

Subway Space in our Everyday Lives

***Exploring the Architectural Experience
of Everyday Life in Subway Spaces under
Dense Urban Cities***

&

***A New Design for Subway Station
BEURS - Rotterdam***

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Teachers - Theory

Design

Building Technology

Examinator

Klaske Havik

Mieke Vink

Jan van de Voort

Erwin Mlecnik

An Explorelab Project

Experimental Research and Design

0_ index

1_Motive

Project origin and approach

2_Research

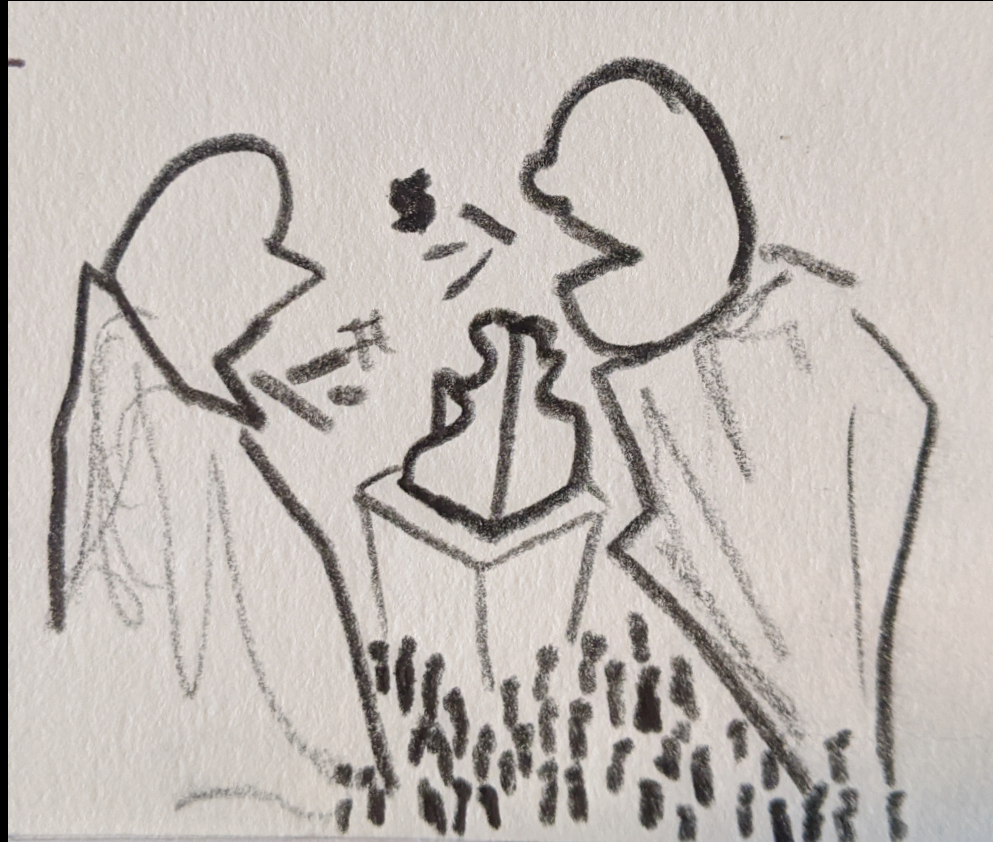
Film & Book - Exploring Subway Space/Subway Space in Our Everyday Lives

3_Design

From a research framework to a design for Beurs Rotterdam

4_Questions

1_motive



perspective of a planner

1_motive



Mega Smart Cities - Zaha Hadid Architects

1_motive



Understanding Architecture

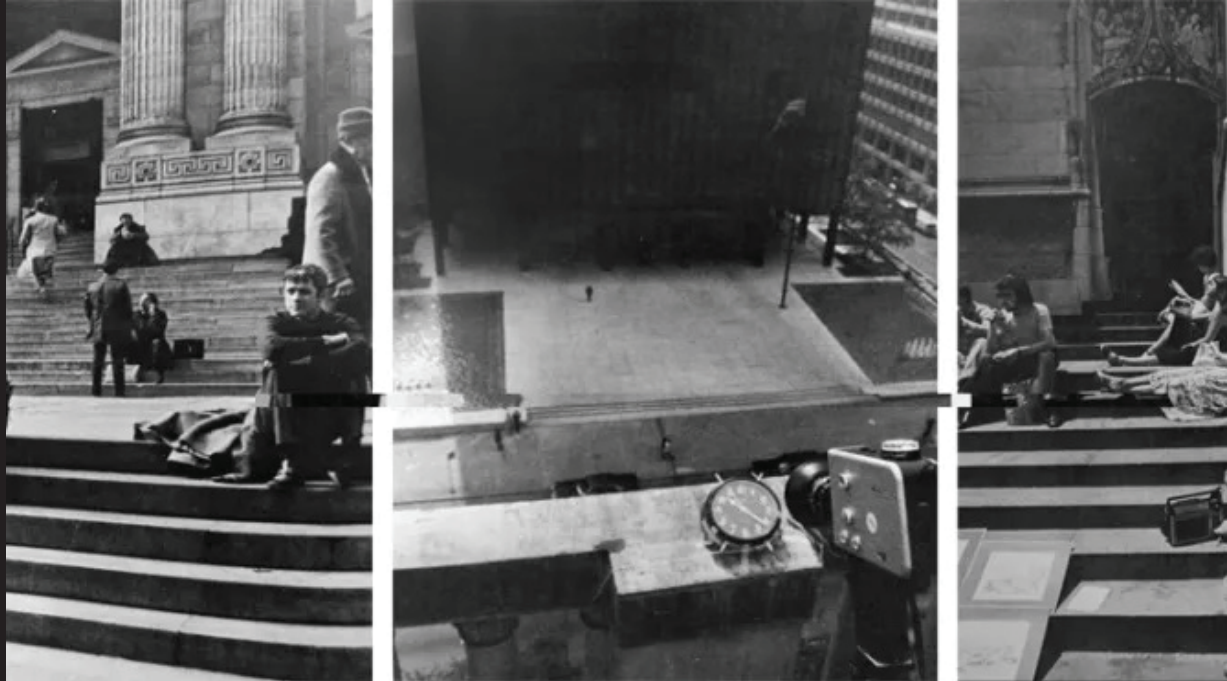
Città ideale - Luciano Laurana or Melozzo da Forlì.

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In Jackson Heights - Frederick Wiseman

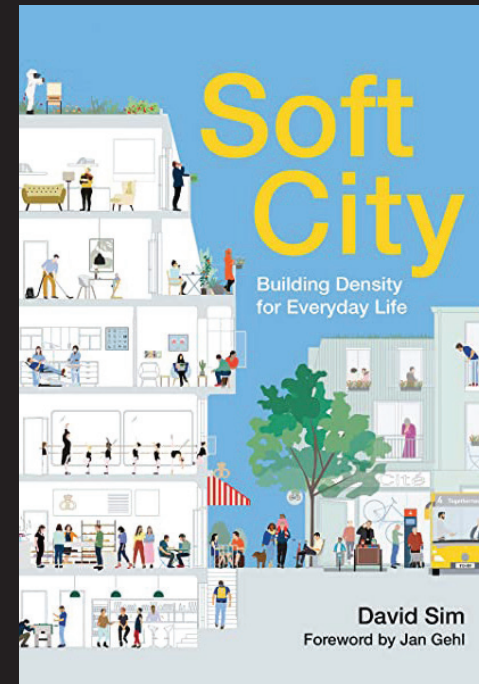
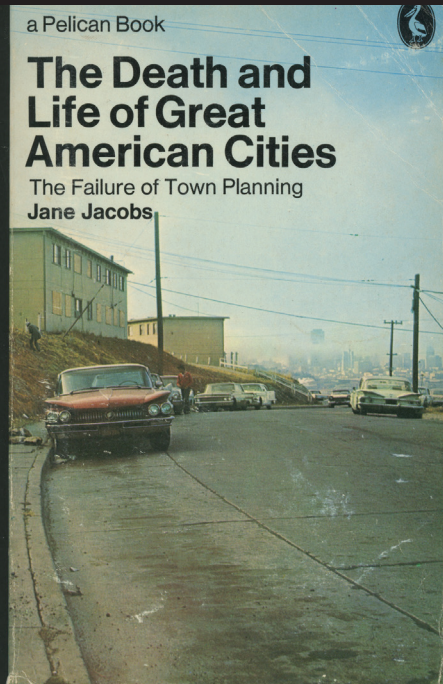
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Understanding architecture and the built environment

The social Life of Small Urban Places - William Whyte

1_motive



Understanding architecture and the built environment

1_motive



In practice

To improve the current design of Metrostation Beurs

2_ RESEARCH

1_ RESEARCH QUESTION

What lies in the seam between architecture and human life in the daily reality of our existence?

2_ METHOD

To make sense of our relationship with architecture, (episteme) through participating and being there (phronesis), in order to form a solid basis from which to make a design (techne).

1_ RESEARCH QUESTION

What lies in the seam between architecture and human life in the daily reality of our existence?

- What is to experience?
- what defines the relationship between a human and a place?
- What is everyday life?
- What lies inside the built environment and what outside?
- What can be identified as the seam?

SUBWAY SPACE as a subject

- Common type of space
- Limited number of parameters (underground)
- Everyday usage with a clear function



Rasmus van Overhagen - SUBWAY SPACE IN OUR EVERYDAY LIVES

Rasmus van Overhagen

SUBWAY SPACE IN OUR EVERYDAY LIVES

parallel to the film
In Transit: Exploring Subway Space

A LAYERED and EXPLORATORY INVESTIGATION OF SUBWAY SPACE

1_ a film (Reality)
accompanied by

2_ a written story (Narrative)
Supported by

3_ a number of essays which are structured along 4
main subjects (Academic)

- .Nature of Perception
- .Men and the Built Environment
- .Subway Space and Architecture
- .Everyday Transit

these 3 layers follow a structure

0_Prologue

1_Carving

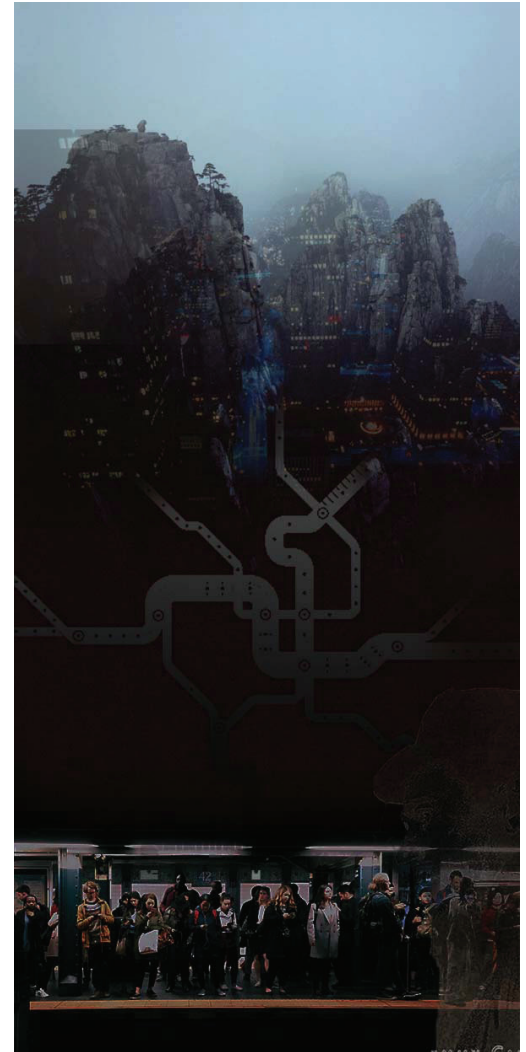
2_Continuity

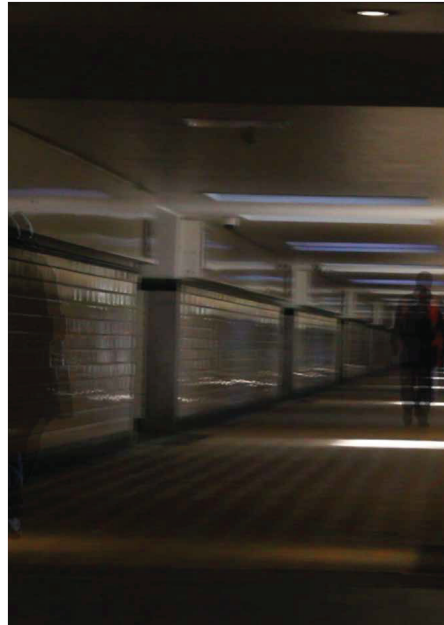
3_Signs&Signals

4_Spatial Rhythms

5_(Un)expected

6_Destinations





CHAPTER 1

CARVING

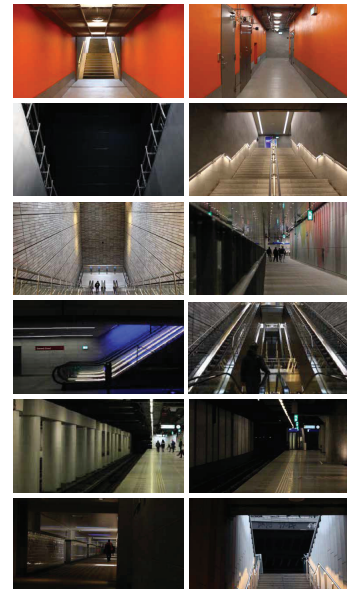
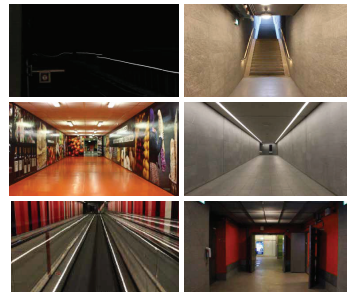
The world underground is dark and narrow. There is no vantage point or peak from which the land can be observed. The world can only be explored by moving further. Then slowly a world of sequences is constructed. You have no choice but to enter the metallic beasts which move you in one direction or the opposite, along the silver tracks in the dark grey tunnels. At fixed distances, the tunnels are speckled with small lights to mark the way. At random intervals the smooth texture of the tunnel walls is interrupted, and larger spaces are revealed. These caves are large and well lit. They are islands in the dark and take the shape of excavated chambers. Like beads on a string, the caves are connected by tunnels. A negative of a necklace swaying through the earth. Each bead the mark of a temporary destination, for human rule is, that each stop may only be visited temporarily. In the underground world, only two actions seem possible. Moving and stopping. Arriving and leaving, the machine moving like a caravan through the deserts from oasis to oasis. These caverns are havens for humans that are traveling underground. Each place is called a station.

By moving, it becomes clear that the underground places possess a system. Tunnels are often narrow, carved in the shape of the machines. Long tubes that are always pulling or pushing you forward. Straight long lines that split up and come together, twisting and turning through the earth. Slow turns shoot left and right into sharp angles, then left, right, up or down again. Each place, each station, is marked by a different shape, size and material. Some are cramped and suffocating, almost as small as the body of trains themselves, while some are spacious like negative of monolithic blocks grazing the surface. The stations bear strange names, but it is through their appearances that they can be understood, grouped together or set apart. Though to understand this underground world, you have to observe the humans that use the rules and systems of this world. These humans are called commuters.

On the one hand the machines are treated as tools, while at the same time they construct the way people live in this world, the places they go and how their time is divided. For those who travel through the underground, these subway spaces appear as temples. A place where speed and the machine are deified. For the machine takes over movement of humans. Travelling faster with only the resistance of air in front of it. On the platforms occurs a strange meeting between forces. Static forces resist the great weight of the earth which continuously presses against the concrete geometry of the roof and walls, while the long machines display a terrible kinetic force. With small breaks, the trains

move horizontally at terrible speeds, the sound of their force reverberating through the tunnels, eager to expand their terrain.

Even now, with drills and mechanical tools, wet mush is sucked out along with sand, mud and rocks. More hollow boxes and pipes are carved out. The earth is covered with walls out of a liquid stone that hardens into a smooth surface. The artificial underground is still expanding and hollowing out thin cylinders in the dark, following its ever-growing opposite above.



Nature of Perception – To perceive is to engage

In the everyday, the experience of our built environment is a practical and actual process. It is a multi-layered process that is continuously exercised by a living human with a lived spatial reality. In theory this process is often called perception. So, perception is not a passive exchange but rather an active and embodied engagement with our surroundings, through which we interpret and construct a personal/existential relationship with the world.¹ It might sound logical that abstract thoughts through perception begets action or kinesthetic engagement, but theory teaches us that this is not the case nor is the opposite. As Francis Mallgrave stresses in his book *From Object to Experience*, mind and body are very much intertwined and should not be considered as separates.² Humans enact or act out perception with their bodies. Not only do we engage with the world through our bodies, our perceptions are also immediately acted out by our corporeal forms. Thus our lived experience of space goes two ways. The experience of space shapes us and our enactment of our perception shapes space. Summarized, our perception of a place is a product of earlier construed perceptions in the form of memories, our pre-set intentions or motivations, our mood, the bodily-sensed affordances of our surroundings, physical and non-physical, and finally the actual kinesthetic actions of our body in space.

Men and the built environment – The embodied architectural experience

The human body is the key to understand how humans experience space. Not only by dissecting and excluding all the diverse sensory organs and receptors our bodies possess, but more importantly by understanding the human body as the original model that all perception is measured.³ Mallgrave argues that when perceiving a building, we grasp its mass and the flow of forces compared to our own bodies, when viewing a material, we stimulate its texture against our skin, when crawling through a cave we project our bodies moving forward between the dimensions of the tunnel. Many of these processes take place in the subconscious. Mallgrave further explains these phenomena by highlighting the role of our sensorimotor systems in perception. First, the mirror mechanisms in these systems are responsible for “embodied simulation” which is responsible for our capability for empathy, which allows us to engage with, to understand and to communicate with other people.⁴ Phenomena which in the past have been called “form gefühl” or “anfühlung”.⁵ Second, that each experience of space is rooted in this sensorimotor system as it precedes our conscious decision-making, meaning that our body’s reaction to space is immediate. Without realizing it, our bodies are already in a state of action. This is internal communication works via “proprioceptors” and is fundamental for our emotional experience of space.⁶ Thirdly since experience of space is a lived experience, we subconsciously process space for its potentialities for action. According to Edward T. Hall, the space around us is subconsciously dimensioned in distances, in which certain actions are possible. The area around the body which allows for action that immediately has effect upon its surrounding is called “personal space”.⁷ Mallgrave stresses that no space or object is therefore neutral. Not only viewed from the objective capabilities of our bodies in that space but also from the perspective of emotion. Each place is loaded with emotional meaning through enculturation and each place is approached with personal moods. We might say that we are active bodies, which are sources for kinetic actions in space and transform that space through movement over time. However, subway space contains another moving body. That of the machine which not only transforms the space but is the other body upon which the designs for underground spaces are measured.

Subway space and architecture – Underground carvings and cavities

Although subway stations could be called an everyday space, underground spaces are anything but ordinary. As building underground has defining limitation which has consequences for the type of spaces that can be produced. For underground space Steen Eiler Rasmussen would rather use the term “cavities” as he makes a fundamental distinction between space that is created out

of solids and space that created by taking away mass.⁸ A windowless hallway might look like a tunnel underground, the experience of it is very different. Instead of building a floorplan by making a structure out of planes, it better resembles a sequence of volumes carved out of the earth. And instead of balancing the vertical forces of materials to make a structure, it is now the geometric shape created by a hollow volume which balances out the forces of the mass around it.⁹ Harries would argue that although they have a similar shape, the interaction with each space is different. “First of all and most of the time the body, especially the moving body, mediates our experience of space. The street to be walked down, the mountain to be climbed, the bridge to be crossed”.¹⁰ What then should we say when encountering caves and cavities. Can we say that they need to be explored, or to be entered and exited? Underground spaces are after all turned inwards since they are surrounded by mass and offer no openings. Distances are hidden since it cannot be viewed from afar like a landscape. The only way to navigate through the space is by moving forward and uncovering its layout. And, going back to Harries, if an open landscape with “a spacious horizon” embodies freedom than perhaps, these carved spaces are a form of subjugation.¹¹ Forcing the traveller through a spatial sequence of experiences and actions.

Everyday transit – Mental mapping the underground

When we take a step back, subway architecture can be approached by its two main characteristics apart, being made up out of subterranean pathways and being a railway. Firstly, reading Harries, the underground becomes a space of descent. Harries mentions the sacredness and mysticism of caves. Bachelard’s interpretation of the cellar as the dark entry of the house, where reality mixes with dream and imagination, and even gives an opposite view through Frank Lloyd Wright’s dismissal of the cellar as a darkness and stubbornness of the past.¹² The railway however is equally revered for its easiness and speed of travel. Aino Haapala beliefs that railway buildings are the embodiment of the modern era, where continuous progress, freedom to be anywhere and haste rule our daily lives.¹³ Going as far, to compare the monumental rail waystations to the temples of the Hellenistic era that serve as centering structures for the daily life of the inhabitants. On a similar note, Michel DeCerteau perceives the train as a “god undone” which turns its users into passive practitioners.¹⁴ Yet when thinking of subway space, few of these sacred properties come to mind. From the embodied perspective of the everyday commuter, the subway stations are mostly compromised out of brightly lit subterranean tunnels that leave little space for much else than crossing and waiting. These spaces become more like tools of transit and invisible instrument for our daily routes, than monumental structures which should be praised.¹⁵ De Certeau argues that our daily experiences are better understood as “tours” than as “maps”.¹⁶ Through this approach De Certeau further shows, the fundamental different language and understanding of space from the scientific perspective and the perspective of the everyday users. Indeed, when using the labyrinth like spaces of the underground, we are more concerned with constructing and following our route than constructing a map. What then becomes noticeable and memorable are not only the independent architectural qualities of the spaces we cross but the transitions in our ascent/descent, the “borders” and “boundaries” of the spaces we cross, and the sequential relation of the different spaces.¹⁷ Not only through the difference in the dimensions of space, but also the differences, contrasts and juxtaposition in materiality, ordnance and detailing.

