CONCERTO DINAMICO



Michael Landman

Public Building
Music Marvel
Music and Popular Culture Re-Wired

Graduation Report

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August 30 2022

Public Building
Music Marvel
Music and Popular Culture Re-wired

MSc. Architecture, Urbanism and Building Sciences
Delft University of Technology

Tutors:
Paul Kuitenbrouwer
Gilbert Koskamp
Nicola Marzot

CONCERTO DINAMICO

a research towards concert hall design for the 21st-century music experience

The Binckhorst in The Hague is one of the most promising development areas of The Netherlands. Over the next years, it will continue to develop into a high density mixed-use area. Among the tabula-rasa state of Binckhorst, a Public Building will be placed in the form of a music venue. Between the orthogonal high-rise blocks, a key-project will set the tone for the cultural development in the area.

This development will be defined in a classical sense. Research shows that classical music has seen an uprising with the evolution of the internet and specifically, streaming services (Roberts, 2020) democratizing classical music through mass accessibility and distribution. However, the live classical music scene has always strongly followed formal tradition, aswell as its corresponding buildings. Thus, there is too little attention for the more experimental and modernistic development of classical music architecture. This project aims to focus on manifesting this internet-oriented, more dynamic, and informal side of classical music. This leads to the main question:

How can dynamic re-iteration of concert hall designs modernise the audience experience of the live contemporary music scene?

This question is answered through a series of research subjects; Object, Movement and Experience. The first architectural subject is researched through morpho-typological analysis of concert hall precedents, based on J.N.L. Durand and Aldo Rossi. Then, the second and third subjects are analysed by looking through the lens of praxeology and phenomenology, using theories of Henri Lefebvre and Merleau-Ponty. The fruits of these analyses result in a toolbox of design elements that will be used for the creation of a building typology that fits this new development in a long-lasting formal culture. The new project is to introduce dynamism, multiplicity and multifunctionality to the historical prototype, to allow for stimulation of the modernistic classical music experience.

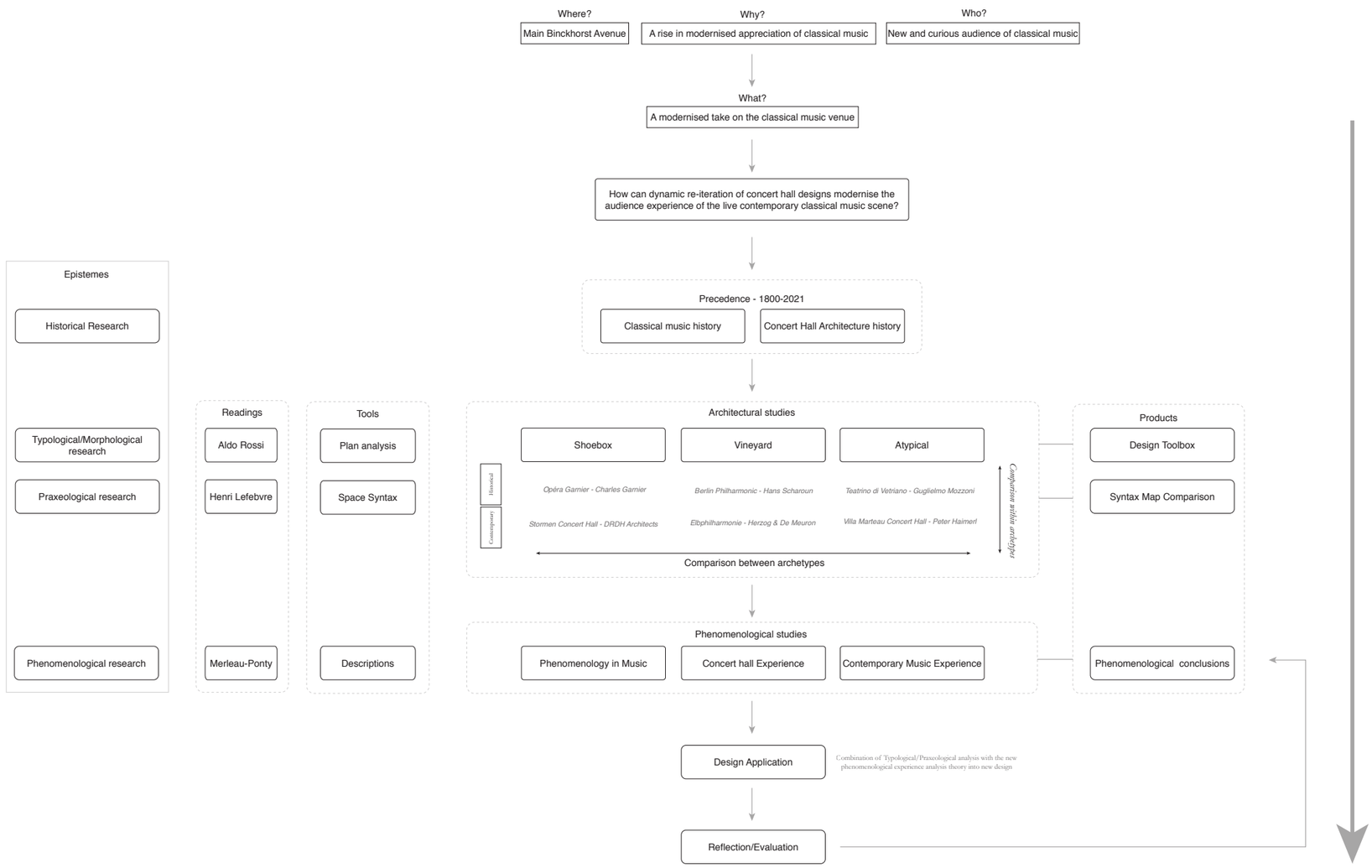

figure 1. Max Richter's concert Sleep. Image source: Mark Allan, Financial Times
figure 2. research plan diagram. Author's own work.
source 1. Roberts, 2020 "Research Shows Huge Surge in Millennials and Gen Z-ers Streaming Classical Music," ClassicFM, 2020, https://www.classicfm.com/music-news/surge-millennial-gen-z-streaming-classical-music/.

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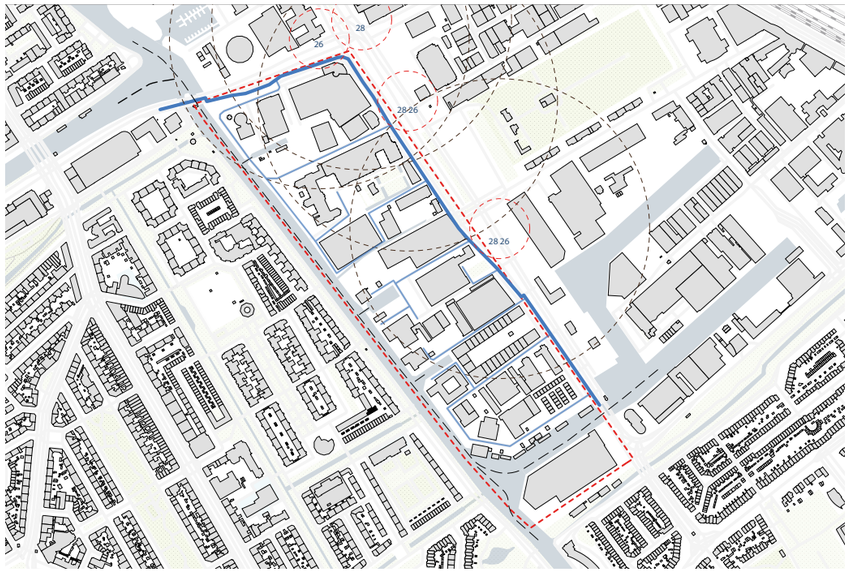
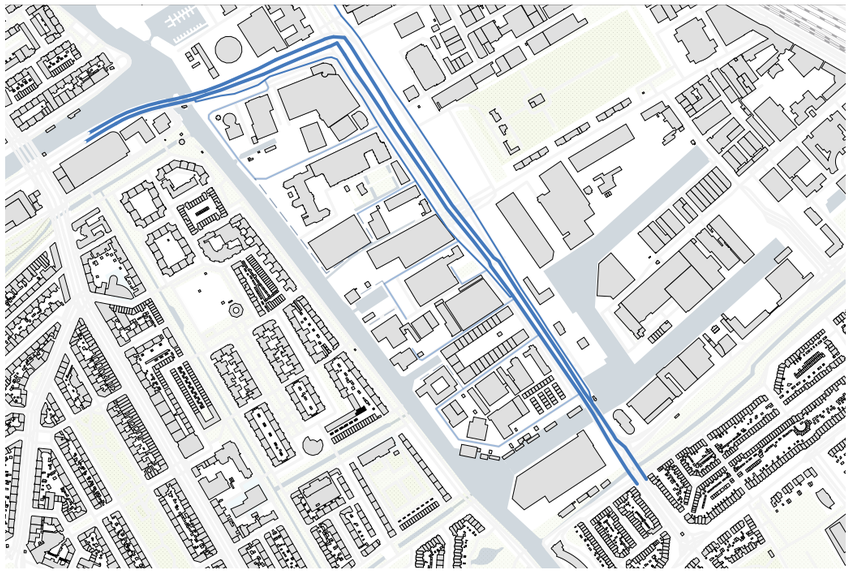
City

Binckhorst routes

According to the analysis that resulted from the P1 group effort, the new location along the axis is not only excelllently reachable by car, but also by automobile. The Trekvlietzone is already surrounded by public transport points within reach of the suggested project location. “There is little to no need for improvement with the coming future plans”. The bicycle- and footpaths seem to provide the same connectivity, as it is concluded that it is very easy to travel the main axis of the Binckhorst.



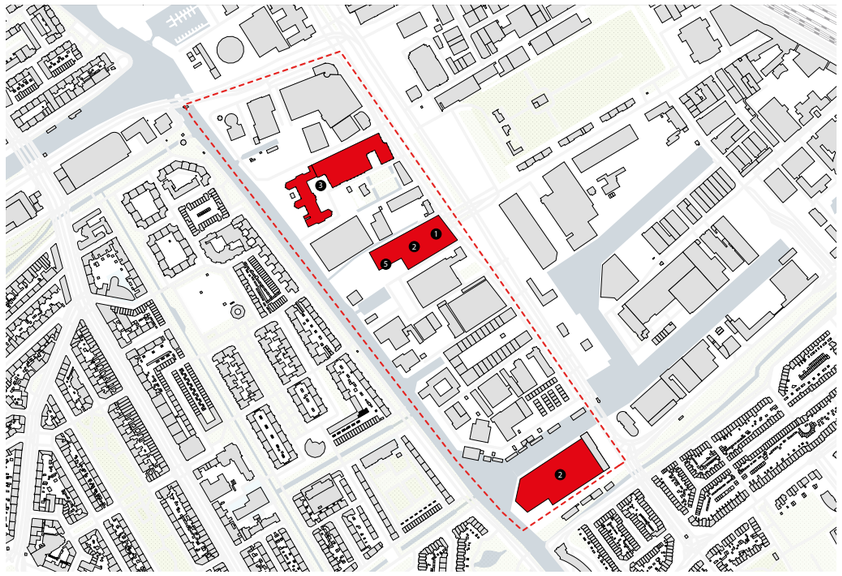
Transport hubs. From ‘P1 Group work bookon SITE, section ’Trekvliet Road Network/ Public transport, p.237.



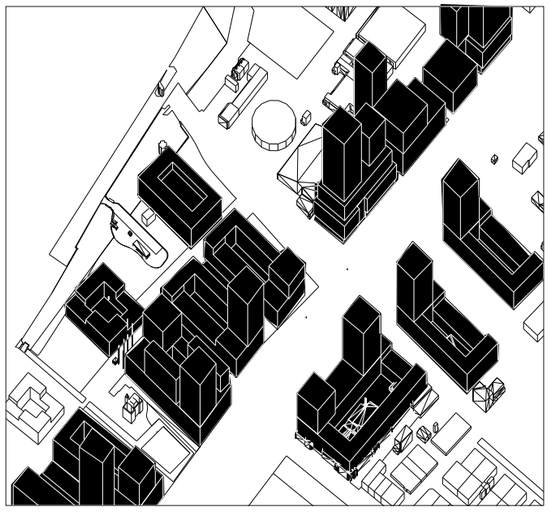
Foot- and bicycle paths. From ‘P1 Group work book on SITE, section ’Trekvliet Road Network/ Public transport, p.236.

Binckhorst developments

Basis of one of the agitator project is the planned orthogonal developments on the Binckhorst axis. Linck in the Binck (1), Bink Blocks (2), Bink Kade (3), Binckhorsthof (4) and Kavel 1C Binckpark (5) are examples of already-sealed development plans in the area. This is a selection of high-end apartment blocks that the agitator project will answer to, being the cultural manifestation for the inhabitants of these verv blocks.



Planned developments. From ‘P1 Group work bookon SITE, section ’Trekvliet Road Network/ Public transport, p.238.

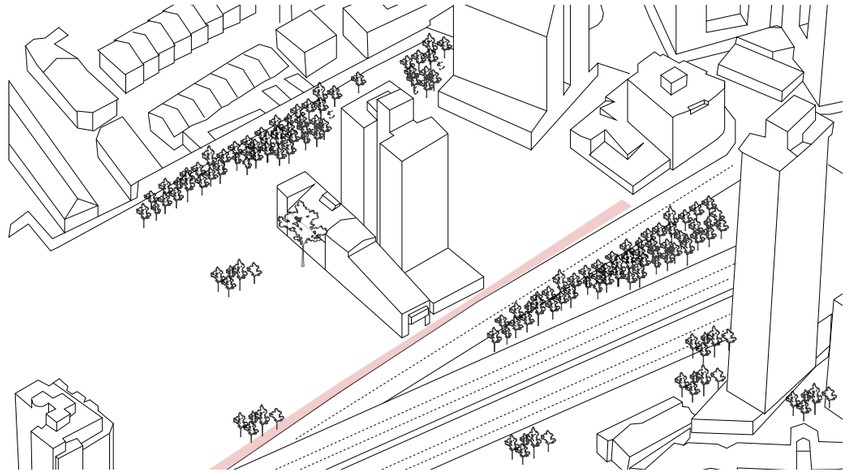


Axonometric analysis and models of accepted and tentative developments. Own work, 2022.

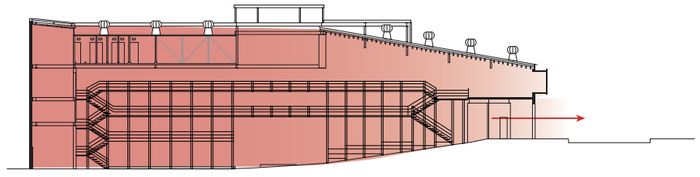
Connection

Teatro Oficina

One of the projects that I researched with my own subgroup was not known to me before started working on it. I was fascinated by its location, experimentalism and political stance. The Shakesperean theatre setup is something I intend to introduce in one of the music halls of the design project. As the drawings below show the theatre’s unusual shape and urban context.



Urban context Teatro Oficina From ‘P1 Group work cases 7-12, section ’Teatro Oficina, City’ p.206.



Urban context Teatro Oficina From ‘P1 Group work cases 7-12, section ’Teatro Oficina, City’ p.208.

Berlin Philharmonic

Coincidentally, the second project that we worked on was also one of the project's that we visited during our short excursion/trip to Berlin. Hans Scharoun's Philharmonie lived up to our expectations, and everyone thoroughly enjoyed the atmosphere, foyer and connection with the performance.

The Philharmonie's negative space under the music hall allowed for a great foyer with lots of sight lines. Consequently, we were able to roam the large foyer as a group but still keep track of everyone's location. The concert hall itself allowed for an intimate experience, and those who were situated on top reported great acoustics aswell.



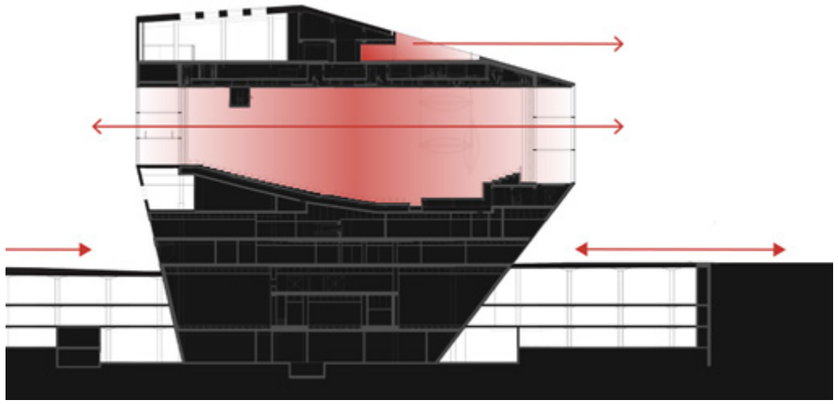
Own photo from concert hall Berlin Philharmonie. 13-11-2021



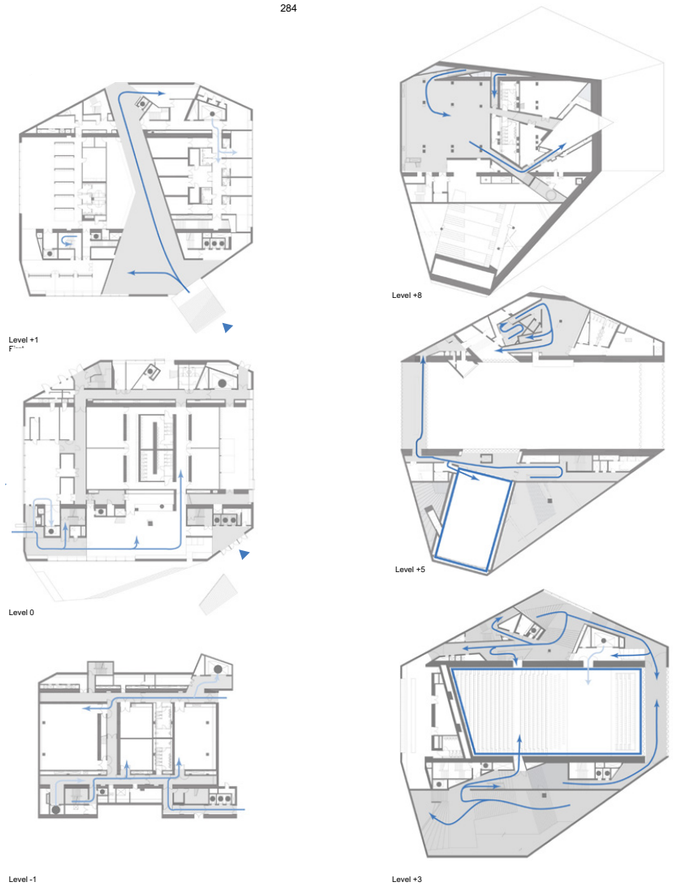
Own photo from Foyer Berlin Philharmonie. 13-11-2021

Casa da musica

"The past thirty years have seen frantic attempts by architects to escape the domination of the "shoe-box" concert hall." reads the introduction of Casa da Musica by OMA. It has proven to be a relevant case study, because both projects feature various music halls interconnected through interesting routing, sitting on top of a socle within a (to the project) seemingly alien surrounding. Whereas Casa da Musica is mainly Koolhaas' attempt at excavating the solid, creating voids where one meets another. (Koolhaas, R., Wigley, M., 2008).



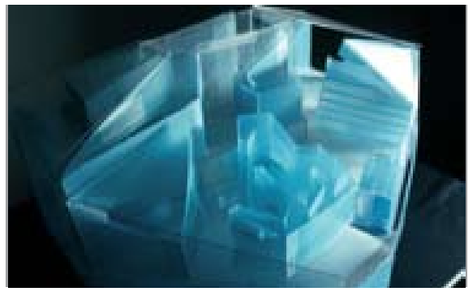
Voids Casa da Musica. From 'P1 Group work cases 7-12, section 'Casa da Musica, City' p.274.



Routes Casa da Musica. From 'P1 Group work cases 7-12, section 'Casa da Musica, Connection' p.284.

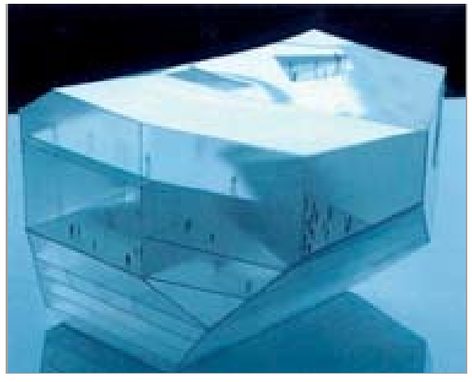






Transparent models Casa da Musica. From ‘Mark Wigley and Rem Koolhaas in discussion’, section ’Casa da Musica, City’ (2008) p.12.



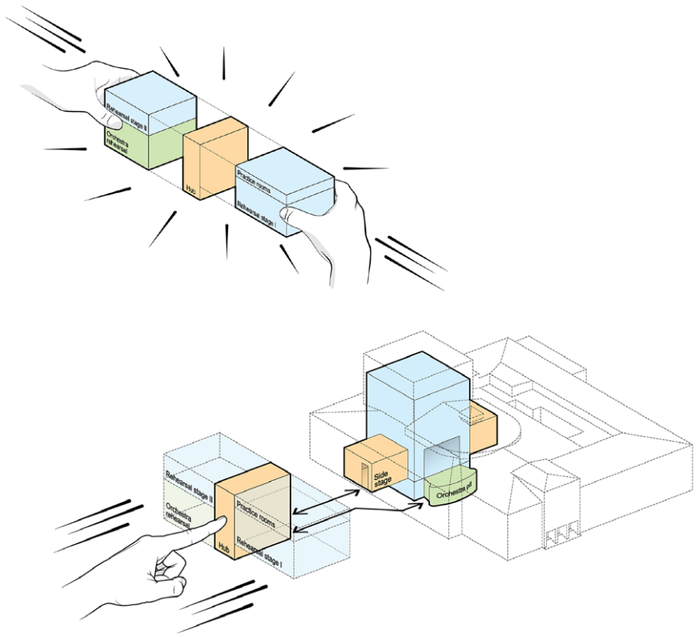


Transparent models Casa da Musica. From ‘Mark Wigley and Rem Koolhaas in discussion’, section ’Casa da Musica, City’ (2008) p.2.

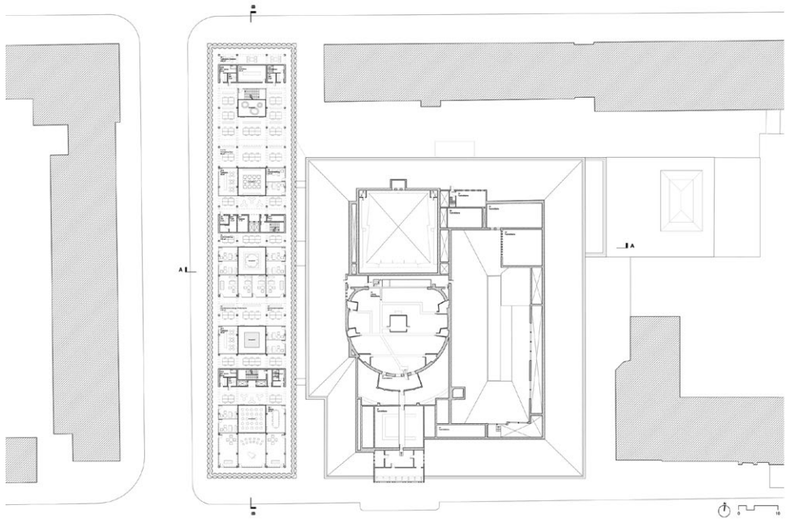


Komische Oper Berlin

The proposed extension for the Komische Oper Berlin by REX is a reference that is relevant on mainly functional aspect. It introduces a ‘circulation hub’ to connect performers and technicians alike, with stage and practice rooms being interconnected through the hub. This stacking of spaces is then coupled with the existing Opera building, a more traditional typology. Apart from its function and use of spaces, is its double layered glass facade features innovative louver techniques.



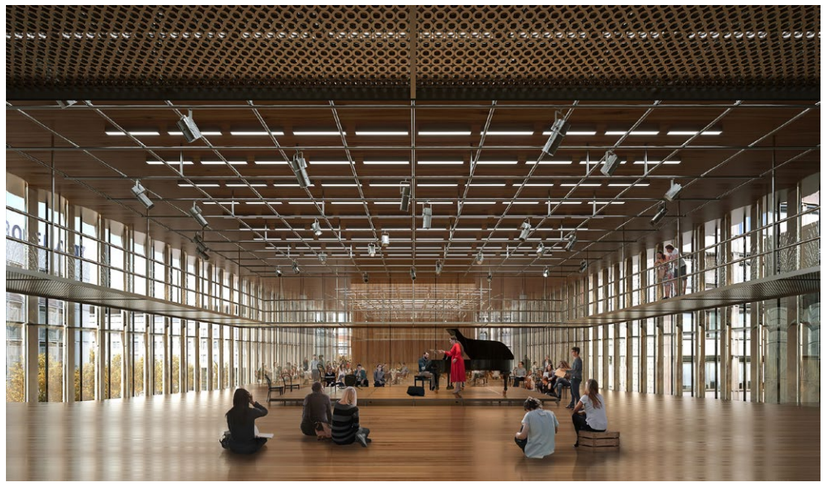
Spatial diagram. From REX-ny.com



First floor plan. From REX-ny.com



Render front facade. From REX-ny.com



Render interior. From REX-ny.com



Render front facade. From REX-ny.com



Render west facade. From REX-ny.com

Culture

European music culture

Europe’s musical history is rich and varied, from classical, to 80s synths, to Swedish pop domination. Every genre of music has found a home within Europe.
Medieval musicians were entertainers and medieval music also was the music of church. In renaissance music was an essential part of civic, religious, and courtly life.Baroque music is a heavily ornamented style of music that came out of the Renaissance.From 1750 on artists, musicians, and architects wanted to get away from the strange opulence of the Baroque period and move to emulate the clean, uncluttered style of Classical Greece. Harmony and perfection was the main ambitions and the important figures was Mozart and Bethoven, the masters, geniuses.The Romantic Era. After Beethoven, composers turned their attention to the expression of intense feelings in their music. Luigi Russolo, an Italian Futurist artist of the very early 20th century, was perhaps the first noise artist.His 1913 manifesto,

L’Arte dei Rumori, translated as The Art of Noises, stated that the industrial revolution had given modern men a greater capacity to appreciate more
complex sounds. 20th-century music brought a new freedom and wide experimentation with new musical styles and forms that challenged the accepted rules of music of earlier periods.The invention of musical amplification and electronic instruments, especially the synthesizer, in the mid-20th century revolutionized classical and popular music, and accelerated the development of new forms of music especially electronic music. Music of all kinds also became increasingly portable. Music performances became increasingly visual and crowded with the broadcast and recording of performances.

From ‘P1 Group work bookon SITE, section European Music Culture’

Personal cultural motivation

Among many other genres, does classical music interest me. When I was young, I was introduced to the music of Tchaikovsky and the accompanying ballets. After the introduction of iTunes and later on Spotify, did I as many others, discover many musical gems, amongst them classical works of Beethoven, Rimsky-Korsakov, Liszt, Chopin, but also newer works. This eventually merged with my other hobby of collecting vinyl records, as classical Deutsche Grammophon records are available at thrift stores for 50 cents each, since accessibility is fantastic. Usually donated from an inheritance, classic vinyls at a thrift store being picked up by a younger audience is the perfect metaphor for the project.

Visiting classical concerts I still find myself one of the few people with their original hair colour: it is, in the Netherlands and in germany, still dominated by the elderly.

The work of Max Richter, specifically his rework of Vivaldi's Four Seasons, introduced me to the crossovers in classical music. It showed that classical was not the dusty, old people genre that I believed it to be (and many of my friends still do). Including, but not limited to, electronic instruments, lights, stagebuilding. Classical music can surely profit from a (r)evolution.







MAX RICHTER
RECOMPOSED



“This involved "throwing molecules of the original Vivaldi into a test tube with a bunch of other things, and waiting for an explosion". You can hear this chemical reaction particularly well at the opening of Richter's reworked Summer concerto, which has become a weird collision of Arvo Pärt-likemelancholy in the solo violin and a minimalist workout for the rest of the strings. "There are times I depart completely from the original, yes, but there are moments when it pokes through. I was pleased to discover that Vivaldi's music is very modular. It's pattern music, in a way, so there's a connection with the whole post-minimalist aesthetic I'm part of."

Part of the fun of the album is that your ears play tricks with your memory of the original: these familiar melodies do unexpected things, resulting in an experience that's both disturbing yet full of strange delights. And imagine how it felt for Recomposed's solo violinist Daniel Hope: having played the original for decades, he – and more importantly his fingers – faced a surreal task when he first picked his way through Richter's score.”

Service, T. (2012) Max Richter spring cleans Vivaldi’s the Four Seasons, (The Guardian)

VIKINGUR OLAFSSON
J.S. BACH WORKS & REWORKS



“We’re in a golden age for classical music,” says Víkingur Ólafsson. Spend time in the 35-year-old’s musical company and you might well agree. His album, Bach, has just been named recording of the year in the BBC Music Magazine awards – no surprise given the five-star raves it received on its release in September. “Ravishing ... a miracle of delicate control”, “Ólafsson’s Bach will quench your thirst”, “infectiously joyous energy... he is a remarkable musician” said the critics. The collection of 35 short pieces features original Bach works for keyboard interspersed with a variety of transcriptions that, from Stradal to Ólafsson himself via Kempff, Busoni, and Rachmaninov, traverse the last 150 years of Bach readings.

Tilden, I. (2019) Pianist Víkingur Ólafsson: ‘Everyone knows how to listen to music, just like we know how to drink water’, (The Guardian)

JOEP BEVING
HENOSIS



“Ook op het album Henosis is de geliefde piano van Beving nog steeds veelvuldig aanwezig, maar het is niet meer de enige ster van de plaat. Alsof de componist de kleinmenselijke dimensies van het ego verlaten heeft, zo vindt hij zijn weg in kosmische elektronische klanken zoals in het zes minuten durende Klangfall, even warme en filmische als ritmisch stekende strijkers zoals in Aeon en etherische koorzang (van Cappella Amsterdam) zoals in datzelfde Aeon en Apophis. De eenvoud is gebleven, de direct aansprekende melodieën en de peinzende pianobegeleidingen à la de Satie van de Gymnopédies en Gnossiènnes zoals in Philemon en Implikigo, vormen nog steeds de basis van zijn taal, hij vat het nu alleen in een groter geheel, in een grotere ruimte. En het resultaat is alsof Beving de Harmonie der Sferen waar de oude Grieken het al over hadden herontdekt en heruitgevonden heeft en deze vat in een taal die voor iedereen anno nu te begrijpen is. En dat nodigt weer uit tot ruim anderhalf uur meedromen, ruimtereizen, geestverruimen en reflecteren. Een heerlijke klanktrip op de vleugels van een wonderlijk eenvoudige keukenpiano.”

Janssen, P. (2019) Henosis, (Classicstogo.nl)

AR3AP100 PUBLIC BUILDINGS MUSIC MARVEL
5165830 M.A.G. LANDMAN
MSC3 18-01-2022

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P2

Delineation research

Research goals

- Display of tabula rasa state of Binckhorst context
- Evoke the study and combination of historical concert precedents in new context
- Pay homage to classical arts and formality of classical music

Used tools

- Standard grid technique
- Collage technique
- Assemblage technique
- Superimposition

Elaboration

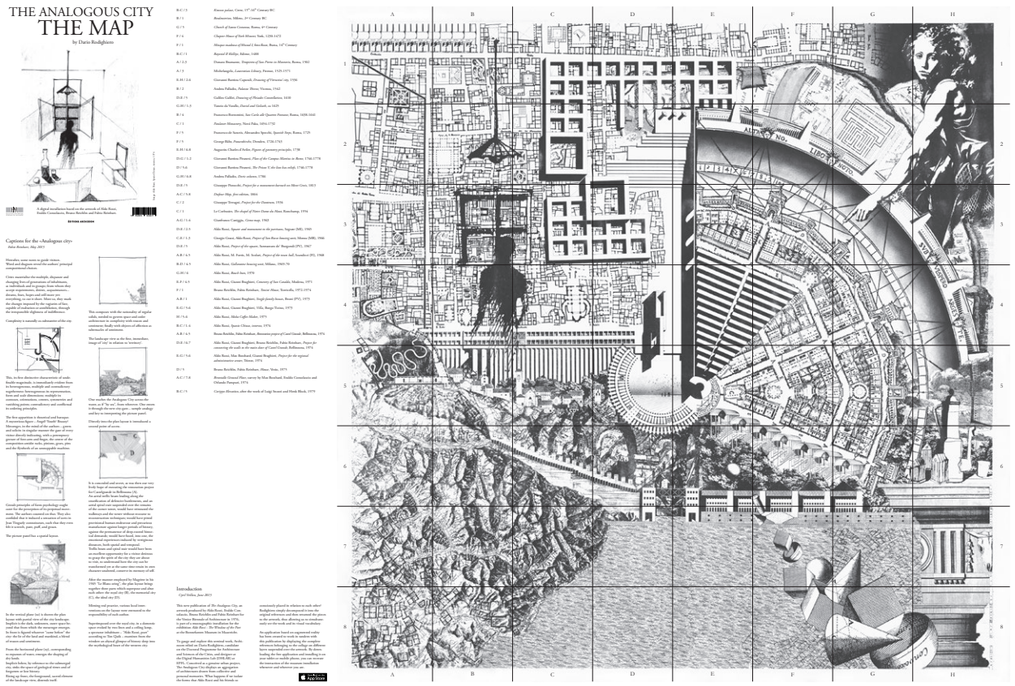
introduction
Through a series of techniques, this manifesto aims to display various elements of the project. Since the design is to be a physical manifesto for modernistic classical music, which in itself is nearly a dichotomy, the assignment is interpreted as mainly a physical result. This is elaborated in two conceptual planes: that of urban design, and of architectural design.

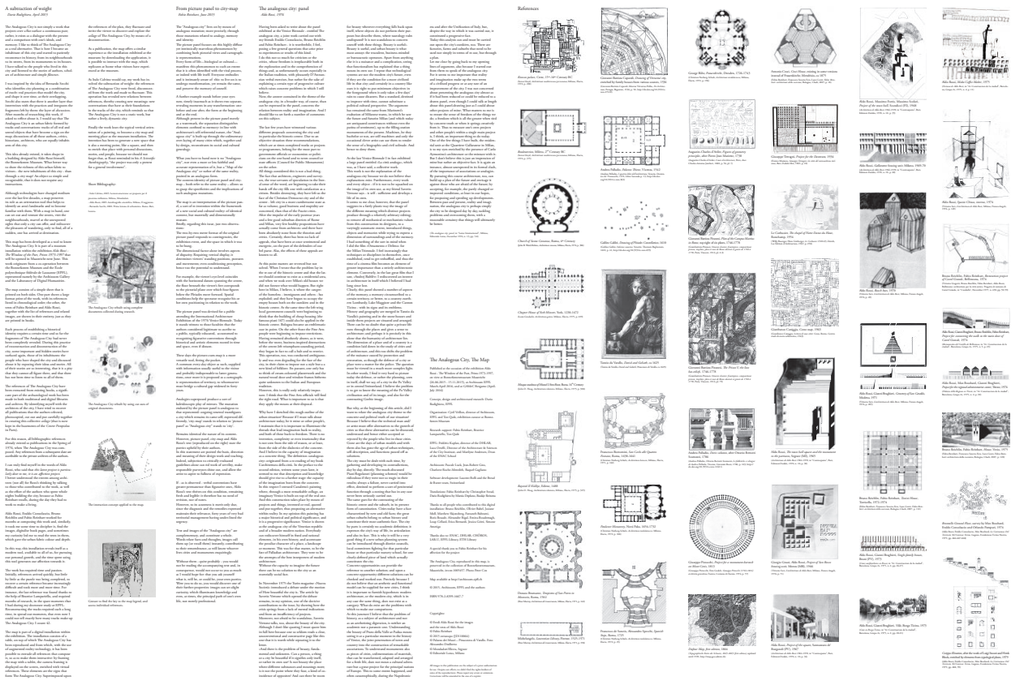
urban
The manifested concert hall has been superimposed in a gridlike series of orthogonal blocks, differing only in height. These blocks are a metaphor for the tabula-rasa state of Binckhorst to-be: a neoliberal development of top-end apartments, with little to no notion to local history. There is no layering to be found within the block. It has been washed away.

architectural
In the center of the urban jungle, the concert hall has been superimposed in the context, ignoring the grid. It is like it fell down the sky as a meteor, disrupting the newly created context. It only respects some rules of old, and is assembled through a wide variety in concert hall typologies. The collage of floor plans are bound together to orthogonal axis, that deflect the traditional typologies, but still respect the tradition.

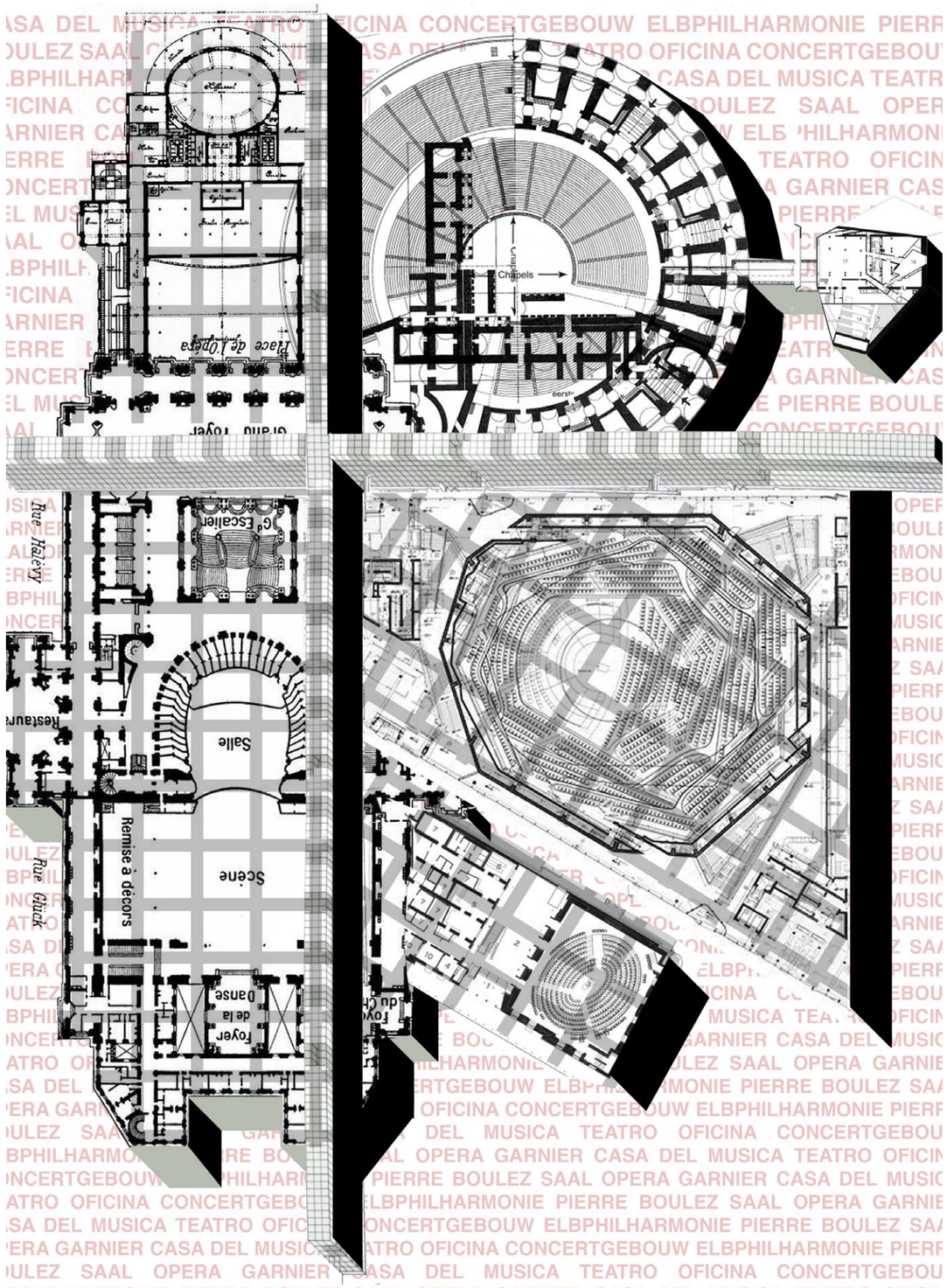
REFERENCES

[RODIGHIERO'S 2015 ANALYSIS OF] CITTA ANALOGA]

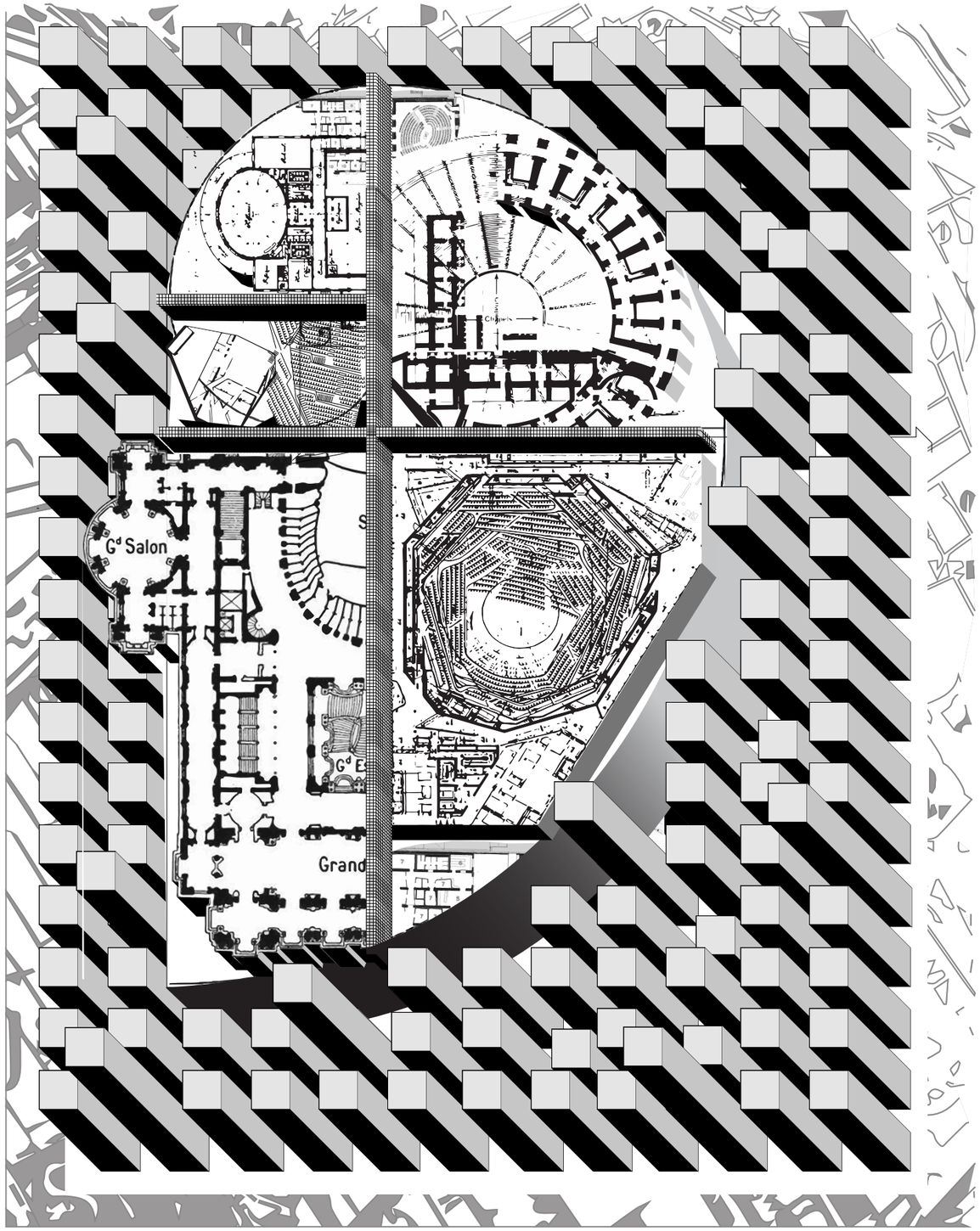




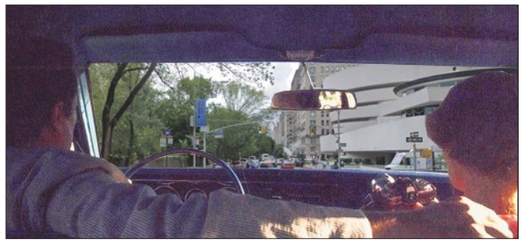
FIRST VERSION



FINAL VERSION



Concept development





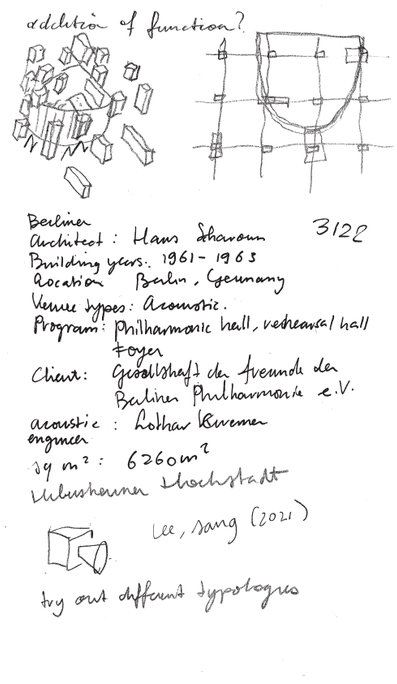
ELABORATION

The project concept was developed on two facets: urban physical context and typological-functional context. How does it fit in the new urban plan, and what shape should it follow? Mainly, these conceptual sketches show my thought process on morphology as a result from urban morphological analysis, and the combination of various types of halls into one structure.

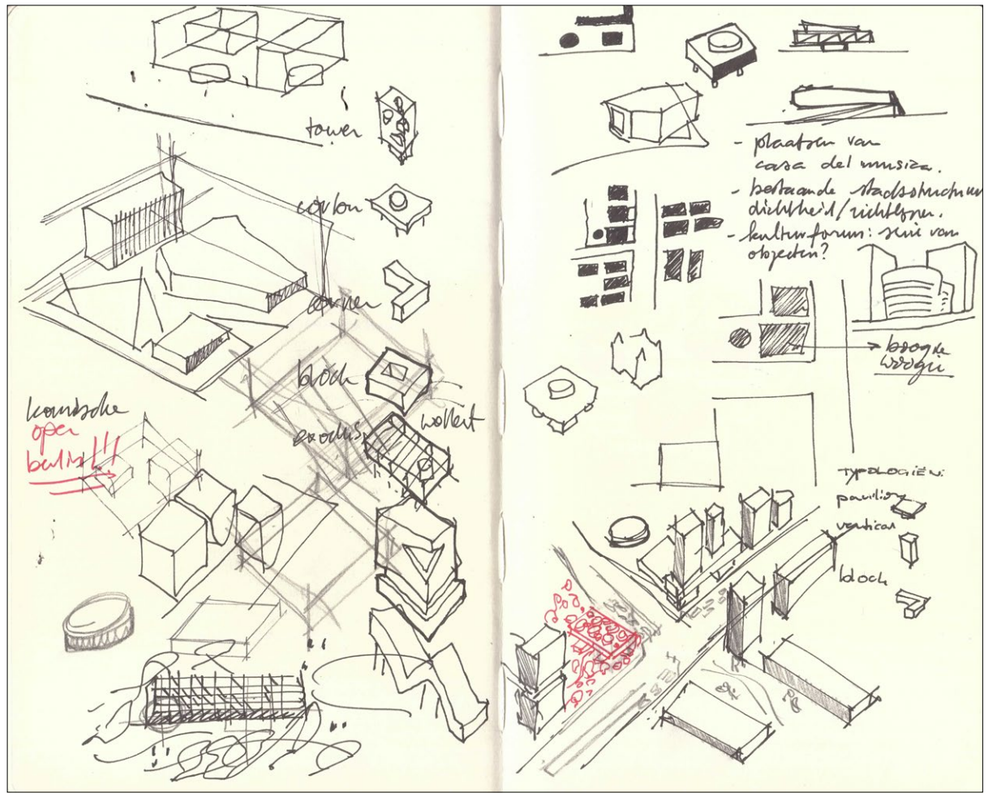
As the Research plan elaborates, principles and goals of the concept are as follows;

The manifestation and housing of modernistic classical artists and enthusiasts.
The creation of an ‘agitator-project’ in the new high-rise binckhorst.
The creation of a project that motivates and inspires classical artists and enthusiasts for new takes on the genre.

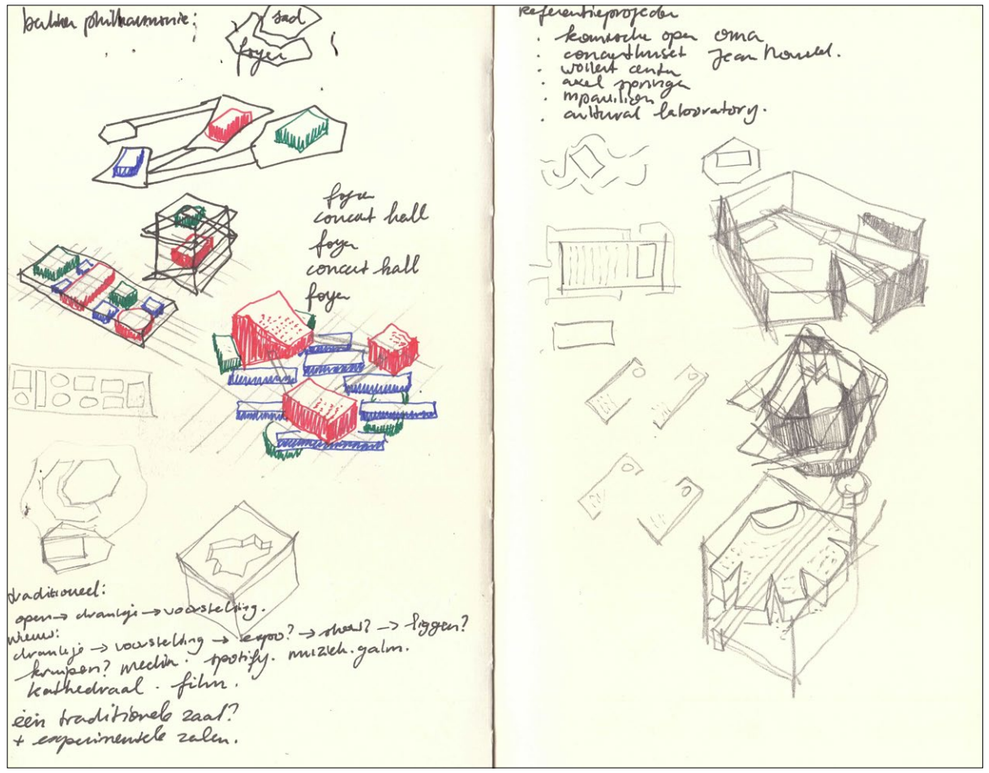




First sketches of shape composition

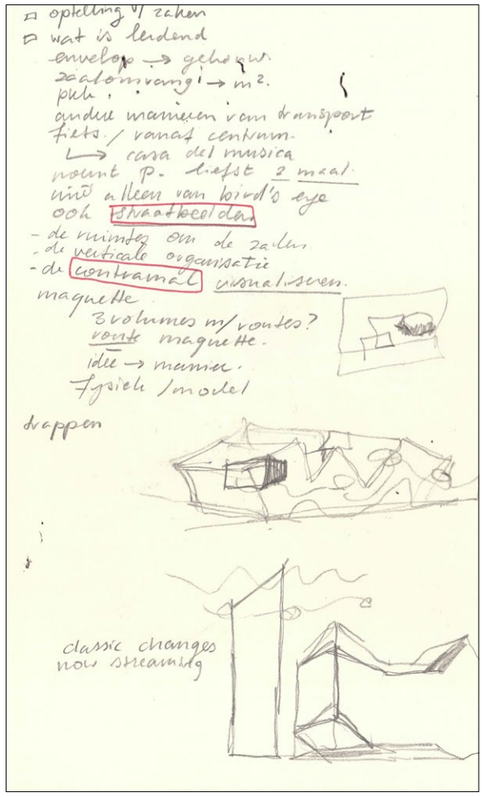


First sketches of (urban) morphology

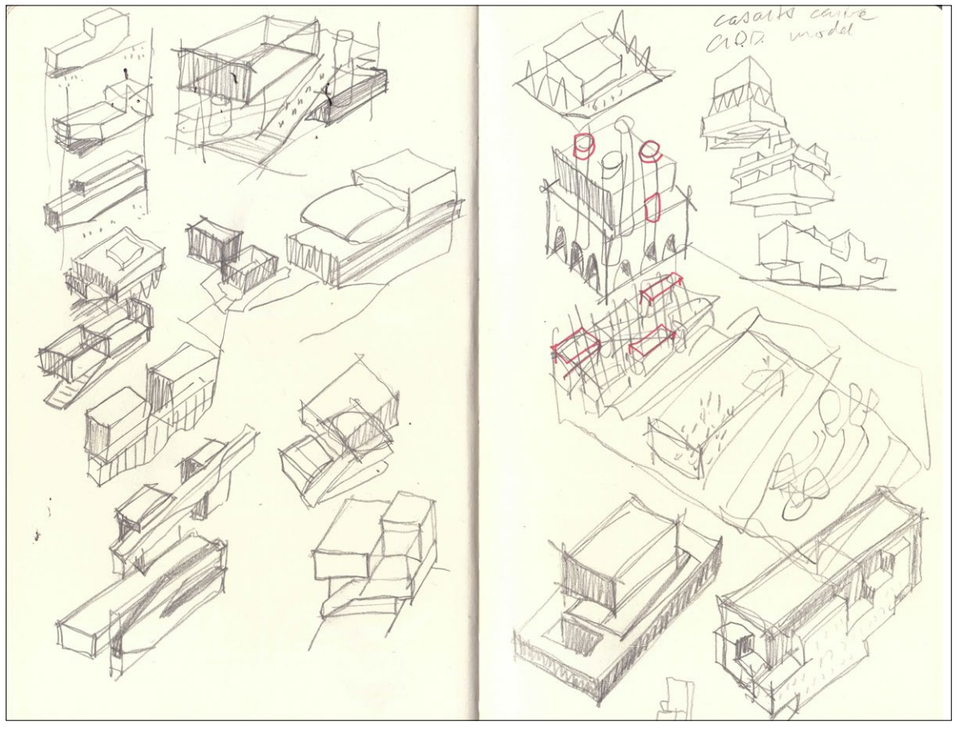


First sketches of shape composition

Form development



Sketches on morphology

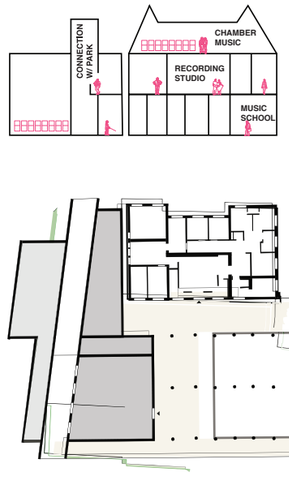


ELABORATION

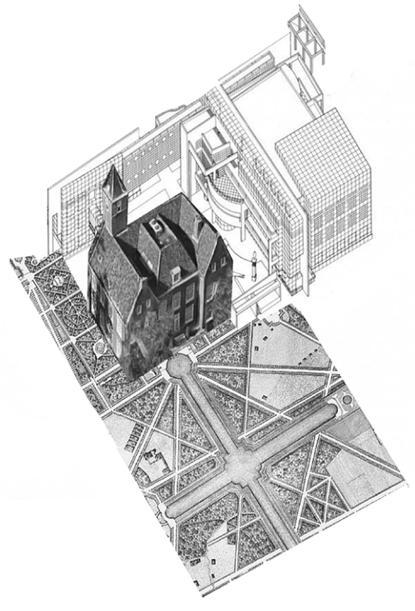
Form was approached firstly through programmatical concept translated to volumes that were interconnected. But the next translation, the urban context, was mainly done through sketches. How does the stacking of shapes translate well to the orthogonal urban surroundings? Eventually, a more diagonal shape was chosen, in order to distance the structure from its surroundings.

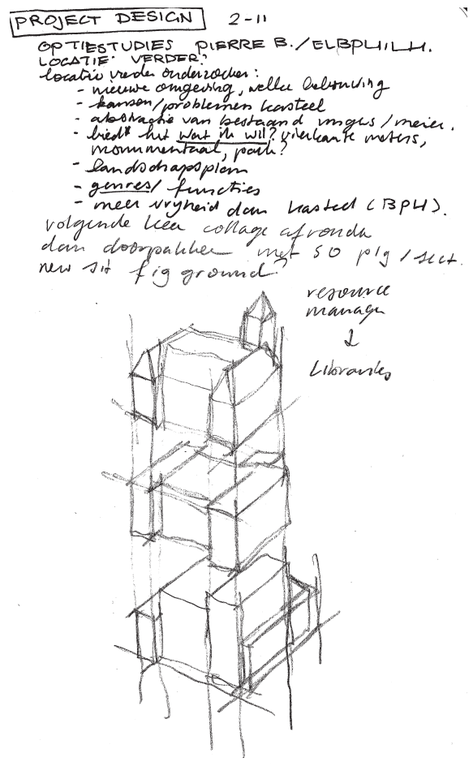
SIDESTEP

One of the earlier location options was to use the Binckhorst castle as a cultural forum. After spatial research, I concluded that a very morpho- and typologically heavy research could be intensively obstruced by the monumental structure. Also, the structure is one of the few historical elements in the area, which deserve to be kept as good as possible.

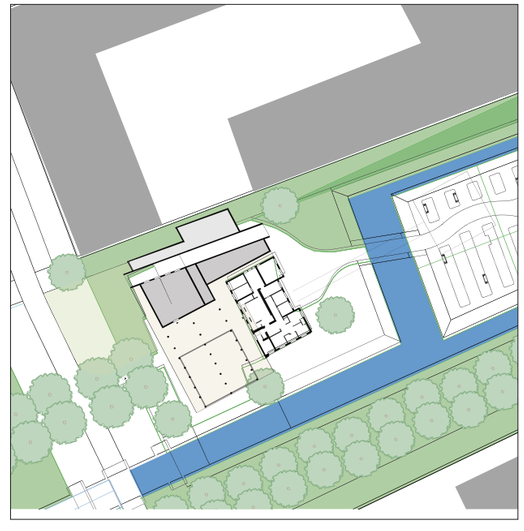


Floor plan sketches





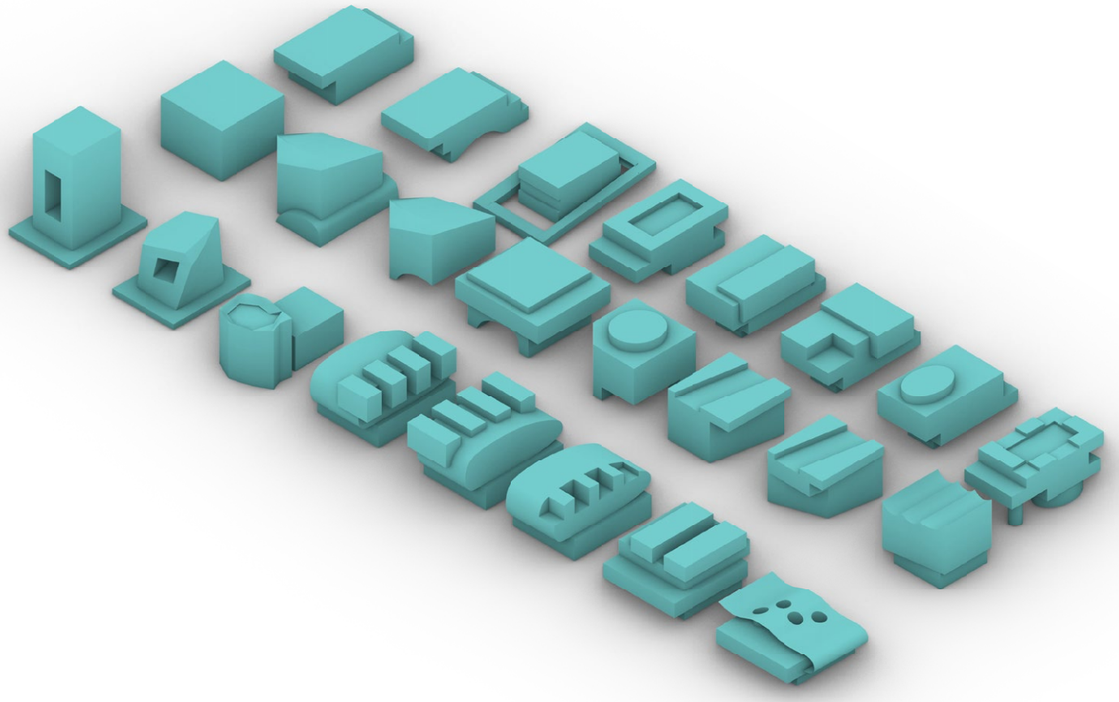
Sketch of morphological abstraction



Sketch of situation

MASSES

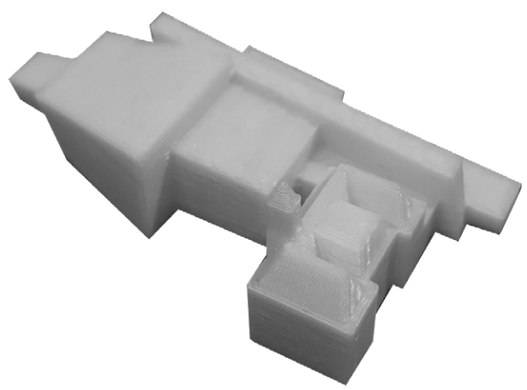
Countless of sketches and mass-modelling procedures were performed in order to answer the morphological question. Eventually, the current state is a result of a combination of urban-morphological and typological analysis. These samples are a display of the diverging massing design process, and are experiments on several height and footprint sizes.



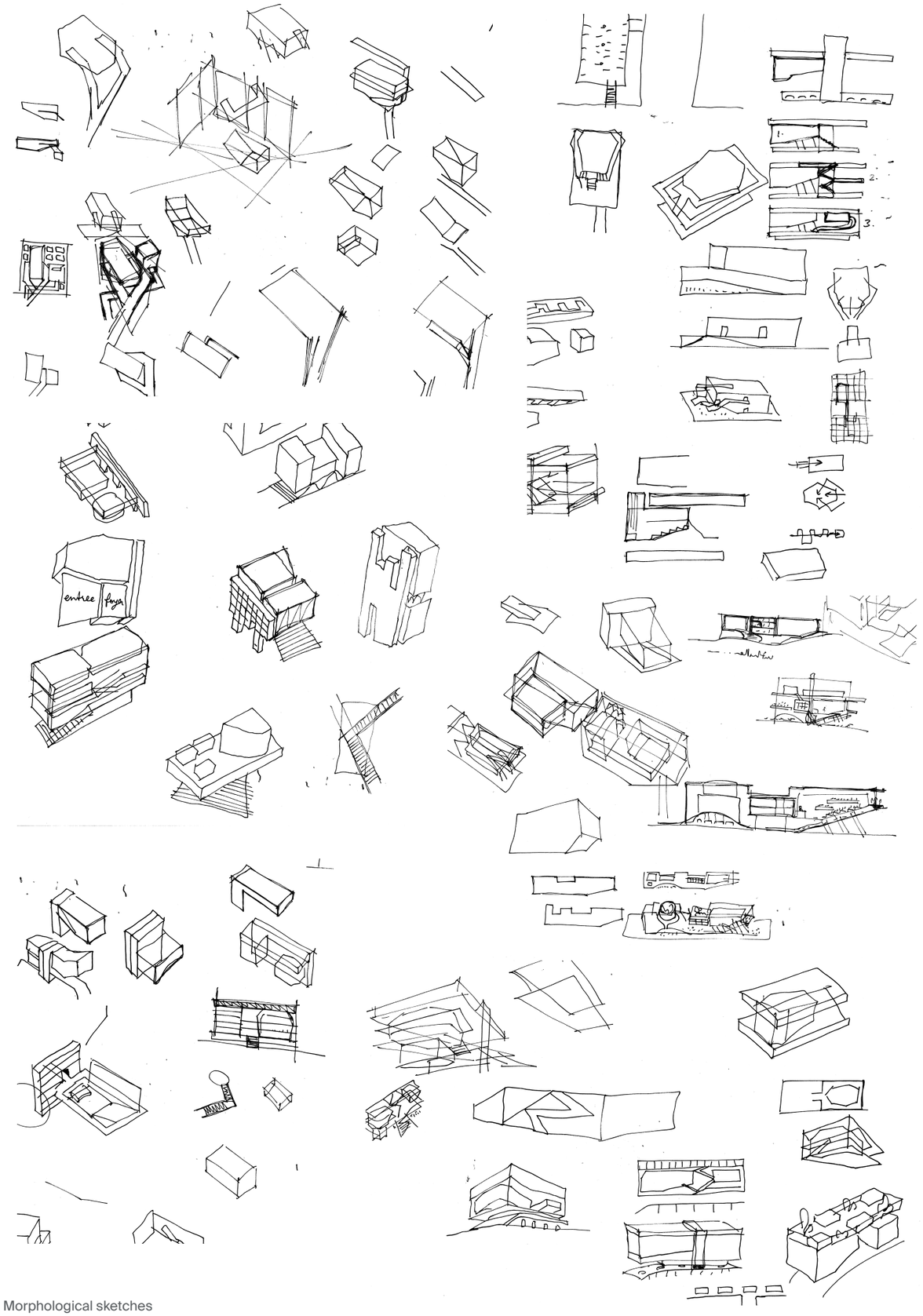
Collection of Rhino masses







Three variants as 3D prints



Morphological sketches

Brief

		%
MAIN HALL	1532	13,9947 %
ORCHESTRA PIT	70	0,63944 %
STAGE	338	3,0876 %
INTIMATE HALL	202	1,84525 %
EXPERIMENTAL HALL	425	3,88234 %
SIDESTAGE	67	0,61204 %
BACKSTAGE	162	1,47986 %
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LARGE DRESSING ROOM	90	0,82214 %
BIKE PARKING	750	6,85119 %
CAR PARK	3000	27,4048 %
INSTALLATIONS	963	8,79693 %



PROPOSED

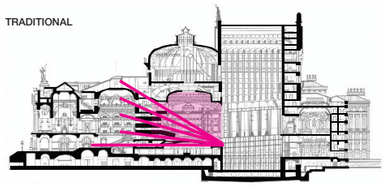
Final design

CONCEPT

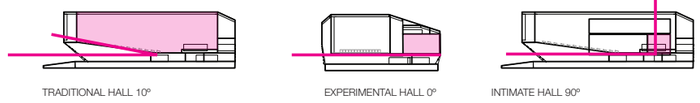
This proposal, as was stated in the development, is a direct result of morphological and typological analysis. The state-to-be of Binckhorst, with mainly orthogonal high-rise structrures, needs a gem as an agitator. This agitator will take its place in the new Binckhorst as a manifestation of new classical music: a renewed version of an element known for centuries in Western culture. In order for the new, internet-oriented generation of classical music enthusiasts to flourish, they need the freedom to experiment this normally formal genre. This freedom is realised through dynamism and variety in the classical concert building. Modernistic

measures are taken to take the concert building to the 21st century. Visitors will not only arrive by car, but as they are expected to be metropolitan, public transport and bicycle. Their experience is less static and formal, and they may visit multiple performances each evening: like a festival. Performers also are not limited to the usual setting, and have the possiblity to design an entire stage in the experimental hall, while also having the oppertunity to perform for the best acoustics in the traditional, shoebox-shaped hall.





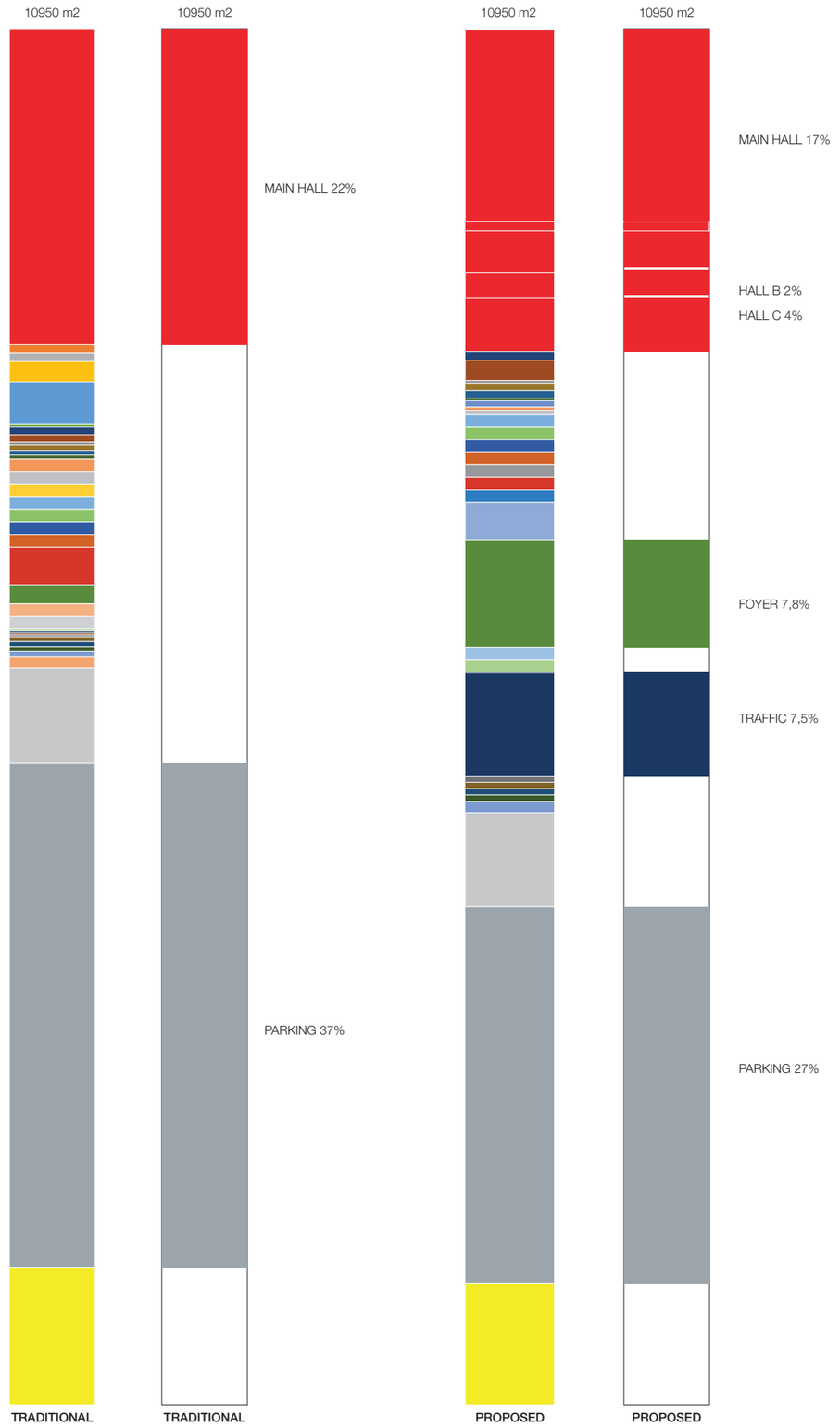
OPERA GARNIER 5-30°

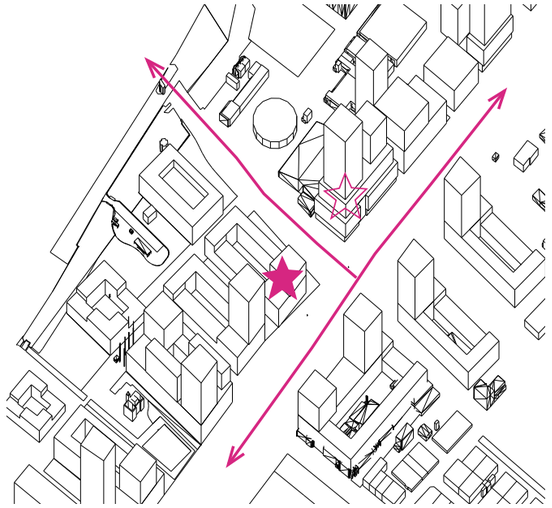


TRADITIONAL HALL 10°

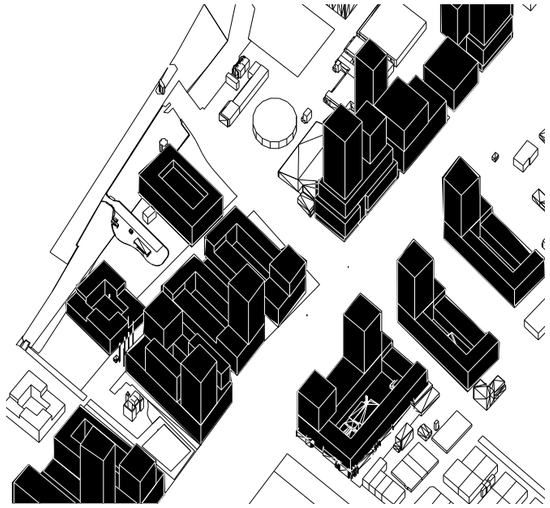
EXPERIMENTAL HALL 0°

INTIMATE HALL 90°

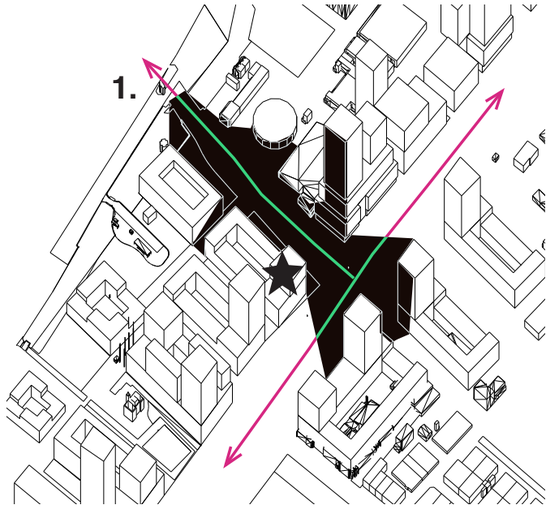




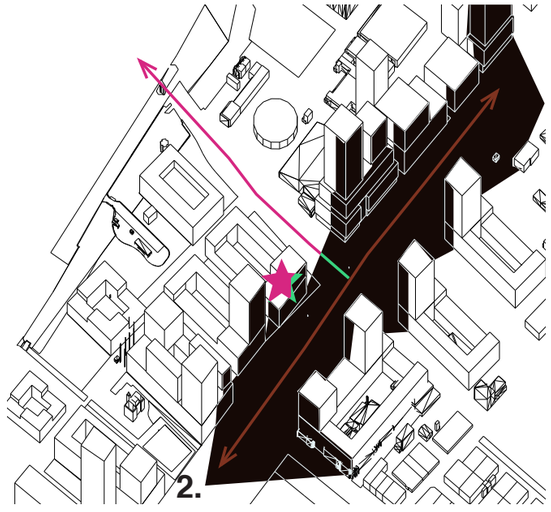
Traffic axis



New developments around avenue

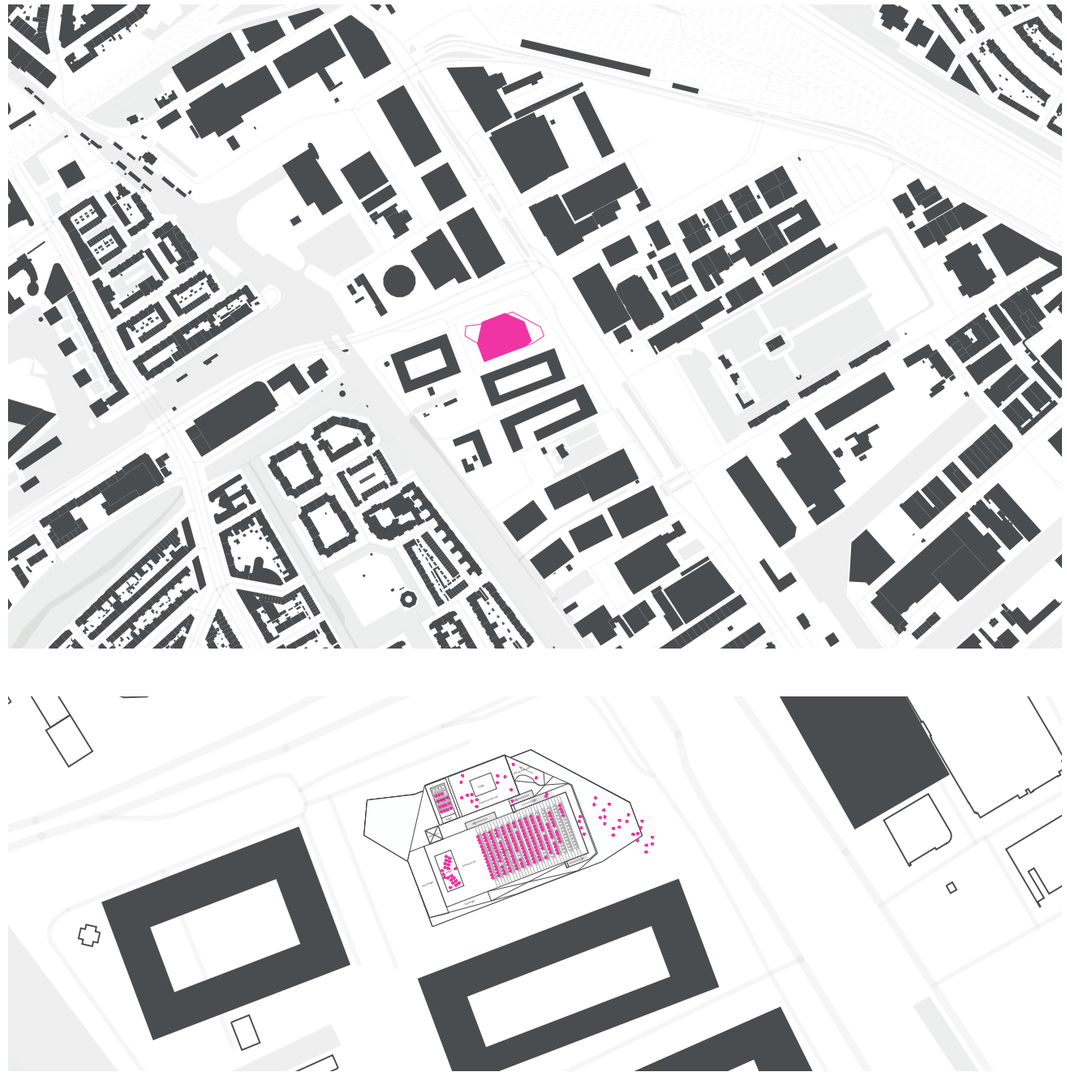


Sight axis 1

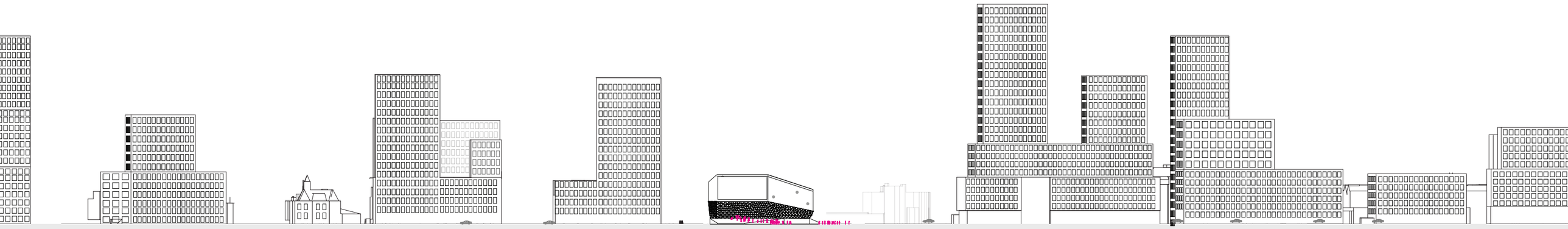


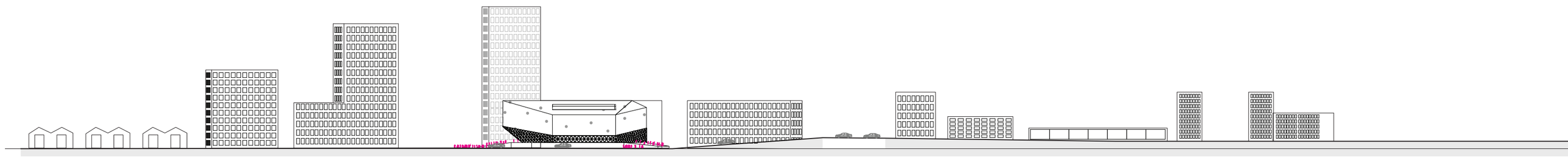
Sight axis 2

Concept diagrams

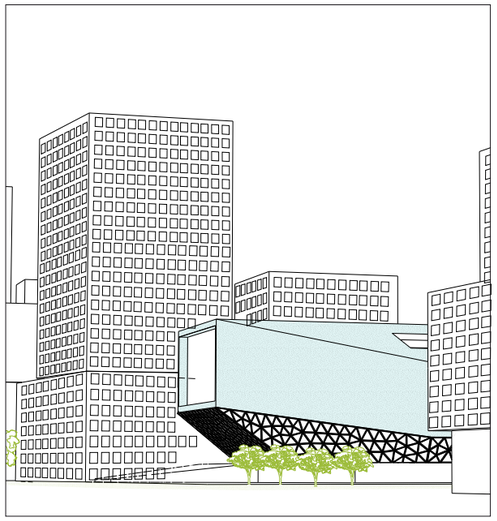


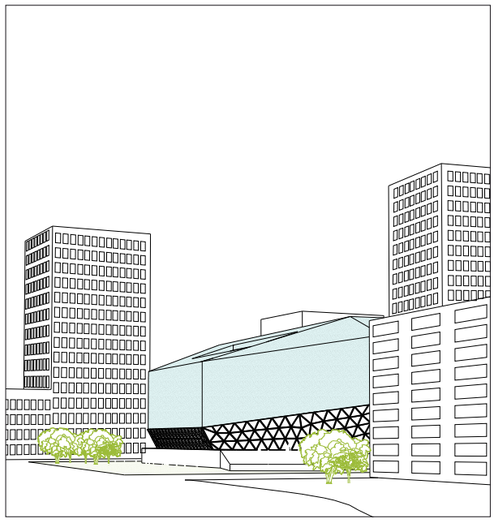
Situational diagrams

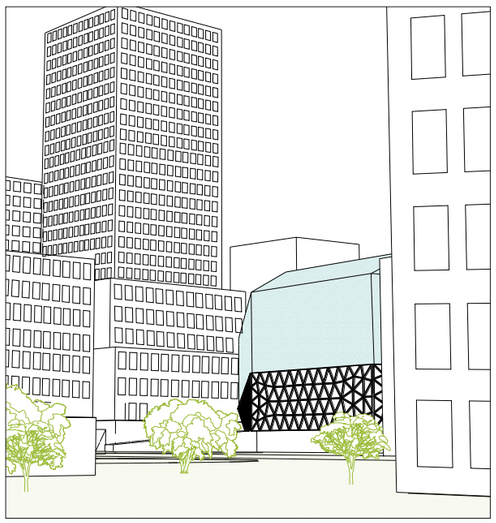




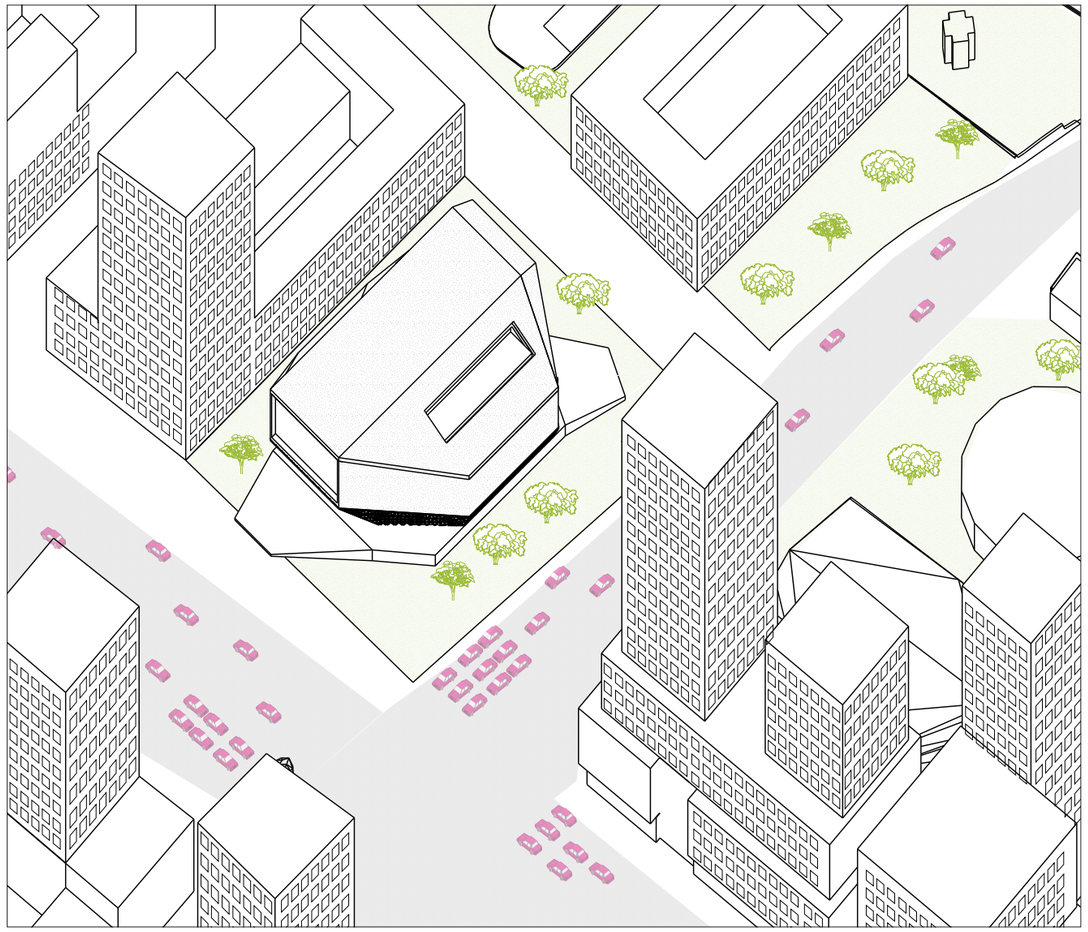
Skylines N-S and W-E



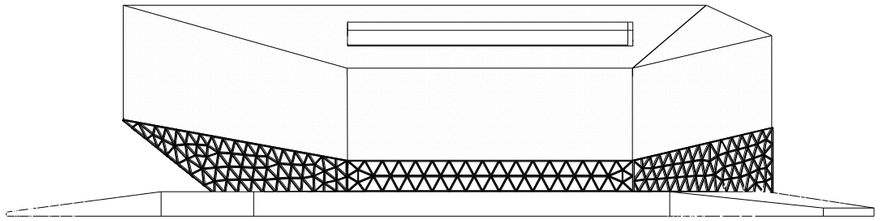




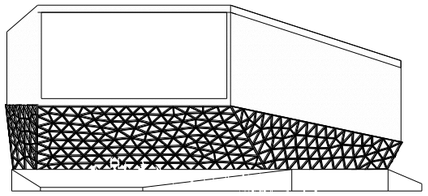
View from main roads and park



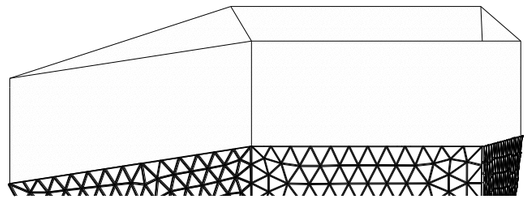
Axonometry of situation



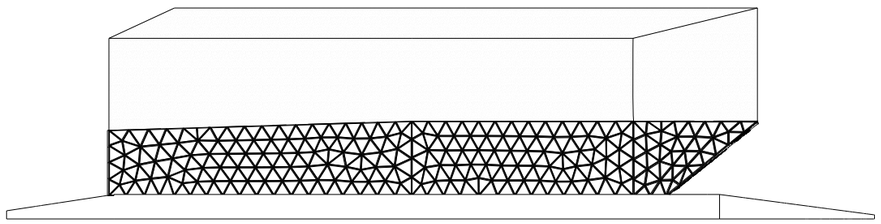
S SOUTH FACADE



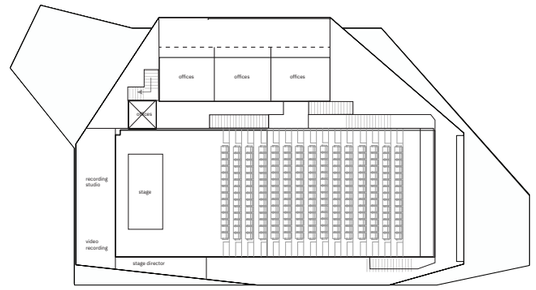
E EAST FACADE



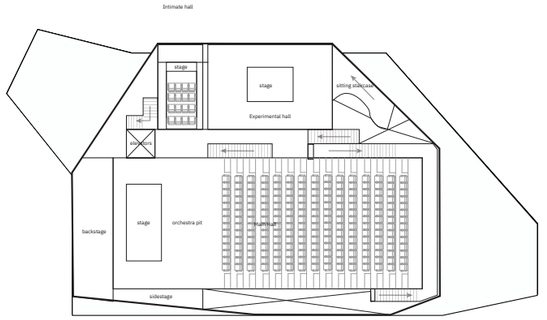
W WEST FACADE



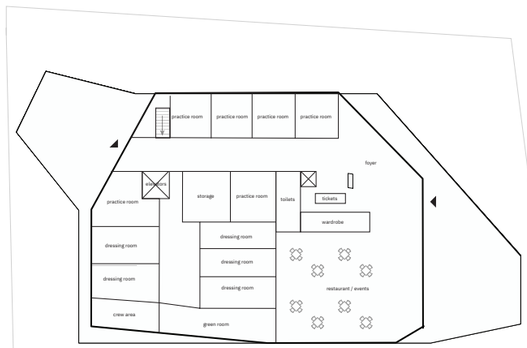
N NORTH FACADE



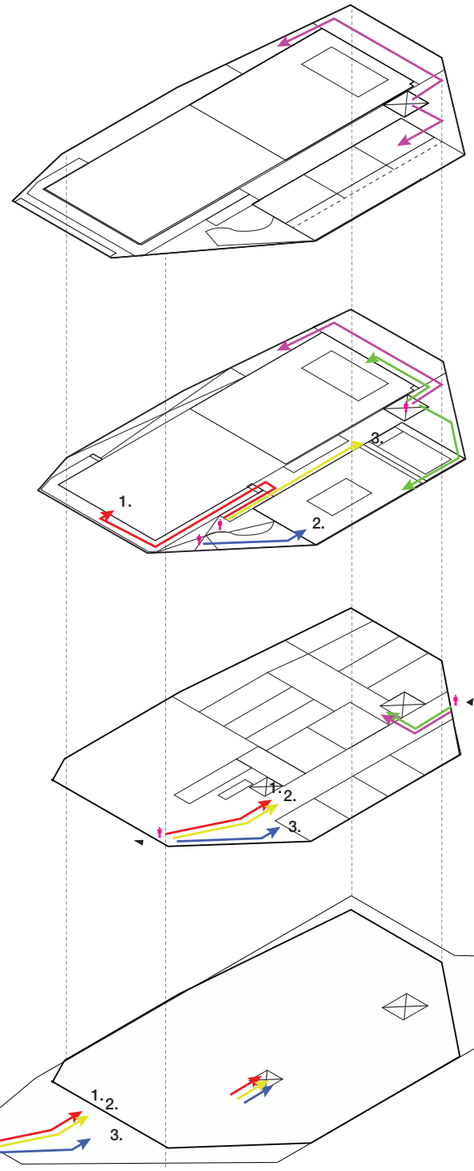
03 THIRD FLOOR



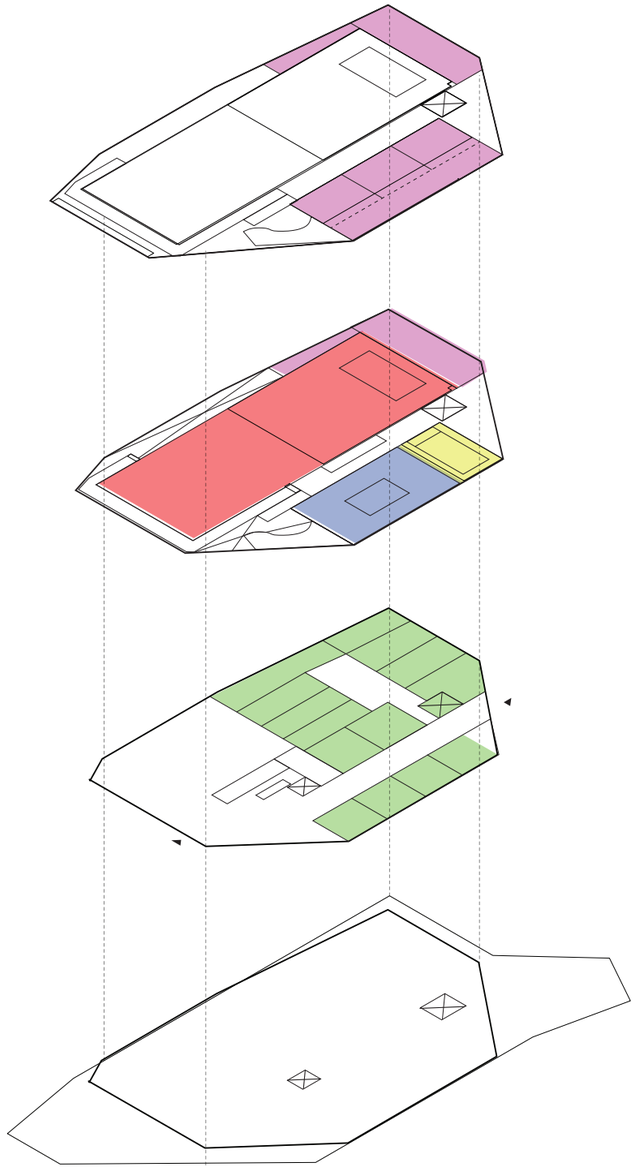
02 SECOND FLOOR



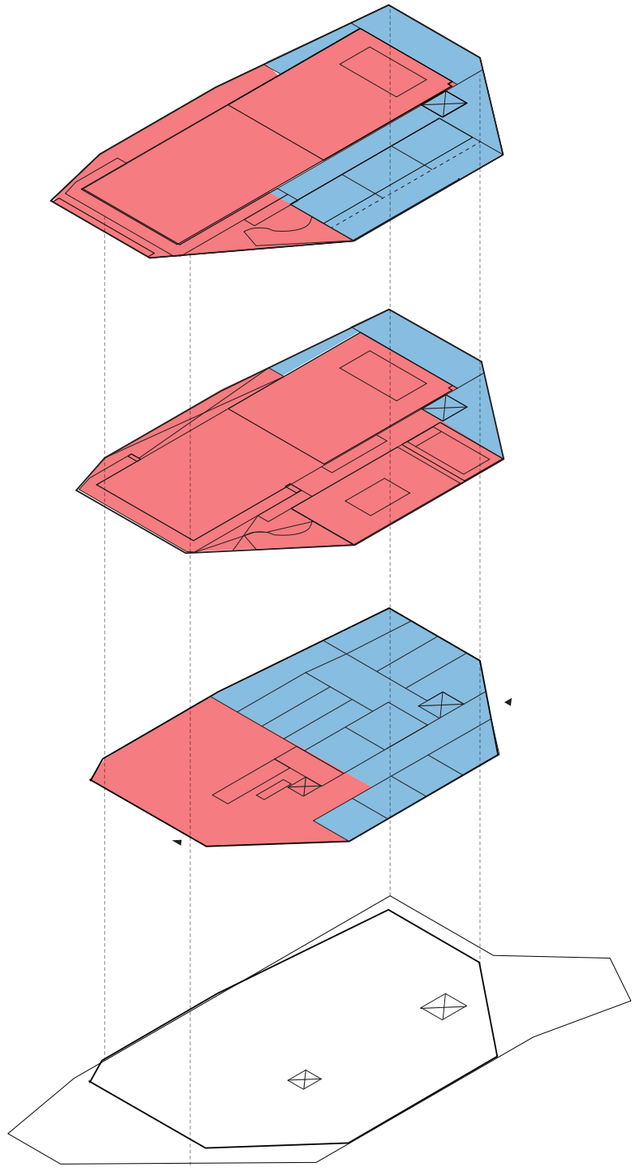
01 GROUND FLOOR



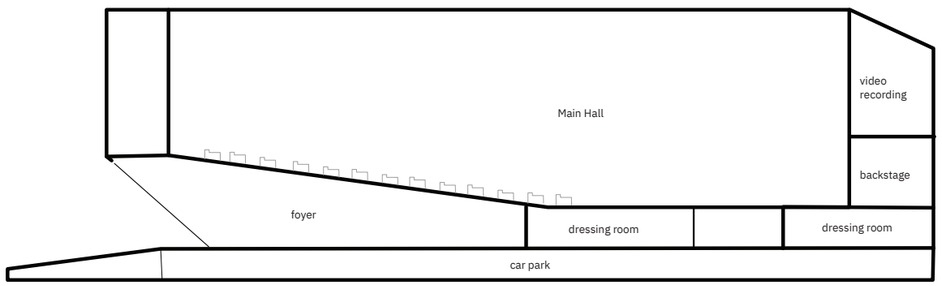
A CIRCULATION AND DESIGNATION



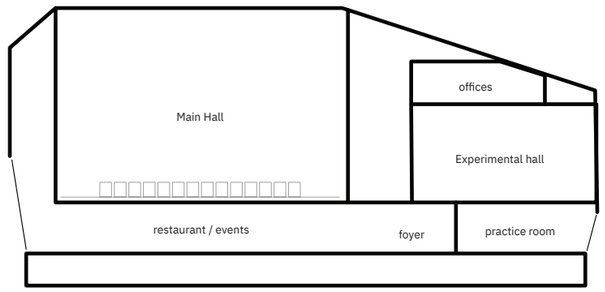
B PROGRAMME PROPORTION



C FRONT OF HOUSE - BACK OF HOUSE



A SECTION X

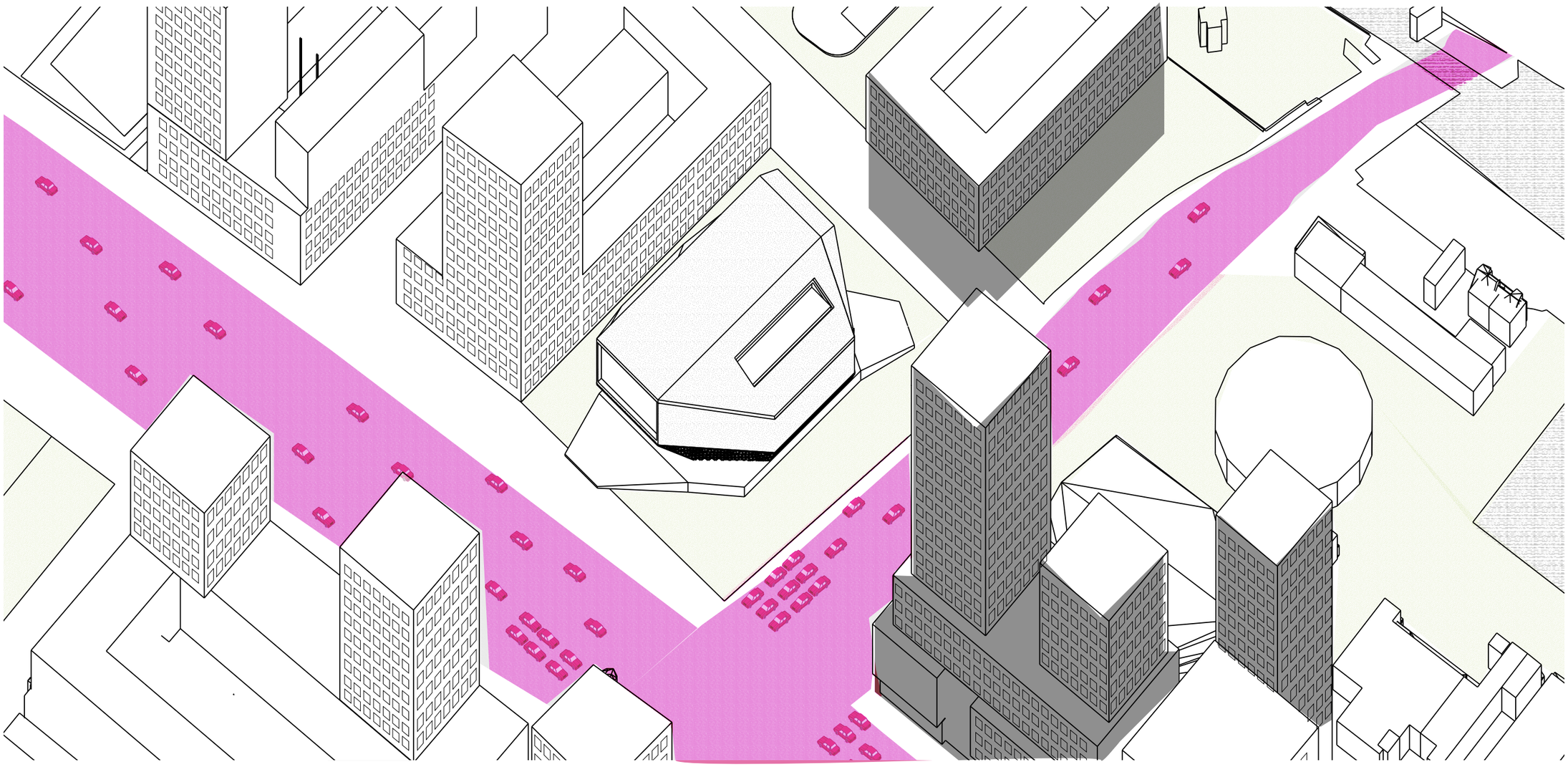


B SECTION Y

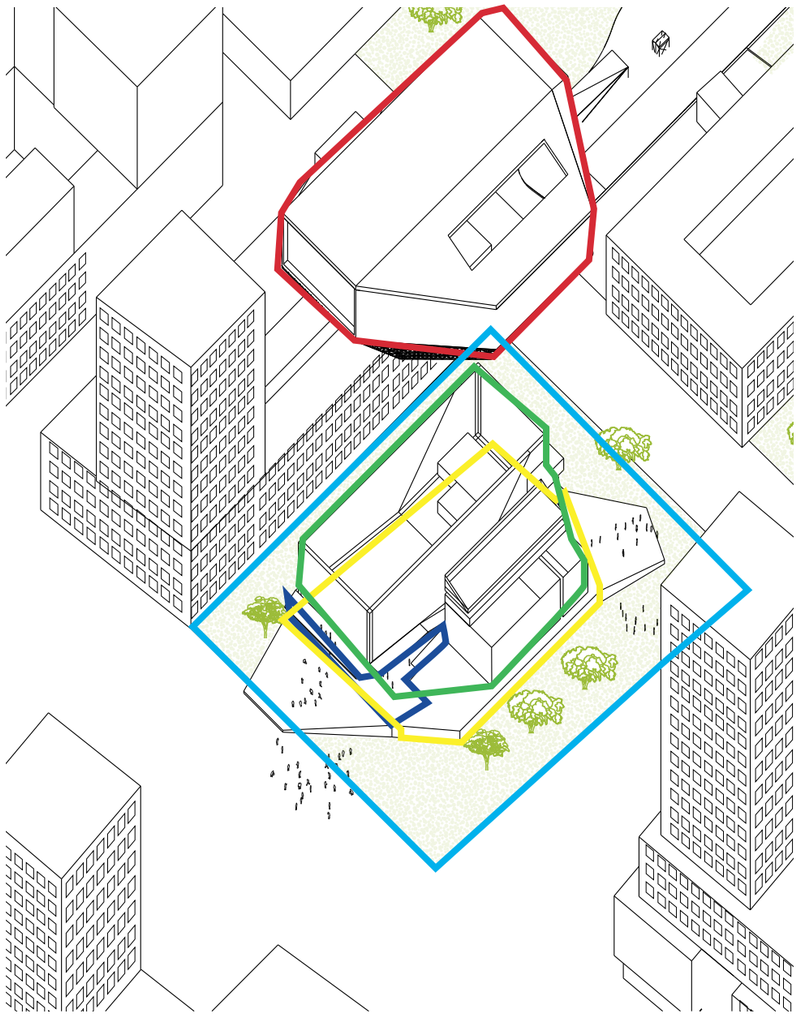
Parameters to construct

SPECIFIC SITE CONDITIONS: NOISE

SPECIFIC SITE CONDITIONS: SHADOW



DURABILITY



STUFF	3yrs
SPACE PLAN	100yrs
SKIN	50yrs
SERVICES	20yrs
STRUCTURE	100yrs
SITE	eternal

