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Tourist Center

in Tallinn Harbor Area

塔林港区游客中心设计

A MATTER OF SCALE | 2023-2024/P5

01/ Background 背景

1-1 History 历史

1-2 Field Research 调研

1-3 Current Situation 现状

1-4 Research Plan 计划

02/ Project 项目

2-1 Urban Strategy 策略

2-2 Public Space 功能

2-3 Building Structure 结构

2-4 People's Experience 活动

03/ Conclusion 结论

01/ Background

背景

1-1 History
历史
1-2 Field Research
调研
1-3 Current Situation
现状
1-4 Research Plan
计划

01/ Background- history

-1917
Tsarist Russian rule

1918-1939
the fist independence period

1940-1941
the Soviet occupation

1941-1945
the Nazi German occupation

1945-1991
the Soviet occupation

1991-
the Republic of Estonia

Since the beginning of the last century, Estonia has gone through six historical stages.This made me interested in its urban character and identity.

自上世纪初至今，爱沙尼亚经历了六个主要的历史阶段。这使得我在一开始对其城市特征和所谓的民族性很感兴趣。

During the on-site investigation, my team members and I selected a number of nodes we were interested in from the north to the port area and the south to the industrial area for research. Its functions include residential areas, commercial areas and other types.

在现场进行调研的时候，我和我的组员从北至港口区域、南至工业区的区域选取了多个我们感兴趣的节点进行研究。其功能包括住宅区、商业区等多种类型。

/1/
analyze the existing problems of public spaces in Tallinn.

分析公共空间的现有问题

/2/
try to extract some specific pattern from it to summarize the urban characteristics of Tallinn.

尝试总结塔林城市的特征

/3/
use these small spaces to discuss the possibility of larger scale urban development.

借由小尺度空间讨论更宏观的城市发展

Identity & Hybrid

The complex historical stages created a mixed urban landscape,
Talking about a specific "identity" seems very difficult.

复杂的历史阶段造就了混杂的城市景观，
讨论某种具体的“特征”似乎非常困难。

Sample Selection

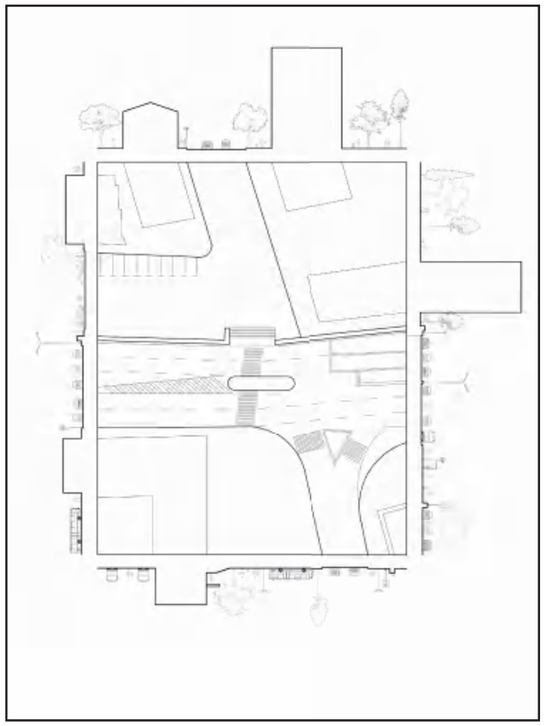
样本选取标准

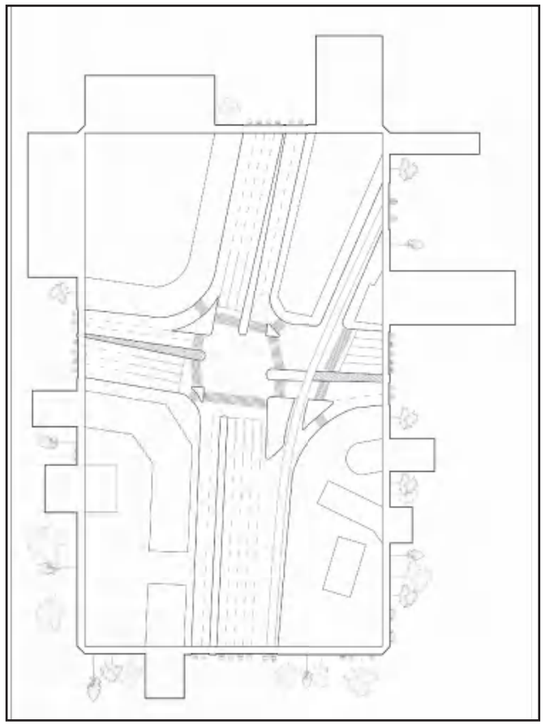
/1/
Space at the junction of urban streets;
街道路口空间

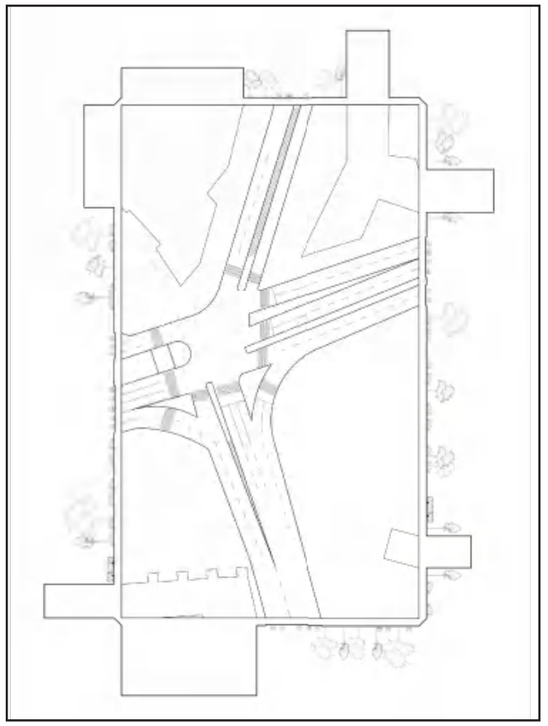
/2/
Small scale scattered space for people to carry out activities in the city;
小尺度社区公共空间

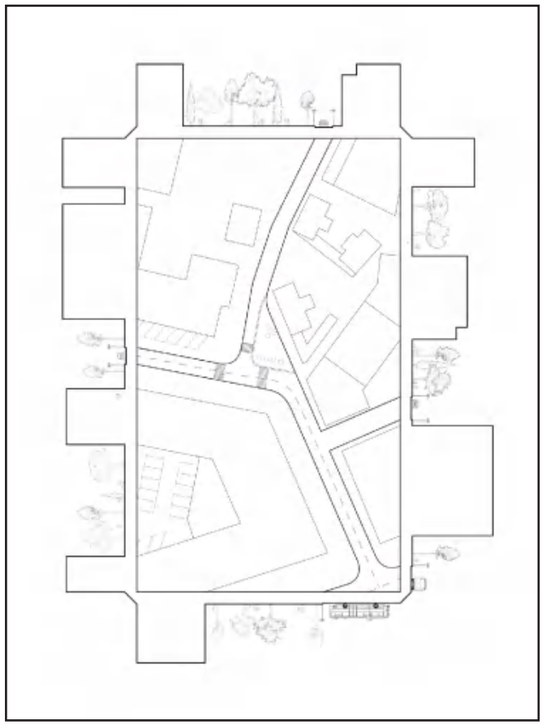
/3/
Urban Spaces that have not been properly developed;
待发展空间

/4/
Remote Spaces that have been given certain functions but are not used well.
无人空间









sample analysis
路口样本分析

/DIS-organization/
无组织

/DIS-function/
无功能

/DIS-connection/
无联系

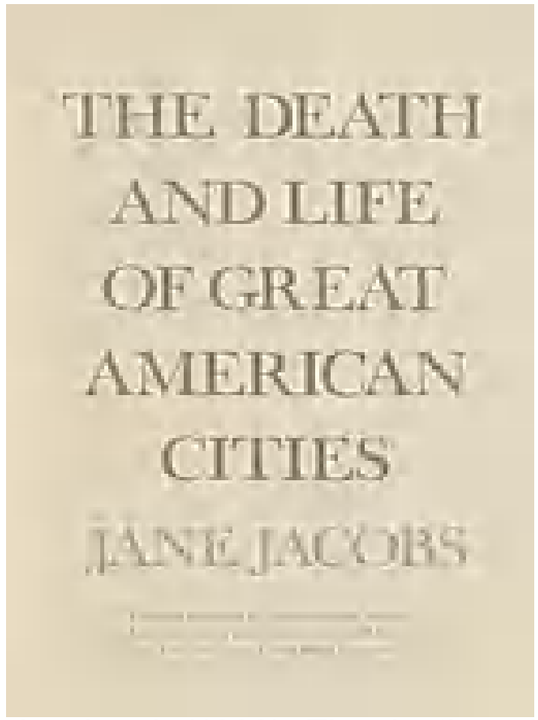
=?

What is the character of urban space?
Is it possible to generalize some kind of summative urban design principle?

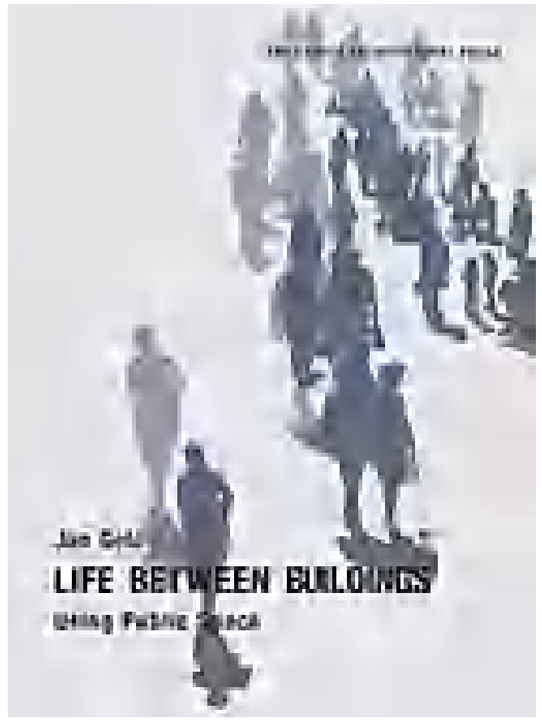
城市空间的特征究竟是什么?
是否有可能通过归纳出某种总结性的城市设计原则?

Urban activities

城市中的的活动



Jacobs, J. (1992). The death and life of great american cities (1st Vintage books). Vintage Books.



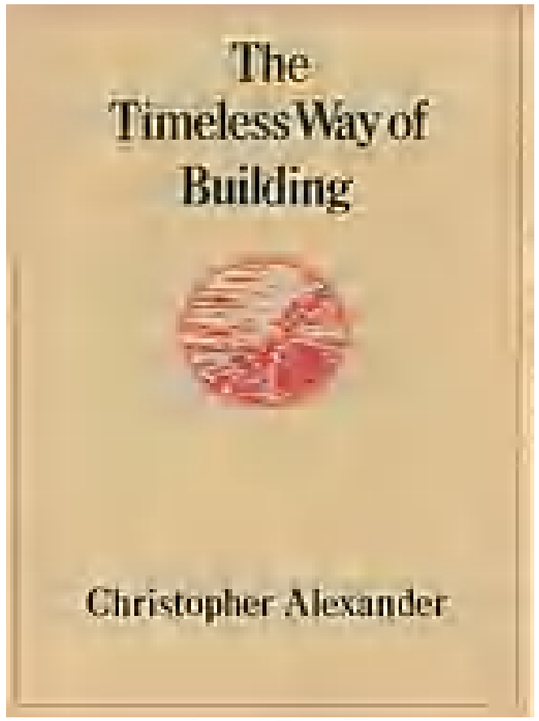
Gehl, J., & Koch, J. (2011). Life between buildings : using public space. Island Press.

Space is defined by the activities of the people in it, and is characterized by certain events that occur over and over again. The characteristics between buildings change as the social situation changes, but the basic principles and quality standards used when working for human quality in the public sphere have proven to be very stable.

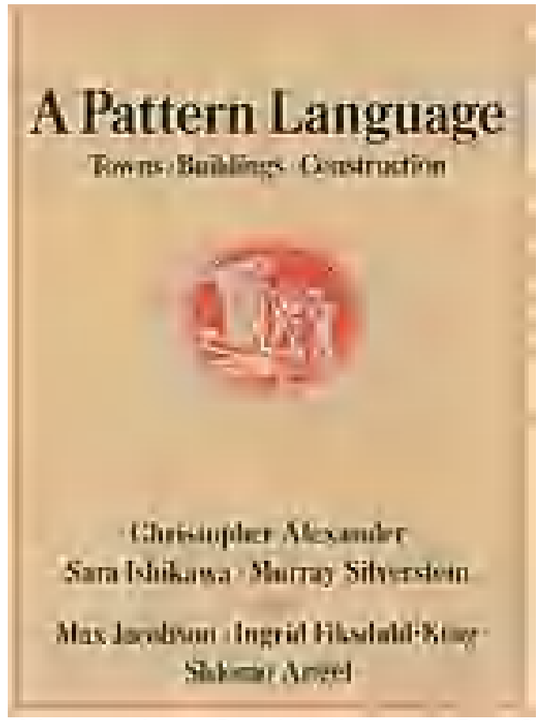
空间是由人们在其中的活动所定义的，并以反复发生的某些事件为特征。建筑之间的特征随着社会形势的变化而变化，但在公共领域为人类质量工作时所使用的基本原则和质量标准已被证明是非常稳定的。

The urban pattern language

城市中的模式语汇



Alexander, C. (1979). The timeless way of building (Ser. Center for environmental structure series, v. 1). Oxford University Press.



Alexander, C., Ishikawa, S., & Silverstein, M. (1977). A pattern language : towns, buildings, construction. Oxford University Press.

All architectural actions are controlled to some degree by a pattern language, and the rich and complex order of a city arises from thousands of creative acts. Once we have a common pattern language in cities, we can bring cities and buildings to life with the most ordinary behaviors. Language is like a genetic system, giving small actions the power to form a whole.

所有的建筑行为都受某种程度上的模式语汇控制，一个城市丰富而复杂的秩序是从成千上万的创造性行为中产生出来的。一旦我们在城市中有了一种共同的模式语汇，我们就能用最平常的行为使城市和建筑富有生机。语汇在其中如同遗传系统，赋予诸多小的行为形成整体的力量。

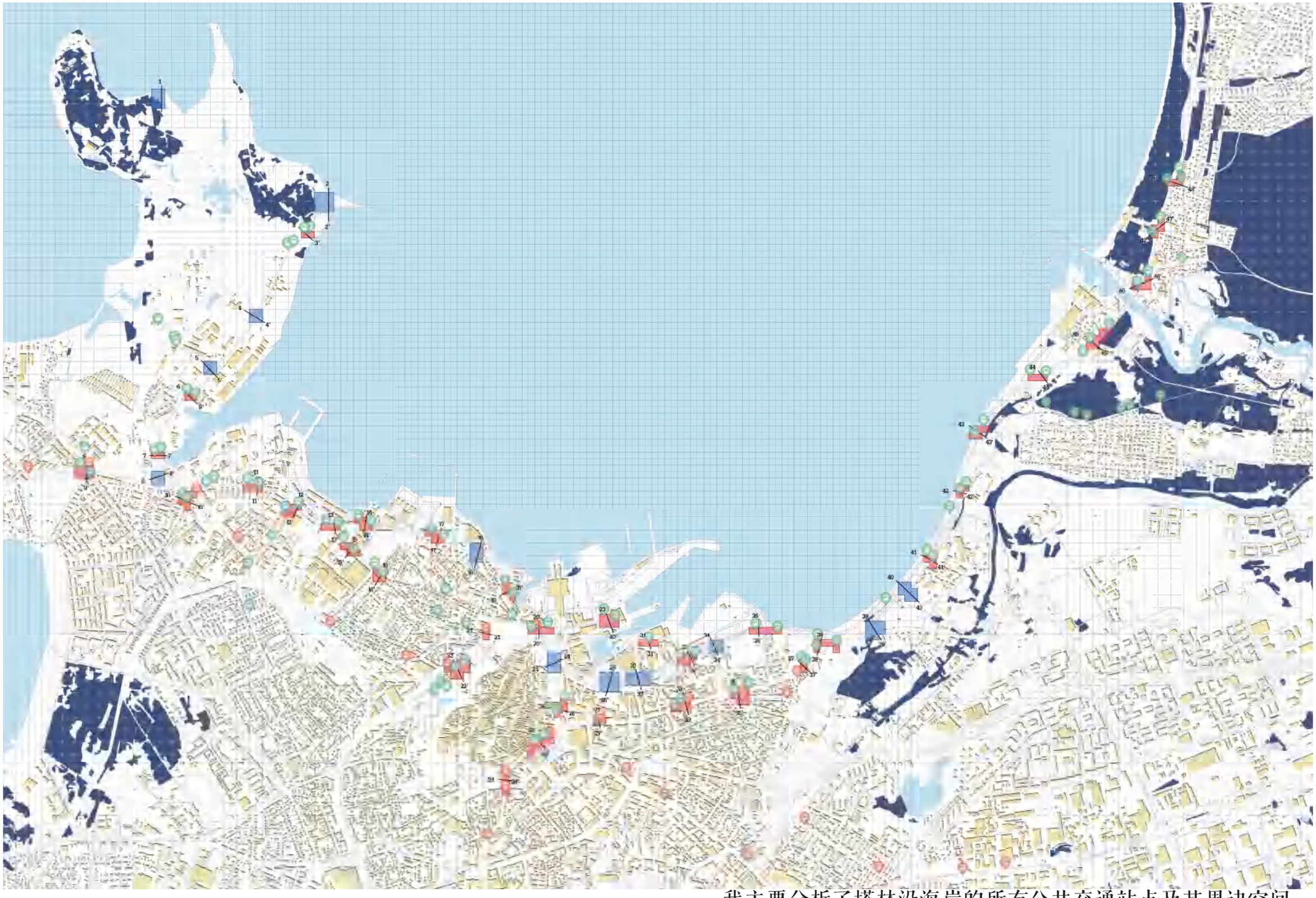
I decided to start with a certain type of space distributed in every corner of the city to find a potential place to explore the characteristics of urban public space.

我决定从某种分布于城市各个角落的空间类型入手，寻找探讨城市公共空间特征的潜在场所。

the **bus/tram stops/stations.**

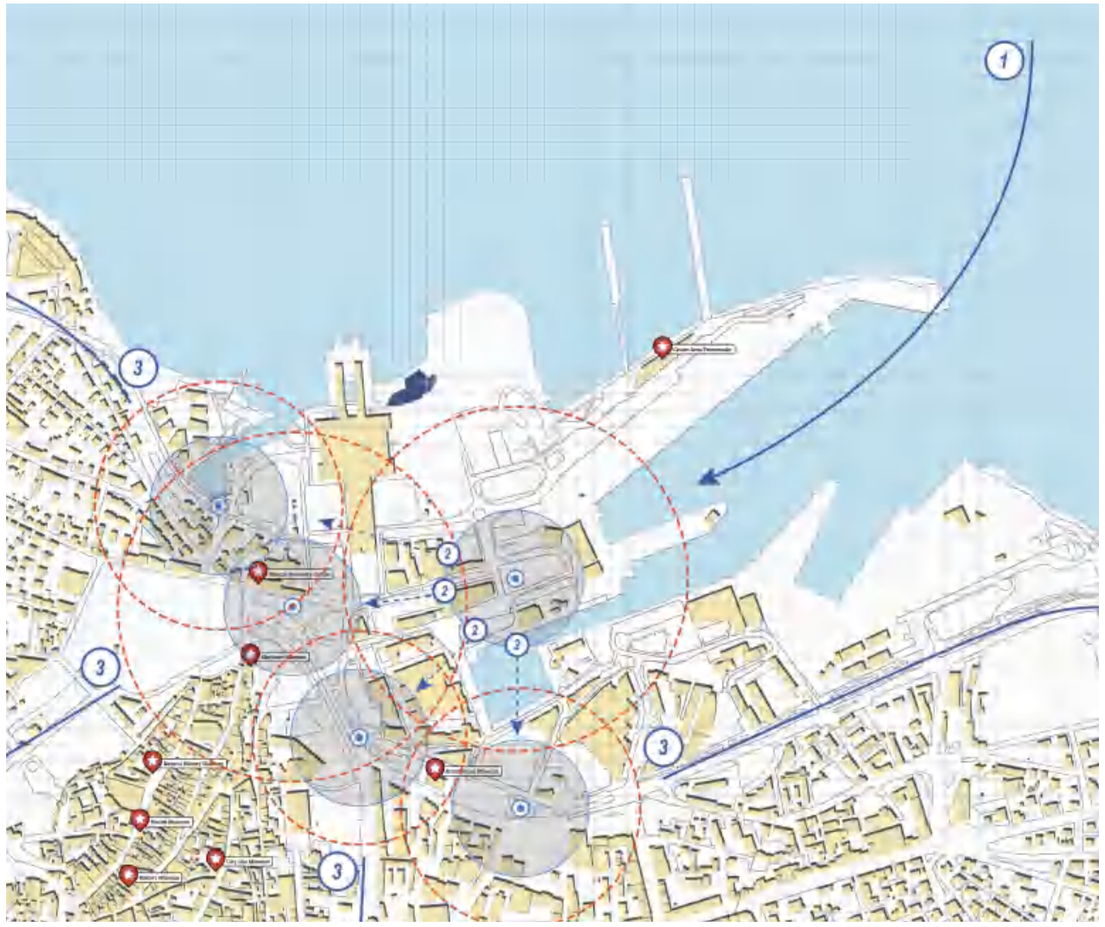
我选择了城市交通站点。

01/ Background- research plan



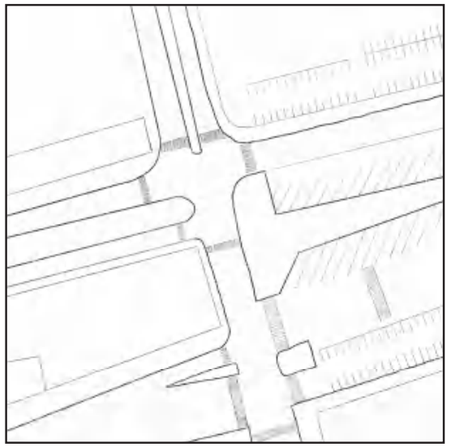
我主要分析了塔林沿海岸的所有公共交通站点及其周边空间。

01/ Background- research plan

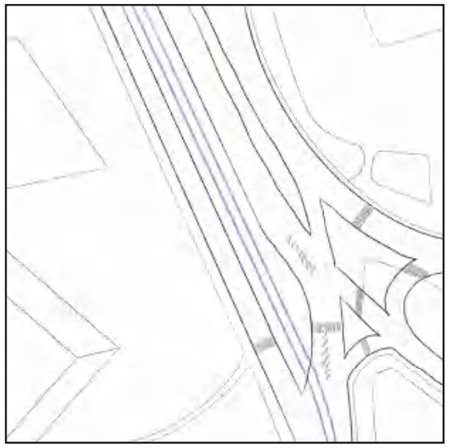


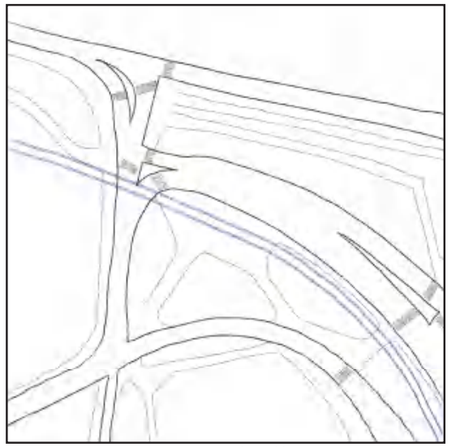
I made a section analysis of these 48 sites, focusing on the scale relationship between the existing public transportation routes and the surrounding Spaces. Five potential sites were selected. These five sites are all near the harbor terminal, and I hope to use them to help people enter the city from the harbor.

