MAX VENDERBOSCH

THE ESCALATING CITY

PUBLIC BUILDING STUDIO



Title: THE ESCALATING CITY

Date: 27-06-2024

Student: Max Venderbosch

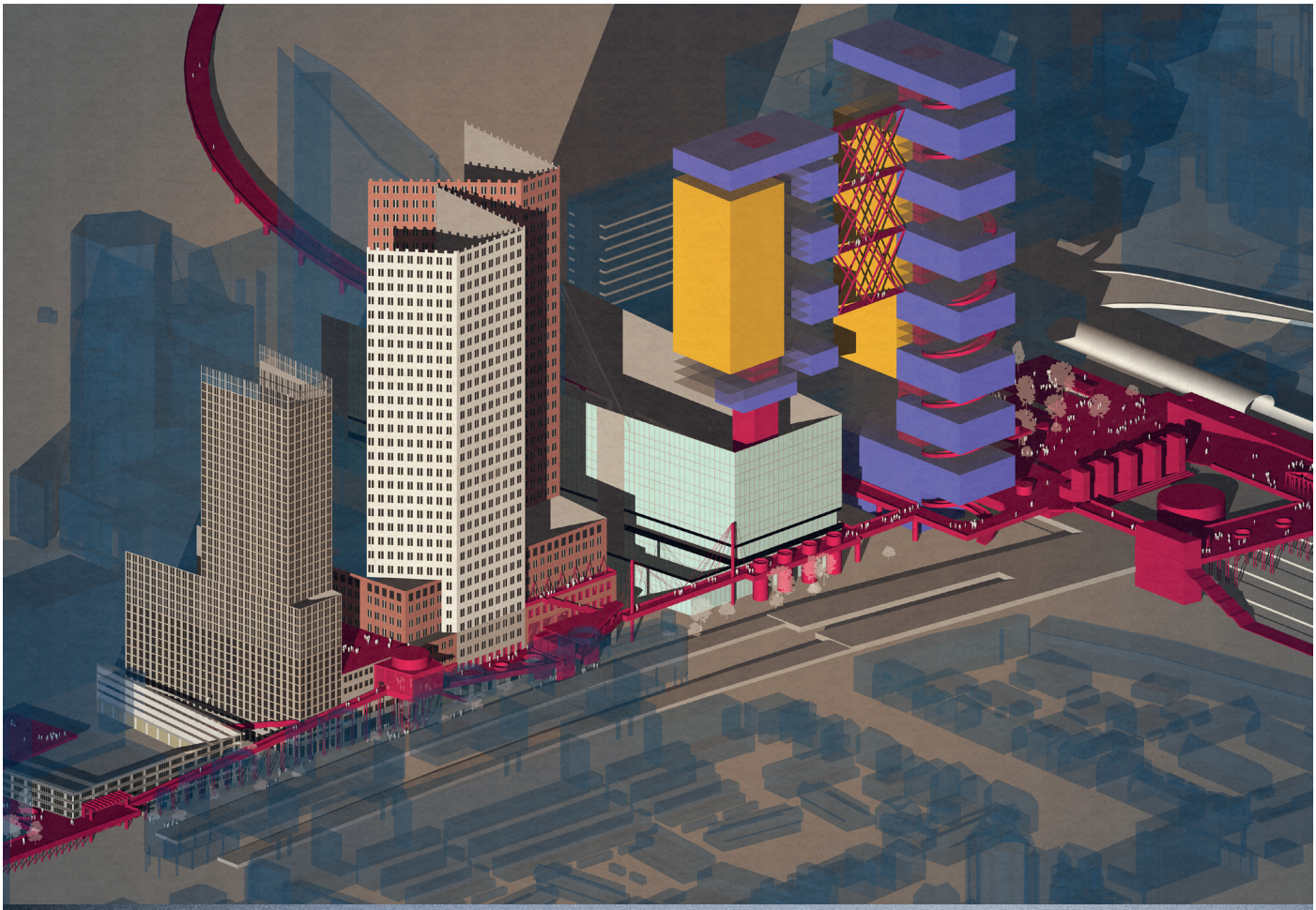
Topic: Graduation MSc Architecture

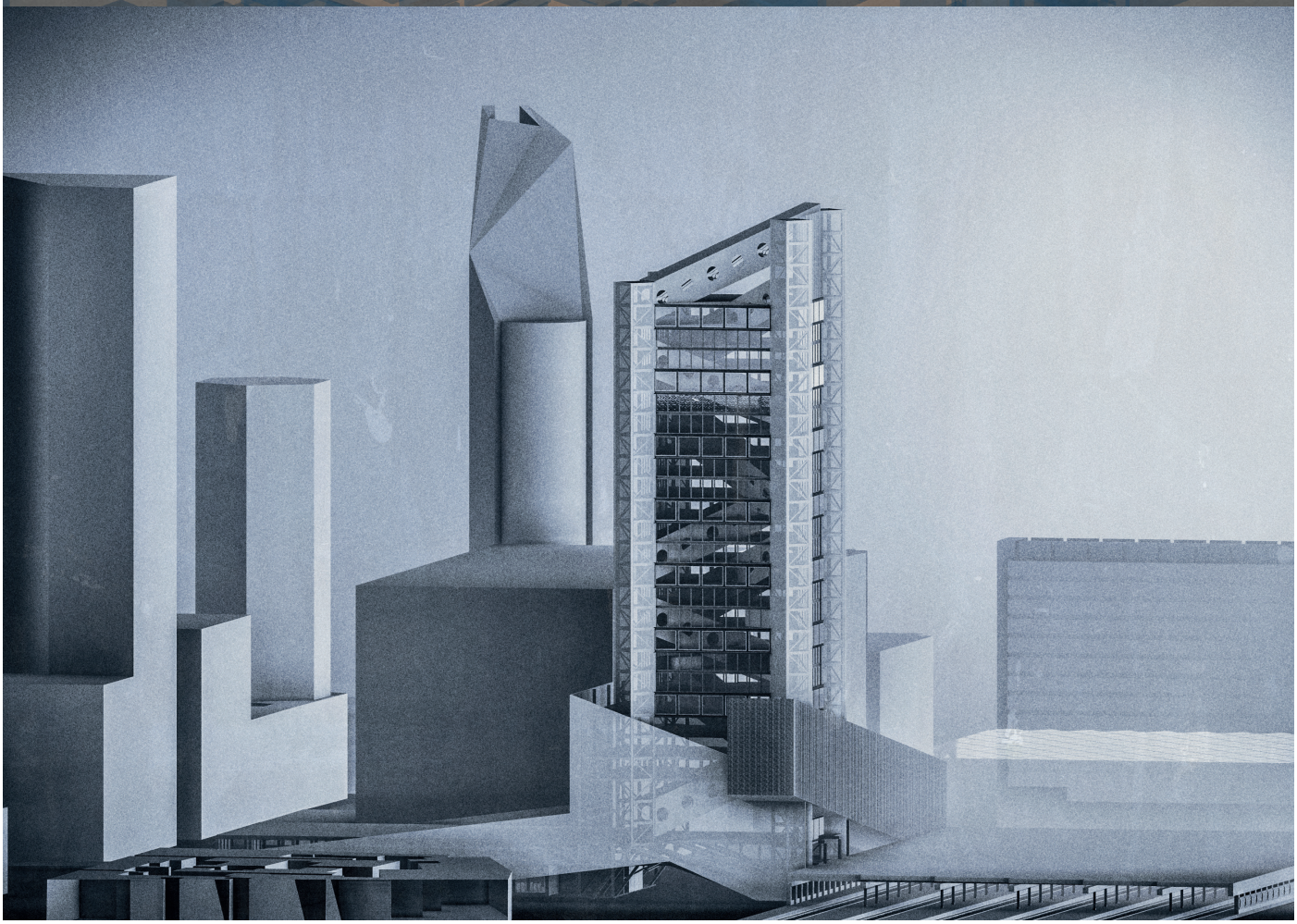
Studio: Public Building

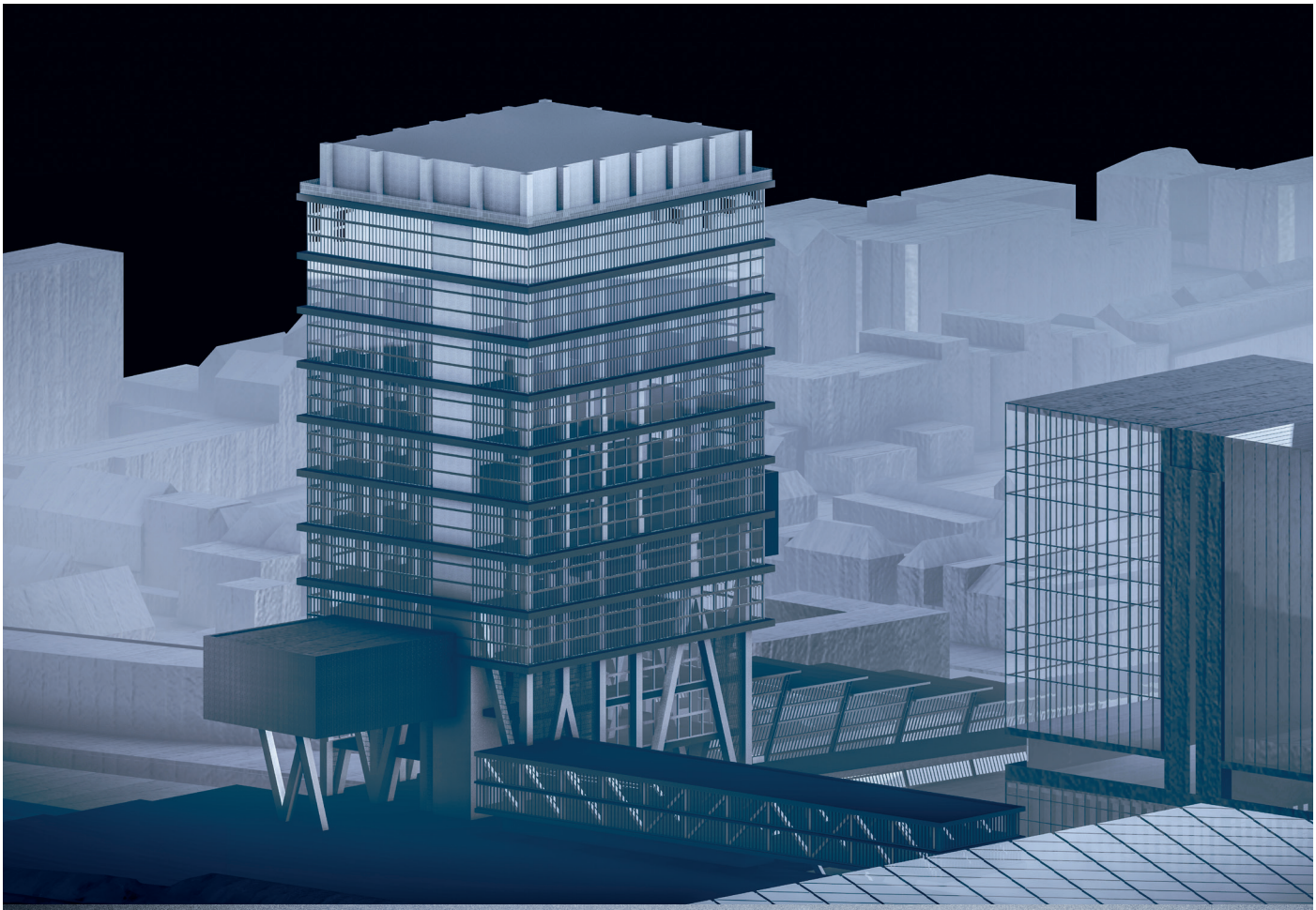
Tutors: Henk Bultstra, Sien van Dam, Ger Warries

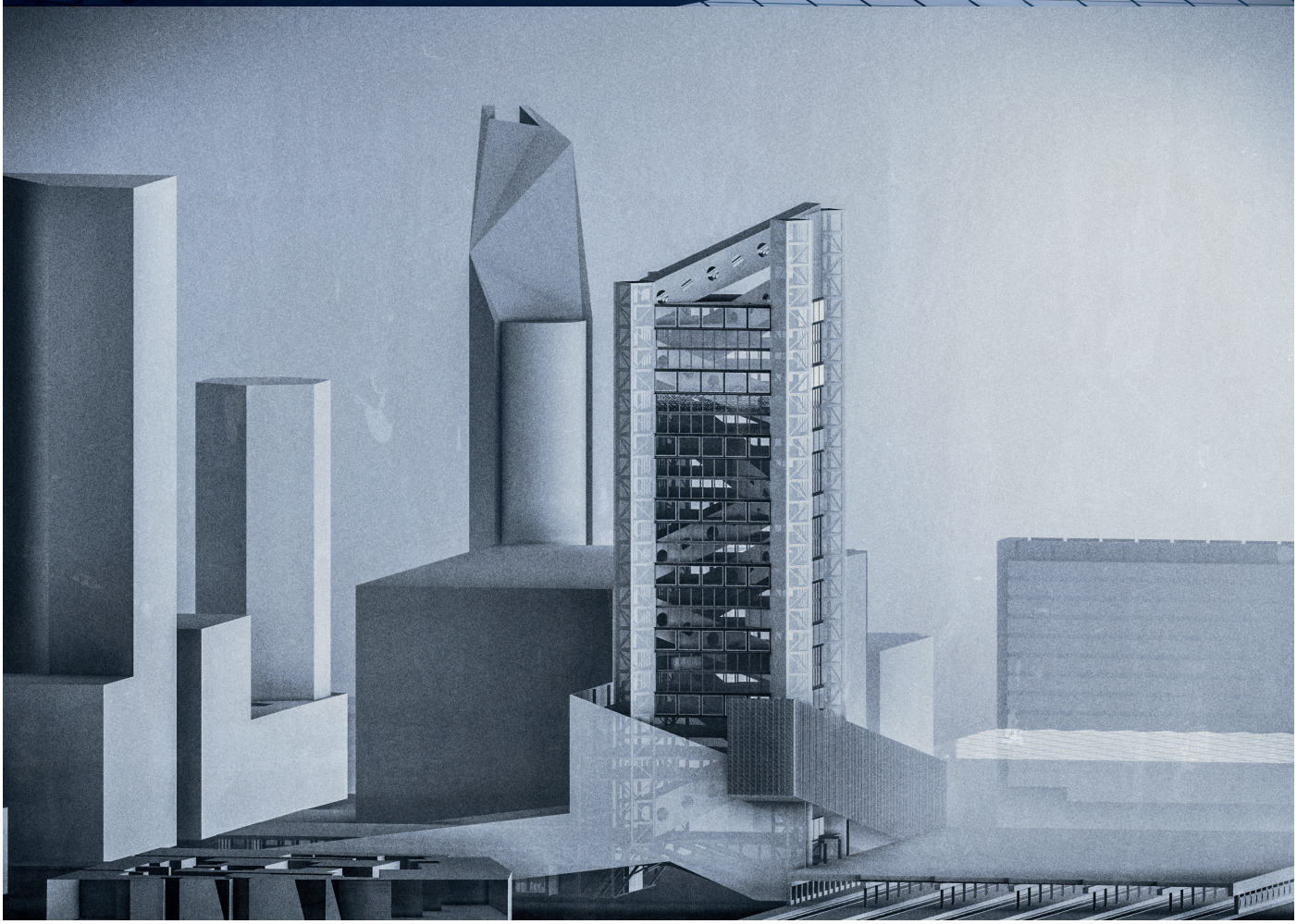
.THE.
.ESCALATING.
.CITY.

Max Venderbosch









reflections by night

a layered reality

bezuidenhoutseweg

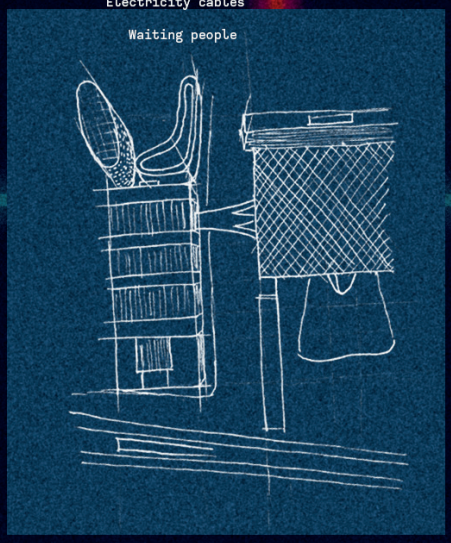
Tram network
Colourful digital artwork

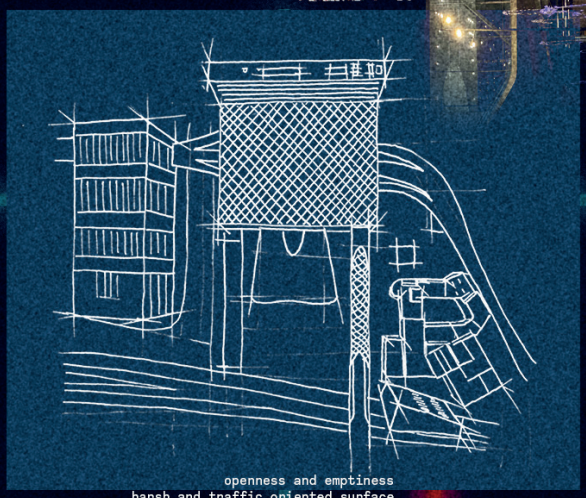
Crossing place
North-south
Extension of interior

Electricity cables

Waiting people

Tram network





Horizontal viewlines
Wooden benches
variety of building

Framed public space

Corridors

Building process
Building heights

openness and emptiness
harsh and traffic oriented surface

freedom of choice of a bus
clash of transit modes

bus stop
glass facade

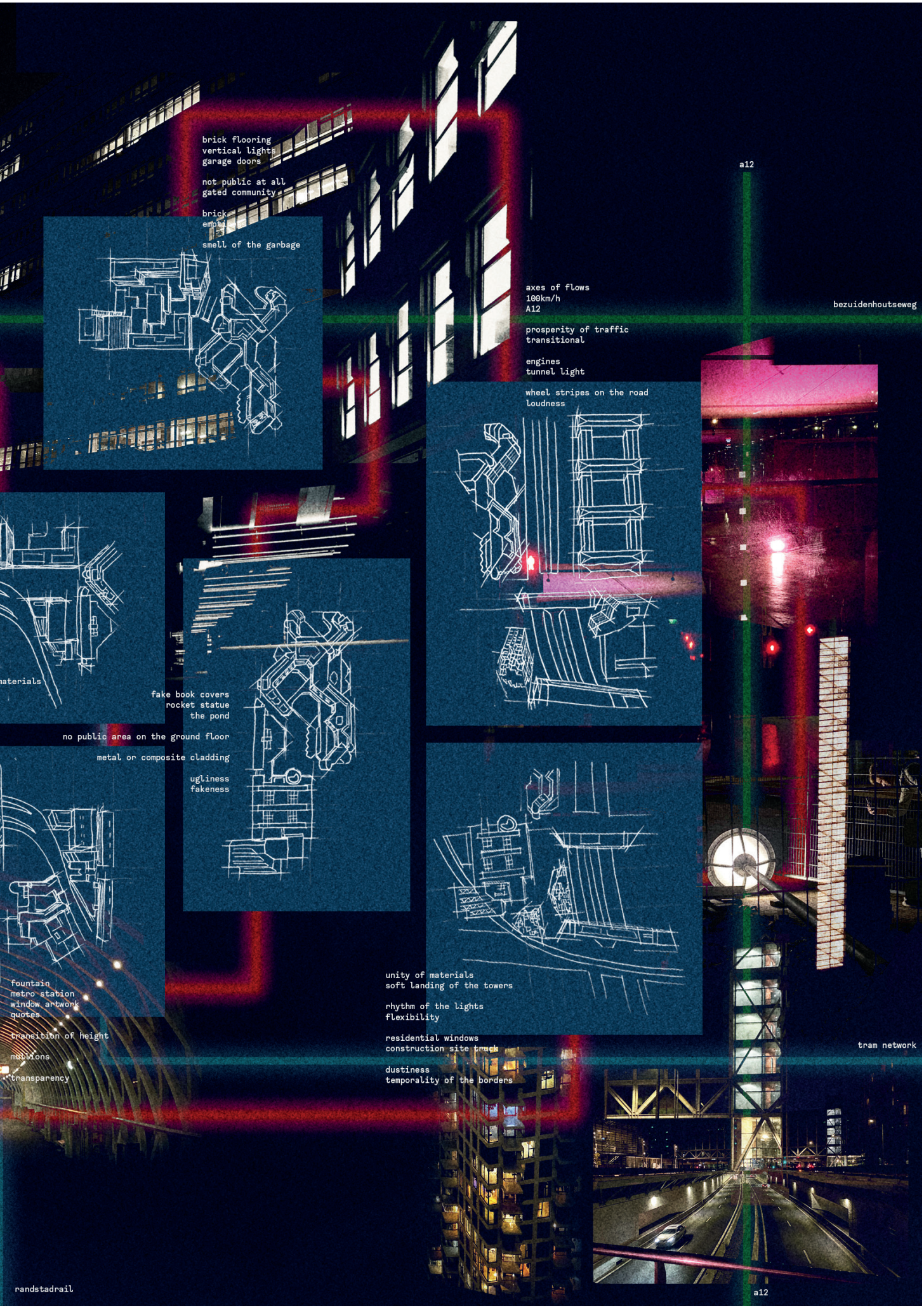
marks of a bus wheels on the road
trash on the ground
pollution

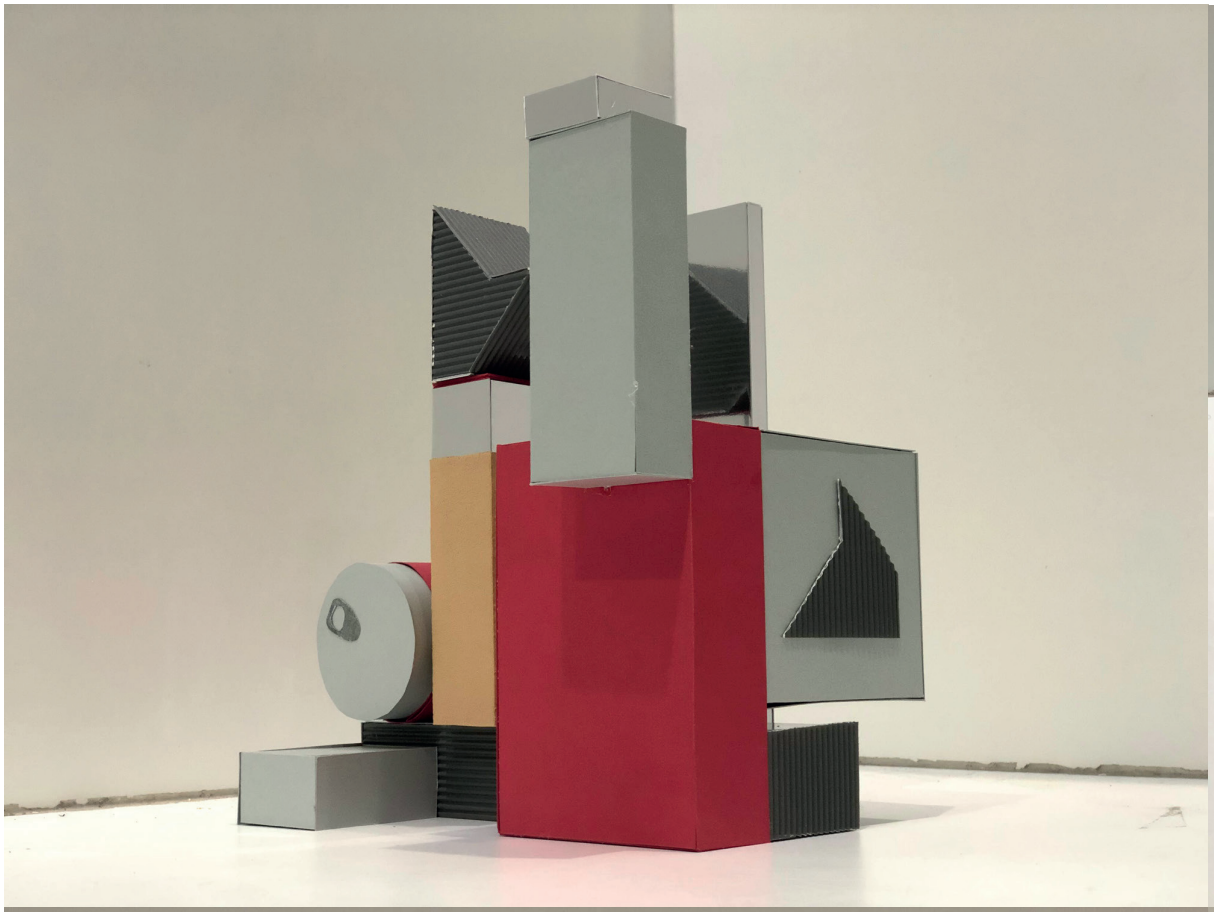




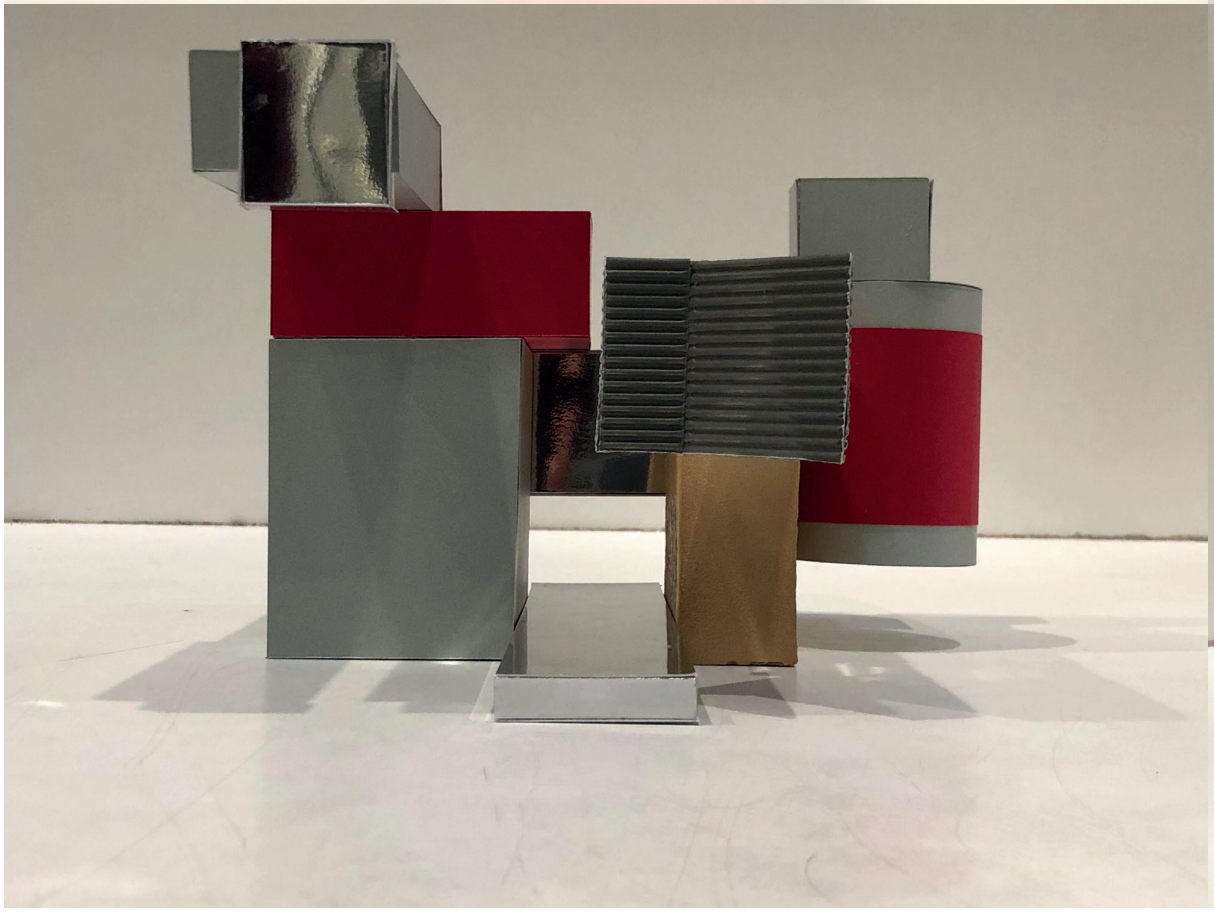
public building graduation
psychogeografical map
02-10-2023
student group 5
amber heijdens
oskar lubera
max venderbosch

traintracks

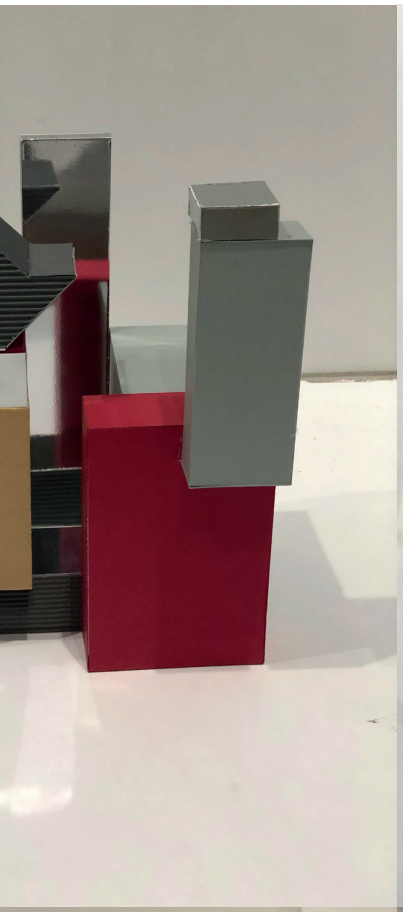

brick flooring
vertical lights
garage doors
not public at all
gated community
brick
empt
smell of the garbage
a12
axes of flows
100km/h
A12
bezuidenhoutseweg
prosperity of traffic
transitional
engines
tunnel light
wheel stripes on the road
loudness
aterials
fake book covers
rocket statue
the pond
no public area on the ground floor
metal or composite cladding
ugliness
fakeness
fountain
metro station
window artwork
quotes
transition of height
mullions
transparency
unity of materials
soft landing of the towers
rhythm of the lights
flexibility
residential windows
construction site truck
dustiness
temporality of the borders
tram network
randstadrail
a12

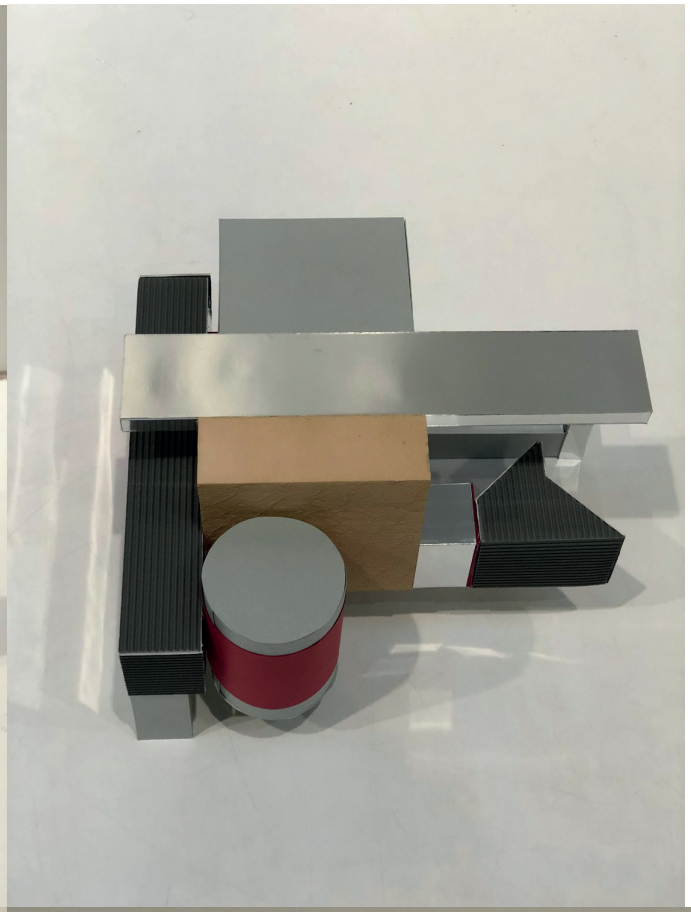


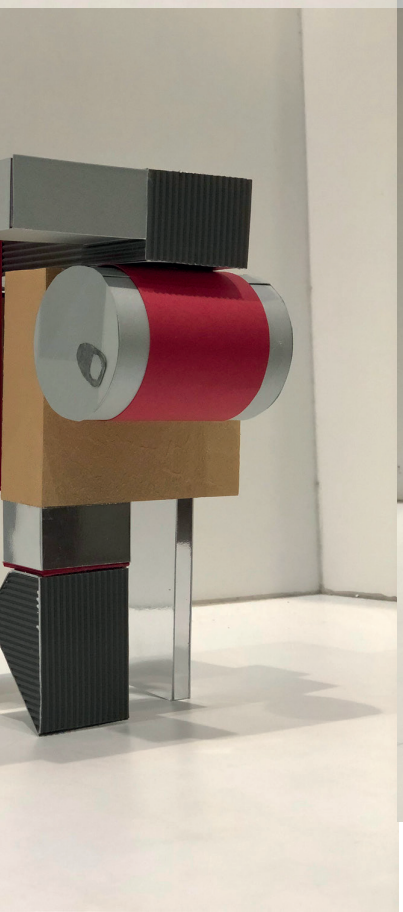


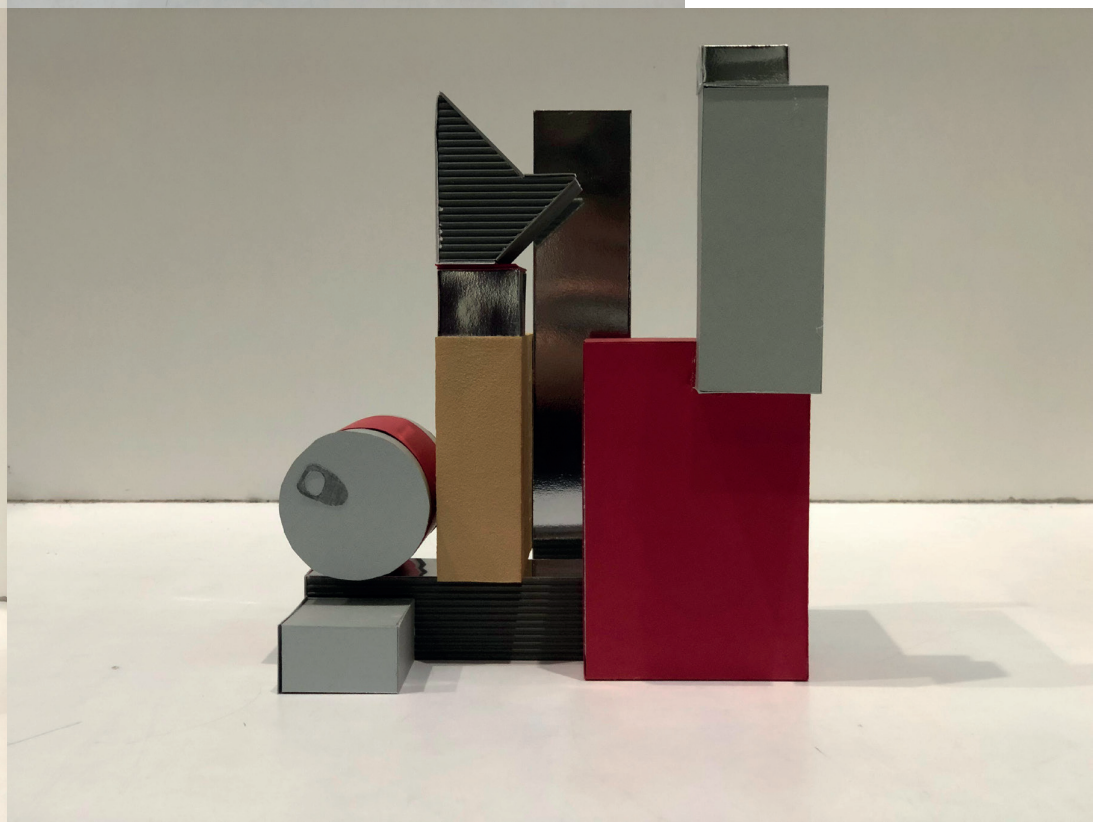


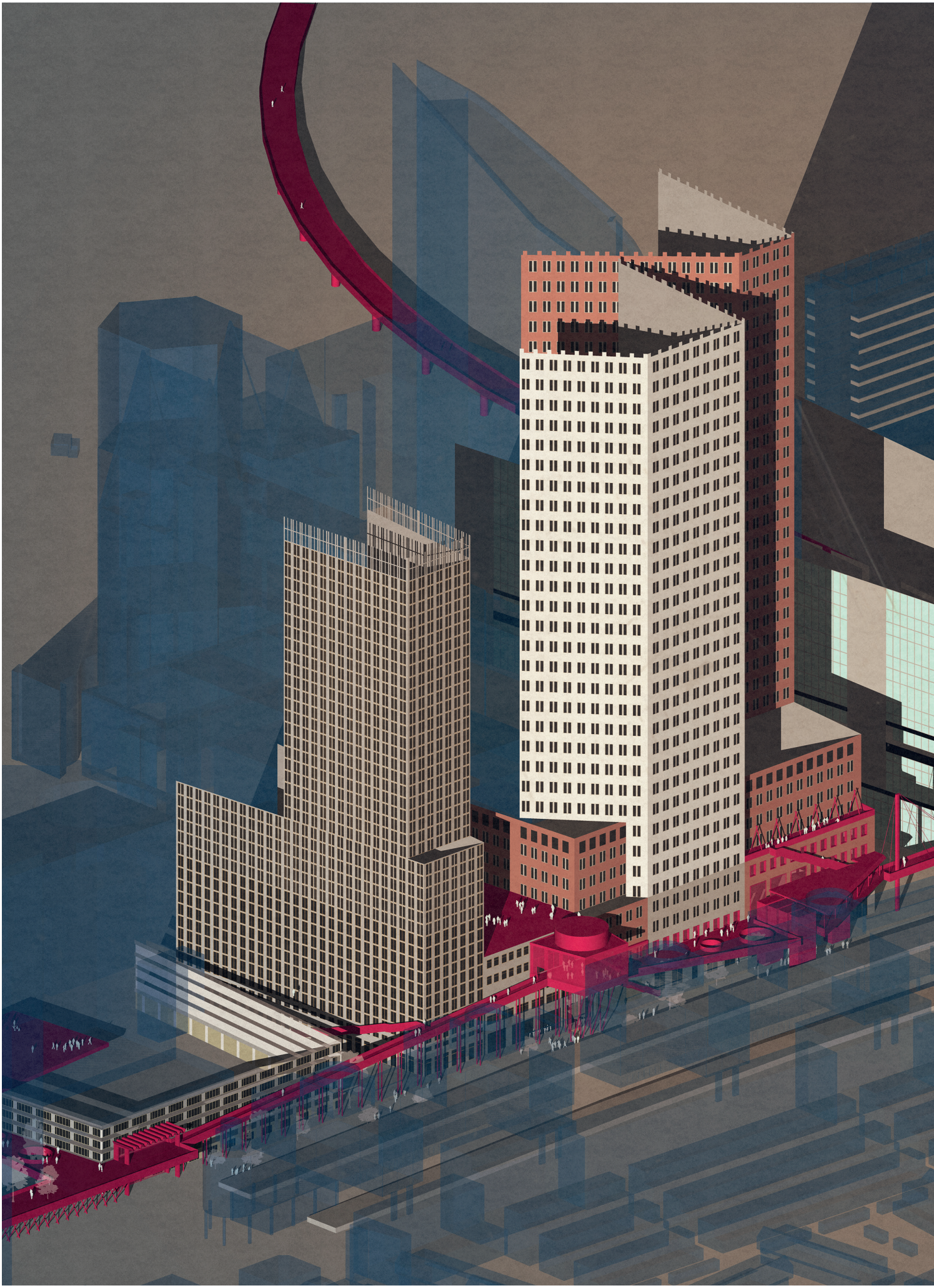


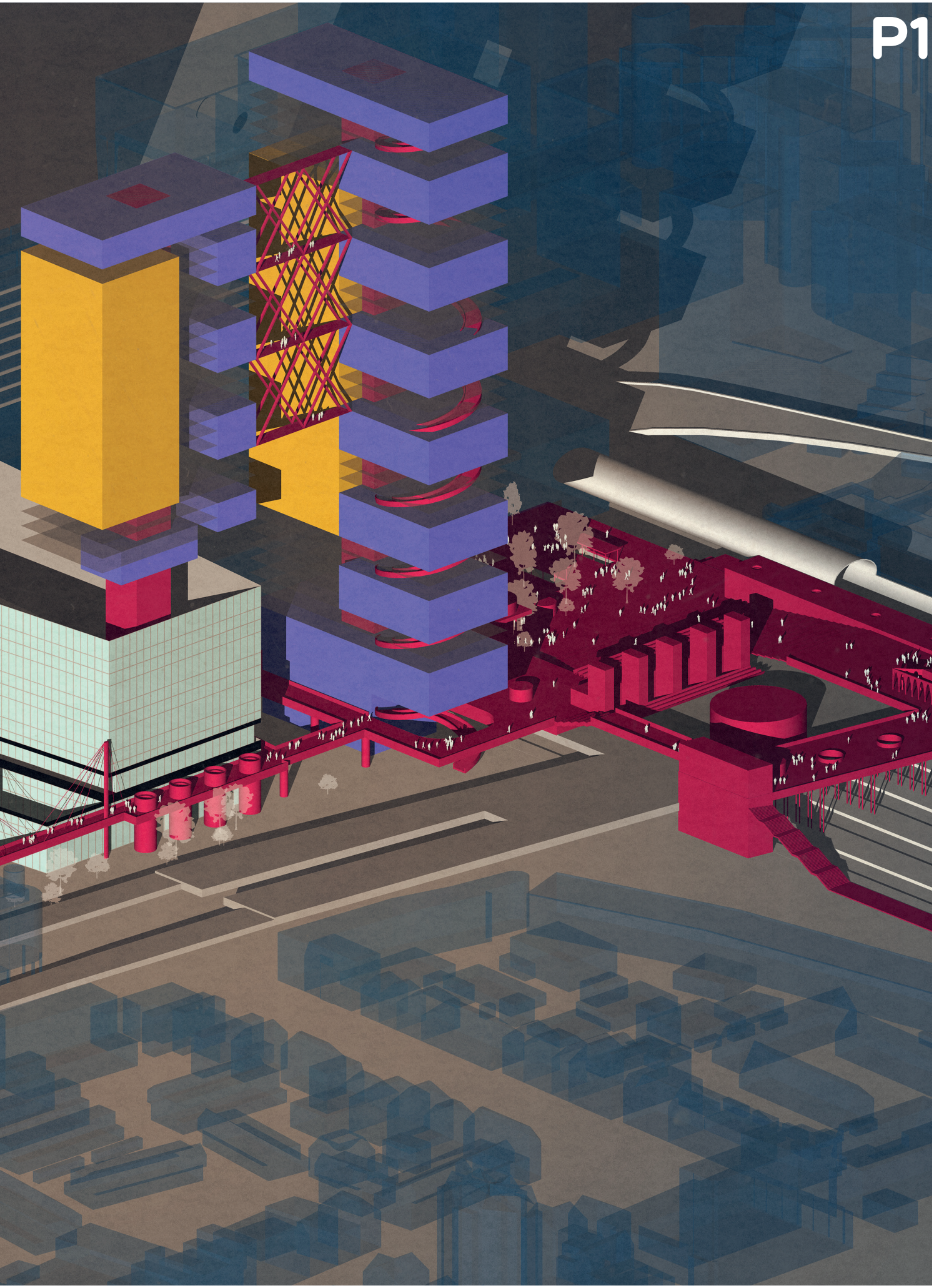




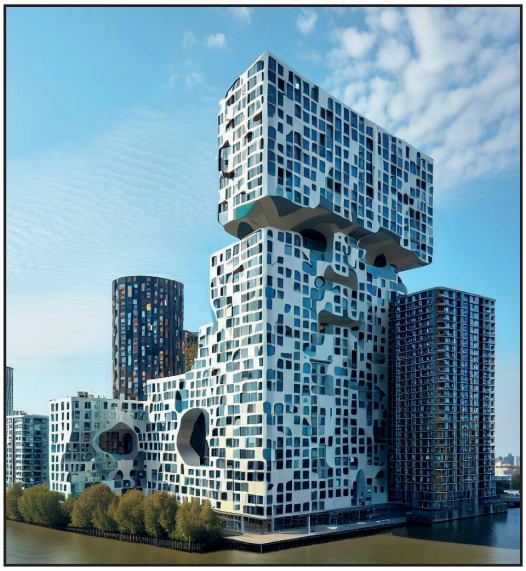


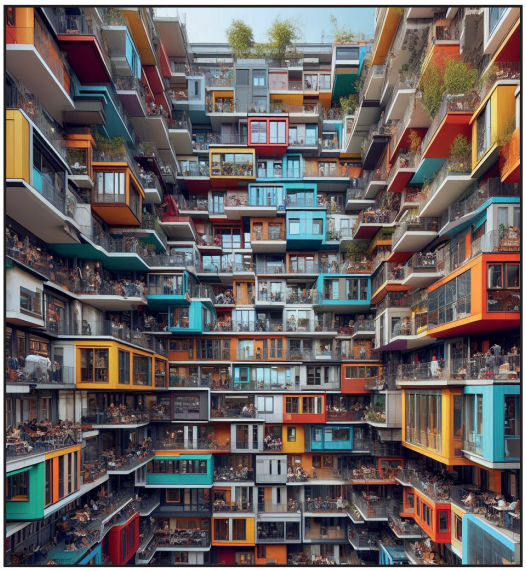
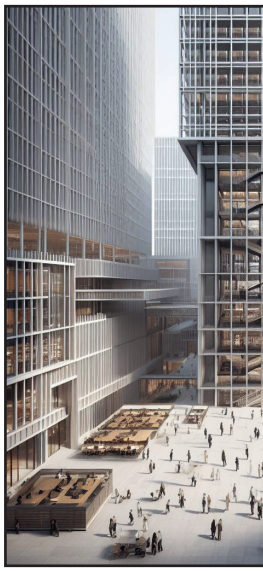