ENERGETIC ISSUES

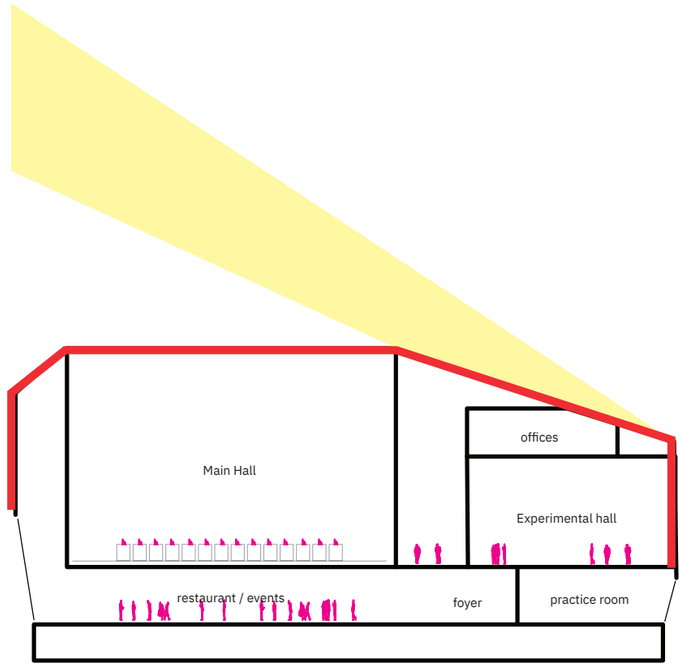
SHADOW
Less heat, less cooling needed
Less opportunity for solar panels

FACADE DESIGN
Closed upper facade, better insulation
Glass limited to plinth, better insulation

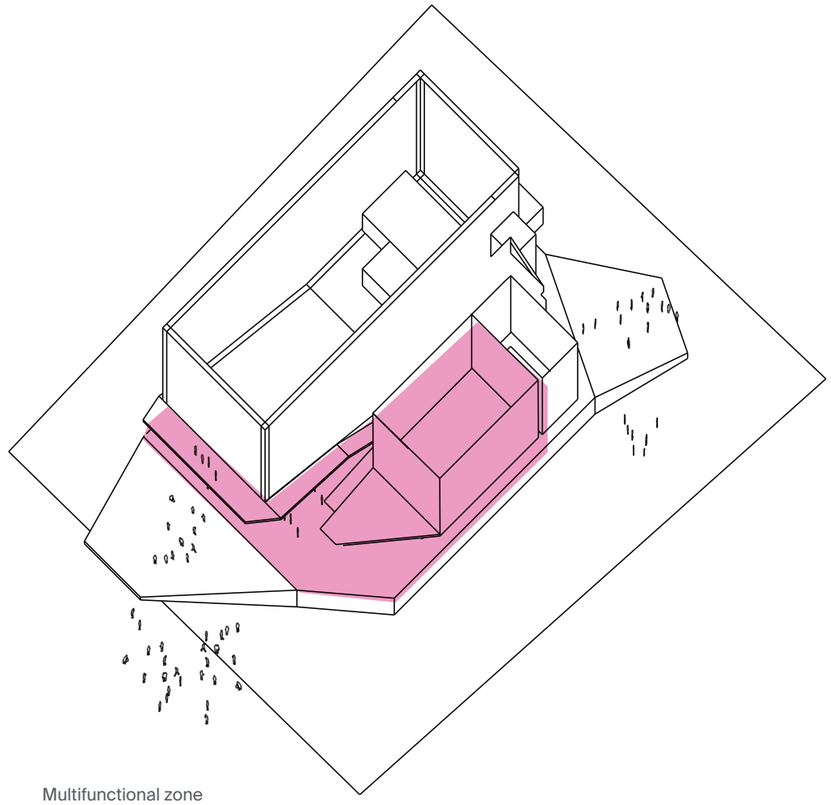
SPACES
Atrium provides chances for ventilation on top
Less efficient heating big spaces

MULTIPLICITY

EXPERIMENTAL HALL
Experimental hall adjustable for various purposes
FOYER, RESTAURANT
Foyer and restaurant independently useable for various purposes
GENERAL
Materiality of walls and construction as deconstructable as possible



Sun facade diagram

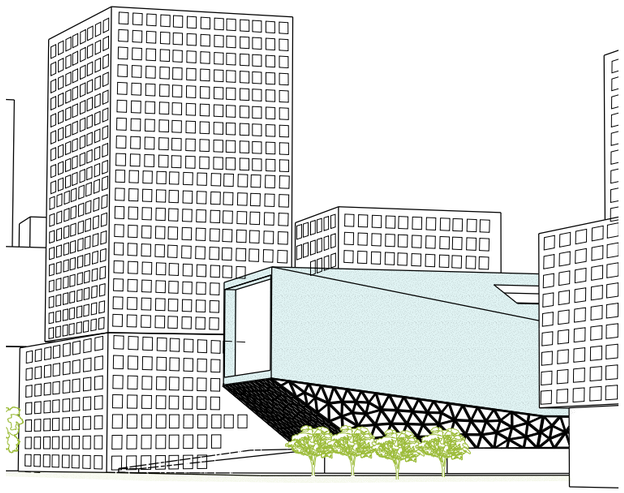


Multifunctional zone

MATERIALITY

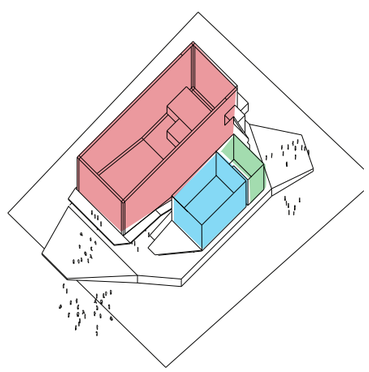
FACADE
Aluminium paneling on sandwich panels, sound insulating
Aluminium frames, parametric and replaceable
Bio-based insulation material, extra thick for Rc= 6+ m2K/W
Triple Glazing, U= 0,8 W/m2K

STRUCTURE
Deconstructable steel structure, sound insulated
(Biodegradable*) Concrete for foundation and parking garage



ACOUSTICS

MAIN HALL
Shoebox model after Casa da Musica
CdM acoustic design by TNO
Acoustic design focused on classical performance
EXPERIMENTAL HALL
Adjustable acoustics through panels
Design focused on hybrid of classic and electronic
Variety small-large audience
INTIMATE HALL
Small shakespearean hall
Design focused on chamber music and small performances



P2 Design brief

			%
10947	MAIN HALL	1532	13,9947 %
10947	ORCHESTRA PIT	70	0,63944 %
10947	STAGE	338	3,0876 %
10947	INTIMATE HALL	202	1,84525 %
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10947	BIKE PARKING	750	6,85119 %
10947	CAR PARK	3000	27,4048 %
10947	INSTALLATIONS	963	8,79693 %



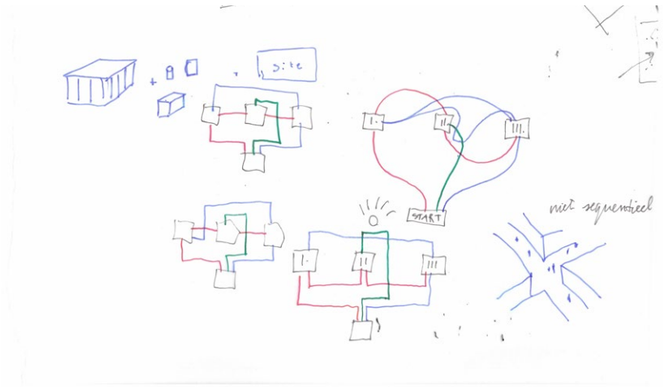
Process documentation
Research book

Contents

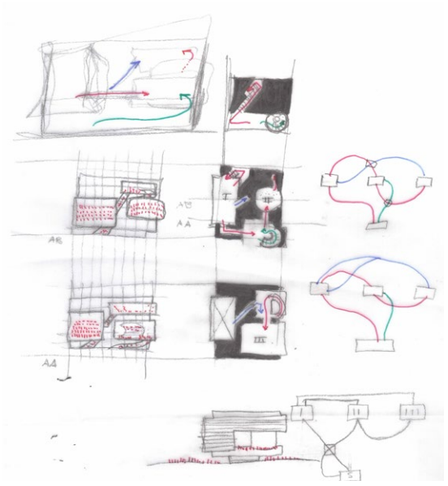
Conceptual sketches 60
Physical embodiment 60
References 66
Design development 68

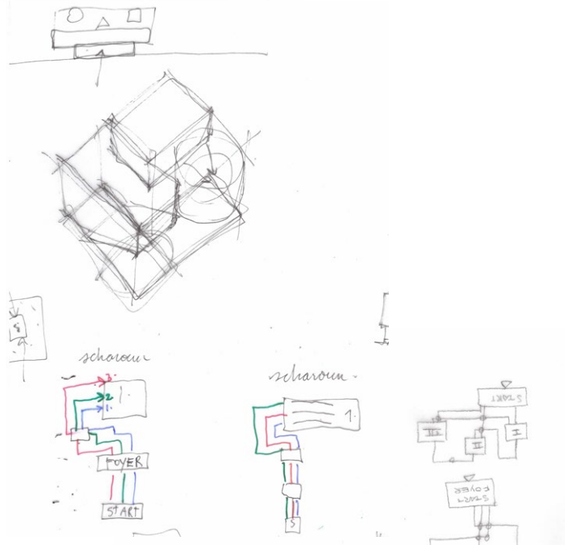
P3

Conceptual sketches

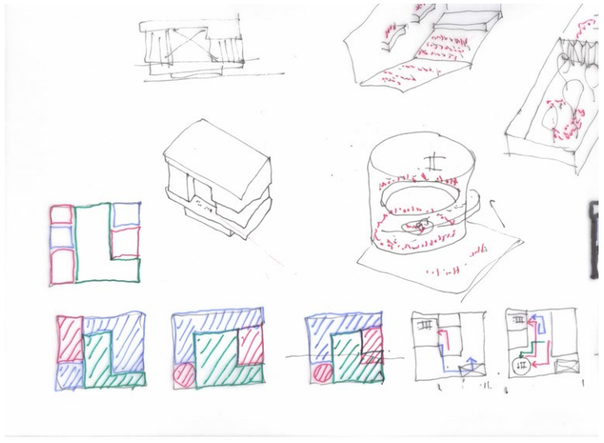


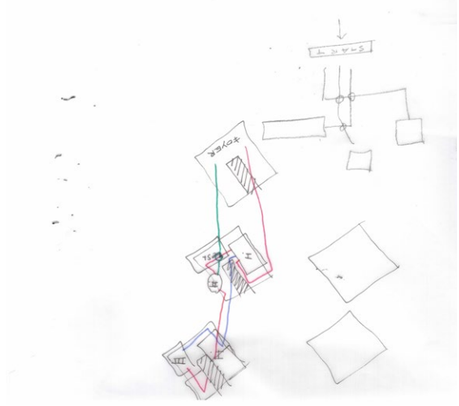
Route diagrams



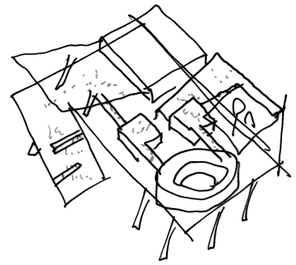


Physical embodiment

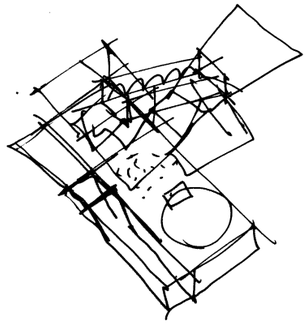


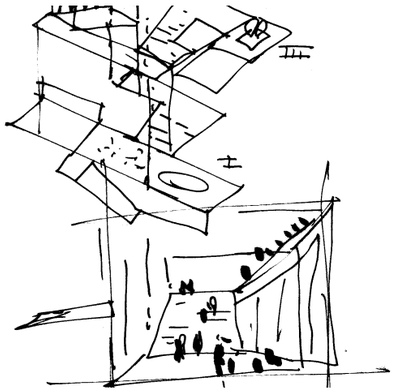


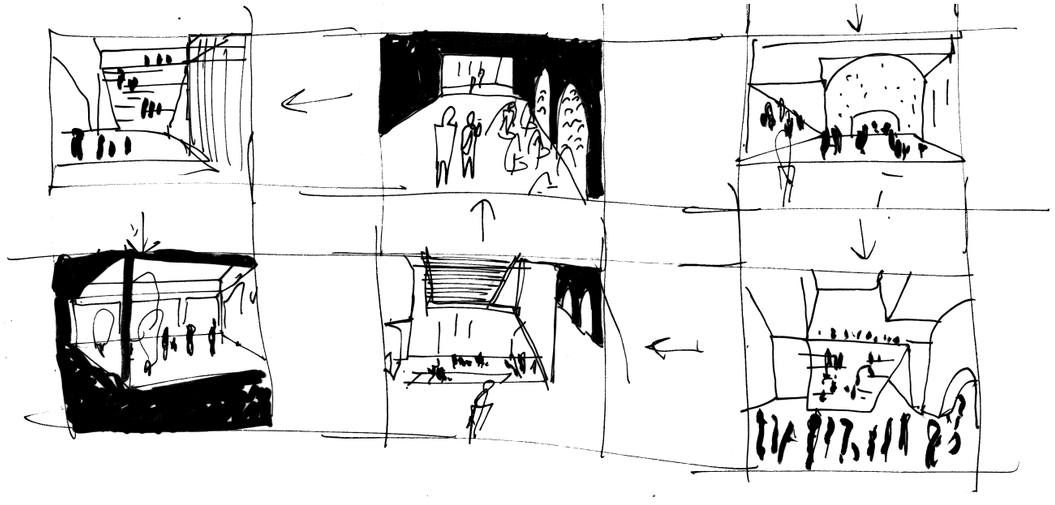
Spatial structure diagrams



spatial orientation







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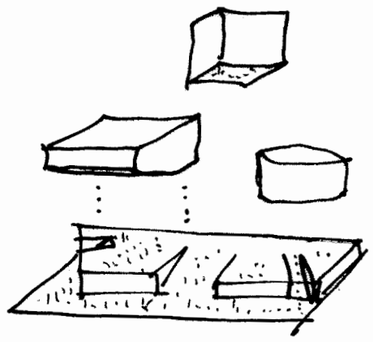
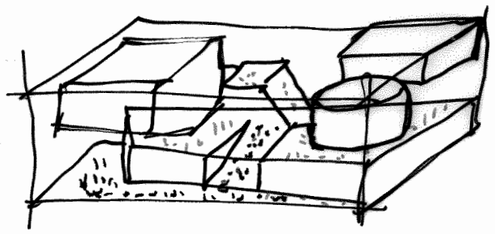
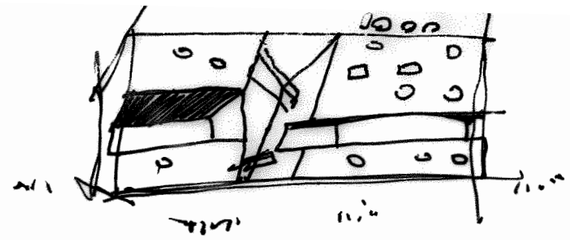
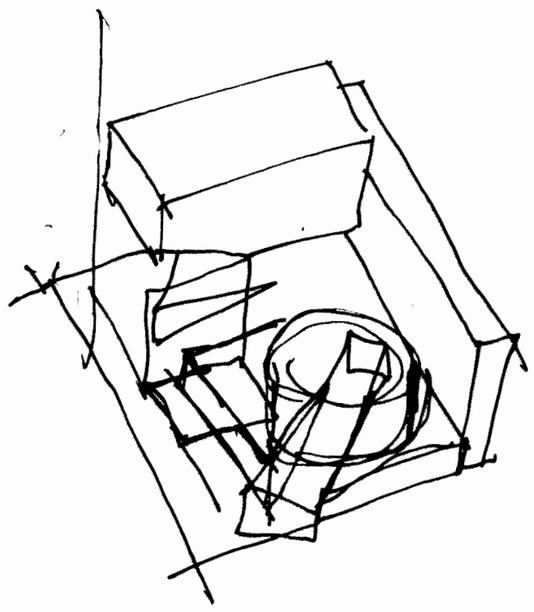
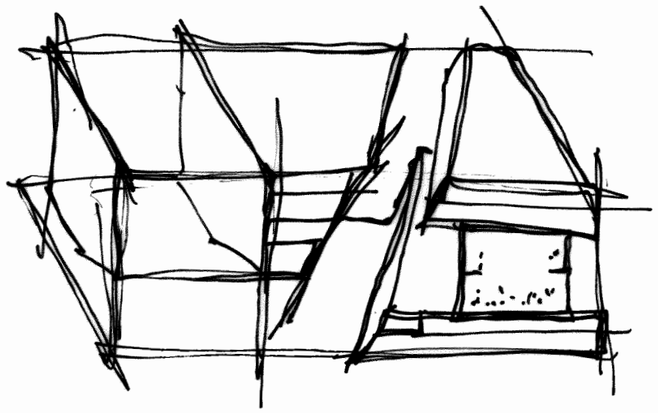
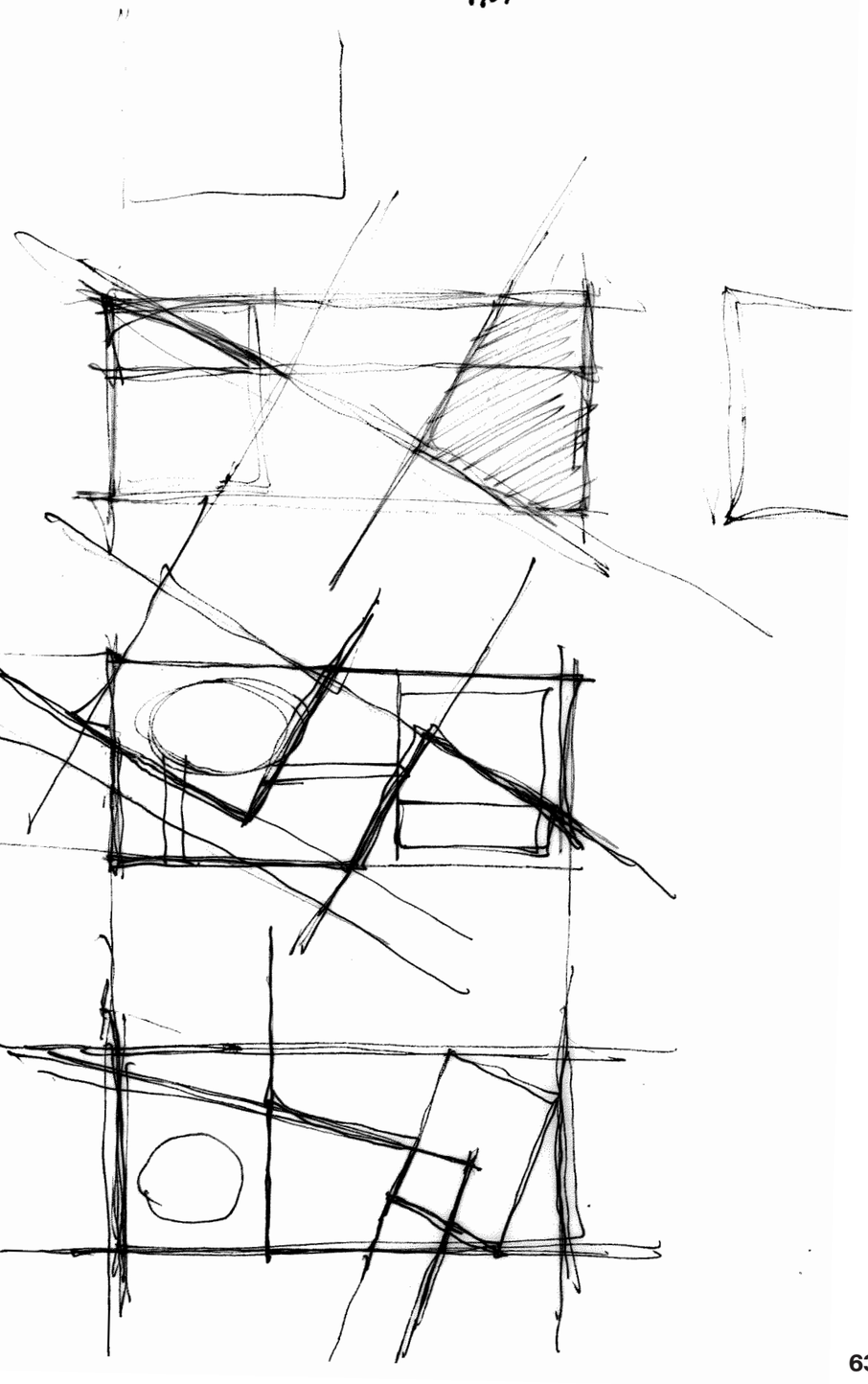


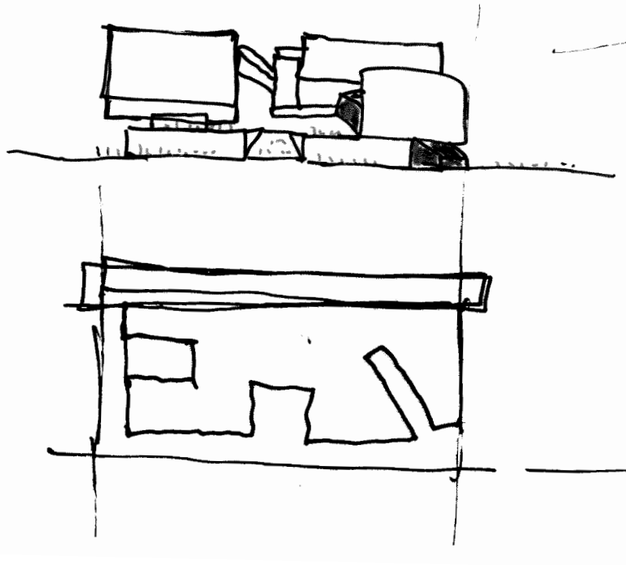


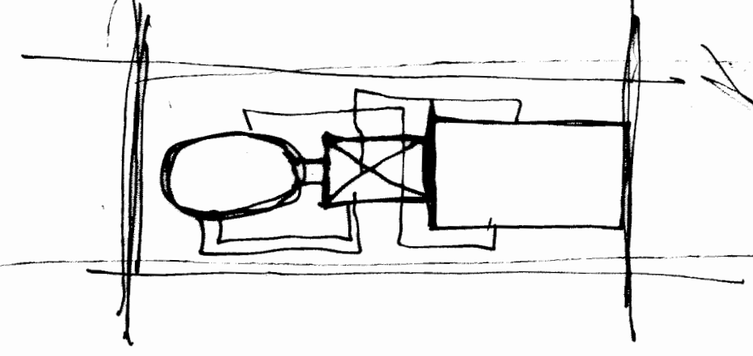


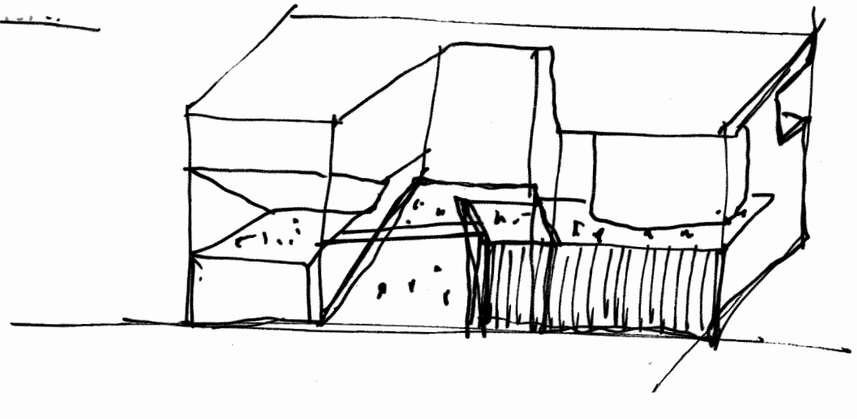


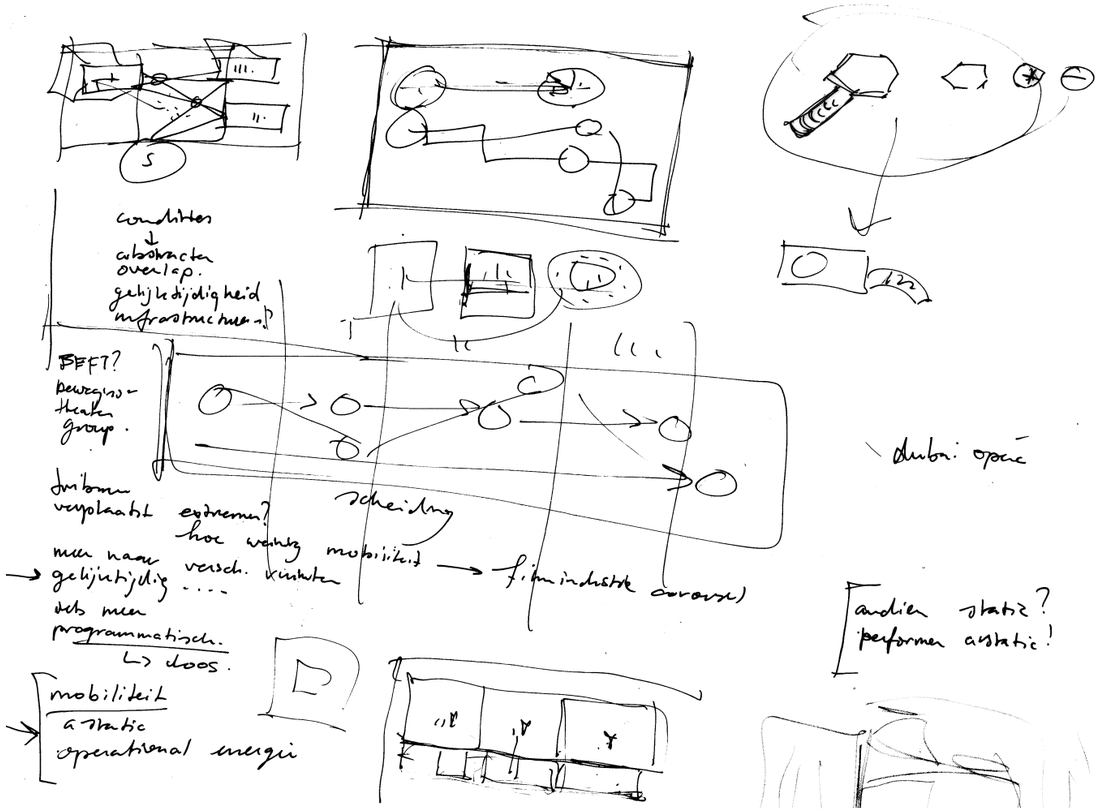




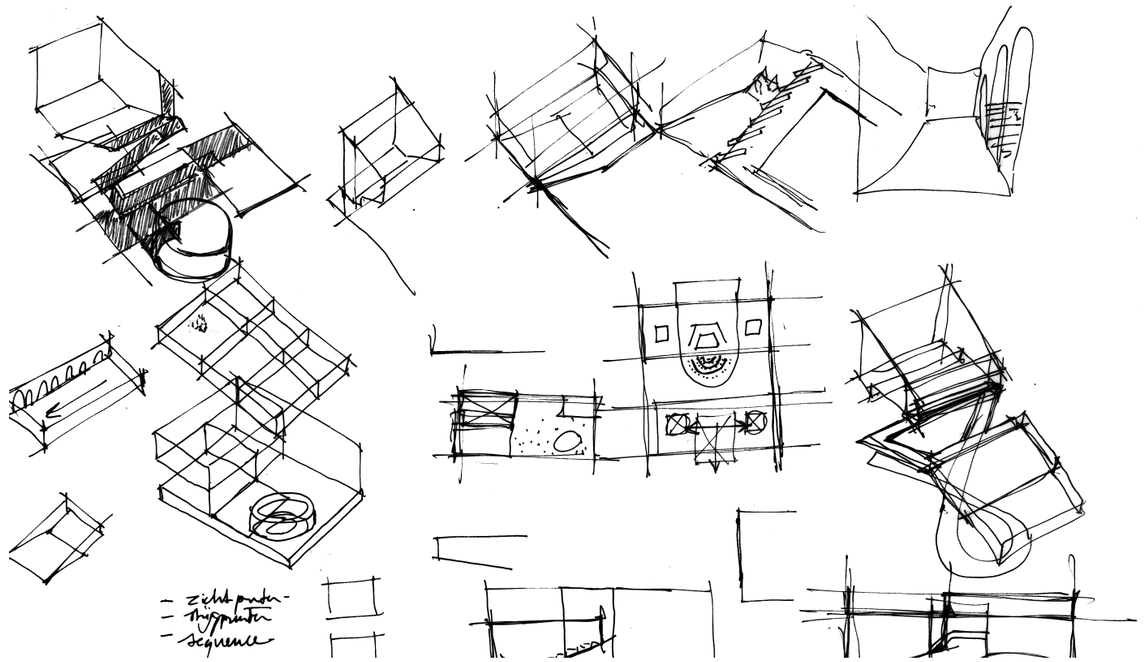






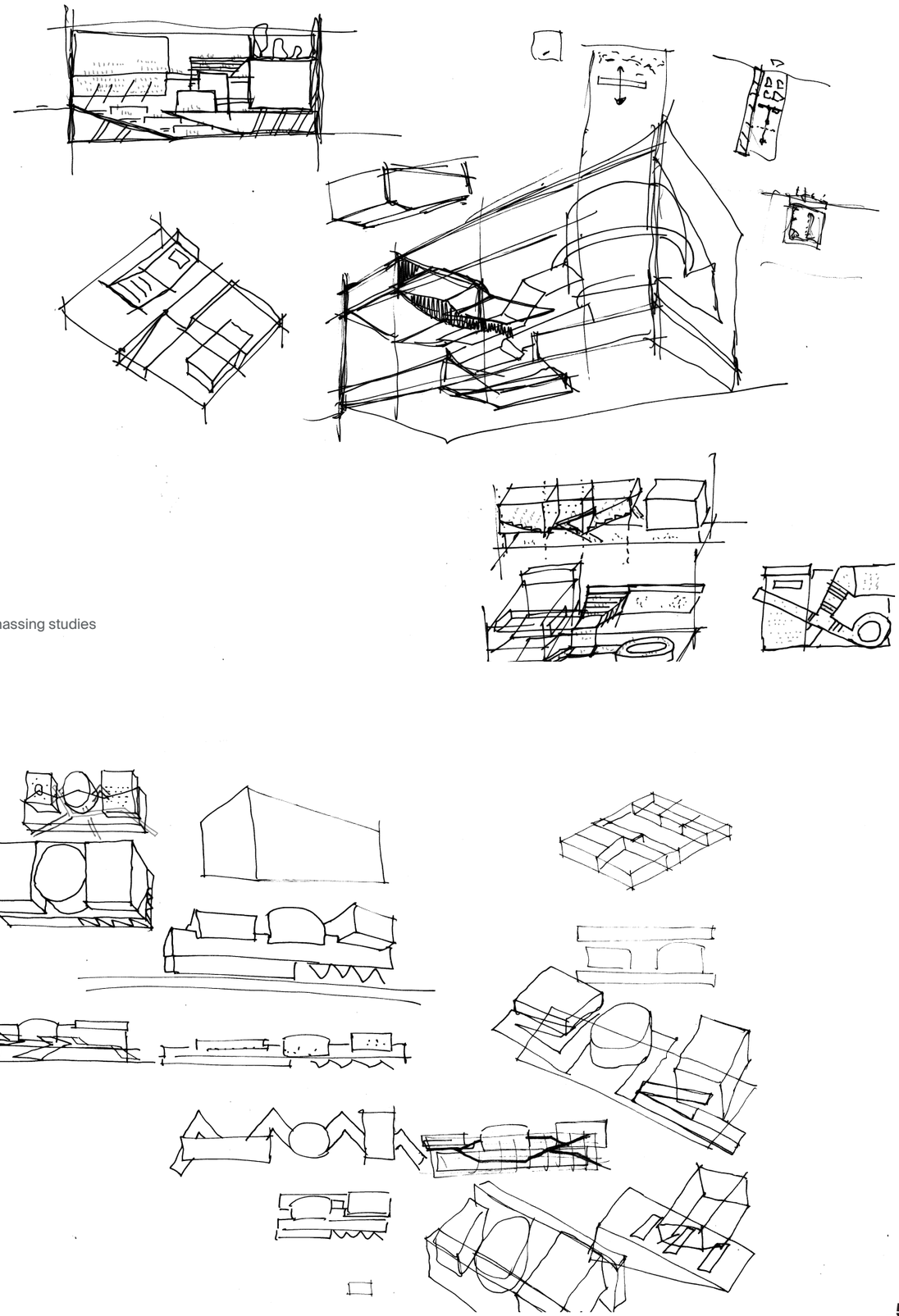


process studies



massing studies

massing studies



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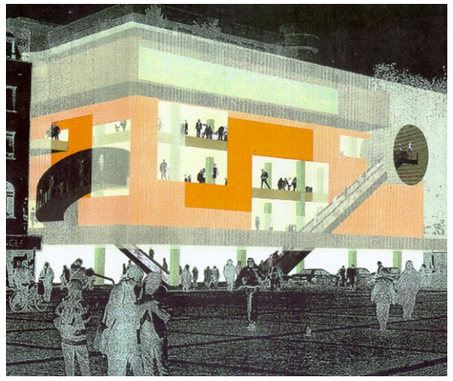
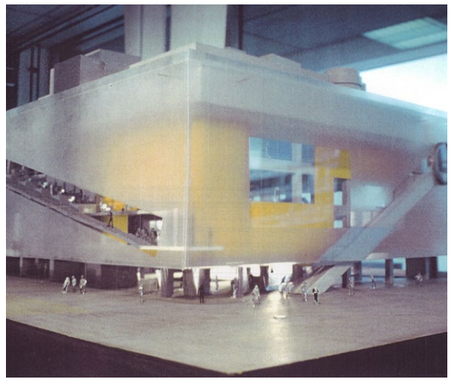
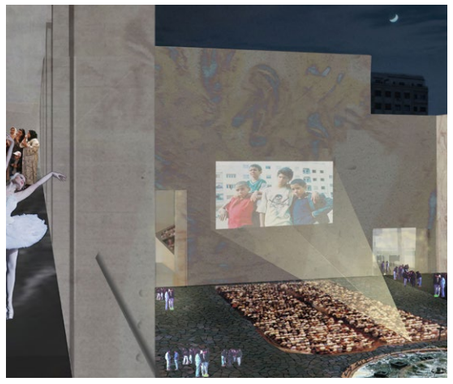




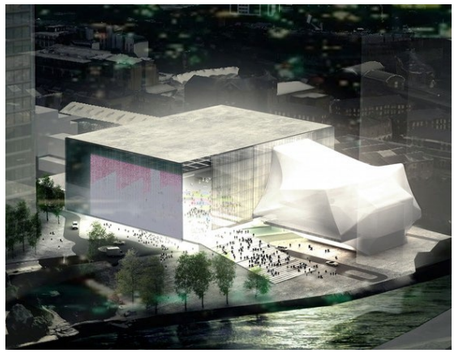
oma
breuninger
stuttgart
germany

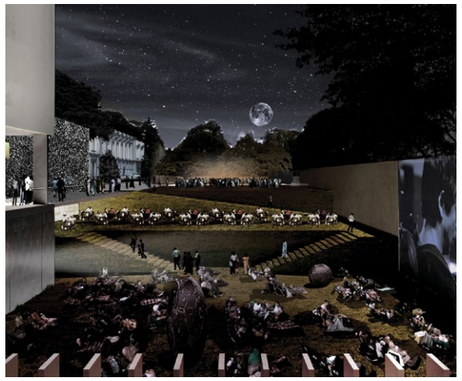




oma
casarts
casablanca
morocco

oma
the factory arts centre
manchester
england





oma
mumbai city extension
india

norman foster
carré d 'art
nimes
france





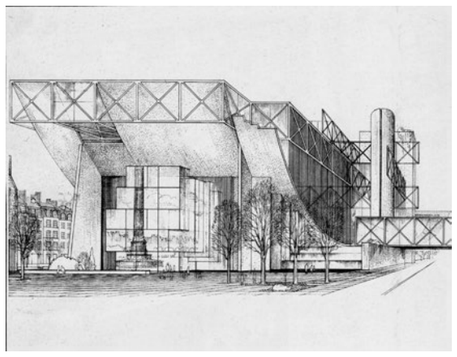
faa architects
eye museum
amsterdam
netherlands



jean nouvel
onyx
saint herblain
france



jean nouvel
dr koncerthuset
copenhagen
denmark

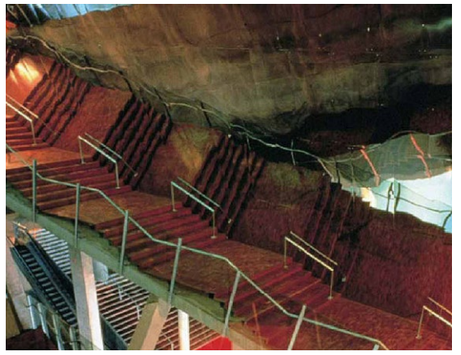


vittorio mazzucconi proposal for
paris opera bastille , 1982

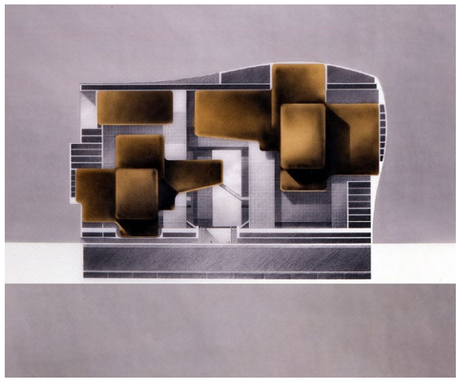


charles garnier
opéra garnier
paris
france

oma/Rem koolhaas
congrexpo
lille
france



jean nouvel
tokyo opera house
tokyo
japan



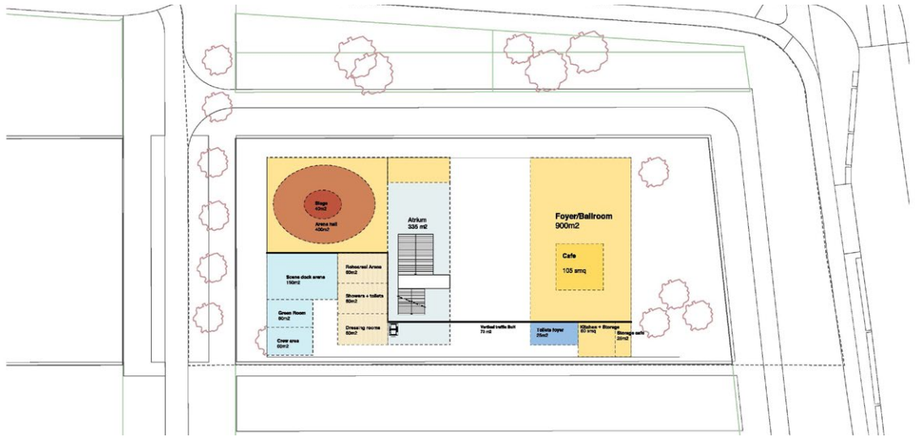
filippo javara
teatro regio
turin
italy



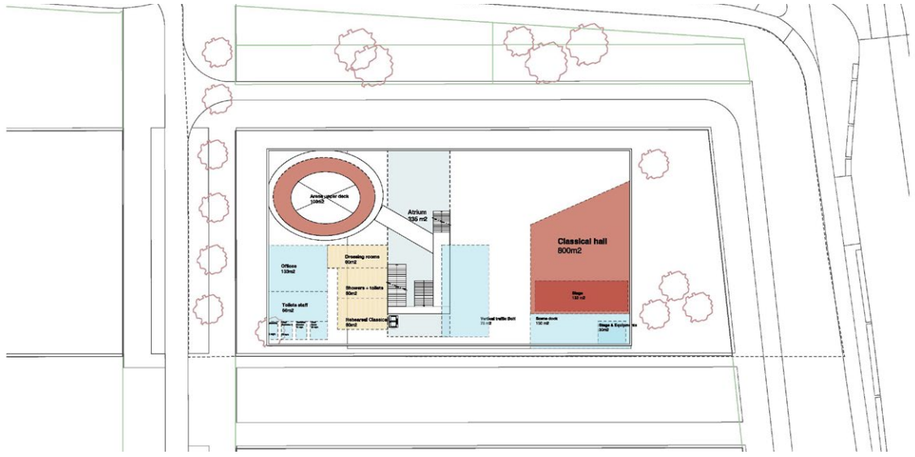
maximilian von verschaffelt
bayerische staatsoper
münchen
germany



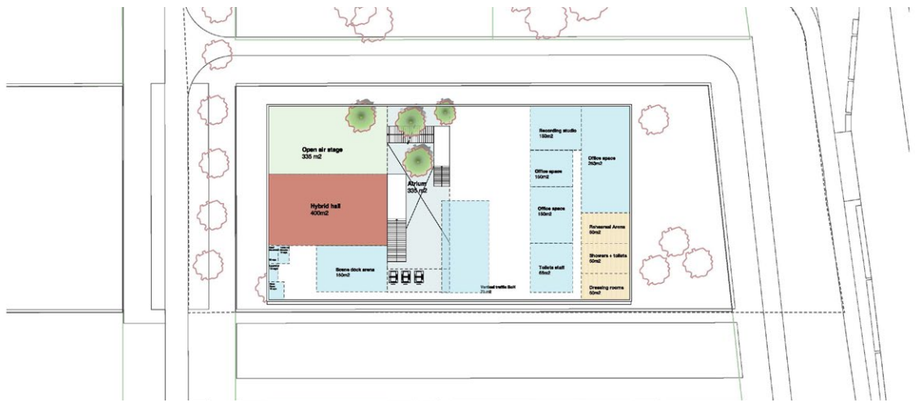
Design development



1:500 | First floor

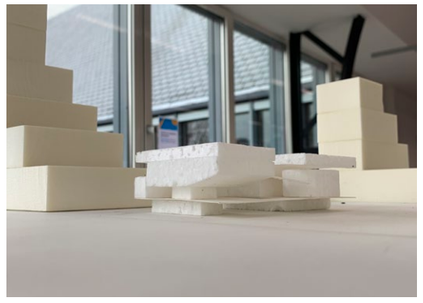
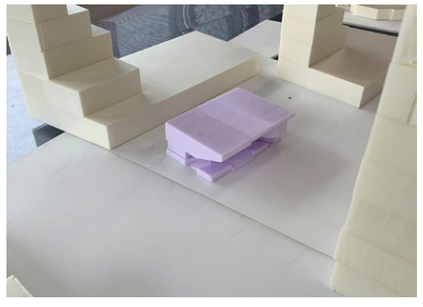
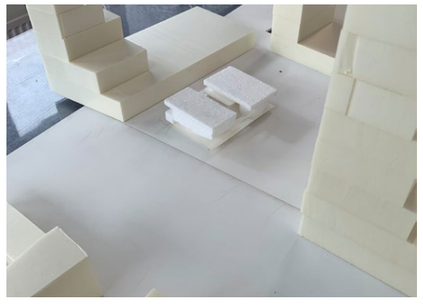
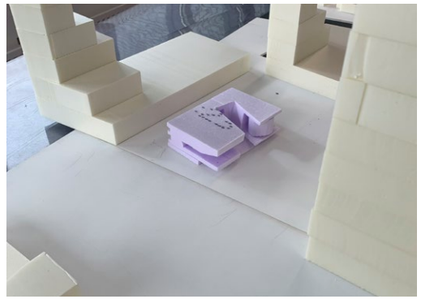
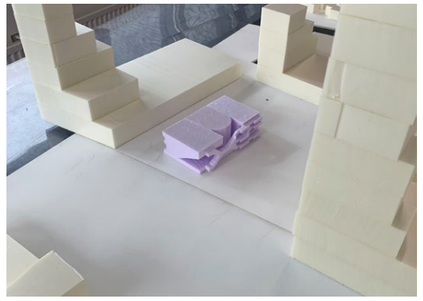


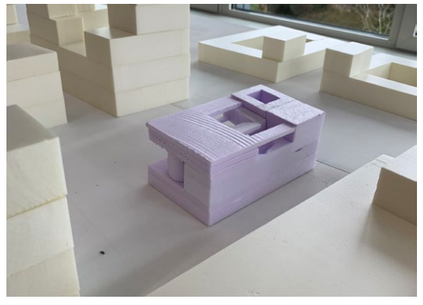
1:500 | Second floor



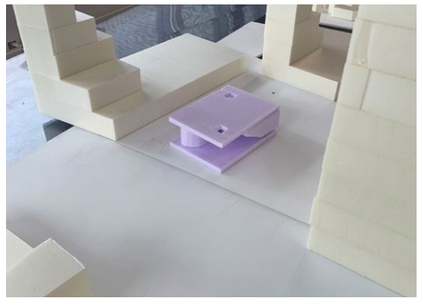
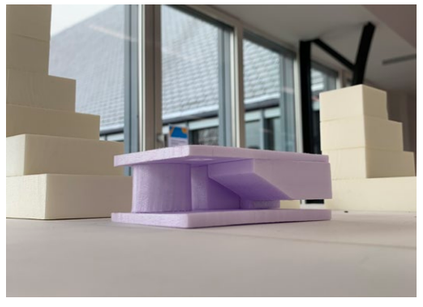
1:500 | Third floor

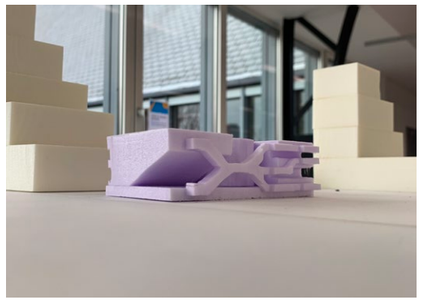
Modeling foam options



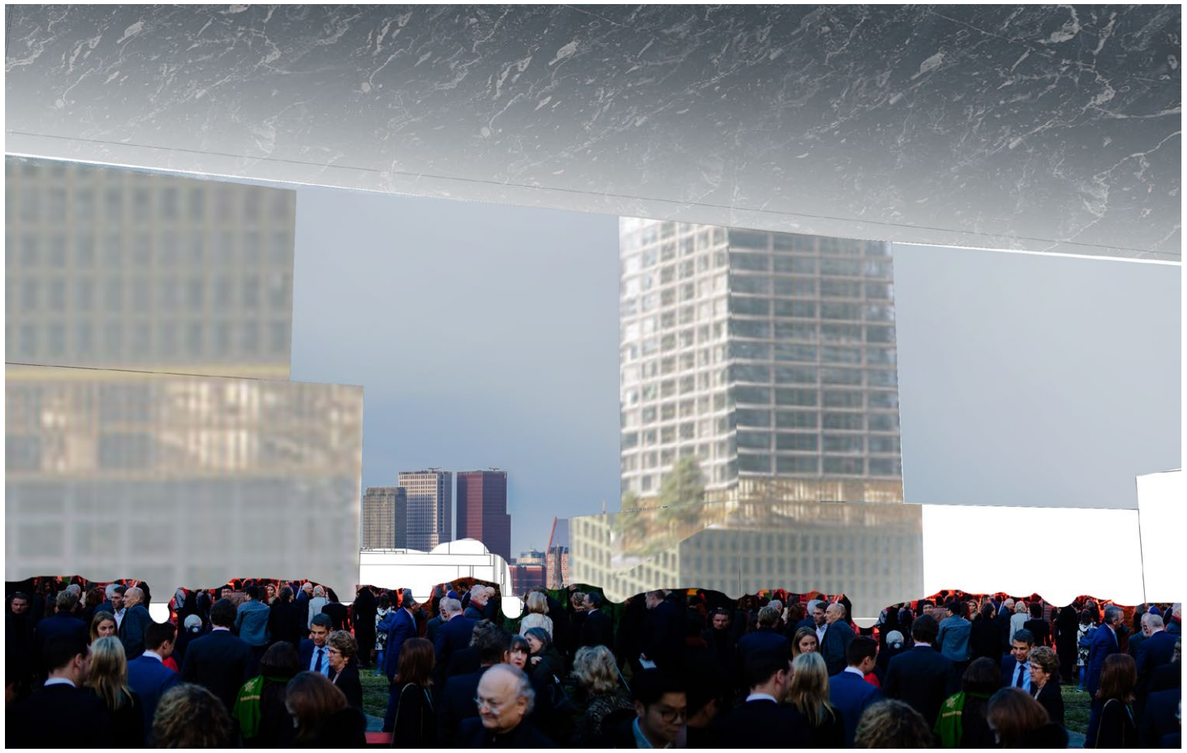




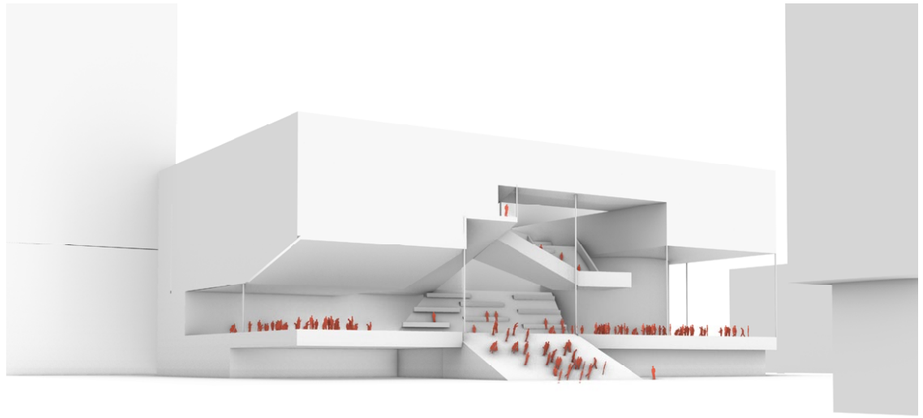


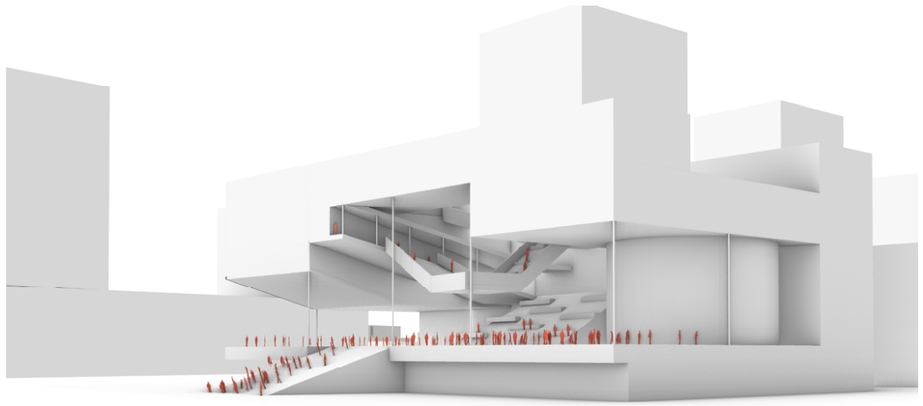
First impressions

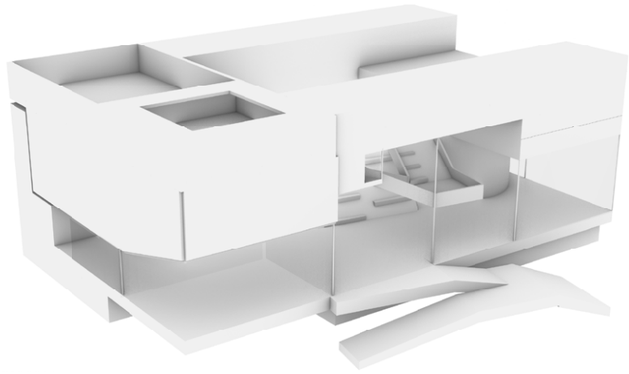




Rhino abstract model







Process documentation
Research book

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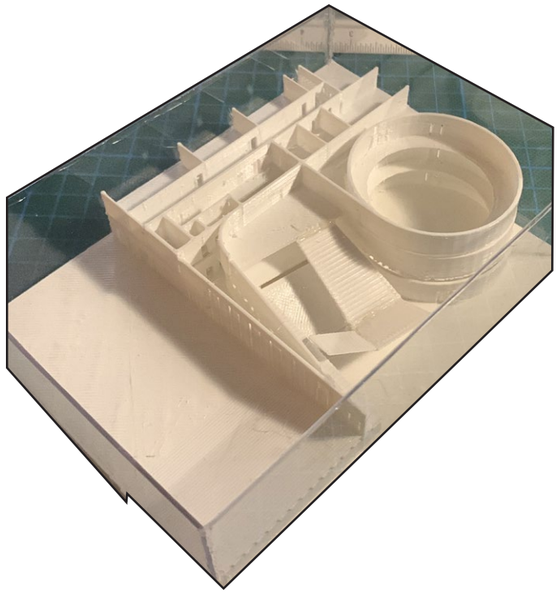
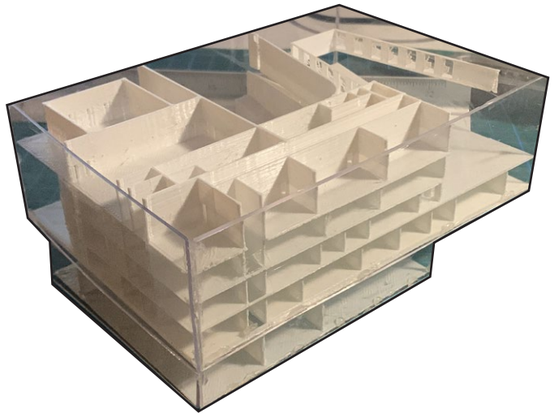
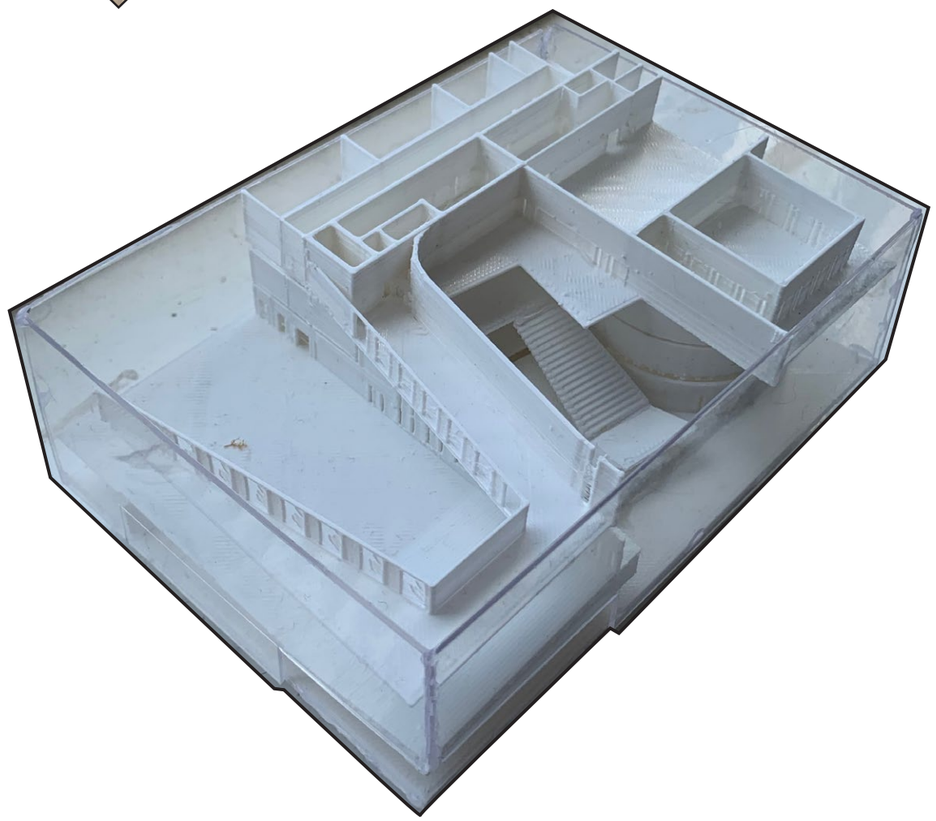
Sketchbook notes 78

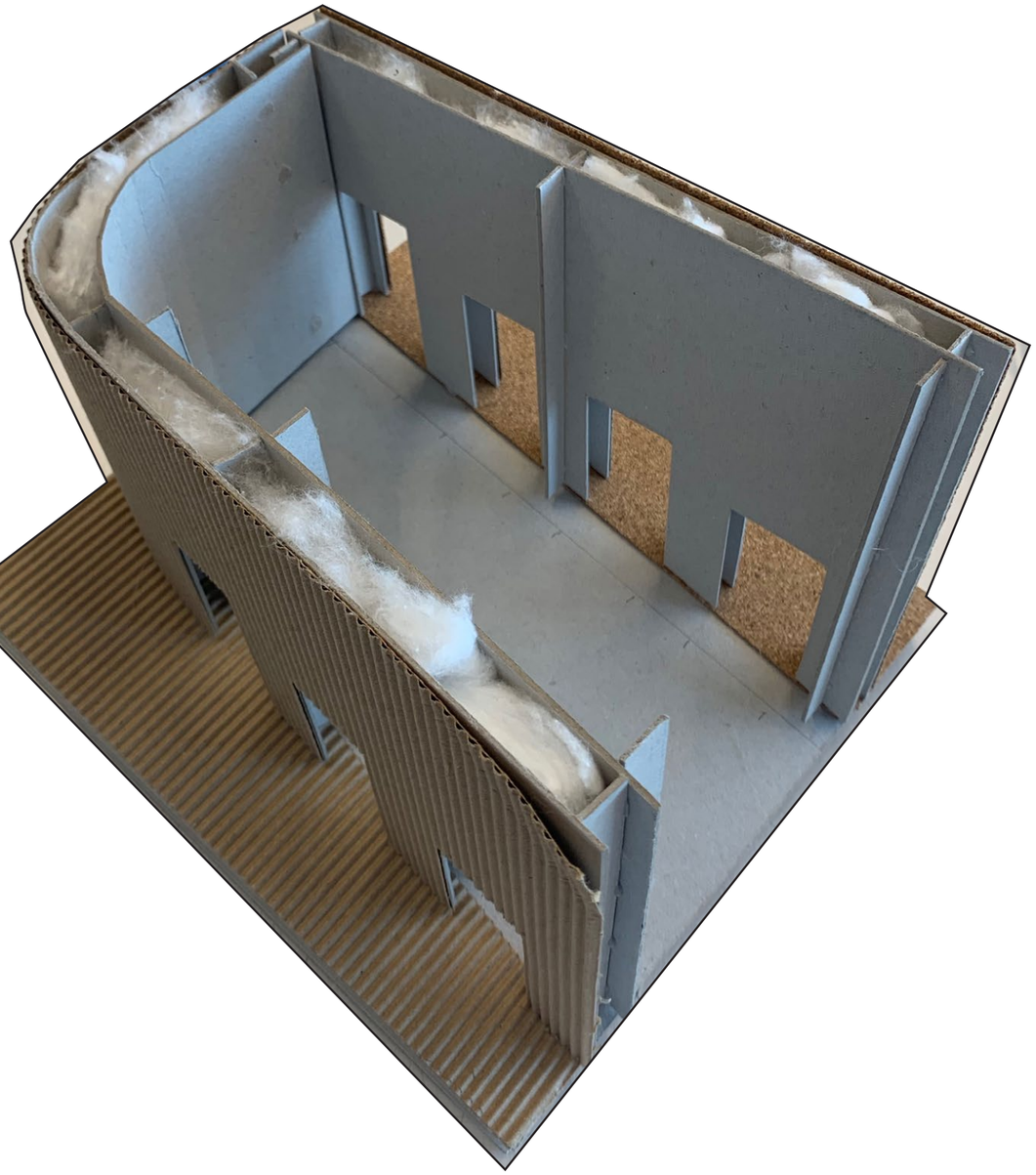
P4

Models









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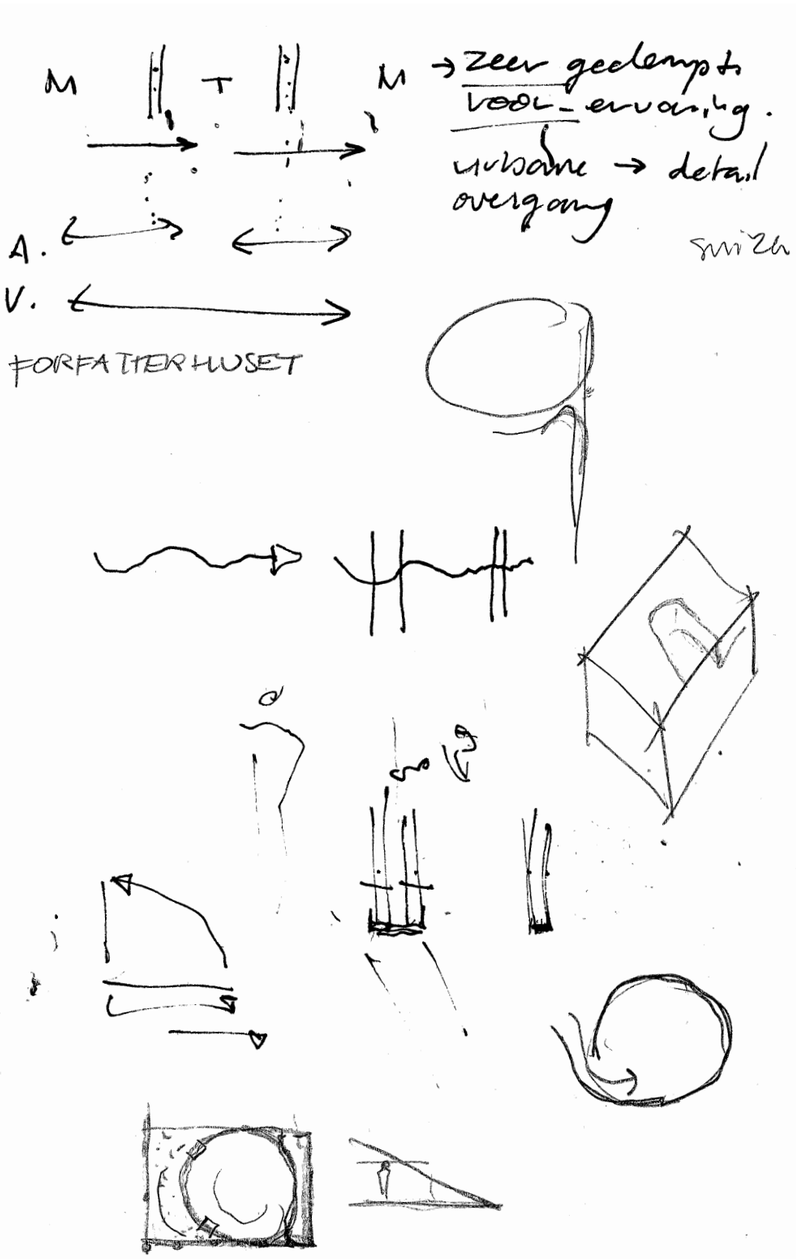
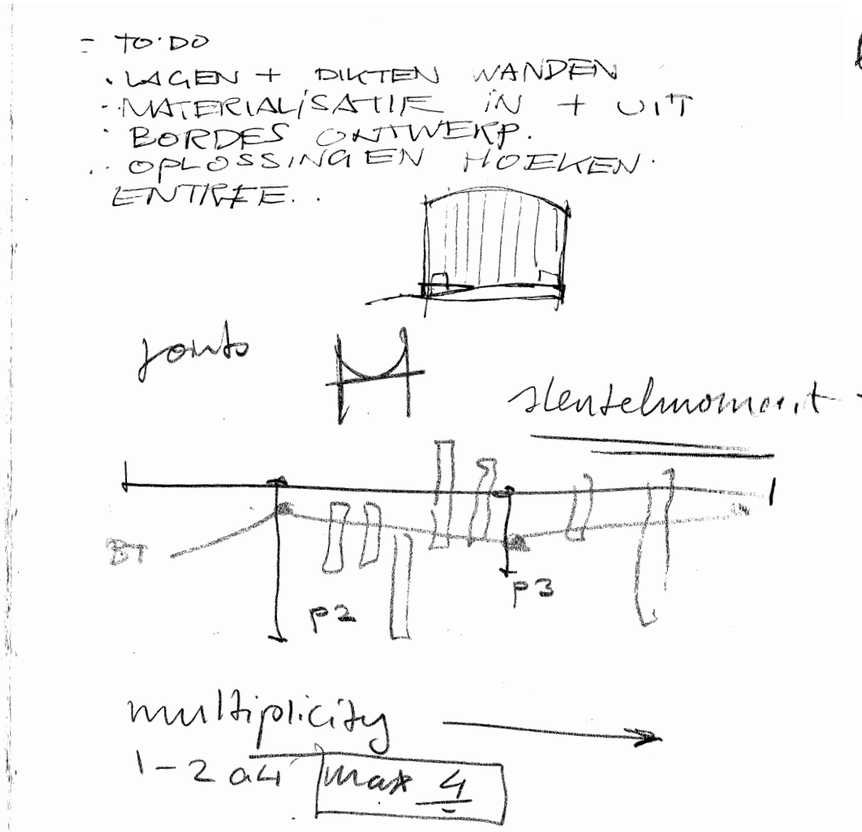
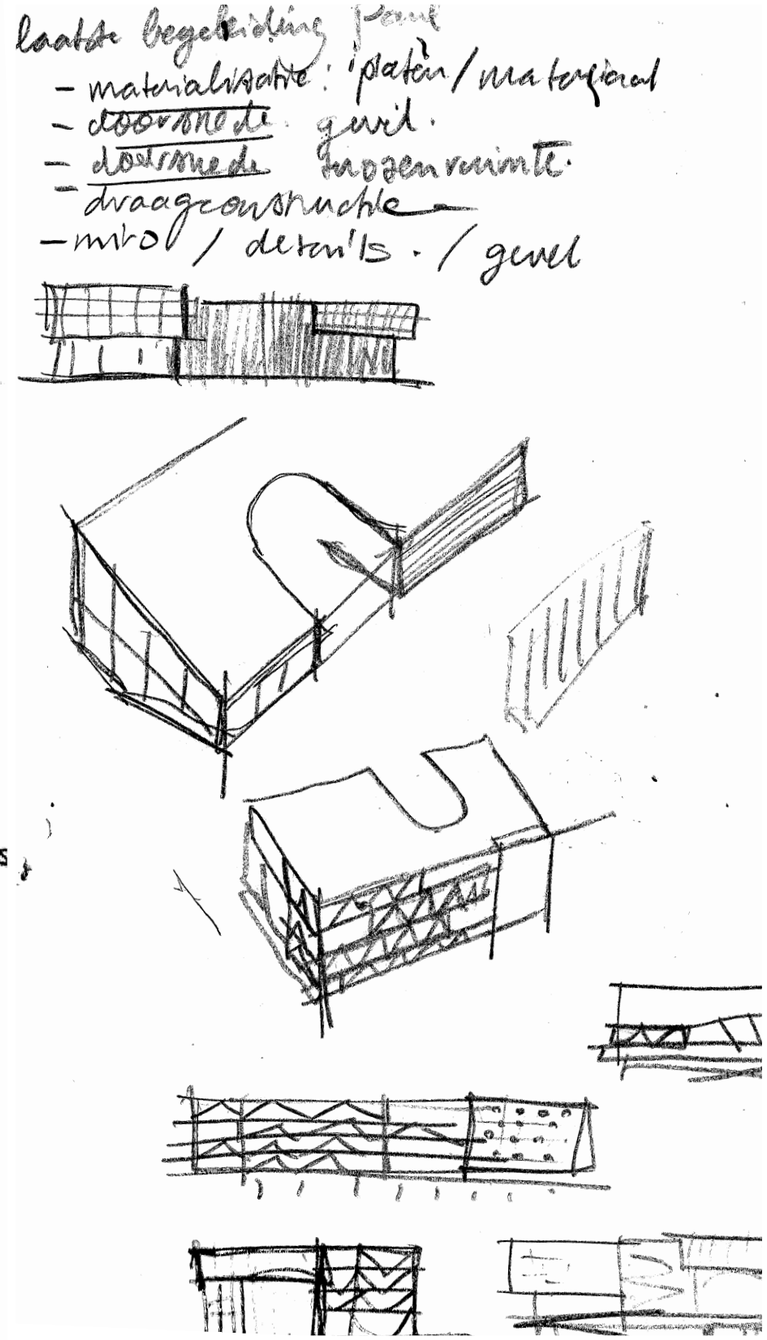
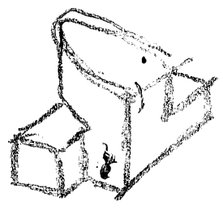






- abstracte model
- laten zien
- structuur boven
- exploratieve tek / schetsen
  energie opw.

- objecten geschieden: eigen orde
  iets wat binnen was → binnen
  kans bij hiërarchie / schuiven
  diagram → architectuur
- wat doet die vorm?
  echt een object
- voordeel van de context
- wat is zon'n dak?
- facade → omkering.
- verhalende achterkant

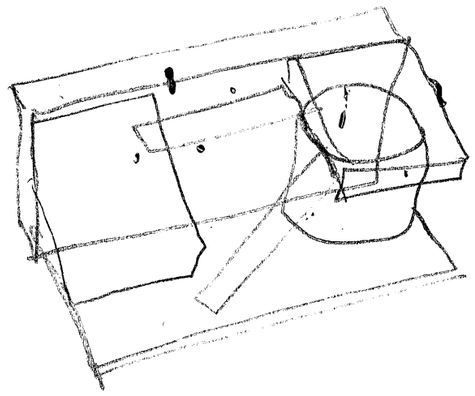


· ritme
· negatief
· verhevenheid ⟷ bouw systeem
· repetitiviteit
· integreren
- detail vanuit groter geheel.
· bomen!!

uitspraken over niks.
layering / perforatie, grille -

schil te benaderen:
bomen →
bouten →
1. joining ⟷ weld / bolt
   Rubber.
what needs to be controlled
high-value / complex.
value ⟷ criticality.
replaceability? ⟷
ticket → business.
fundamental
musical experience → longer.
artifact → what it
stakeholder. provides.
miele vs. cheap - specify.

- detail magazine 6. a4 pagina's.
  principes / systemen. ontwikkelde sy
- detail green.
- andere thode : ontwikkelingsproces.
  info → model.
- wat heeft myn plan nodig?
- naden joints volgende stap.

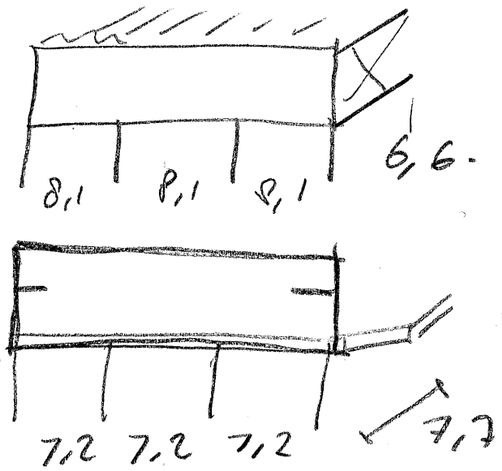


100kg = 1kN

30x33 = 990

990 x 0,8 = 792kN.

323,9 rond voldoet voor F_g = 845kN.



792 kN.
compleet
↓
52 KN/vlak.

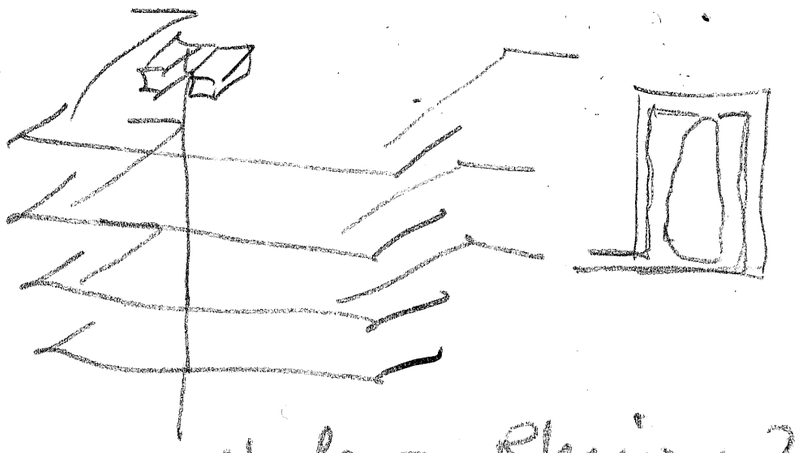
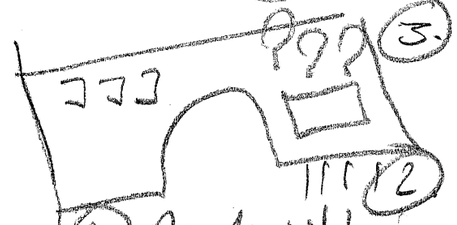


diagram style - Rhino+?
BIG? OMA?
MVRDV?

Climatic Scheme *

Roof



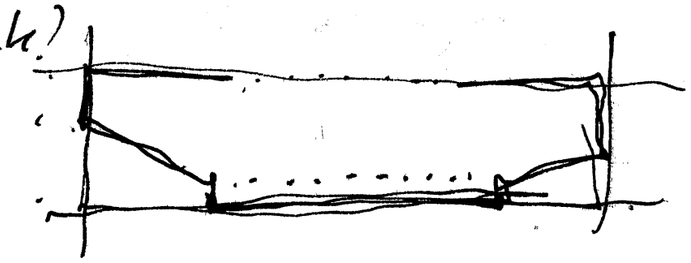
7. stormwater.
3. landscape & courtyard
2. exhaust
1. photovoltaic panels.
16. pillow material
4. 6. double skin warmth
5. ventilation in halls
8. heat/chill ceiling
9. air intake/exhaust
10. water chilling feature.
11. district heating
12. thermally activated foundation slab.
13. offices double facade
14. car electricity
15. waterless urinals.

omgeringstructuur.
het dak krijgt veel voor zijn kiezen
repetitie? vormvrijheid



[biocomposite
koelend-
vermogen.

massa vs. non.
parameters. 2 extremen.
op schaal brengen.
toekomstige gebouwen hun eigen
anatomie?
P3 stedenbouwkundige vrij.
geperforeerd?
wat doet het dak?
stadionbouw?



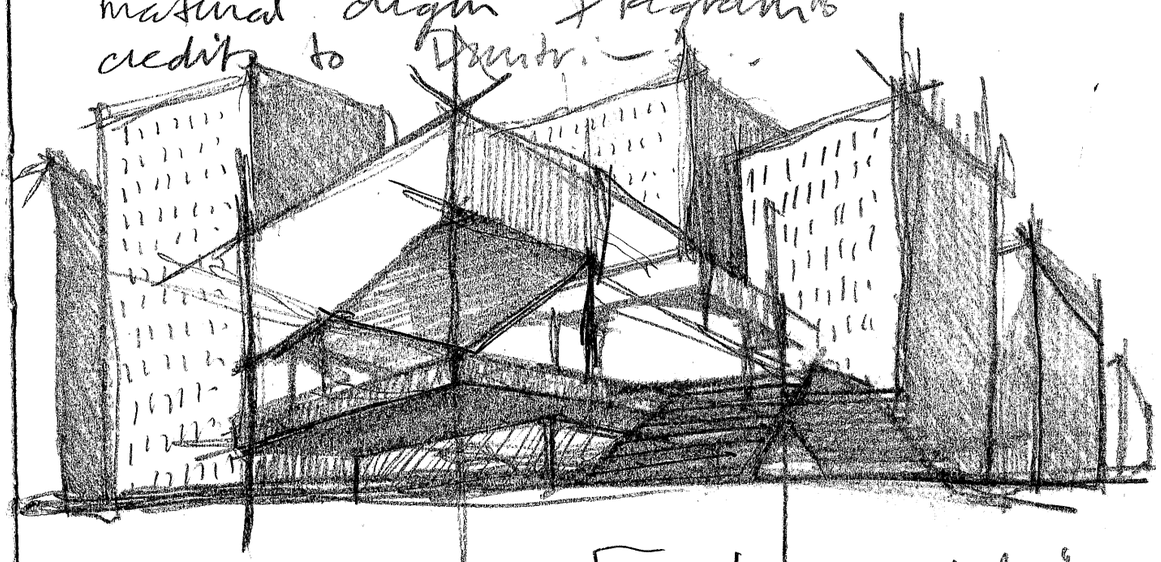
[diagram
in gebouw.
materiaal]

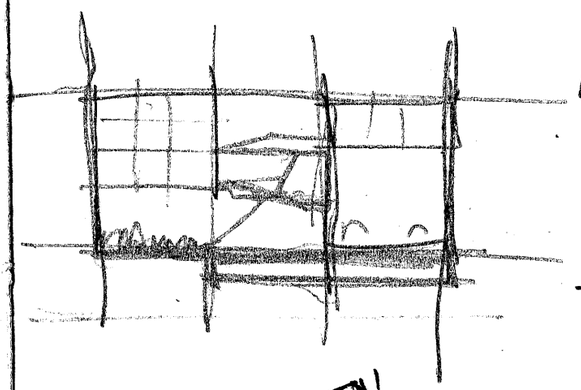
wat is de constructie?
vorm/opp.
grote ruimte/veel ruimte

Paul Giger. / Chartre.
gelijktijdigheid
zimpelheid.
keuzes/scheiden? kritisch? consequ.