并绘制剖面分析其所在位置的空间联系。
并从中挑选出了五个潜在的场地。

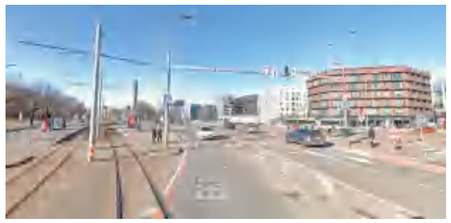

Terminal A

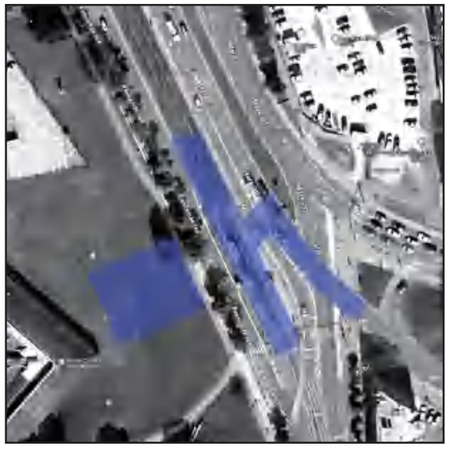
Roterman


Arch Museum


Linnahall

Fish Market

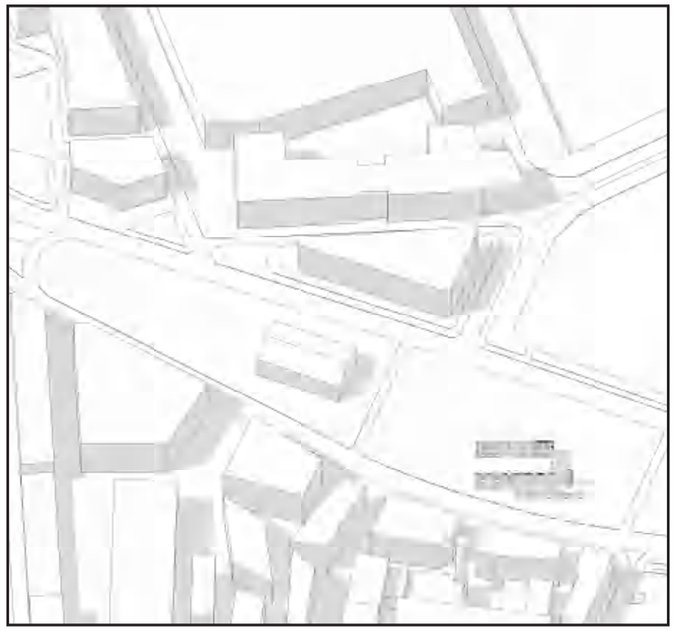




potential sites
潜在场地

the block between the Architectural Museum and roterman

Tram station.
Near to the Old Town.



Architecture Museum.
Rotermann Quarter.
Facing Harbor Area.

Bus station without a nice
platform.

最终我关注到了位于老城东侧电车站和 Rotermann 北部公交站之间的区域。

1- Near the Harbor area

2- The public transport routes

3- Existing old limestone walls

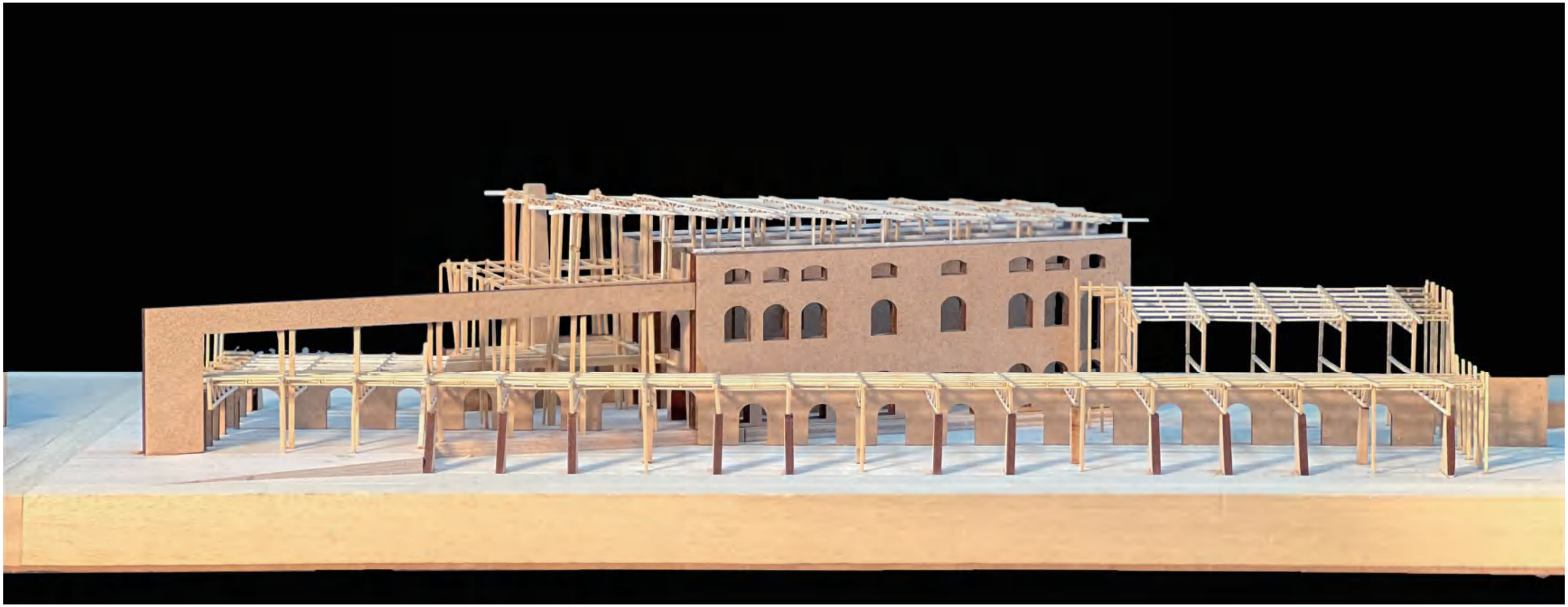
这块区域临近港口、盘踞交通节点，并是塔林老
石灰岩仓库建筑旧址，场地现存石灰岩墙体。

1- Characteristics of good urban public space.

2- Help people feel the original urban context.

3- Influence the development of a wider area and
even the whole city.

计划利用这块场地讨论良好城市公共空间的特征，并思考如何帮助
人们体验城市原有的建筑文脉。
以期通过一定区域内的设计，影响更大范围乃至整个城市的发展。

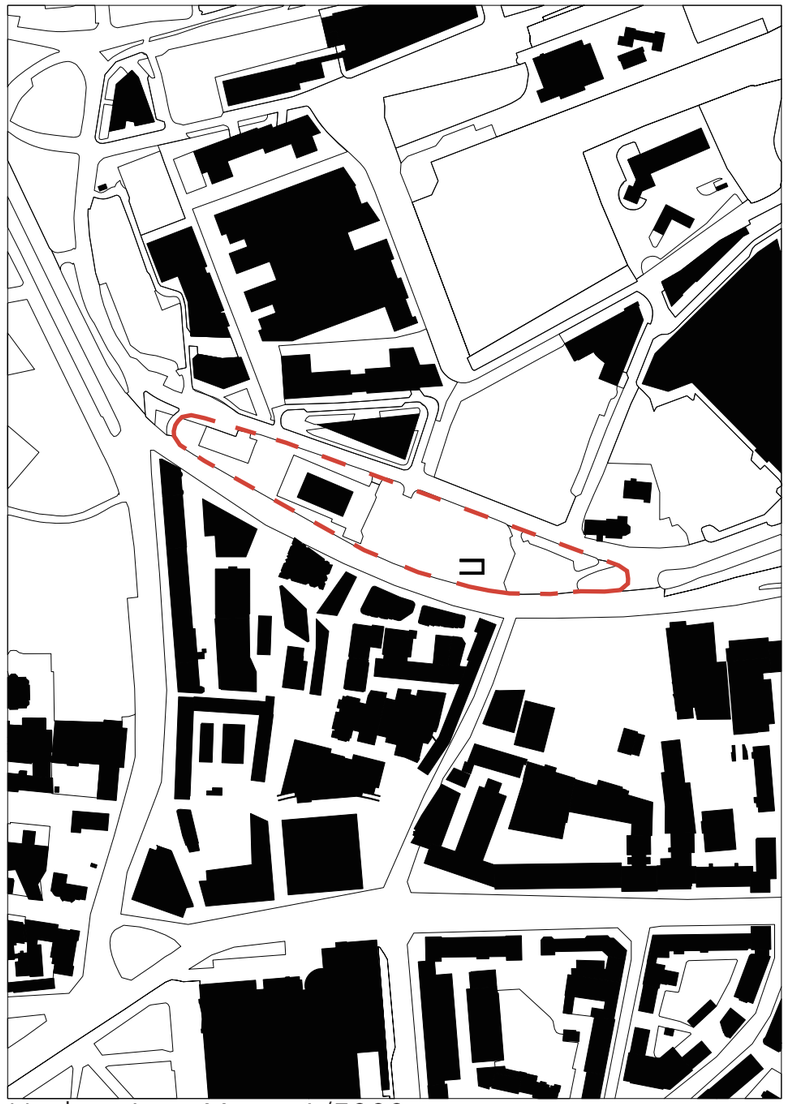


02/ Project

项目

2-1 Urban Strategy
策略
2-2 Public Space
功能
2-3 Building Structure
结构
2-4 People's Experience
活动

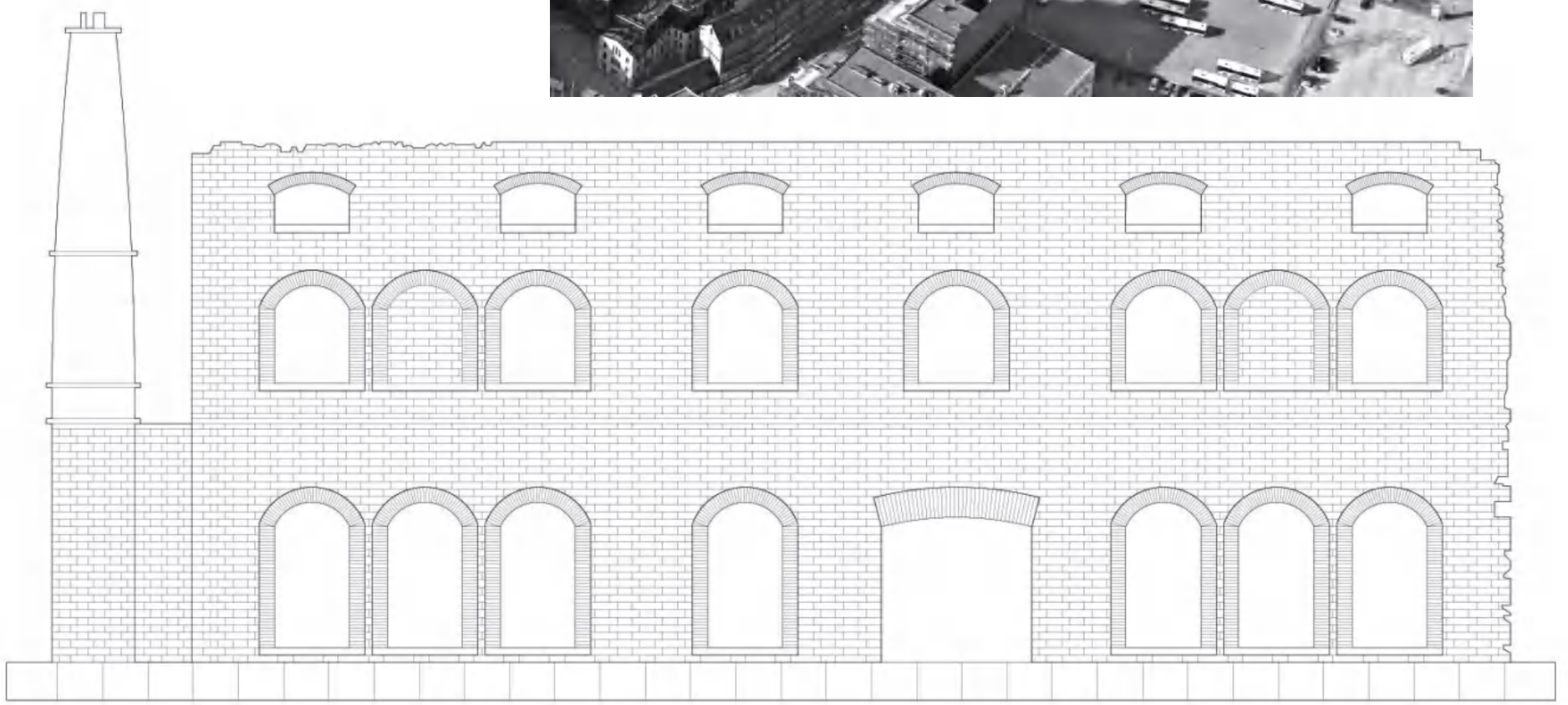
Tallinn Urban Fabric 1/30000



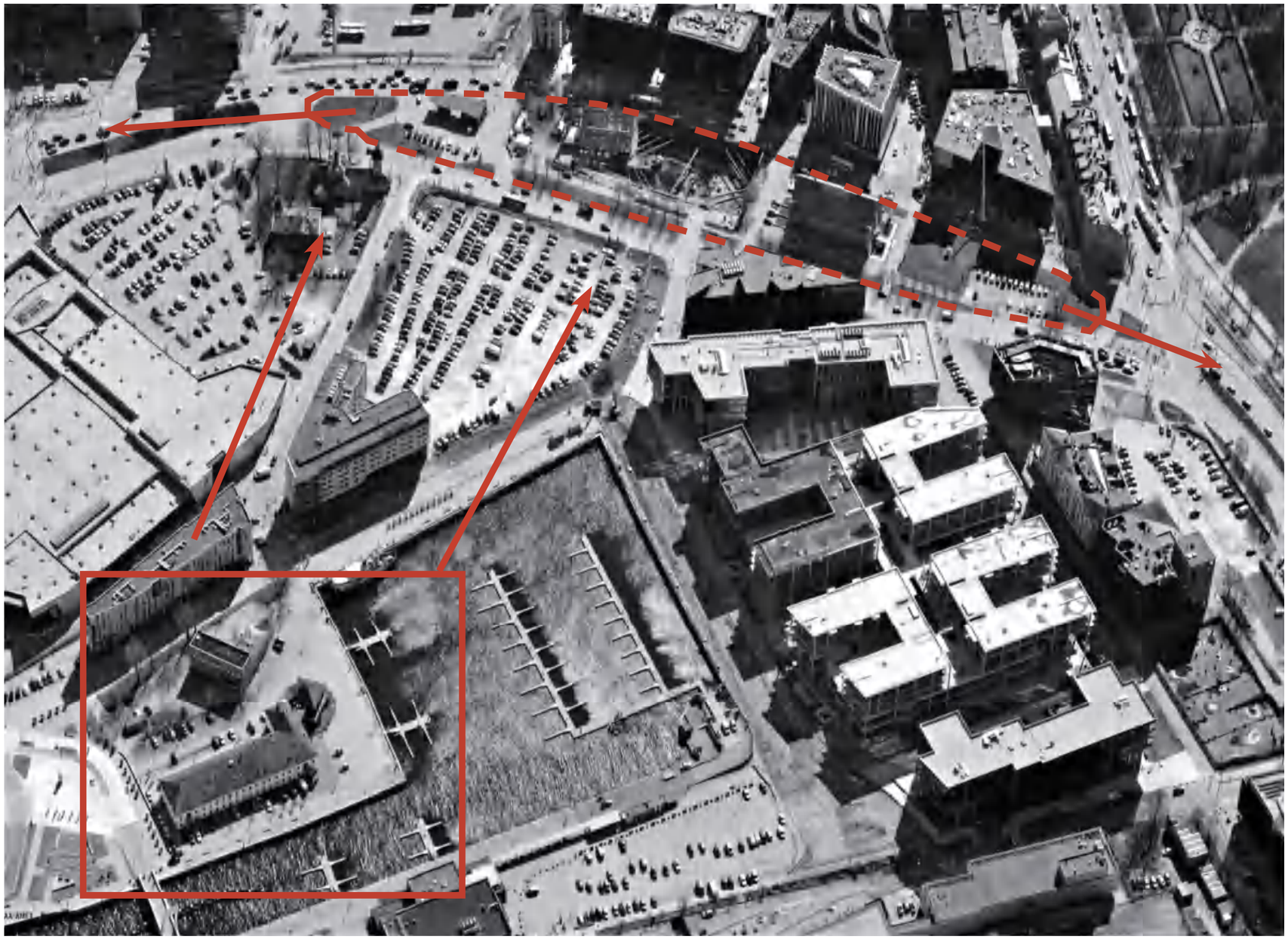
Harbor Area Map 1/5000

trading station

The site of the building at roterman road crossing was once the trading station on the harbor. Like the Architectural Museum, it was originally a limestone warehouse building.



场地上现有的废墙。



overall strategy

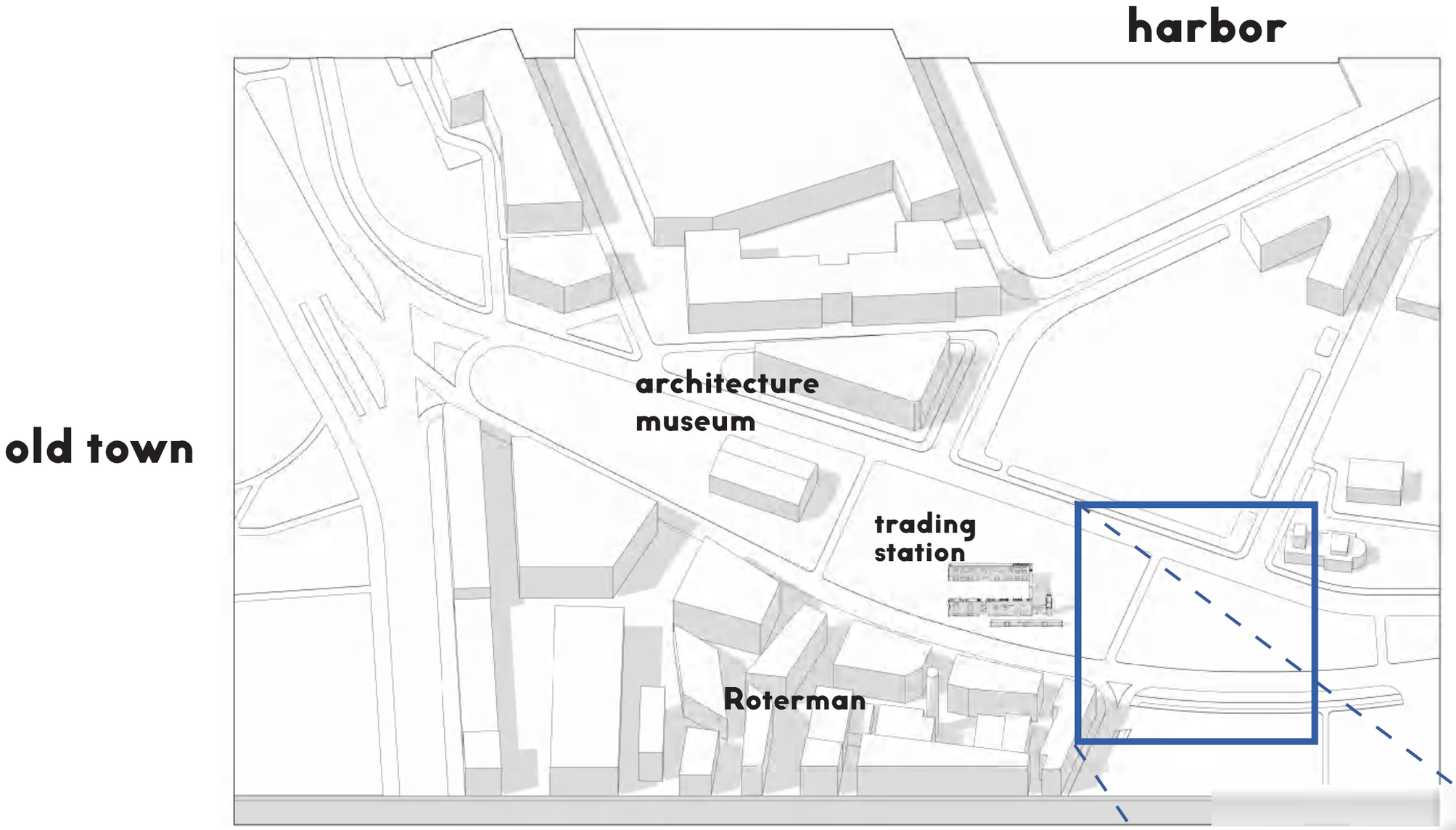
设计重点

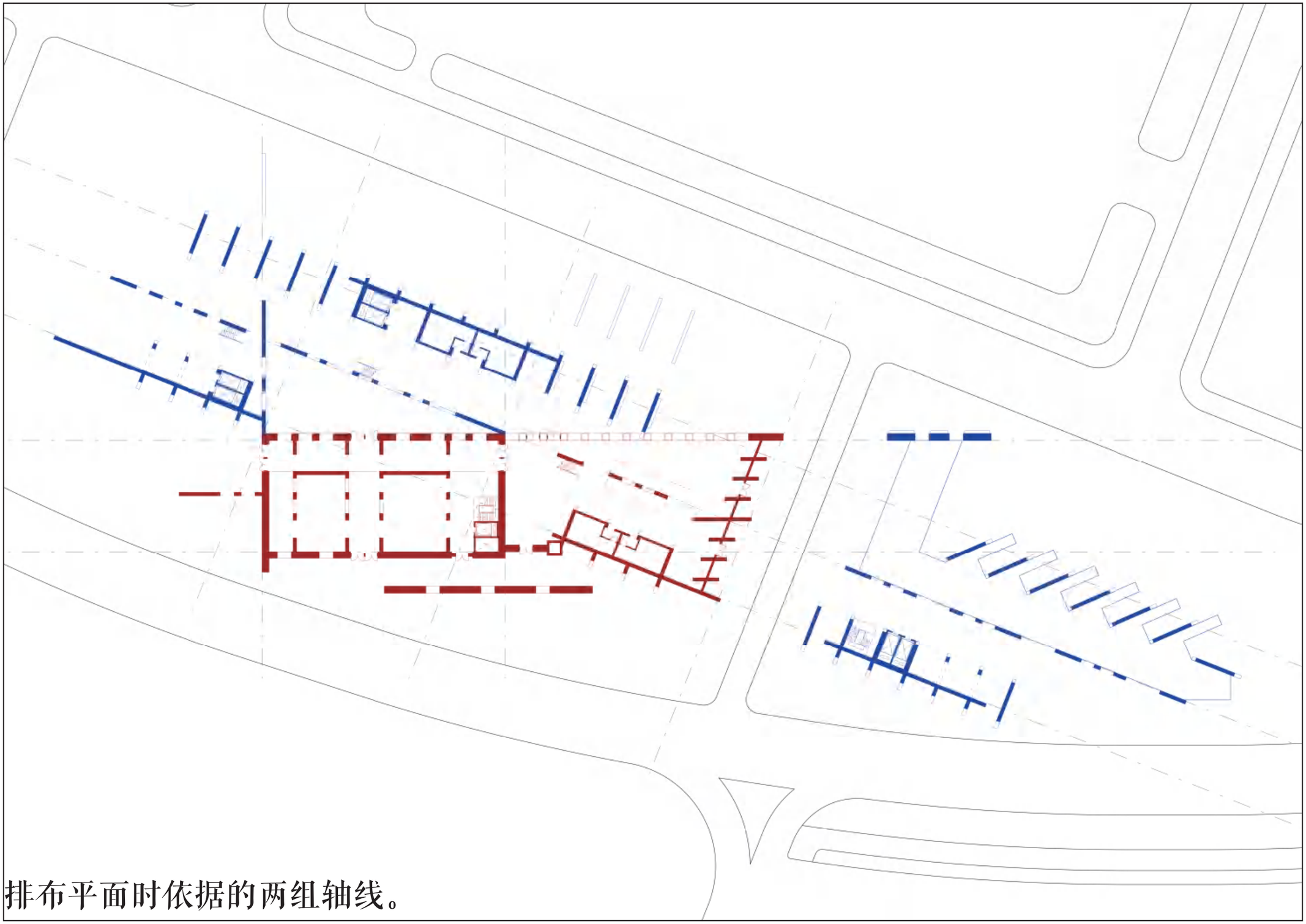
/1/
Focus on the corner block at Roterman crossing;
主要专注 Rotermann 路口空间。