18

19

Endnotes

- 1 Francis Mallgrave, *From Object to Experience. The New Culture of Architectural Design* (London: Bloomsbury, 2018), 45.
- 2 *Ibid.*, 89.
- 3 Kasten Harries, *The Ethical Function of Architecture* (Cambridge: MIT Press, 1997), 157.
- 4 Mallgrave, *From Object to Experience*, 106.
- 5 *Ibid.*, 100.
- 6 Edward T. Hall, *The Hidden Dimension*, (New York, Anchor book editions, 1990 [1966]), 54.
- 7 Mallgrave, *From Object to Experience*, 73.
- 8 *Ibid.*, 113.
- 9 Steen Eiler Rasmussen, *Experiencing Architecture*, (Cambridge, MIT Press, 1993 [1959]), 46.
- 10 Harries, *The Ethical Function of Architecture*, 181.
- 11 *Ibid.*, 156.
- 12 *Ibid.*, 170.
- 13 Harries, *The Ethical Function of Architecture*, 202-213.
- 14 Aino Haapala, “The Everyday, Building, and Architecture: Reflections on the Ethos and Beauty of our Built Surroundings”, *Cloud-Cuckoo-Land: International Journal of architectural theory 02*, (2017): 171-192.
- 15 Michel de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 1984 [original version in French: *Acts de Résistance*, 1980]), 113.
- 16 Haapala, “The Everyday, Building, and Architecture: Reflections on the Ethos and Beauty of our Built Surroundings”, 178.
- 17 Michel de Certeau, *The Practice of Everyday Life*, 119.
- 18 *Ibid.*, 122-129.

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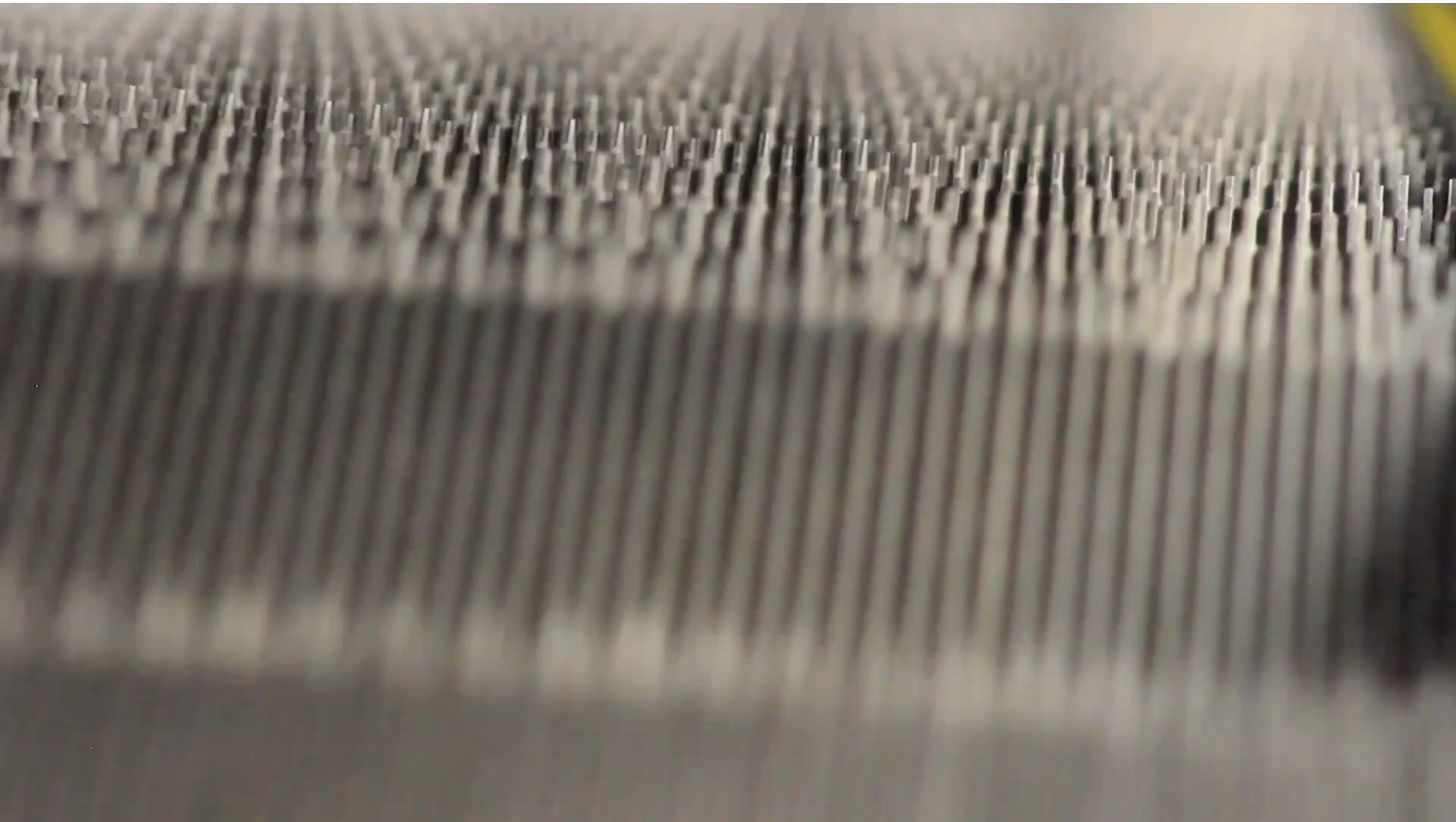
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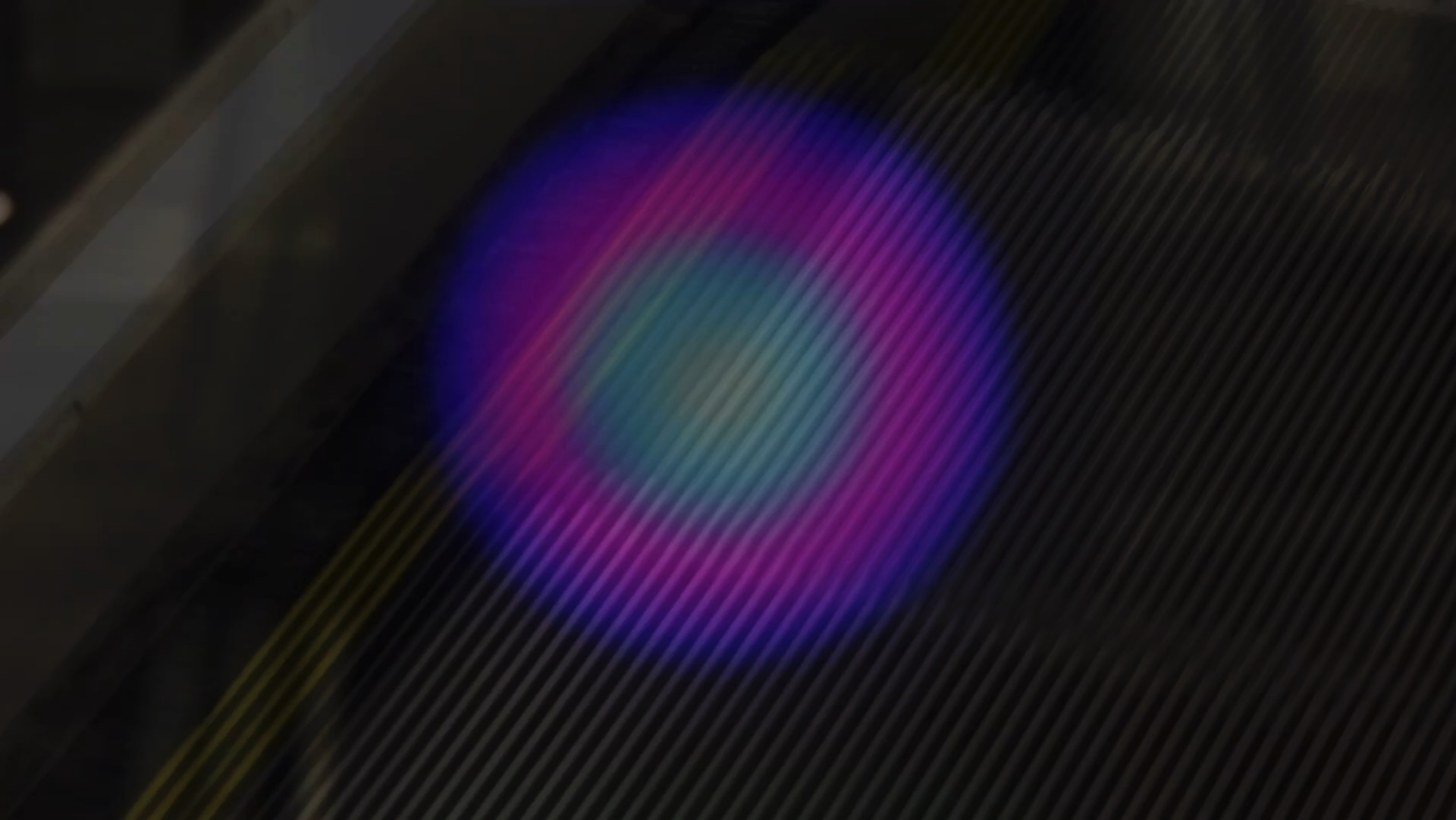
Introducing an unknown character - alien to the modern world





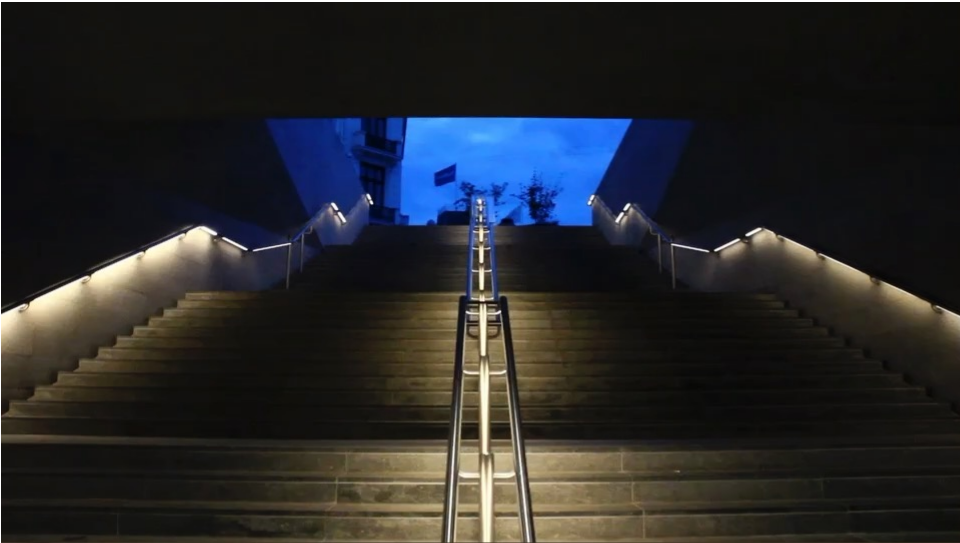


















| CHAPTERS/ SUBJECTS | NATURE OF PERCEPTION | MEN AND THE BUILT ENVIRONMENT | SUBWAY SPACE AND ARCHITECTURE | EVERYDAY TRANSIT |
|-----------------------|--|--|--|---|
| 1. CARVING | To perceive is to actively engage with the surroundings | The human body is the measure for our surroundings | Underground spaces are set in a sequence of cavities and voids | To understand the everyday experience is to engage in the practices as a " tour " not a "map" |
| 2. CONTINUITY | Experience is a multi-sensory practice, emphasise visceral and focused vision | Atmosphere is a product of a mindful physical sensation but each place has a basic mood | Atmospherical generators in subway architecture are static while moving materials are produced by humans vs. machines | Experience of the flow of time is connected to movement and practice but in subway space it is dominated by the clock |
| 3. SIGNS AND SIGNALS | Space and architecture are perceived in (physically, sensually and socially) for its ffective affordances | Architectural objects communicate affordances through a form of mass-communication | Similar types of underground objects and spaces have the same denotations but diverse and changing connotations | Everyday architectural objects follow communicative gradient of quickly saturated direct/focused objects and indirect/visceral objects of longevity |
| 4. SPATIAL RHYTHMS | Habits come for and after experience, formed through social practices | Space is a social product , a substance actualised through practices between individuals/ groups and a place | In practice, lived space , is a poly-rhythmic product composed by repetition of action and silences and changes | Cyclical and linear rhythms work together for the continuous daily production of space |
| 5. (UN)EXPECTED | Everyday life is made up out of familiar and novel experiences (Stable/dull/expected) - (Tensed/elevated/unexpected) | Everyday space is complex yet simple, insignificant yet powerful, and a lived relationship with places rather than an objective quality | The common mundanity of underground spaces is dictated by monotonous rules and rituals, but rebelled against by social practices | Everyday architecture is to design a place for people to actively live in, to offer comfort and excitement, to compose and to be unspecific, practice not rational |
| 6. DESTINATION | Daily experience structured around home and reach | Sense of place is still crucial to sense of the self but some would argue that our existence is fragmented | The underground is a public space and isolated world with specific rules. An extraordinary place but a monotonous ordinary space | Underground everyday life is also a form of constrained time between space it connects, not a destination , where temporal change is absent |

CARVING*NATURE OF EXPERIENCE

“To perceive is to actively engage with the surroundings”

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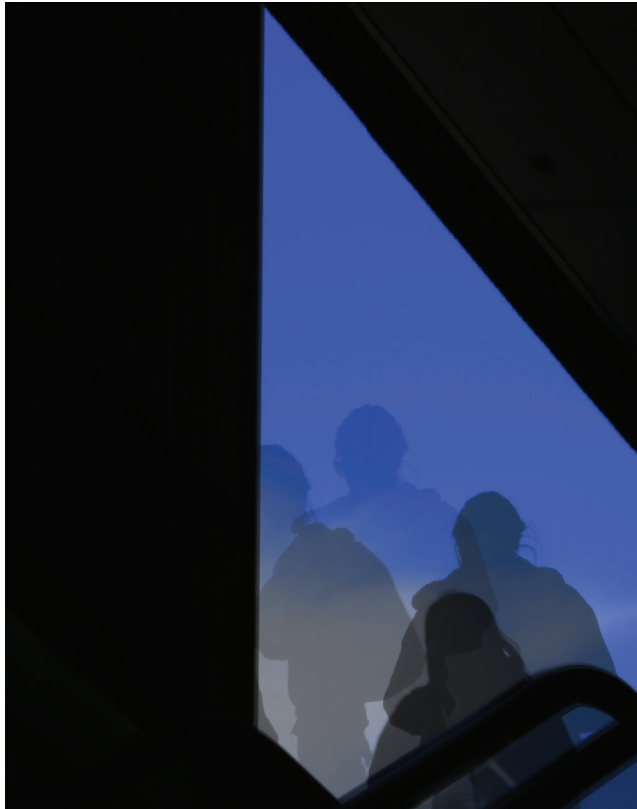
(UN)EXPTECTED*SUBWAY SPACE AND ARCHITECTURE

“The common mundanity of underground spaces is dictated by monotonous rules and rituals, but rebelled against by social practices”

3_ DESIGN



CHAPTER 6 _ DESTINATIONS

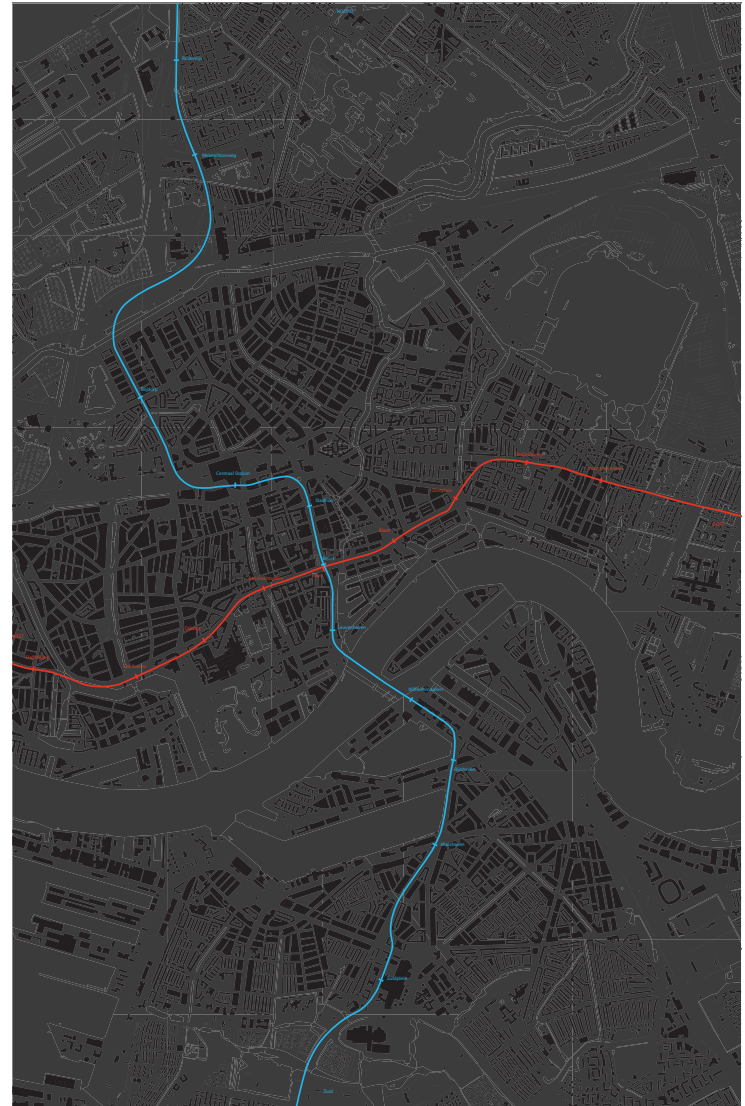
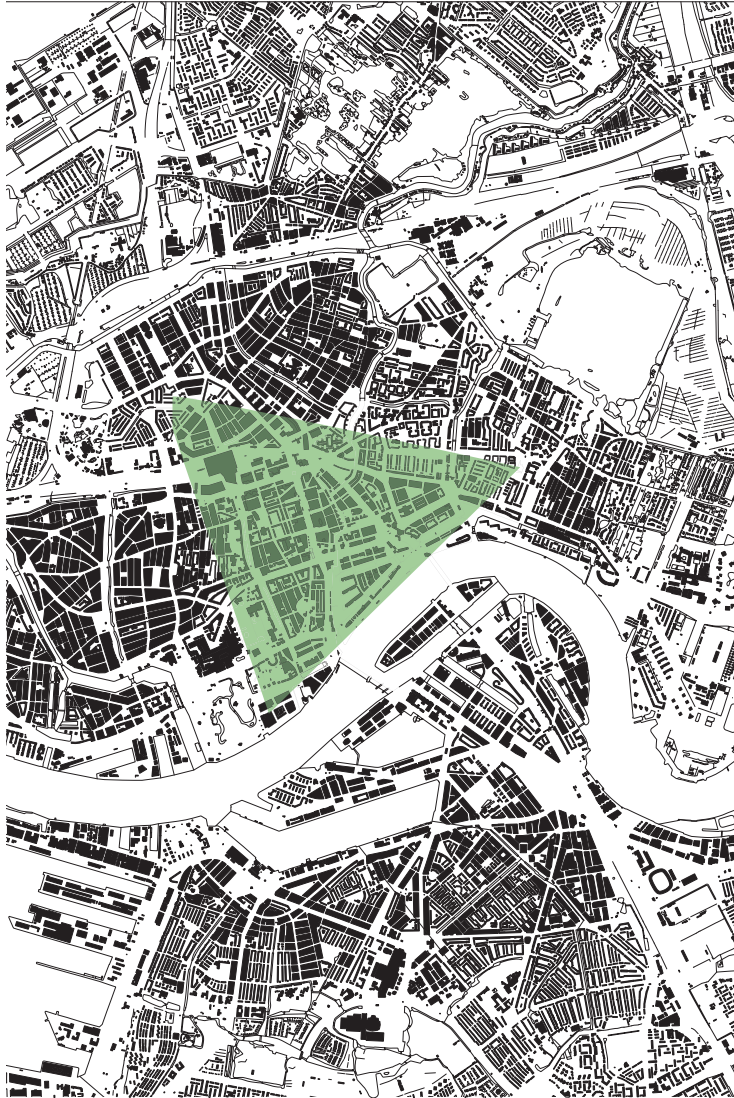


CONCEPTS AND TOOL

- Daily usage of the METROSTATION is inbetween the **public and chaotic life of the street** and the **passive anonymity of a train ride**
- Paradox of this inward turned space, **it is never the destination**, but lies inbetween destinations
- Physical context of the METROSTATION is **dual-istic:**
The world above and the world underground
- Understanding the location and assignment of the design

3_design

LOCATION ABOVE AND BELOW





3_design

CONTEXT ABOVE







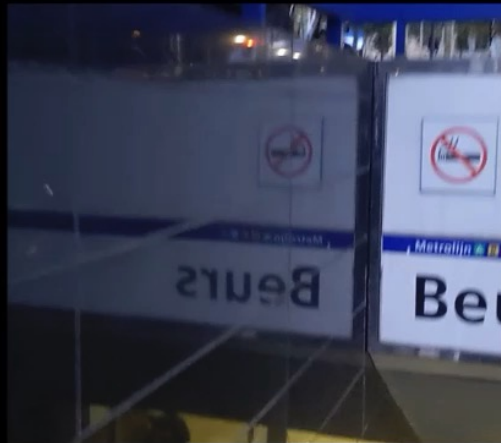
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INVESTIGATING BEURS



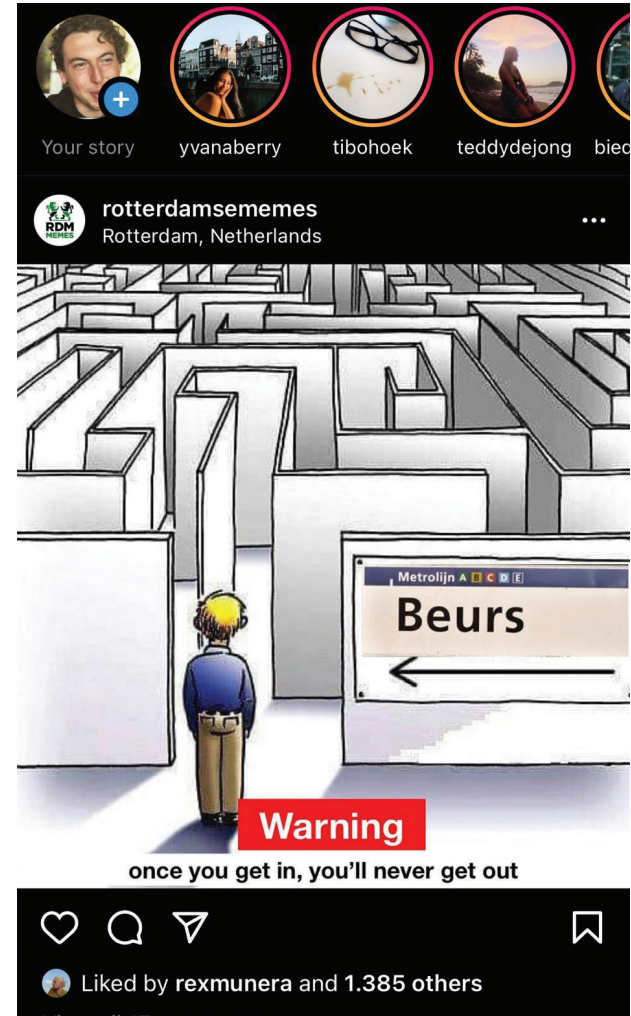
Identifying problems and qualities above ground