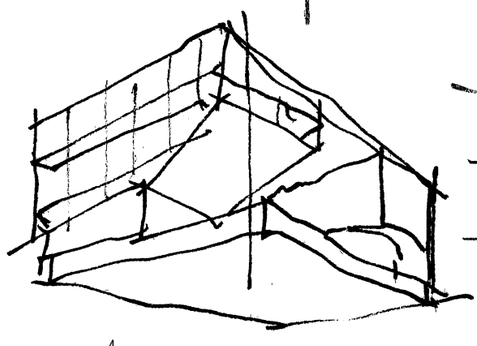
- relationship [illegible] audience.
- expansion and connection of
public function in urban context.
- where are the cars?
- thickness of the walls ⟷ rooms.

natural origin Diagrams
credits to Dmitri





[- plg - detail
- entree
- akoestisch
shoebox
- op deze schaal
akoestische schil.
- dode hoeken
- verzamelen
- taxis



tussen plein ontvangen

Process documentation
Design Journal

P3

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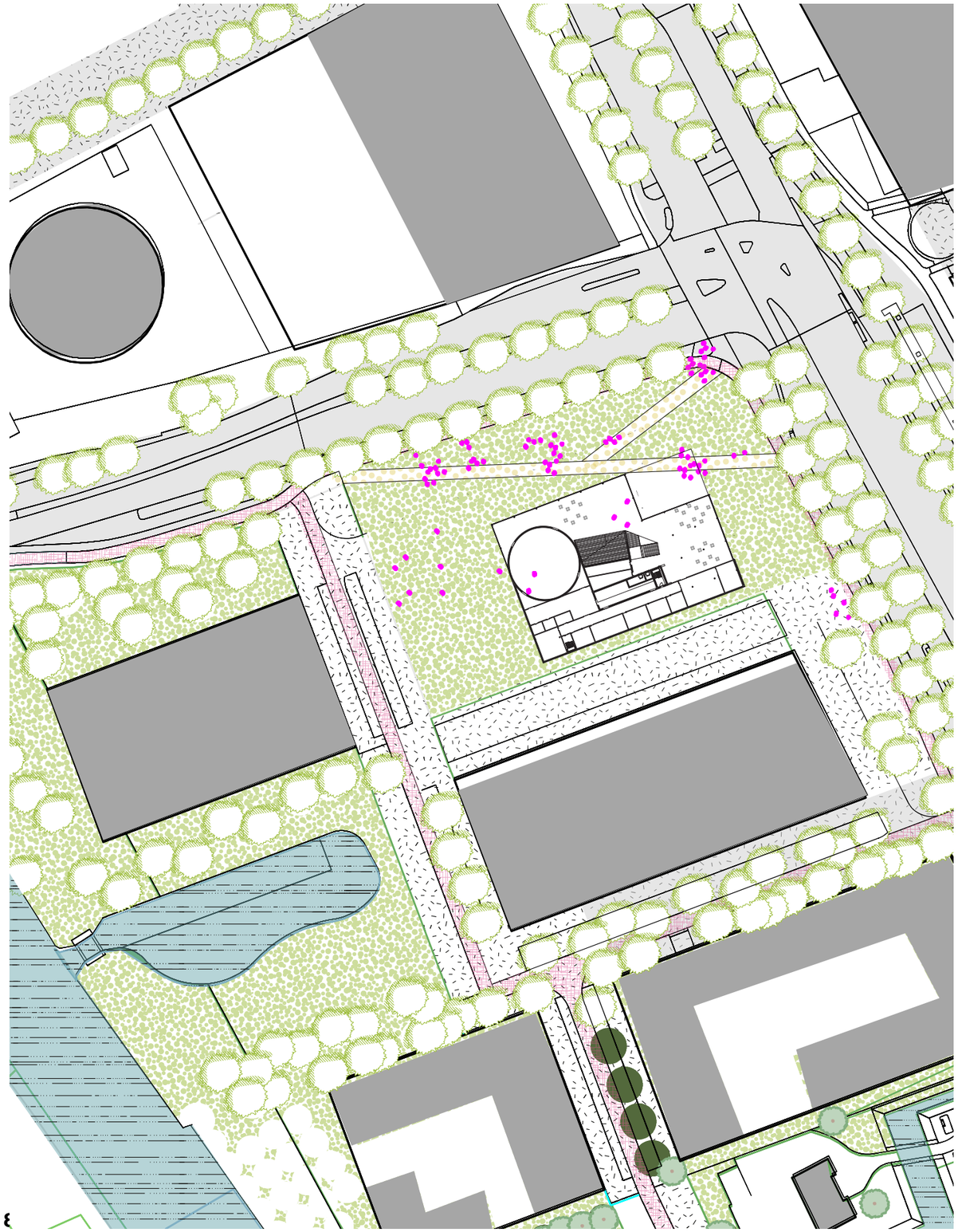
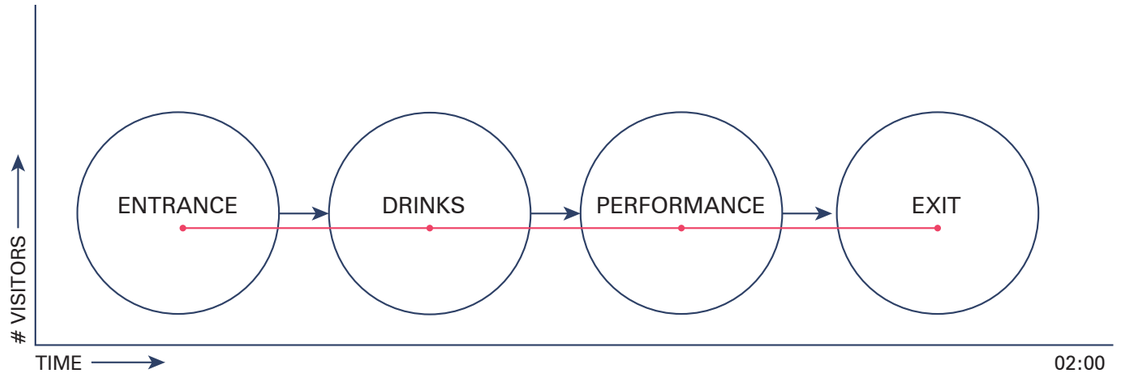
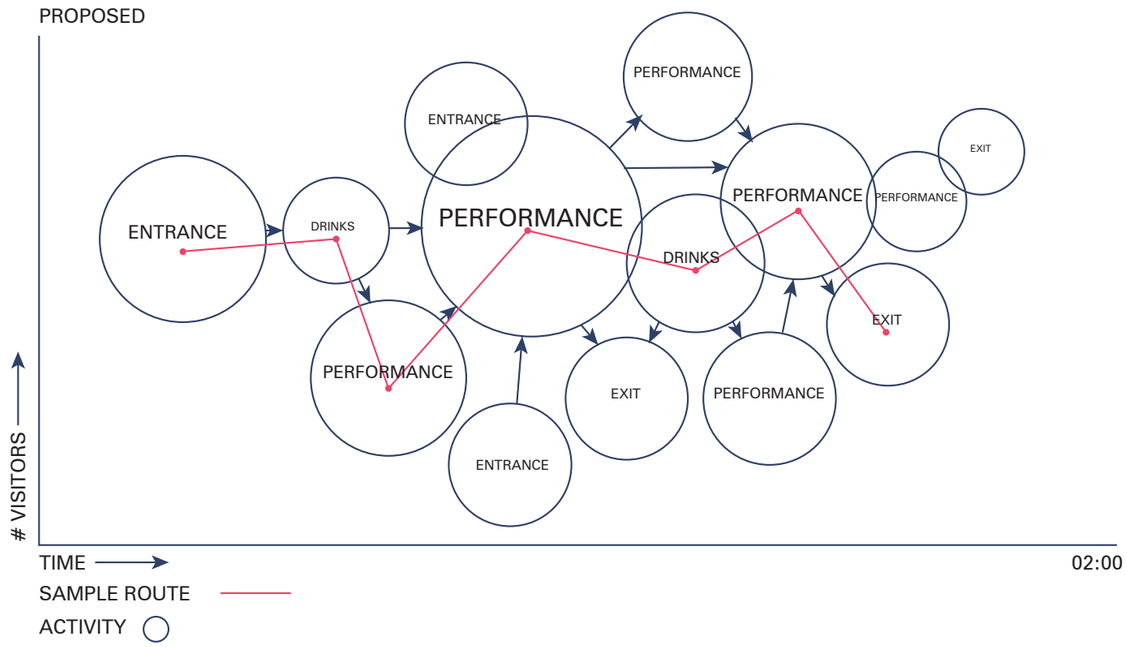
Context

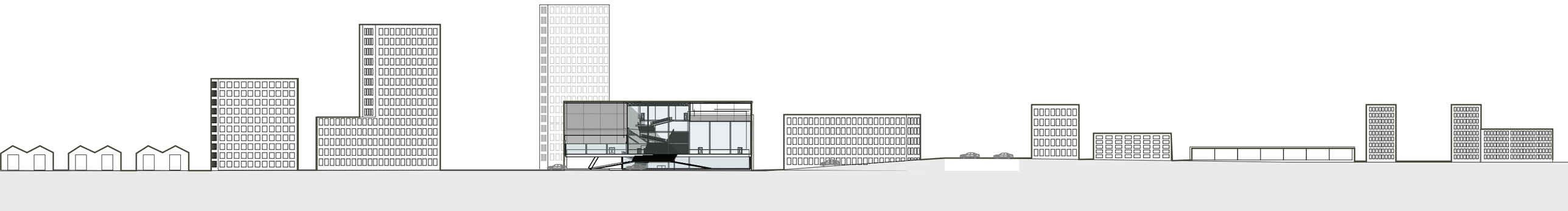


Functional diagram

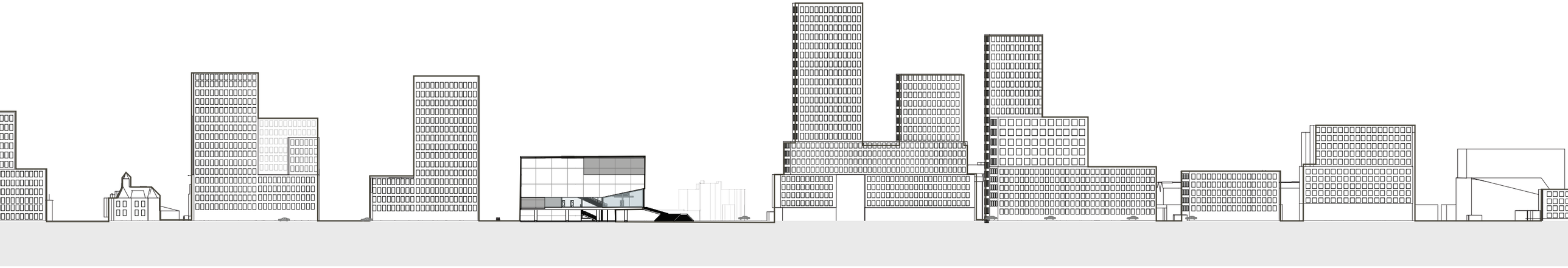




City sections



Mercuriusweg section



Rotterdamsebaan section

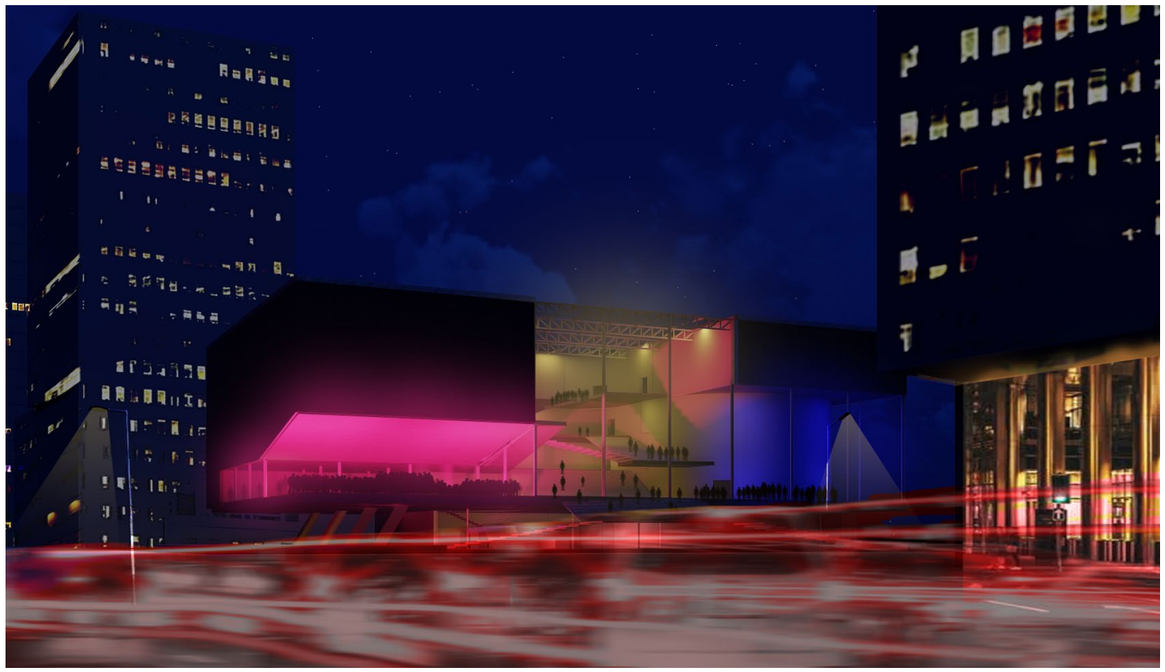
Impression collages



Impression classical hall



Impression foyer

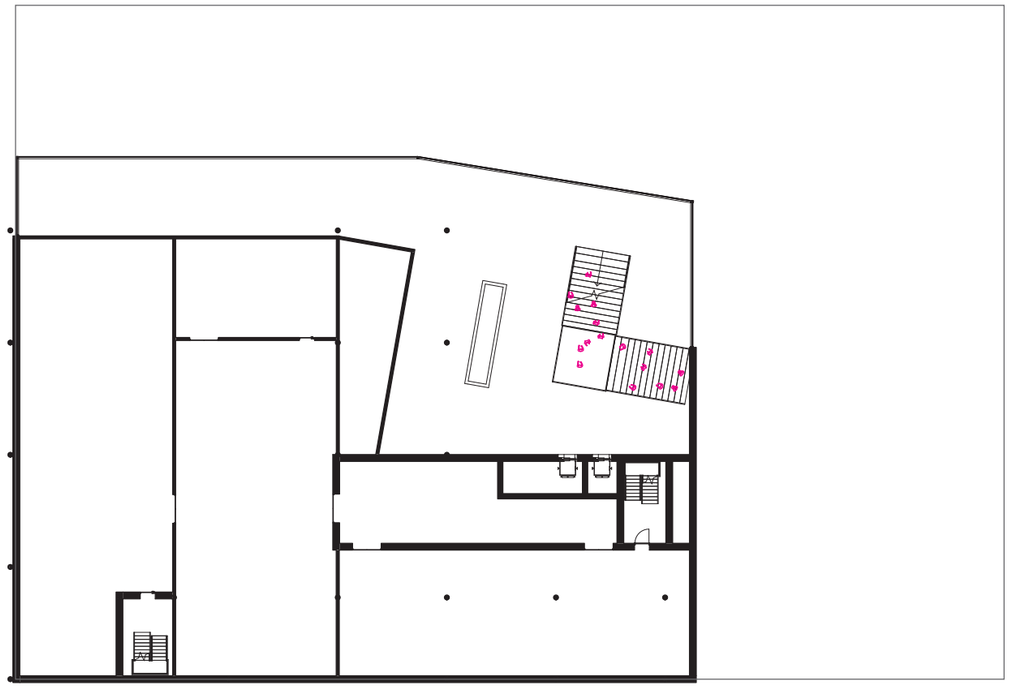


Impression from Rotterdamsebaan



Impression balcony

Floor plans



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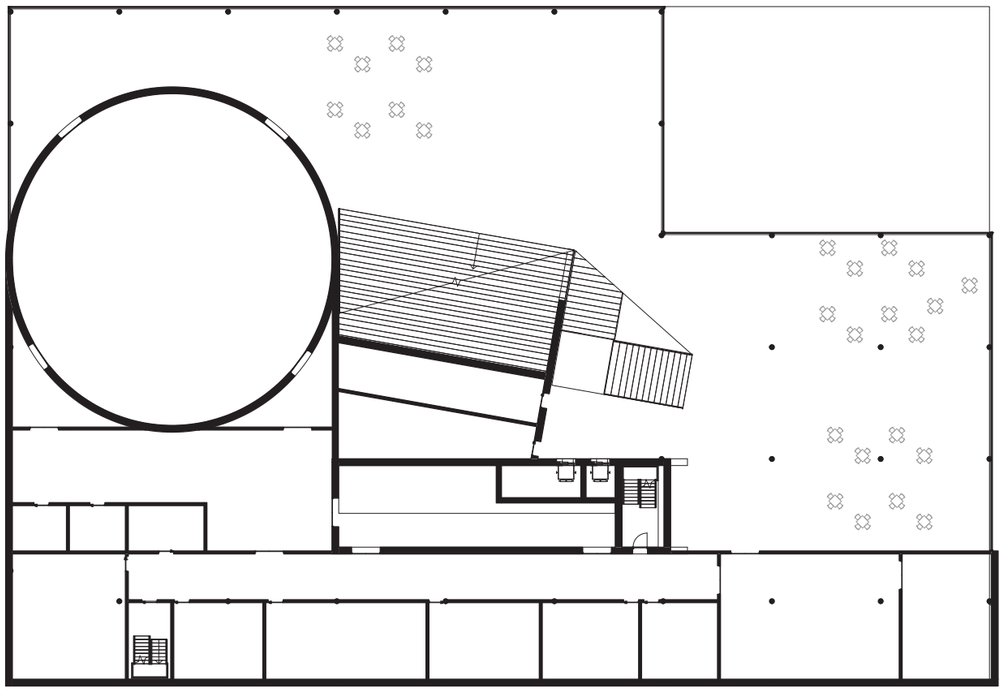
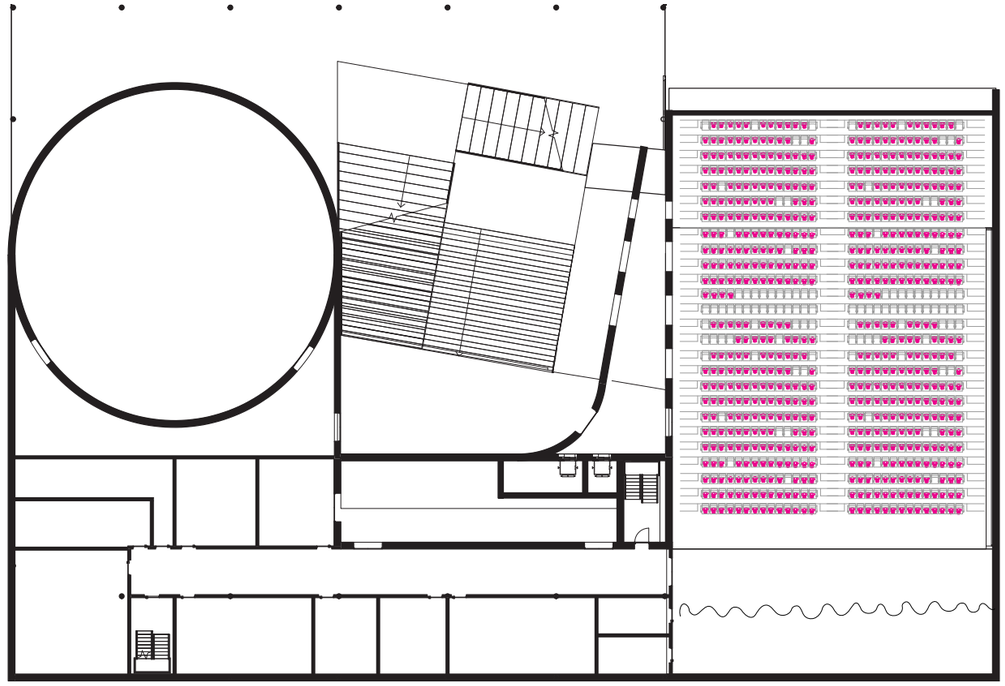


1. FIRST FLOOR



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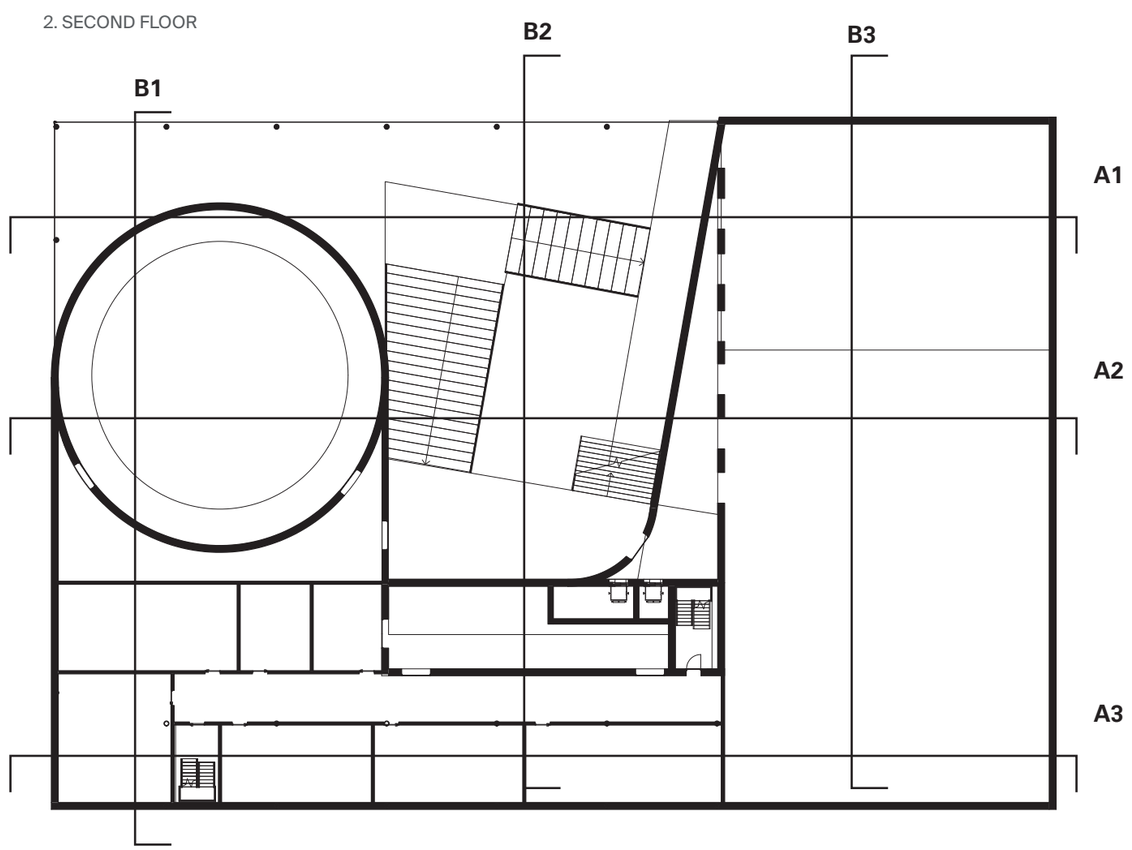
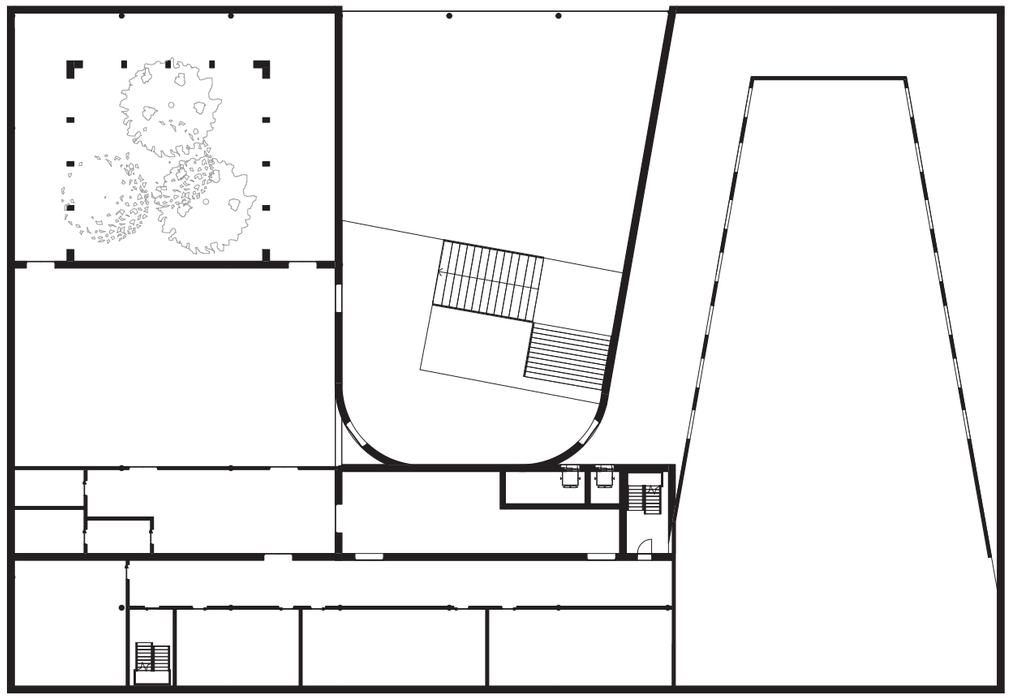
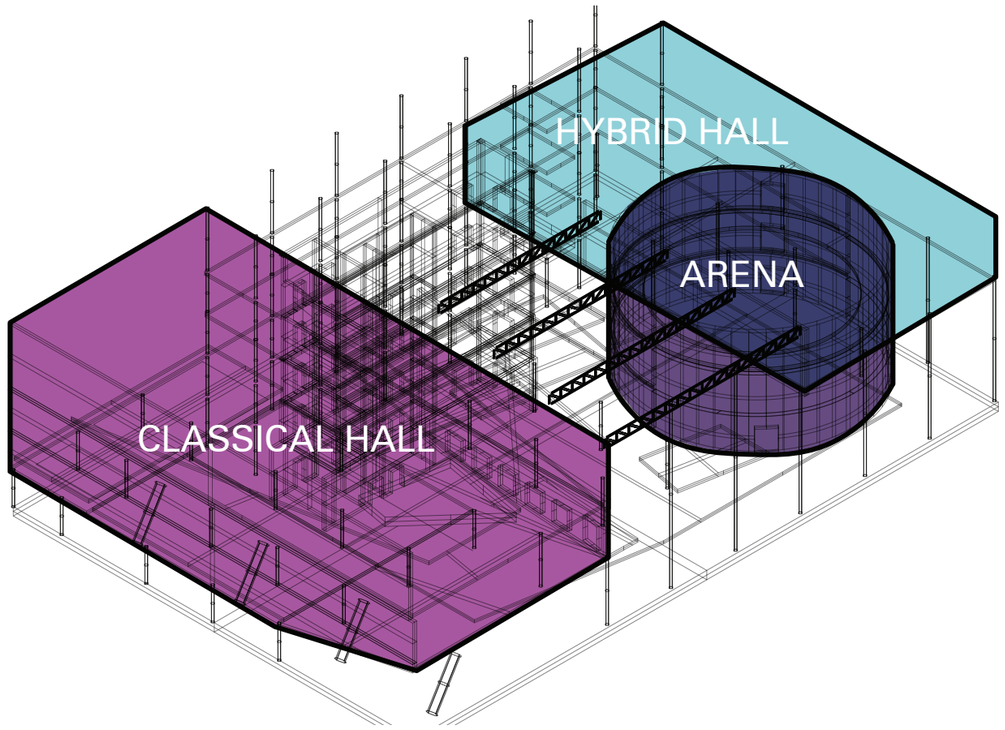
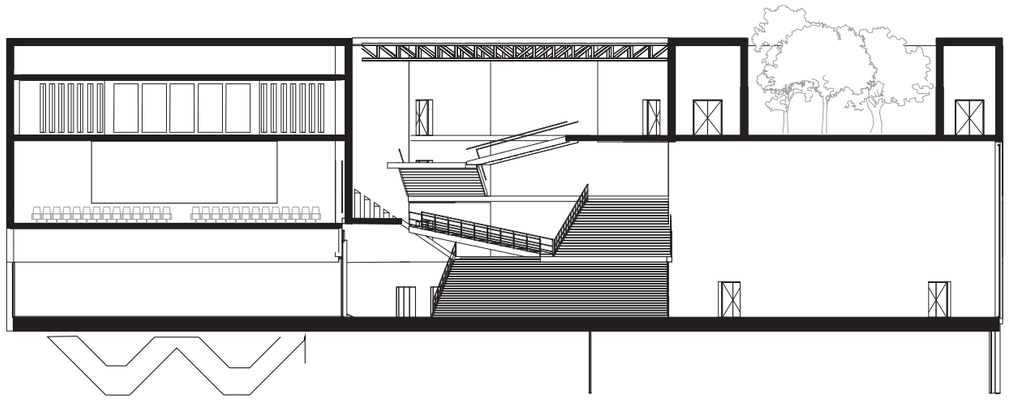


3. THIRD FLOOR



4. FOURTH FLOOR





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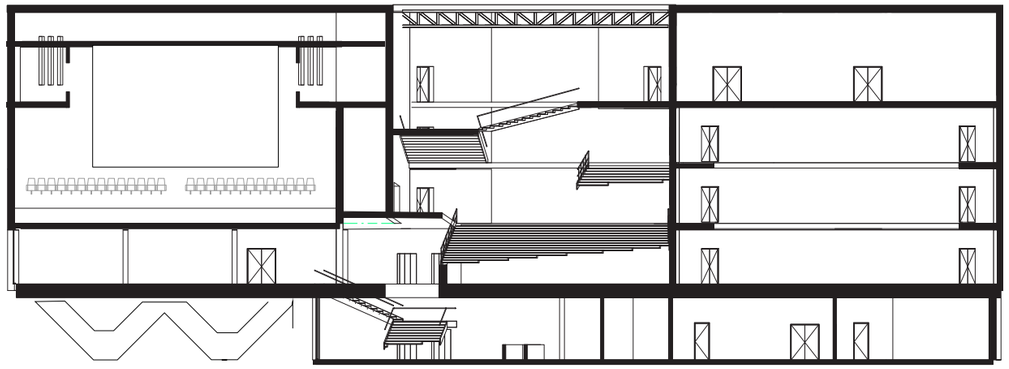
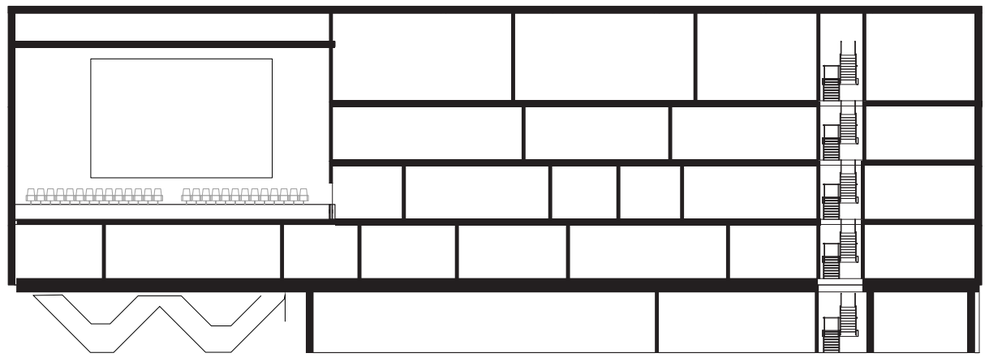
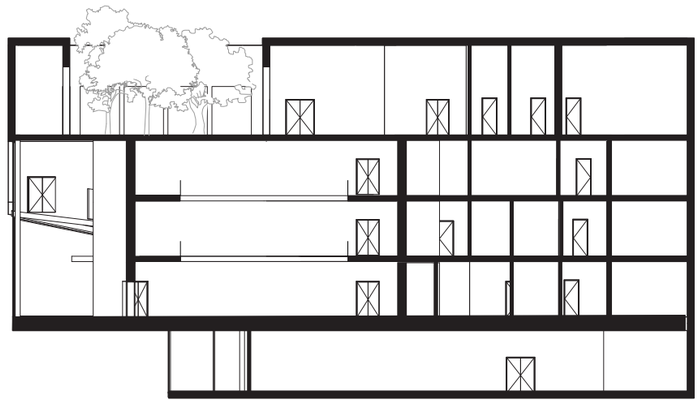


SECTION A2

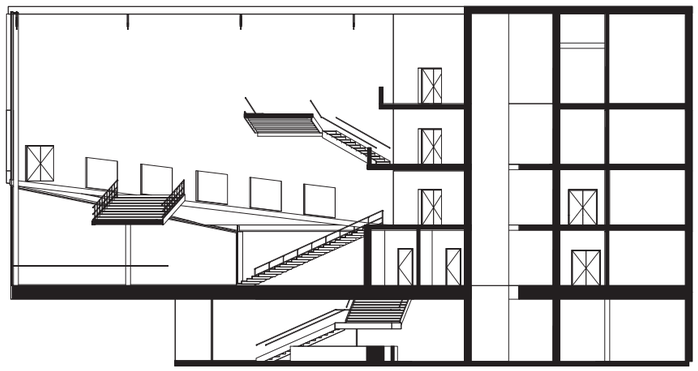


SECTION A3

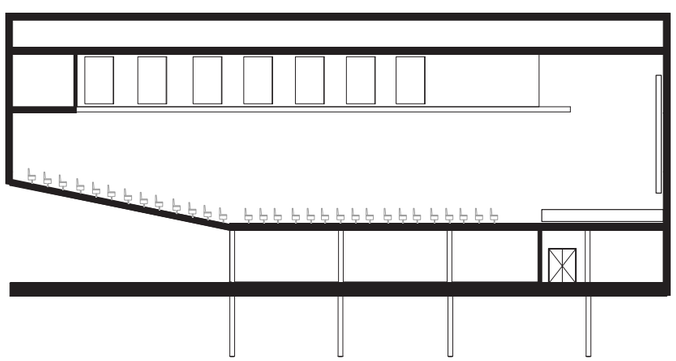
Axonometry



SECTION B1



SECTION B2



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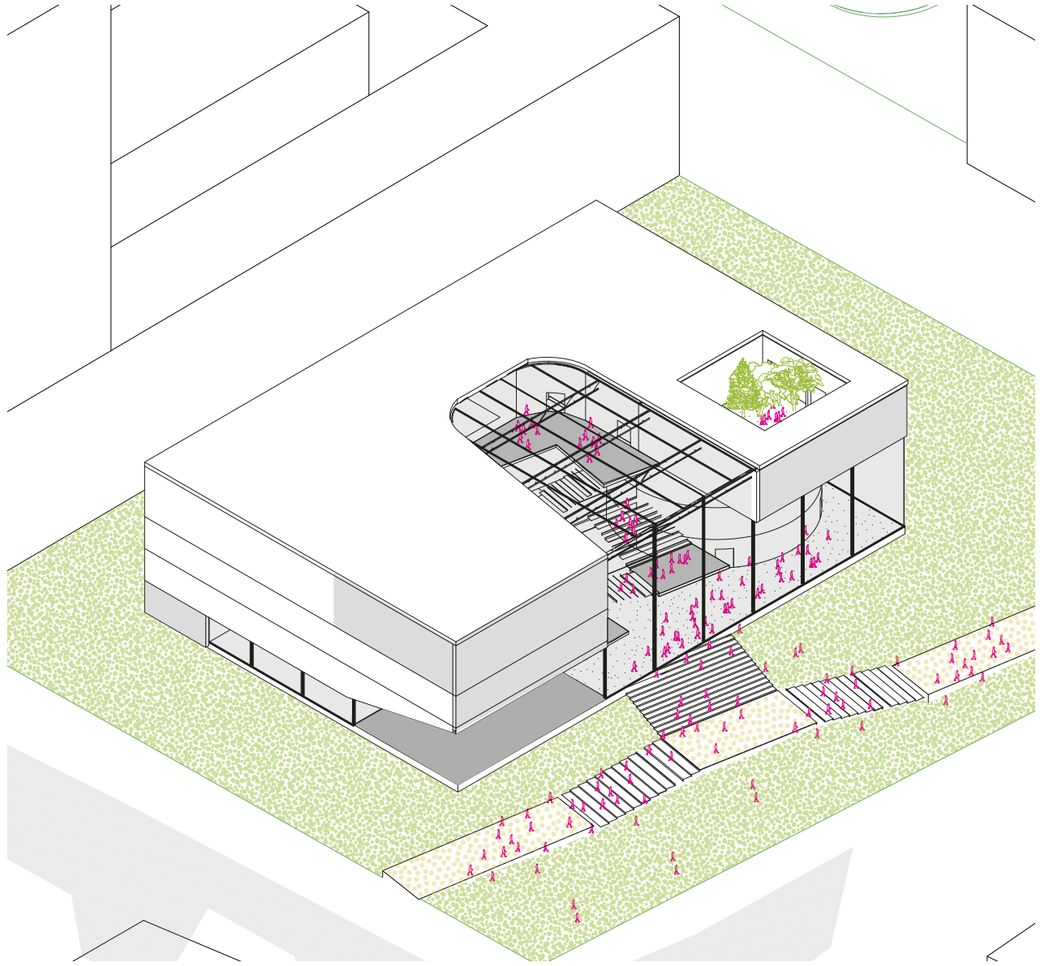
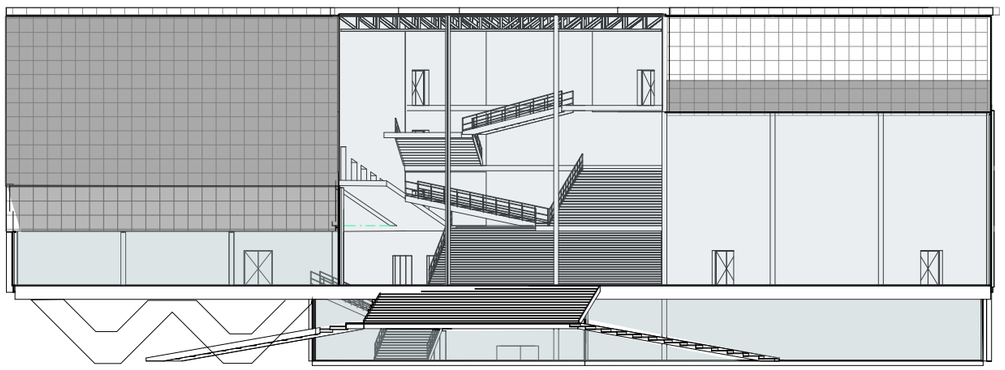
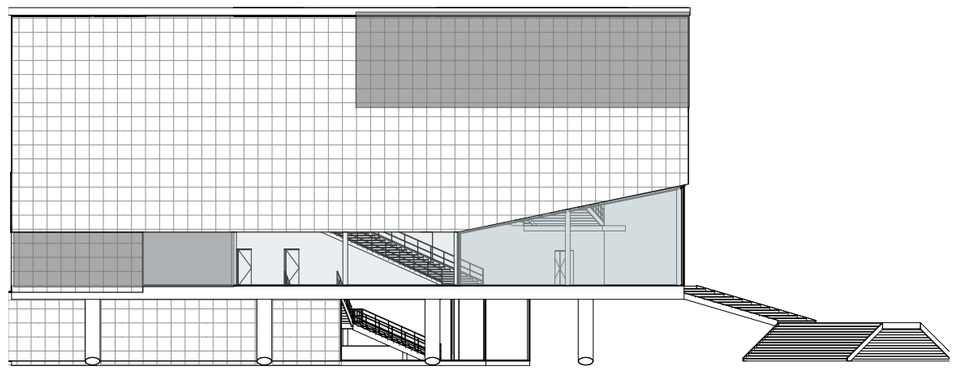


AXONOMETRY

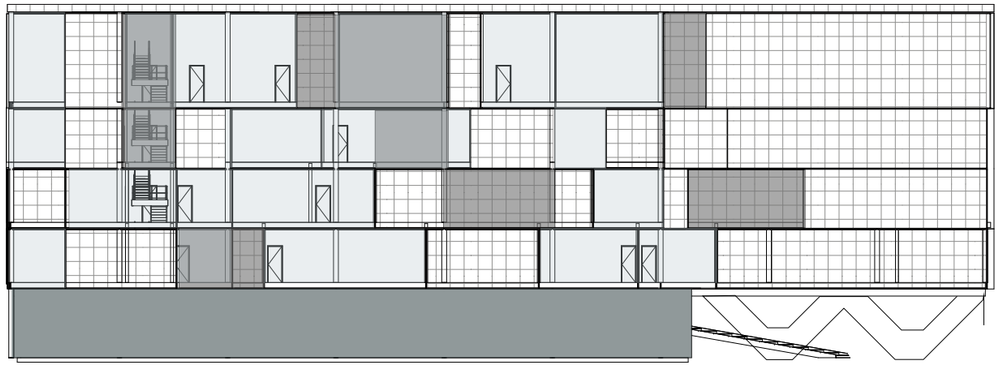
Facades



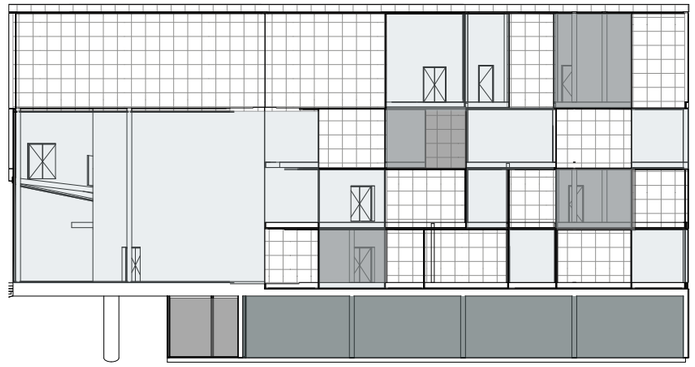
NORTH FACADE



EAST FACADE

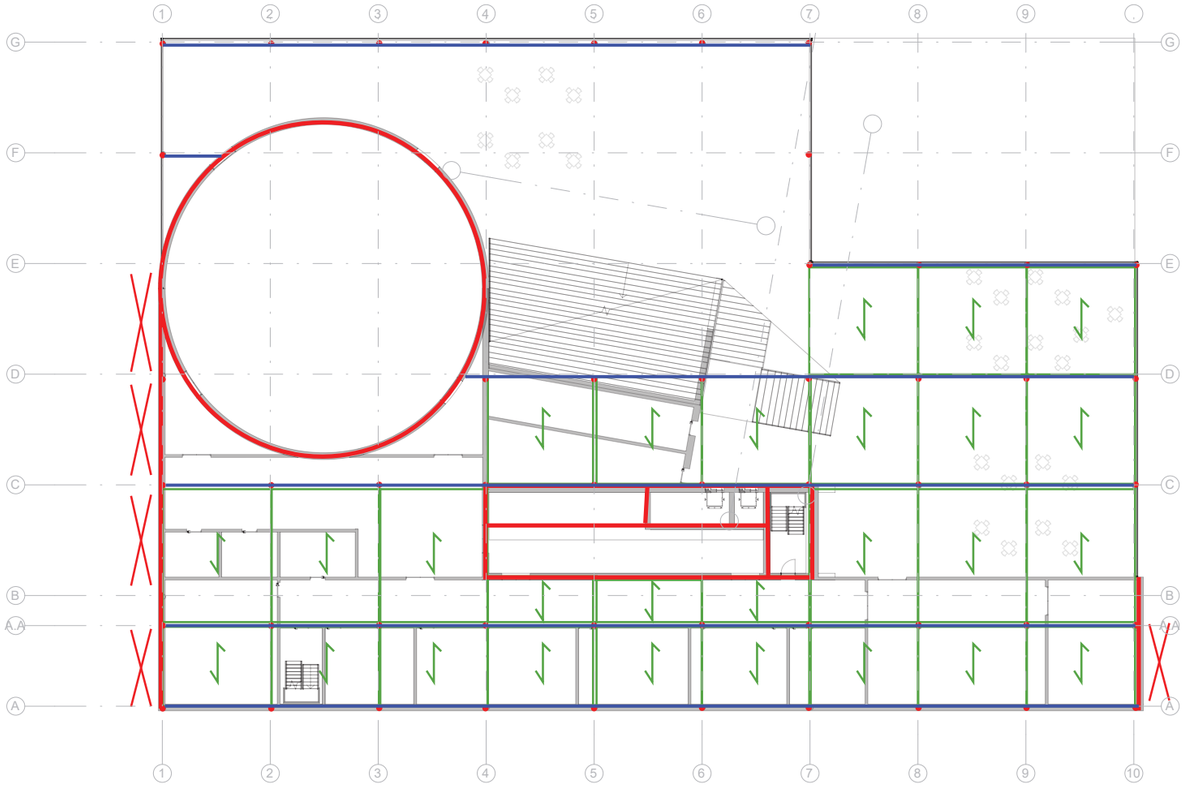


SOUTH FACADE

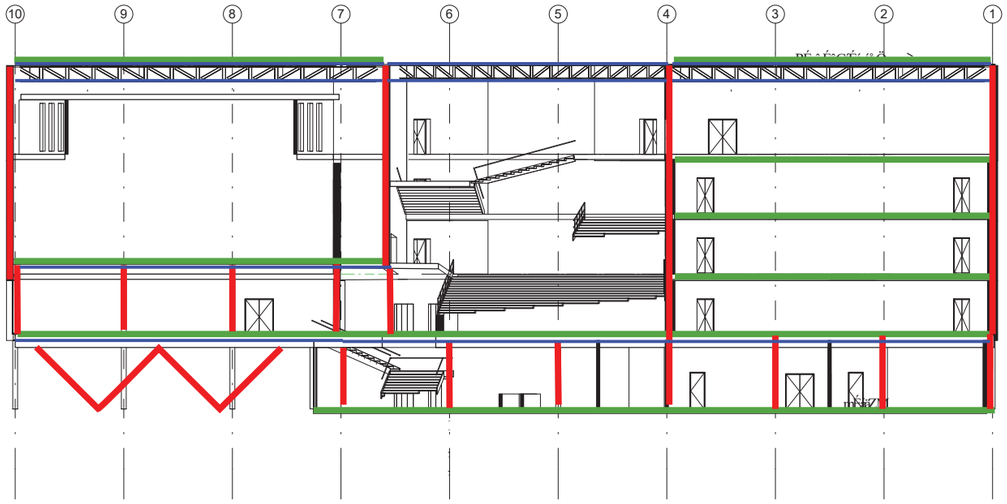


WEST FACADE

Structure

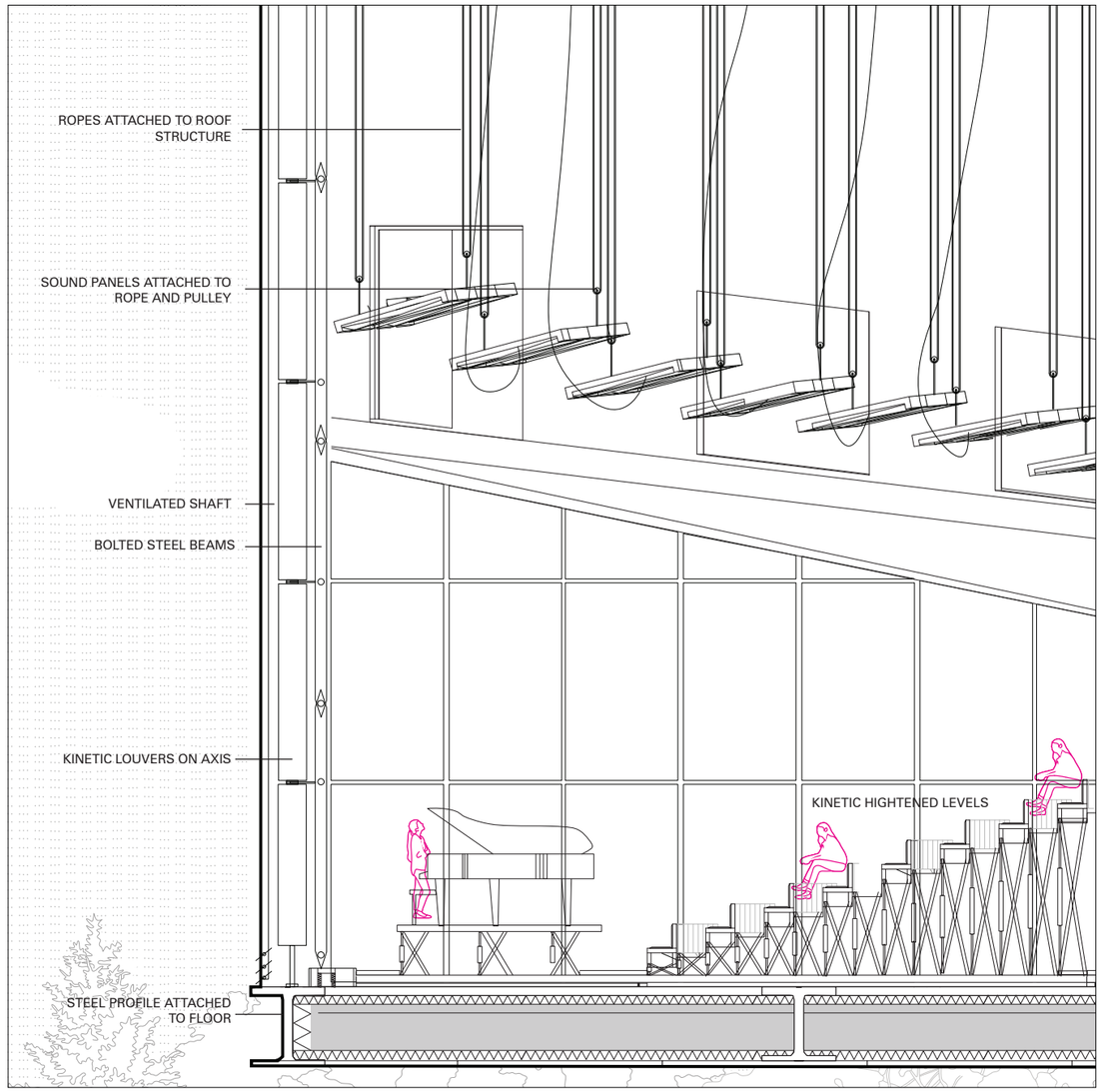


Structural floor scheme



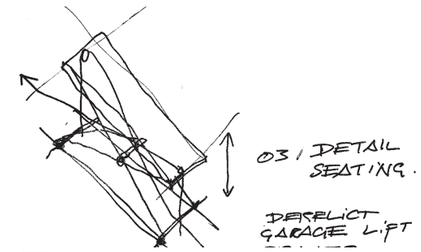
Structural section scheme

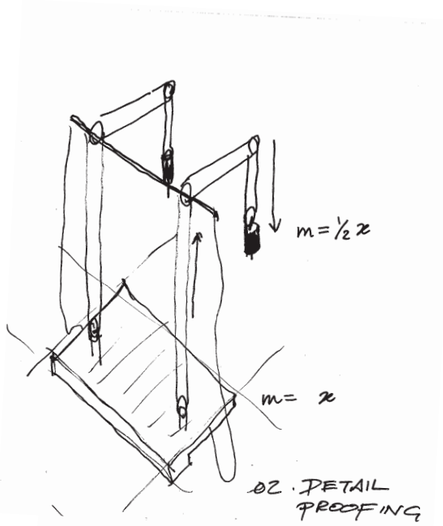
Technical section

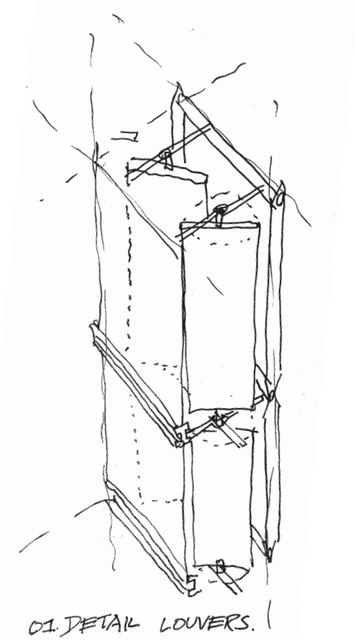


TECHNICAL SECTION OF FOYER AND ADJUSTABLE INTERIOR

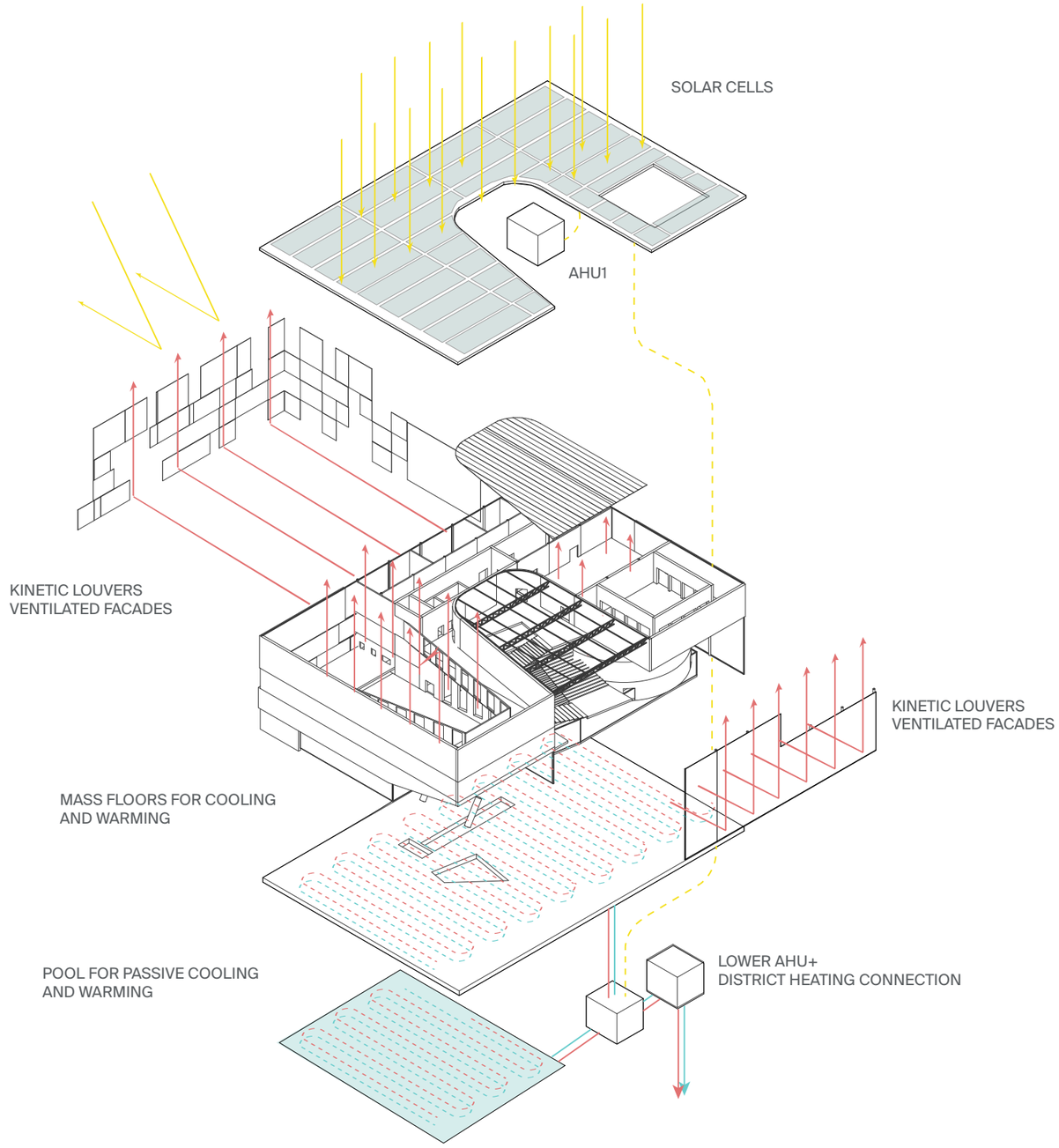
Detail sketches







Climate concept



P4 Design brief

FOURTH FLOOR

1 Hybrid hall
2 Rooftop concert
3 Chief Electrician
4 Technical director
5 Crew room
6 Toilets visitors
7 Elevator
8 Rehearsal room
9 Stage dock
10 Dressing room
11 Showers and toilets performers
12 Green room
13 Shoebox hall preview room
14 Fire escape

THIRD FLOOR

1 Arena hall third floor balcony
2 Arena hall foyer
3 Shoebox hall
4 Shoebox hall preview room
5 Recording studio arena
6 Toilets staff
7 Toilets visitors
8 Offices
9 Media facilities
10 Recording studio shoebox hall
11 Elevator
12 Fire escape

SECOND FLOOR

1 Shoebox hall main entrance
2 Shoebox hall preview room
3 Arena hall second floor balcony
4 Arena hall foyer
5 Dressing rooms
6 Showers and toilets
7 Toilets visitors
8 Rehearsal area
9 Offices
10 Toilets staff
11 Crew room
12 Technical director
13 Chief electrician
14 Stage dock
15 Elevator
16 Fire Escape

FIRST FLOOR

1 Arena hall main entrance
2 Artists entrance
3 Stage dock
4 Chief Electrician
5 Technical director
6 Crew space
7 Dressing room
8 Green room
9 Offices
10 Rehearsal area
11 Offices
12 Kitchen and storage
13 Showers and toilets performers
14 Toilets foyer visitors
15 Garderobe
16 Restaurant
17 Balcony
18 Ticket office
19 Elevator
20 Fire escape

GROUND FLOOR

1 Ticket office
2 Entrance foyer
3 Loading dock
4 Workshop
5 Parking garage
6 Elevator
7 Fire escape
8 Balcony access

Process documentation
P4 Final design

P4

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Elevations 1:500	126
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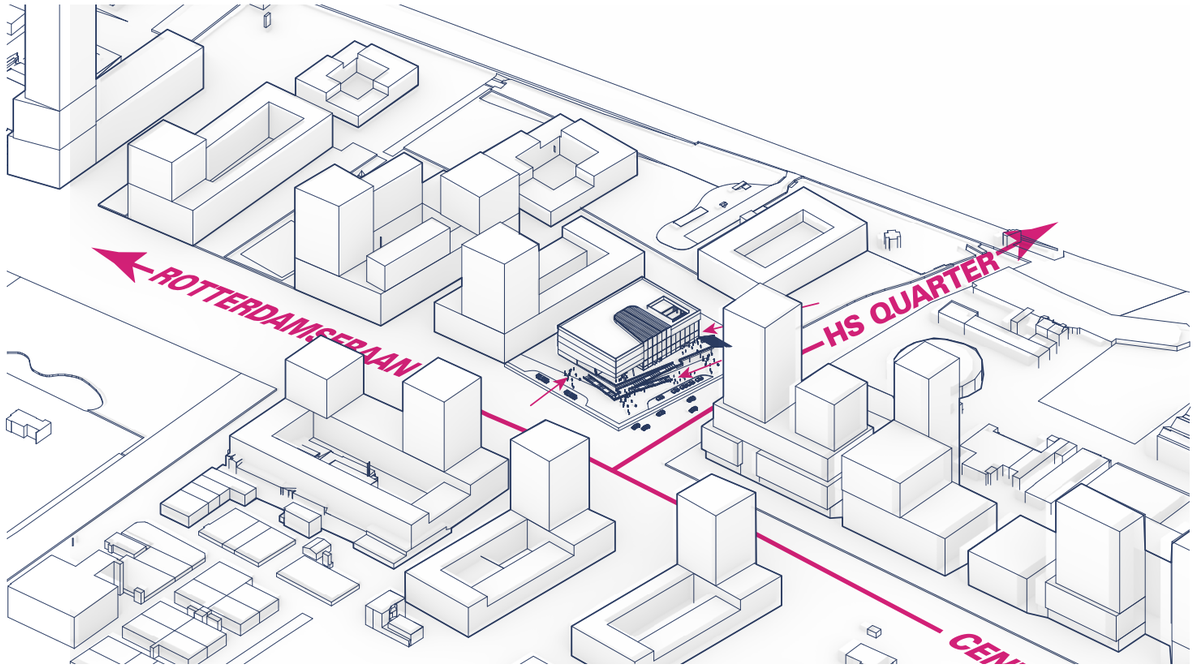
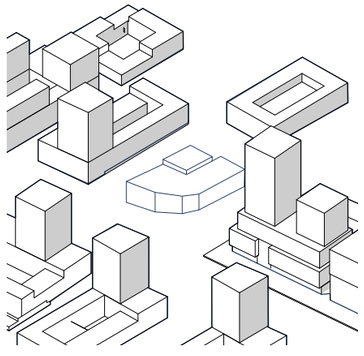
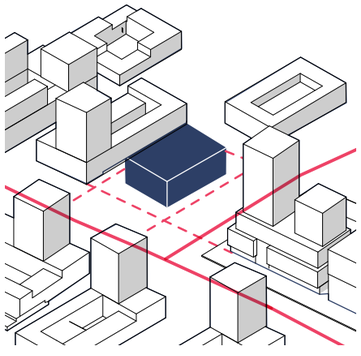
Context



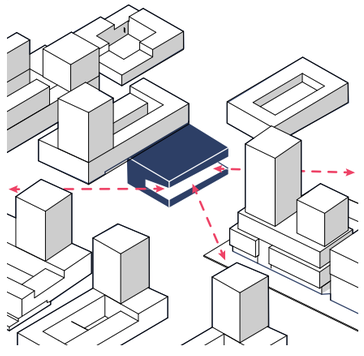
routes and approach



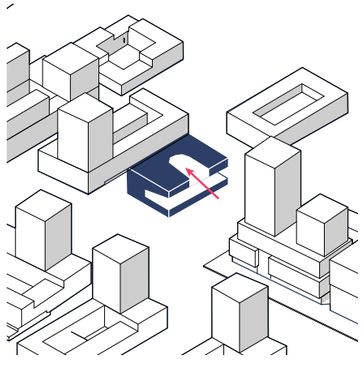
existing structure



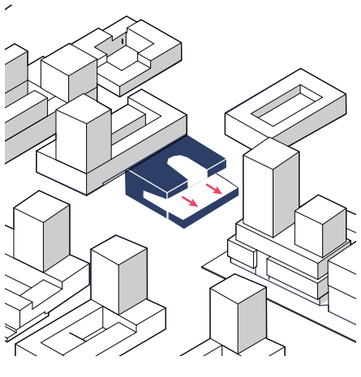
impose laid back object



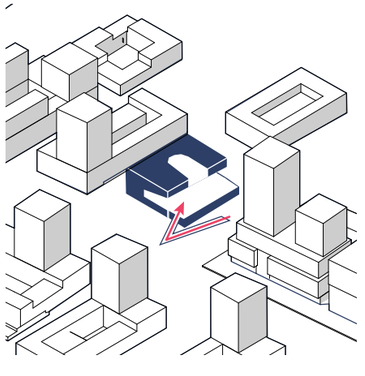
overseeing balcony



excavation



exterior extension



integrating public element

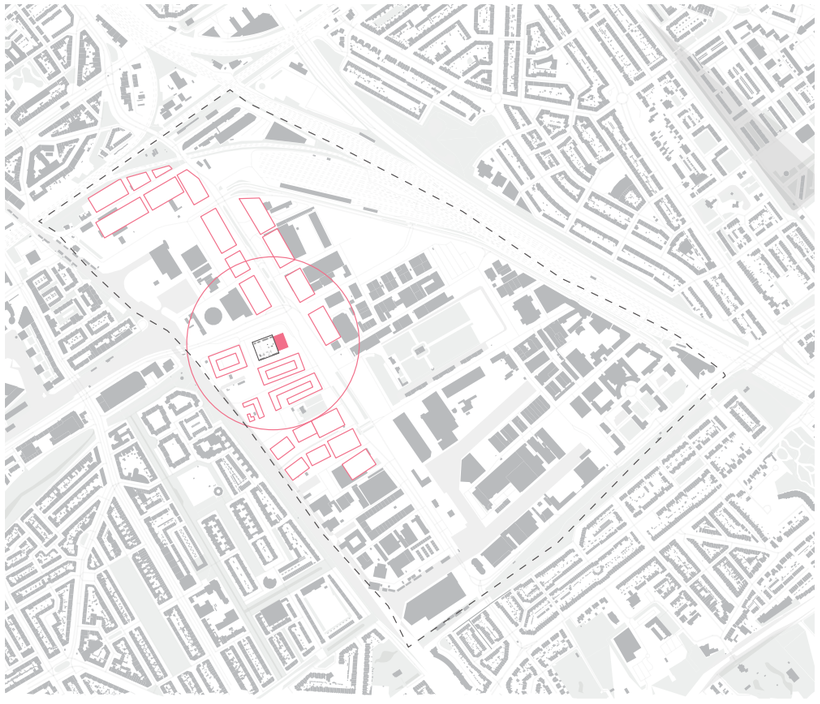
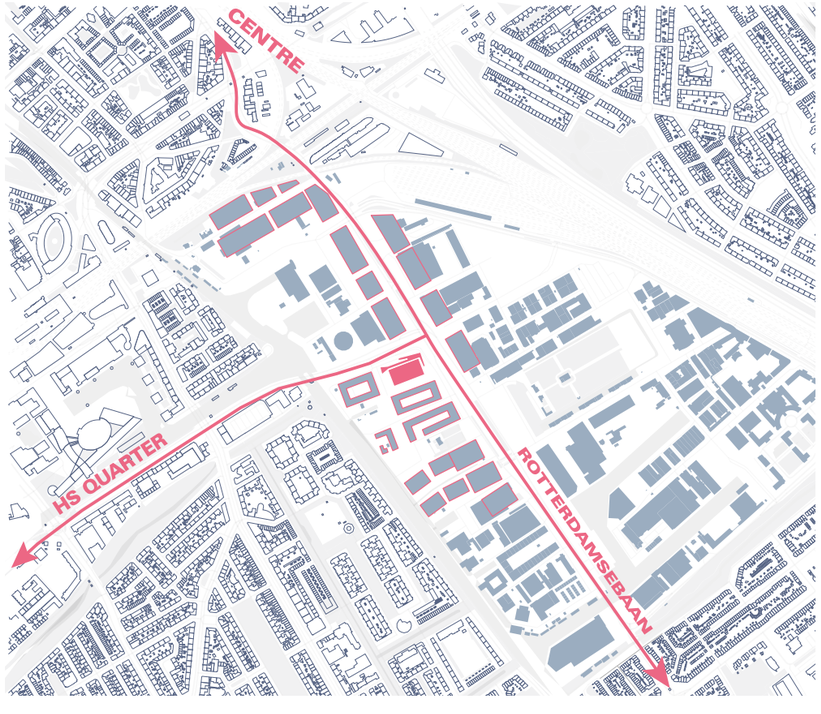
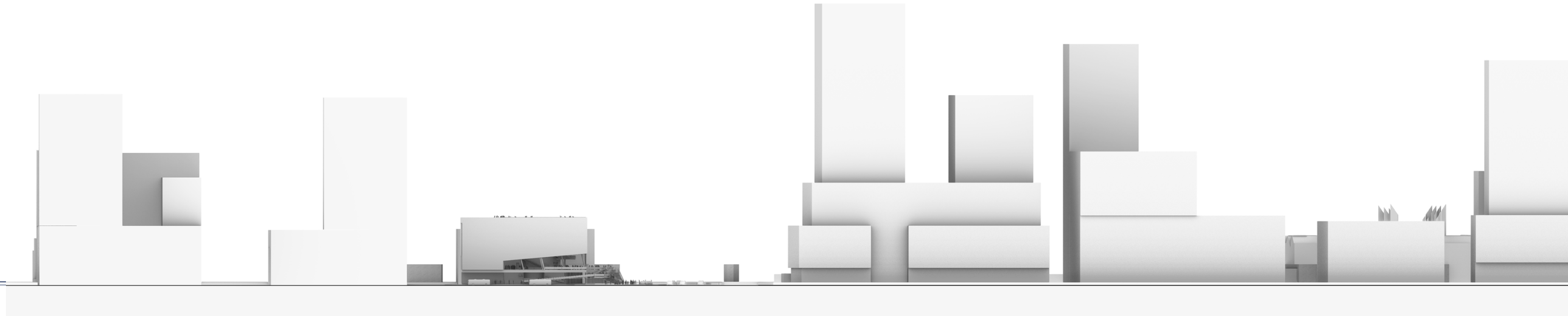


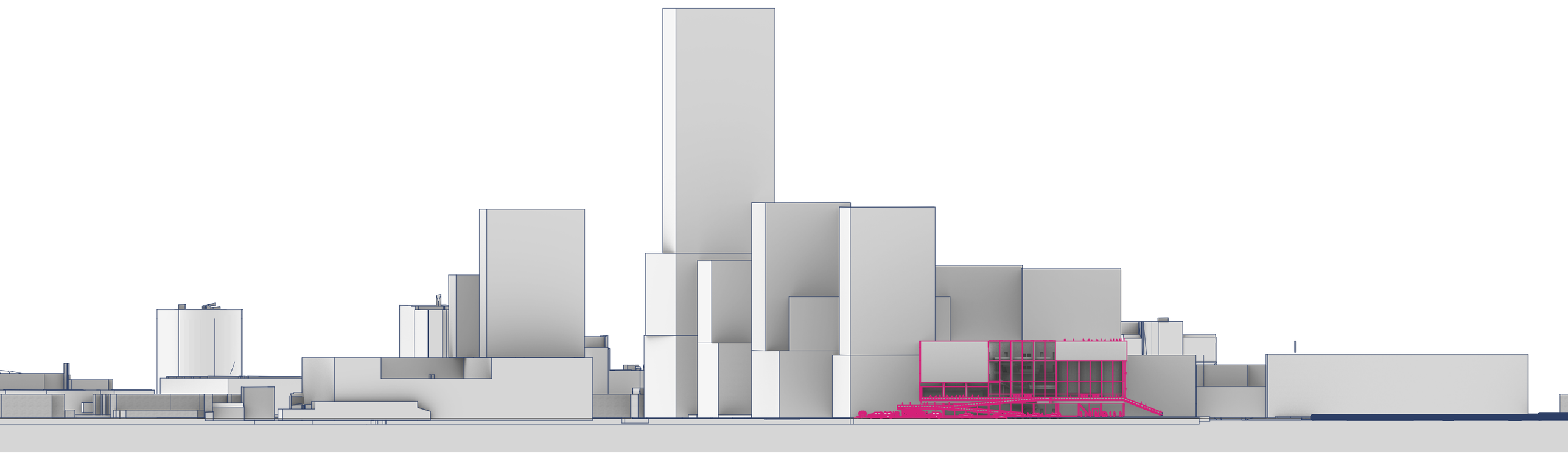
FIGURE GROUND



APPROACH

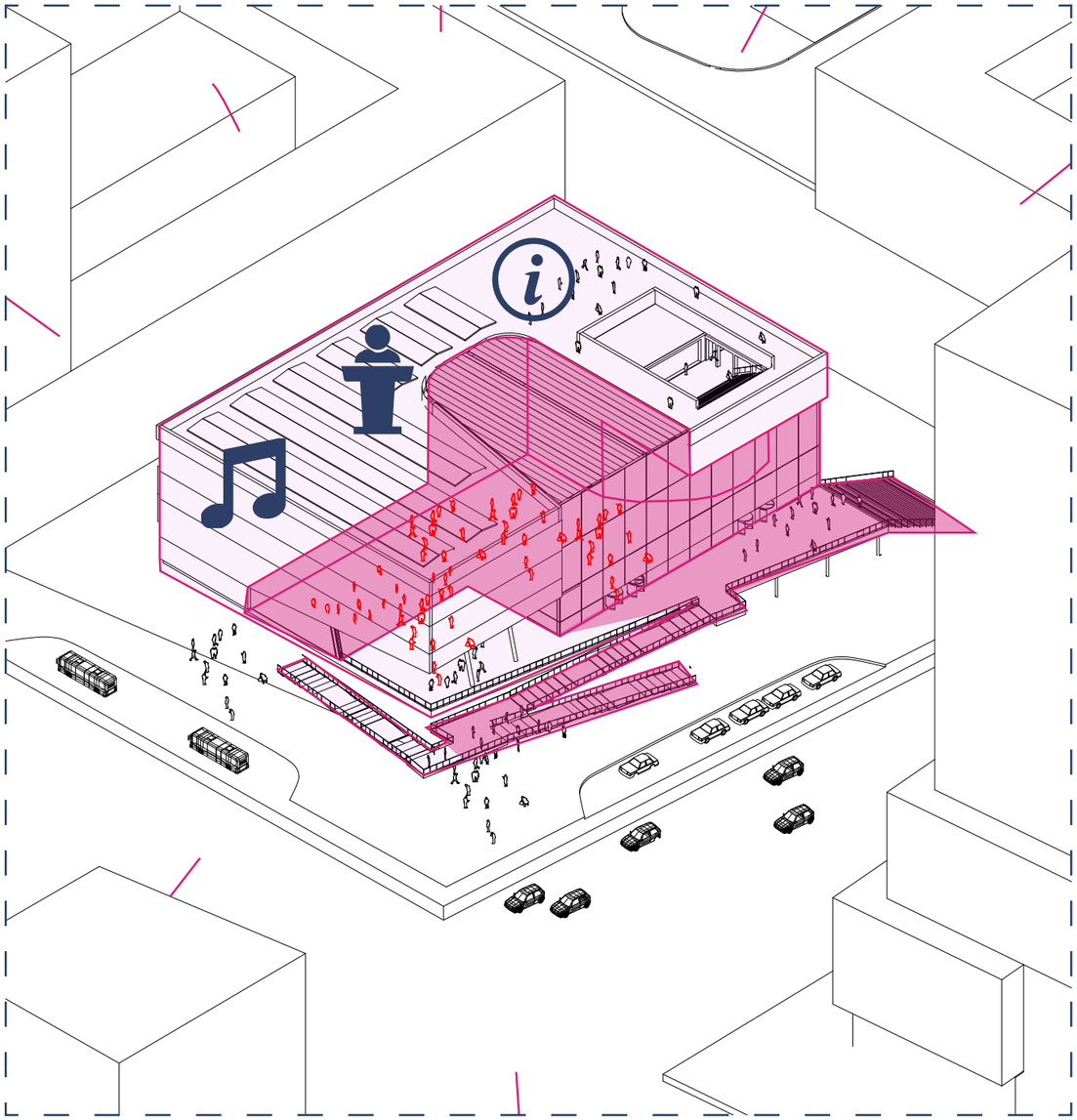


Rotterdamsebaan section

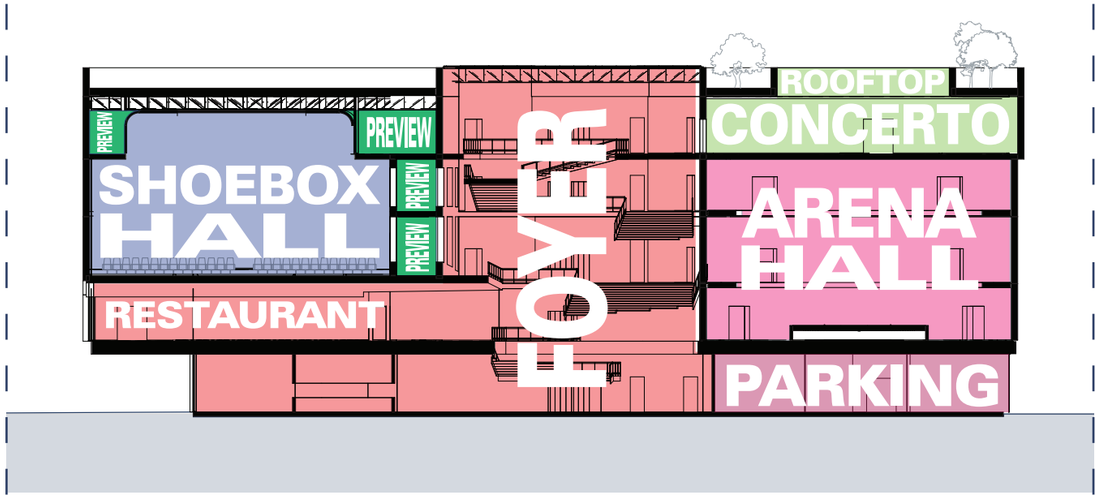


Mercuriusweg section

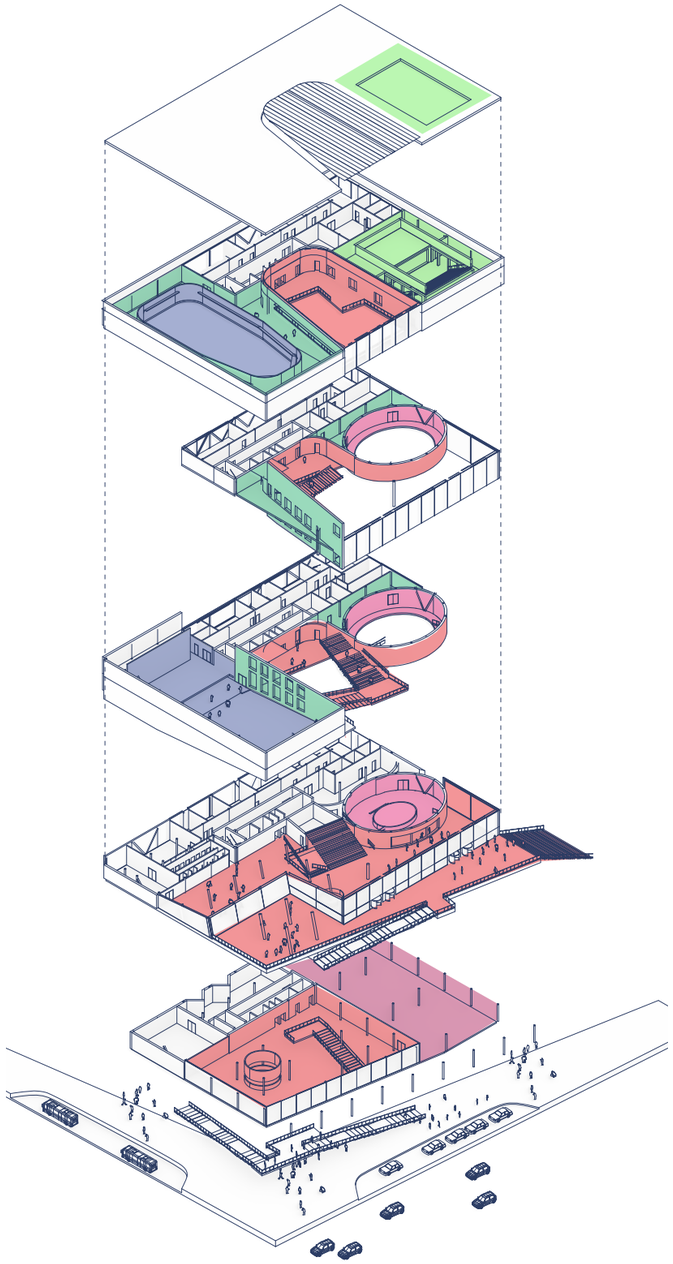
Spatial concept



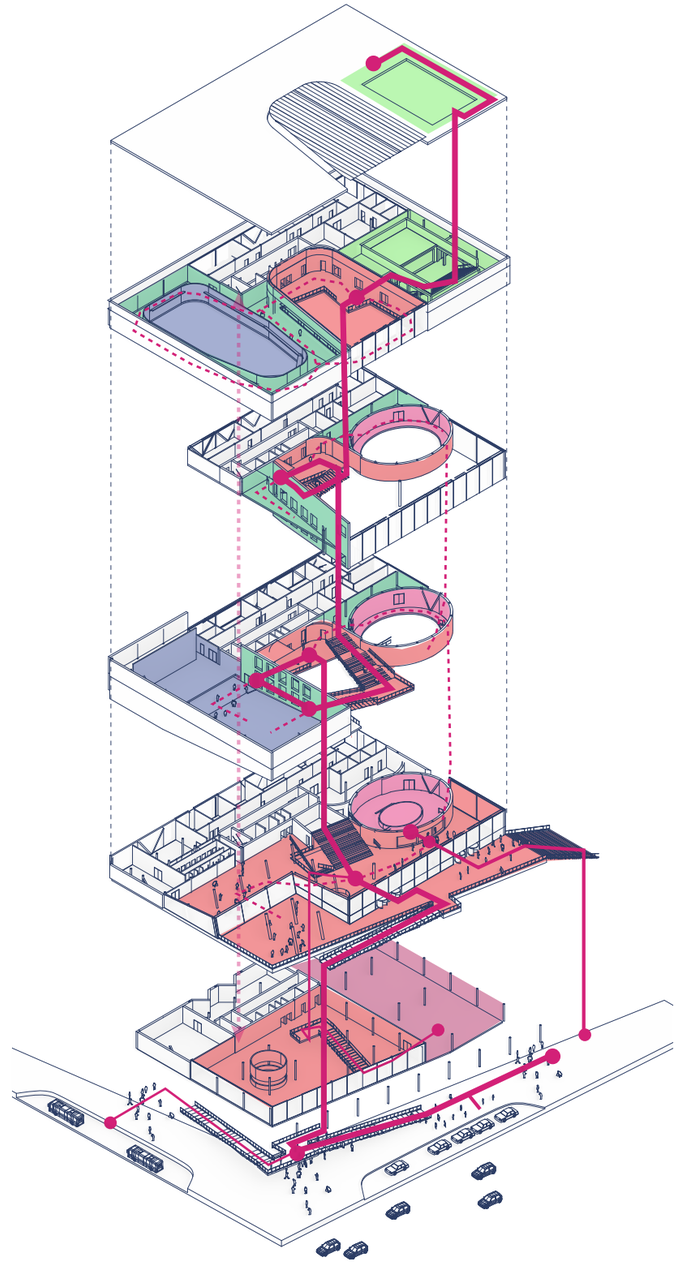
multiplicity in use



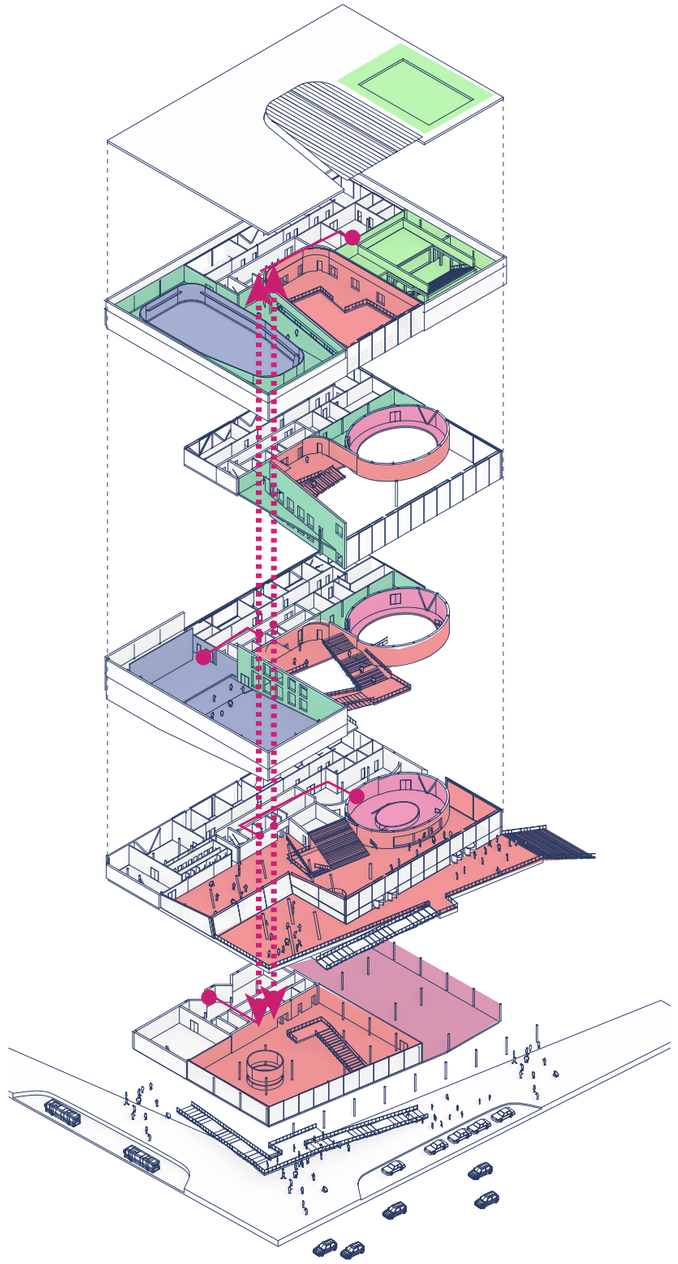
conceptual section



SPATIAL/PROGRAMME DIAGRAM

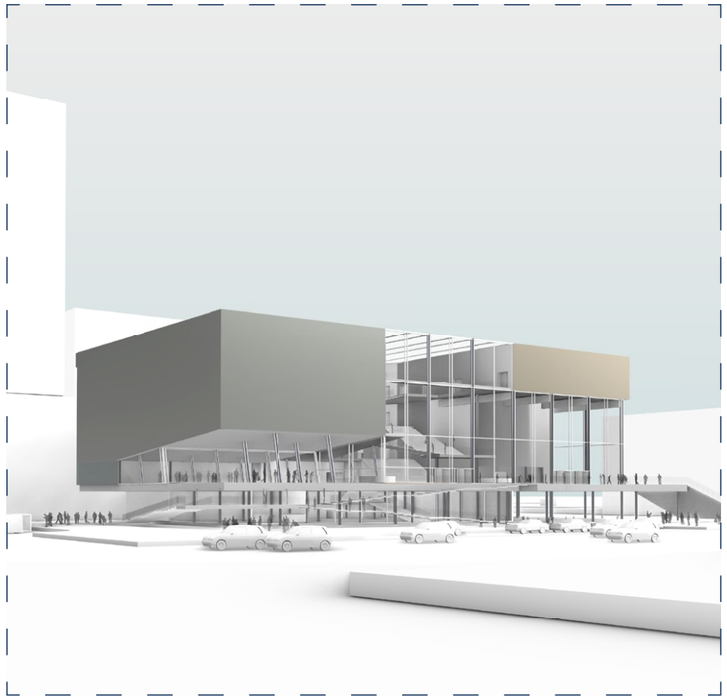


front of the house routing

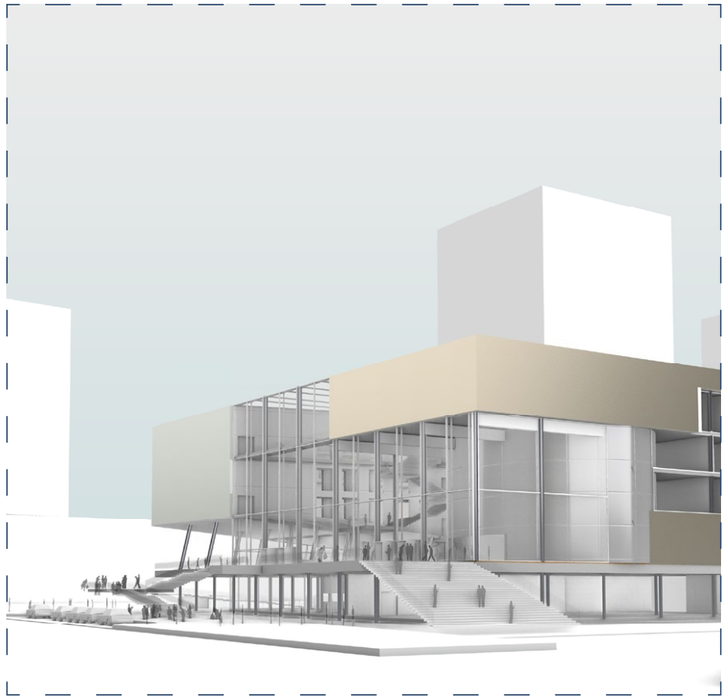


back of the house routing

Perspectives



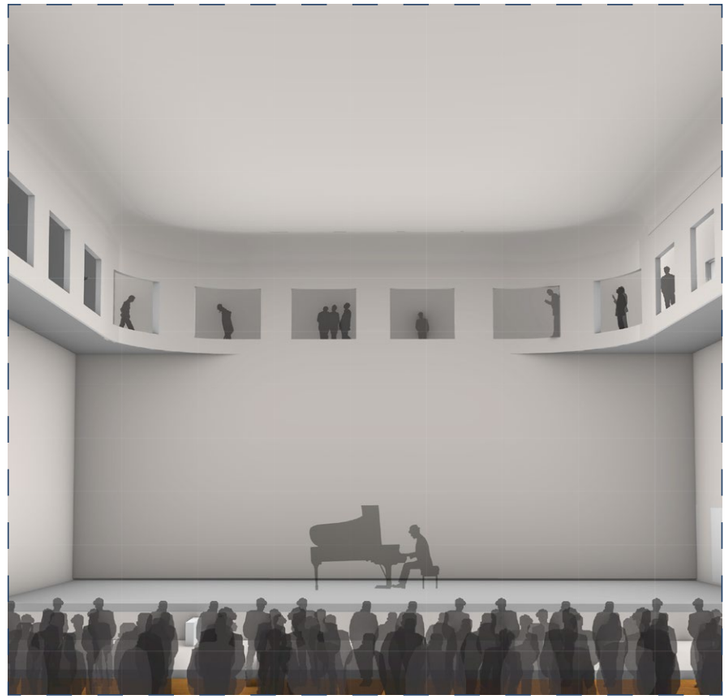
EXTERIOR PERSPECTIVE



EXTERIOR PERSPECTIVE

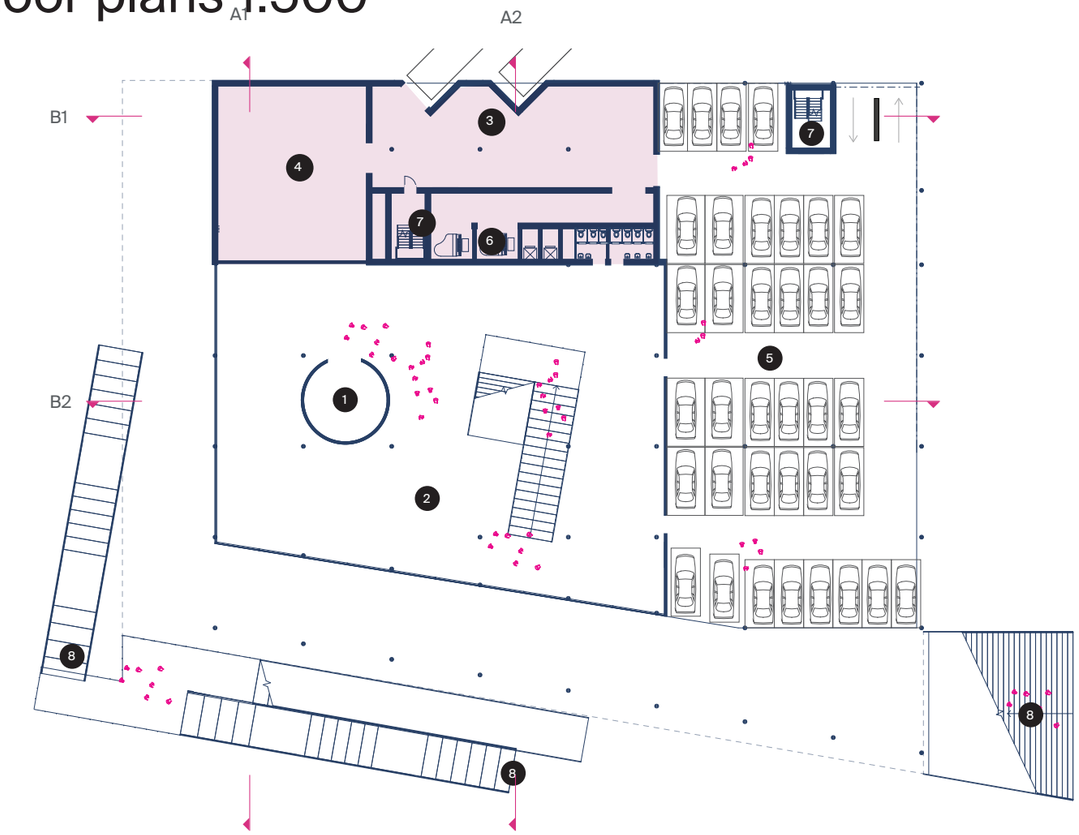


INTERIOR PERSPECTIVE

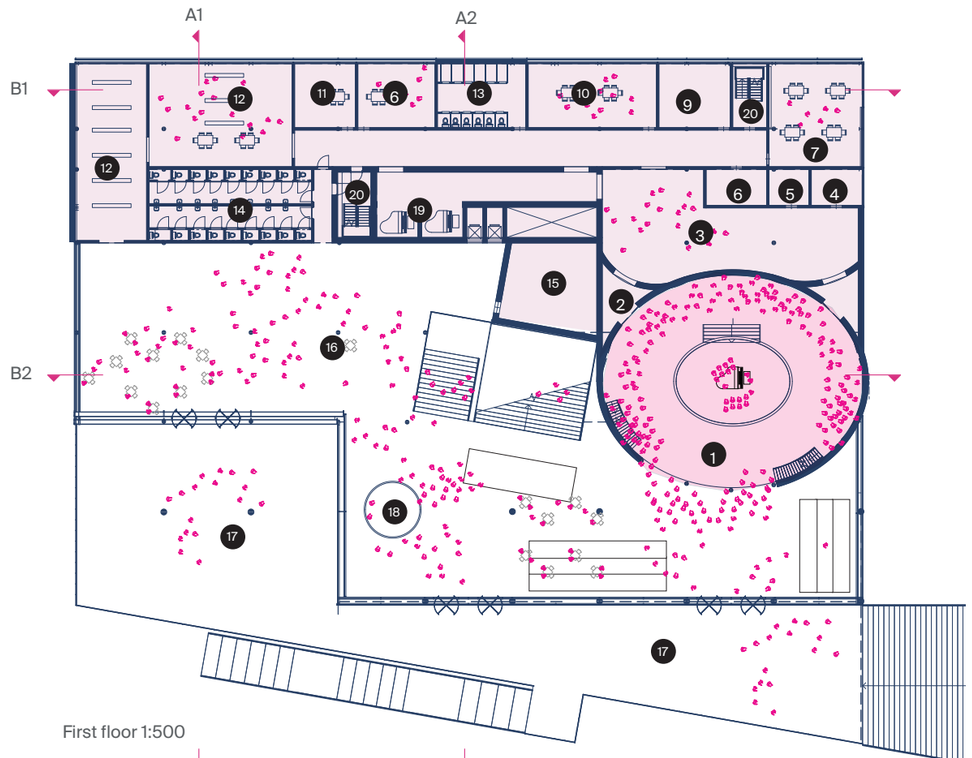


INTERIOR PERSPECTIVE

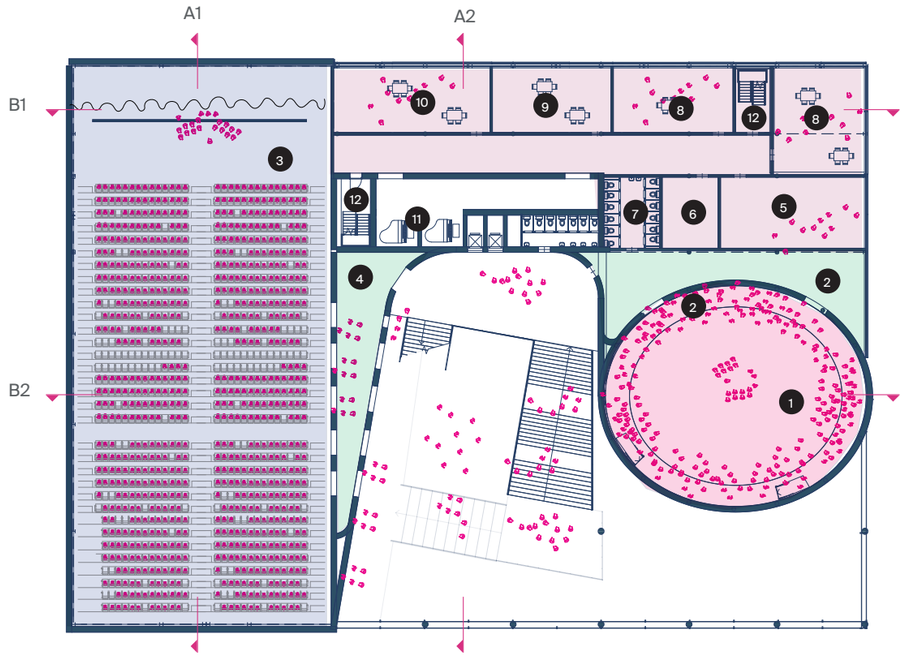
Floor plans 1:500



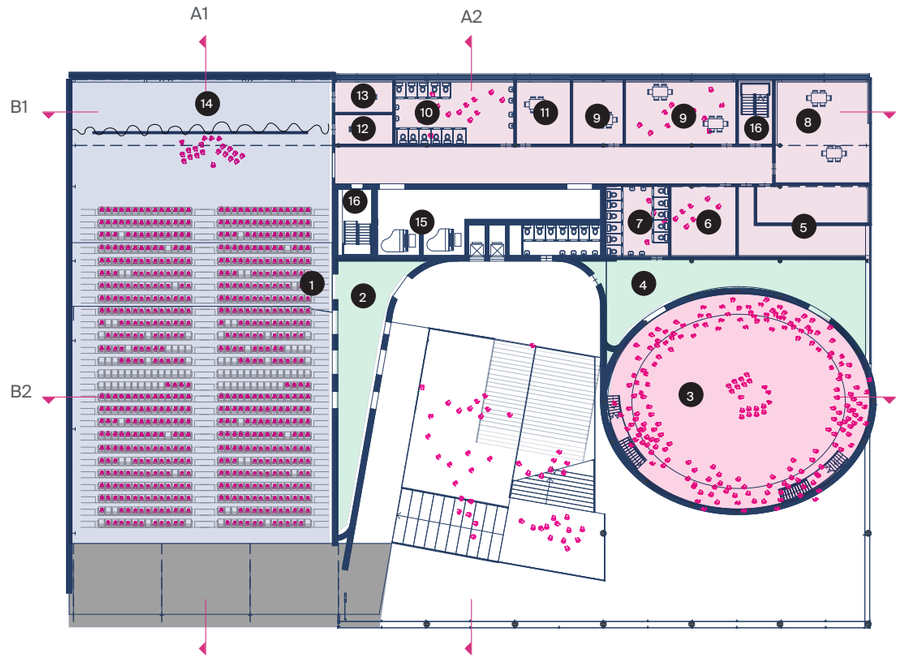
Ground floor 1:500



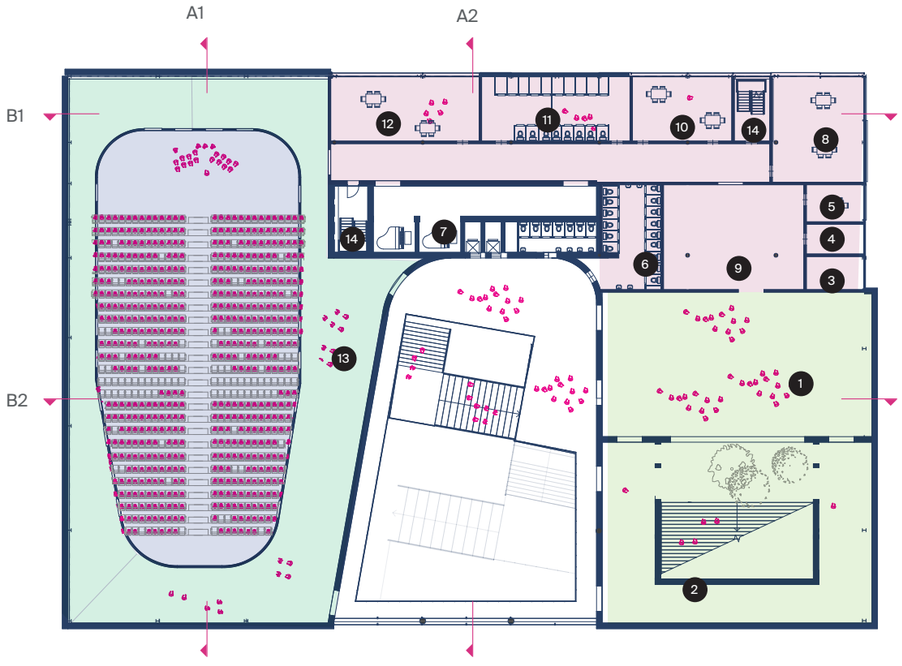
First floor 1:500



Third floor 1:500



Second floor 1:500



Fourth floor

Programme

FOURTH FLOOR

1 Hybrid hall
2 Rooftop concert
3 Chief Electrician
4 Technical director
5 Crew room
6 Toilets visitors
7 Elevator
8 Rehearsal room
9 Stage dock
10 Dressing room
11 Showers and toilets performers
12 Green room
13 Shoebox hall preview room
14 Fire escape