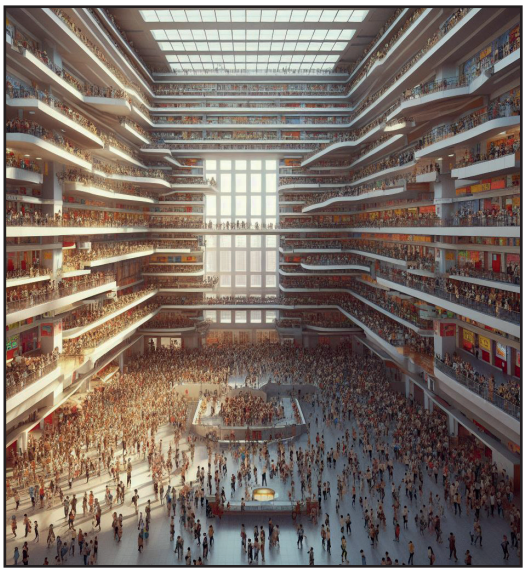
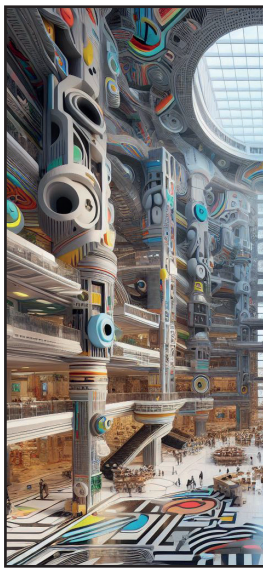


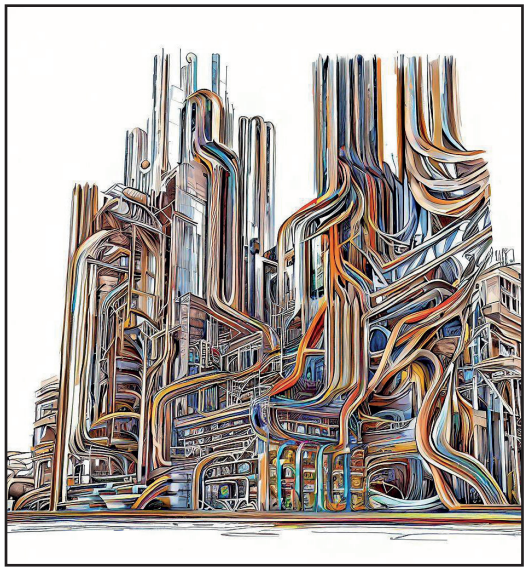
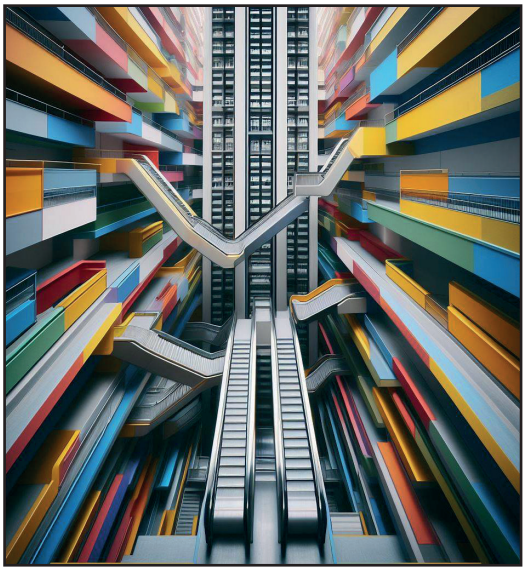

P1

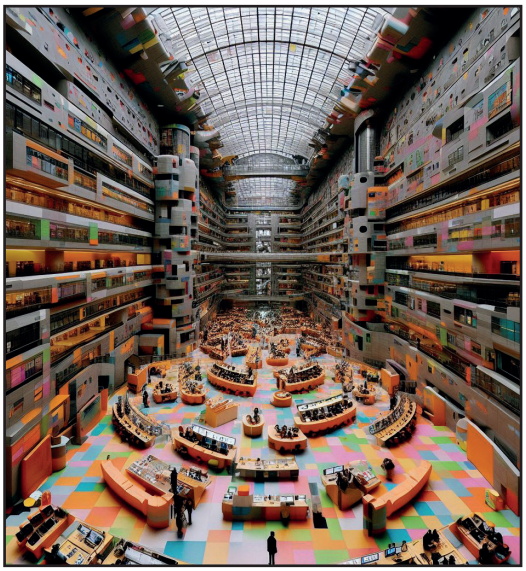
AI EXPLORATION

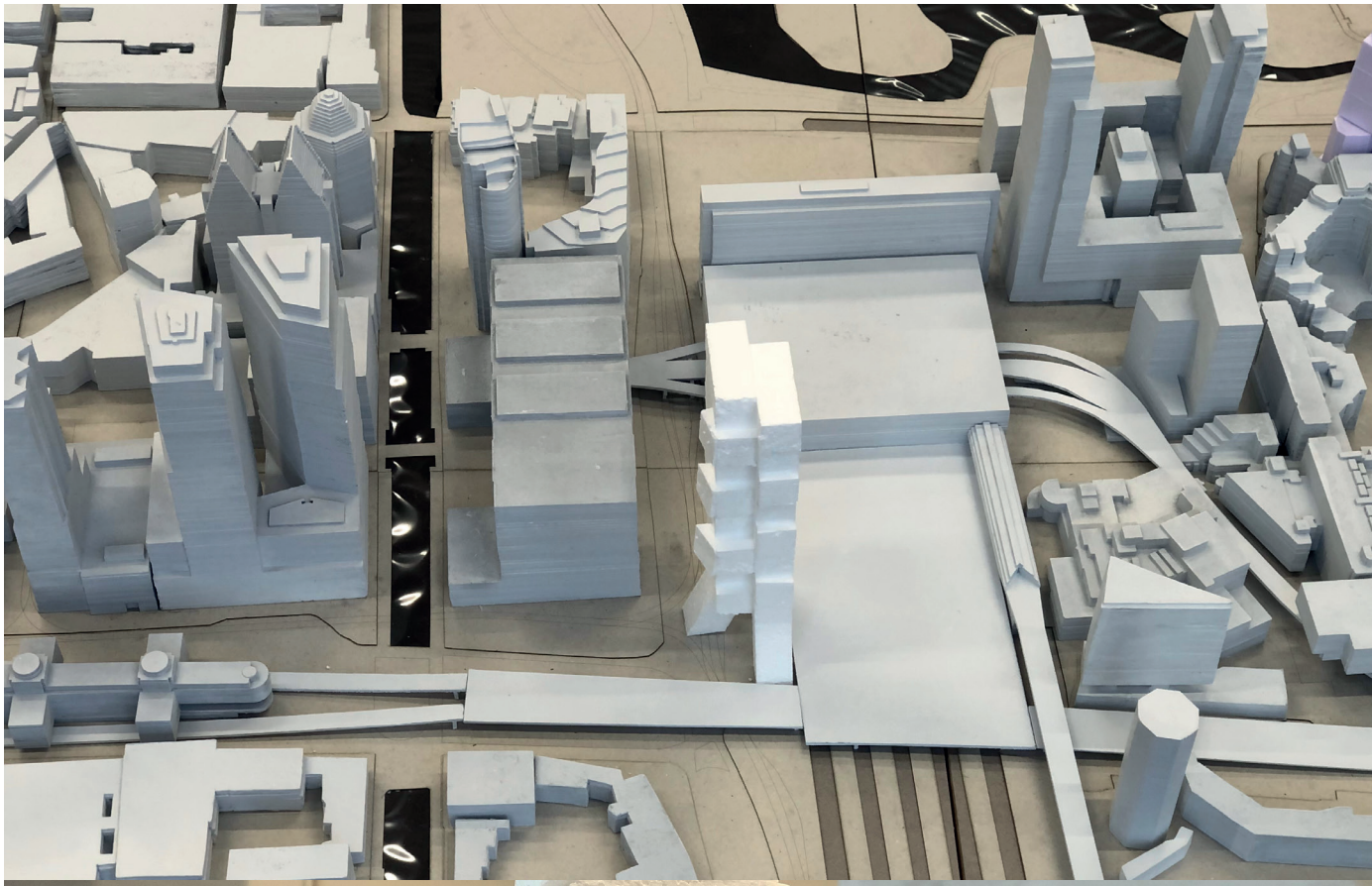



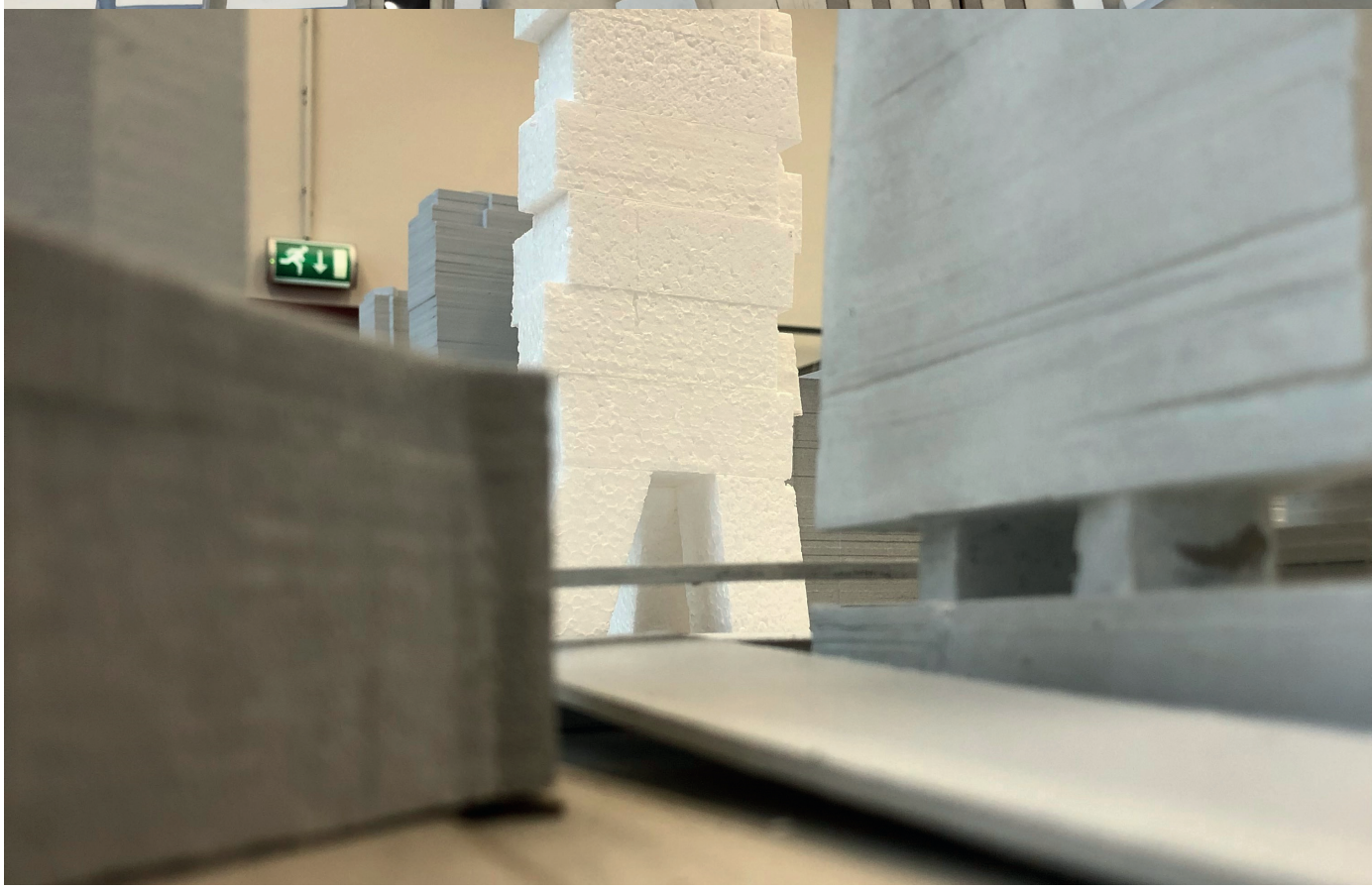




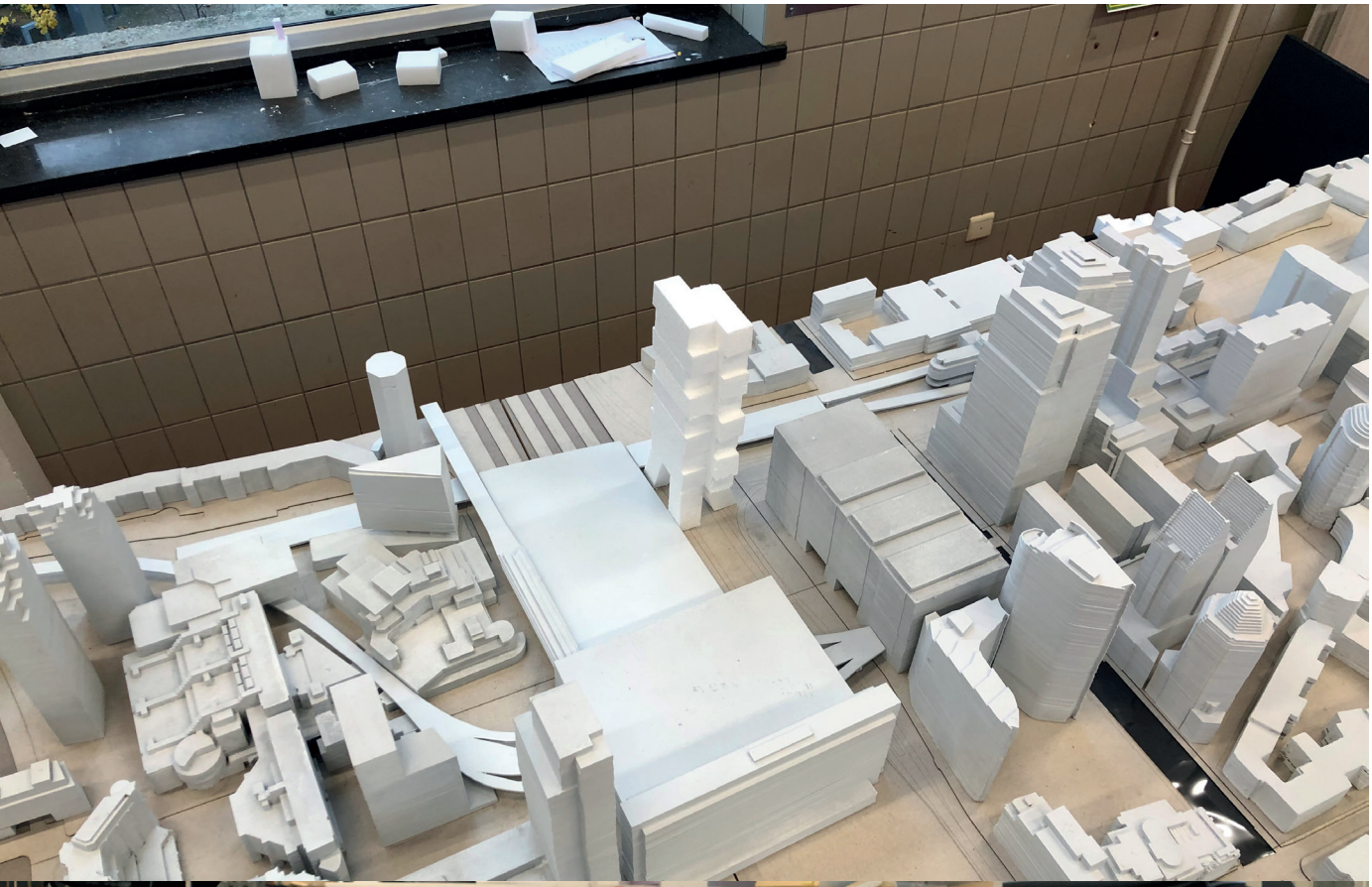



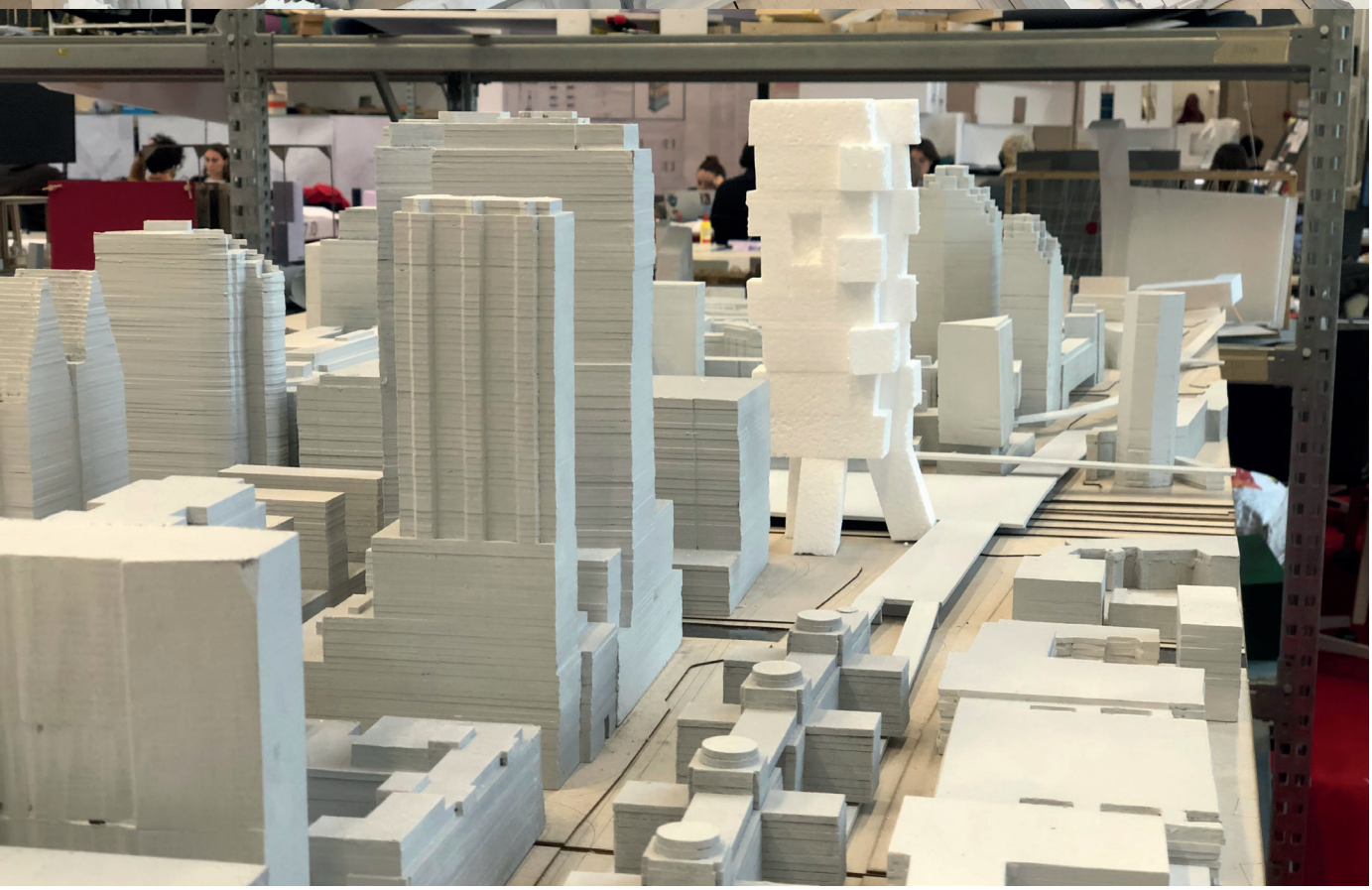


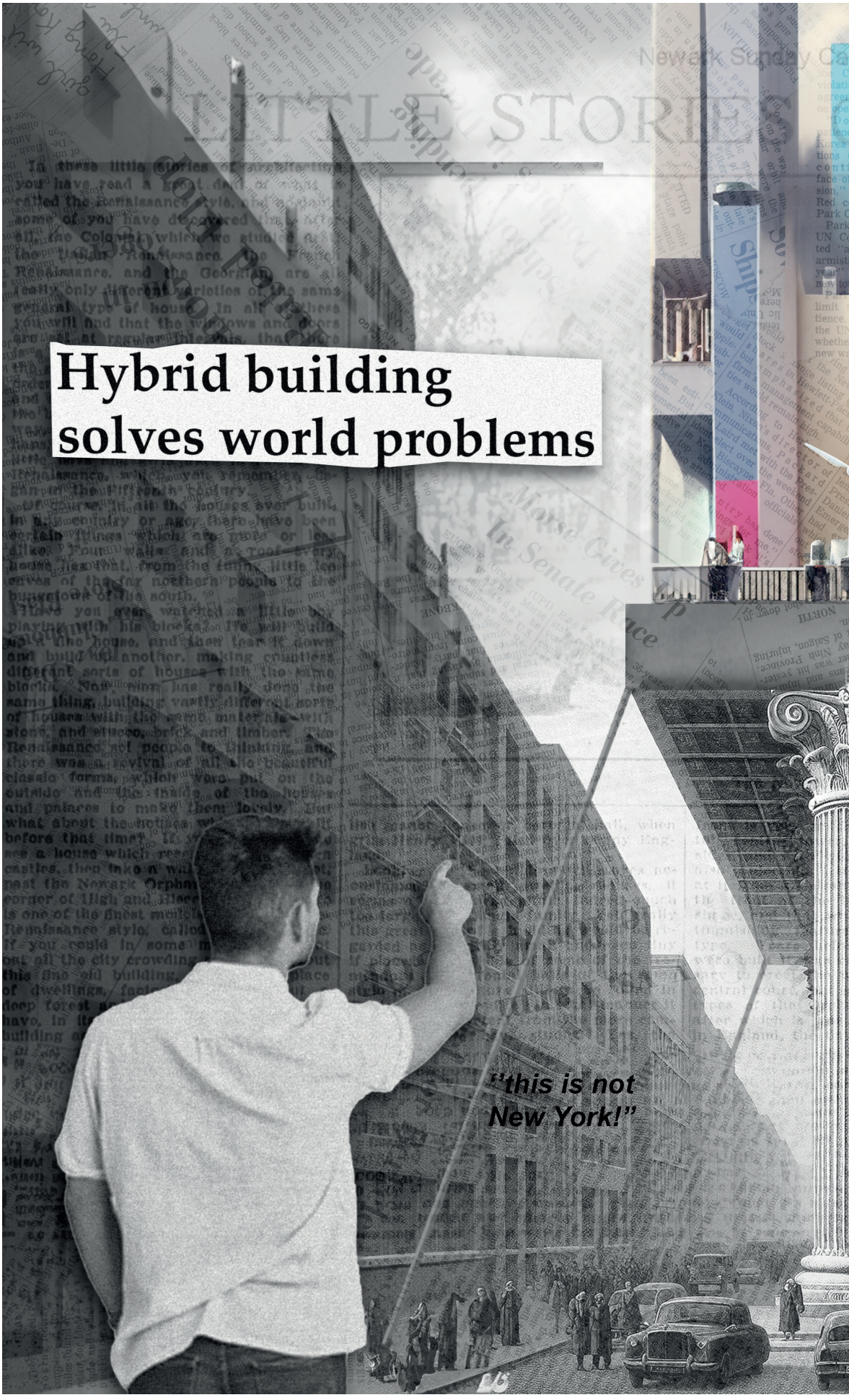

FIRST MODEL










Hybrid building
solves world problems
"this is not
New York!"


"It really is a beacon of hope
for the built environment"
Ignorant highrise
destroys city centre