/2/
The functions include tourist guidance, exhibitions, and a bus station;
功能包括游客引导、展演和巴士站。

/3/
Use the updated plots to influence people's experience of the city;
通过节点更新影响人们对城市的体验。

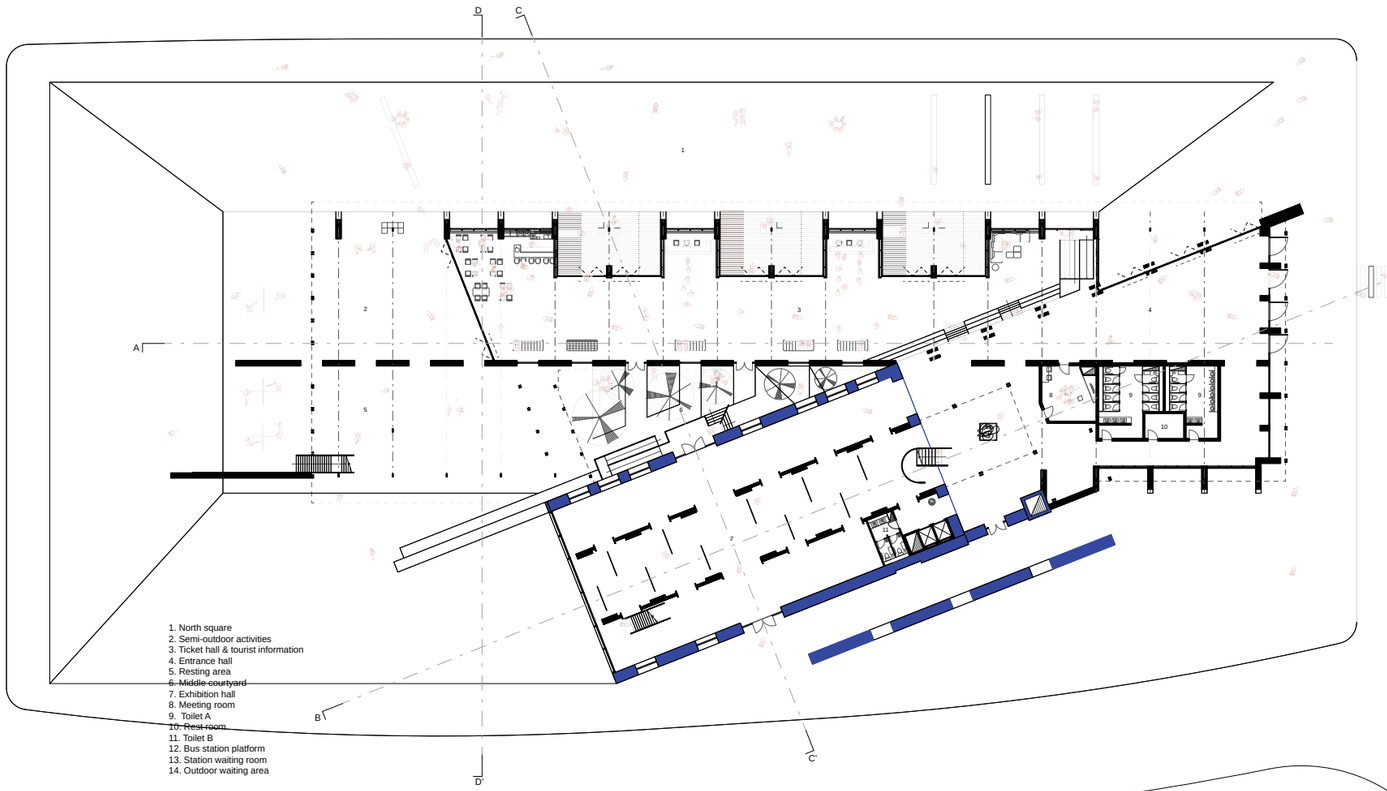
/4/
Combine the existing building structure to emphasize the architectural characteristics of Tallinn.
结合现有废墙，进行旧建筑改造。

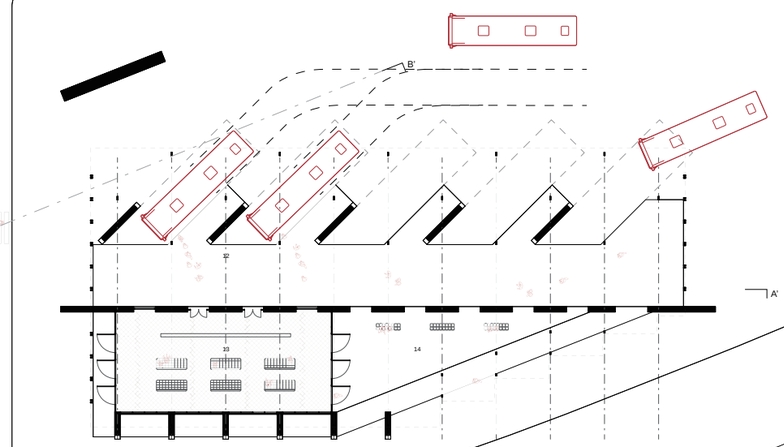

harbor
old town
architecture
museum
trading
station
Roterman



排布平面时依据的两组轴线。

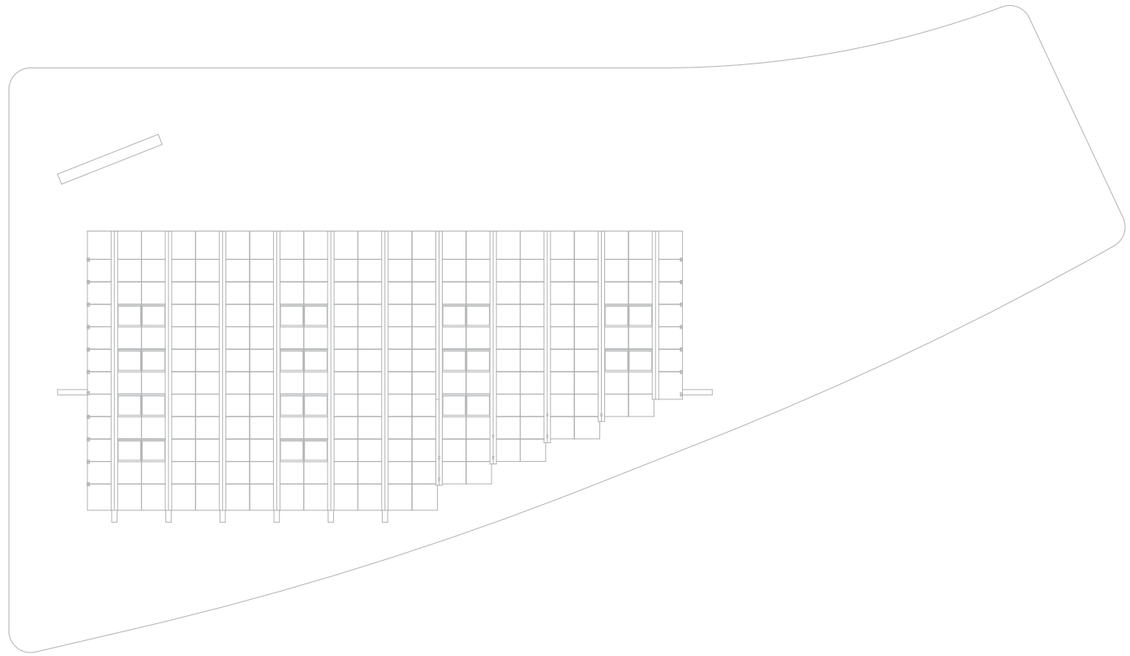
Axis Testing





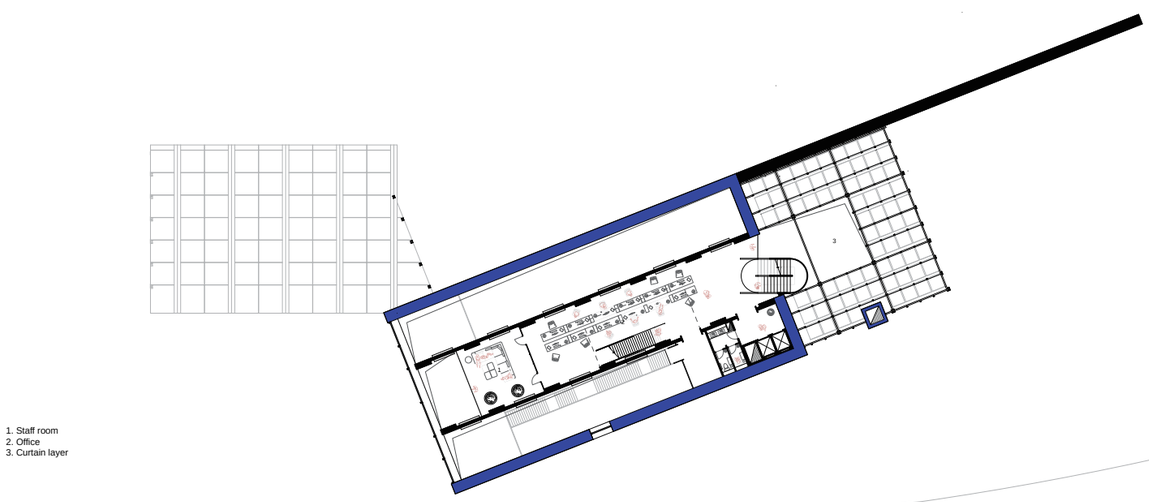
Groundfloor Plan 1/200

地层平面 - 游客中心 / 站台 / 展览空间 / 城市广场



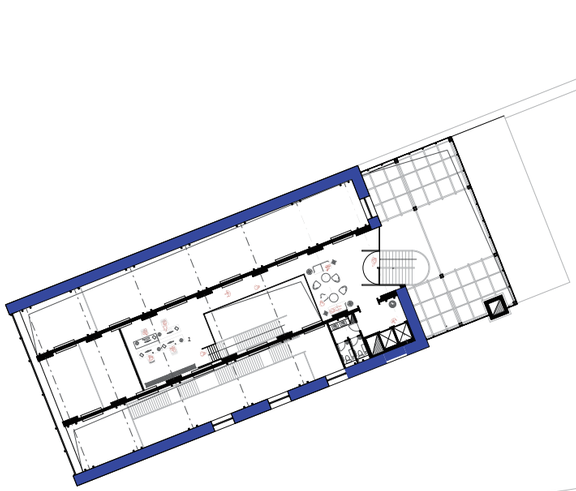
1st Floor Plan　1/200

二层平面 - 媒体展演 / 休憩平台



2nd floor Plan 1/200

三层平面 - 办公室



1. Office

3rd Floor Plan　1/200

四层平面 - 办公室

传统爱沙尼亚建筑
石灰岩外墙 + 内部木结构

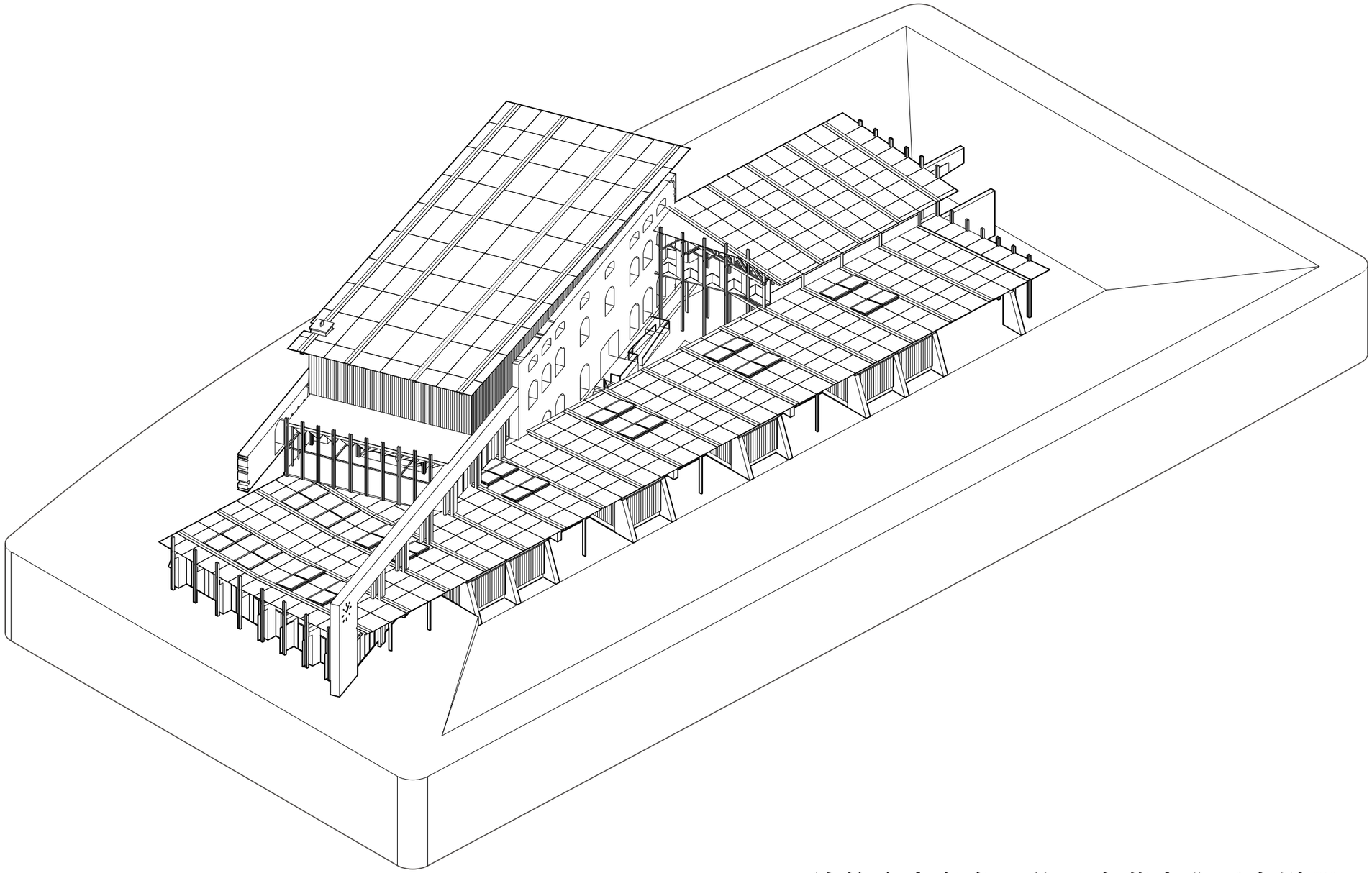
wood structure → timber truss

+ +

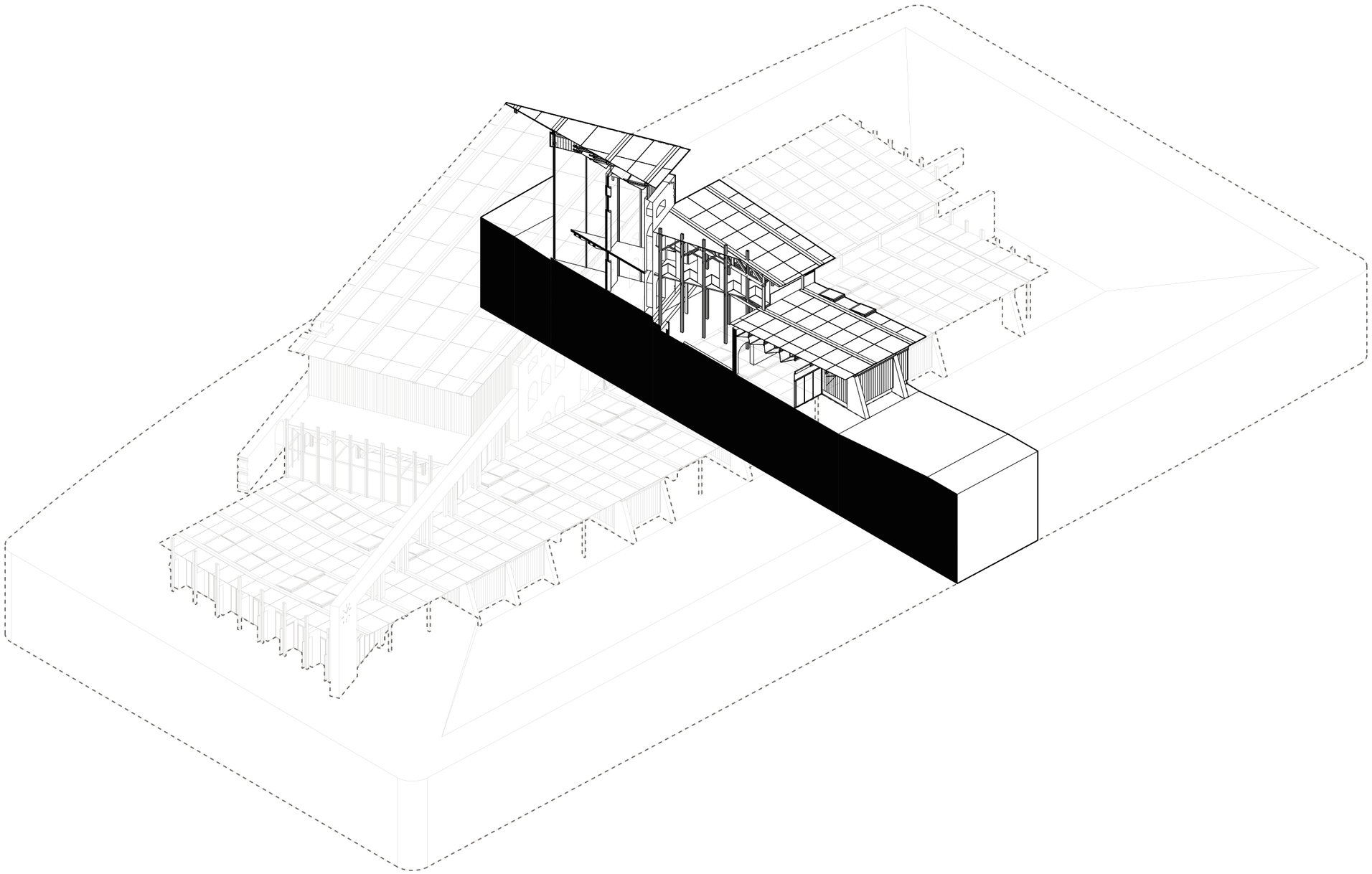
stone foundation → limestone load-bearing wall

The materials and structures of traditional Estonian architecture were deconstructed and reorganized.