THIRD FLOOR

1 Arena hall third floor balcony
2 Arena hall foyer
3 Shoebox hall
4 Shoebox hall preview room
5 Recording studio arena
6 Toilets staff
7 Toilets visitors
8 Offices
9 Media facilities
10 Recording studio shoebox hall
11 Elevator
12 Fire escape

SECOND FLOOR

1 Shoebox hall main entrance
2 Shoebox hall preview room
3 Arena hall second floor balcony
4 Arena hall foyer
5 Dressing rooms
6 Showers and toilets
7 Toilets visitors
8 Rehearsal area
9 Offices
10 Toilets staff
11 Crew room
12 Technical director
13 Chief electrician
14 Stage dock
15 Elevator
16 Fire Escape

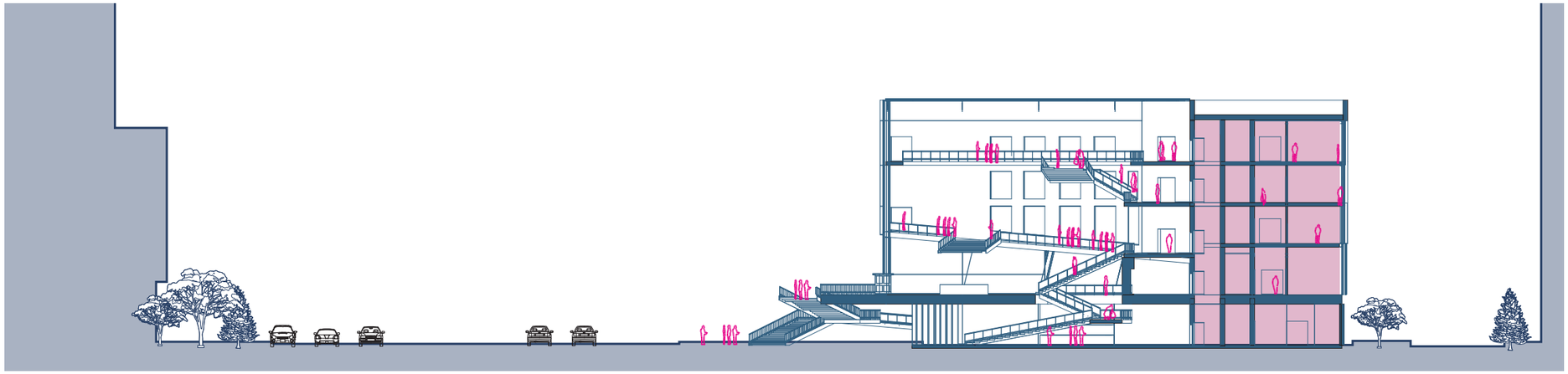
FIRST FLOOR

1 Arena hall main entrance
2 Artists entrance
3 Stage dock
4 Chief Electrician
5 Technical director
6 Crew space
7 Dressing room
8 Green room
9 Offices
10 Rehearsal area
11 Offices
12 Kitchen and storage
13 Showers and toilets performers
14 Toilets foyer visitors
15 Garderobe
16 Restaurant
17 Balcony
18 Ticket office
19 Elevator
20 Fire escape

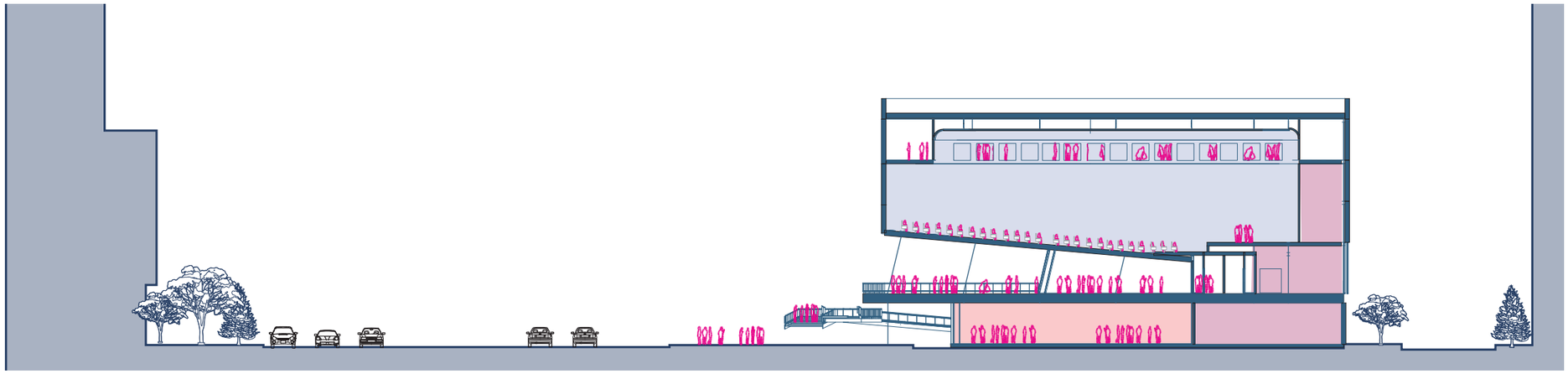
GROUND FLOOR

1 Ticket office
2 Entrance foyer
3 Loading dock
4 Workshop
5 Parking garage
6 Elevator
7 Fire escape
8 Balcony access

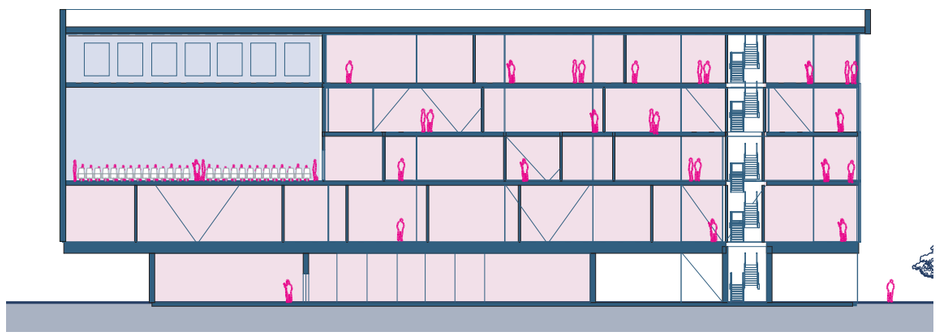
Sections 1:500



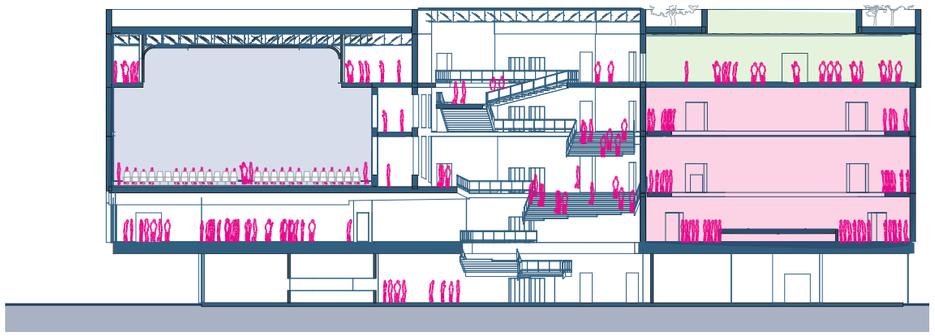
SECTION A1 1:500



SECTION A2 1:500

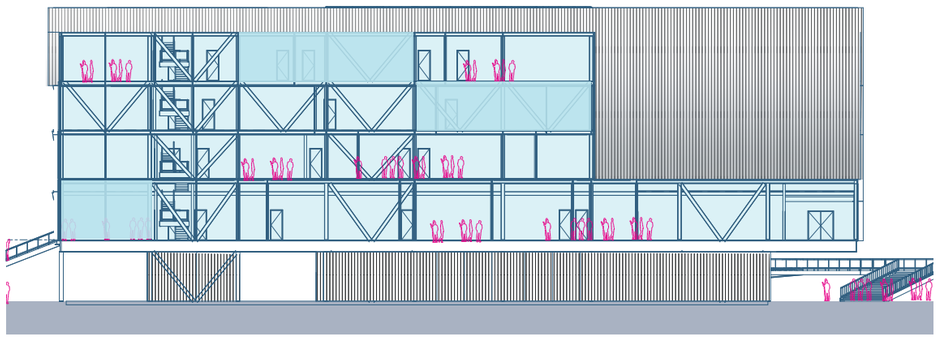


SECTION B1 1:500

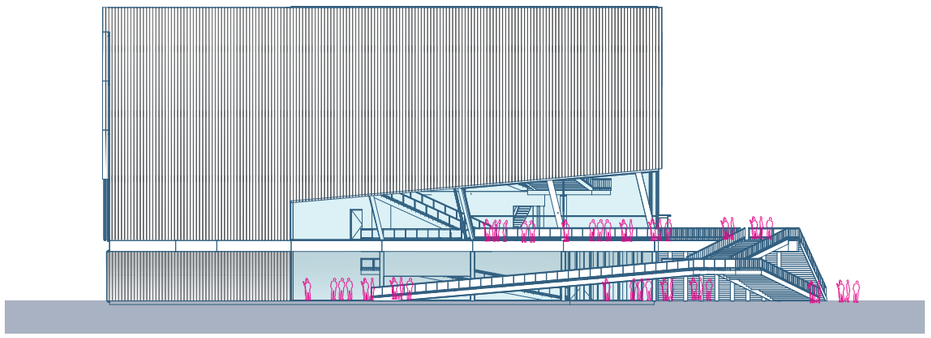


SECTION B2 1:500

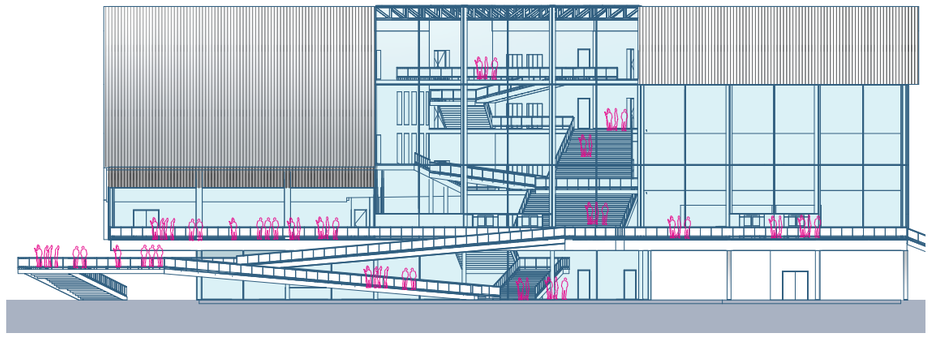
Elevations 1:500



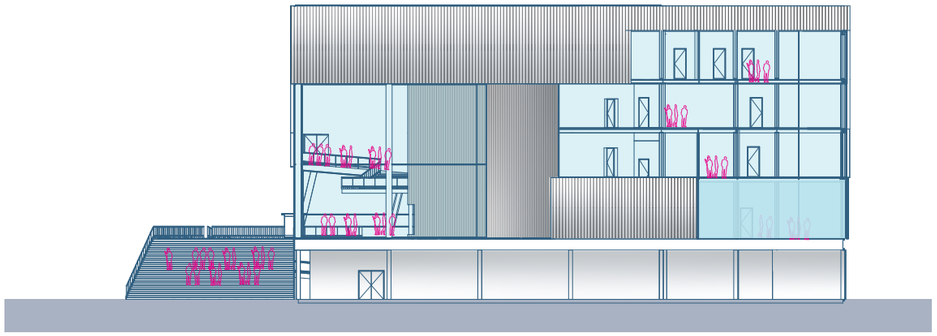
SOUTH ELEVATION 1:500



EAST ELEVATION 1:500



NORTH ELEVATION B2 1:500



WEST ELEVATION B2 1:500

Axonometry 1:50

CONCERT HALL
Reused wooden paneling
Reused textile for flooring and chairs
Controlled openable windows

FACADE
Double HR+++ glass
Double facade
Passively ventilated shaft
Manual swirling doors

FOYER
Reused steel cladding
on various widths for reflection
Reused textile for dampening

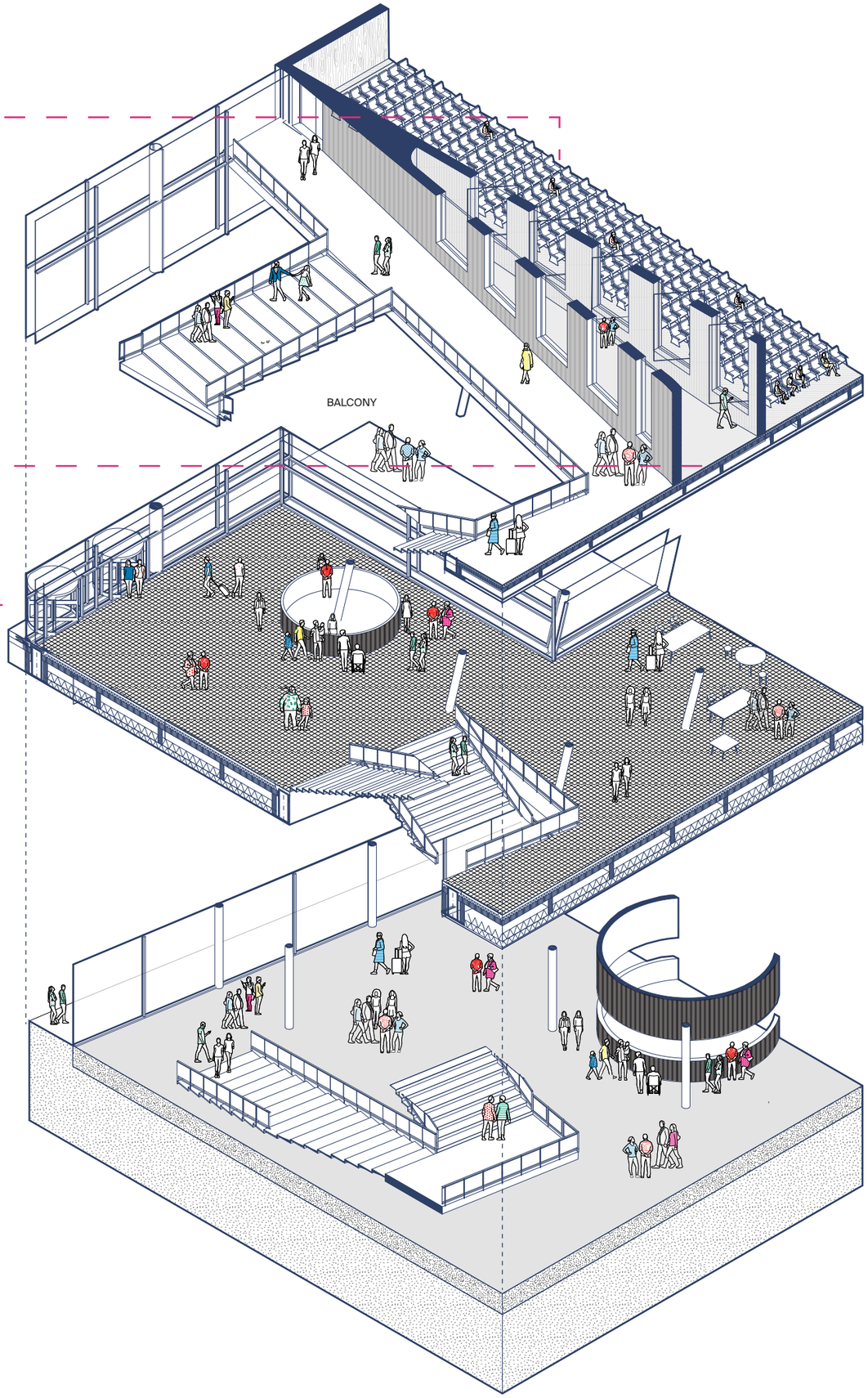
BUFFER ZONE
Double facade w/ glazing
Sound insulated and dampened
Controlled openable windows

Entrance + Ticket office

FLOOR BUILDUP
PVC flooring
Sound insulation 10mm
Steel THQ frame, demountable
Wooden CLT floor and beams
Insulation 420mm
Fireproof cladding

ENCLOSED ENTRANCE
Access via parking
Access for wheelchair users

FLOOR BUILDUP
Thermally activated slabs
Foundation poles



Section 1:80

1 ROOFTOP GARDEN
Sedem roofing
Small foliage

2 FLOOR BUILDUP
Reused garden panels
Moisture resistant layer
Wooden CLT floor and beams
Fireproof cladding

3 WALL BUILDUP
Aluminium roof trim
Reused steel cladding
Moisture resistant layer
Biofoam CTC insulation 450mm

4 REUSED STAIRCASE
Stainless steel staircase

5 FLOOR BUILDUP
PVC panels
Moisture resistant layer
Form resistant insulation 240mm
Wooden CLT floor and beams
Ventilation shafts
Fireproof cladding

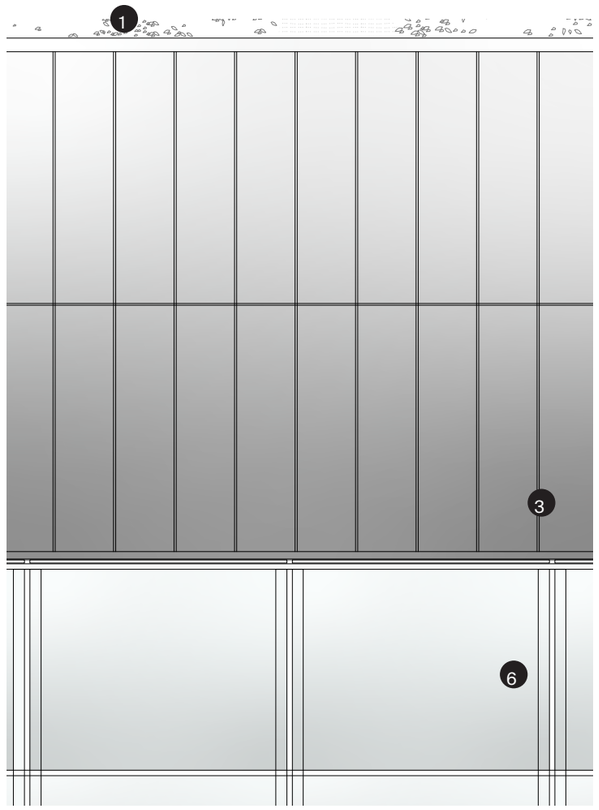
6 FACADE EXHAUST
Naturally ventilated air ducts

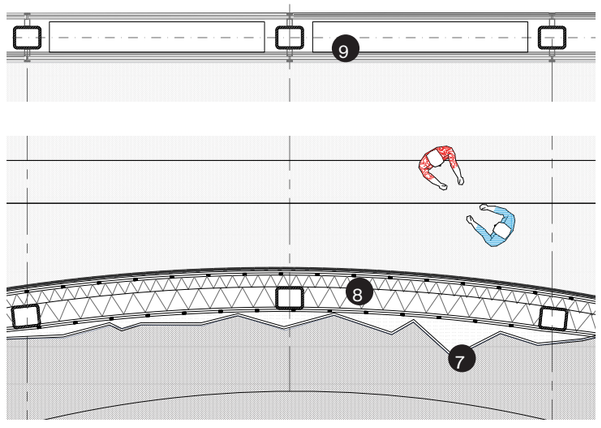
7 ACOUSTIC PANELS
Kinetically operated
Reused textile

8 HALL BUILDUP
Demountable steel frame
Added insulation for wall mass
Flanking soundproof cladding
Unlinked from steel frame

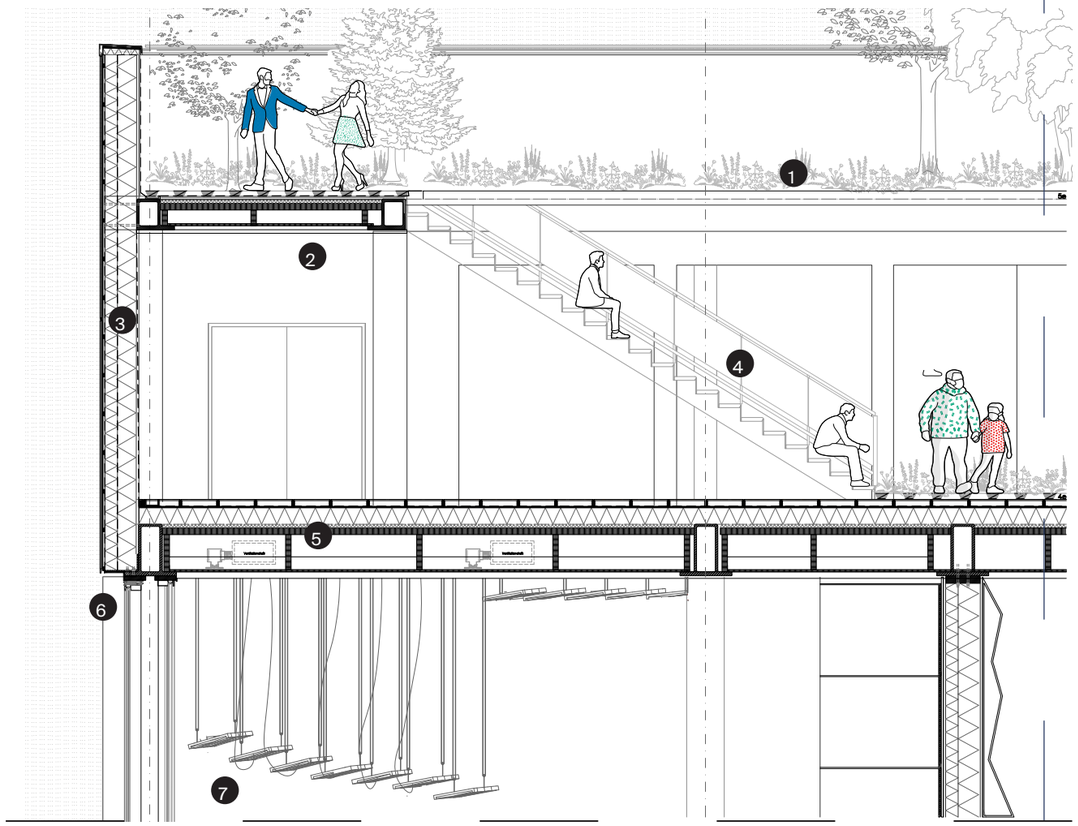
9 FACADE
Double HR+++ glass
Double facade
Passively ventilated shaft
Manual swirling doors

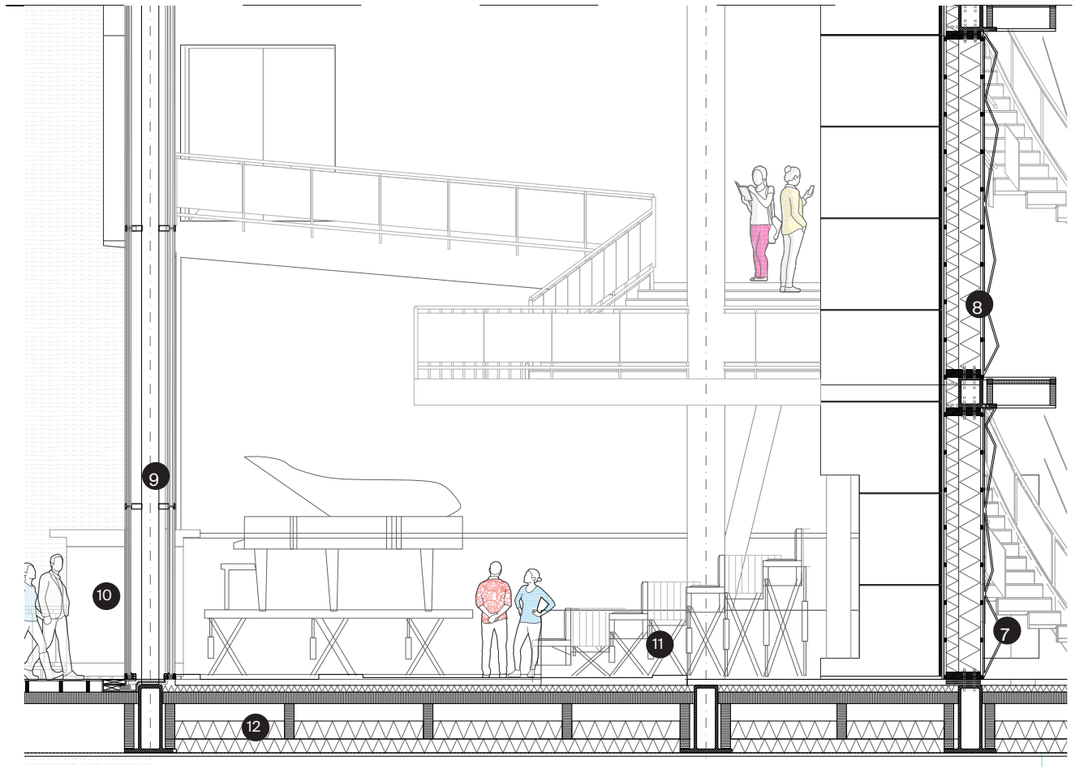
10 SWIRLING DOORS
Manual; preventing copper use in electric motors



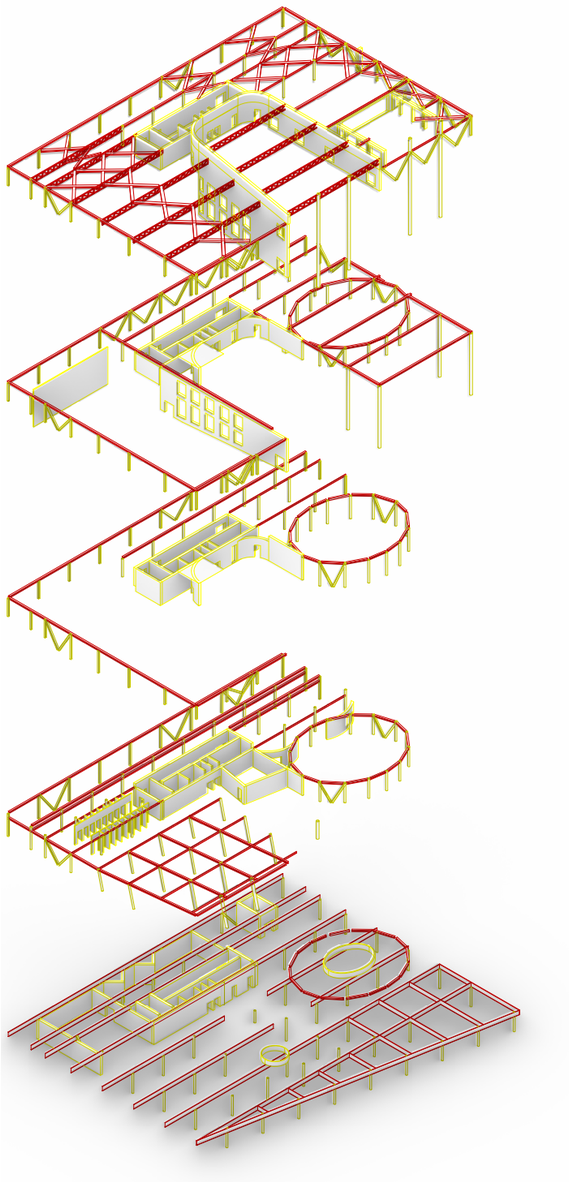


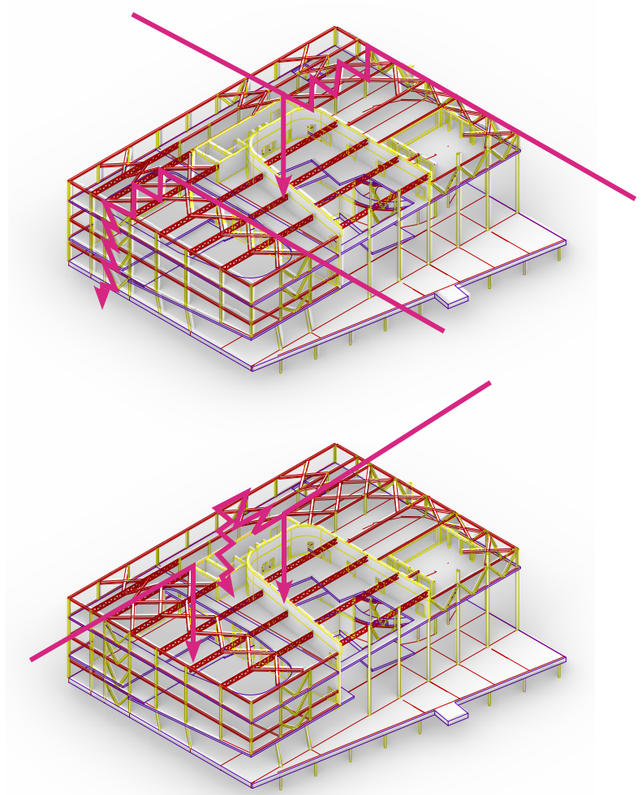
12 FLOOR BUILDUP
PVC flooring
Sound insulation 10mm
Steel THQ frame, demountable
Wooden CLT floor and beams
Biofoam CTC insulation 450mm
Fireproof cladding

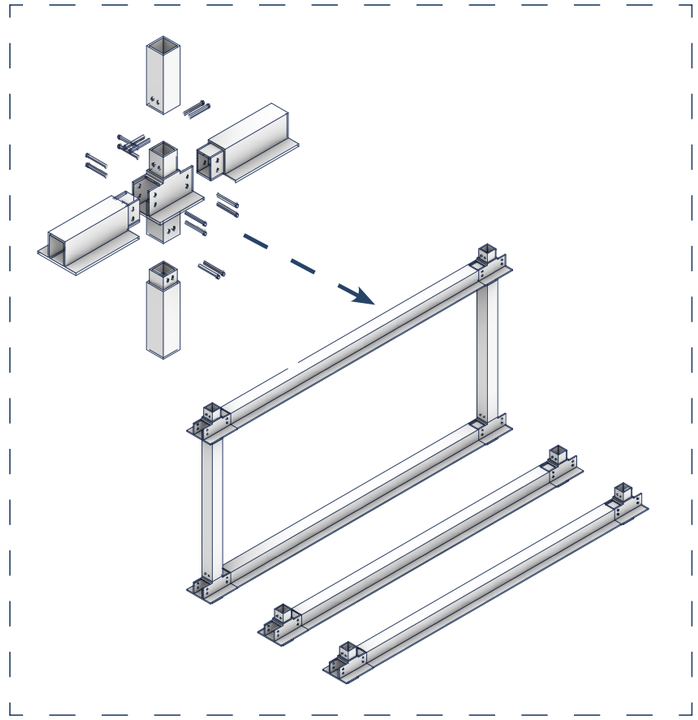




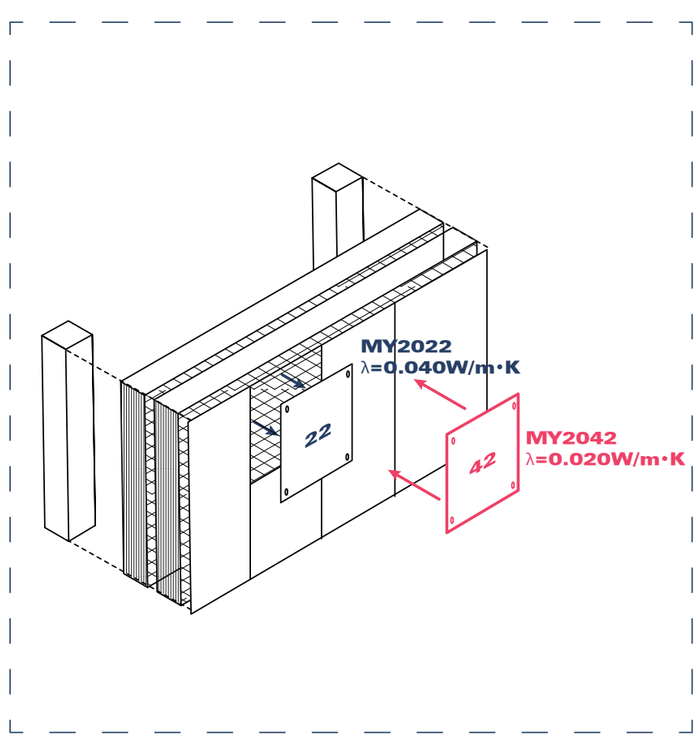
Structure







DECONSTRUCTABLE DETAIL



WALL STRUCTURE DIAGRAM

Climate

CLIMATE DIAGRAM

1 Photovoltaic panels

2 Air exhaust in facade

3 Landscape courtyard

4 Stormwater drain

5 Naturally ventilated hall

6 Double glazed skin

7 Ventilation in halls

8 Heat/chill ceilings

9 Air intake

10 Rising warm air

11 District heating

12 Thermally activated foundation slabs

13 Waterless urinals

14 Electric car outputs

15 Kinetic adjustable panels

16 Deconstructable wall panels

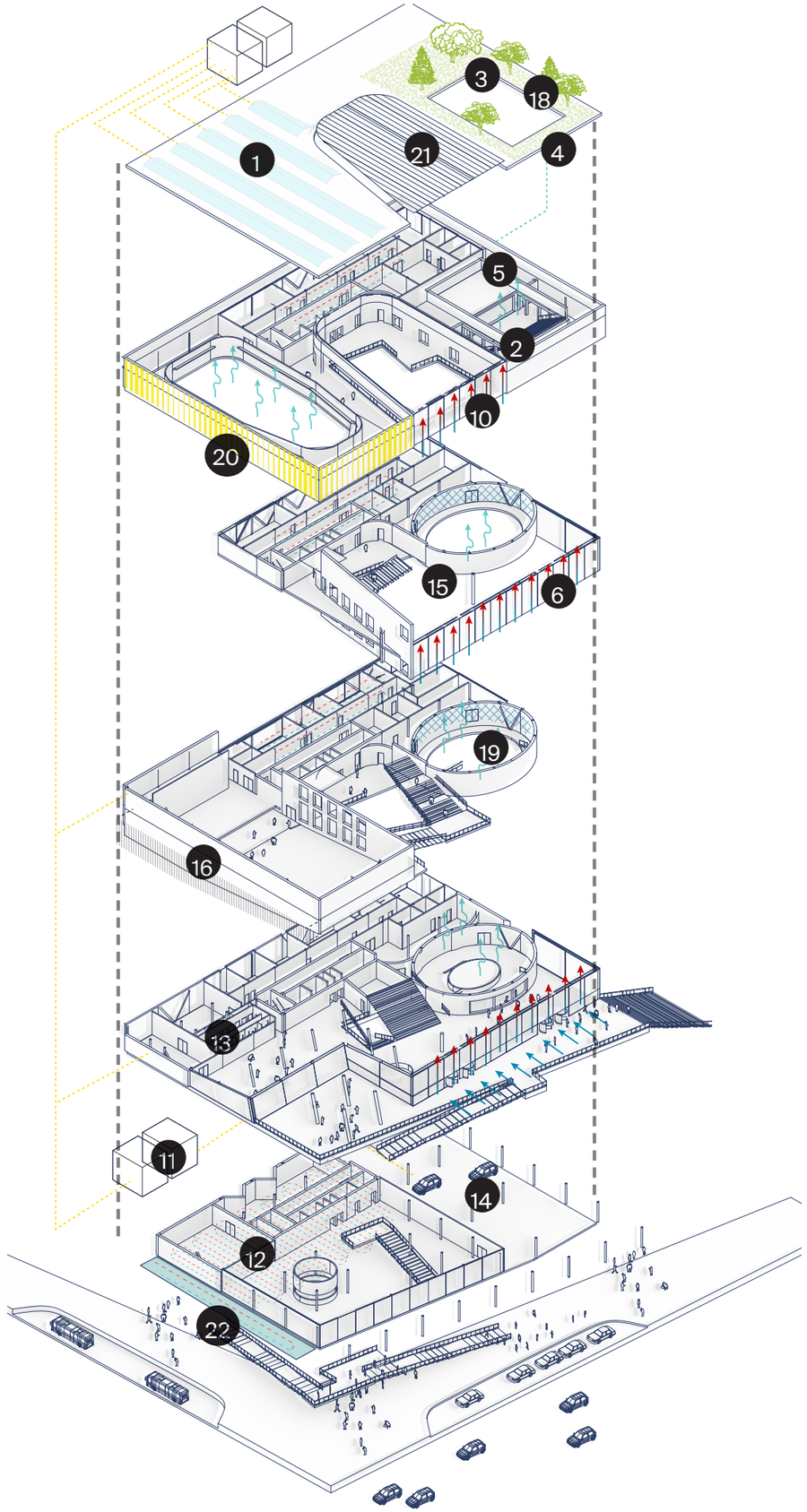
17 Reused landscape elements

18 Reused textile thermal insulation

19 Reused textile acoustic insulation

20 Openable glass rooftop

21 Cooling water feature



Appendix: architectural details P4



Section 1:80

1 ROOFTOP GARDEN
Sedem roofing
Small foliage

2 FLOOR BUILDUP
Reused garden panels
Moisture resistant layer
Wooden CLT floor and beams
Fireproof cladding

3 WALL BUILDUP
Aluminium roof trim
Reused steel cladding
Moisture resistant layer
Biofoam CTC insulation 450mm

4 REUSED STAIRCASE
Stainless steel staircase

5 FLOOR BUILDUP
PVC panels
Moisture resistant layer
Form resistant insulation 240mm
Wooden CLT floor and beams
Ventilation shafts
Fireproof cladding

6 FACADE EXHAUST
Naturally ventilated air ducts

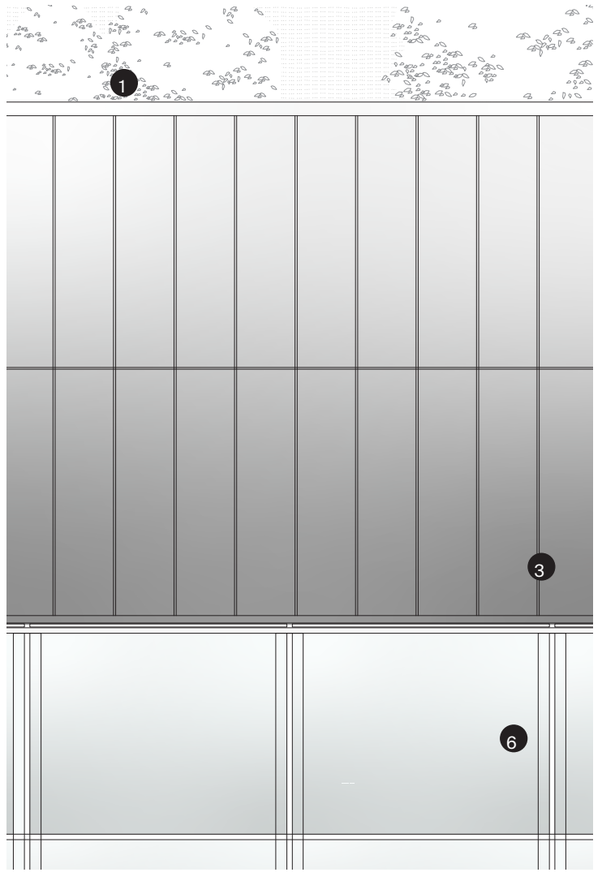
7 ACOUSTIC PANELS
Kinetically operated
Reused textile

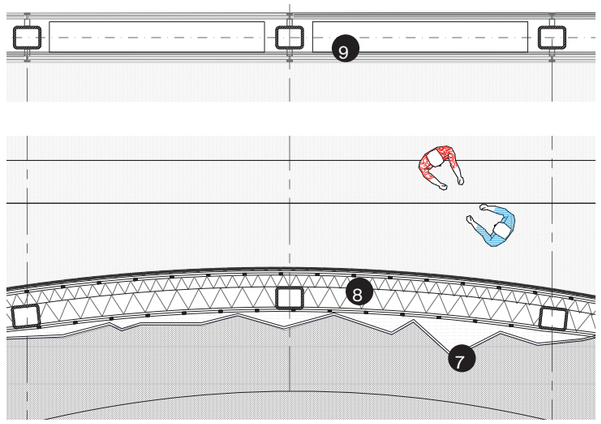
8 HALL BUILDUP
Demountable steel frame
Added insulation for wall mass
Flanking soundproof cladding
Unlinked from steel frame

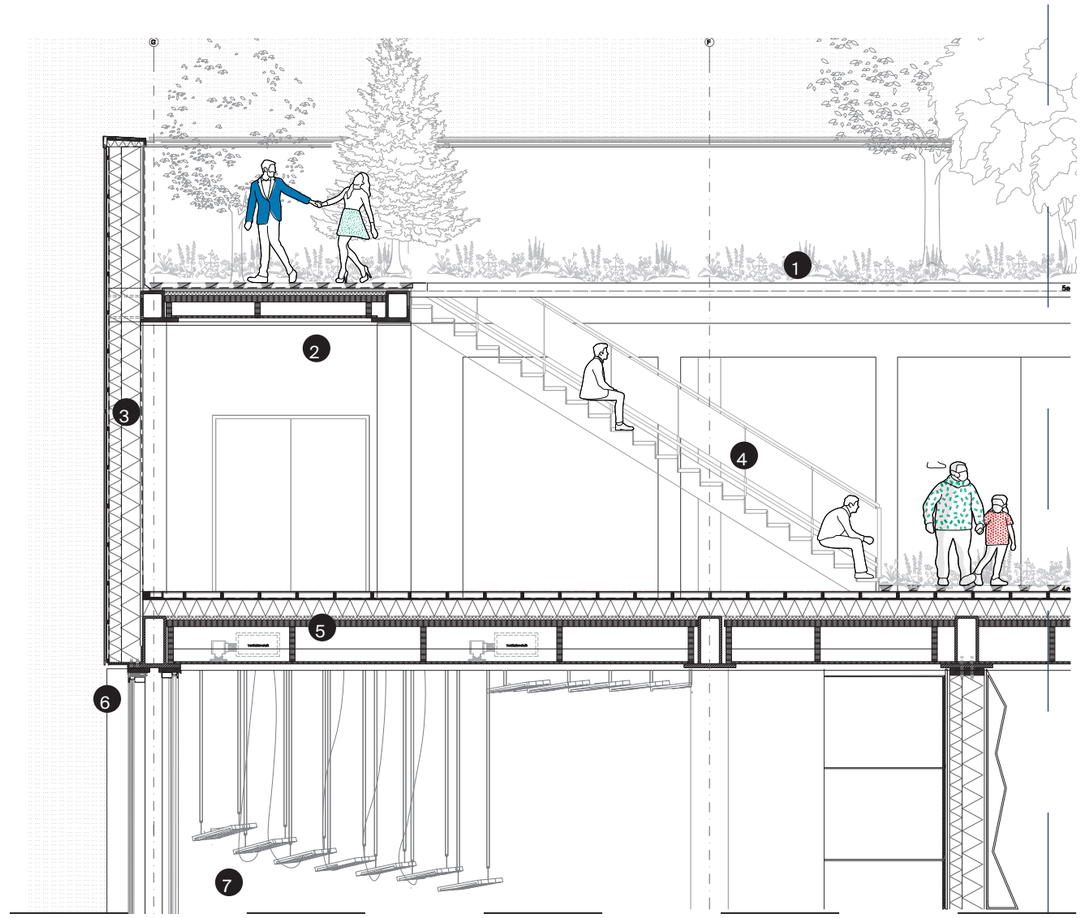
9 FACADE
Double HR+++ glass
Double facade
Passively ventilated shaft
Manual swirling doors

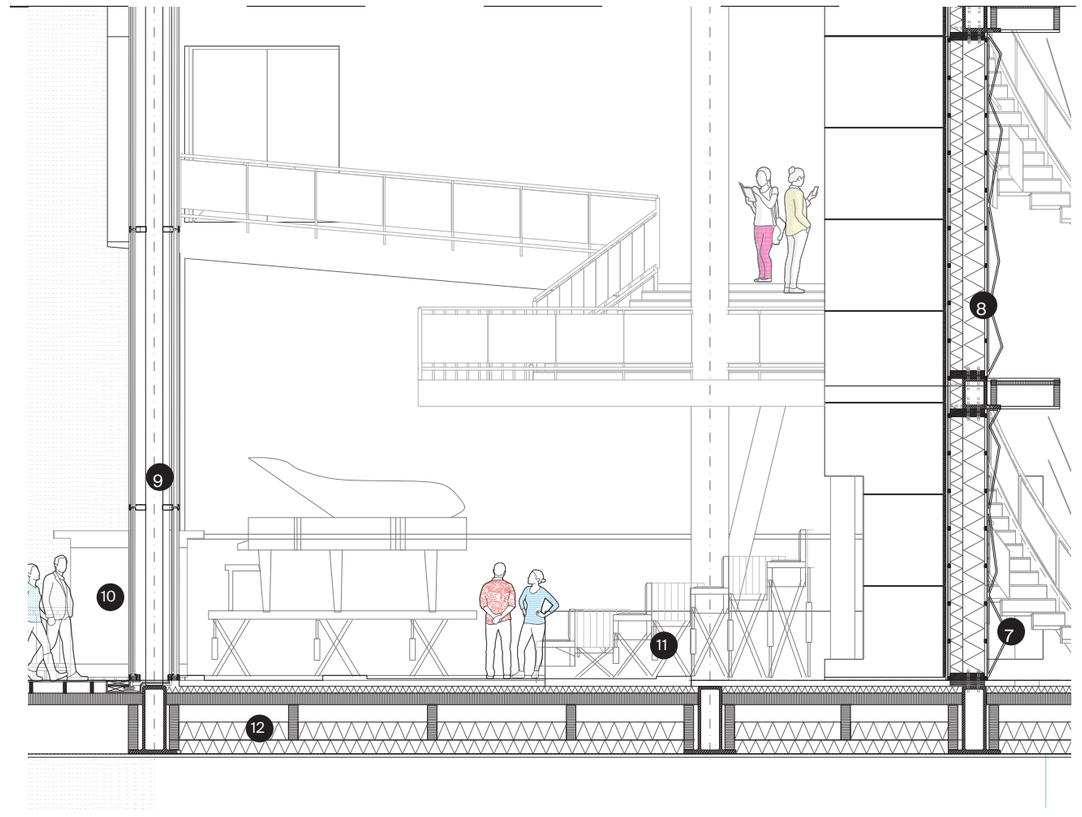
10 SWIRLING DOORS
Manual; preventing copper use in electric motors

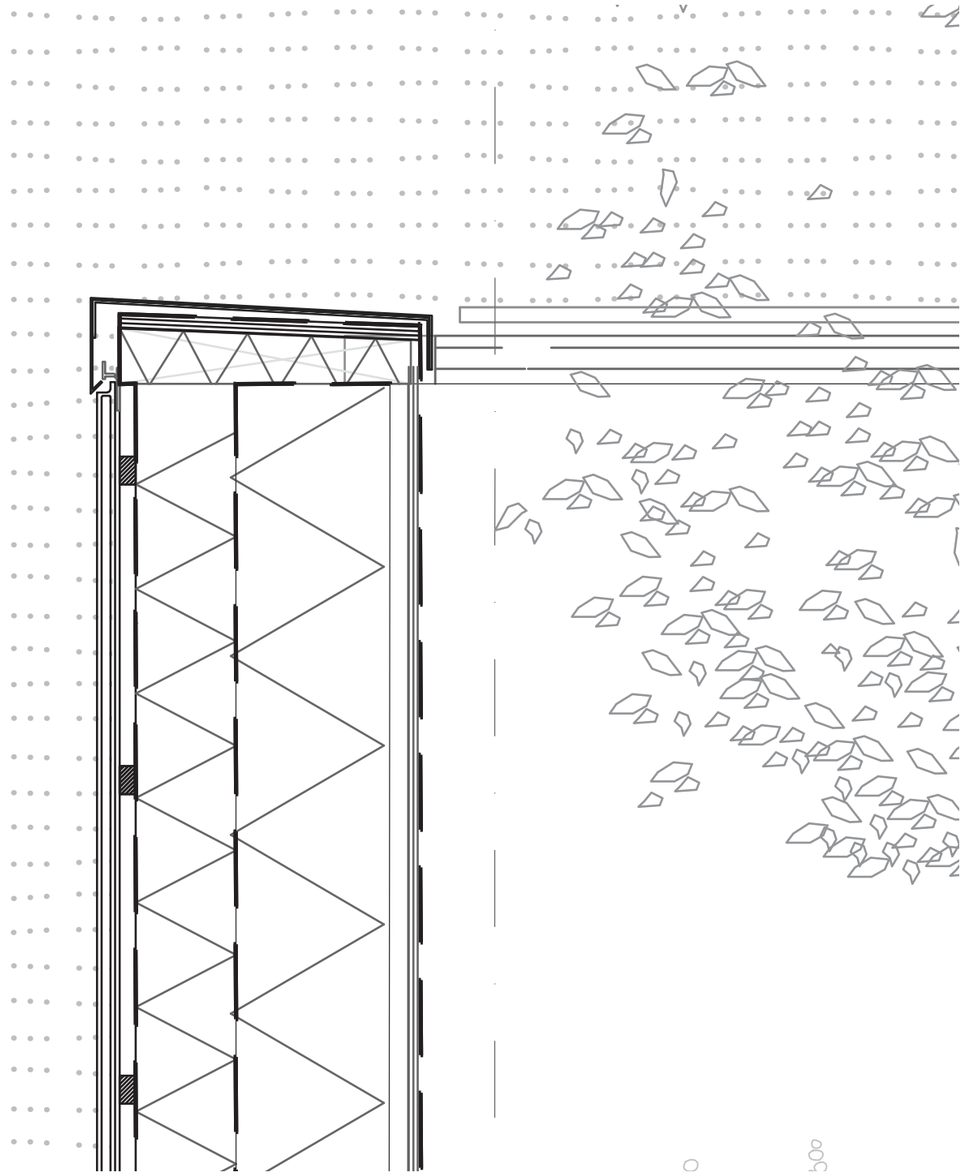
12 FLOOR BUILDUP
PVC flooring
Sound insulation 10mm
Steel THQ frame, demountable
Wooden CLT floor and beams
Biofoam CTC insulation 450mm
Fireproof cladding



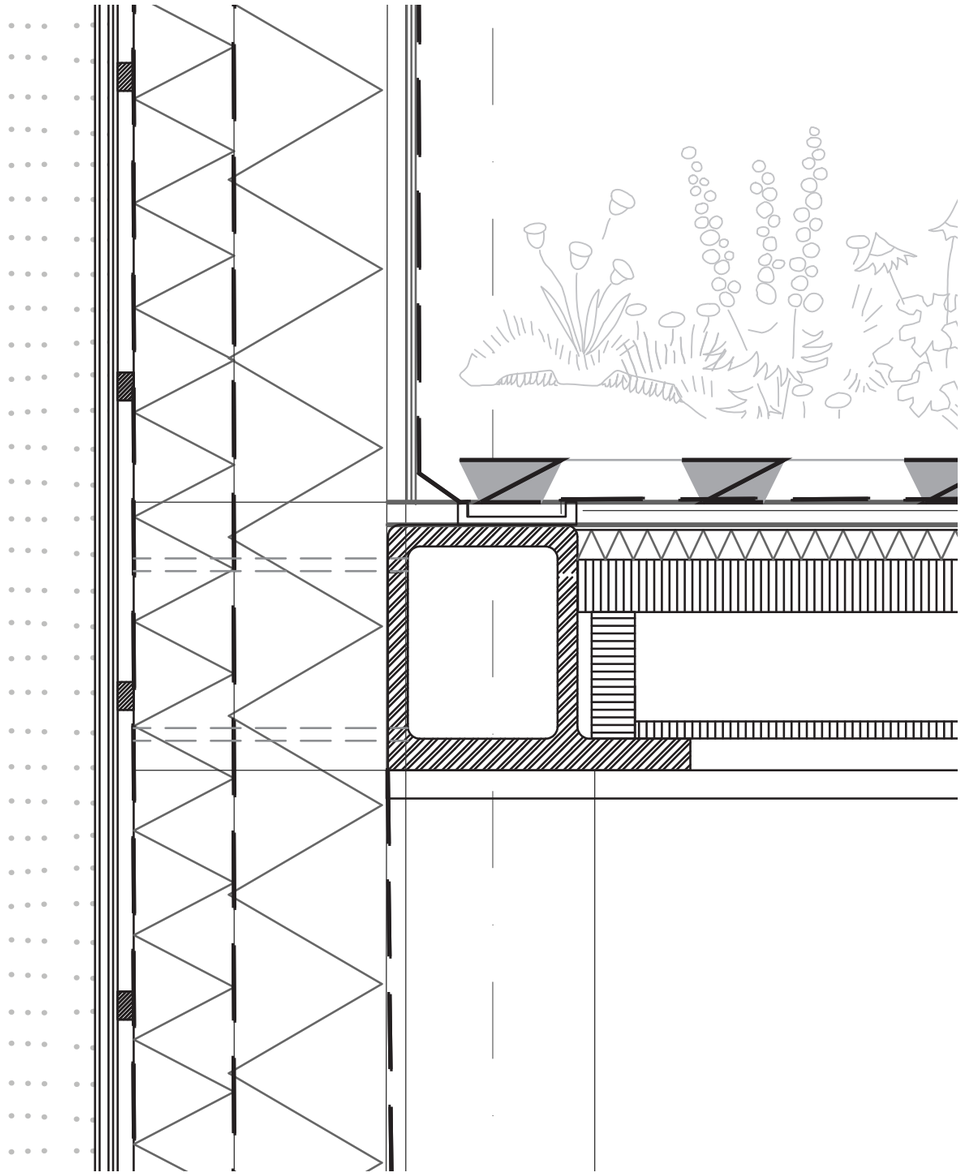




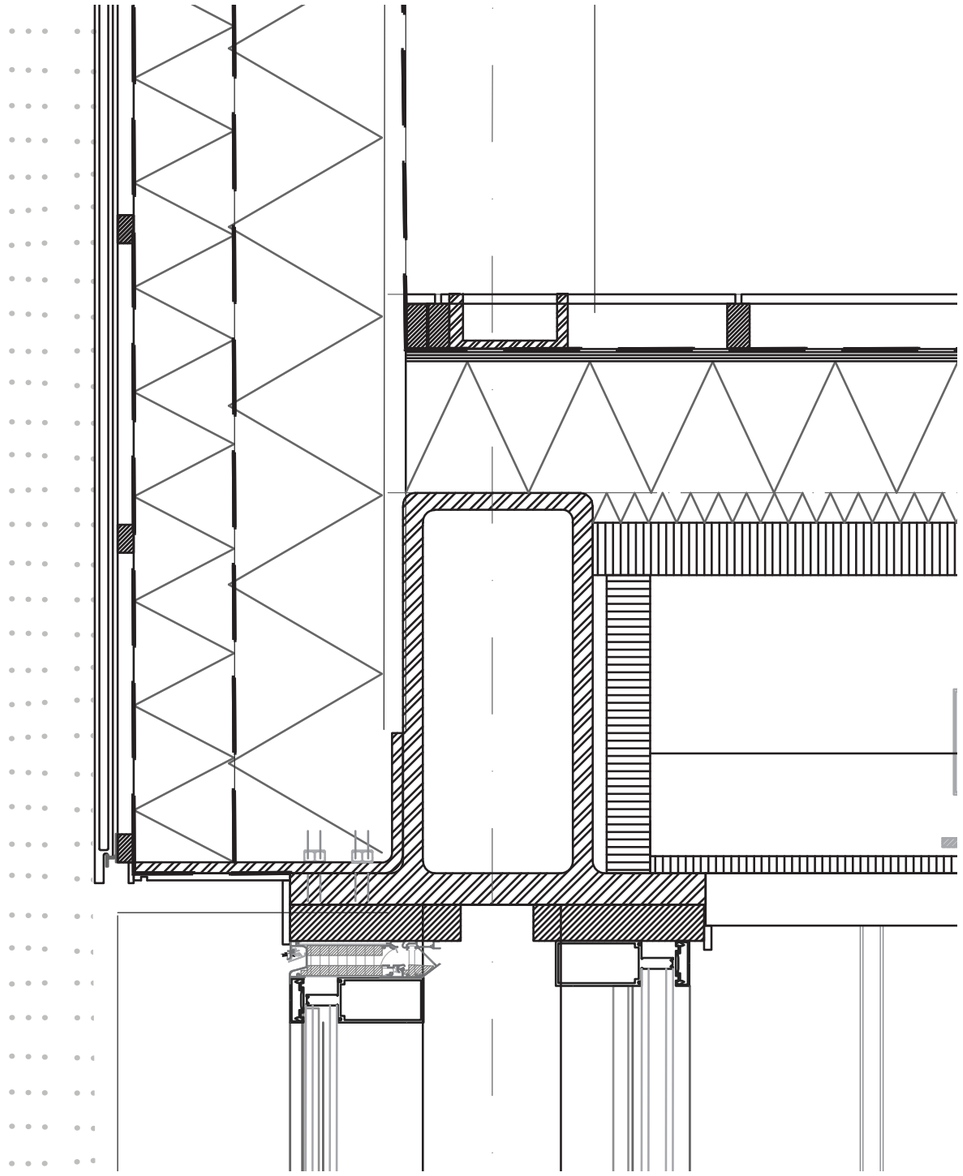




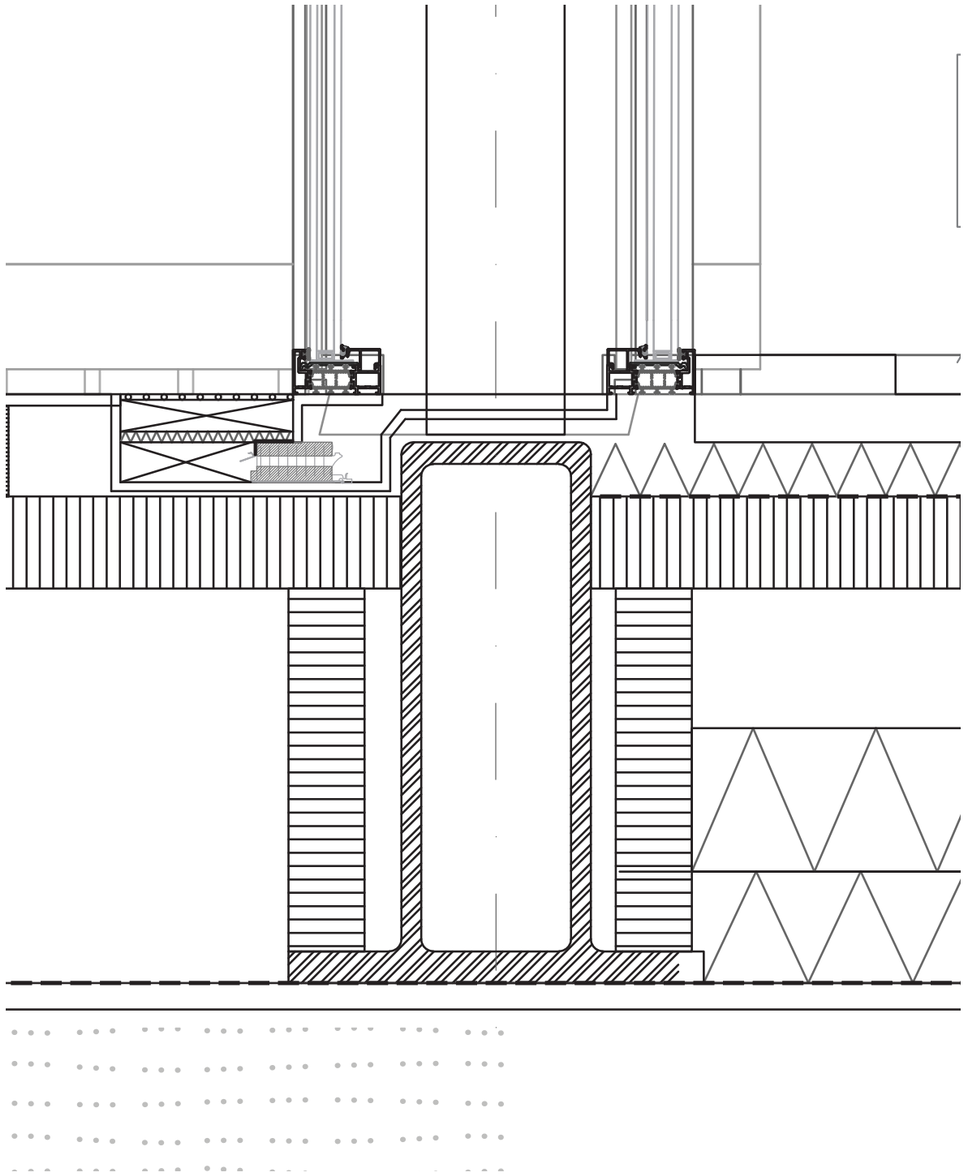
1 ROOFTOP TRIM 1:10
Aluminium trim, wooden frame
Steel plating on deconstructable rails
Water resistant layer



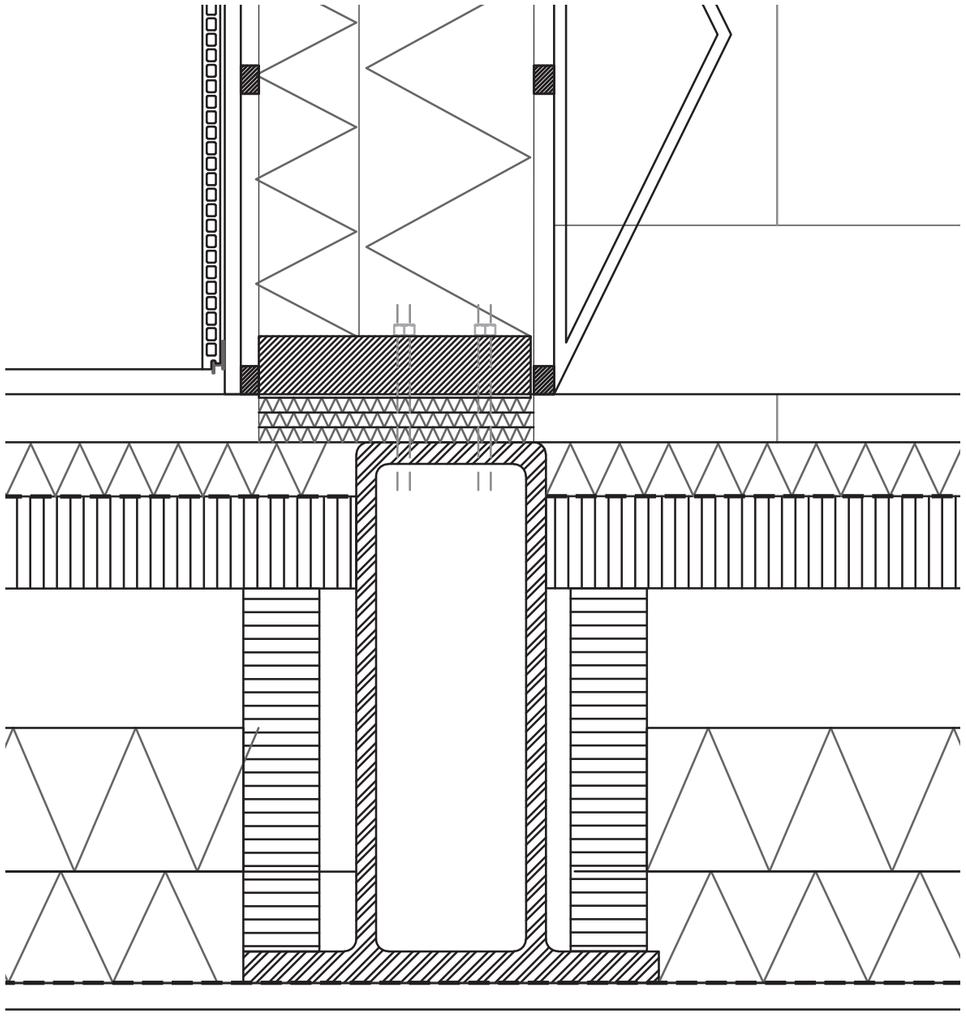
2 WALL-FLOOR JOINT 1:10
Steel deconstructable THQ beam
Removeable wooden flooring
Wooden wall structure bolted to THQ beam
Steel plating on deconstructable rails
Water resistant layer
Water gutter beneath sedem panels



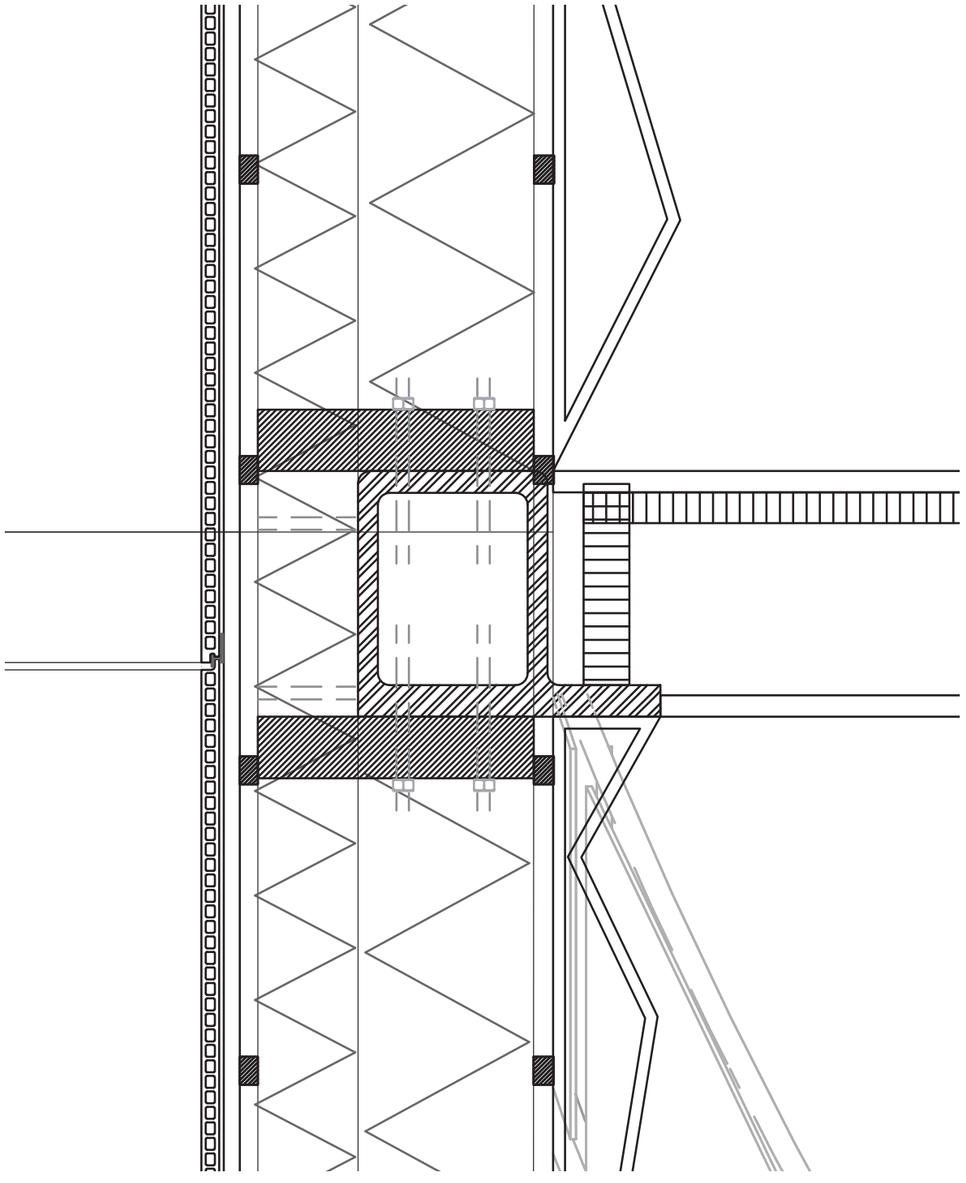
3 WALL-FLOOR JOINT 1:10
Steel deconstructable THQ beam
Wooden wall structure bolted to THQ beam
Steel plating on deconstructable rails
Water gutter beneath rooftop flooring panels
Air ventilation exhaust between two HR+++ glazing panels



4 FLOOR JOINT 1:10
Steel deconstructable THQ beam, heavy duty for ground floor
Wooden wall structure bolted to THQ beam, BioFoam CTC insulation
Water gutter beneath rooftop flooring panels
Air ventilation exhaust beneath two HR+++ glazing panels

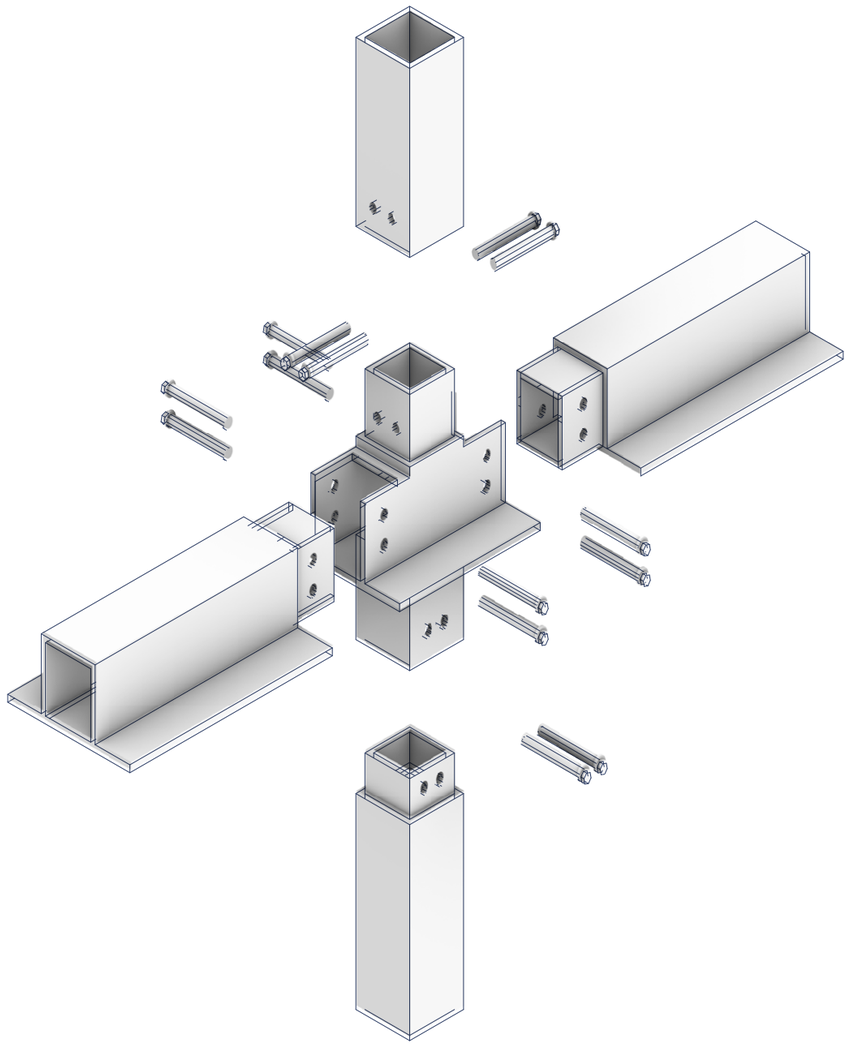


5 FLOOR JOINT 1:10
Steel deconstructable THQ beam, heavy duty for ground floor
Wooden wall structure bolted to THQ beam, BioFoam CTC insulation
Water gutter beneath rooftop flooring panels
Air ventilation exhaust beneath two HR+++ glazing panels
Joint insulated and dinsconnected to prevent acoustic transfer

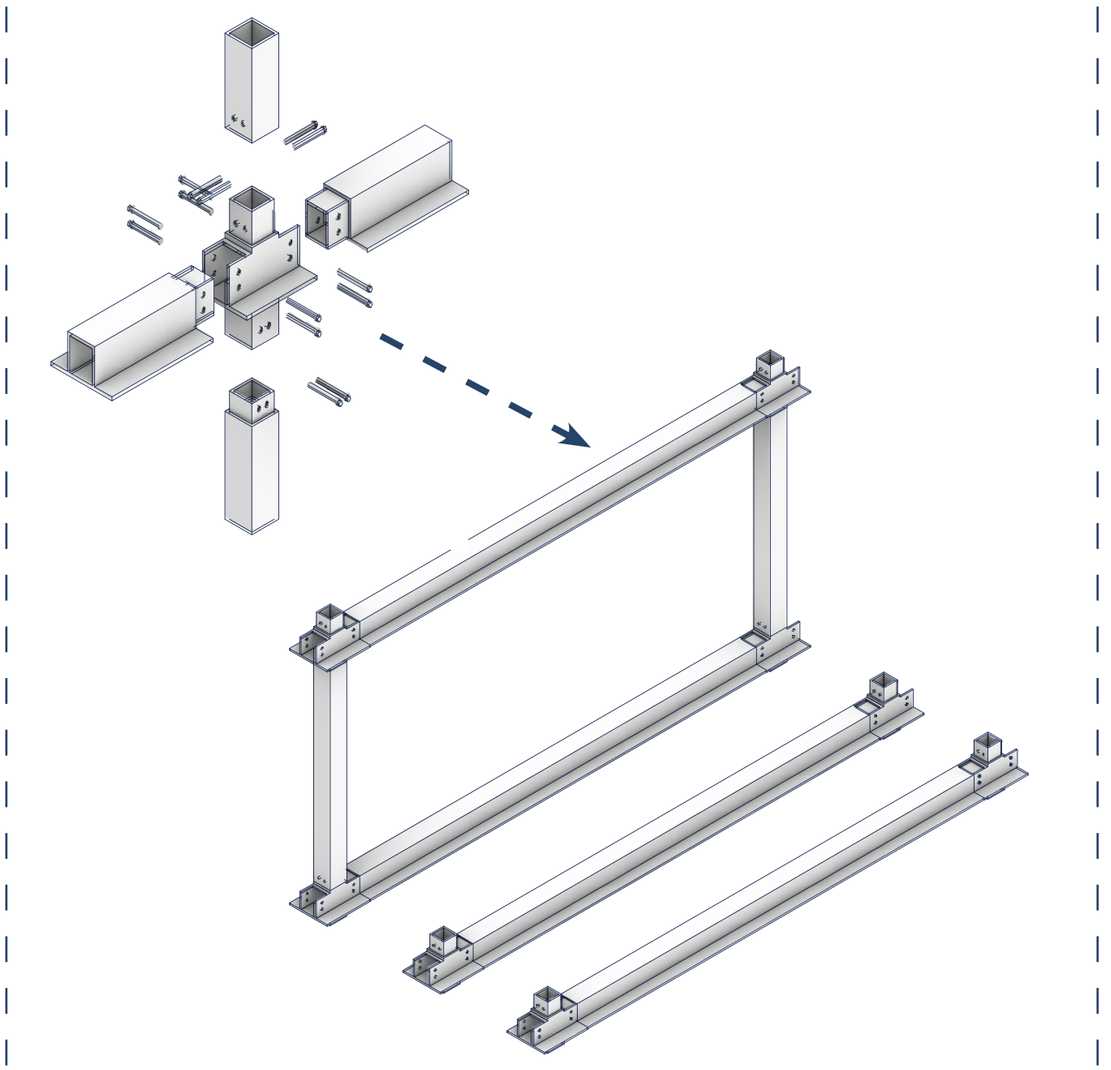


6 FLOOR JOINT 1:10
Steel deconstructable THQ beam, connected to small balcony structure
Wooden wall structure bolted to THQ beam, BioFoam CTC insulation for mass
Reused steel cladding
Flanking sound insulation for round shape acoustics

Deconstructable detail



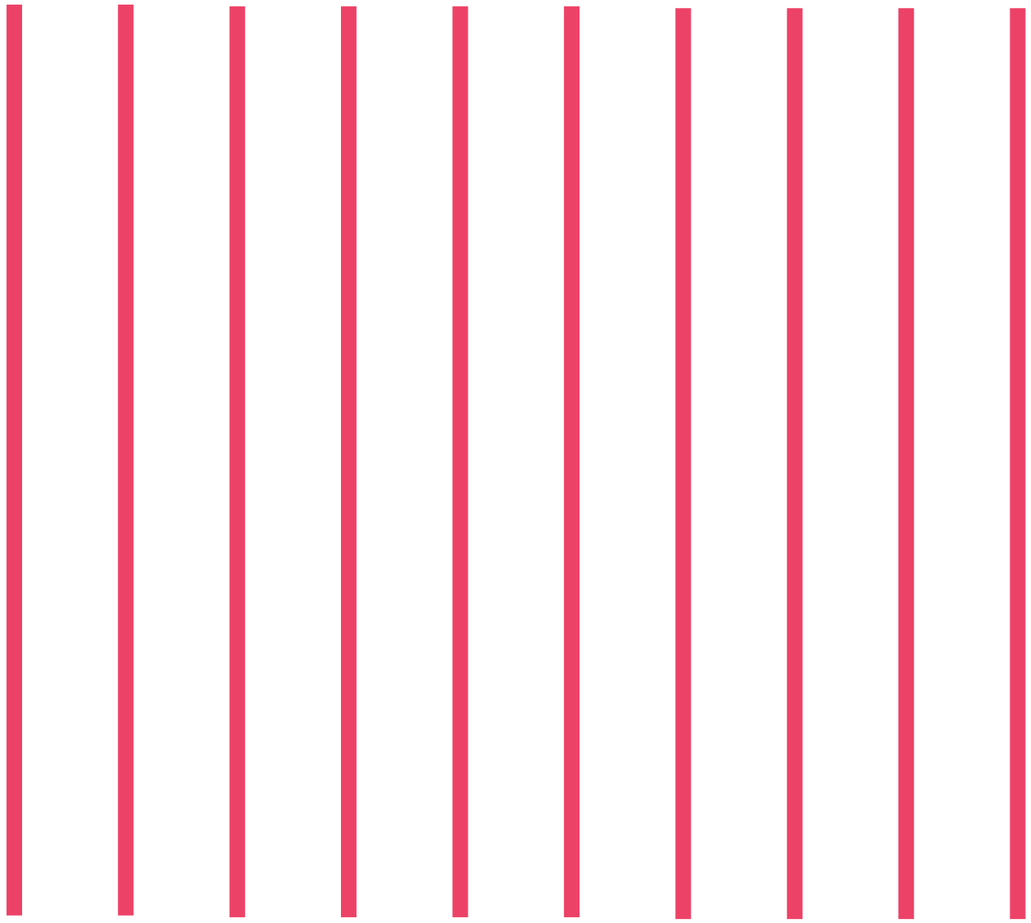
7 DECONSTRUCTABLE AXONOMETRIC
Top-down constructable and boltable steel structure based on THQ beams
Both cilindrical and square columns connect
Made using recycled scrap steel to limit raw material need; waterproofed for oxydation risk
Use of only bolts and weight to remove need for welding



8 DECONSTRUCTABLE AXONOMETRIC
Pre-assembly in beams and frames, for truck-sized transport
Minimize mobile crane use by pre-assembly

CONCERTO DINAMICO

Michael Landman
Public Building
Music Marvel
Music and Popular Culture Re-Wired
P4 Academic Reflection



Concerto Dinamico
Michael Landman

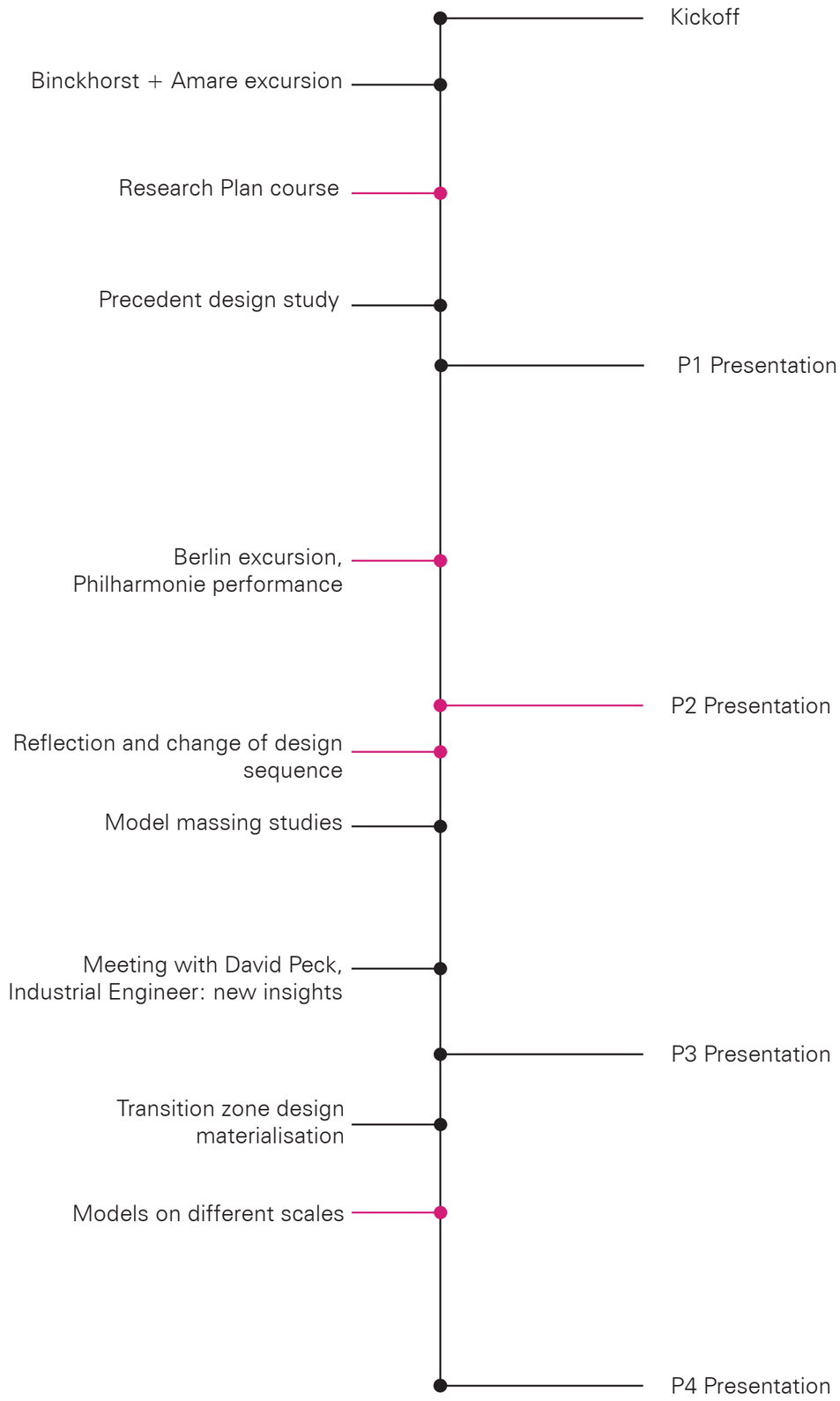
Academic Reflection
P4 May 18 2022

Public Building
Music Marvel
Music and Popular Culture Re-wired

MSc. Architecture, Urbanism and Building Sciences
Delft University of Technology

Paul Kuitenbrouwer
Gilbert Koskamp
Nicola Marzot

TIMELINE



INTRODUCTION

Concerto Dinamico is part of the 2021-2022 Public Building Graduation studio Music Marvel, Music and Popular Culture Re-Wired. My choice for this studio was based on my interest for spatial public interventions and intense appreciation for (classical) music. My choice in studios has been eclectic to say the least, from The Why Factory to Heritage in Architecture, along with a thesis on Dutch building policies. I aimed to apply the experiences and knowledge gained from both studios in the graduation course, as to focus on urban concepts but also apply my interest in architecture history and precedents.

My appreciation for classical music has been one of the main drives behind this project. I was raised by parents who have a large passion for music and film, covering a wide variety of genres. This resulted in an early love for composers as Tchaikovsky, Beethoven and Philip Glass. As a millennial however, classical music has a different appreciation by my peers, one that is mainly perceived through modern media consumption and distribution. This new perception of a genre that echoes back ages, was one of the main inspirations for my Music Marvel.

However, my peers do not make up the biggest part of classical music enthusiasts. Classical concerts are still mostly visited by seniors (Tommasini, 2020), and the genre is still mainly known for its old demographic (Crawford, 2014). The experience of a classical concert is one of formal nature and features a certain choreography. Performances are experienced through listening, sitting in place, its duration dictated by the performance. This century-old concept translates to a building complex which accommodates the static experience. Even in new design, it reflects the heritage of the cultural tradition.

While respecting this tradition, I aimed to design a Music Marvel that allows for introduction, reinterpretation, and reappreciation of the enormously wide classical music experience, while creating a hub of culture and social activity in the Binckhorst area in The Hague. Binckhorst as we know it today, is a hub of business and industry. Planned is a mixed city neighbourhood, allowing for the development of homes, start-ups and creative hubs (Gemeente Den Haag, 2021). In order to further enhance the cultural development of a new bustling district in The Hague, the Music Marvel will fulfil a function of public engagement, in the form of a classical music venue. The Hague has a long history of classical music: the Royal Conservatoire has been housed in The Hague since 1826, integrating the Royal Academy of Art. Since the recent completion of the Amare music venue by Jo Coenen, The Hague again has a formal home for classical music. Concerto Dinamico aims to juxtapose the known tradition of classical music, by experimenting with dynamism, expectation, simultaneousness and choice. This ended as its main research question.

How can dynamic re-iteration of concert hall designs modernise the audience experience of the live contemporary classical music scene?

As stated, I strongly believe that classical music and its accompanying live scene follows a certain choreography, etiquette and relationship between performer and audience that allows for testing and tweaking. Because of this long-lasting heritage, as a designer I carefully touch upon this formal tradition. What can be changed? To what degree can a designer influence such events? Are we to maintain the status quo of this example western European culture that we know, or does it allow evaluation? Throughout the entire process of designing Concerto Dinamico, I tried to respect these questions.

1. Tommasini, Anthony. “Classical Music Attracts Older Audiences. Good.”. The New York Times (August 6 2020).
2. Crawford, Garry. “An Orchestral Audience: Classical Music and Continued Patterns of Distinction.” University of Salford. (January 2014)

FIRST DESIGN

The first attempt at a spatial design was to translate the spatial programme to a shape that was to stand out in its orthogonal context. The sequence of the proposed research, Object, Movement, and Perception resulted in the design of an object that was to be defined and adjusted in order to fit movement and perception. This resulted in a shape that stood out in an otherwise orthogonal masterplan of the new Binckhorst district. Before P2, focus laid much on the morphological subjects of the design, as was proposed in the research sequence. By having the mass lay back from the general building line, it would be recognised more easily, from several approach factors, such as by car, public transport, bicycle and by foot. The mass would be gently lifted in order to elevate it from public space, to put it on a pedestal as a sculpture.

This heavy focus on morphology resulted in a mediocre tentative organisational design, that was evident after the P2 presentation. The concept was to shuffle the traditional activity sequence, its corresponding programmatic scheme, and implement it into the shape that was defined by its surroundings. Eventually this caused a ‘form over function’-dilemma; the organisational quality suffered because of the form.

P2 EVALUATION

The presentation of P2 allowed for the first proper reflection of the period; following a strong change in direction, specifically the 180-degree turn of the Object - Movement – Perception process. Instead of starting with WHAT, starting off with HOW. Whereas the original process hinted towards the implementation of phenomenology and praxeology in existing typology, post-P2 design asked for the application of typology, rather than implementation of epistemes. This ultimately resulted in a different structure entirely, but still a child of the same theoretical parents. This changing of sequence provided the focus of a design on the perception and movement of a dynamic concert, rather than a formalist object that houses this.

180: ORGANISATION TO FORM

Focusing on perception and movement first, rather than the object, caused an evaluation of the organisational aspect. Elements that were present in the P2-design; routes, different experiences, public space, still were the ingredients for the new organisation, however, were not limited by the borders of form. Design started off with the design of simple space-syntaxes; relational schemes that provided the spatial sequence basis in the post-P2-design. The organisational concept focused on the possibility of composing your own ‘playlist’ of classical performances, while integrating a strong public connection.

With focus laid on organisation and experience, I dove into projects that focus on spatial typologies of public buildings. Casarts, Almere Block 6 (OMA), Forum Groningen (NL Architects), Tokyo Opera House (Jean Nouvel) all provided insight into the overall spatial-organisational aspect for the new design. The specific elements that fill this organisation are drawn from the typological catalogue of classic typologies, such as Opéra Garnier, Teatro Regio and the Bayerische Staatsoper. These classic typologies arranged together as a whole provide the negative that allows the mixing; metaphorically and functionally; the publicly accessible space as a living room. Gilbert and I discussed the term ‘Gelijktijdigheid’ (Simultaneousness), as to introduce and emphasize a grade of flexibility into the design of the foyer. Must performances be limited to the concert halls, or is there a possibility of transition? This eventually resulted into the design of various ‘preview rooms’ that allow for a unique audio-visual experience.

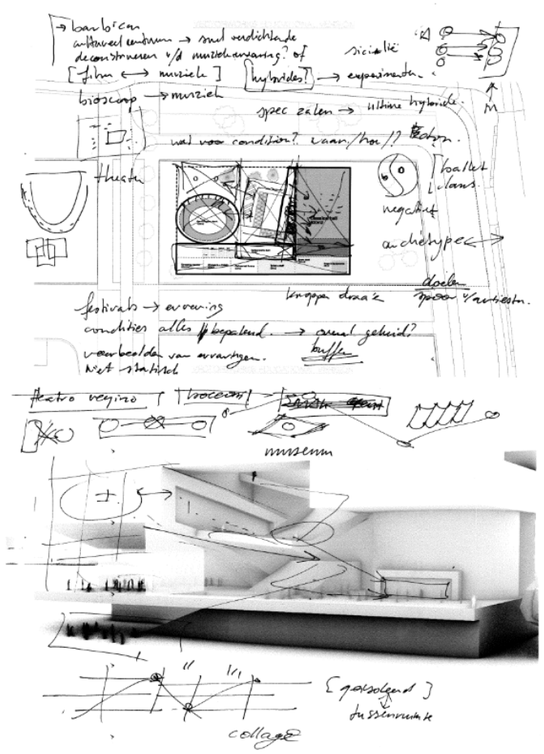
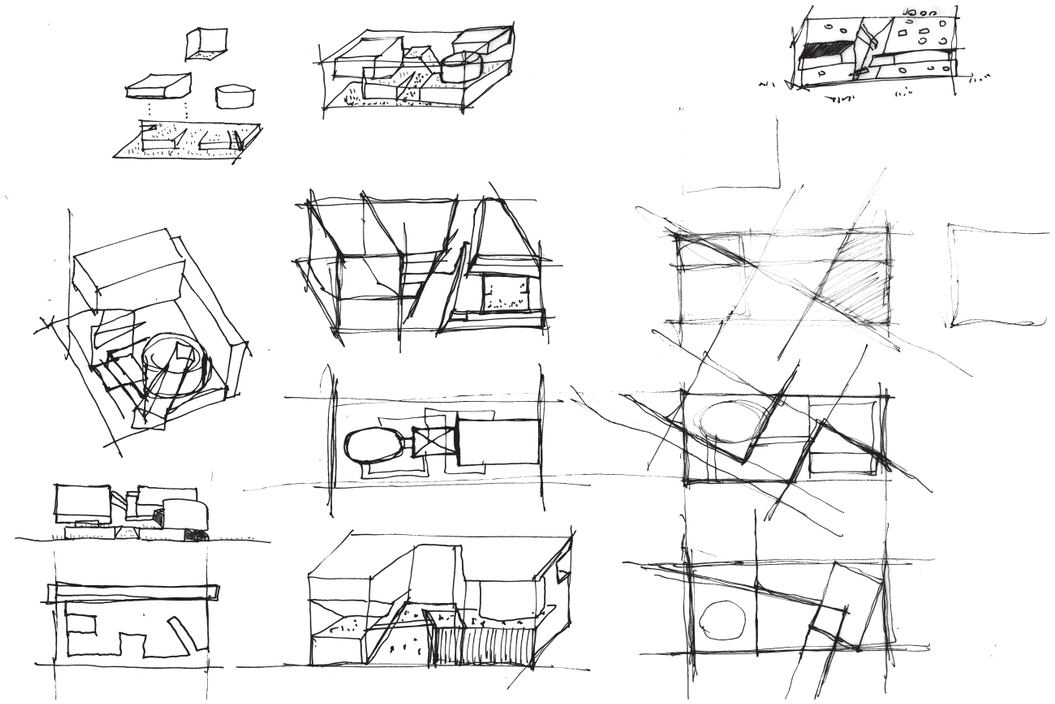


Fig 2,3. Dialectics in tutoring help evaluate my design, translating to sketches and notes. Discussion sketches on floor plan and render.



This living room is focused on providing various choices, while functioning as a served space which houses the foyer and the concert halls, with functional ‘back of house’ aspects as the servant space. The wall of the structure agrees with the orthogonal structure of new Binckhorst, the front of the house opens towards the city.

TOWARDS THE CITY

After a healthy relationship between function and form was established, there was time for me to confidently shape the form of the building, knowing that its organisational aspect properly satisfied the needs as dictated by the concept. Using the 1:500 model that we made with the group, I used traditional pink foam to create several mass models, in order to research its role in the urban mass. In combination with collage-technique for interior impressions, I had established a ‘looking out’ and ‘looking in’ perspective for the complex, resulting in the open balcony towards the crossing, while offering ample room for dynamic music performances. This adaptable foyer allows for multiplicity in its urban surrounding; through the easily adjustable panels the living room of the complex can be used for a wide variety of functions.

ENGINEERING

Dynamism as a core value of the design, should connect and reflect to the engineering of the building. In an age of increasing value for raw materials and sustainability, buildings will not be constructed as they used to. If Concerto Dinamico is to be a modern-age classical music experience, then it should be constructed using modern-age building technique ethics.

From the Binckhorst surroundings and the dynamic nature, I drew inspiration of mechanical engineering, the building as a machine in the literal sense of the word. When discussing with dr. David Peck, we explored the possibilities of a recyclable and replaceable structure. The metaphor of a mechanical appliance, like a combustion engine, is to display the idea of a deconstructable machine, where parts can be deconstructed, replaced and improved. This means a closer look at joints; welding, pouring, gluing, pasting, painting; all means of joining one material to the other, permanently. The design is to introduce as much cradle to cradle, demount ability as possible, as so to sustain and maintain this complex as easy and material efficient as possible.

CONCLUSION

With Concerto Dinamico, I have tried to create a public catalyst, which also challenges the rules that are posed in the design of concert halls. It aims to draw the public of The Hague and Binckhorst in and plays a vital role in the cultural development of the neighbourhood to be. One of the most vital lessons that I have learned is the importance of organisation with its regard to form and shape, even in this stadium of my architectural education. I highly regard formal notions of architecture, and draw much inspiration from the classics, but have learned that they are mostly useful as ingredients; the recipe is still to be made. The venue also ended up being not only dynamic in its spatial concept, but also in its materialisation and engineering. If the venue is to respect its long-lasting heritage, then it should be long lasting itself, adapting to time and culture.

