

PORTFOLIO

ARTEM ALEXANDROV
2024

Artem Alexandrov

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ACADEMIC BACKGROUND

TU Delft
Master of Science, Architecture, Cum Laude
2021 - 2024

TU Eindhoven
Bachelor of Science, Architecture, Cum Laude
2018 - 2021

Leighton Park School, UK
A-levels, Mathematics, Physics
2015 - 2018

WORK EXPERIENCE

Paul de Ruiter Architects
Intern, Assistant Architect
2022-2023 (1.5 yr)

Student Mentor & Tutor of Mathematics and Data Analytics
2019 - 2021

EXTRACURRICULAR ACTIVITIES

BC Materials & ULB
1-week "Building with Earth" workshop, 2023

UNI Biophilic School Competition
Winner, 2022

YAC WWF Observation Cabins
Competition entry, 2021

Bcome 2021, 15-Minute-City Proposal, Busan
Group competition entry, 2021

SOFTWARE

Drafting
Archicad - Rhino - Autocad

3D modelling
Archicad - Sketchup - Rhino - Grasshopper - Blender

Rendering
Lumion - Enscape - Blender - Unreal 5

Adobe Creative Suite
Photoshop - Illustrator - Indesign - Lightroom

Coding
Python3 + matlab + pandas (fundamentals)

SOFT SKILLS

Problem solving
Work ethic
Time-management
Teamwork
Leadership
Public speaking
Academic writing

LANGUAGES

Russian - Native
English - Bilingual
French - Conversational
Dutch - Basic



+ part I

personal work

Theatre of the City Ruin revival	5
SXM Food Centre (Agri)culture	13
Orbetello Observation Cabins Competition entry	17
Learning garden Competition winner	19
Coffeehouse Einkenburg Small recreation	22
Maastricht Philharmonic Public building	26
Playground for All Street furniture	28
Sketching	31

p.4



+ part II

professional work

Coolsingel 93 detailing + archival study	35
Carteius 5 plans + visuals	43
Leiden Bioscience Park 5 facade iteration + apartments	48
Mercator II facade retrofit	51

p.34

+ part I
personal work





Theatre of the City

Master graduation, 2024

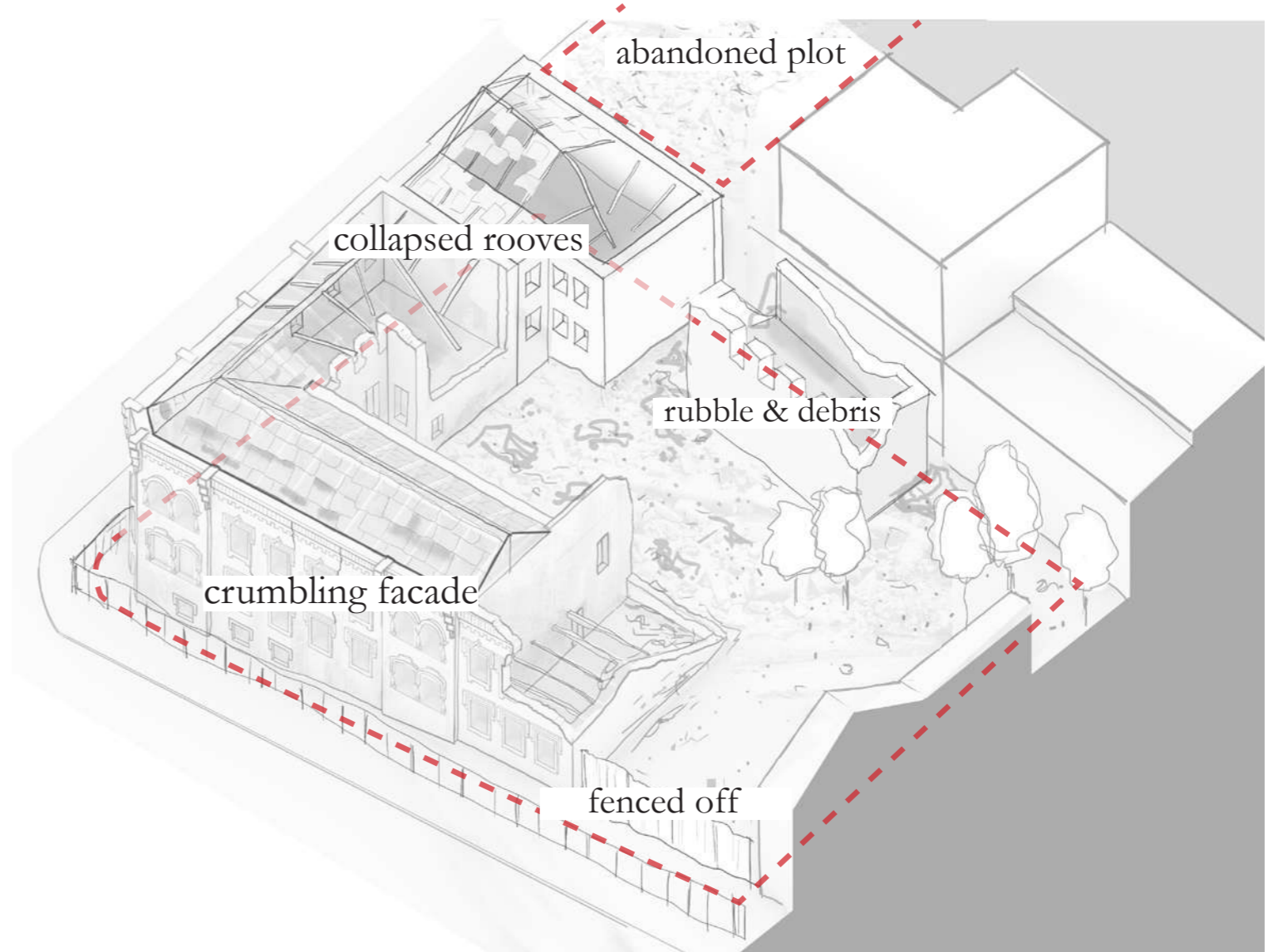
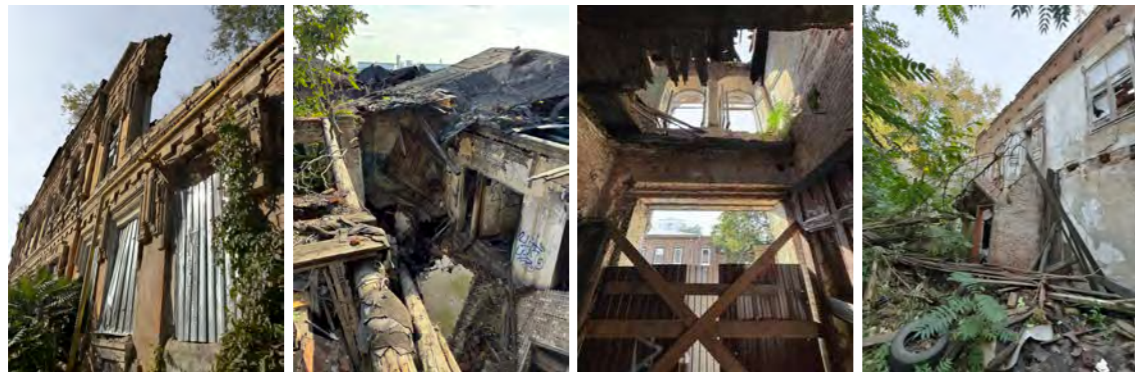
Engagement with the city in provincial Russia is currently lacking a framework of care for the historical urban fabric. Listed buildings decay with no revitalisation plans made by the municipality or the citizenry.

Many buildings in Rostov, Russia, are listed as monuments and also slated for demolition due to their dangerous condition. Such architectures are rendered into a legal limbo, where they slowly dissolve into oblivion.

To revitalise an abandoned House of Guderman, I propose a scheme of gradual occupation of the building by a theatre company. First, simple interventions – paint and posters come in handy. As the project ramps up, more citizens get involved in turning a building from a ruin into a cultural hotspot. The user is the agent; the architect must step back.

Specific in its approach, I aimed to make my approach generalisable to other ruined monuments of Rostov, proposing a possible alternative to their assured death, either by natural causes or by destructive restoration.

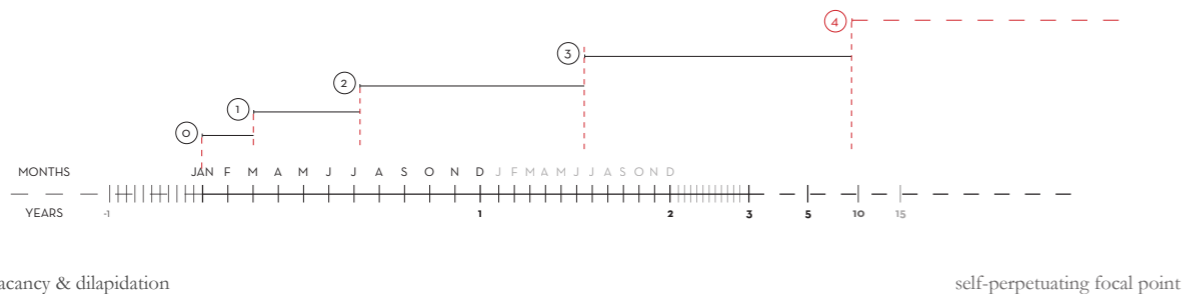




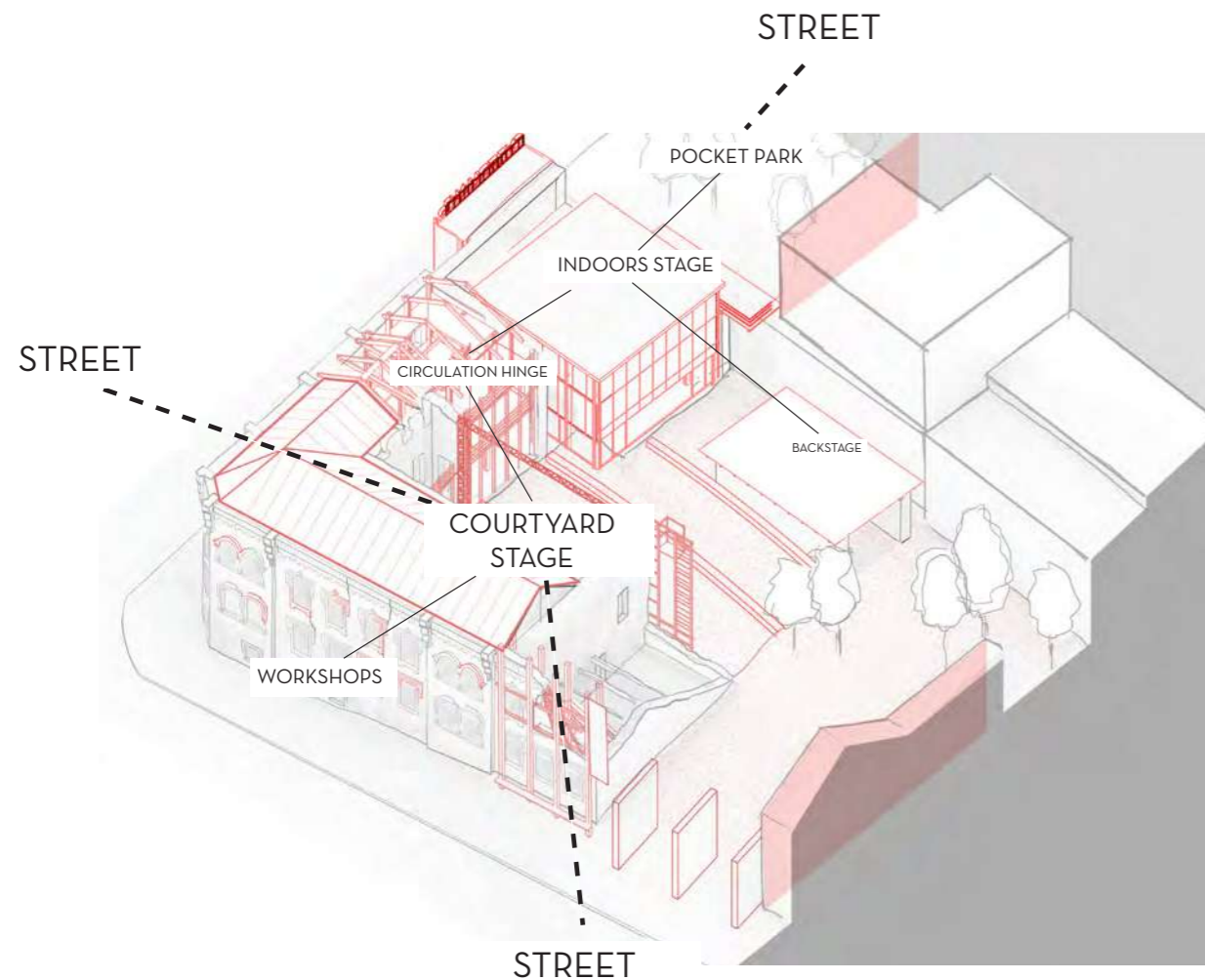
Current dilapidated condition of Guderman House

Current issues

- *danger to public safety*
- *complete disconnection from the city*
- *loss of historic identity*
- *urban voids and urban negligence*



Project through time



Proposed scheme

Occupy

0. Urban workshop

Remember the ruin

1. Murals, theatre-shack, bar

Create publicity

2. Circulation core, lookout point

Tame the ruin

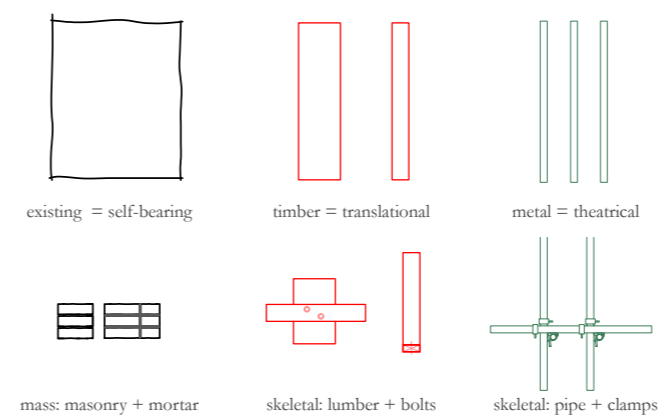
3. Workshops, courtyard stage

Involve at every step

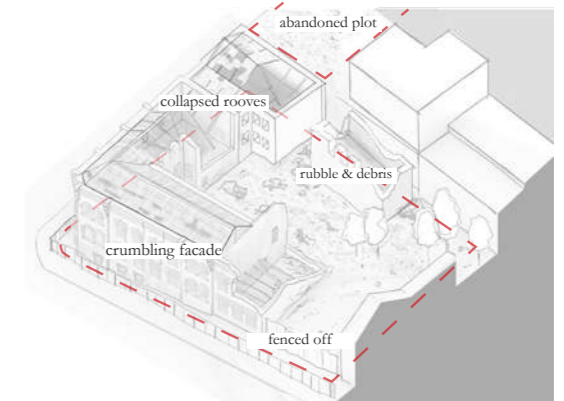
4. Site continues as a city-theatre and beyond

...Live the ruin

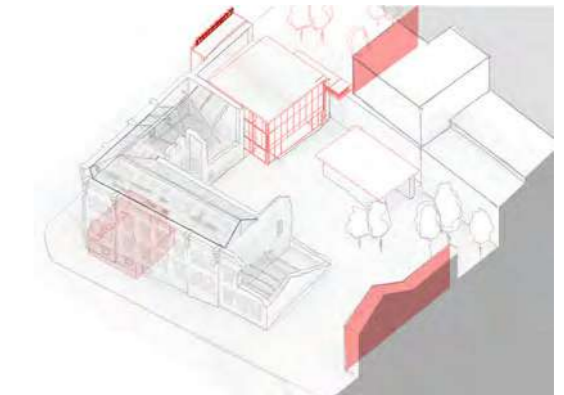
Revitalisation starts with simple measures and develops further with the help of local efforts. Additional structures are tectonically discernible from the original mass construction.



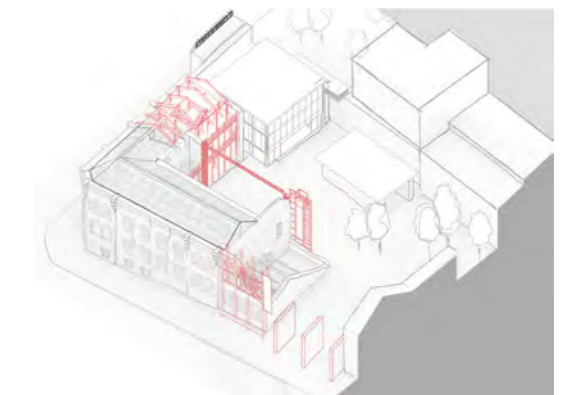
Tectonic principles



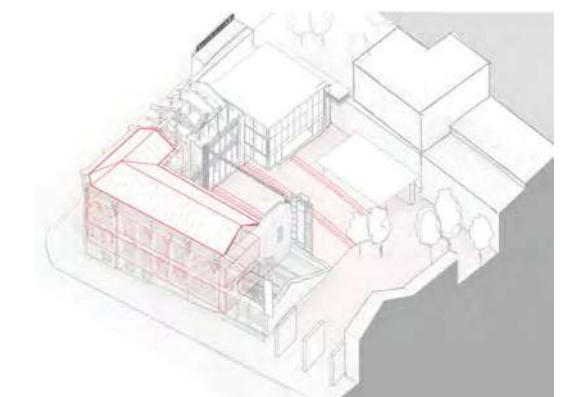
Current state



Phase 1

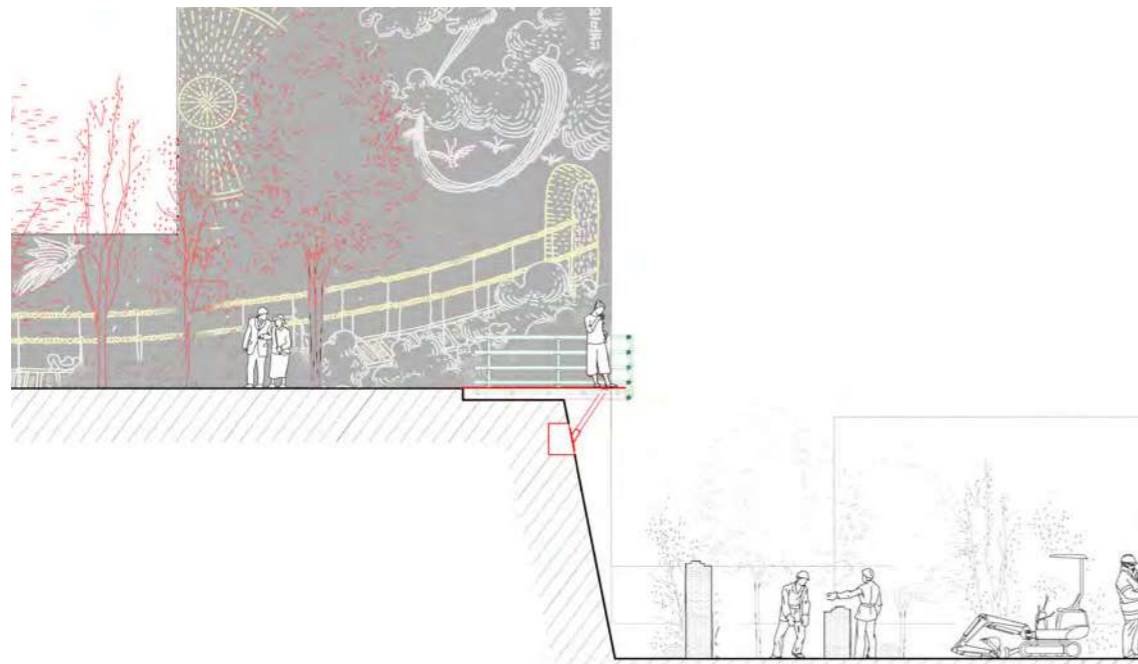


Phase 2

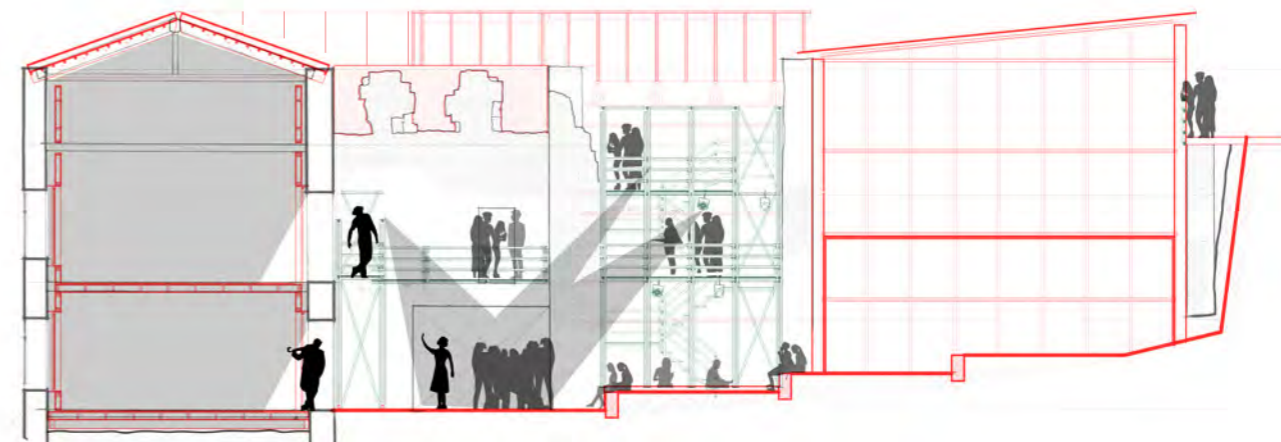


Phase 3

Project stages

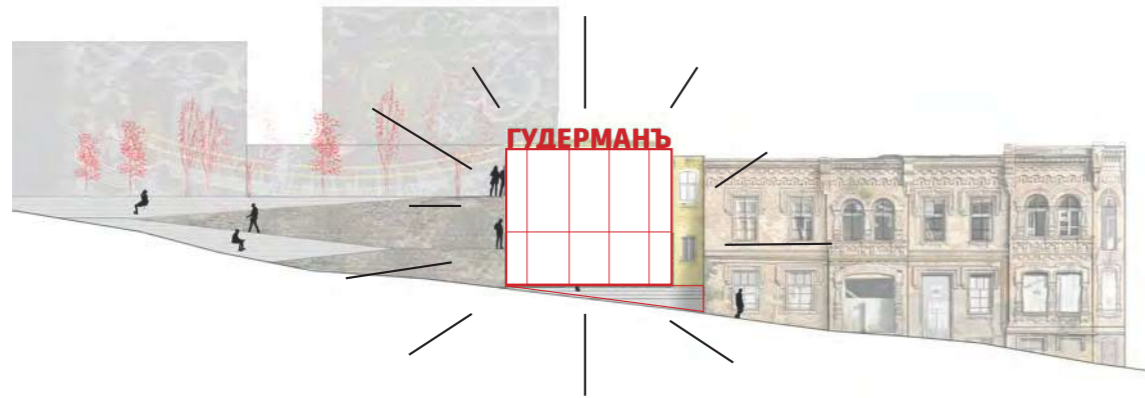


Street balcony - an open invitation

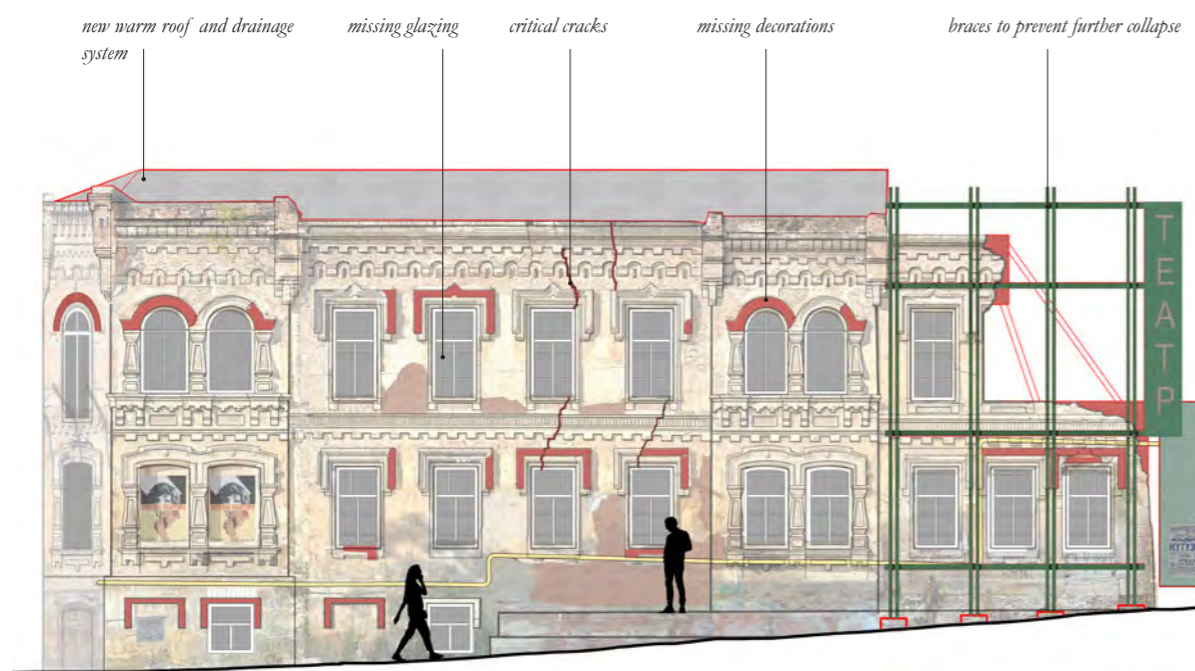


Courtyard as a heart of the project





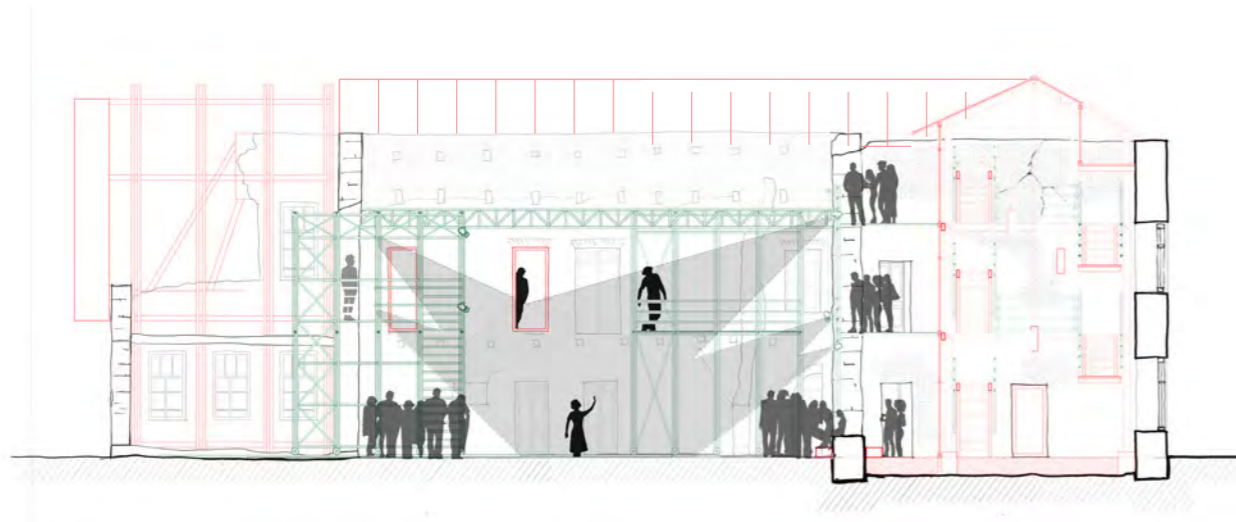
New in the old grabs attention



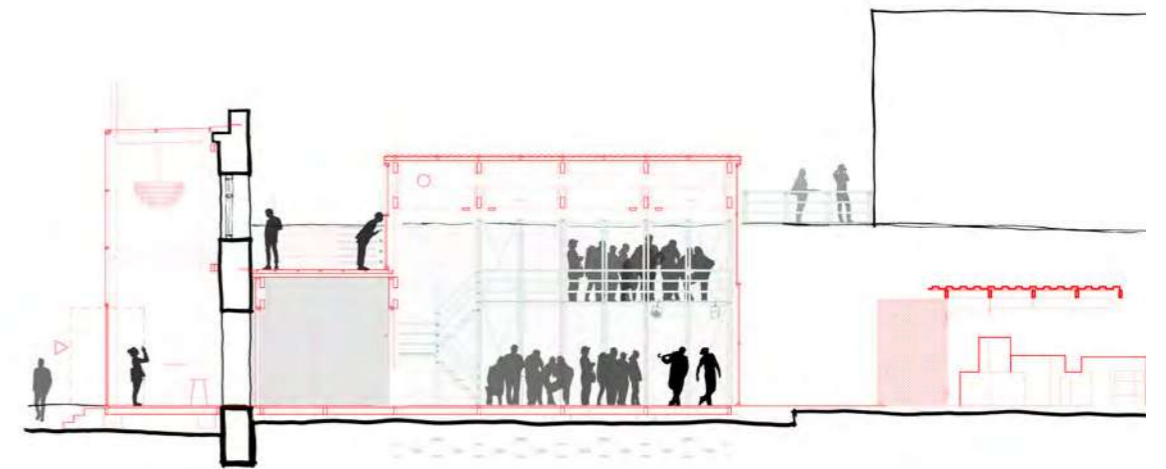
Minimal facade intervention - it has been a property of the city for a century.



