

MASTER THESIS
*Design of an annex to the National Museum
of Finland in Helsinki.*

Axel Burkhard
Professor José Mario Gutiérrez Marquez
Professor Johannes Kühn
Max Wasserkampf
Bauhaus University - Weimar



SALAH

PROLOGUE

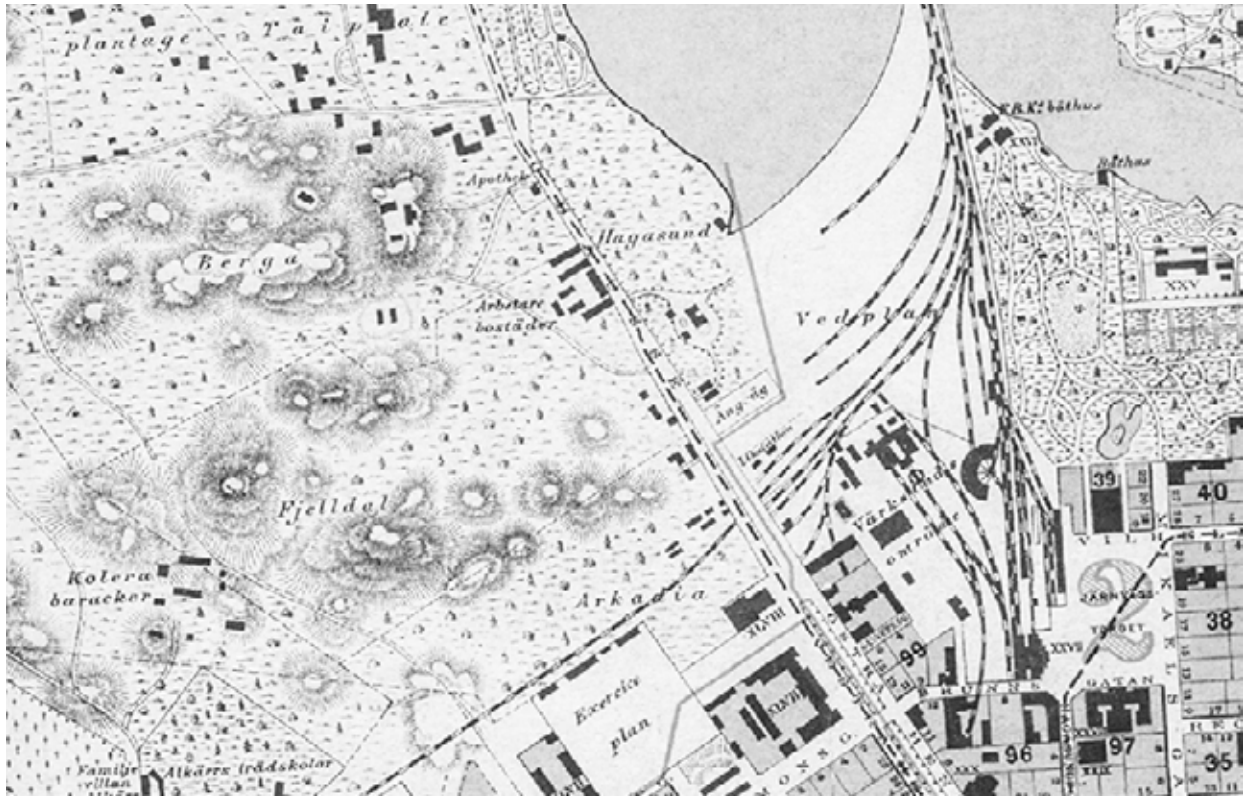
Just like the Finnish Rationalists, Salah follows a *guiding rational force*. The project is not evocative of a time, of a specific technic or of a style. It is just trying to find a radical and simple answer to a complex question.

Just like the Finnish Constructivists, Salah is confident in the *mystical dimension* of a straight line.

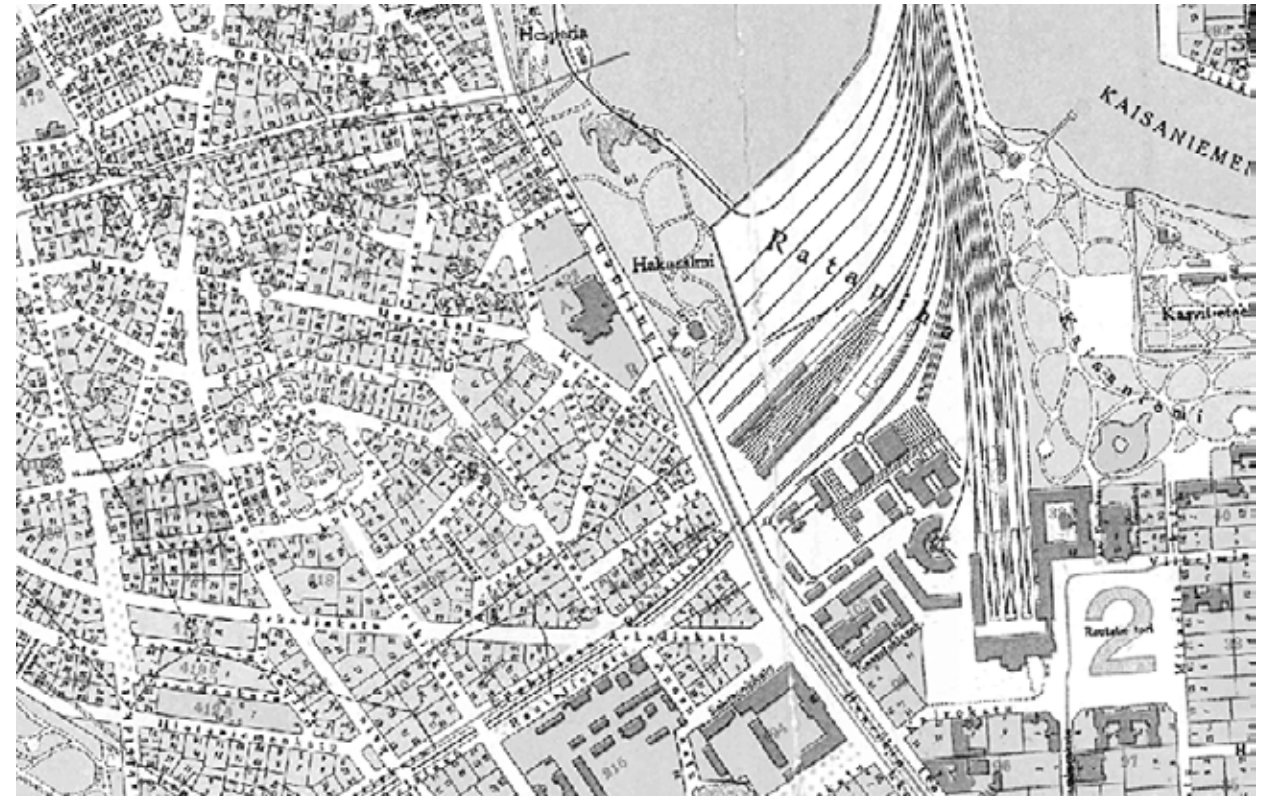
HISTORY



Aerial view - 1932



1900



1909

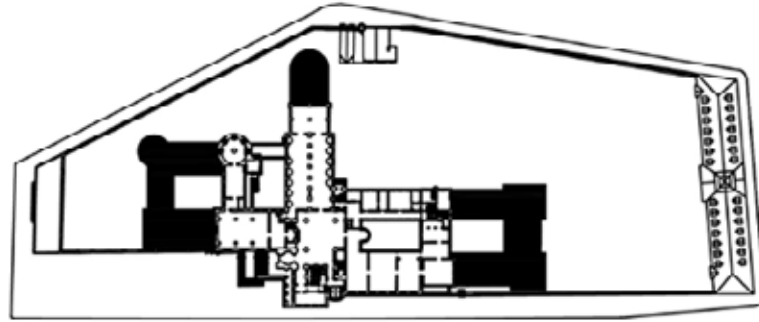


1952

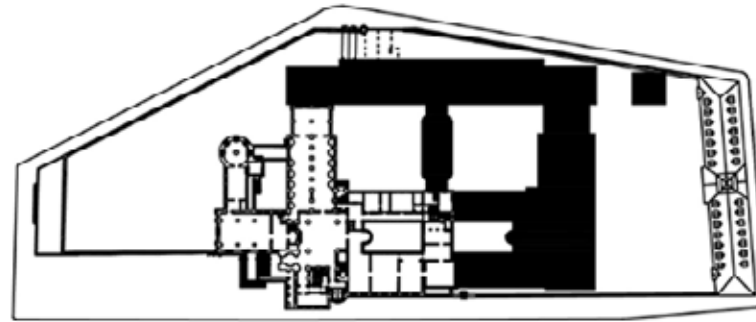


2020

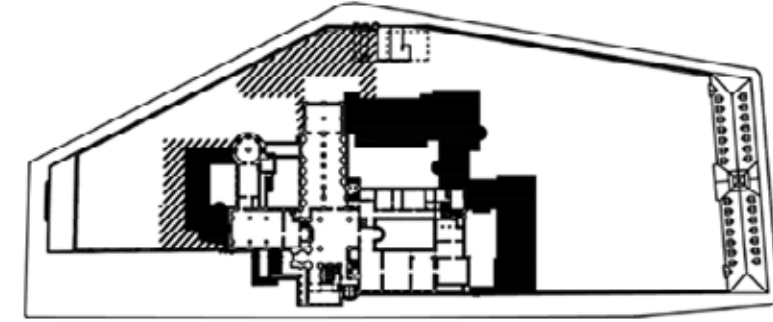
Unbuilt



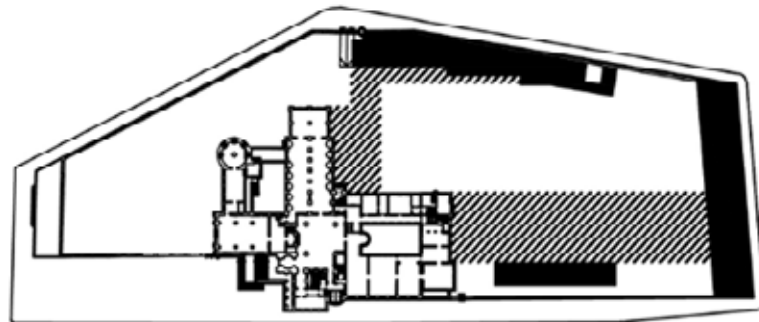
1904 - Gesellius, Lingren, Saarinen



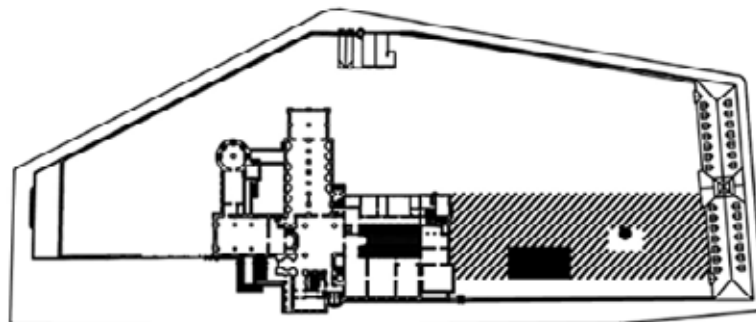
1930 - A.W. Rancken



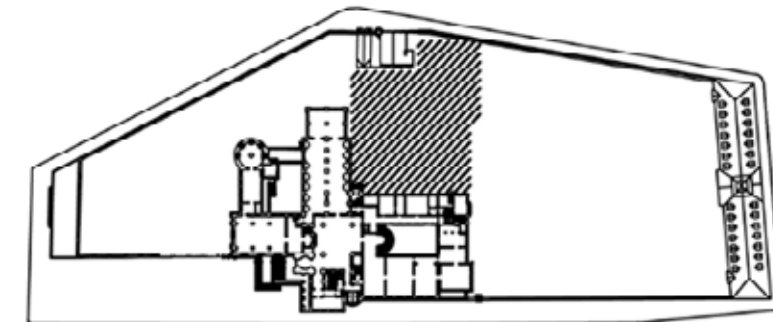
1919 - Lindgren und Tavastsjerna



1964 - Havas und Kairamo

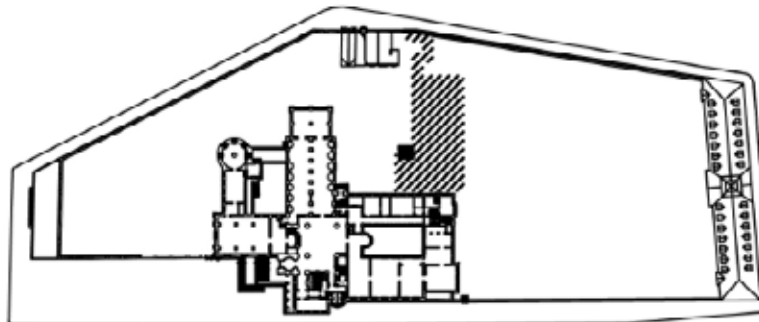


1975 - Raatikainen

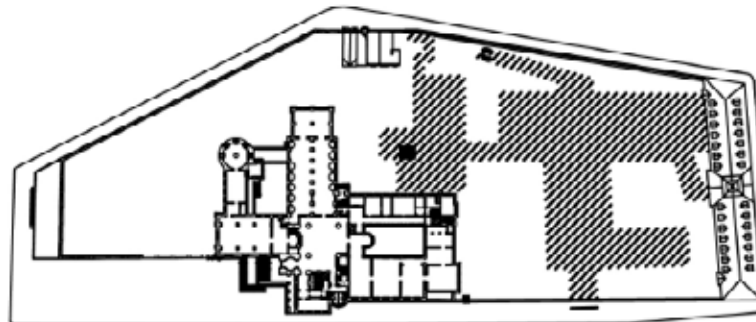


1986 - Ruusuvuori

Built



2000 - Heilander und Leiviskä



2012 - Pöyhönen und Virkkala

Extensions

History

CONCEPT

GENESIS OF THE IDEA

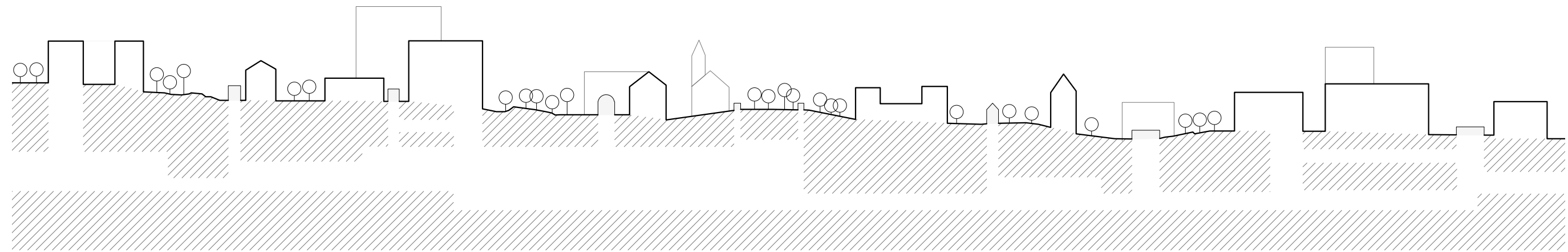
The National Museum in Helsinki, built in 1905 by Gesellius, Lindgren and Saarinen, is considered a symbol of the Finnish identity and is to be expanded in the near future. «Over the course of history, the original building constellation has gained in value. The lack of space led to a series of successive projects to extend the museum, none of which however, came to fruition. These designs progressively drifted from an above-ground to an underground projection, leaving the context as untouched as possible. This running idea of excavation profoundly engages with the deep and hidden Helsinki. The Finnish capital is characterized by an underground master plan, whose invisible network of paths is told by „silent witnesses“, in the form of dark, restrained steel architecture, unexpectedly appearing in the cityscape. The tension between the visible and the invisible, between a vertical and a horizontal «secret» world can be sensed unobtrusively.



