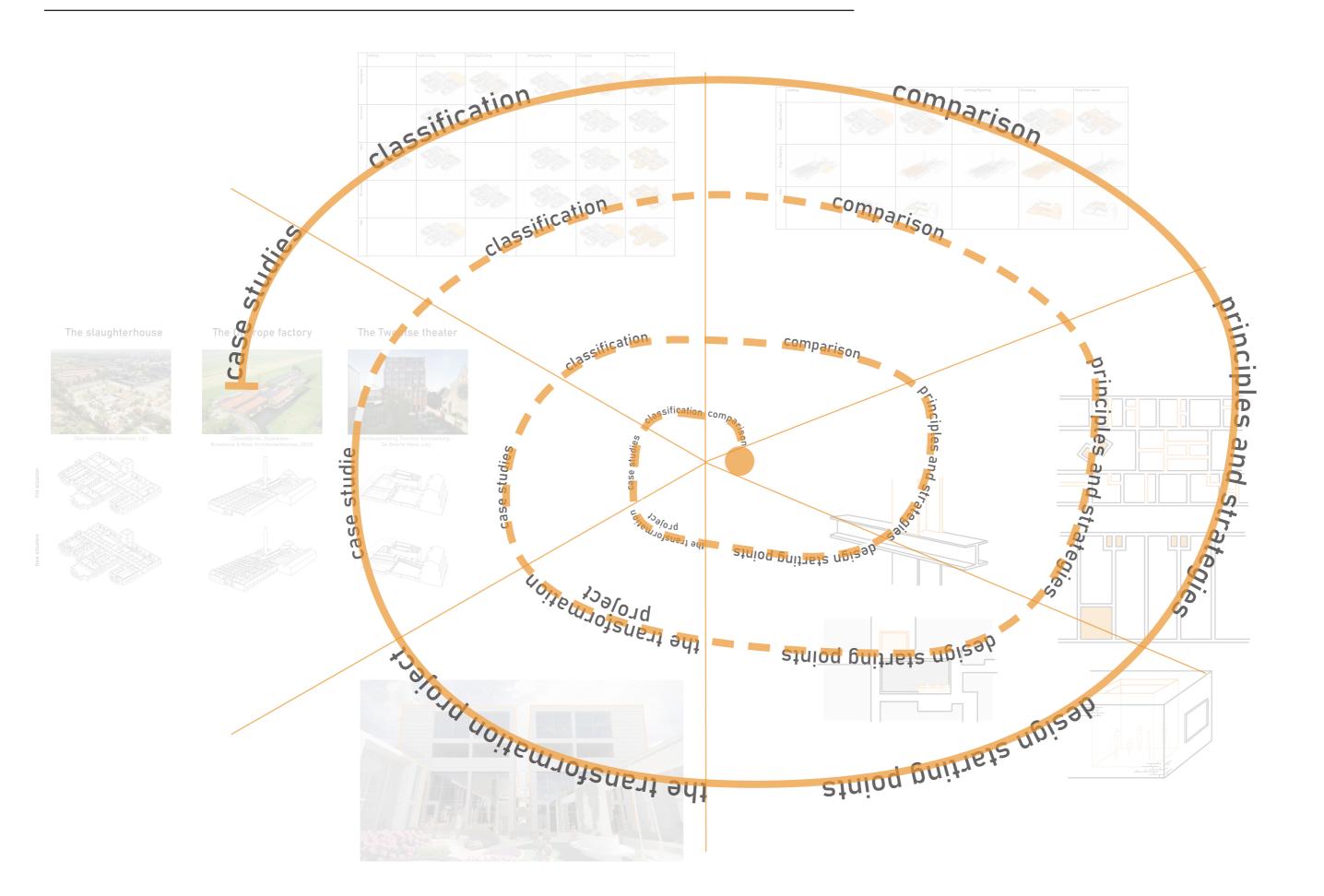
- + Good method of looking in depth at reference projects
- + The strategies are a good tools to start designing
- + The strategies are helpfull in making design decisions
- Not every building is the same so it remains a lot of figuring out on a project-by-project basis
- The strategies could be more specific for a better and faster design process