Box in the box detail - interior comfort

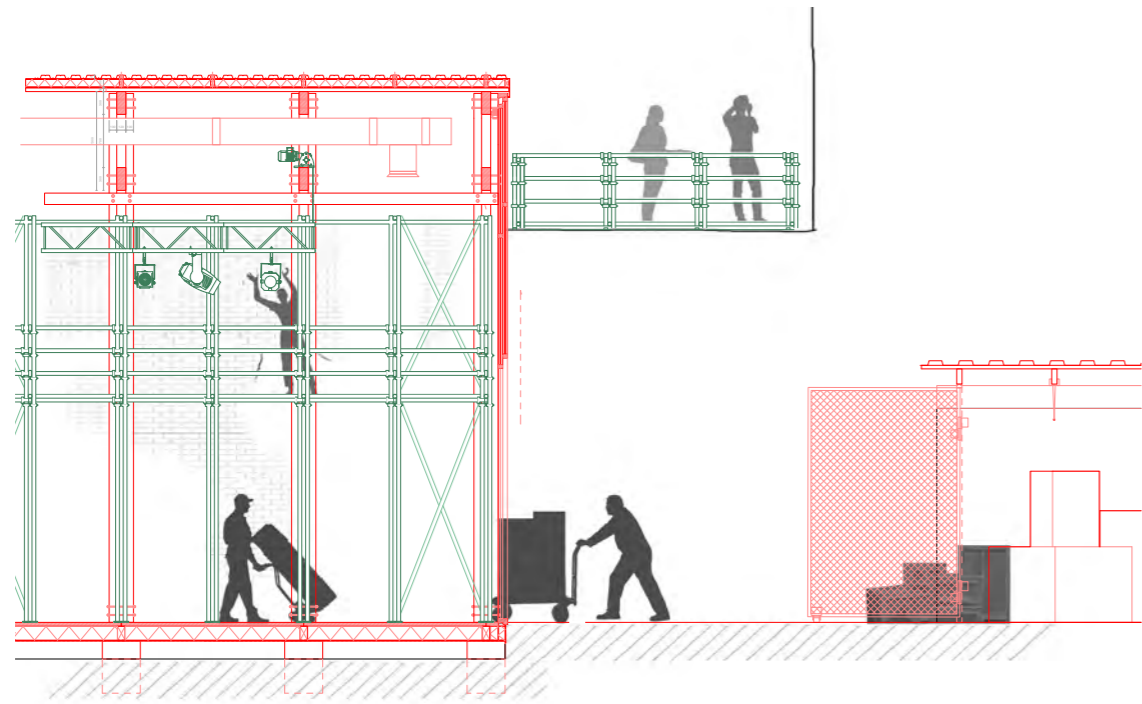


Courtyard as a stage

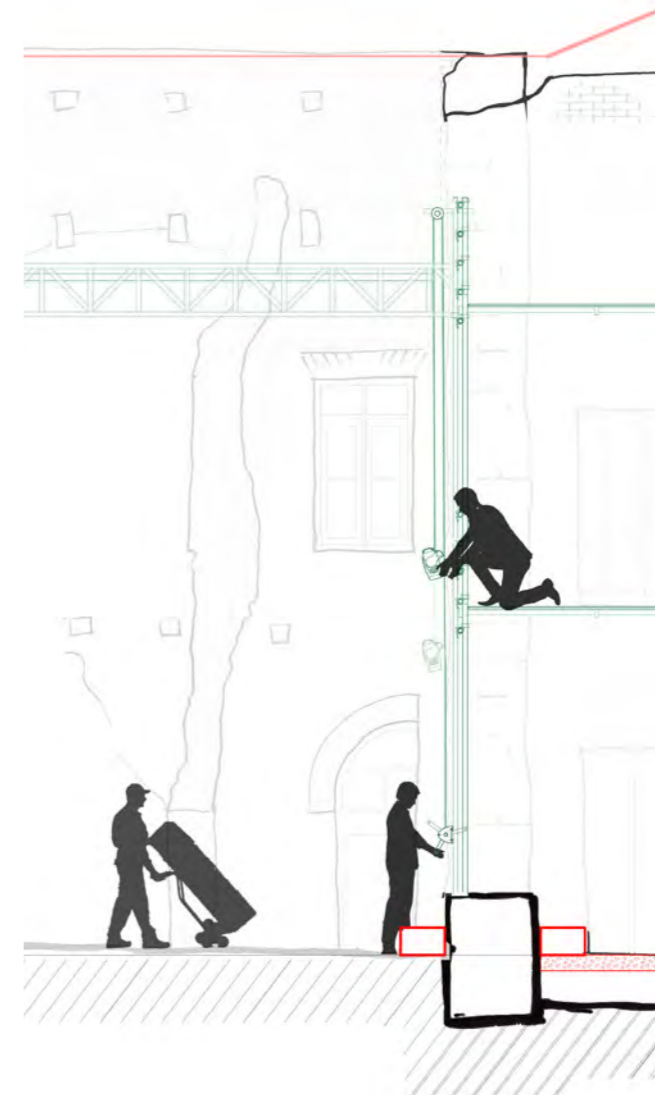


Gradient of spaces from the street to the backstage





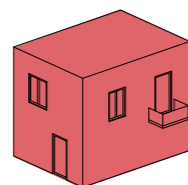
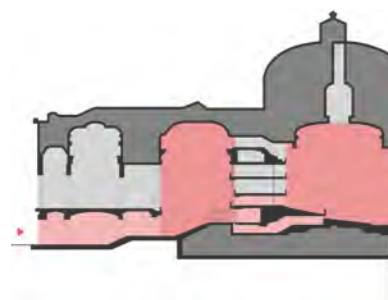
Public and private flows intertwined



Theatre operation

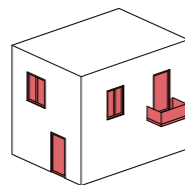
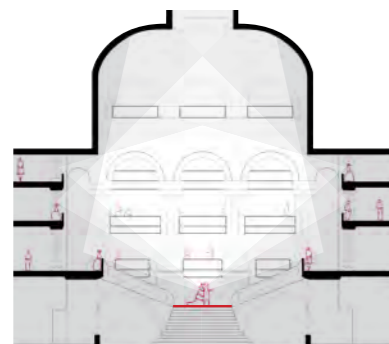


+ research



building

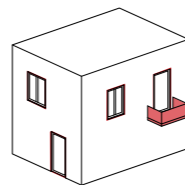
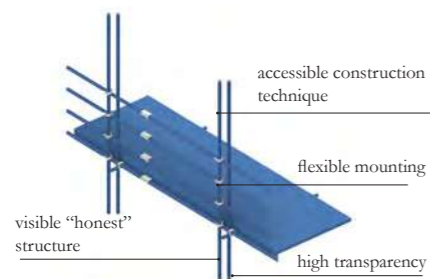
In this part, I looked at the bold strokes of theatre typology on a building scale. Large volumetric gestures. Changes in height as spaces. Cloakroom, ticket office, foyer; many spaces precede the auditorium. Spaces that prepare the audience for the performance. Spaces that tame the audience. Spaces that let the audience play.



element

The monumental staircase is a centrepiece of a hall that is surrounded by balconies and galleries. These become places for the "audience" of the social performance.

Such are the social plays within a theatre on the scale of an architectural element. Staircase, balcony, window - wide spatial landscapes for a wide social landscape.



detail

Tactile materials, flexible structures, self-built podiums - the most inviting places considered the experience on a detail level. User agency is important, and spaces that were seemingly built to interact with will attract more attention.

Studies of theatre typologies



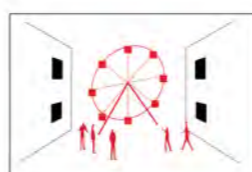
Blur boundaries. Lower barriers of entry.



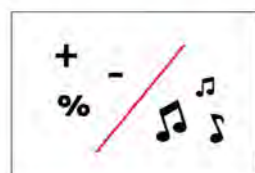
Too comfortable = less engaged.



Interaction seems possible.



Unusual in the usual.



Provide learning and entertainment values.



Tactile materials expect interaction.



Wide spatial landscape = wide social landscape



Some friction is helpful.

Engagement qualities of theatricality

+ the city

Rostov historically grew off the the river Don Northwards throughout 18-20th centuries. Its historical centre (in black) has a dense network of monumental buildings still in place in various conditions.



During my research, I found many buildings in Rostov that are listed as monuments are also slated for demolition due to their dangerous condition

(red circles). Such architectures are rendered into a legal limbo, where they slowly dissolve into oblivion. Municipality is passive, but neither the citizens

take active effort in preserving this history. This project aimed to increase this involvement.



country



region



city



Condition
 ● Good
 ● Medium
 ● Poor (mo should be assessed)
 ● Disrepair
 ○ Demolished / collapsed



SXM Food Centre

Master Studio 1, 2022

Food centre for Sint Maarten is aimed at growing local produce, whilst educating the public about food production chain, circular agriculture and reuse of resources.

The centre features study halls and daycare to encourage hands-on education on land from early age. It includes facilities for waste treatment to reintroduce agricultural and household waste back into the system.

With circularity ambitions of the centre, its structure uses sawn timber sourced at nearby islands, joined with bolts and metal connections. Finishing is completed with reused corrugated sheets, which are found as construction waste in vast quantities on Sint Maarten following Irma hurricane.

Reusing materials is not only economic but educational; projects aims to become an example of how easy it is to reuse old and damaged materials. Promotion of hurricane-resistant wooden structures may also encourage a development in the local lumber industry.



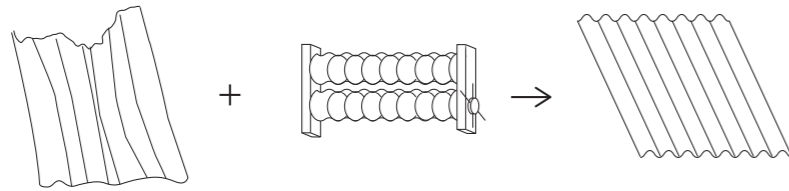
Guiding principles



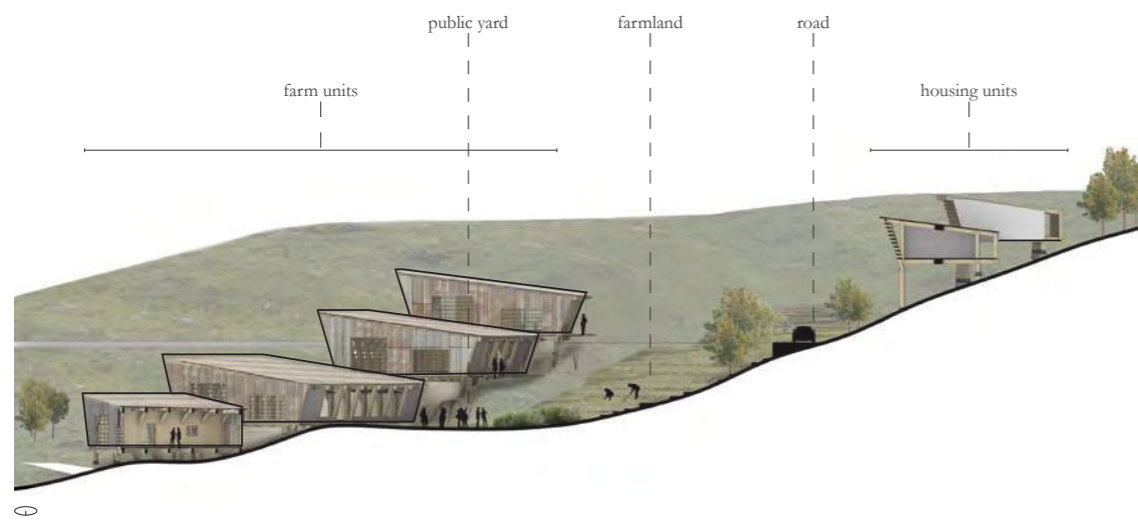
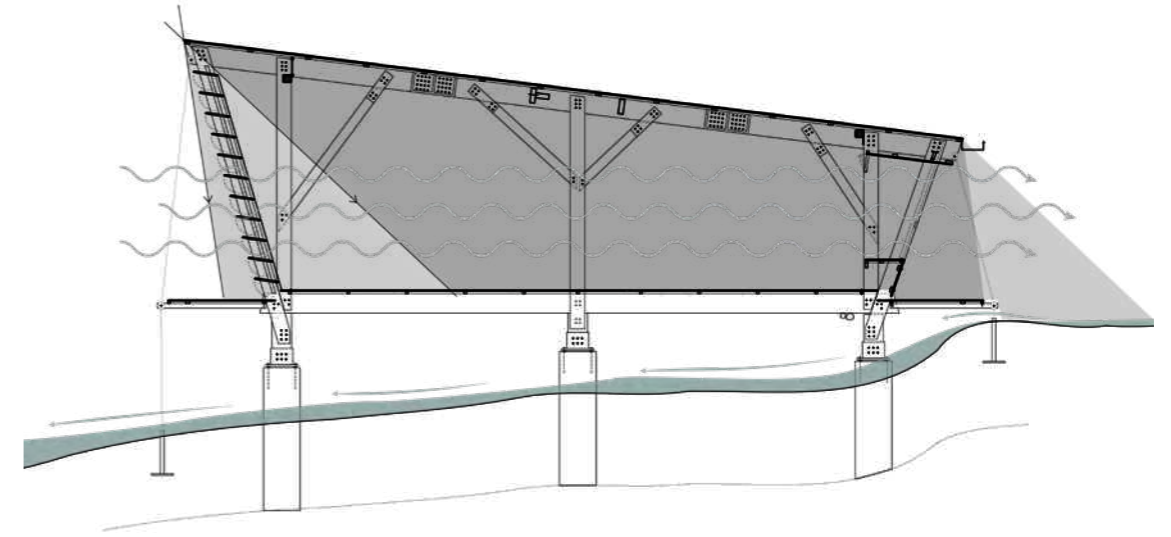
education

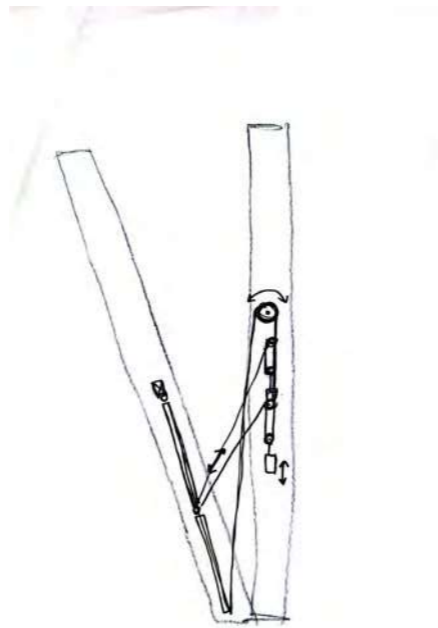
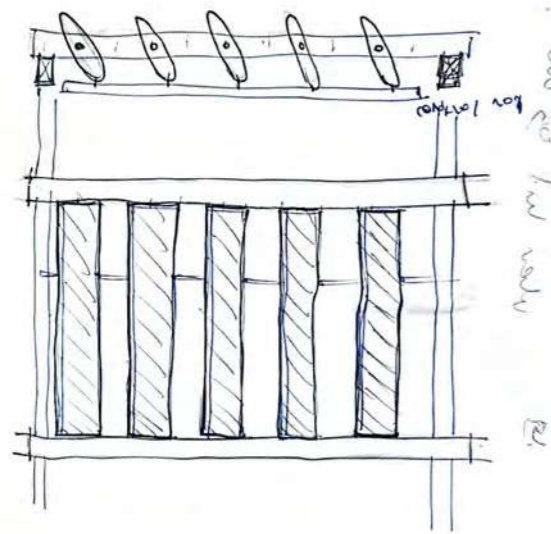
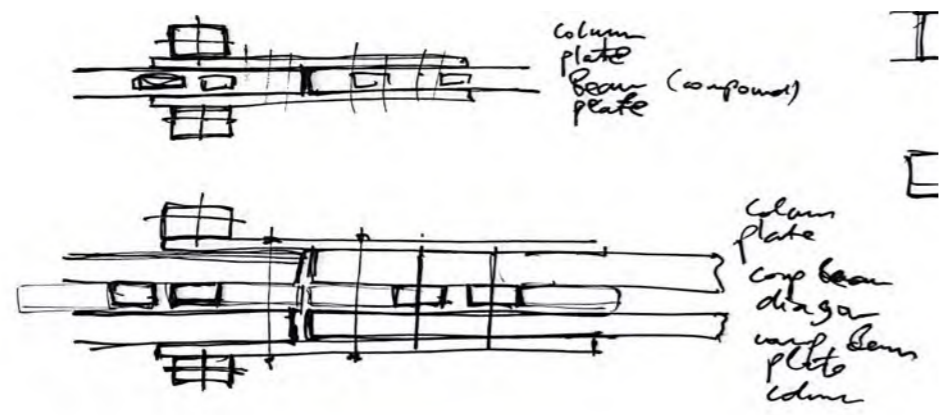


circularity



repurpose + recycle

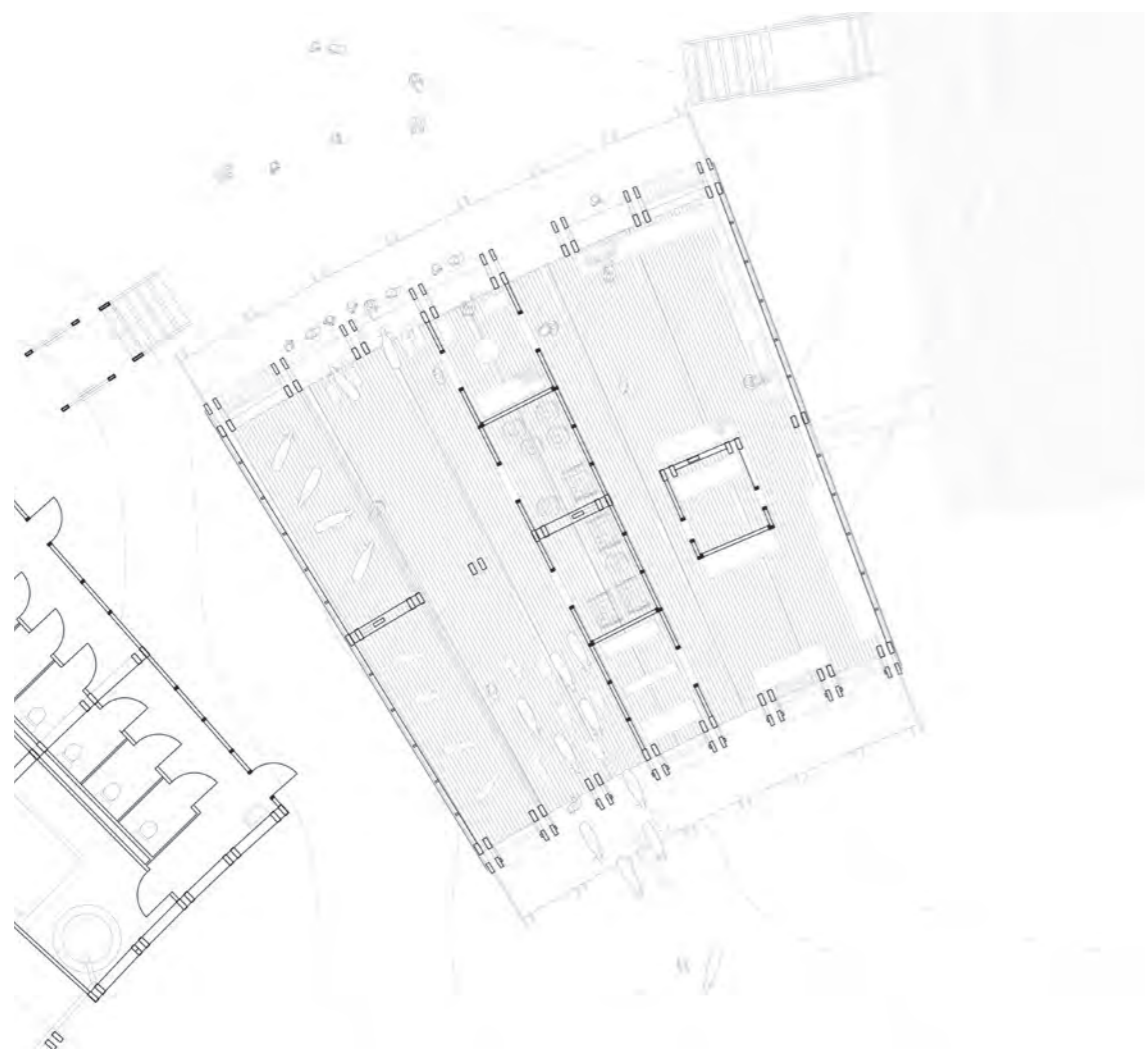




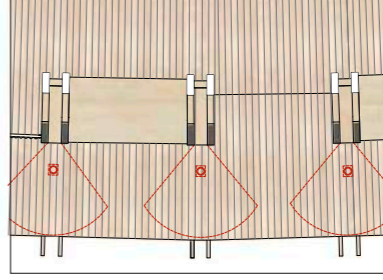
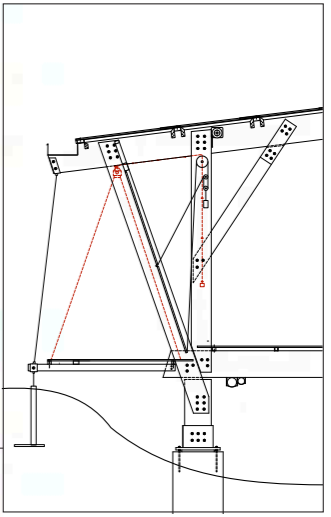
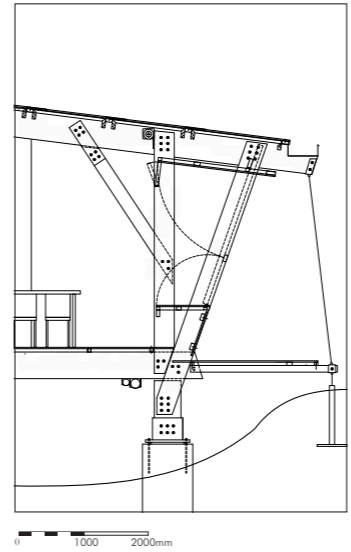
Earlier design concepts



Roof and hidden gutter structure



Farm plan





Orbetello Observation Cabins

Competition entry, 2021

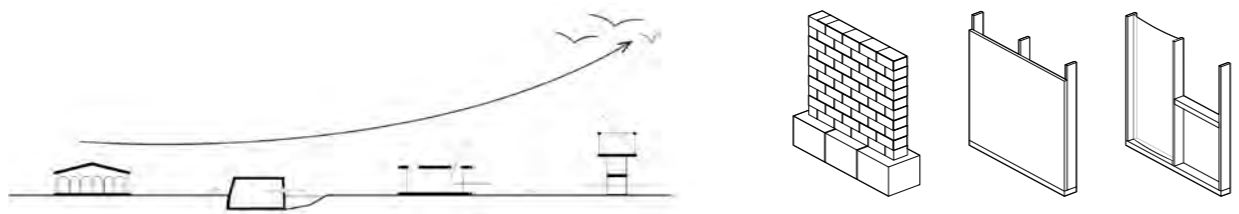
Surrounded by the marvels of the Orbetello nature reserve, this architectural complex investigates the use of historical context and materiality as the basis for creating contemporary architecture that is both humble and linked to its surroundings.