«There are two Helsinkis, thy city that we all know, and another city underground.»

Skyscraper vs Earthscraper

Concept - City Scale



Conceptual Section of Helsinki

«There are two Helsinkis, thy city that we all know, and another city underground.»

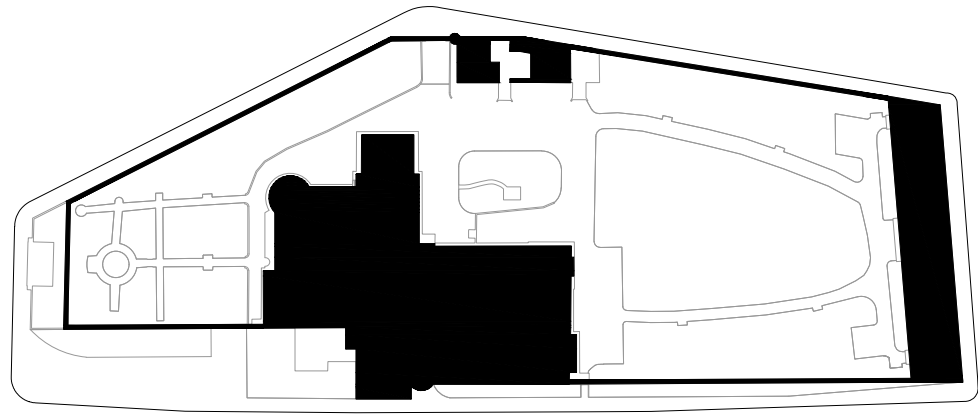
The Quiet Witnesses

Concept - City Scale

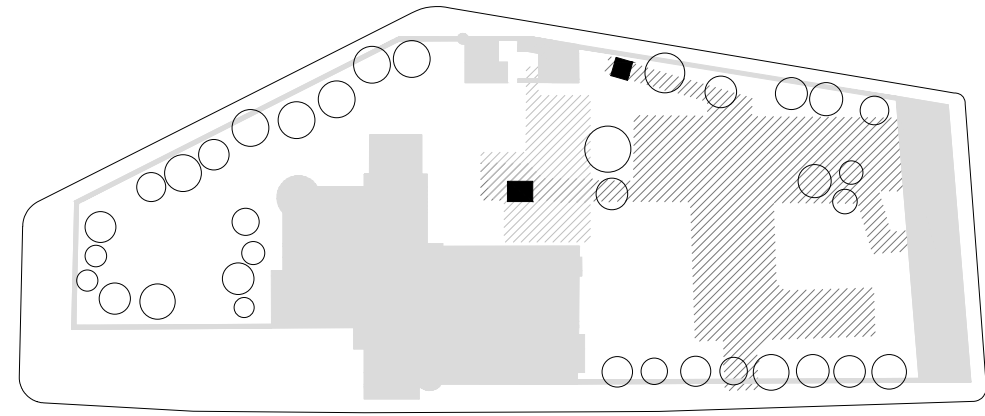
MORPHOLOGICAL STRATEGY

Due to the clear subordination to the existing building configuration, the hierarchy of the structures can be clearly read. «Salah» is a metaphorical bridge that connects city, park and museum in a poetic way. Viewed from the street, the intervention's main building, which is located along the «Mannerheimintie» axis, is hidden behind the natural barrier of existing trees. Within the museum complex, the volume is set back from the surrounding wall.

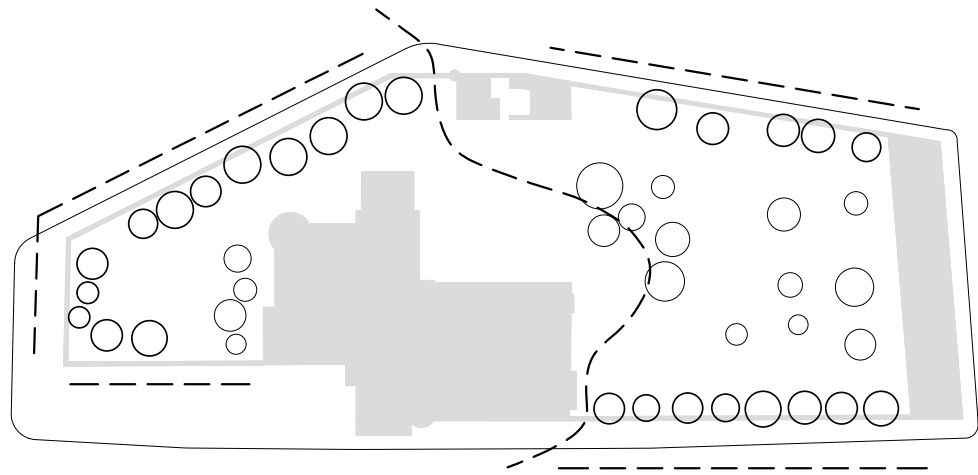
In addition to the main structure, two further secondary pavilions with several functions serving the museum's operations and park, strengthen the central concept.



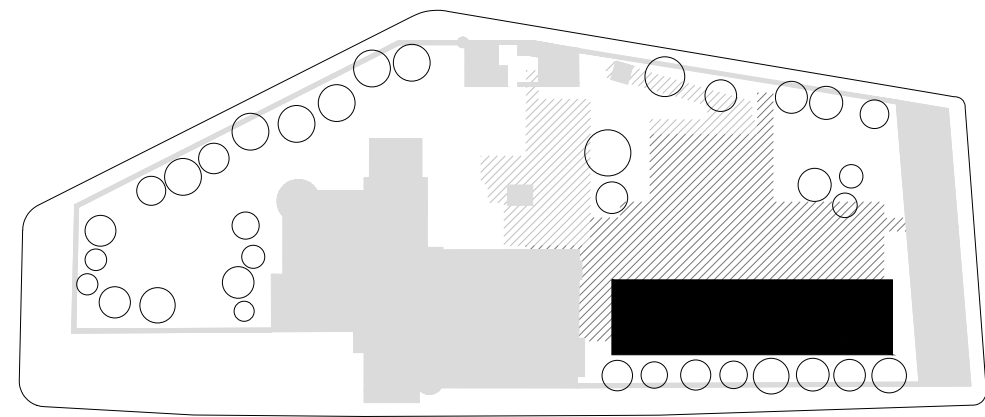
1. Current constellation



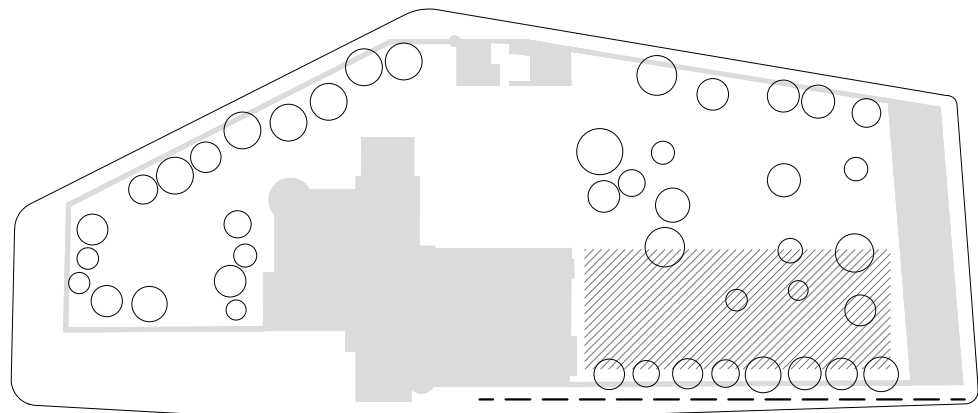
4. Extension from 2012 - Underground vs Above-ground



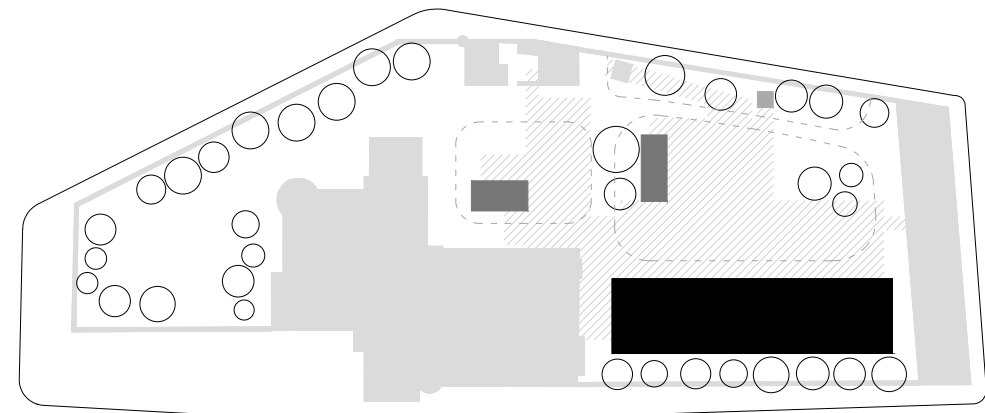
2. Natural green borders



5. Main intervention



3. Study from 1957 - Relationship to axis



6. Secondary interventions

Intervention Diagrams

Concept - Museum's Park Scale

PROJECT

EXPRESSION

Following the existing logic of sporadic, inevitable manifestations of the hidden underworld of Helsinki, the conceptual intention is to create an architectural link between these two antagonists. The integration of a flat, pavilion-like architecture matches the atmosphere of the park and reconnects with several temporary structures built and deconstructed throughout history. The generated expression creates a clear contrast between old and new, bringing in tension and dialogue.



Exterior Perspective - Bird View

Project



Pavilion from Museum's underground extension - 2020



Archive - 1952



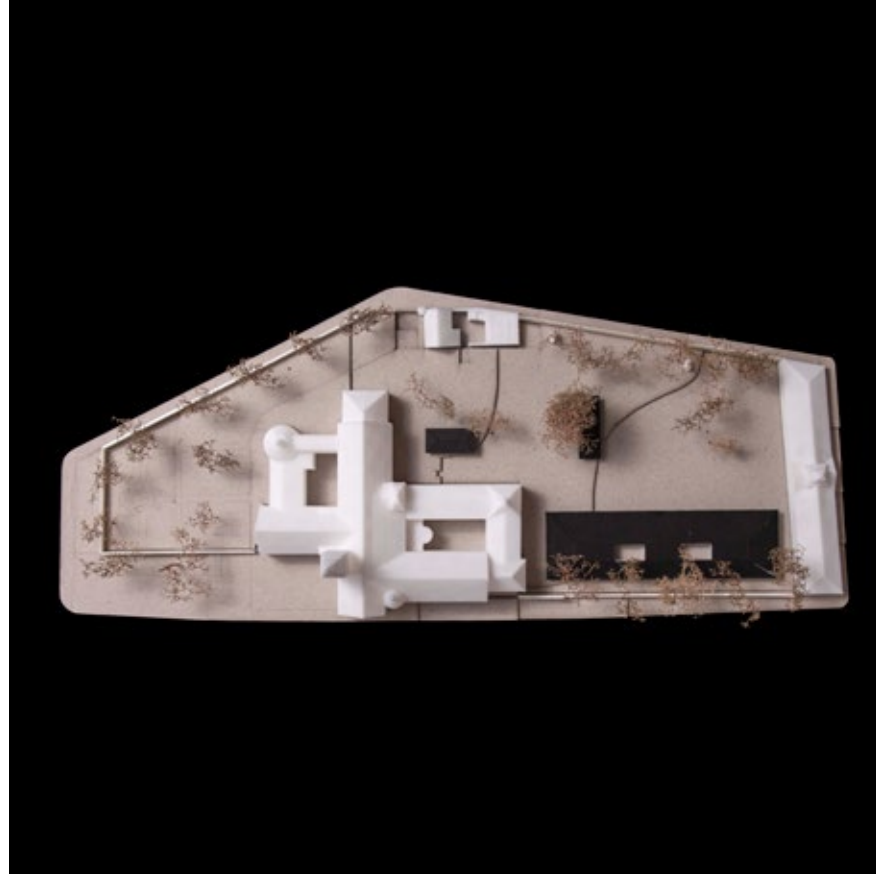
Google Earth 2018



Helsinki map service 2019

Pavilion in the Park

Project



Model

Project

SPATIAL ORGANIZATION

The organization of the project is to be read with regards to the continuity of the National Museum and refers to the existing geometries. The cross-sections illustrate the intention to spatially express the tension between verticality and horizontality. The meeting of these two spatial parameters generates a high corridor, a central architectural event of the design, visually connecting above-ground and underground.