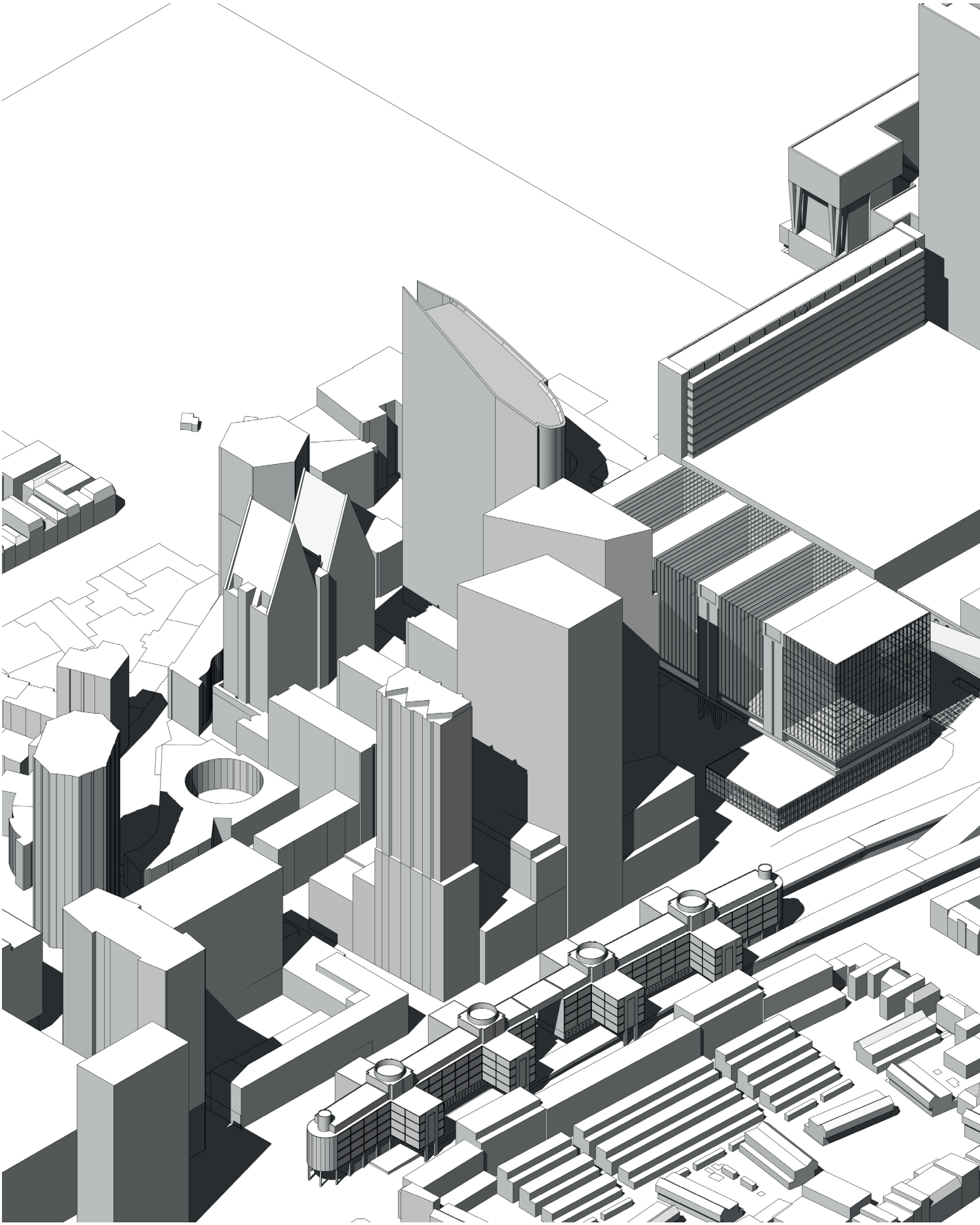

M·AGRIPPA·L·F·COS

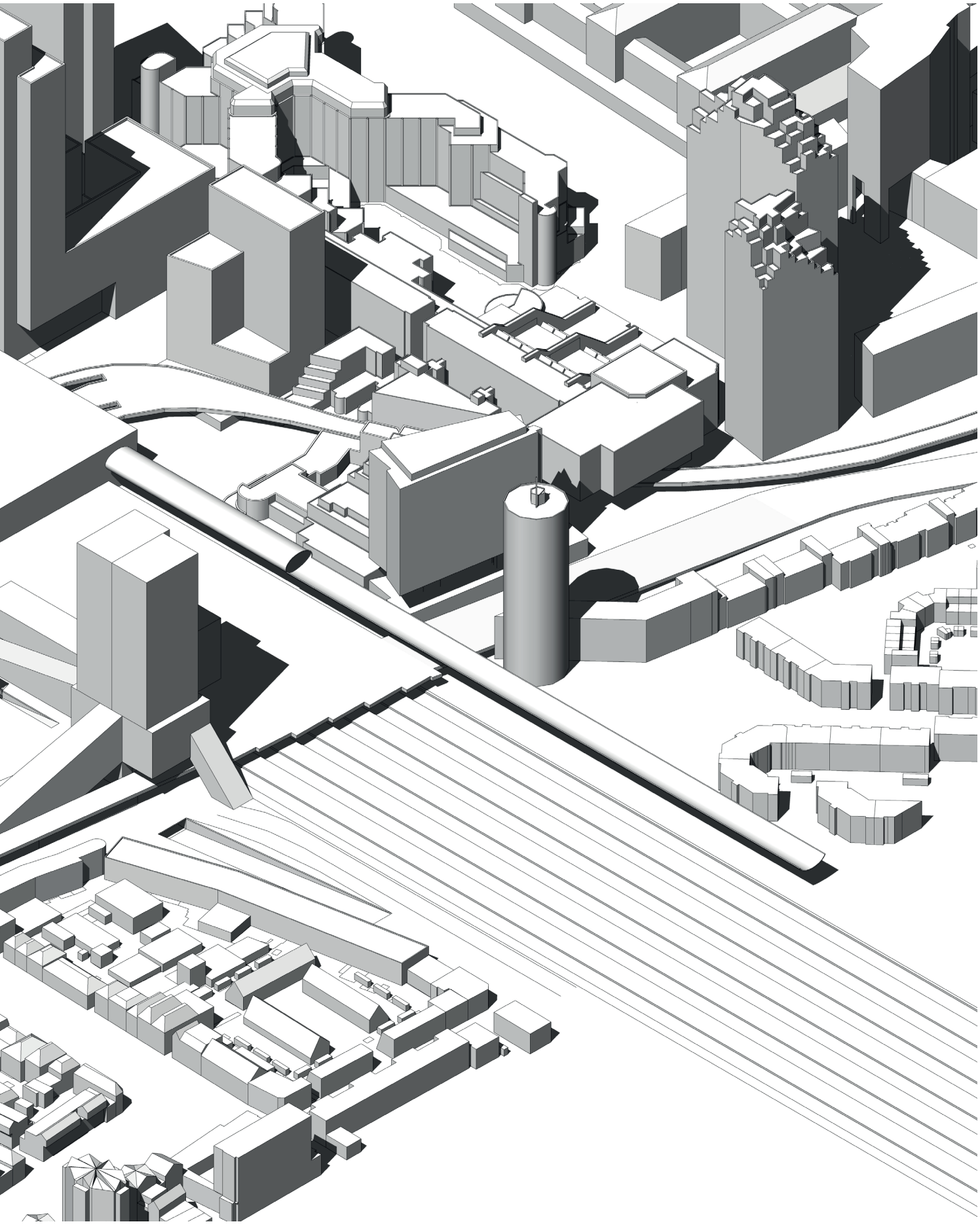

ERTIVM FECIT

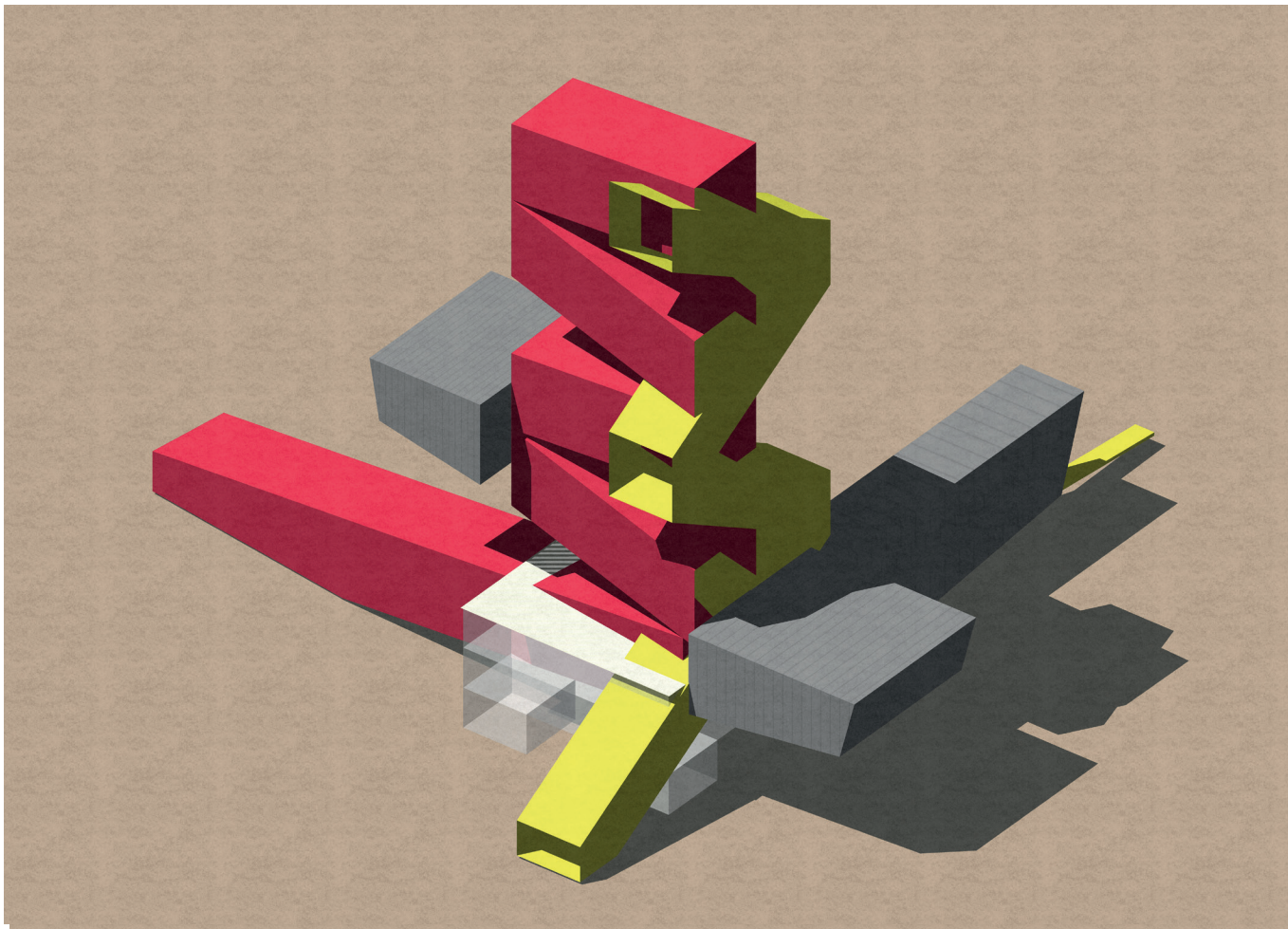


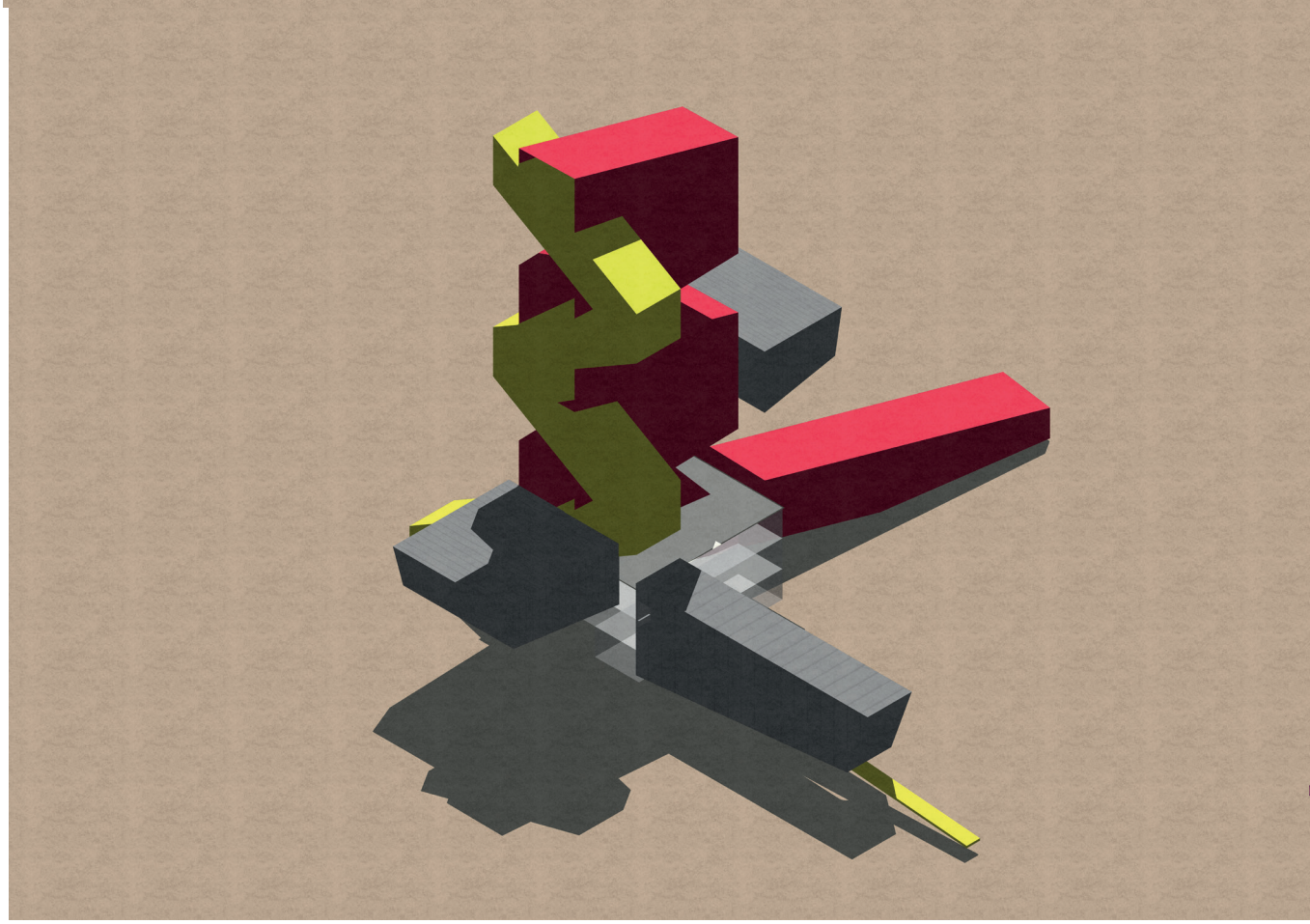


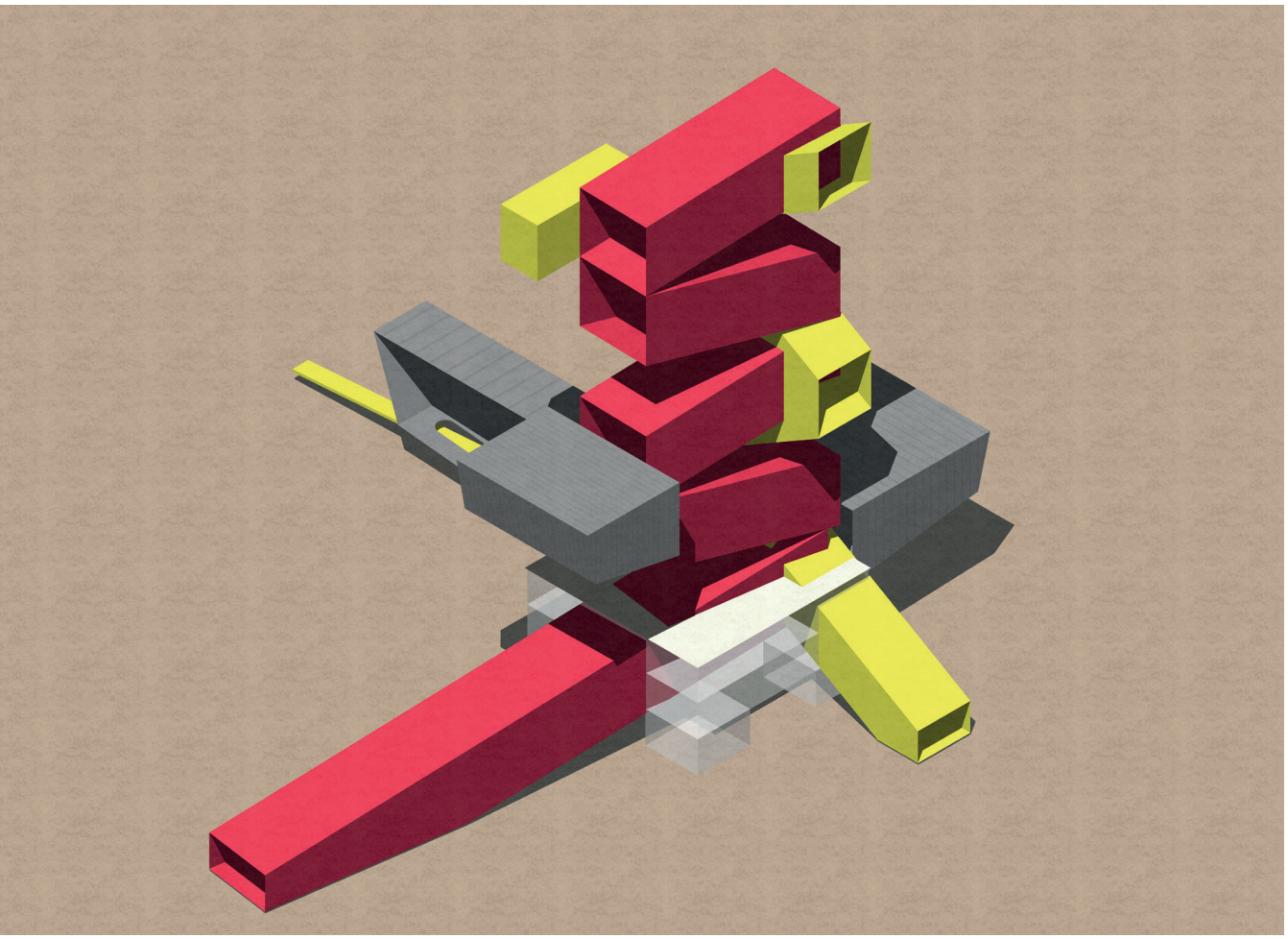
ELEVATED OVER INFRASTRUCTURE

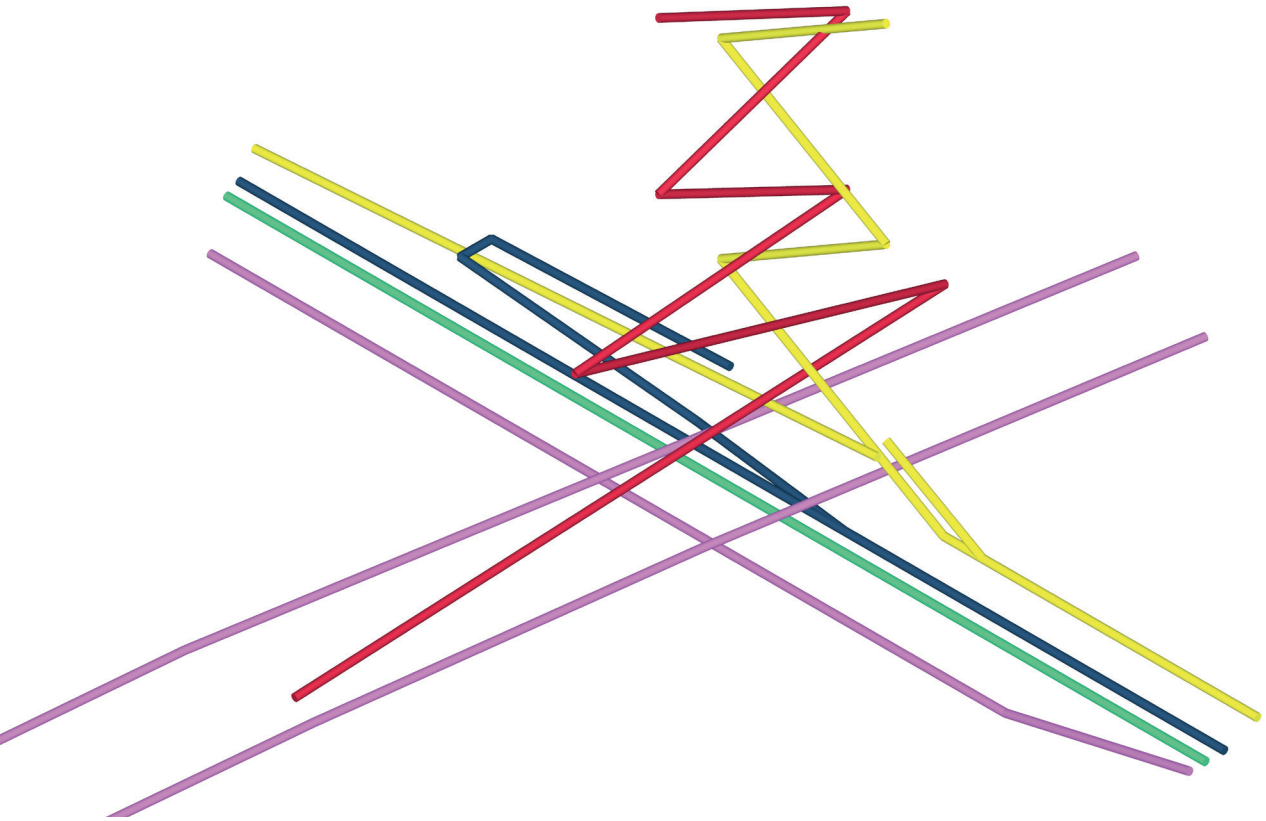


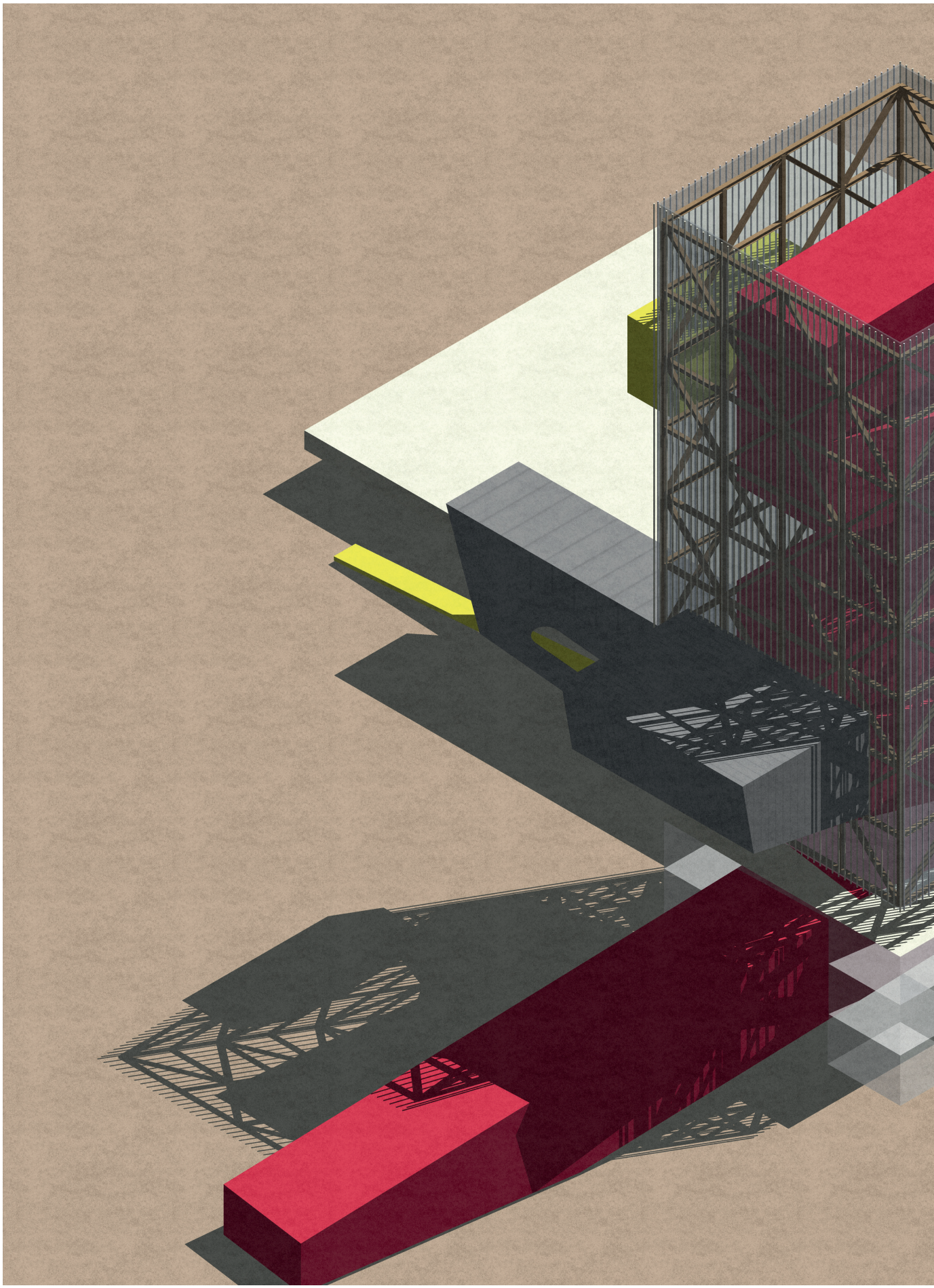


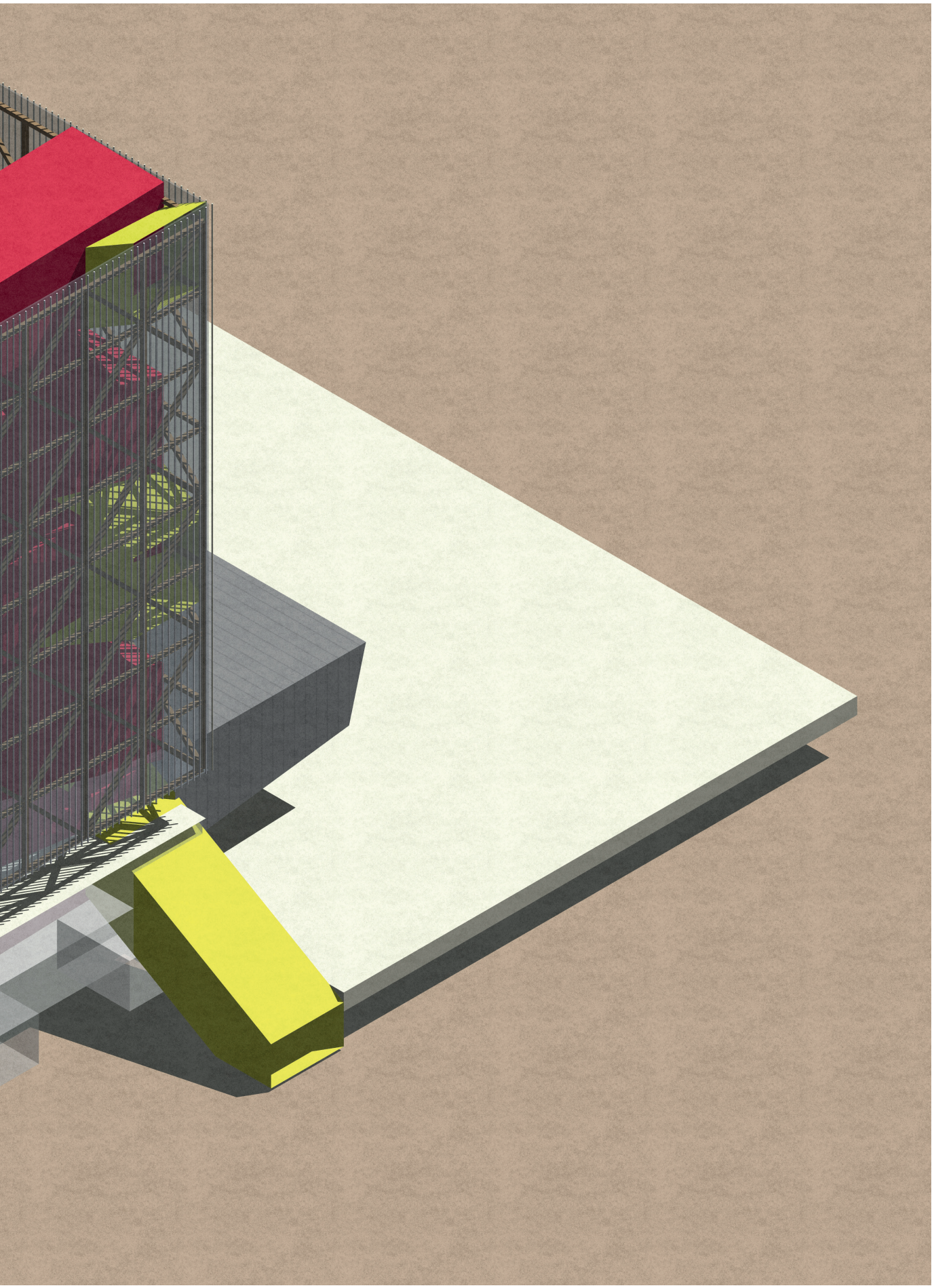


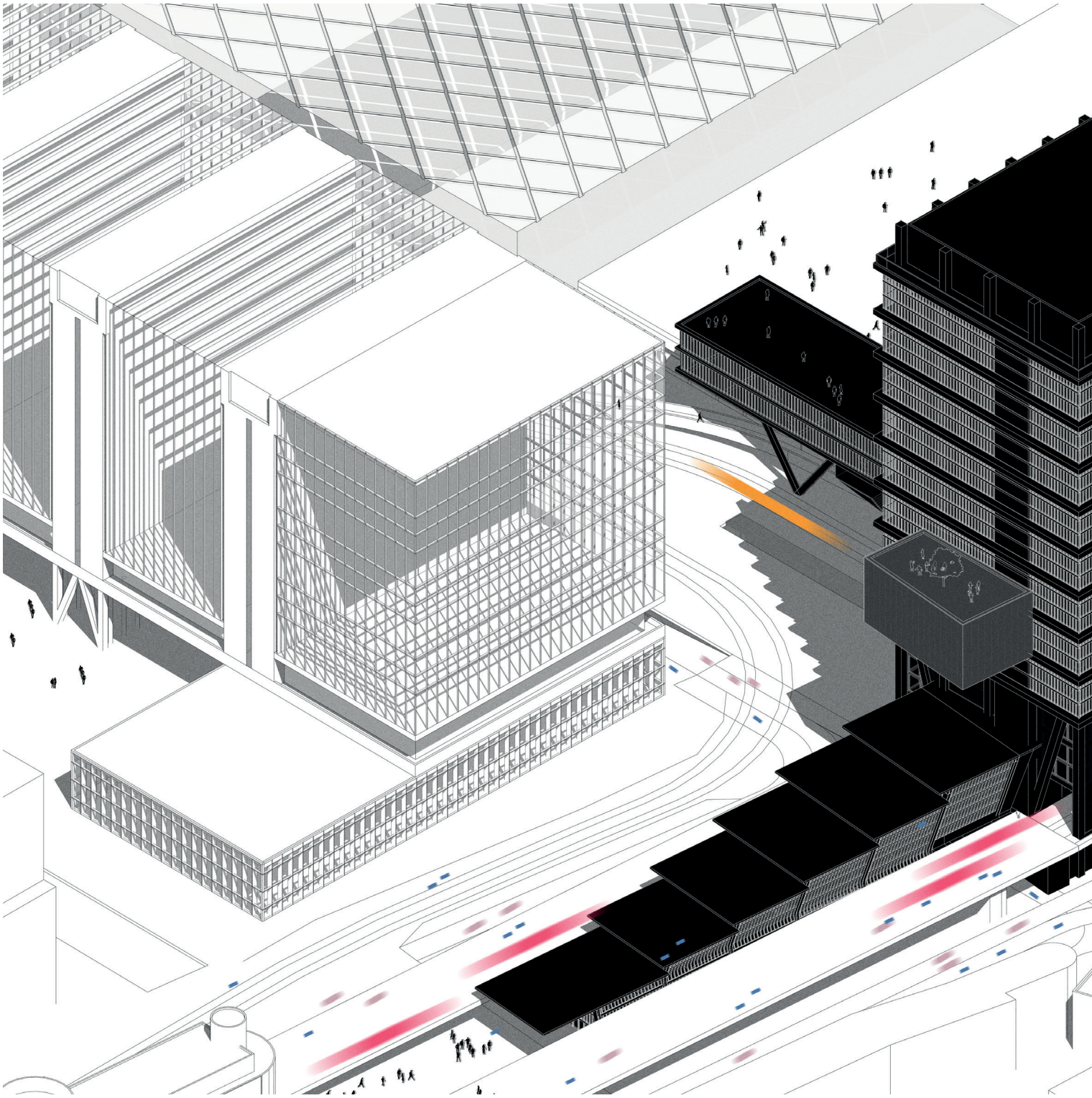












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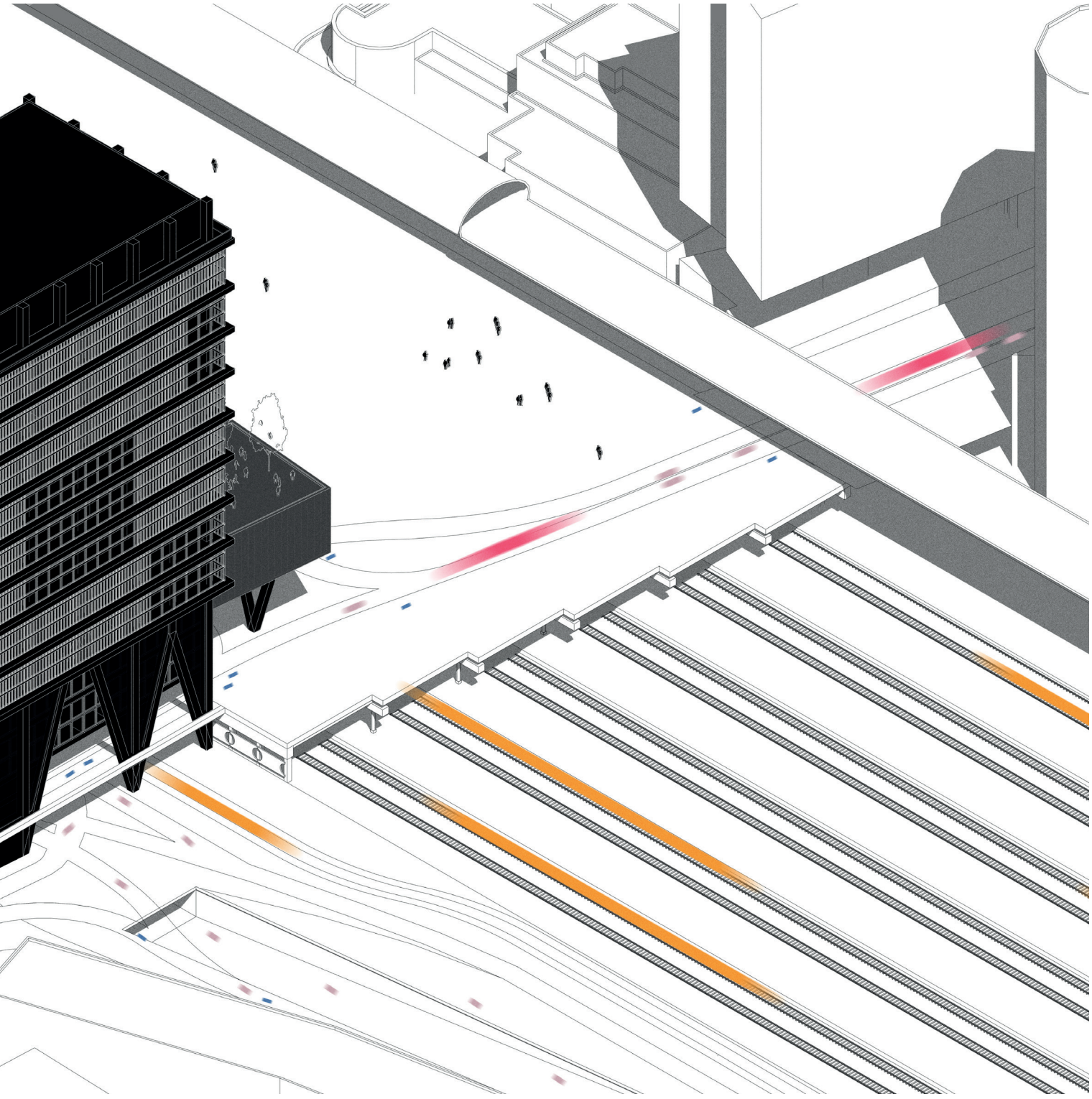

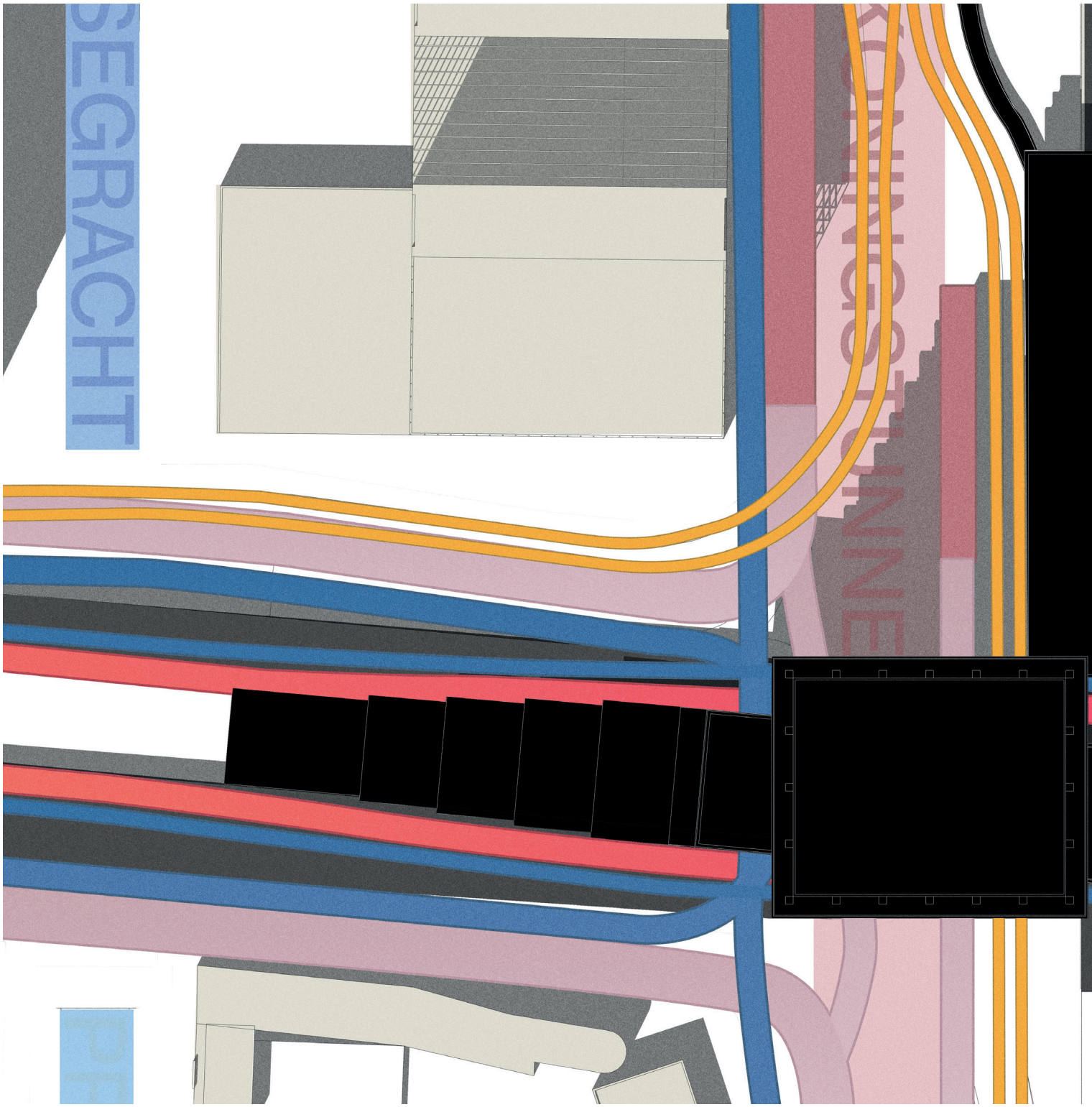
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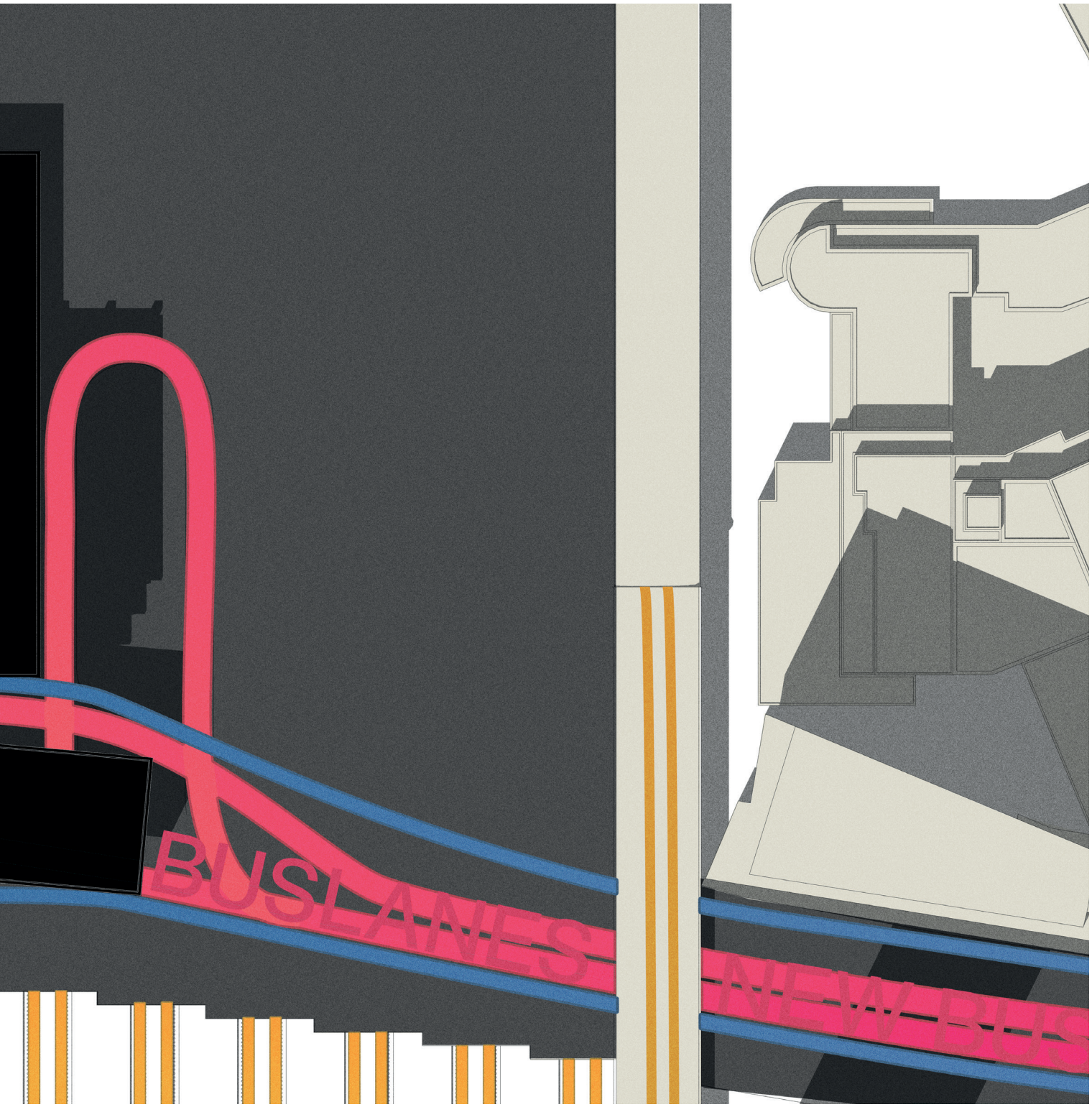

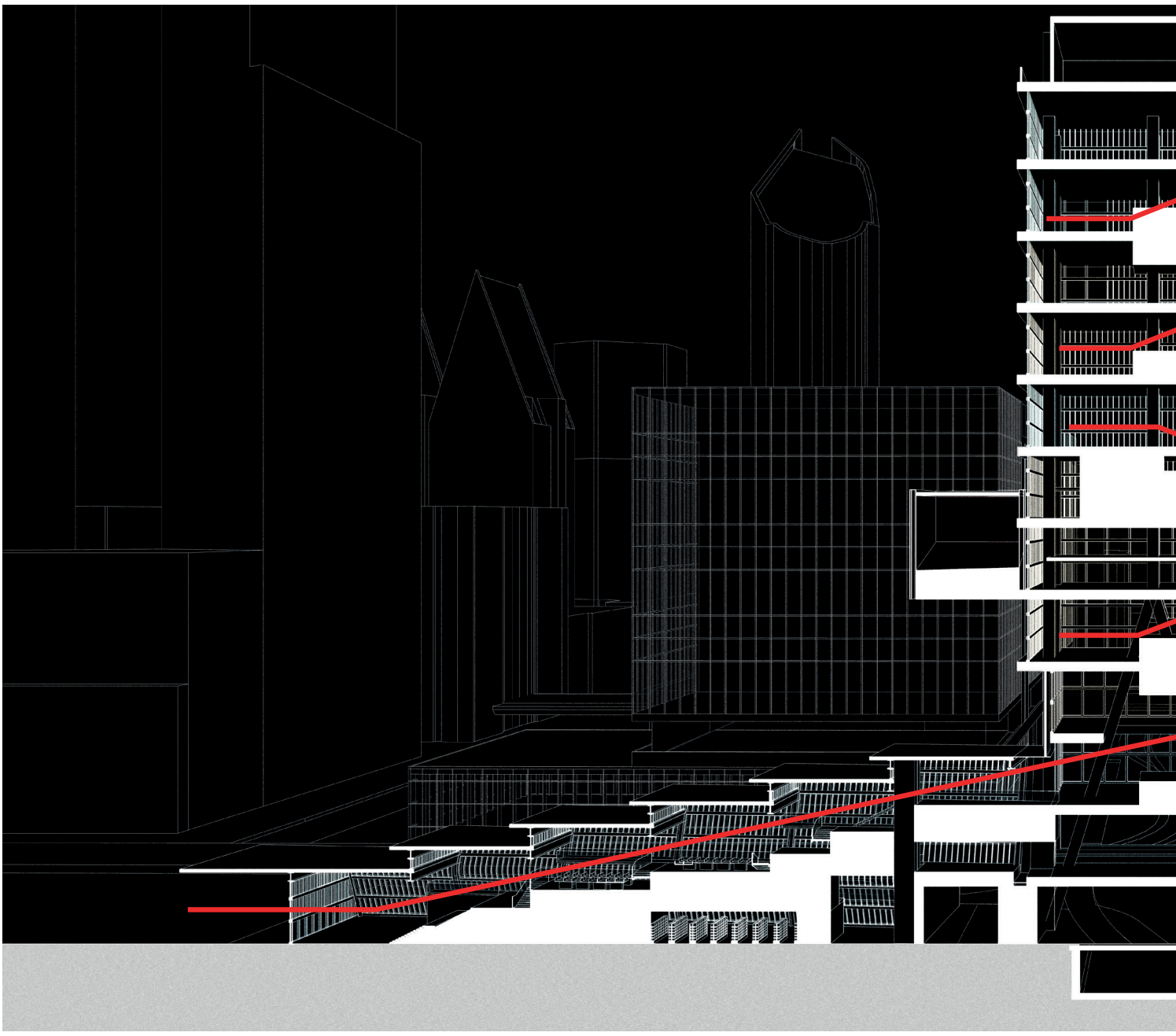

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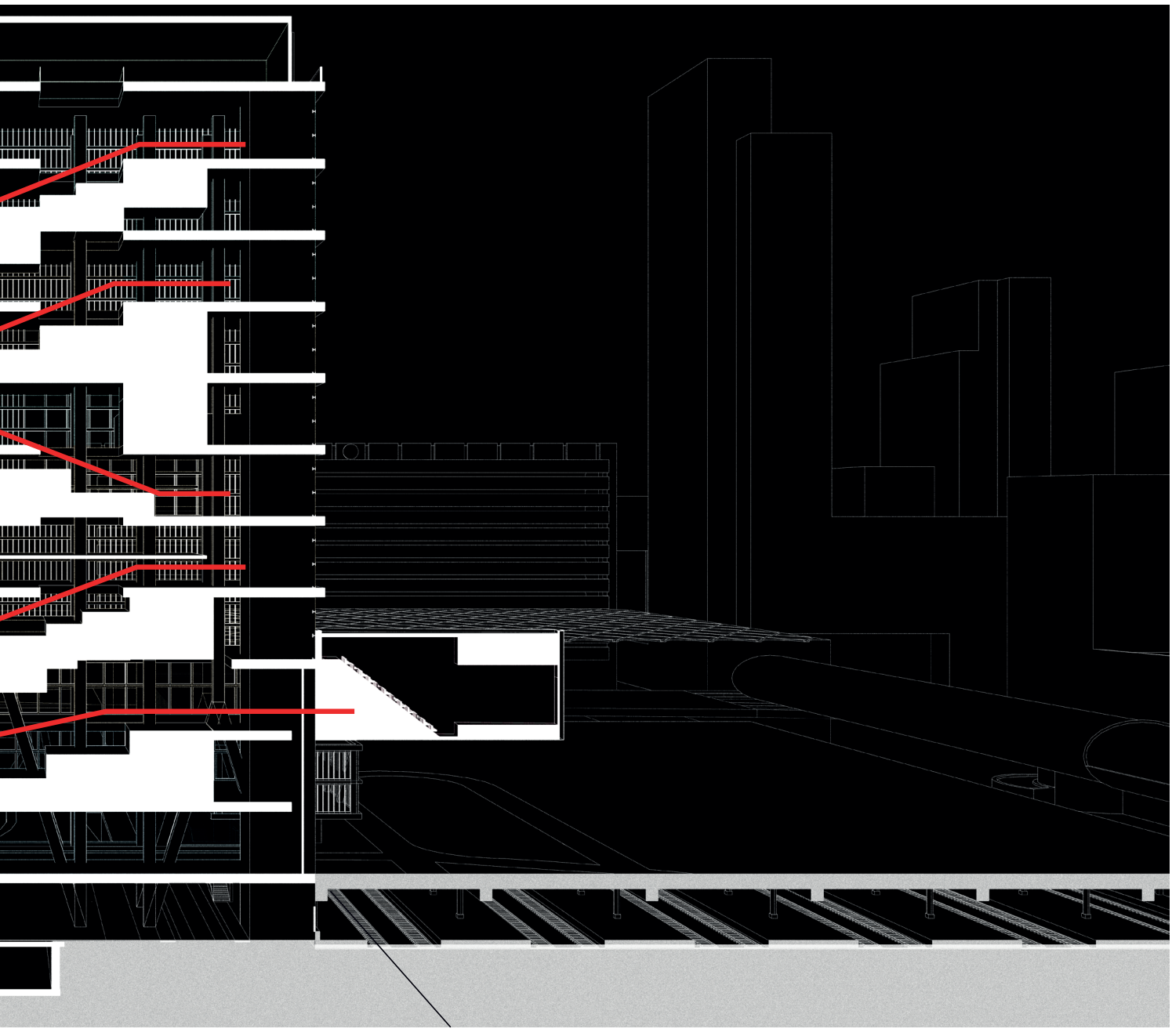

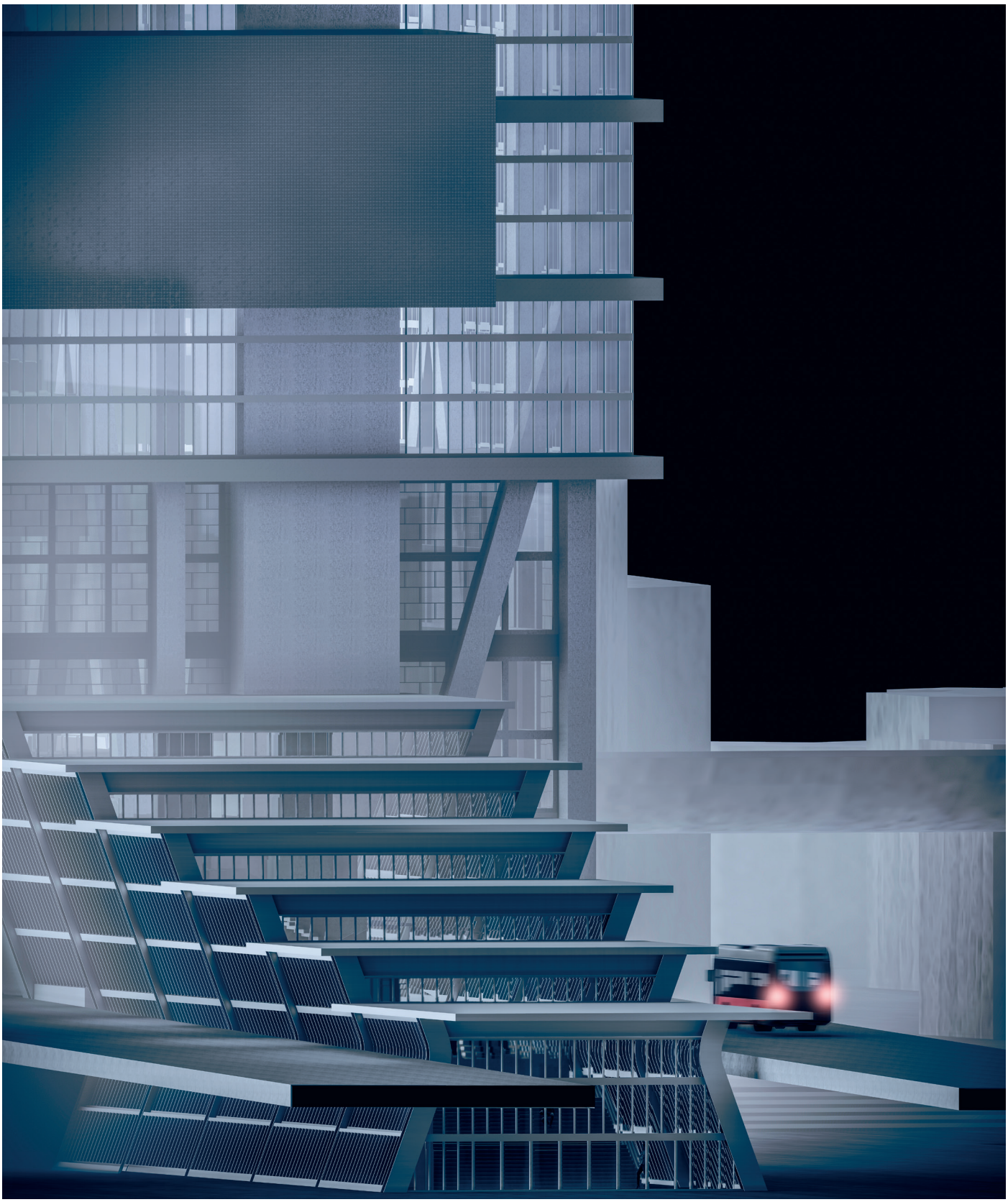

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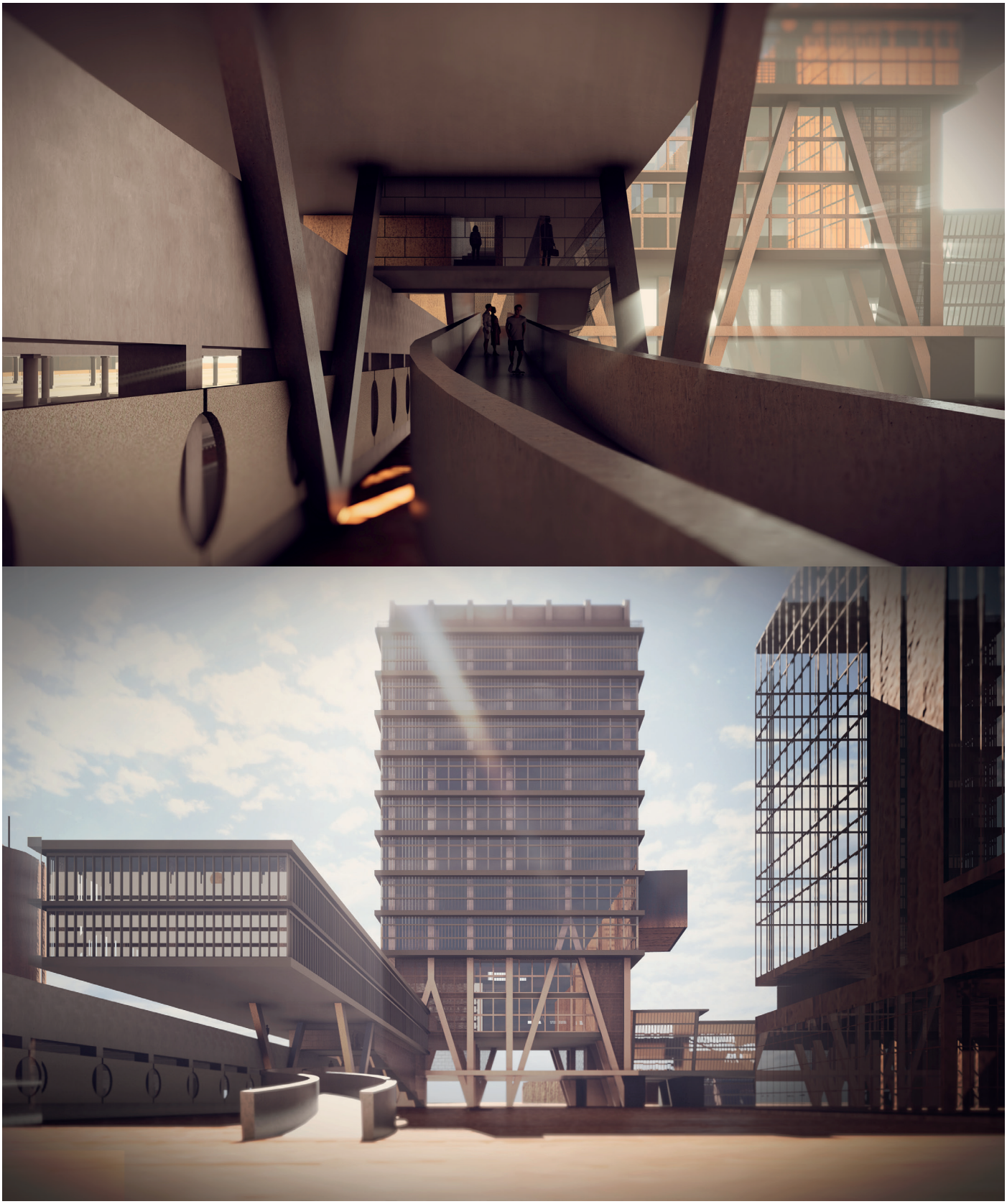
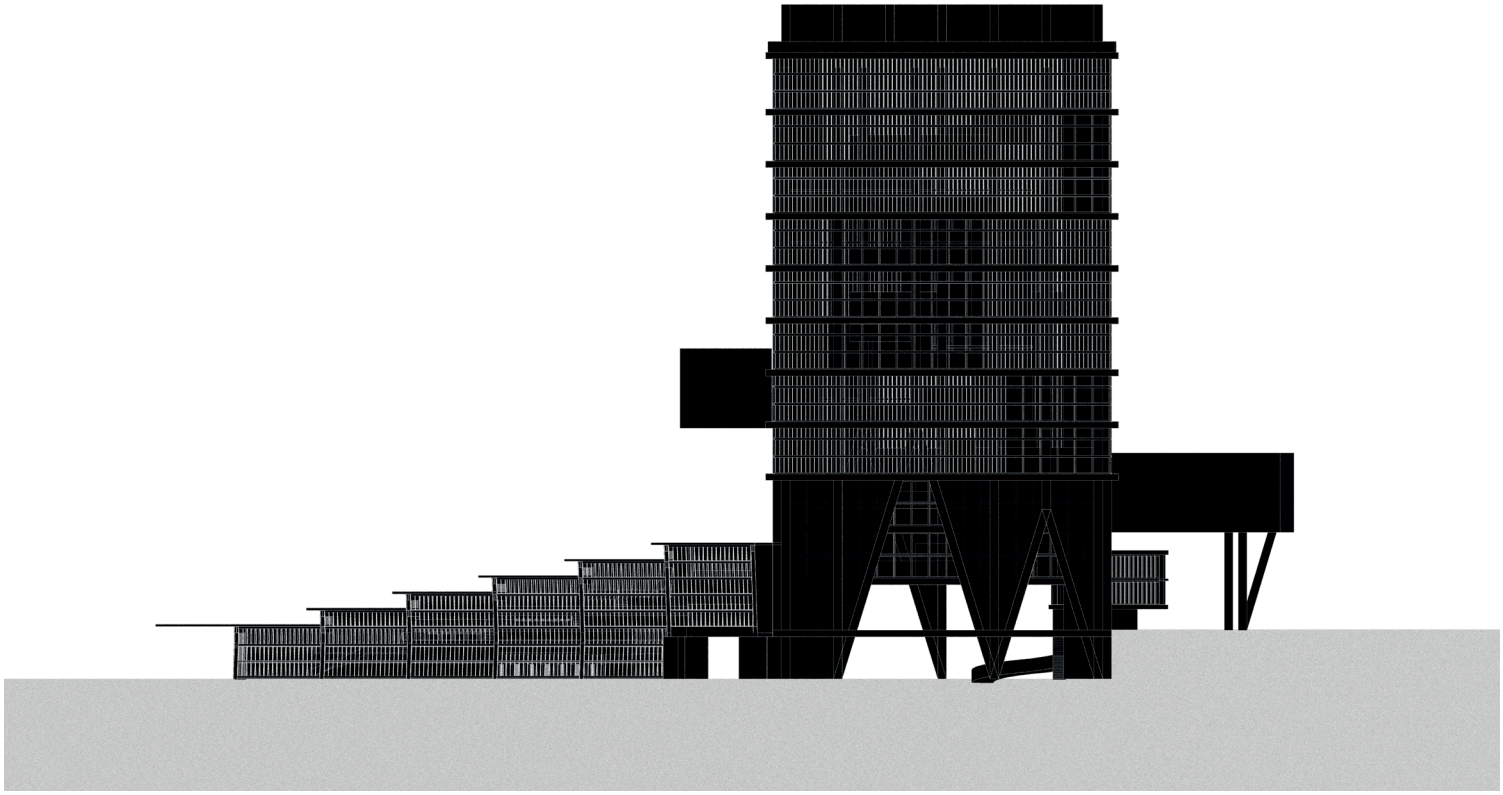
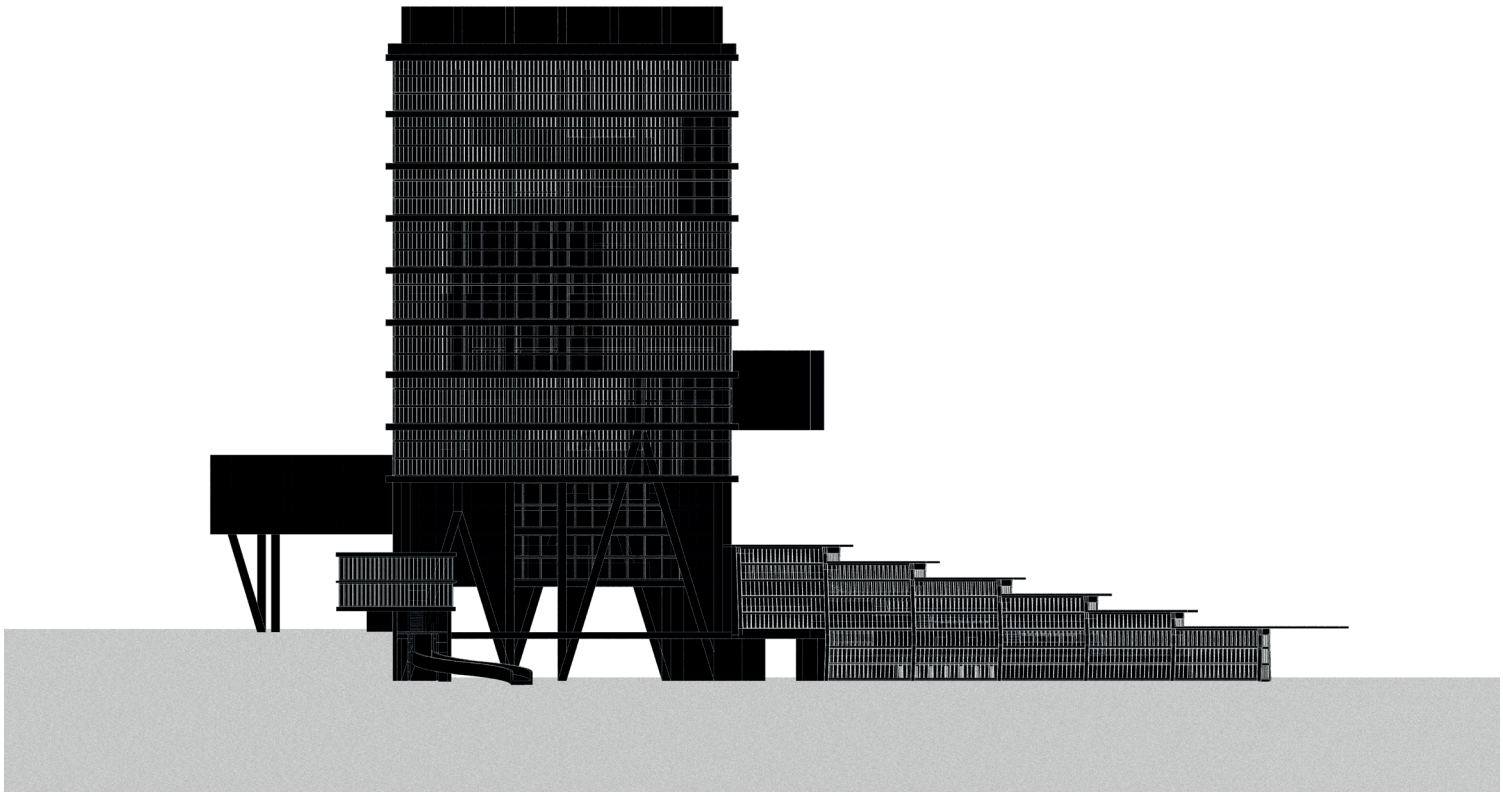