对传统爱沙尼亚建筑的材料和结构进行解构重组。他们不让我用混凝土呜呜呜，不然就是致敬苏联现代主义了。



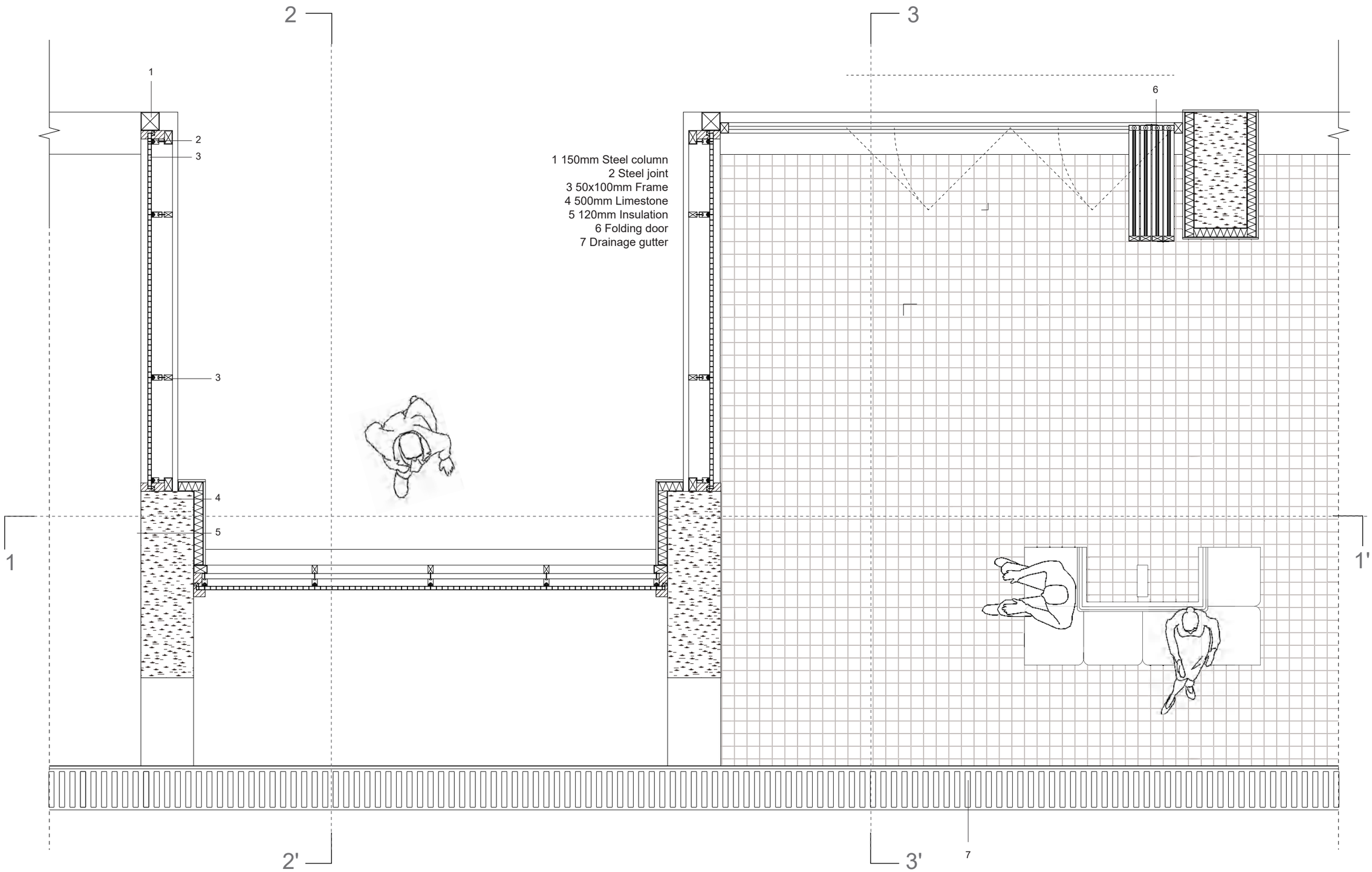
结构有点复杂，从三个节点分开来说明。



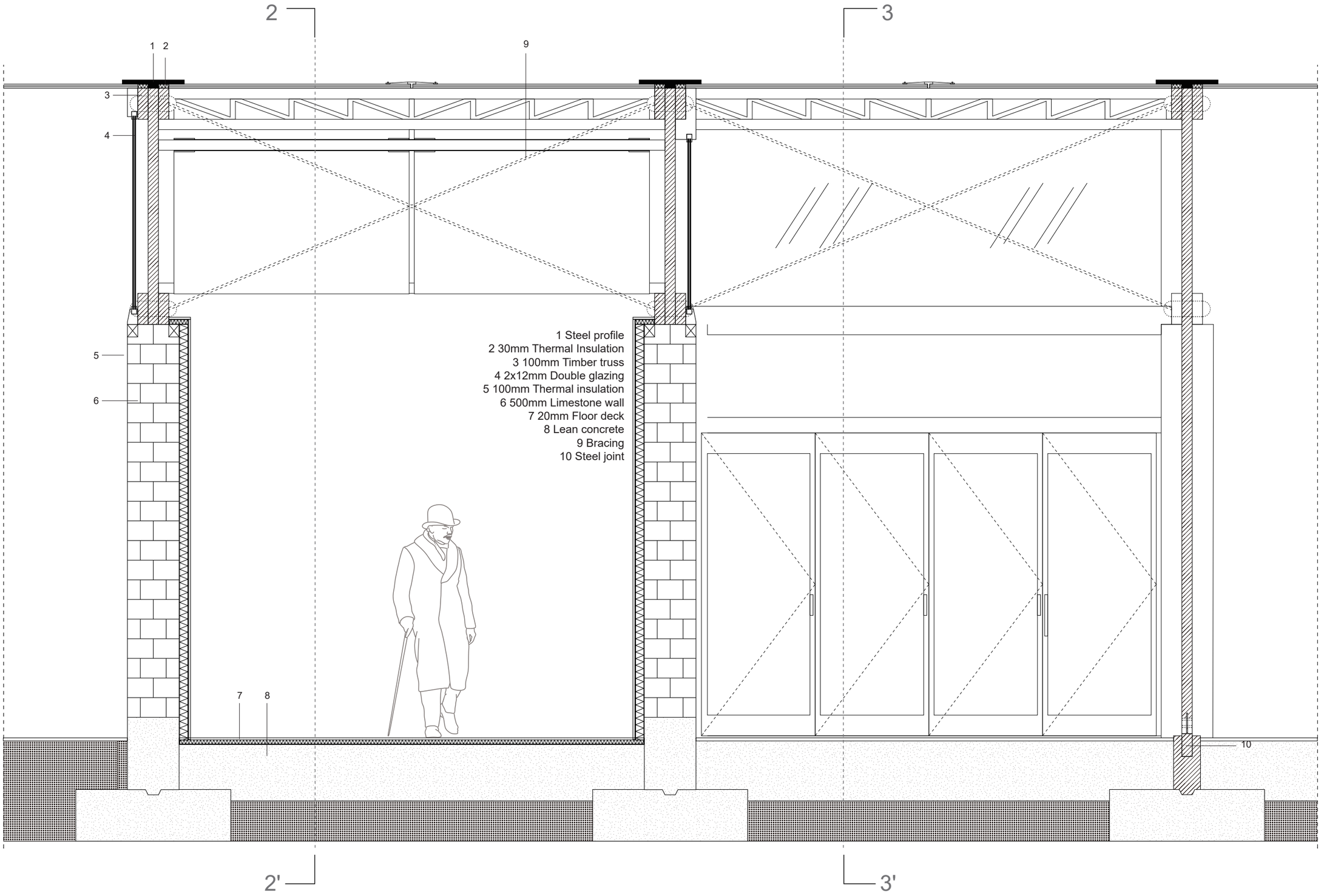
Part 1: The Ticket Hall Roof

第一部分： 游客中心屋顶结构

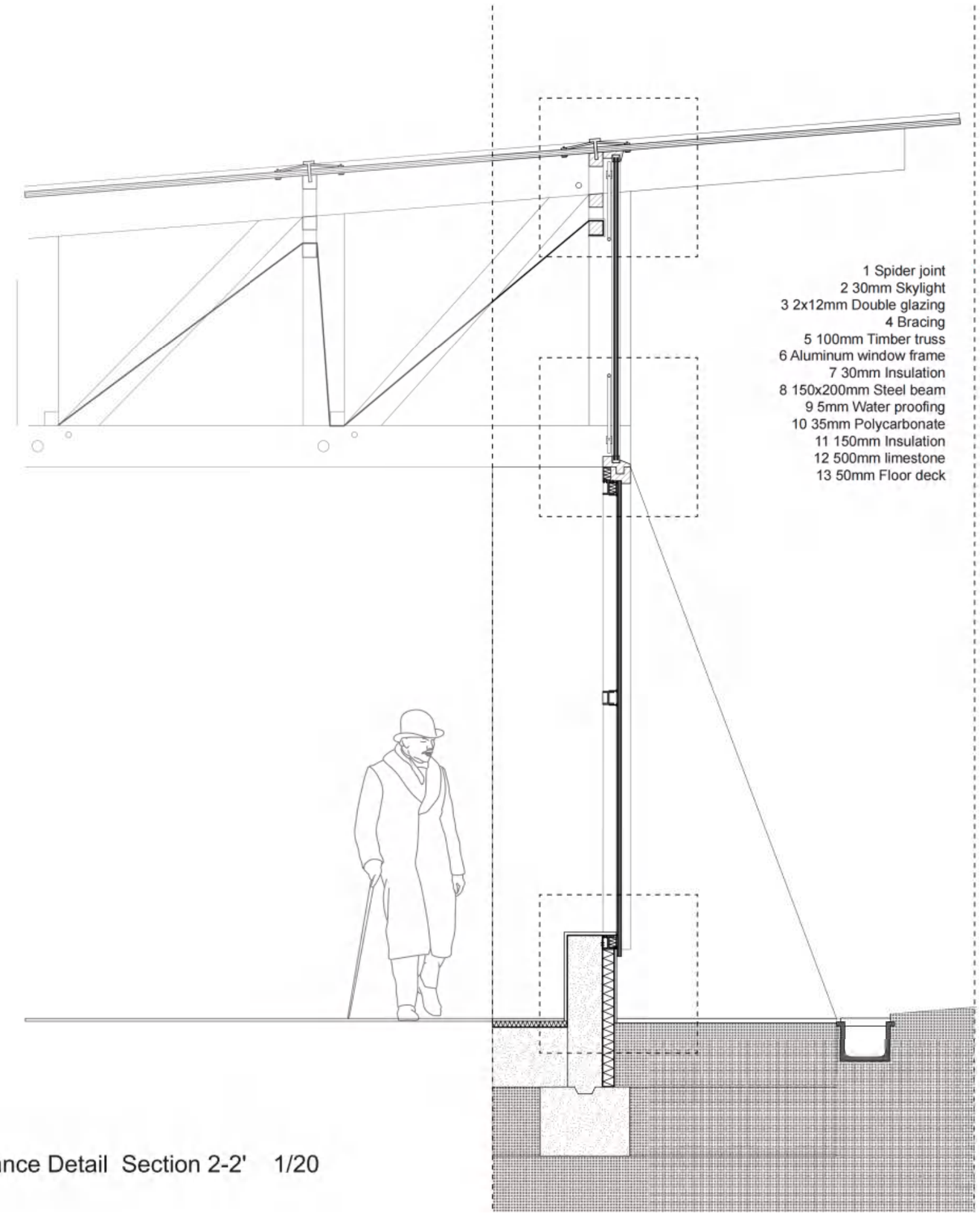
1 150mm Steel column
2 Steel joint
3 50x100mm Frame
4 500mm Limestone
5 120mm Insulation
6 Folding door
7 Drainage gutter



North Entrance Detail Plan 1/20

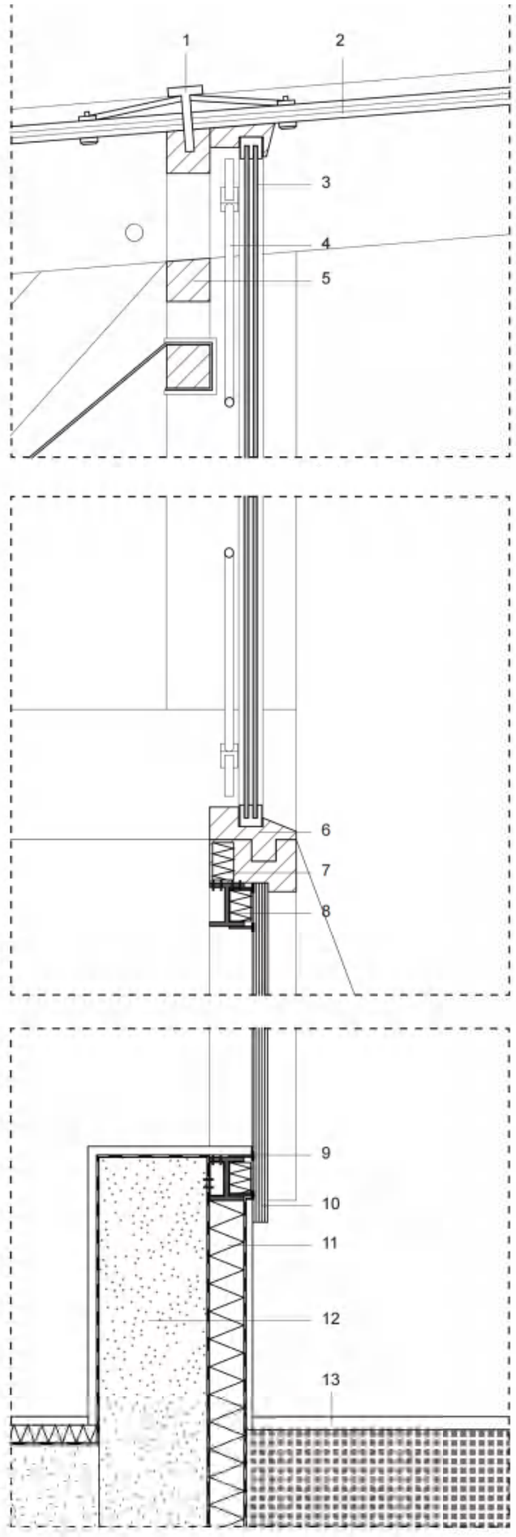


North Entrance Detail Section 1-1' 1/20

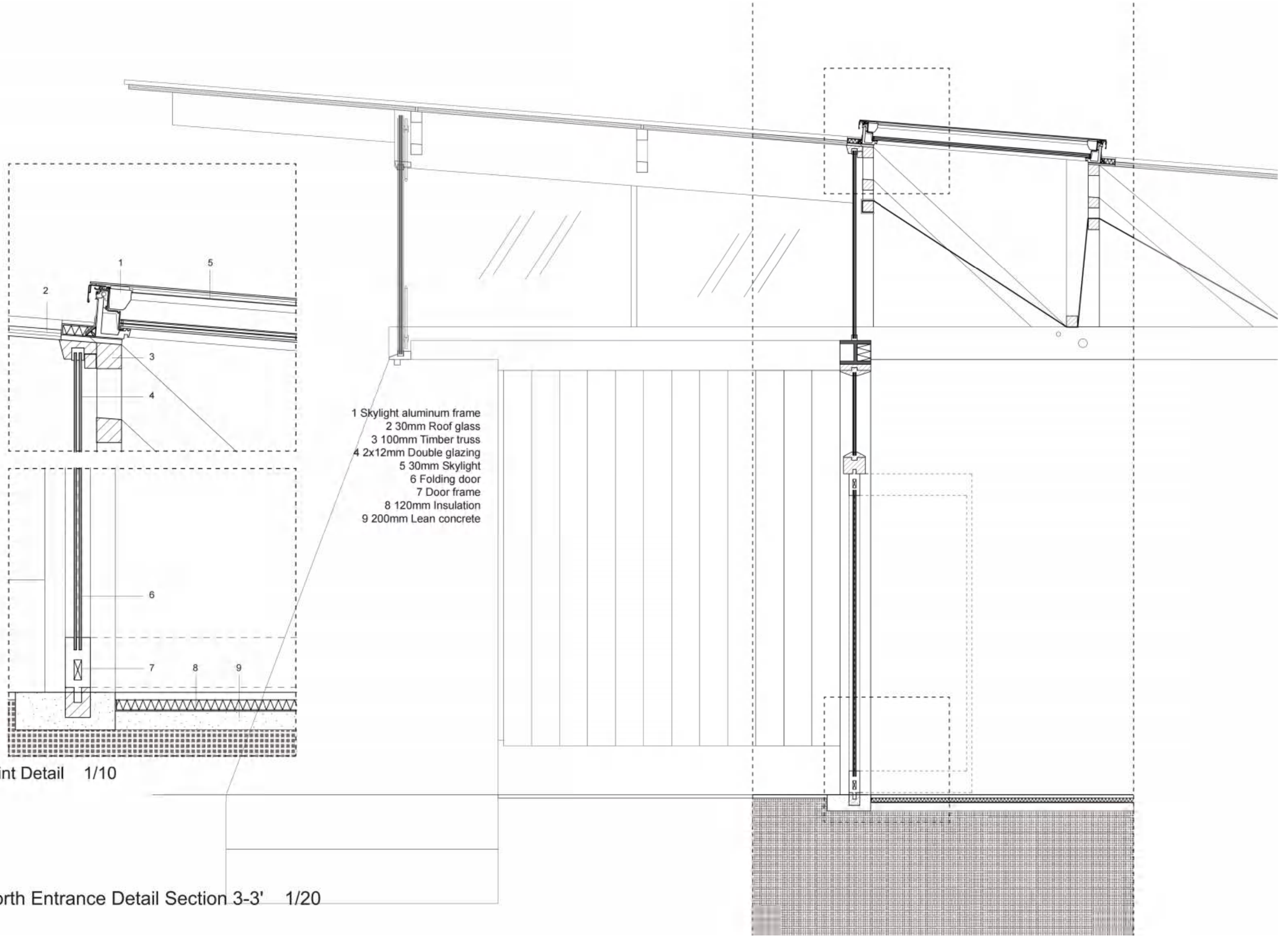


1 Spider joint
2 30mm Skylight
3 2x12mm Double glazing
4 Bracing
5 100mm Timber truss
6 Aluminum window frame
7 30mm Insulation
8 150x200mm Steel beam
9 5mm Water proofing
10 35mm Polycarbonate
11 150mm Insulation
12 500mm limestone
13 50mm Floor deck

North Entrance Detail Section 2-2' 1/20



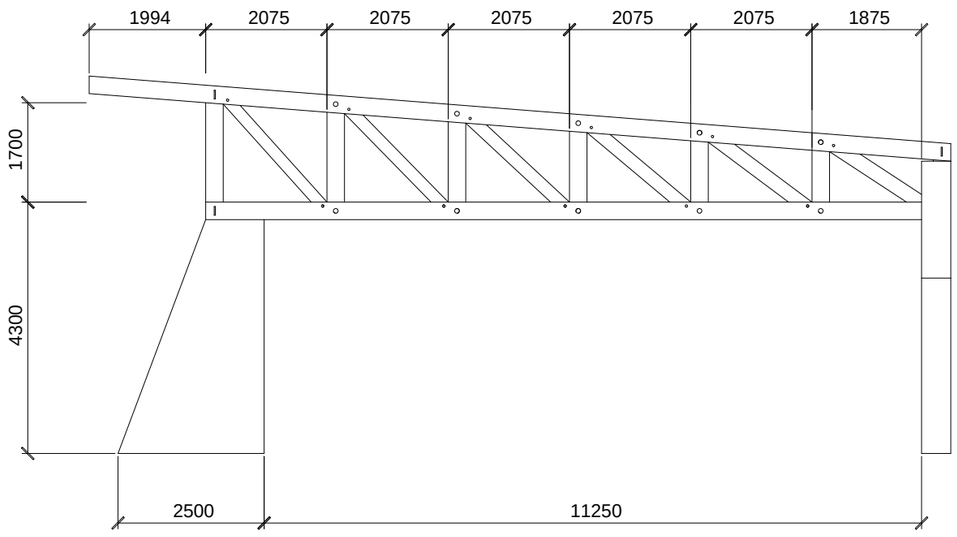
Joint Detail 1/10



1 Skylight aluminum frame
2 30mm Roof glass
3 100mm Timber truss
4 2x12mm Double glazing
5 30mm Skylight
6 Folding door
7 Door frame
8 120mm Insulation
9 200mm Lean concrete