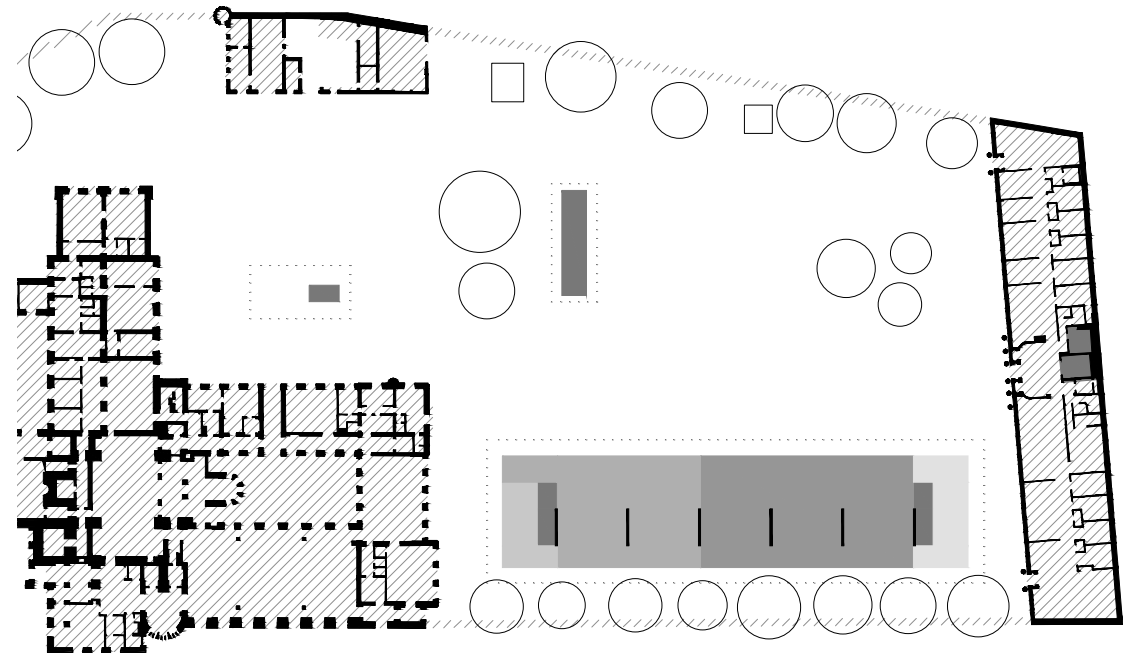
The structure of the project emphasizes these spatial decisions. It is conceived as a cantilevered metal roof, which lies on concrete veils. This structural backbone dictates and informs the project.

The ground floor houses the restaurant and the entrance area, organized around the structural walls. In the existing main building, the current shop is moved to the courtyard's west wing, at the same level (where current administration is). This allows the original exhibition space to regain value. The Administrative area replaced by the shop could be moved to Vaunuvaja, which would through a better organization and a little intervention allow more working space with the same comfort. The café is moved as well to the north part of the courtyard, where the workshops used to be. This allows greater connection with park and annex, as well as freeing some more space for the exhibition, while allowing the whole visitor's path to connect seamlessly existing and new.

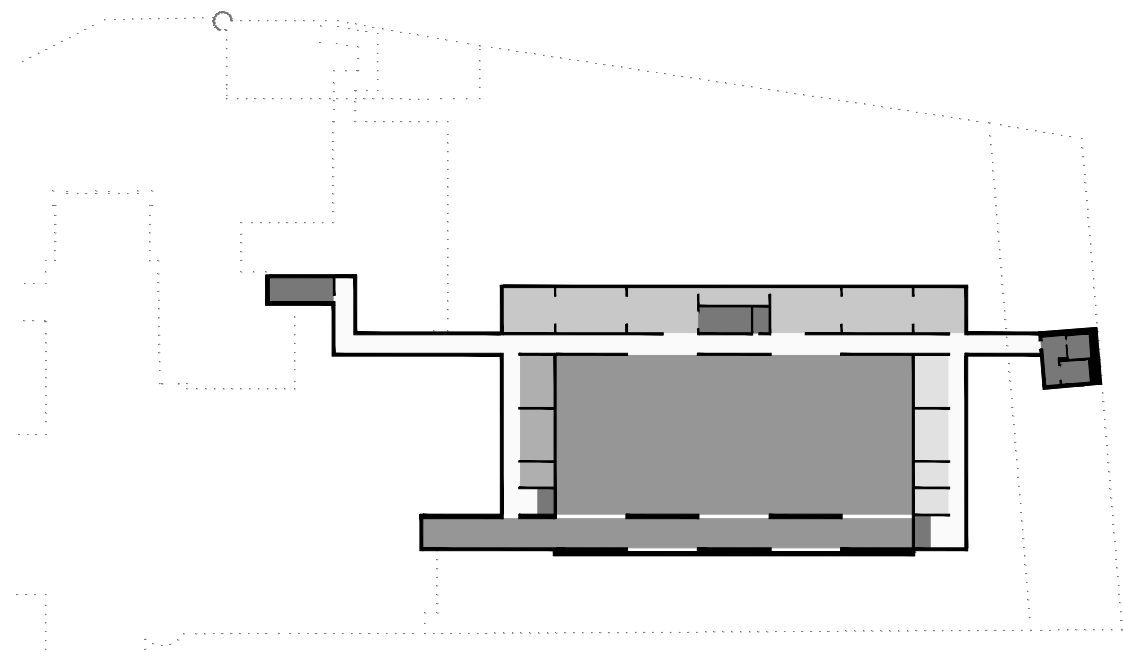
The second basement level leads to the main corridor, which is to be understood as an entrance and part of the exhibition space. The surrounding functions (workshops, warehouse, lift), allow optimal efficiency in the transporting and the processing of exhibited works of art.

The „mise en scène“ of the visitor, a concept born in the «modern» museum, is also a part of the project's grammar. This architectural ambition is expressed through the openings in ground floor's slab (between the veils) as well as through the window to the exhibition from the shop.

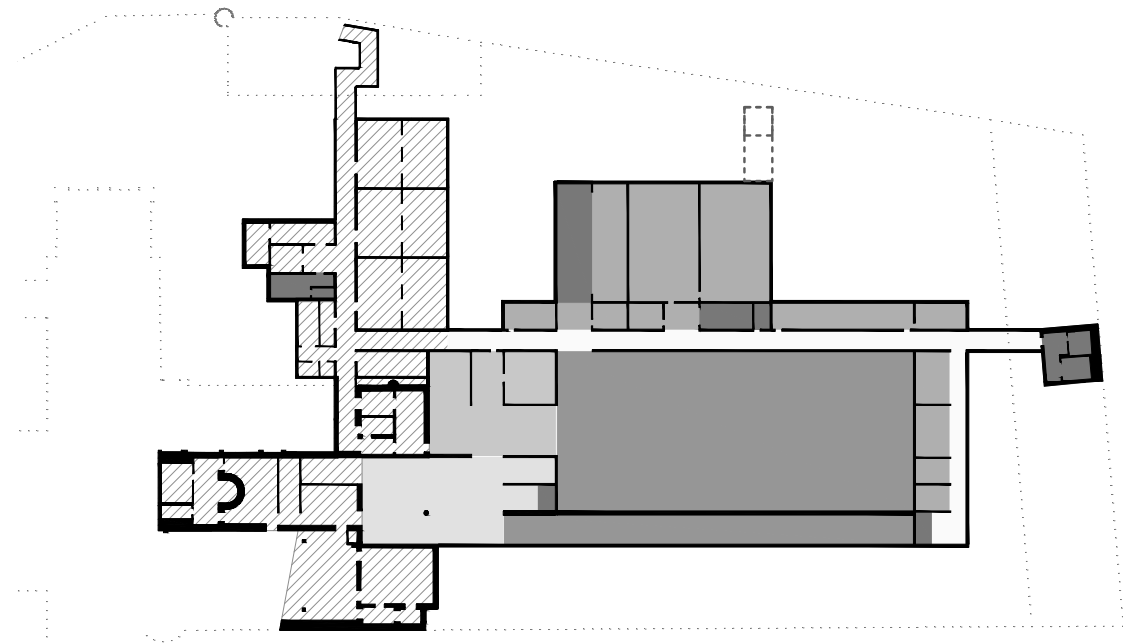
The first basement floor accommodates the new shop, the cloakroom and various secondary functions. The built figure of this part of the planned extension (right of the main building) shows geometrical similarities with the already existing basement (above the main building). This serendipitous typological resonance matches the position of the secondary pavilions and thus reinforces the central concept. This gives a voice to an anecdotal precondition.