Different buildings are united on a “path to unity” with nature, which visitors take to gain full appreciation both for the local wildlife and the historical heritage.

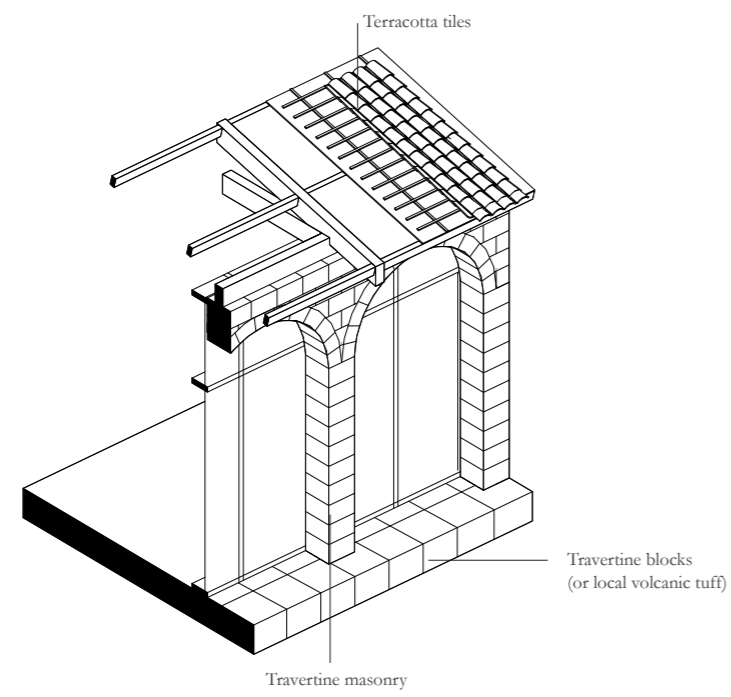
The structures are nothing but mere frames for the outstanding views, and their materiality and typology strive to be non-intrusive to not steer any attention away from the context.

Starting with heavy and grounded construction techniques, the architectures of the complex slowly dissolve into light and open structures, where the visitors discover the close bond to nature and experience its force.





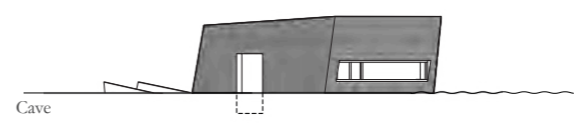
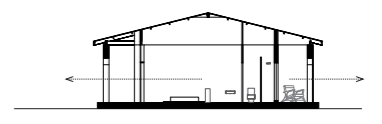
Architectures get progressively lighter as if trying to lift off the ground - a path similar to a life journey of a bird.



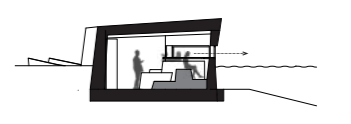
Construction Diagram



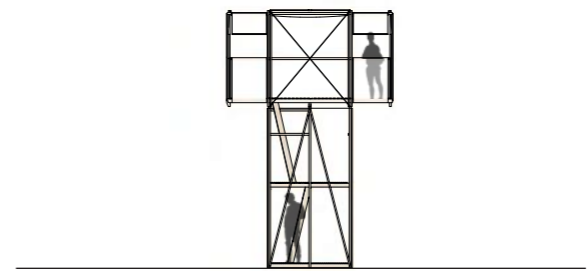
Visitor Centre



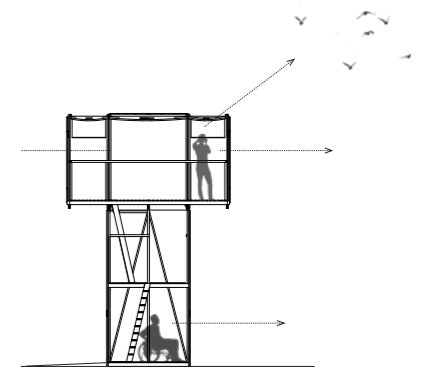
Cave



Ground Cabin

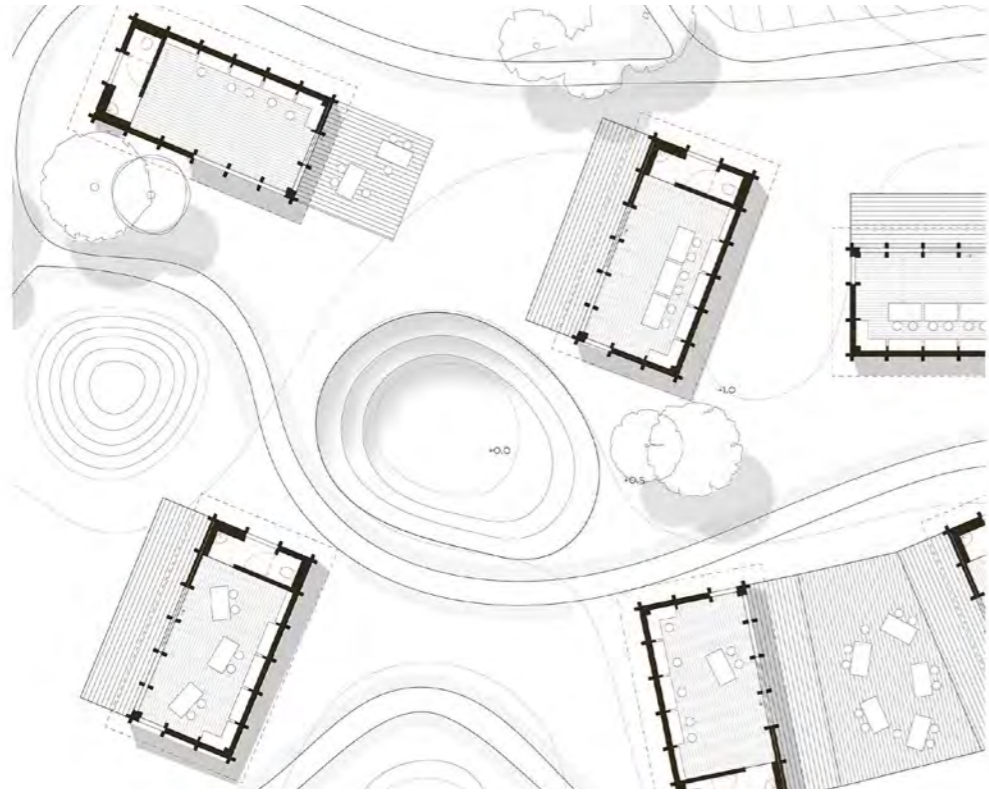


Tower



Typologies and Materiality





Learning Garden

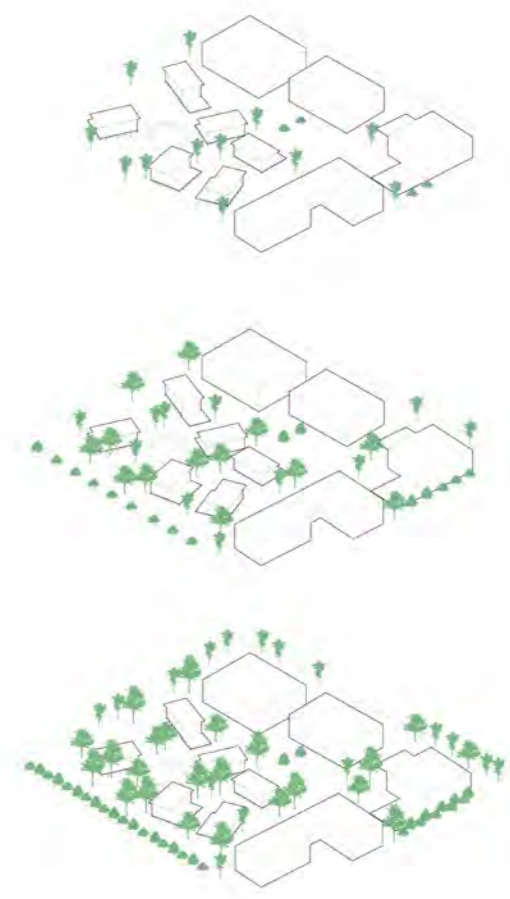
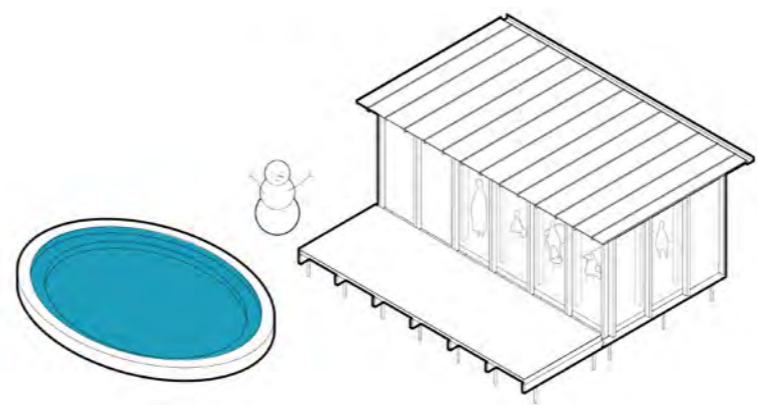
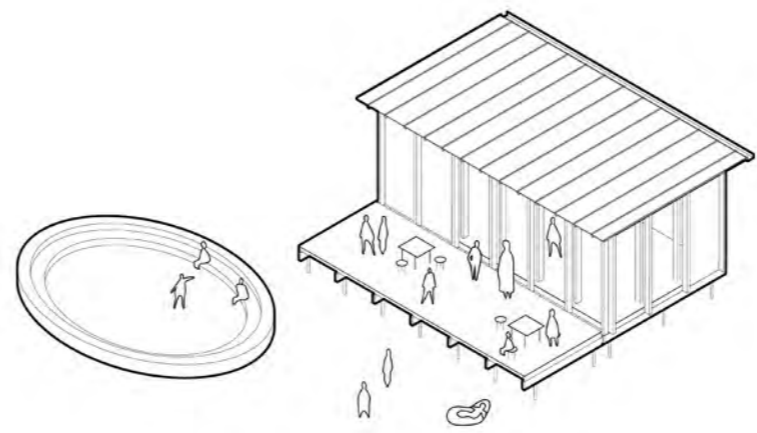
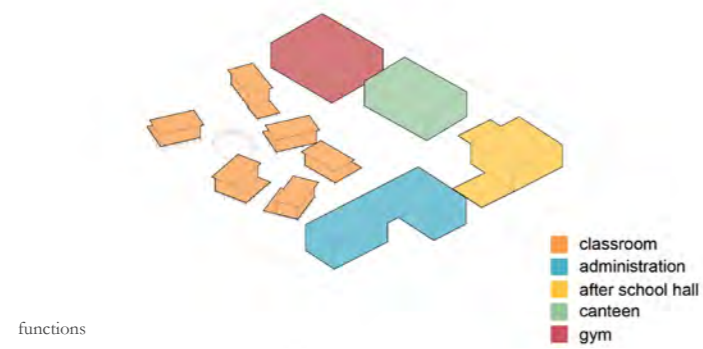
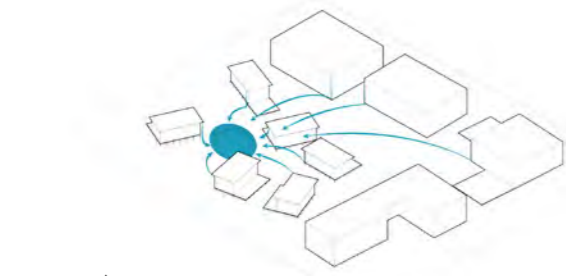
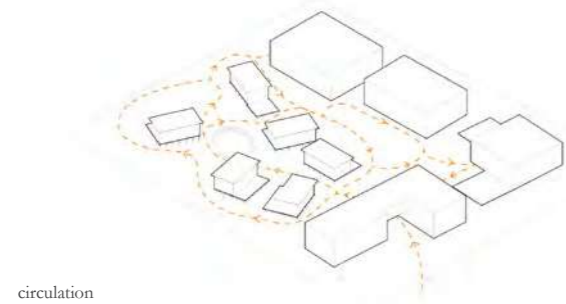
Winning competition entry, Christchurch, New Zealand, 2022

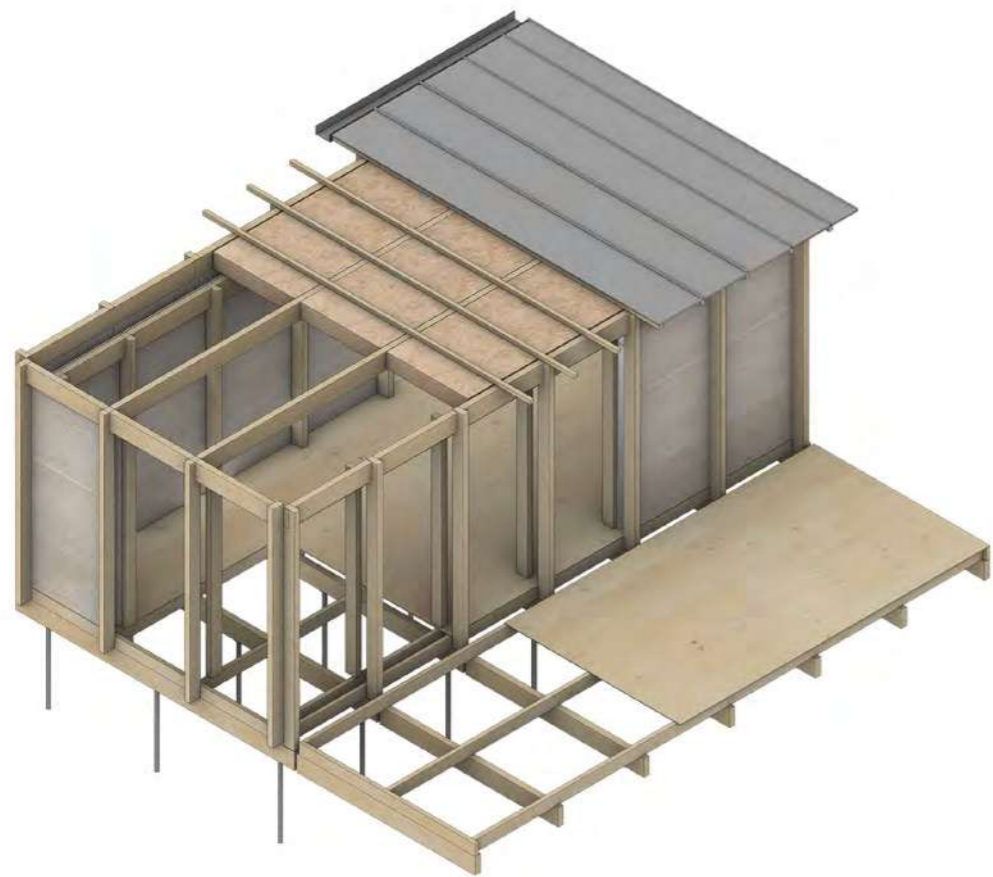
Nature-integrated learning was the goal of this project. The solution was to bring the education out into nature, not try and bring plants into a conventional school.

The mild climate allowed to bring all circulation outdoors, ensuring more time outside as well as minimising the architectural footprint of the project, leaving more area for nature. Small modular units of simple timber construction were scattered around the playfully landscaped school grounds, each with its own terrace for outdoors activities. In the middle of the classroom cluster lies an outdoor amphitheatre for gatherings, which in rainy periods acts as a buffer to store water for irrigation.

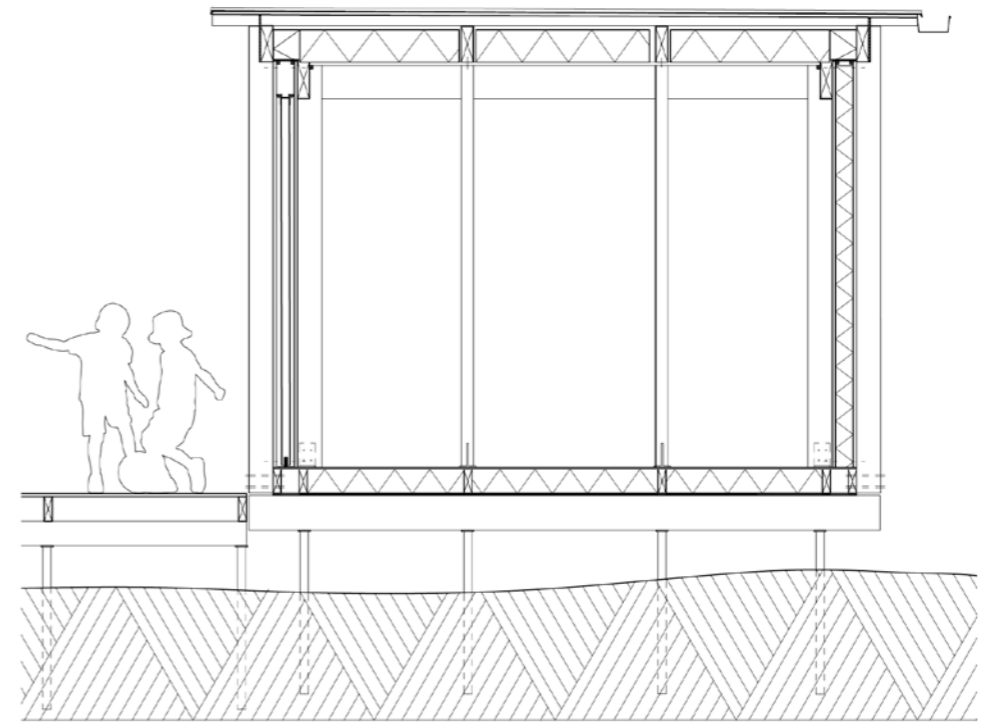
Small paths meander in the school grounds, following a daily path of a student - through the teachers' building to the classrooms, down to the gym area, into the canteen with its vegetable patch, where kids learn how to grow their own food, and finally the after-school activity hall.





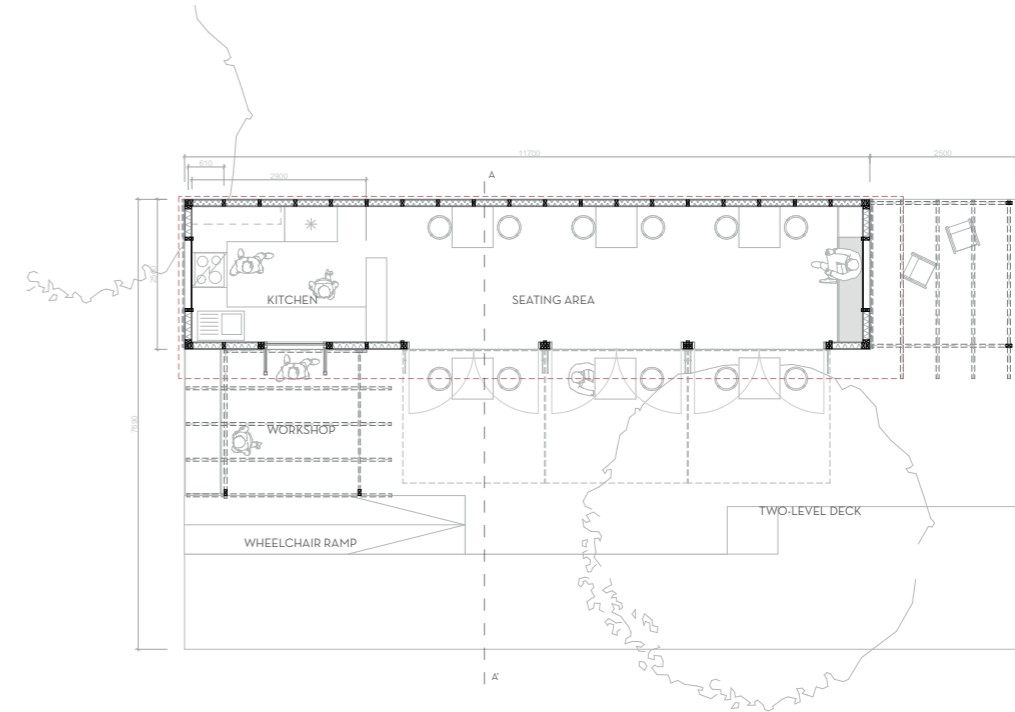
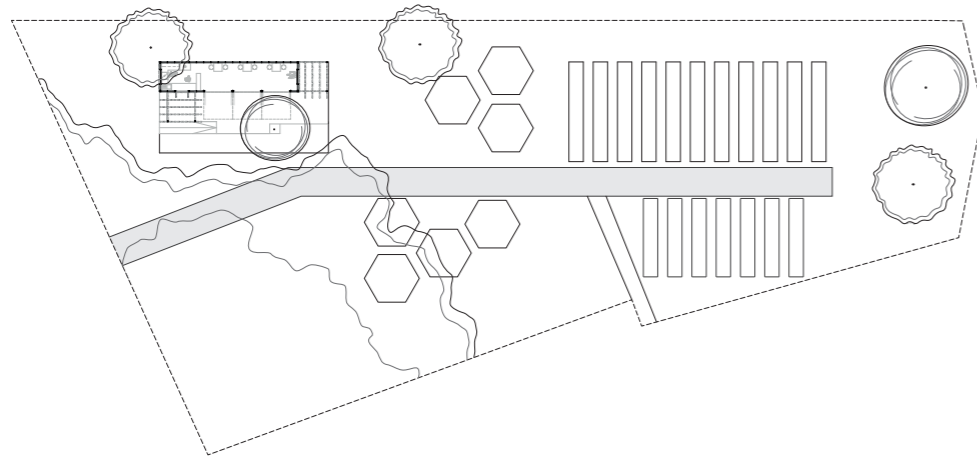


Double column structure



Detail section





Coffeehouse Eikenburg

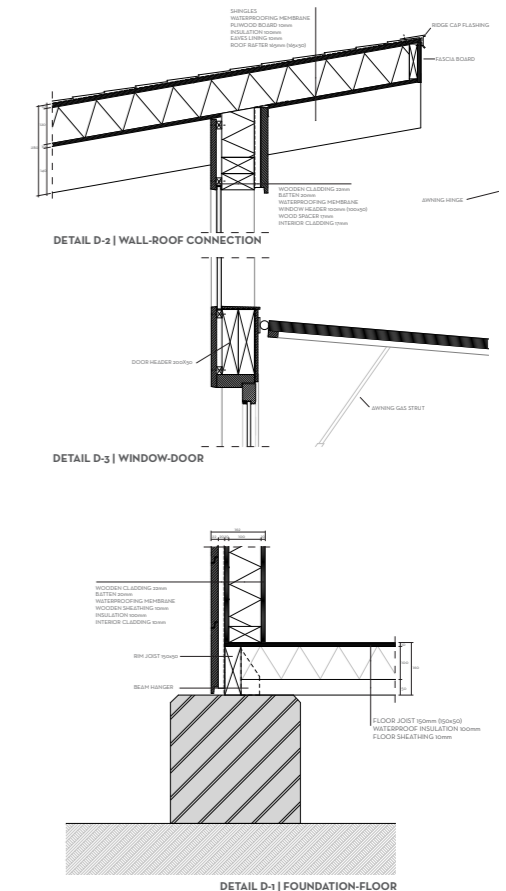
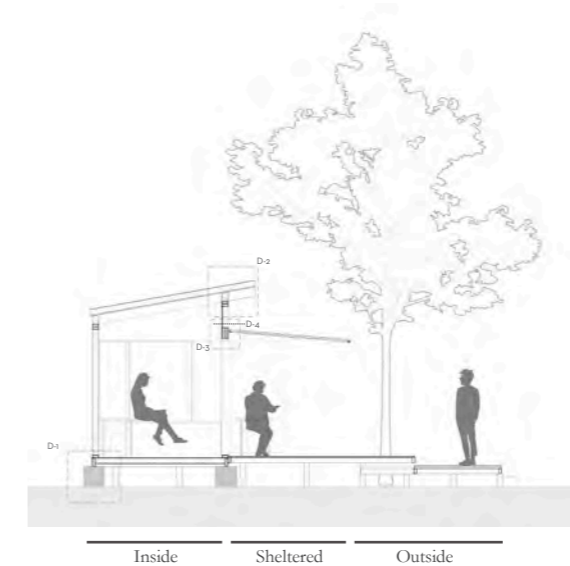
Practical Assignment Bouwkundewinkel, 2020

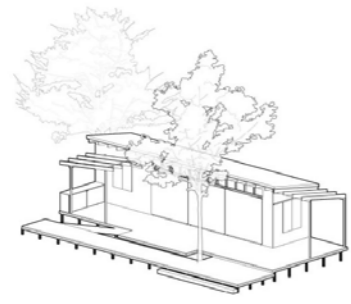
A design for a temporary coffeehouse for a community initiative garden in Eikenburg. The piece of land did not allow permanent construction. Final design can be built in a warehouse by a mix of professional and volunteer work, loaded on a trailer and transported to the site.

In warmer months, six wide glass doors can be opened wide to connect the interior space to a spacious terrace. This forms a mixture of partially sheltered and open spaces.

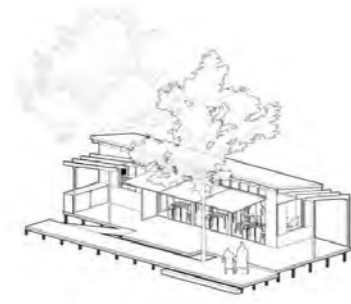
The terrace space near the house is sheltered with large custom awnings, that also serve as anti-vandal shutters when put down - another wish of the client. Gas struts allow for easy opening and securing the awnings in place.