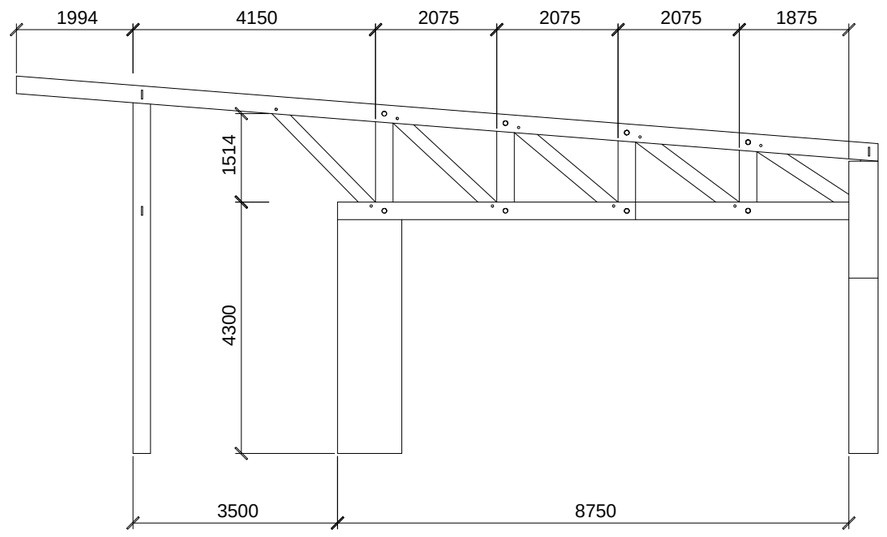
Joint Detail 1/10

North Entrance Detail Section 3-3' 1/20



Truss Type A 1/100

Ticket Hall Roof-1

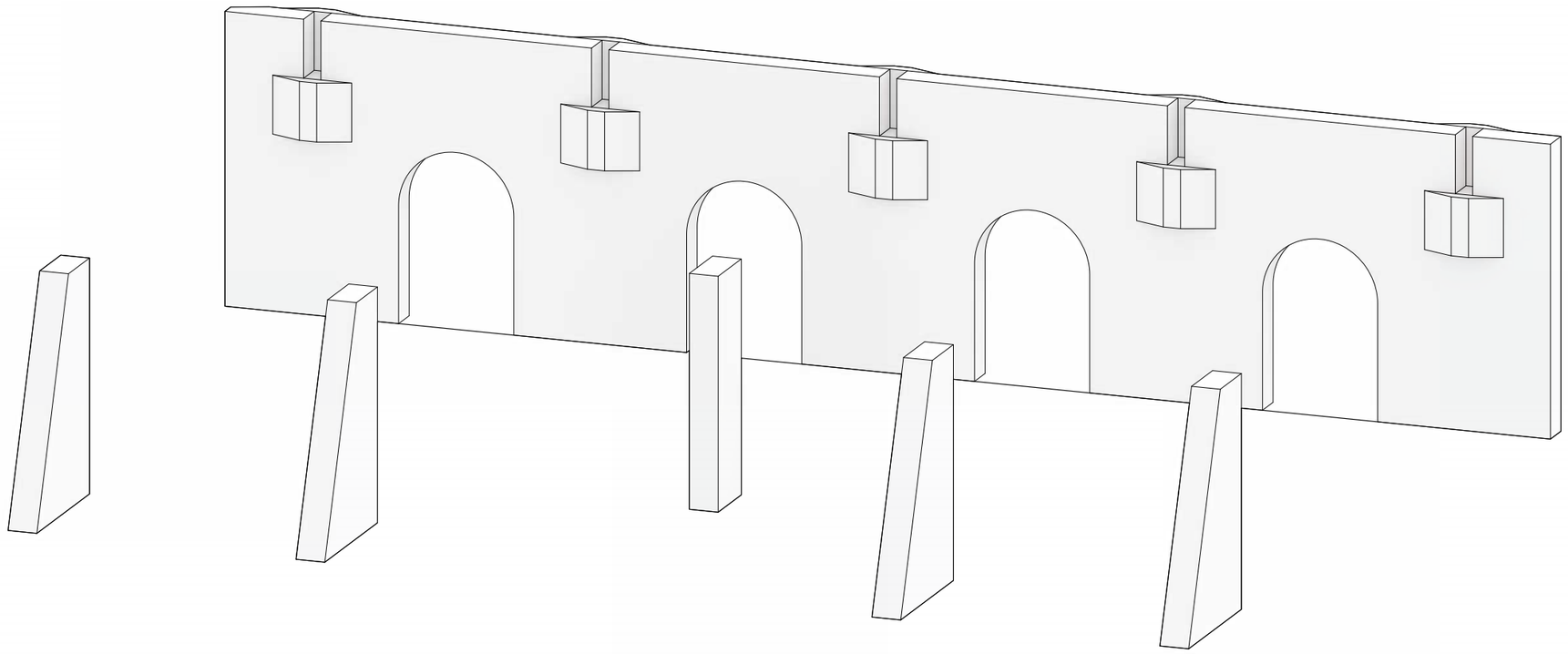


Truss Type B 1/100

Ticket Hall Roof-2

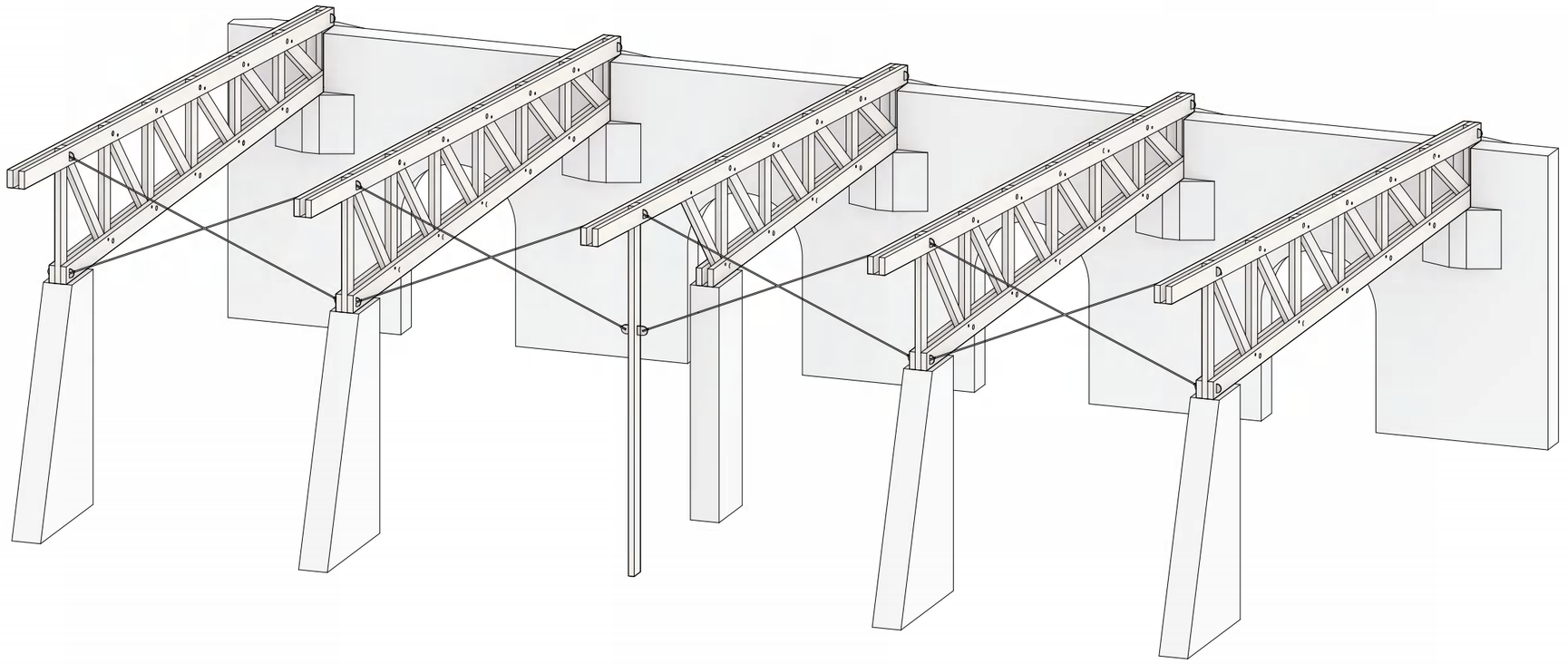
Truss Prototype

原型桁架
其他形式都是这俩变来的



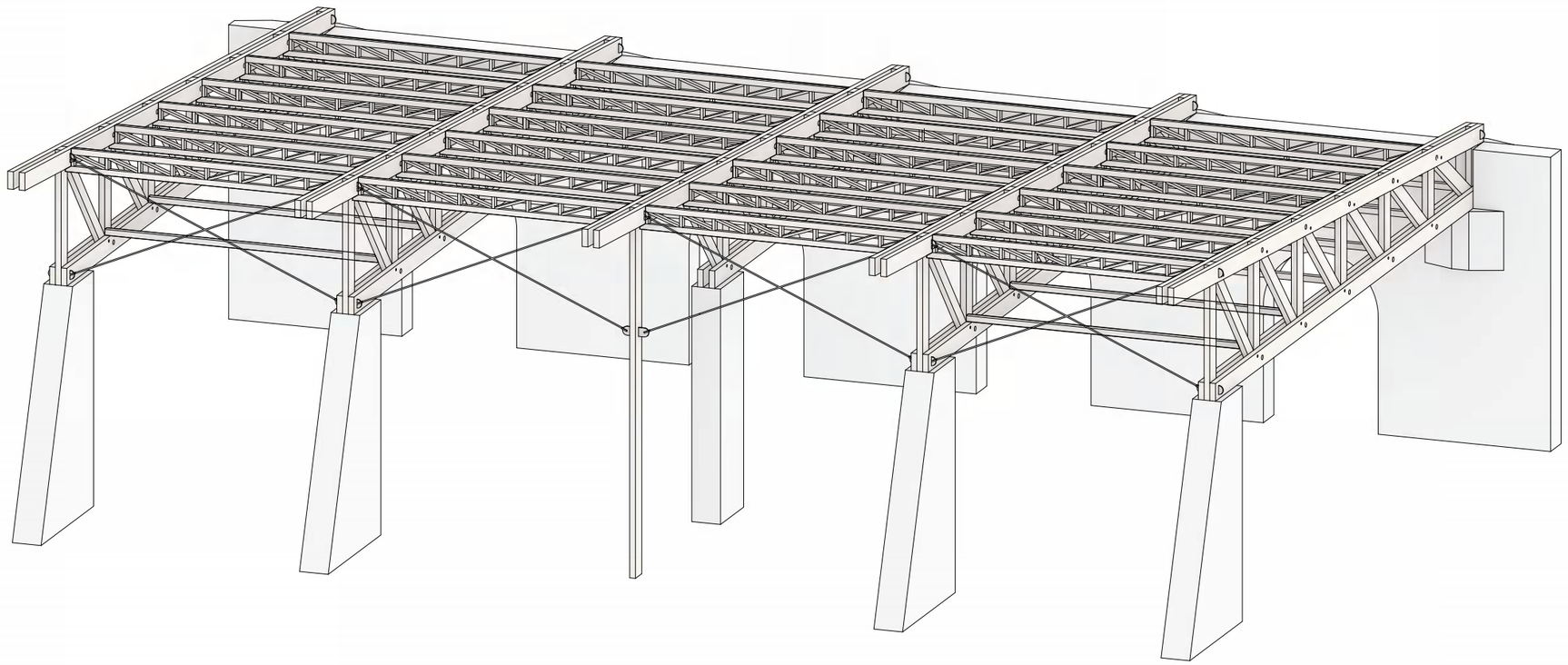
Step 1:
Build Load-bearing Wall.

第一步：
建造石灰岩承重墙



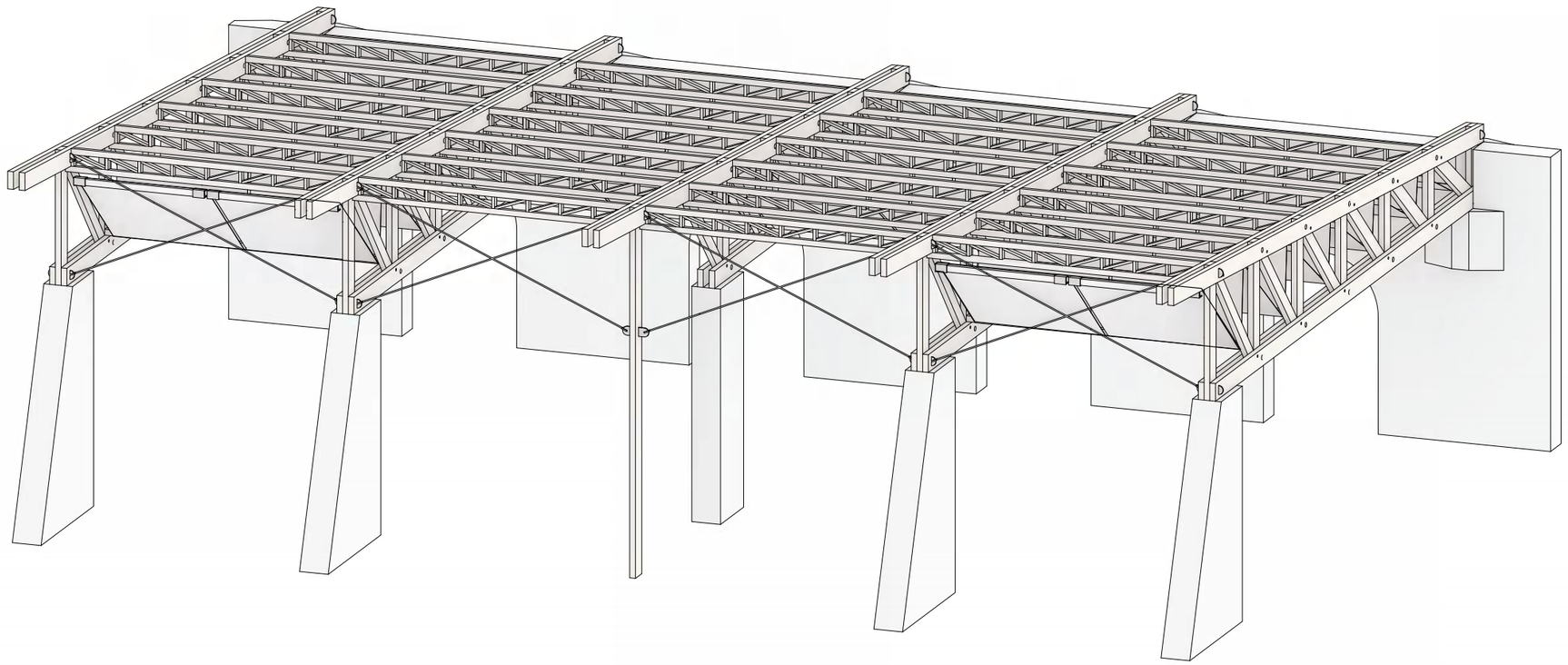
Step 2:
Add Timber Truss on the Wall.

第二步：
在墙上搭建木桁架



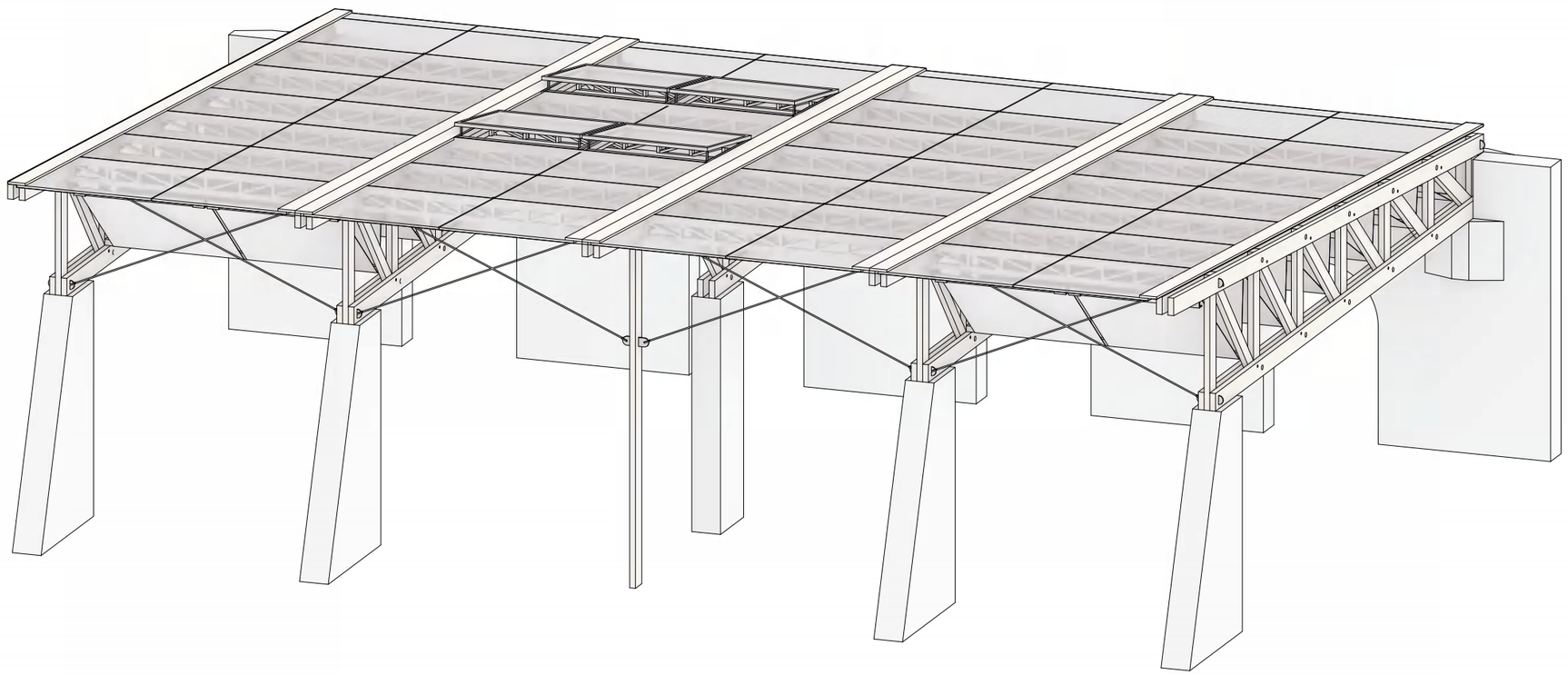
Step 3:
Build Secondary Truss to Build the Roof Frame.

第三步：
在主承重桁架上搭建次级桁架



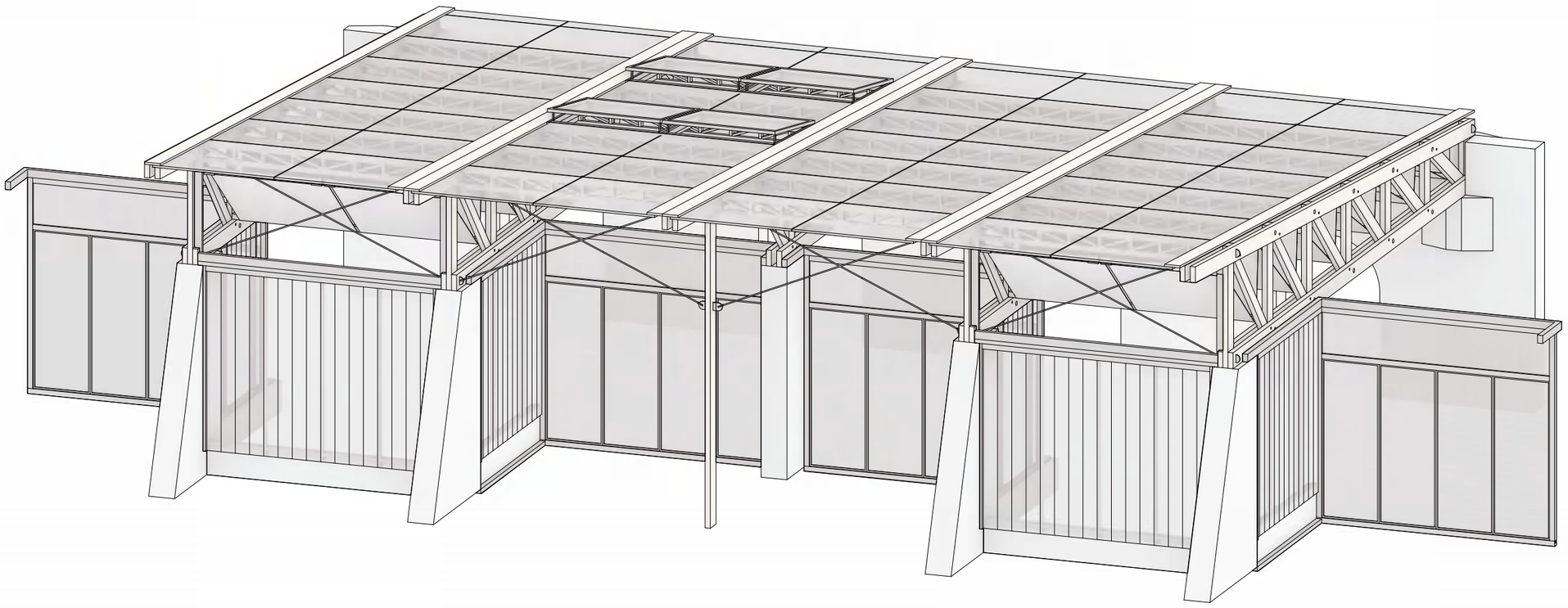
Step 4:
Hang Curtains under the Secondary Curtain.

第四步：
在次级桁架上挂上遮光幕帘



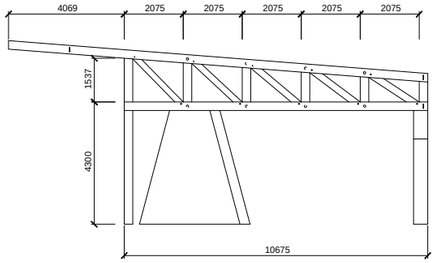
Step 5:
Lay Roof Glass and Skywindow on the Frame.

第五步：
安装玻璃屋面和天窗

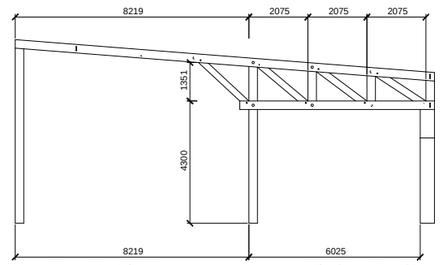


Step 6:
Enclose the Facade with Folding Doors and Polycarbonate Board.

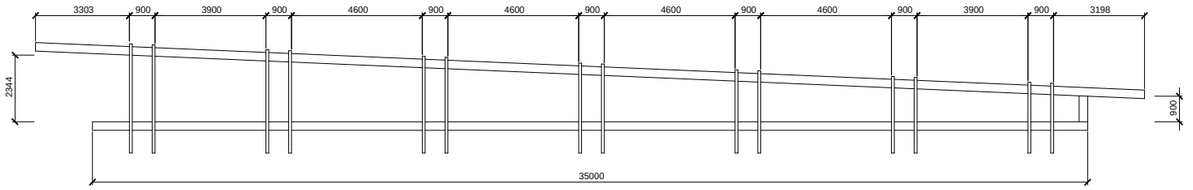
第六步：
安装折叠门和聚碳酸酯外墙



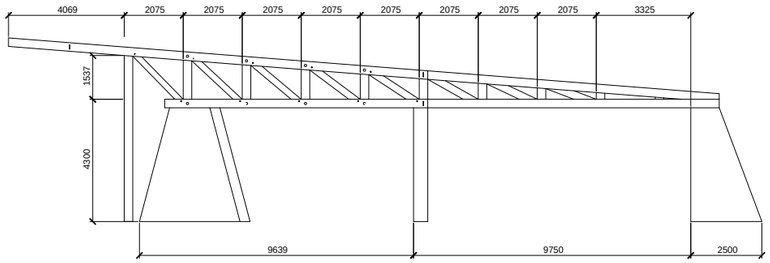
Truss Type C 1/100 *Platform Roof-1*



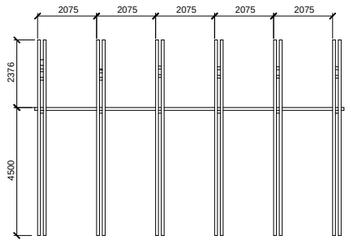
Truss Type D 1/100 *Platform Roof-2*



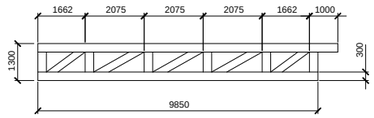
Truss Type G 1/100 *Office Roof*



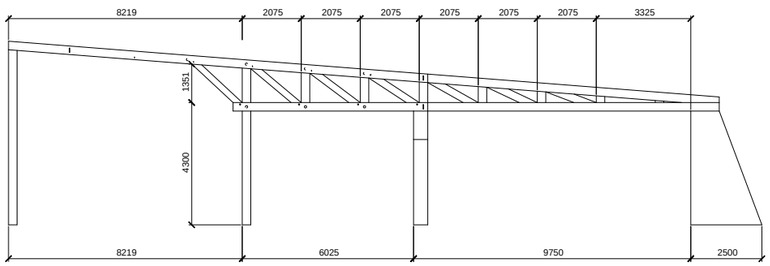
Truss Type E 1/100 *Platform Roof-3*



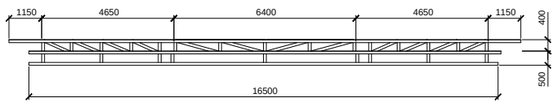
Truss End H 1/100



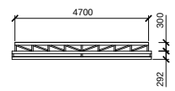
Truss Type I 1/100



Truss Type F 1/100 *Platform Roof-4*



Roof Glass Frame a 1/100

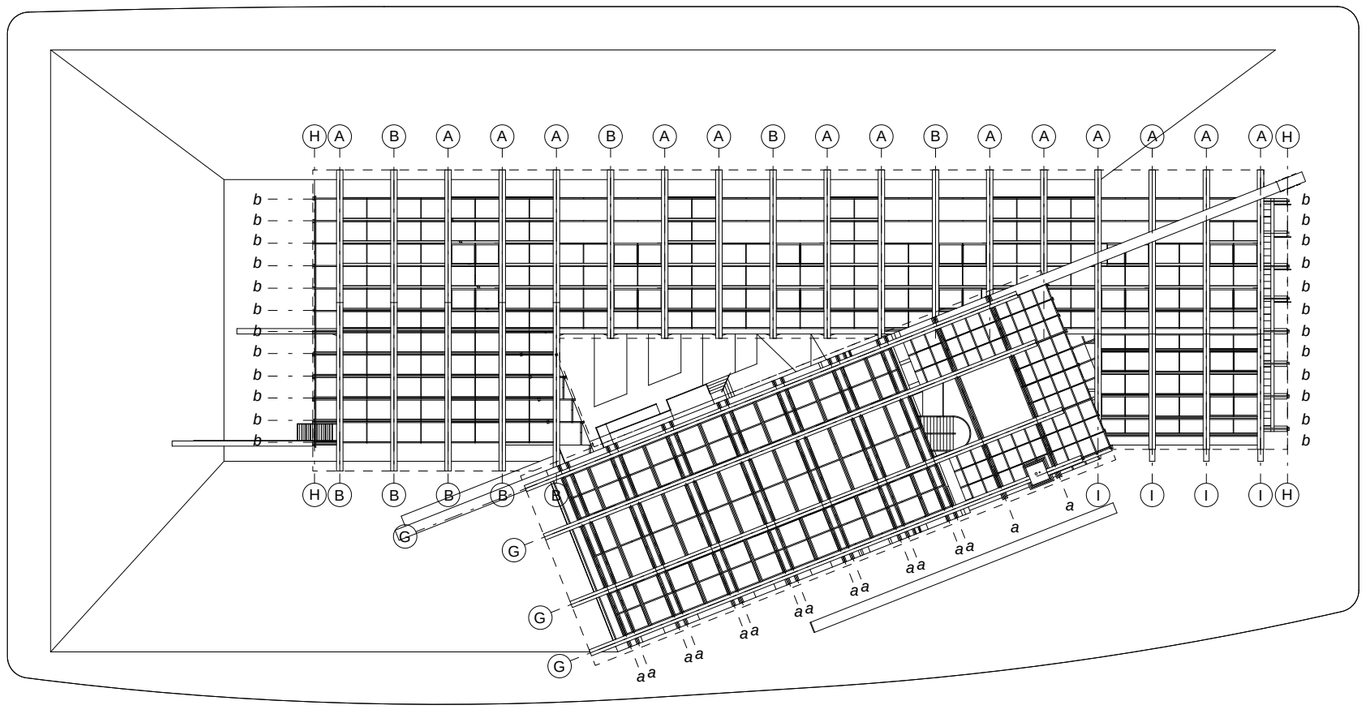


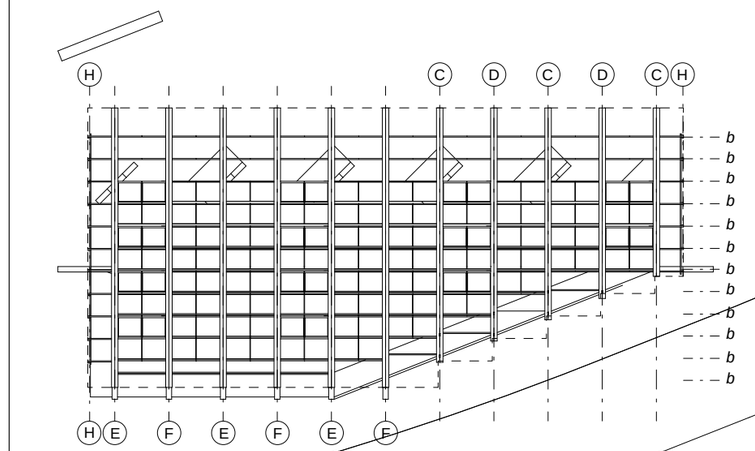
Roof Glass Frame b 1/100

Starting from the truss prototype, I developed a series of truss types according to different functions and space dimensions.