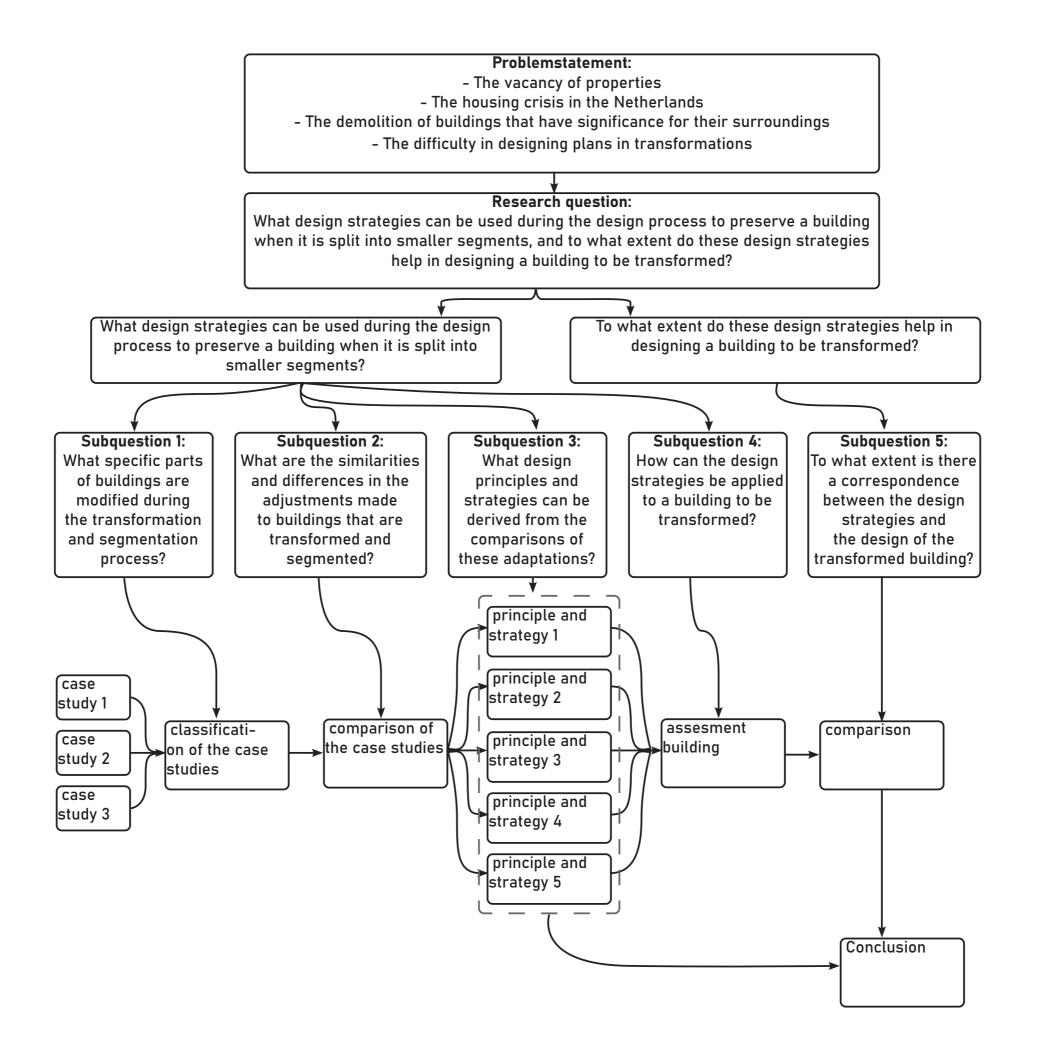


RECOMMEN-DATIONS

RECOMMENDATIONS



For more resourceful housing: Stop demolishing buildings and start transforming! Name: Anouk Wijnant Student number: 4838637 Name teachers: Lidwine Spoormans, Ana Pereira Roders and Elina Karanastasi Studio: Resourceful Housing- adapting 20c Heritage Studio code: AR3AH105



2.1 Classification of the Slaughterhouse

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Space plan						
Services						
Skin						
Structure						
Site						

2.2 Classification of the Old rope factory

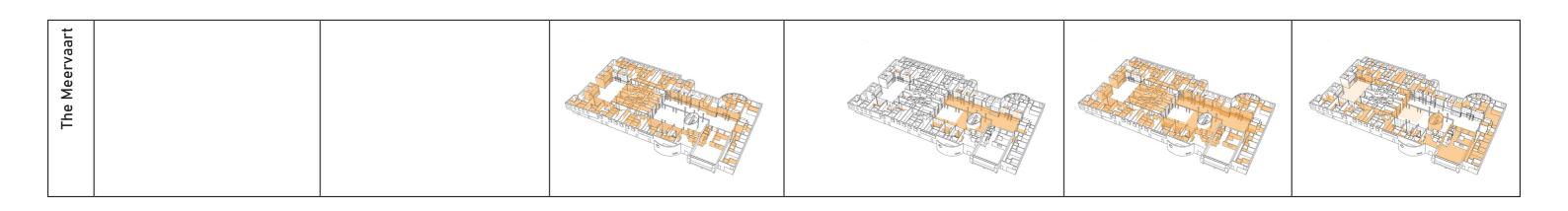
	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Space plan						
Services						
Skin						
Structure						
Site						

2.3 Classification of the Twentse theater

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Space plan						
Services						
Skin		The state of the s				
Structure						
Site						

3.1 Comparison of the space plan

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Slaughterhouse						
Rope factory						
Theater						