This was my first project to deal with a real client, iterating different concepts based on the feedback. Price and material volumes calculations was also a new skill for me to learn.





LOCKED AND SECURE

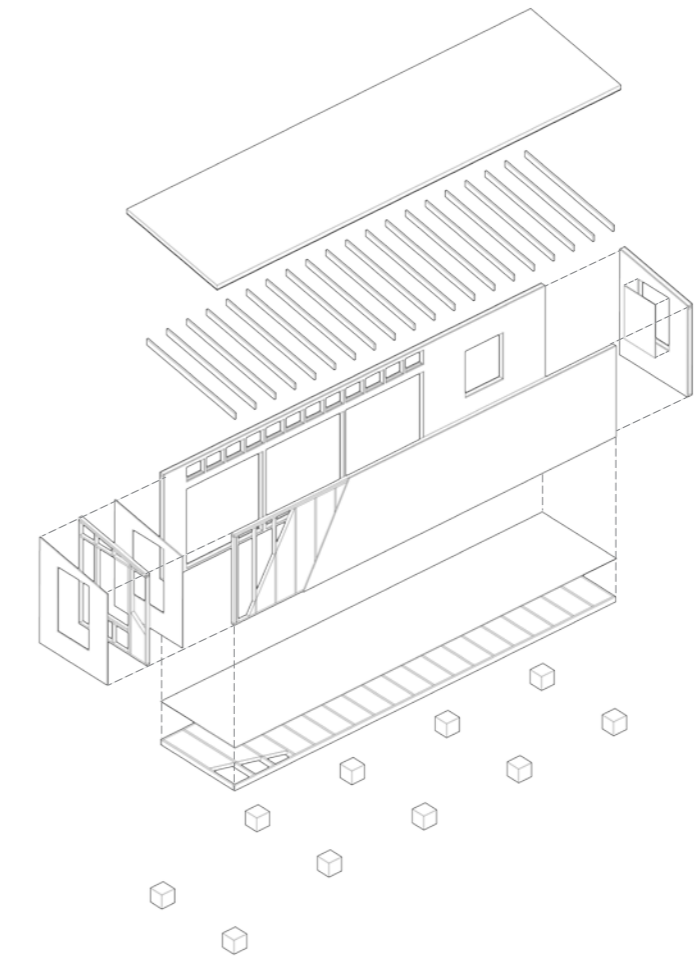


WARM AND COZY

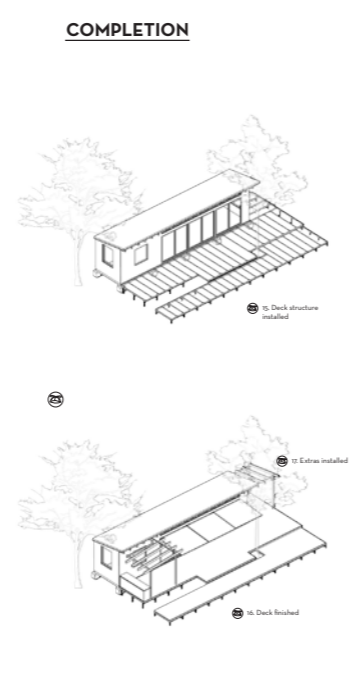
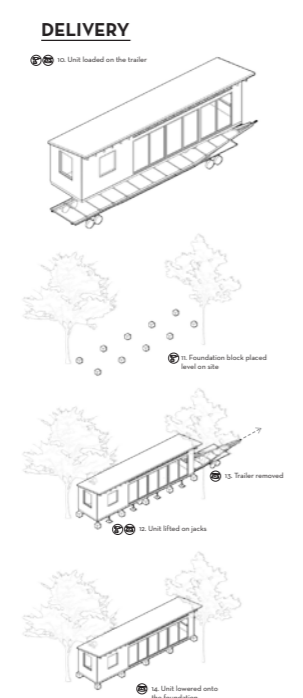
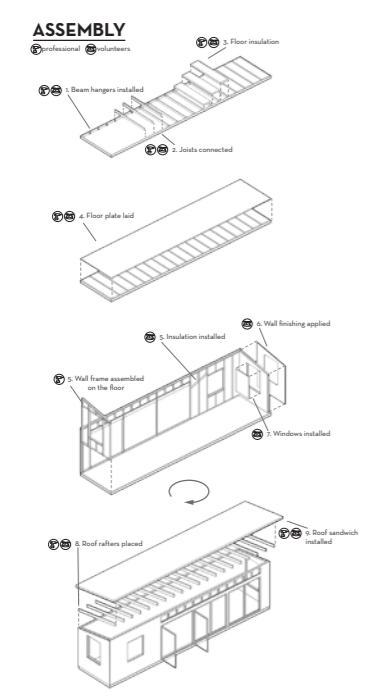


OPEN AND ACTIVE

Flexibility



Construction

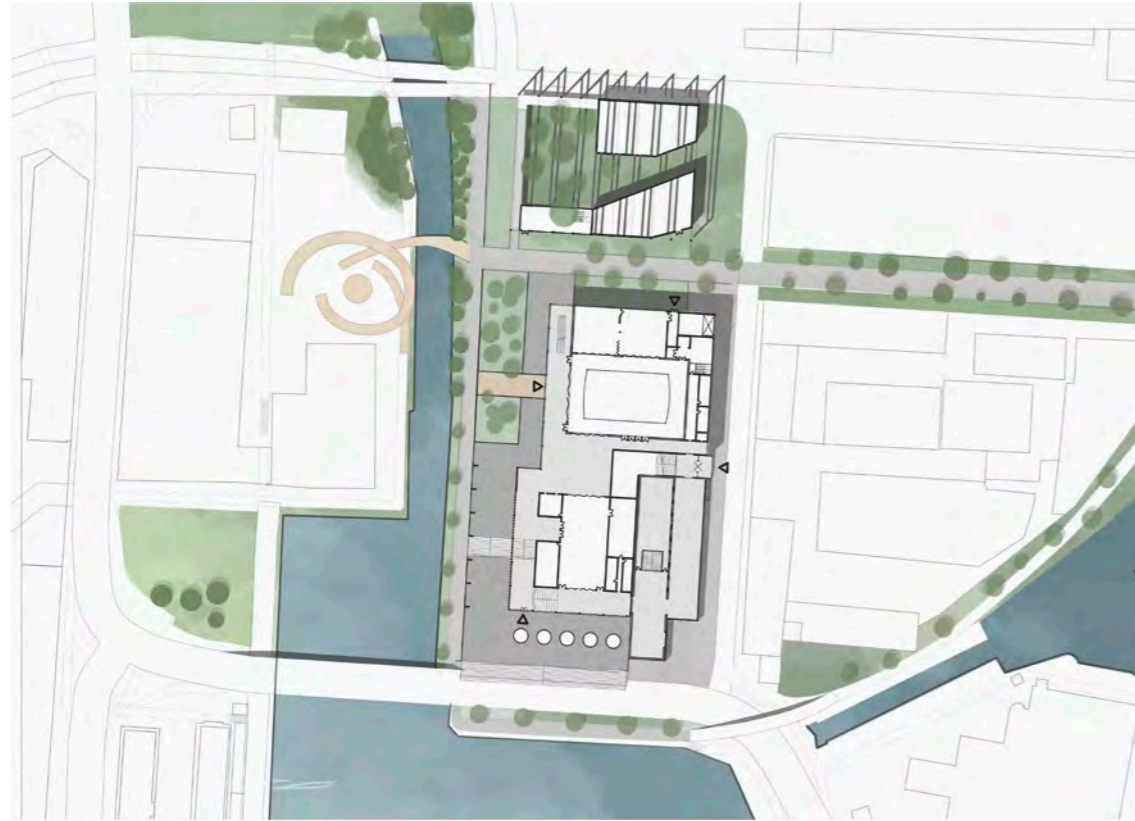


Assembly scheme



Interior impression





Maastricht Philharmonic

Bachelor End Project, 2021

My goal was to research the way that buildings make a journey-like experiences as one moves through them.

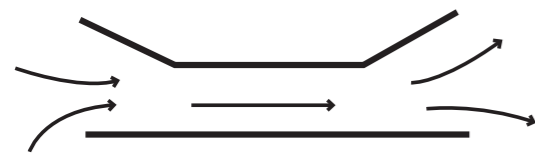
From the research in the writings of G.Cullen and B.Tschumi, I have found that walking on a straight path, with the final goal within sight, quickly becomes monotonous, and therefore changes in the dimension of walking provide a more experiential journey.

Spatial qualities need to change as one walks through a building. Distilled from the research, the core idea of juxtaposition formed a set of design tools. These would use the idea of juxtaposition of volumes, such as compression vs expansion, and sightlines, such as blocked vs revealed view.

These principles were applied to the design at all the scales to form a coherent narrative.



Design tools



Compression & expansion

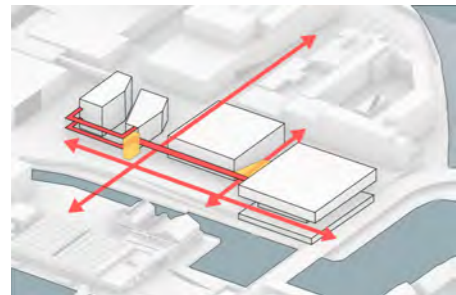


Hidden & revealed

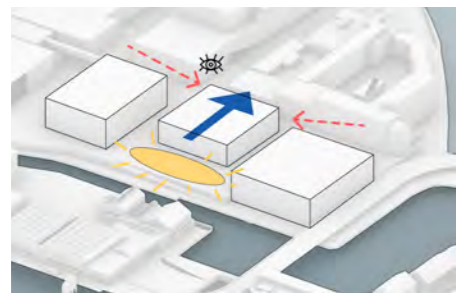
Agile space



Form principles



Masses



Moved



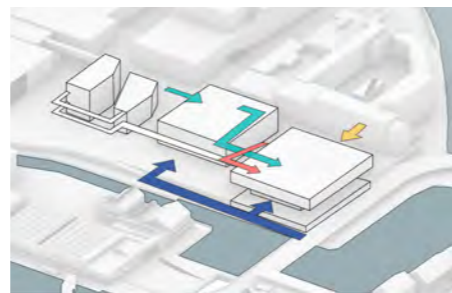
Chiseled

Organisation principles

ACCOMMODATION PHILARMONIC CONSERVATORIUM STARTUP STUDIOS



Functions



Circulation



Compression and expansion

Scenography of movement



Compression



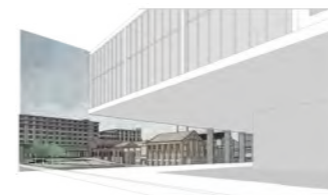
Compression



Compression



Anticipation



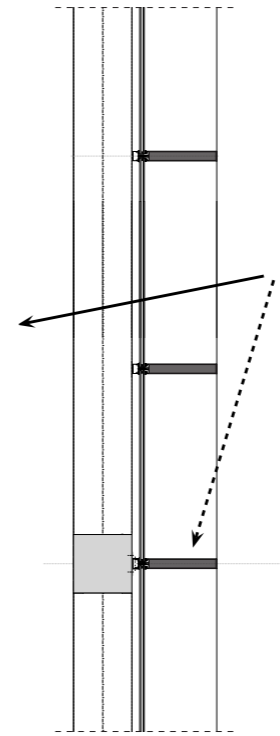
Framing of view



Reveal

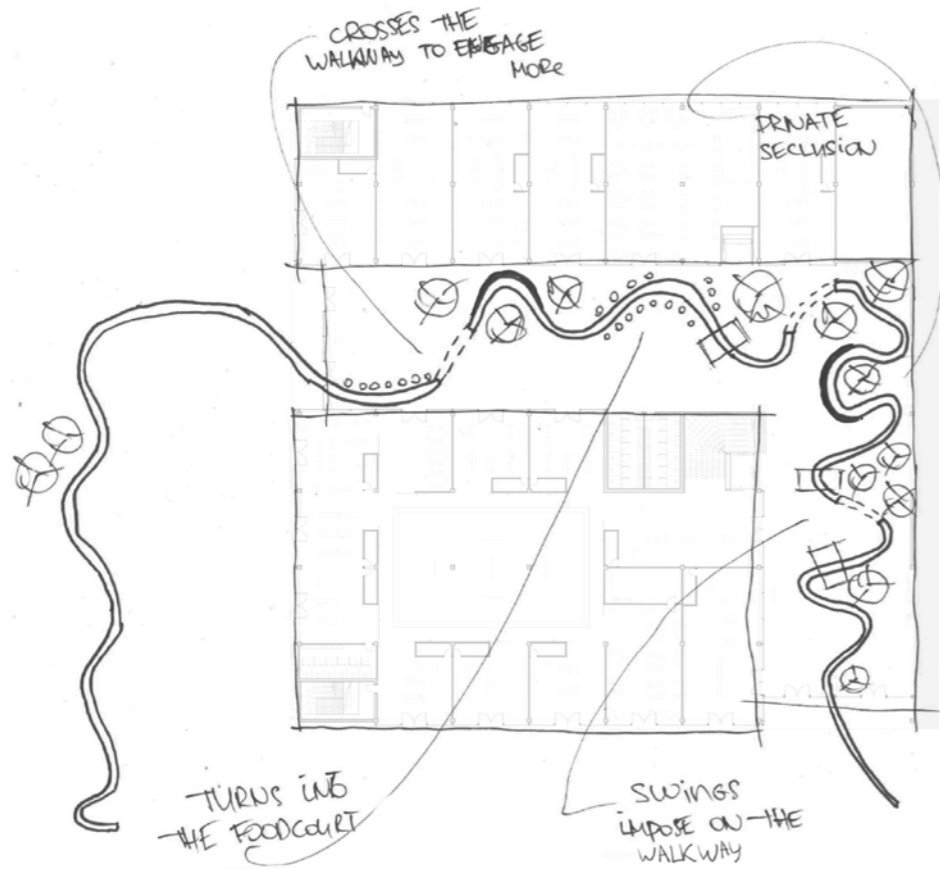


Material juxtaposition



Blocked & revealed view



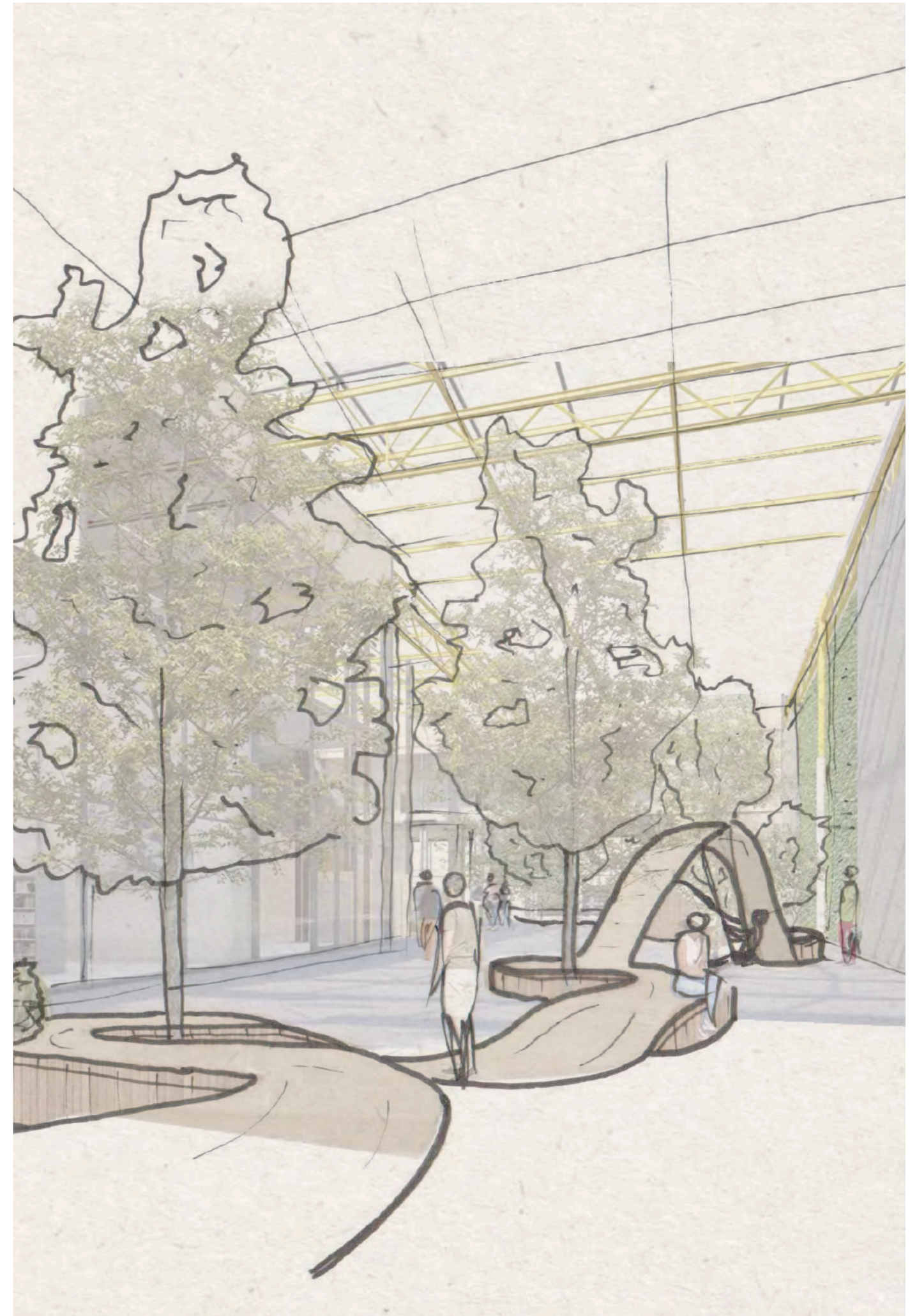


PLAYGROUND FOR ALL

University project, 2020

An experimental research project on how to encourage active interaction with and within the space. Based on an existing project, I carried out a research on what would improve the public participation. From a paper "North of the Water" by Sidewalk Labs, I distilled design principles, a toolbox of improvements to be made.

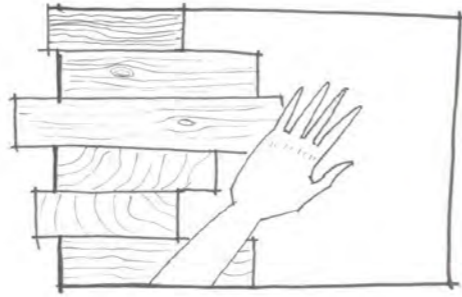
Based on these principles, I designed a piece of furniture that runs through the space, playfully changing its form to engage passersby - a playground for all.



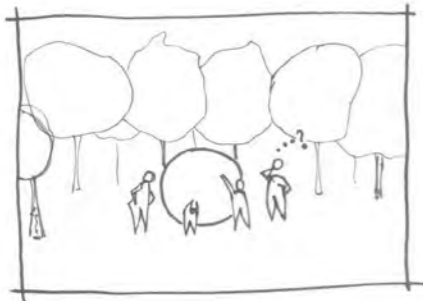
 TOOLBOX



INEFFICIENCIES



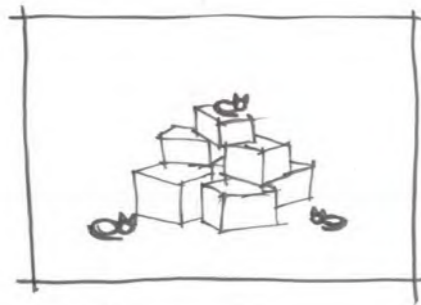
SENSORY VARIETY



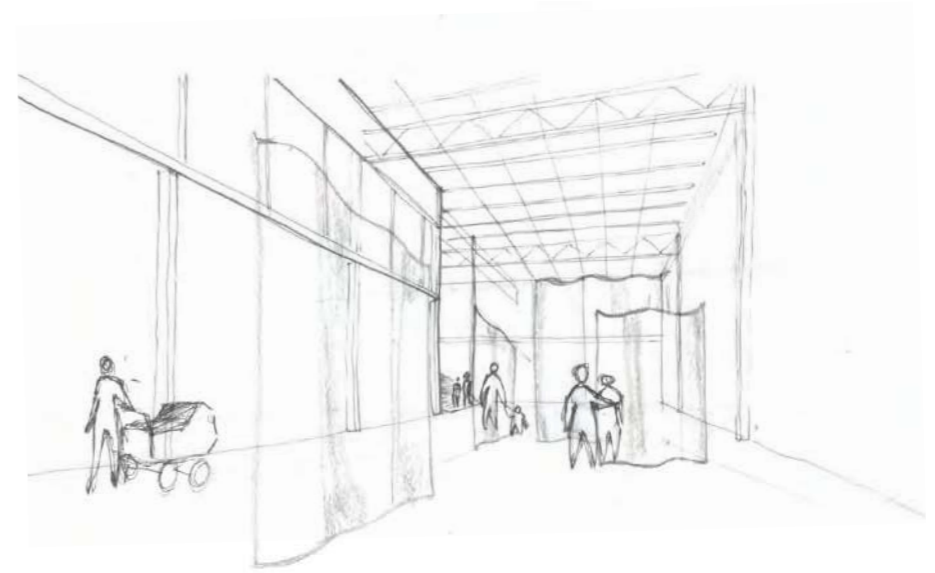
UNKNOWN IN THE KNOWN



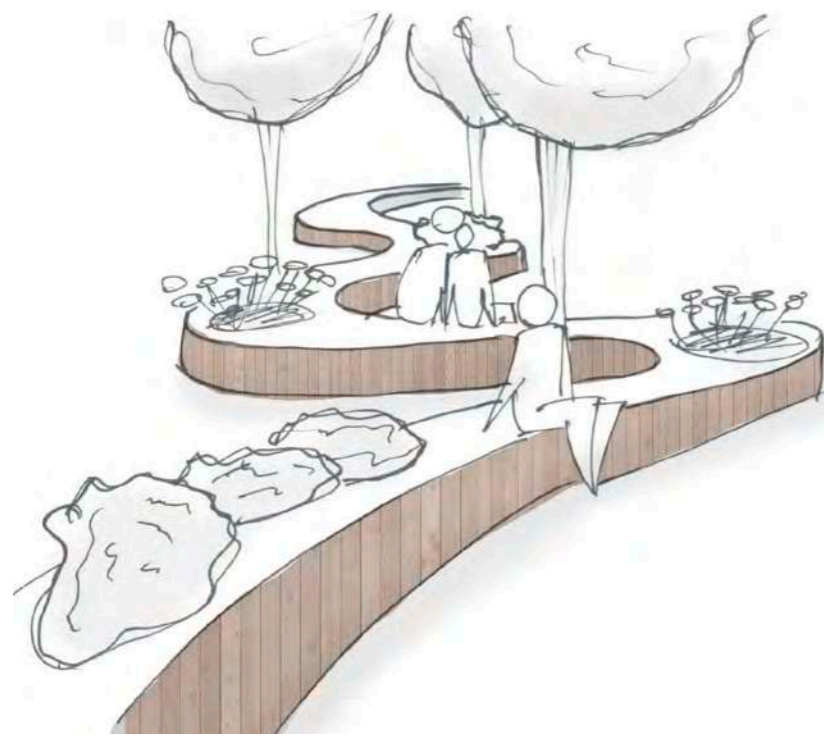
ALLOW INPUT



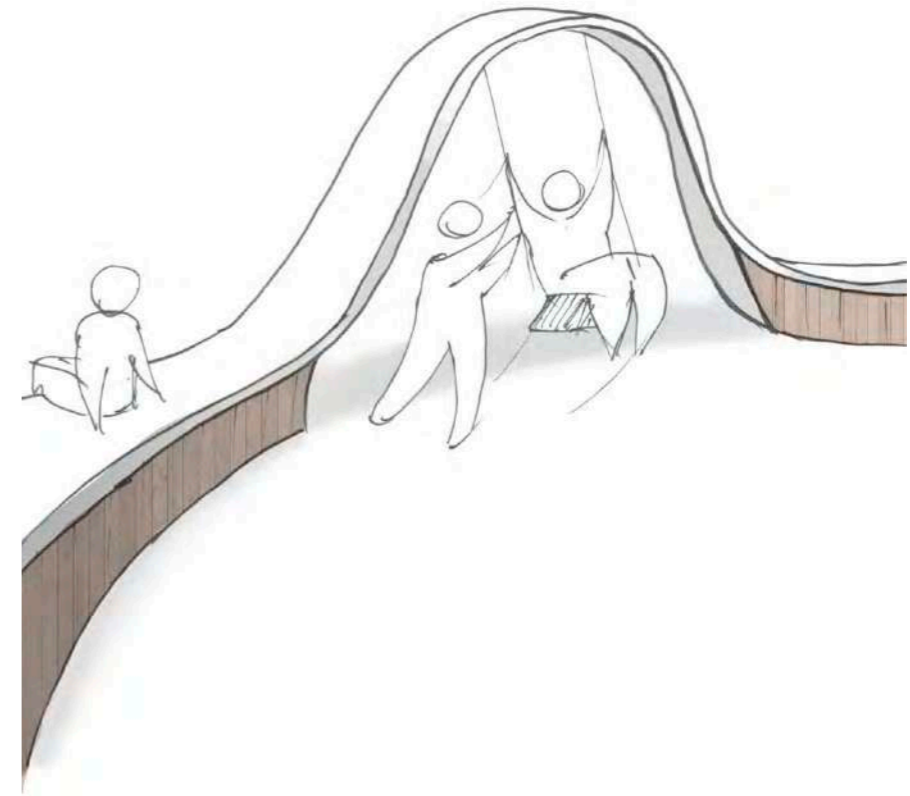
GRITTY YET COMFORTABLE



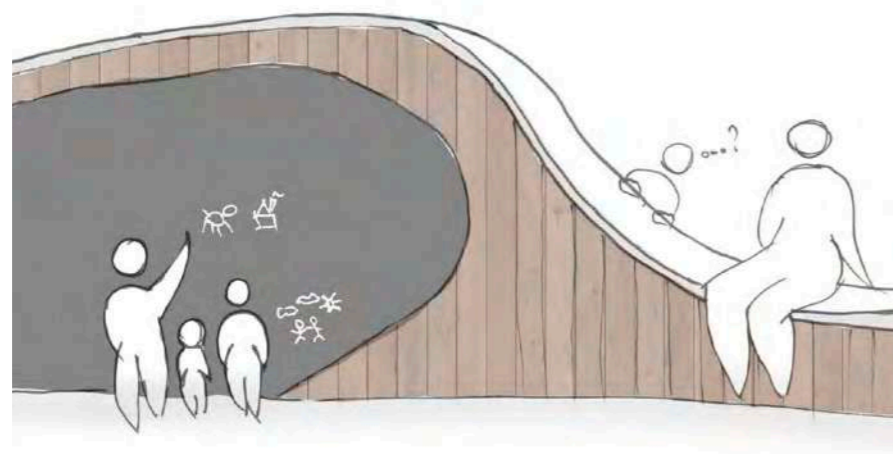
Studies of the effects of the elements on the space



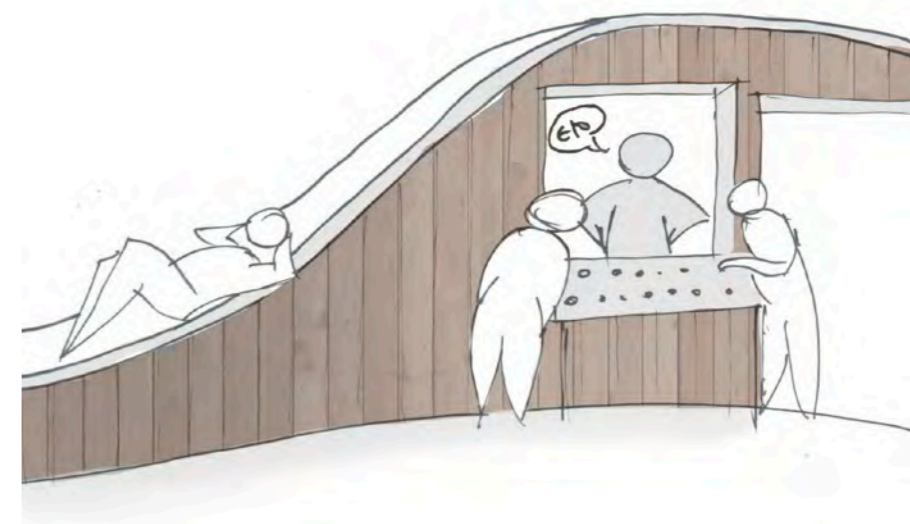
Flowerbeds are a part of the bench that softly bends and turns around the trees - a pleasant walk in the forest.