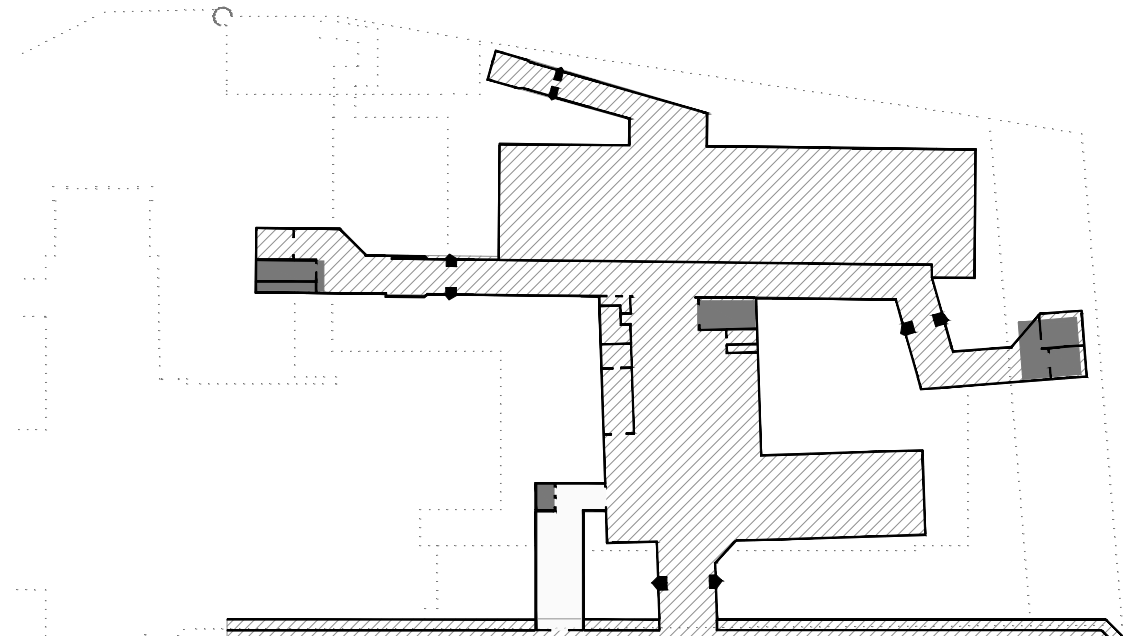
Ground Floor



Second Underground



First Underground



Third Underground



Organisation

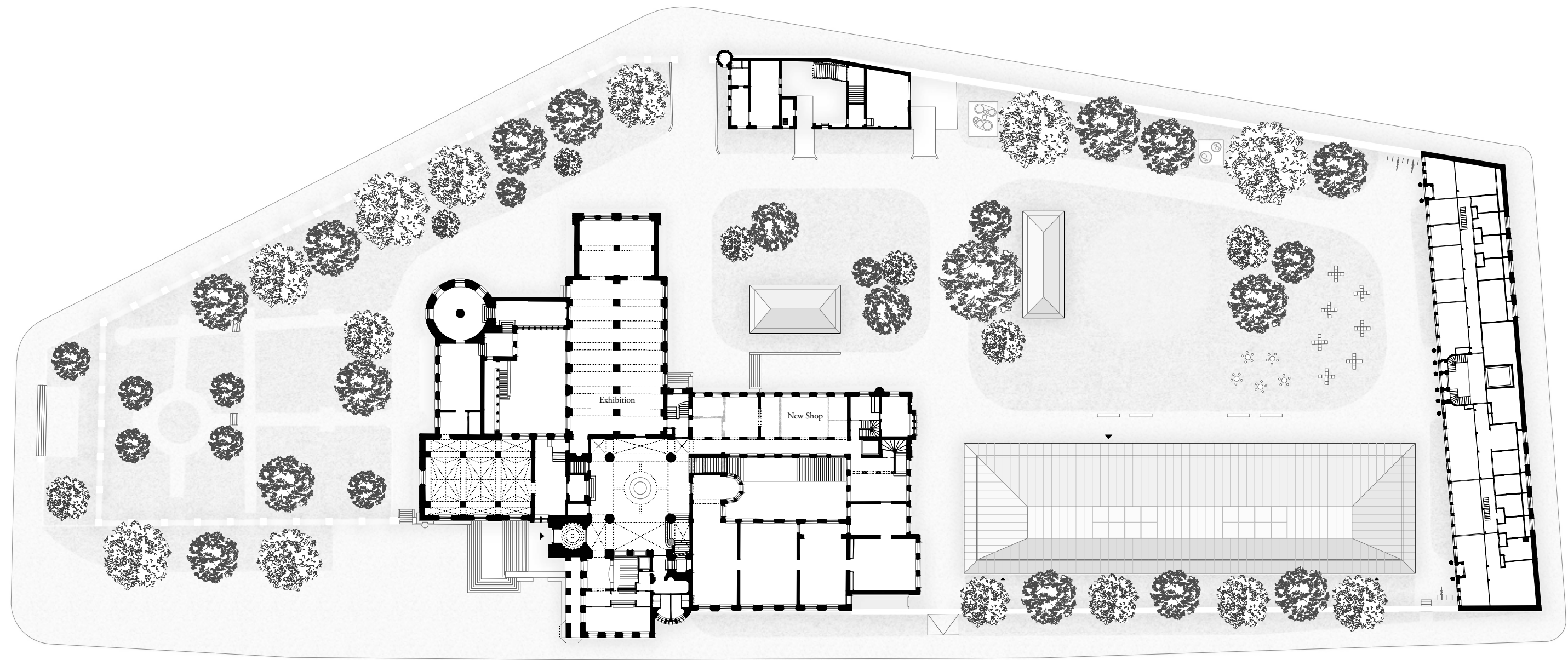
Project



Situation

Project





0 5 10

First Floor - Roof Plan

Project

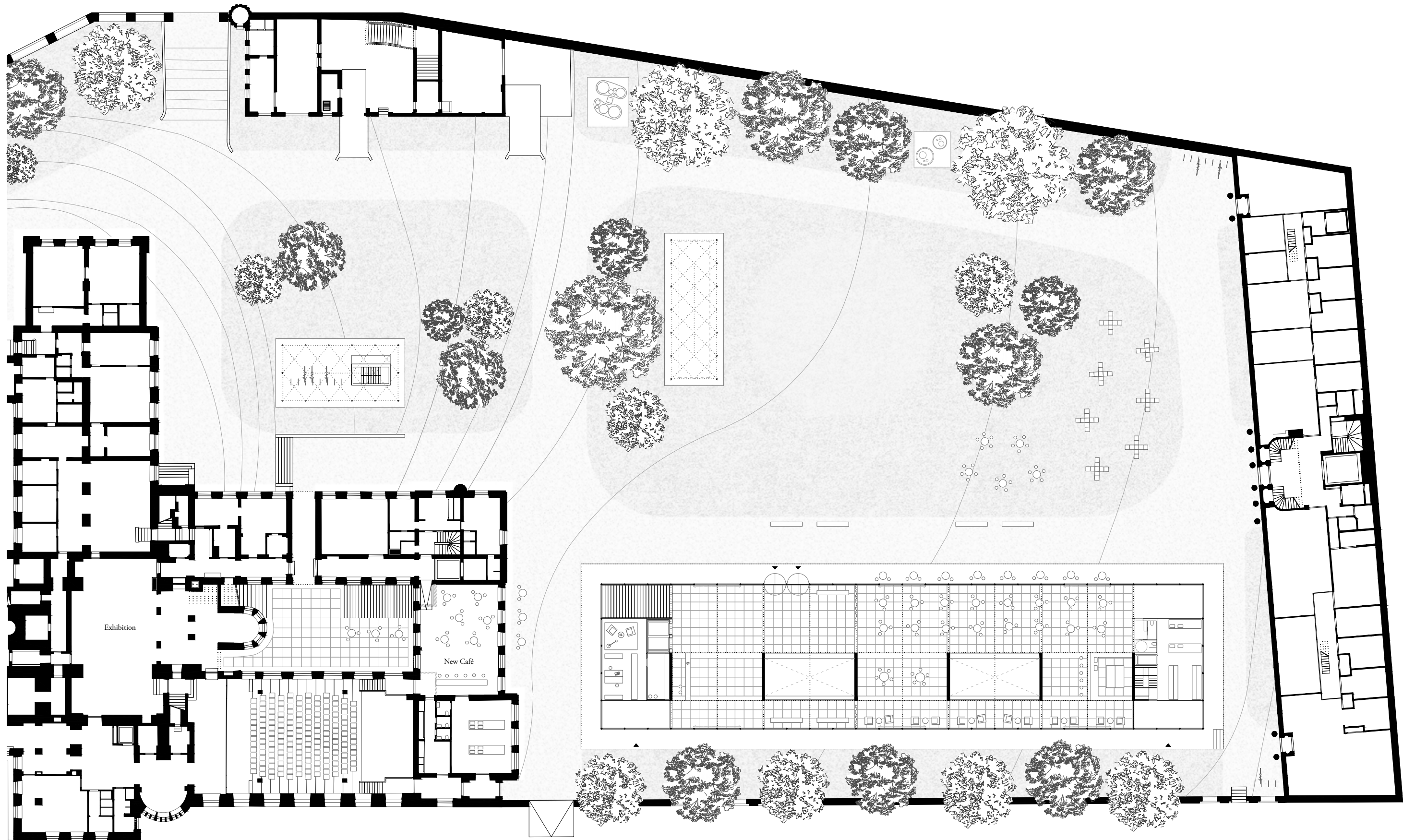




Cross Section through Entrance Area

Project





Exhibition

New Café

0 5 10

Ground Floor

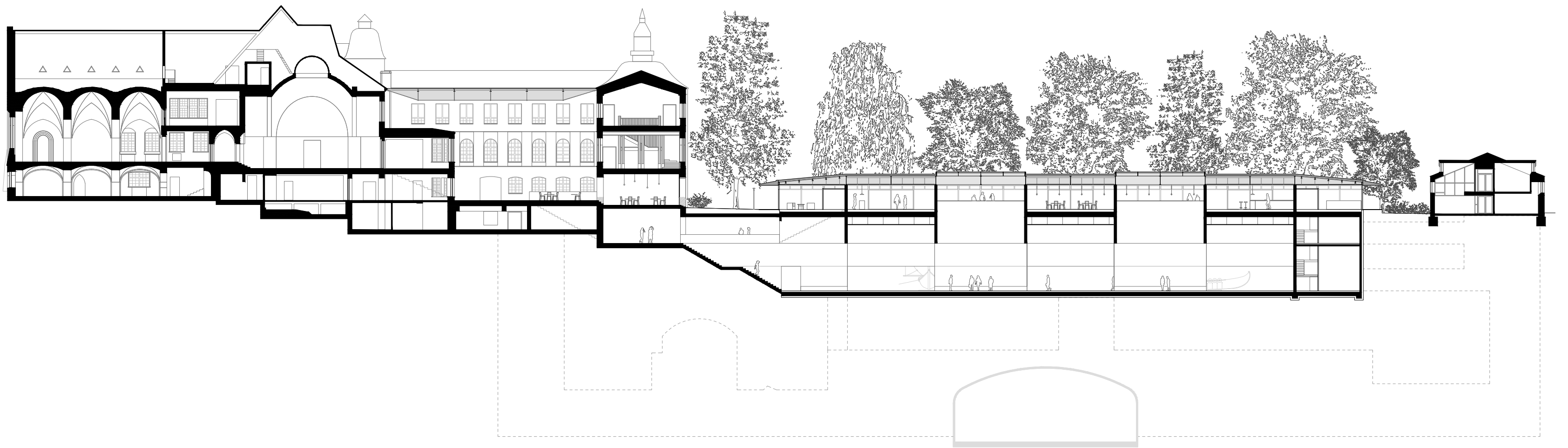
Project





Restaurant

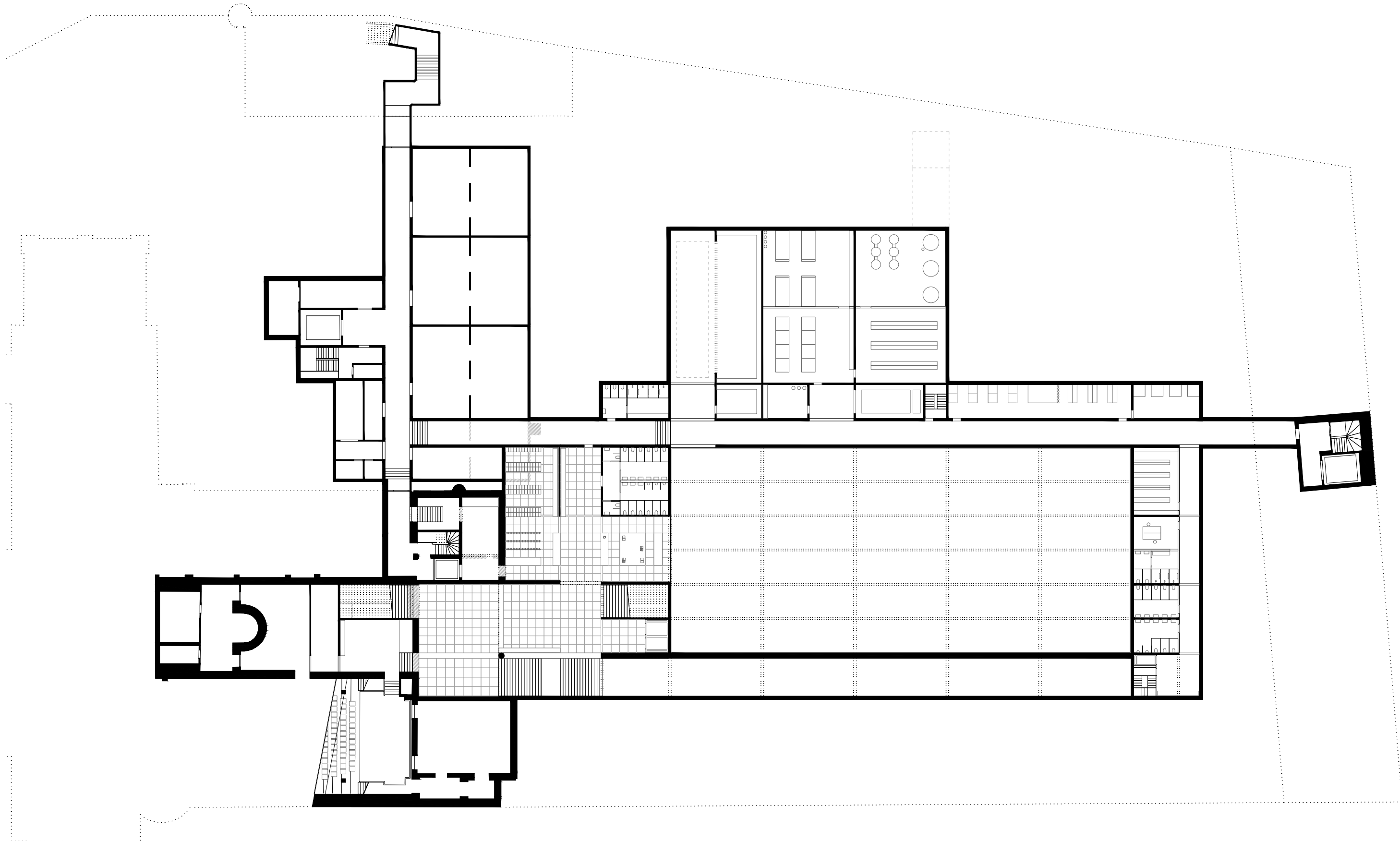
Project



0 5 10

Main Longitudinal Section through Corridor

Project



0 5 10

First Underground

Project





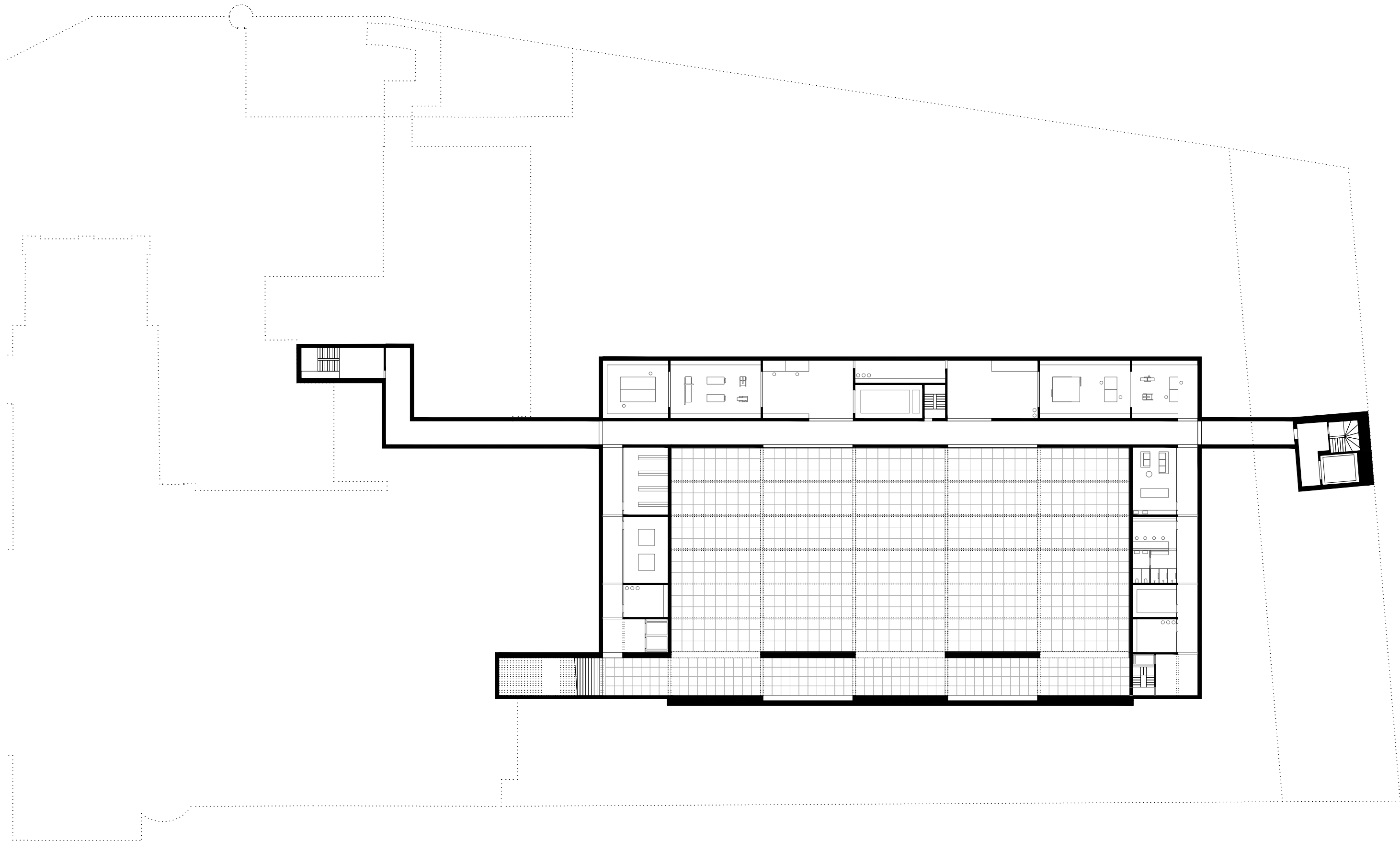
CLOAKROOM

SHOP

RESTAURANT

LIFT

EXHIBITION



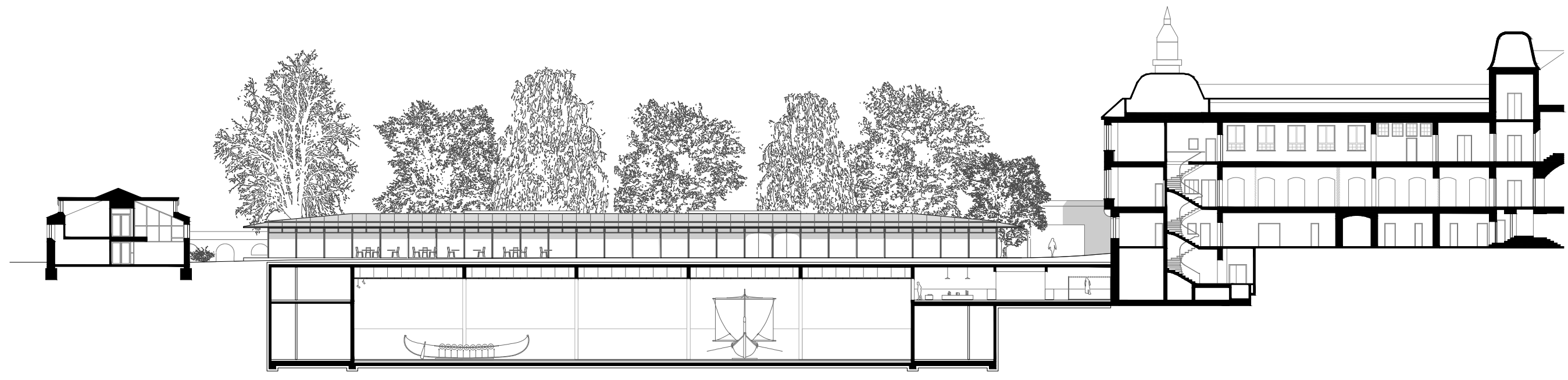
0 5 10

Second Underground

Project