south-east facade



north-west facade



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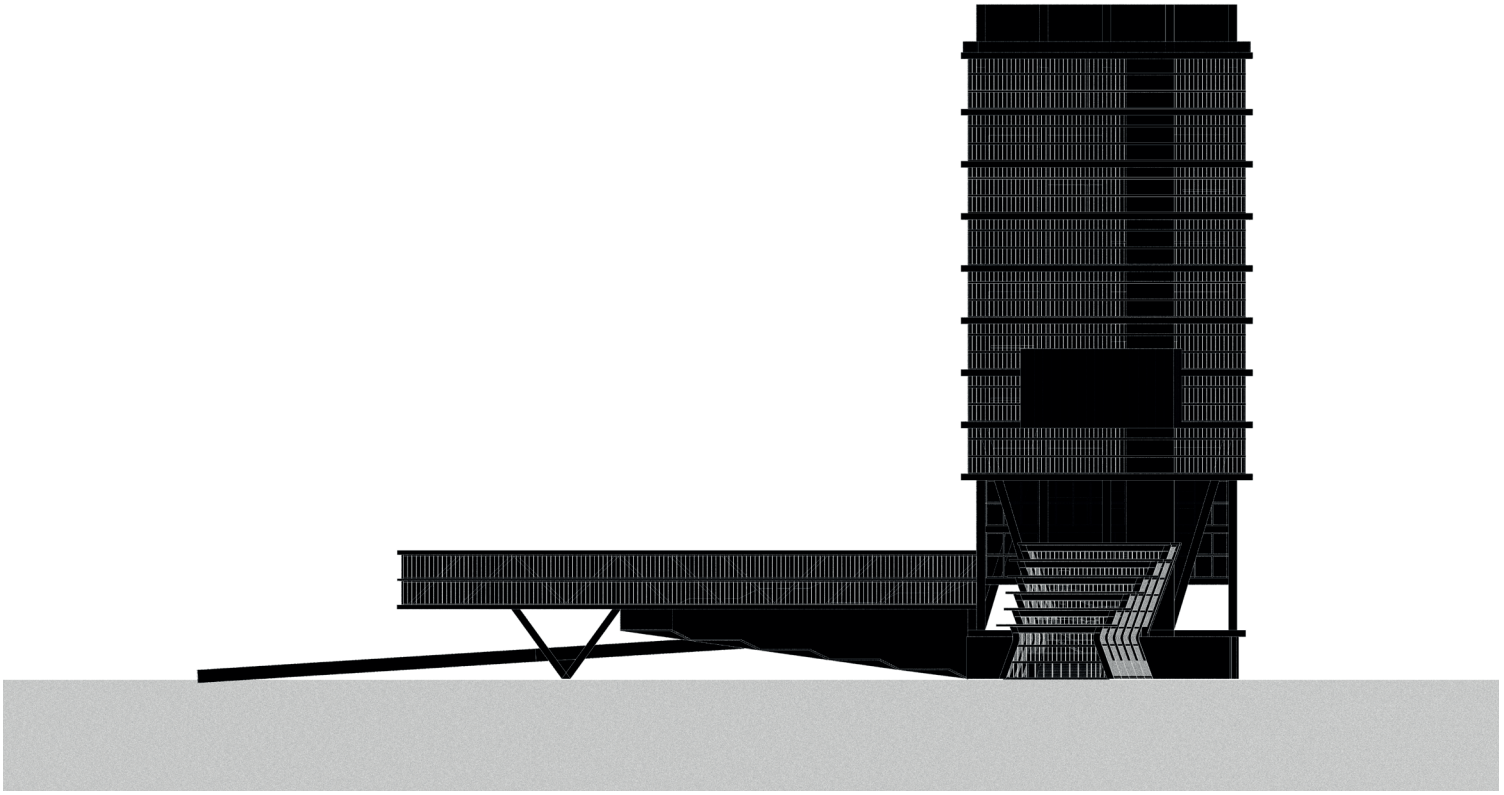
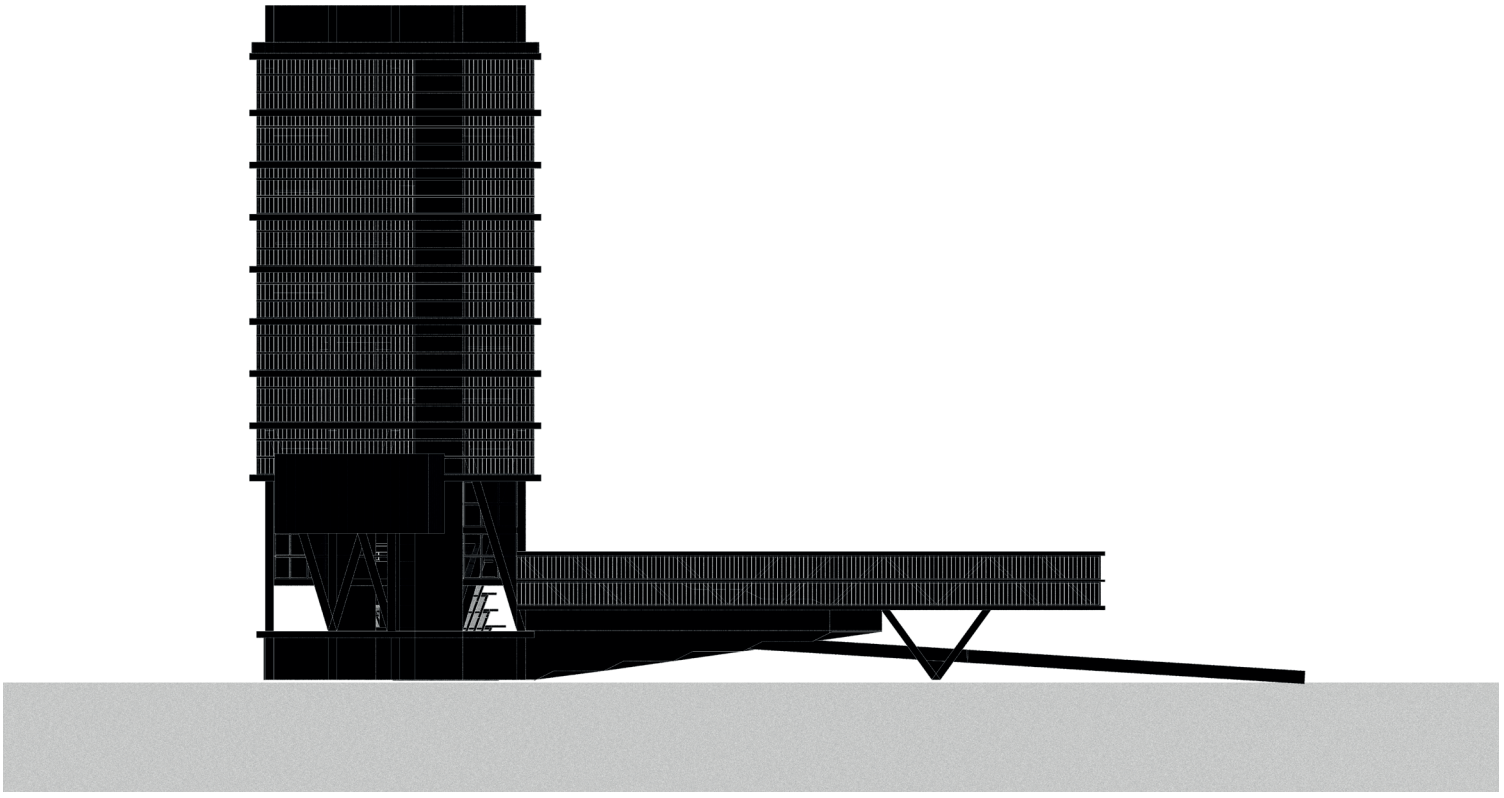
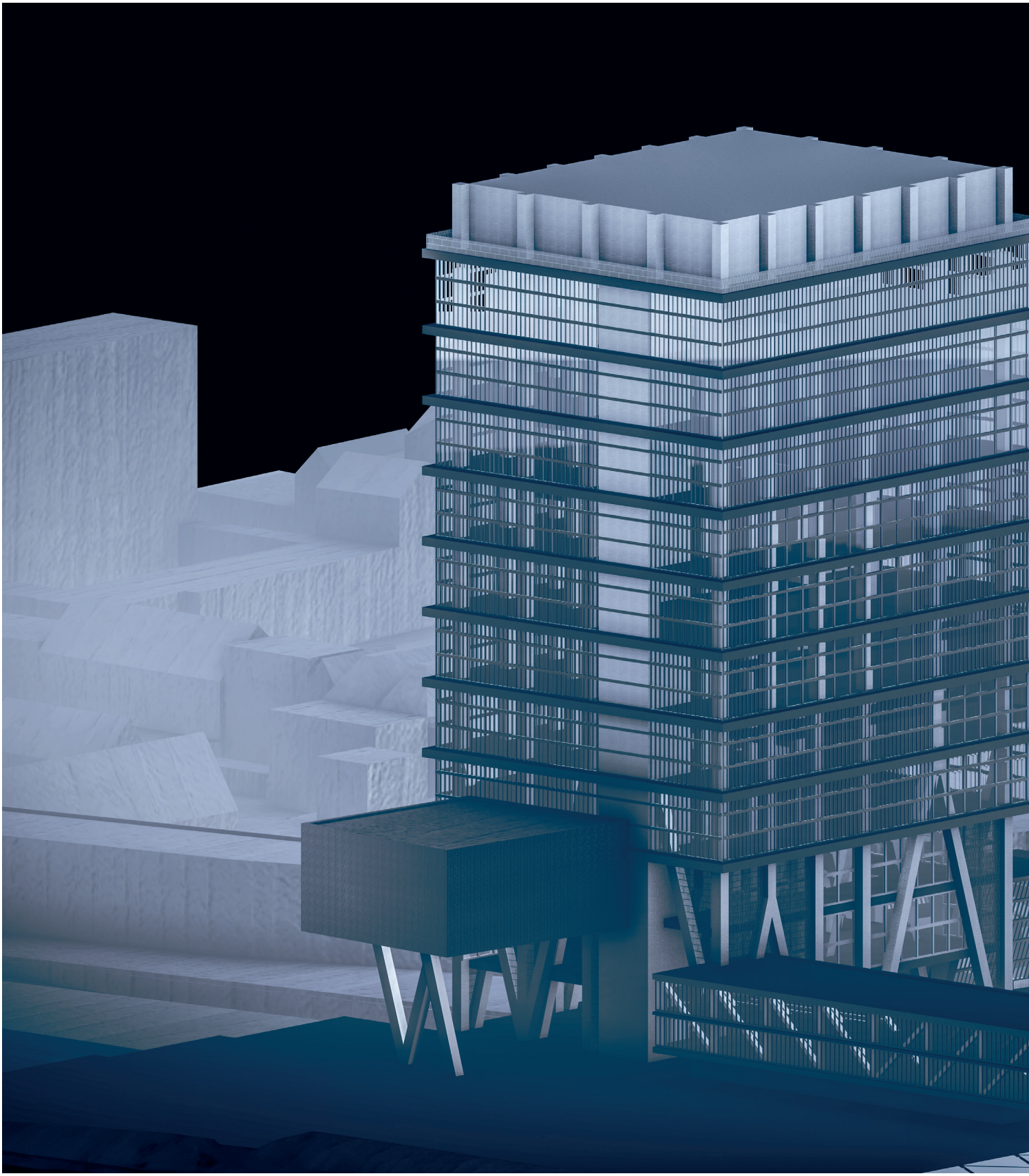


north-east facade





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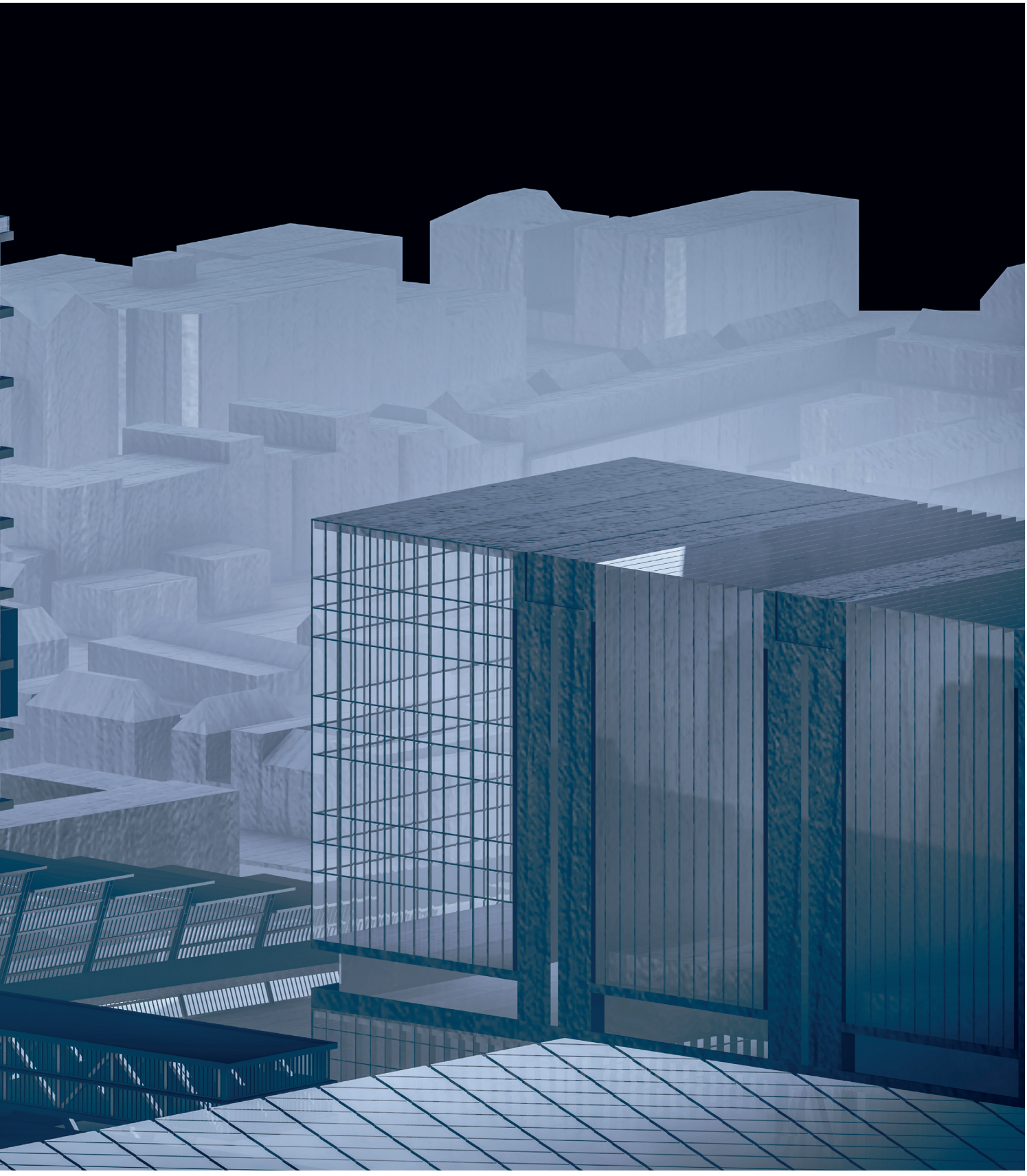
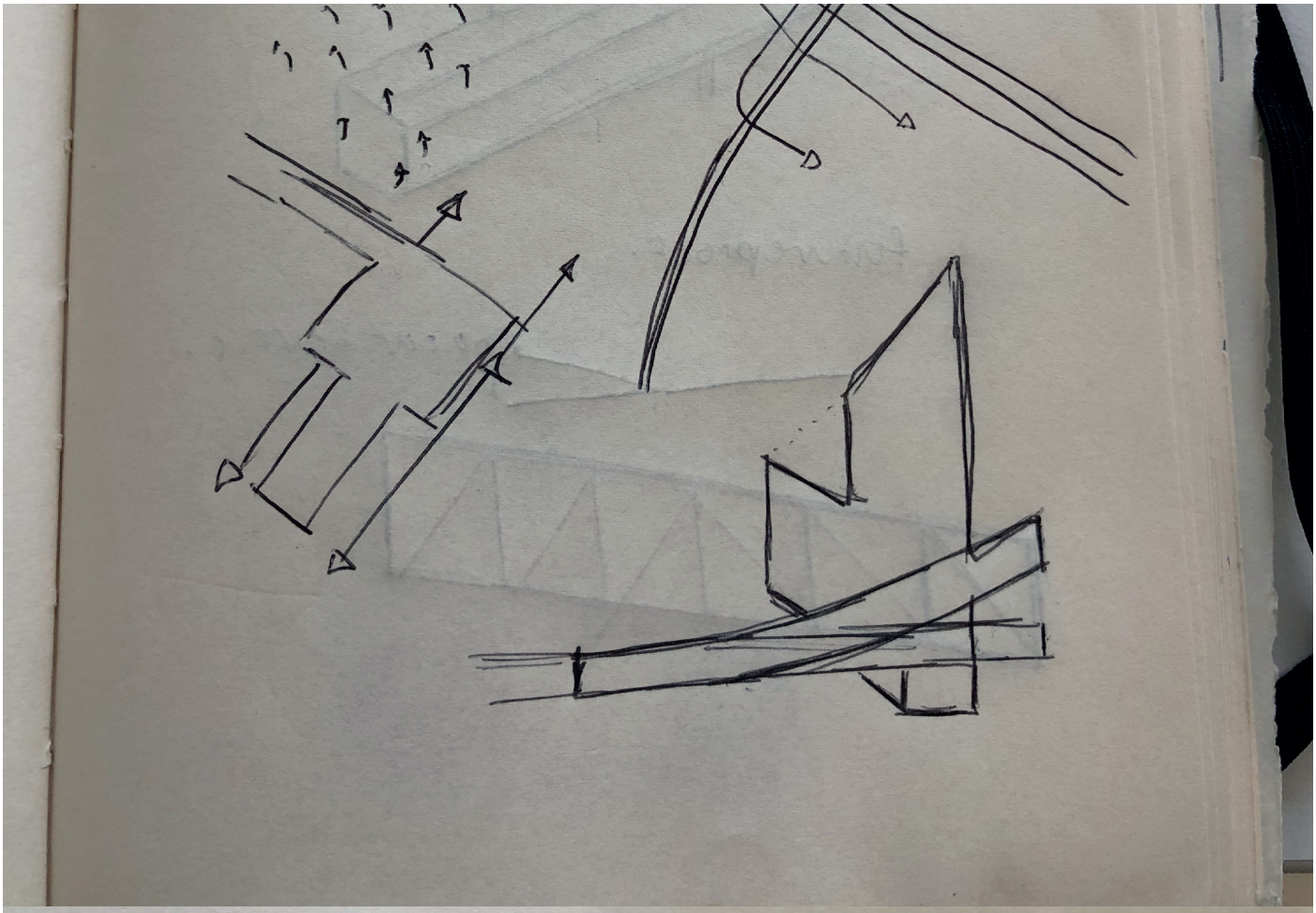
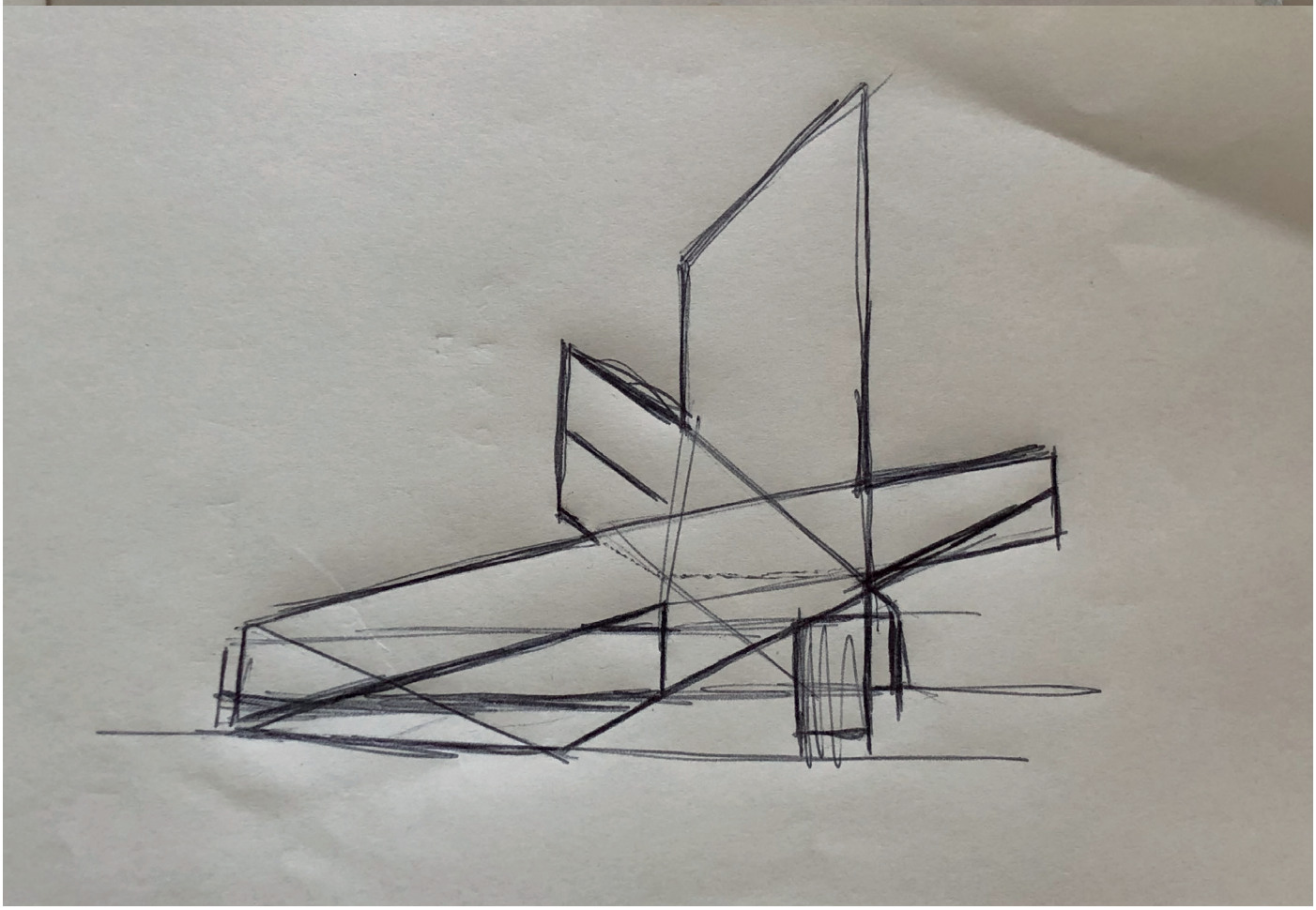
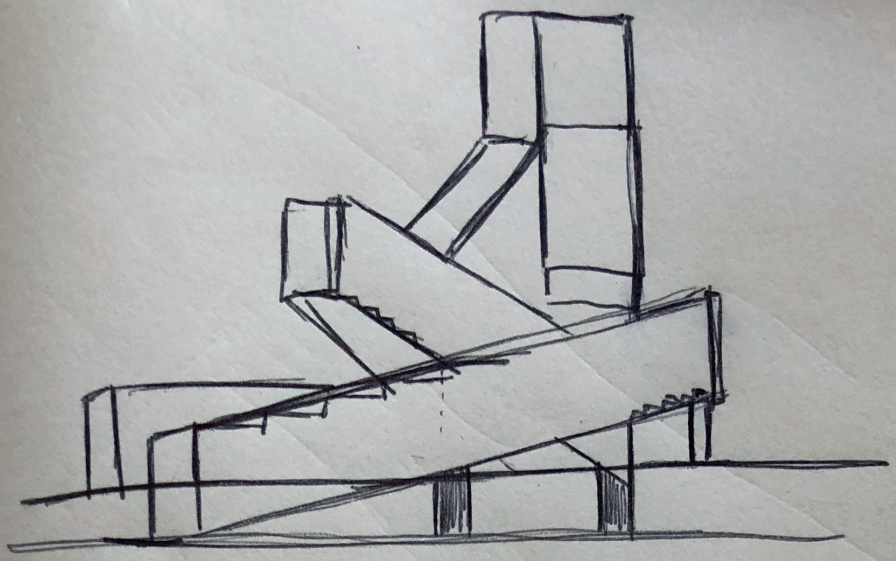
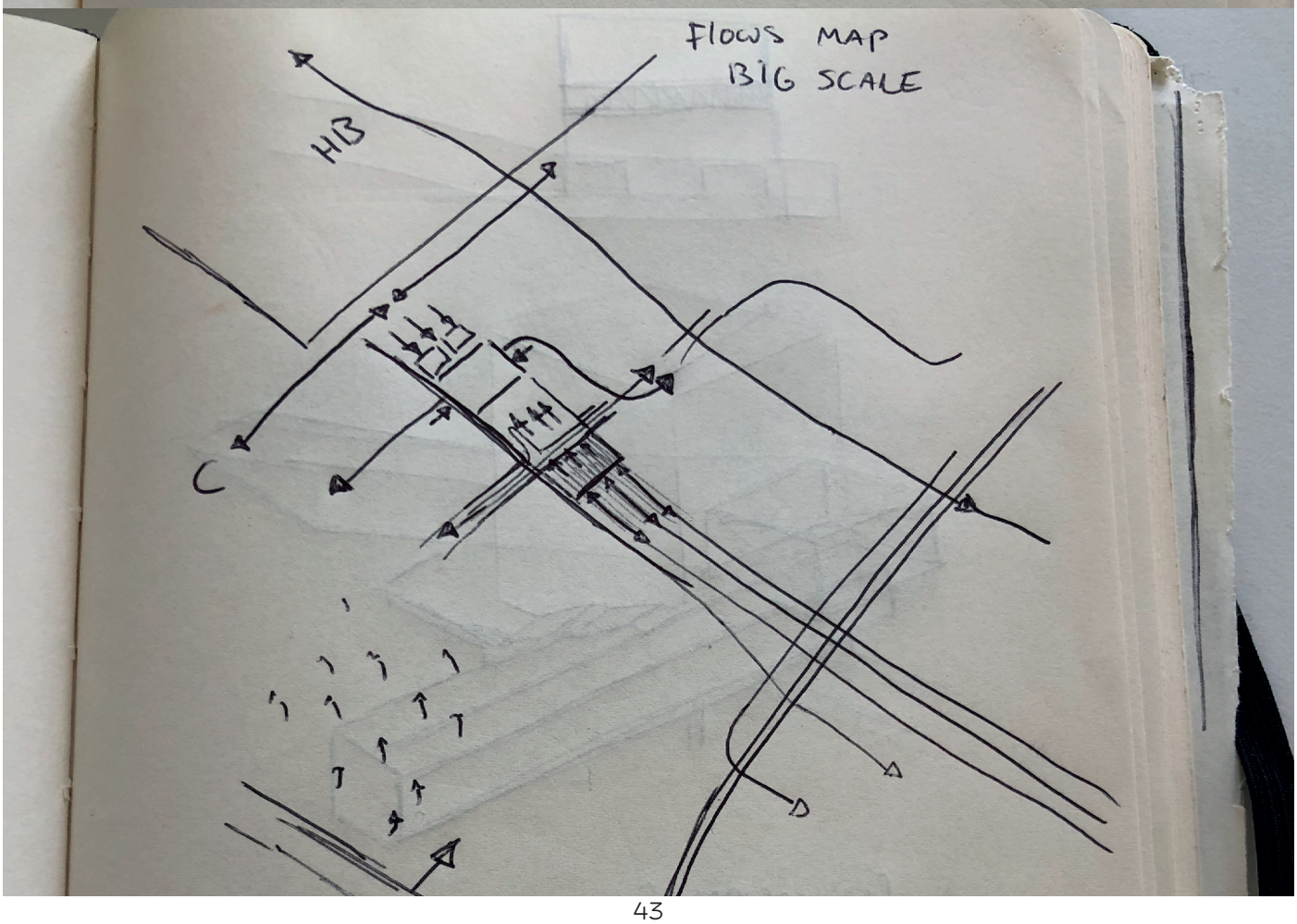


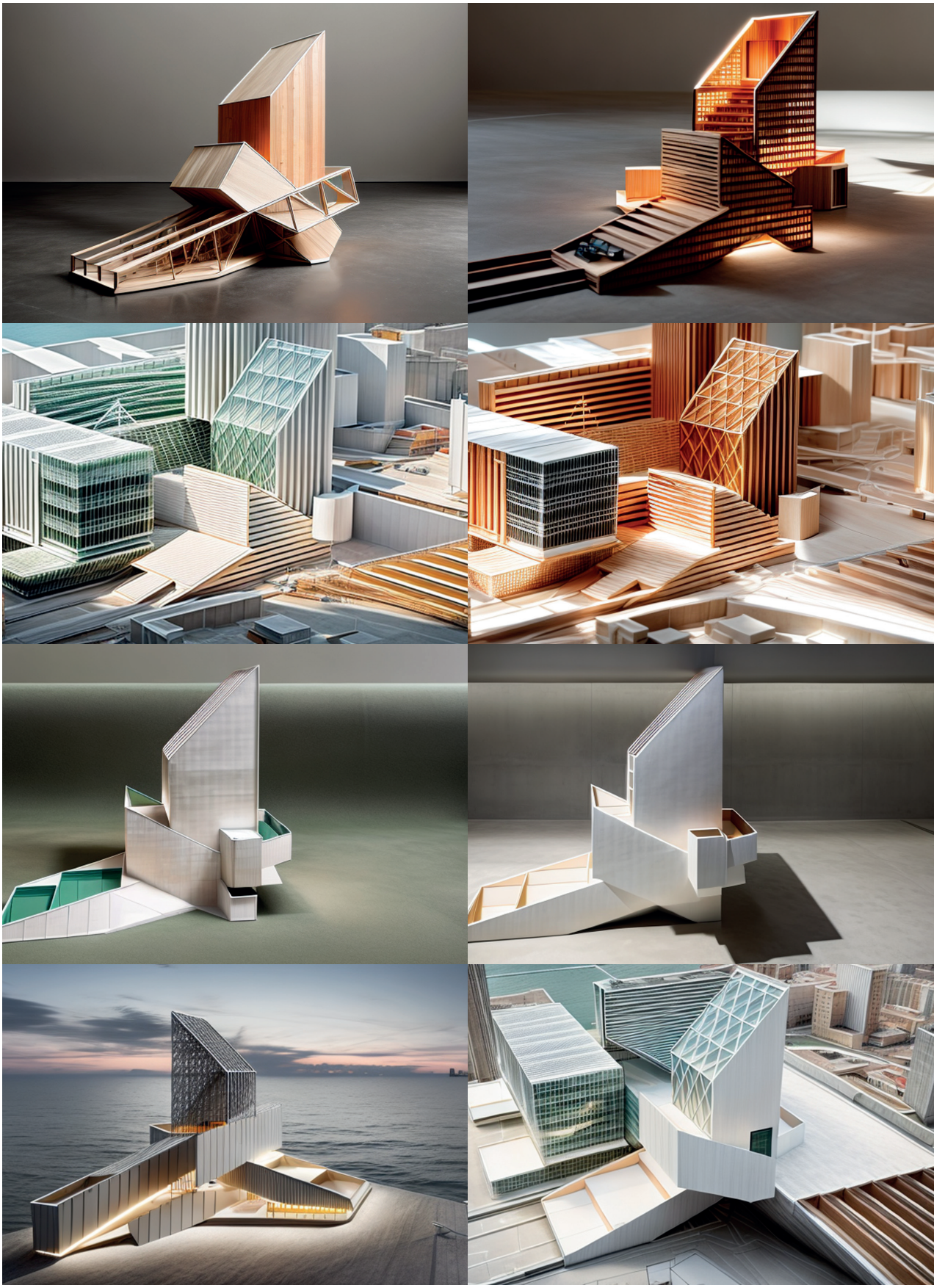


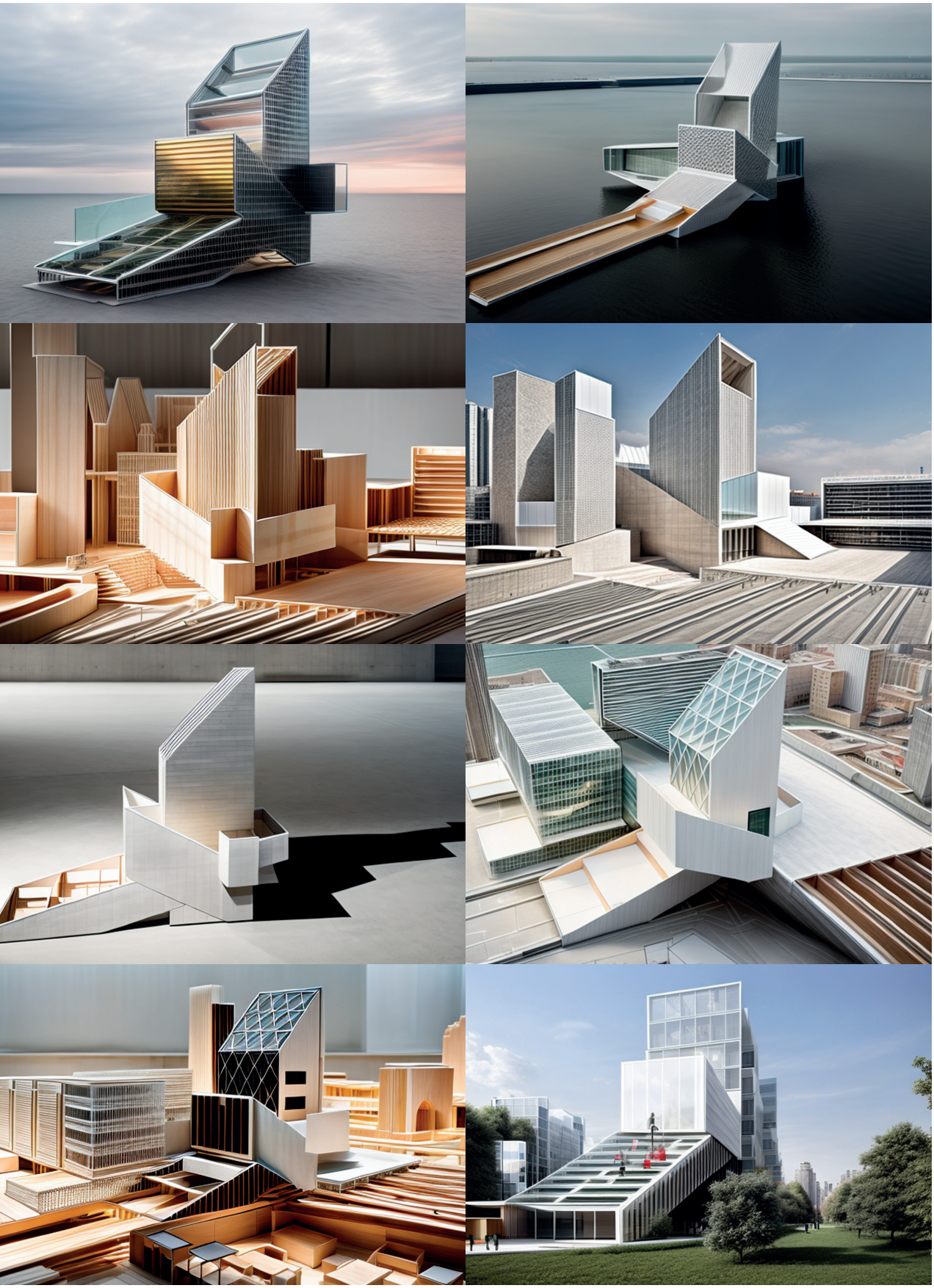




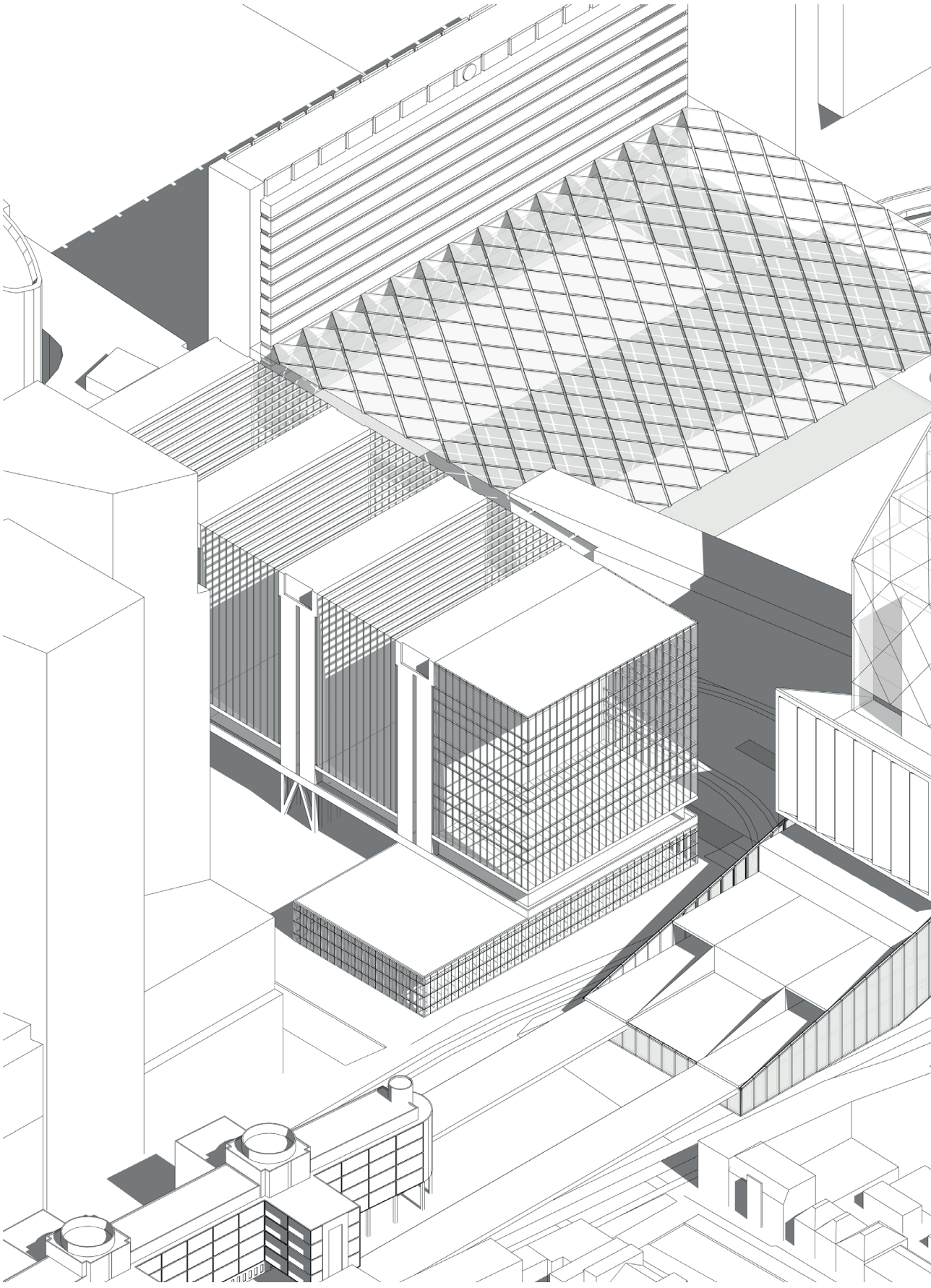
flows and their corresponding tube angle.