The bench goes up in an arch and turns into a swing. Come, have a ride!



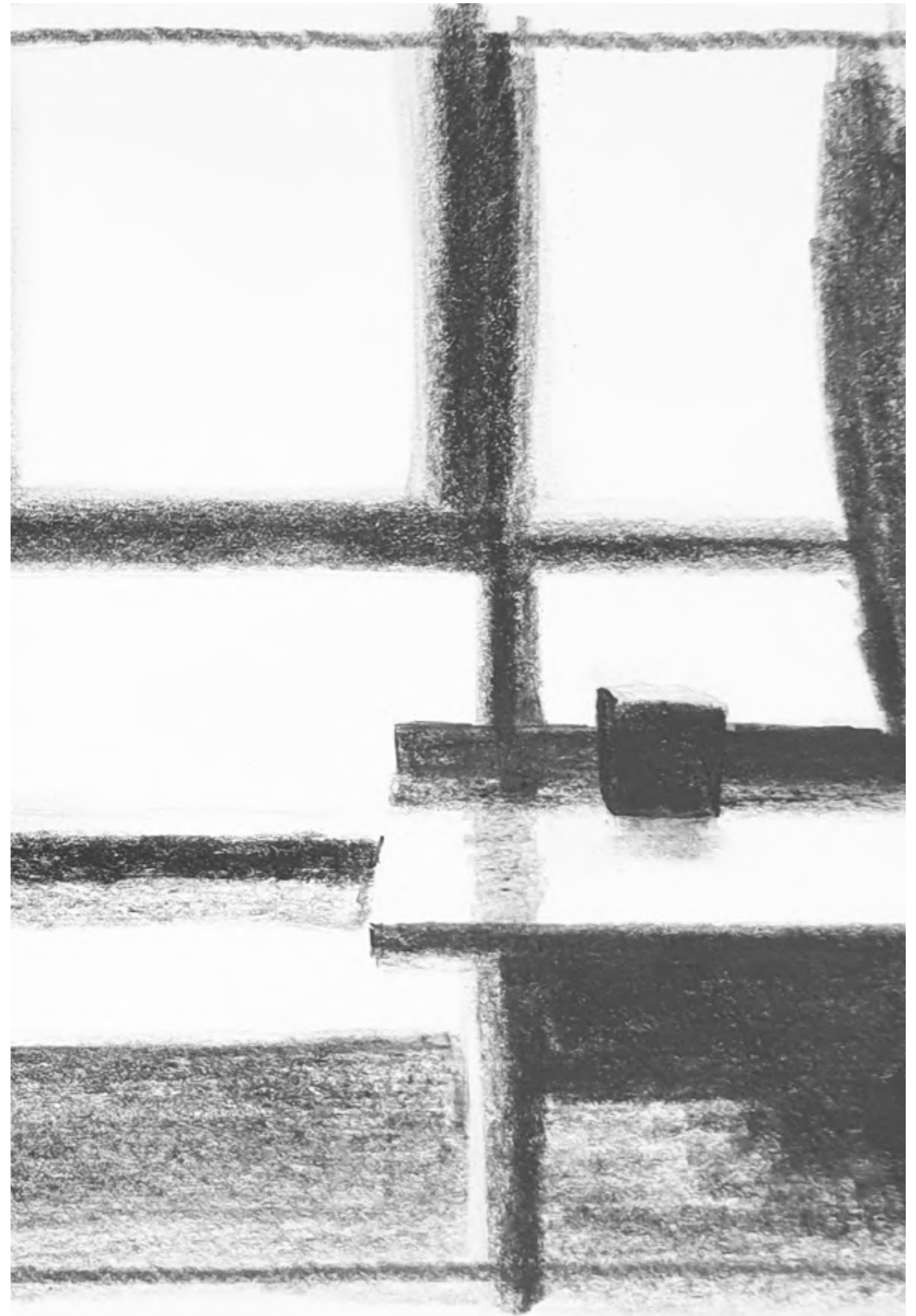
Sides of blackboard invite to make a mess, or draw something beautiful or funny for others to enjoy.

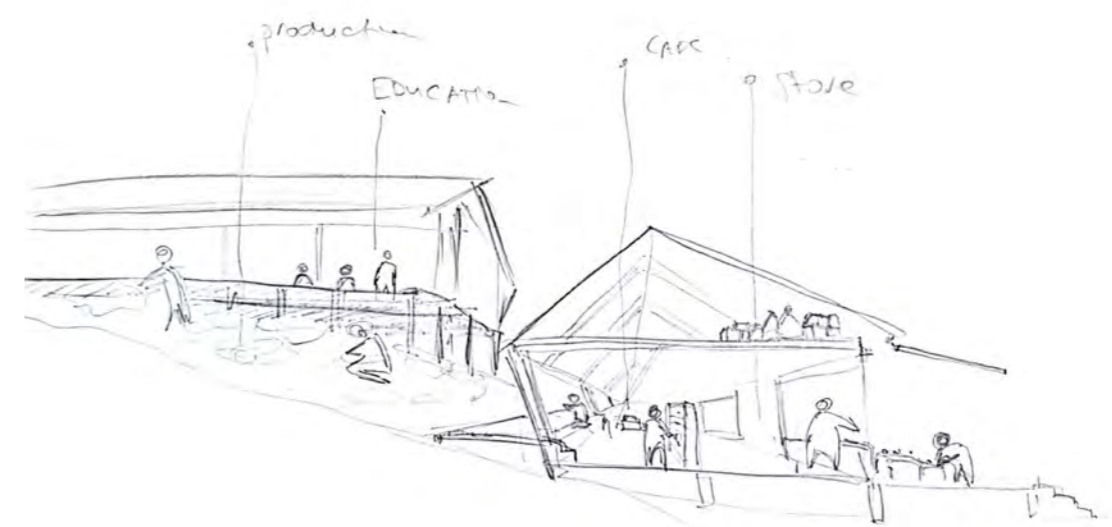
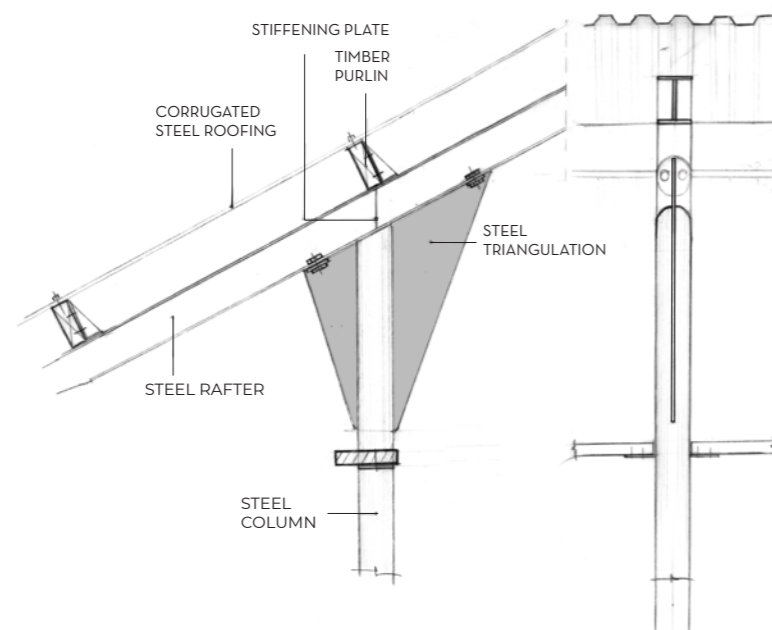
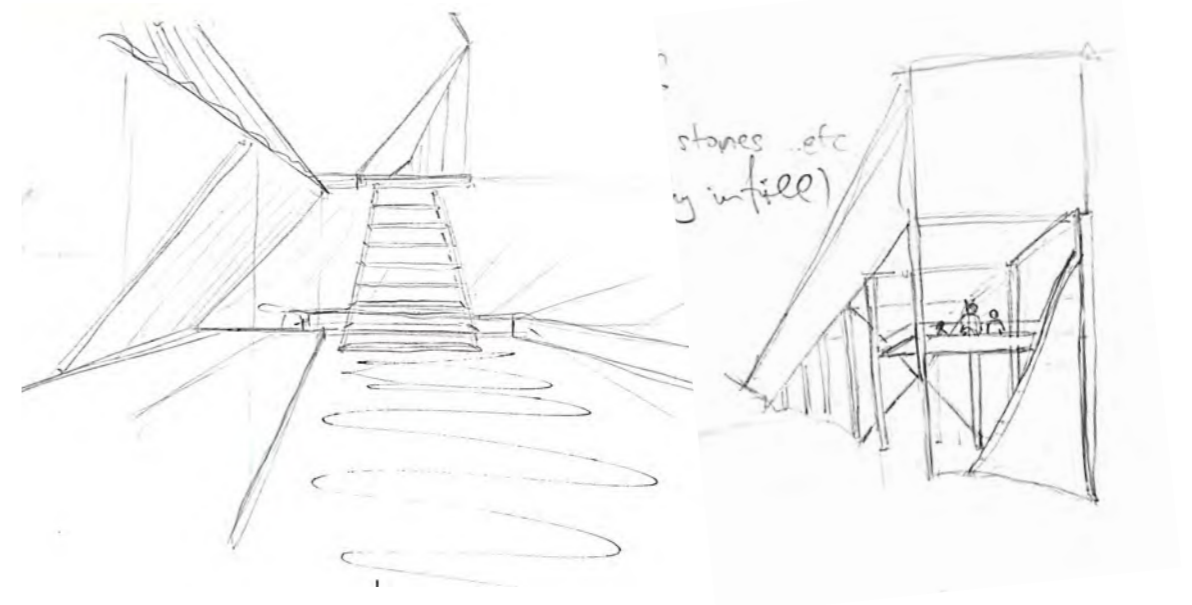
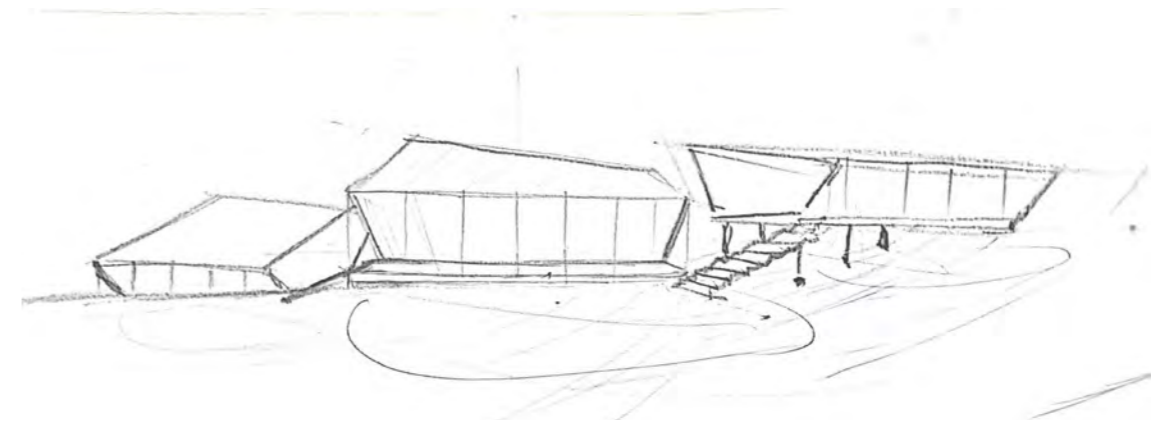
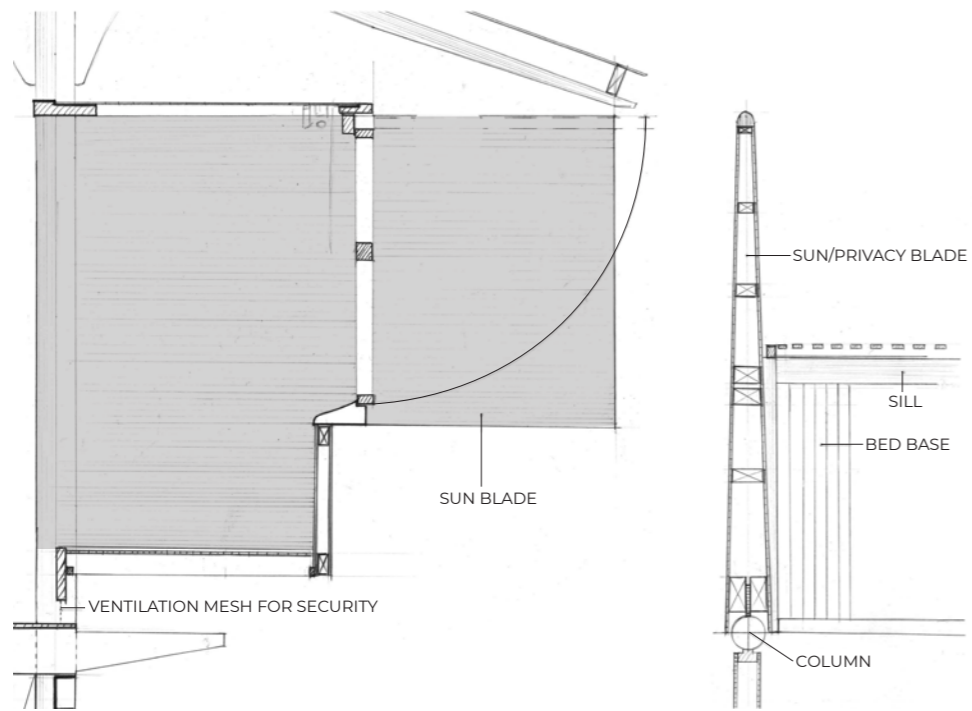


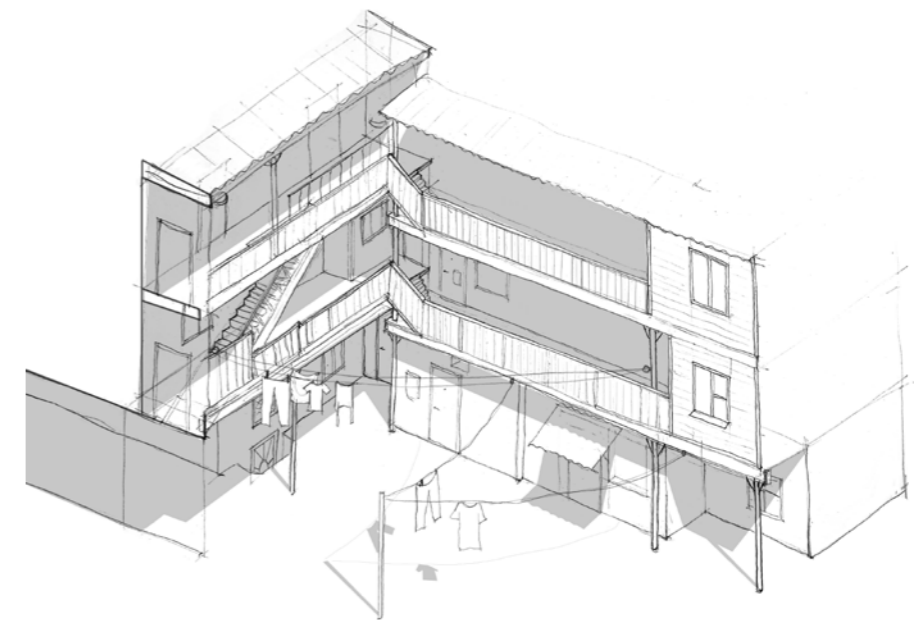
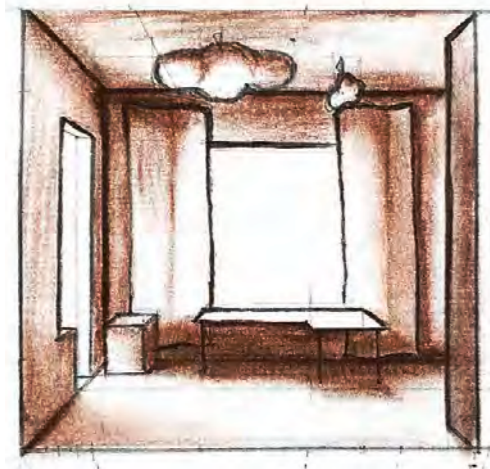
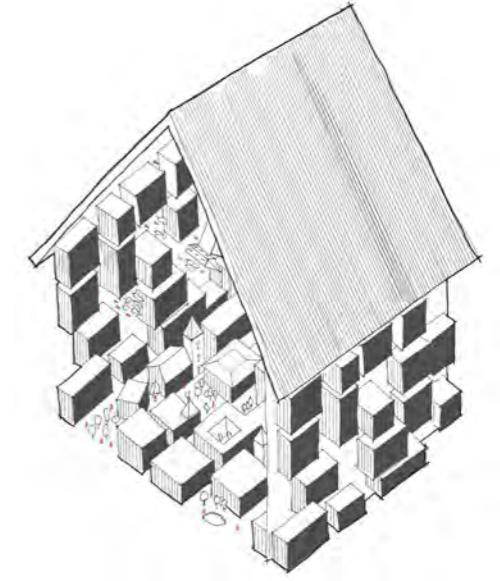
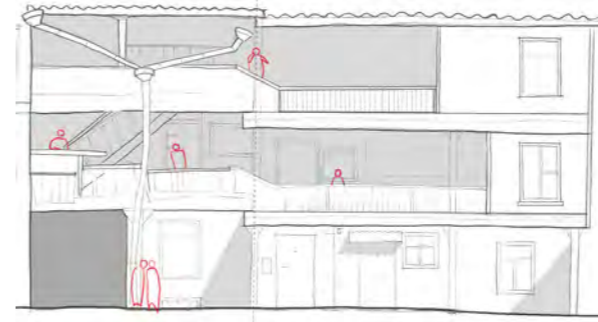
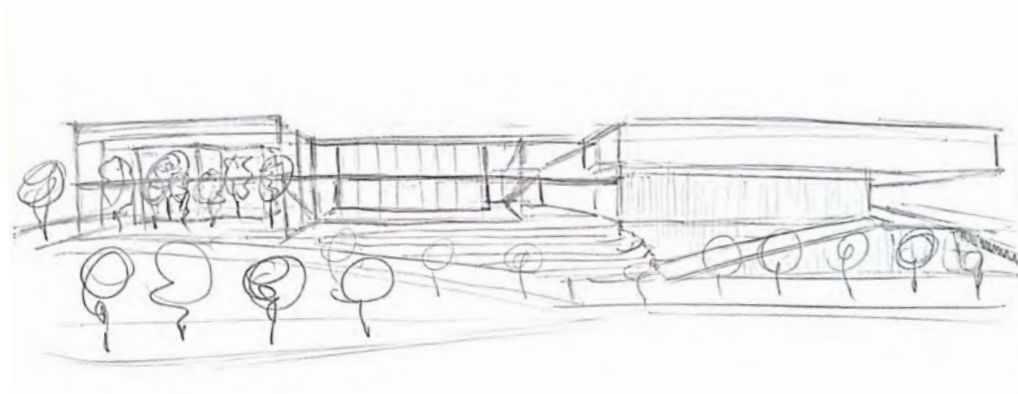
It has lockable shelves that can be used as small stalls for local craftsmen, or for any small displays.

SKETCHING

Though all of my projects in the end turn to a fully-digital environment, I do strongly believe in a creative freedom that basic handdrawing gives me in my process. In recent years, I also discovered my interest for drawing people and poses. As I continue to develop my skills, I want to practice sketching to express and find my ideas more often.







An architectural rendering of a modern building. The upper portion of the building features a prominent facade with a grid of alternating dark and light rectangular panels, creating a checkered pattern. Below this, the building has a darker, more solid facade with large windows. The building is set in a landscaped area with green trees and a paved walkway. A few small figures of people are visible in the foreground for scale. The sky is a pale, hazy blue.