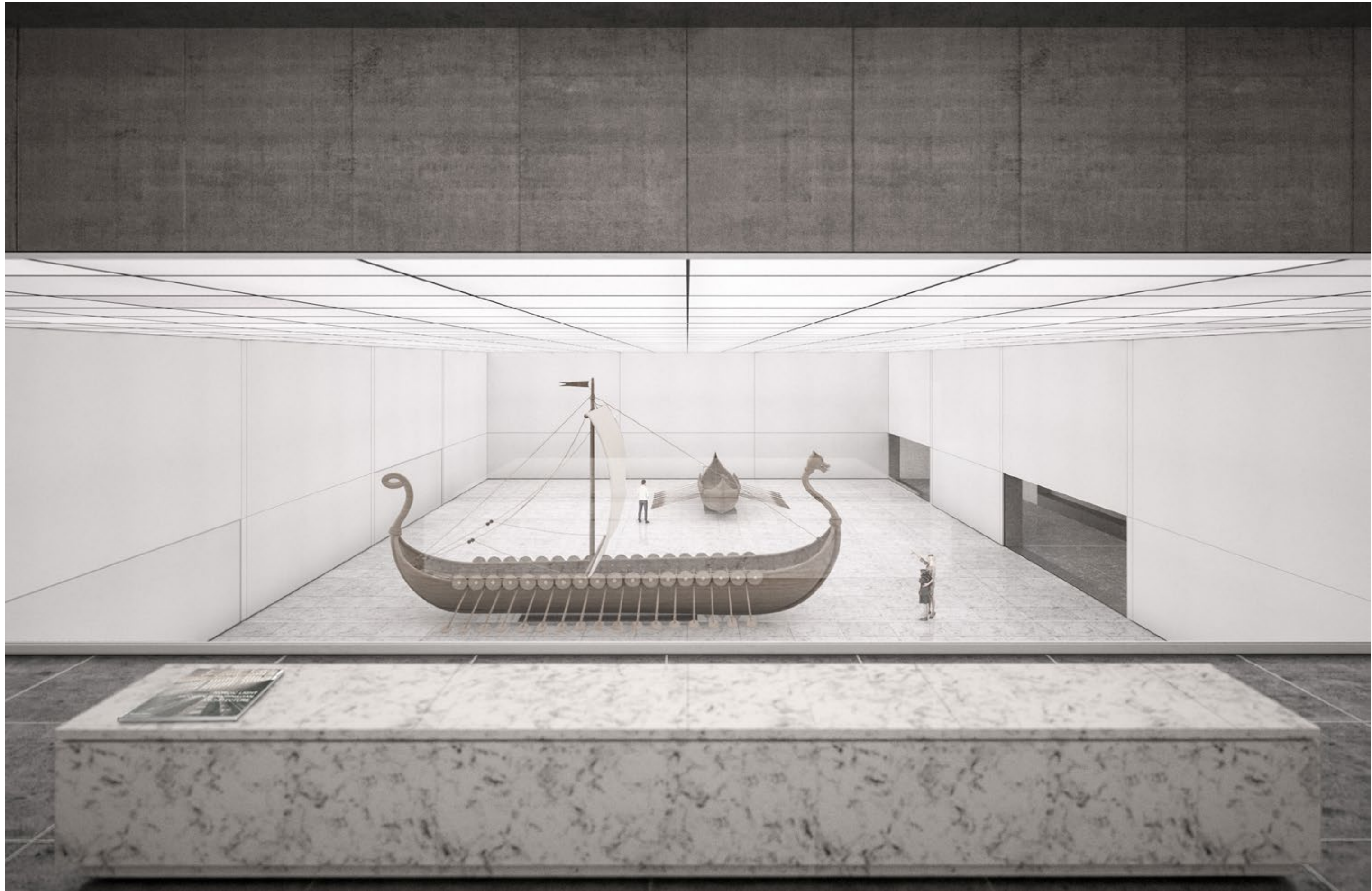




0 5 10

Longitudinal Section through Shop & Exhibition

Project



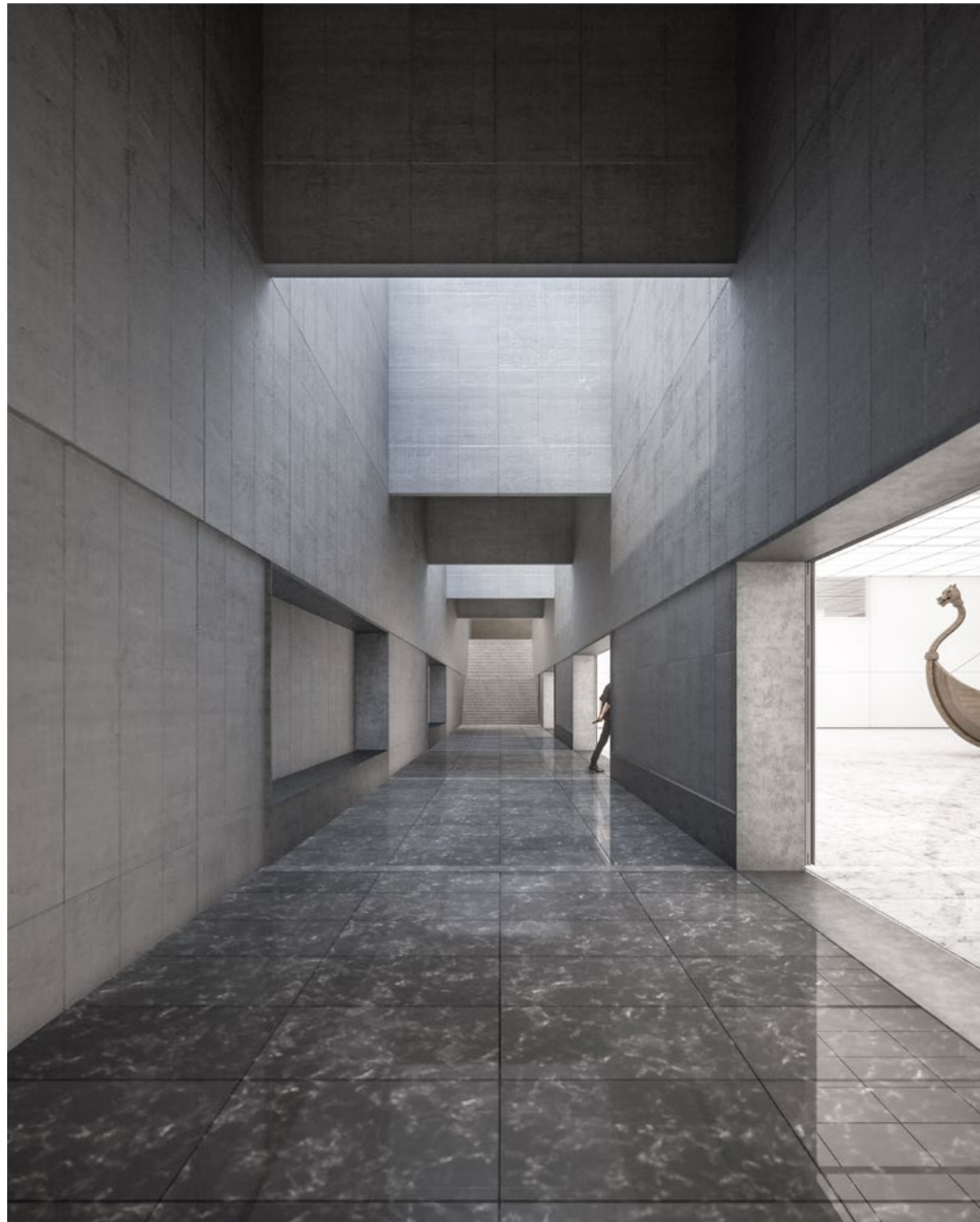
View from Museum's Shop

Project



Perspective Section

Project



View from the Corridor

Project

EXHIBITION



SEQUENCES AND FLEXIBILITY

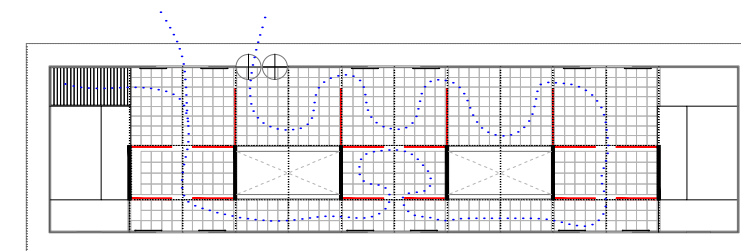
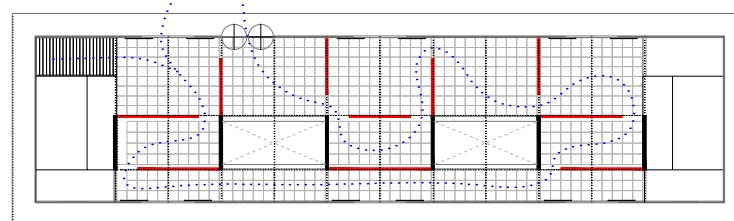
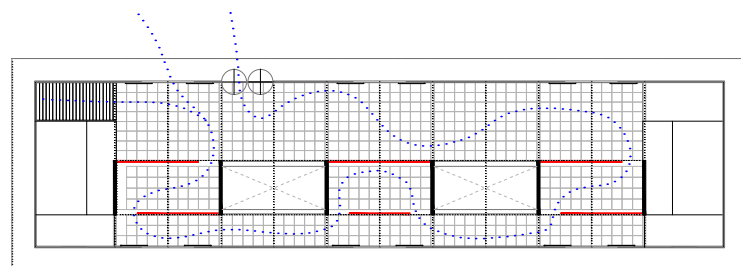
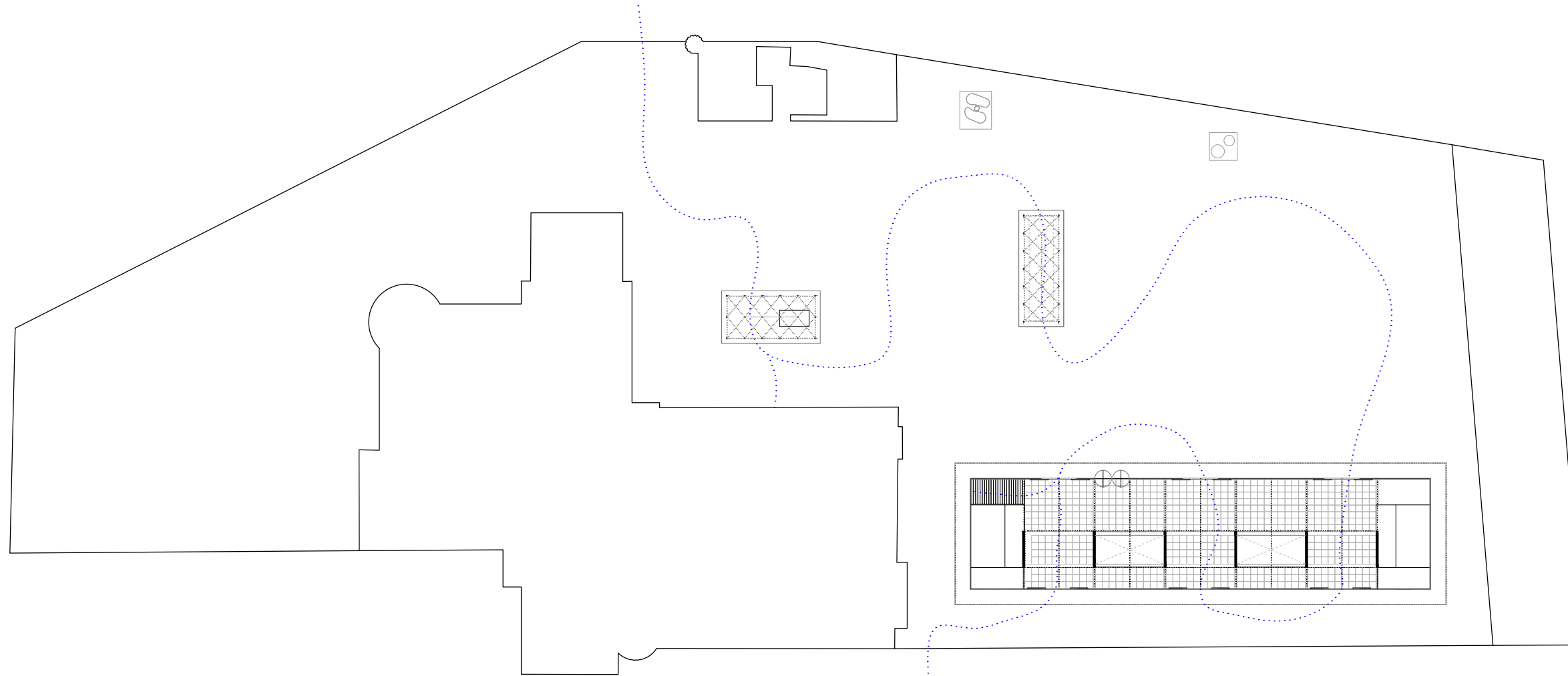
Great care is taken to guide the visitor through the building and to enhance the flexibility of the underground exhibition space. All the details, motifs, rhythms and joints attempt to combine the structural clarity of the project with a variety of uses, which reveal their full potential especially in the interplay between corridor and exhibition space.