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1. Tommasini, Anthony. “Classical Music Attracts Older Audiences. Good.”. The New York Times (August 6 2020).
2. Crawford, Garry. “An Orchestral Audience: Classical Music and Continued Patterns of Distinction.” University of Salford. (January 2014)

CONCERTO DINAMICO
MICHAEL LANDMAN
PUBLIC BUILDING

P4.2 DESIGN BRIEF

Public Functions

Foyer
Classical hall
Shakespeare hall
Horseshoe hall
Exposition hall
Café
Bar
Garderobe
Toilets
Ticket booths
Elevators
Parking garage
Bicycle parking
Balcony

Supporting functions

Scene dock
Dressing rooms
Kitchen
Storage
Offices
Technical director
Chief electrician
Crew area
Rehearsal area
Green room
Staff toilets
Fire exit staircase
Recording studio

Freight and technical functions

Freight elevator
Service elevator
Workshop
Vertical shaft air ducts
Air handling unit
Loading bay

P4.2

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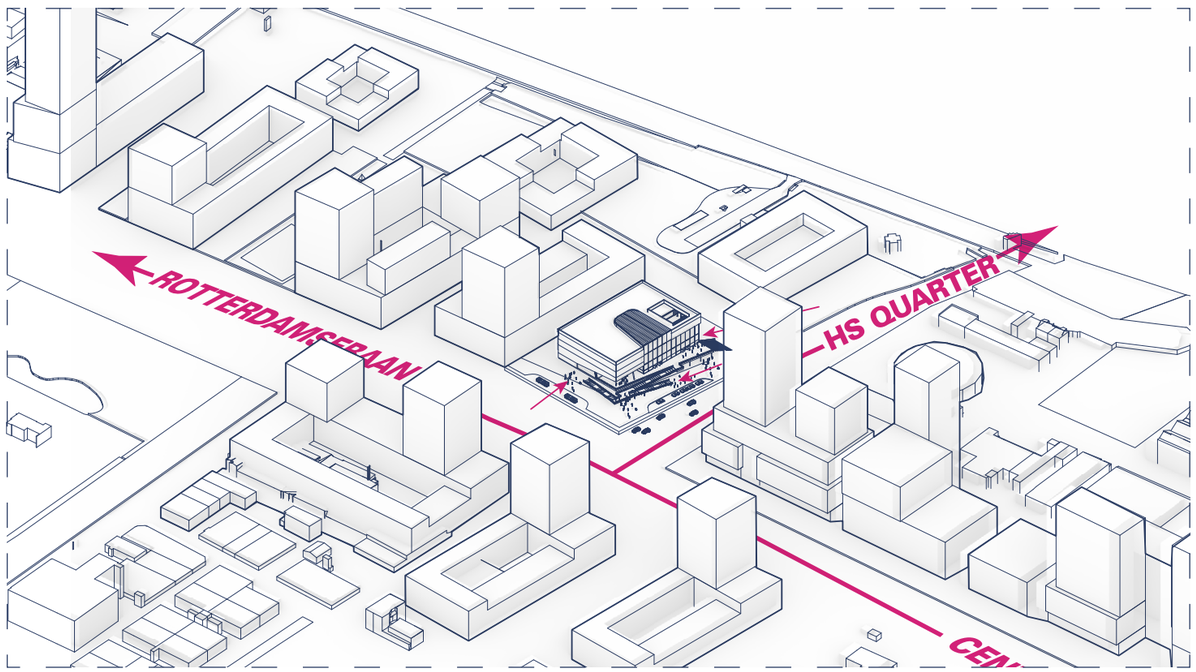
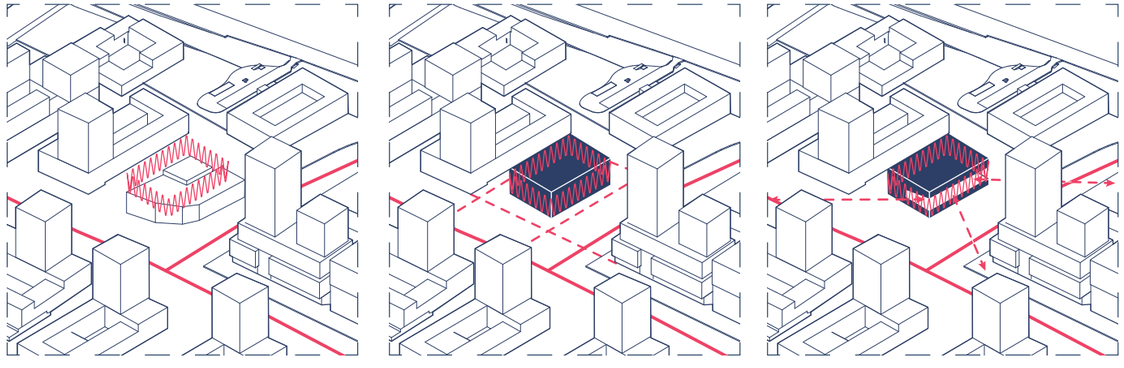
Context



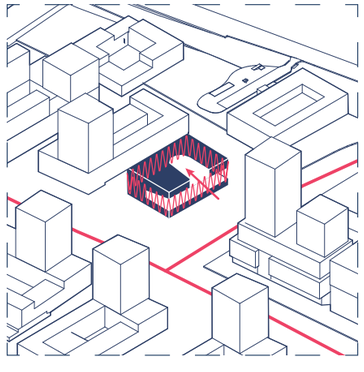
ROUTES AND APPROACH



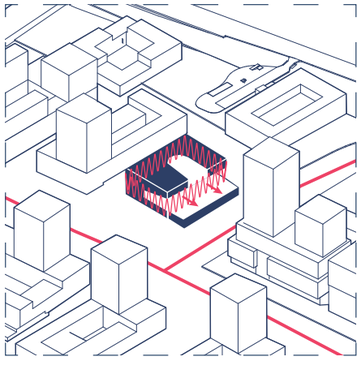
EXISTING STRUCTURE

IMPOSE LAID BACK OBJECT

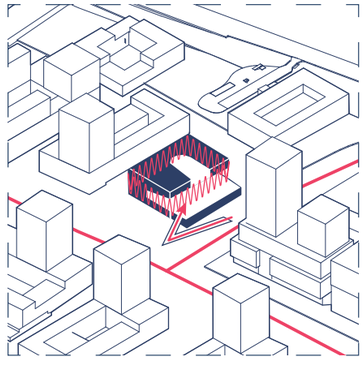
OVERSEEING BALCONY



EXCAVATION



EXTERIOR EXTENSION



INTEGRATING PUBLIC ELEMENT

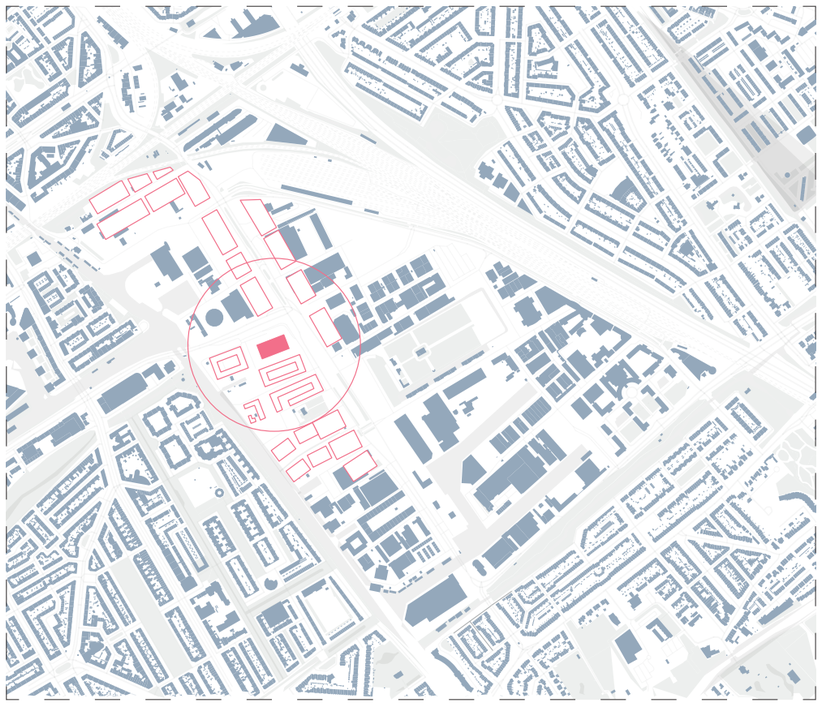
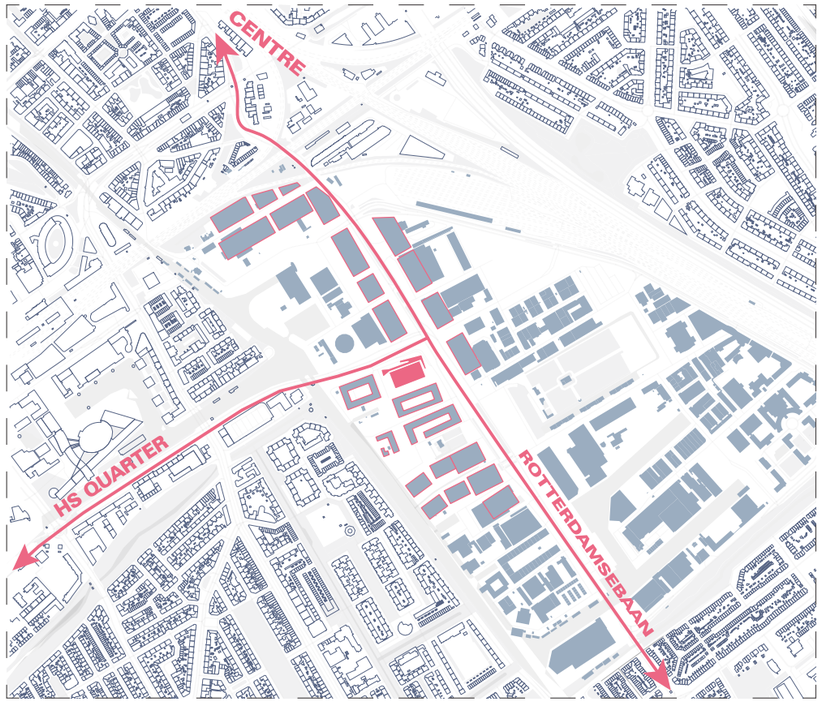
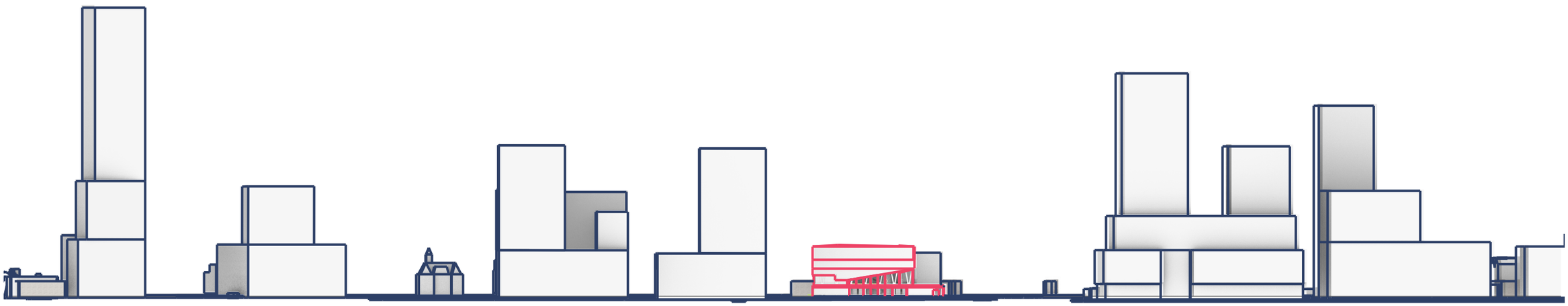
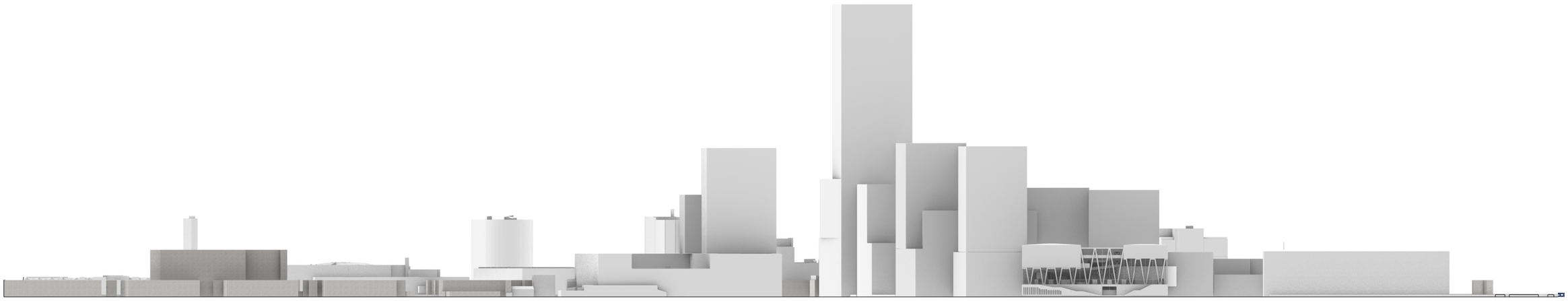


FIGURE GROUND

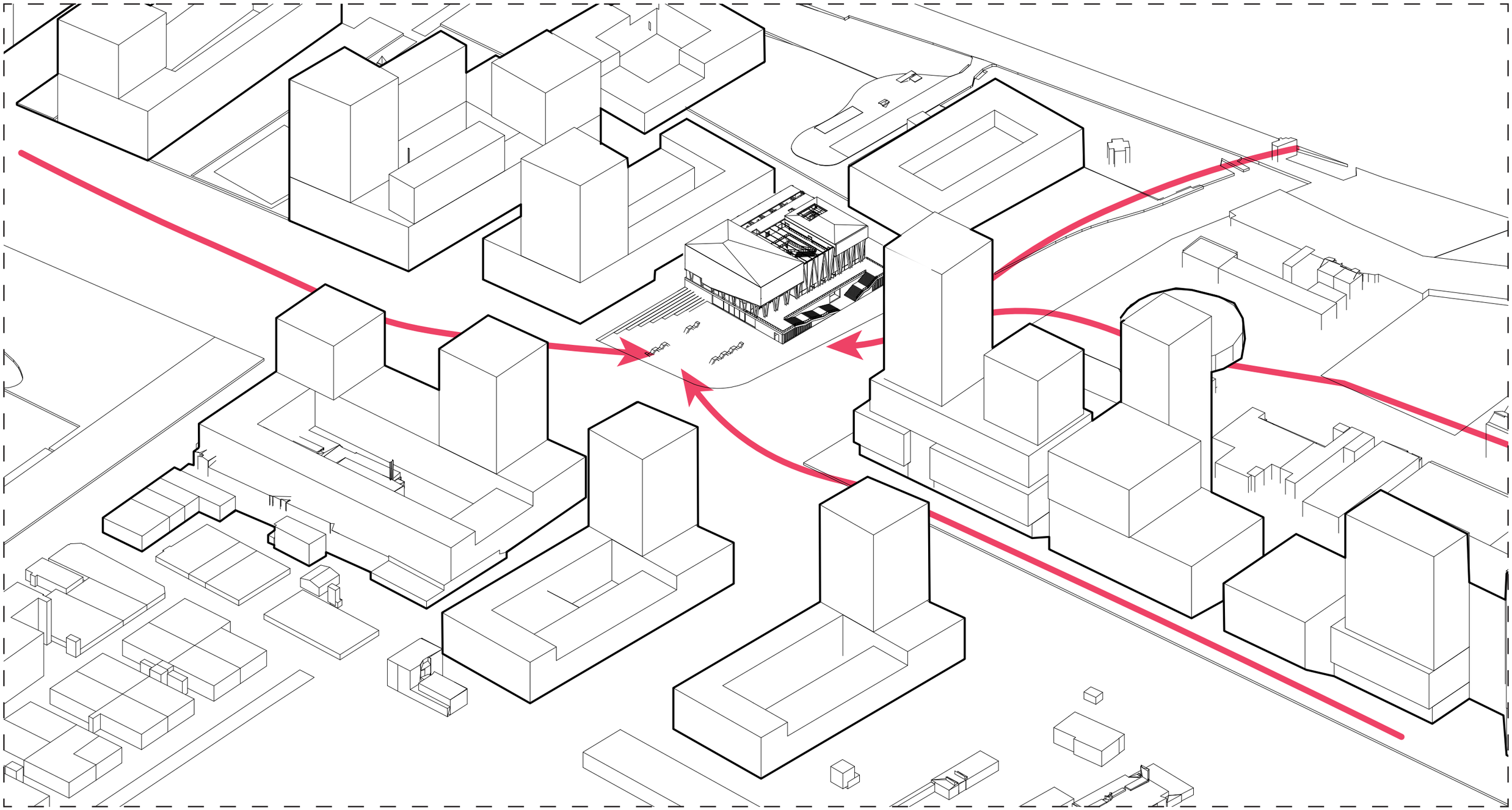


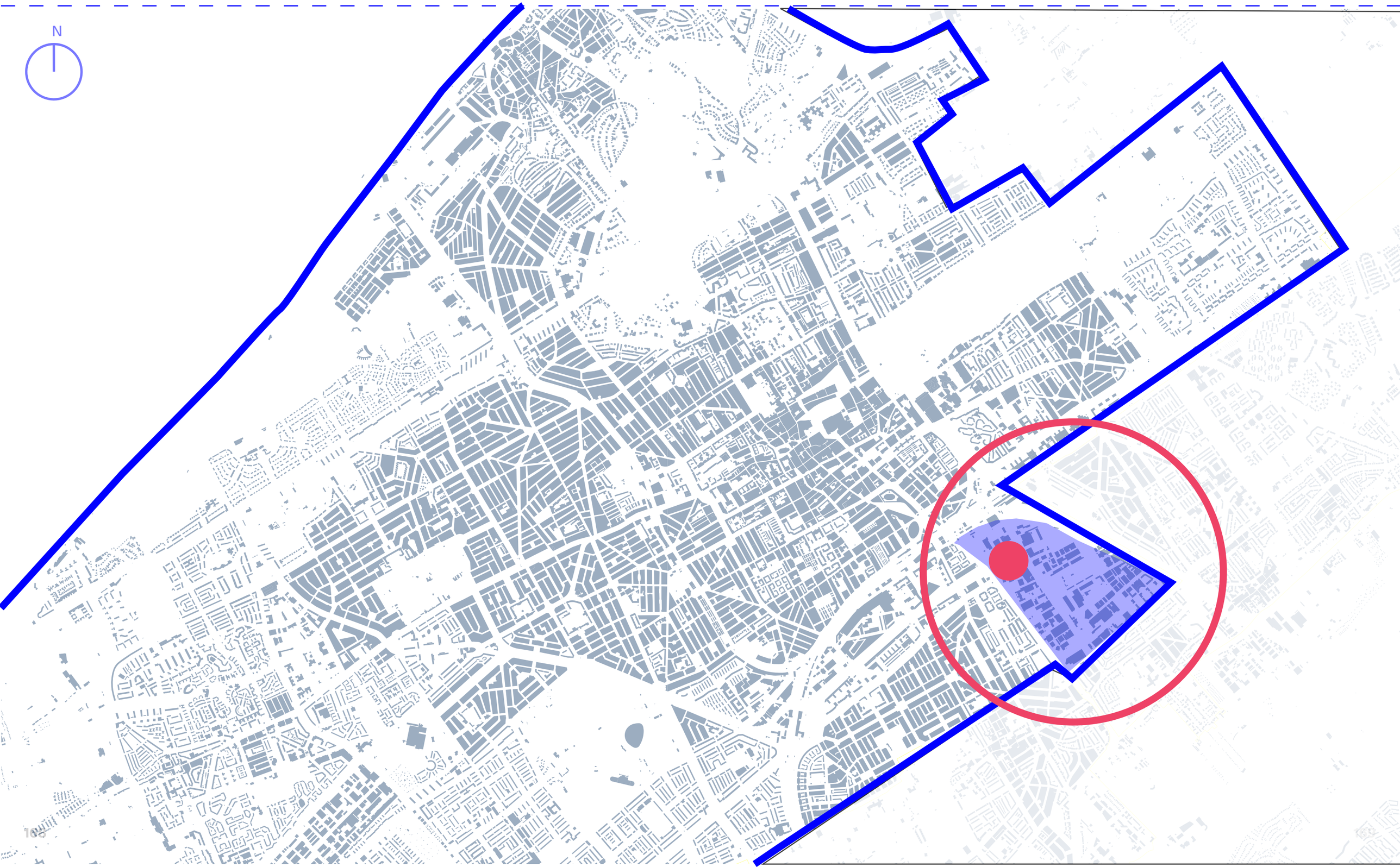
APPROACH





city skyline

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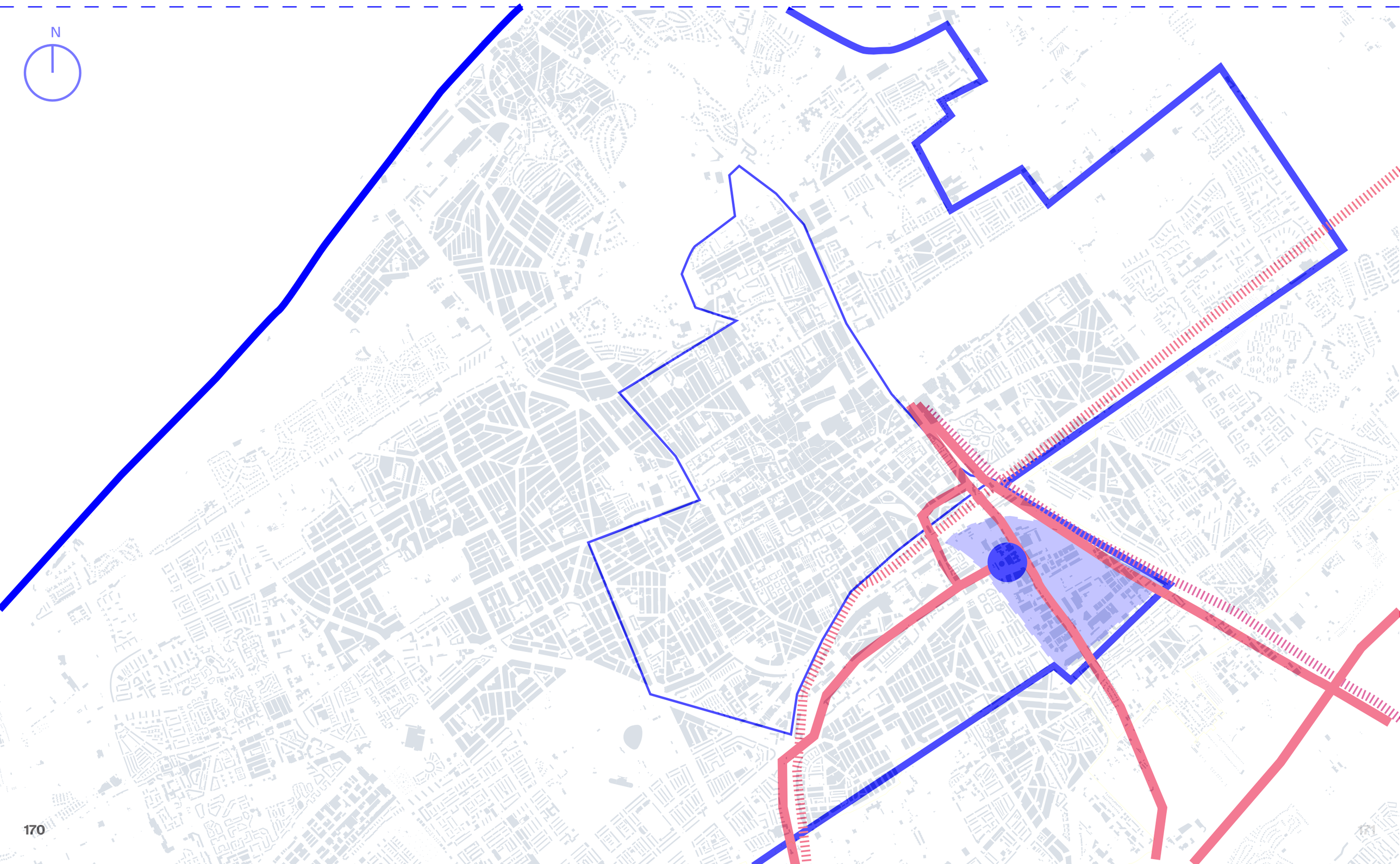
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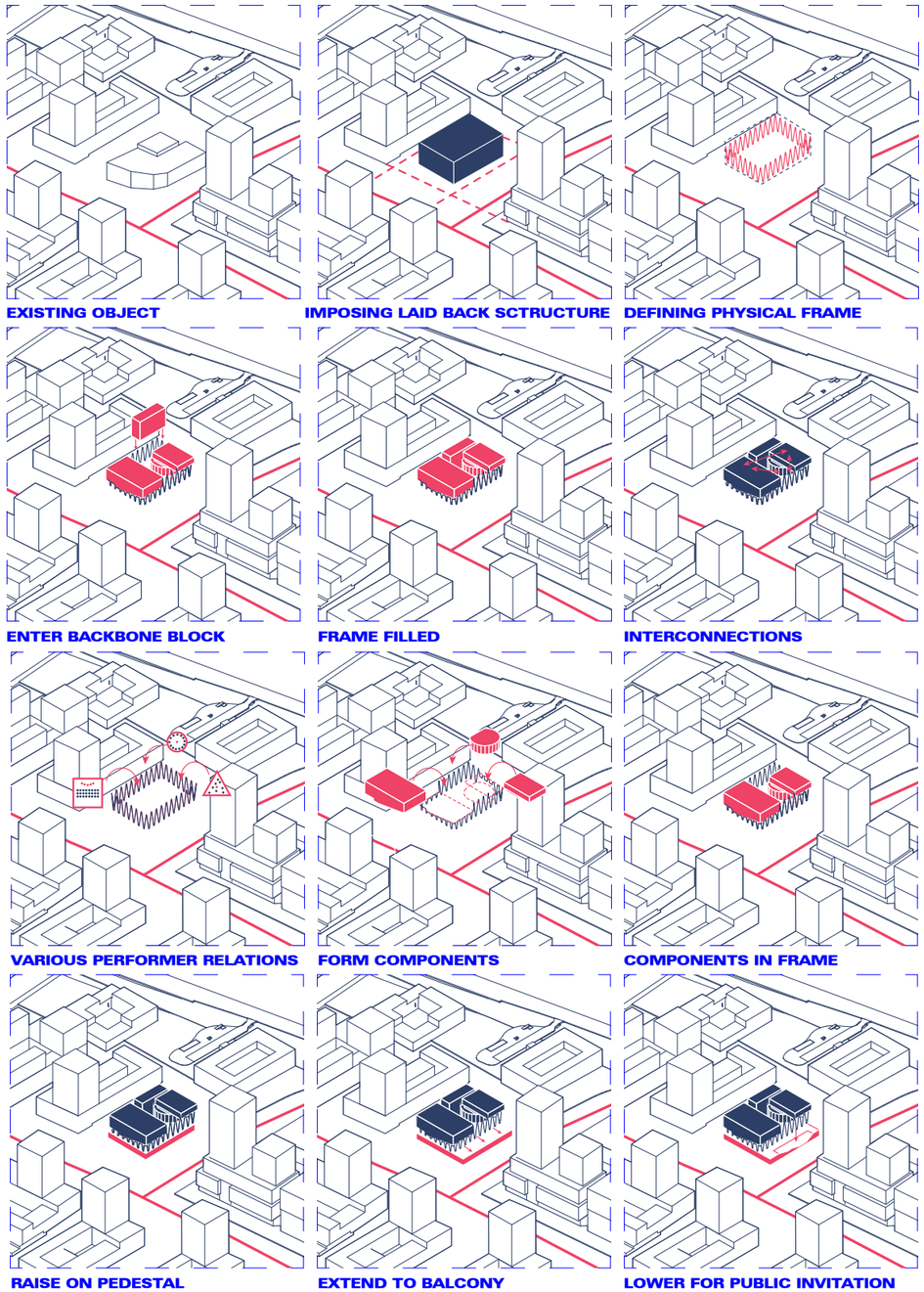
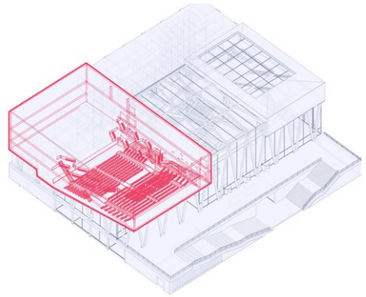
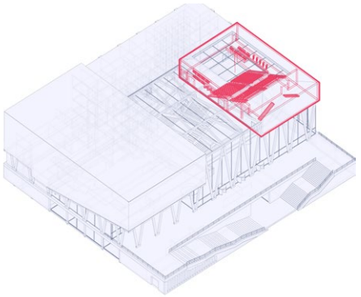
Spatial concept

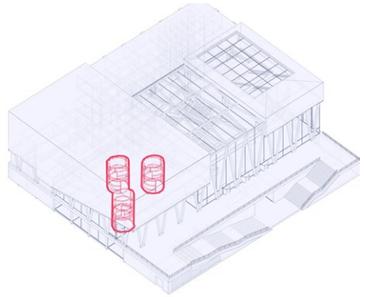




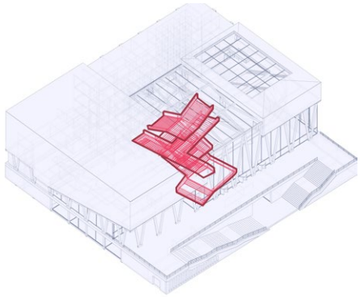
Classical hall



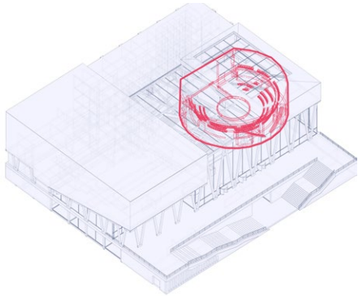
shakespeare hall



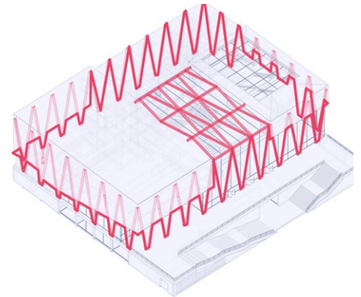
structural ticket booths



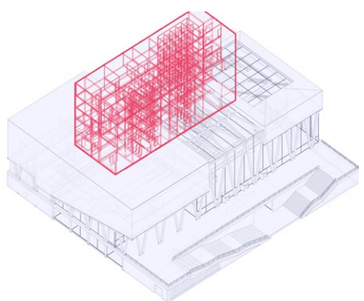
interconnecting stairs



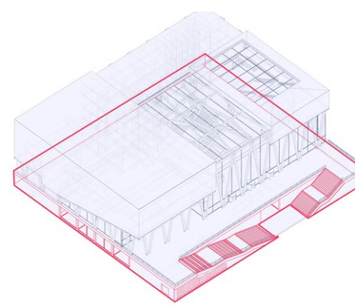
horseshoe hall



load bearing weave facade



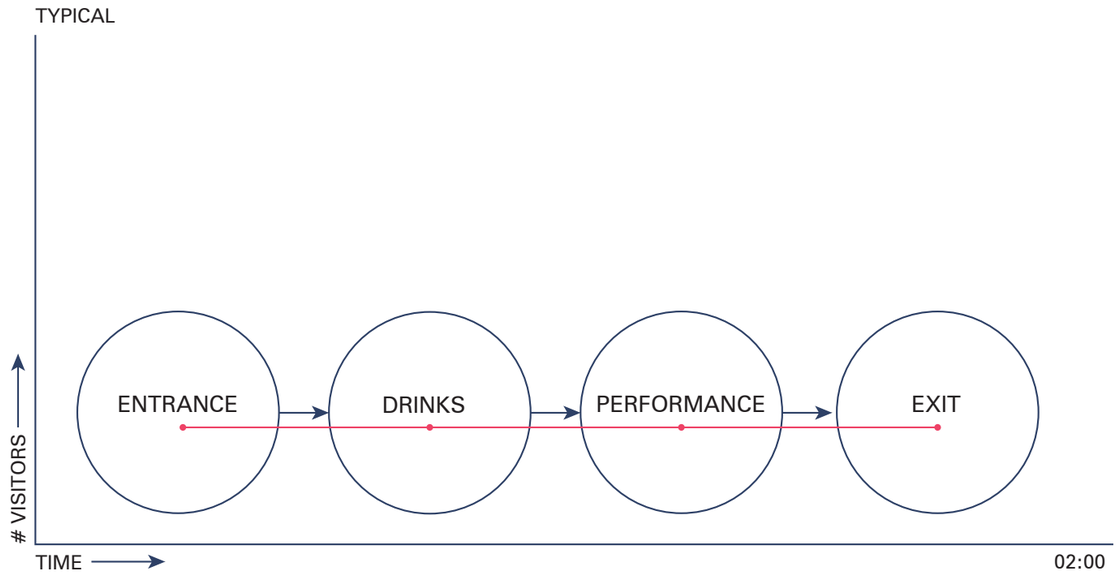
SERVANT SPACES

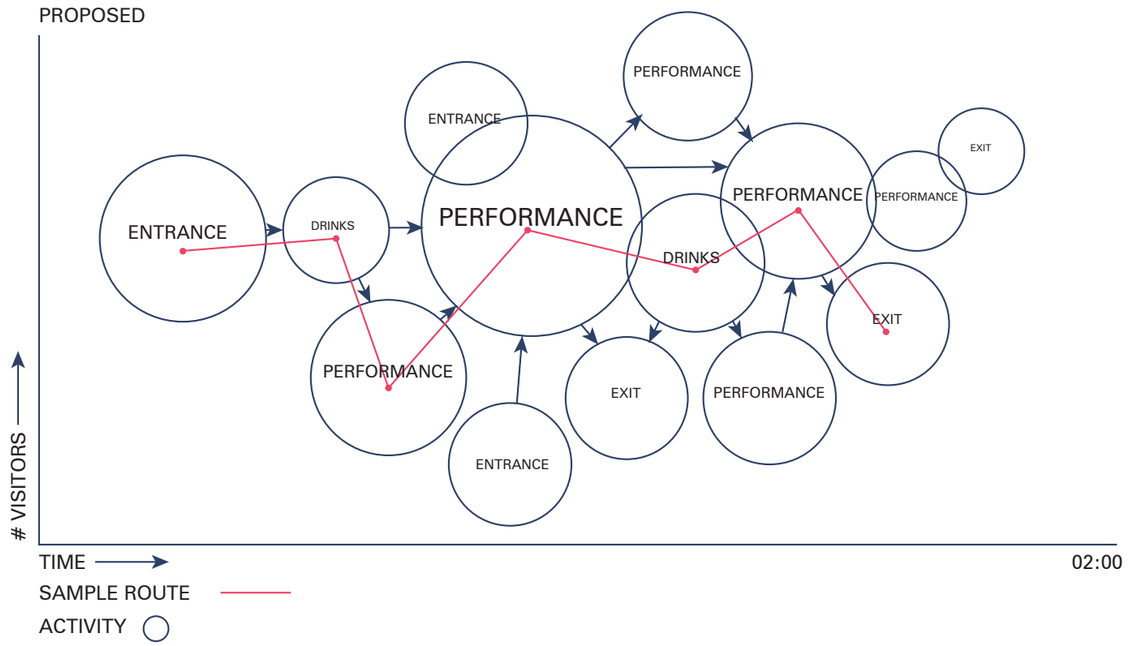


monolith plinth

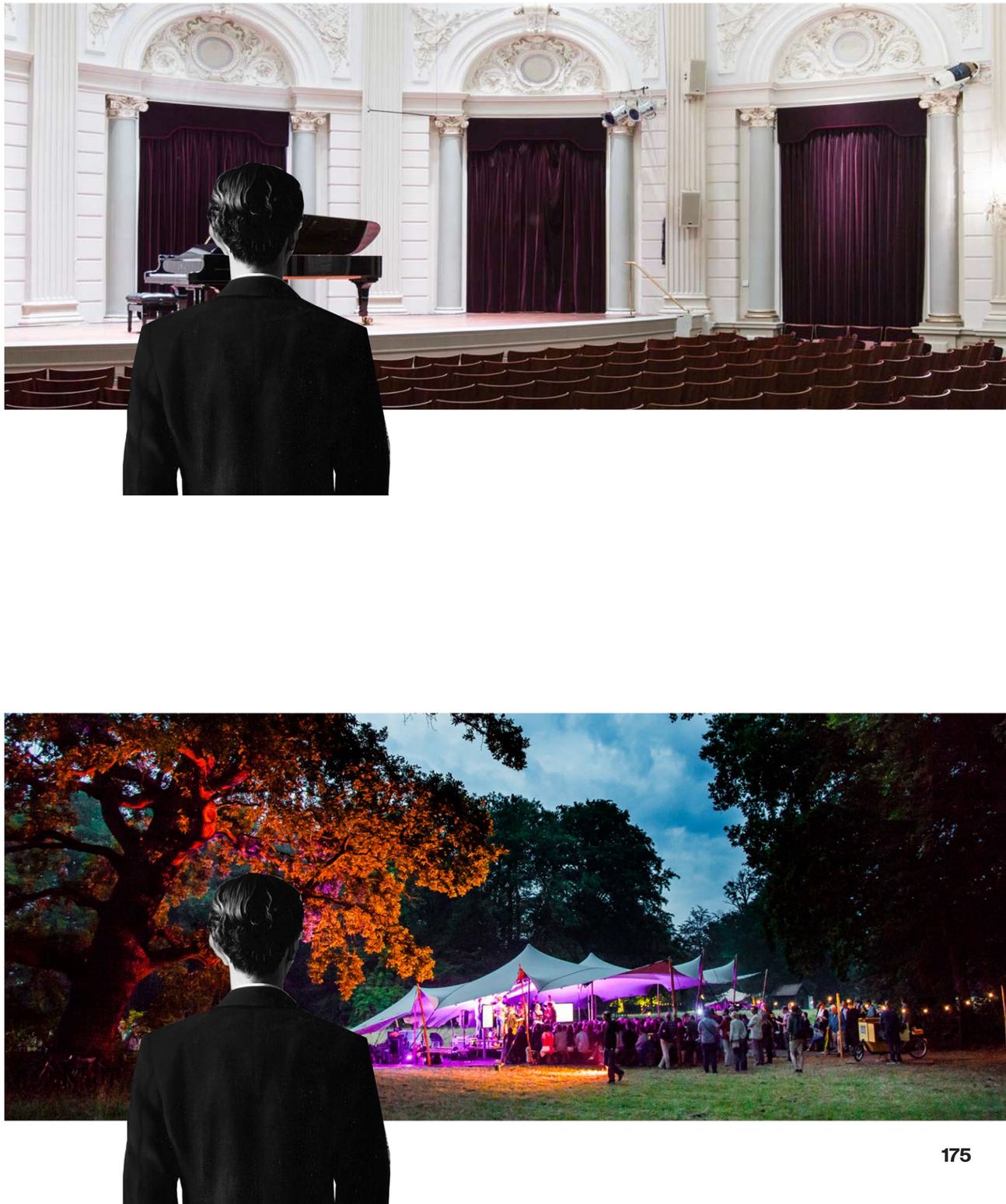
Concept

Movement





Perception



Object

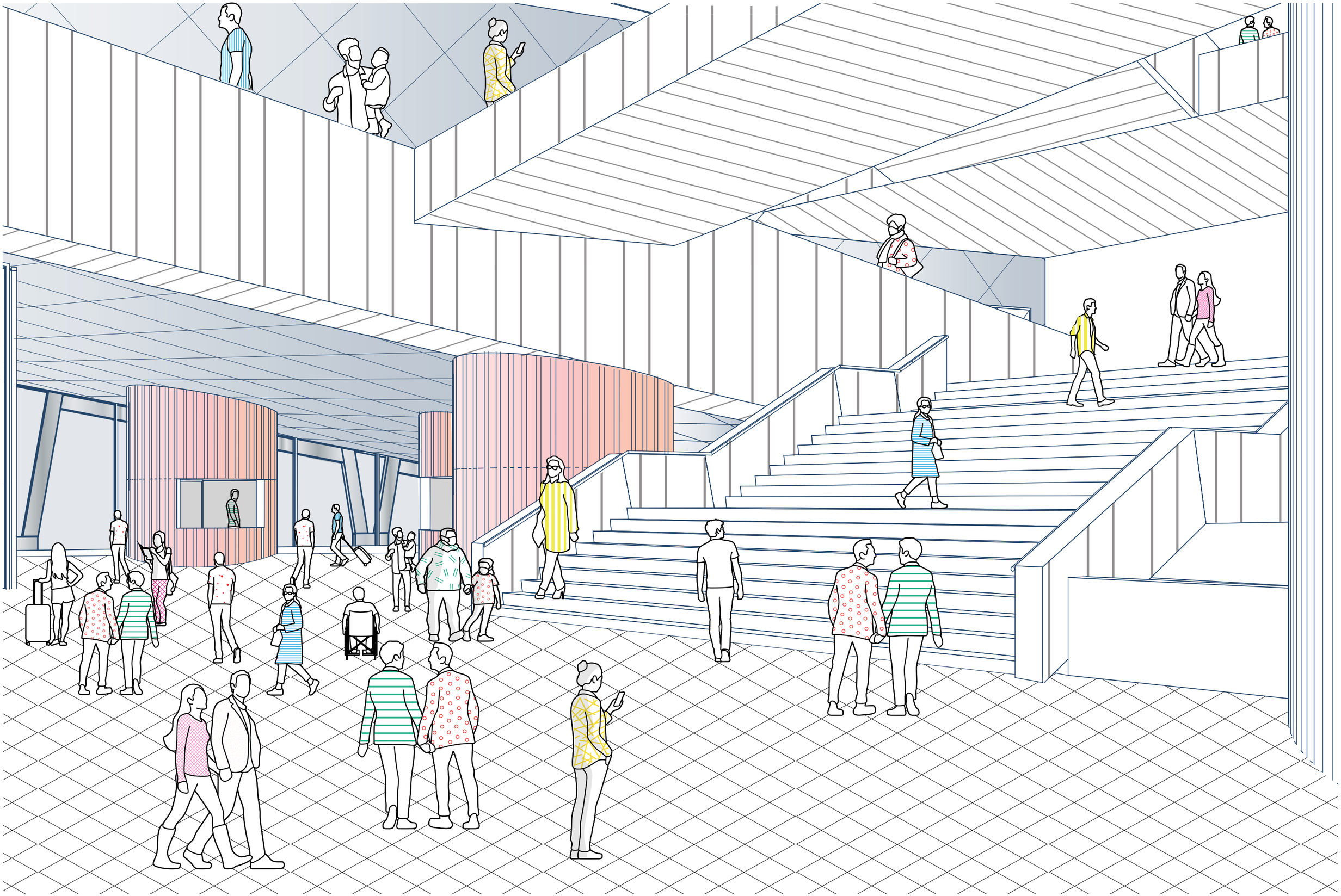


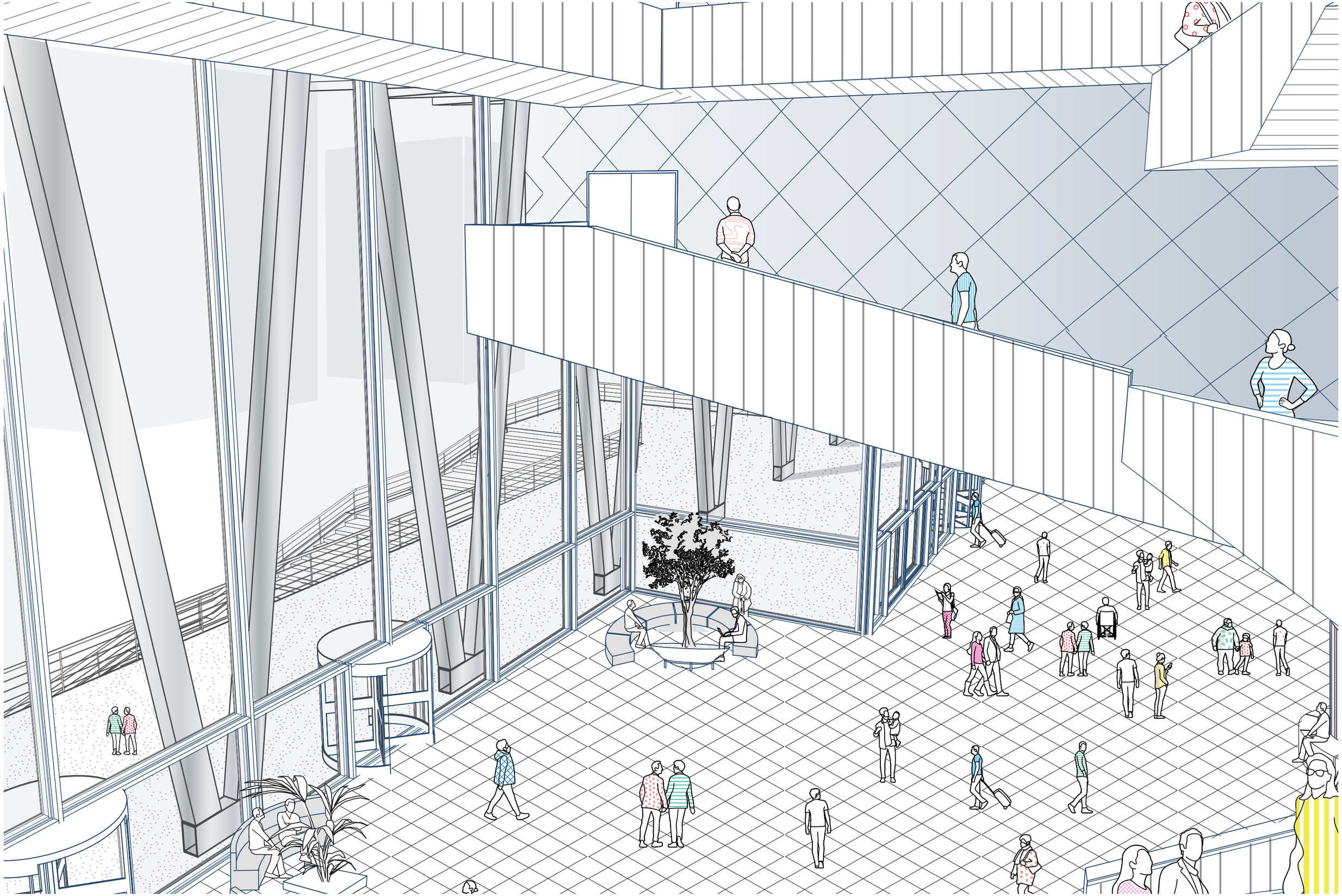


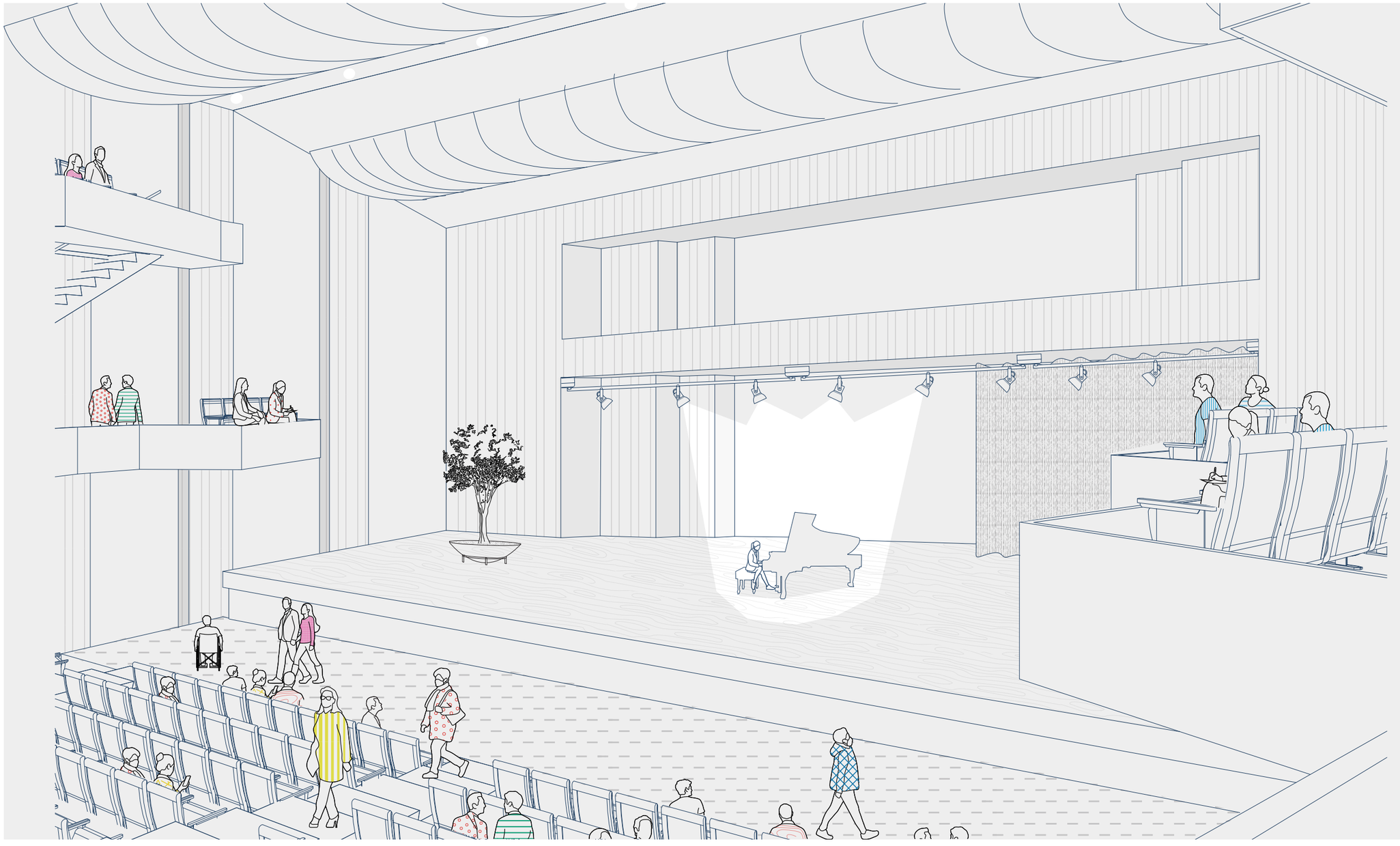
Perspectives





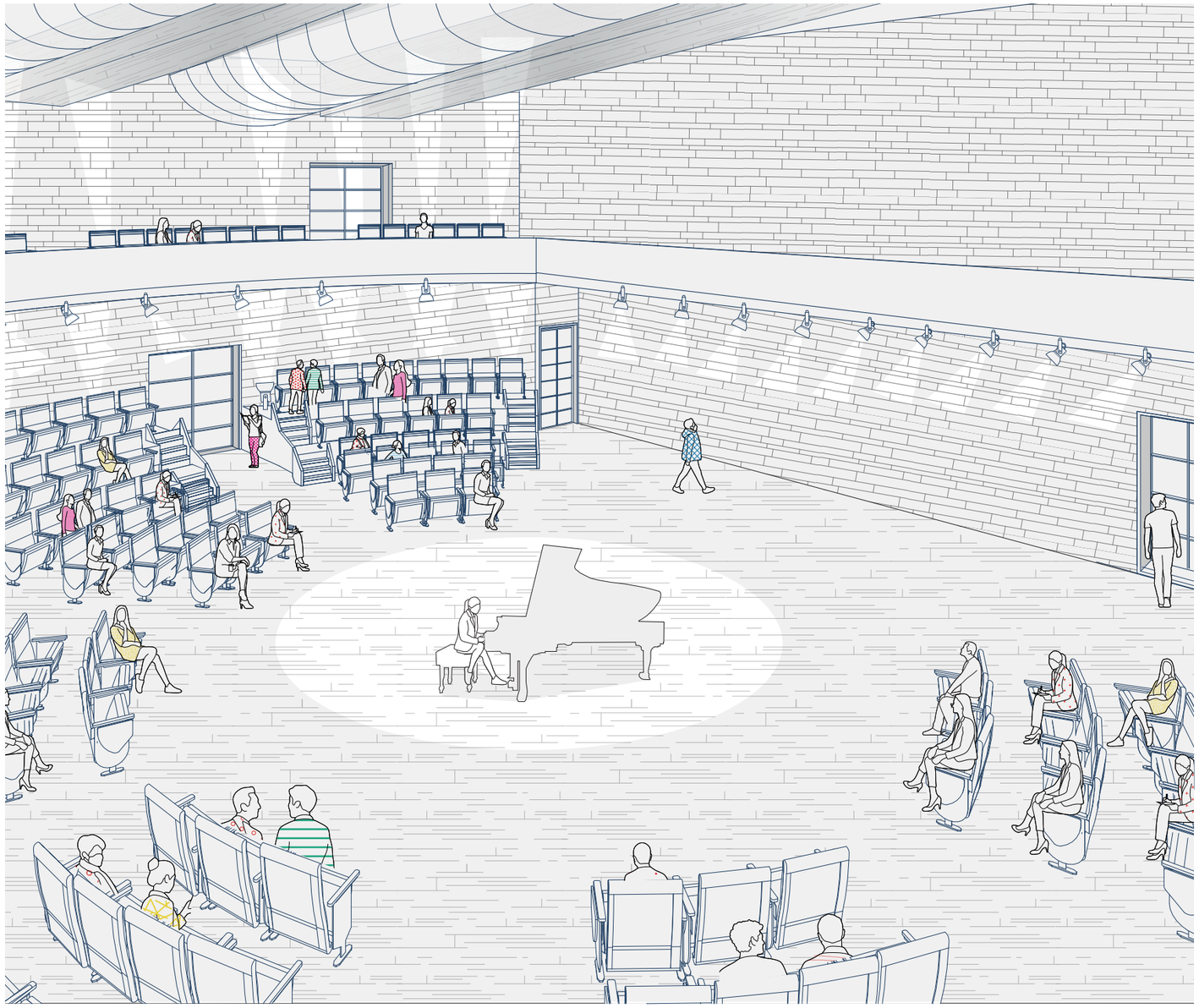


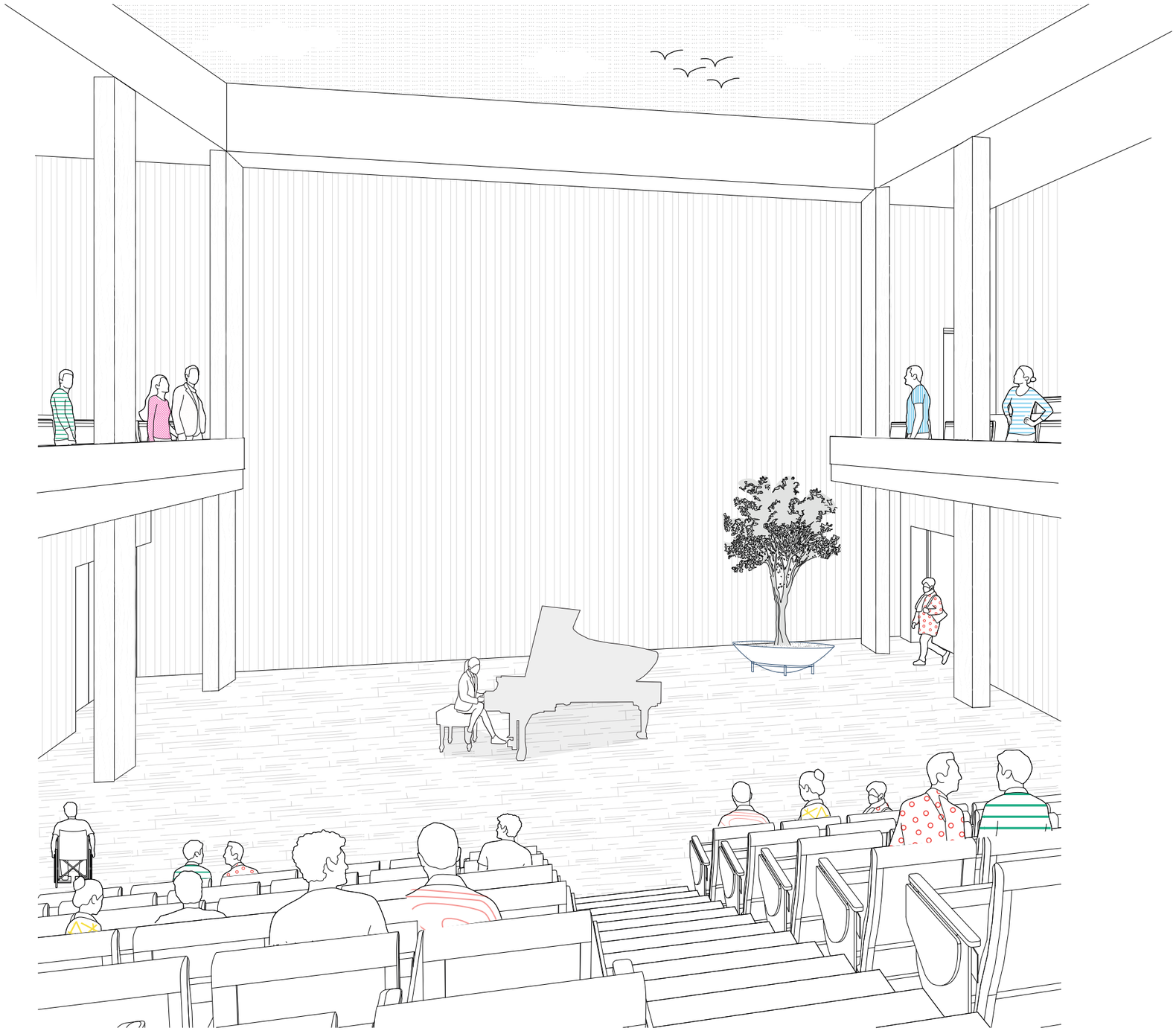




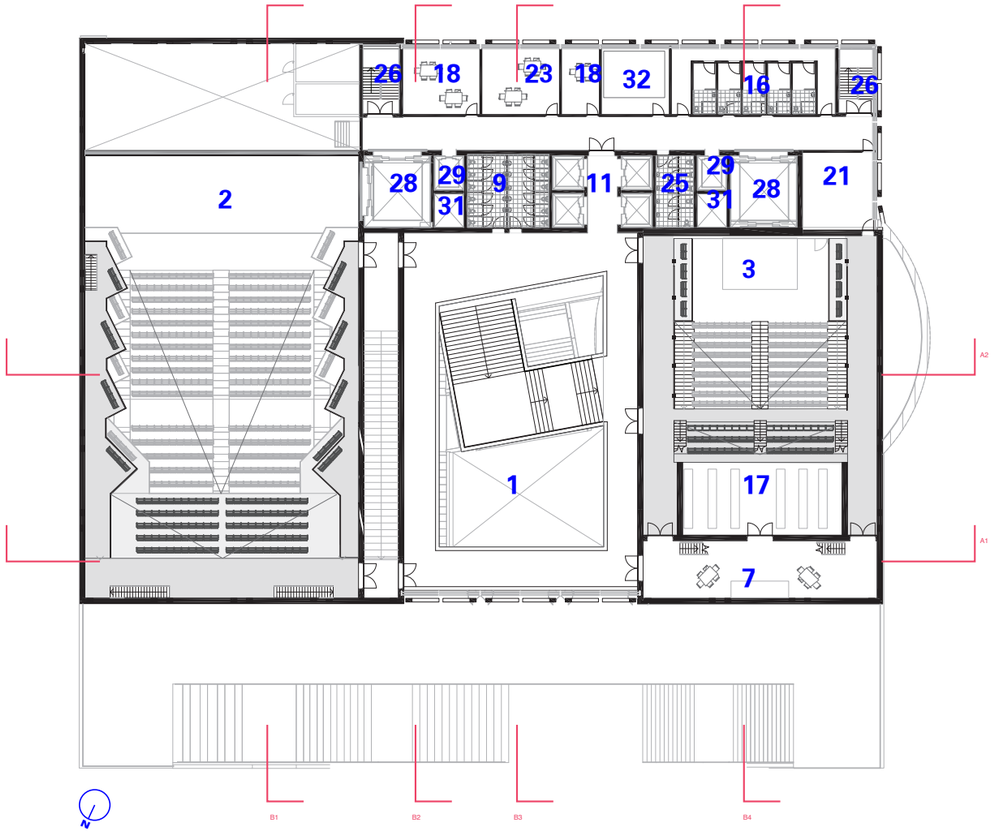




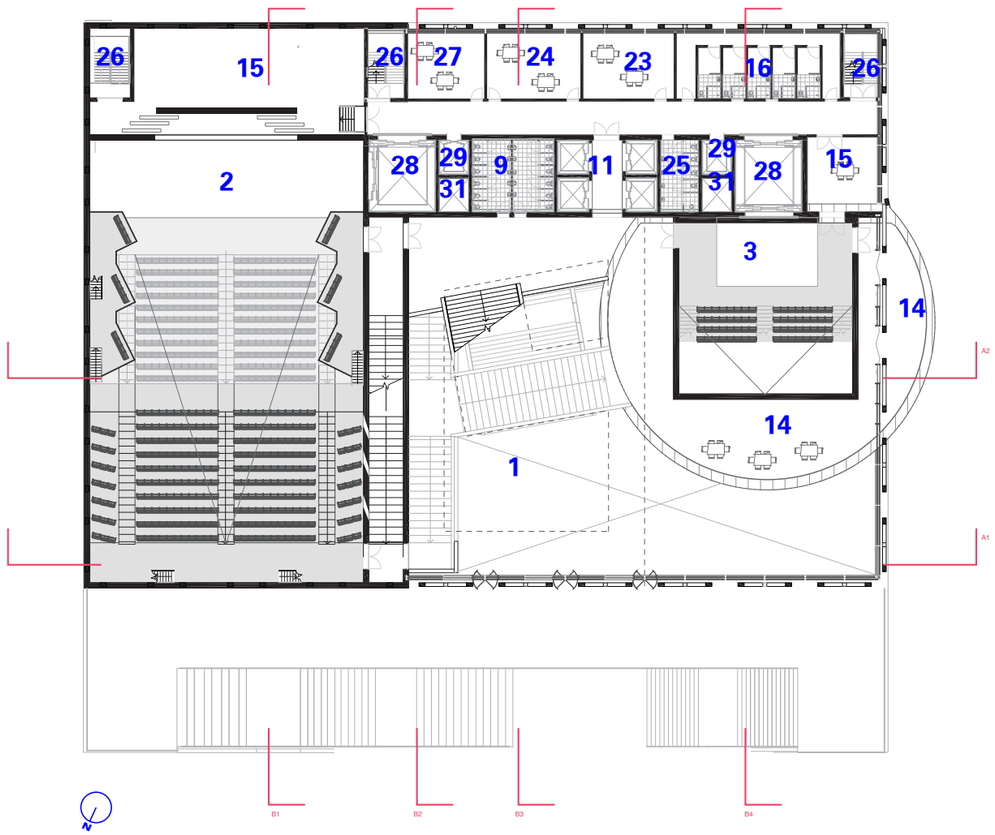




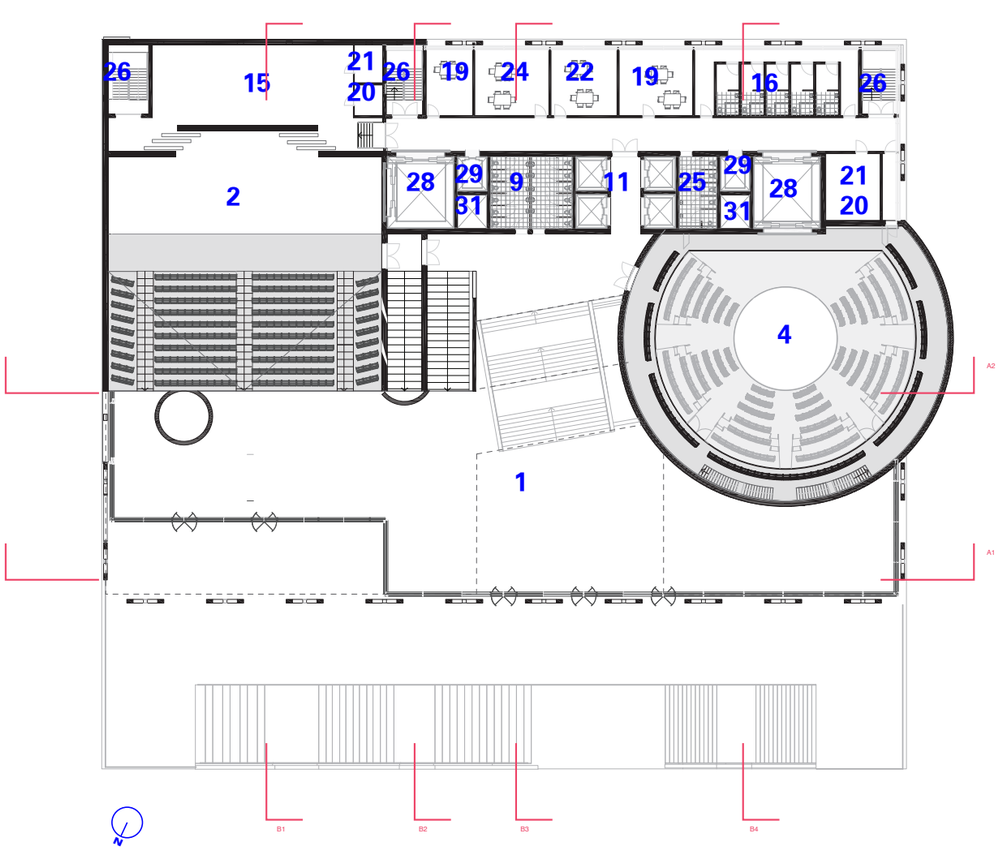
Floor plans 1:500



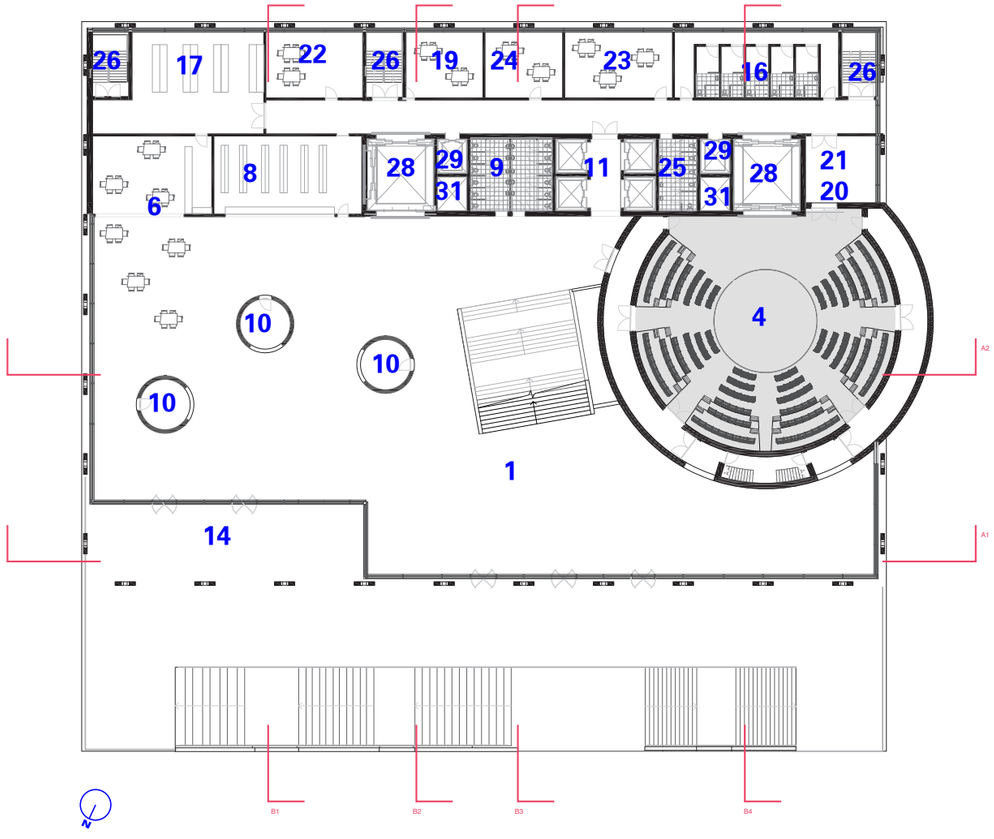
FOURTH FLOOR



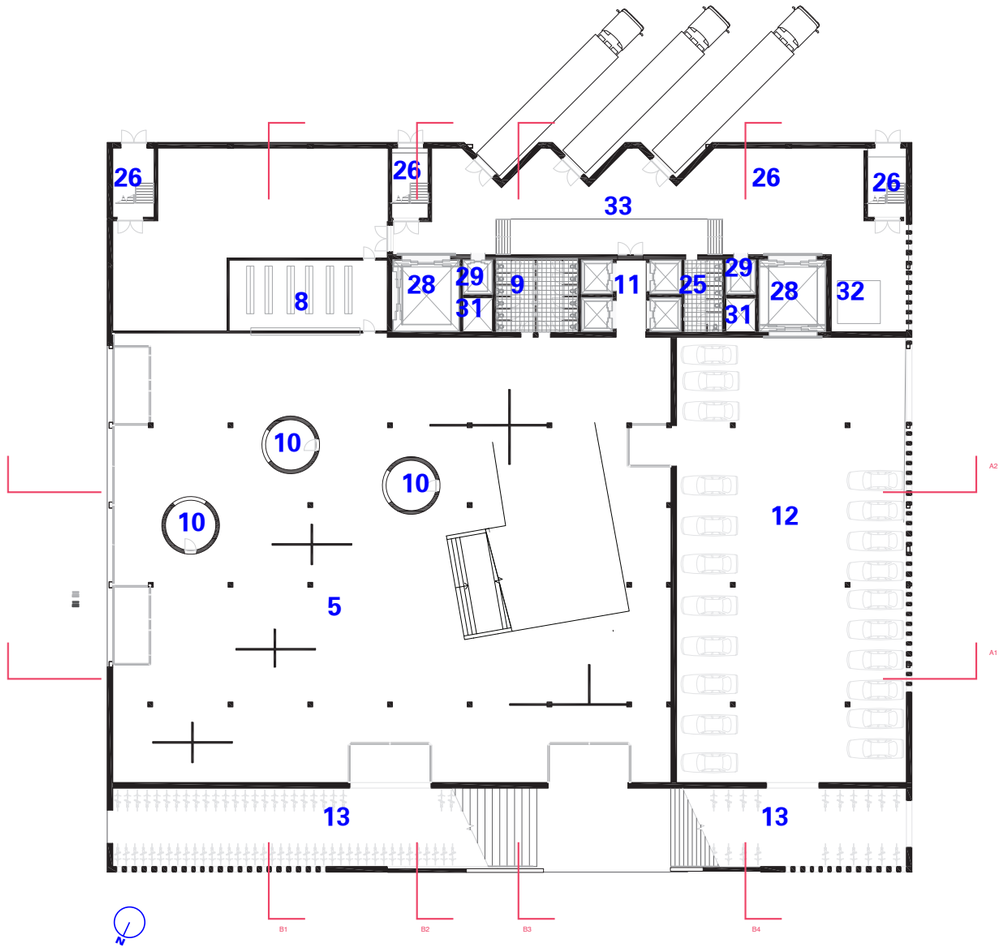
THIRD FLOOR



SECOND FLOOR



FIRST FLOOR



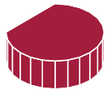
GROUND FLOOR

Programme

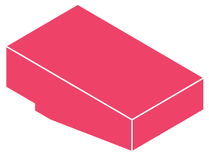


Served space

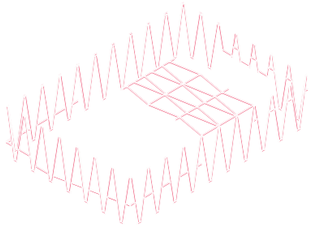
Shakespeare hall



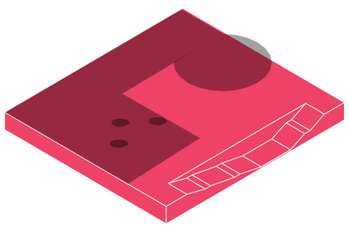
Horseshoe hall



Classical hall



Foyer

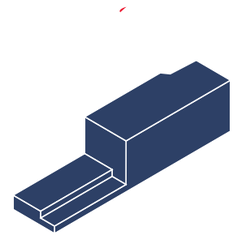


Exposition

Servant space

Scene dock
Dressing rooms
Rehearsal area
Technical director
Chief electrician
Green room
Crew area
Crew toilets
Freight elevator

Scene dock
Dressing rooms
Rehearsal area
Technical director
Chief electrician
Green room
Crew area
Crew toilets
Freight elevator

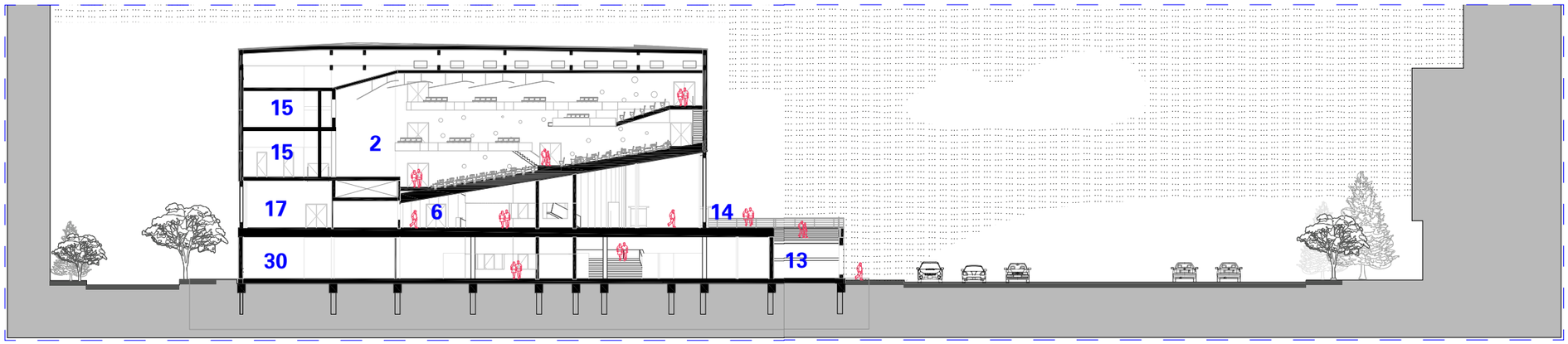


Scene dock
Dressing rooms
Rehearsal area
Technical director
Chief electrician
Green room
Crew area
Crew toilets
Freight elevator

Toilets
Garderobe
Ticket booths
Kitchen

Toilets
Garderobe
Parking garage
Loading bay
Workshop

Sections 1:500



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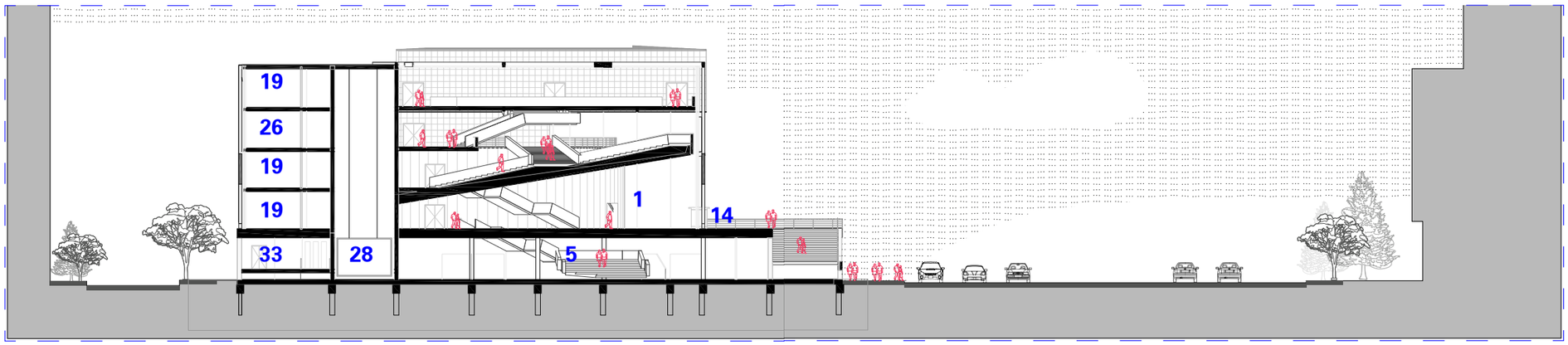

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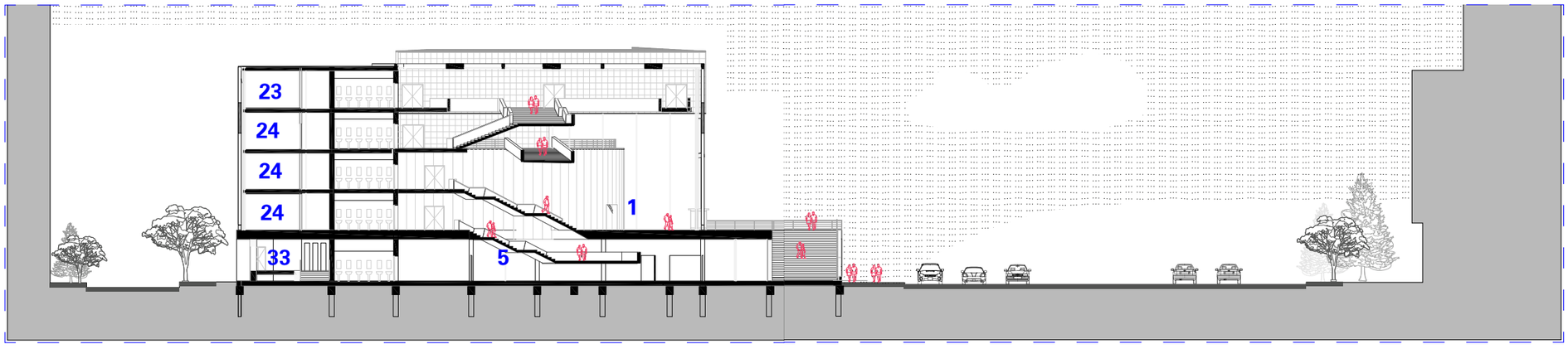

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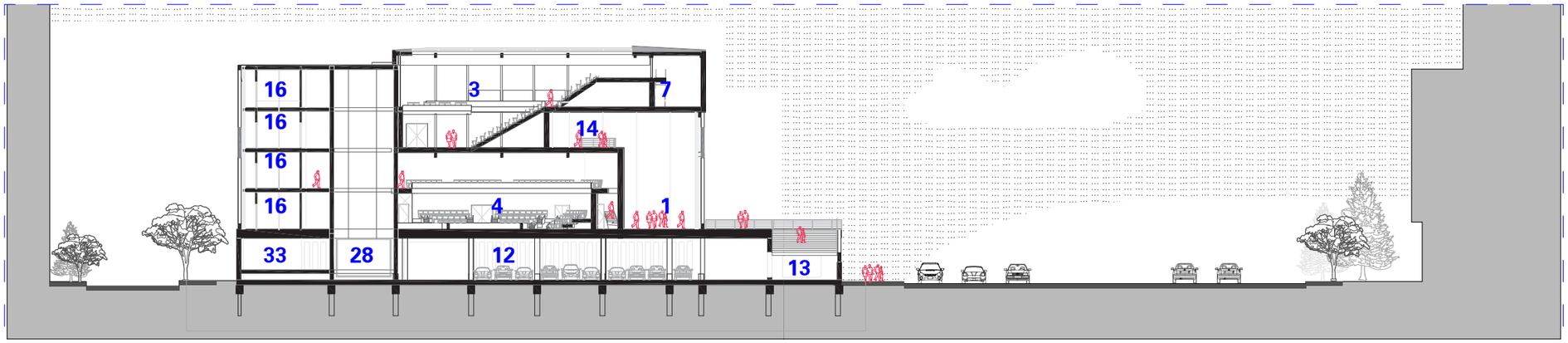

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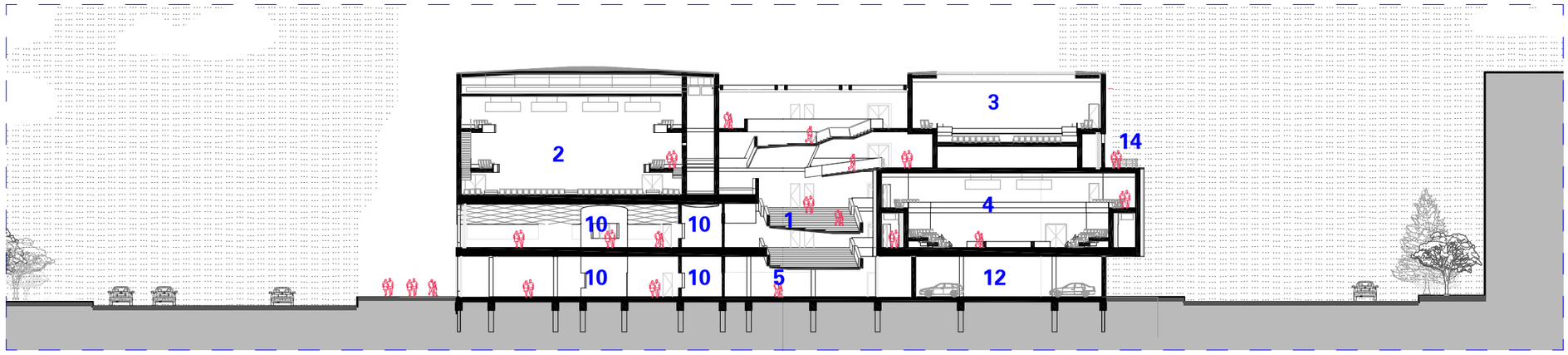
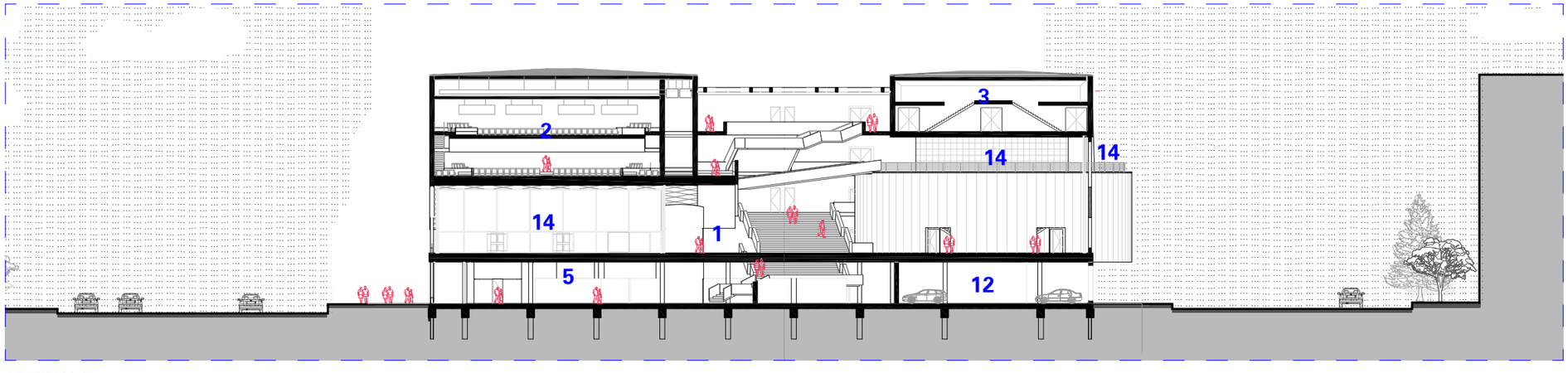
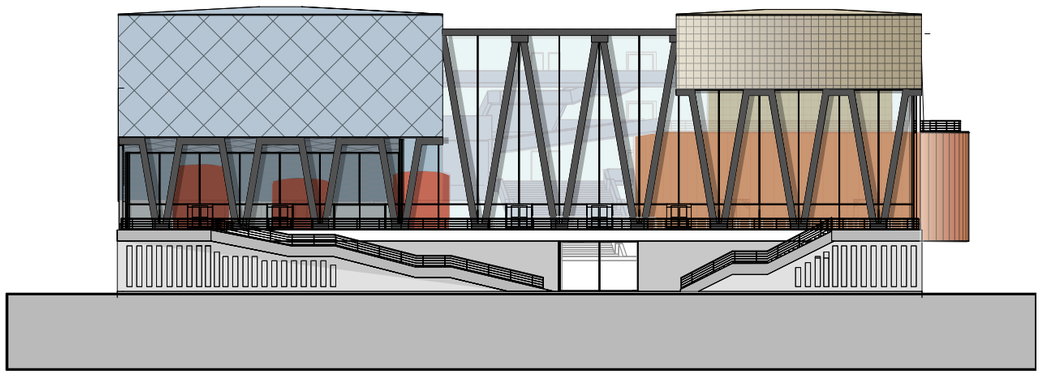


SECTION A1

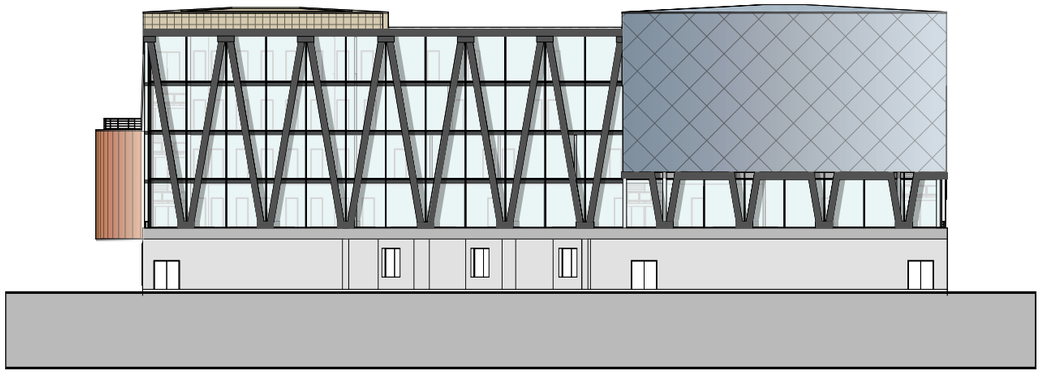


SECTION A2

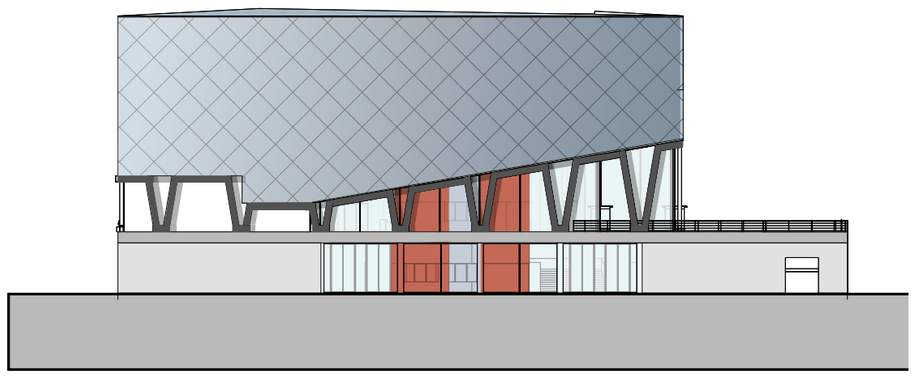
Elevations 1:500



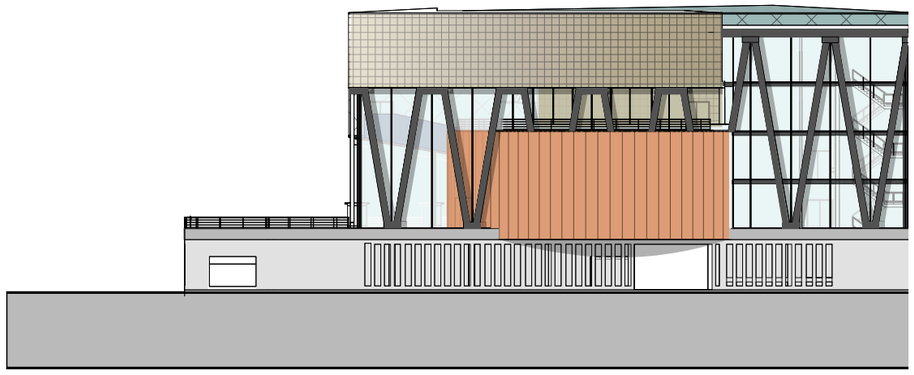
NORTH FACADE



SOUTH FACADE

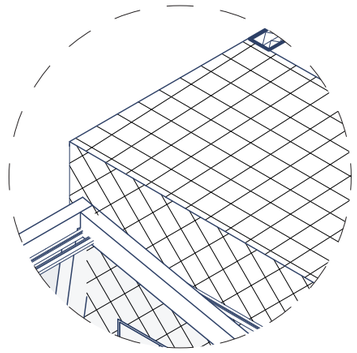


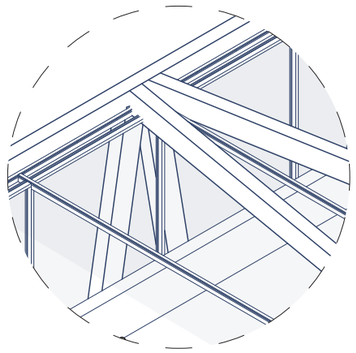
EAST FACADE

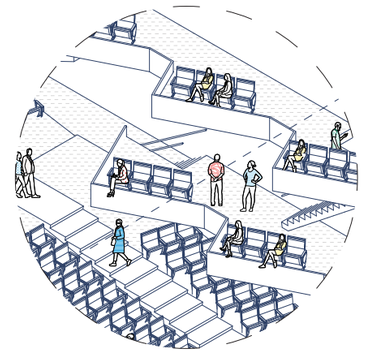


WEST FACADE

Axonometry 1:50





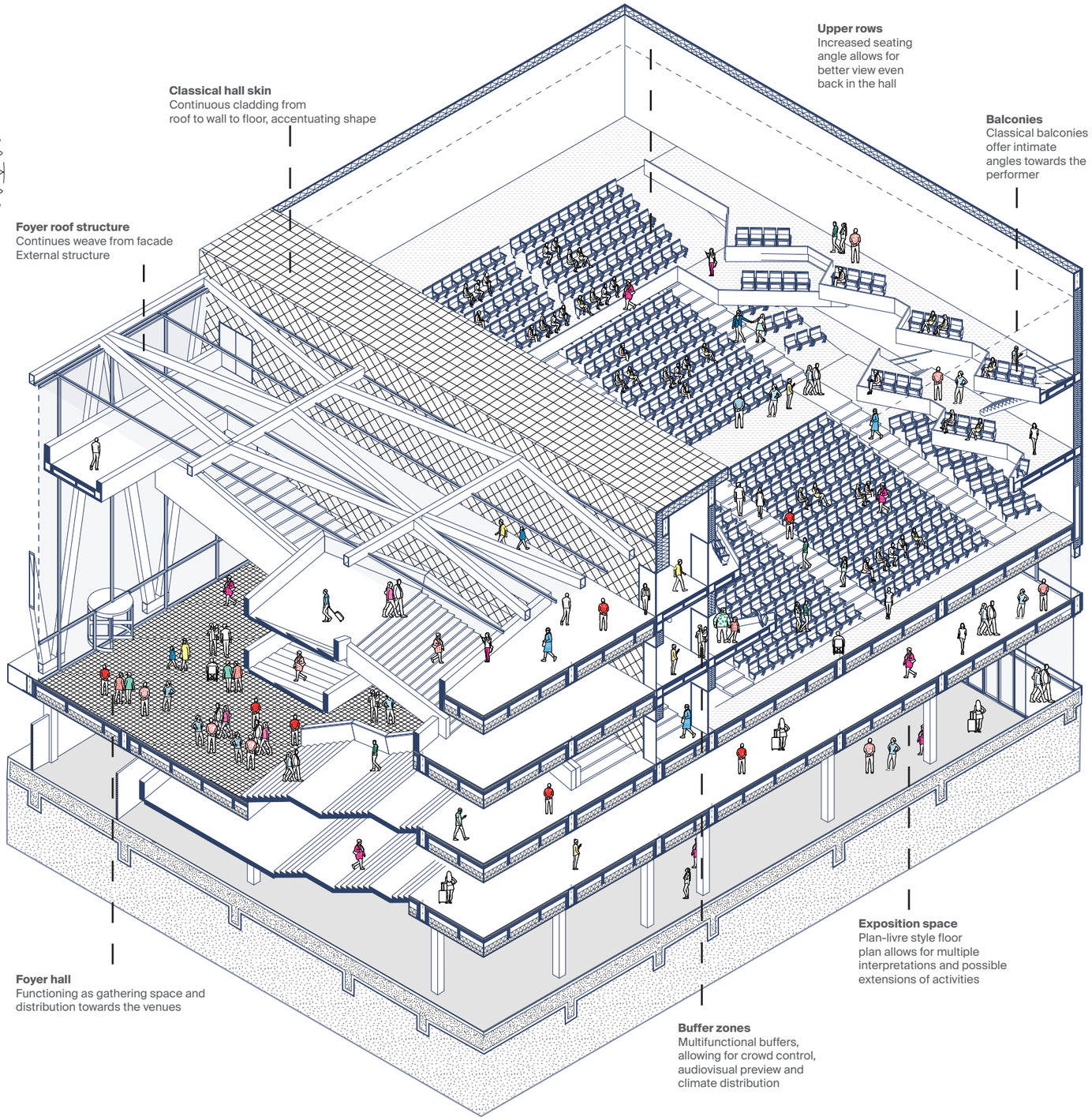


Classical hall skin
Continuous cladding from
roof to wall to floor, accentuating shape

Upper rows
Increased seating
angle allows for
better view even
back in the hall

Balconies
Classical balconies
offer intimate
angles towards the
performer

Foyer roof structure
Continues weave from facade
External structure



Foyer hall
Functioning as gathering space and
distribution towards the venues

Exposition space
Plan-livre style floor
plan allows for multiple
interpretations and possible
extensions of activities

Buffer zones
Multifunctional buffers,
allowing for crowd control,
audiovisual preview and
climate distribution