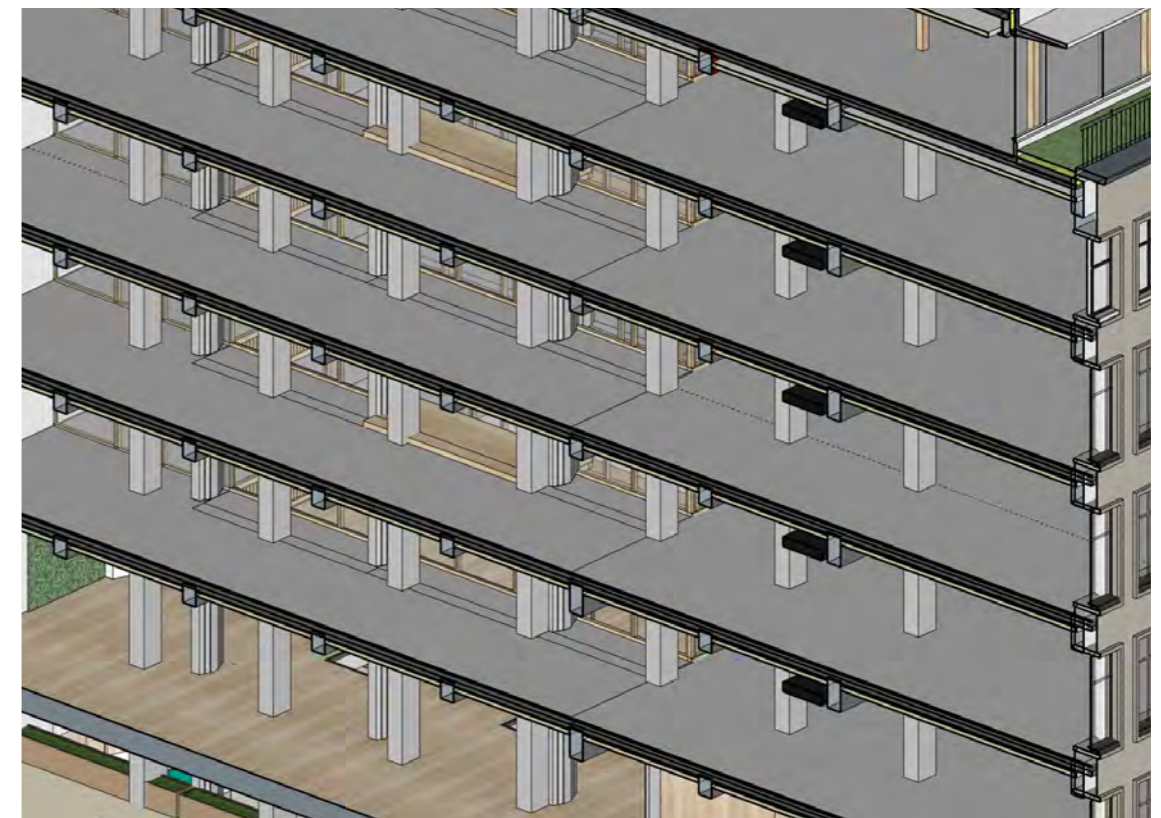
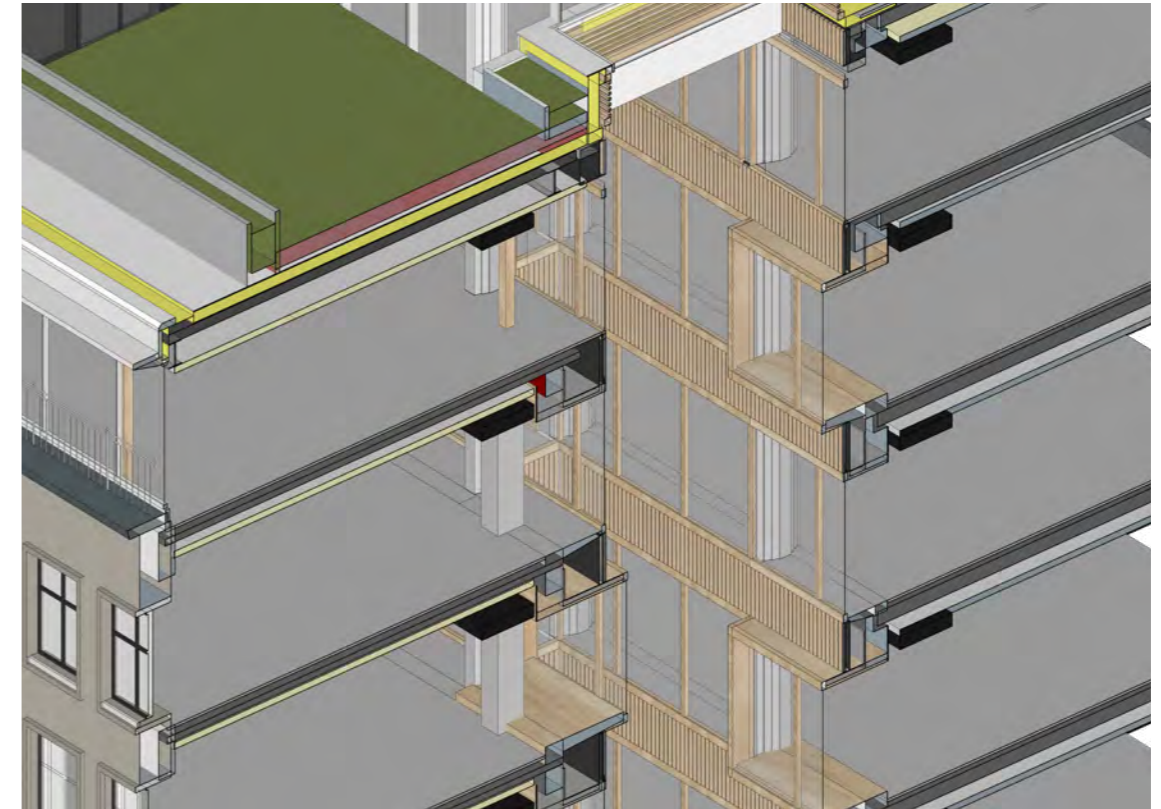
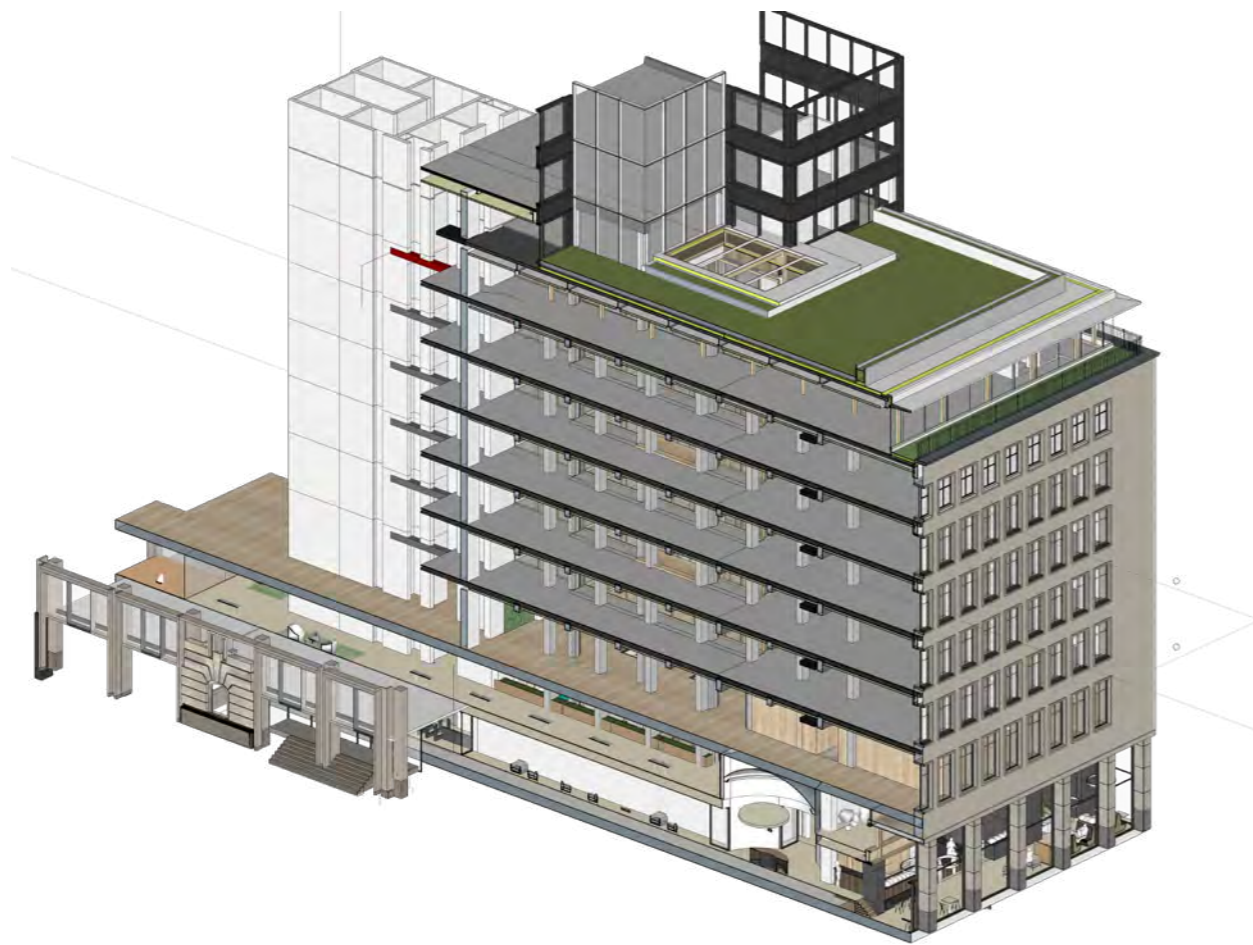
+ part II
professional work

Coolsingel 93

VO to BA phase - provisional design to building permit submission



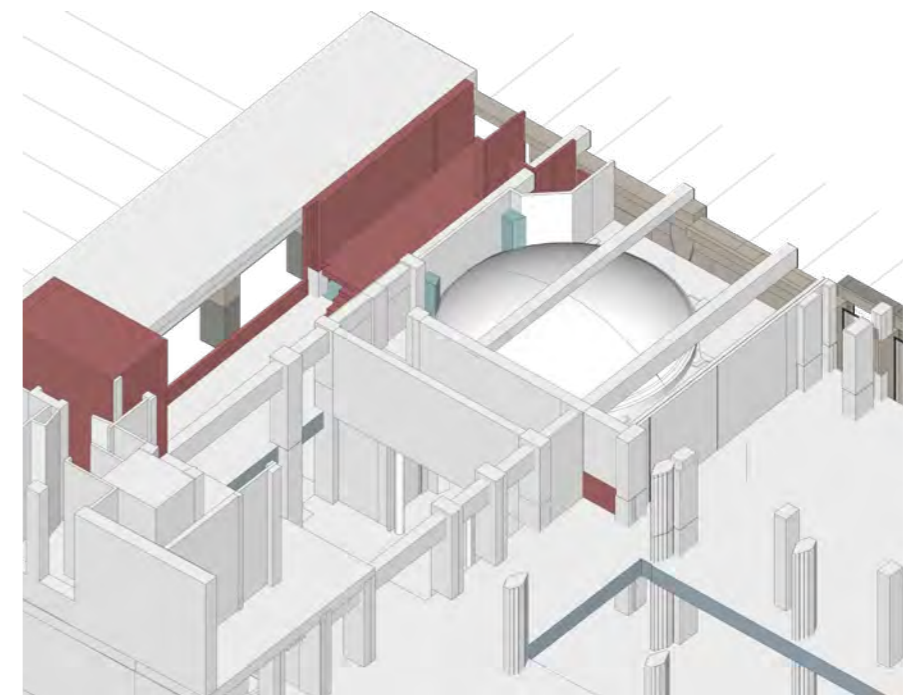
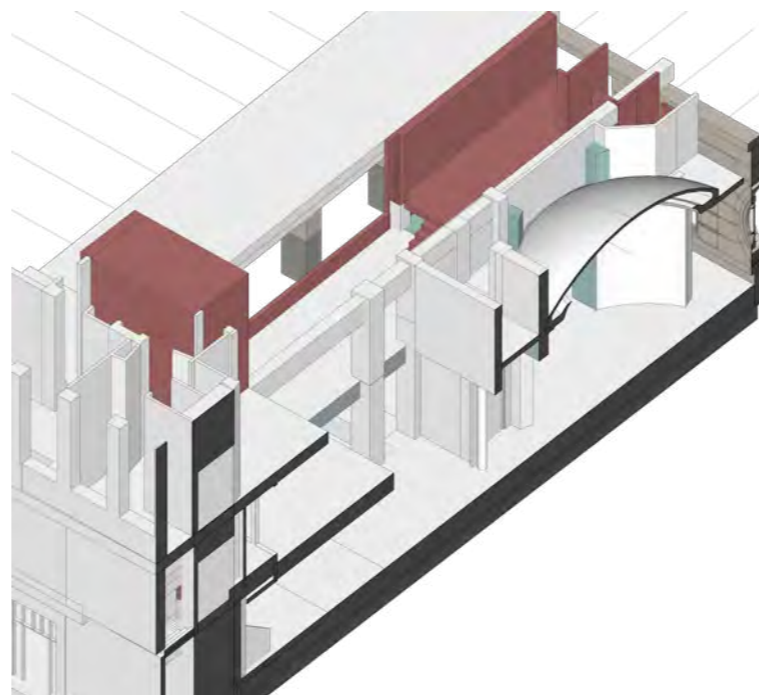
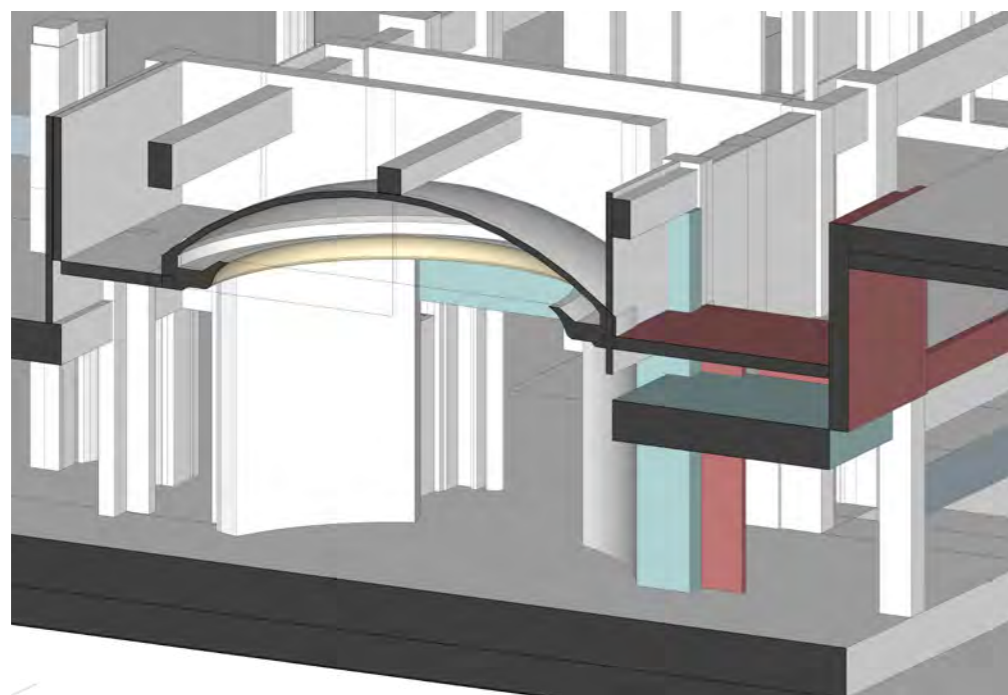
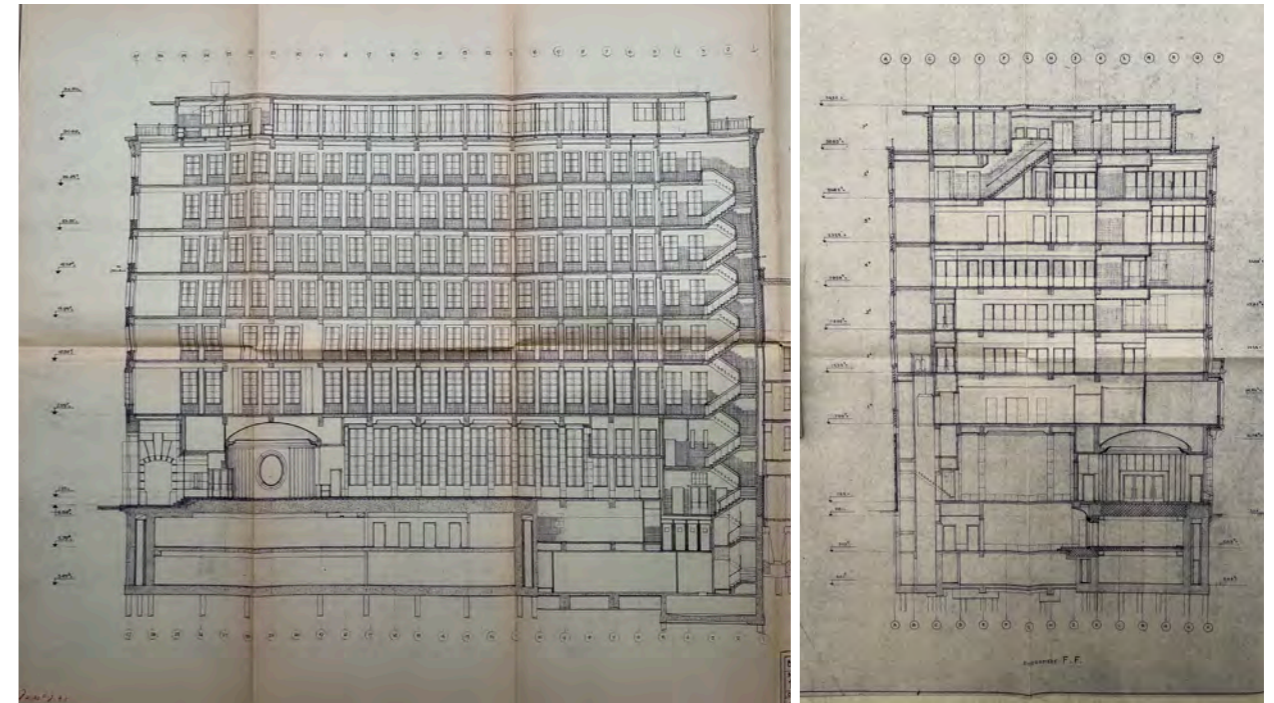
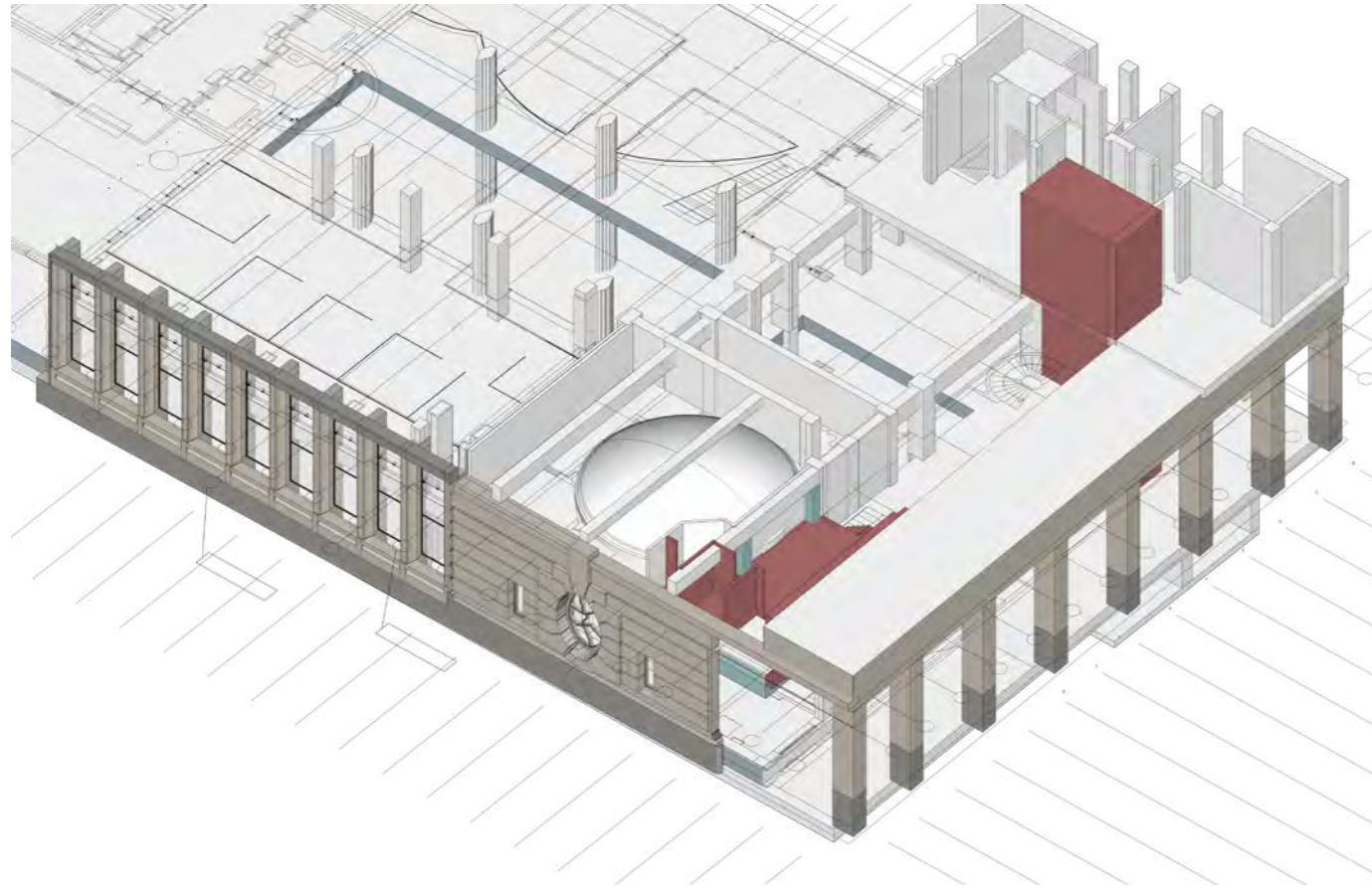
+ archival studies & reconstruction



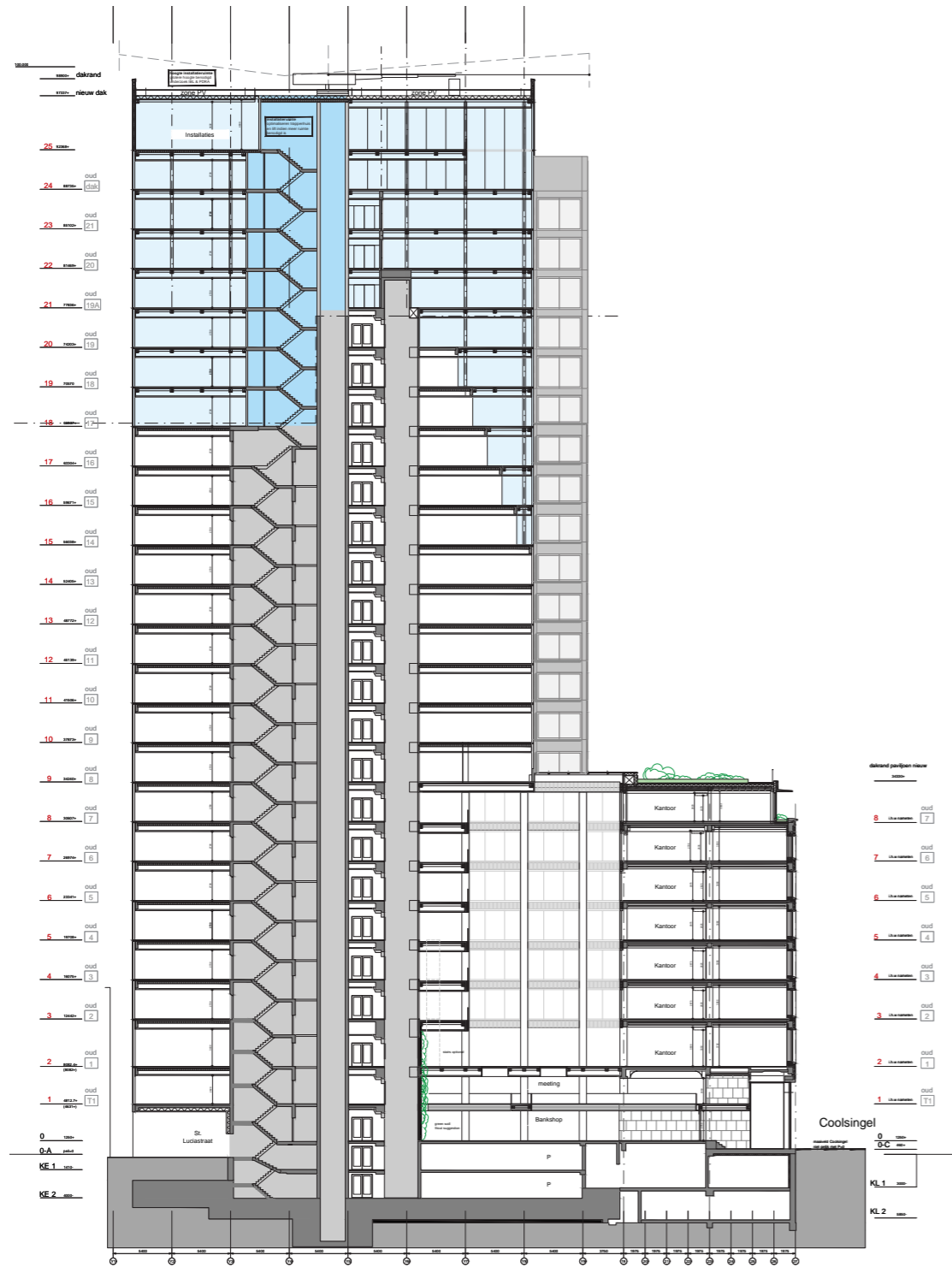
Coolsingel 93 or the old ABN office in Rotterdam is a hybrid of a building from 1950s and a tower from 1990s. Now it is in due for another renovation, and our work has been complicated by the lack of precise information about the current state of structure from the different historic layers.

To help with the design process, I carefully studied the archival drawings and produced precise fragment models of the existing situation. This archeological work revealed differences in beam heights in unexpected places, as well as discovered some fake pillars that were added for symmetry.

+ archival studies & reconstruction



+ drafting & design

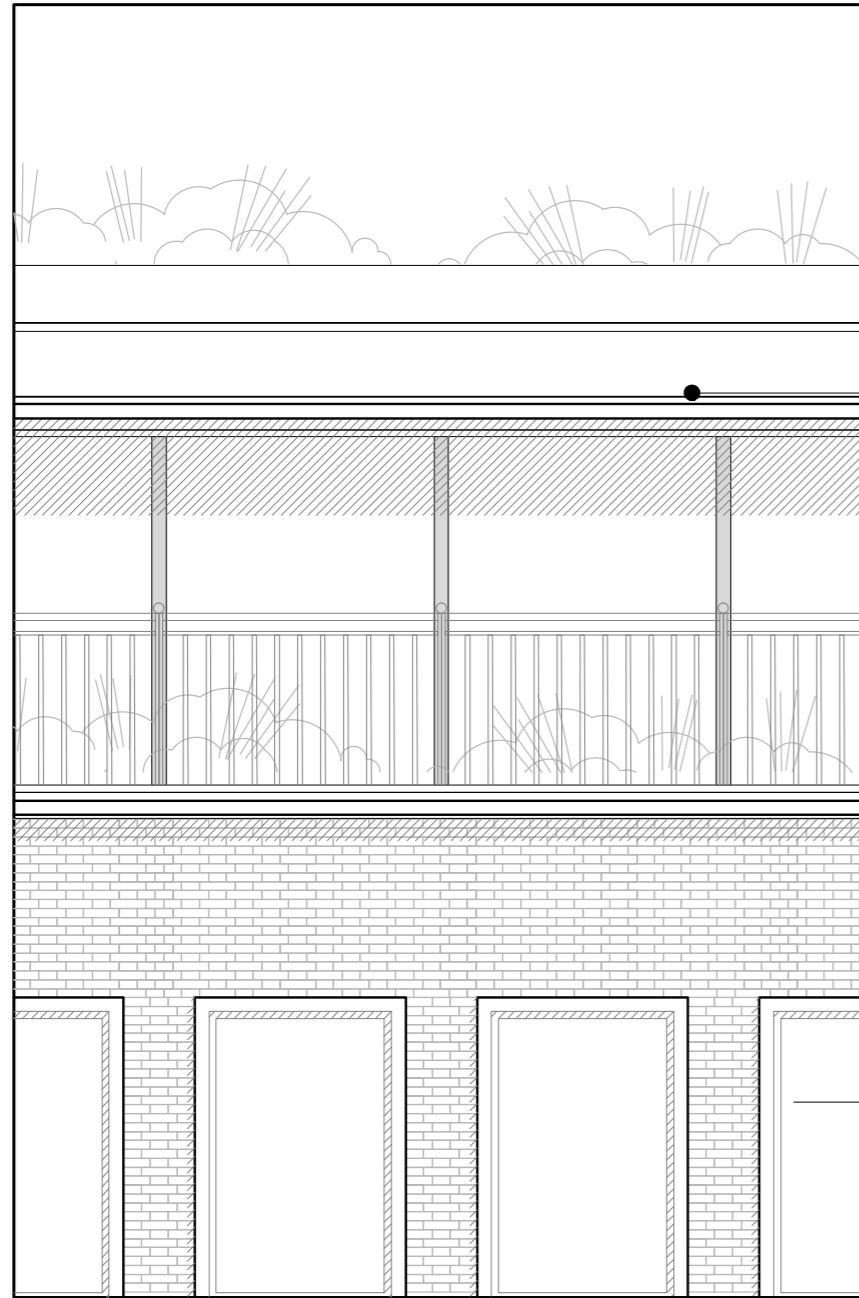


I worked on Coolingsingel 93 project for more than six months, and participated in both VO and DO submissions (sections from those phases as drafted by me)

+ fragments



My main role throughout the process was to develop these drawings for important fragments of the building. Both existing and new architectures are shown, as well as those slated for demolition.