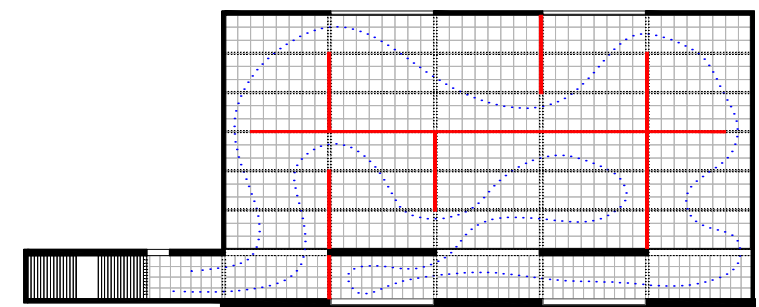
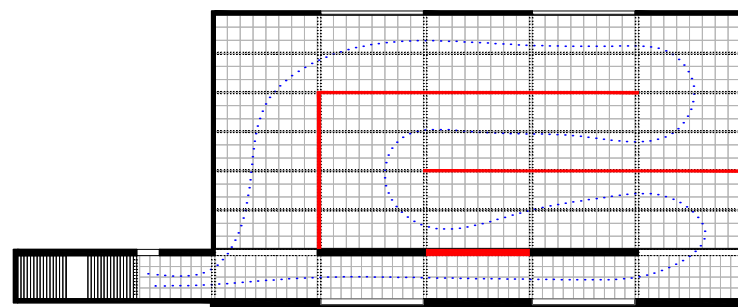
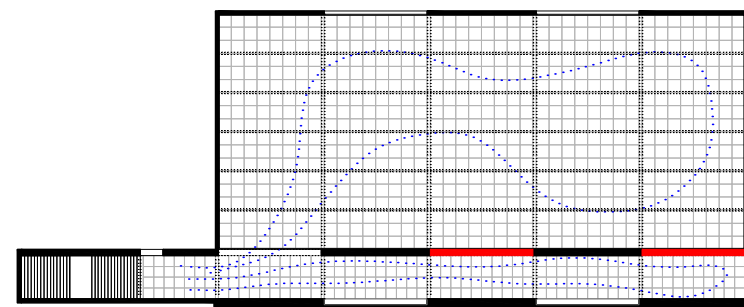
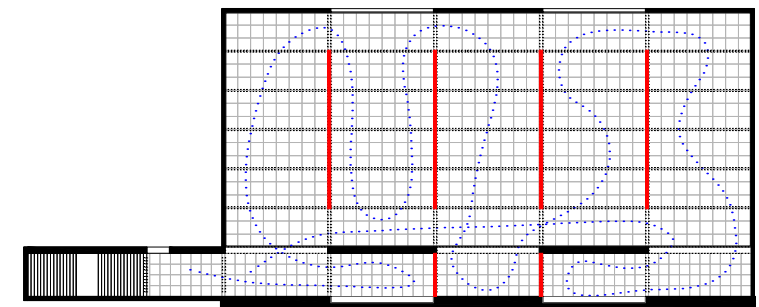
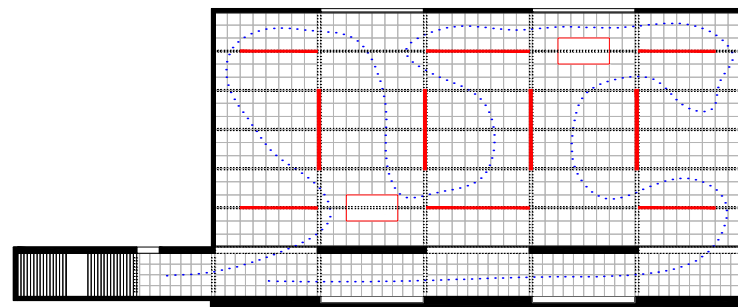
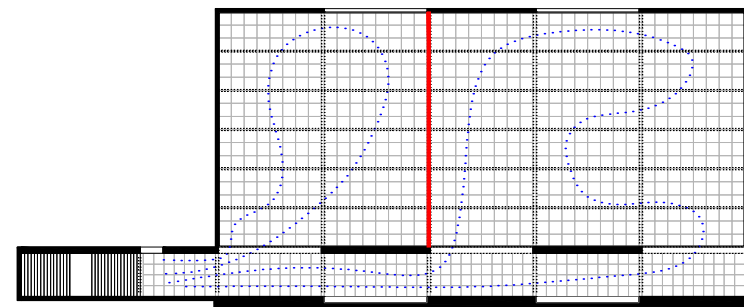
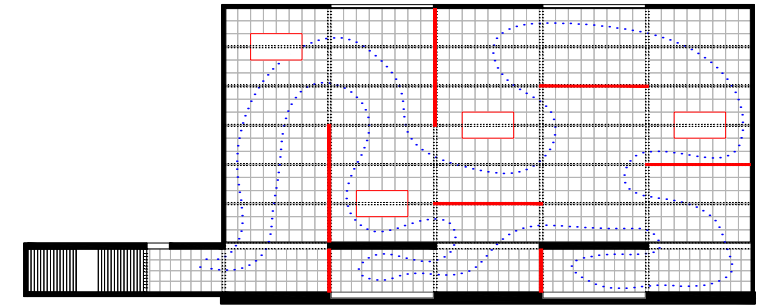
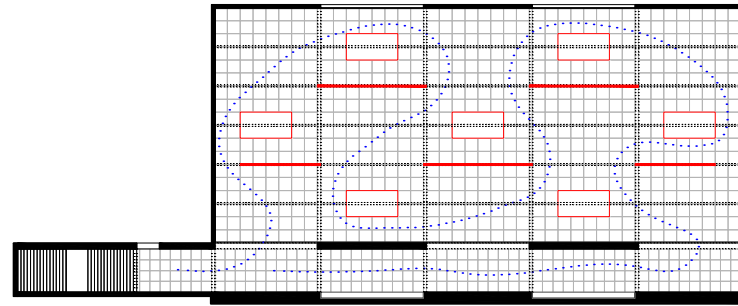
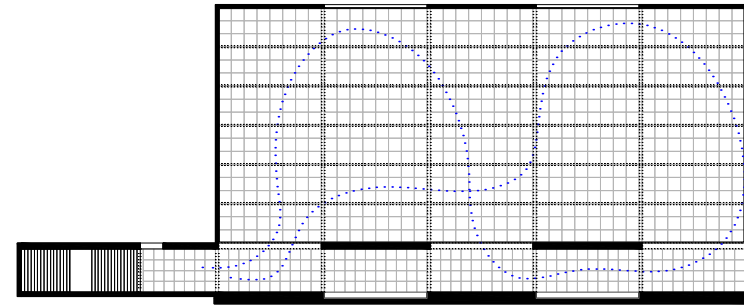
The ground floor can be emptied, reduced to its bare bones and used as a part of the exhibition. The secondary pavilions can shelter pieces of art as well and thus allow the entire park to be engaged with the design.

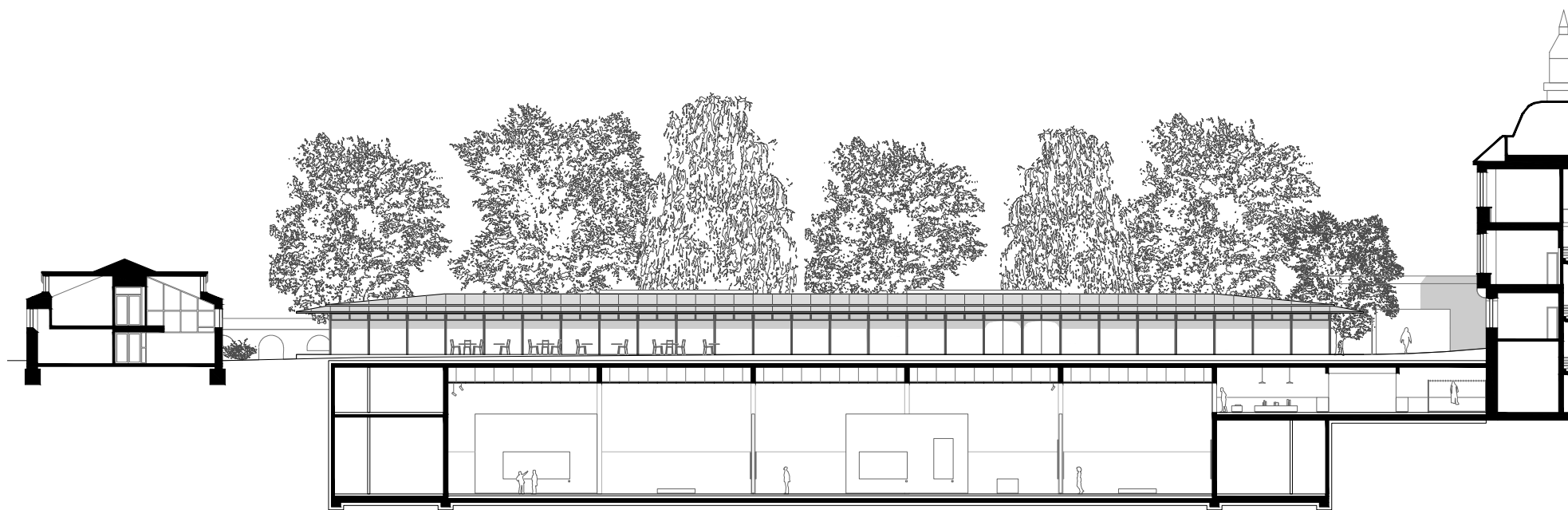
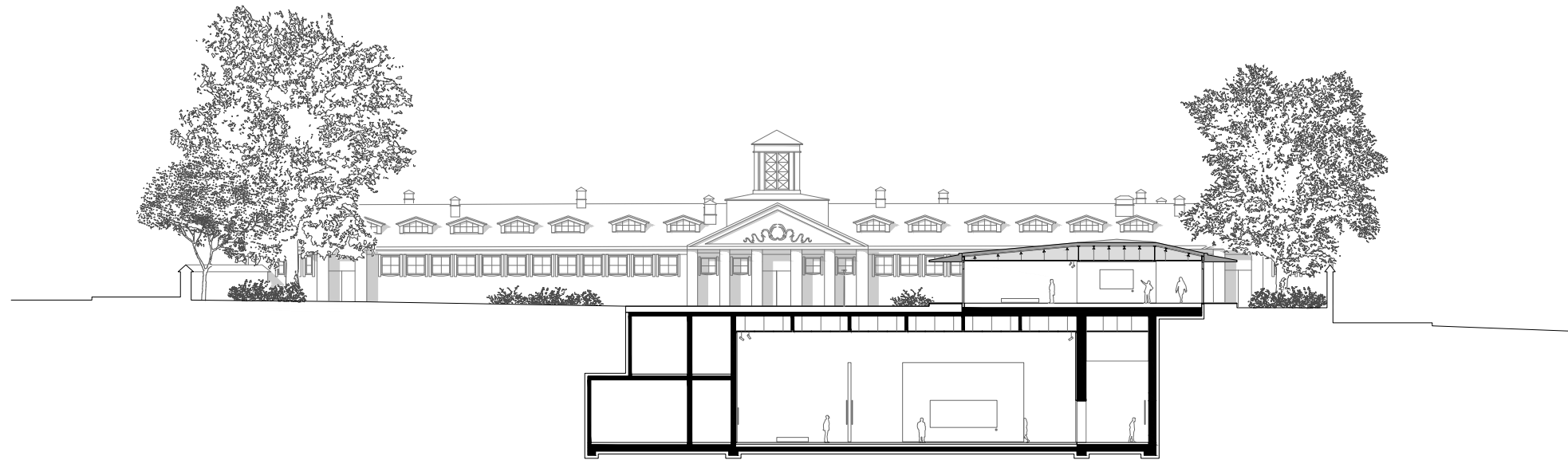
This flexibility allows park, ground floor, existing building and underground extension to work as a new and whole entity.

The exhibition space is dividable through five modules of 230m² each. The openings to the workshops allow separated use and autonomy. The main corridor can be transformed in “cabinet” spaces, giving the chance to highlight an object and add value to the spatial experience.