IN TRANSIT
sample



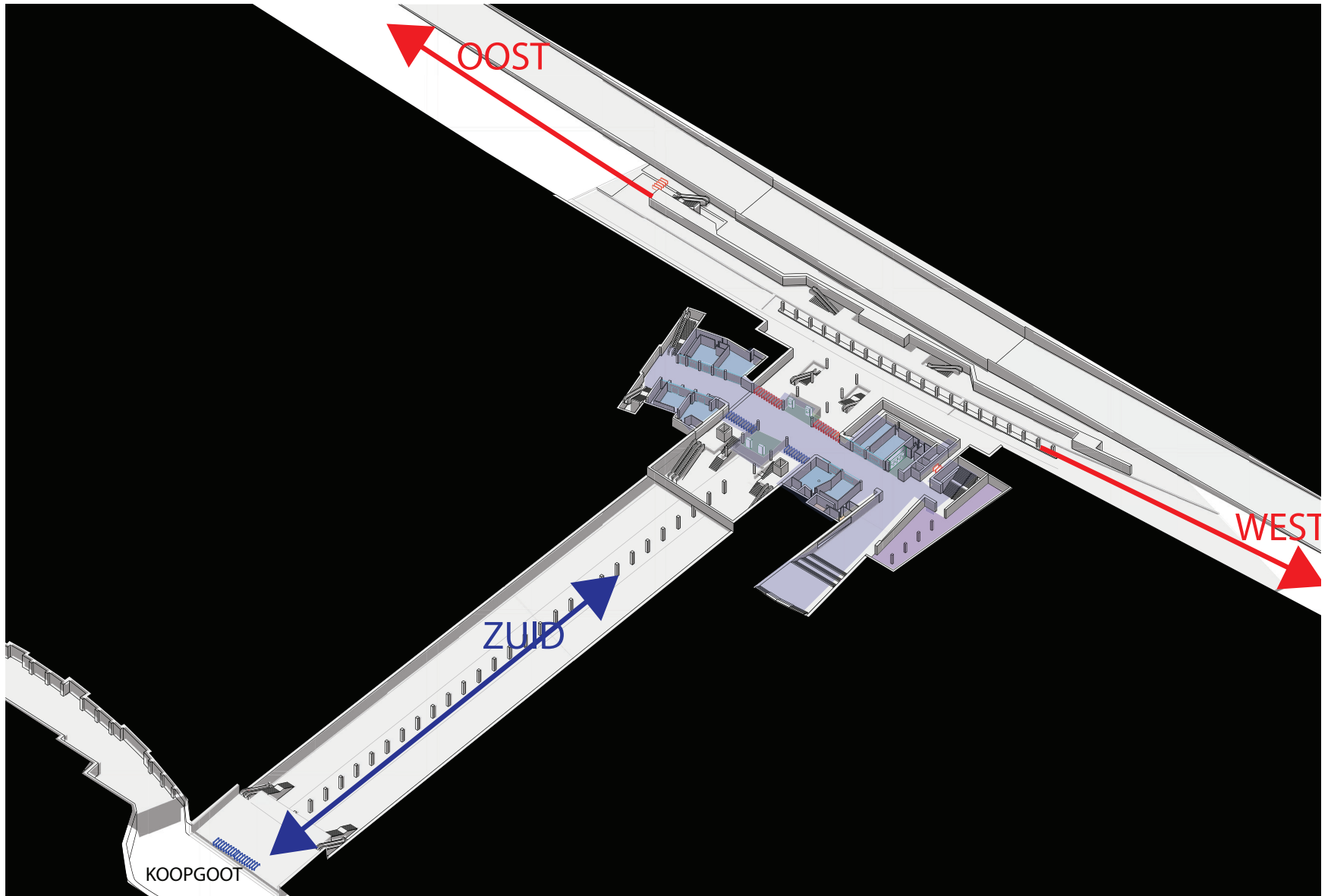
Graduation project 4 nov 2020 - Rasmus van Overhagen

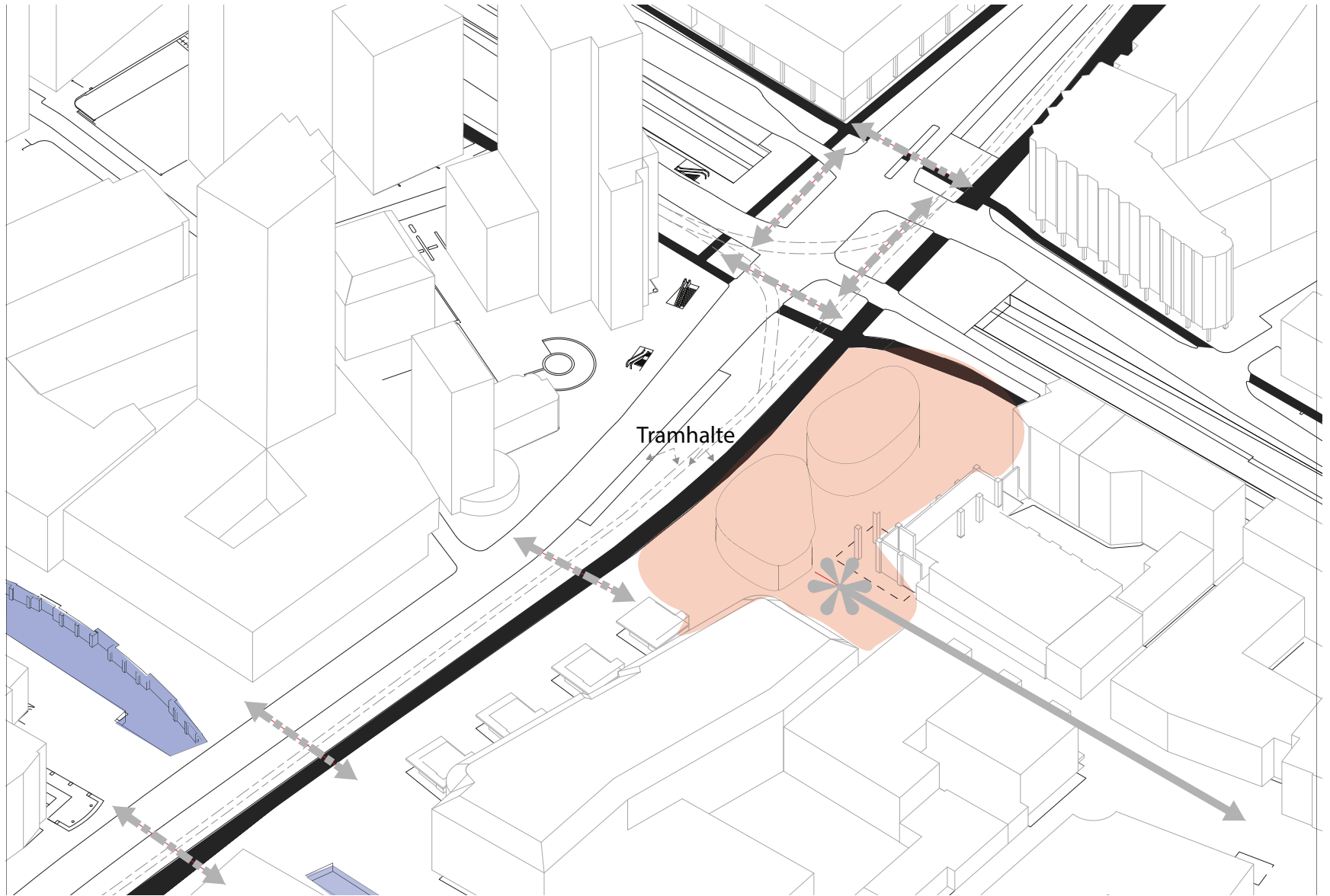
Identifying problems and qualities below ground



3_design

AREA OF INTERVENTION





CHAPTER 1 _ CARVINGS



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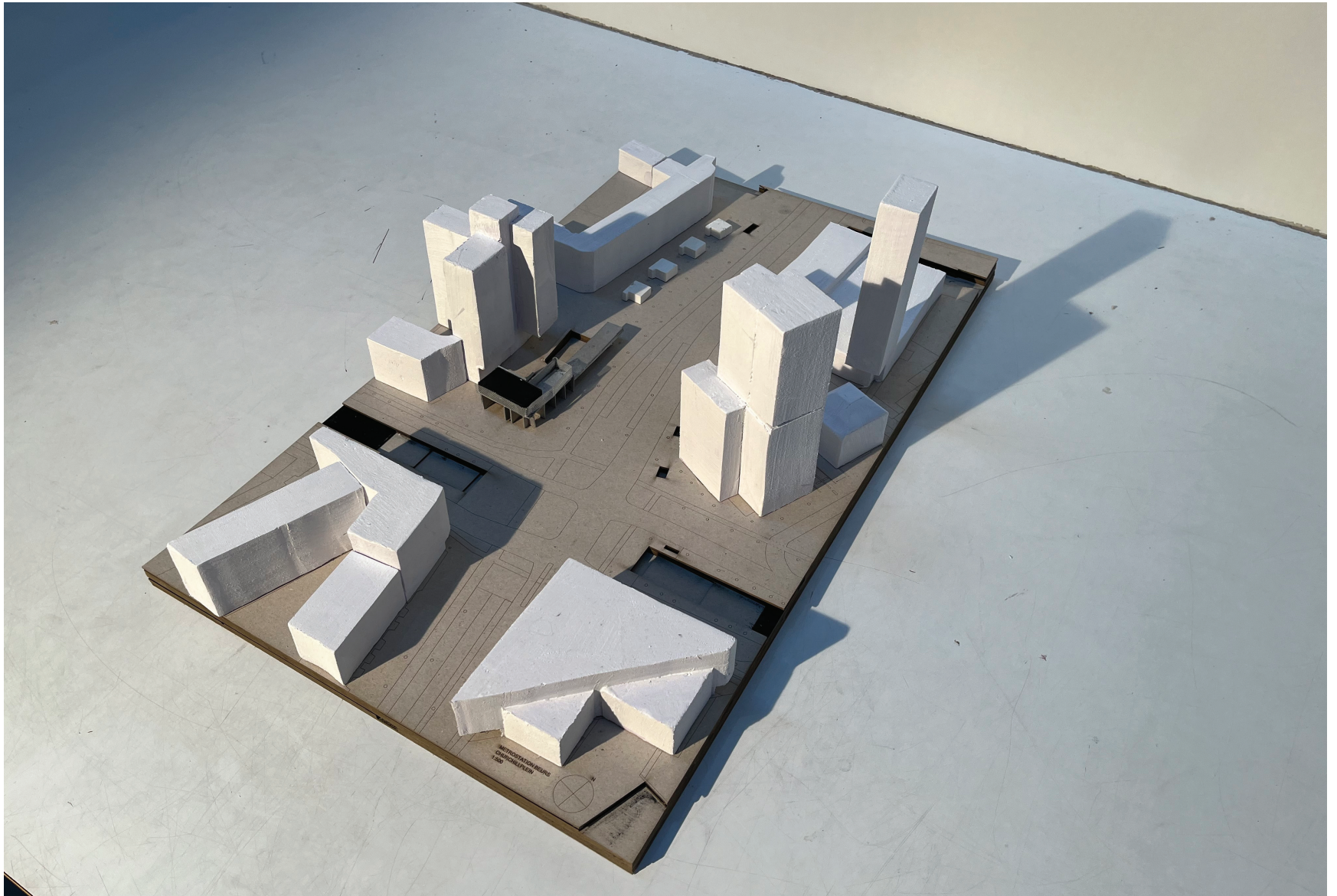
**Carving out space for
THE HUMAN BODY, THE TRAIN, THE STREET,
THE CITY**

tools for design:

- proportions and dimensions
- sequence of spaces and scales
- atectonic and tectonic language to emphasize

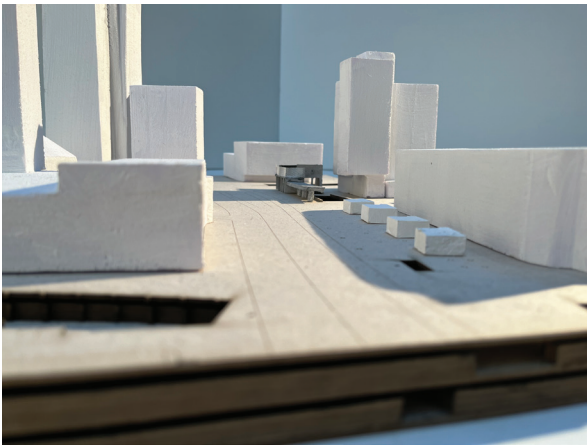
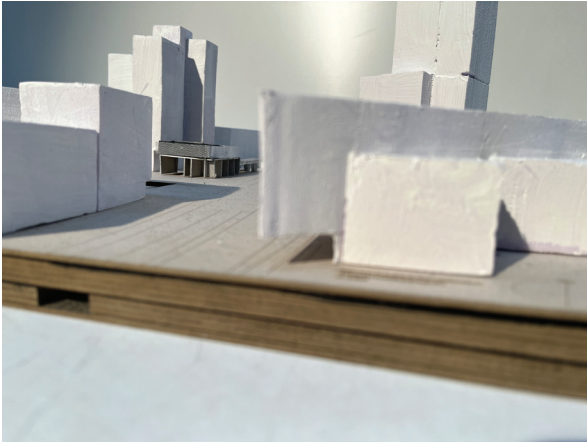
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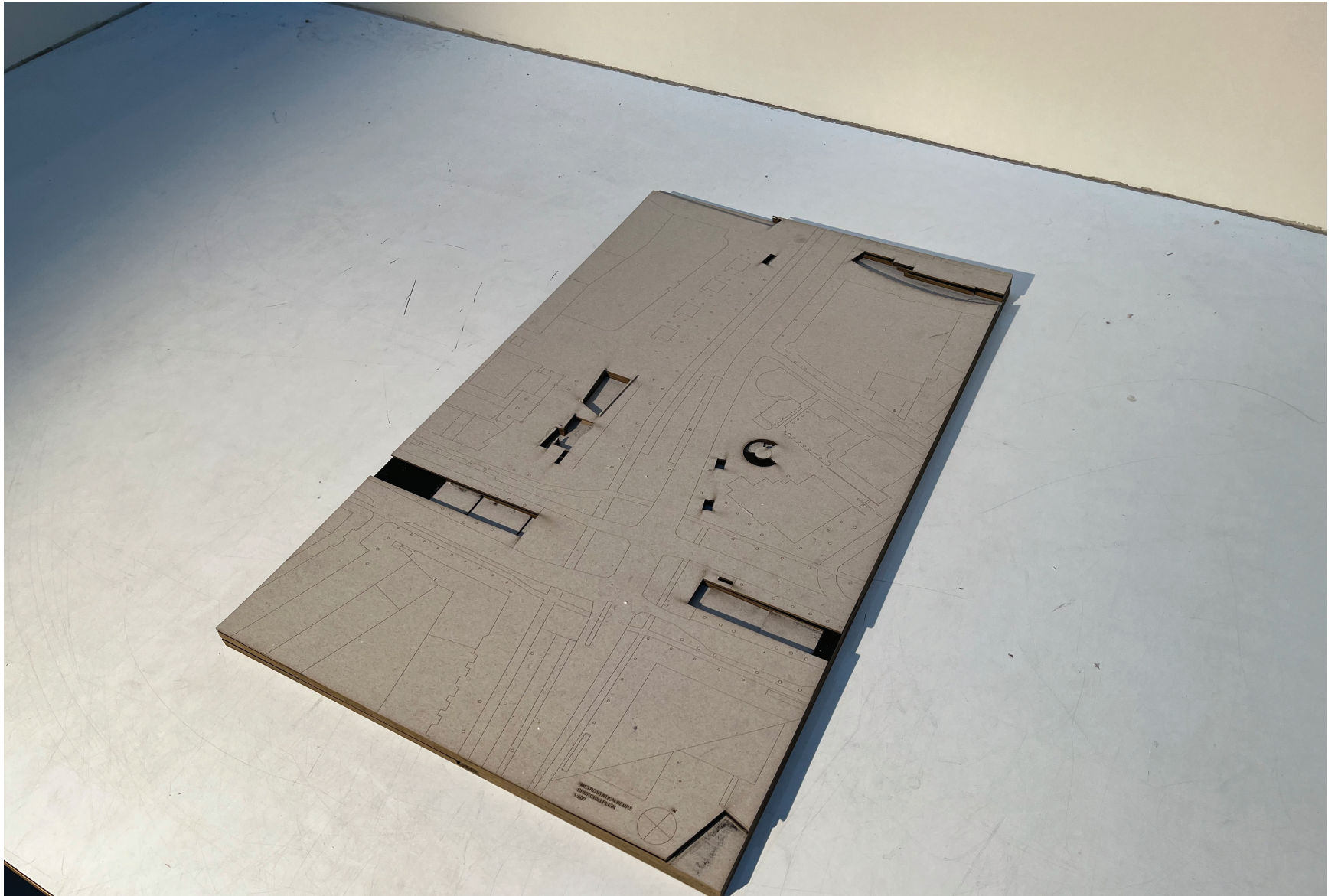
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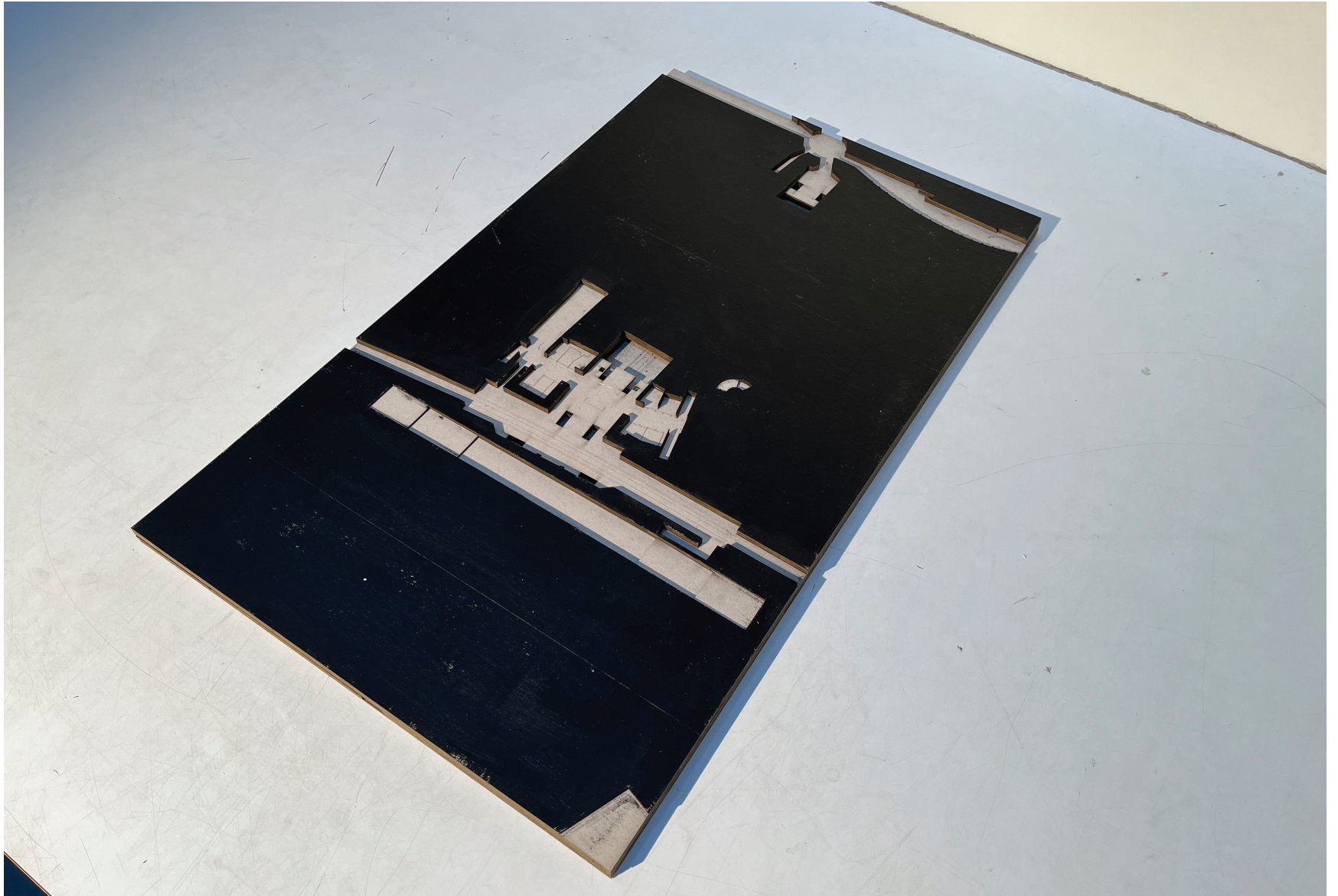