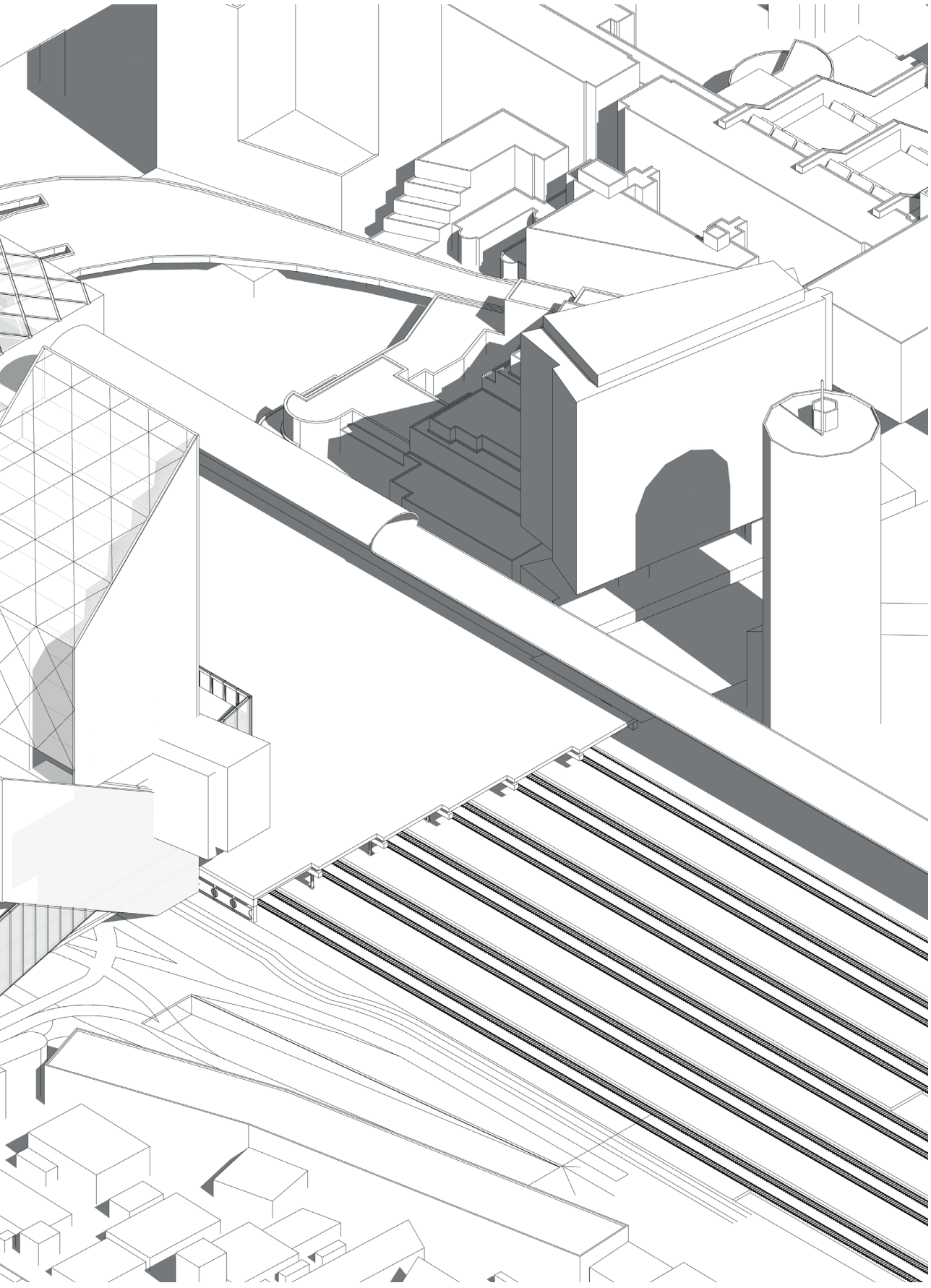


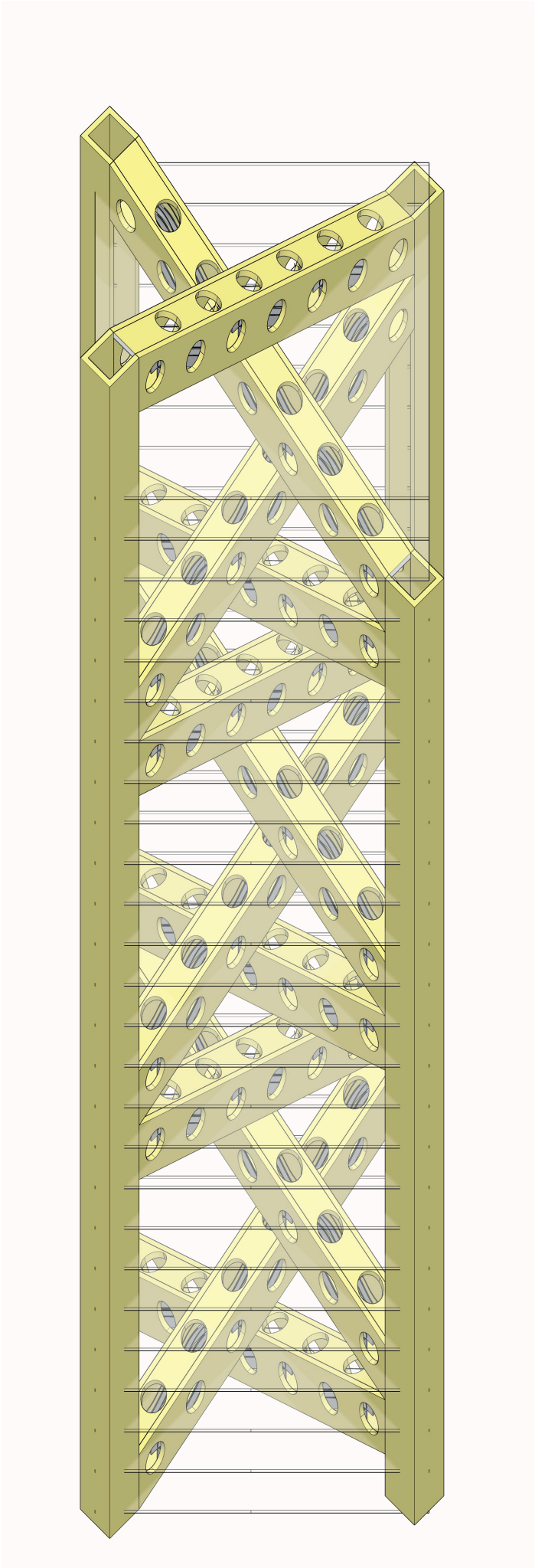


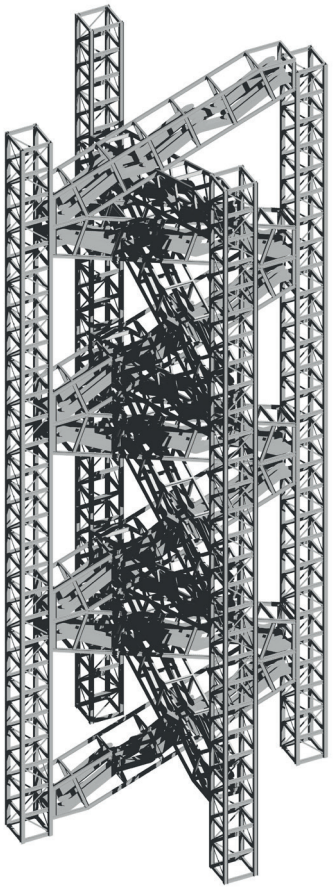


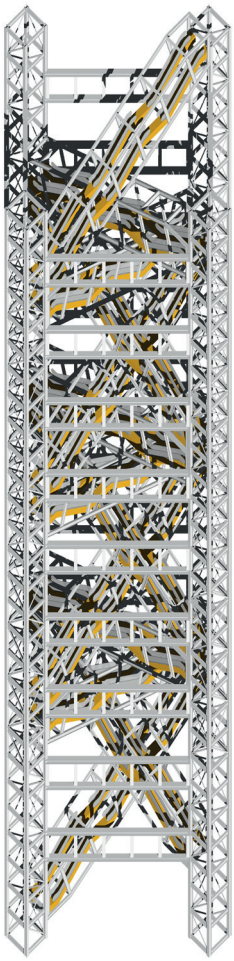
AXONOMETRIC VIEW

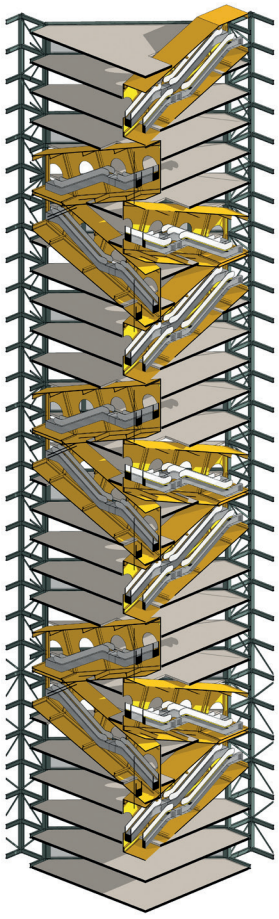






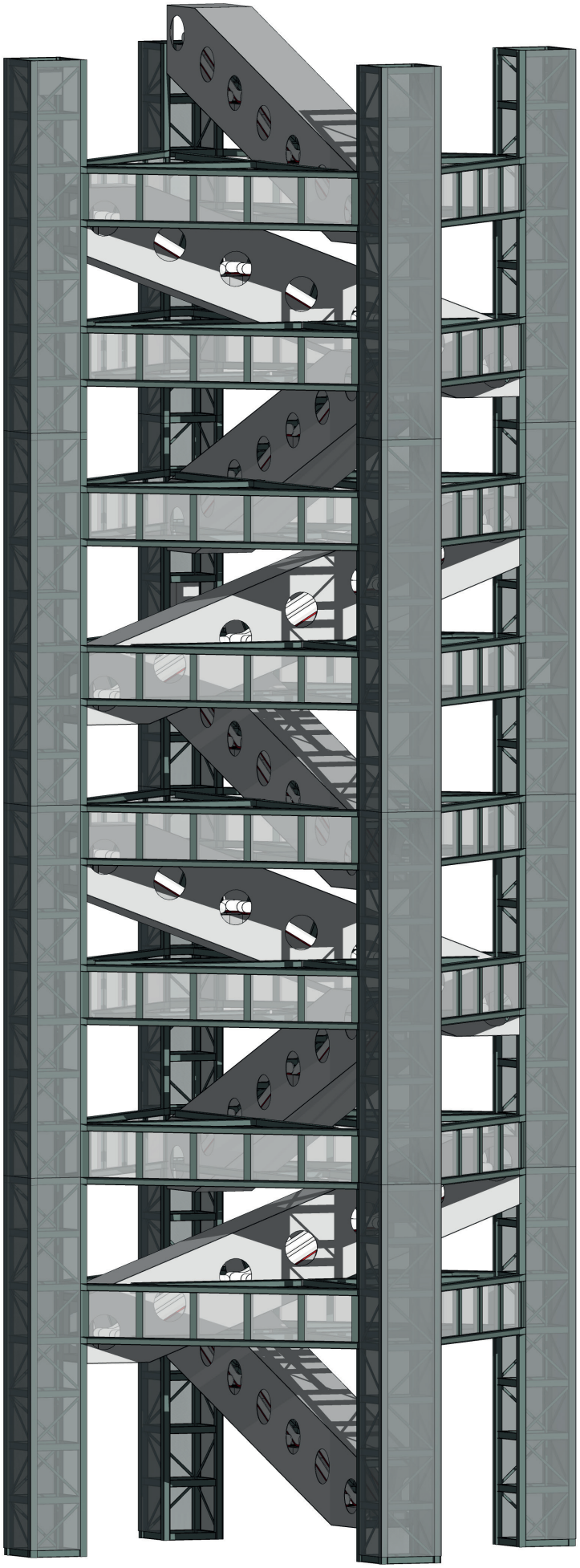


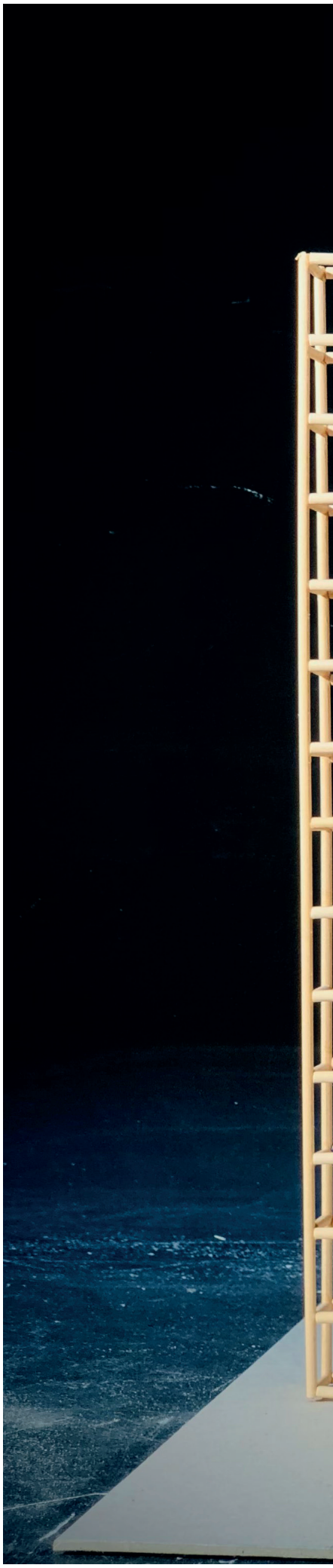




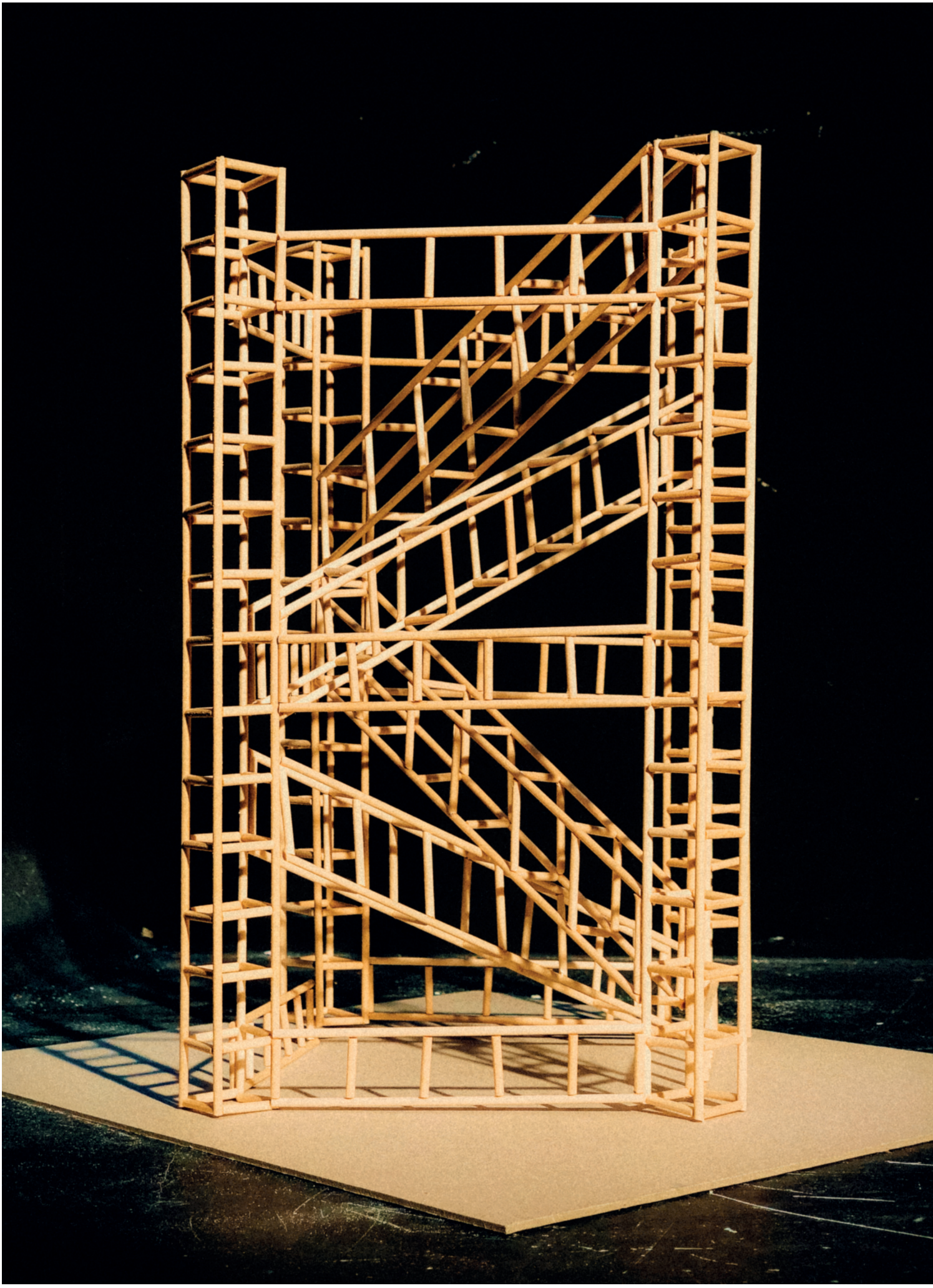


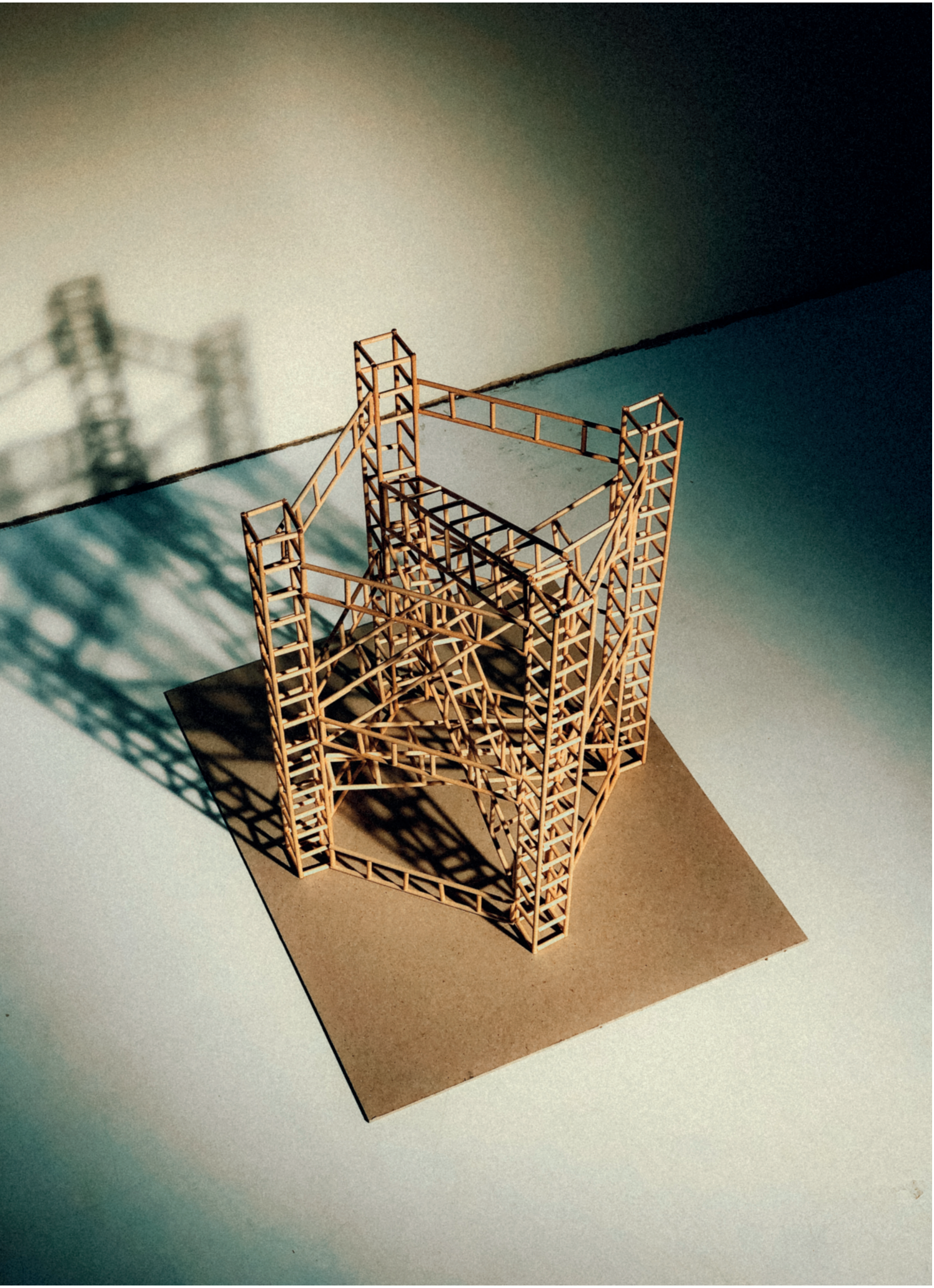


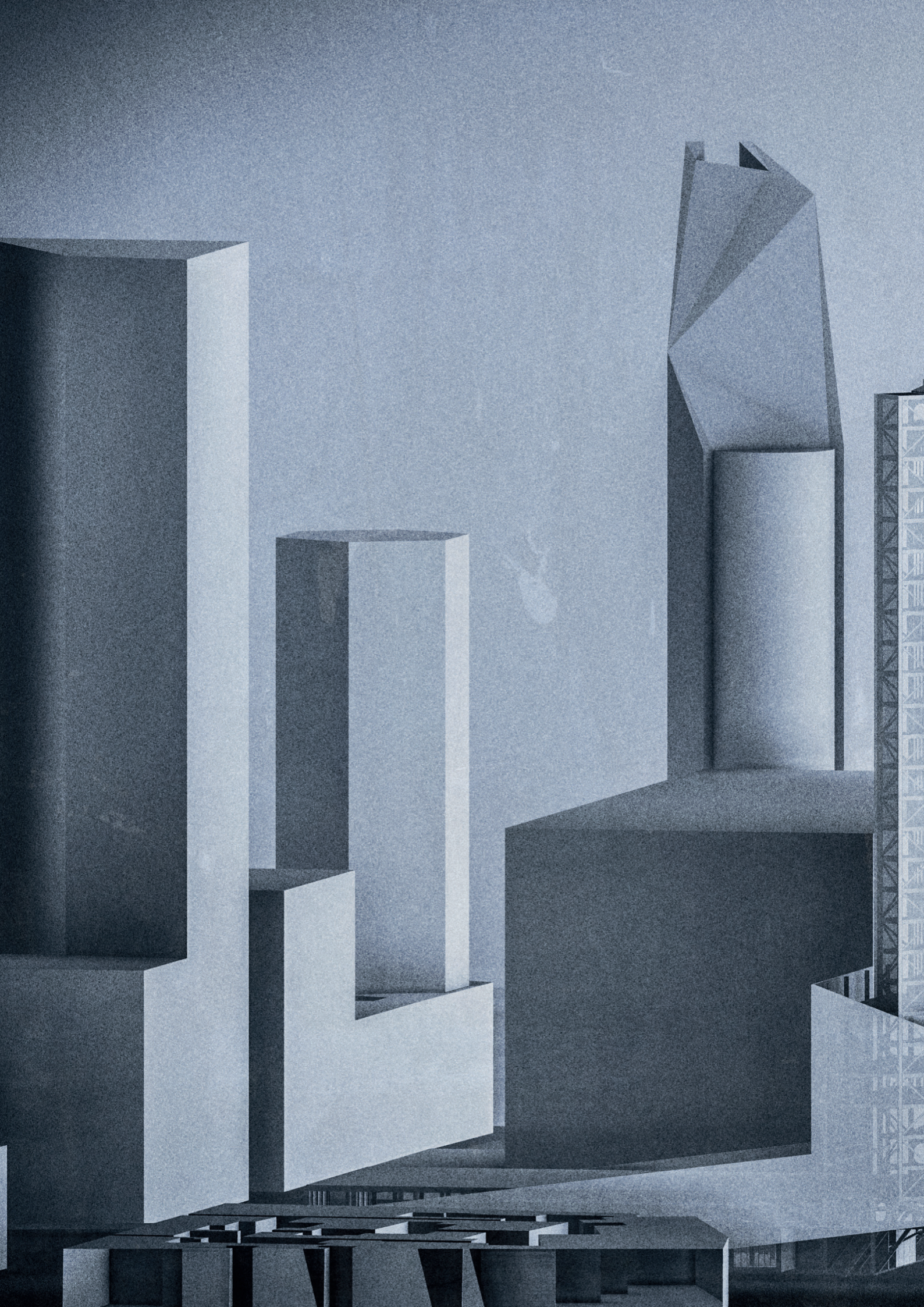


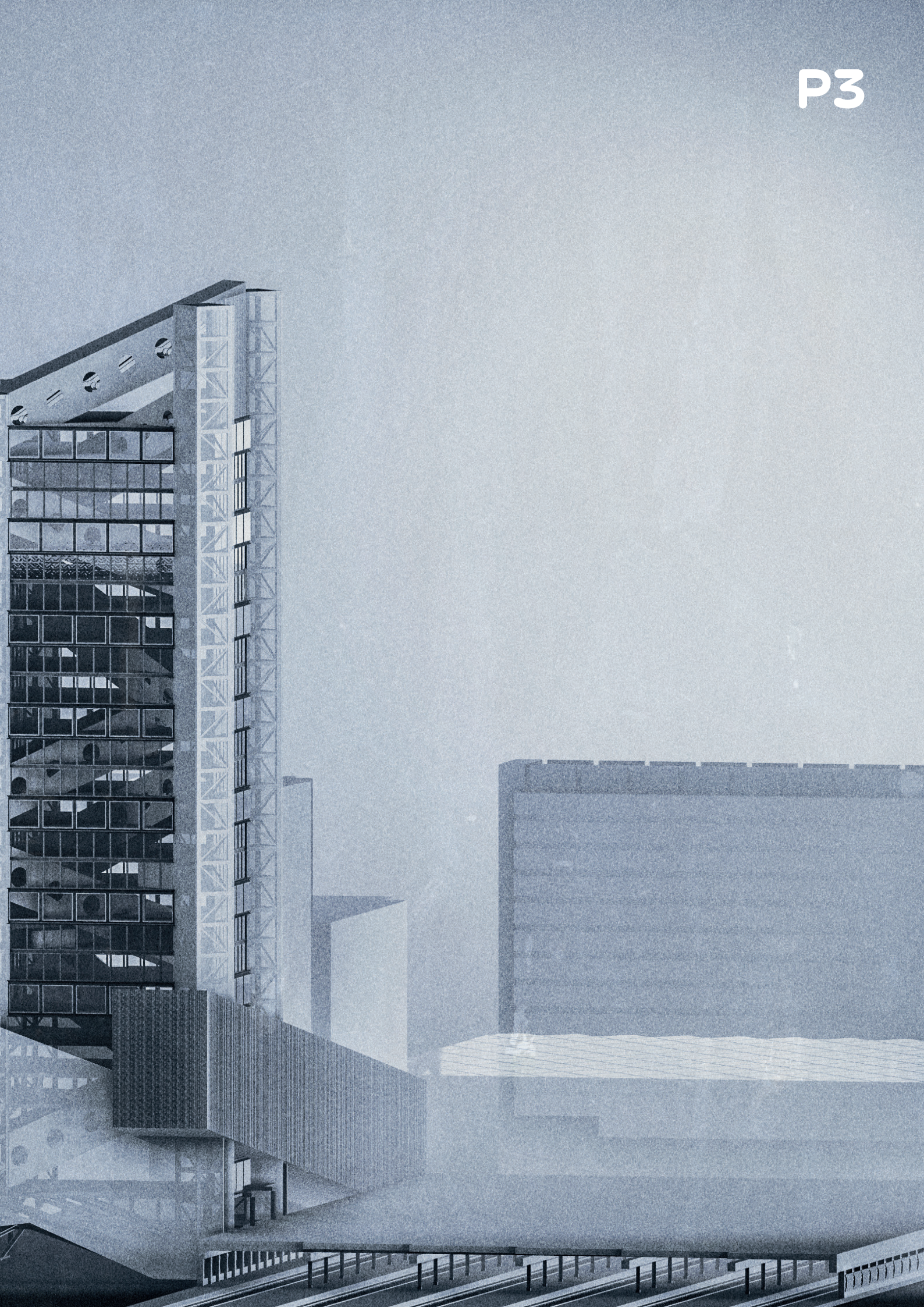












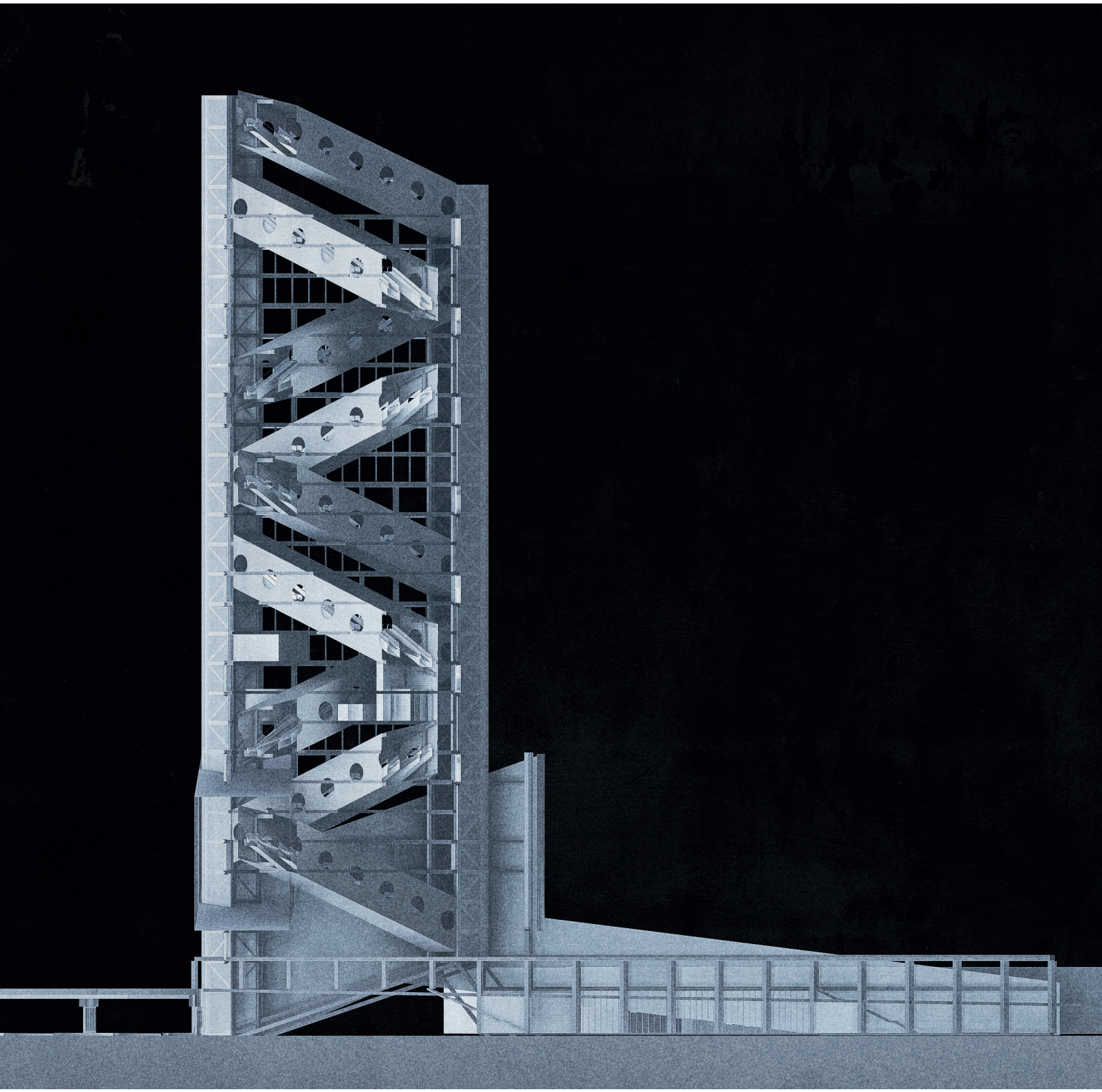
The graduation studio of Public Building is all about creating the campus of the future. Where verticallity and publicness are the main core concepts.

After P2, the realisation came that somehow the design should have a “coreless” tower. Typical towers have limited flexibility and diversity in floorplans. Adding to this, the elevator usually brings you to your floor where the two worlds of different floors never really blend.

A sollution was found in creating an infrastructure of diagonal tubes spanning between four large megacolumns. These tubes accomodate all flows that are present in the building. Stairs, escalators, but also shafts, cables and piping run through this infrastructure. Cleaning up the floorplans completely without forming a plain central concrete core.



P3



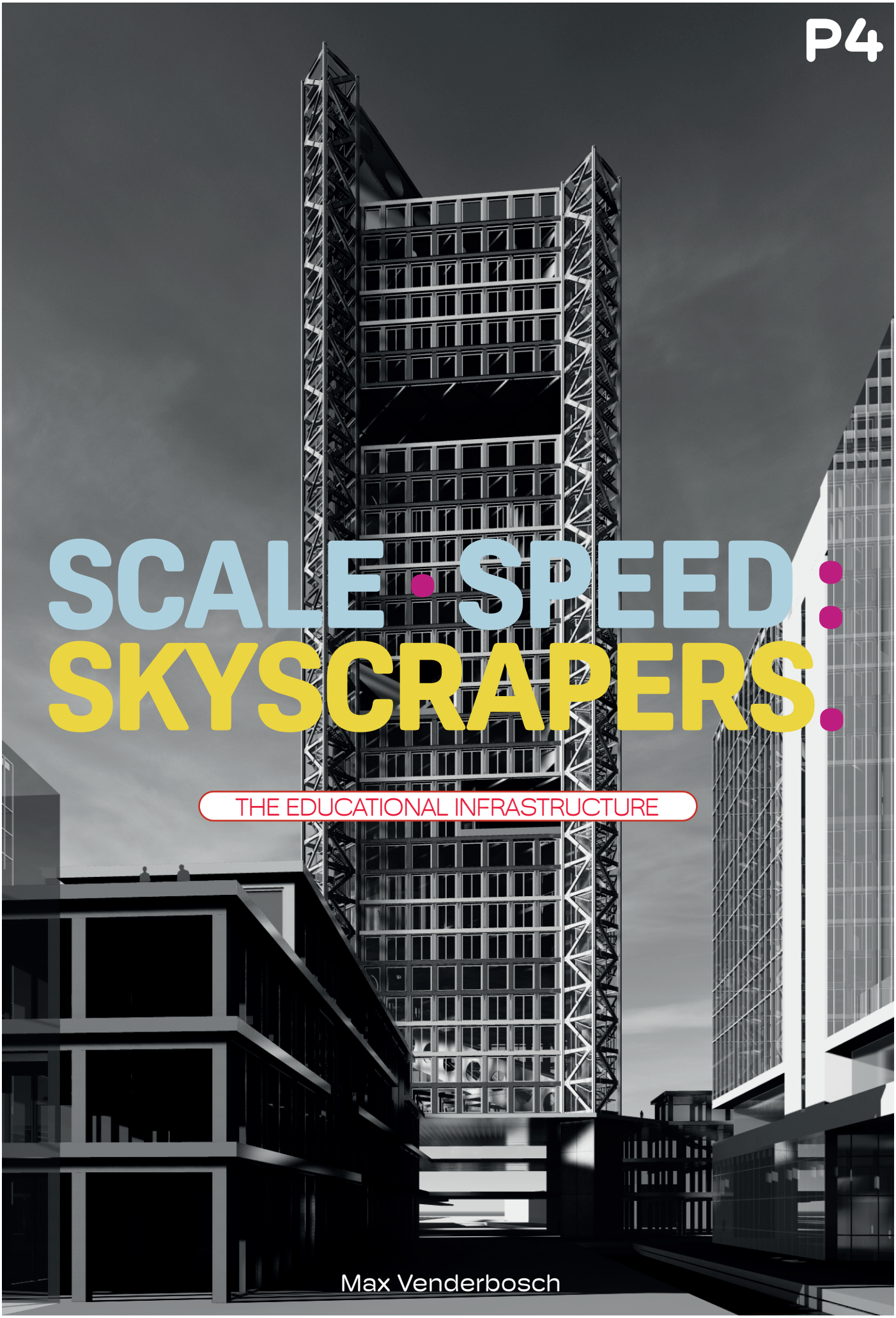
P3



P3





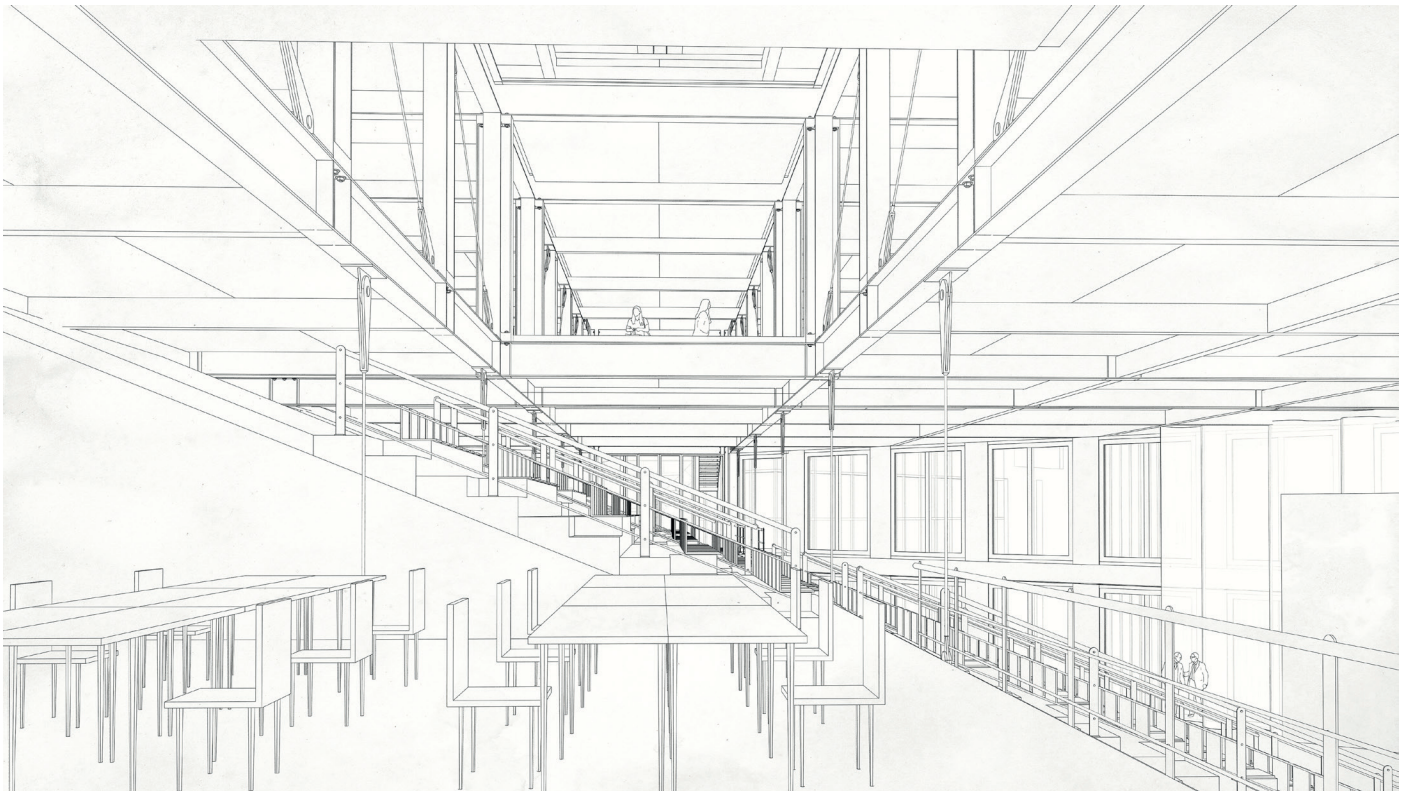


P4

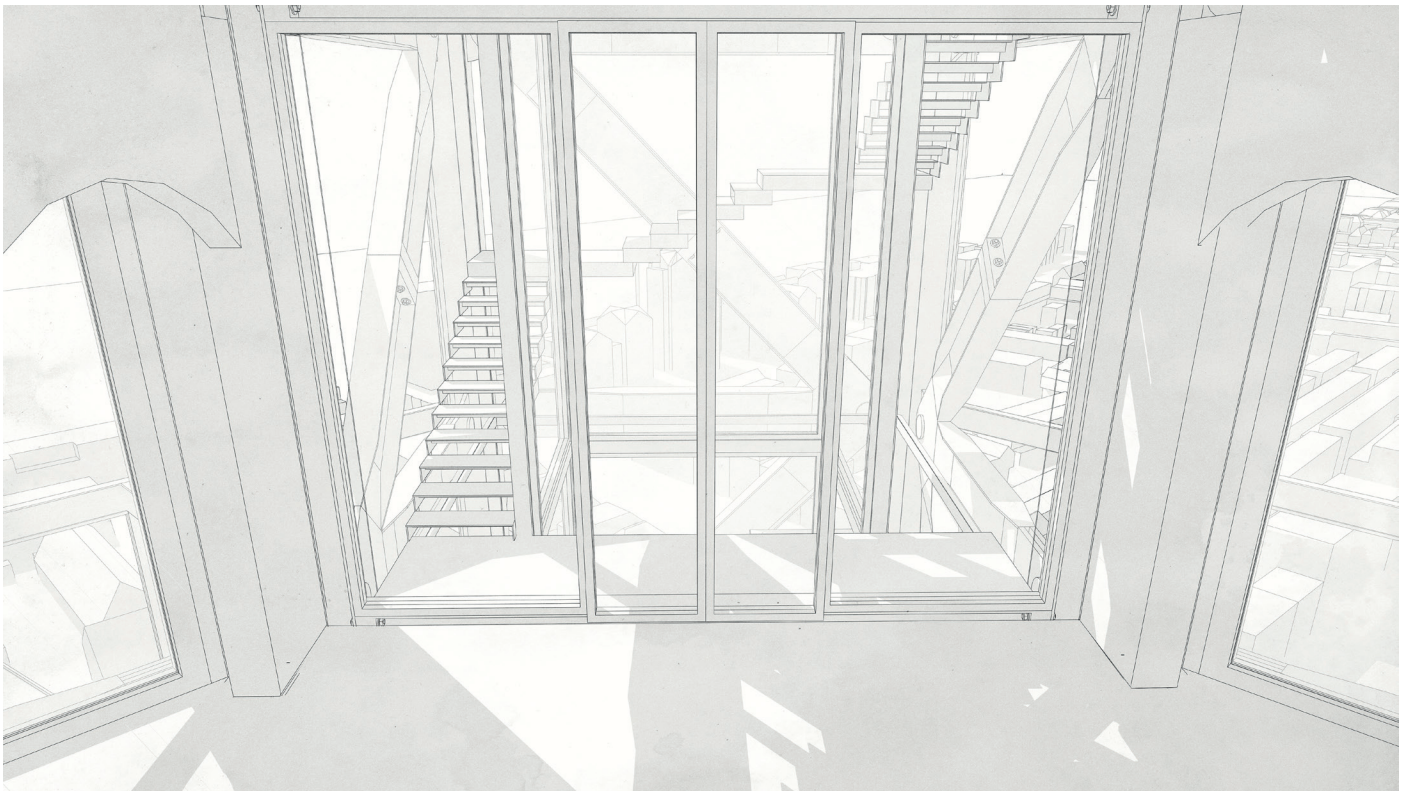
SCALE · SPEED : SKYSCRAPERS.