(Paintings from Mikka Vaskola & Olli Piippo)







Sections - Exhibition Scenario

Exhibiton



View from Museum's Shop

Exhibition





Corridor as a «Cabinet»

Exhibition

CONSTRUCTION

STRUCTURE, MATERIAL & DETAIL

The main structure of the project consists of a black metal roof leaning on concrete veils anchored into the ground. This set the rhythm for the entire organization of the project, within which a sequence of open-closed, full-empty and light-dark develops. The structural is ensured by the vertical concrete elements extended into the ground, which allows the ground floor to be reduced to the expression of the main structure.

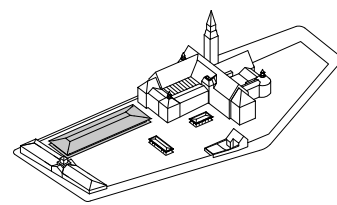
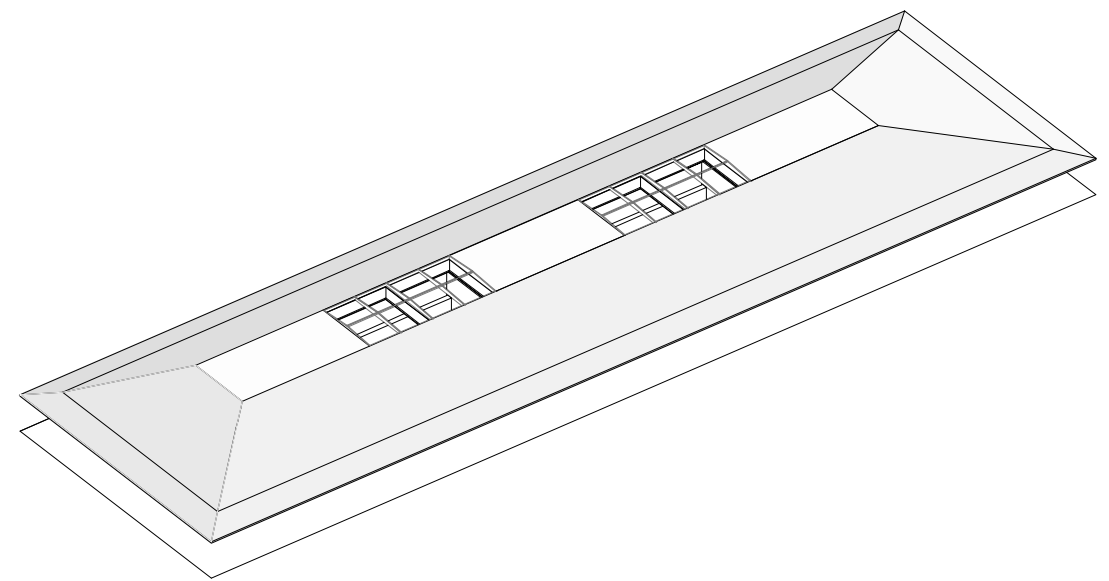
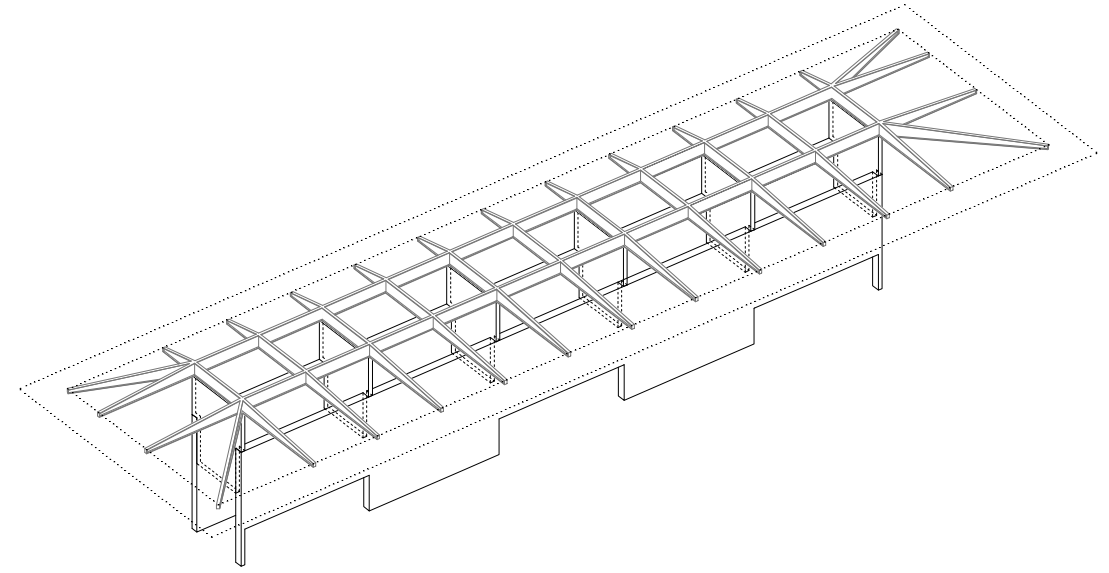
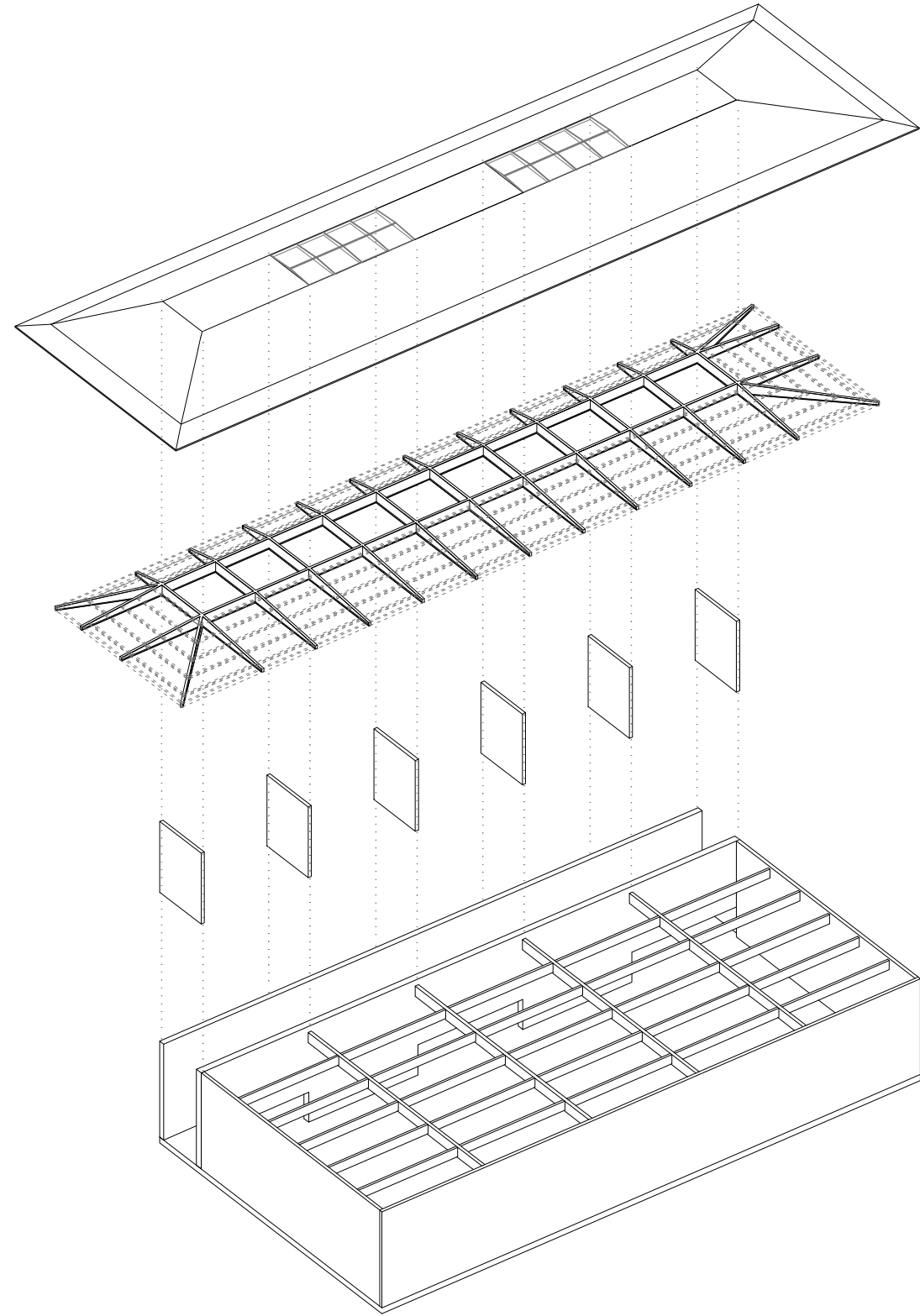
The shape of the roof corresponds to the required static height of the structure. The integration of a square-shaped grid as a suspended ceiling offers technical flexibility and reinforces the expression of the roof as an abstract sculptural element.

Two further structures are developed: the glass roof over the existing courtyard and the secondary pavilions. These three elements (main- secondary pavilions and glass roof) are characterized by structural personalities relating to their function, but are united through language as though part of a family.

The triptych «Pavilion (black) – in-between floor and corridor (grey) - exhibition space (white)» develops a chromatic sequence from dark to light.

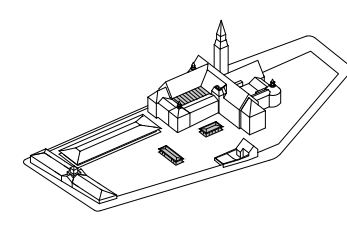
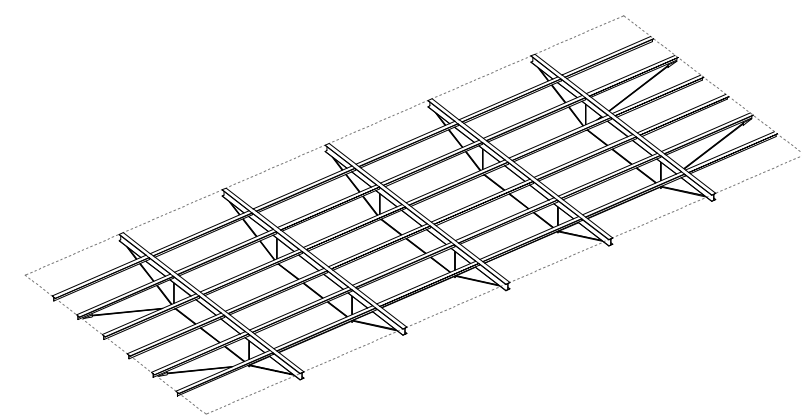
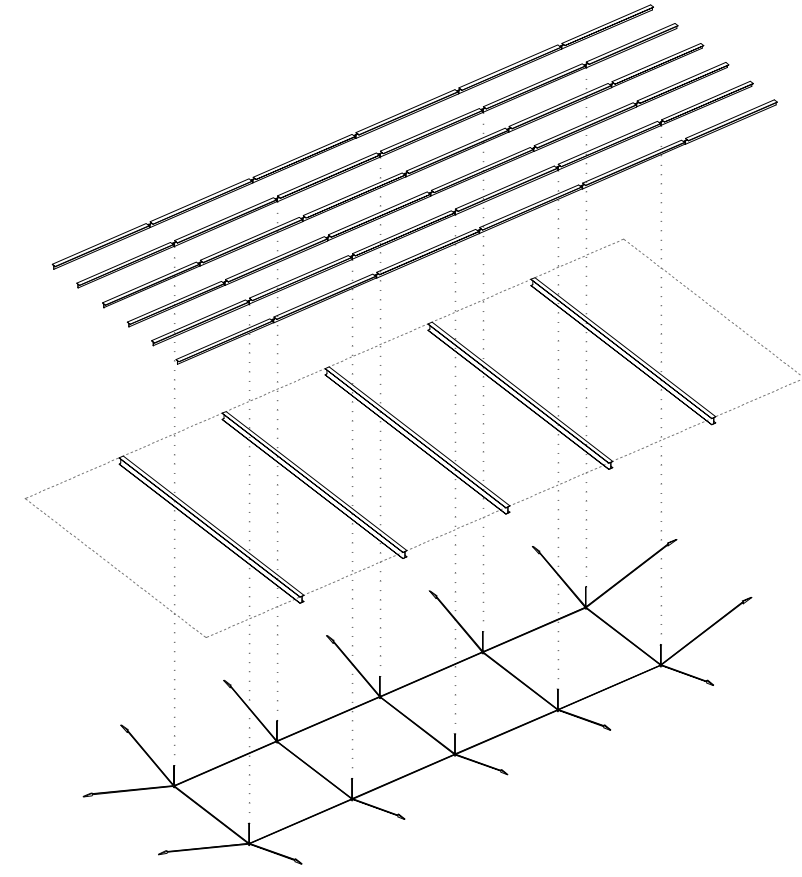
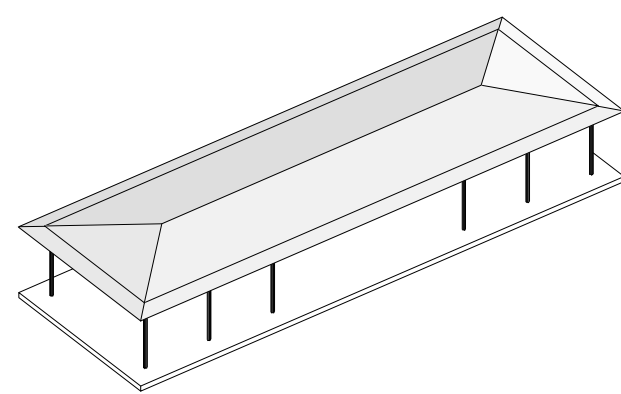
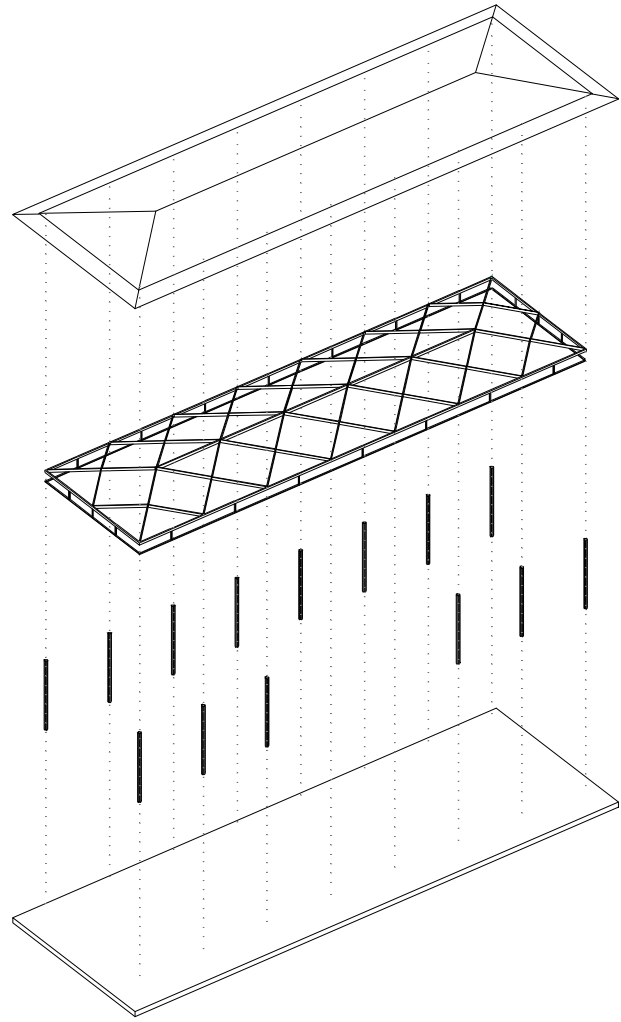
The exhibition space is designed as a «white cube». It does away with ornamentation and is dedicated to the contemplation of the exhibited artwork. The ceiling, the floor and the walls are equipped with technical voids that allow for multiple use and flexibility.