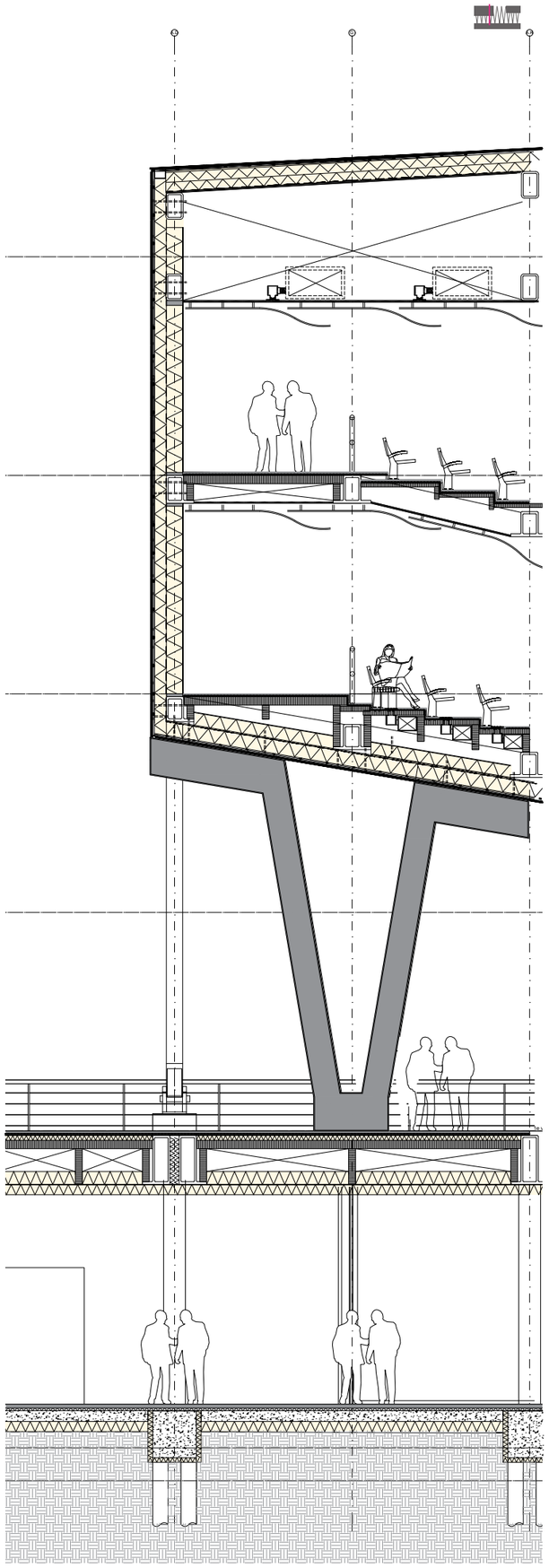
Sections 1:80

1 HALL ROOF BUILDUP
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Air exhaust ducts
Acoustic panels

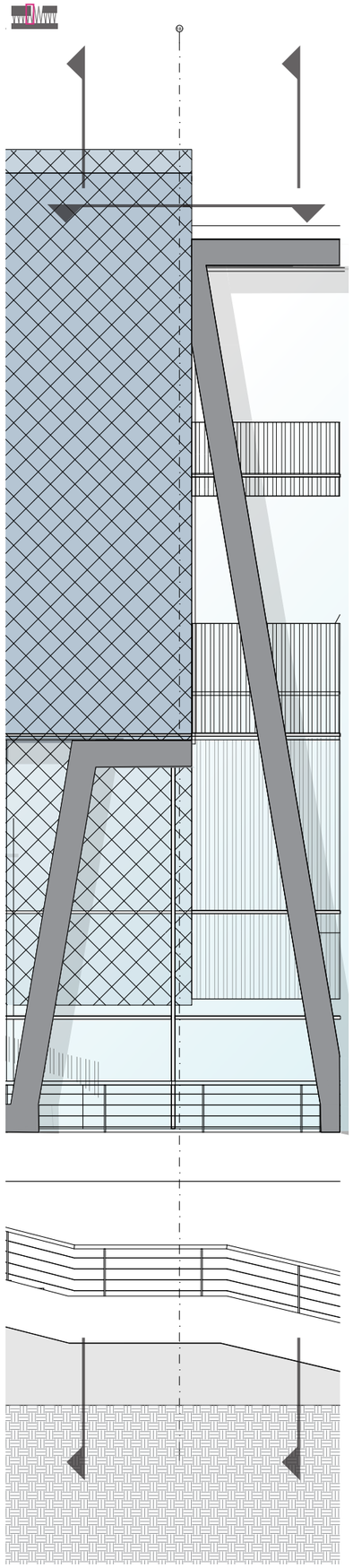
2 HALL FACADE BUILDUP
Recycled sheet metal
metallic paint coated
450mm BioFoam insulation
Wooden rails
Tube steel beam frame
Cork/Woodmix acoustic paneling
Load bearing facade

3 HALL FLOOR BUILDUP
Cork/Woodmix acoustic paneling
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Wooden railing
Recycled sheet metal panels

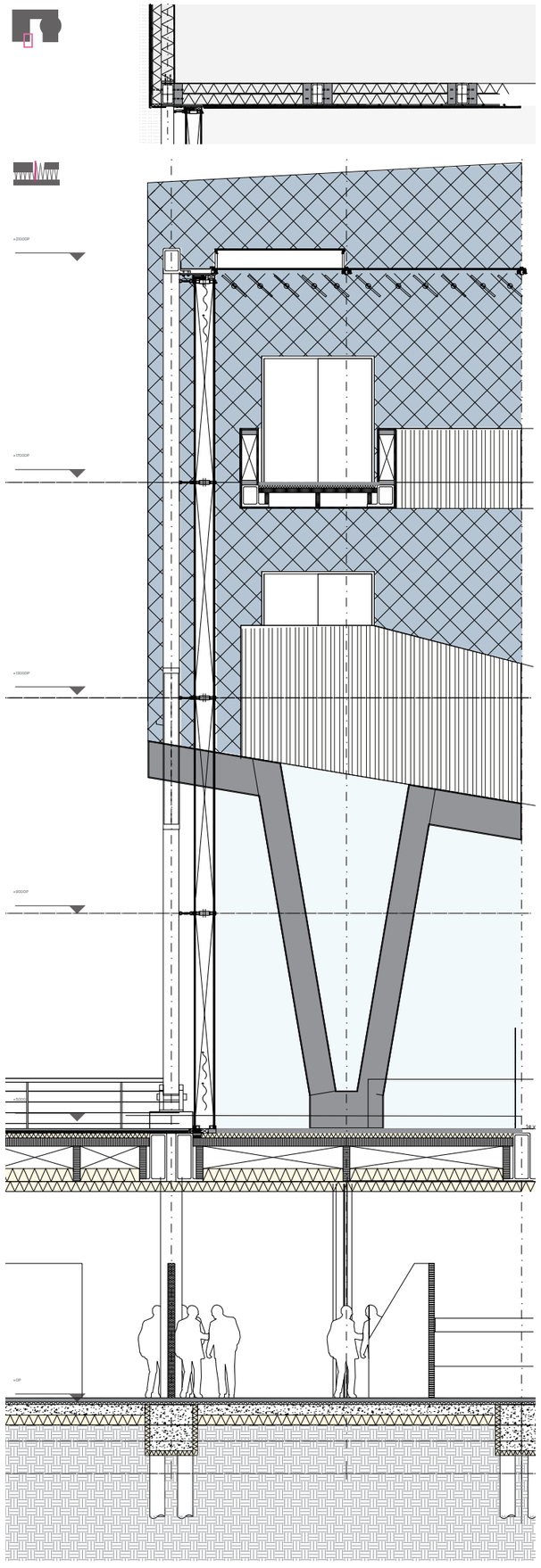
4 PLINTH FLOOR BUILDUP
PVC demountable flooring
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Cork/Woodmix acoustic paneling



TECHNICAL SECTION 1



NORTH FACADE ELEVATION 1



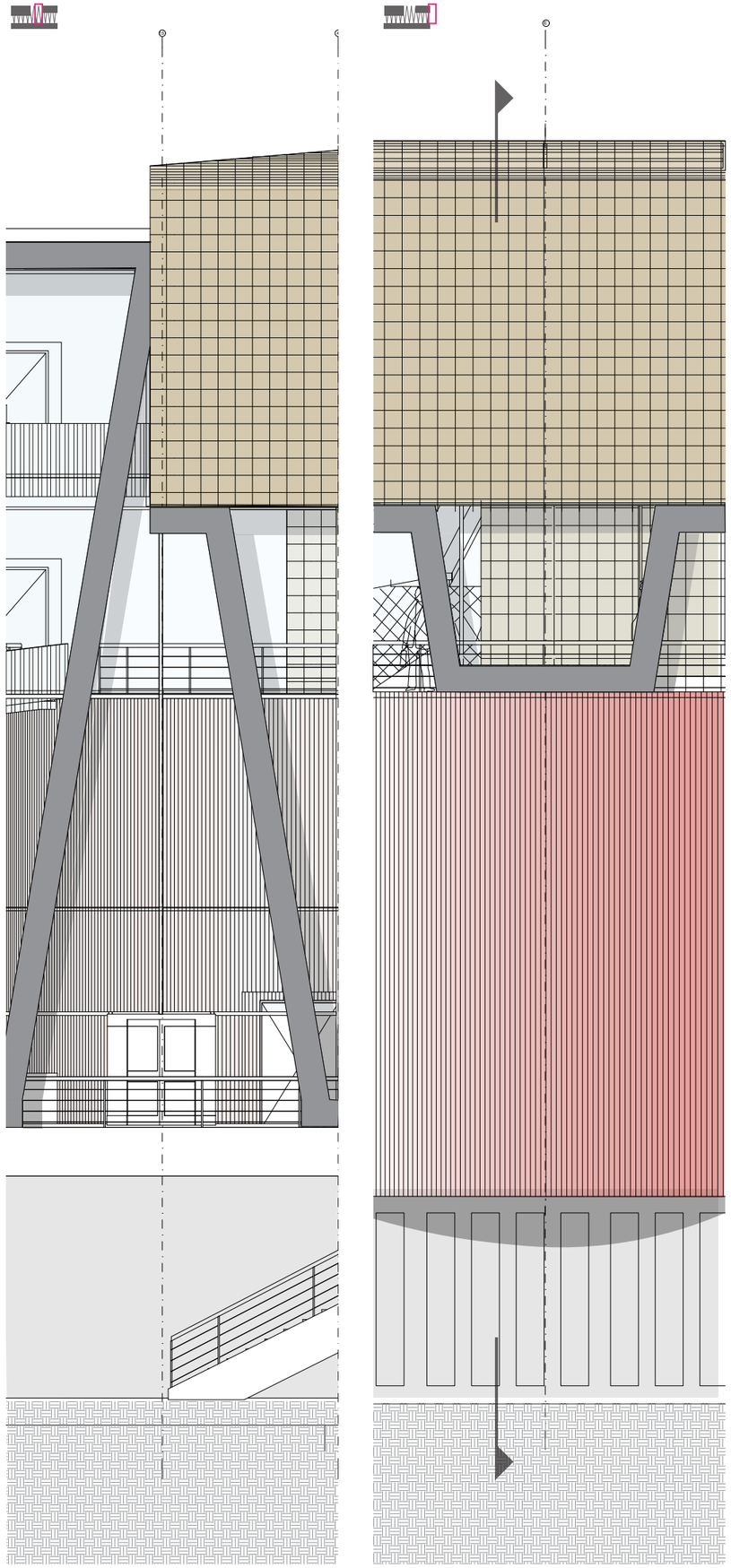
TECHNICAL SECTION 2

1 HALL ROOF BUILDUP
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Acoustic panels

2 FOYER ROOF BUILDUP
500/300/16 steel load bearing facade
Reynaers openable aluminium frames
Sun-angle adjustable louvers

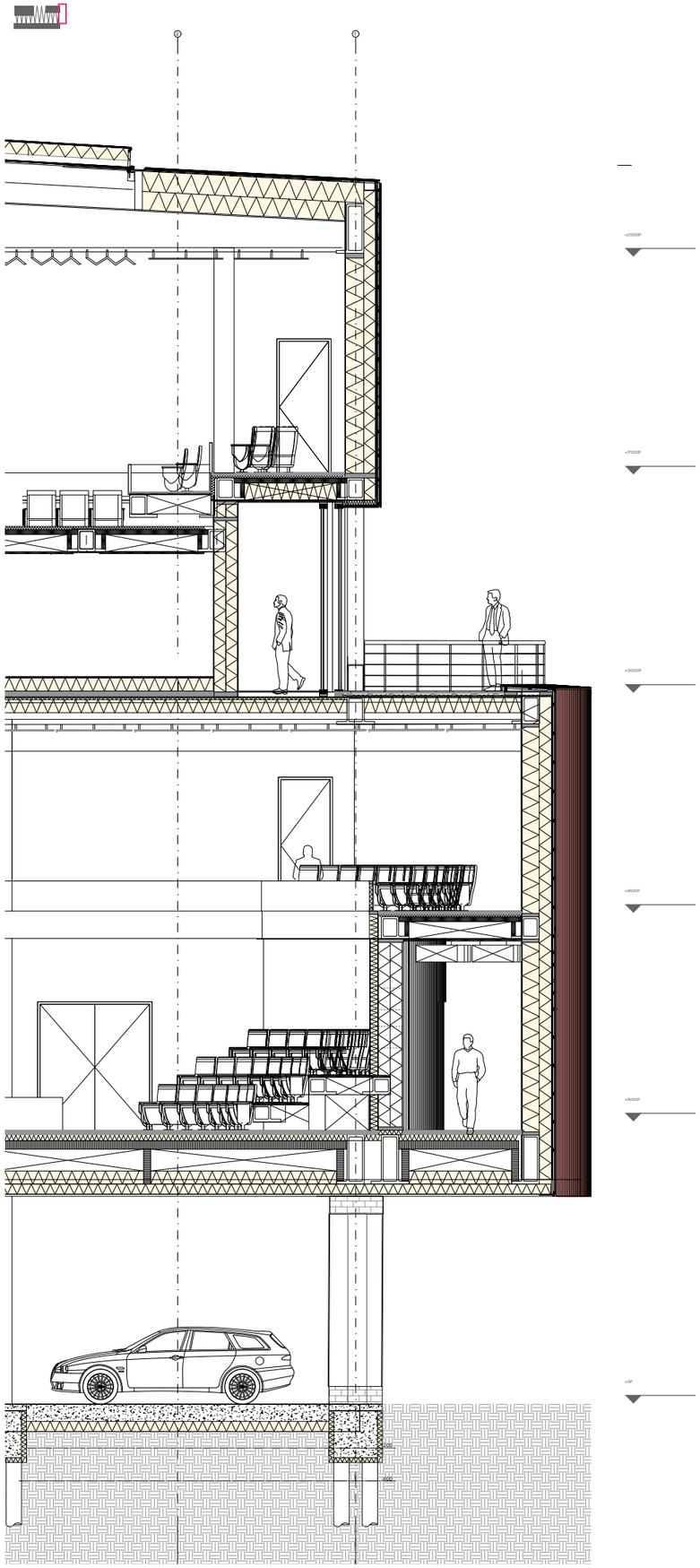
3 FOYER STAIRCASES
PVC flooring
Steel beam system
Vertically laminated veneer lumber - panels
Side and underside panels cladded with recycled cloth material

4 FOYER FACADE BUILD-UP
500/300/16 steel load bearing facade
Reynaers double aluminium frames
Ventilated double facade
HR+++
Adjustable bolts to load bearing facade



NORTH FACADE ELEVATION 2

WEST FACADE ELEVATION



TECHNICAL SECTION 3

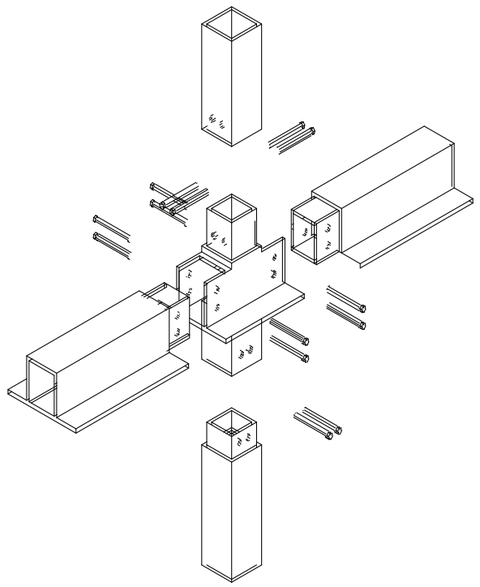
1 HALL ROOF BUILDUP
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Acoustic panels
Integrated gutter

2 HORSEHOE HALL BALCONY
Wooden terrace panels for water drain
Wooden railing for panels
Integrated water rain
Stainless steel railing
400mm rigid BioFoam insulation

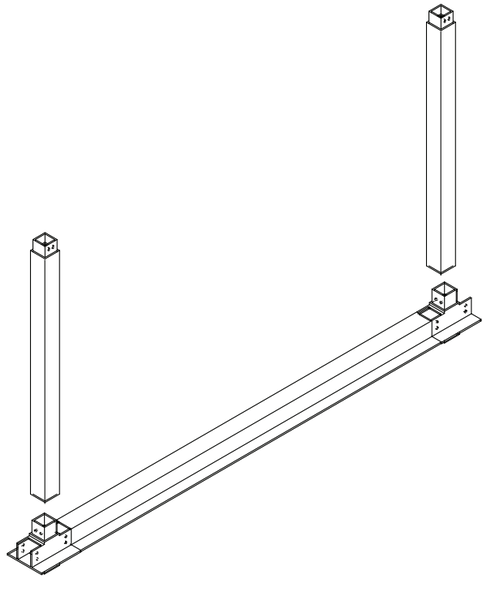
3 PLINTH FLOOR BUILDUP
PVC demountable flooring
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Cork/Woodmix acoustic paneling

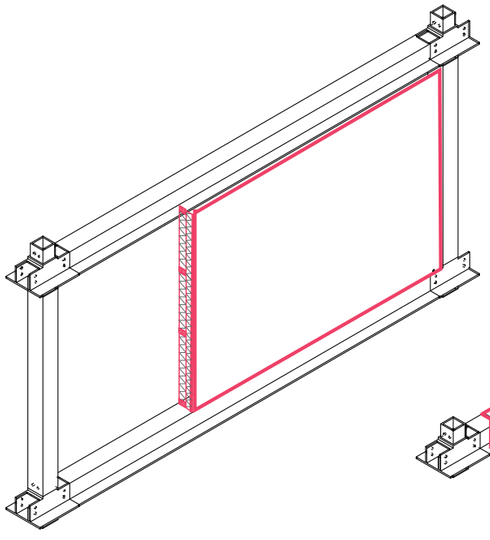
Structure

Demountable joints

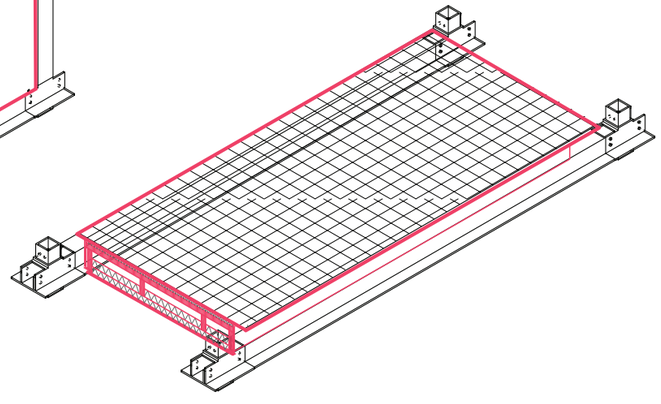


Framework for transport

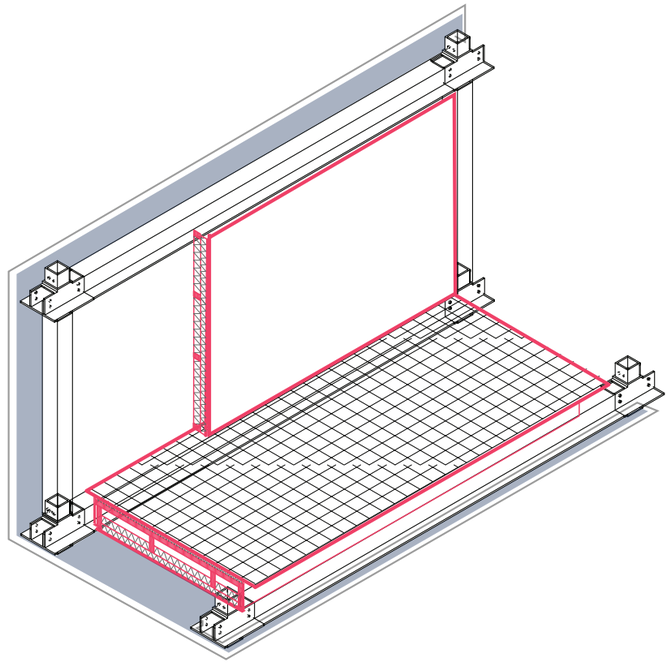




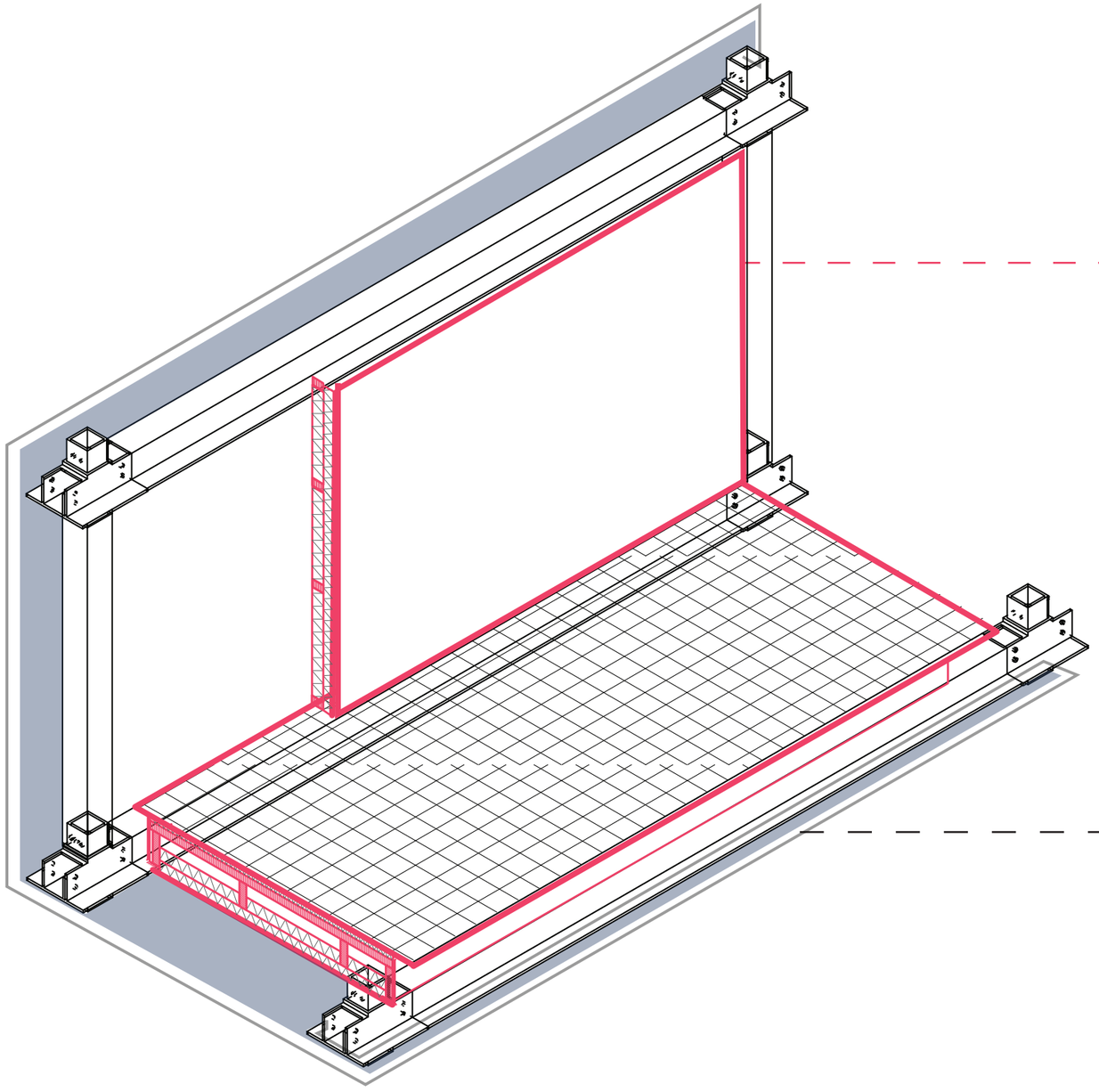
Wooden system walls

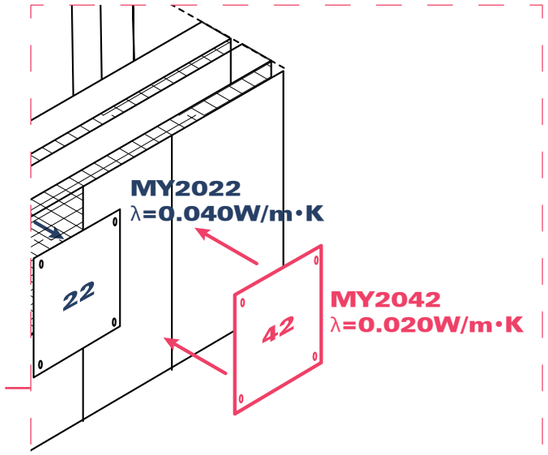


Vertically laminated lumber floor panels

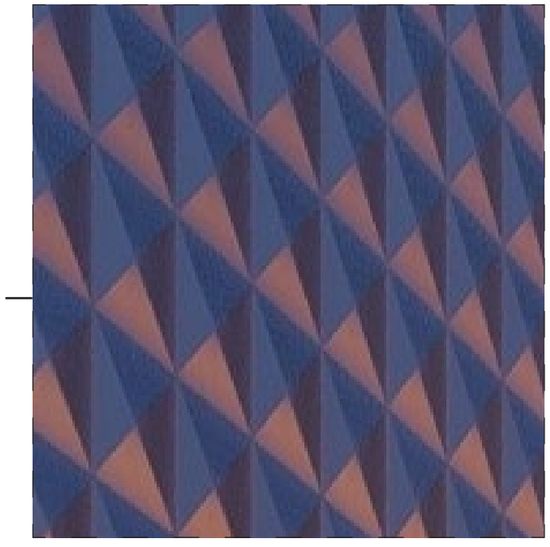


Steel cladding as hall cladding



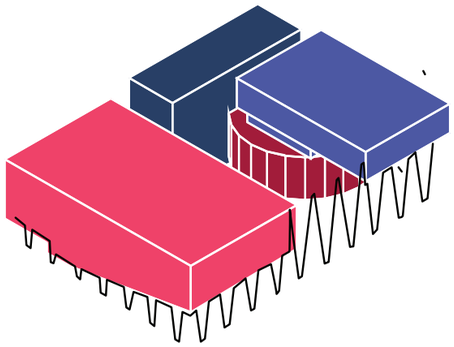


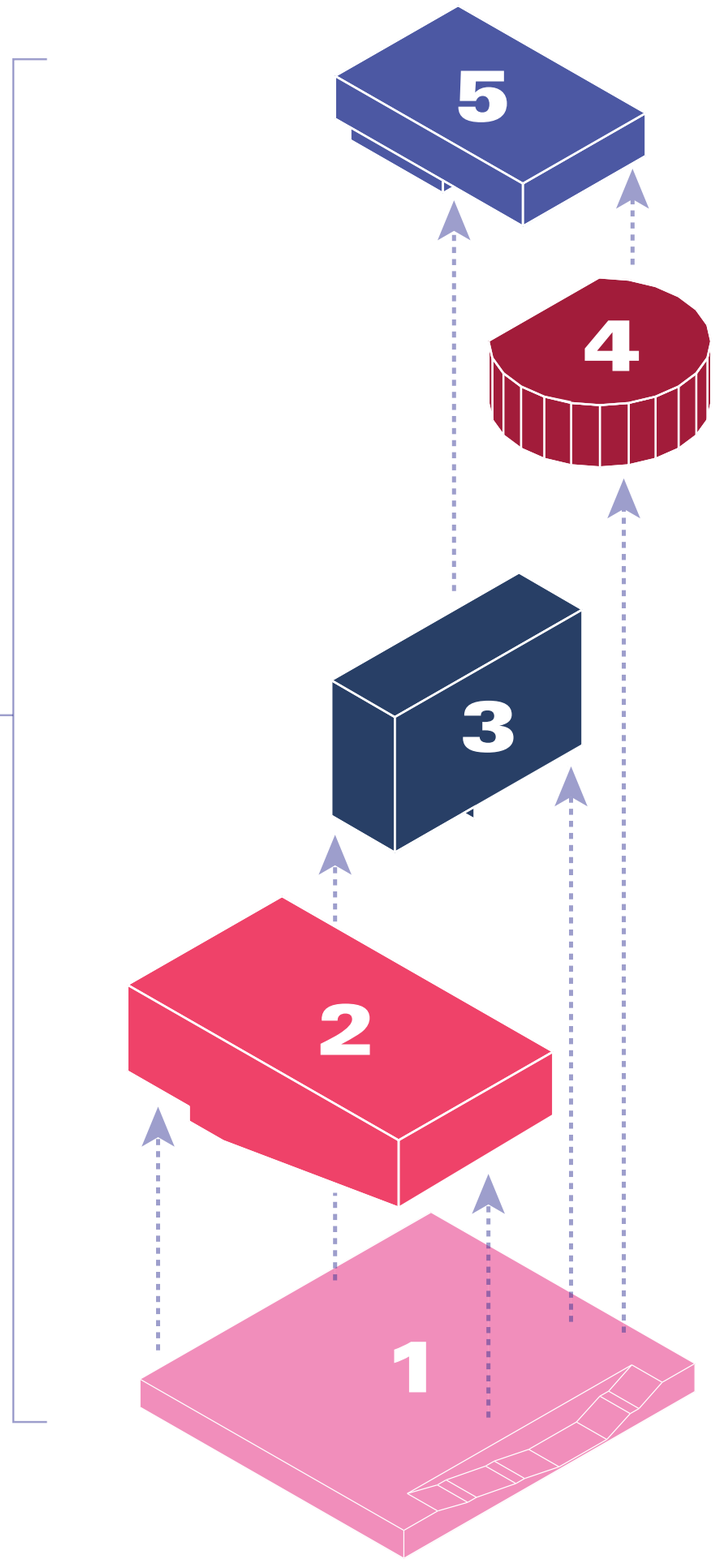
Replacable parts
Upgradable over time

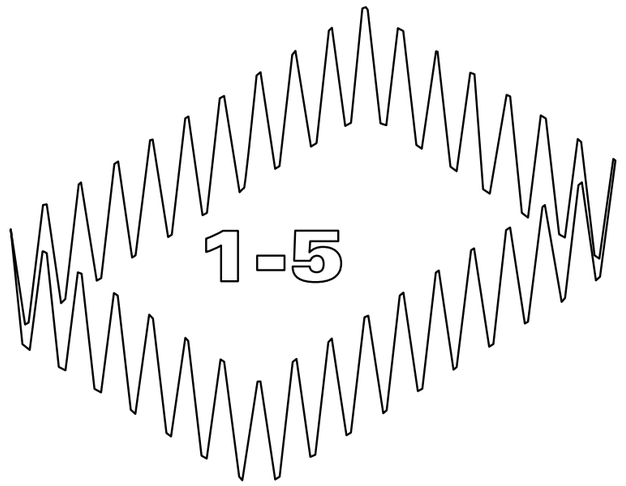


Reused car sheet metal
583 cars recycled /day in NL

Construction sequence



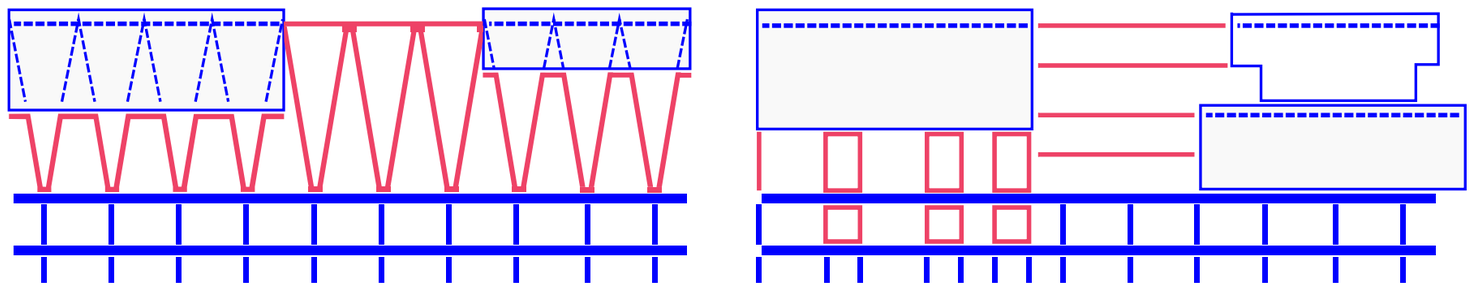


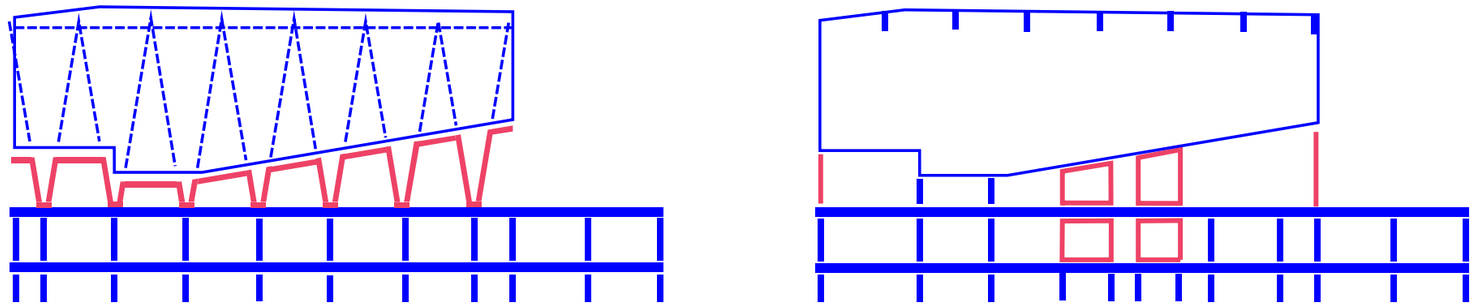


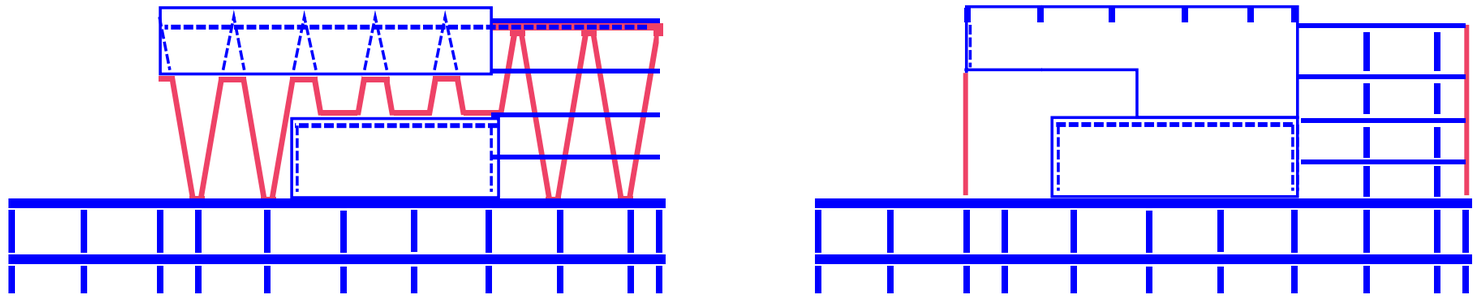
Structural concept

Load bearing facade

Section







Structural Diagrams

Individual halls acoustically and structurally independant

Foyer connects three halls

Plinth made as load bearing base

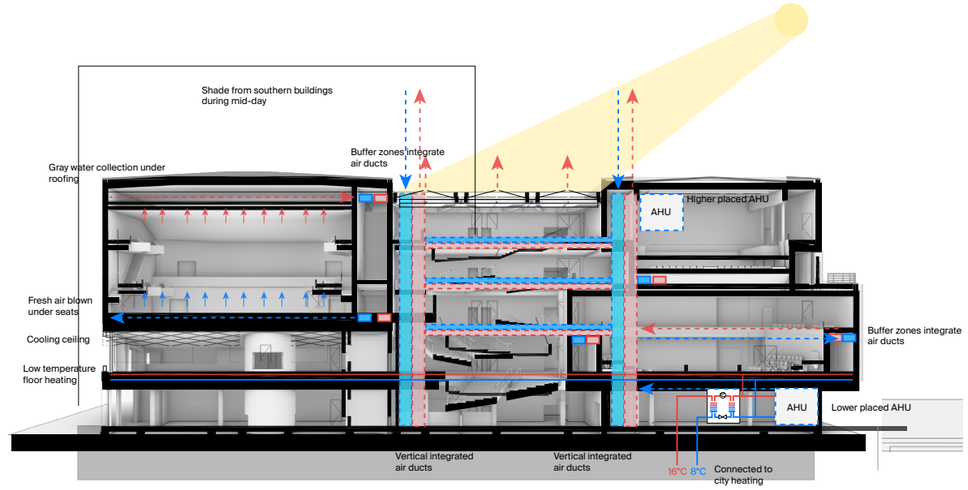
Structural columns serve as booths

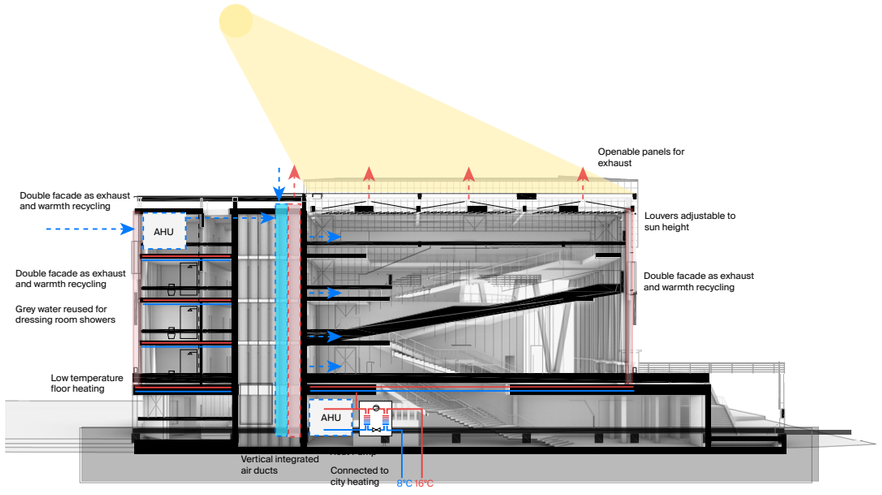
Load bearing facade visually wraps around halls

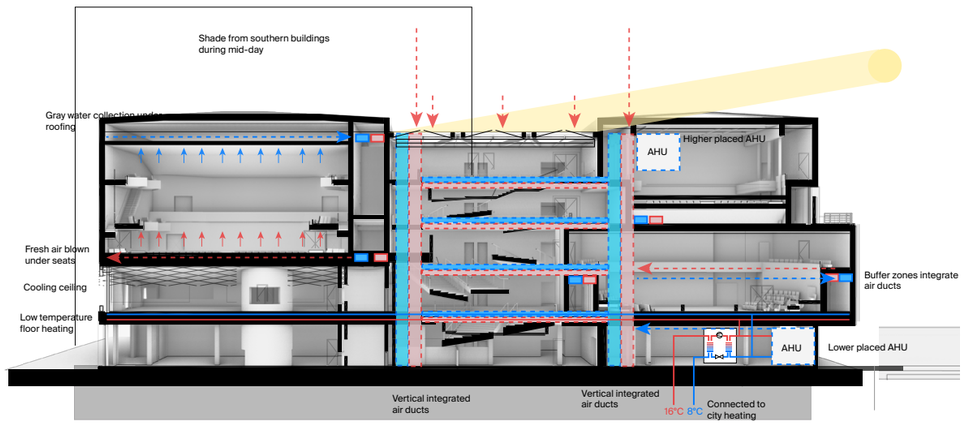
Shakespeare and horseshoe hall stack on one another

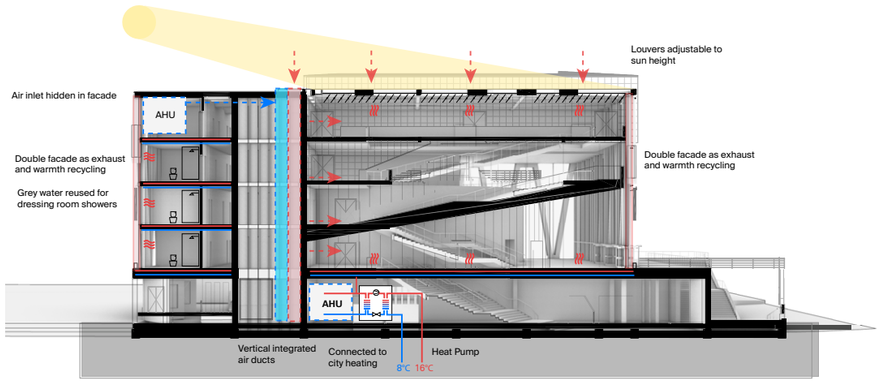
Servant space block self - bearing load system

Climate diagrams

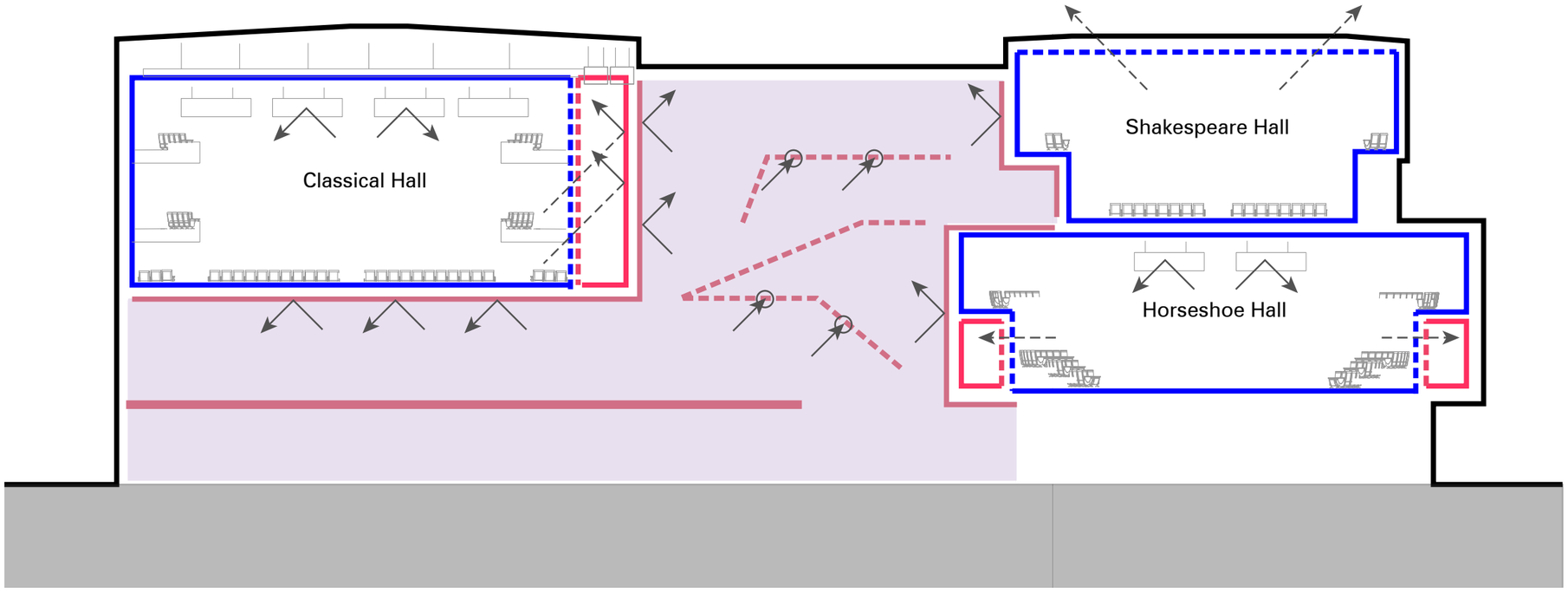








Acoustics



Acoustic section

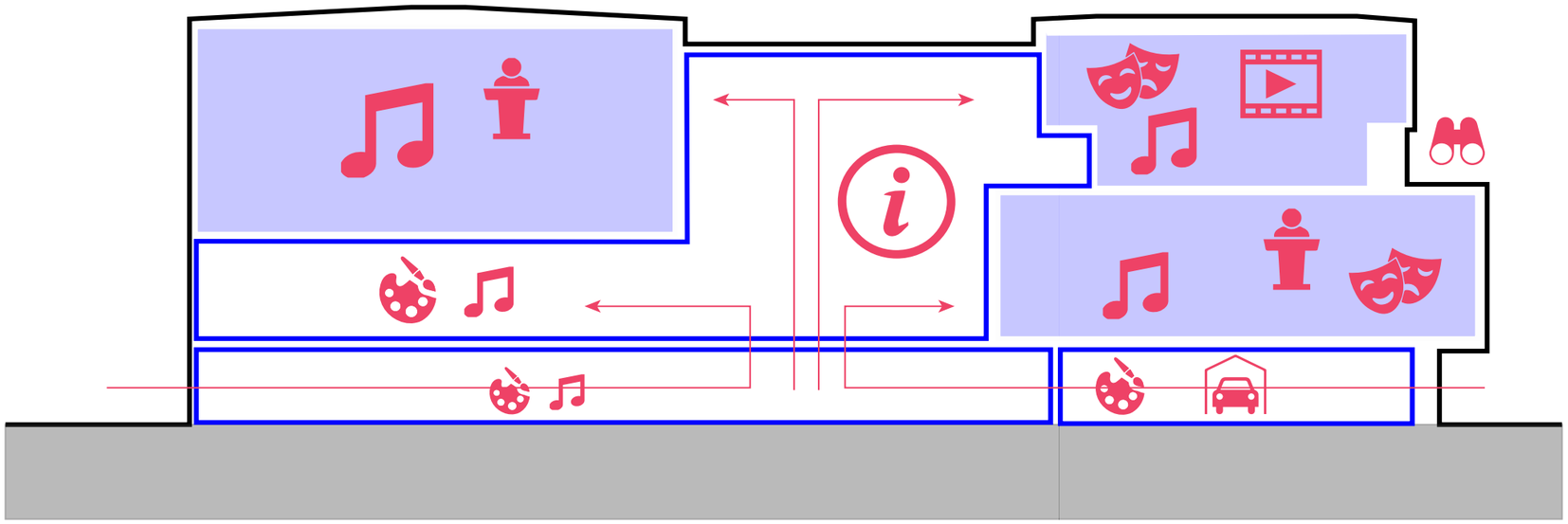
Three individual halls isolated

Sound travel allowed between halls and buffer zones

Sound-adsorbing staircases prevent reflective sound in foyer

Paneling above stage improves performer acoustics

Multiplicity



Multiplicity diagram

Shakespeare hall incline is designed for plays and movie screenings

Exposition hall can be turned into hybrid music hall

Parking garage can in time be phased out for exposition extension

Horseshoe hall balcony as public accessible element

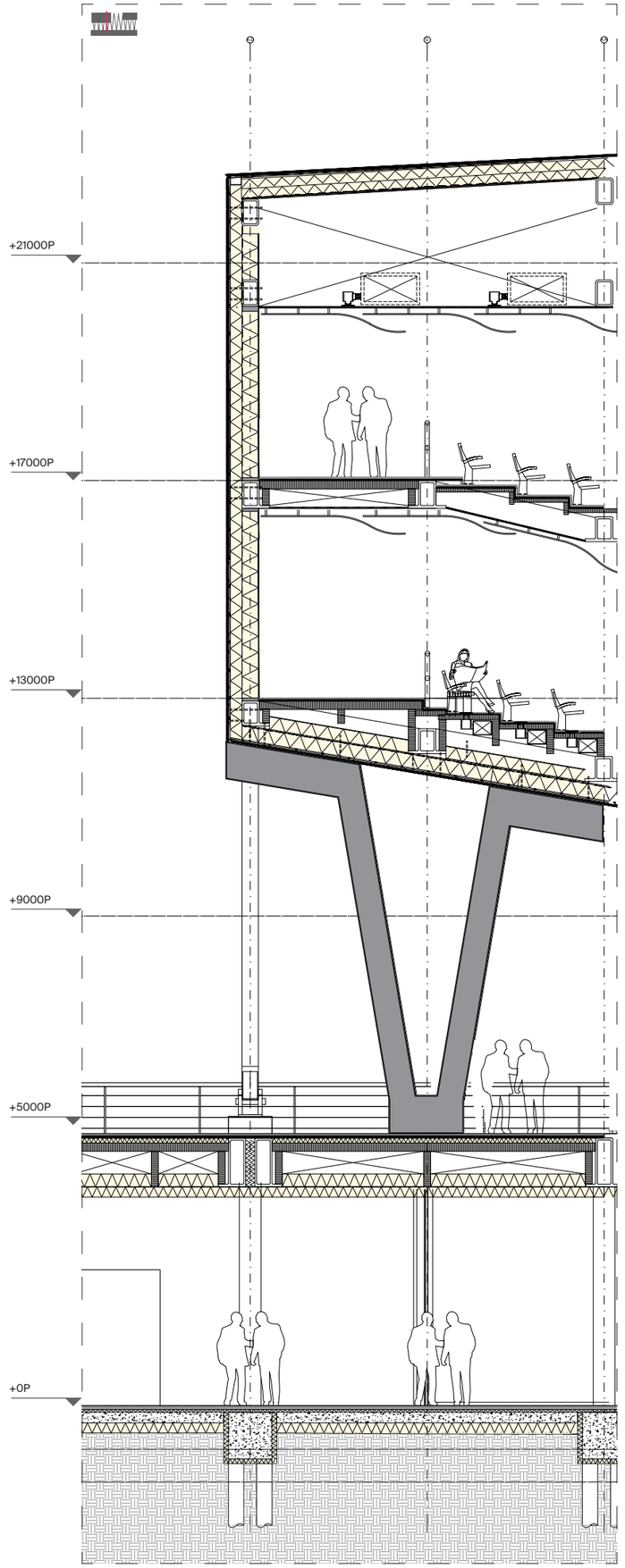
P4.2

1 HALL ROOF BUILDUP
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Air exhaust ducts
Acoustic panels

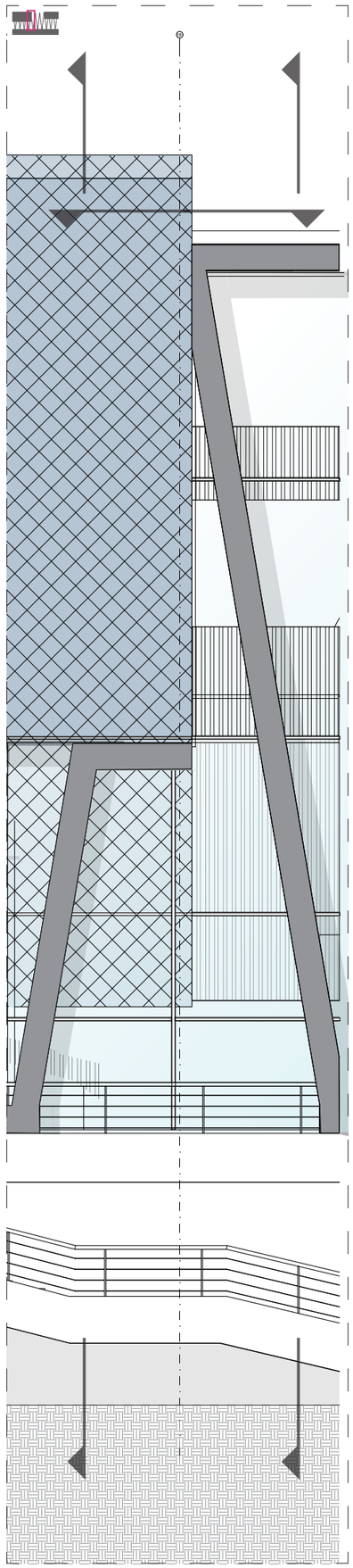
2 HALL FACADE BUILDUP
Recycled sheet metal
metallic paint coated
450mm BioFoam insulation
Wooden rails
Tube steel beam frame
Cork/Woodmix acoustic paneling
Load bearing facade

3 HALL FLOOR BUILDUP
Cork/Woodmix acoustic paneling
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Wooden railing
Recycled sheet metal panels

5 PLINTH FLOOR BUILDUP
PVC demountable flooring
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Cork/Woodmix acoustic paneling



TECHNICAL SECTION 1


NORTH FACADE ELEVATION 1

1 HALL ROOF BUILDUP
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Acoustic panels

2 FOYER ROOF BUILDUP
500/300/16 steel load bearing facade
Reynaers openable aluminium frames
Sun-angle adjustable louvers

3 FOYER FACADE BUILDUP
500/300/16 steel load bearing facade
Reynaers double aluminium frames
Ventilated double facade HR+++
Adjustable bolts to load bearing facade

4 FOYER STAIRCASES
PVC flooring
Steel beam system
Vertically laminated veneer lumber - panels
Side and underside panels cladded with recycled cloth material

5 PLINTH FLOOR BUILDUP
PVC demountable flooring
Sound dampening insulation
Vertically laminated veneer lumber - panels
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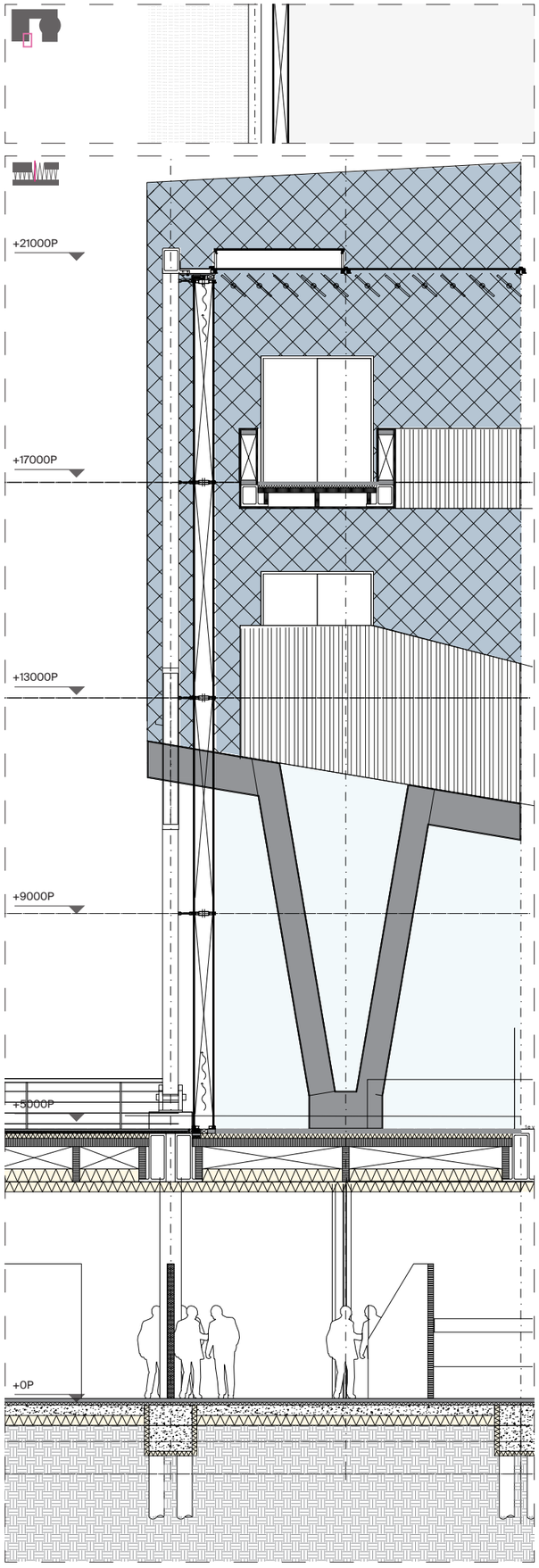
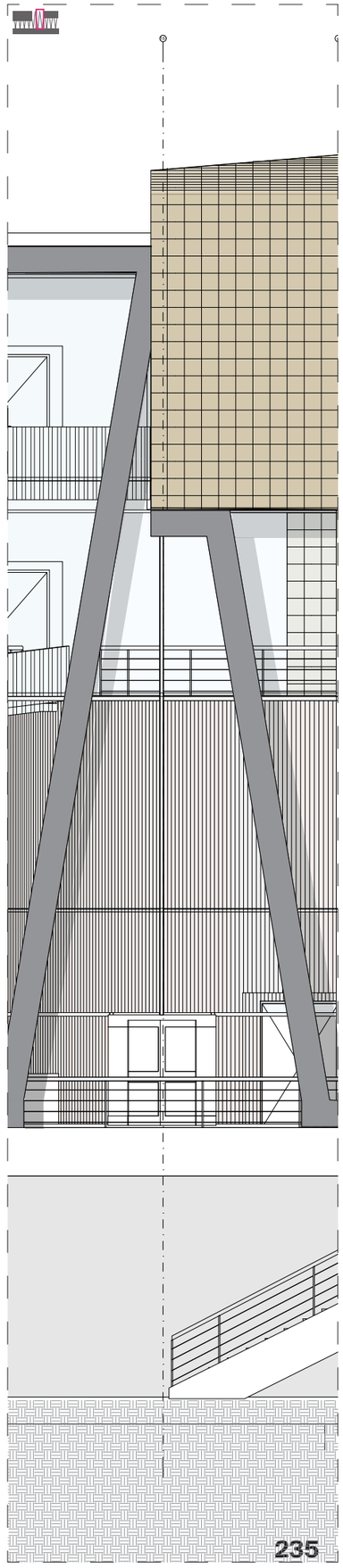
450mm BioFoam insulation
Cork/Woodmix acoustic paneling



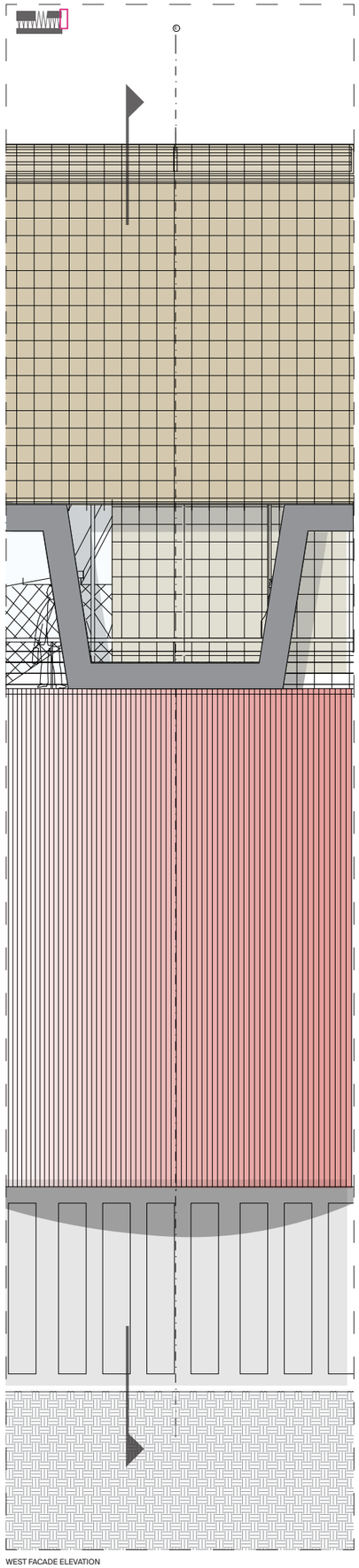
TECHNICAL SECTION 2


NORTH FACADE ELEVATION 2

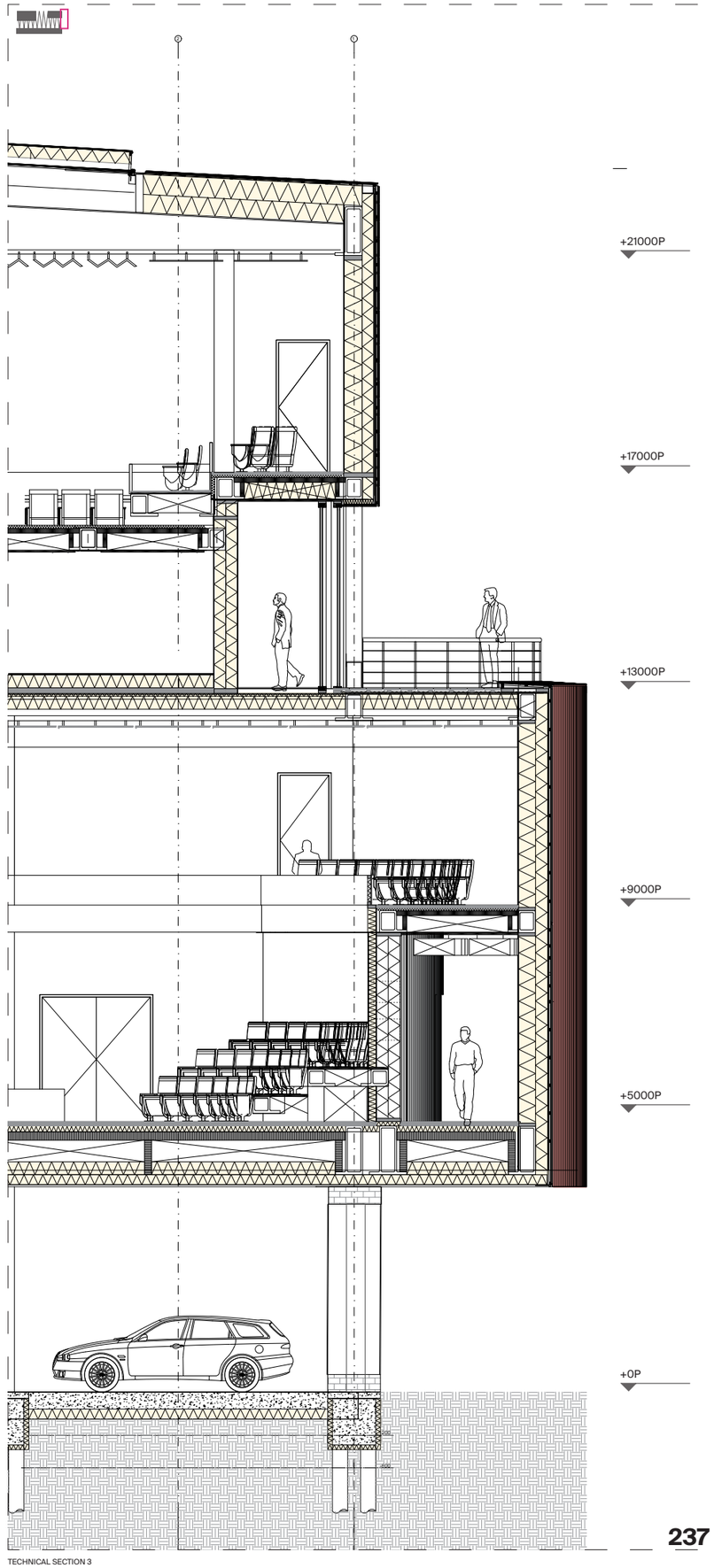
1 HALL ROOF BUILDUP
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Acoustic panels
Integrated gutter

2 HORSEHOE HALL BALCONY
Wooden terrace panels for water drain
Wooden railing for panels
Integrated water rain
Stainless steel railing
400mm rigid BioFoam insulation

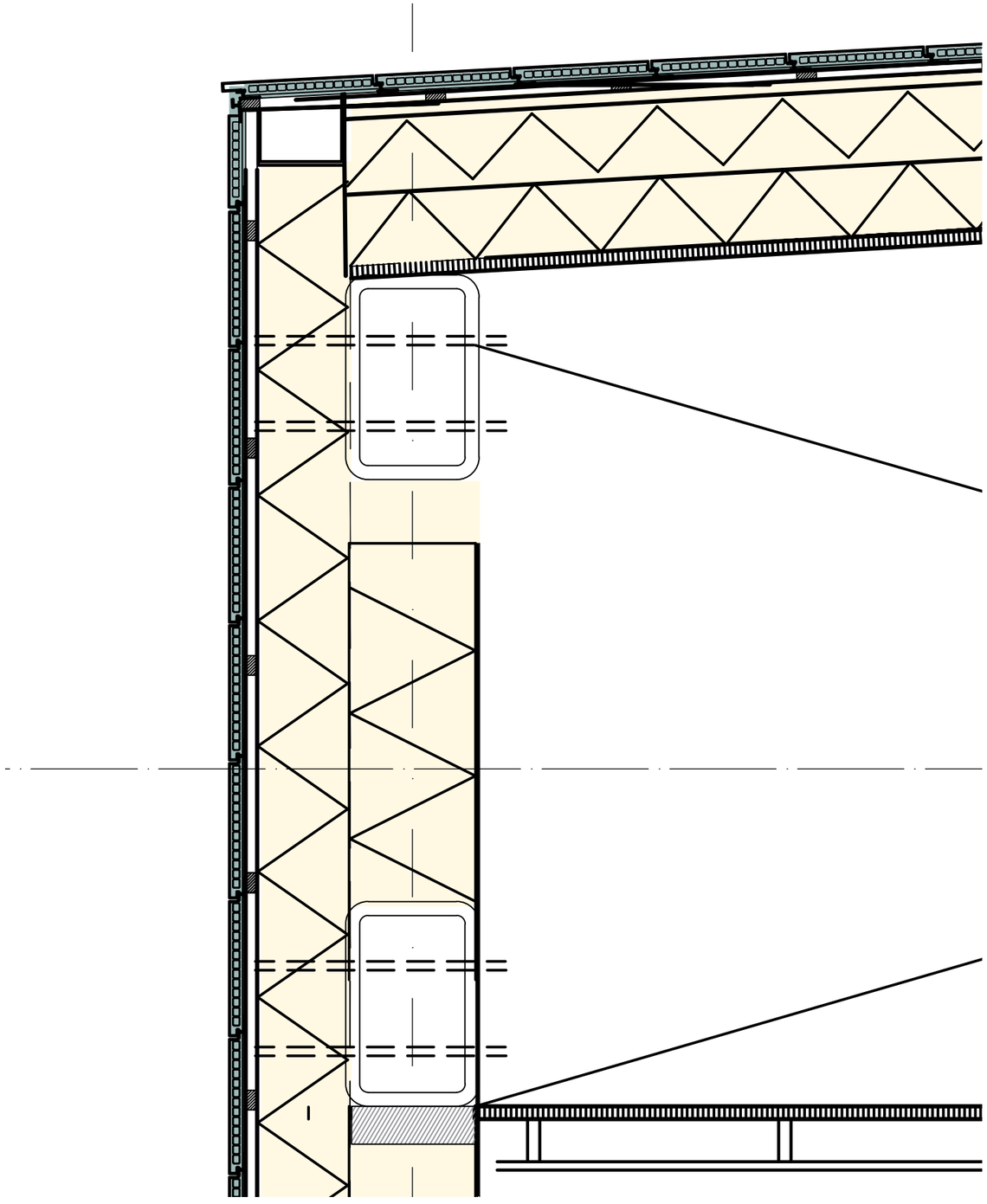
3 PLINTH FLOOR BUILDUP
PVC demountable flooring
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Cork/Woodmix acoustic paneling



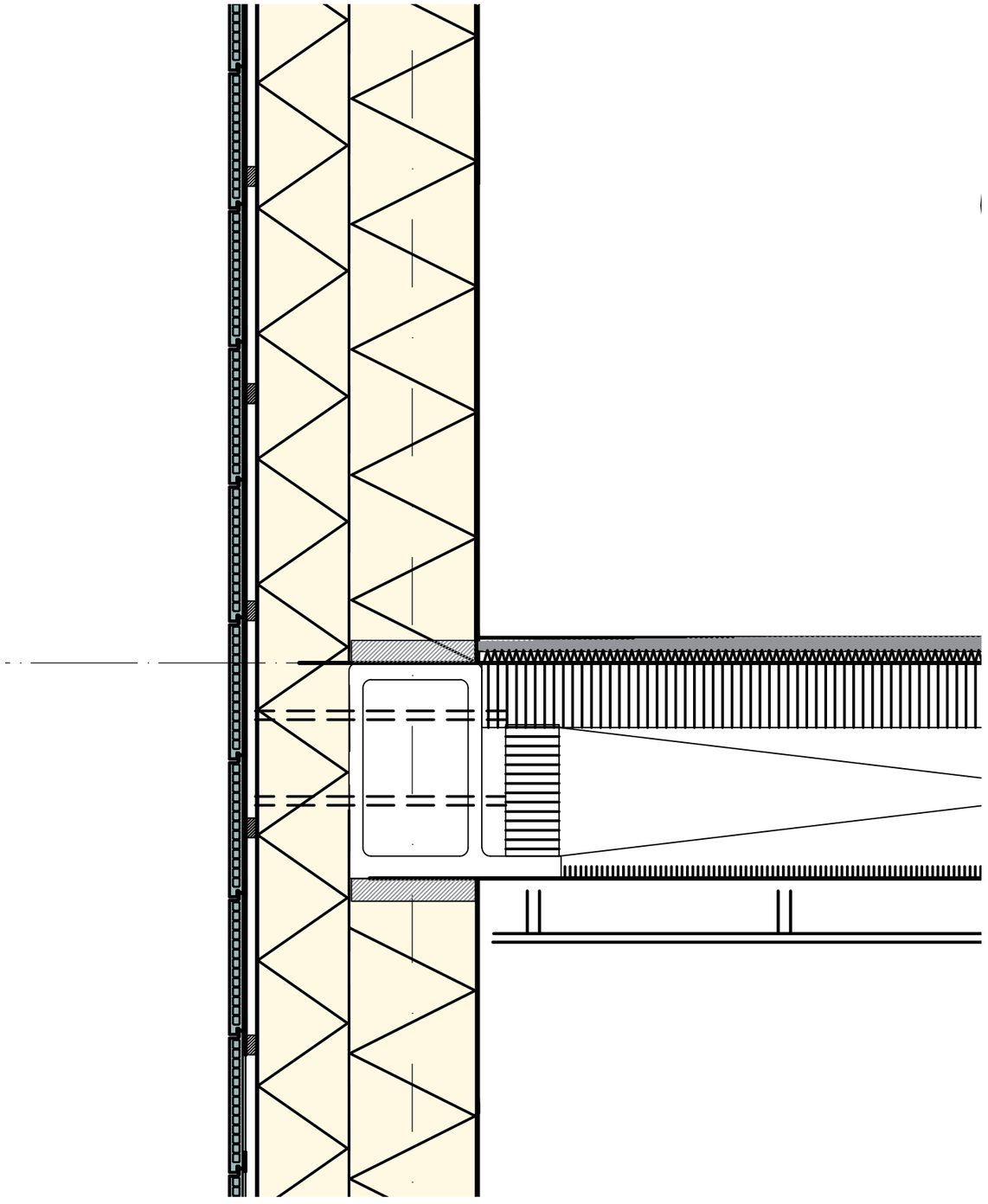
WEST FACADE ELEVATION



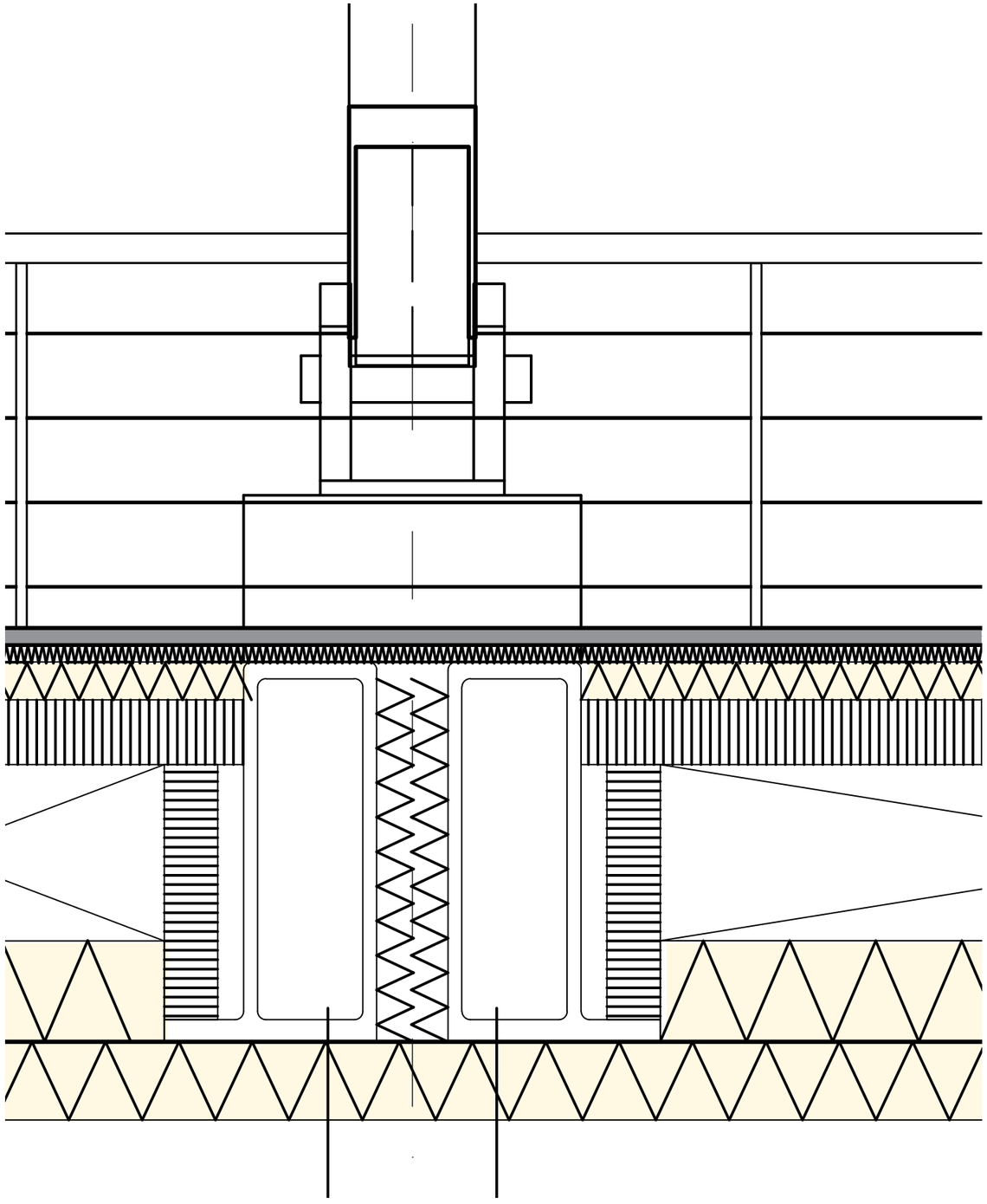
TECHNICAL SECTION 3



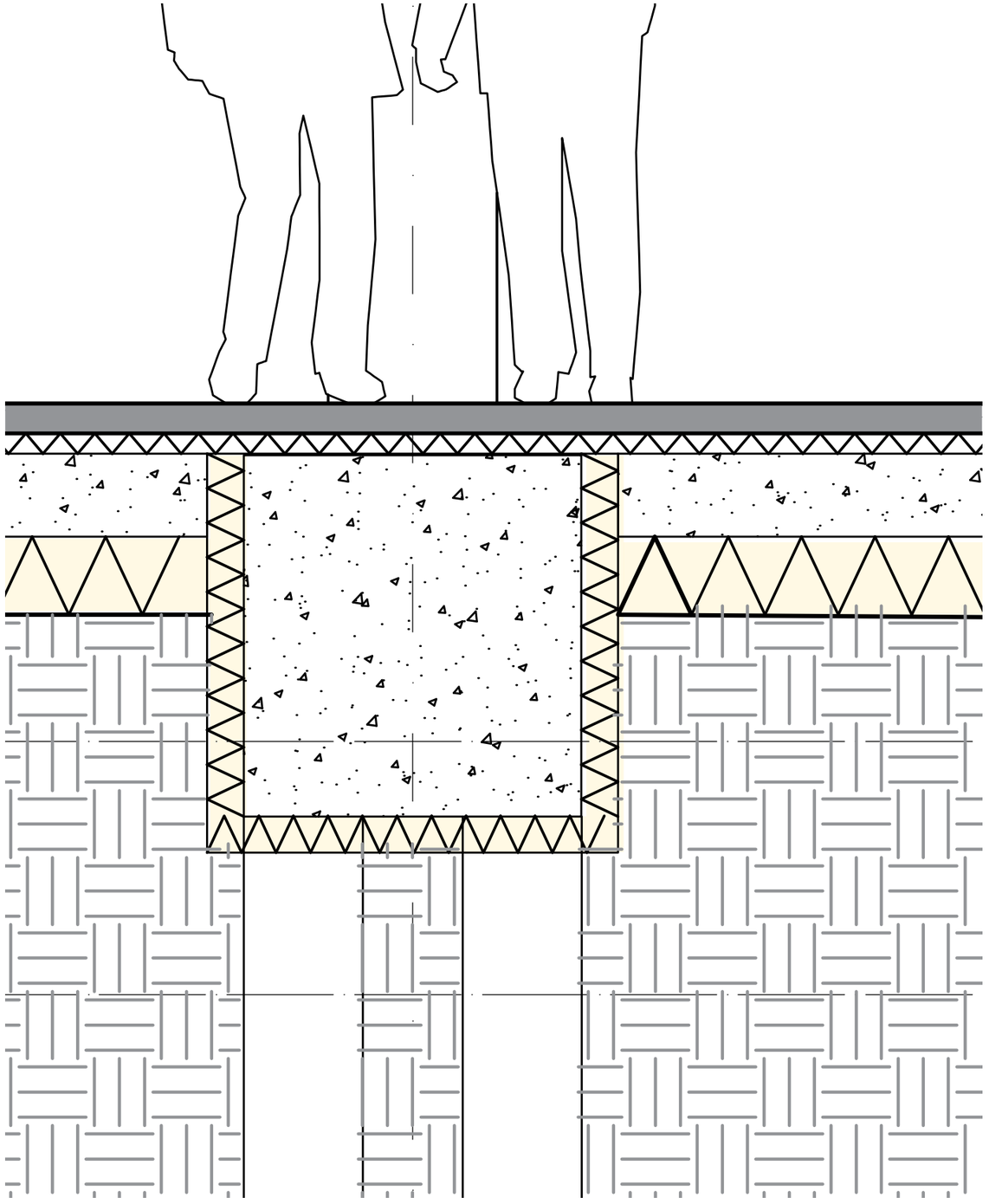
1 ROOFTOP TRIM 1:10
Metal cladding on tiles continues from roof to wall
450mm BioFoam insulation
500/300/16 steel beam system load bearing
Lowered ceiling for air duct system



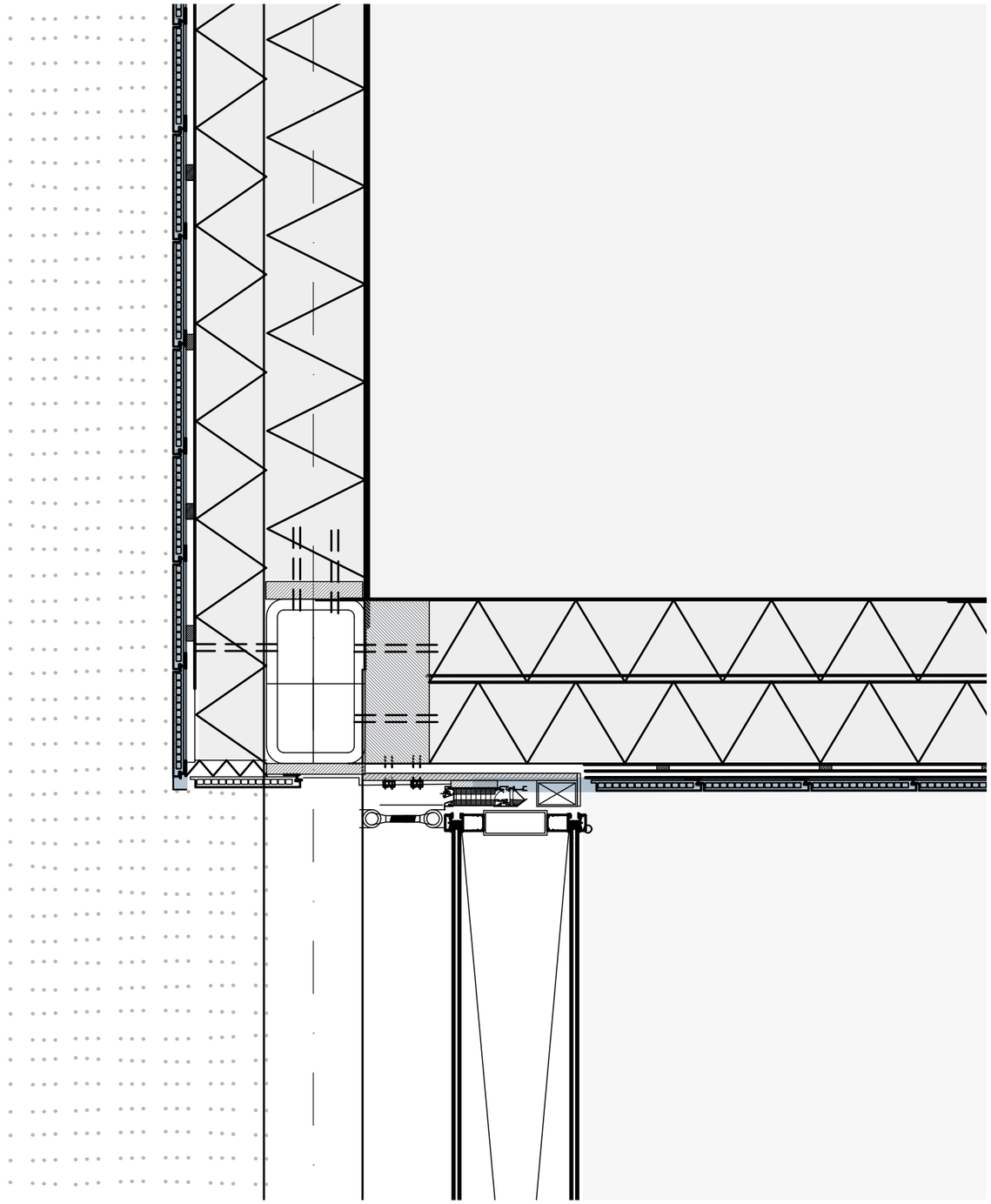
2 WALL-FLOOR JOINT 1:10
Steel deconstructable THQ beam
PVC flooring, deconstructable
Vertically Laminated Veneer Lumber Panels
Woodmix ceiling panels
Acoustic Panels



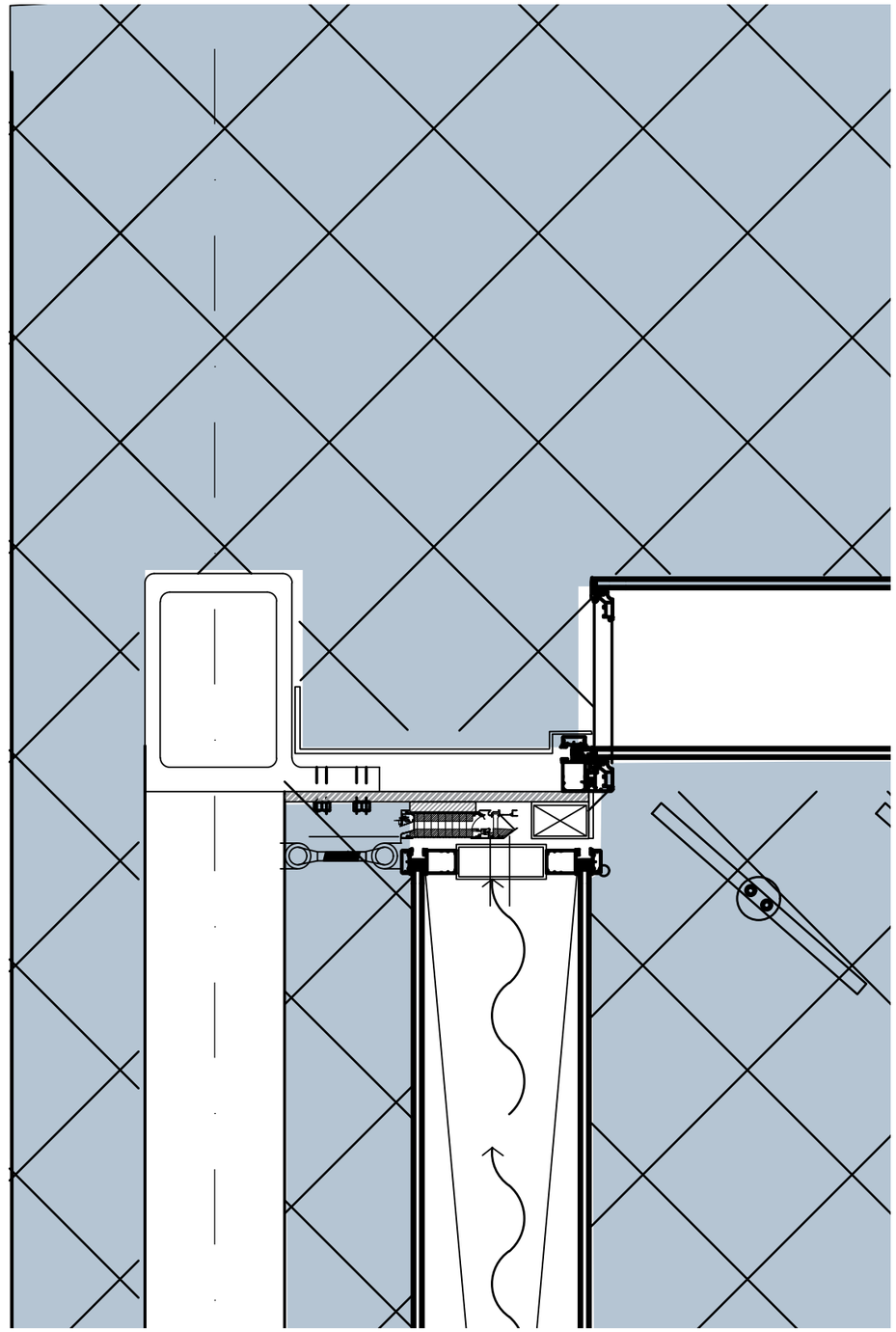
3 WALL-FLOOR JOINT 1:10
Slanted colums on steel foot, bolted to two THQ beams for load dispersion
Vertically Laminated Veneer Lumber Panel system
BioFoam two-layer insulation



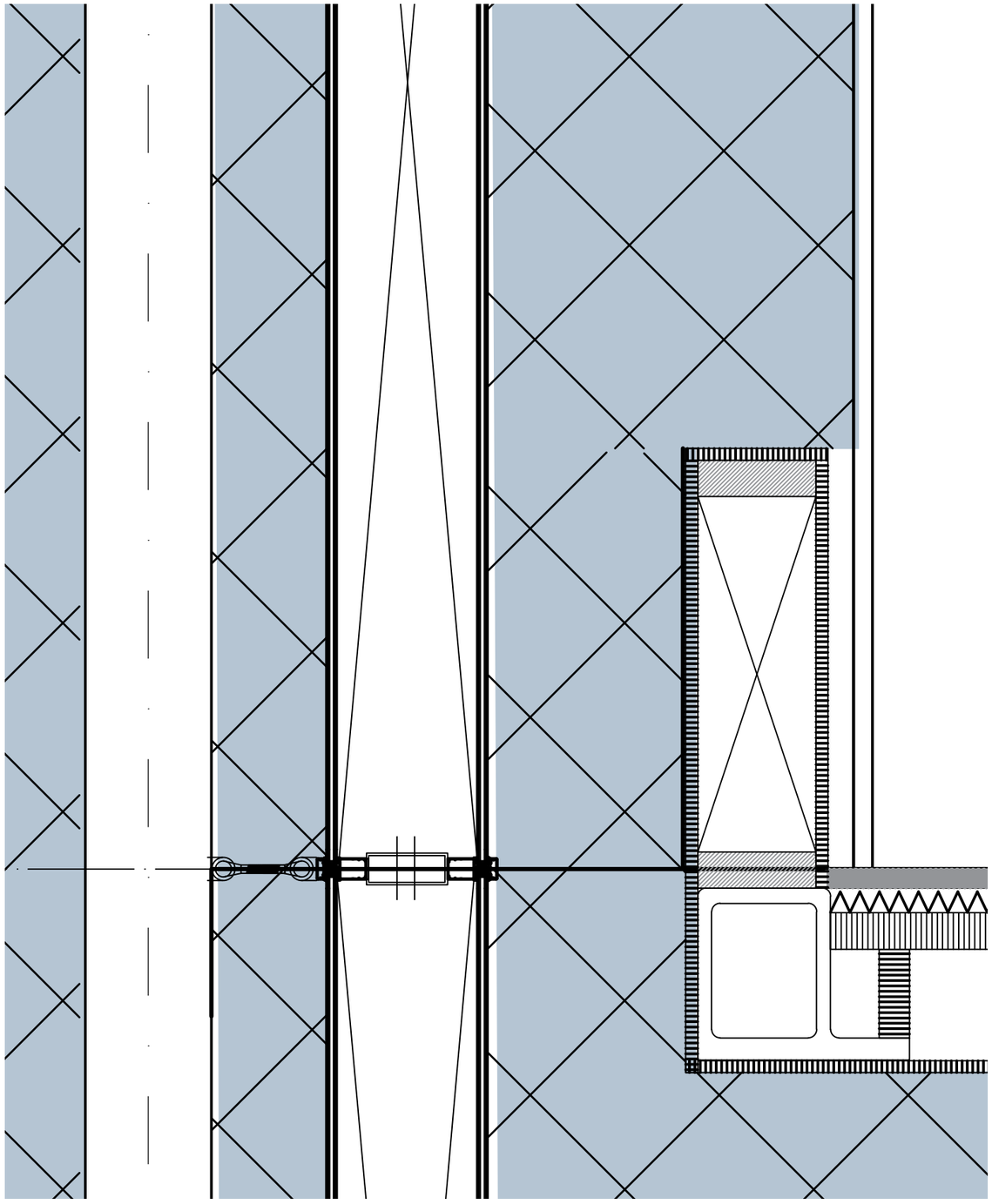
4 FLOOR JOINT 1:10
Finishing floor with pressure layer
Concrete foundation floor
Concrete foundation to two poles per column



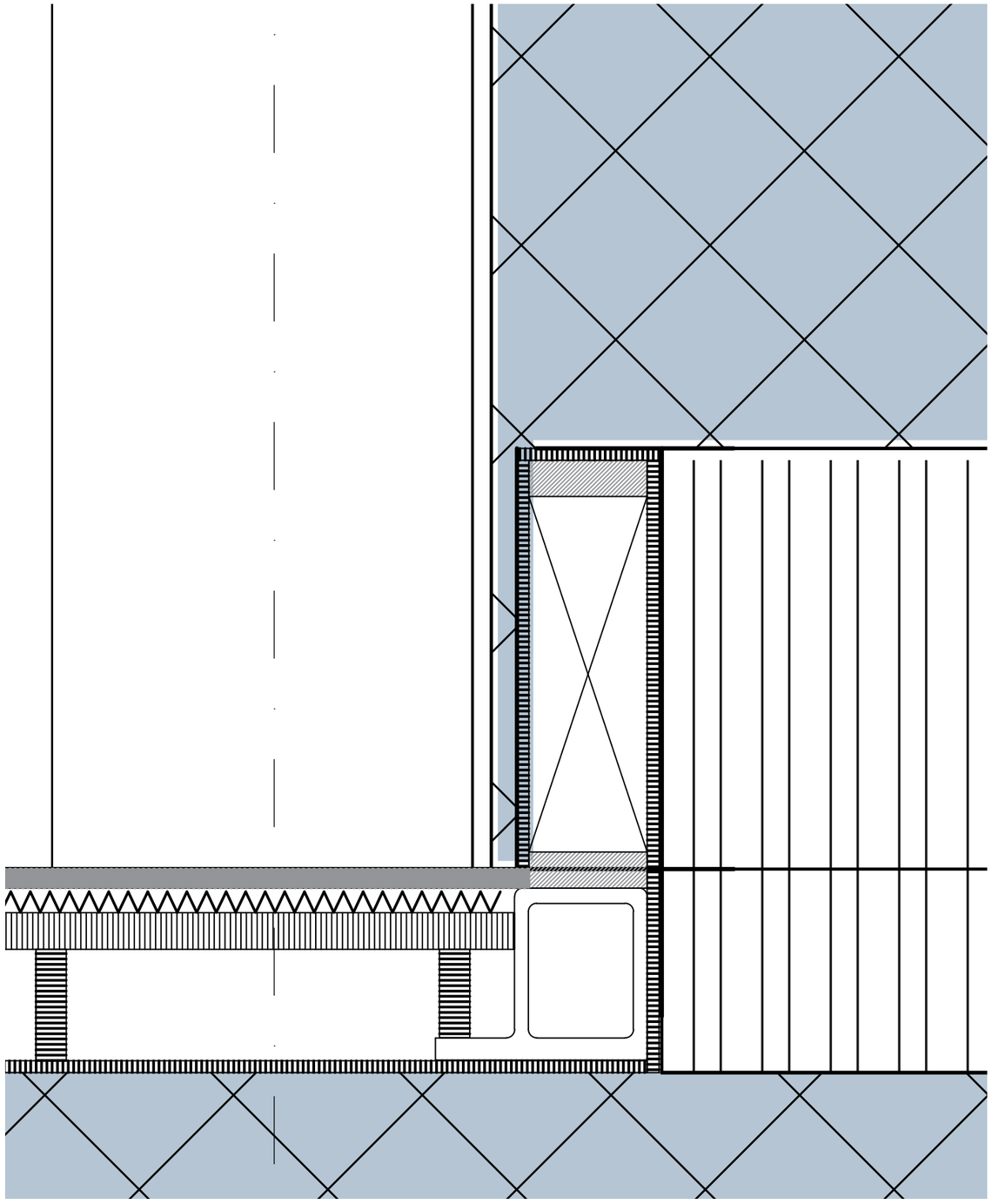
5 VERTICAL CORNER WALL JOINT 1:10
Sheet metal panels on wooden railing
Double insulation layer on wooden frame
Load bearing steel column, 500/300/16
Reynaers ventilated double aluminium facade