原型桁架的儿子们

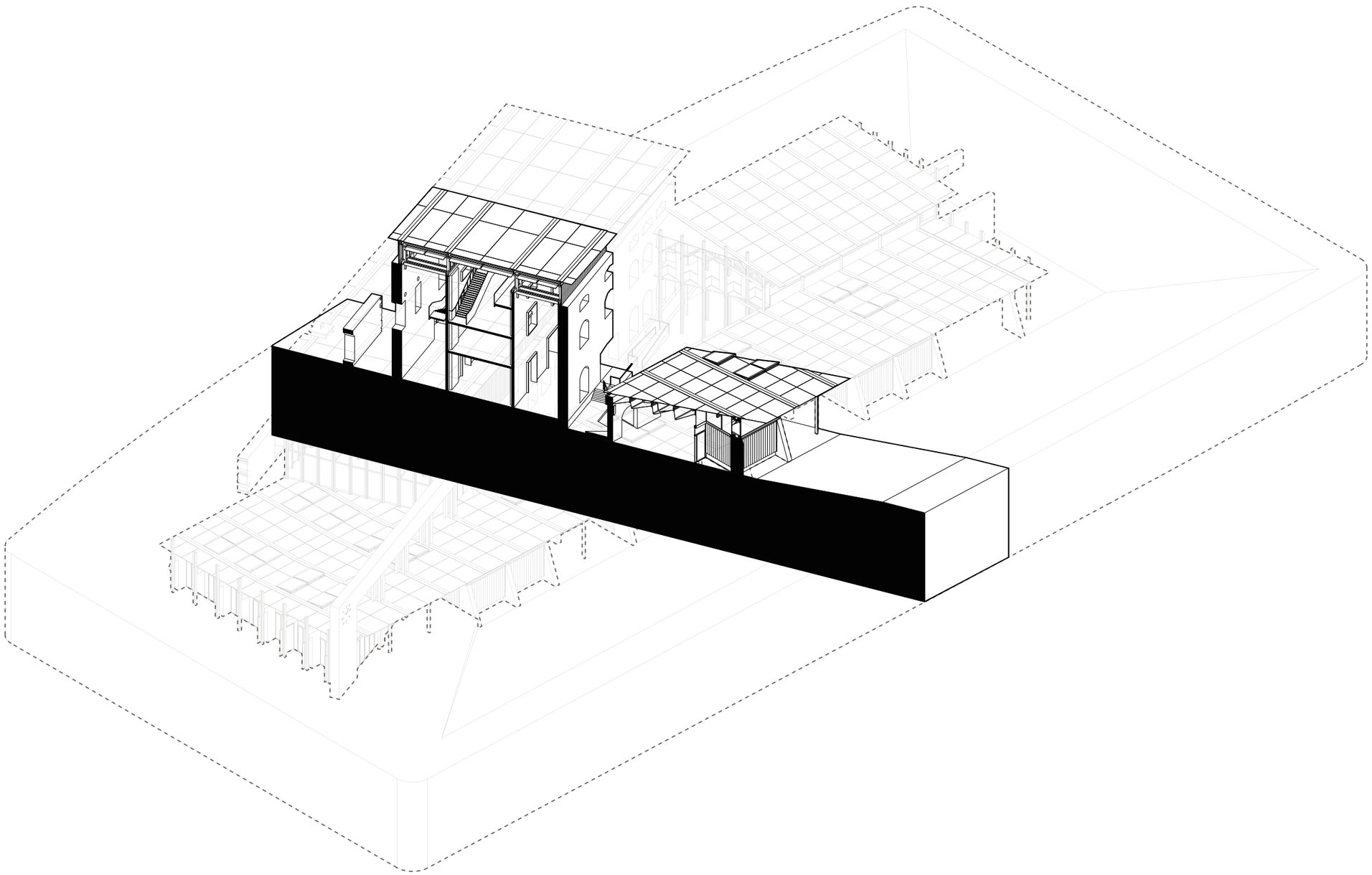
Building Scale





Truss Type Distribution

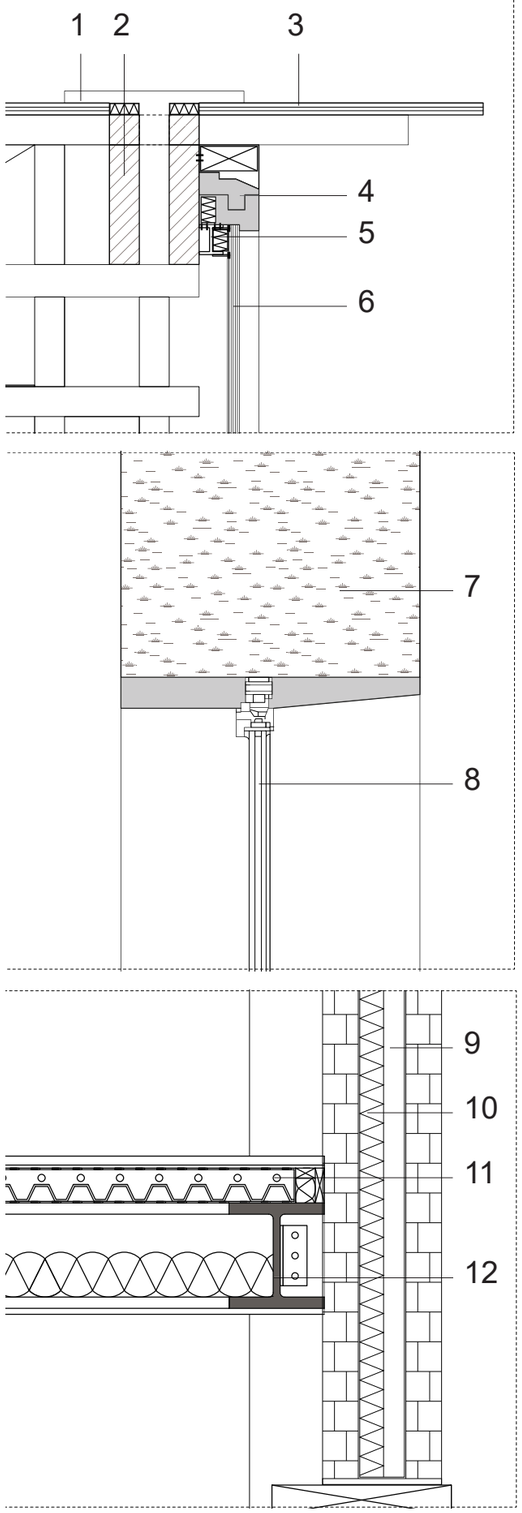
不同桁架位置分布



Part 2: The Office Walls

第二部分： 加建墙体

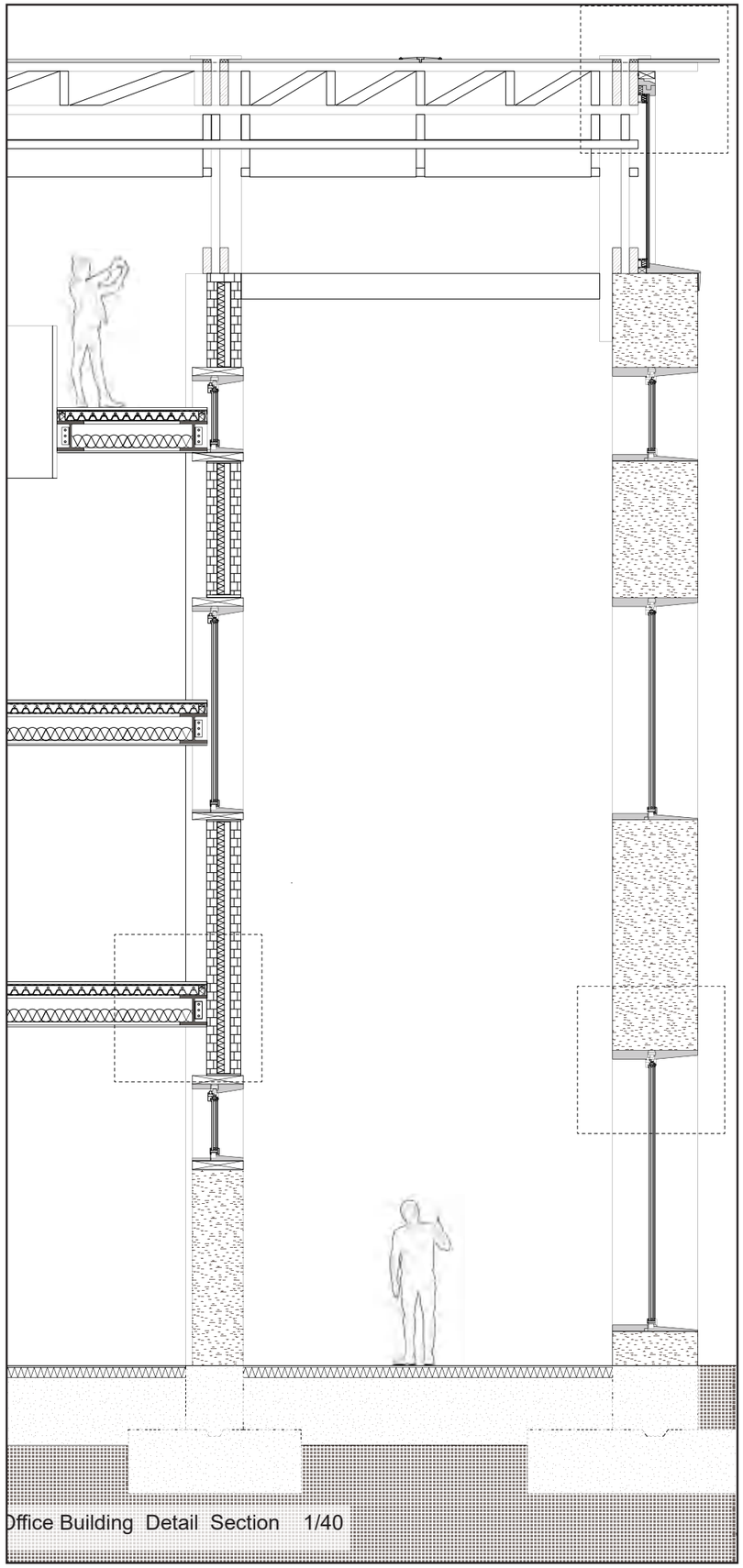
02/ Project- building structure



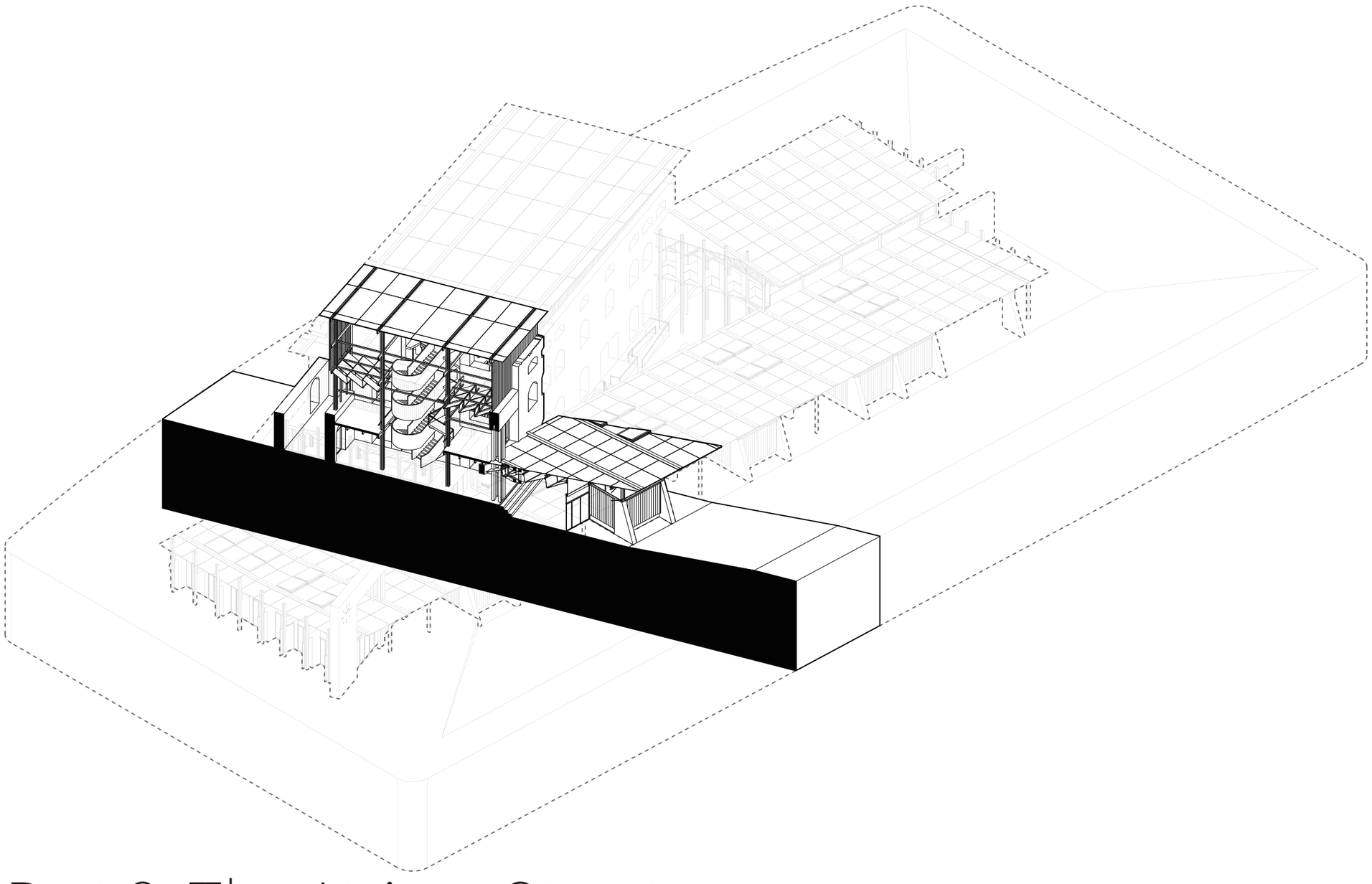
oint Detail 1/10

1 Steel joint
2 100mm Truss
3 30mm Roof glass
4 Aluminum frame
5 150x200mm Steel beam
6 35mm Polycarbonate
7 500mm Limestone
8 2x12mm Double glazing
9 75mm Limestone panel
10 120mm Insulation
11 Steel deck with floor heating
12 200x225mm Steel beam

Building Scale

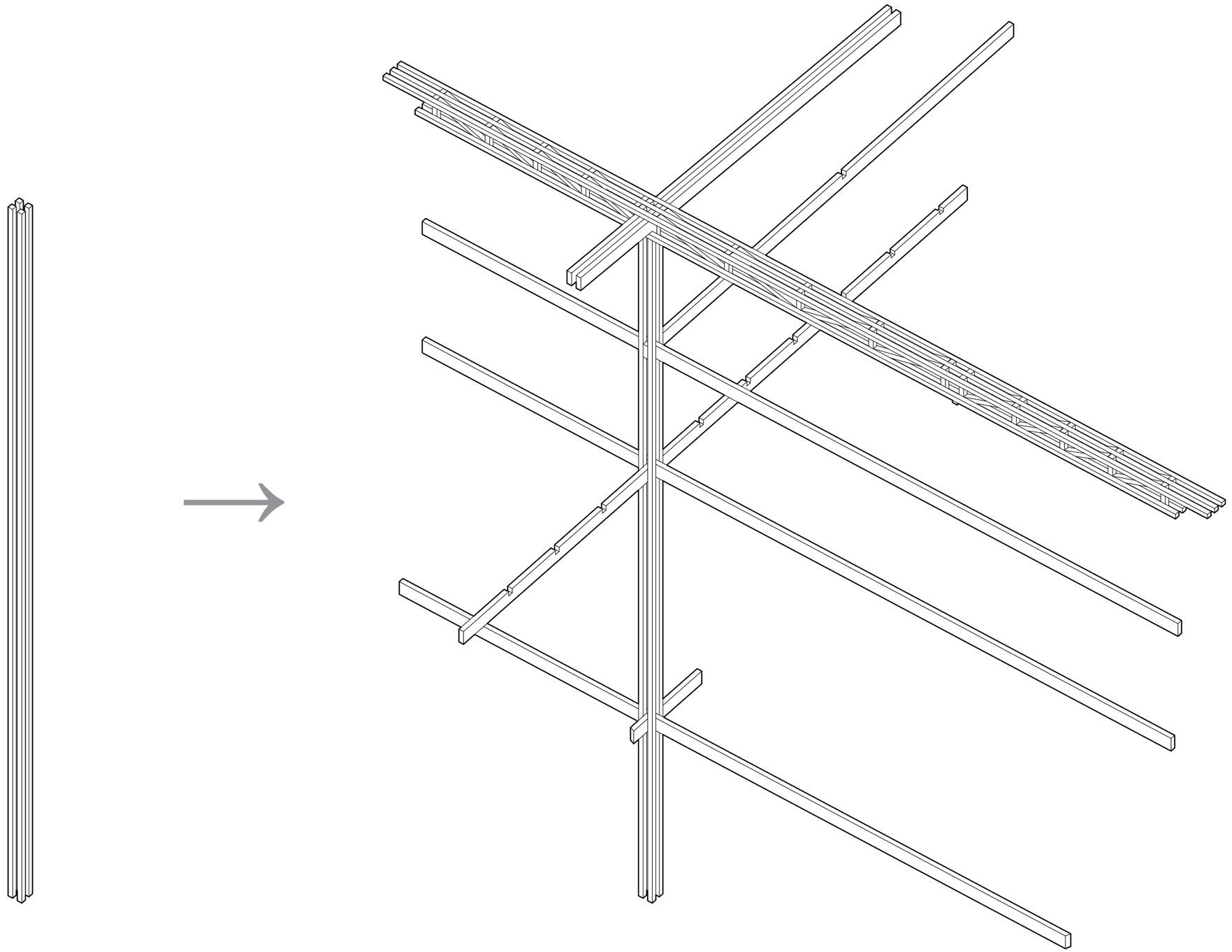


ffice Building Detail Section 1/40

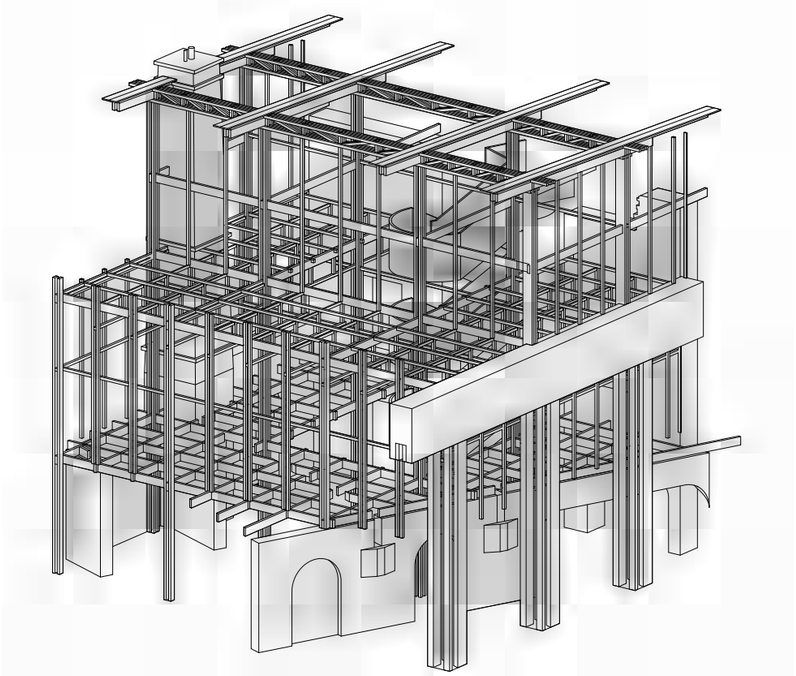


Part 3: The Atrium Structure

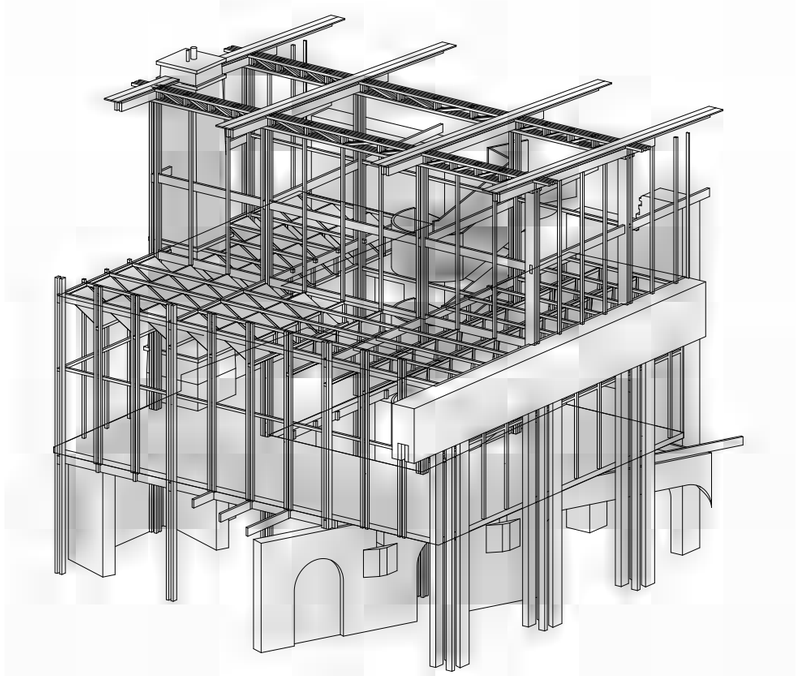
第三部分： 中庭结构



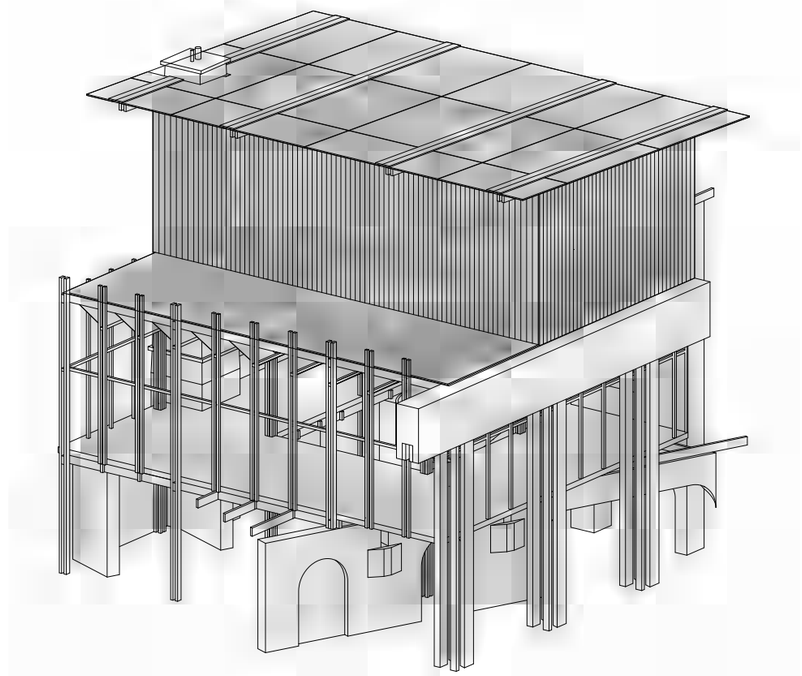
Basic



Build the timber structure around the stone structure.

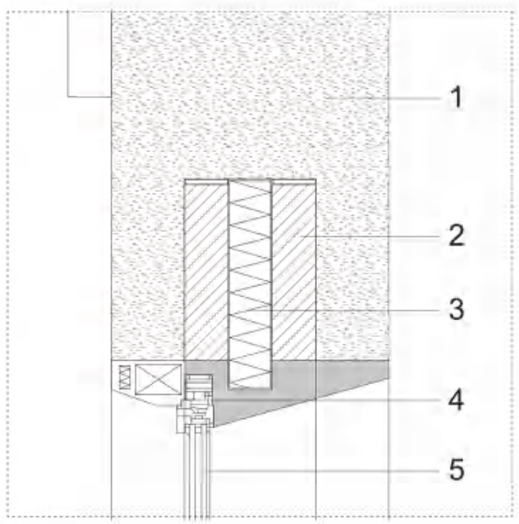


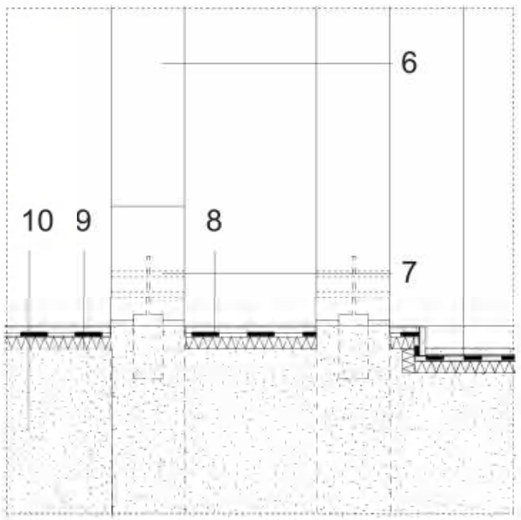
Lay the first floor and hang curtains on the second layer of timber structure.