THE EDUCATIONAL INFRASTRUCTURE

Max Venderbosch















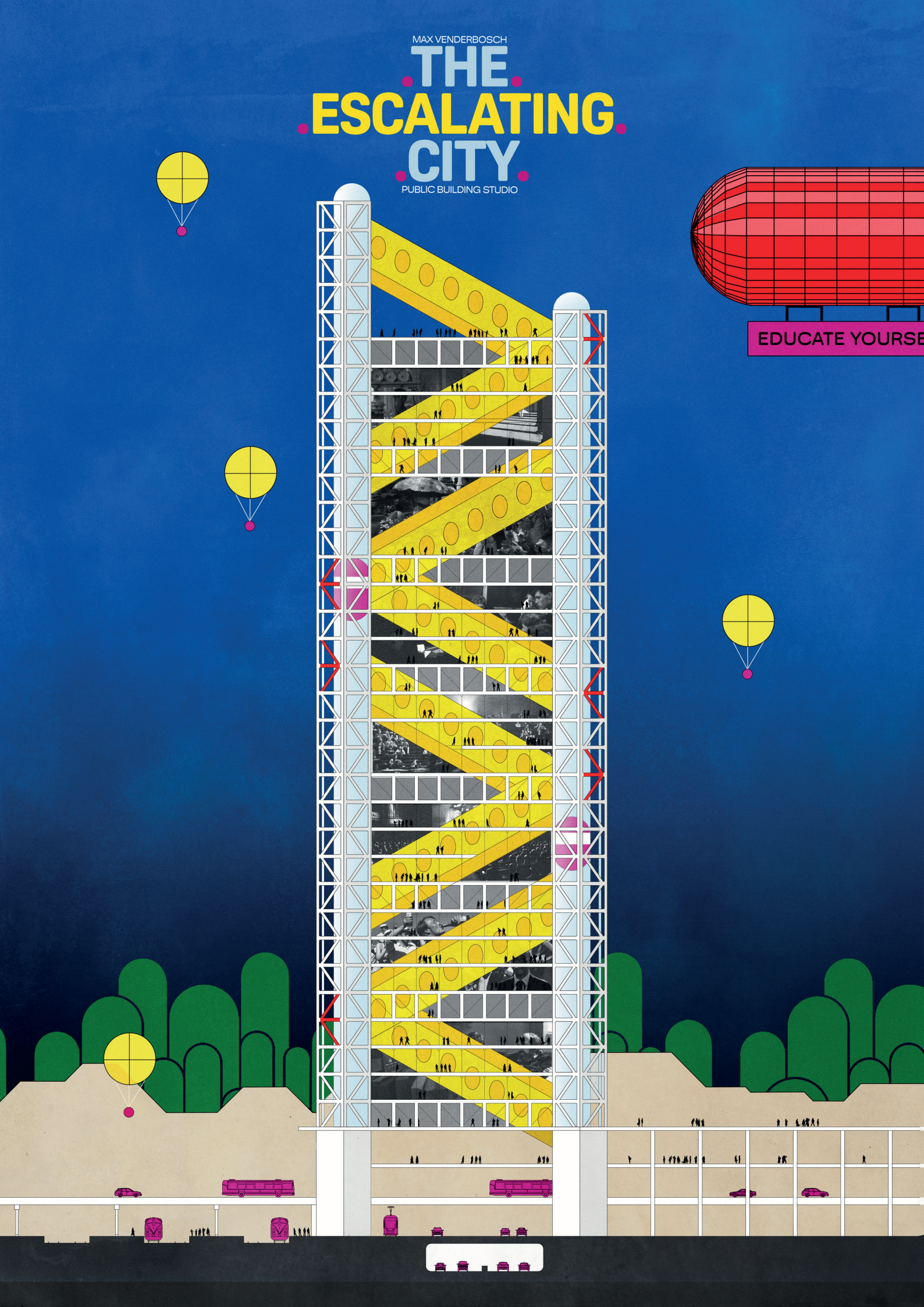


P5

MAX VENDERBOSCH

THE ESCALATING CITY

PUBLIC BUILDING STUDIO





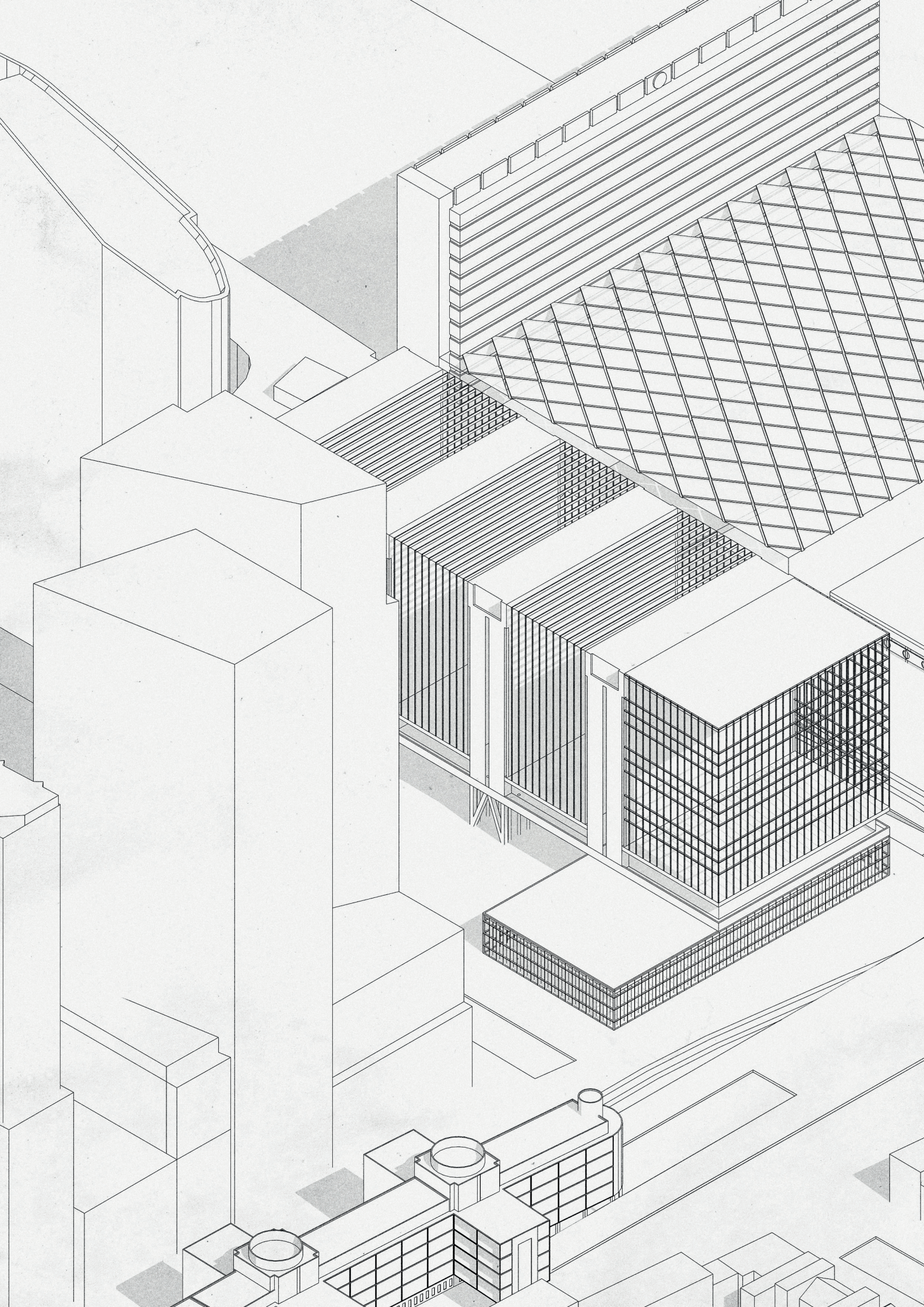


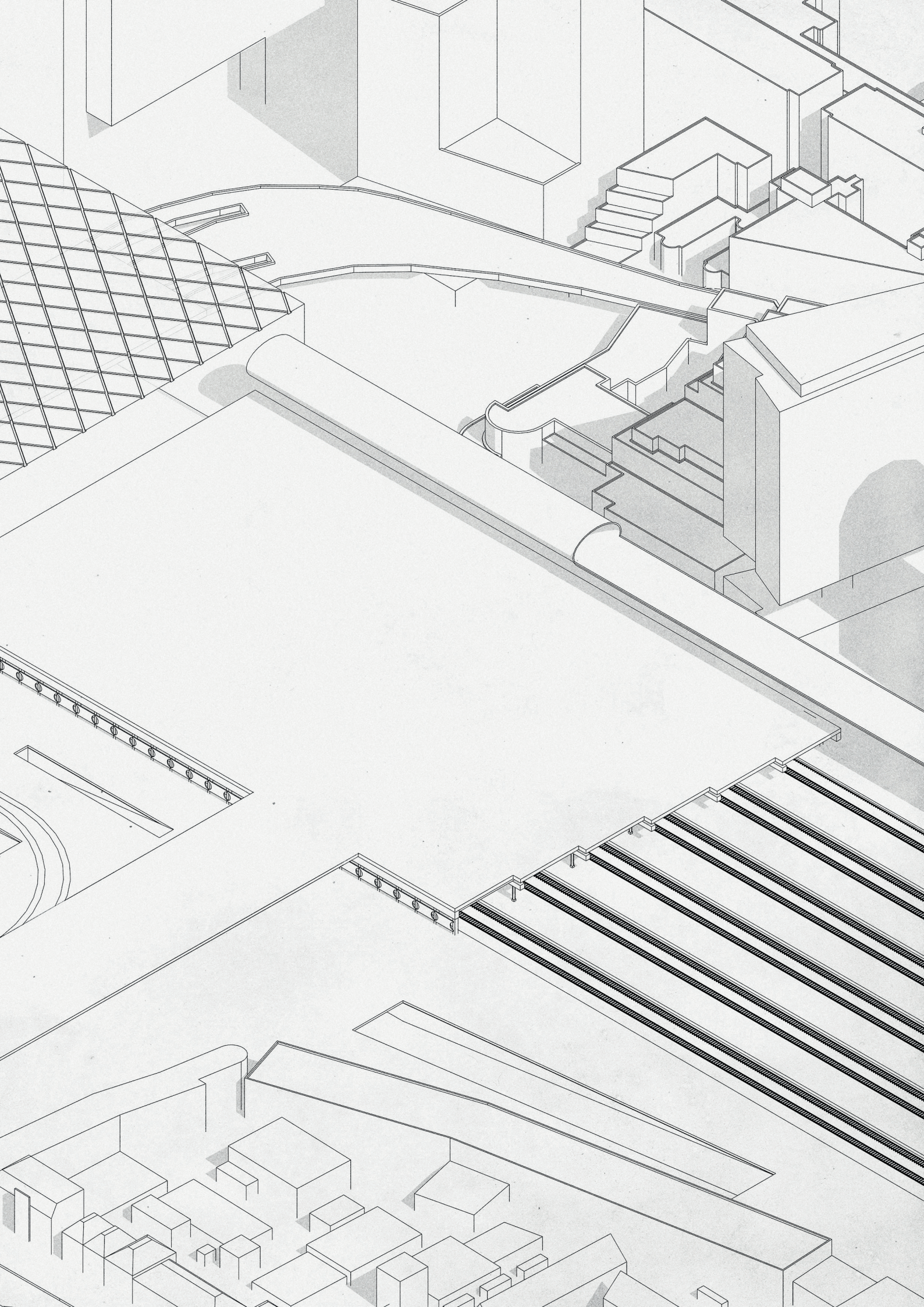


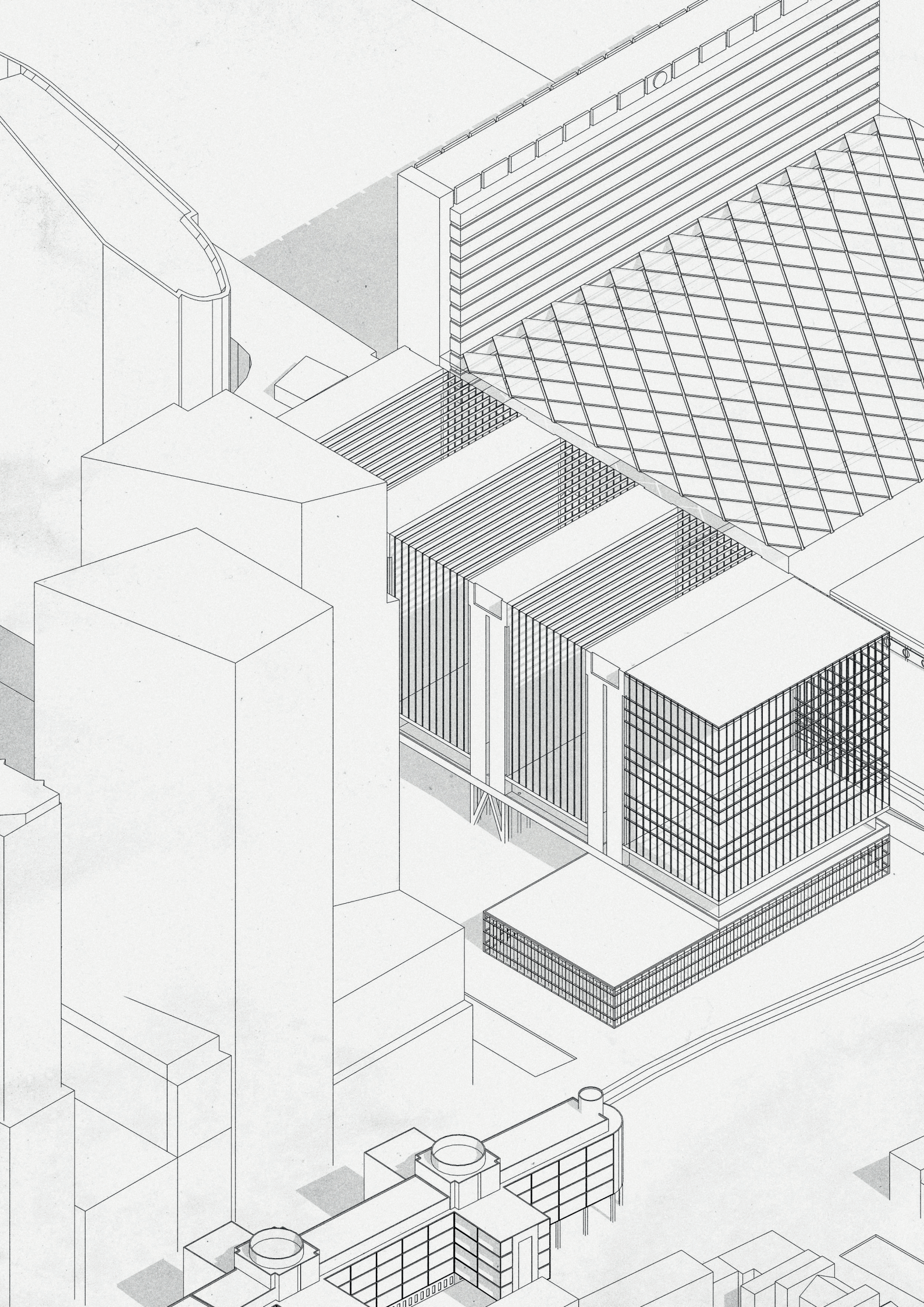


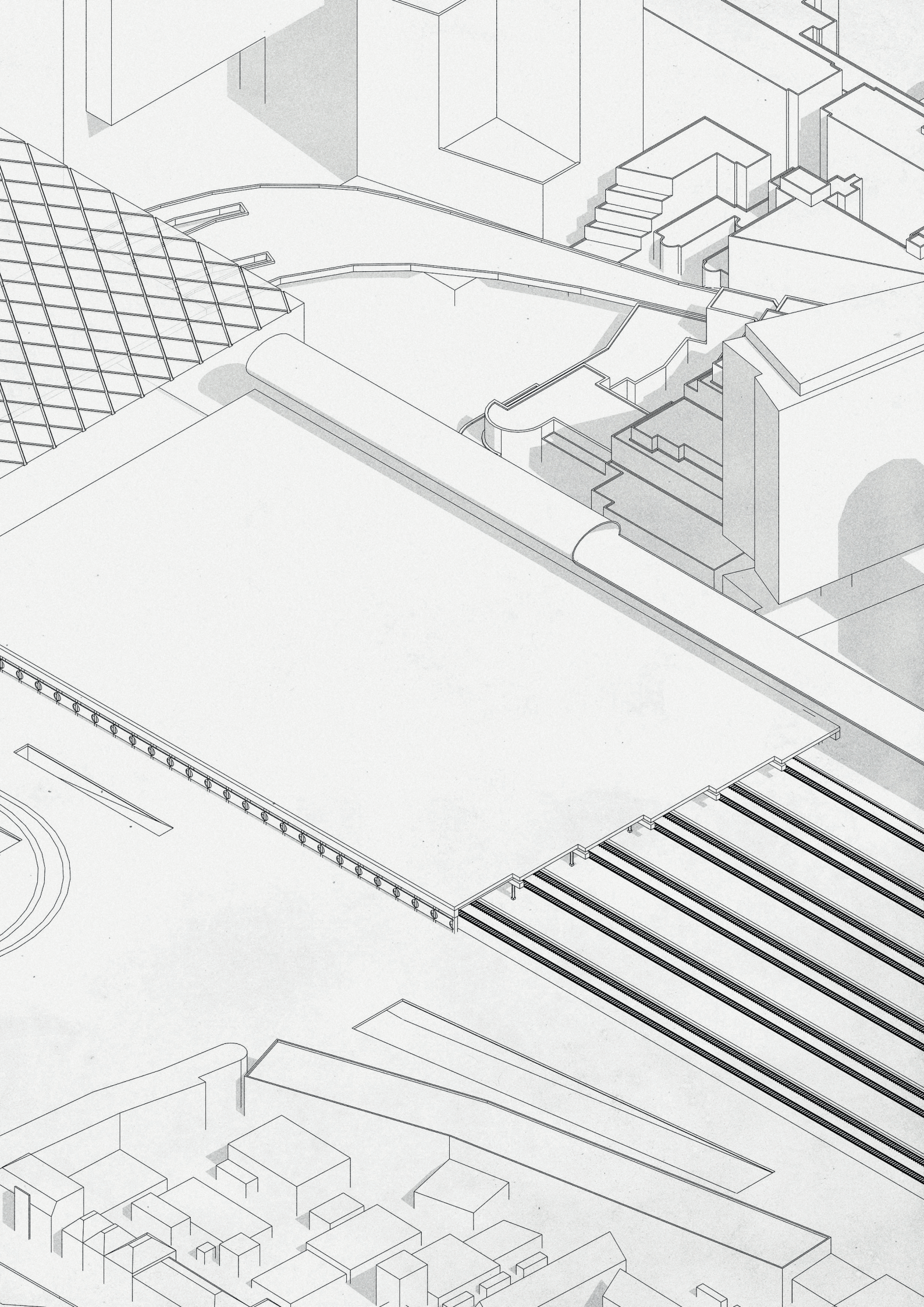


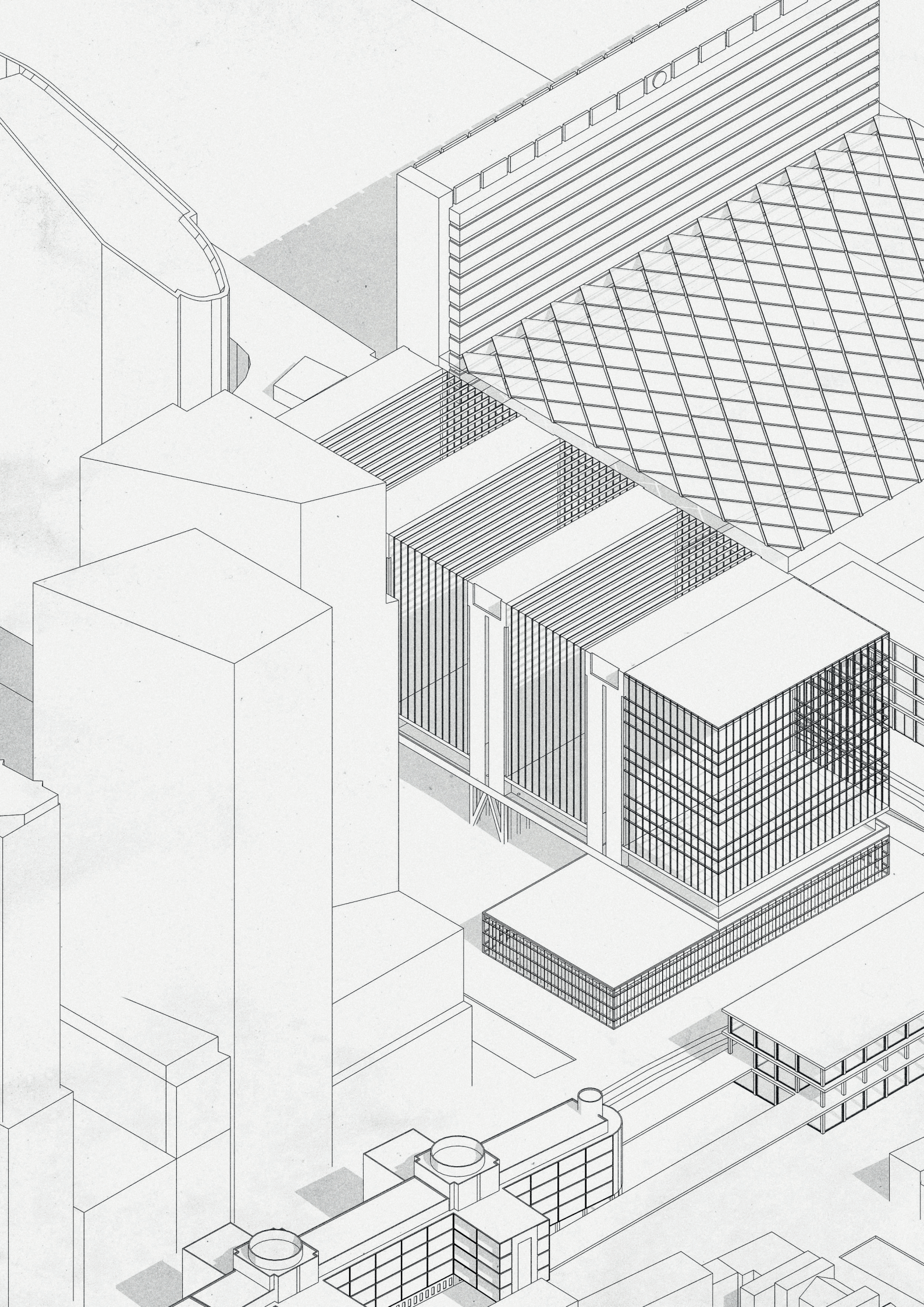


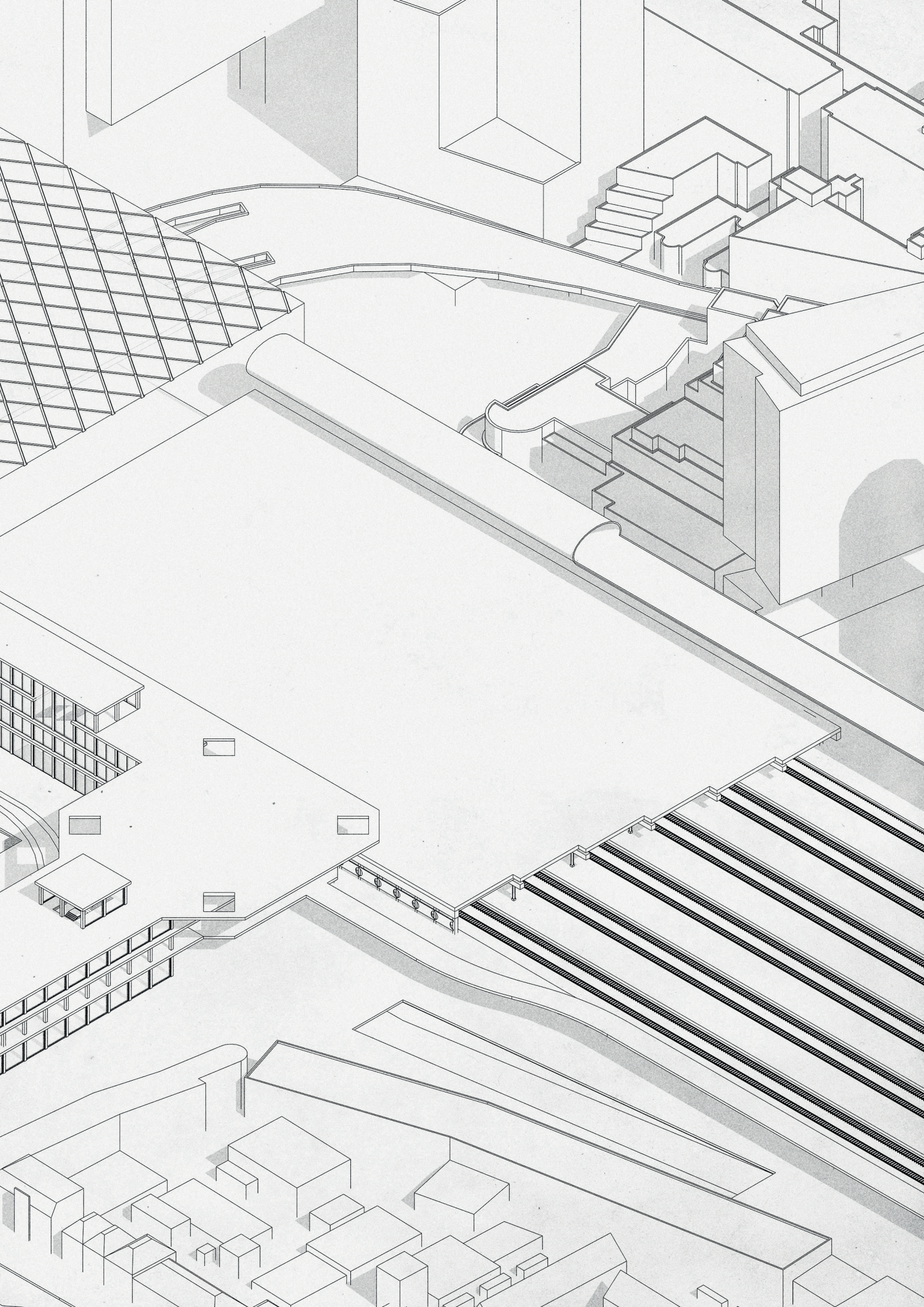


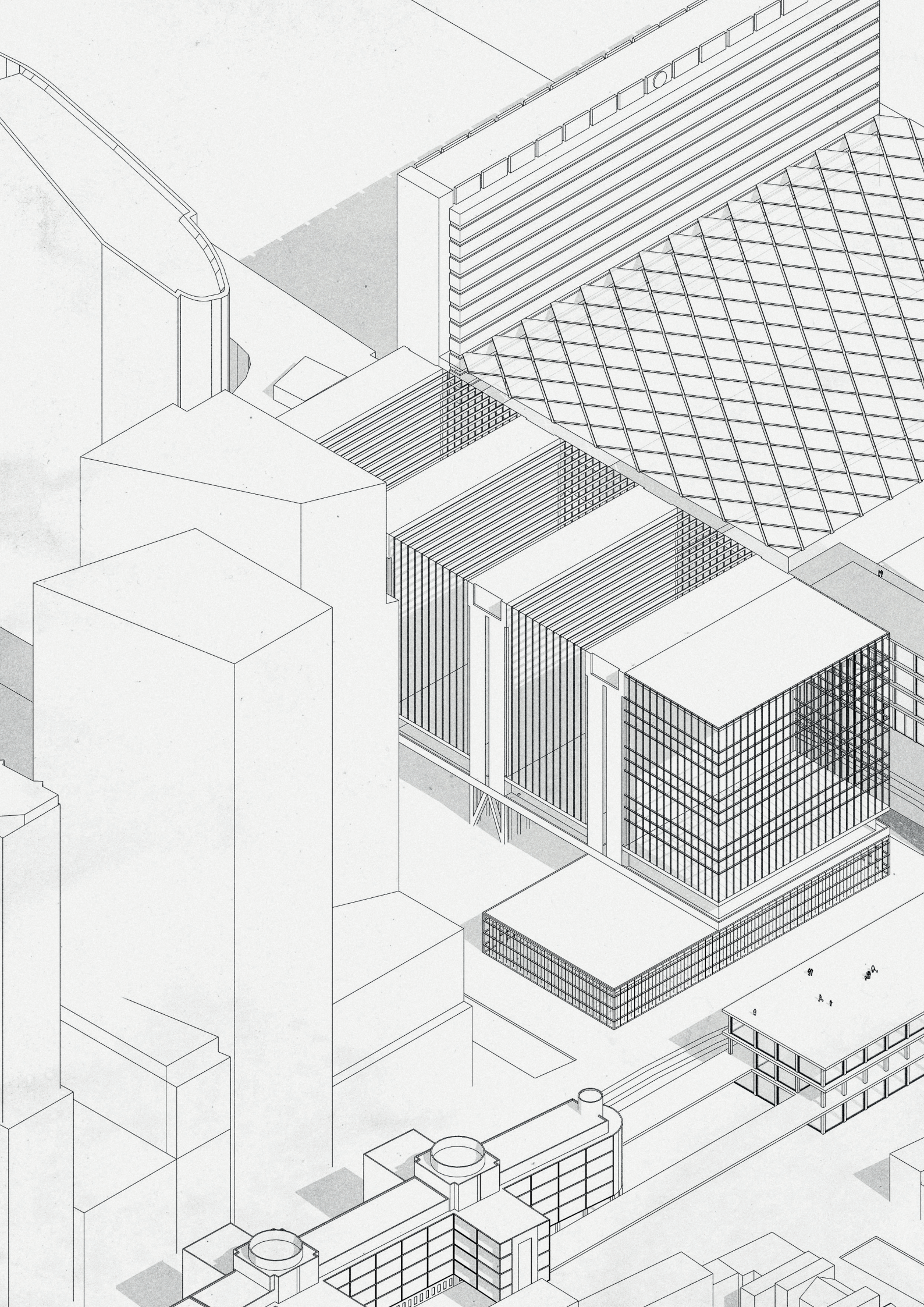


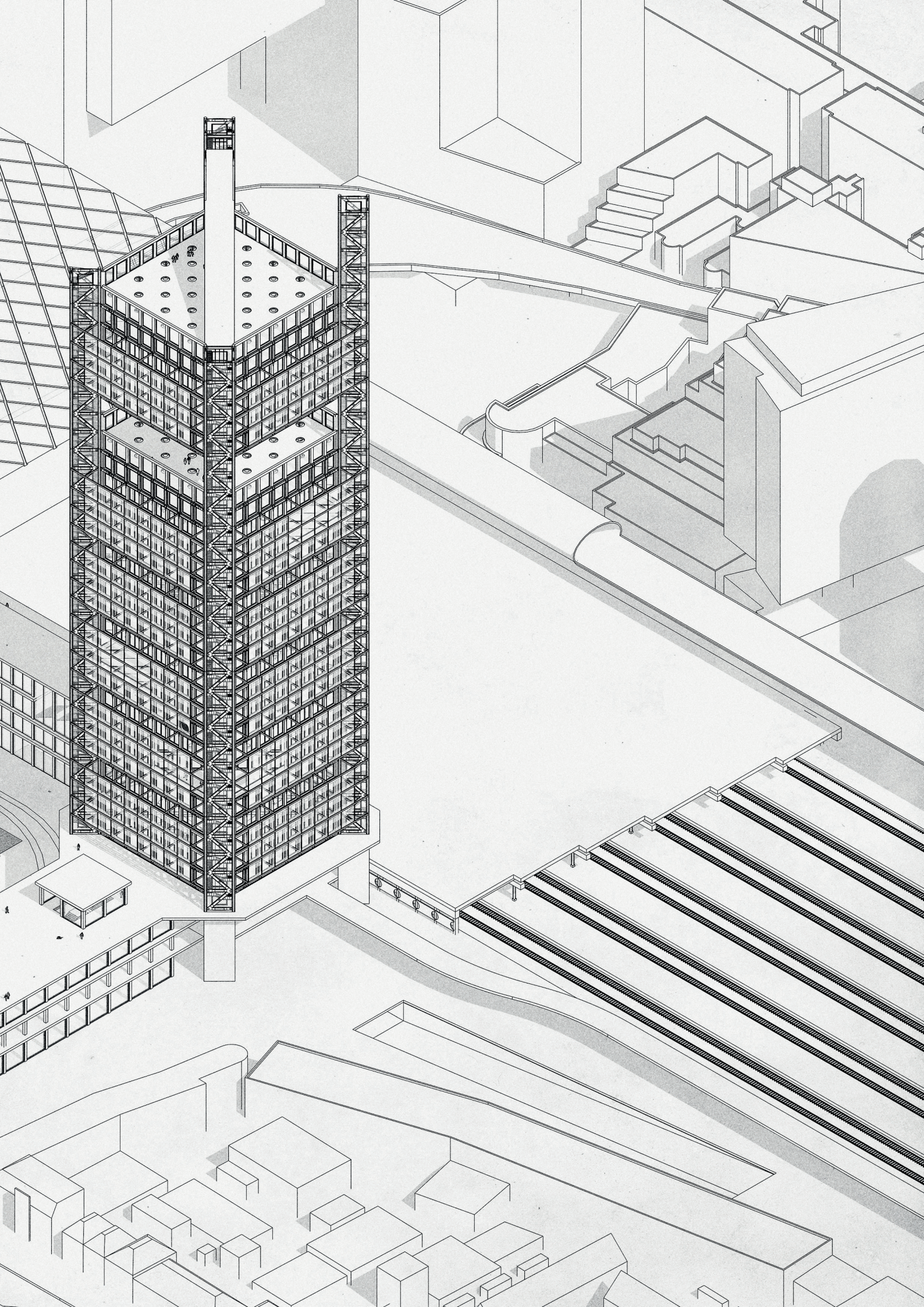


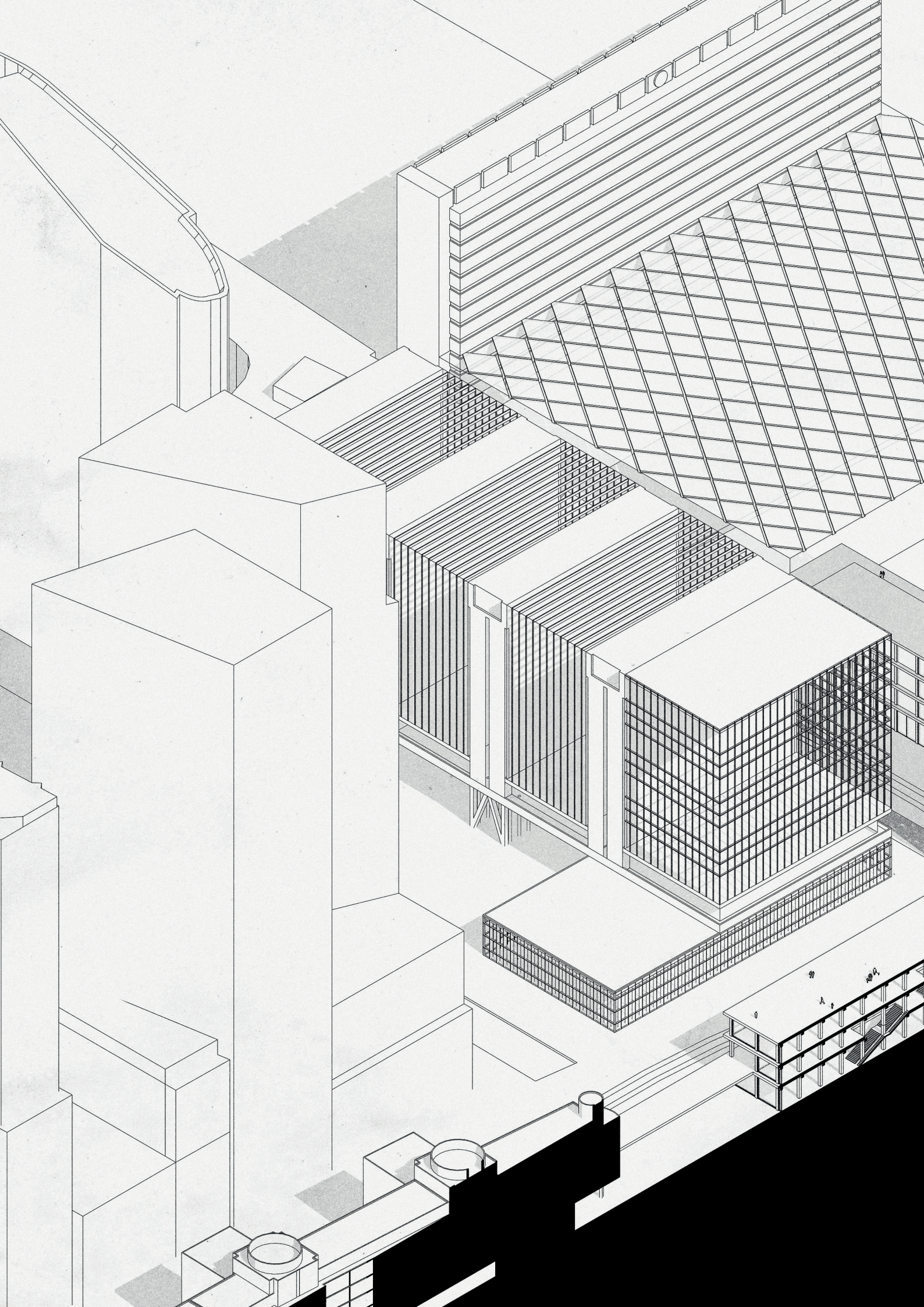


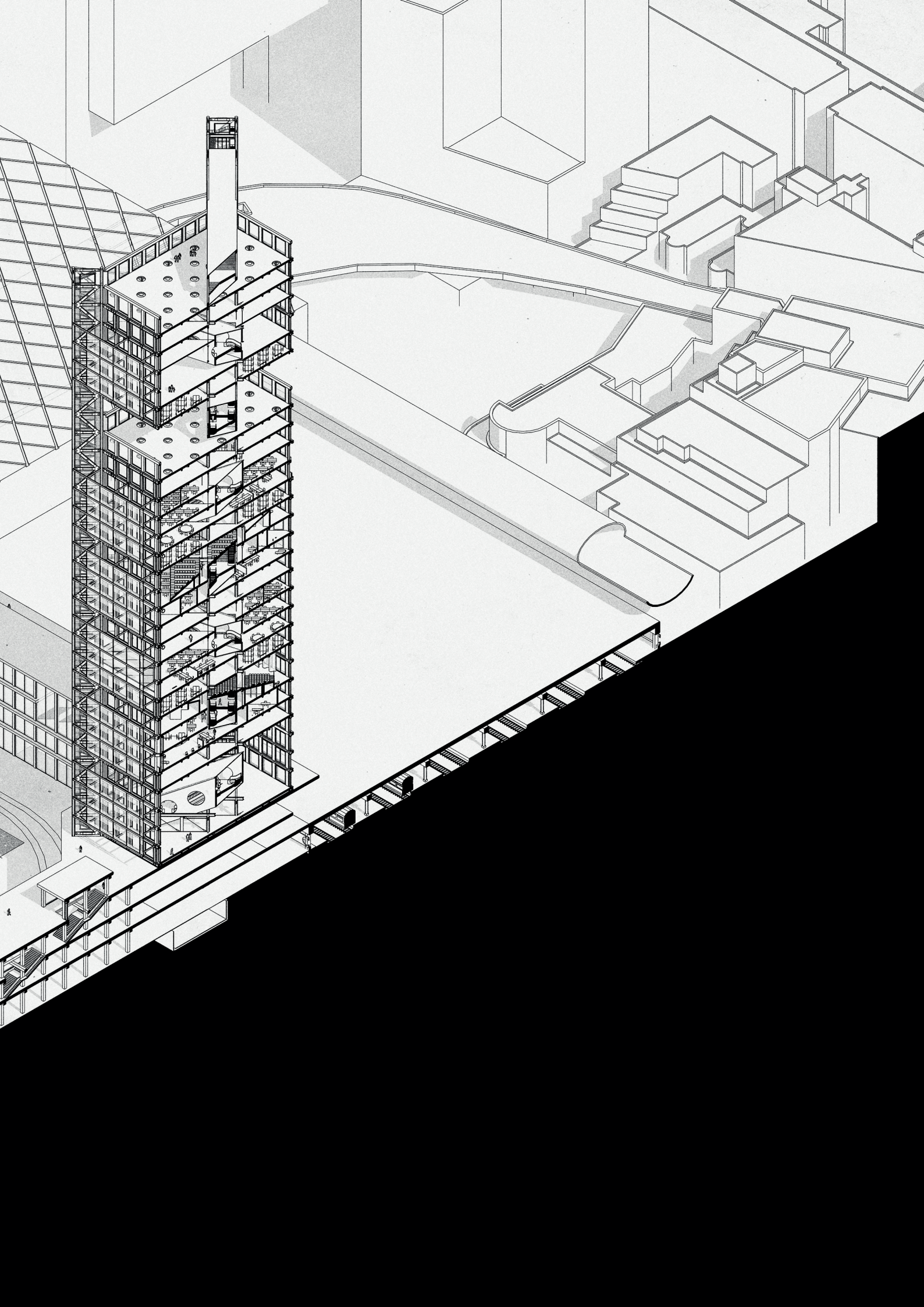


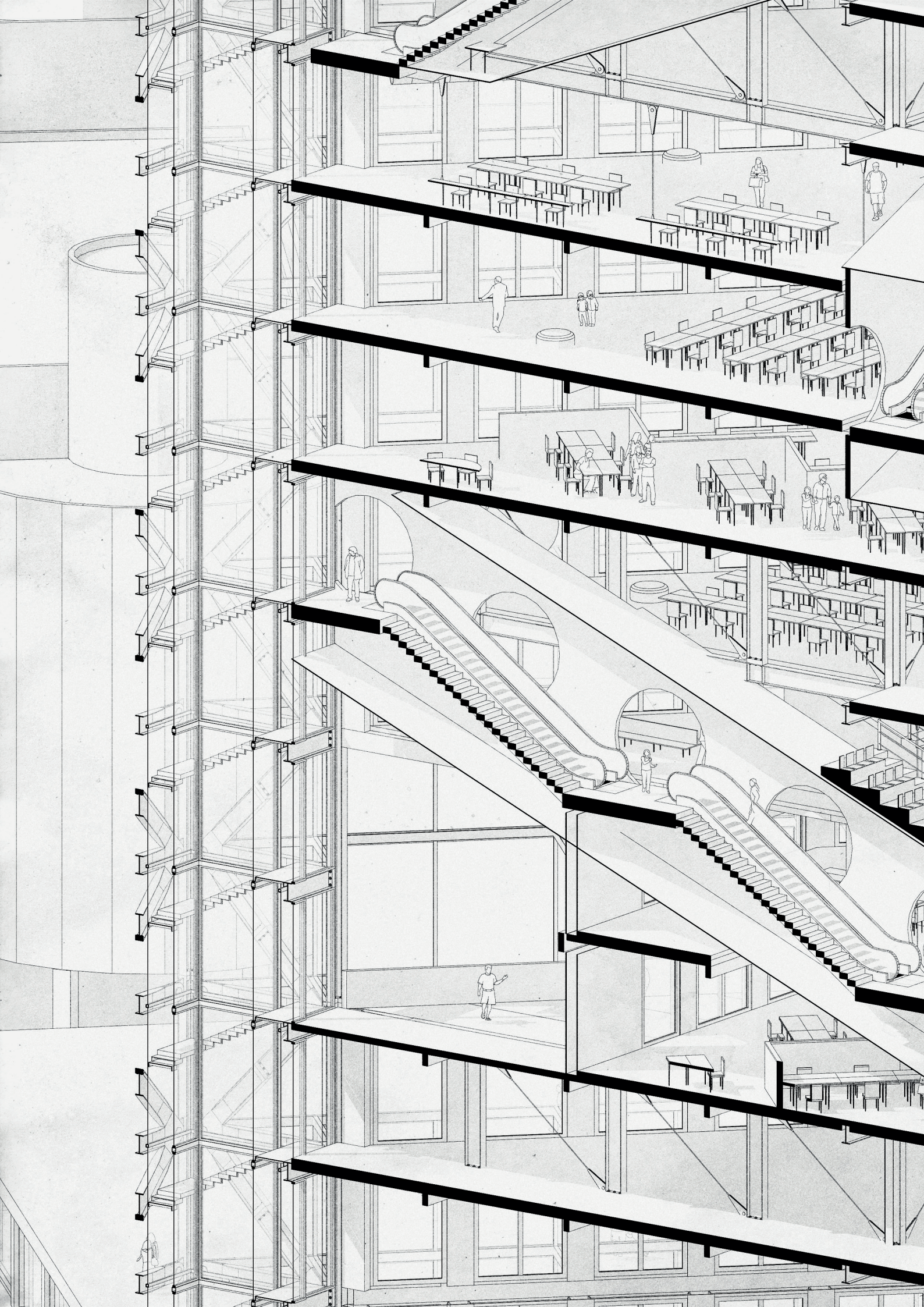


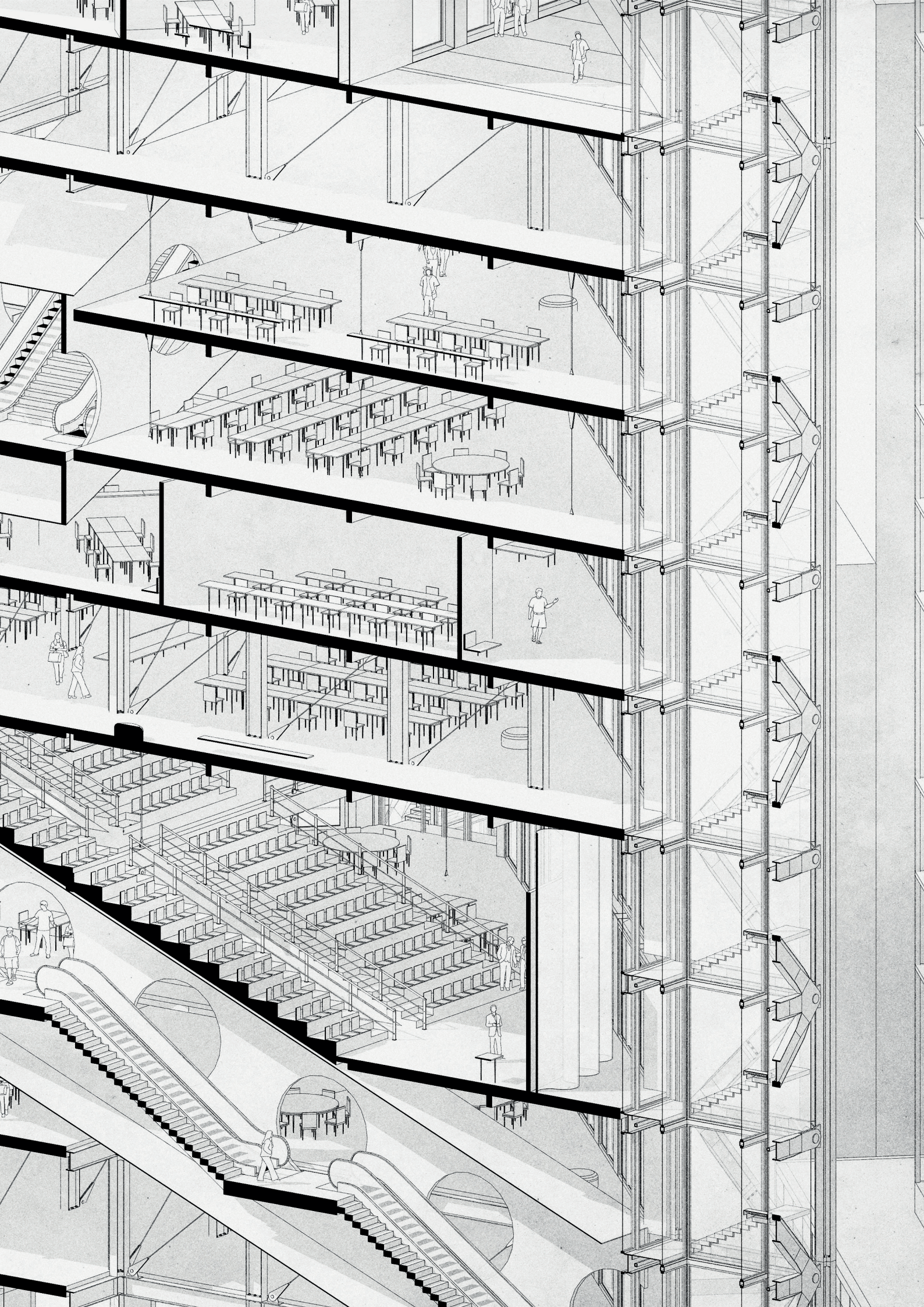


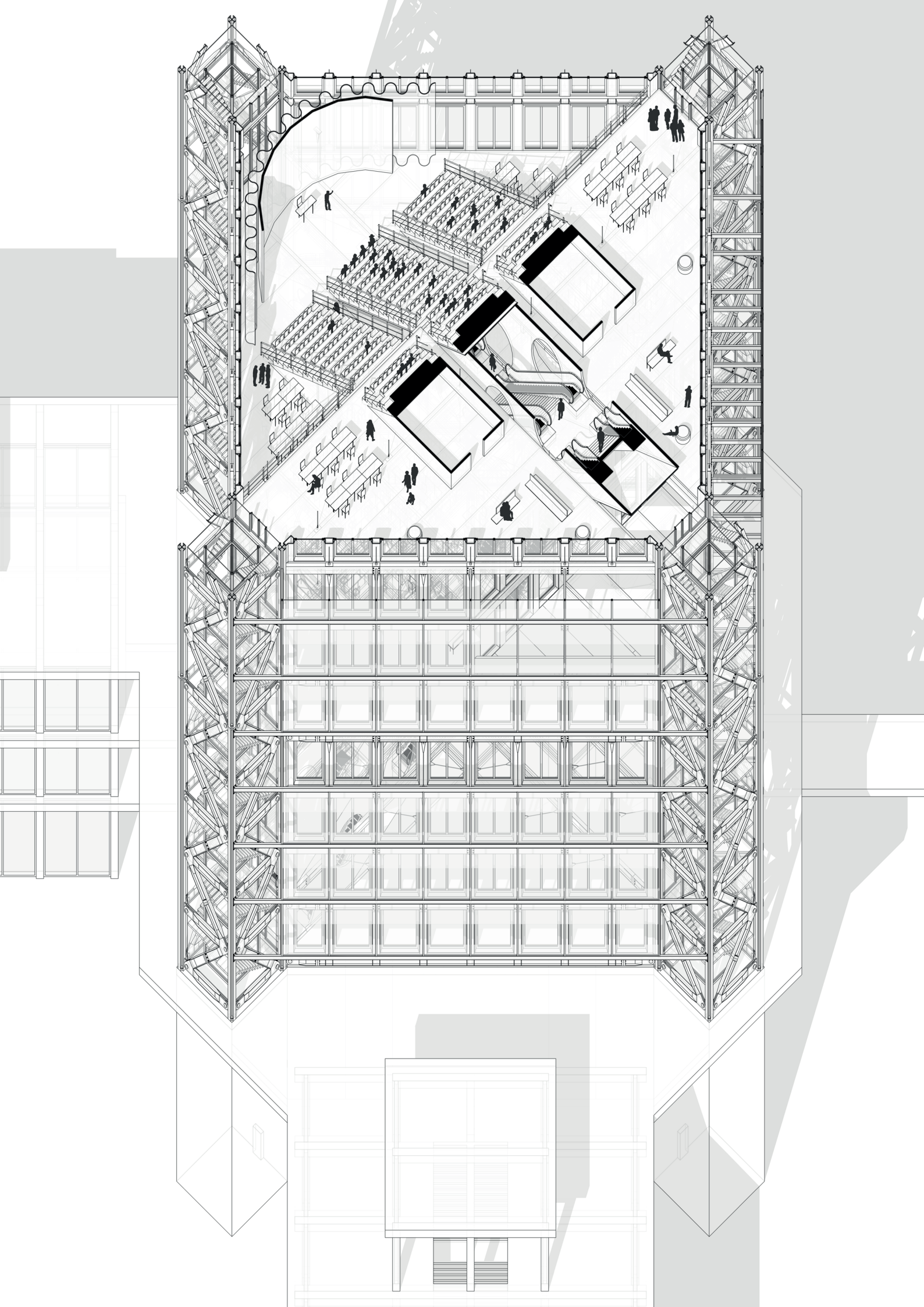


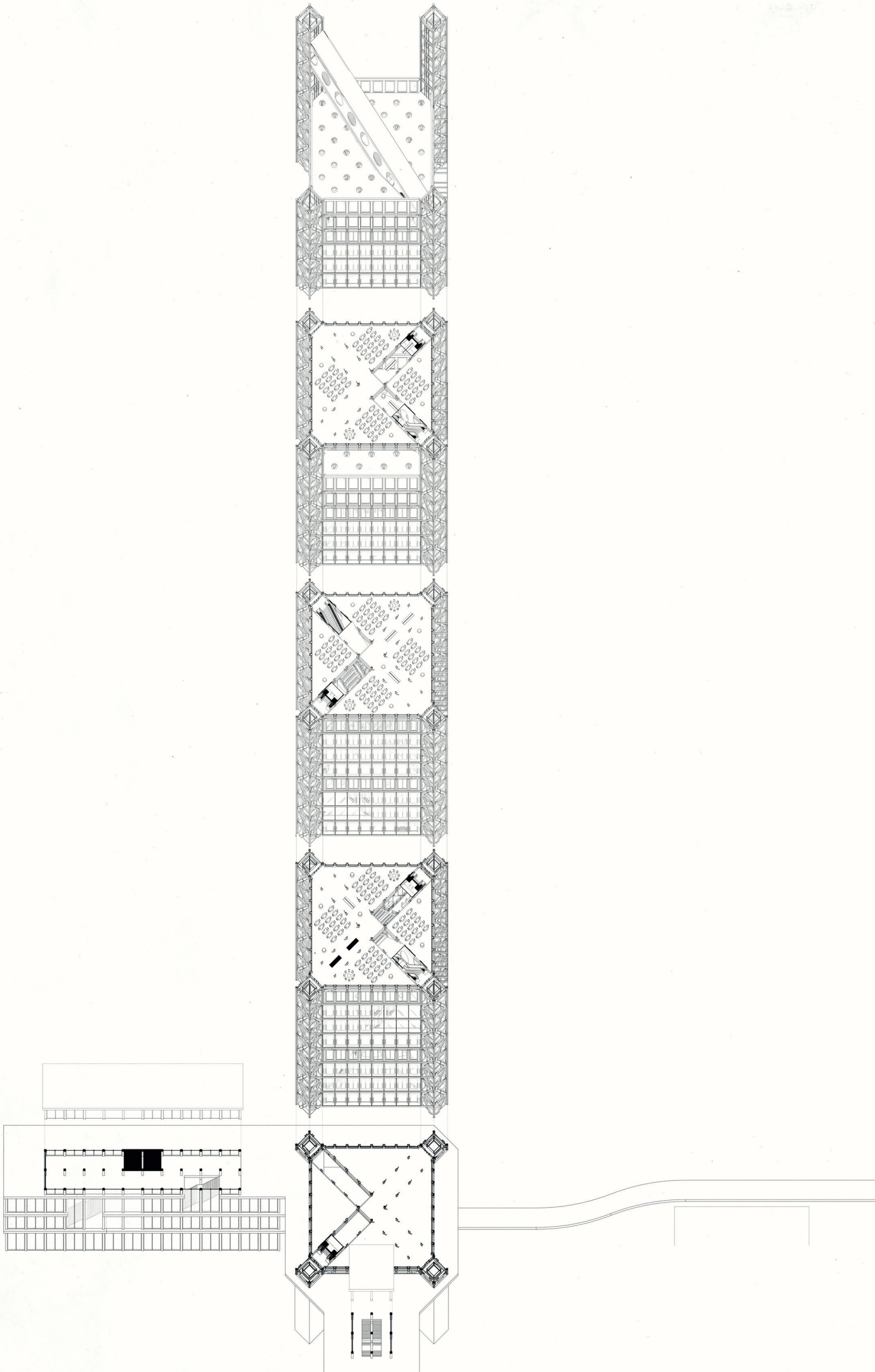


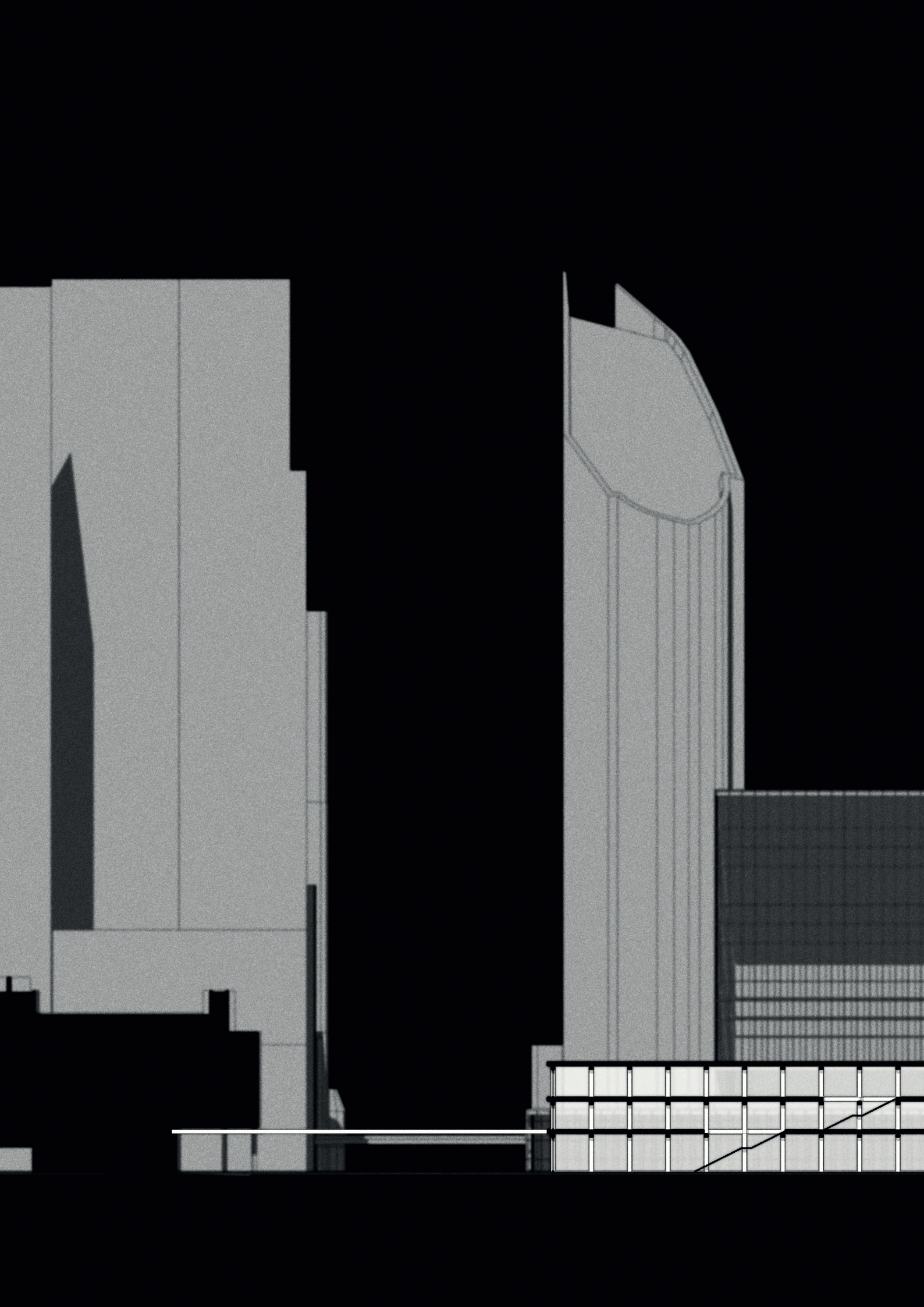


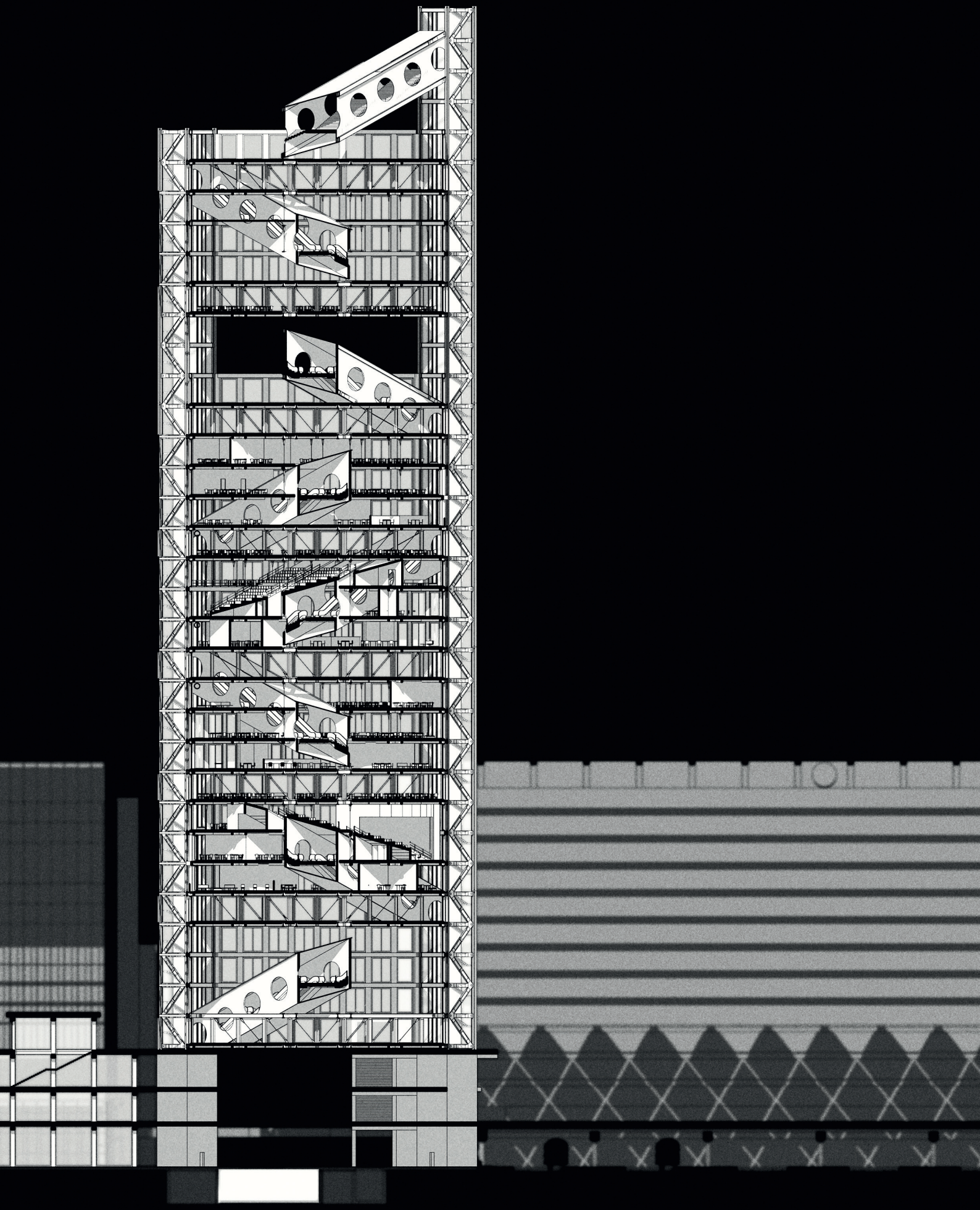