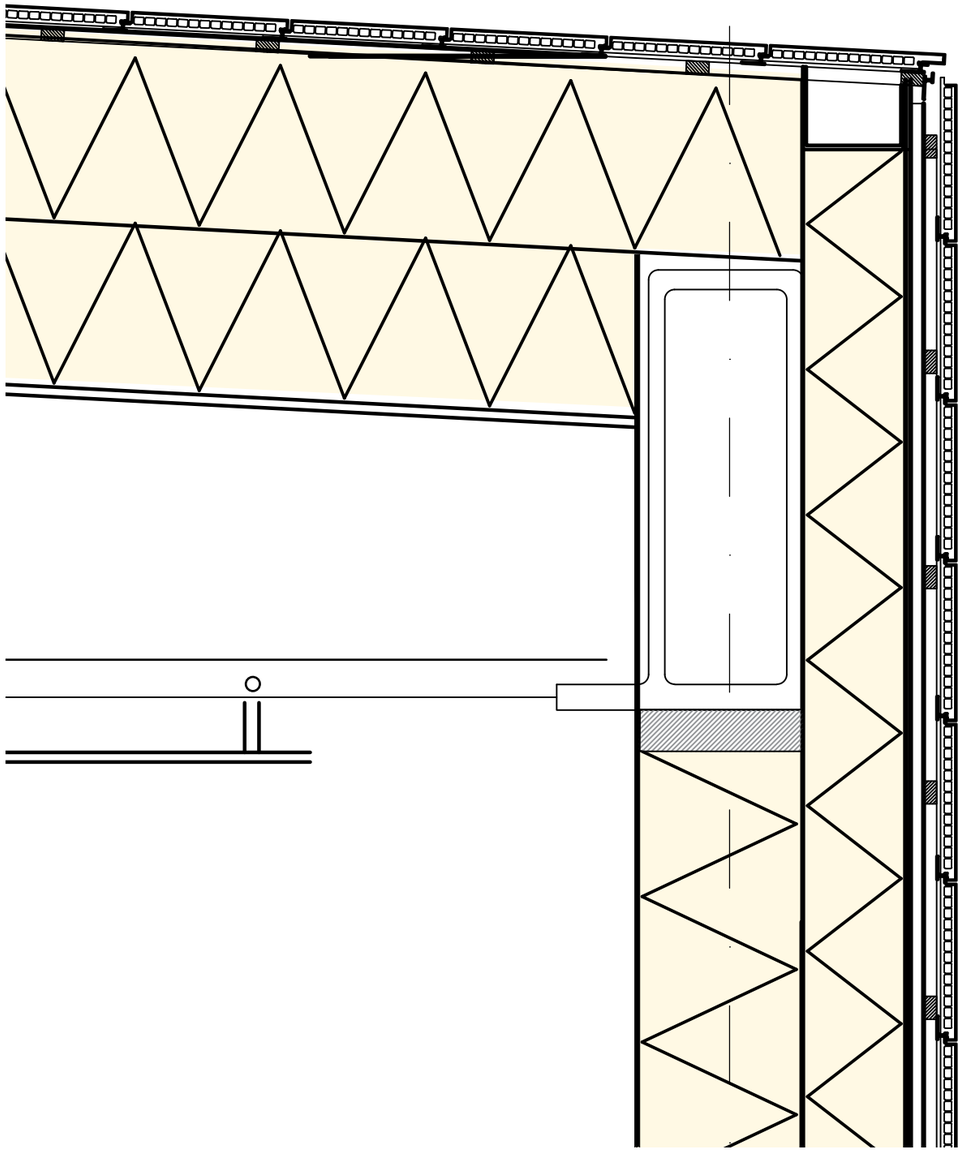
6 HORIZONTAL GLASS FACADE JOINT 1:10
Load bearing steel beam facade 500/300/16, external structure
Steel plate bolted to bearing facade with gutter
Reynaers ventilated double aluminium facade
Openable reynaers aluminium roof



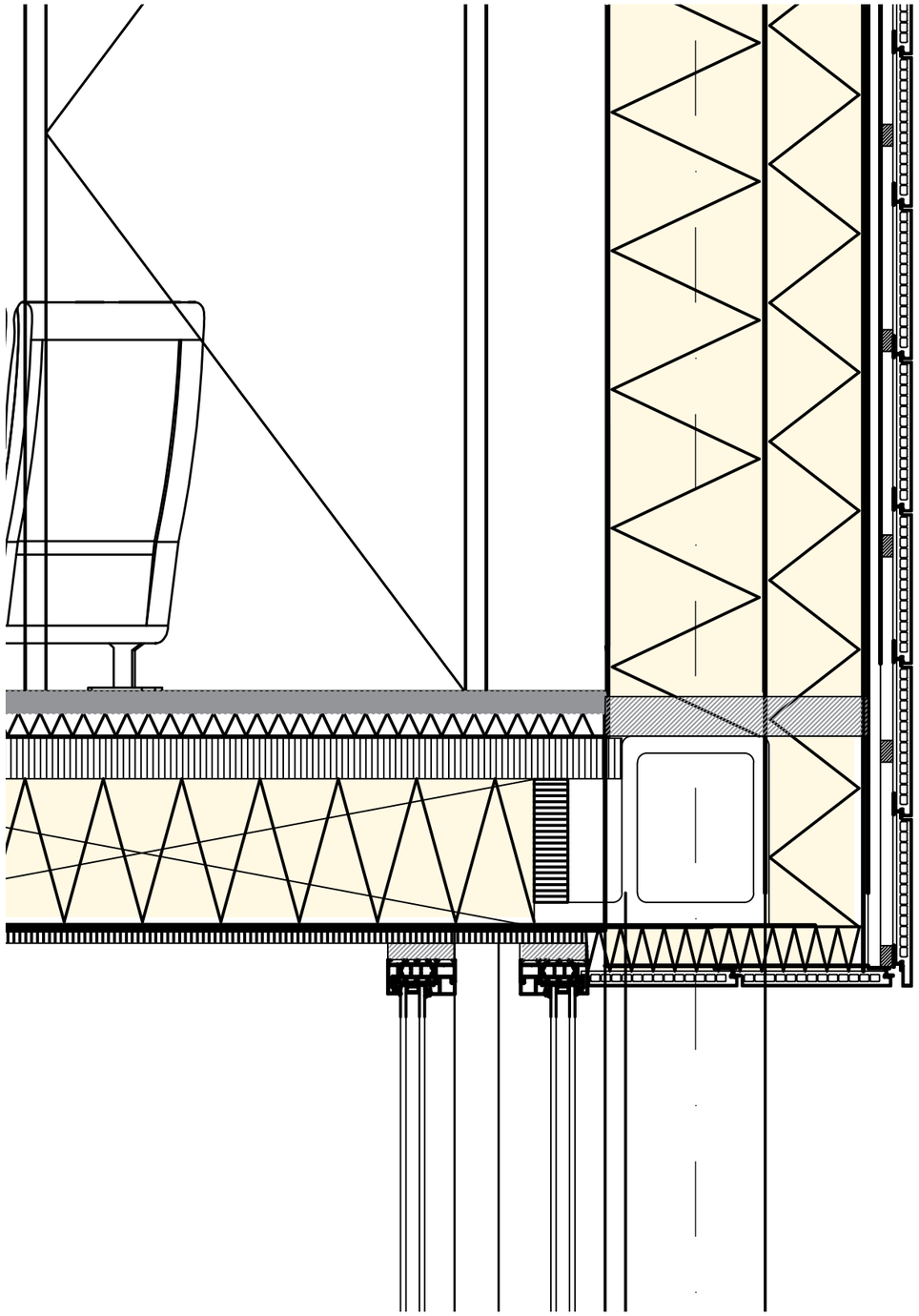
7 HORIZONTAL GLASS FACADE JOINT 1:10
Load bearing steel beam facade 500/300/16, external structure
Facade coupled to construction through steel thread
Reynaers ventilated double aluminium facade
Steel/wood hybrid system floor



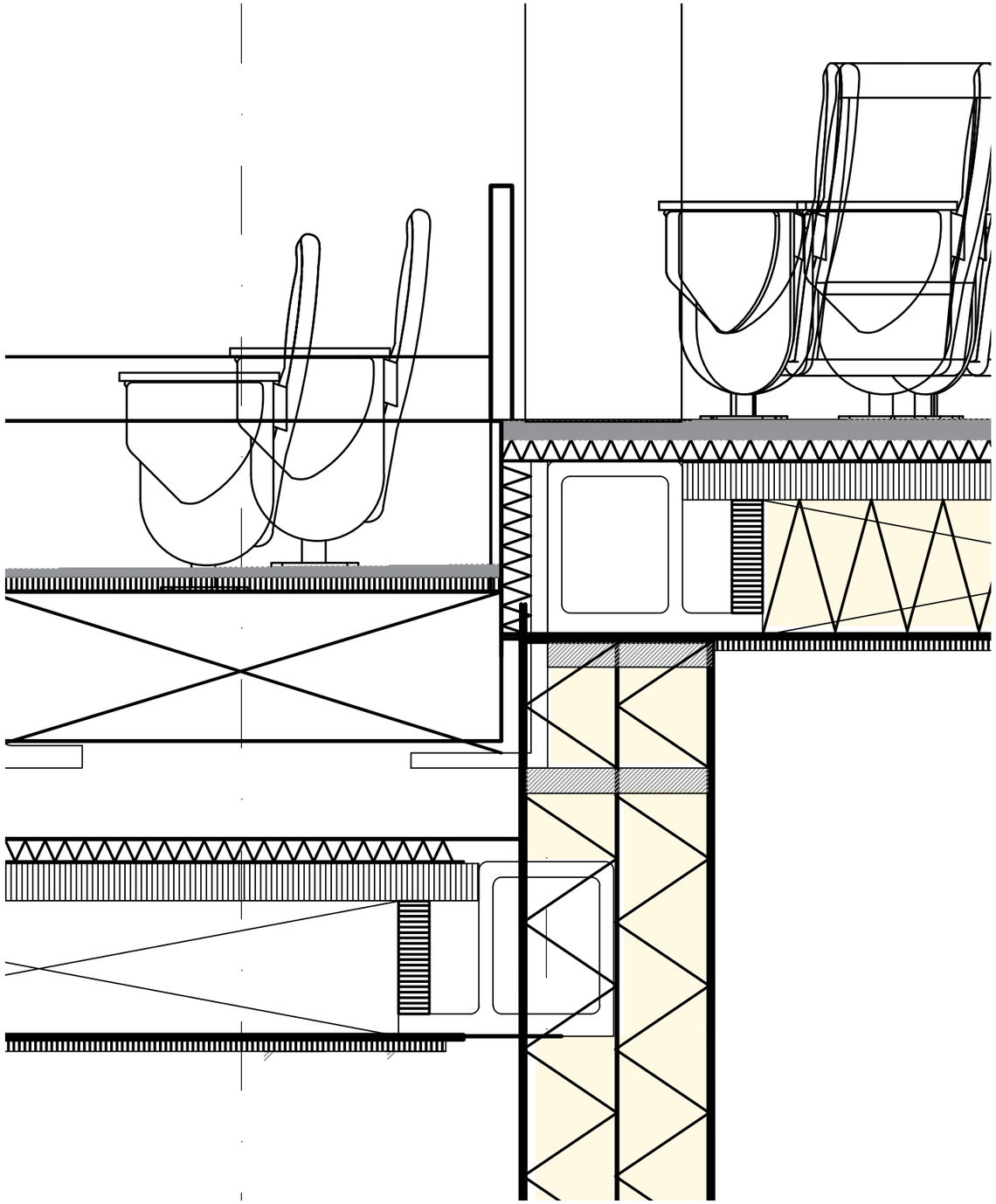
8 HORIZONTAL BALCONY JOINT 1:10
Steel/wood hybrid system floor
Acoustic material finishing to prevent echo in foyer
Demountable PVC flooring system



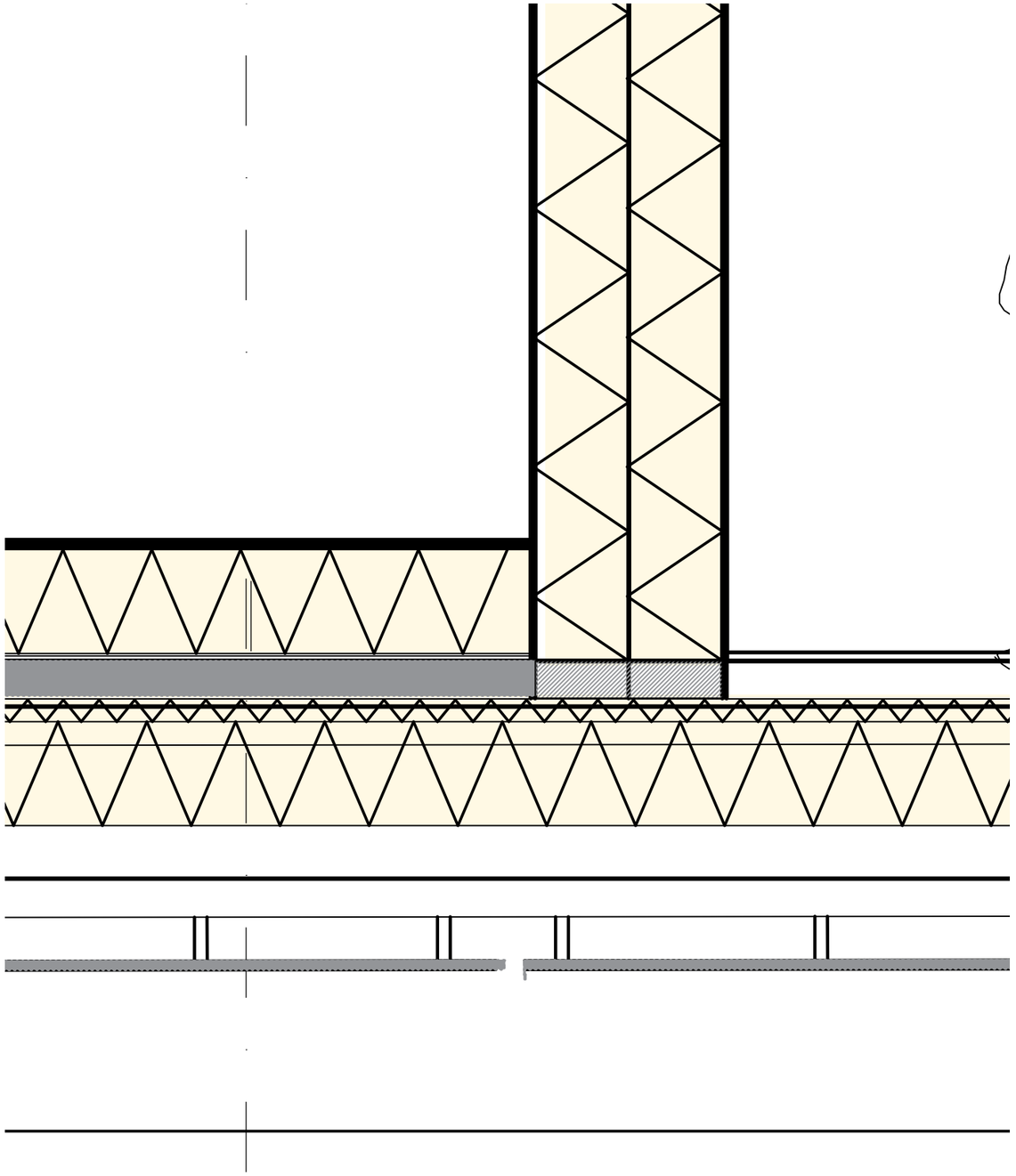
9 ROOFTOP TRIM JOINT 1:10
Metal cladding on tiles continues from roof to wall
450mm BioFoam insulation
800/300/16 steel beam system load bearing
Lowered ceiling for air duct system



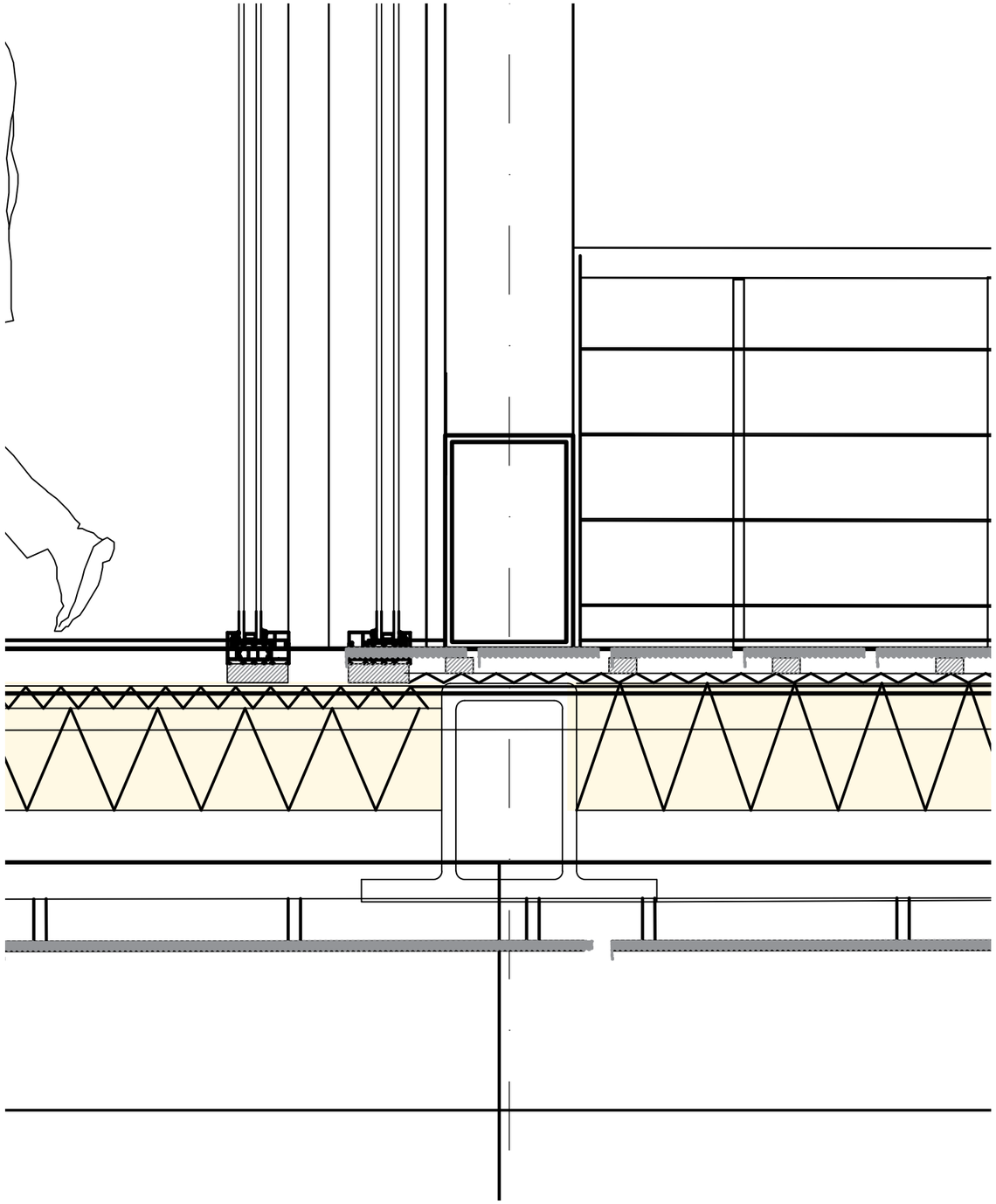
10 HALL TO GLASS FACADE JOINT 1:10
Metal cladding on tiles continues from wall to corner
450mm BioFoam insulation
500/300/16 steel beam system load bearing
Wood paneling
Reynaers aluminium double facade



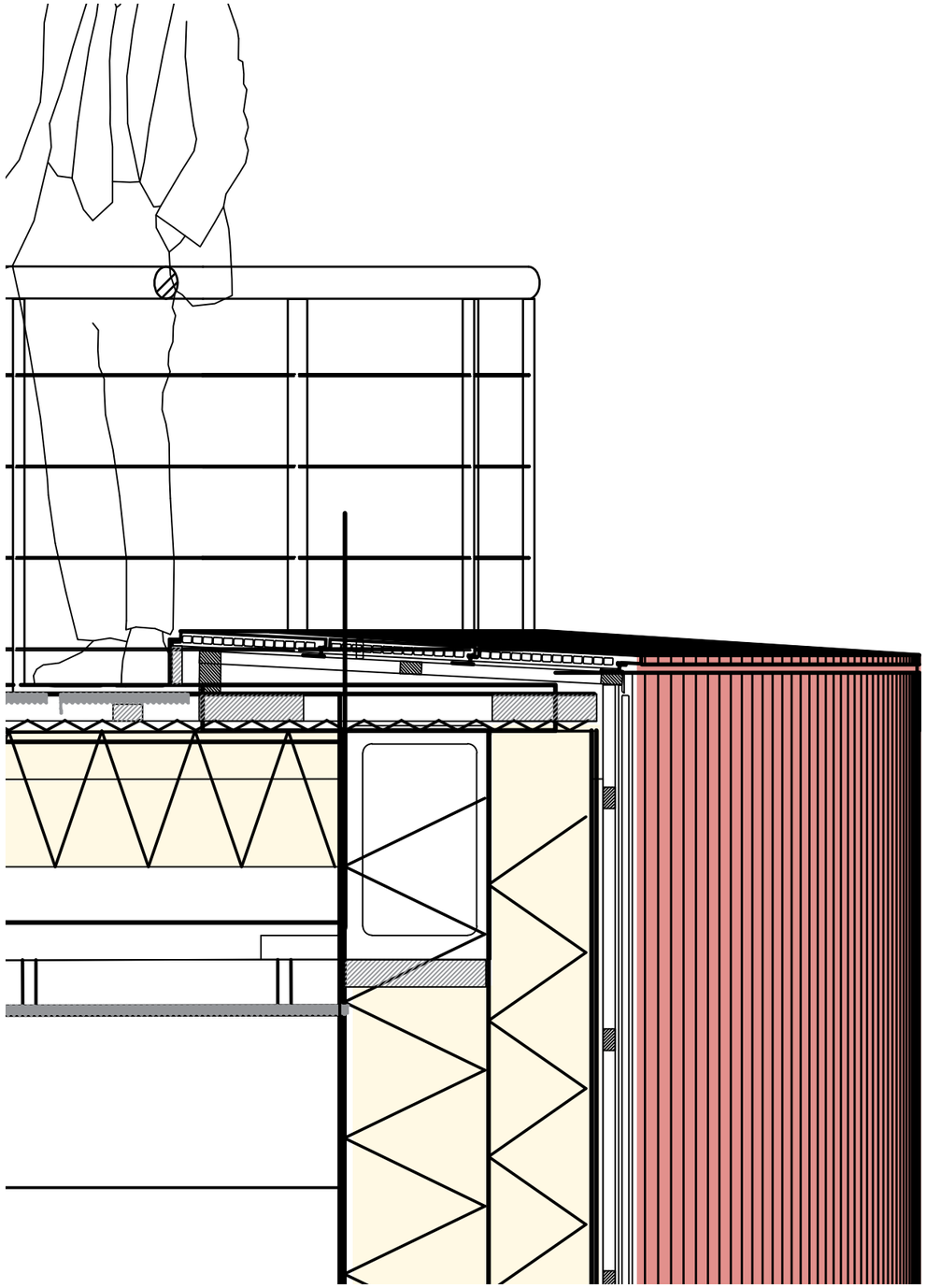
11 HALL BALCONY JOINT 1:10
Steel beam system joined into wall
Wooden wall system
Acoustic material finish
Acoustic insulation



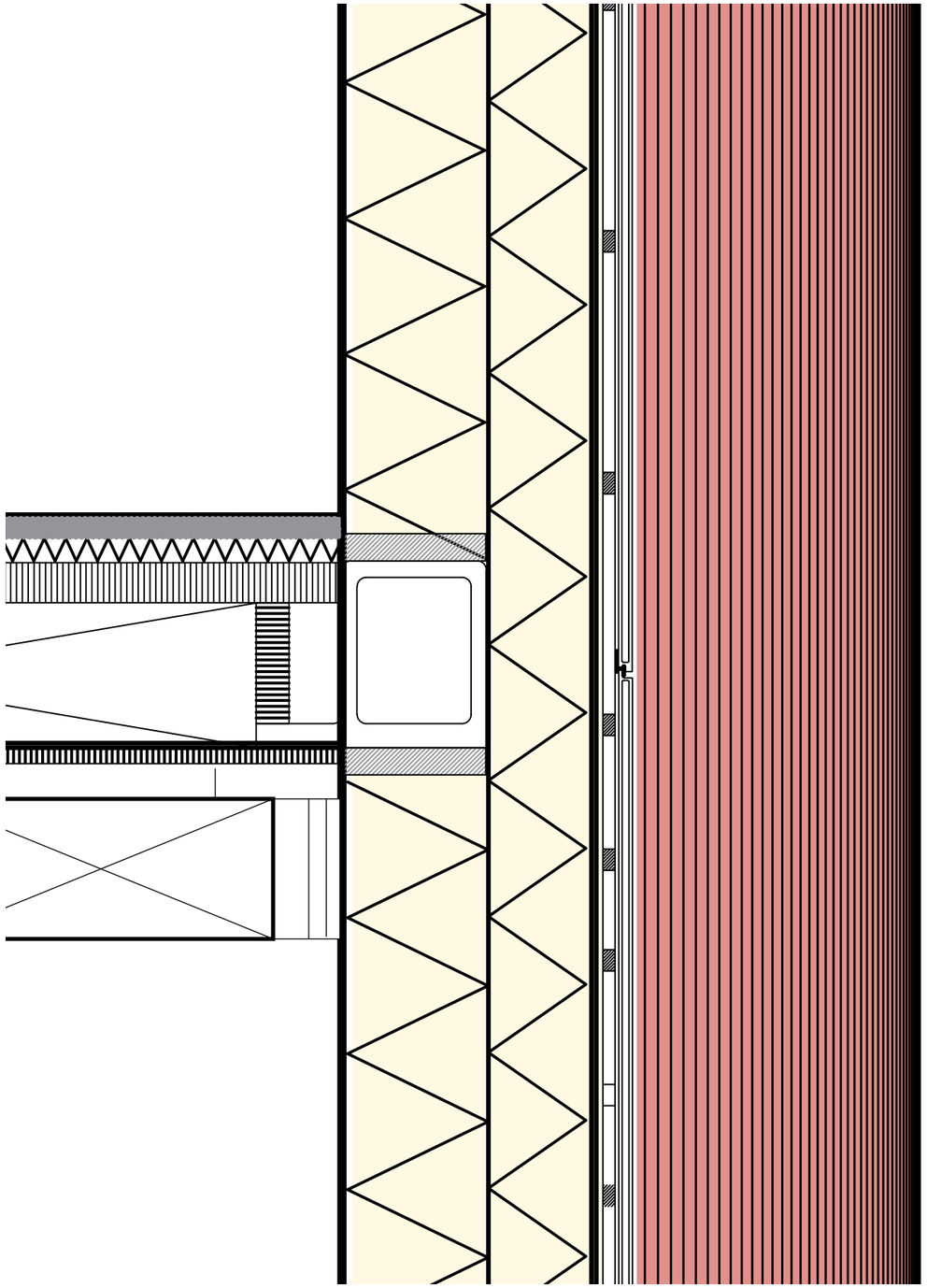
11 HALL TO HALL DECOUPLING JOINT 1:10
Layered insulation on both sides of construction to prevent audio leak
Acoustic system panels for sound reflection
Wooden wall system



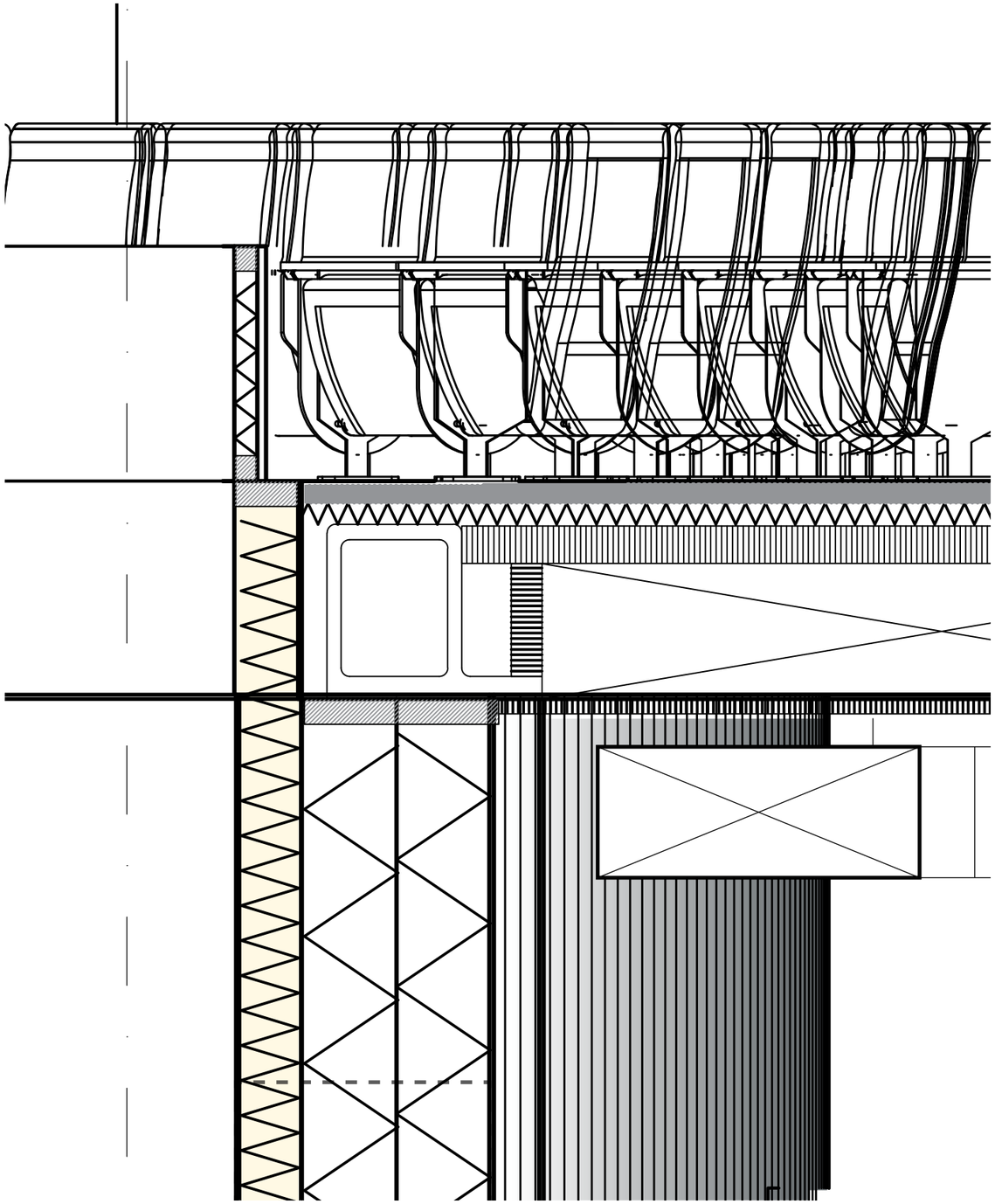
12 GLASS FACADE TO HALL JOINT 1:10
Double reynaers aluminium facade
THQ steel beam system, load bearing from facade, onto hall walls
Balcony tiles with integrated grey water collection



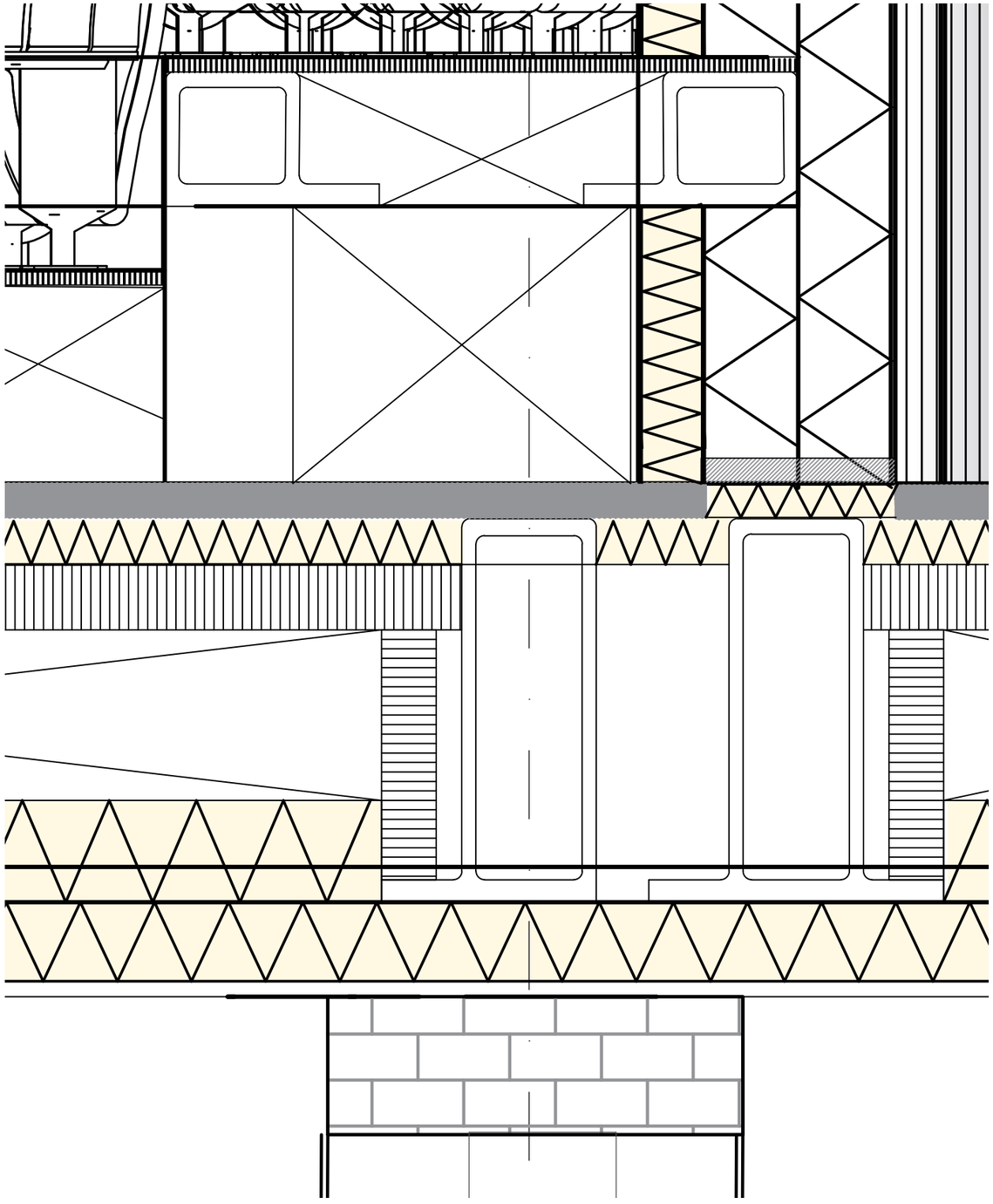
13 BALCONY TO FACADE 1:10
Detailed as roof trim
Metal cladding on tiles continues from roof to wall
450mm BioFoam insulation
500/300/16 steel beam system load bearing
Wooden wall system



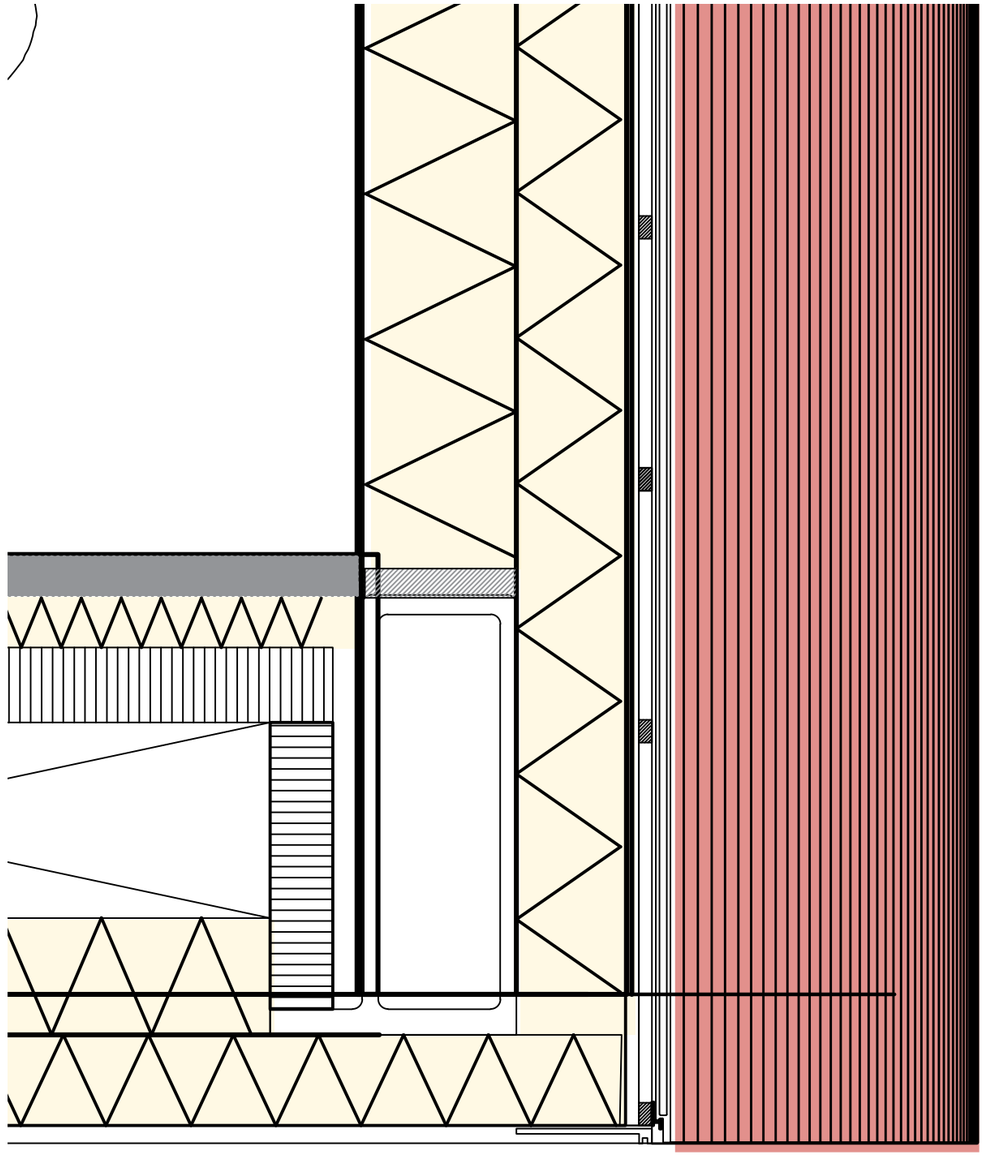
14 HORSESHOE HALL WALL AND BALCONY 1:10
Steel system bolted onto wall columns
Metal cladding on tiles 450mm BioFoam insulation
500/300/16 steel beam system load bearing
Wooden wall system



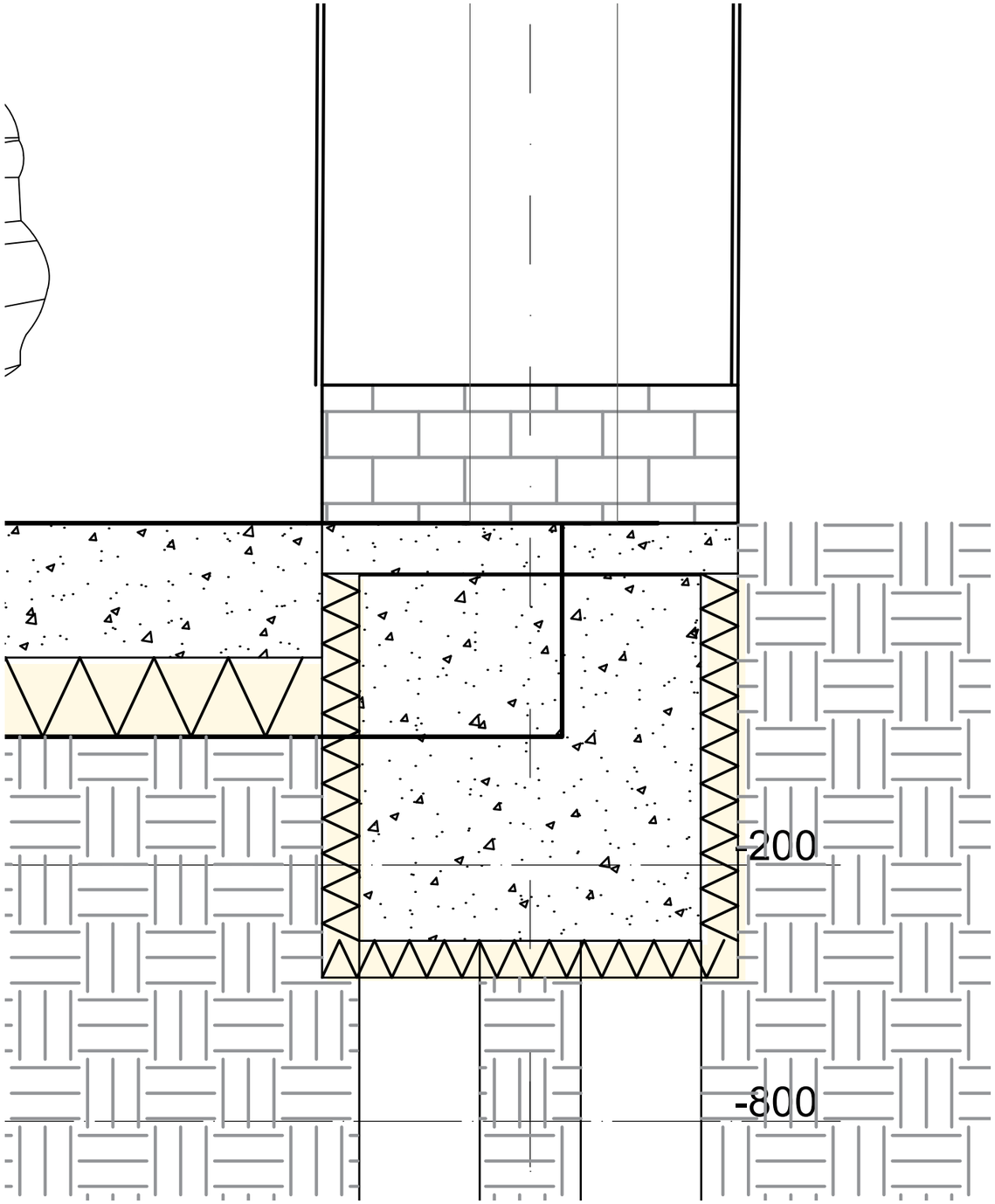
15 BALCONY TO FACADE 1:10
Steel system bolted onto wall columns
Air ducts in buffer zone
450mm BioFoam insulation with exits for sound leaks into buffer zone
500/300/16 steel beam system load bearing
Wooden wall system



16 WALL-FLOOR JOINT 1:10
Two 900/300/16 THQ beams for load dispersion
Vertically Laminated Veneer Lumber Panel system
BioFoam two-layer insulation
Fireproof ceiling panels
Brickwork for garage wall, not bearing
Integrated steel column into brick wall

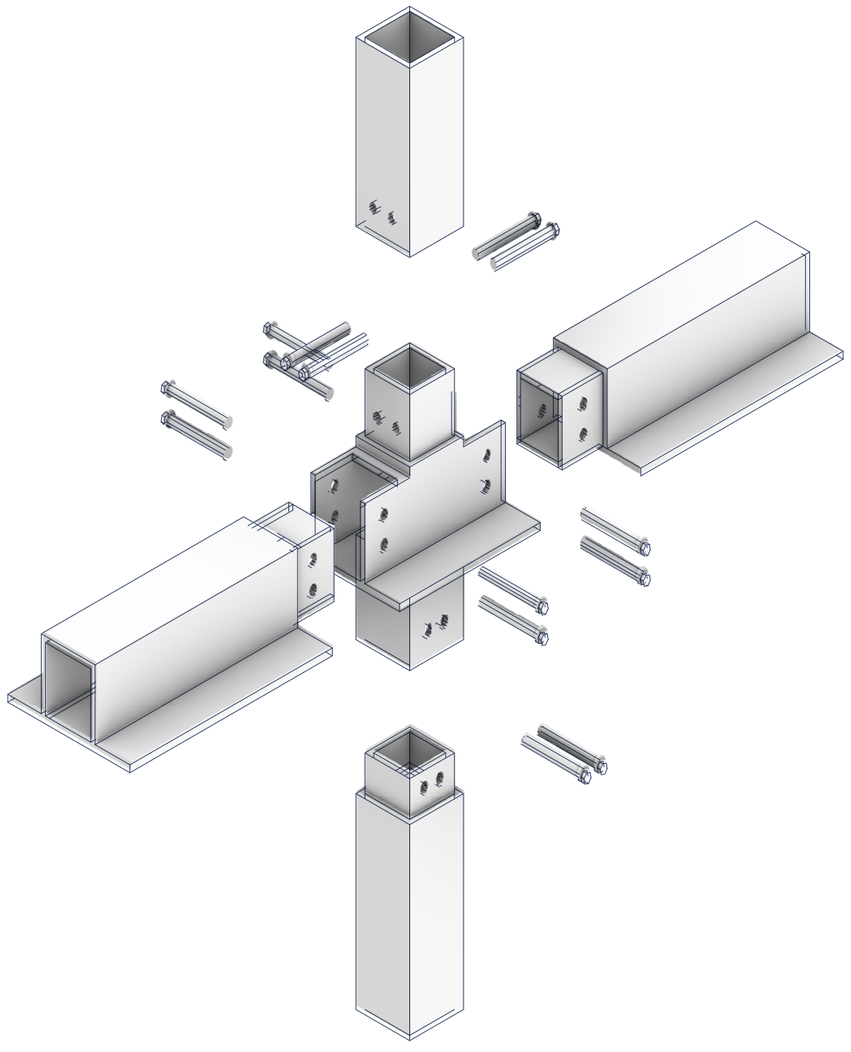


17 WALL TO CEILING 1:10
Metal cladding on tiles on wall
Aluminium trimline on circular corner
450mm BioFoam insulation
900/300/16 steel beam system load bearing
Wooden wall system
Fireproof ceiling panels

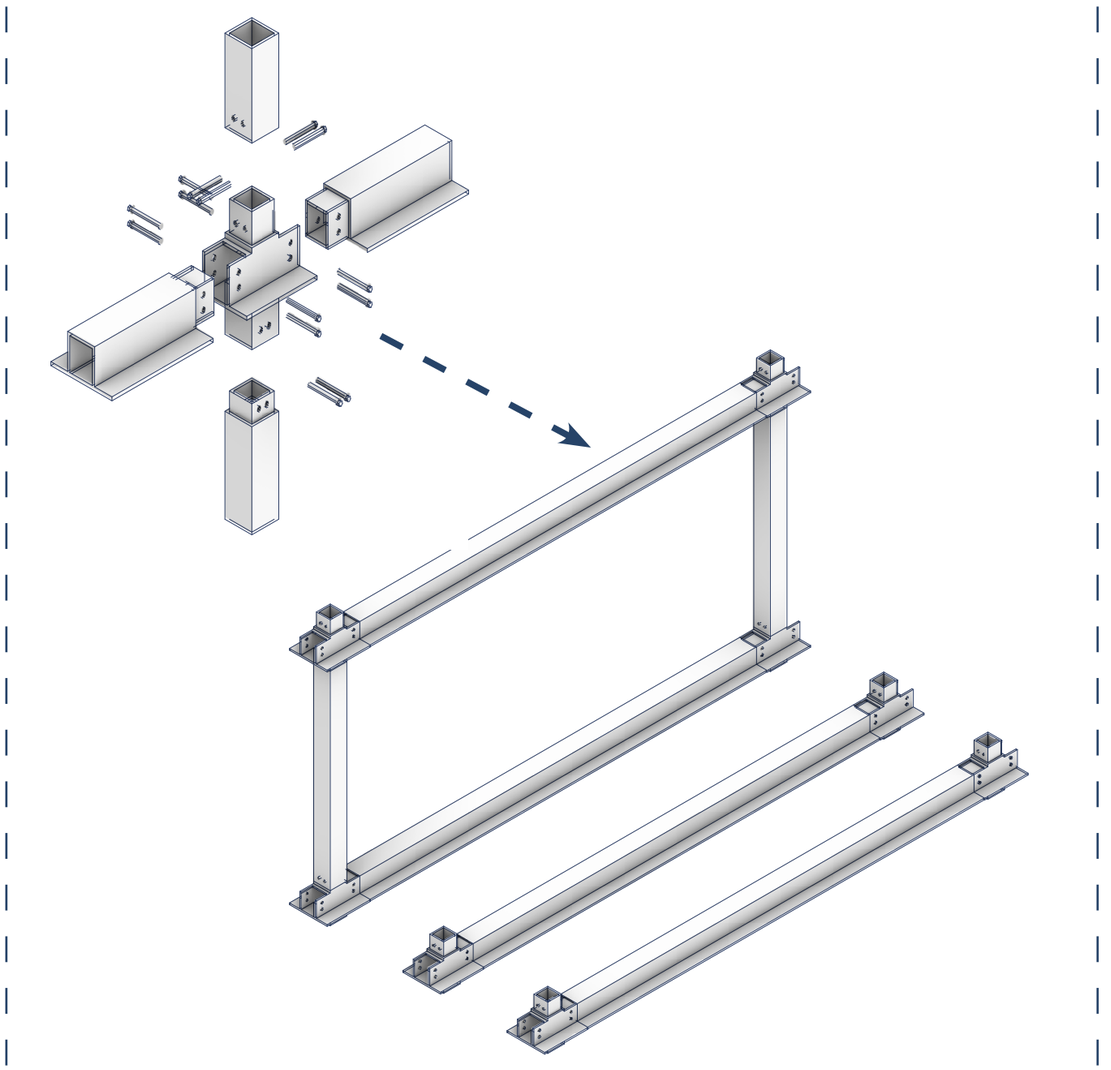


18 FLOOR JOINT GARAGE 1:10
Finishing floor with pressure layer
Brick wall non-load bearing around fireproof coated column
Concrete foundation floor
Concrete foundation to two poles per column

Deconstructable detail



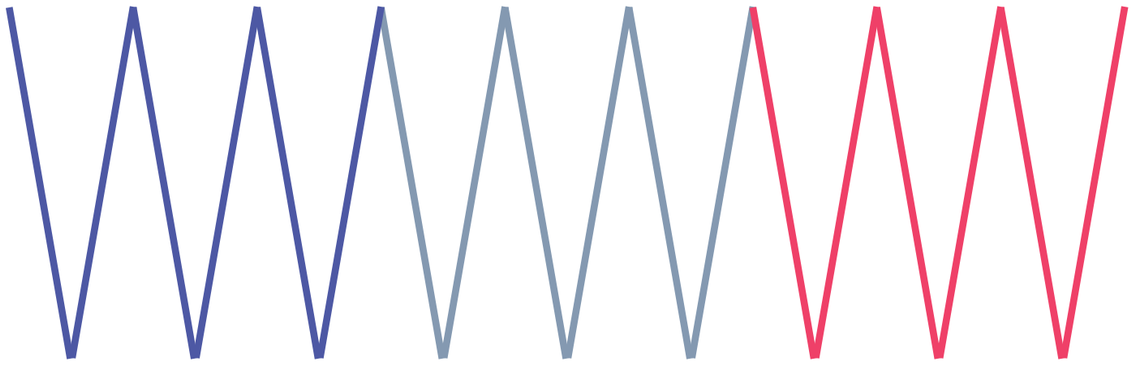
7 DECONSTRUCTABLE AXONOMETRIC
Top-down constructable and boltable steel structure based on THQ beams
Both cilindrical and square columns connect
Made using recycled scrap steel to limit raw material need; waterproofed for oxydation risk
Use of only bolts and weight to remove need for welding



8 DECONSTRUCTABLE AXONOMETRIC
Pre-assembly in beams and frames, for truck-sized transport
Minimize mobile crane use by pre-assembly

CONCERTO DINAMICO

Michael Landman
Public Building
Music Marvel
Music and Popular Culture Re-Wired
Academic Reflection



Concerto Dinamico
Michael Landman

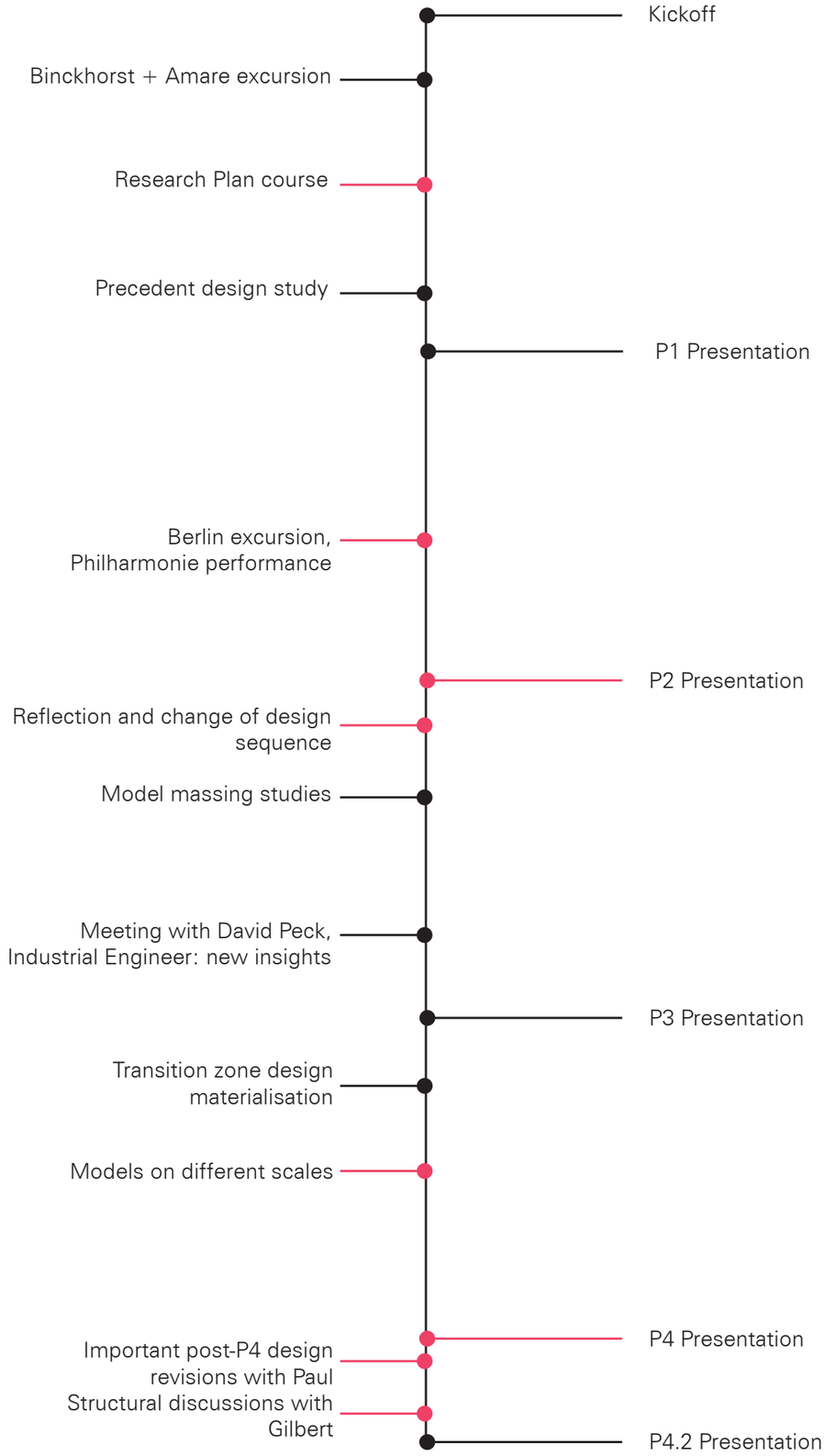
Academic Reflection
P4.2 June 28 2022

Public Building
Music Marvel
Music and Popular Culture Re-wired

MSc. Architecture, Urbanism and Building Sciences
Delft University of Technology

Paul Kuitenbrouwer
Gilbert Koskamp
Nicola Marzot

TIMELINE



INTRODUCTION

Concerto Dinamico is part of the 2021-2022 Public Building Graduation studio Music Marvel, Music and Popular Culture Re-Wired. My choice for this studio was based on my interest for spatial public interventions and intense appreciation for (classical) music. My choice in studios has been eclectic to say the least, from The Why Factory to Heritage in Architecture, along with a thesis on Dutch building policies. I aimed to apply the experiences and knowledge gained from both studios in the graduation course, as to focus on urban concepts but also apply my interest in architecture history and precedents.

My appreciation for classical music has been one of the main drives behind this project. I was raised by parents who have a large passion for music and film, covering a wide variety of genres. This resulted in an early love for composers as Tchaikovsky, Beethoven and Philip Glass. As a millennial however, classical music has a different appreciation by my peers, one that is mainly perceived through modern media consumption and distribution. This new perception of a genre that echoes back ages, was one of the main inspirations for my Music Marvel.

However, my peers do not make up the biggest part of classical music enthusiasts. Classical concerts are still mostly visited by seniors (Tommasini, 2020), and the genre is still mainly known for its old demographic (Crawford, 2014). The experience of a classical concert is one of formal nature and features a certain choreography. Performances are experienced through listening, sitting in place, its duration dictated by the performance. This century-old concept translates to a building complex which accommodates the static experience. Even in new design, it reflects the heritage of the cultural tradition.

While respecting this tradition, I aimed to design a Music Marvel that allows for introduction, reinterpretation, and reappreciation of the enormously wide classical music experience, while creating a hub of culture and social activity in the Binckhorst area in The Hague. Binckhorst as we know it today, is a hub of business and industry. Planned is a mixed city neighbourhood, allowing for the development of homes, start-ups and creative hubs (Gemeente Den Haag, 2021). In order to further enhance the cultural development of a new bustling district in The Hague, the Music Marvel will fulfil a function of public engagement, in the form of a classical music venue. The Hague has a long history of classical music: the Royal Conservatoire has been housed in The Hague since 1826, integrating the Royal Academy of Art. Since the recent completion of the Amare music venue by Jo Coenen, The Hague again has a formal home for classical music. Concerto Dinamico aims to juxtapose the known tradition of classical music, by experimenting with dynamism, expectation, simultaneousness and choice. This ended as its main research question.

How can dynamic re-iteration of concert hall designs modernise the audience experience of the live contemporary classical music scene?

As stated, I strongly believe that classical music and its accompanying live scene follows a certain choreography, etiquette and relationship between performer and audience that allows for testing and tweaking. Because of this long-lasting heritage, as a designer I carefully touch upon this formal tradition. What can be changed? To what degree can a designer influence such events? Are we to maintain the status quo of this example western European culture that we know, or does it allow evaluation? Throughout the entire process of designing Concerto Dinamico, I tried to respect these questions.

1. Tommasini, Anthony. “Classical Music Attracts Older Audiences. Good.”. The New York Times (August 6 2020).
2. Crawford, Garry. “An Orchestral Audience: Classical Music and Continued Patterns of Distinction.” University of Salford. (January 2014)

FIRST DESIGN

The first attempt at a spatial design was to translate the spatial programme to a shape that was to stand out in its orthogonal context. The sequence of the proposed research, Object, Movement, and Perception resulted in the design of an object that was to be defined and adjusted in order to fit movement and perception. This resulted in a shape that stood out in an otherwise orthogonal masterplan of the new Binckhorst district. Before P2, focus laid much on the morphological subjects of the design, as was proposed in the research sequence. By having the mass lay back from the general building line, it would be recognised more easily, from several approach factors, such as by car, public transport, bicycle and by foot. The mass would be gently lifted in order to elevate it from public space, to put it on a pedestal as a sculpture.

This heavy focus on morphology resulted in a mediocre tentative organisational design, that was evident after the P2 presentation. The concept was to shuffle the traditional activity sequence, its corresponding programmatic scheme, and implement it into the shape that was defined by its surroundings. Eventually this caused a ‘form over function’-dilemma; the organisational quality suffered because of the form.

P2 EVALUATION

The presentation of P2 allowed for the first proper reflection of the period; following a strong change in direction, specifically the 180-degree turn of the Object - Movement – Perception process. Instead of starting with WHAT, starting off with HOW. Whereas the original process hinted towards the implementation of phenomenology and praxeology in existing typology, post-P2 design asked for the application of typology, rather than implementation of epistemes. This ultimately resulted in a different structure entirely, but still a child of the same theoretical parents. This changing of sequence provided the focus of a design on the perception and movement of a dynamic concert, rather than a formalist object that houses this.

180: ORGANISATION TO FORM

Focusing on perception and movement first, rather than the object, caused an evaluation of the organisational aspect. Elements that were present in the P2-design; routes, different experiences, public space, still were the ingredients for the new organisation, however, were not limited by the borders of form. Design started off with the design of simple space-syntaxes; relational schemes that provided the spatial sequence basis in the post-P2-design. The organisational concept focused on the possibility of composing your own ‘playlist’ of classical performances, while integrating a strong public connection.

With focus laid on organisation and experience, I dove into projects that focus on spatial typologies of public buildings. Casarts, Almere Block 6 (OMA), Forum Groningen (NL Architects), Tokyo Opera House (Jean Nouvel) all provided insight into the overall spatial-organisational aspect for the new design. The specific elements that fill this organisation are drawn from the typological catalogue of classic typologies, such as Opéra Garnier, Teatro Regio and the Bayerische Staatsoper. These classic typologies arranged together as a whole provide the negative that allows the mixing; metaphorically and functionally; the publicly accessible space as a living room. Gilbert and I discussed the term ‘Gelijktijdigheid’ (Simultaneousness), as to introduce and emphasize a grade of flexibility into the design of the foyer. Must performances be limited to the concert halls, or is there a possibility of transition? This eventually resulted into the design of various ‘preview rooms’ that allow for a unique audio-visual experience.

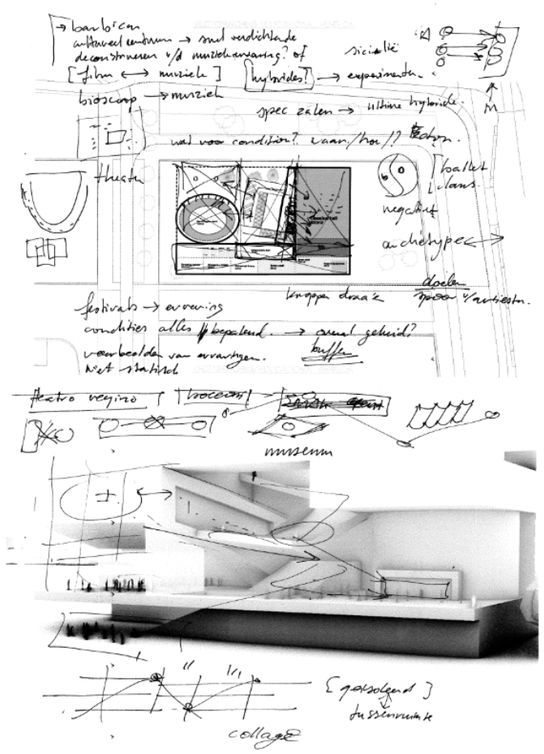
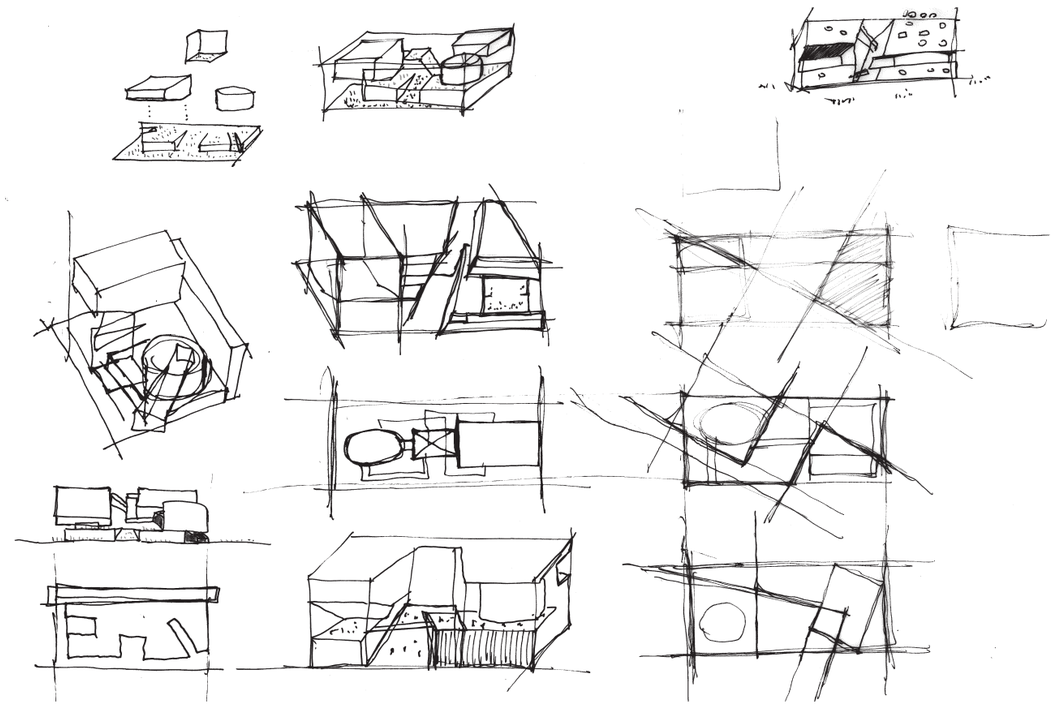


Fig 2,3. Dialectics in tutoring help evaluate my design, translating to sketches and notes. Discussion sketches on floor plan and render.



This living room is focused on providing various choices, while functioning as a served space which houses the foyer and the concert halls, with functional ‘back of house’ aspects as the servant space. The wall of the structure agrees with the orthogonal structure of new Binckhorst, the front of the house opens towards the city.

TOWARDS THE CITY

After a healthy relationship between function and form was established, there was time for me to confidently shape the form of the building, knowing that its organisational aspect properly satisfied the needs as dictated by the concept. Using the 1:500 model that we made with the group, I used traditional pink foam to create several mass models, in order to research its role in the urban mass. In combination with collage-technique for interior impressions, I had established a ‘looking out’ and ‘looking in’ perspective for the complex, resulting in the open balcony towards the crossing, while offering ample room for dynamic music performances. This adaptable foyer allows for multiplicity in its urban surrounding; through the easily adjustable panels the living room of the complex can be used for a wide variety of functions.

ENGINEERING

Dynamism as a core value of the design, should connect and reflect to the engineering of the building. In an age of increasing value for raw materials and sustainability, buildings will not be constructed as they used to. If Concerto Dinamico is to be a modern-age classical music experience, then it should be constructed using modern-age building technique ethics.

From the Binckhorst surroundings and the dynamic nature, I drew inspiration of mechanical engineering, the building as a machine in the literal sense of the word. When discussing with dr. David Peck, we explored the possibilities of a recyclable and replaceable structure. The metaphor of a mechanical appliance, like a combustion engine, is to display the idea of a deconstructable machine, where parts can be deconstructed, replaced and improved. This means a closer look at joints; welding, pouring, gluing, pasting, painting; all means of joining one material to the other, permanently. The design is to introduce as much cradle to cradle, demount ability as possible, as so to sustain and maintain this complex as easy and material efficient as possible.

CONCLUSION

With Concerto Dinamico, I have tried to create a public catalyst, which also challenges the rules that are posed in the design of concert halls. It aims to draw the public of The Hague and Binckhorst in and plays a vital role in the cultural development of the neighbourhood to be. One of the most vital lessons that I have learned is the importance of organisation with its regard to form and shape, even in this stadium of my architectural education. I highly regard formal notions of architecture, and draw much inspiration from the classics, but have learned that they are mostly useful as ingredients; the recipe is still to be made. The venue also ended up being not only dynamic in its spatial concept, but also in its materialisation and engineering. If the venue is to respect its long-lasting heritage, then it should be long lasting itself, adapting to time and culture.

ADDENDUM

After the P4 presentation on 18th of May, combined with a lengthy discussion it was unfortunately decided that the project did not suffice to pass. Because of the positive P3 comments I did not foresee this coming, which immediately asked for reflection of the project. Due to a planned surgery for my left anterior ligament and meniscus right after the originally planned P5, this caused some distress. Thankfully adjustments were able to be made.

The P4 comments were mainly aimed at the lack of engineering/architectural integration, as well as a lack of various spatial solutions. Together with the tutors I reflected and discussed the shortcomings of the last iteration of the project. After a lengthy session with Paul I had enough food for thought to dive into the project, first starting with repairing technical and spatial solutions. Using reference projects into high detail, like the Royal Festival Hall and TivoliVredenburg allowed for a secure specification of technical elements, such as elevators, fire escapes and floor dimensions.

Nicola had commented ‘the design does not meet your story’, which caused me to improve my design for the better of the theory behind the design; the three various musical experiences that the building should offer. This translated to various morphological changes, which in itself caused various technical changes. The focus now laid on the realisation of three independent musically oriented structures, which serve their own purpose within a set frame. This frame also finally received the architectural attention it needed. By designing a frame that not only was structurally correct, it allowed for an instantly recognisable morphology, emphasizing the three boxes that landed in the frame.

Detailing and drawing up two more 1:20 elevations and sections informed me towards the independance of the several components that now make Concerto Dinamico. They are meant to be recognised as independant structures, as the work of TivoliVredenburg.

At the moment of writing I compare my current work with that of P4 on the 18th of May, and can say that an effort was made to improve the work. In hindsight and honesty, the lack of integration and detail appears to me partly as a result of being too comfortable with the work as was presented. I learn from this to not let my guard down in terms of design, to not settle. In combination with new P4.2 posters, appendix and presentation, I hope to achieve a satisfactory result for P4 and finish my P5 soon after.

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1. Tommasini, Anthony. “Classical Music Attracts Older Audiences. Good.”. The New York Times (August 6 2020).
2. Crawford, Garry. “An Orchestral Audience: Classical Music and Continued Patterns of Distinction.” University of Salford. (January 2014)

CONCERTO DINAMICO
MICHAEL LANDMAN
PUBLIC BUILDING

P5

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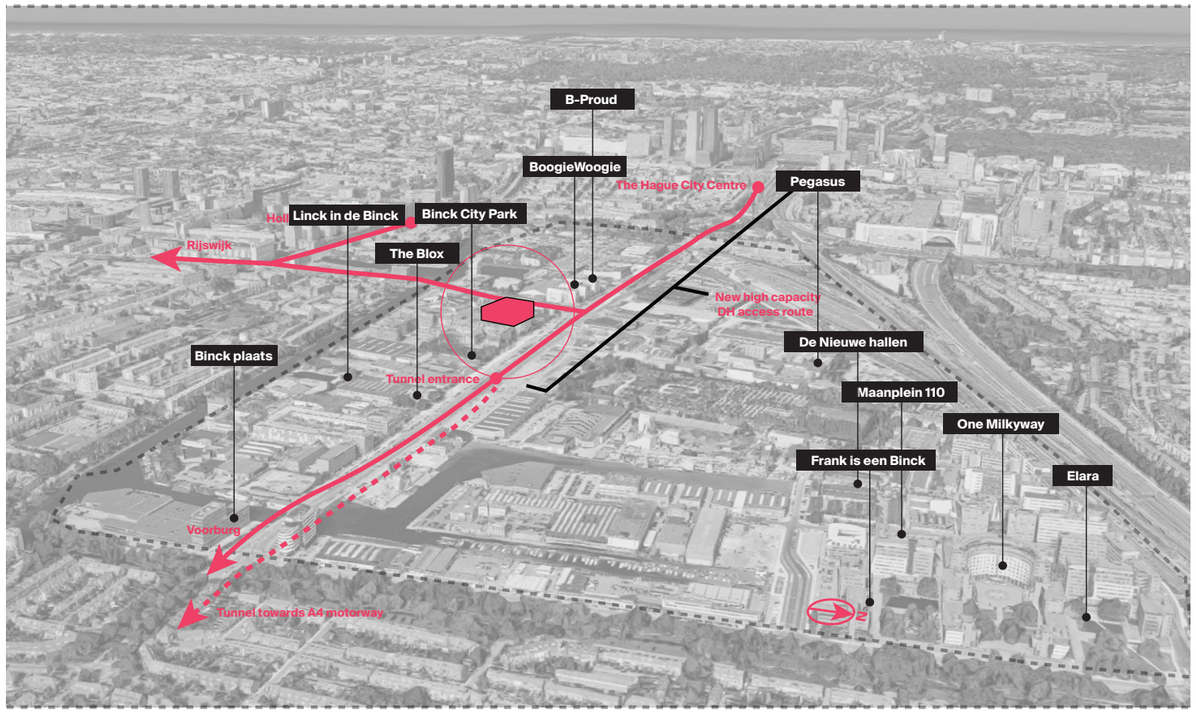
Context



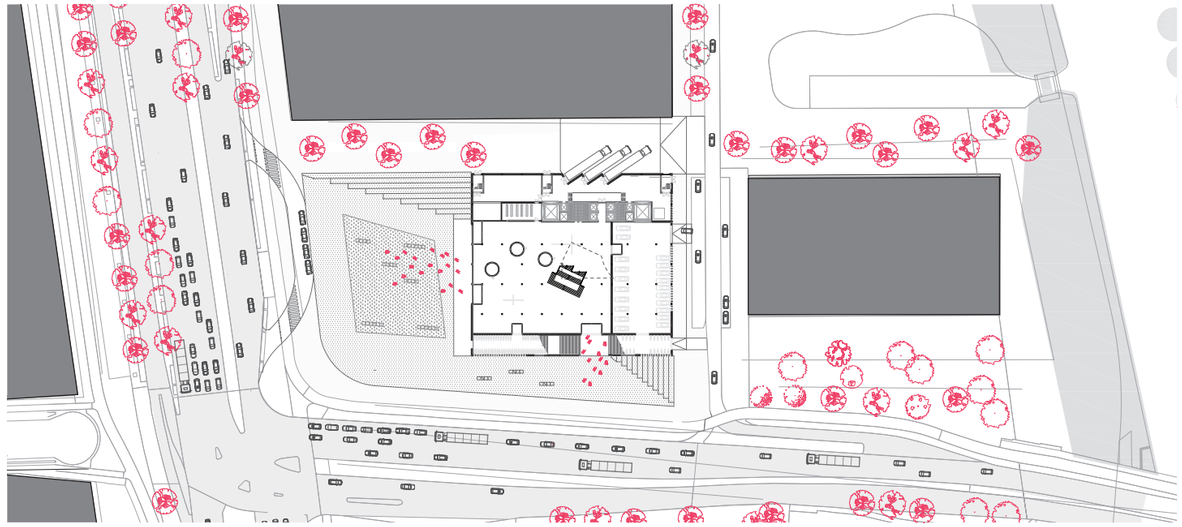
Approach



Figure ground

Concerto Dinamico is located in the Binckhorst, along one of the new main entrances towards the Hague. Along with multiple planned developments along the Rotterdamsebaan. It is designed along with its square as a cultural public hub, serving as the new beating heart of a mixed high density residential zone to be. The following imagery displays the result of a dynamic classical concert placed along the axis of a new metropolitan zone.

Urban plan and section



1:500 (scaled) floor plan



1:500 | Section East-West

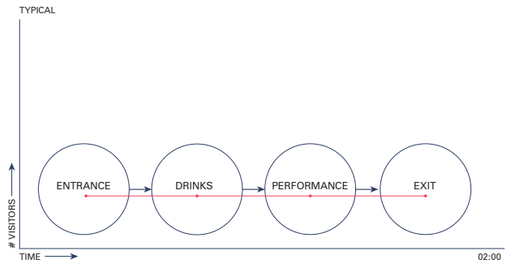


1:500 | Section North-South

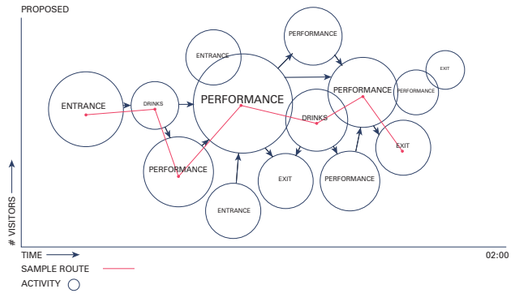
Concept

Movement diagram

Traditional



Proposed



Perception collage





Chances diagram

Traditional



65+



Proposed



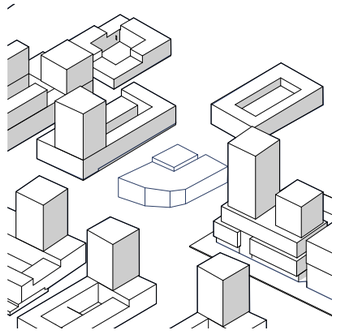
AL



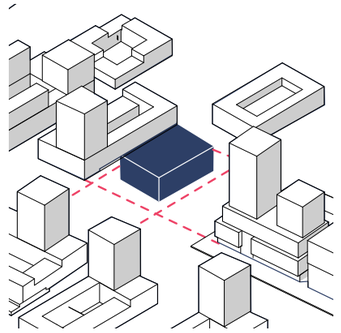
Object collages



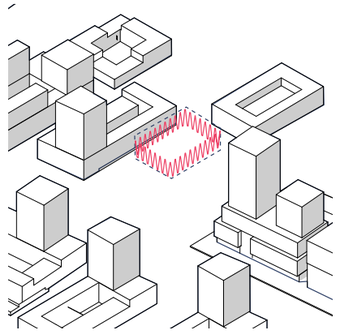




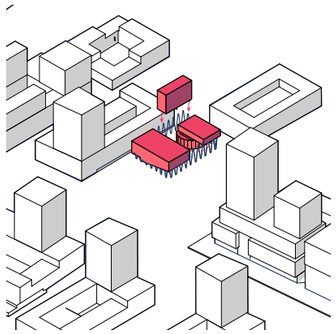
existing object



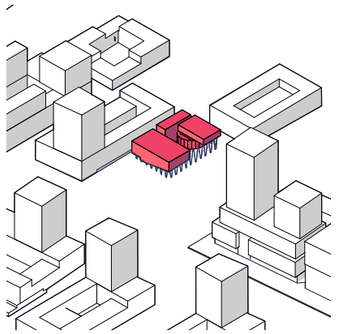
imposing laid back structure



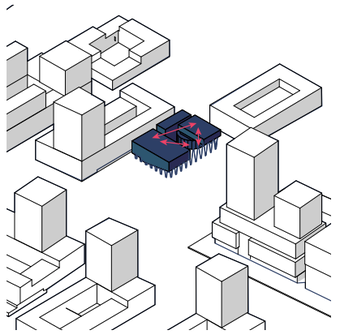
defining physical frame



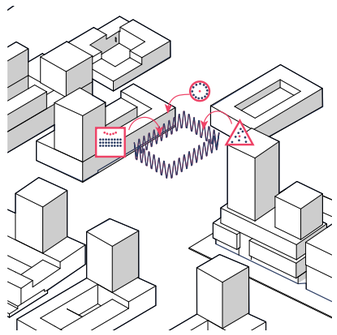
enter backbone block



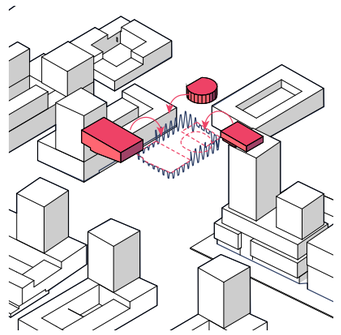
frame filled



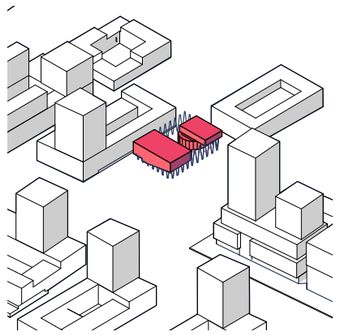
interconnections



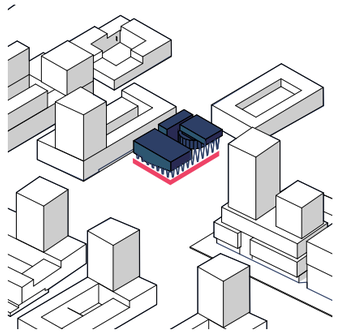
various performer relationships



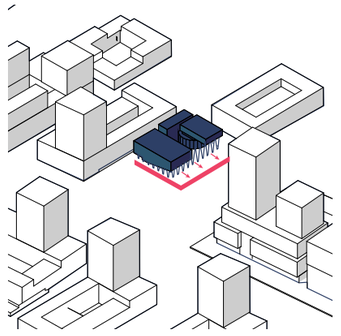
form components through catalog



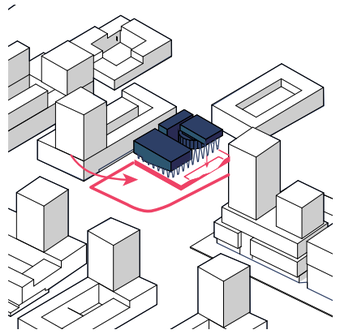
components in frame



raise on pedestal



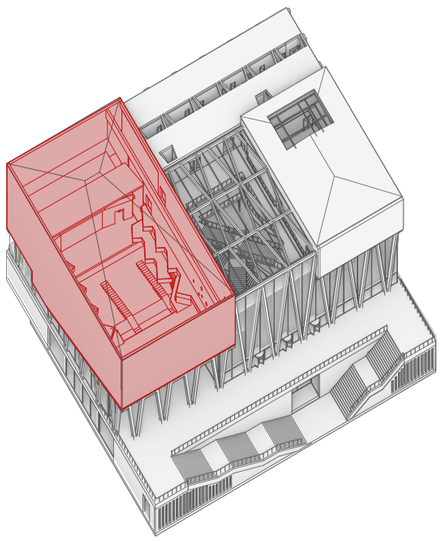
extend to balcony



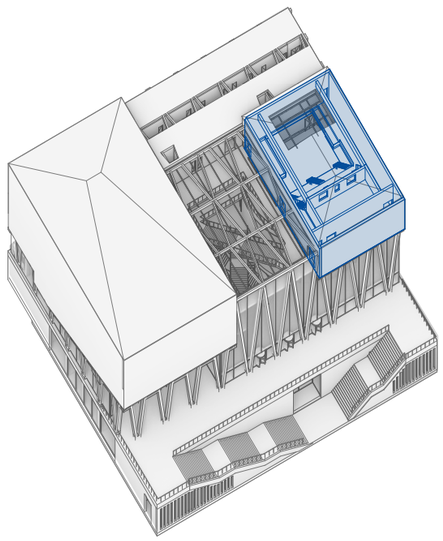
lower for public invitation

Spatial concept

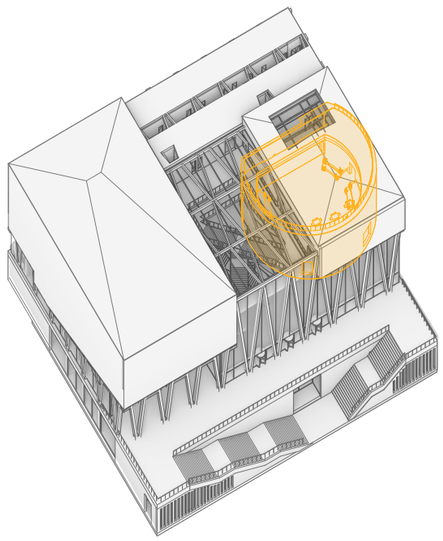
Components



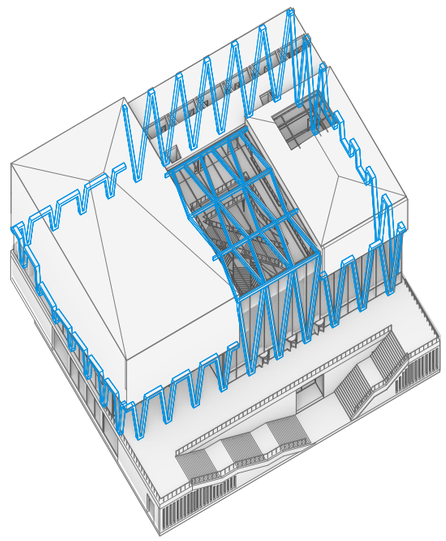
Classical hall



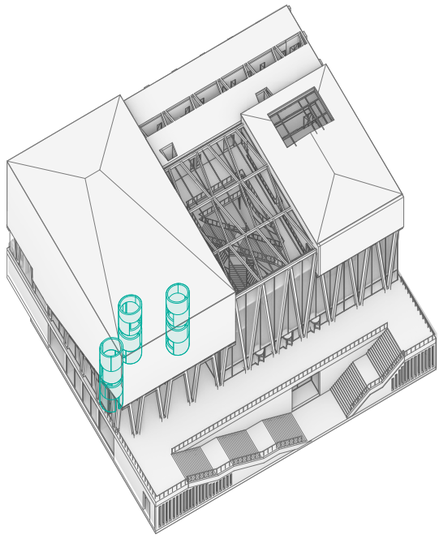
Shakespeare hall



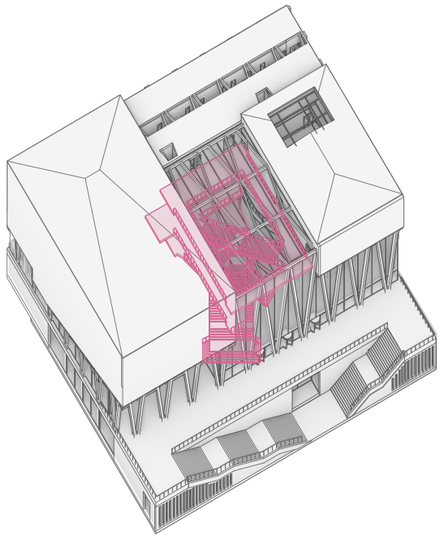
Horseshoe hall



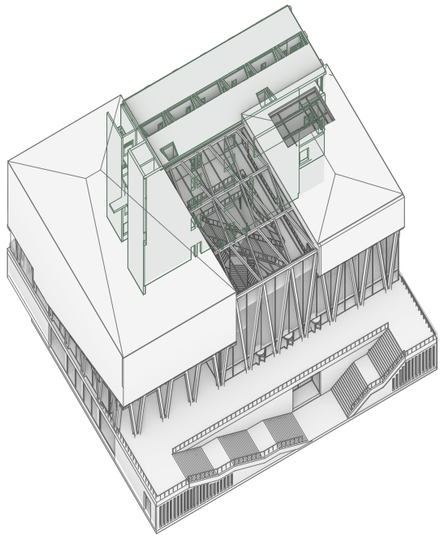
Load bearing weave facade



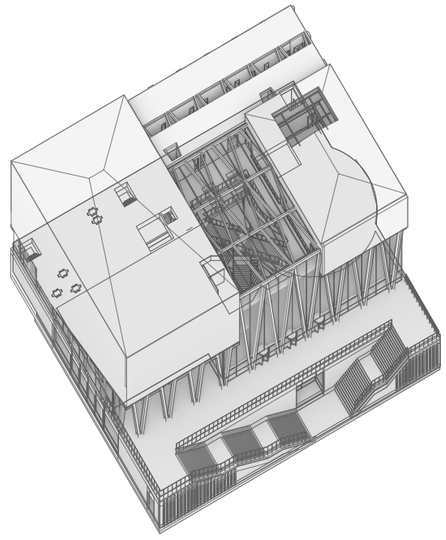
Structural ticket booths



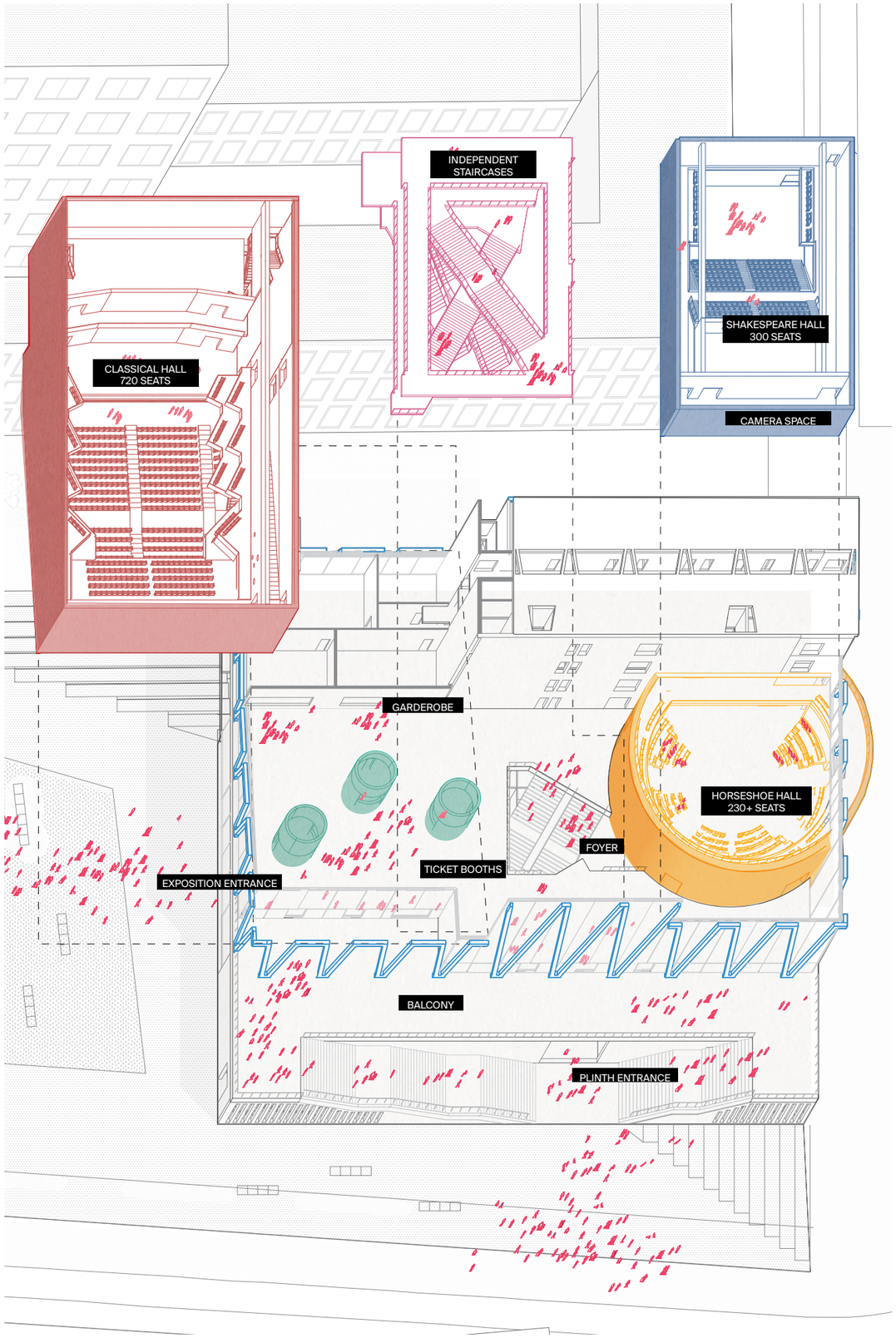
Interconnecting stairs

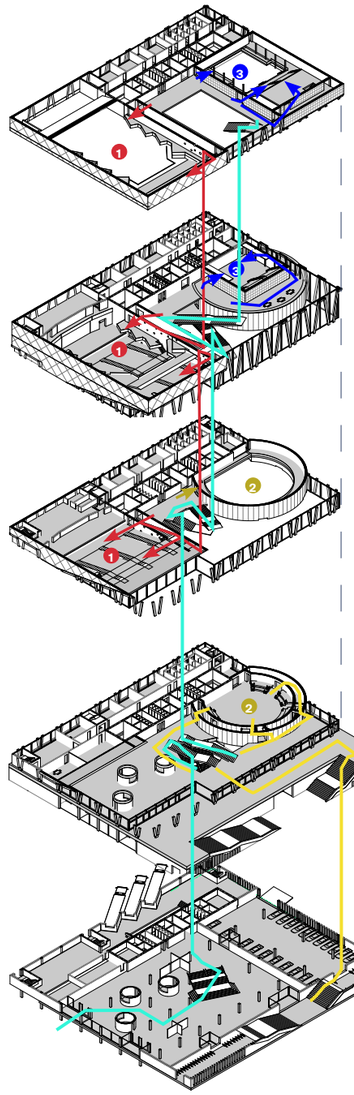


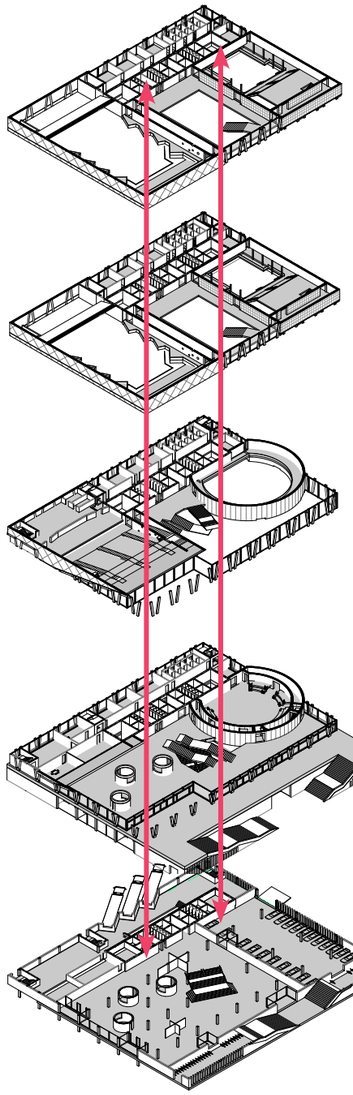
Servant spaces



Monolith plinth


INDEPENDENT
STAIRCASES
CLASSICAL HALL
720 SEATS
SHAKESPEARE HALL
300 SEATS
CAMERA SPACE
GARDEROBE
HORSESHOE HALL
230+ SEATS
FOYER
TICKET BOOTHS
EXPOSITION ENTRANCE
BALCONY
PLINTH ENTRANCE