Add glass roof and enclose the atrium with glass and polycarbonate facade.

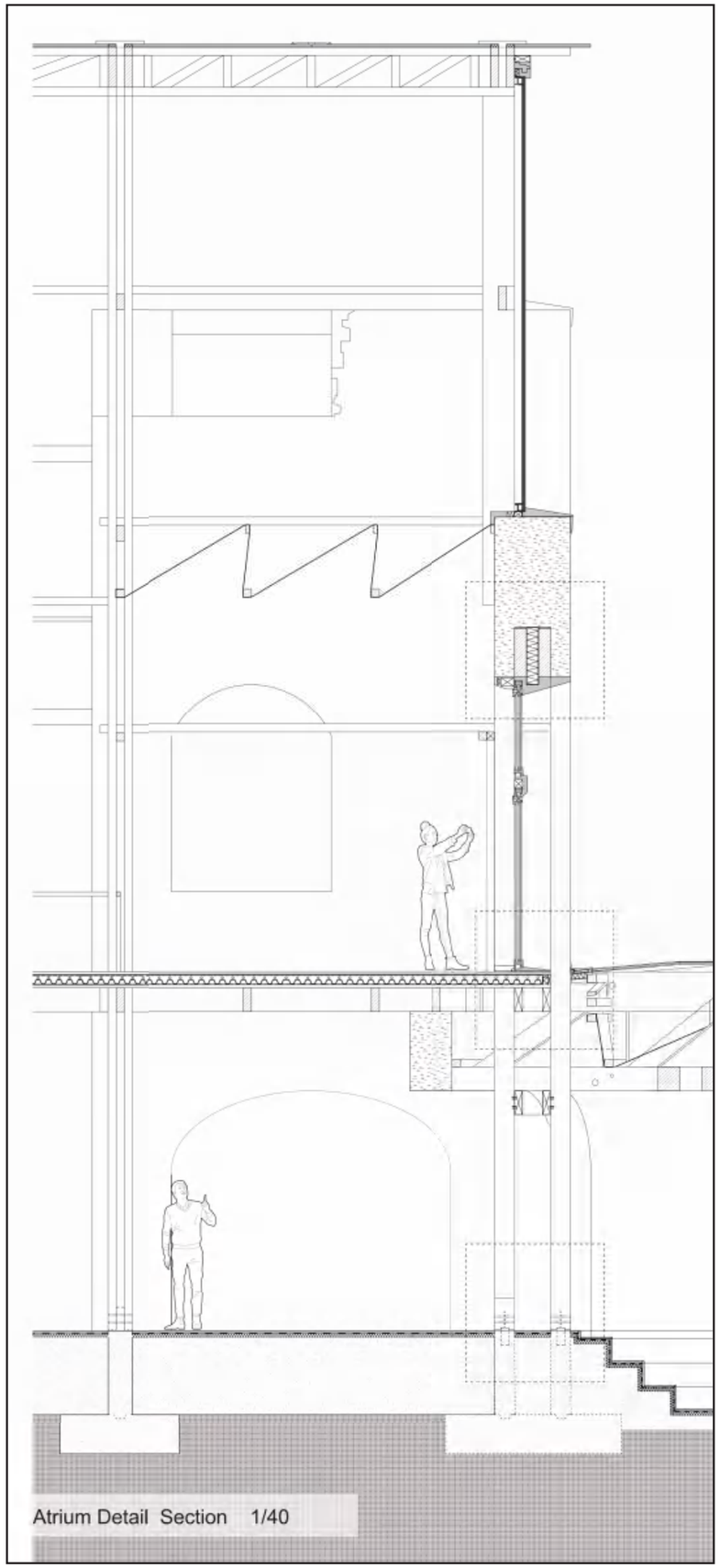
Atrium Building Process



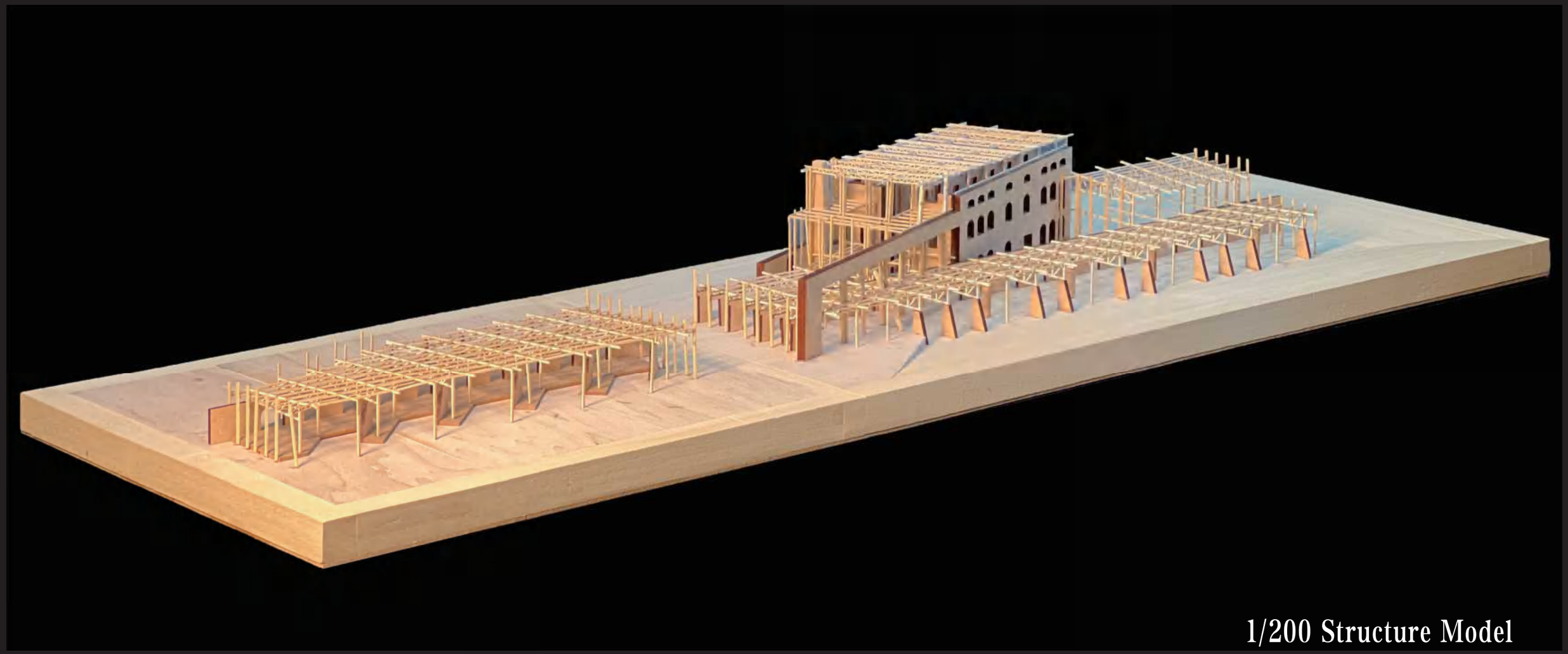


Joint Detail 1/10

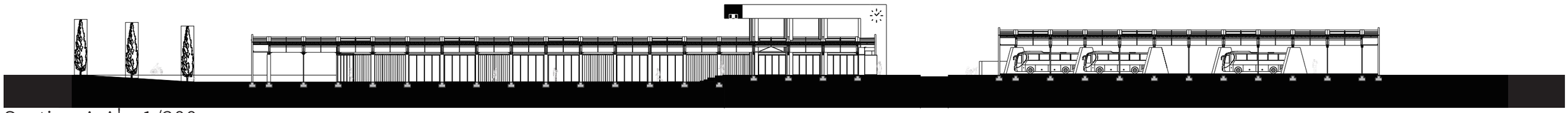
1 500mm Limestone
2 150mm Timber truss
3 150mm Insulation
4 Aluminum window frame
5 2x12mm Double glazing
6 200mm Timber column
7 Steel Joint
8 5mm Water proofing
9 80mm Insulation
10 Lean concrete