MV hoofdkanaal
 ringleiding binnen thermische schil
 maatvoering c.f. opgave IBL

aanhaakvoorziening veilig onderhoud

OPBOUW DAKPAKKET (Rc = 6,3 m²K/W):
DAKOPBOUW (Rc 6.3 m2K/W)

- Optigrun Roof 80 mm opbouw optigrun Seed MIX & Sedum laag
- dakbedekking c.f. kleur en materiaalstaat
- afschotisolatie Kingspan Therma TT46 afschot maximaal 5%
- Isolatie Kingspan Therma TR26 150mm

AFWERKINGEN volgens MATERIAALSTAAT

DAKRAND

Duplicor PET kern
 Duplicor glasvezel 2mm

U window (Uw = 0,9 W/m²K):

Aluminium gevelsysteem: vliesgevel met houten achterstijlen
 Schuco AOC 50 SG TI o.g.

- stijlen/dorpels: aluminium
- klemlijsten n.t.b.
- glastype volgens opgave Peutz / blank isolatieglas HR+++

Eisen PvE

- absolute lichttoetredingsfactor: LTA ≥ 55%;
- warmtedoorgangscoefficiënt: U ≤ 1,2 W/m²K;
- zontoetreding: g ≤ 61%;
- brandklasse B

rope acces aanhaakpunt
 tbv gevelonderhoud
 pos. en uitvoering ntb

GEVEL BESTAAND

- na-isoleren aan binnezijde
 (Rc = 4,7 m²K/W):

- totaalpakket ca 125mm uitgegaan va 100 mm isolatiemateriaal (Rc ≈ 2,5 m2K/W);
- 25mm gips

GEVEL BESTAAND

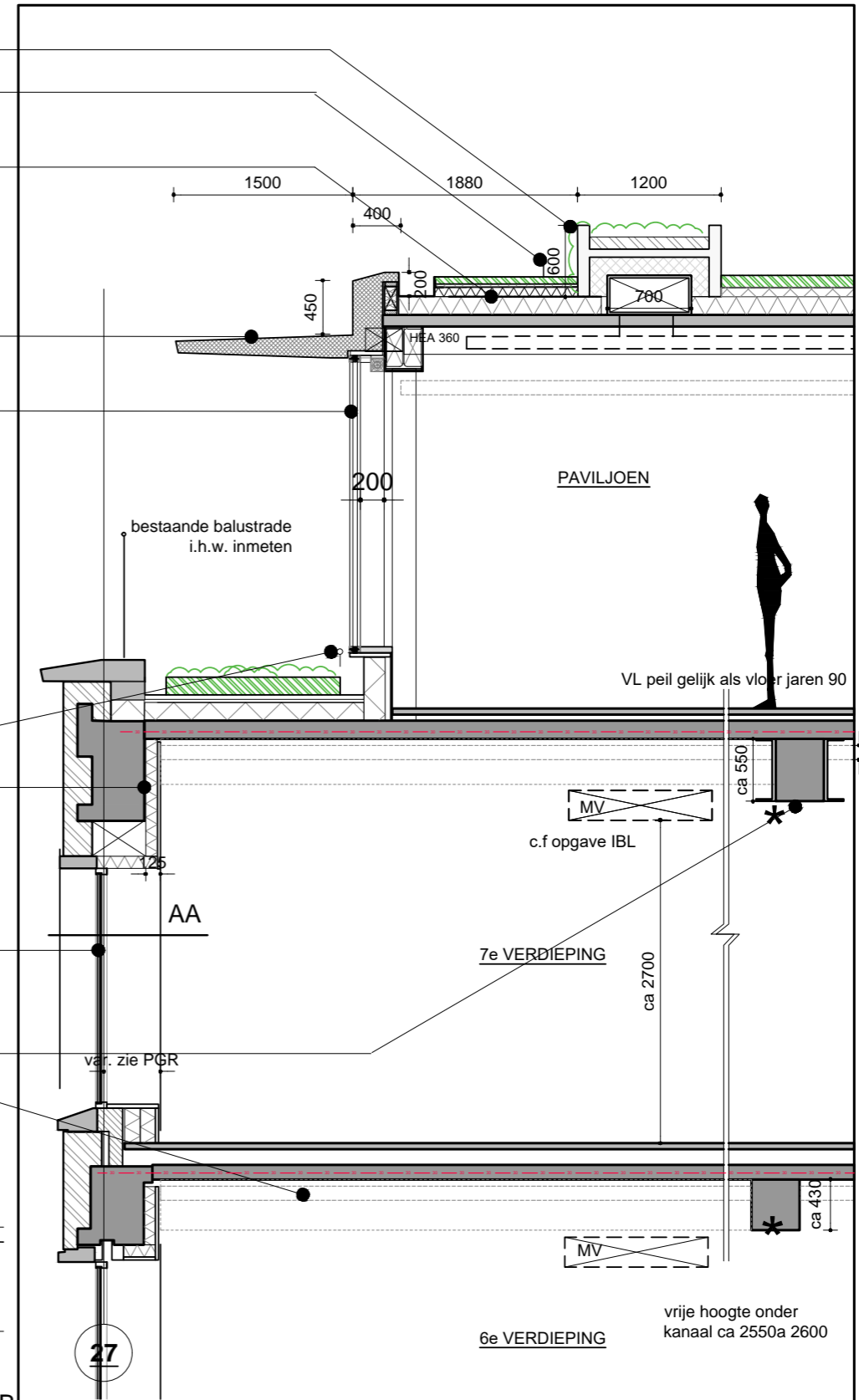
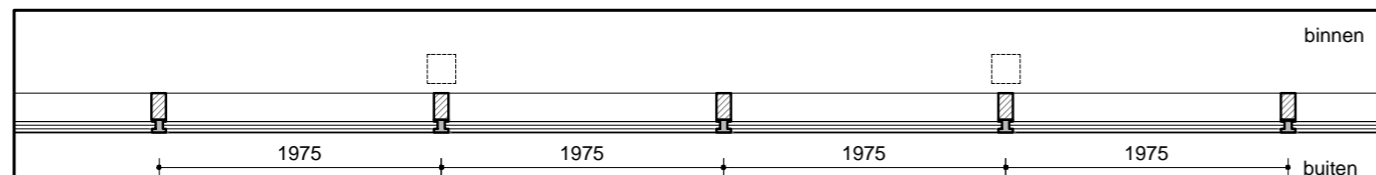
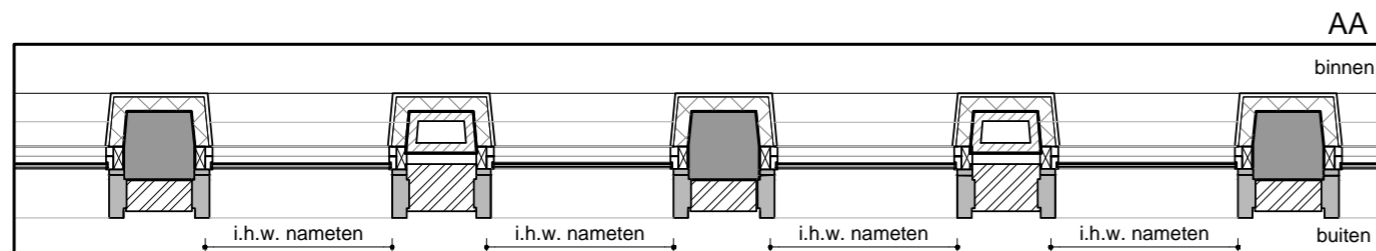
- vervangen kozijnen en glas HR++ aluminium

U Window (Uw = 1,5 W/m²K):

versterking dakvloer c.f. rapportage IMD

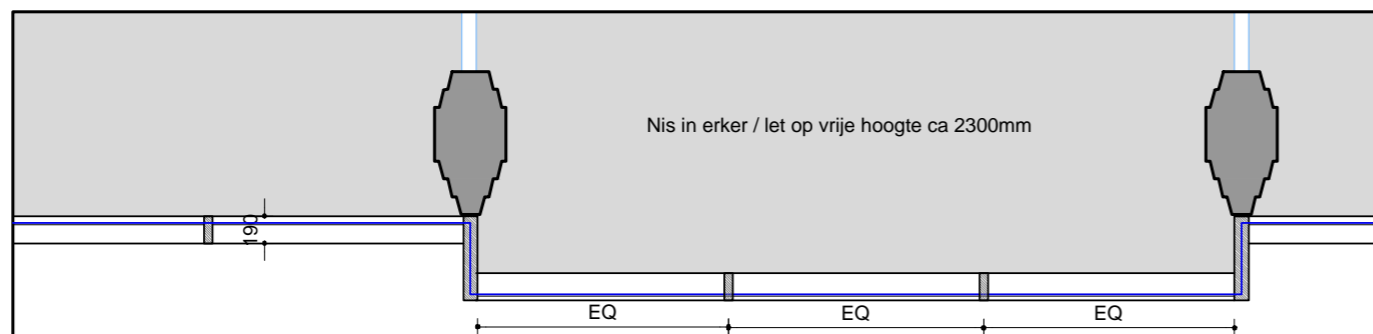
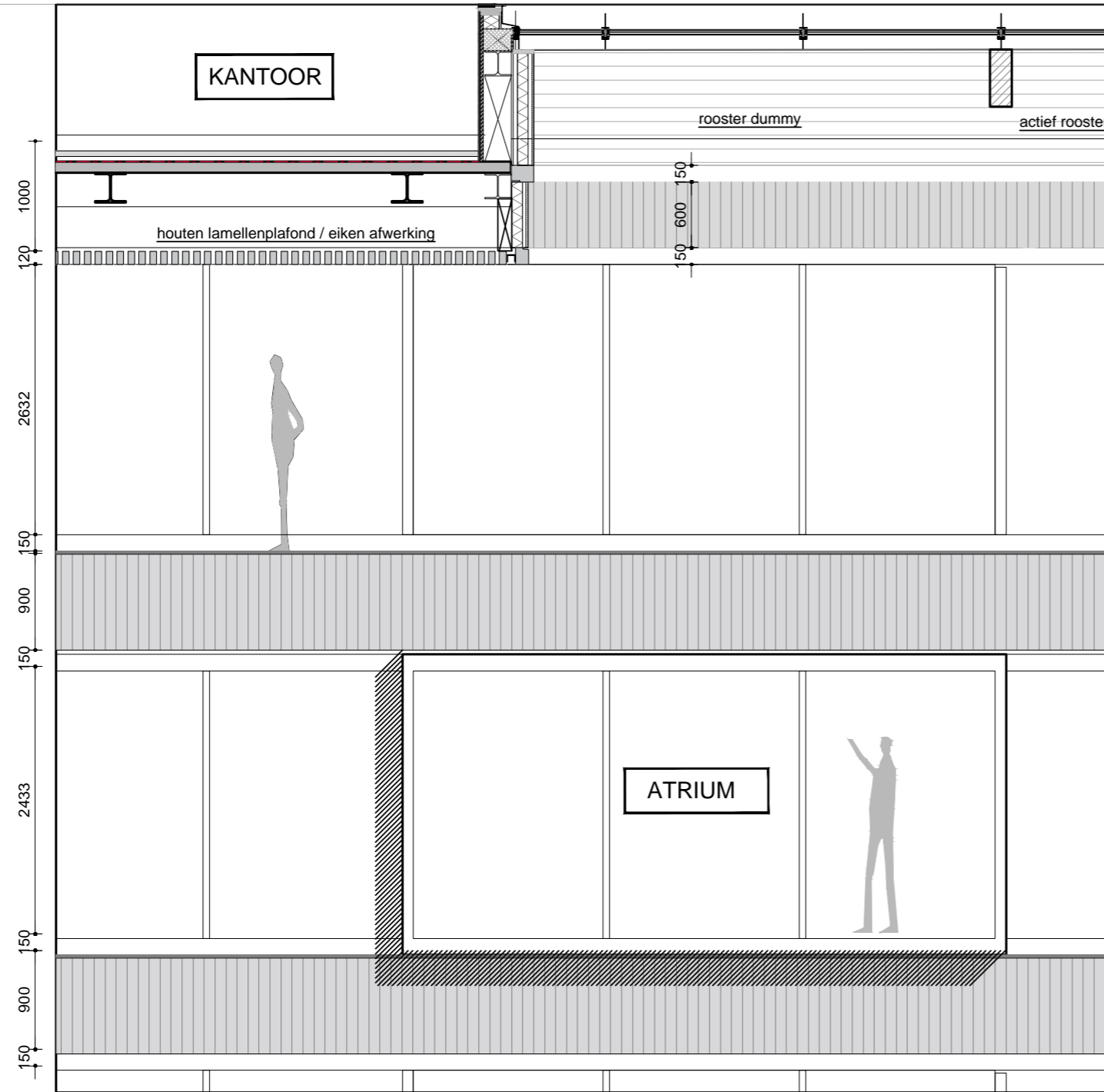
KLIMAATEILANDEN TUSSEN BALKEN

c.f. rapportage IBL
 ca balkmaten constructief model IMD is leidend



BB
 BB gevel nieuw paviljoen horizontaal vliesgevel + houten draagconstr. elementen

* ca balkmaten constructief model IMD is leidend



VENTILATIEROOSTER

- Retour lucht
- Rooster, sleuven in multiplex plaat, essen fineer white wash gelijk aan houten spanten

AFWERKINGEN volgens MATERIAALSTAAT

CONSTRUCTIEPILJOUEN

stalen constructie, staalplaatbetonvloer
C.f. opgave constructeur

rope acces aanhaakpunt
tbv gevelonderhoud
pos. en uitvoering ntb

ATRIUM GEVEL

- houten kozijnen/regels, vol-eiken, blank gelakt
- glas, doorval en letselveilig
- gehele atriumgevel S200 eis

AFWERKINGEN volgens MATERIAALSTAAT

OVERSTROOMDETAIL

Luchtoverstroom van 2e t/m 5e en 7e verdieping naar atrium via bouwkundig akoestische spleet

Atrium staat op onderdruk van minimaal 5 Pa.
Debiet: ca. 2.400 m³/h per verdieping.
v-spleet = ca. 1,5 m/s
=> A-netto = 0,45 m²
=> locatie over lange onderzijde en rechter zijde van atriumrand

VLOERRANDEN

houten latten / eik
SHILUVIT o.g. wandpanelen massief
akoestische eigenschappen c.f. opgave Peutz

HULPSTAAL

c.f. opgave constructeur
onder en bovenzijde erker / kaders
multiplex eiken fineer, blank gelakt
esthetisch gelijk als voleiken kozijnen

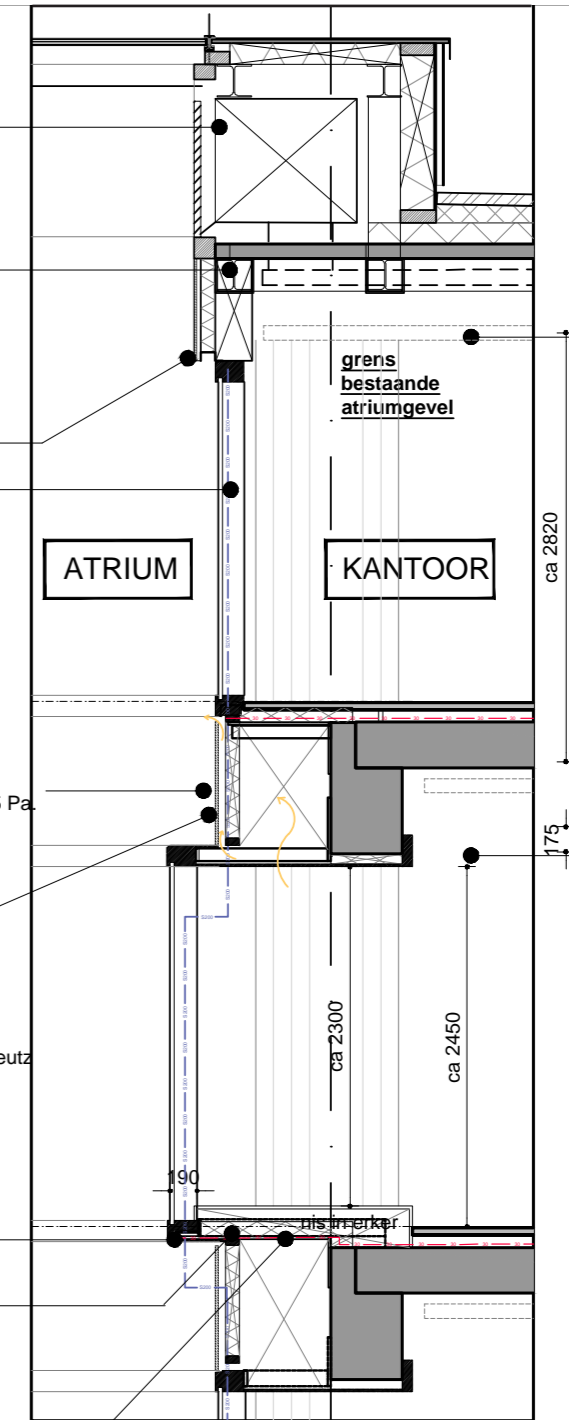
VLOERRAND VERLEGGEN

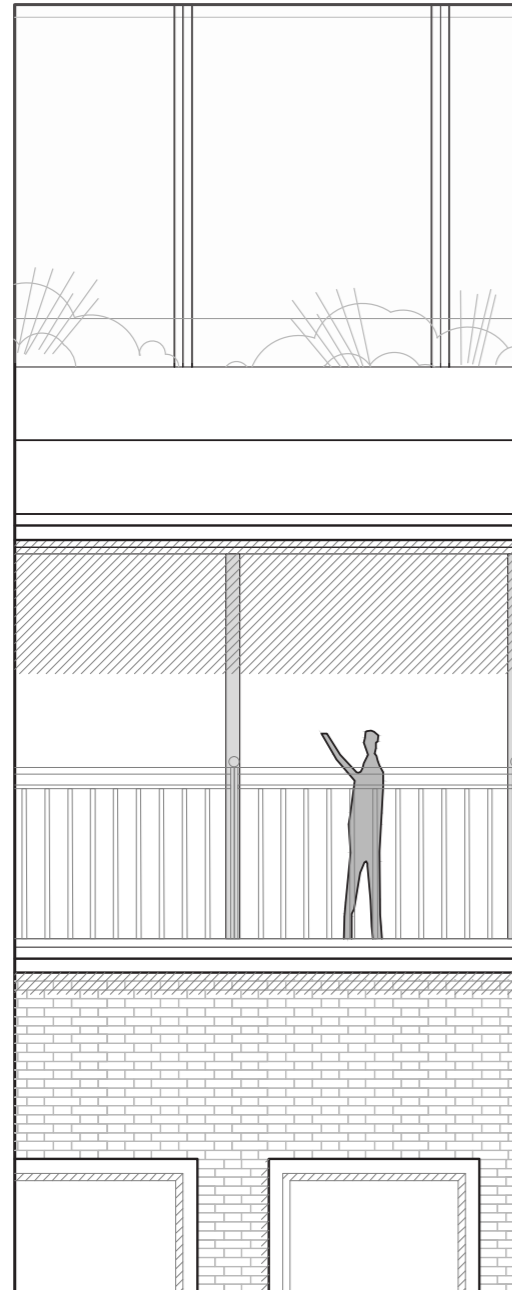
- verleggen huidige atriumgrens
t.p.v. atriumpui ca +1.000mm
t.p.v. erker ca +1.500mm
d.m.v. stalen hulpconstructie
c.f. opgave constructeur

30min WBDBO

Promatect beplating, dikte en pakket c.f. opgave adviseur brandveiligheid en bouwfysica

Akoestische grens
holte vullen met minerale wol, akoestische demping
c.f. opgave adviseur bouwfysica





DAKOPBOUW (RC 6.3 m²K/W)

- Optigrun Roof
- 80 mm opbouw
- optigrun Seed MIX & Sedum laag)
- Optigrun Filter Fleece
- Optigrun Drainage en opslag board
- Optigrun bescherming Fleece 300

afschotisolatie Kingspan Therma TT46
afschot maximaal 5%

Isolatie Kingspan Therma TR26 150mm
Mechanisch borgen d.m.v kunststof anker
staalplaatbetonvloer, d=100mm cf.

**MV hoofdkanaal
ringleiding bovendaks**

rope acces aanhaakpunt
tbv gevelonderhoud
pos. en uitvoering ntb

DAKRAND
Duplicor PET kern
Duplicor glasvezel 2mm

CONSTRUCTIEPAVILJOEN
houten kolommen + stalen balken
staalplaatbetonvloer over korte overspanning
C.f. opgave constructeur

**optioneel Kertovloer en volledig
houten constructie (kostcomponent)**

bestaande constructie i.h.w.
te meten, vrije hoogte kan
ongunstiger uitvallen

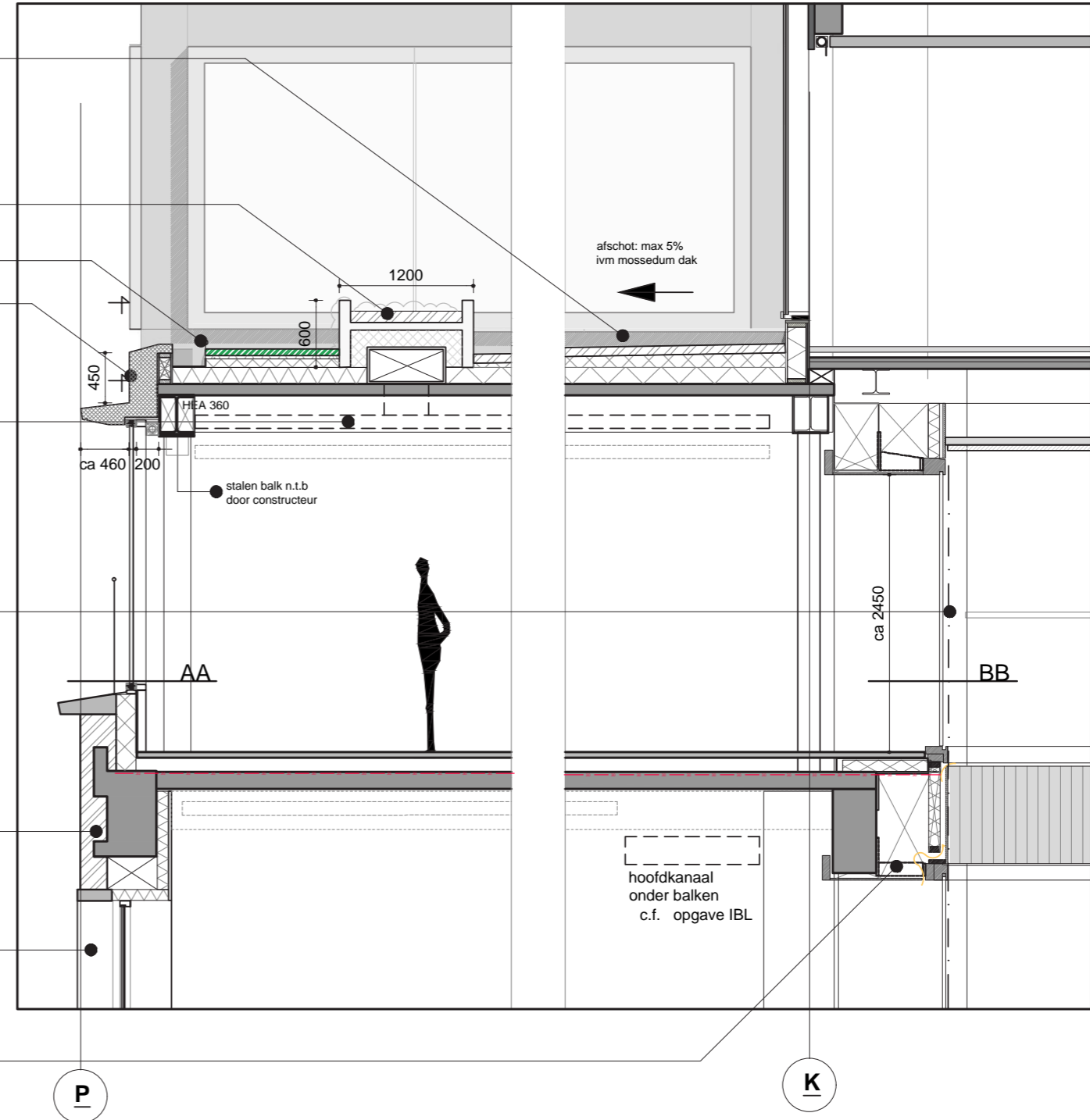
ATRIUM GLAS GEVEL
vervangen bestaand draadglas
- houten kozijnen/regels
- structureel verlijmd overgangen glas
- gehele atriumgevel S200 eis
**AFWERKINGEN volgens
MATERIAALSTAAT**

GEVEL BESTAAND
- na-isoleren aan binnezijde
(Rc = 4,7 m²K/W):
totaalpakket ca 125mm
uitgegaan va 100 mm
isolatiemateriaal (Rc ≈ 2,5 m²K/W);
25mm gips

GEVEL BESTAAND
- vervangen kozijnen en glas HR++
aluminium
U Window (Uw = 1,5 W/m²K):

OVERSTROOMDETAIL ATRIUM
Luchtverstroem van 2e t/m 5e en 7e
verdieping naar atrium via bouwkundig
akoestische spleet

v-spleet = ca. 1,5 m/s
=> A-netto = 0,45 m²



Cartesius 5

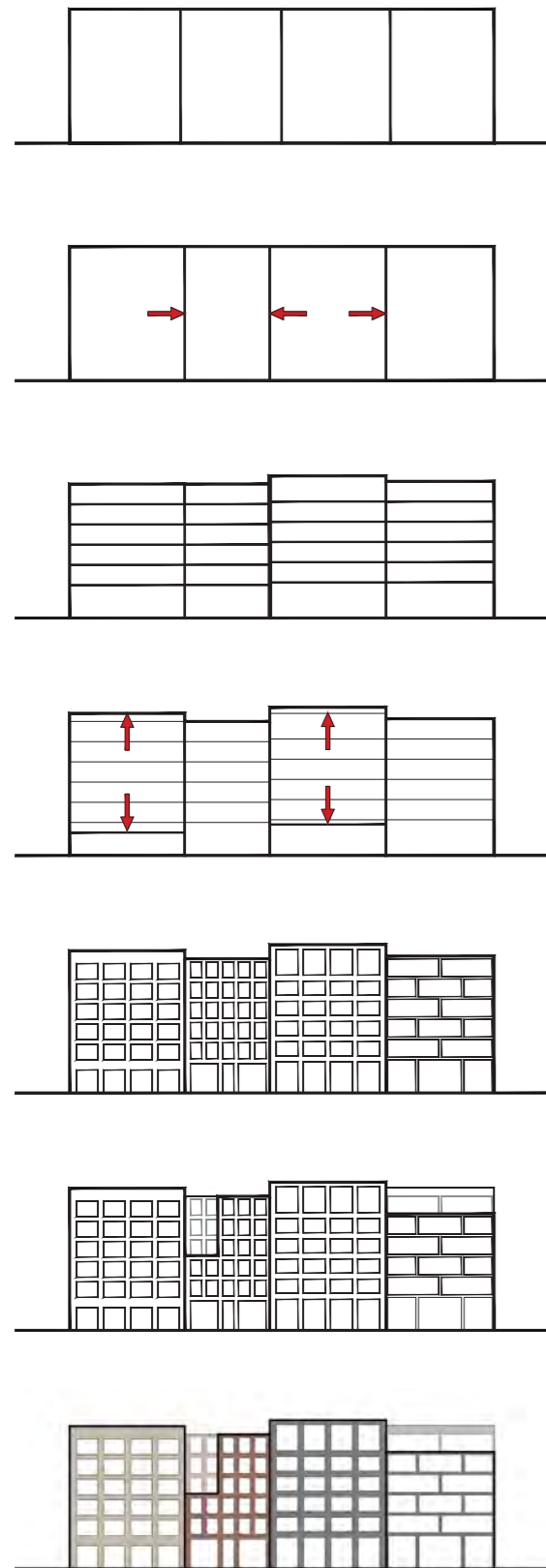
AO (wijziging) - definitive design

For this residential project, I joined in a decisive moment of revisions. Through a few months of working on Cartesius, I saw it change its entire facade and building division approach, as well its internal organisation fully reworked.