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new design Beurs

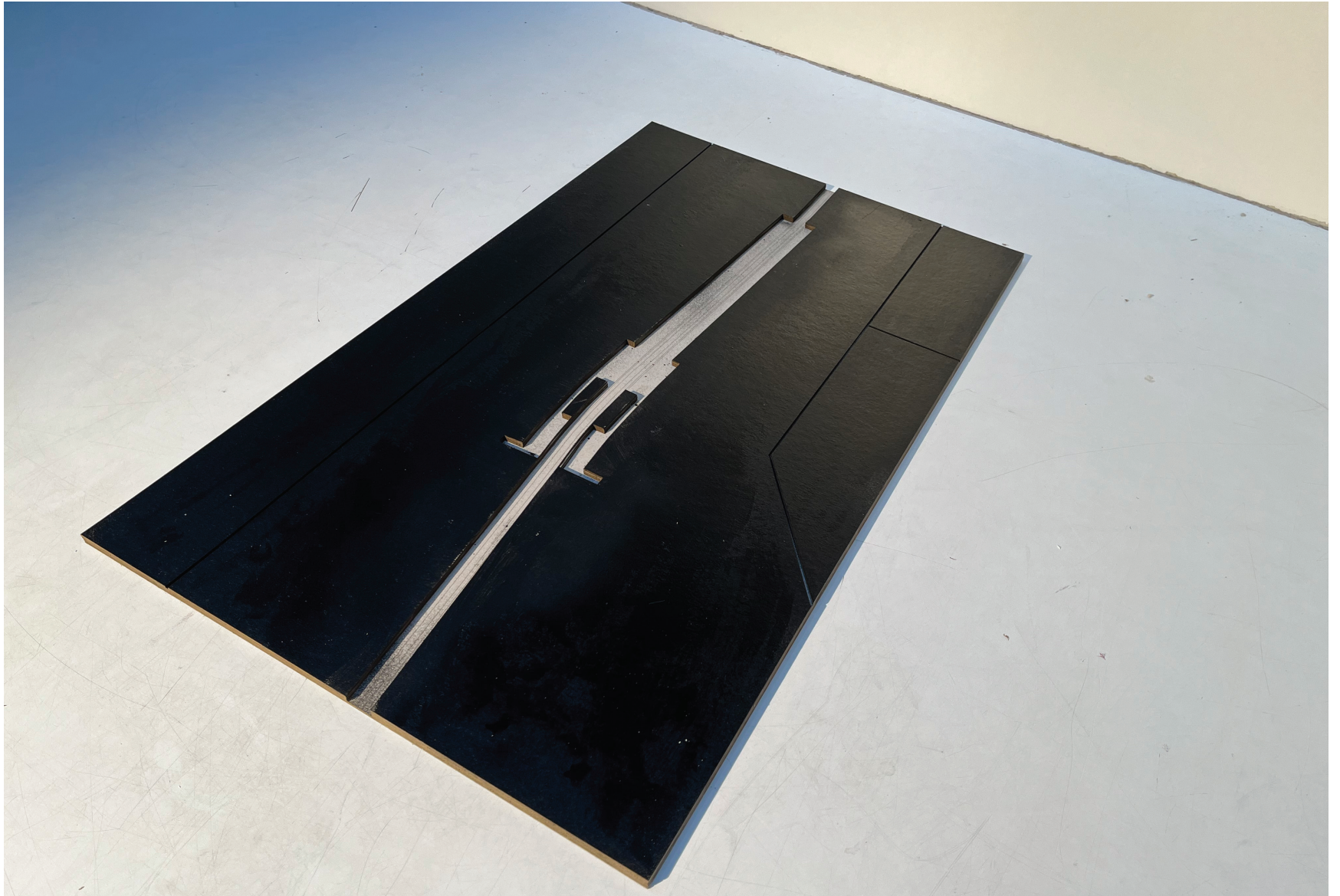






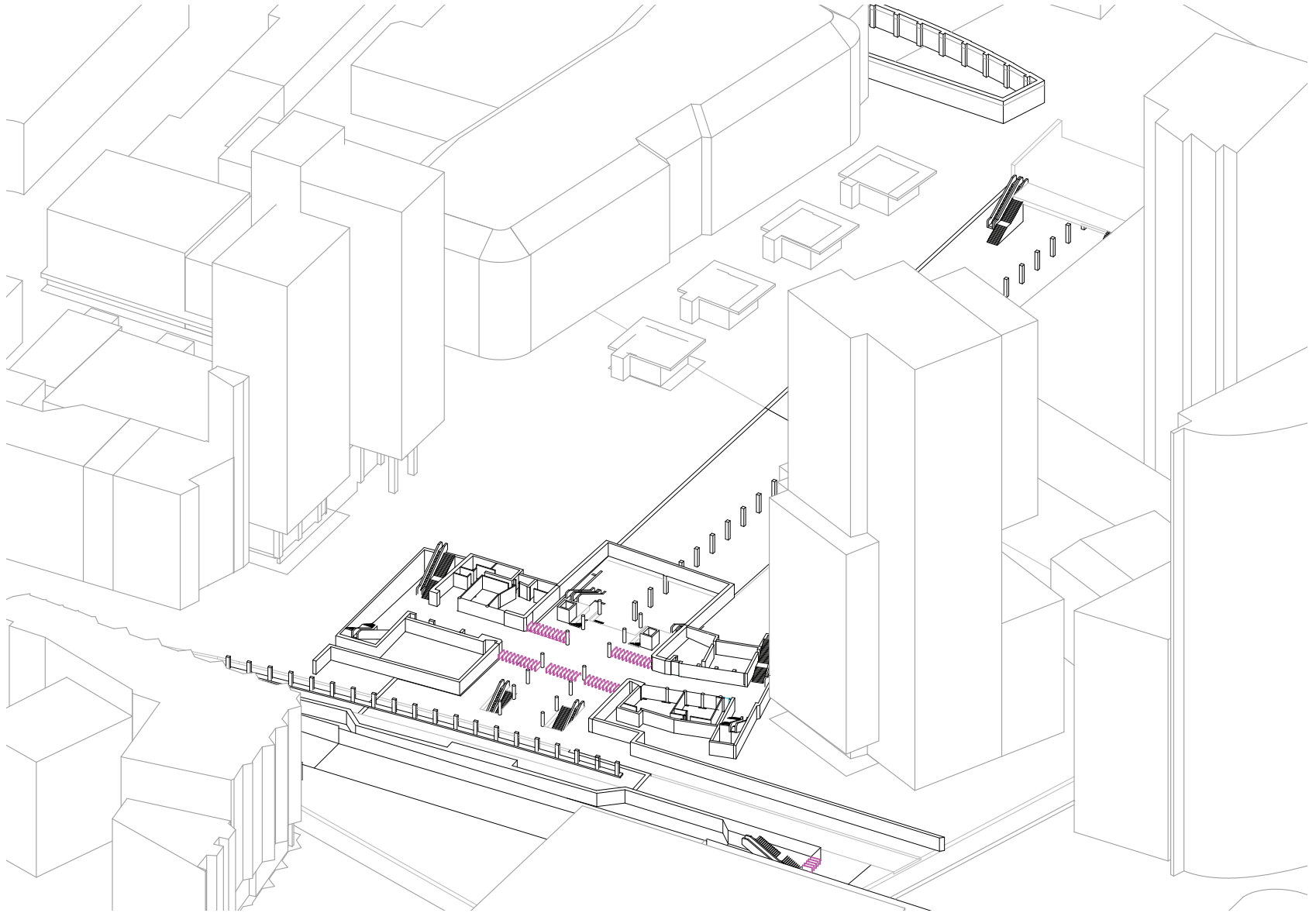
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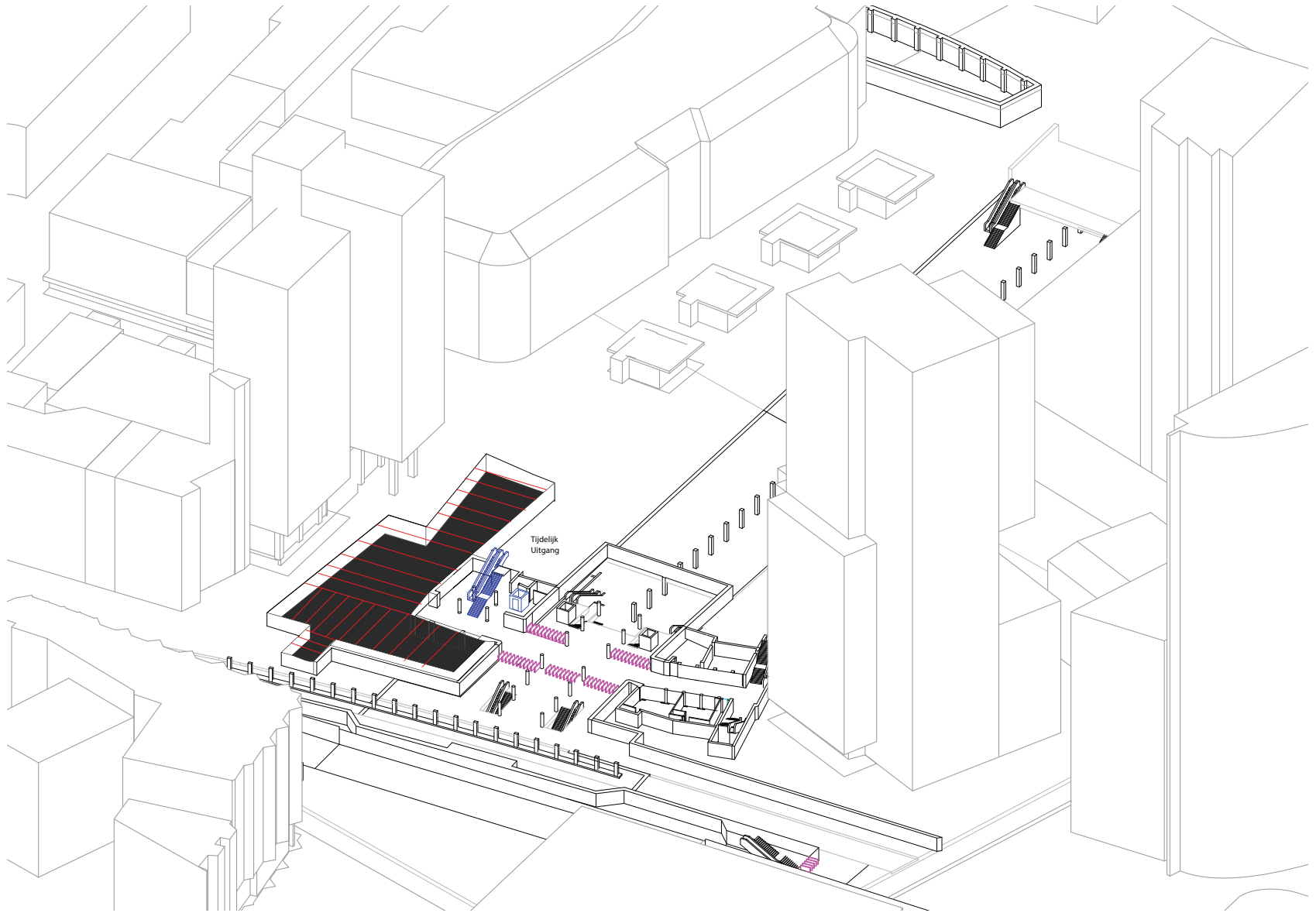
CARVINGS



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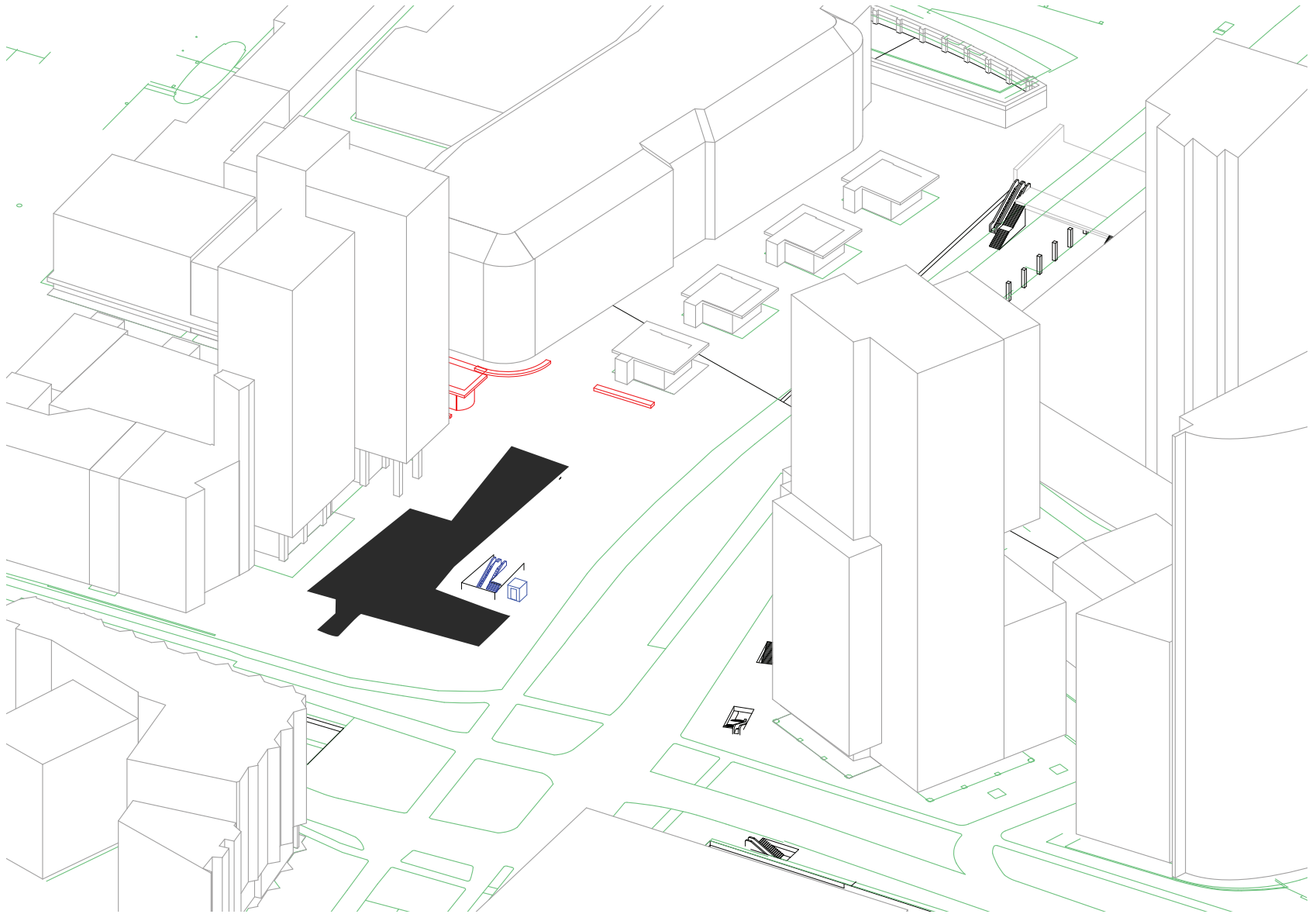
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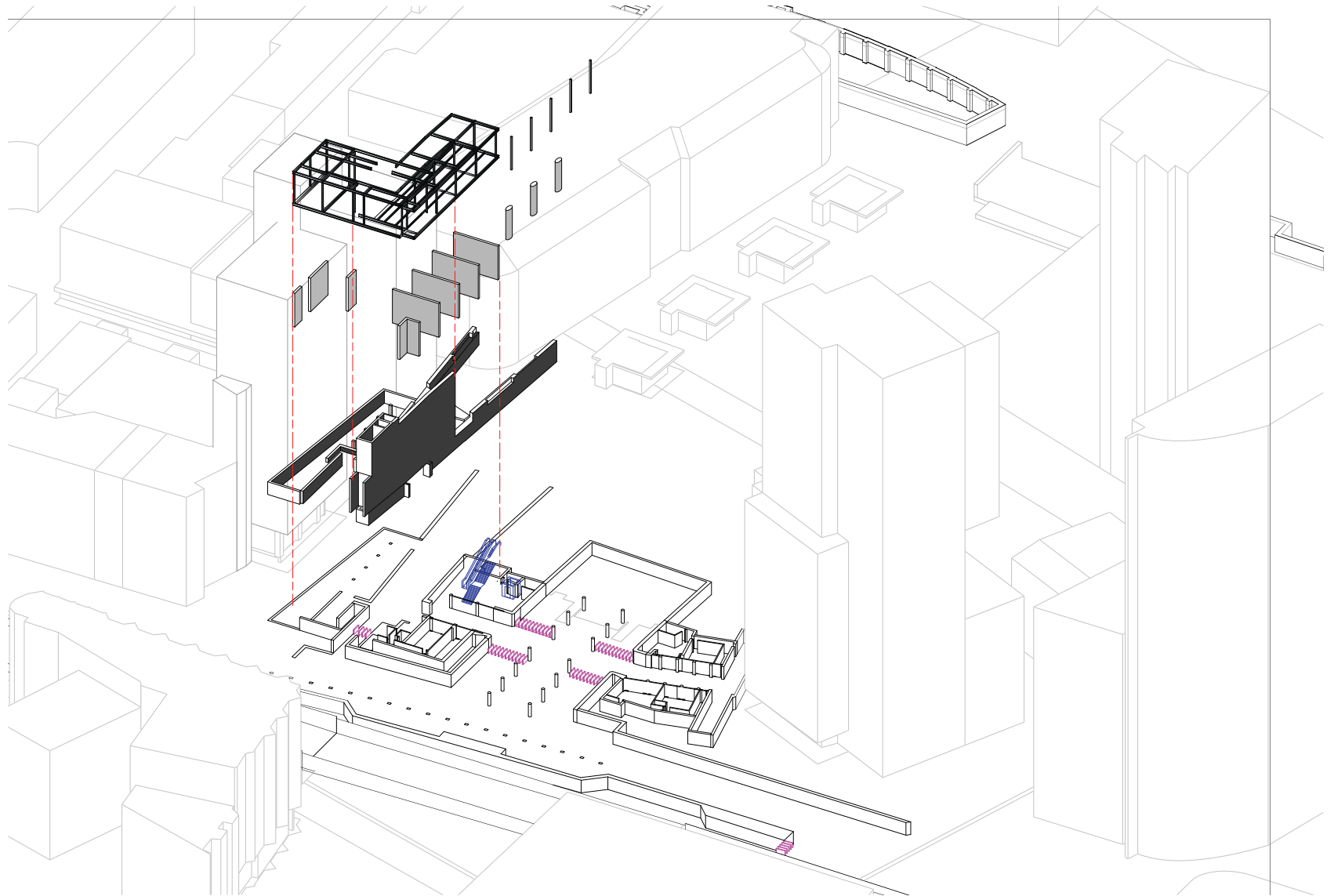