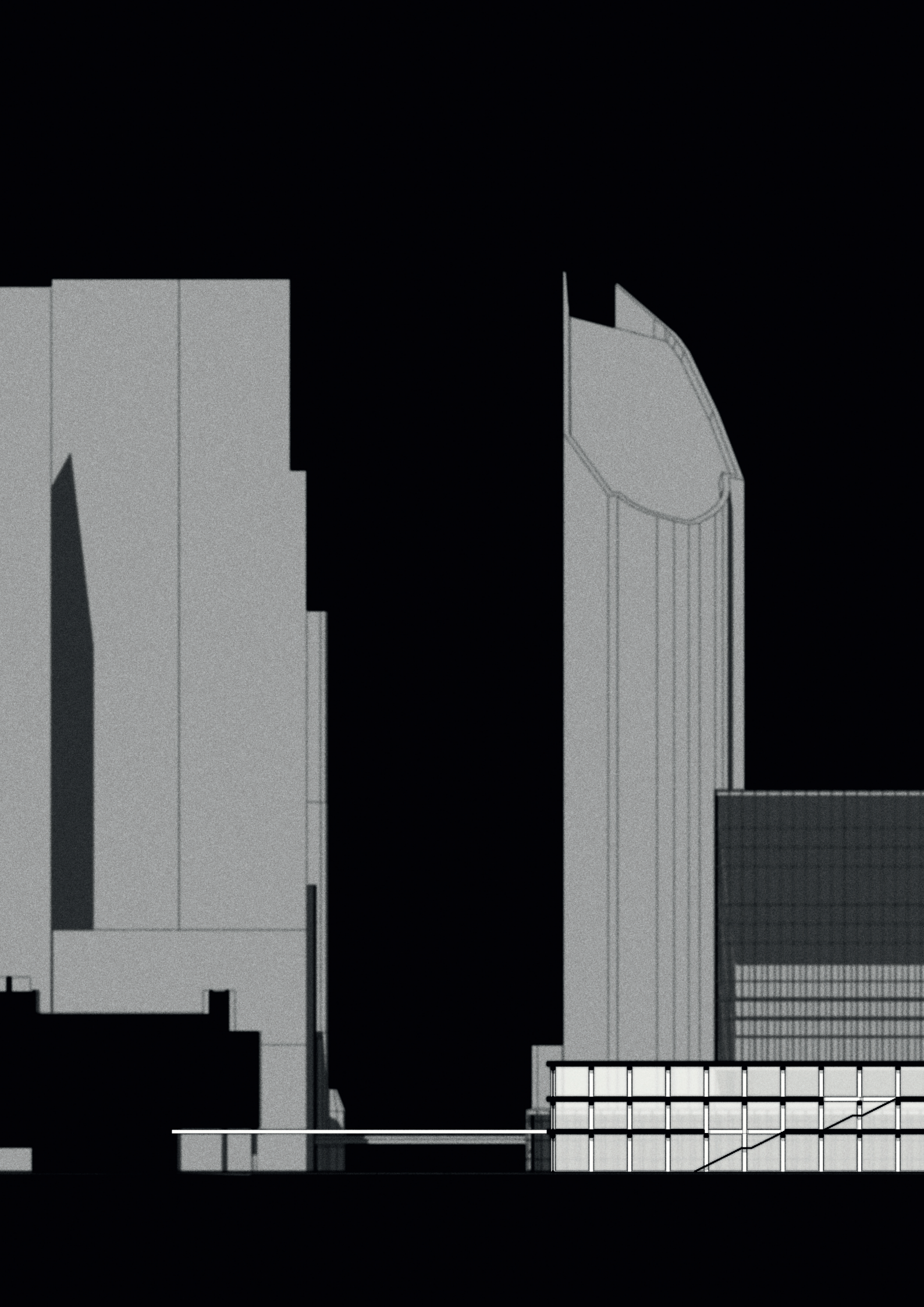


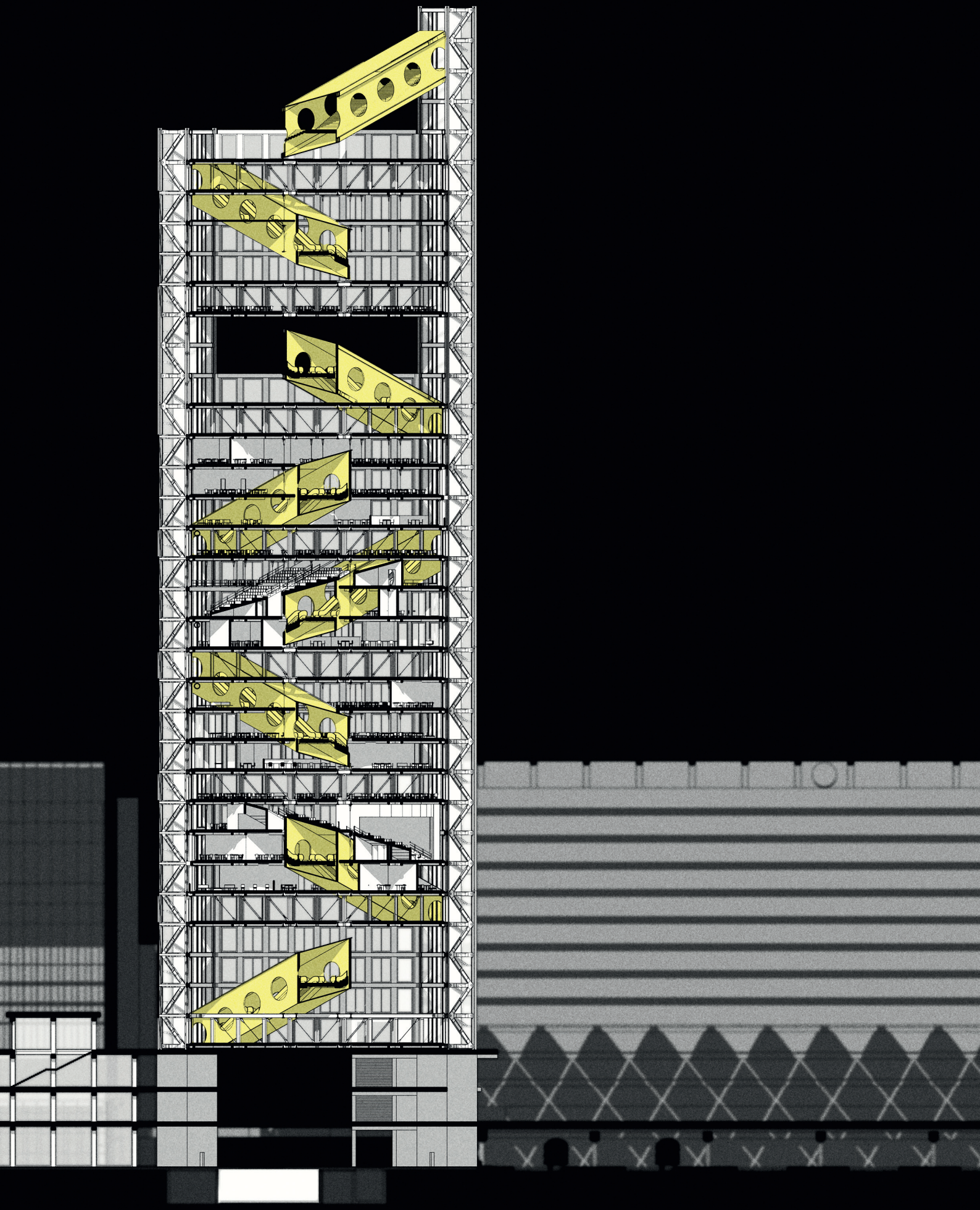


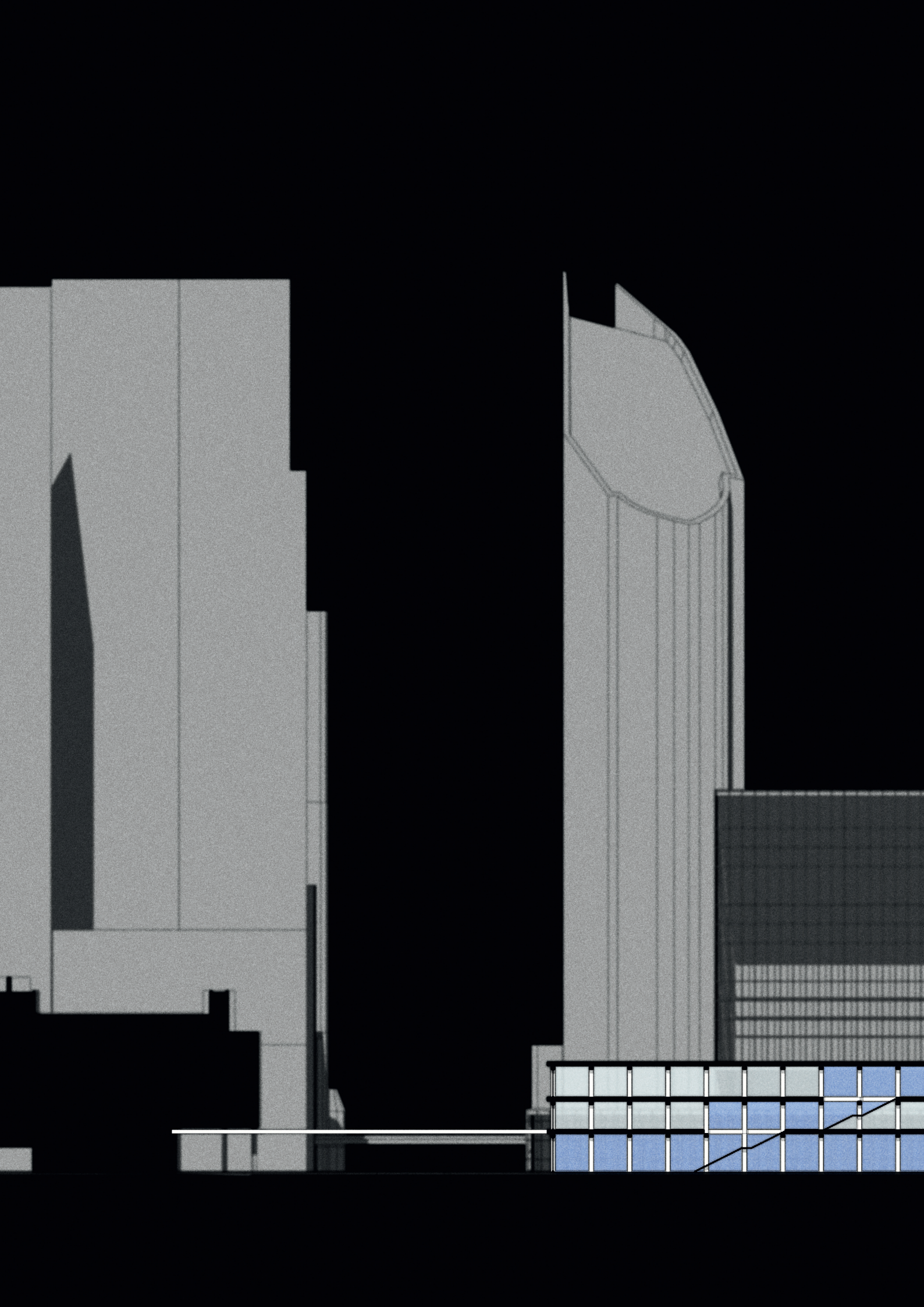




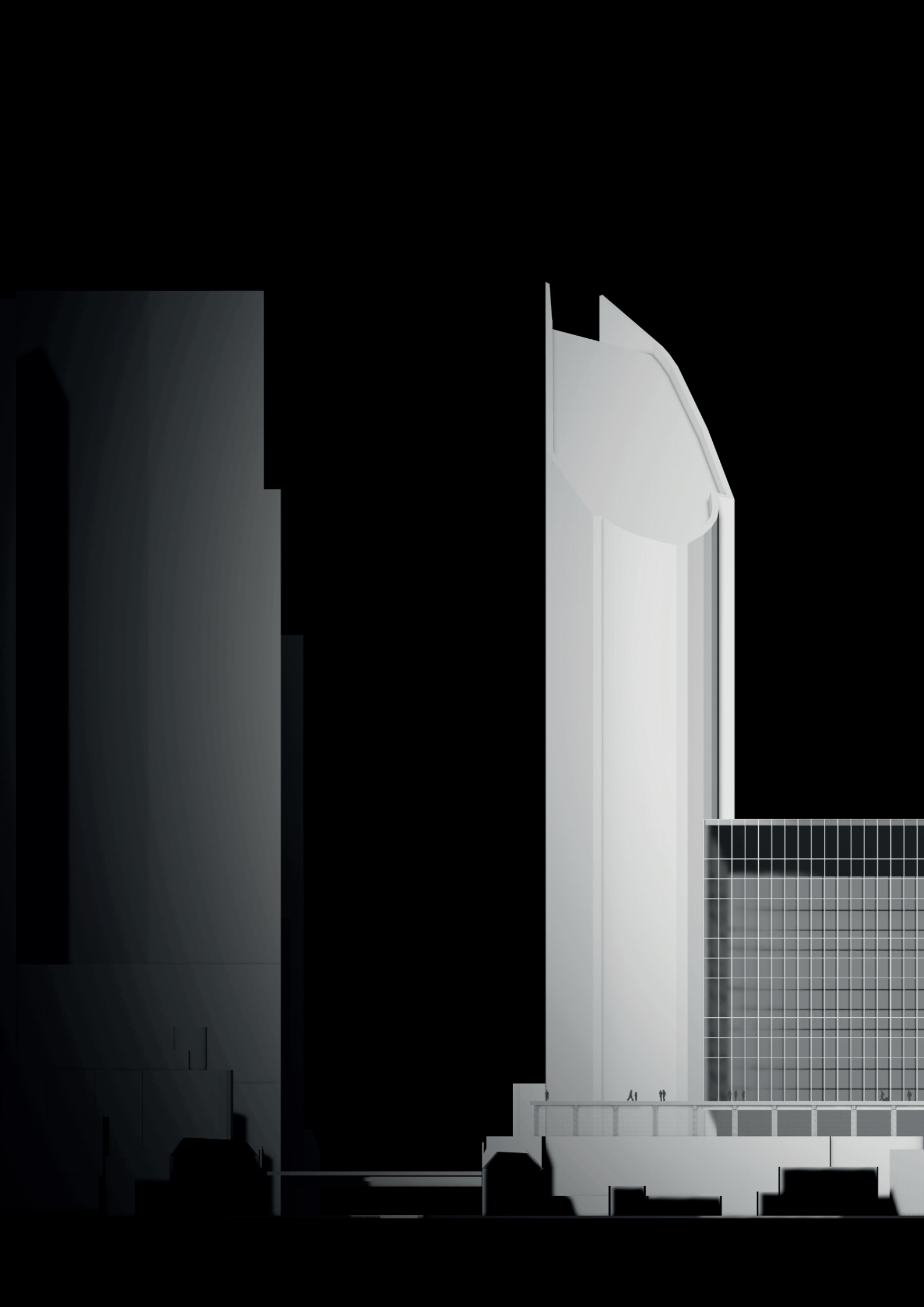






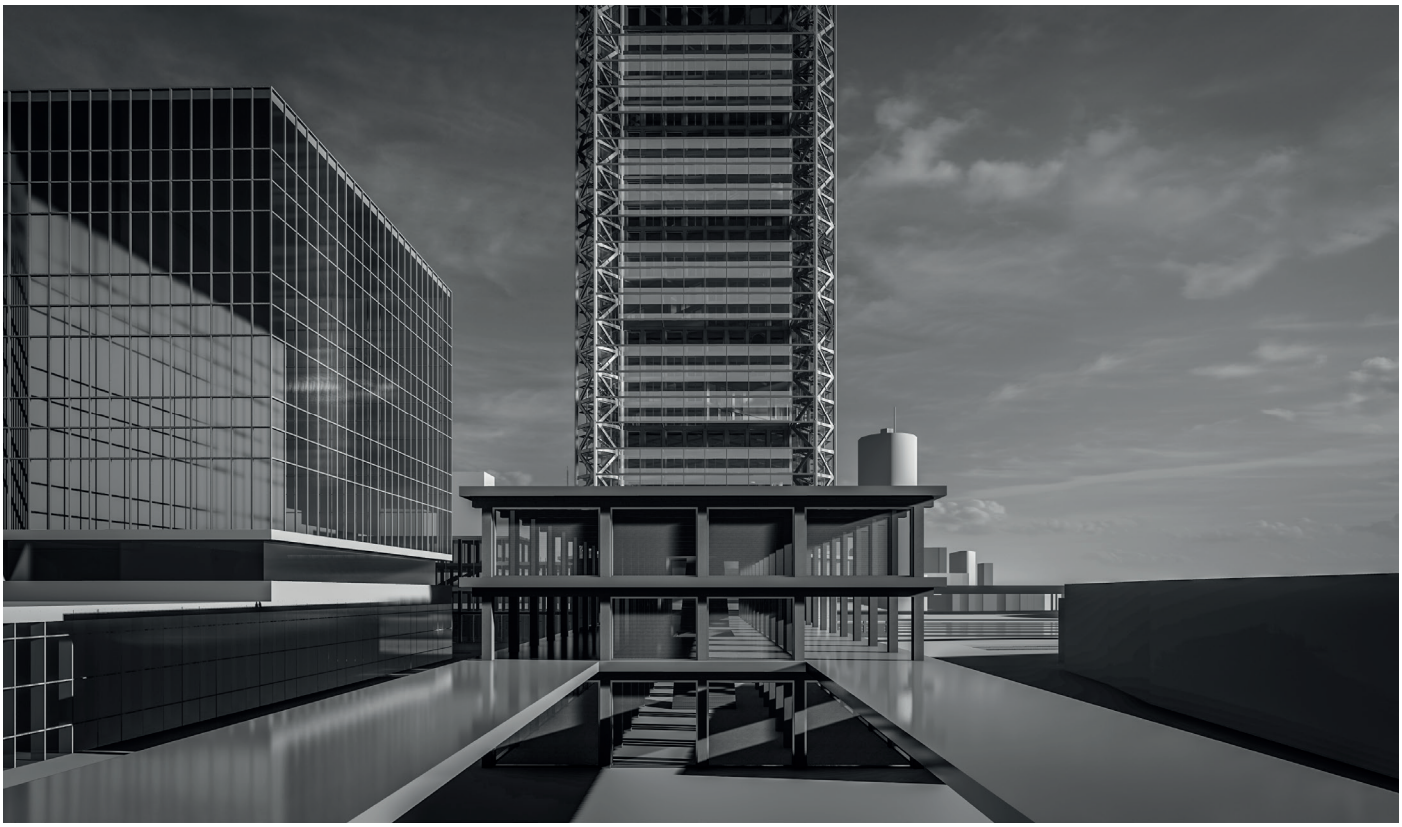














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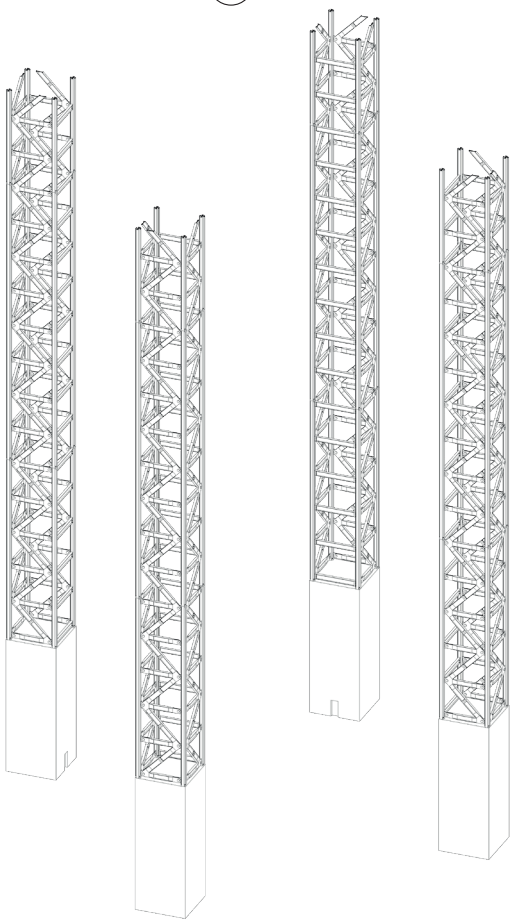

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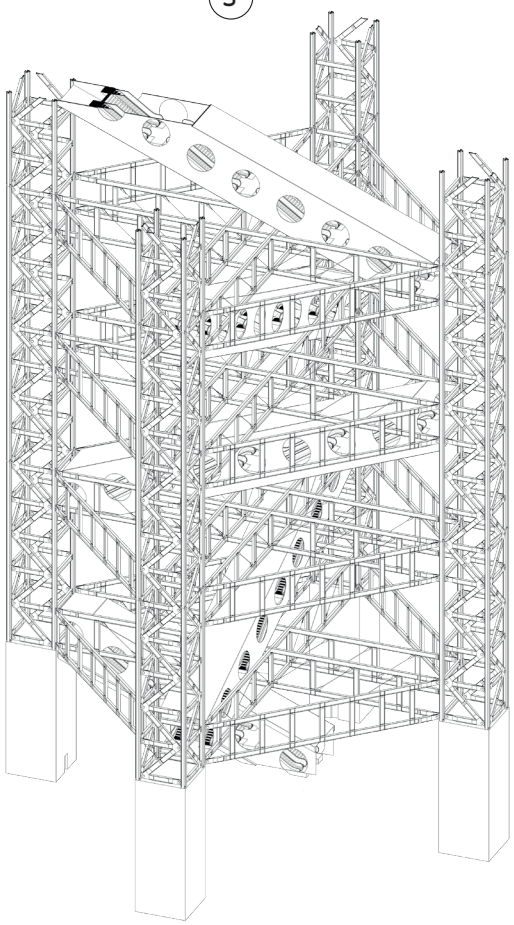

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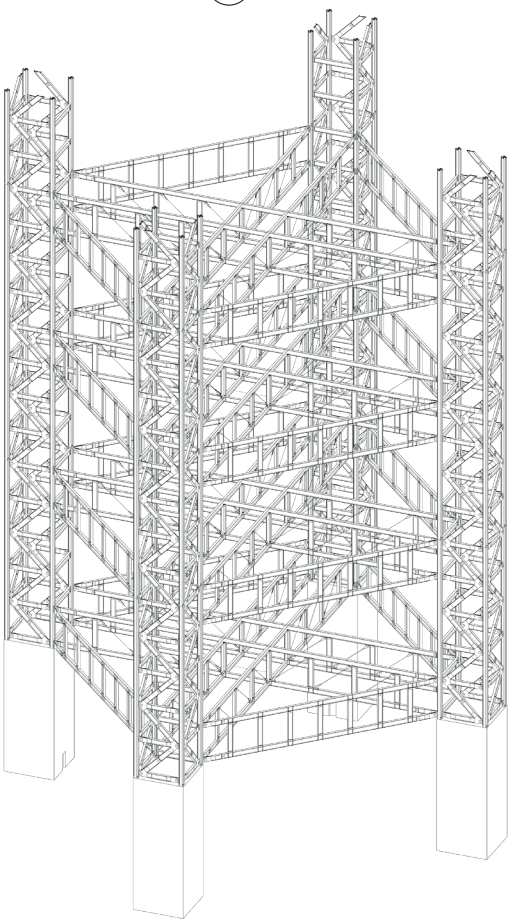

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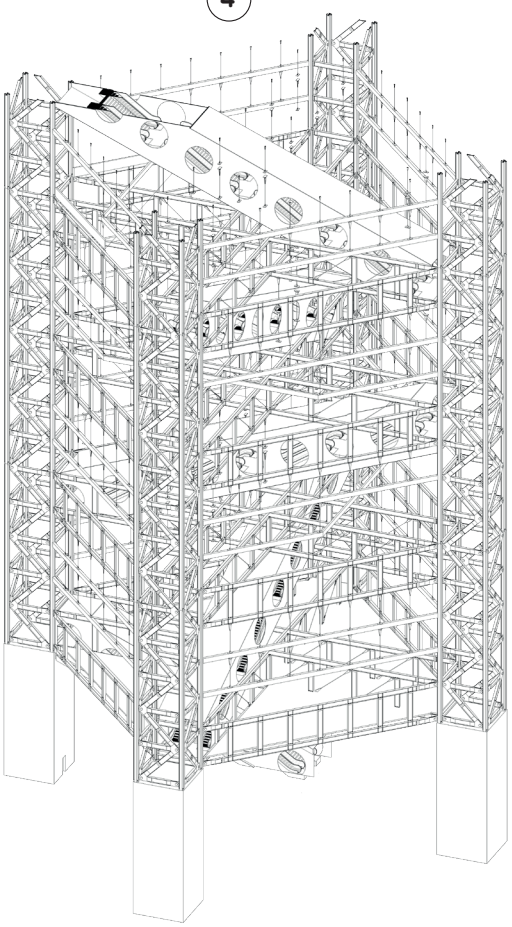

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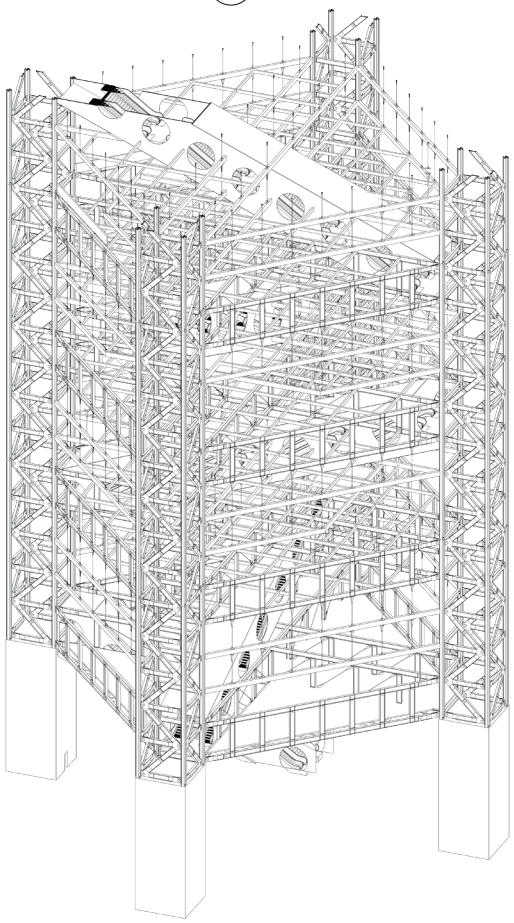

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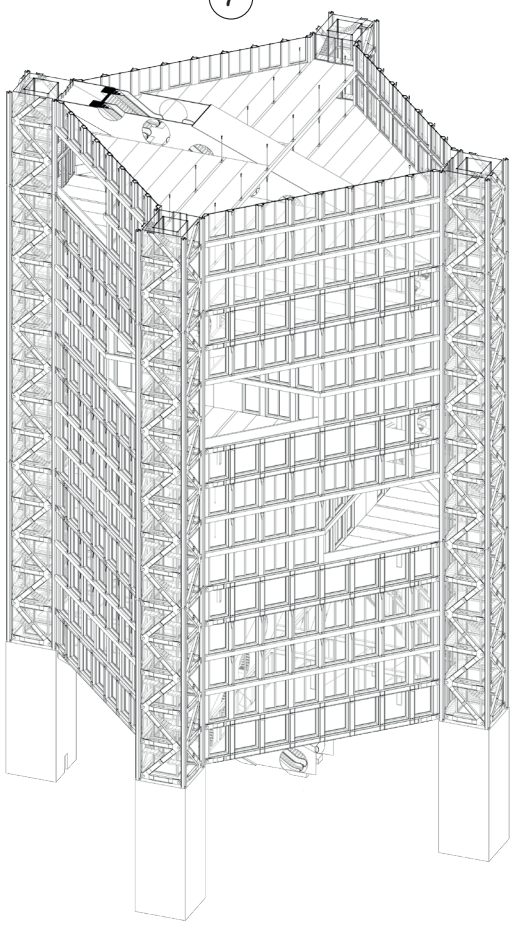

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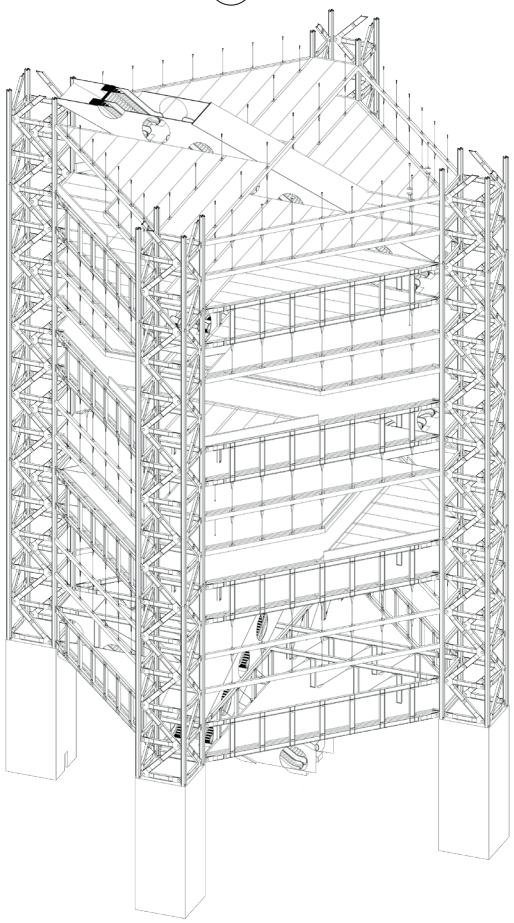