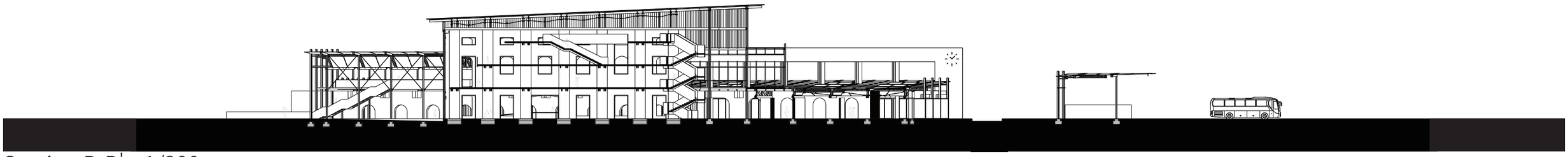
Atrium Detail Section 1/40



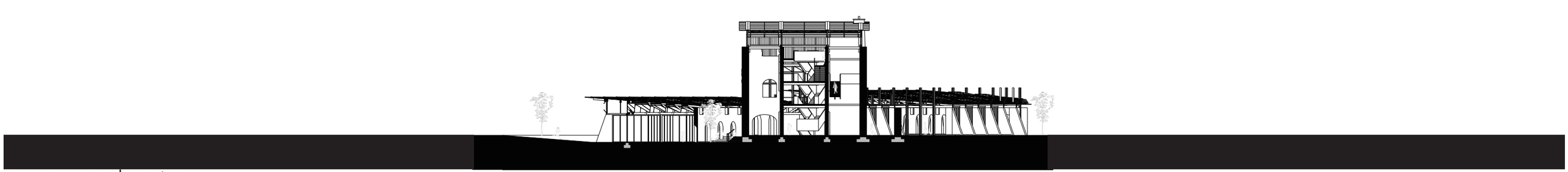
1/200 Structure Model



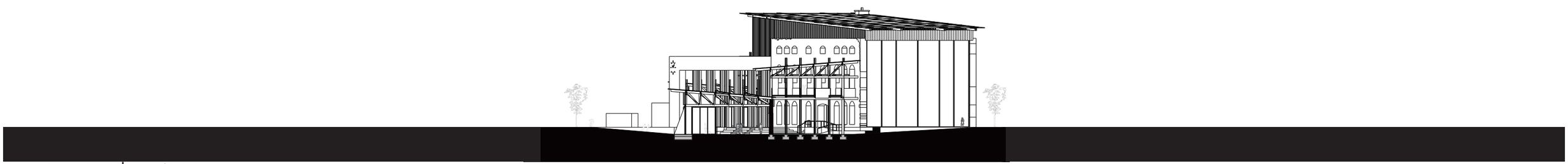
Section A-A' 1/200



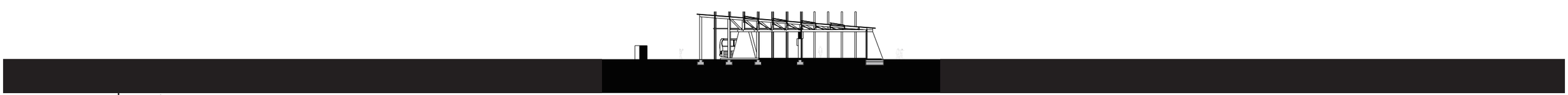
Section B-B' 1/200



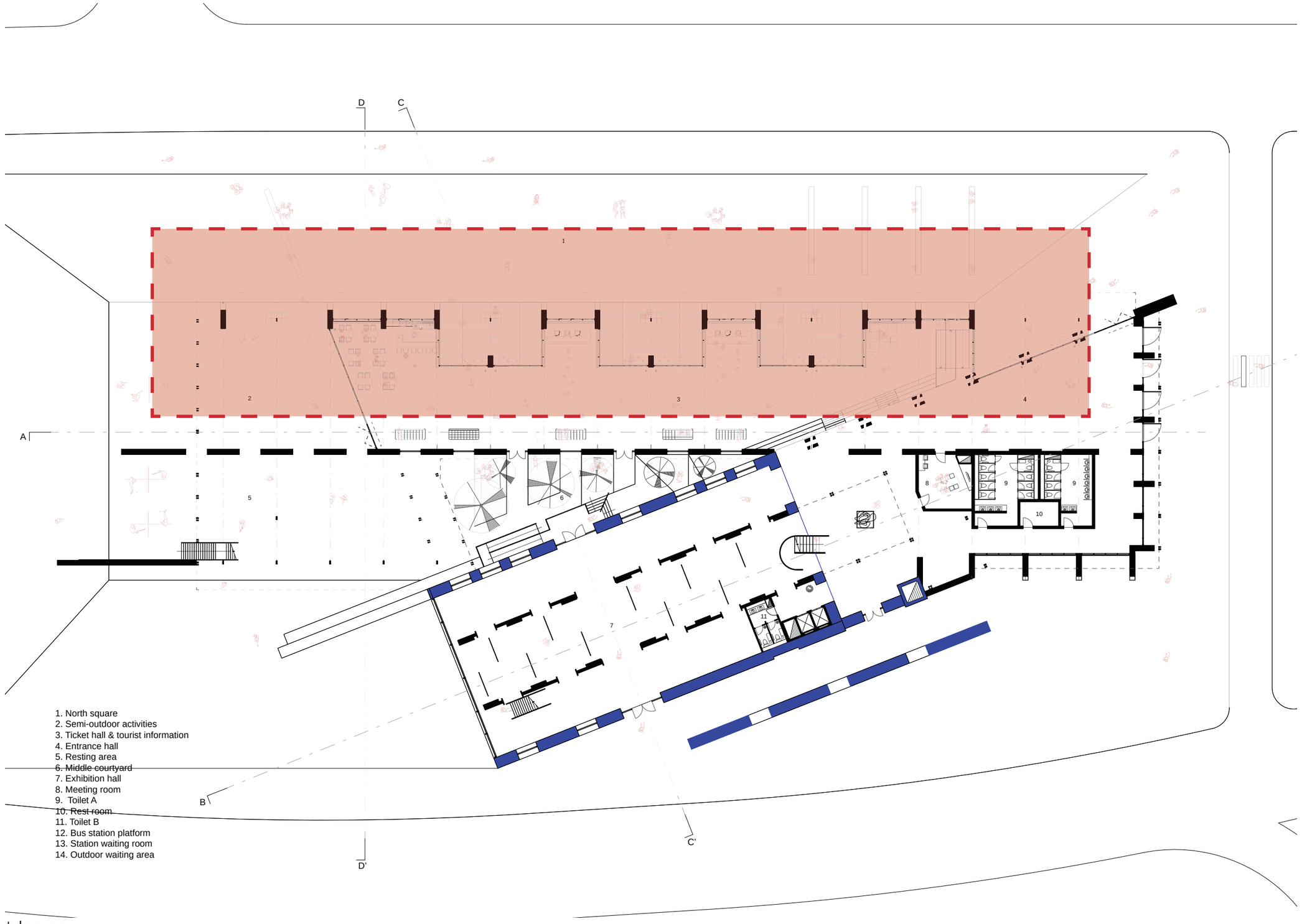
Section C-C' 1/200



Section D-D' 1/200

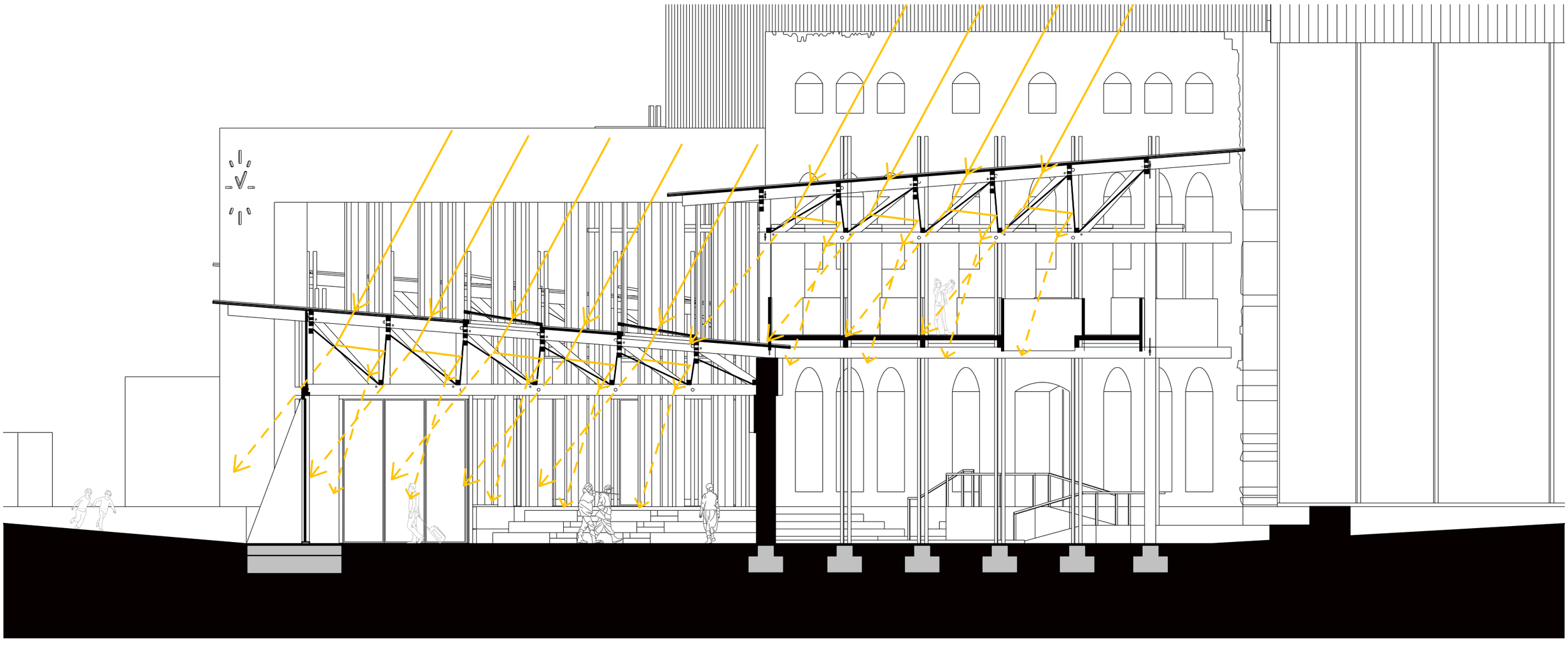


Section E-E' 1/200



Natural Light Issue

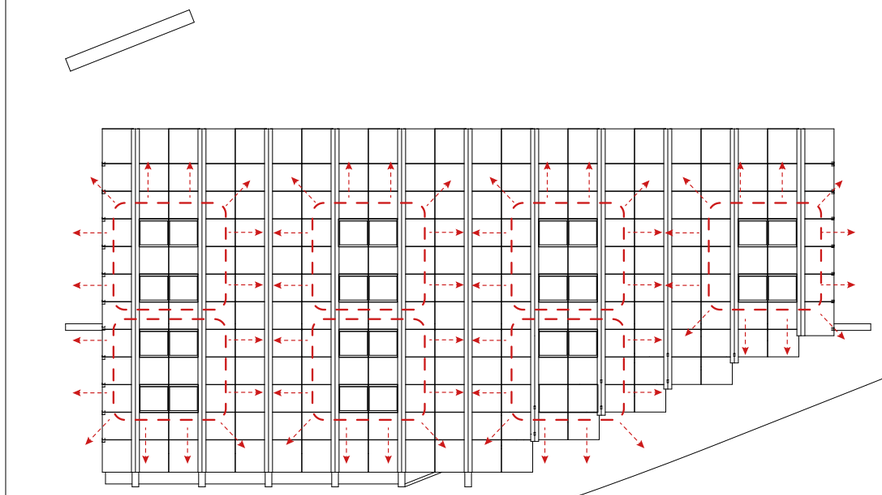
采光问题



Natural Light Issue

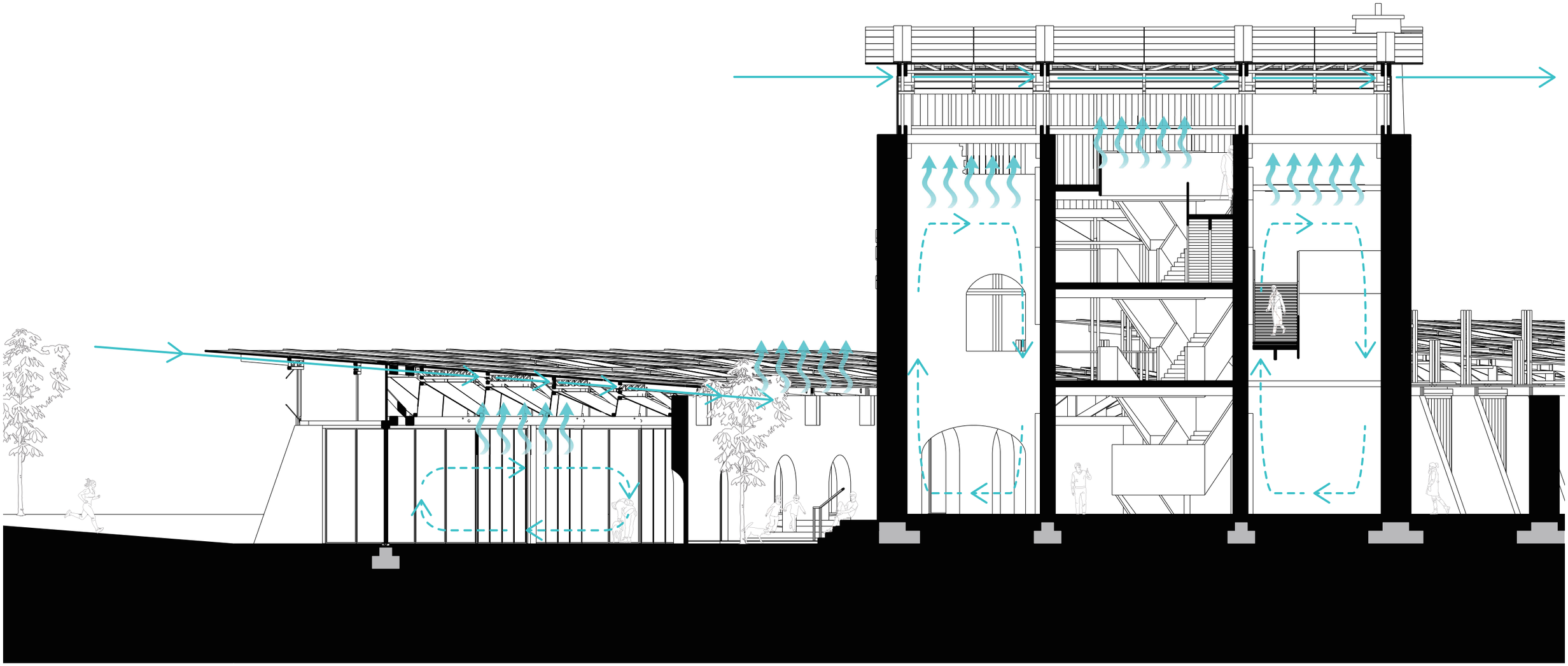
采光问题

Human Scale



Natural Light Issue

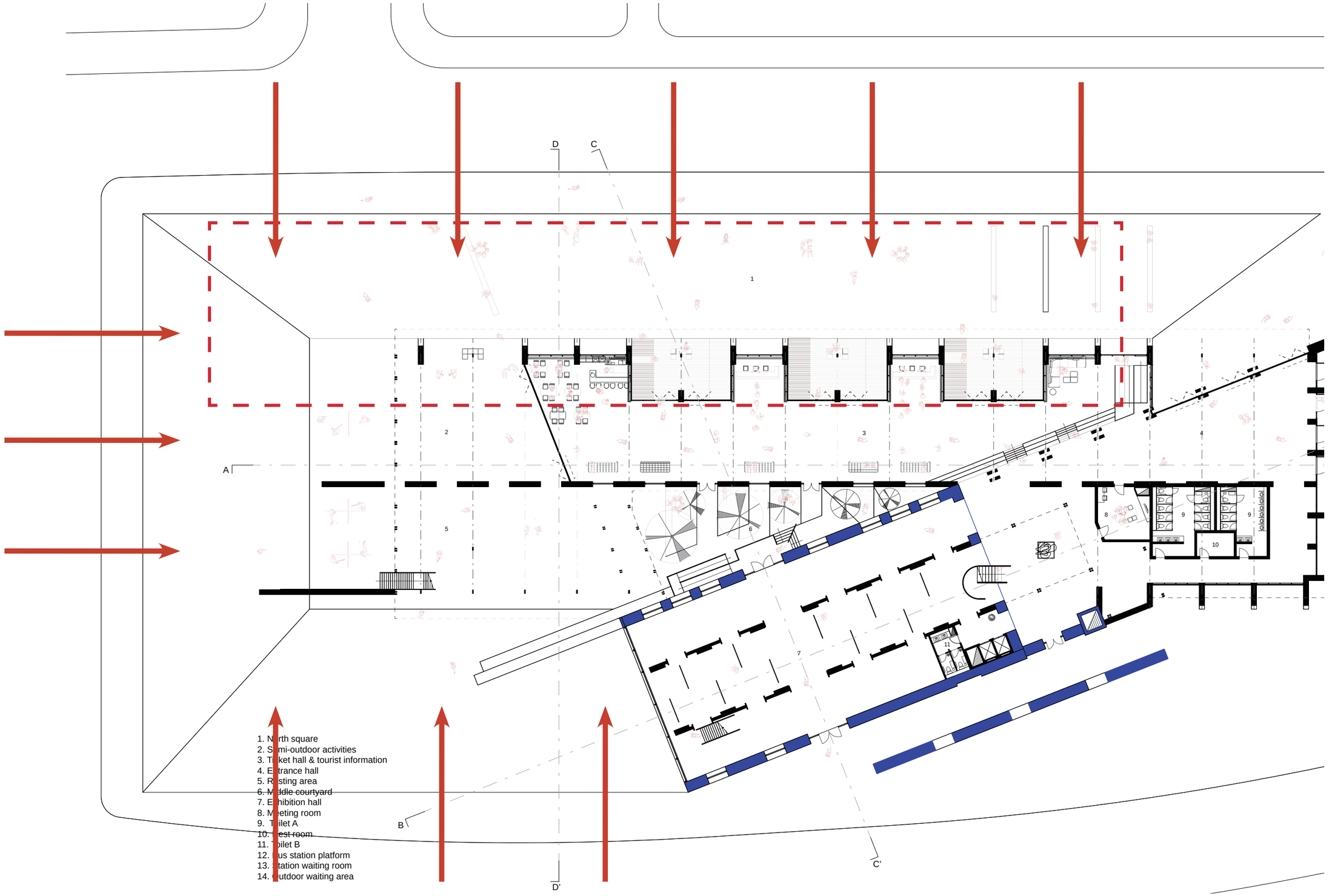
冬天积雪怎么办



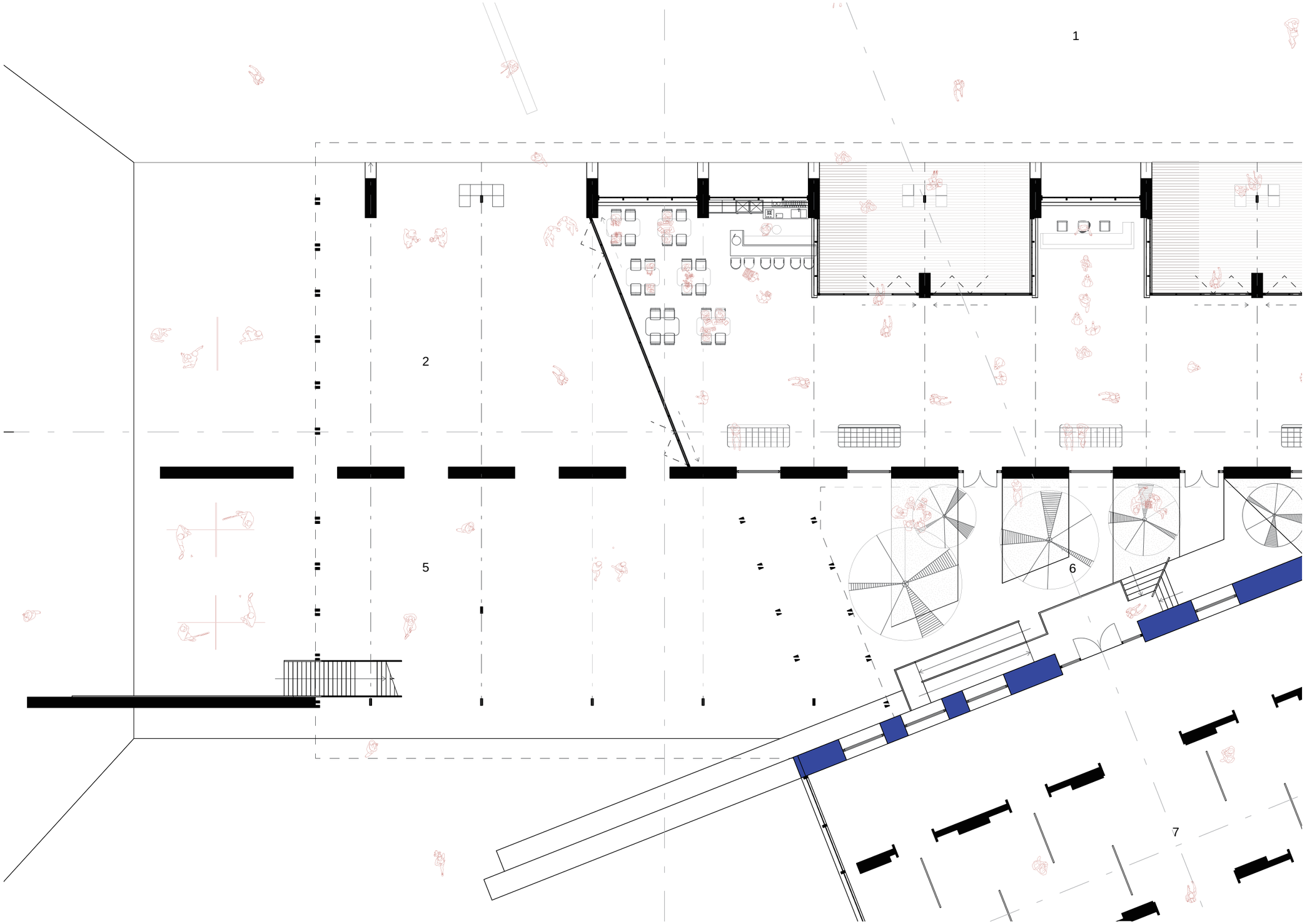
Vantilation Issue

自然通风

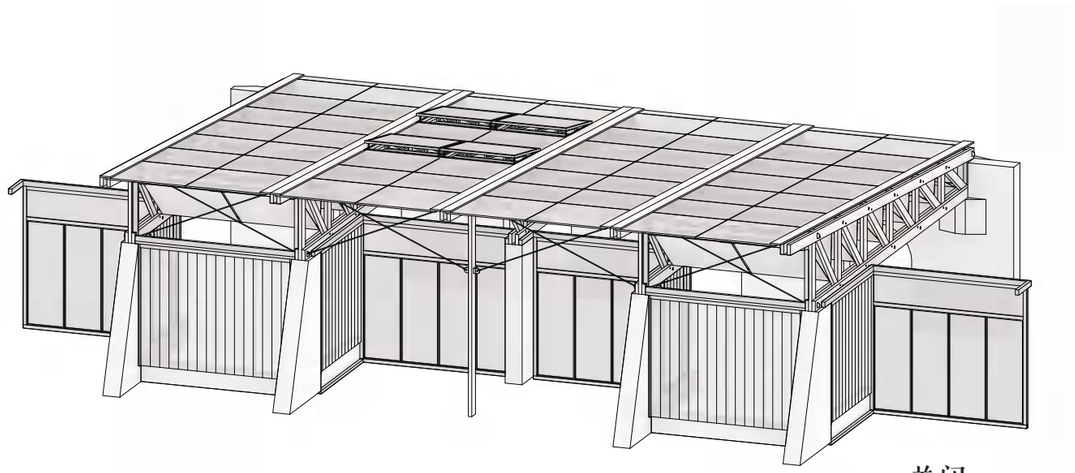
屋面下效果



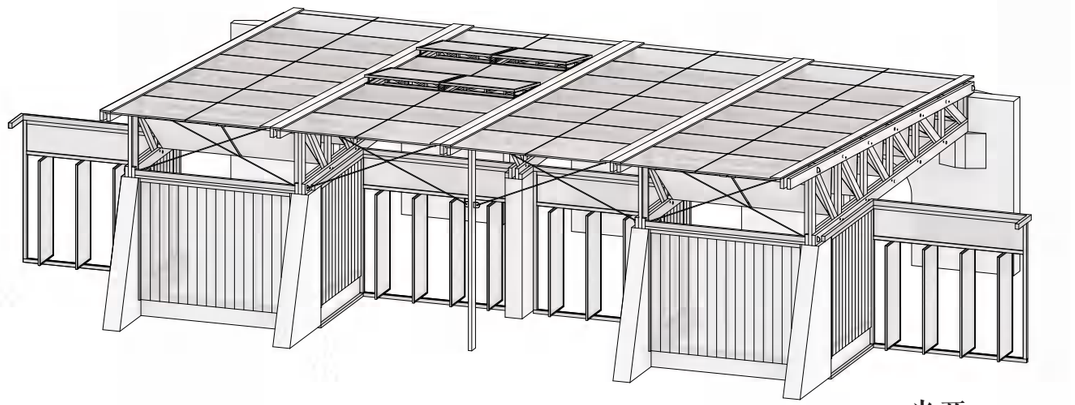
Attracting people



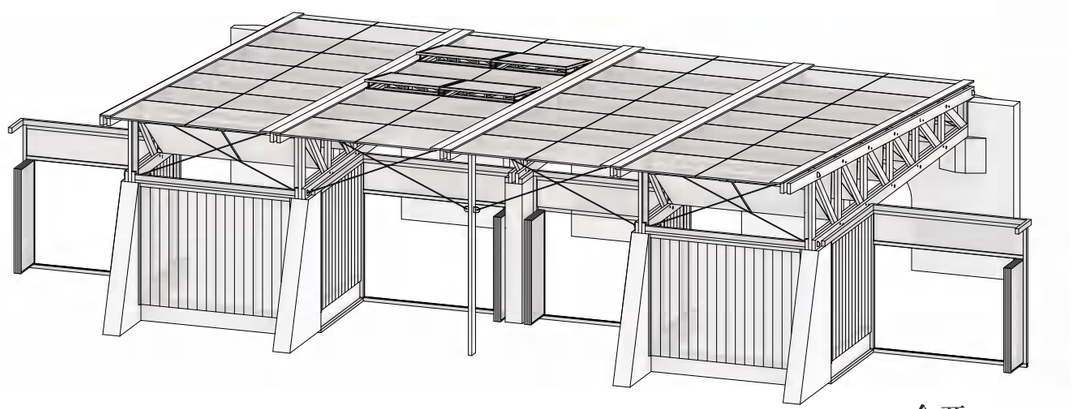
Attracting people



关闭



半开



全开

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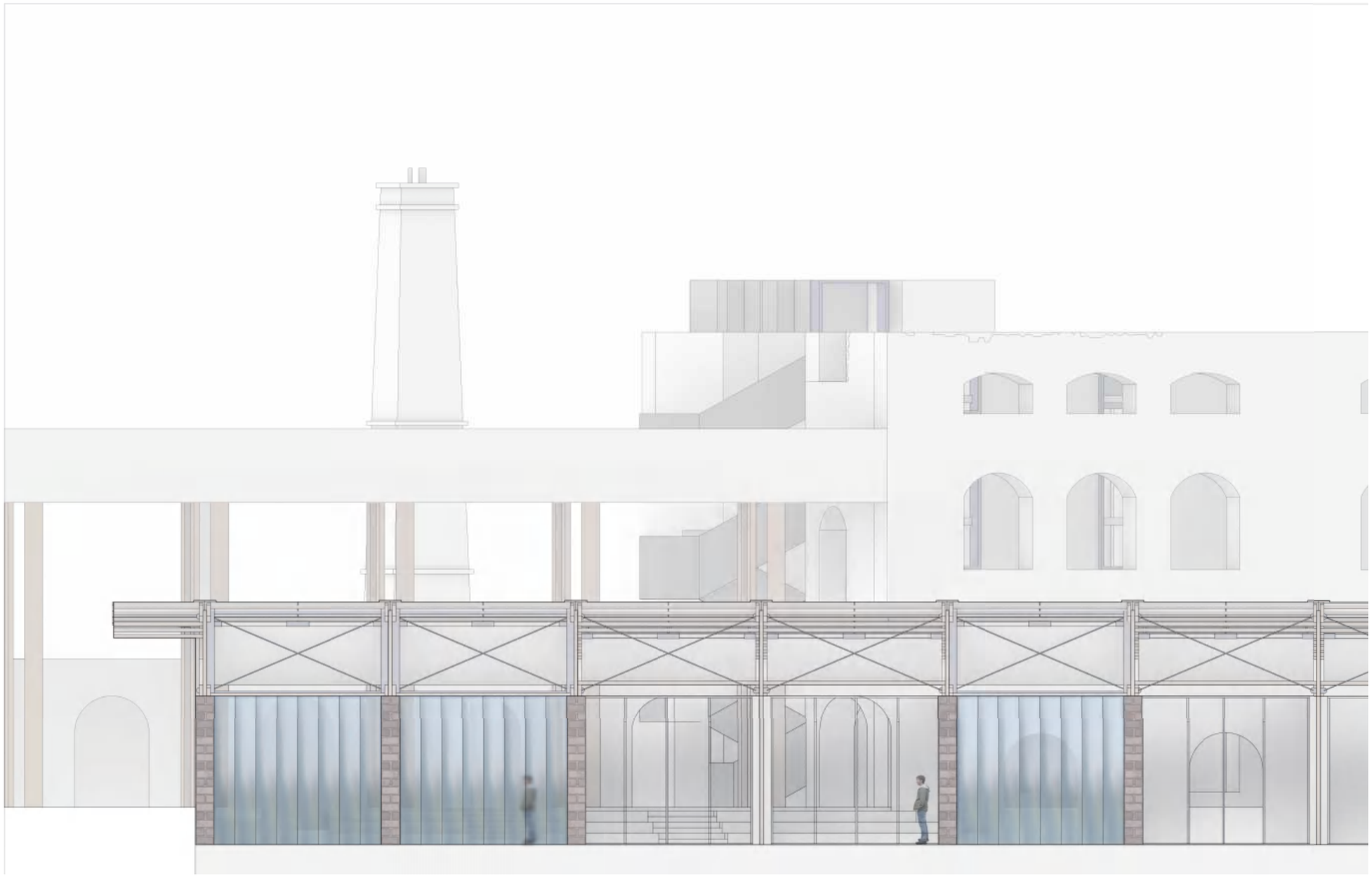

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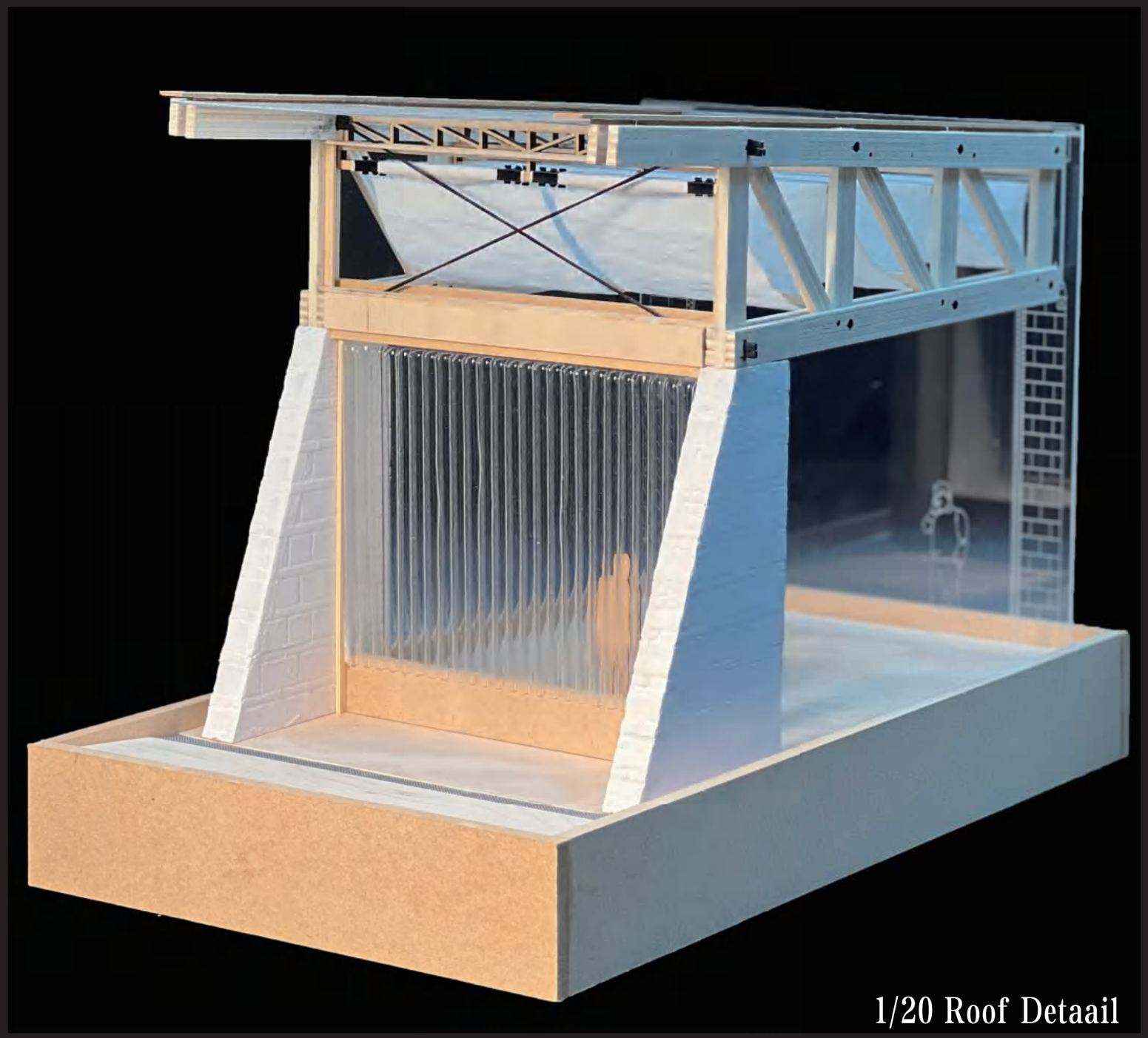
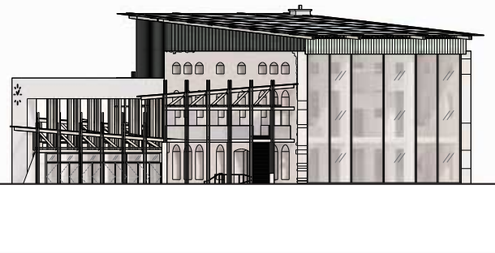
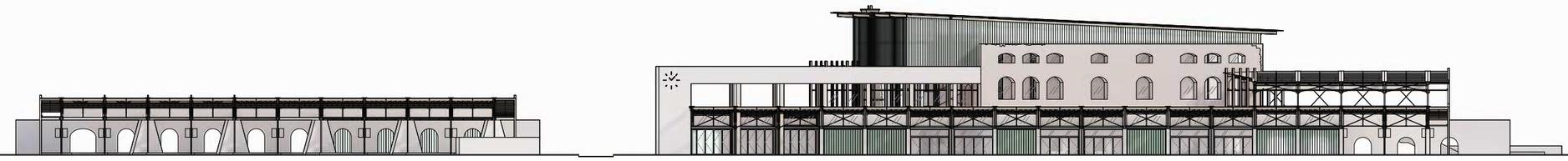


1/20 Roof Detaail

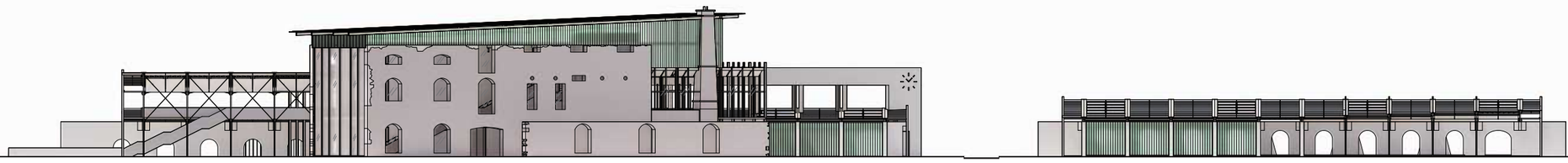
East Elevation 1/200



West Elevation 1/200



North Elevation 1/200

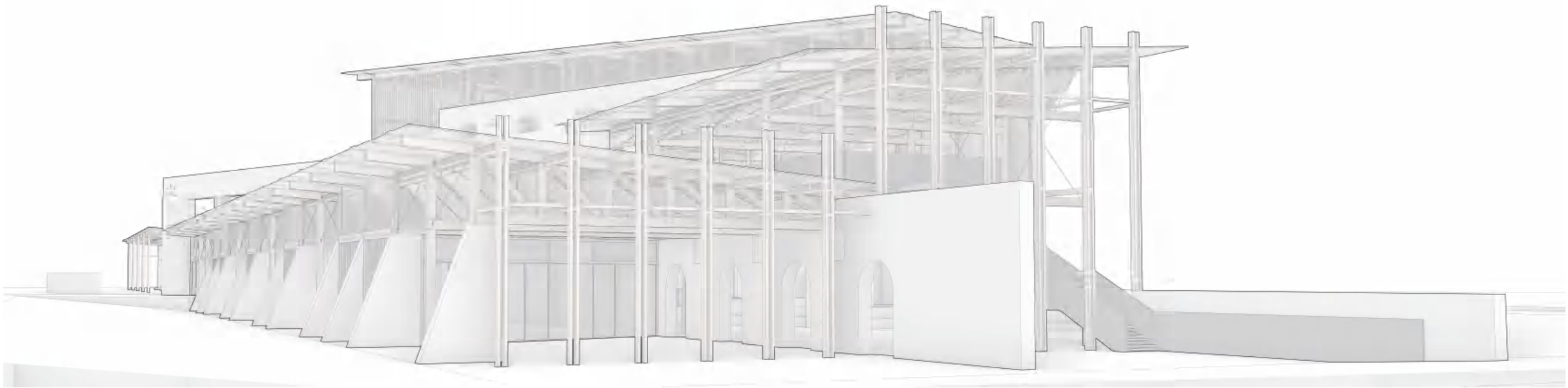


South Elevation 1/200

外立面

中庭效果

顶层楼梯



03/ Conclusion

结论

personal feelings & experience

feeling & experience

/1/
Test various kinds of material;

通过对比相同材质的新老结构，突出旧结构的存在，引导人们感受城市过去的建筑特征。

/2/
Approach problems from different scales;

从不同尺度思考解决问题。

/3/
Test building effect with physical model and 3D model.

在工作工程中结合物理模型推敲空间效果。

/4/
The characteristics of a nice, full-used urban public space.

通过公共空间加强建筑和城市的联系。
如在室外公共空间上搭建遮蔽物来作为室内外功能间的过渡。

Thank you.