The new building attempts to radically translate the grammar of the existing building - in the form of columns, niches, floor patterns, balconies and pathways.



Structural Concept

Construction



Structural Concept

Construction

I'm sorry, this part is in german. Salah wants to keep a few secrets.

Dachaufbau mm

- Deckung aus verzinktem Stahlblech
- Dämmebene Unterkonstruktion 200
- Dampfsperre
- Multiplex-Platte 22
- Sekundärer Stahlträger (IPE) 200
- Primärer Stahlträger HEA-1000 1000-300
- Technikebene
- Abgehängte Decke, Gitter aus Stahl 500

Deckenaufbau (über dem Ausstellungssaal) mm

- Dunkle Steinplatten, 900 x 900 30
- Beheizter Betonestrich 120
- Trittschalldämmung 140
- PE-Folie
- Stahlbetondecke 500
- Stahlbetonträger 1050
- Technikebene:
- Beleuchtung (Neonröhre)*
- Lüftung*
- Technische Schiene in der Struktur*
- Abgehängte Decke aus Polycarbonat 40

Deckenaufbau (Flur) mm

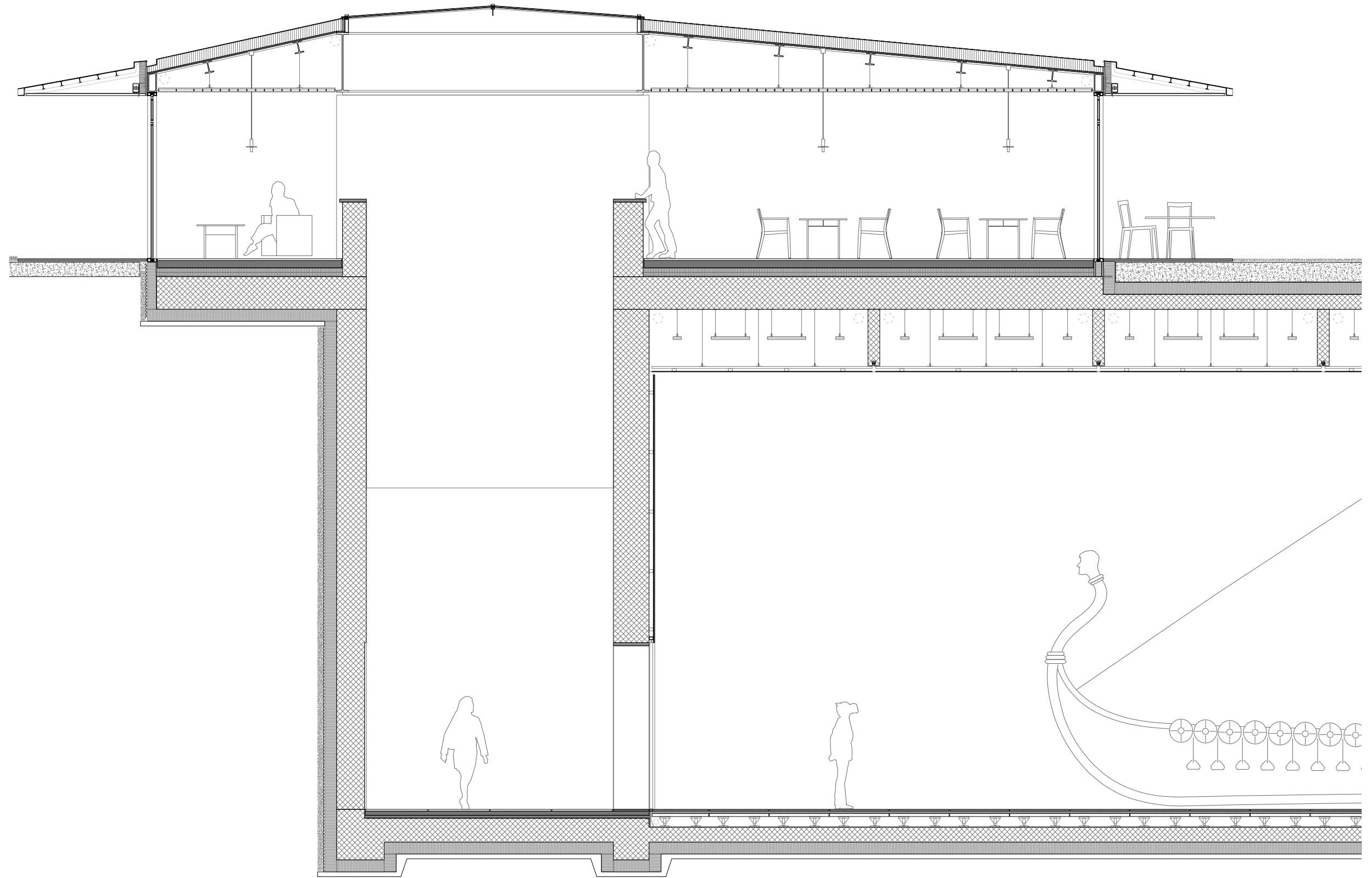
- Graue Marmorplatten, 950 x 950 30
- Beheizter Betonestrich 80
- Trennschicht
- Schalldämmung 2 x 20
- Aluminium Folie
- Stahlbetondecke 400
- XPS-Dämmung 200

Bodenaufbau (Ausstellungssaal) mm

- Helle Marmorplatten, 1110 x 1100 30
- Kleberbett 10
- Druckverteilungsplatte 10
- Schalldämmung 20
- Knauf GIFAtec 60
- Installationsboden mit Unterkonstruktion 150
- Staubbindender Anstrich
- Stahlbetondecke 250
- XPS-Dämmung 200
- Magerbeton 80

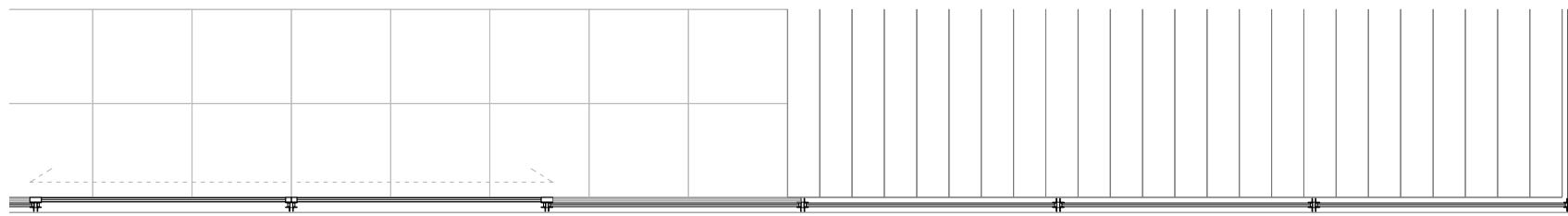
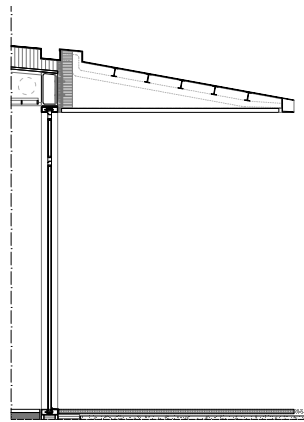
Wandaufbau (Ausstellungssaal) mm

- Gipsfaserplatte, auf Unterkonstruktion 2 x 12
- Technische Ebene 10
- Stahlbetonwand 600



Detail Section

Construction



Facade

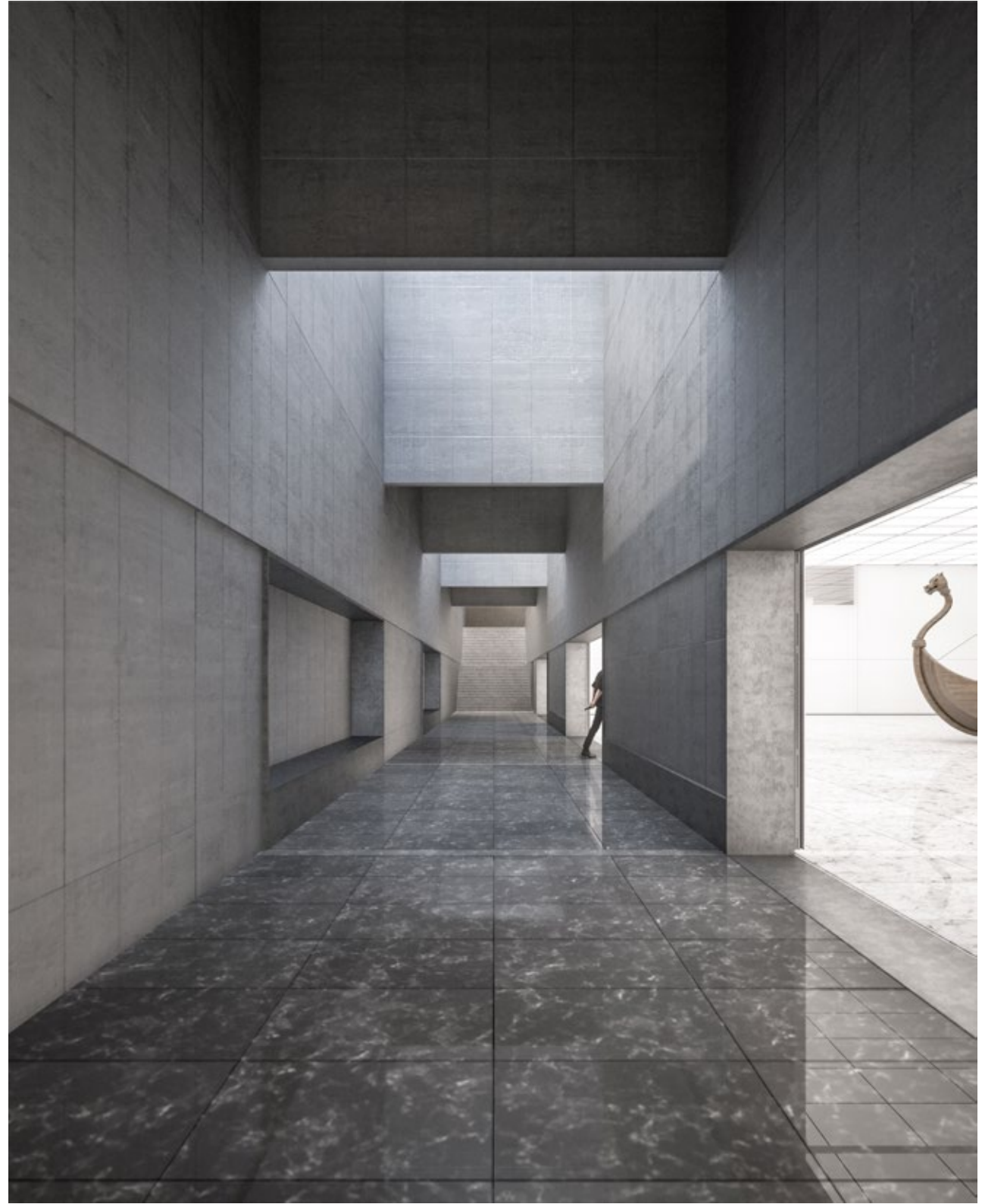
Construction

CONCLUSION

The Project remains quiet and let the rich surrounding architecture keep its protagonist role. Salah is rather trying to emphasize the identity of the place with humility, hiding its qualities and engaging in a deeper way with Helsinki. The organization results from precise intentions as well as an obsession to optimize functionality and autonomy of each part of the complex : the new exhibition hall, the transport of art pieces, the connections with existing conditions, the autonomy of the restaurant, the different programmatical configurations (Annex / Restaurant / Auditorium / Parking...), the park, the existing anecdotal metallic structures, the courtyard, the existing trees...

Sala- (prefix for secret in Finnish) aims to generate an autonomous spatial identity resulting from the reading of the place, while interpreting the needs of a contemporary museum extension. The developed architecture intends to preserve the aura of the place, highlight the existing qualities and hide a rich and unexpected underworld behind a quiet Pavilion.

Thus, Salah cultivates and celebrates the secret of Helsinki.



Conclusion



SALAH