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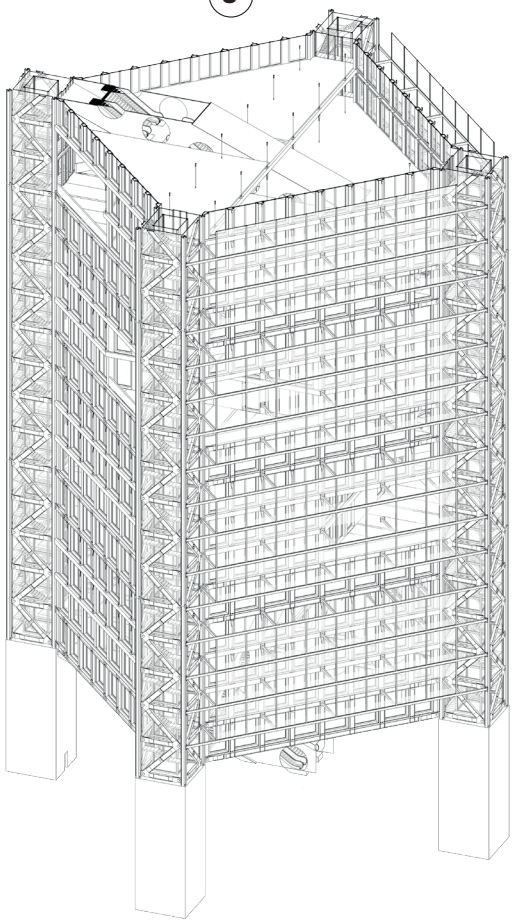
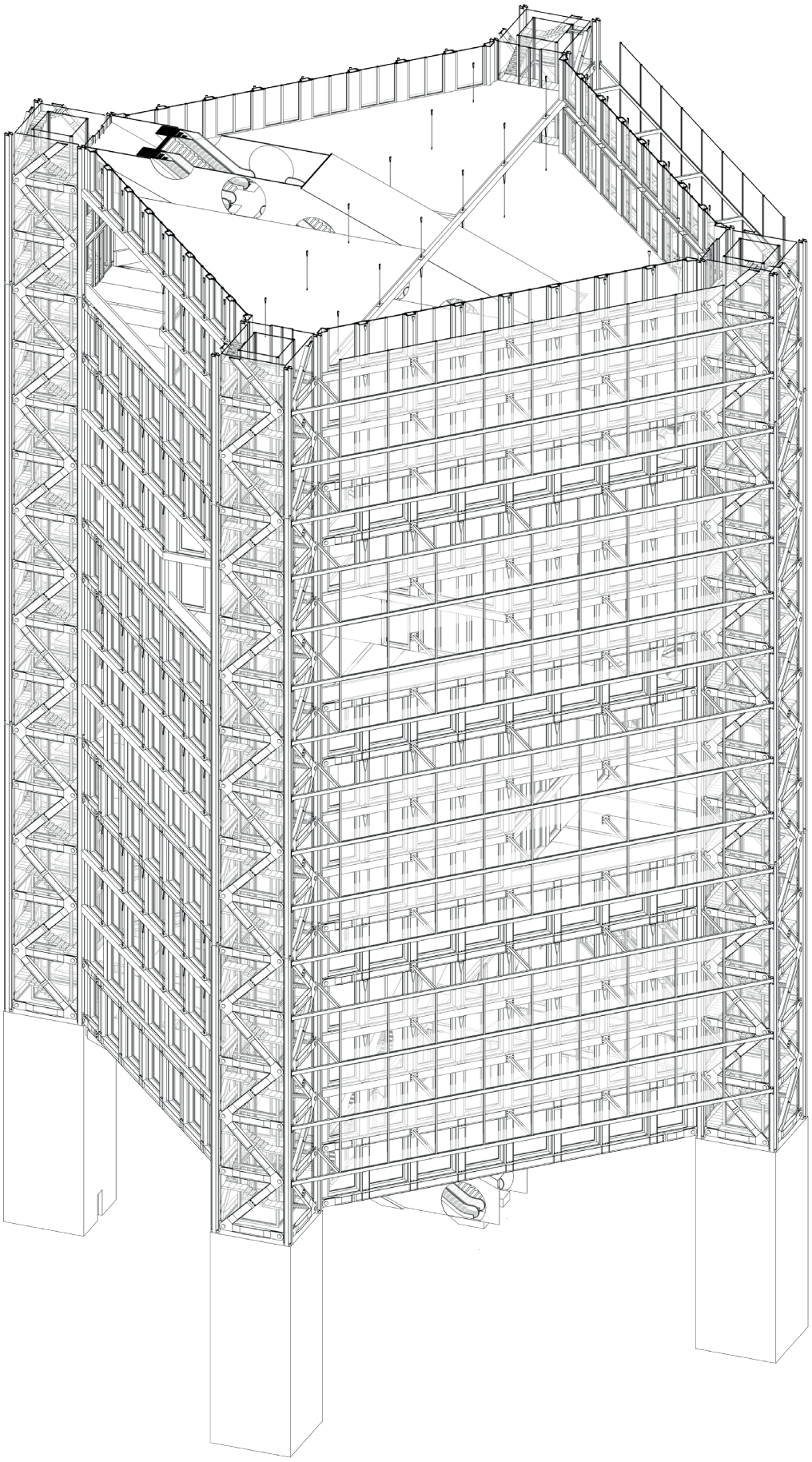
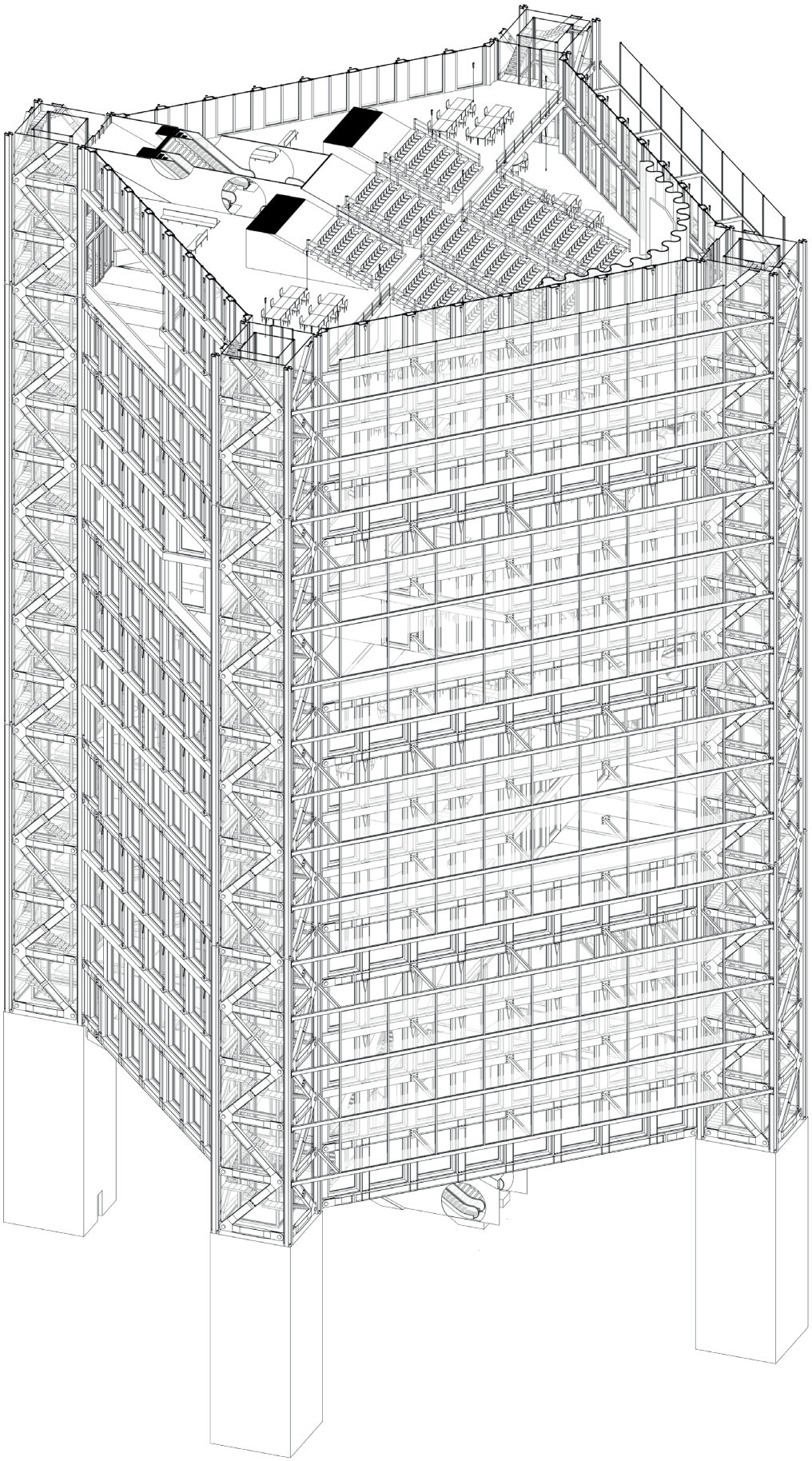
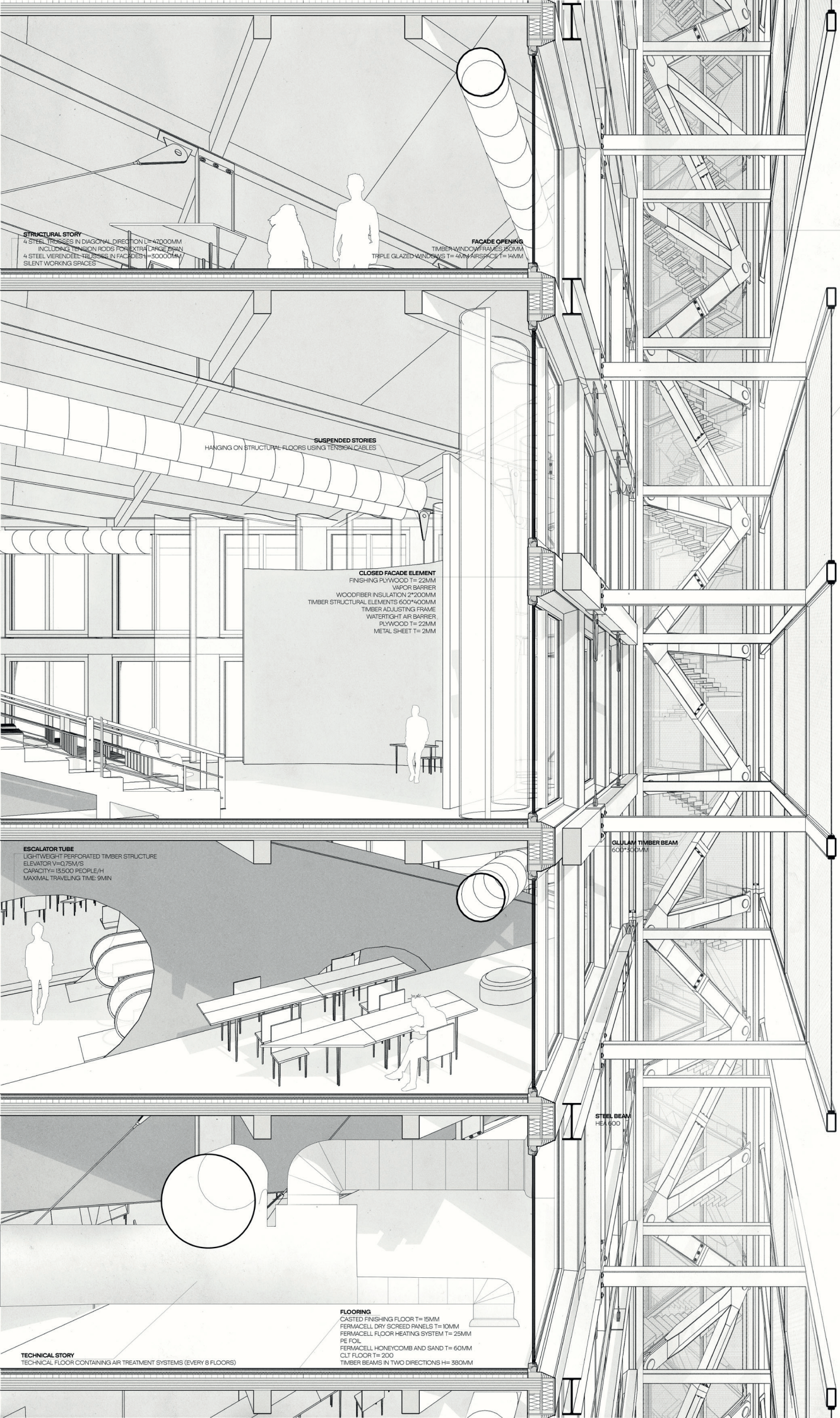
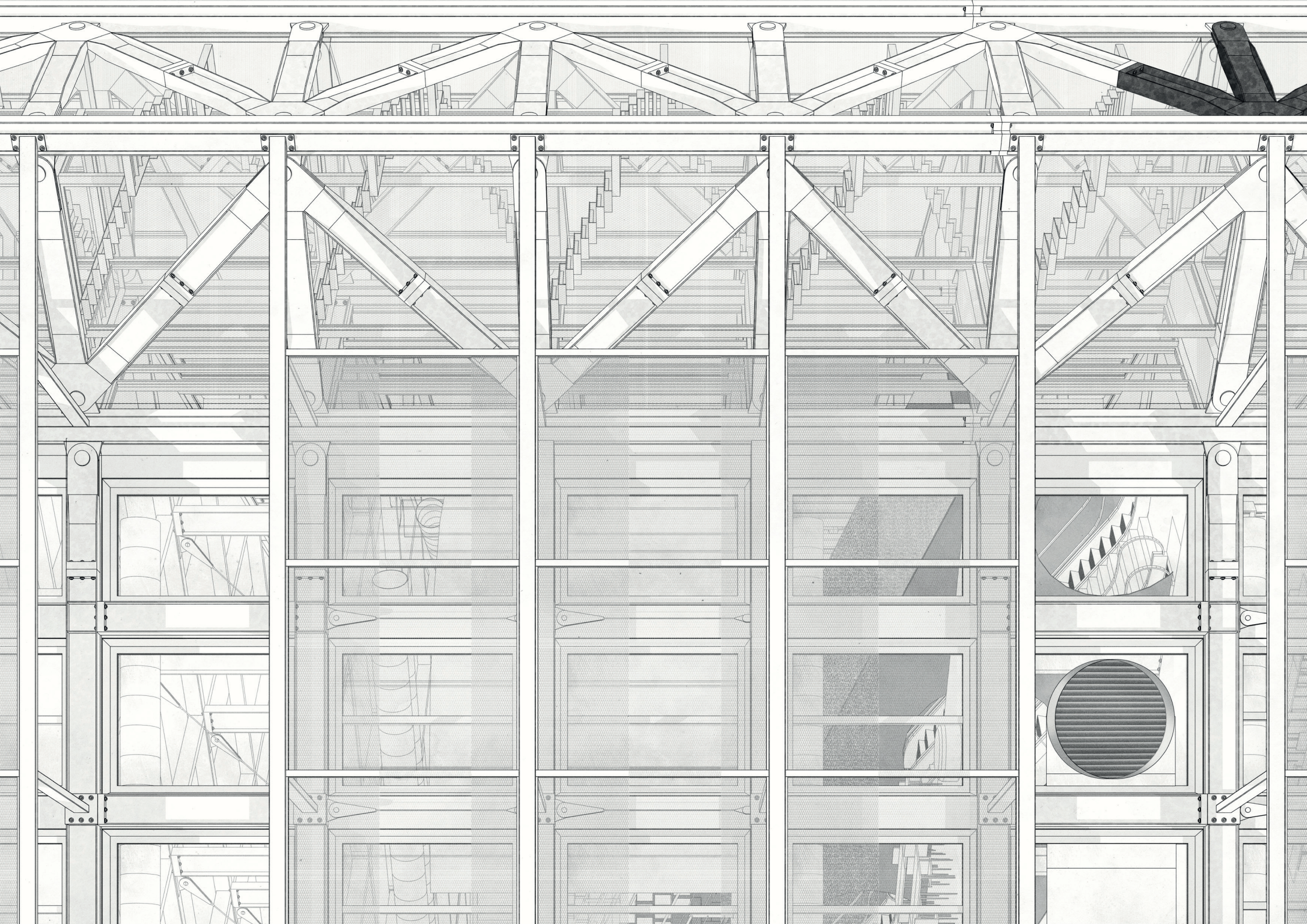







STRUCTURAL STORY
4 STEEL TRUSSES IN DIAGONAL DIRECTION L= 47000MM
INCLUDING TENSION RODS FOR EXTRA LARGE SPAN
4 STEEL VIERENDEEL-TRUSSES IN FACADES L=30000MM
SILENT WORKING SPACES
FACADE OPENING
TIMBER WINDOW FRAMES 150MM
TRIPLE GLAZED WINDOWS T= 41MM AIRSPACE T= 14MM
EXTERNAL STEEL CORE
HEA 600 STEEL BEAMS AND COLUMNS
MEASUREMENTS: 5700*5700
EXPRESS ELEVATOR, SHAFTS, FIRE STAIRCASE
SUSPENDED STORIES
HANGING ON STRUCTURAL FLOORS USING TENSIONCABLES
SOLAR SHADING
STEEL TUBES 75*150MM T=10MM
ARCHITECTURAL WIRE MESH, FINE
ARCHITECTURAL WIRE MESH, OPEN
CONNECTED TO STEEL CORES AND BEAMS
ON SOUTH-WEST AND SOUTH-EAST FACADES
CLOSED FACADE ELEMENT
FINISHING PLYWOOD T= 22MM
VAPOR BARRIER
WOODFIBER INSULATION 2*200MM
TIMBER STRUCTURAL ELEMENTS 600*400MM
TIMBER ADJUSTING FRAME
WATERTIGHT AIR BARRIER
PLYWOOD T= 22MM
METAL SHEET T= 2MM
ESCALATOR TUBE
LIGHTWEIGHT PERFORATED TIMBER STRUCTURE
ELEVATOR V=0,75M/S
CAPACITY= 13.500 PEOPLE/H
MAXIMAL TRAVELING TIME: 9MIN
GLULAM TIMBER BEAM
600*300MM
STEEL BEAM
HEA 600
FLOORING
CASTED FINISHING FLOOR T= 15MM
FERMACELL DRY SCREED PANELS T= 10MM
FERMACELL FLOOR HEATING SYSTEM T= 25MM
PE FOIL
FERMACELL HONEYCOMB AND SAND T= 60MM
CLT FLOOR T= 200
TIMBER BEAMS IN TWO DIRECTIONS H= 380MM
TECHNICAL STORY
TECHNICAL FLOOR CONTAINING AIR TREATMENT SYSTEMS (EVERY 8 FLOORS)



1. HR+++ GLAZING 2025MM*3400MM

2. WOOD/ALUMINIUM WINDOWFRAME 150MM

3. TIMBER ADJUSTING FRAME

4. WOODFIBER INSULATION 200MM, IN PREFABRICATED TIMBER ELEMENT

5. PIR INSULATION, SLOPED

6. METAL SHEETING, T=1MM

7. TIMBER BEAM, CONNECTION FACADE WITH WITH FLOOR BEAM

8. STEEL PLATE, 600MM*300MM

9. STEEL TENSION ROD

10. STEEL BEAM 300MM*150MM

11. STEEL FRAME FOR HOLDING SOLAR SHADING

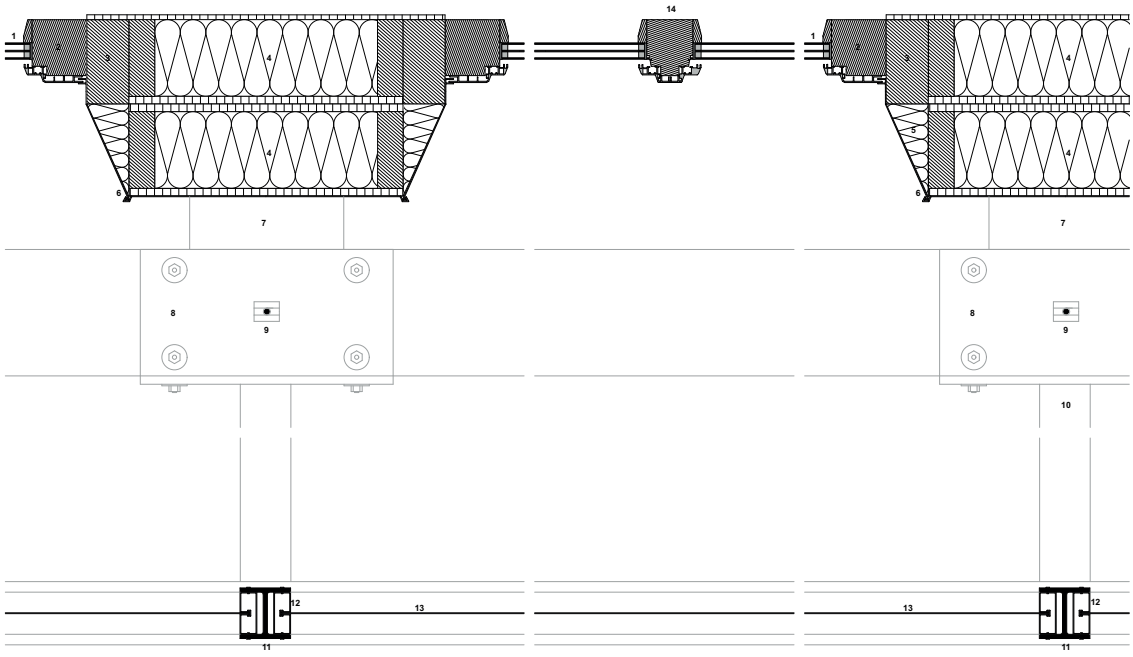
12. SOLAR SHADING FRAME

13. ARCHITECTURAL WIRE MESH, IN TWO DIFFERENT OPACITIES

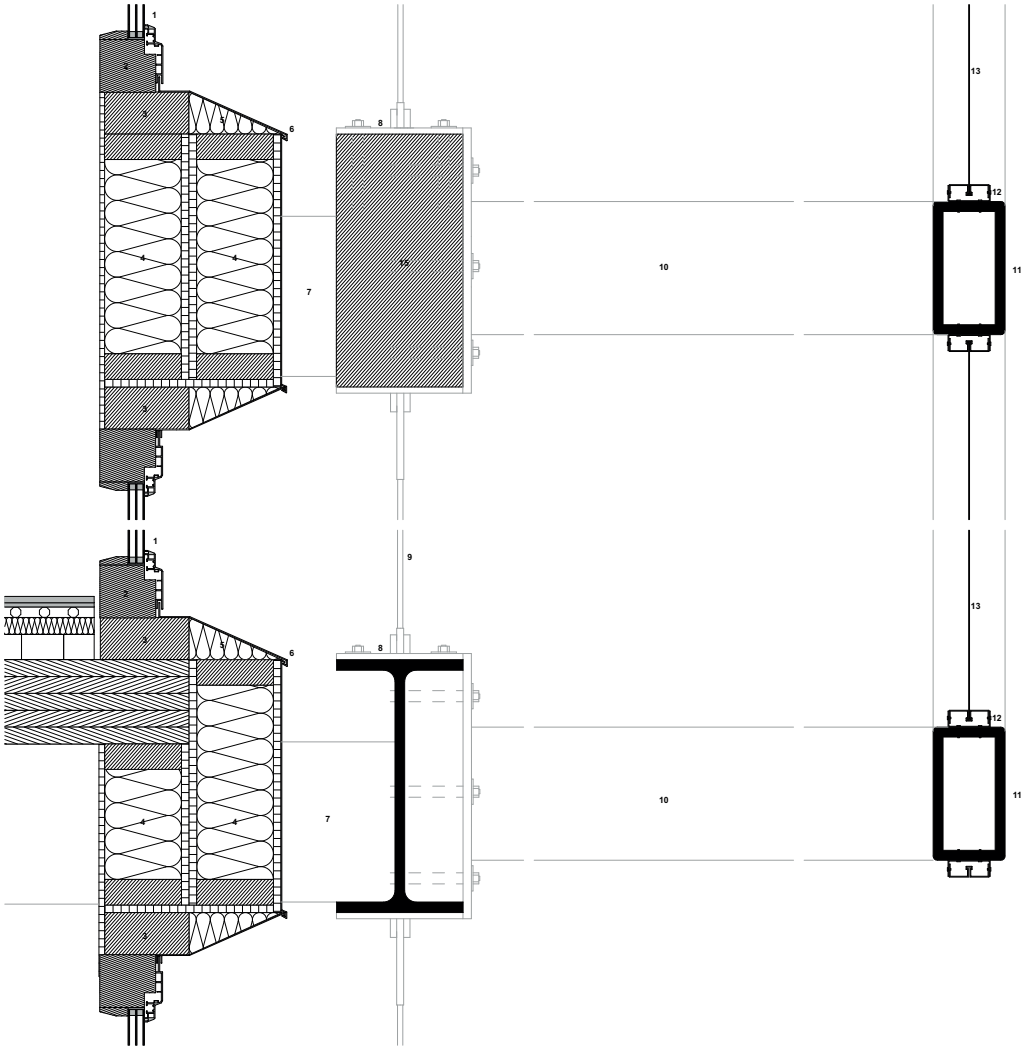
14. WOOD/ALUMINIUM WINDOWFRAME 150MM

15. TIMBER BEAM 600MM*300MM

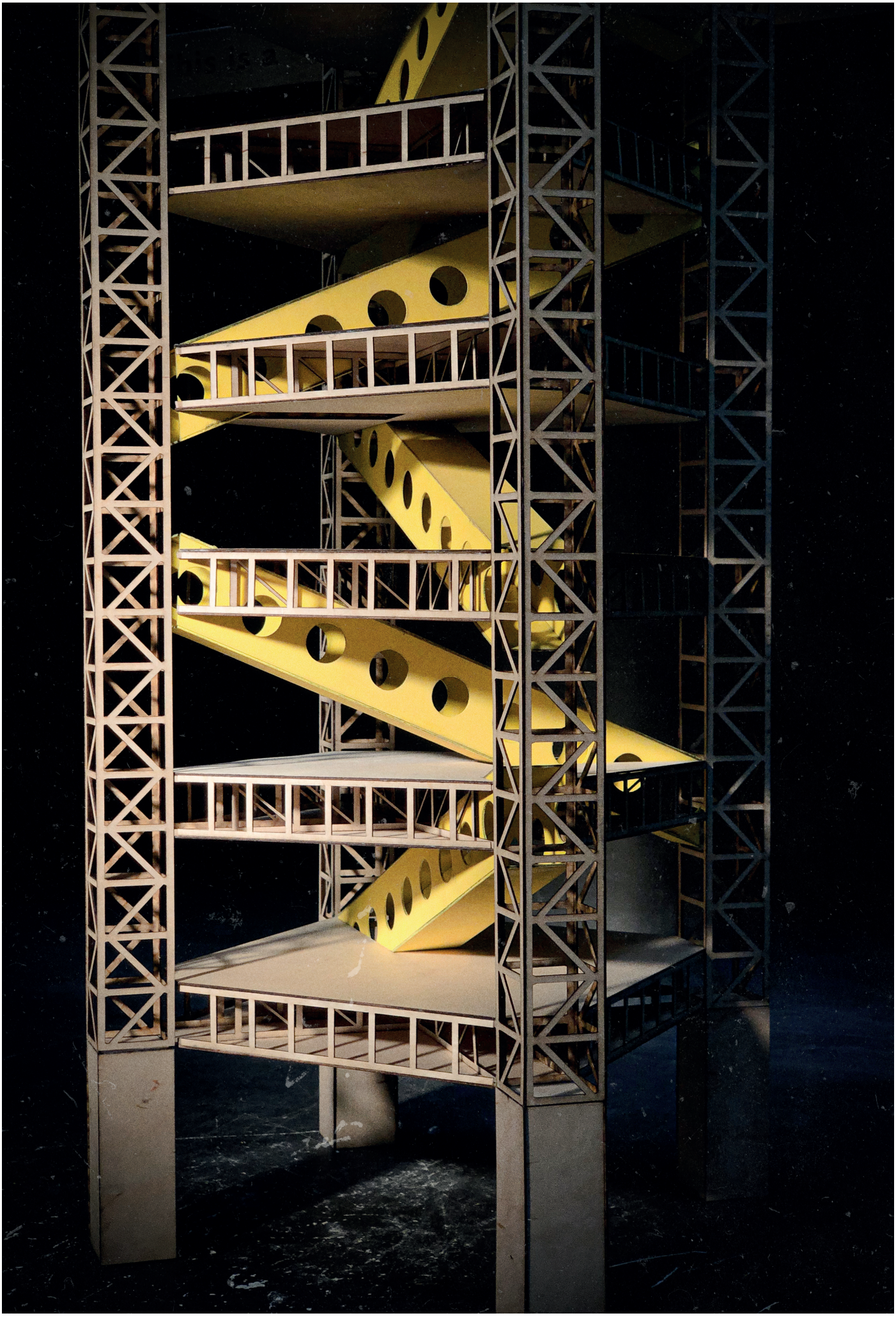
HORIZONTAL DETAILING



VERTICAL DETAILING

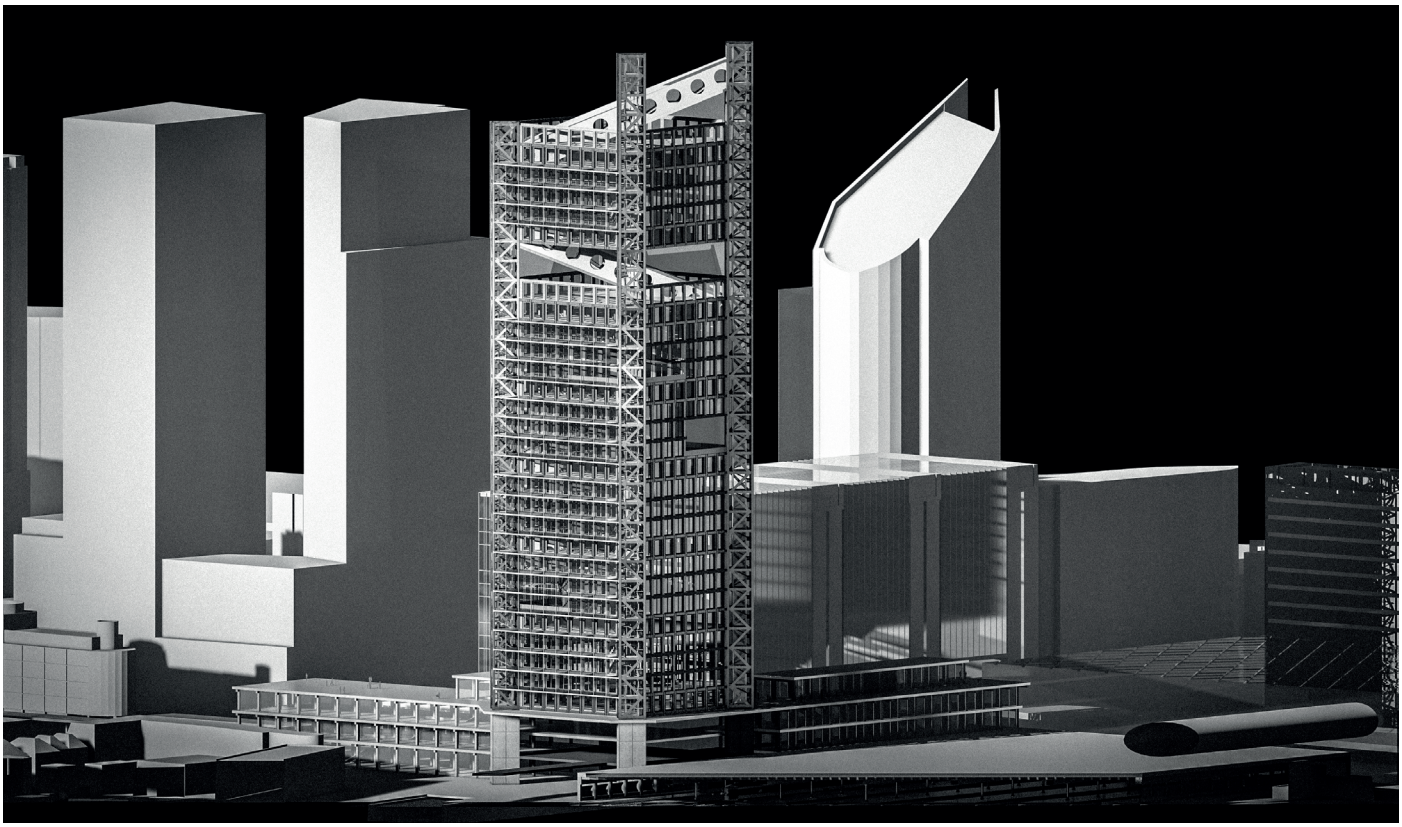


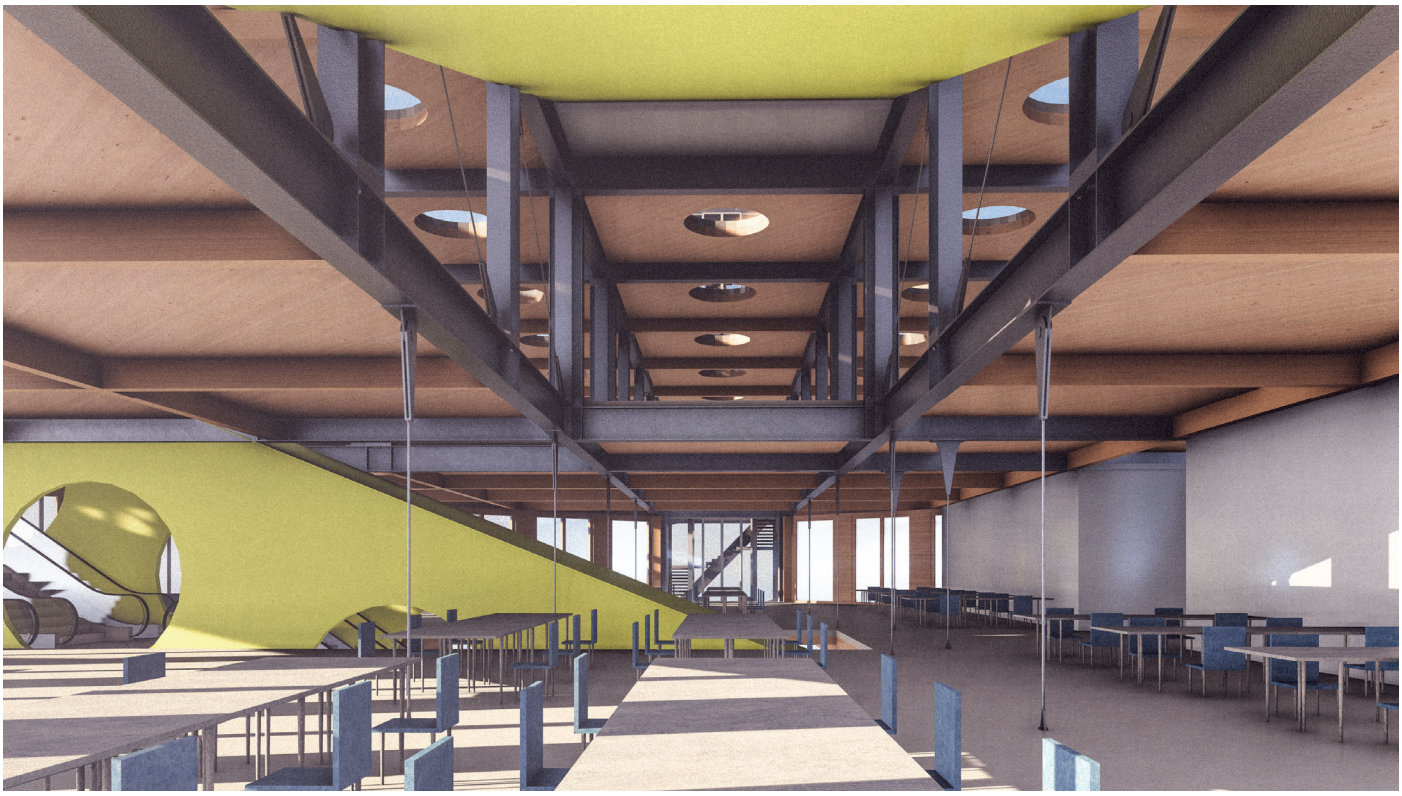


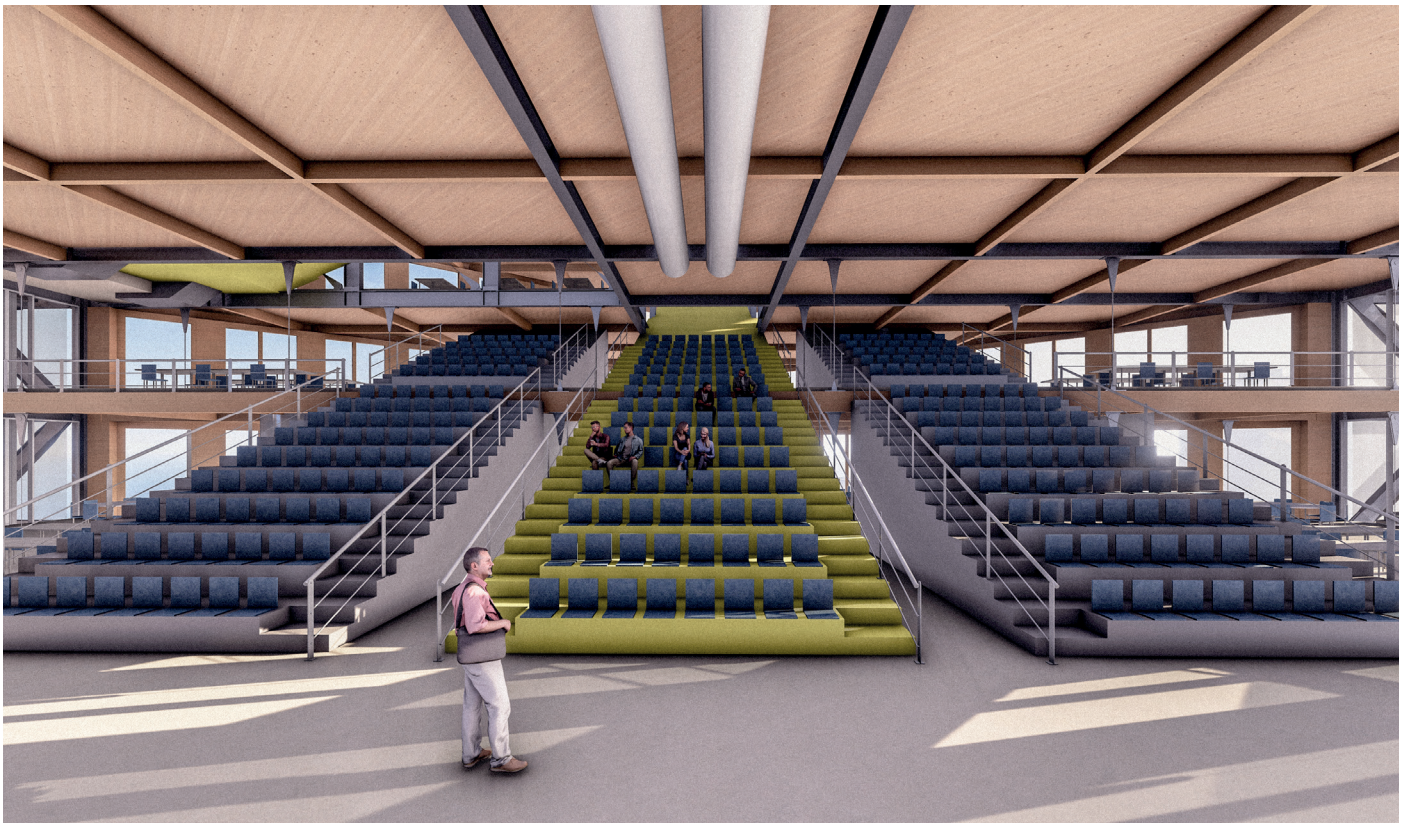






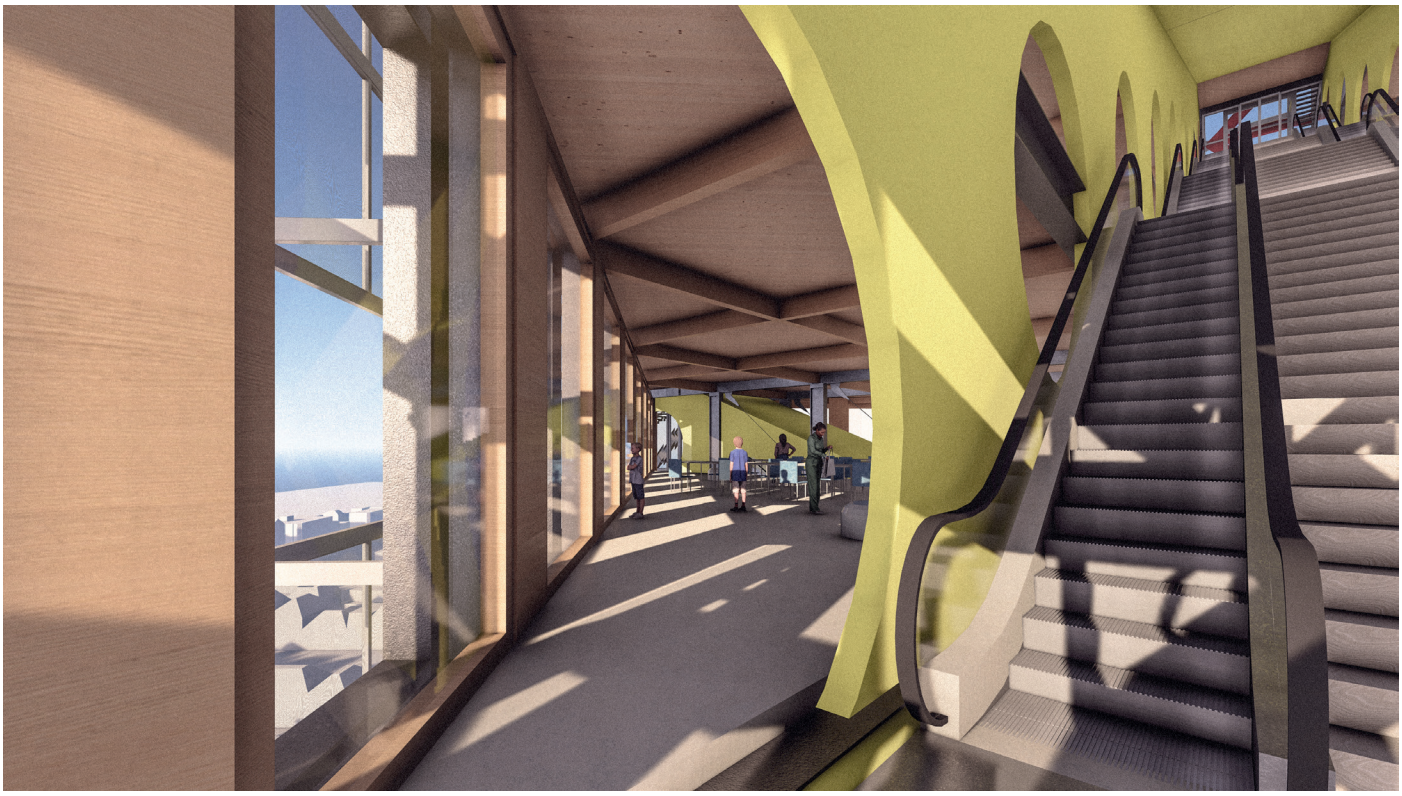


















Final reflection

Generally, this graduation year I have been able to produce the architectural project that I . Finding an interesting topic was not a hard task, given the complexity of the design task, delineating the topic and finding design goals was more challenging. The research plan helped me start to develop ideas about the urban environment in combination to the internal qualities of the future campus. Although throughout the year the design has taken many different forms, the research scope shifted only slightly.
After P1, I noticed that finding a narrative was going to help me in the long run. Weekly presentations to the tutors helped me to find the narrative which was quite often changed. The foundation of the project was laid out at the P2 presentation, where location and general design principles were determined. But the overall story was still lacking. From P2 to P3 I made many formal variations, there was definitely still the struggle to find the true meaning of the project, but this all became more clear after the P3 feedback. After P3 most of the design decisions were final and the focus shifted to producing high quality technical and architectural drawings.

General reflection

From the start, the topic was linked to the field of Urbanism, with P1 but also the site of the project located in a high density urban fabric. The project is all about designing interactive or intimate spaces in the campus of the future, in this dense and congested area. A topic that is becoming more relevant, with the growing pressure on city centres. The project contributes to architecture and urbanism by investigating more versatile and efficient urban environments. Seeing infrastructure as an opportunity, to connect public buildings to, instead of handling it as a thread. Building over infrastructure instead of in between, therefore connecting to the public flows and leaving space for the public city to develop.

Project specifics

When outlining the core of the project, it's crucial to distinguish between the two present scales: the contextual and the internal. These scales are inherently intertwined, built upon the same fundamental principles, with the contextual scale providing input to the internal one.
In the contextual scale, the project relates to its surroundings in a physical sense, as to the broader architectural discourse in a more conceptual sense. Physically the building is hovering above the infrastructural node that was largely defined by the emergence of SCALE and SPEED during the post-war urban metamorphosis. Conceptually the project builds on the architectural ideas from 60s and 70s avant-gardists like Constant Nieuwenhuys, Archigram and superstudio, who were radically imagining new ways of everyday life. The relevance of these avant-gardists lies in their architectualized ideas about urbanisation, publicness and flexibility regarding movement, individual freedom, self-development and creativity that are well fitting for this graduation topic.

With the input from the contextual scale, the internal scale takes shape. Taken into account the SCALE and SPEED of the post-war context and the concepts of the avant-gardists, one more element is added; my vision on the future campus. The project aims to develop interactive and intimate spaces in an open campus, partly based on the ideas of Superstudio about future education. Trough flexibility and specific design decisions, this is incorporated into the internal scale. A main public internal routing system acts as a spine, a piece of infrastructure focussed on SCALE and SPEED. The interactive and intimate learning spaces are connected to this spine.
Last steps
The project still needs to be finalized, to improve the coherence of the overall story, update drawings and to make a final physical model. This will be the main focus of the period in between P4 an P5.

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Max Venderbosch
Student number	5056276

Studio		
Name / Theme	Public Building Graduation Studio	
First mentor	Henk Bultstra	Project Design
Second mentor	Ger Warries	Technical Building Design
Third mentor	Sien van Dam	Theory and Delineation
Argumentation of choice of the studio	I am particularly intrigued by the intersection of architecture and public spaces within a city. The challenge of designing public buildings appeals to me, especially the relationship between ephemerality of the fluctuating flows of people and the permanence of buildings. For graduation I preferred to work on a design a large-scale building, and especially a public one. Public buildings are linked to uncertain flows of people which is a complexity that makes this graduation studio particularly interesting to me.	

Graduation project	
Title of the graduation project	SCALE · SPEED : SKYSCRAPERS.
Goal	
Location:	The Hague, Central station
The posed problem,	In the highly congested context of The Hague, a public educational high-rise building will be designed. How to design a building in this specific context and how to include a vision of the future campus into the design?

research questions and	1. How does the project relate to the urban conditions provided by The Hague's central station area? 2. How does the projects vision for the future campus, the creation of interactive and intimidate learning spaces in a congested urban context, relate to its context? 3. How does the vision of the future campus, the creation of interactive and intimidate learning spaces in a congested urban context, form its interior conditions?
design assignment in which these result.	Design a public, mixed-use educational high-rise building in a congested urban context near The Hague's central station. Address the following: Integration with Urban Conditions: Analyze the urban surroundings to integrate the high-rise building, ensuring connection with the existing cityscape, infrastructure and flows of people. Interactive/Intimate Learning Spaces: Conceptualize innovative spaces promoting collaboration and engagement, but also providing spaces to retreat and foster an environment for learning in intimate spaces. Define essential conditions such as scale, acoustics, lighting and flexibility for most relevant spaces.

Process

Method description

1. Literature reviews.
Reading and reflecting on found literature addressing the topic of the project

2. Site analysis
The research may encompass both qualitative and quantitative data, including an extended site analysis that documents how the design integrates into the public space.

3. Case studies
Studying and designing with the found concepts in literature, making multiple variations. Testing the results and concluding findings. Link back conclusions to literature. Start at 1 again.

4. Research by Design

The graduation studio uses a specific method known as Research-by-Design. Research-by-Design focuses on design work as a special form of research. It considers theory and praxis, analysis, and imagination as inseparable and as a medium to help conceive and develop architectural ideation. Research is not only about preparation, description, and explanation, but also more importantly about projection and speculation. Research is therefore a form of design and design a form of research.

Literature and general practical references

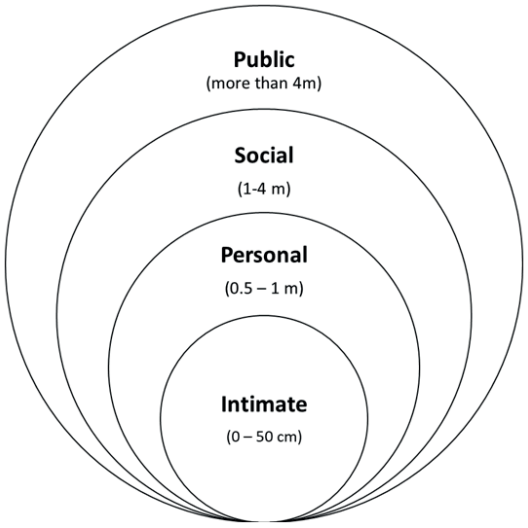
1. Danesi, M. Proxemics. In: Brown K, ed. Encyclopedia of Language and Linguistics. 2nd ed. Boston: Elsevier; 2006:241-243

2. Kate Darian-Smith and Julie Willis, Designing schools (Routledge, 2016):

   Catherine Burke, ‘‘Quiet stories of educational design,’’ in Designing schools, ed. Kate Darian-Smith and Julie Willis, (Routledge, 2016): 191- 204.

   Marco di Nallo, ‘‘The balance between intimacy and interchange,’’ in Designing schools, ed. Kate Darian-Smith and Julie Willis, (Routledge, 2016): 97-109

3. Hall, E. T. (1963a). Proxemics: The study of man’s spatial relations. In I. Galdston (Ed.), Man’s image in anthropology (pp. 442–445). New York: International University Press.



4. Mary Medd, A Right to be Children: Designing for the Education of the Under-Fives, (London: RIBA Publications,1976)

5. Young-Ju Kim. “Organism of Options: A Design Strategy for Flexible Space.”, Massachusetts Institute of Technology, (2008)

6. Roemer van Toorn. “Reinventing the Public Sphere: OMA’s Souterrain & Architectuurstudio Herman Herzberger’s CODA.” Architecture Yearbook, (2004)

7. Elfline, Ross. (2011). Discotheques, Magazines and Plexiglas: Superstudio and the Architecture of Mass Culture.

Reflection

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To summarize, the project tries to add value through two ways, the conceptual historic, and the site historic. Linking to architectural history, Urban planning and the discourse of Public Buildings.