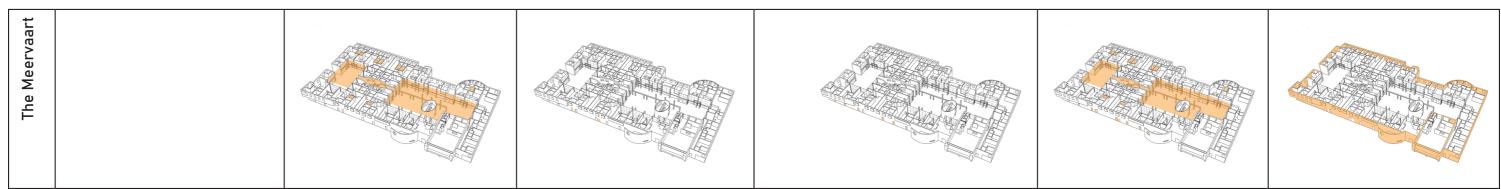


3.2 Comparison of the services

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Slaughterhouse						
Rope factory						
Theater						
The Meervaart						

3.3 Comparison of the skin

		Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
-	Slaughterhouse						
	Rope factory						
i	I heater						



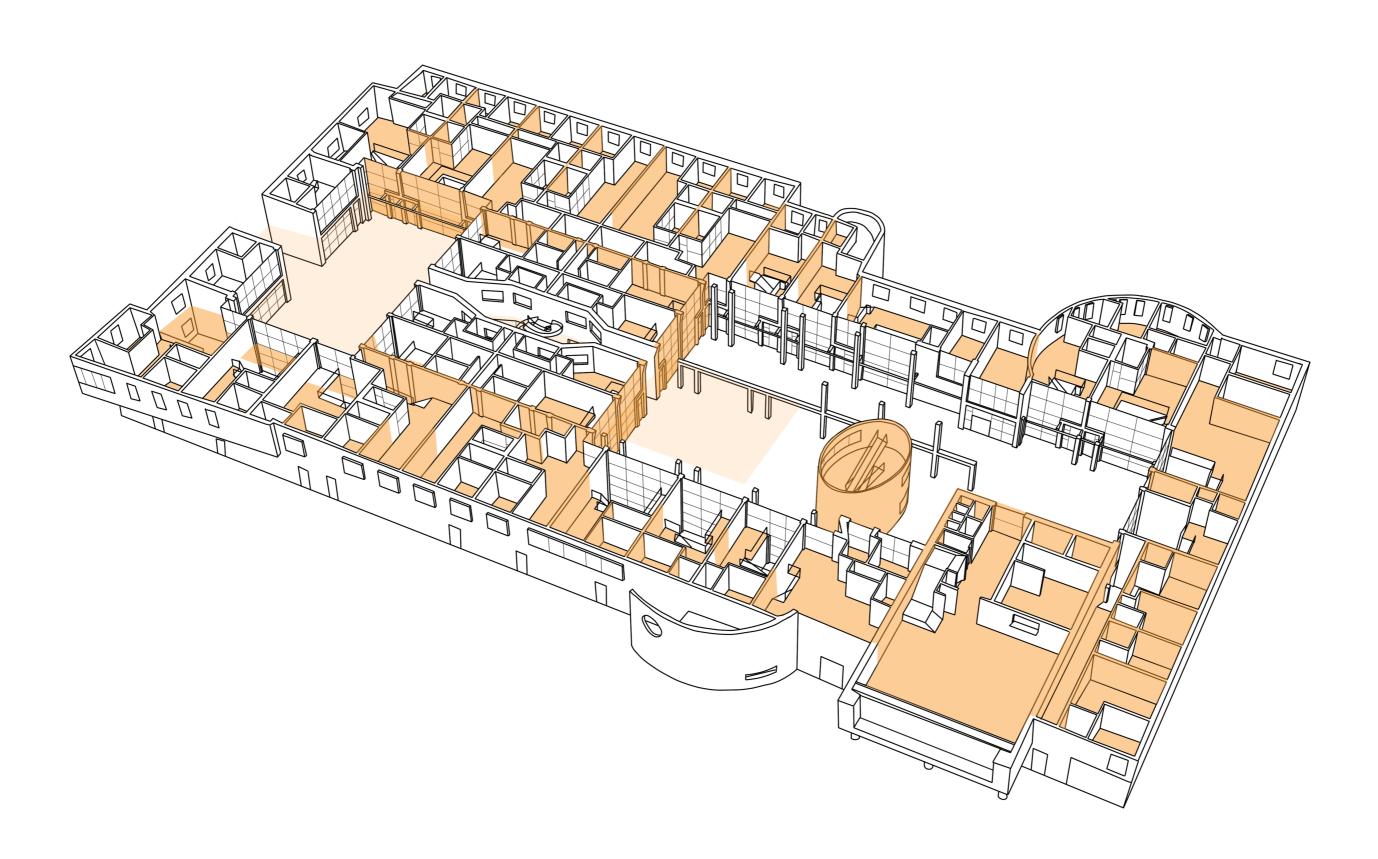
3.4 Comparison of the structure

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Slaughterhouse						
Rope factory						
Theater						
The Meervaart						

3.5 Comparison of the site

	Adding	Subtracting	Splitting/Closing	Joining/Opening	Changing	Keep the same
Slaughterhouse						
Rope factory						
Theater						
The Meervaart						

Transforming buildings by design strategies



Transforming buildings by design strategies