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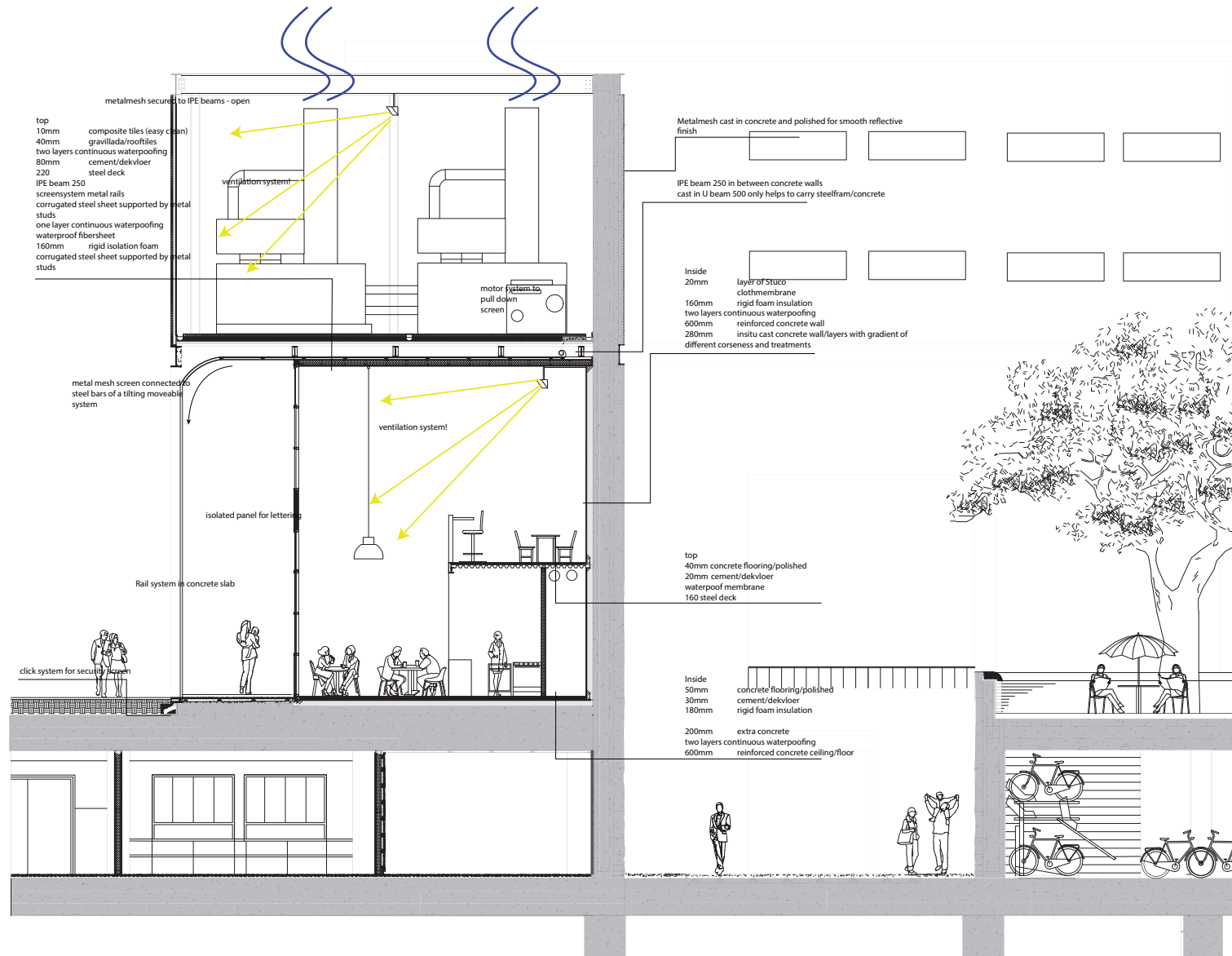
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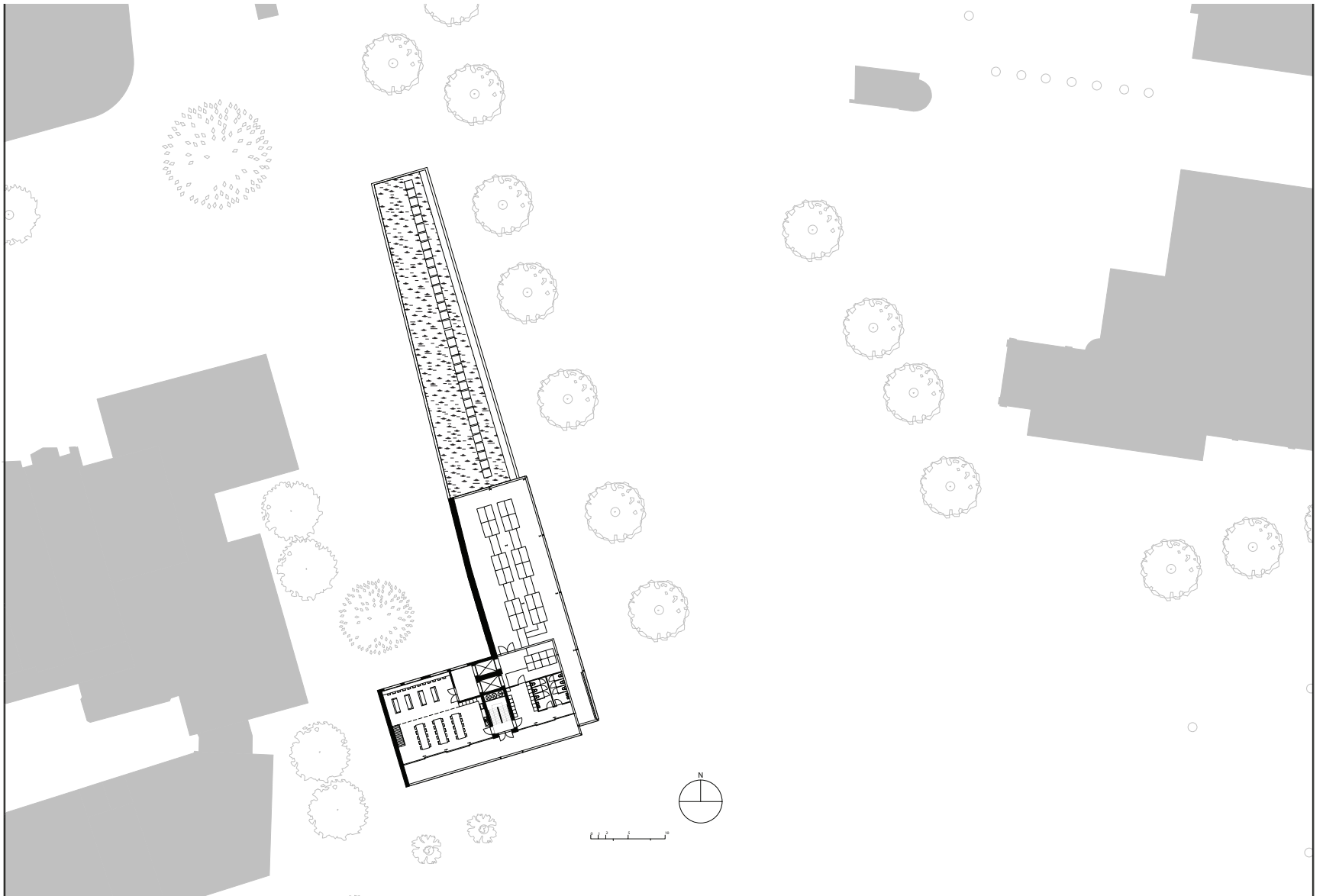
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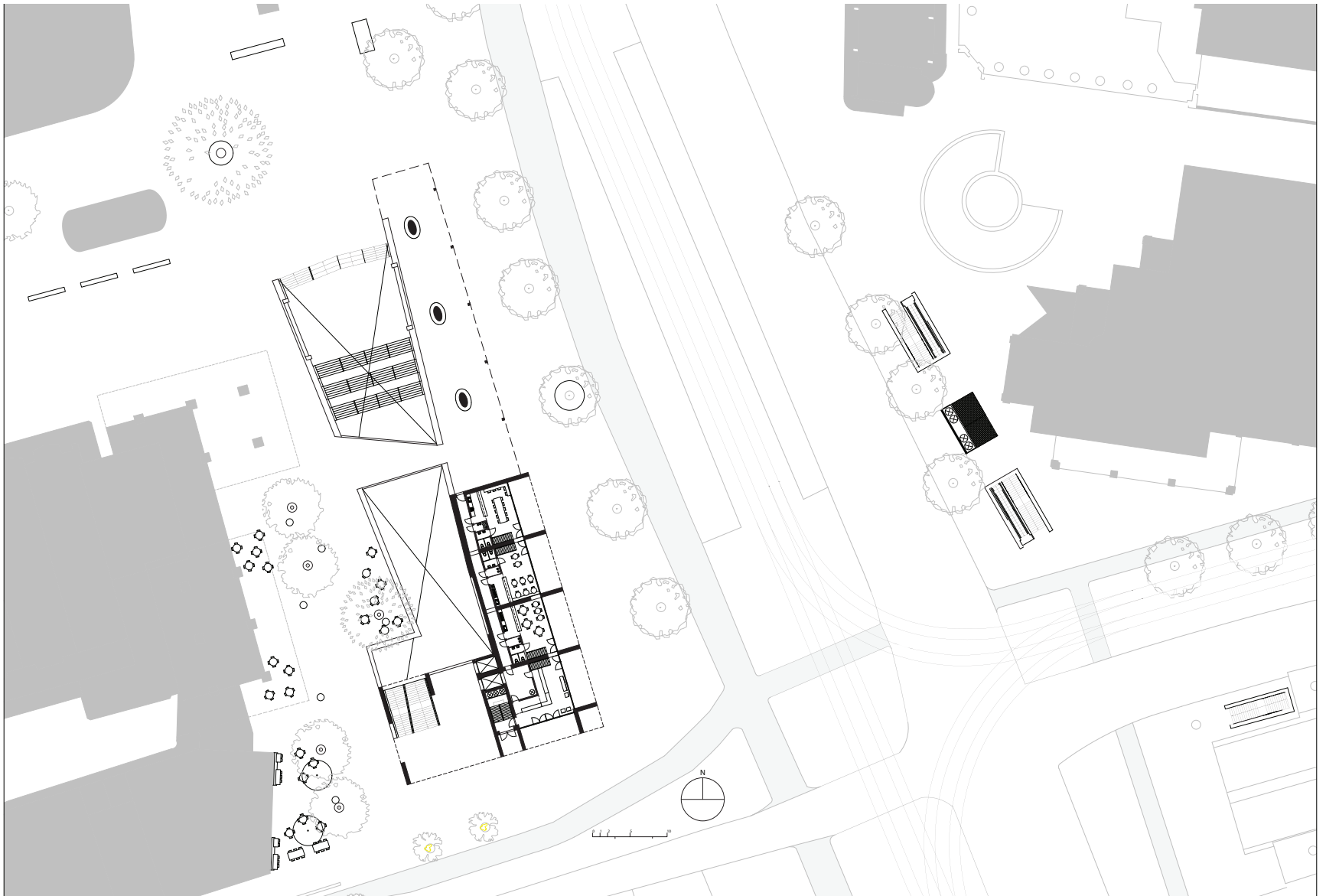
TECHNICAL SECTION



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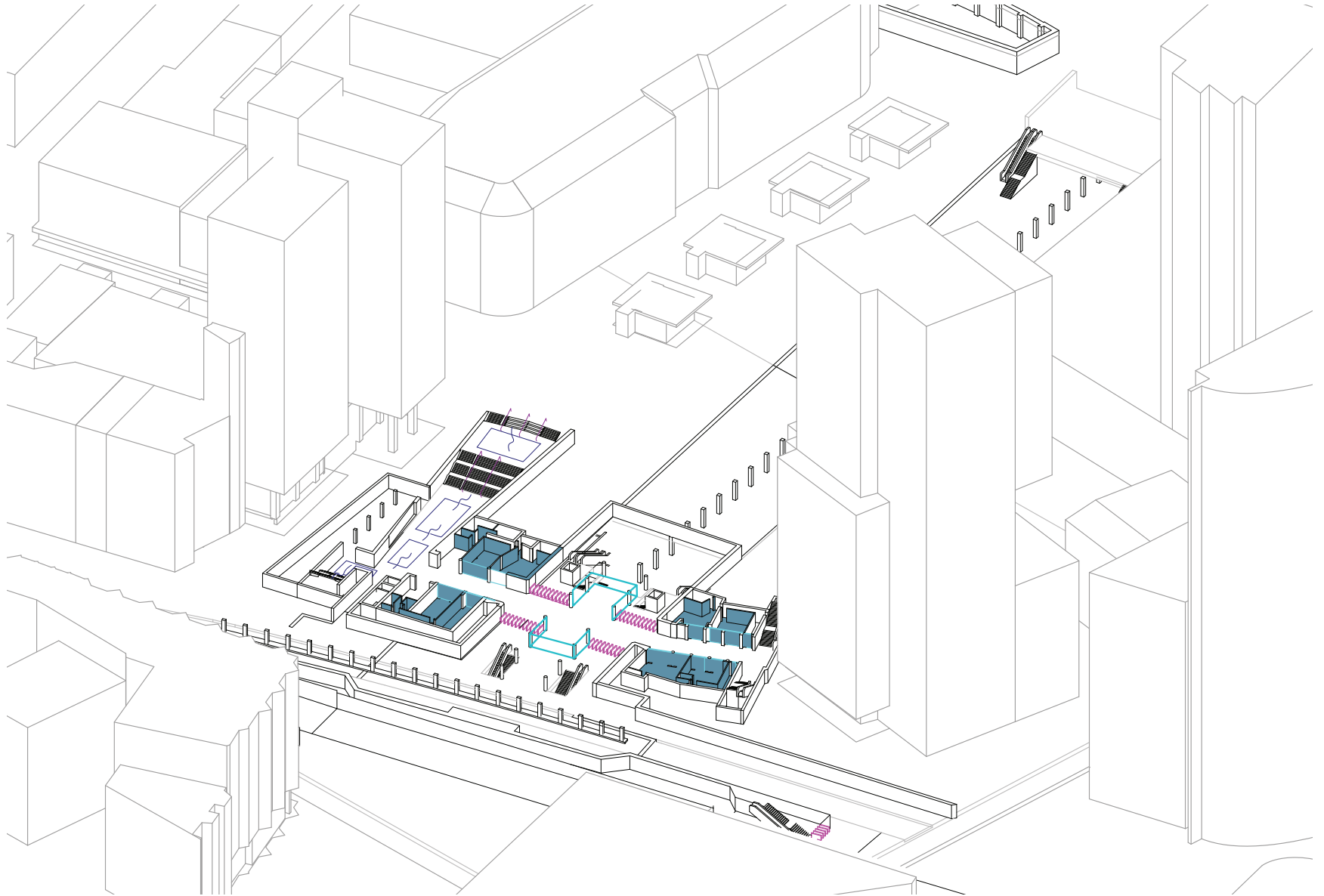
1:300 LEVEL 1 BEURS