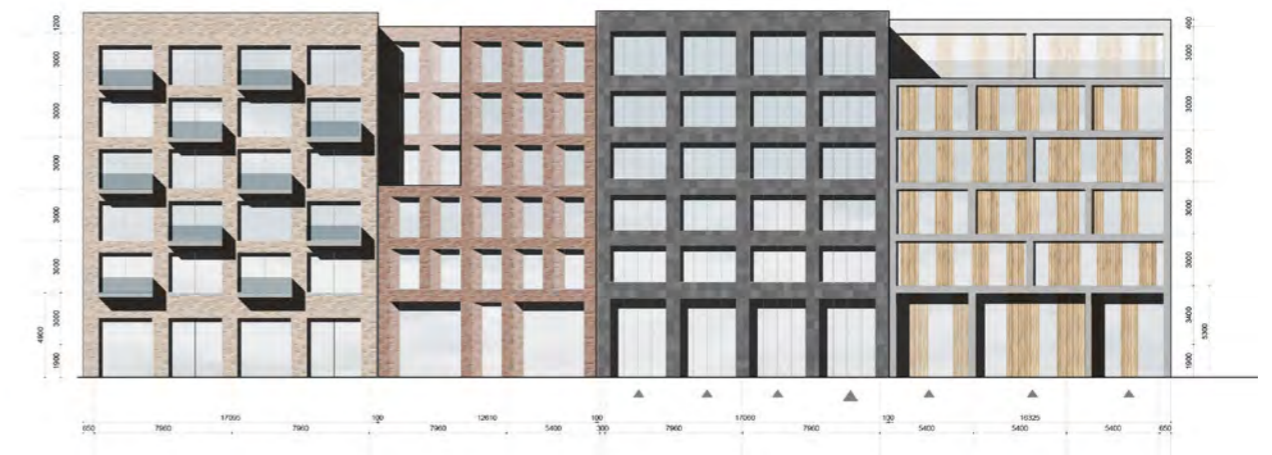
I closely worked on devising the new facade grid and approach, as well as updating its plans for the residential units within the new grid.



+ facade division



Before the changes



After the changes



Designed elevation

+ revising plans



Floorplans, in which I helped revising most of the residences. During this process, we found an opportunity to create spacious staircases with light wells that would greatly increase the interior quality of the access corridors.

+ convincing welstand

As it was the the Beauty Committee (Welstand) that required these significant alterations to the building expression, it was important to convince them in the value of the

changes to the facade we have made. I produced these images to present the new vision for the building envelope, which was accepted for further design.





Leiden Bioscience 5

VO phase - provisional design

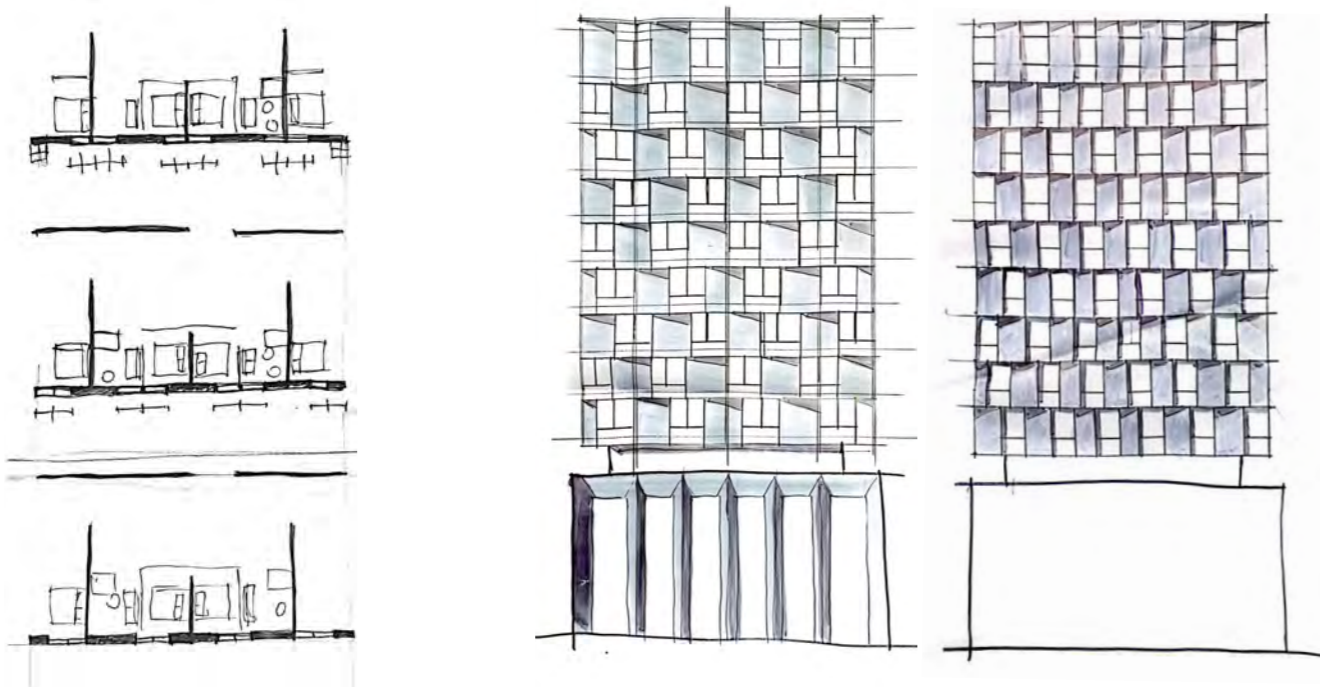


+ facade iterations



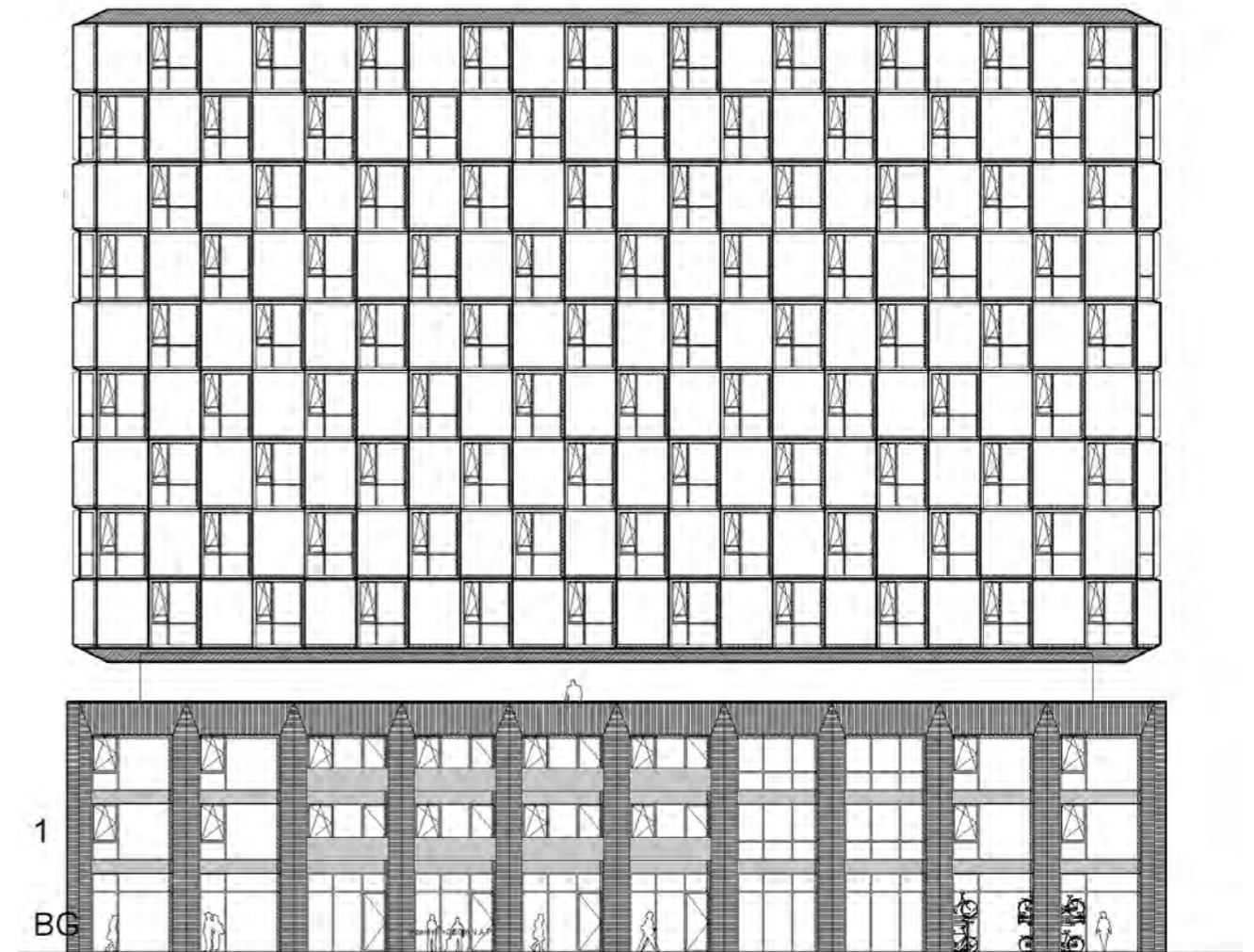
Original version

Design option

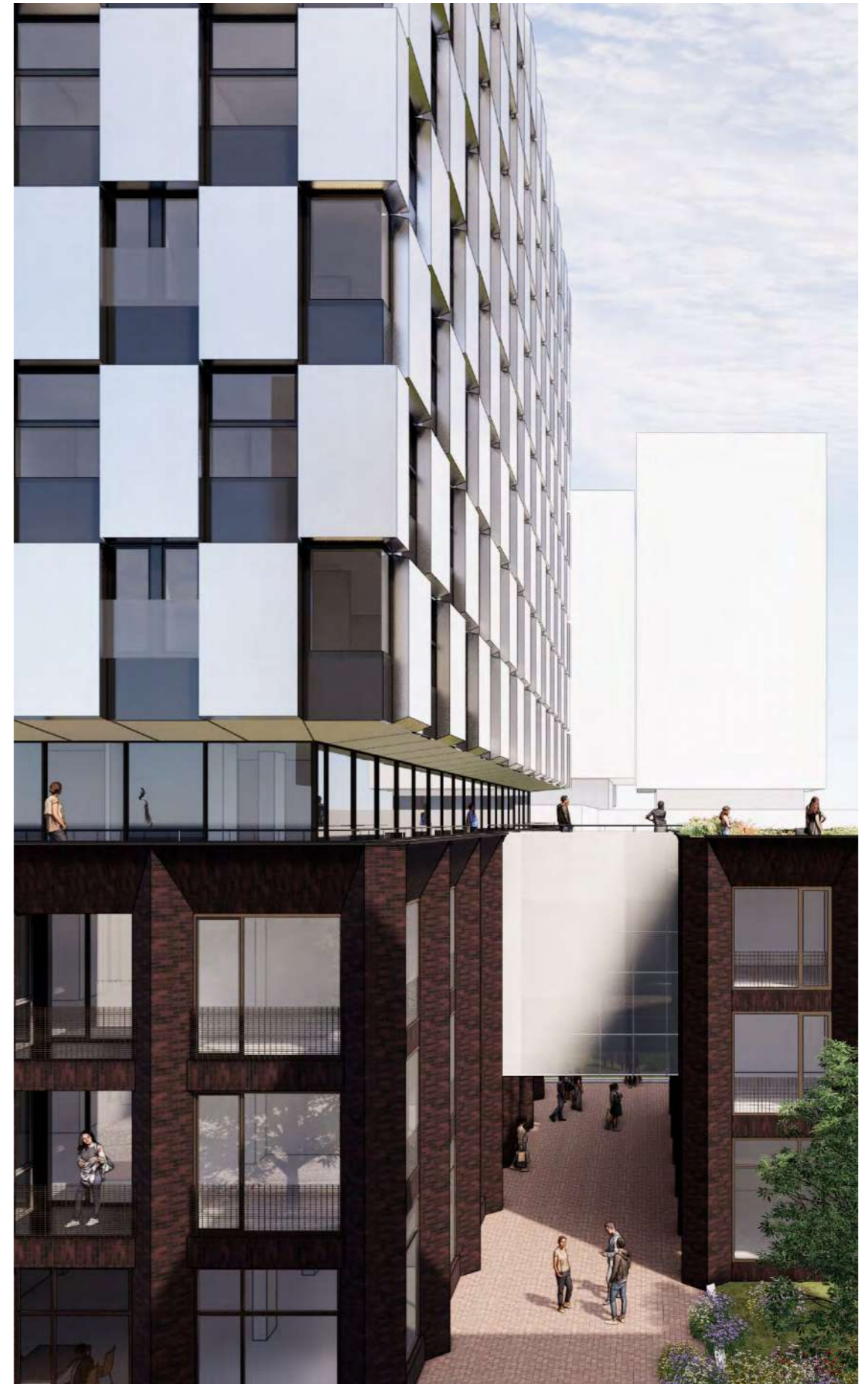


Tests of interior layouts and their facade in sketches

This was another project stalled because of its facade design. The first project I worked on at the office, I was charged with creating new facade concept. After a few iterations, we reached the design that was developed into BA.



Selected option



Renders produced for the selected design, with a roof pavilion added to mimic the slanted detail of the top building.

Mercator II retrofit

concept phase



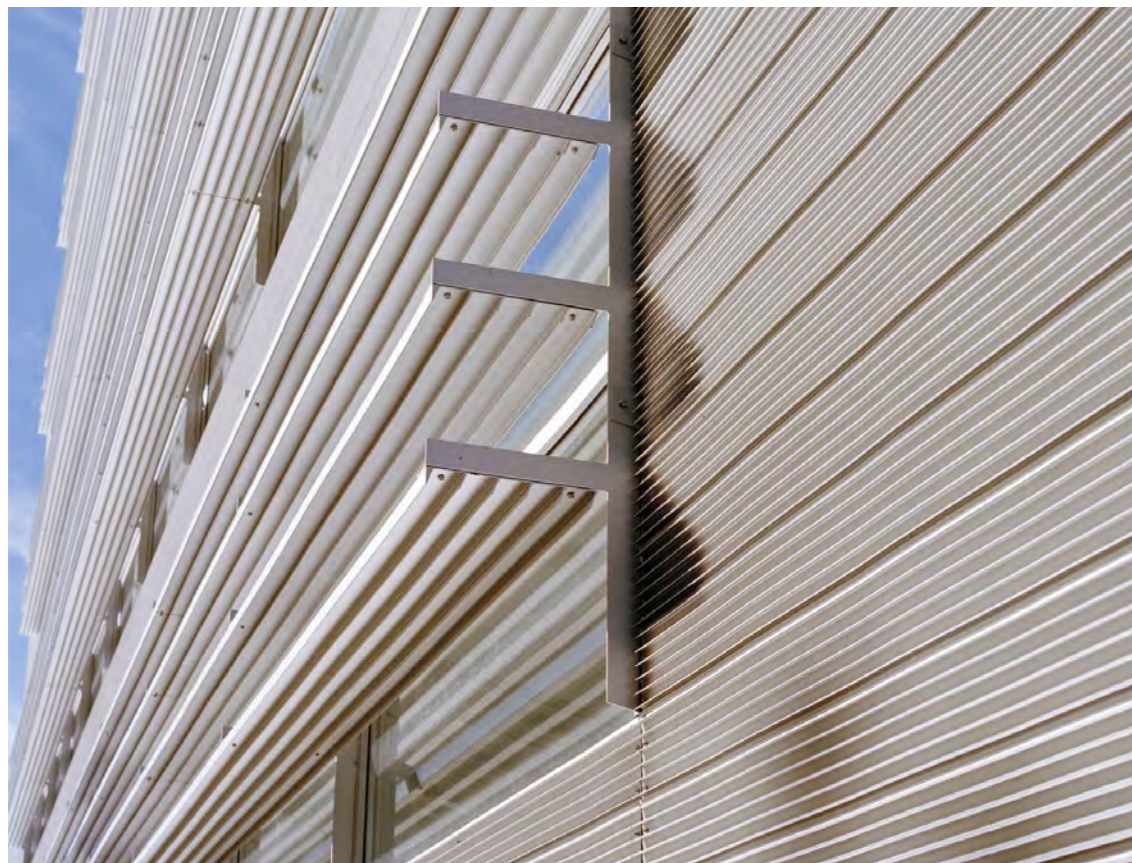
+ task to retrofit



Nijmegen University came to the office with an idea to retrofit Mercator II building, designed by Paul de Ruiter in early 2000s, with a colour PV-panel facade.

I was tasked to study the original drawings to find opportunities for stacking the panels of a given dimension, while preserving as much of the characteristic look of the original facade. I also tested different hues for the panels which would be the sweetspot between the efficiency and preserving PDRA style.

I provided some suggestions on detailing using the original facade mounting system, which previously held the aluminium shading fins, as well as met with prospective facade manufacturers.

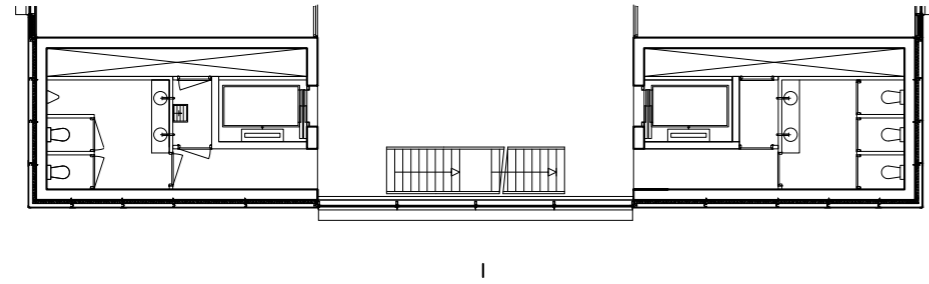


Existing aluminium fins on the South facade.



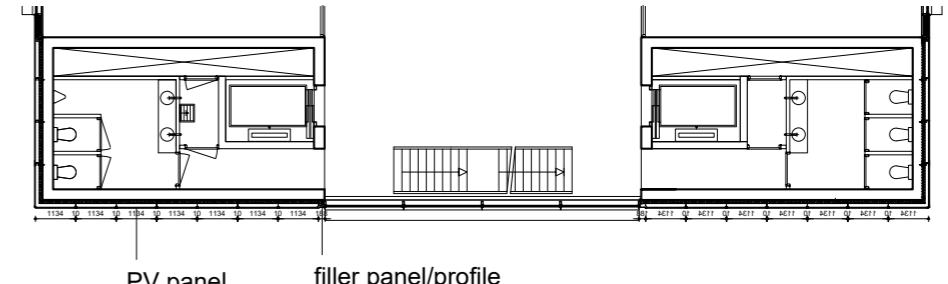
Corner detail with a profile, where new PV South facade meets the old fins design.

+ details



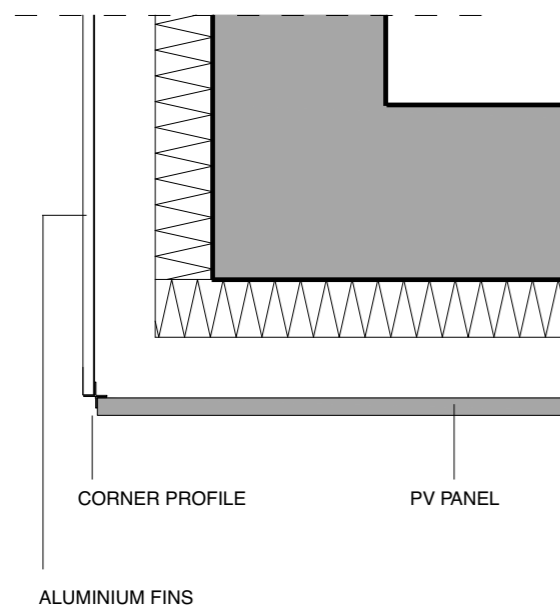
Origineel standaard verdieping

ORIGINAL FACADE STRUCTURE



Zuid gevel met PV

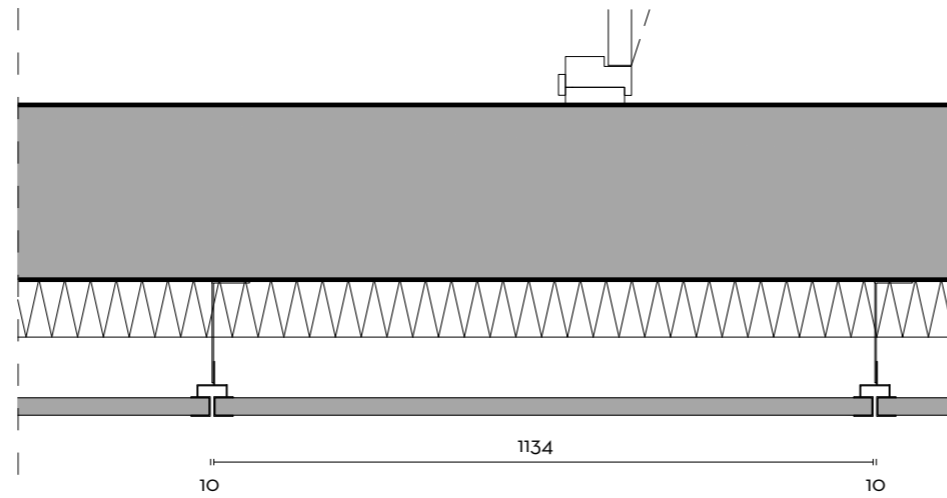
PV FACADE STRUCTURE



CORNER PROFILE

PV PANEL

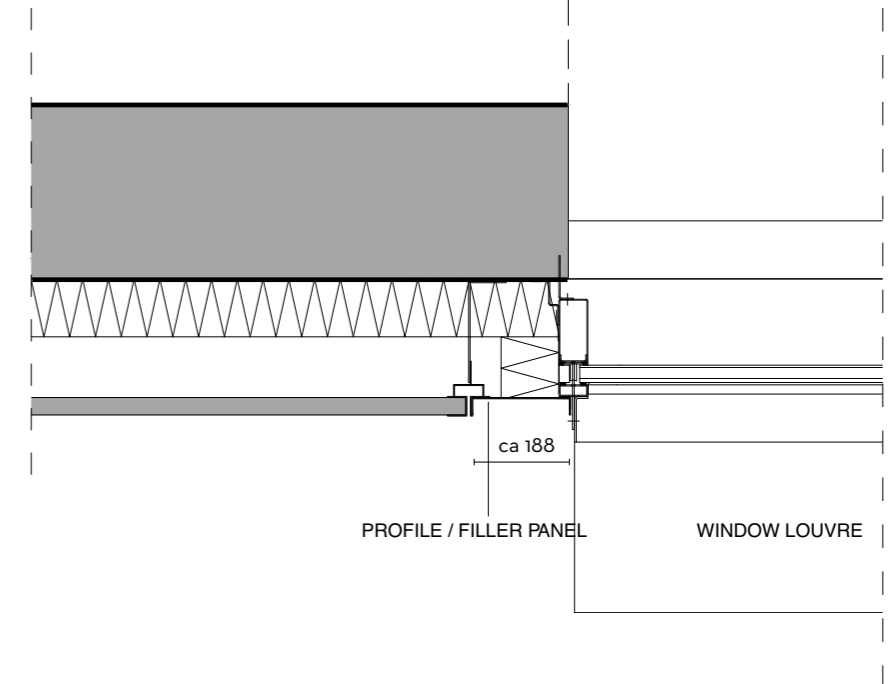
ALUMINIUM FINS



1134

10

10



PROFILE / FILLER PANEL

WINDOW LOUVRE

ca 188

Artem Alexandrov

2024