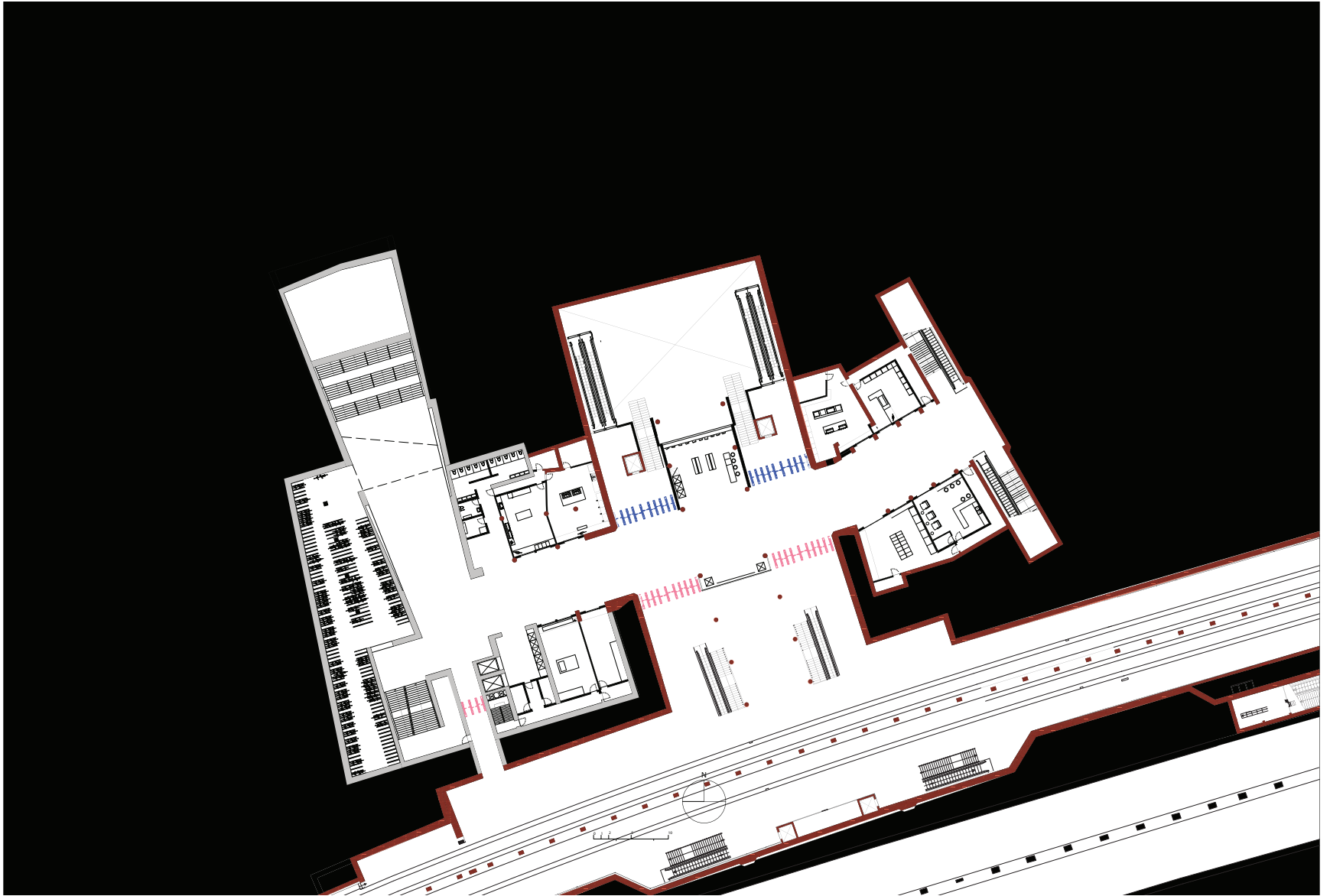


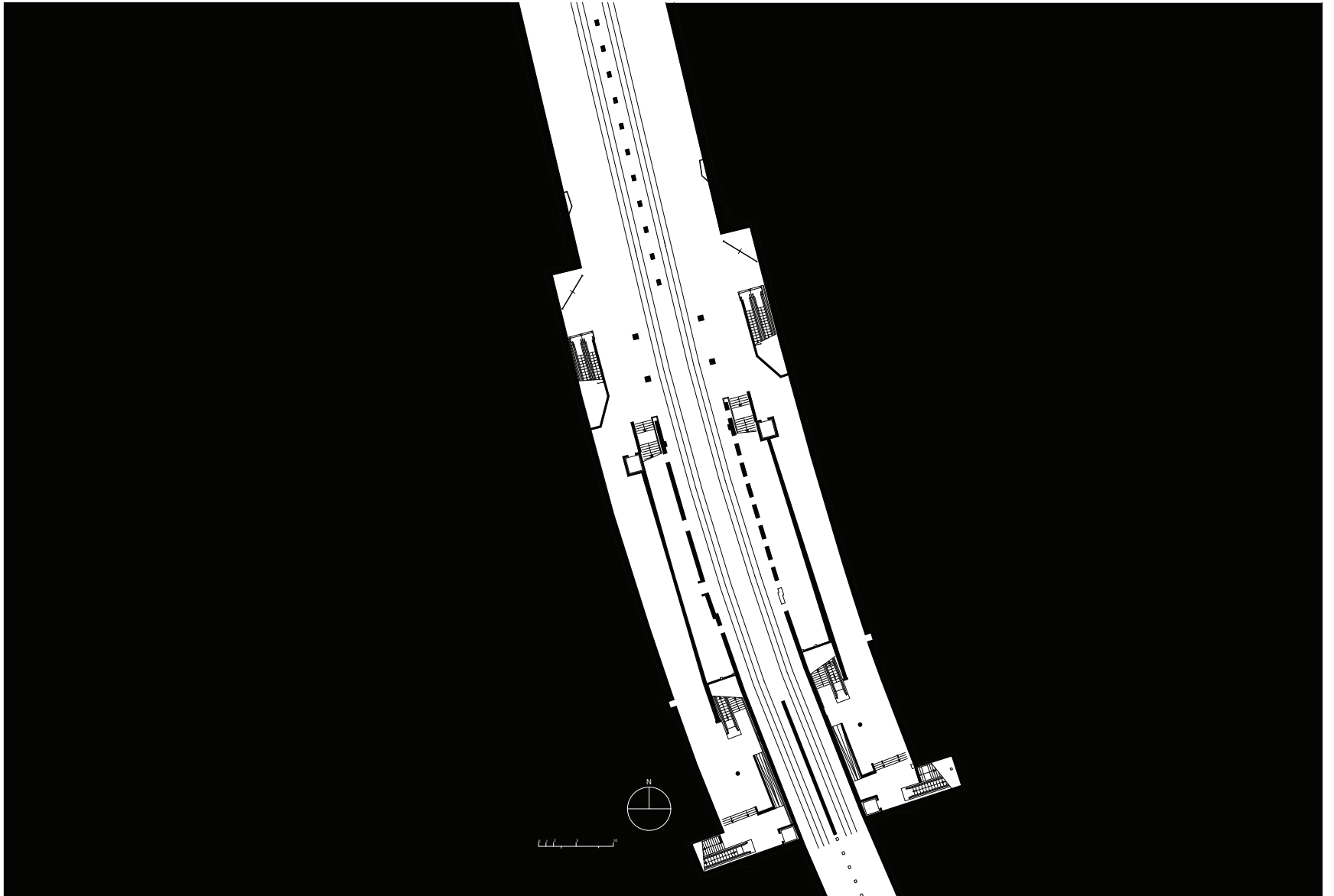


3_design

BUILDING SEQUENCE







CHAPTER 2 _ CONTINUITY



subject of design:
MACHINE vs. HUMAN
ARTIFICIAL vs. NATURAL

Transition between the underground and above ground

tools for design:
- atmospherical generators,

static materials
and
moving materials

3_design

TRANSITION



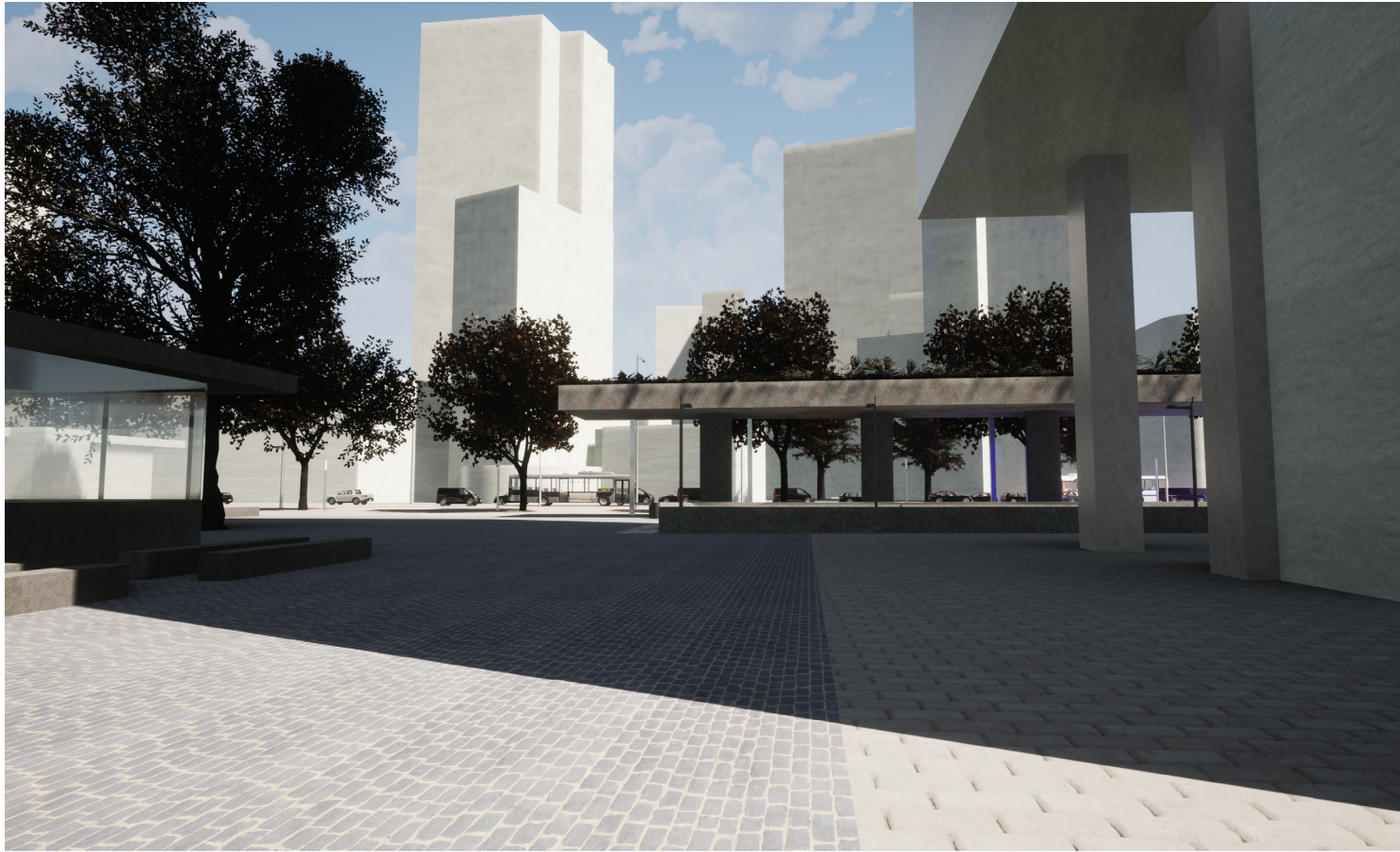


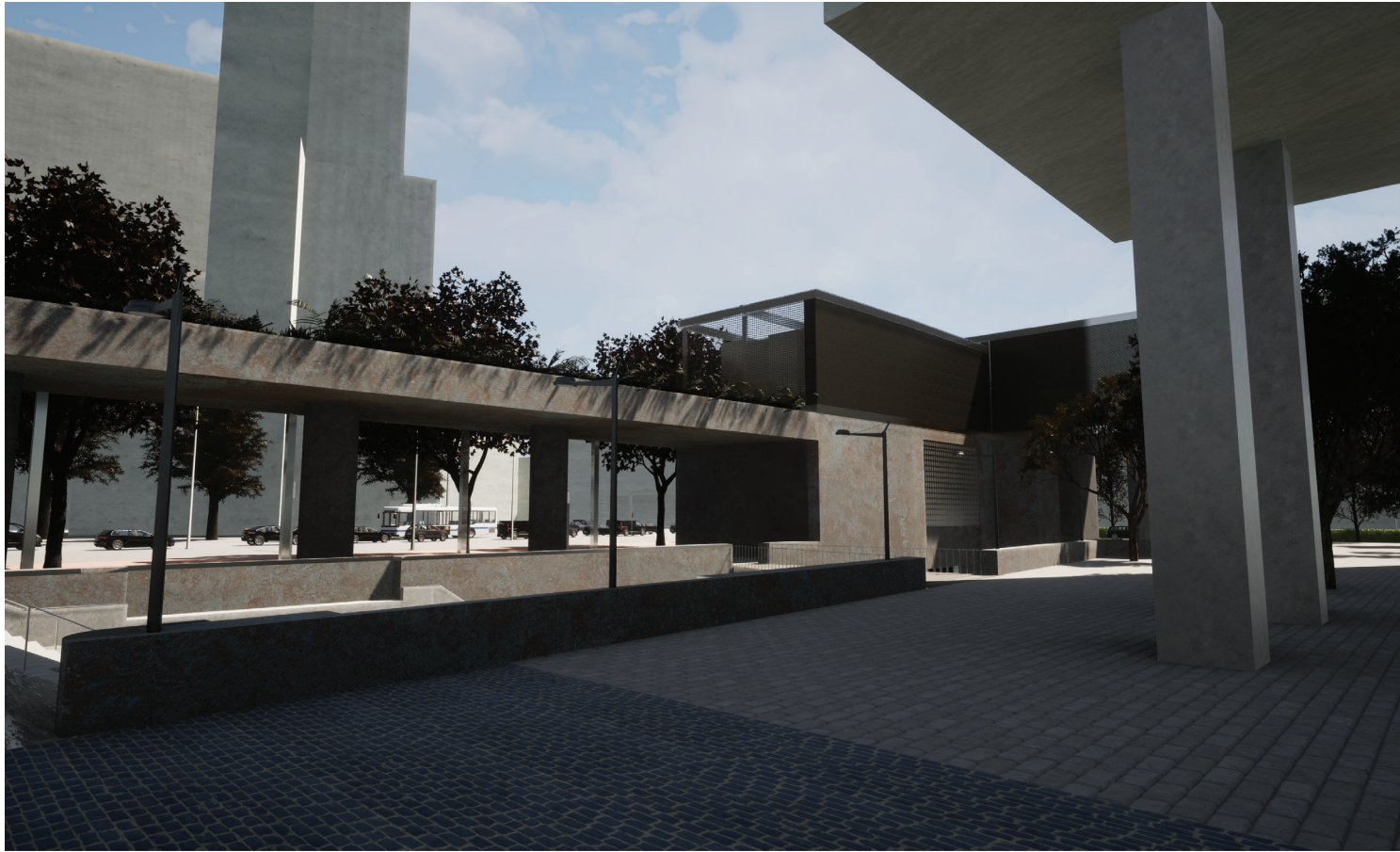


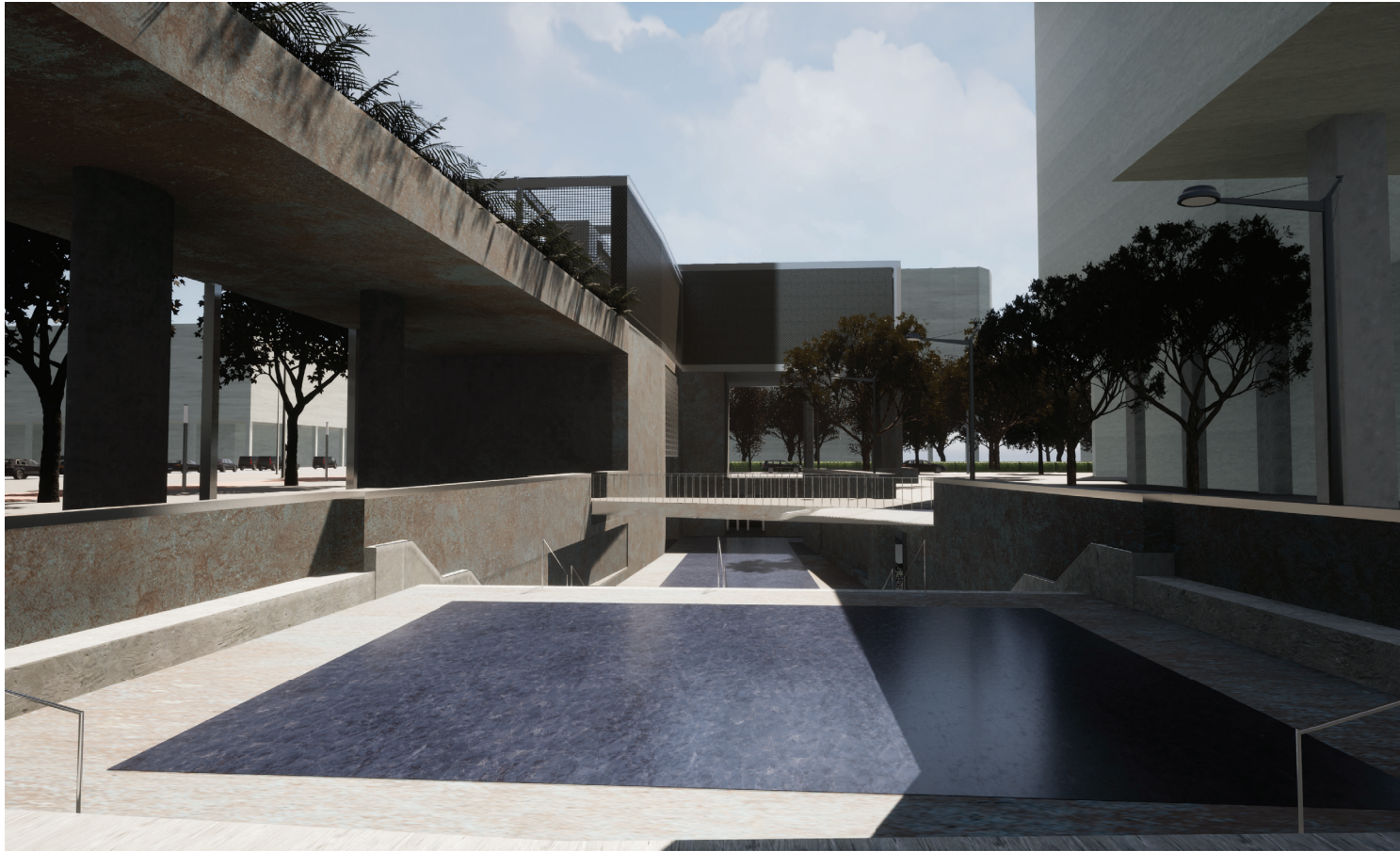
3_design

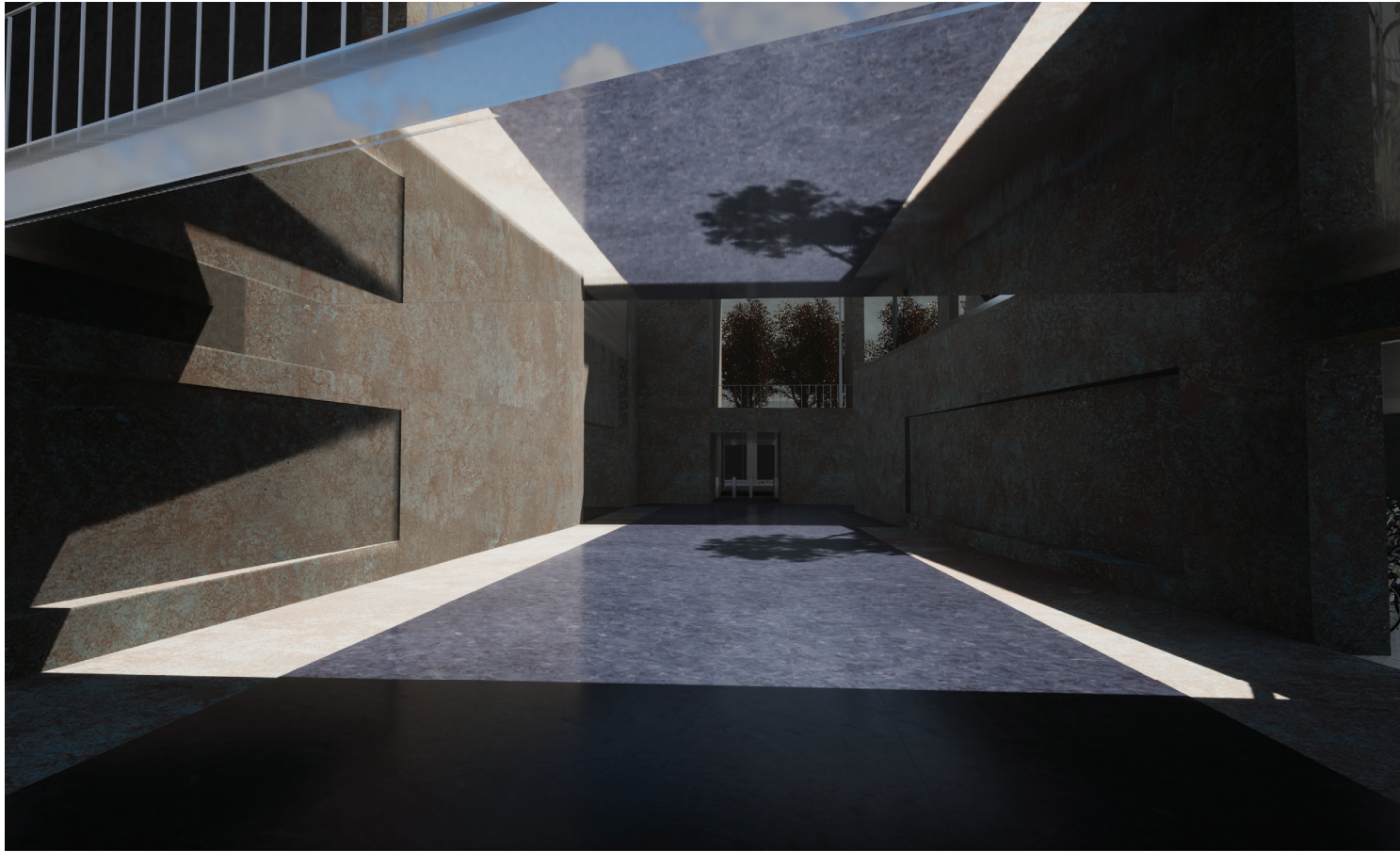
TRANSITION

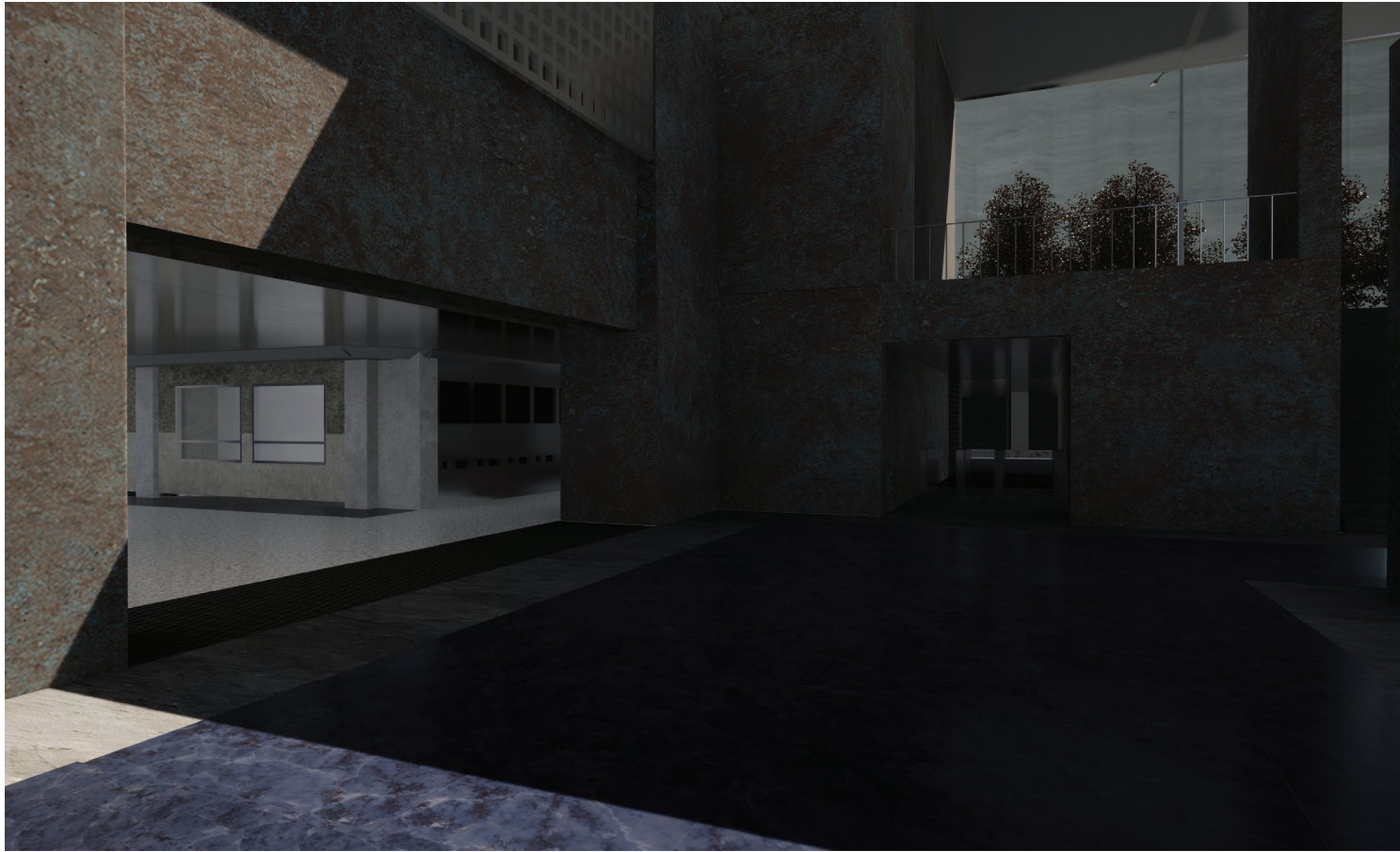


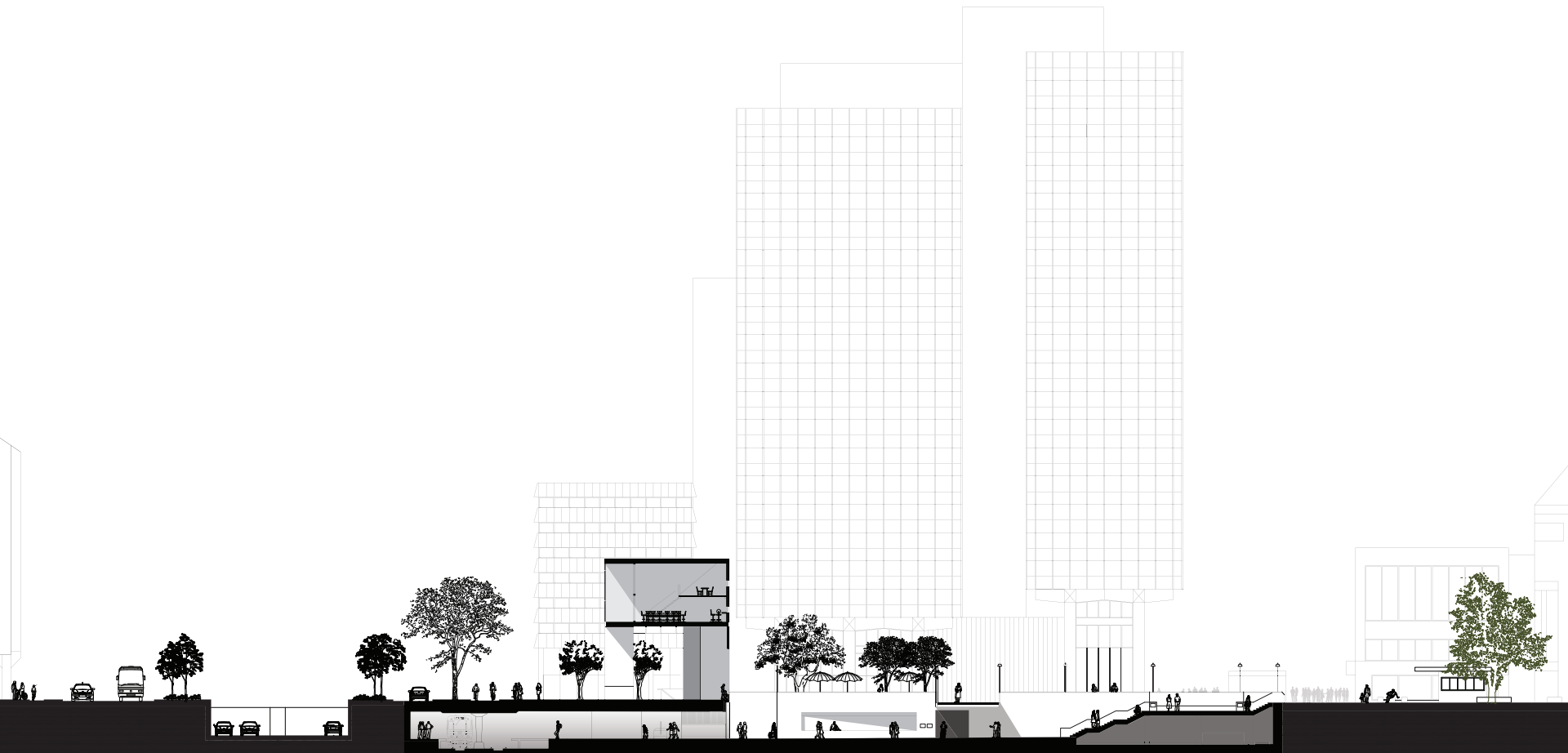




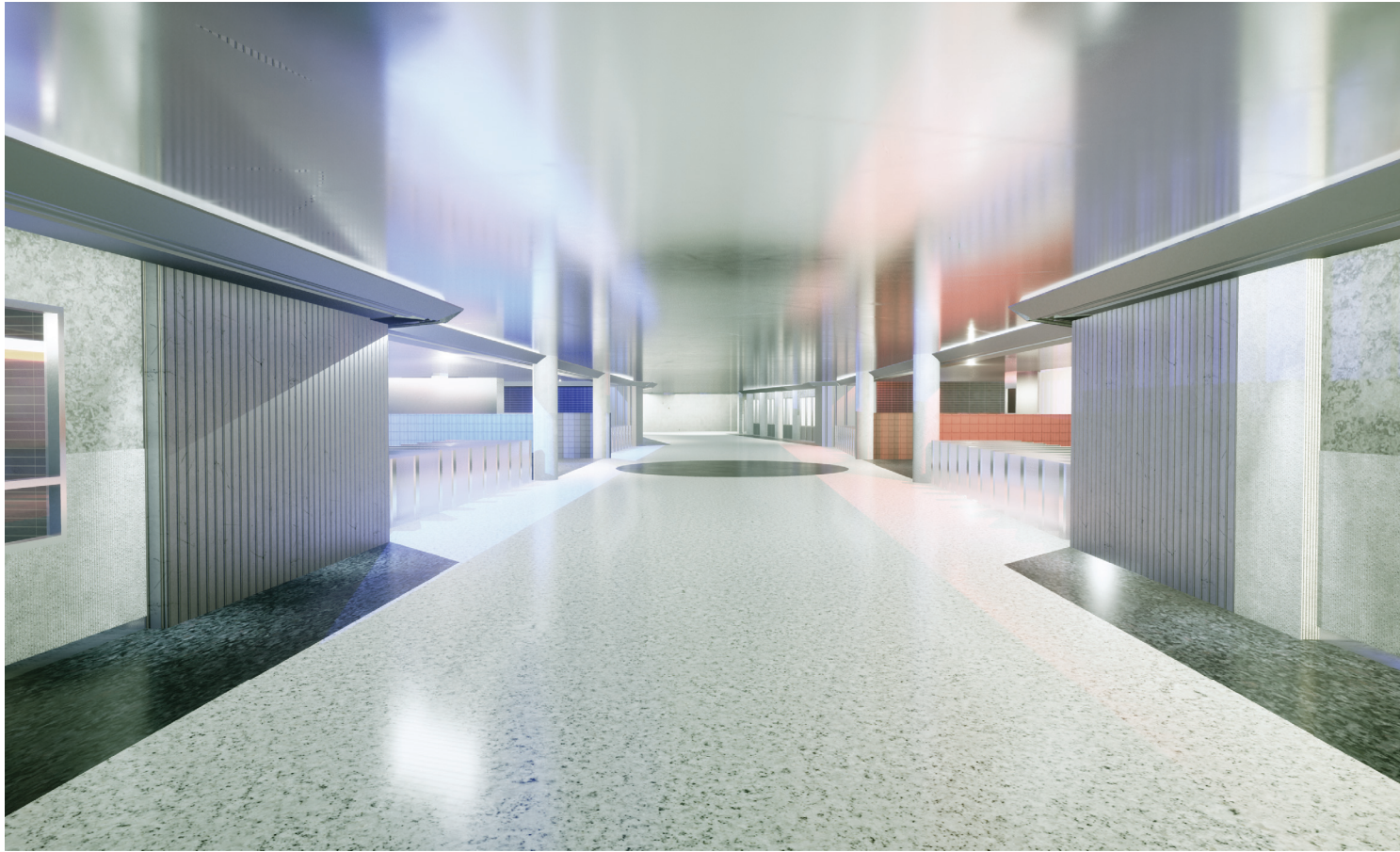


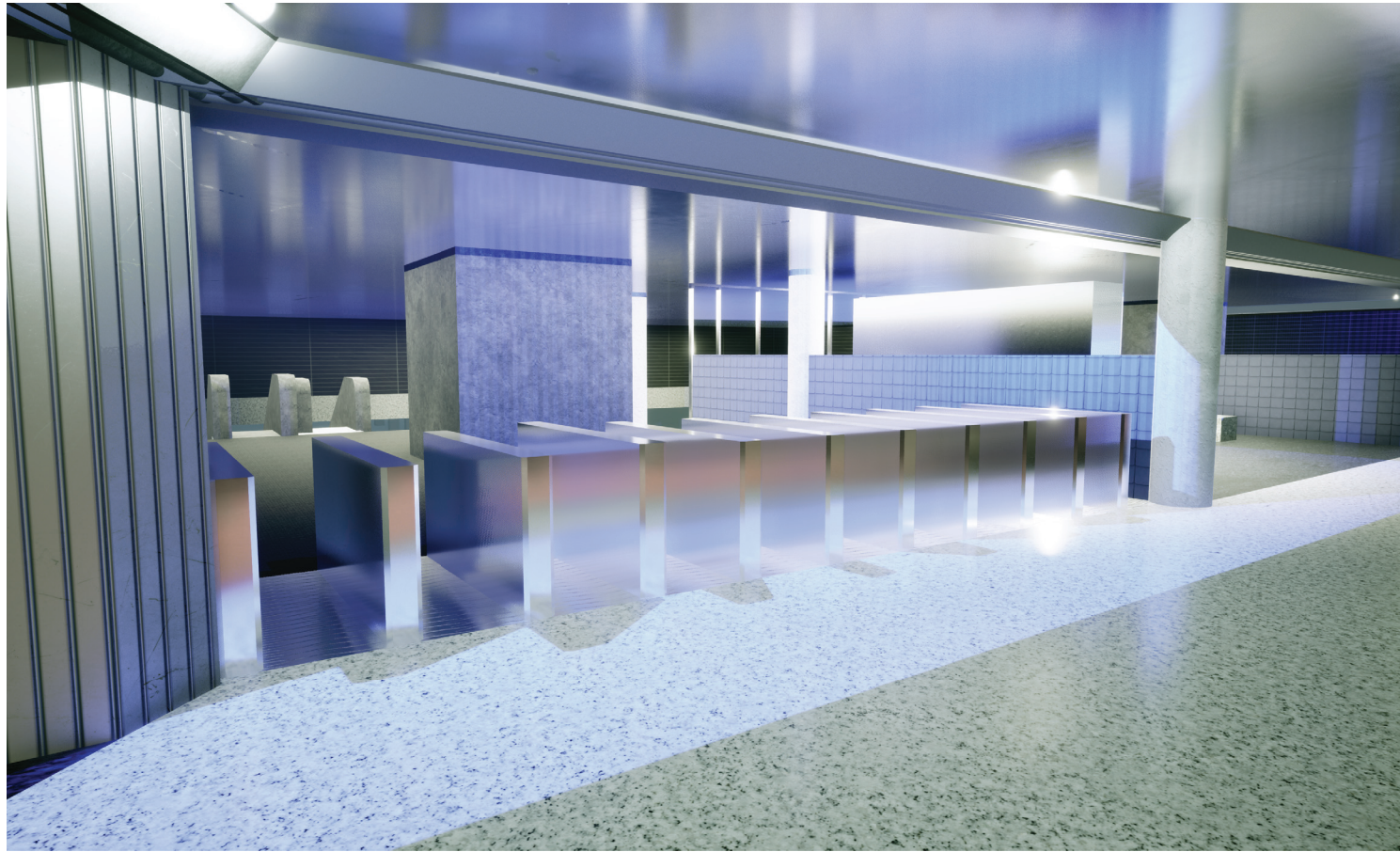


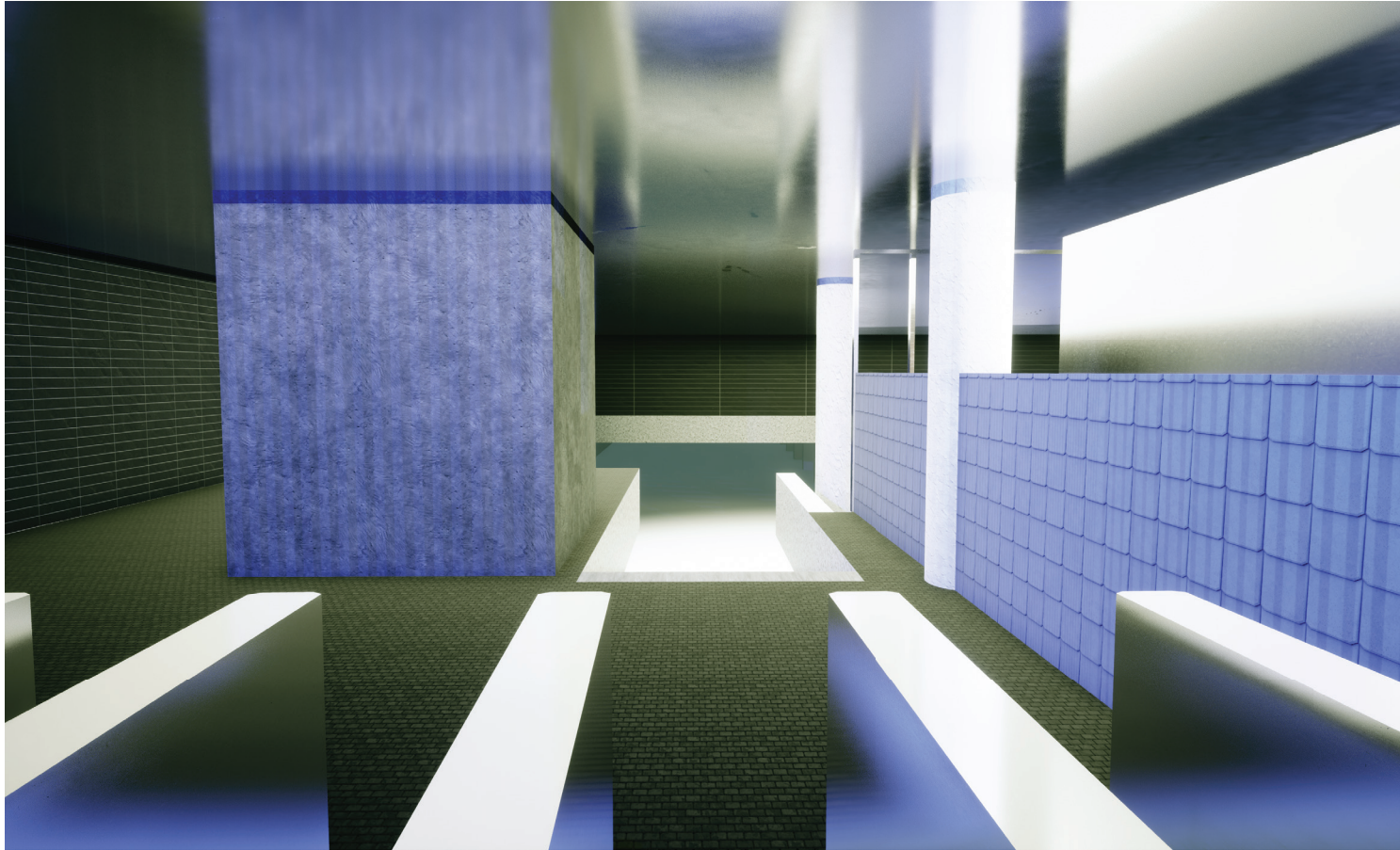


















CHAPTER 3 _ SIGNS & SIGNALS



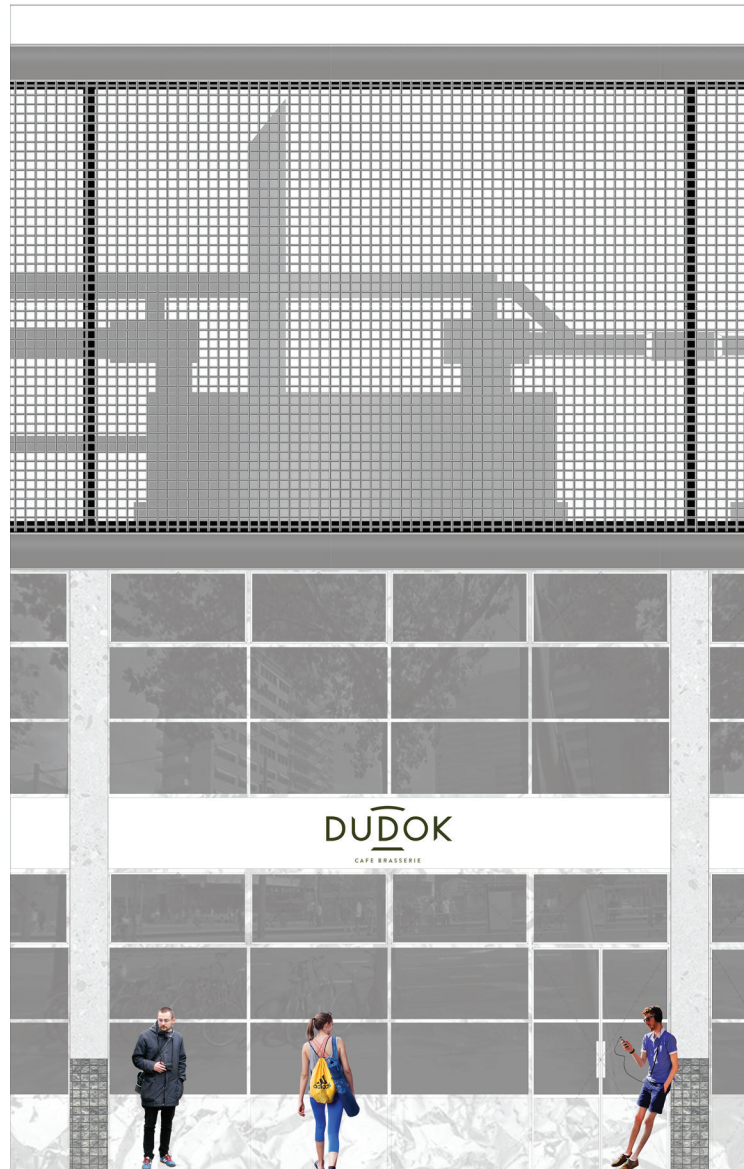
subject of design:

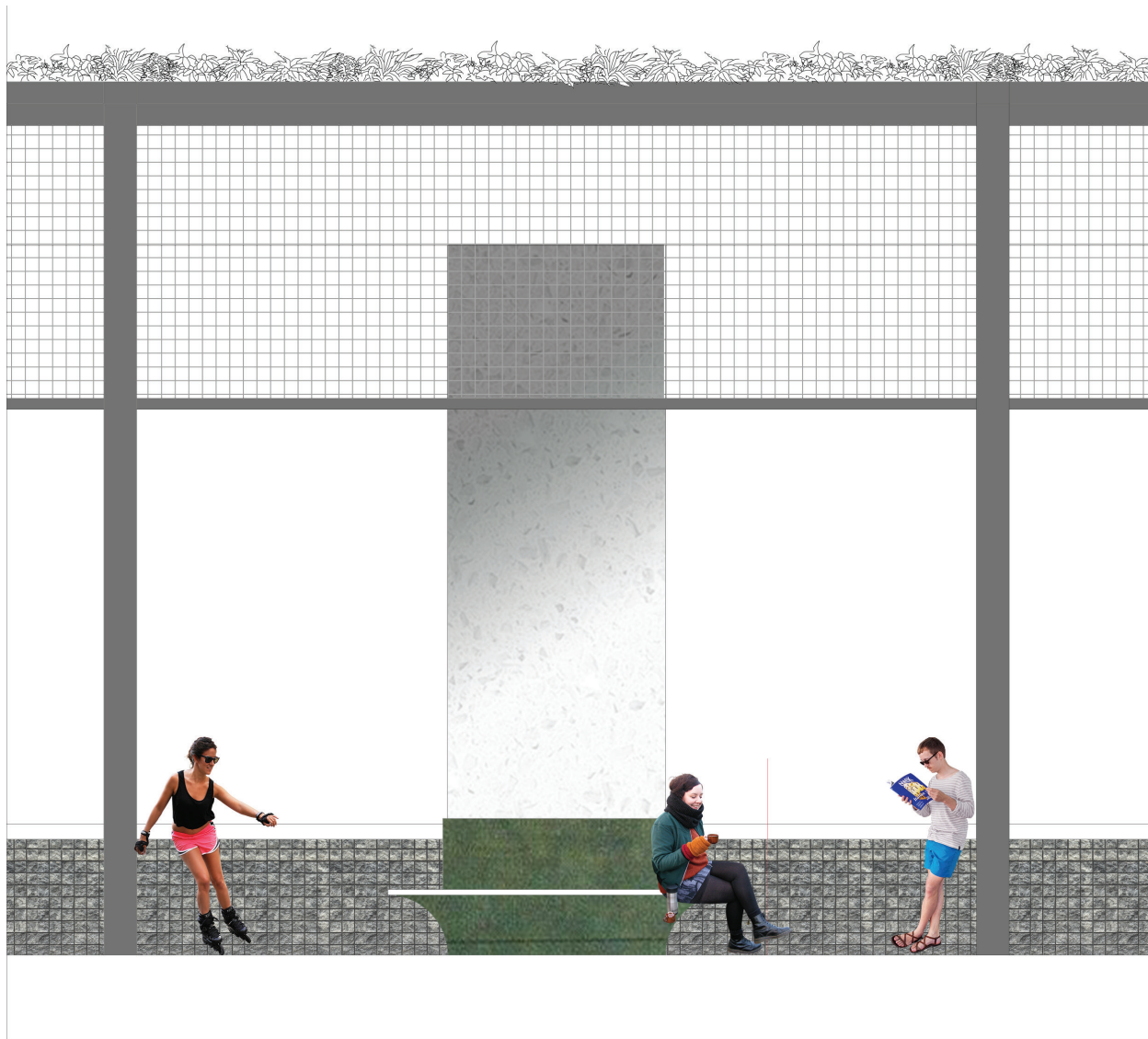
FUNCTIONALITY (wayfinding) and **A LITTLE MEANINGFULL EXPERIENCE** (interest, pleasure, excitement, novelty)

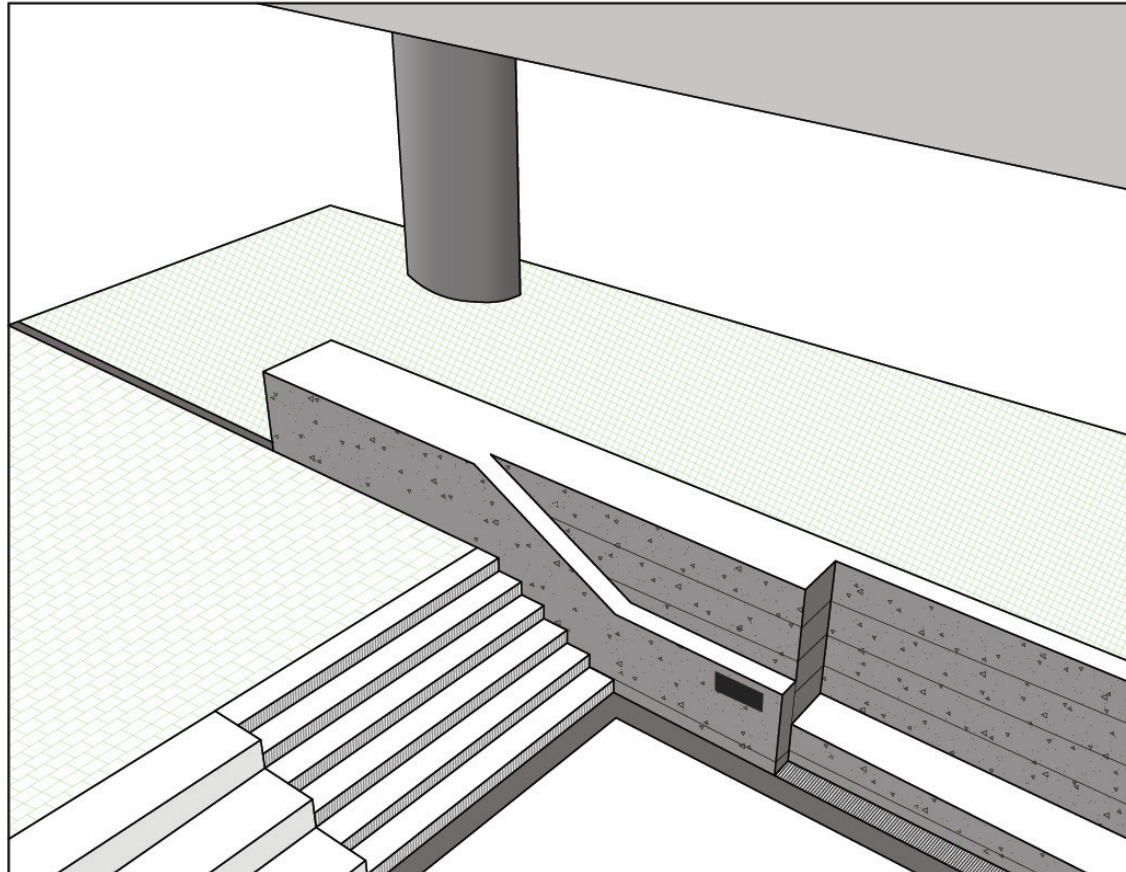
tools for design:

- gradient of signs

- direct signals (ocularcentric) - indirect signs (bodily)





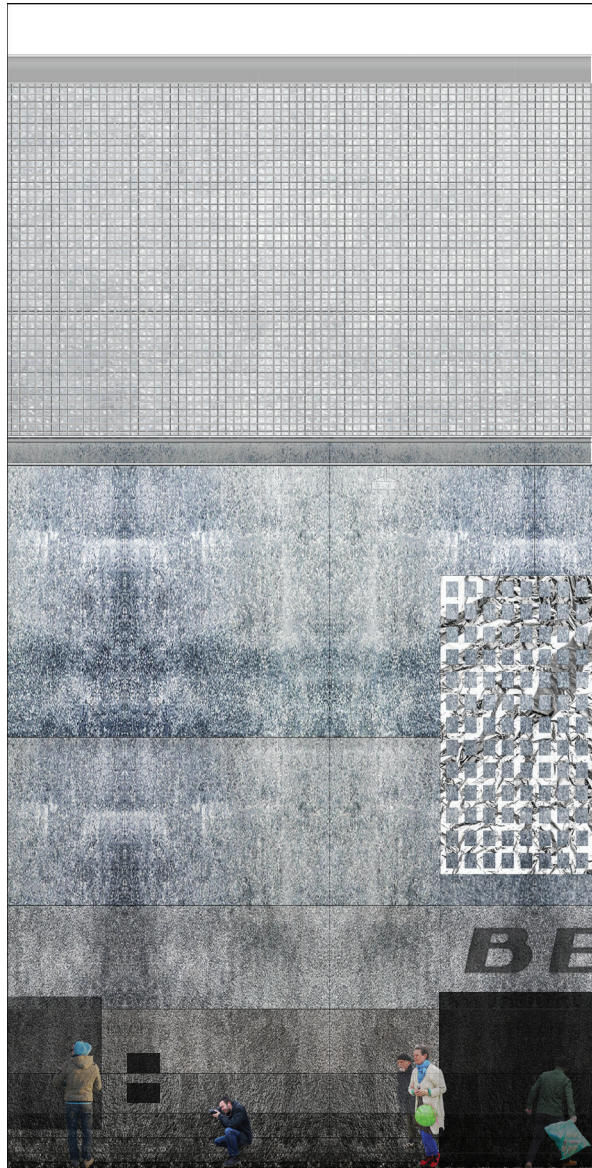


3_design

SUNKEN SQUARE ELEVATION



3_design

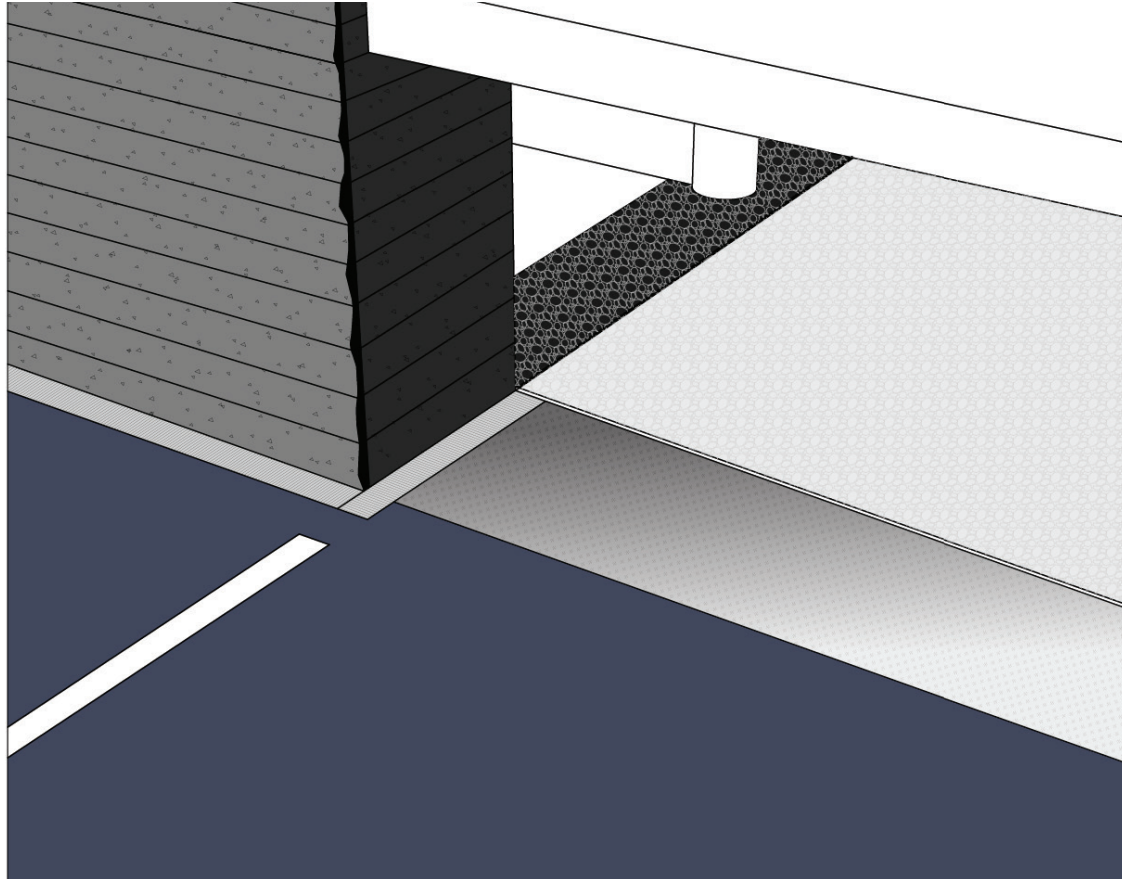


SUBWAY ENTRANCE ELEVATION



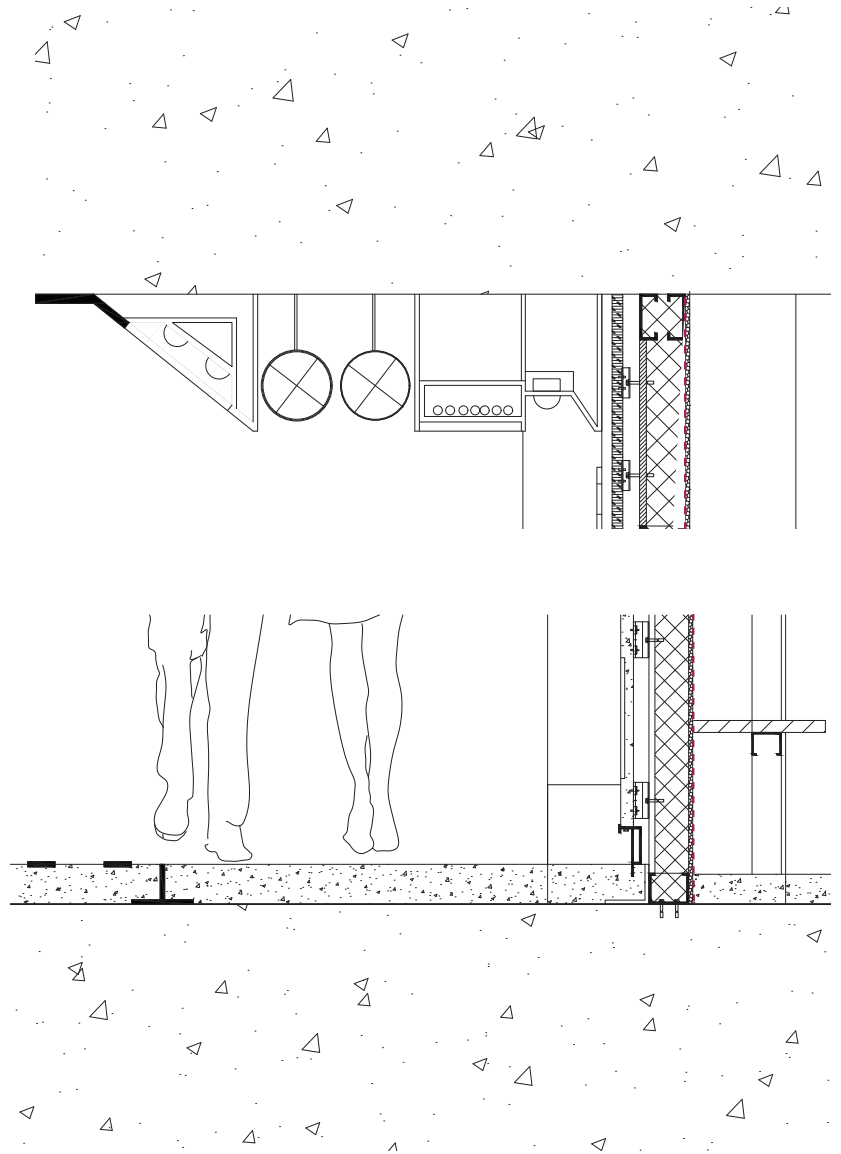
3_design

MATERIALS SCHEMATIC TURN2

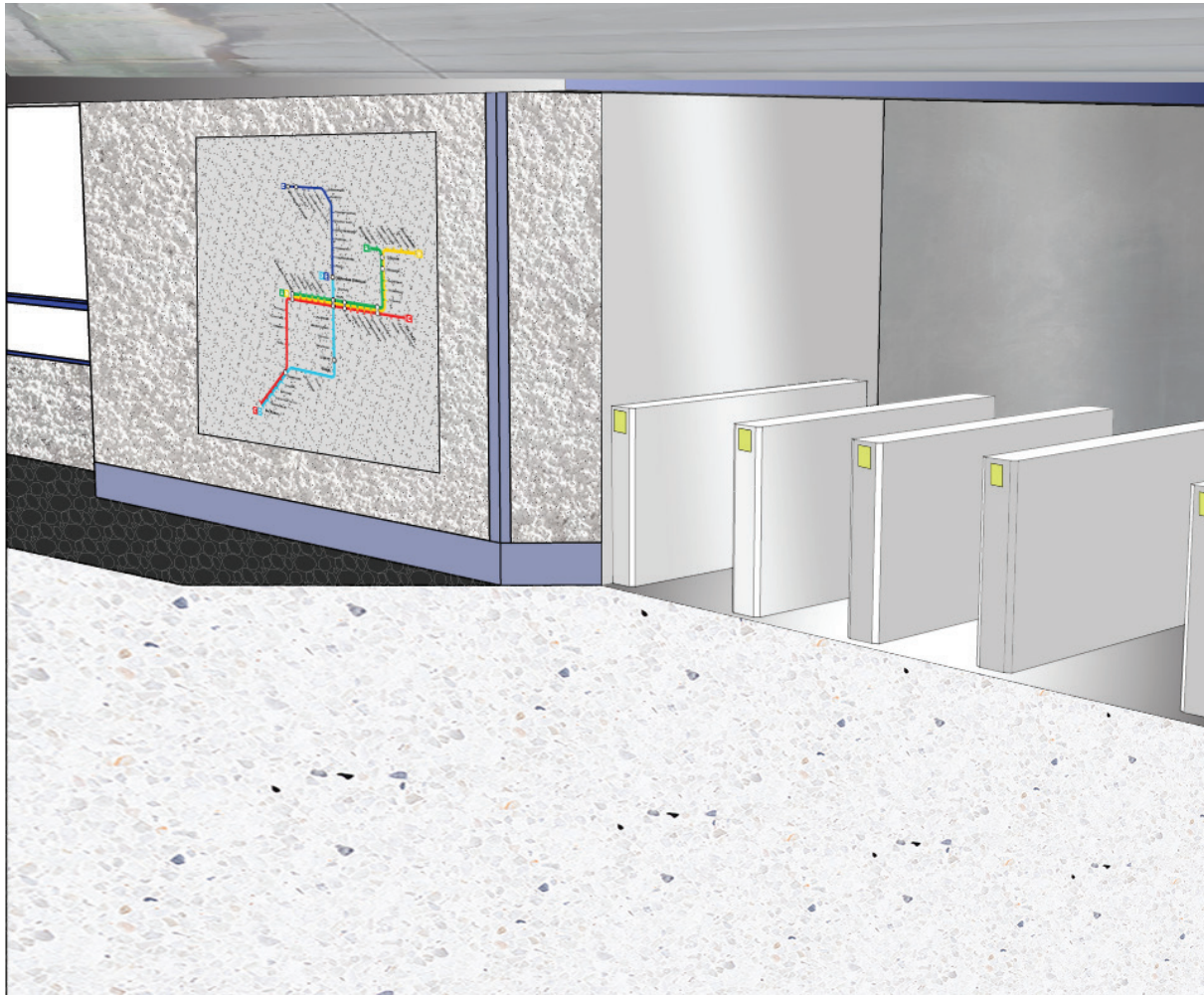


3_design

INTERIOR ELEVATION







CHAPTER 4 _ SPATIAL RHYTHMS



subject of design:

TRANSFORMATION of space through rushes, masses and solo/groups of drifters

Movement and behaviour are influenced by the physical

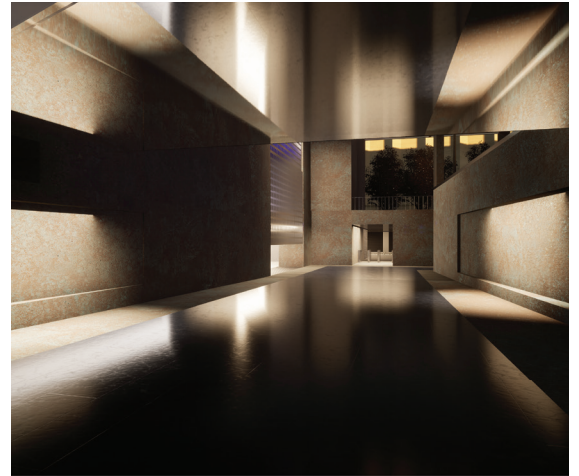
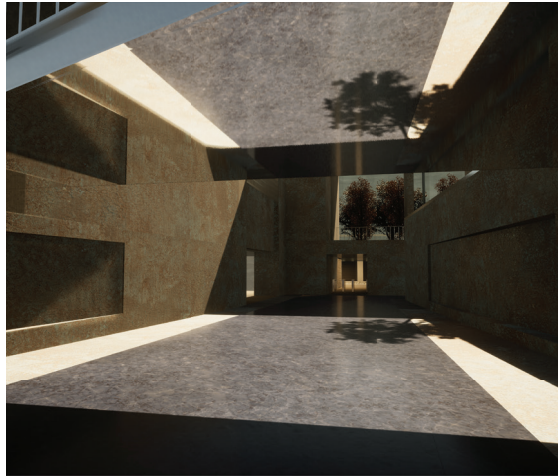
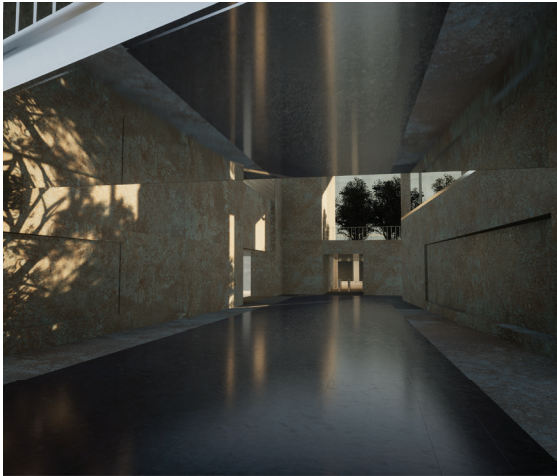
tools for design:

- the impact of predictable rhythmic tides as moving materials on architecture

- change in material rhythms

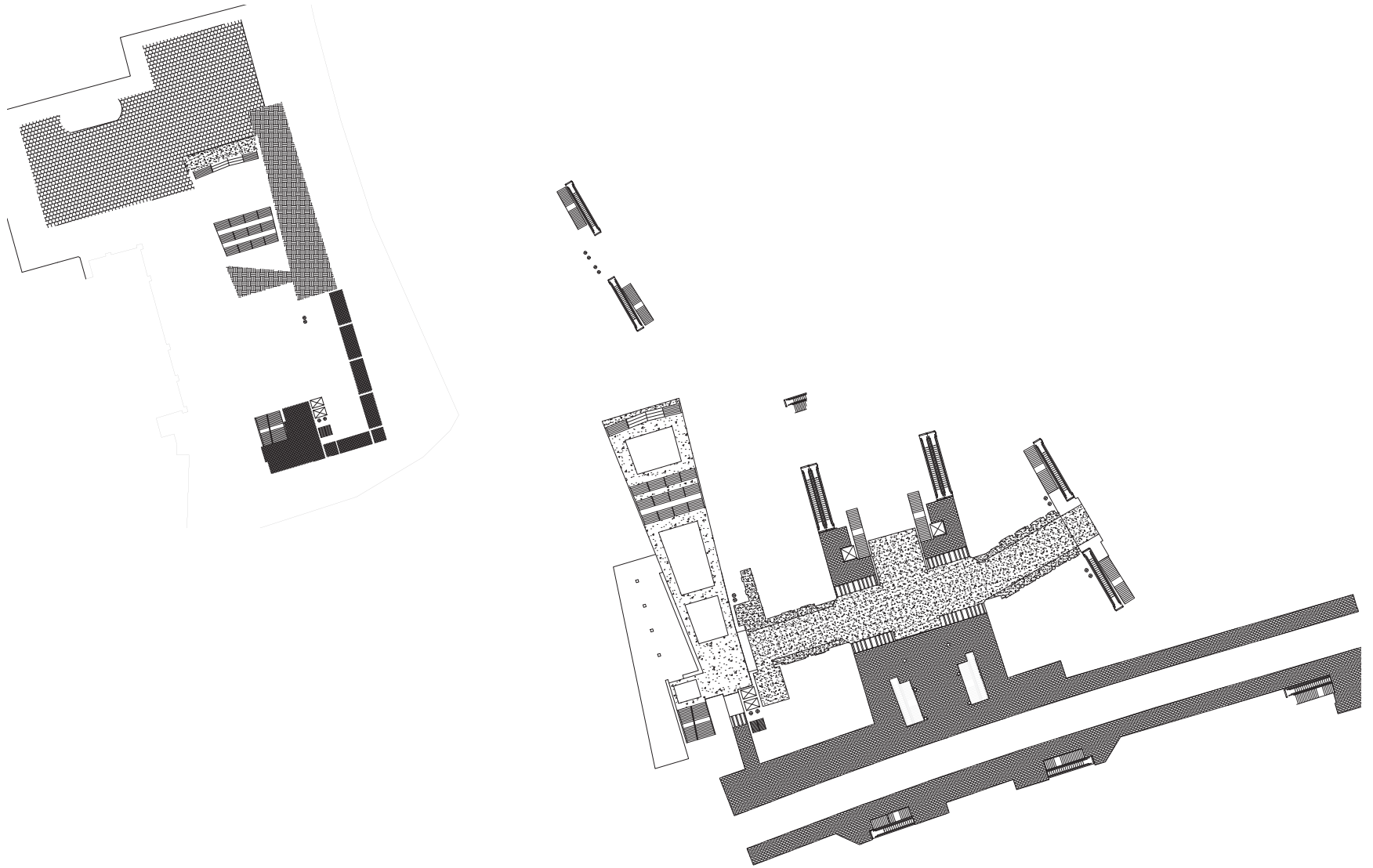
3_design

DAILY TRANSFORMATION



3_design

SEQUENCE OF PAVEMENT



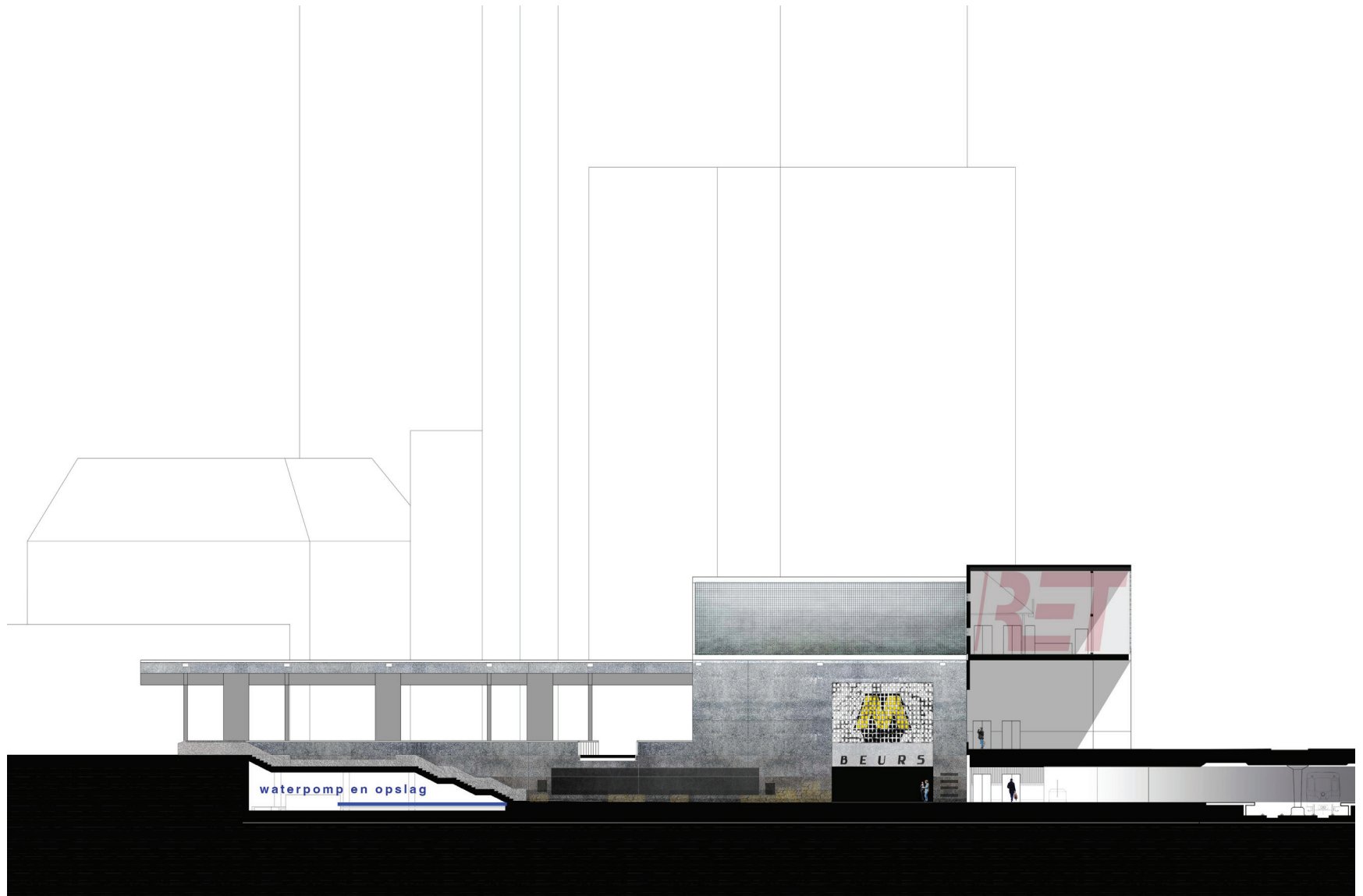
3_design

REACTING FACADE



3_design

RHYTHM SQUARE FACADE



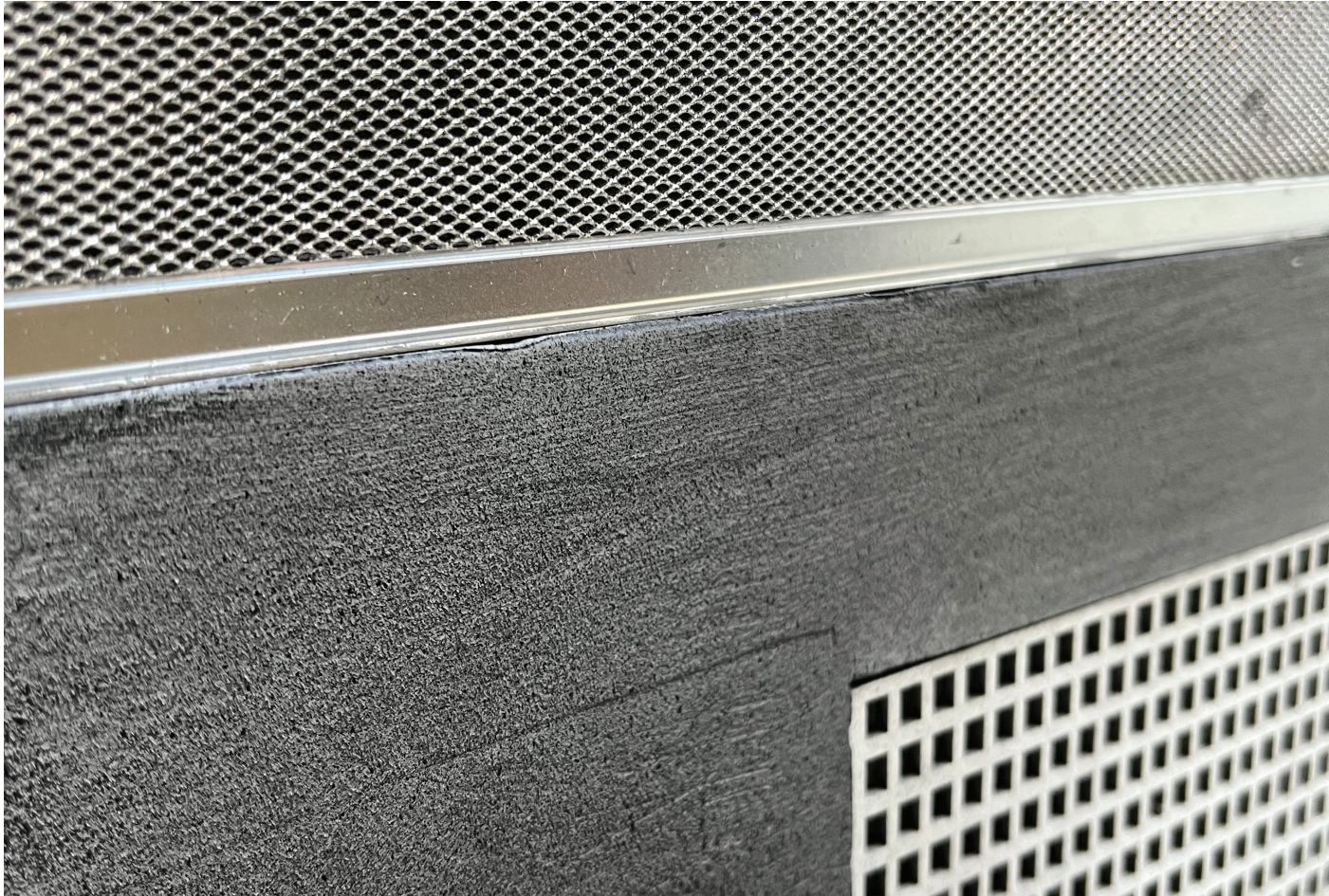
3_design

TWO DIFFERENT FACES



3_design

TWO DIFFERENT FACES



3_design

TWO DIFFERENT FACES



3_design

TWO DIFFERENT FACES



CHAPTER 5 _ (UN)EXPECTED



subject of design:

A routine experience as a sequence which allows one to become familiar with a place and its people, but includes novelty (architecturally, atmospherically, socially, personally) that allows for the critical production of everyday life

tools for design:

- subway experience is a sequence
- define moments when and where to create tension, novelty, diversity of action and excess, and where to be practical
- balance authorship over space