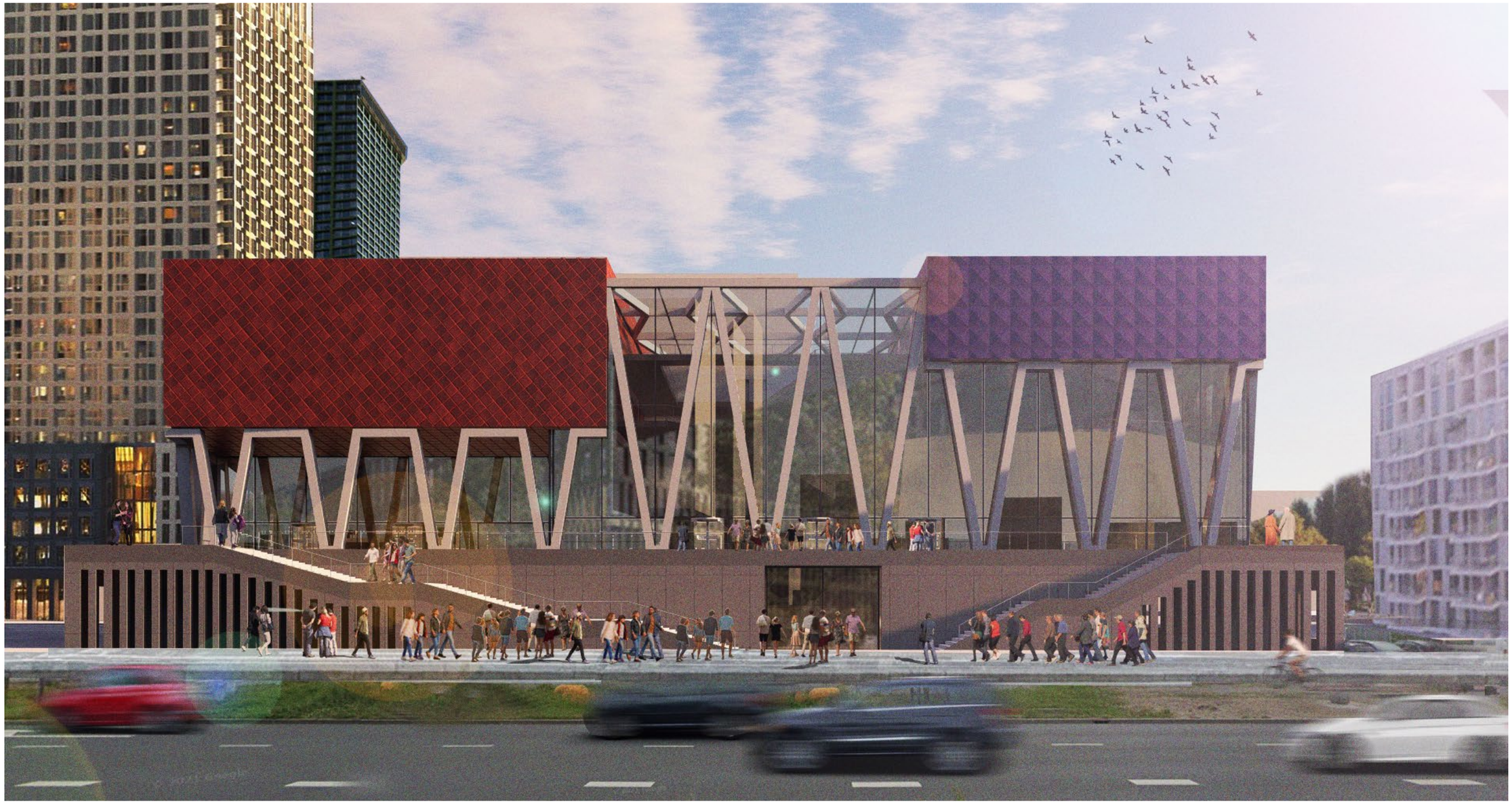




Impressions



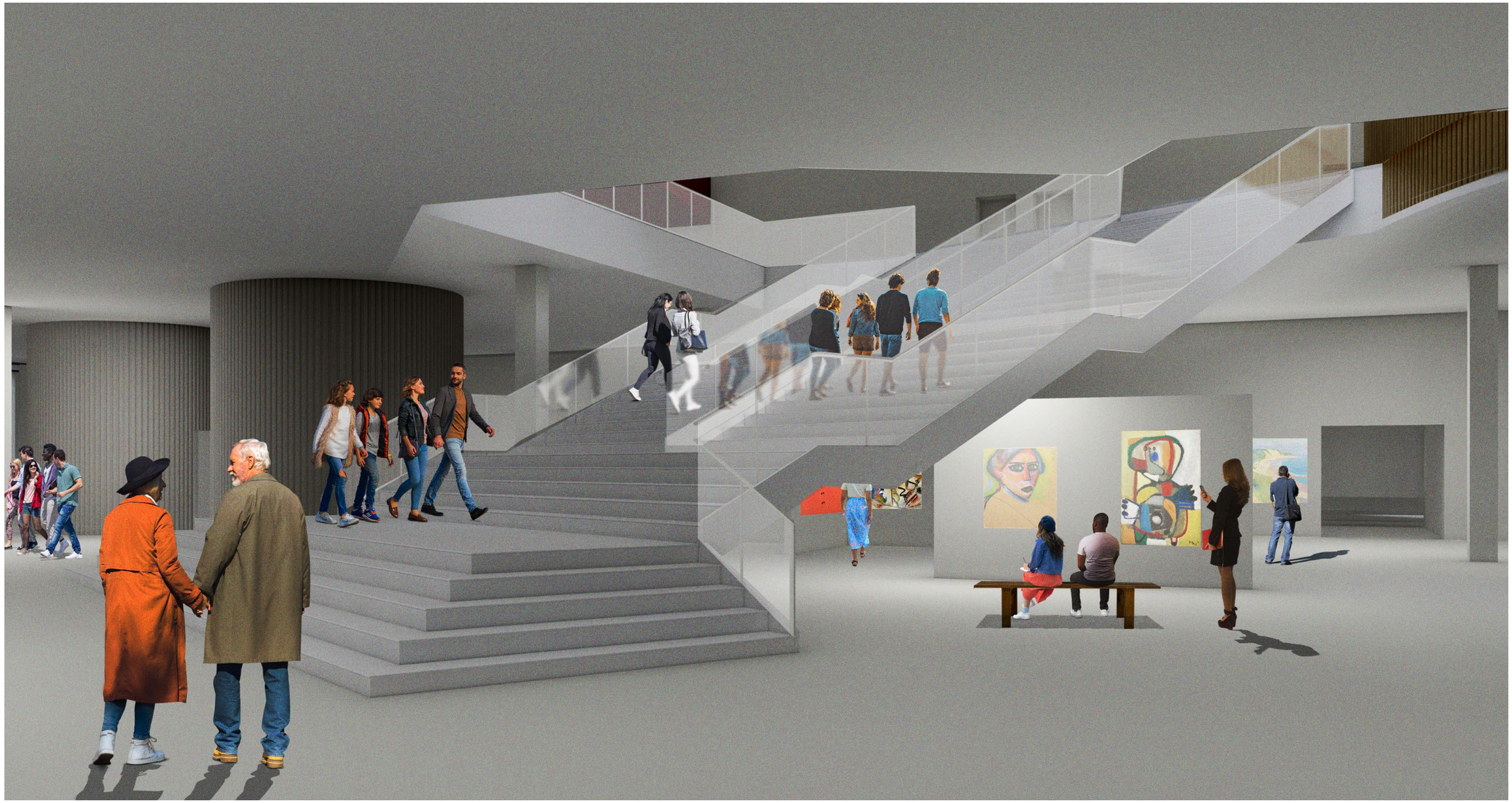
East entrance from Rotterdamsebaan square



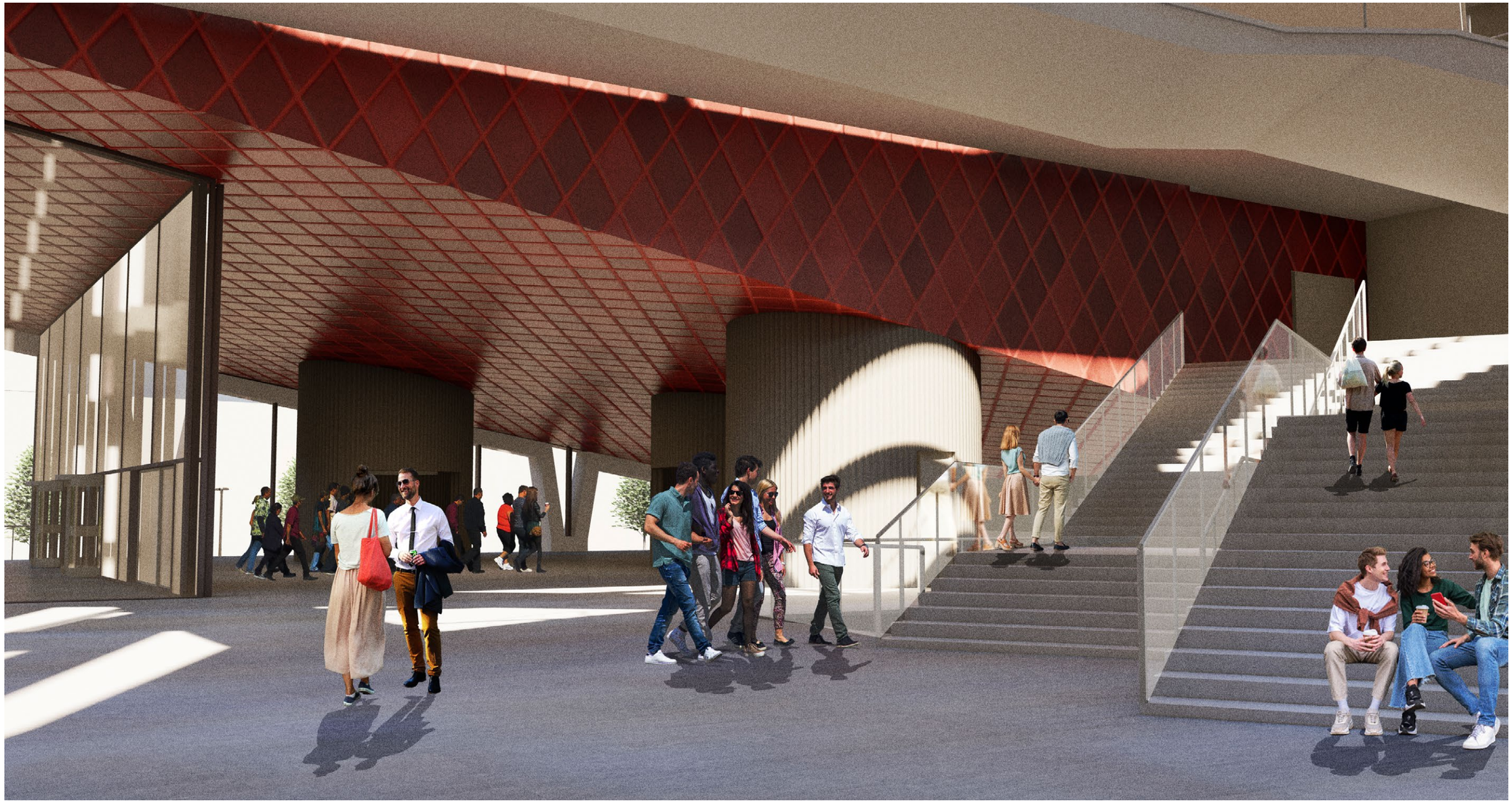
North facade from Mercuriusweg



Square view from Rotterdamsebaan



Exposition entrance



First floor foyer



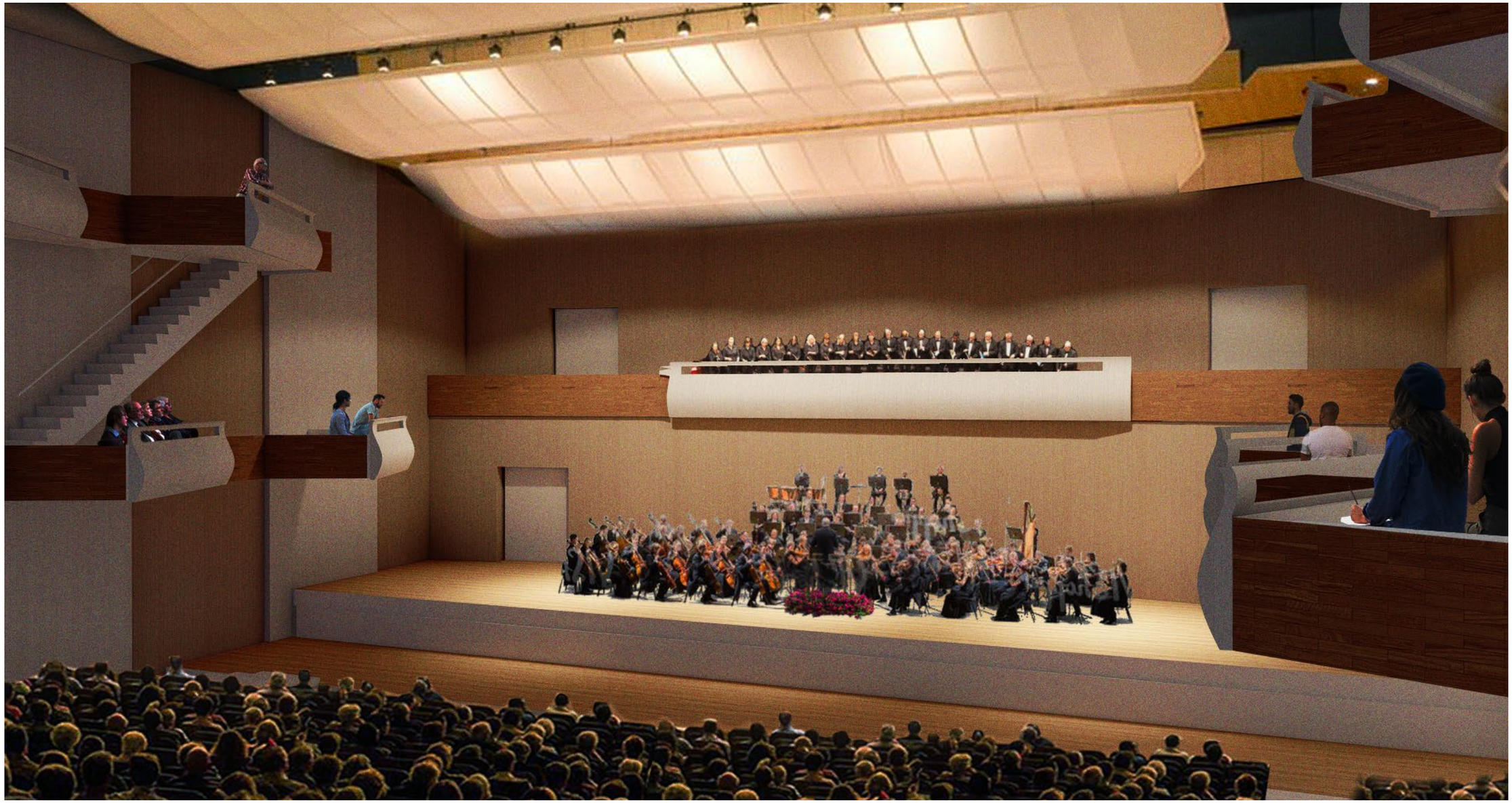
Horseshoe hall



Foyer as seen from interior balcony



Transition space of the classical hall

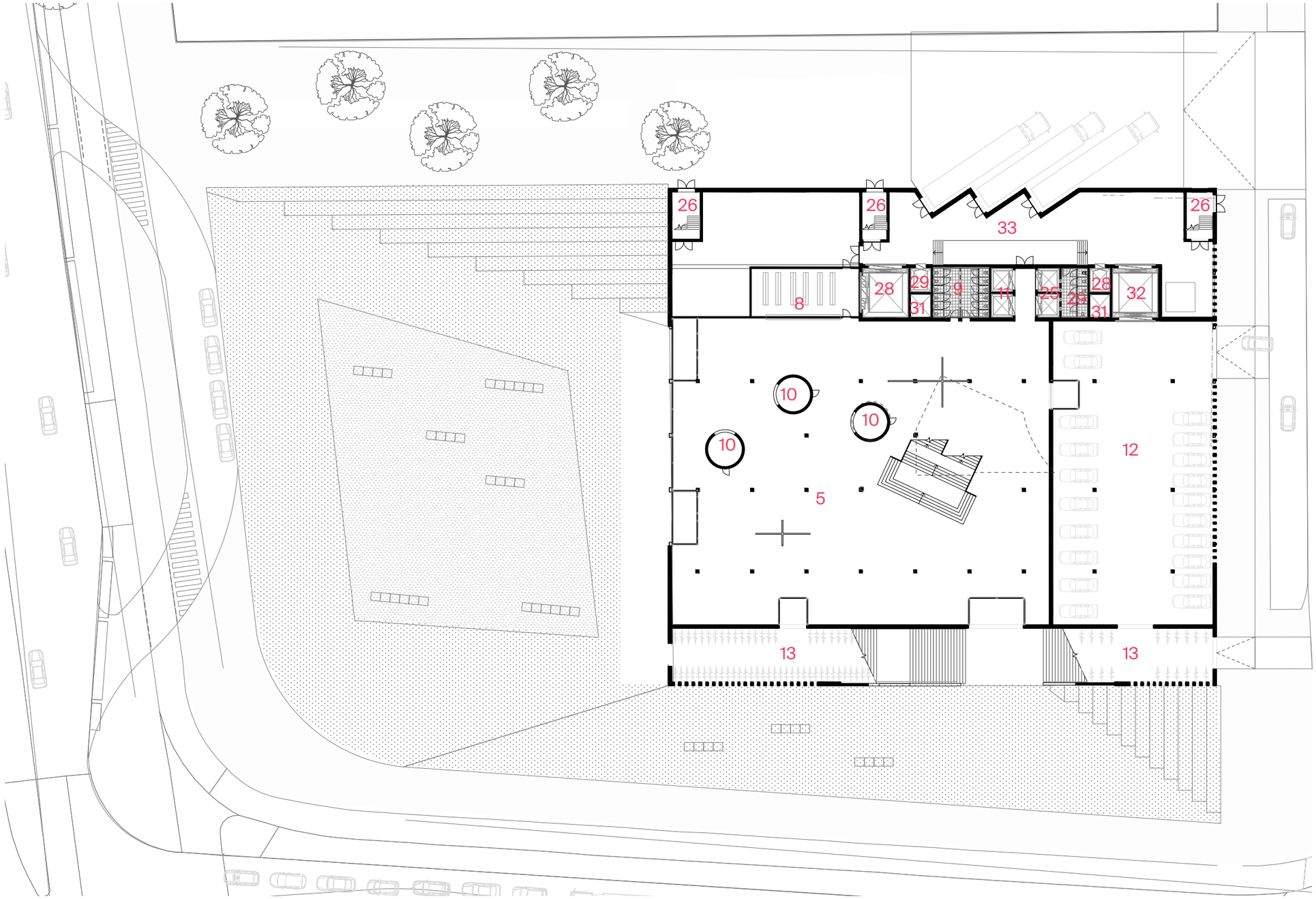


Classical hall as seen from first balcony row



Shakespeare hall seen from the centre

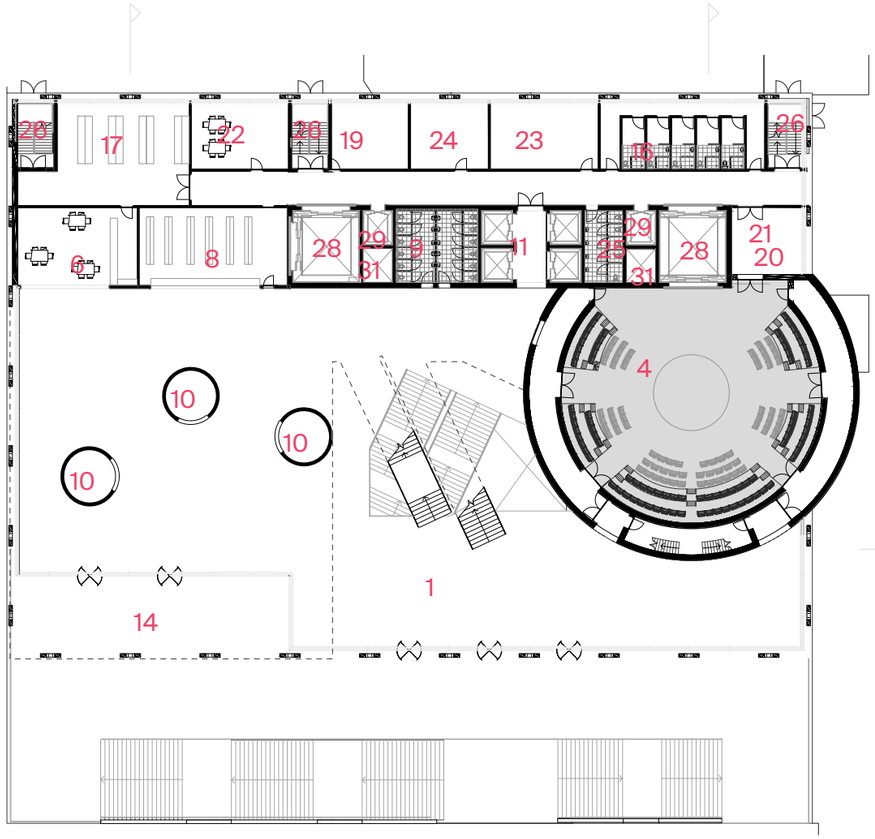
Floor plans 1:500



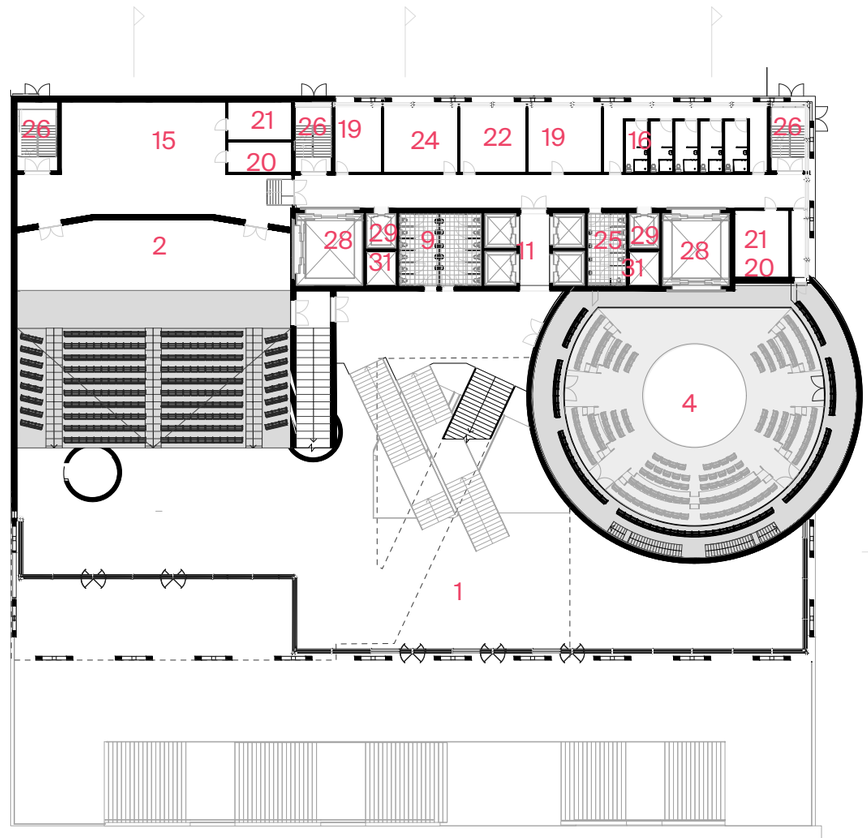
Public Functions
1. Foyer
2. Classical hall
3. Shakespeare hall
4. Horseshoe hall
5. Exposition hall
6. Café
7. Bar
8. Garderobe
9. Toilets
10. Ticket booths
11. Elevators
12. Parking garage
13. Bicycle parking
14. Balcony

Supporting functions
15. Scene dock
16. Dressing rooms
17. Kitchen
18. Storage
19. Offices
20. Technical director
21. Chief electrician
22. Crew area
23. Rehearsal area
24. Green room
25. Staff toilets
26. Fire exit staircase
27. Recording studio

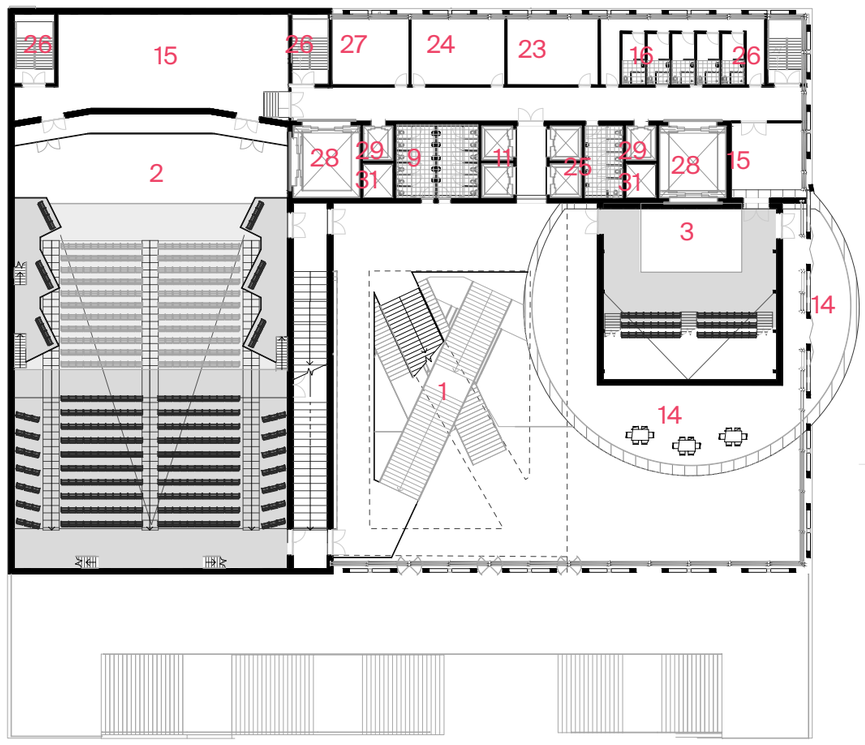
Freight and technical functions
28. Freight elevator
29. Service elevator
30. Workshop
31. Vertical shaft air ducts
32. Air handling unit
33. Loading bay



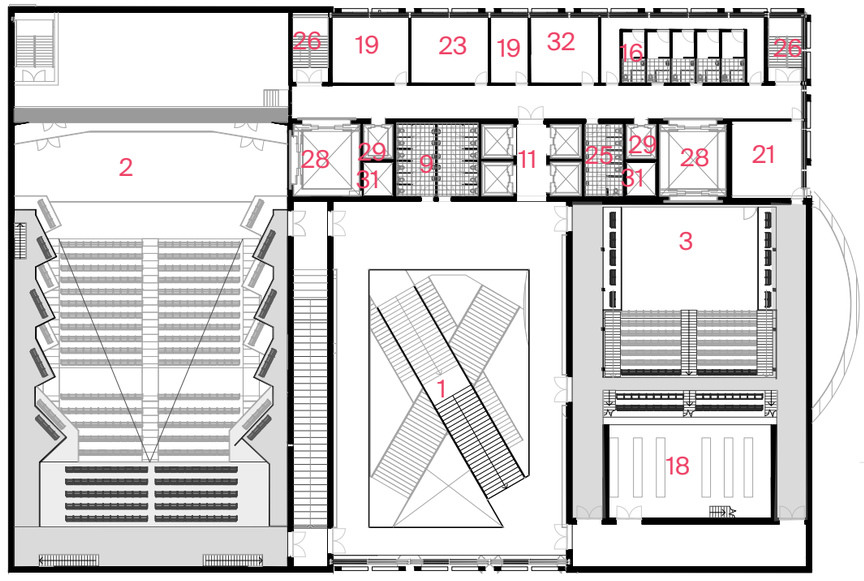
1:250 | First floor



1:250 | Second floor

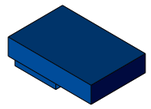


1:250 | Third floor



1:250 | Fourth floor

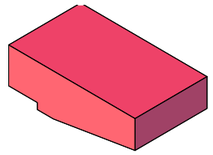
Programme



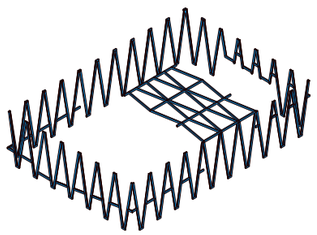
Shakespeare hall



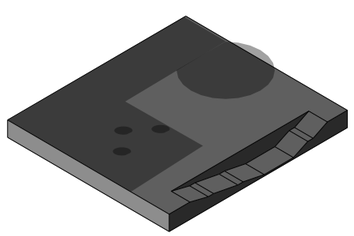
Horseshoe hall



Classical hall



Foyer



Exposition

Served space

- Shakespeare hall
- Horseshoe hall
- Classical hall
- Foyer
- Exposition

Servant space

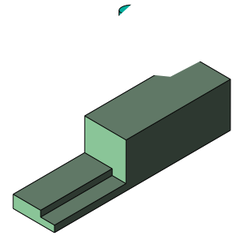
Shakespeare hall
- Scene dock
- Dressing rooms
- Rehearsal area
- Technical director
- Chief electrician
- Green room
- Crew area
- Crew toilets
- Freight elevator

Horseshoe hall
- Scene dock
- Dressing rooms
- Rehearsal area
- Technical director
- Chief electrician
- Green room
- Crew area
- Crew toilets
- Freight elevator

Classical hall
- Scene dock
- Dressing rooms
- Rehearsal area
- Technical director
- Chief electrician
- Green room
- Crew area
- Crew toilets
- Freight elevator

Foyer
- Toilets
- Garderobe
- Ticket booths
- Kitchen

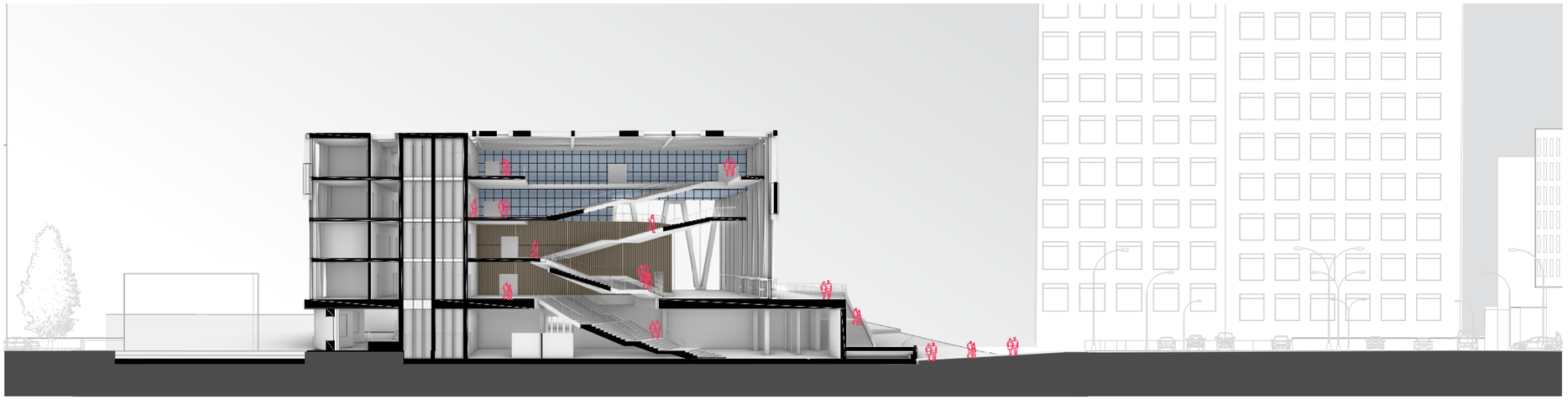
Exposition
- Toilets
- Garderobe
- Parking garage
- Loading bay
- Workshop



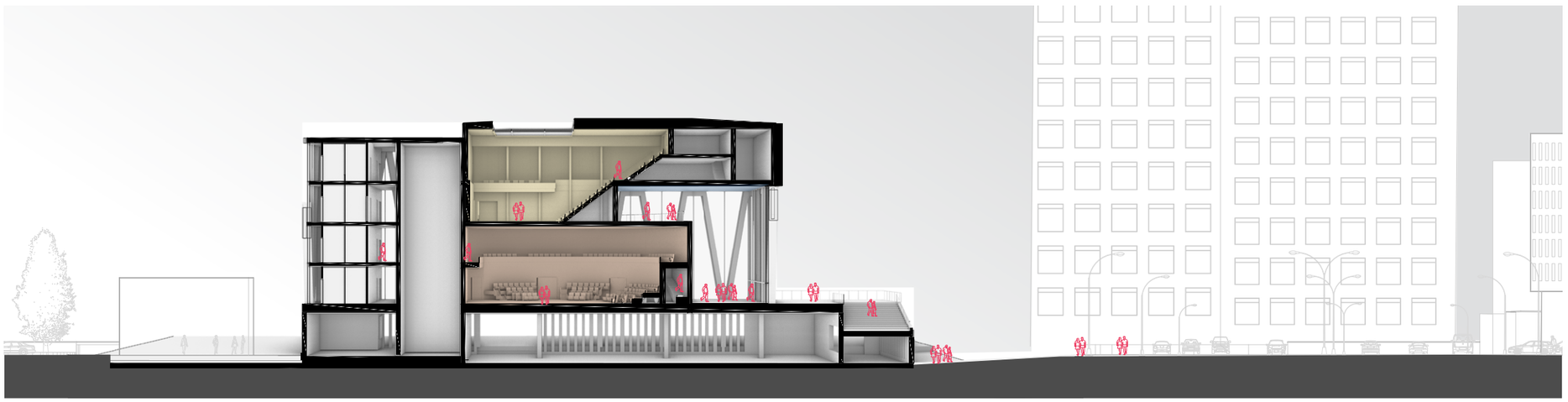
Sections 1:500



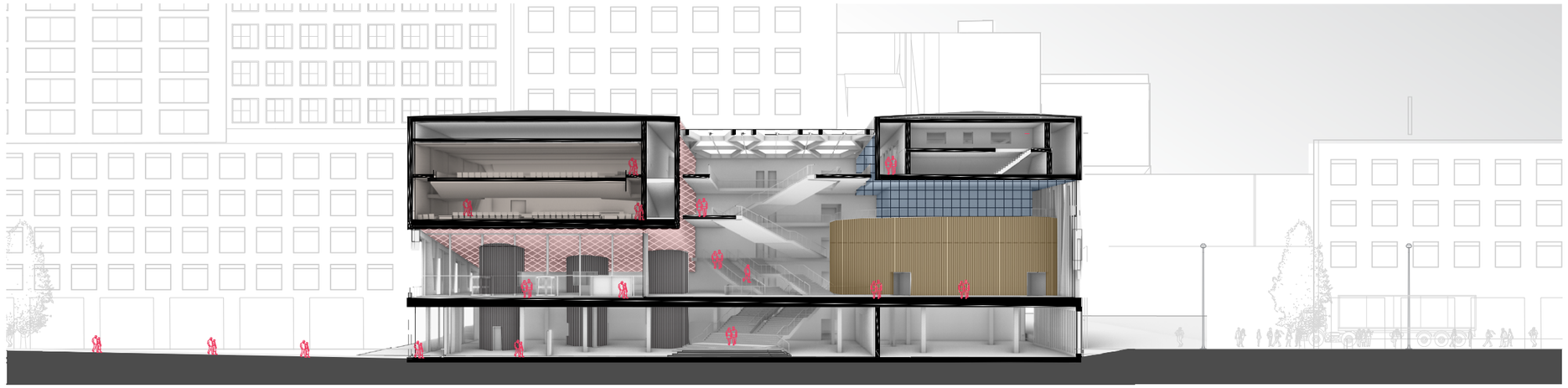
1:200 | Section B1



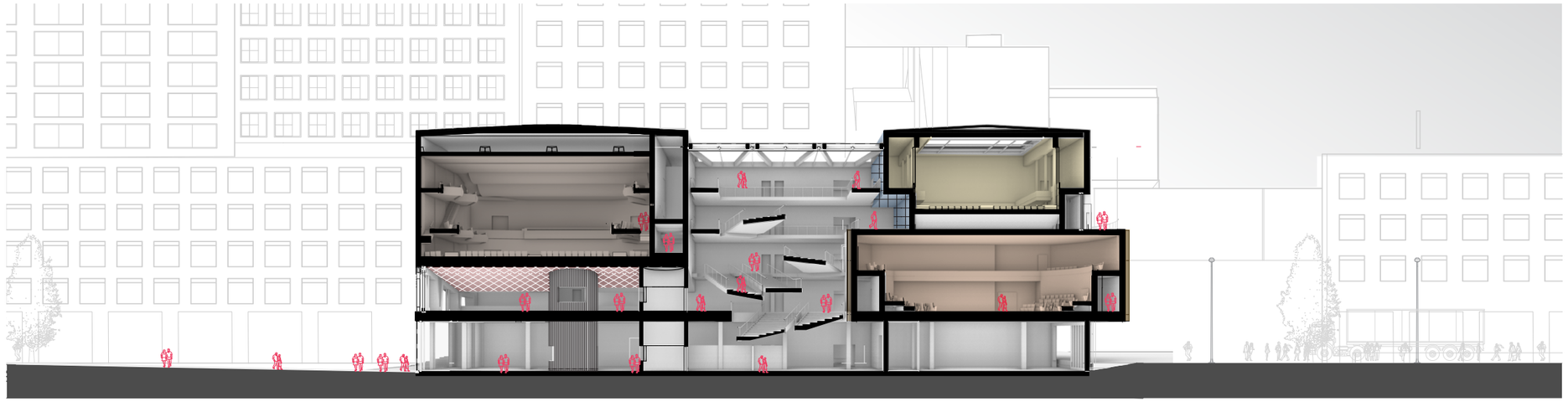
1:200 | Section B2



1:200 | Section B3

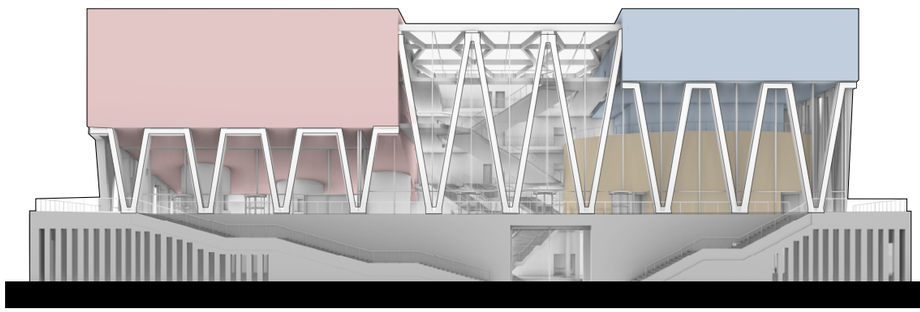


1:200 | Section A1

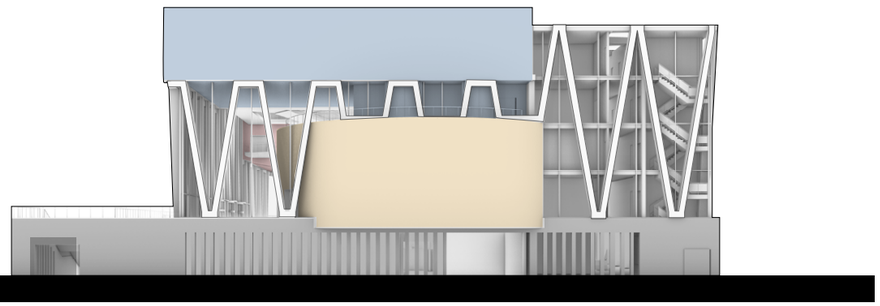


1:200 | Section A2

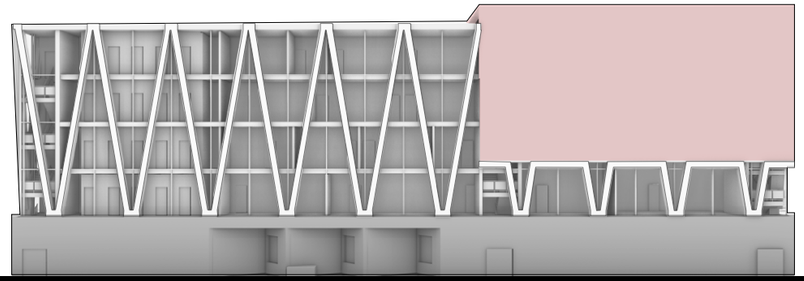
Elevations 1:500



North elevation



West elevation

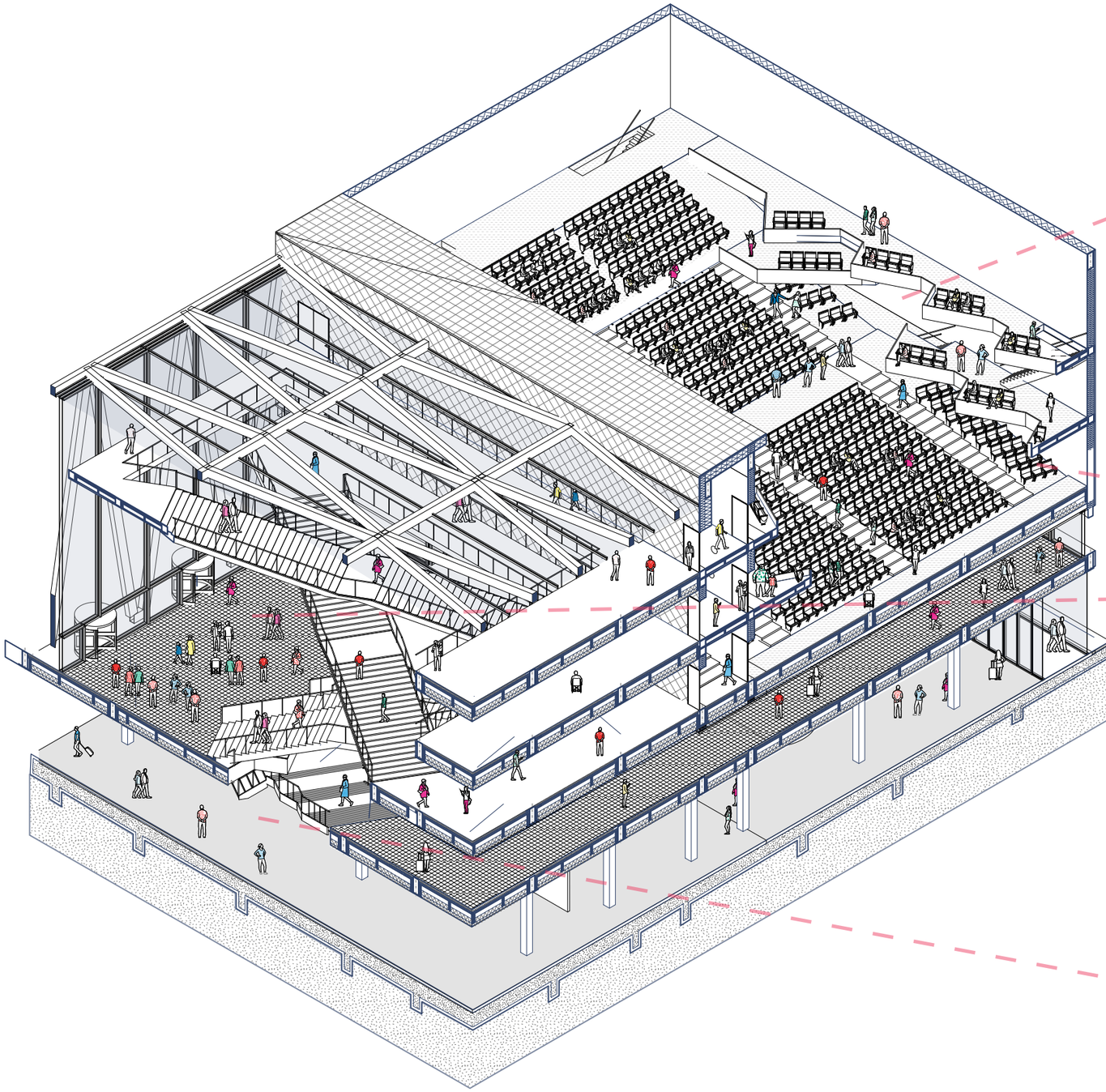


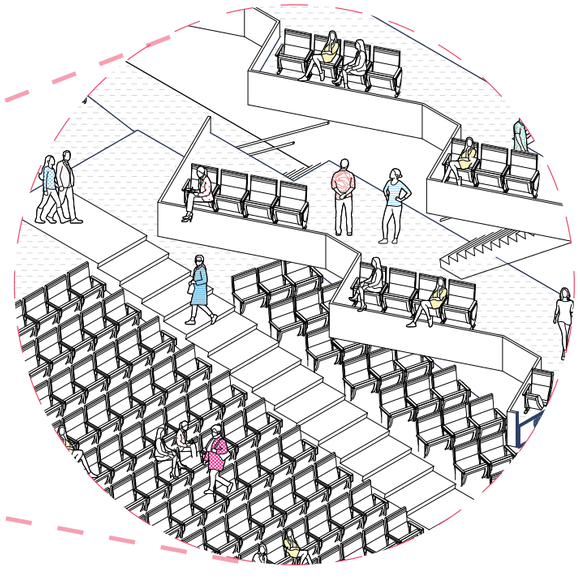
South elevation

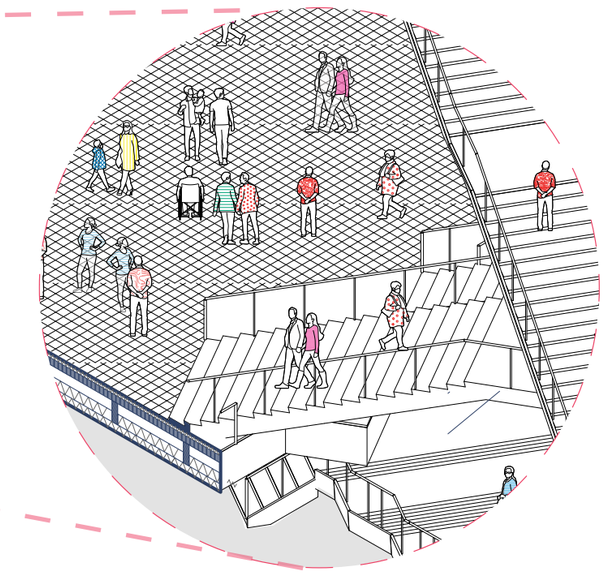


East elevation

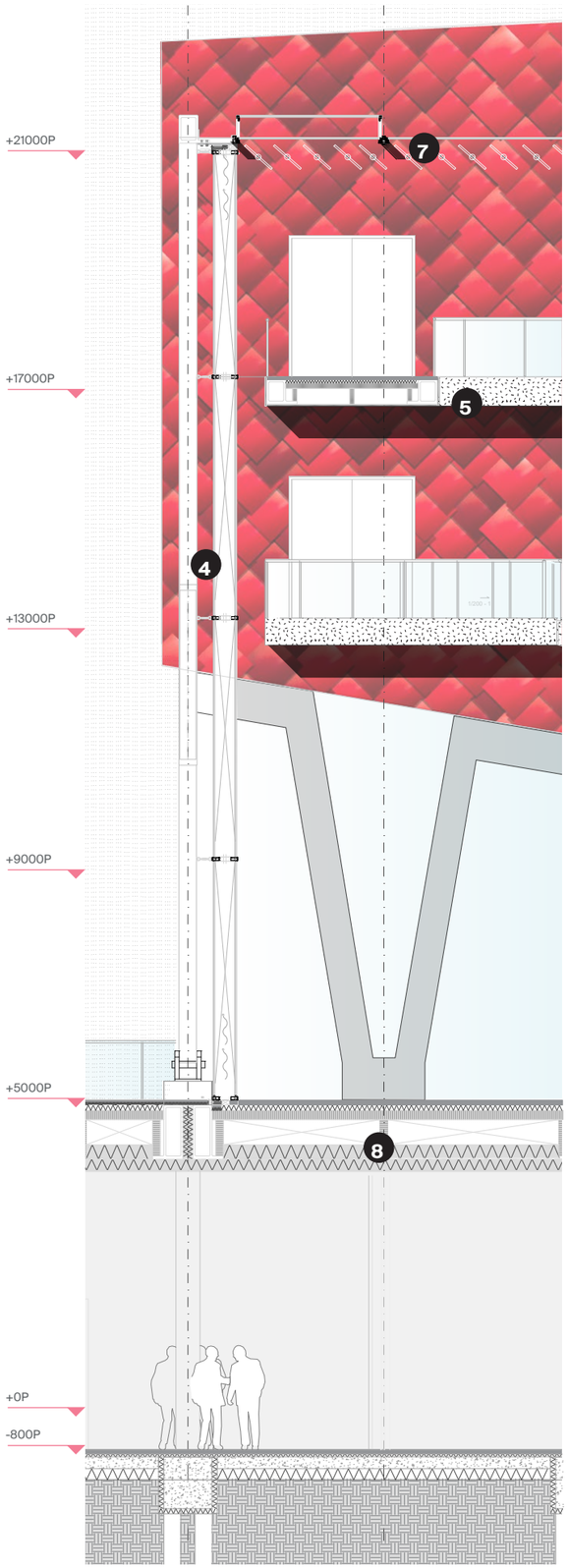
Axonometry 1:50



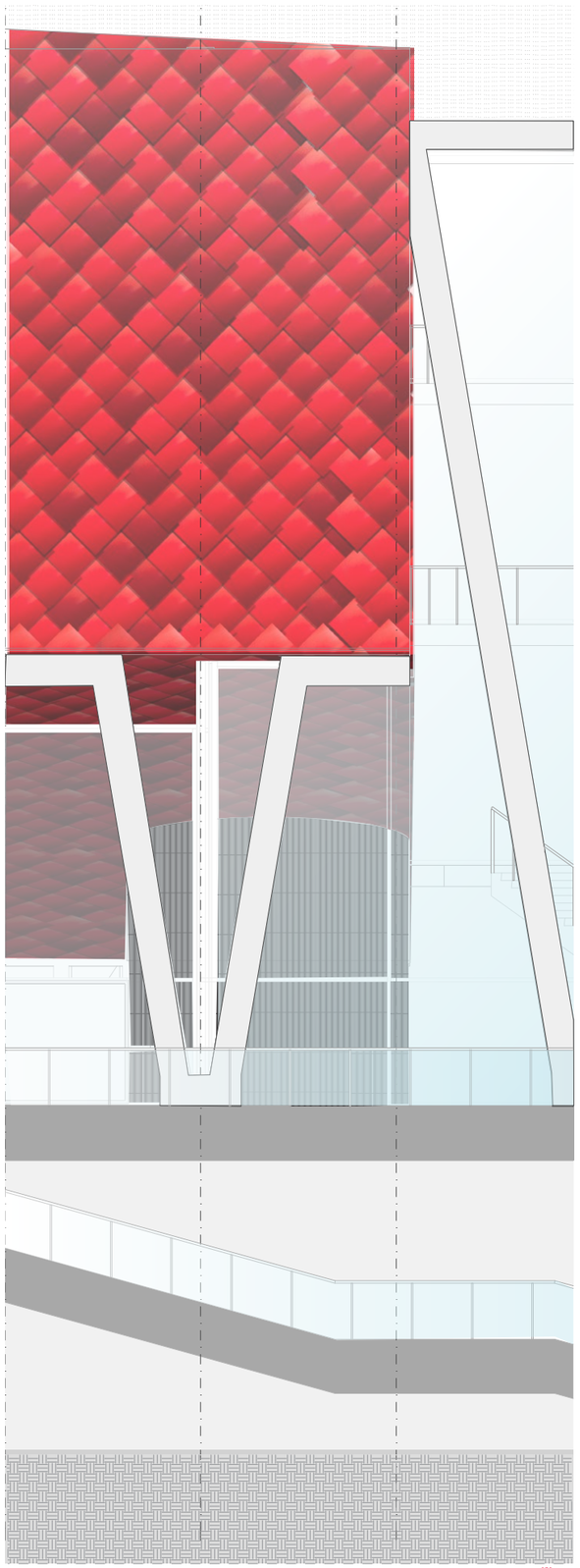




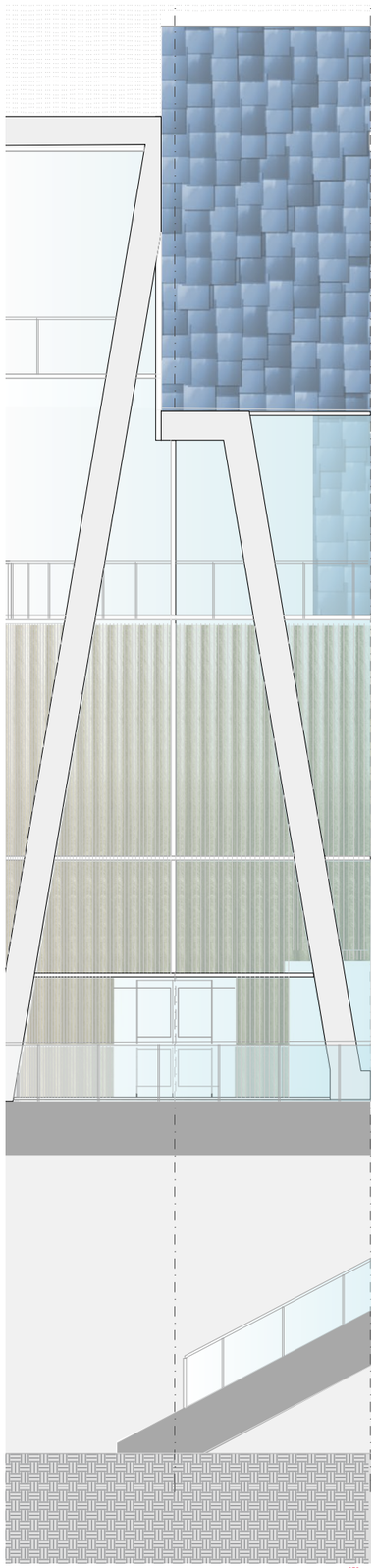
Section 1:80



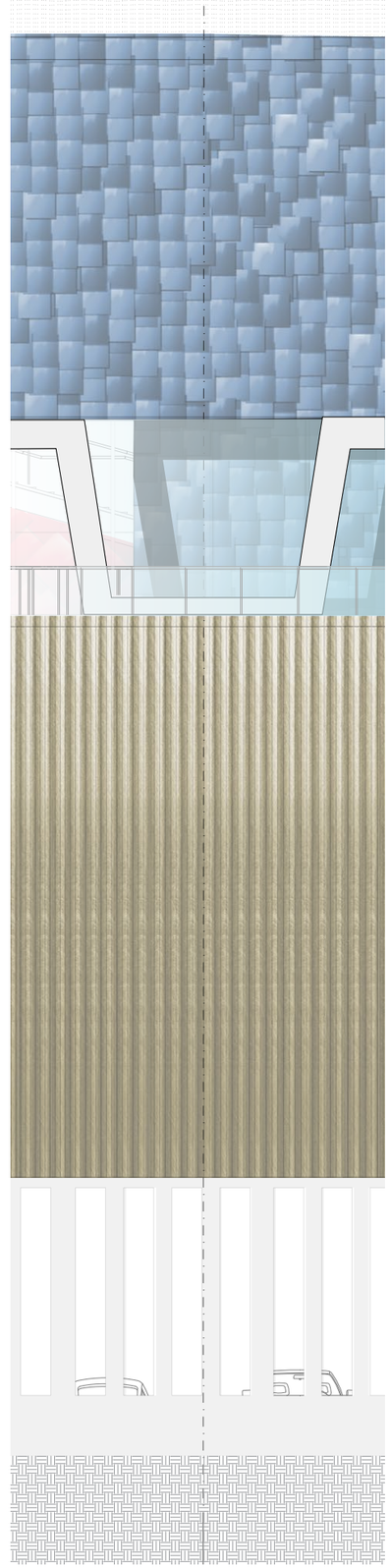
1:50 | Interior section C1



1:50 | North facade elevation



1:50 | North facade elevation



1:50 | West facade elevation

1 Hall facade buildup
Recycled sheet metal
metallic paint coated
450mm BioFoam insulation
Wooden rails
Tube steel beam frame
Cork/Woodmix acoustic paneling
Load bearing facade

2 Hall Roof buildup
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Air exhaust ducts
Acoustic panels

3 Foyer roof buildup
500/300/16 steel load bearing facade
Reynaers openable aluminium frames
Sun-angle adjustable louvers

4 Foyer facade buildup
500/300/16 steel load bearing facade
Reynaers double aluminium frames
Ventilated double facade HR+++
Adjustable bolts to load bearing facade

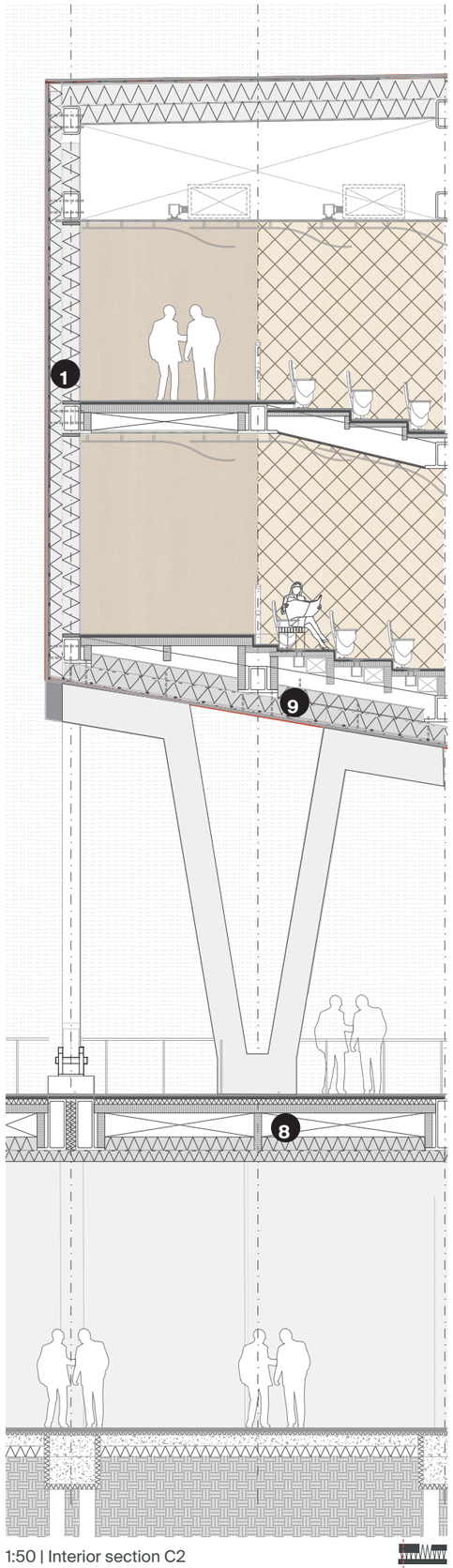
5 Foyer staircases
PVC flooring
Steel beam system
Vertically laminated veneer lumber - panels
Side and underside panels cladded with recycled cloth material

6 Horsehoe hall balcony
Wooden terrace panels for water drain
Wooden railing for panels
Integrated water rain
Stainless steel railing
400mm rigid BioFoam insulation

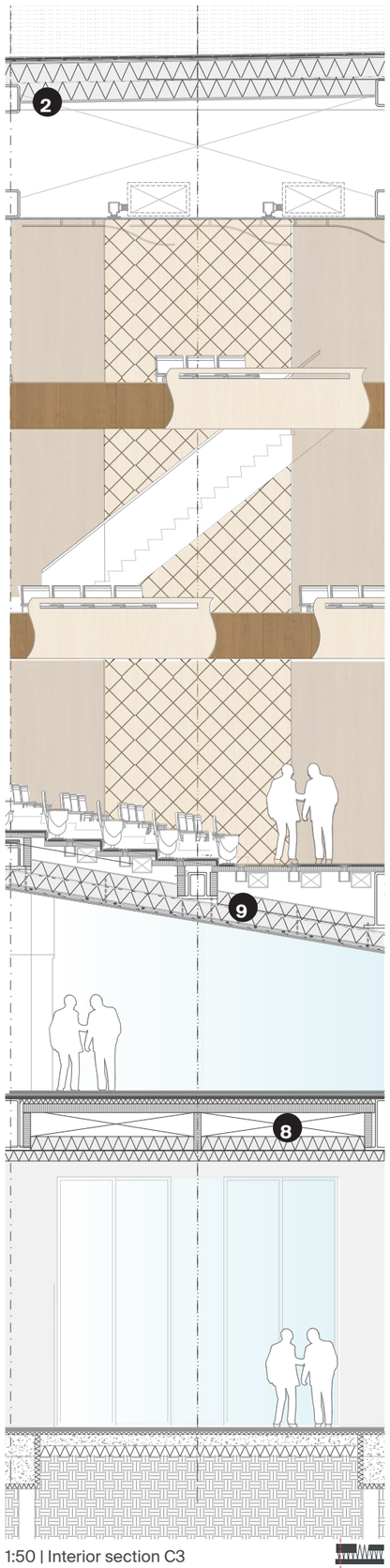
7 Foyer roof buildup
500/300/16 steel load bearing facade
Reynaers openable aluminium frames
Sun-angle adjustable louvers

8 Plinth floor buildup
PVC demountable flooring
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Cork/Woodmix acoustic paneling

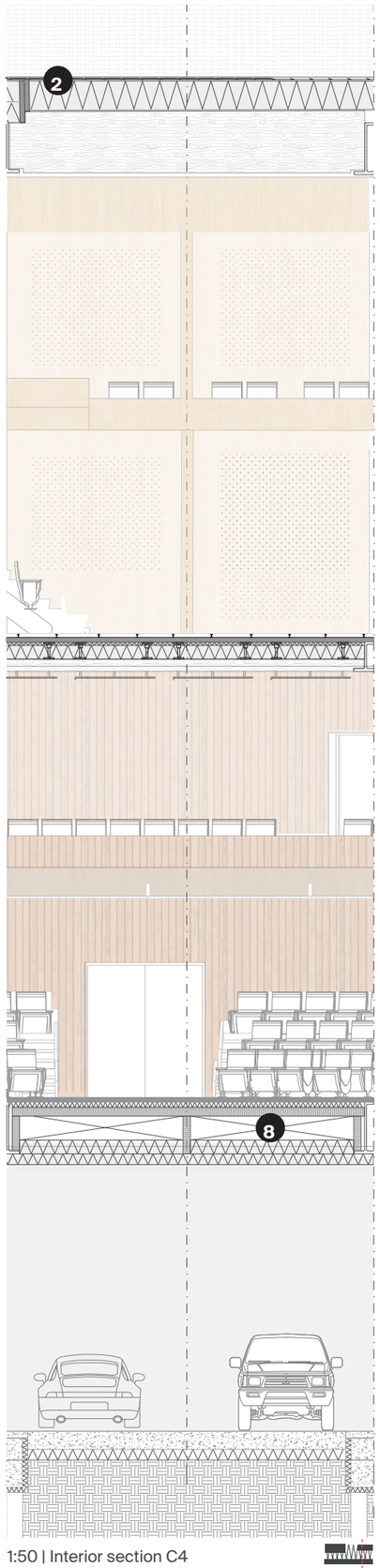
9 Hall floor buildup
Cork/Woodmix acoustic paneling
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Wooden railing
Recycled sheet metal panels



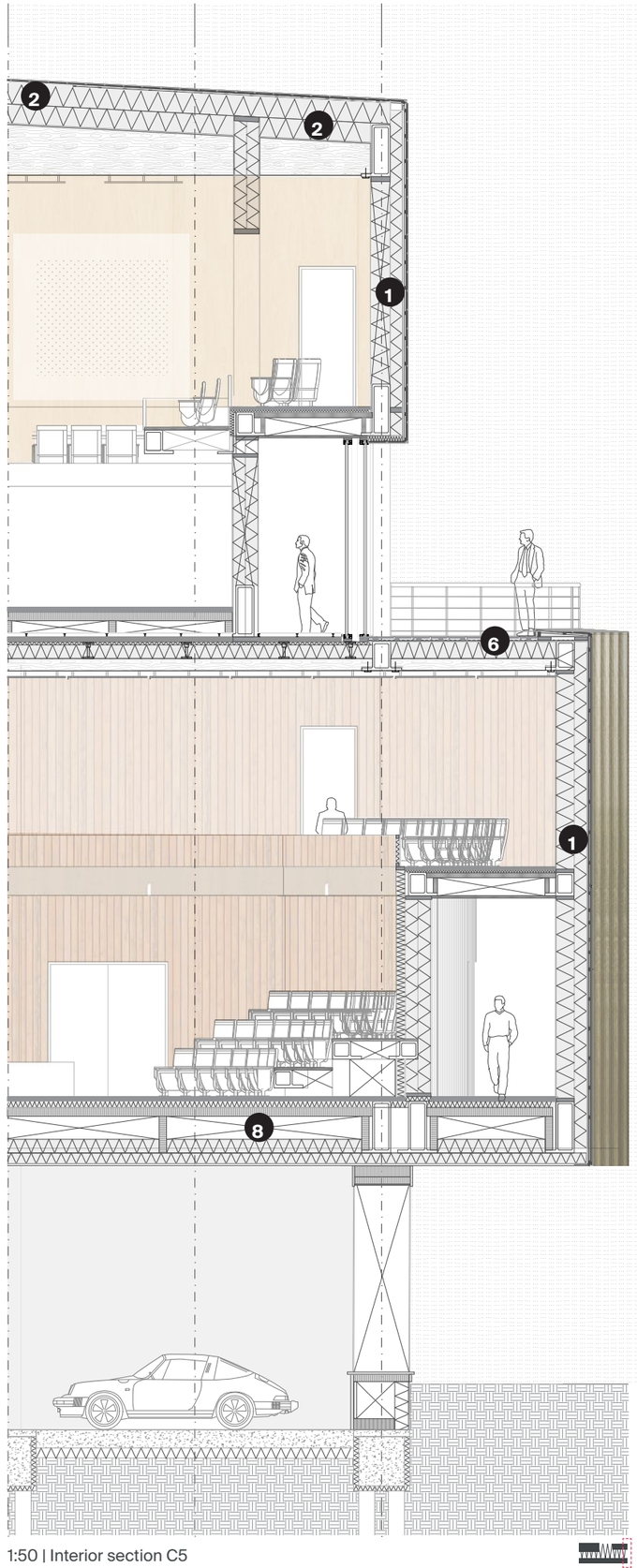
1:50 | Interior section C2



1:50 | Interior section C3



1:50 | Interior section C4



1:50 | Interior section C5

1 Hall facade buildup
Recycled sheet metal
metallic paint coated
450mm BioFoam insulation
Wooden rails
Tube steel beam frame
Cork/Woodmix acoustic paneling
Load bearing facade

2 Hall Roof buildup
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Air exhaust ducts
Acoustic panels

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500/300/16 steel load bearing facade
Reynaers openable aluminium frames
Sun-angle adjustable louvers

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PVC flooring
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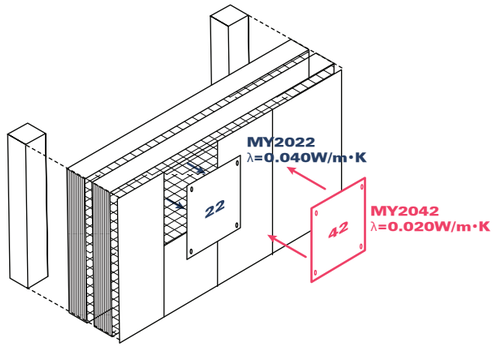
PVC demountable flooring
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Cork/Woodmix acoustic paneling

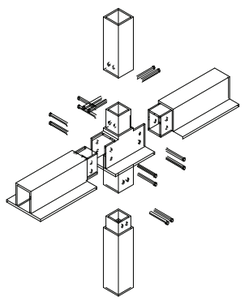
9 Hall floor buildup
Cork/Woodmix acoustic paneling
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Wooden railing
Recycled sheet metal panels

Structure

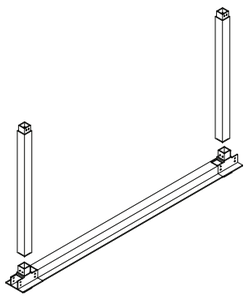


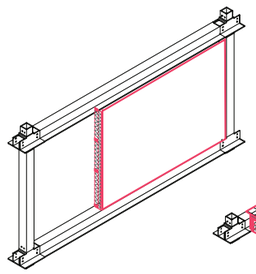
Replacable wall elements for futureproofing

Demountable joints

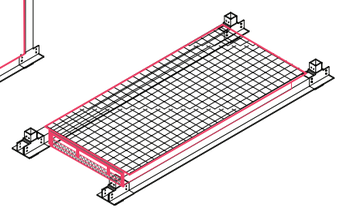


Framework for transport

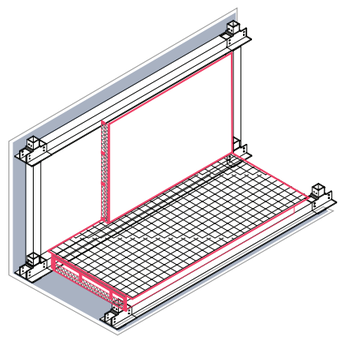




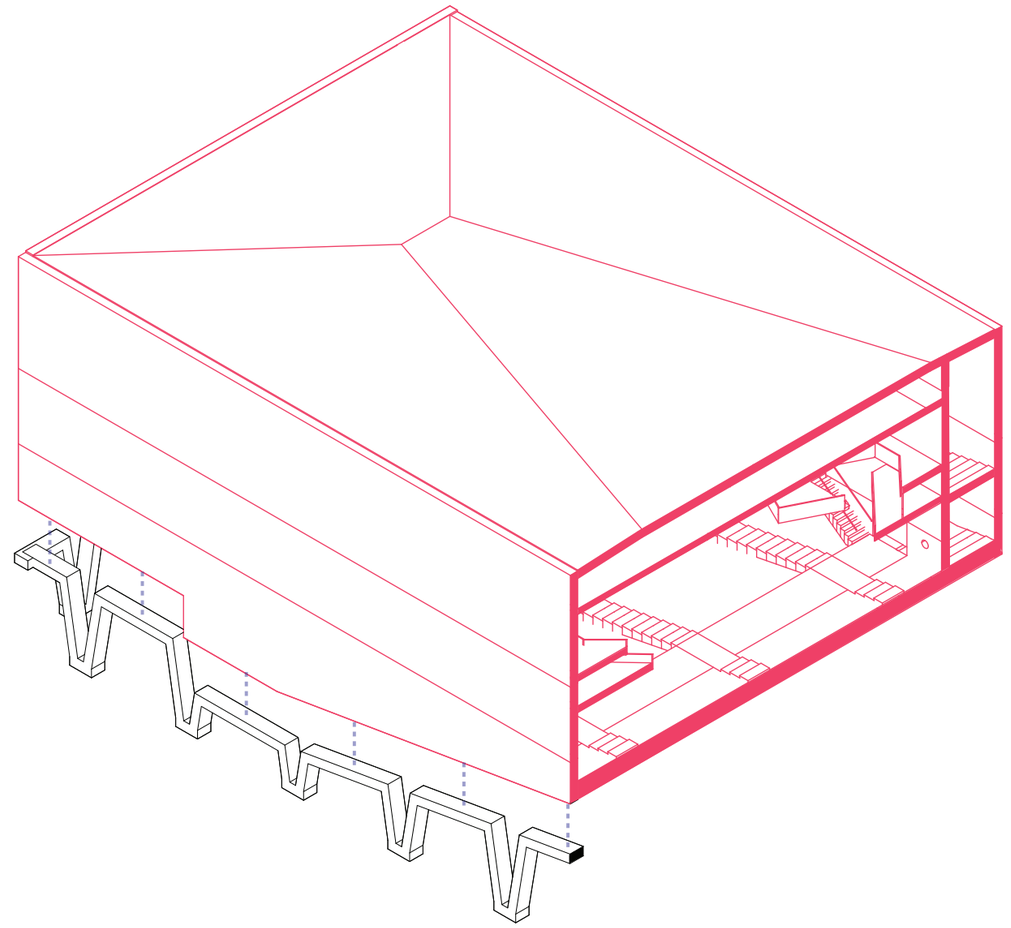
Wooden system walls



Vertically laminated lumber floor panels

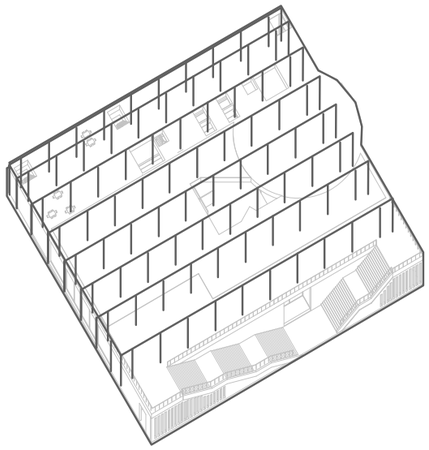


Steel cladding as hall cladding

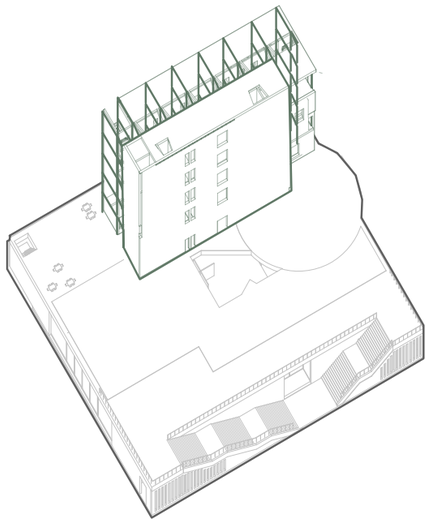


Independently constructed and insulated steel boxes placed on shared parameters

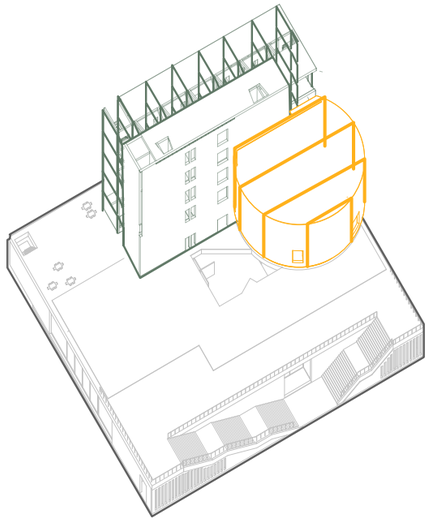
Construction sequence



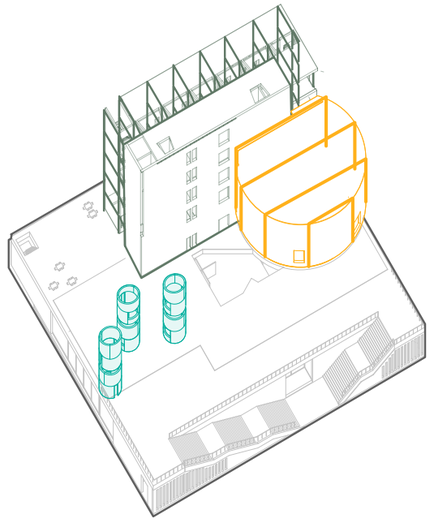
1. Construction of steel-framed base



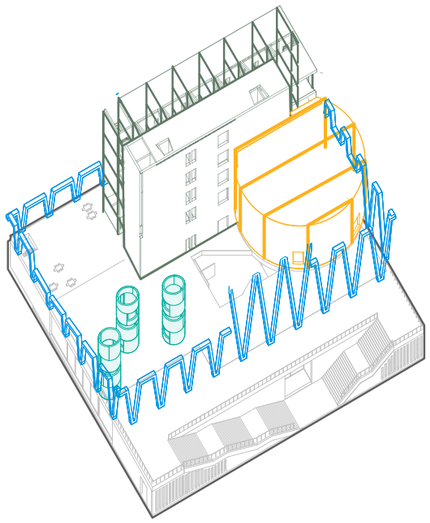
2. Hybrid structured backbone and shafts



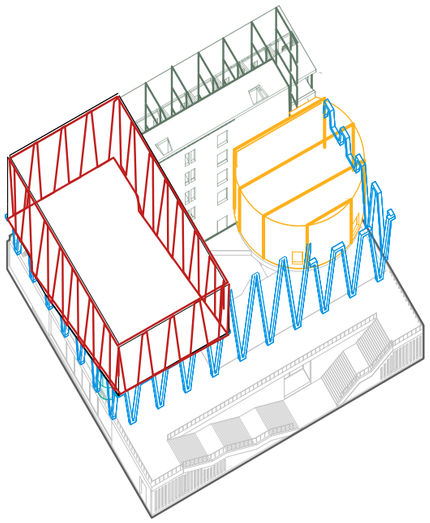
3. Horseshoe steel hall construction



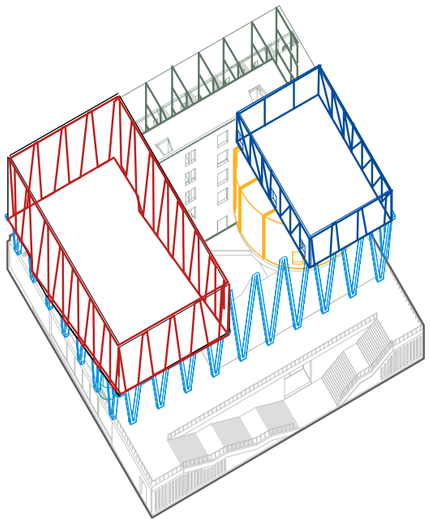
4. Construction of load-bearing booths



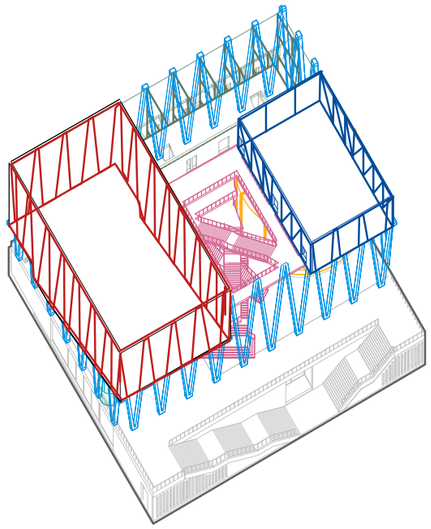
5. Load-bearing weave around objects



6. Classical hall constructed on-top



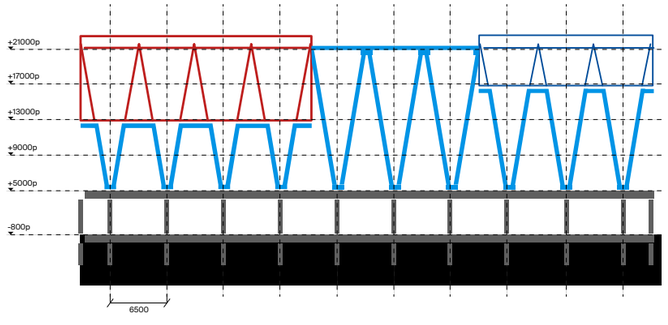
7. Shakespeare hall placed independently

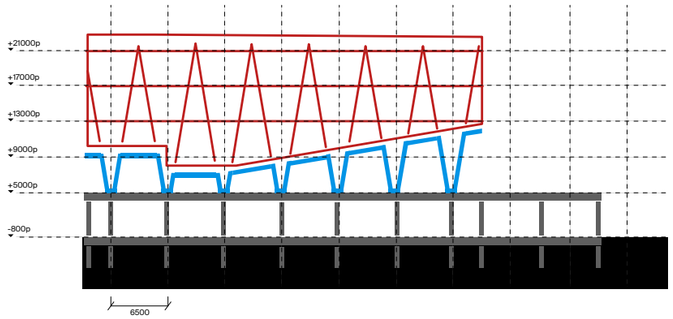


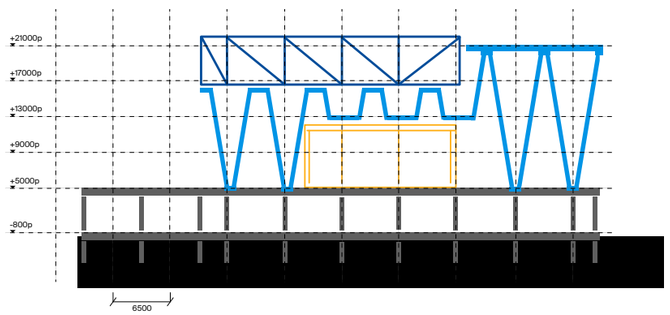
8. Staircases mounted between objects

Structural concept

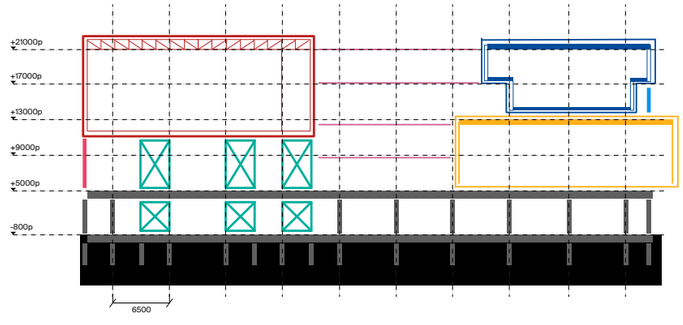
Load bearing facade

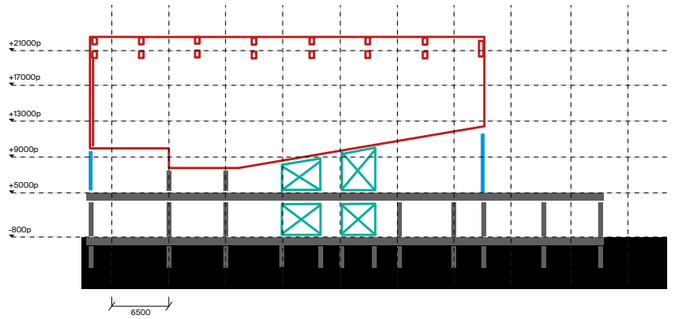


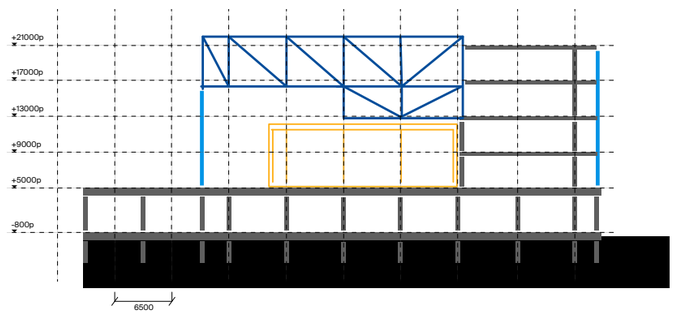




Section







Structural Diagrams

Individual halls acoustically and structurally independant

Foyer connects three halls

Plinth made as load bearing base

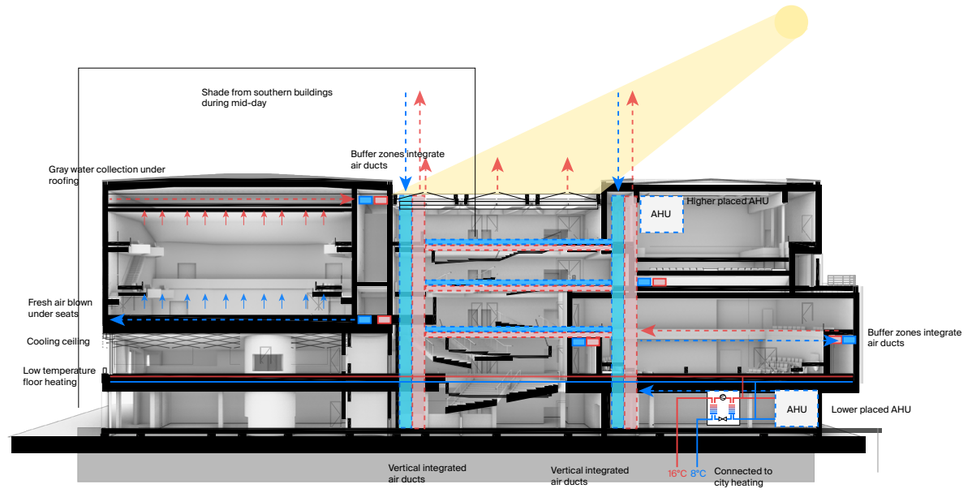
Structural columns serve as booths

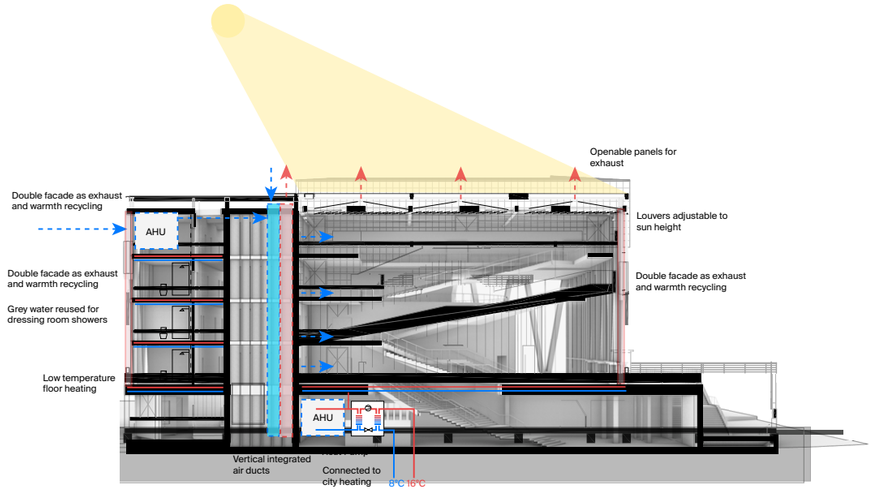
Load bearing facade visually wraps around halls

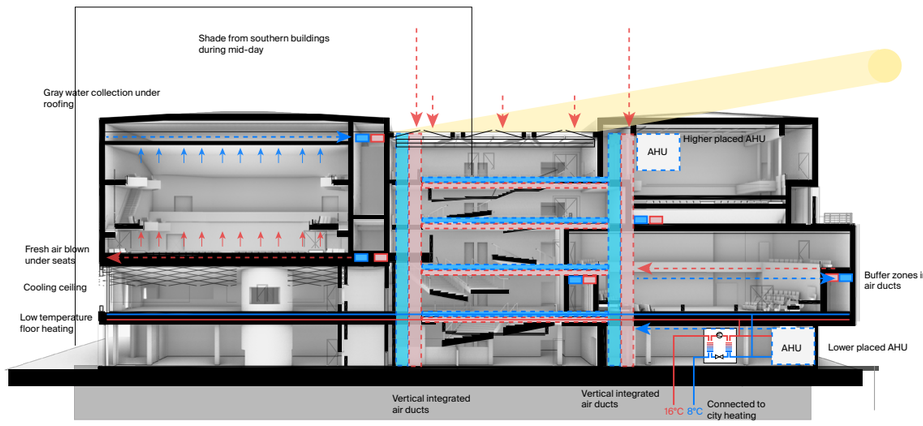
Shakespeare and horseshoe hall are cconstructed independently

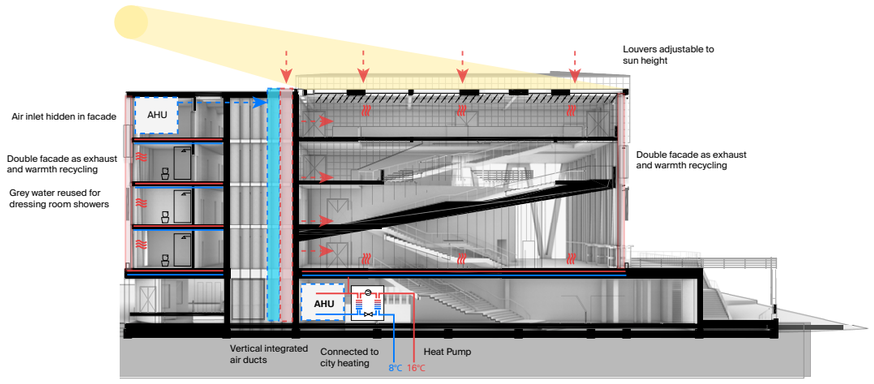
Servant space block self - bearing load system

Climatic diagrams

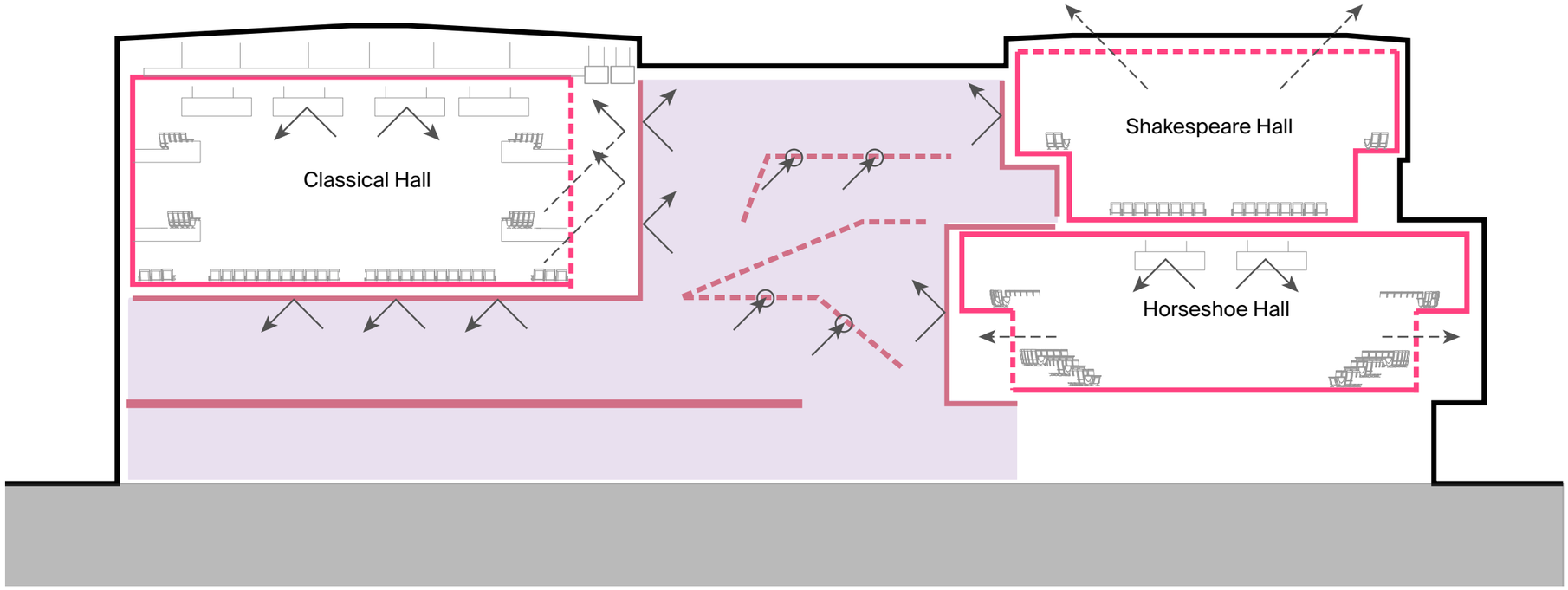








Acoustics



Acoustic section

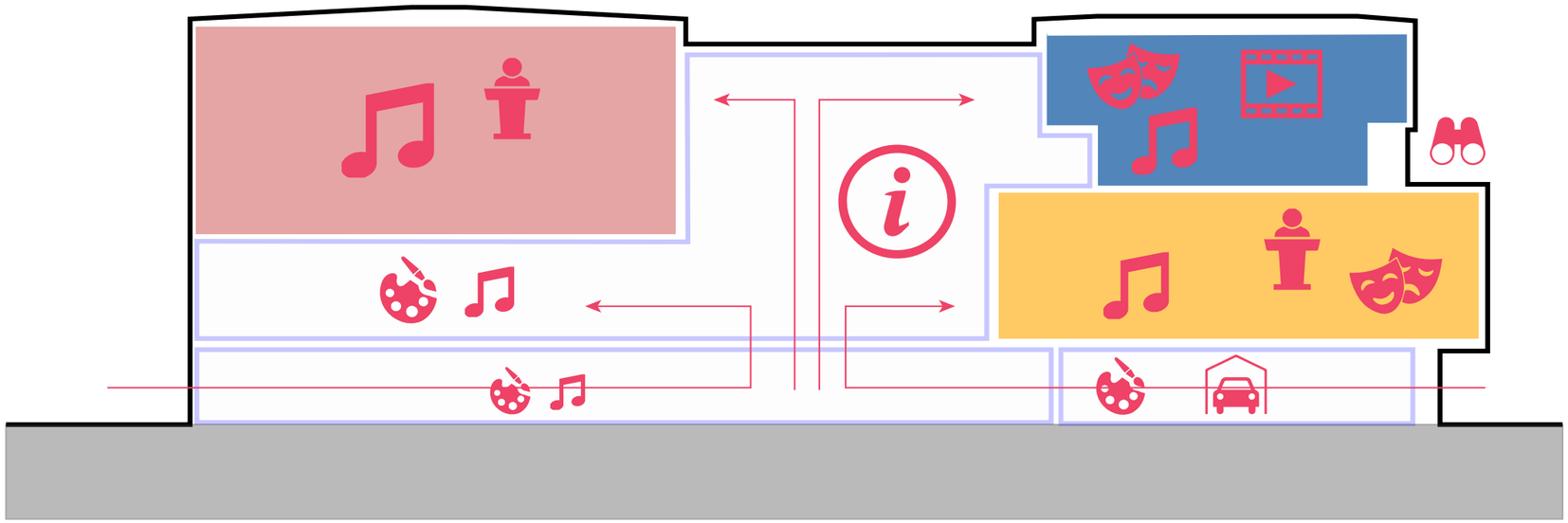
Three individual halls isolated

Sound travel allowed between halls and buffer zones

Sound-adsorbing staircases prevent reflective sound in foyer

Paneling above stage improves performer acoustics

Multiplicity



Multiplicity diagram

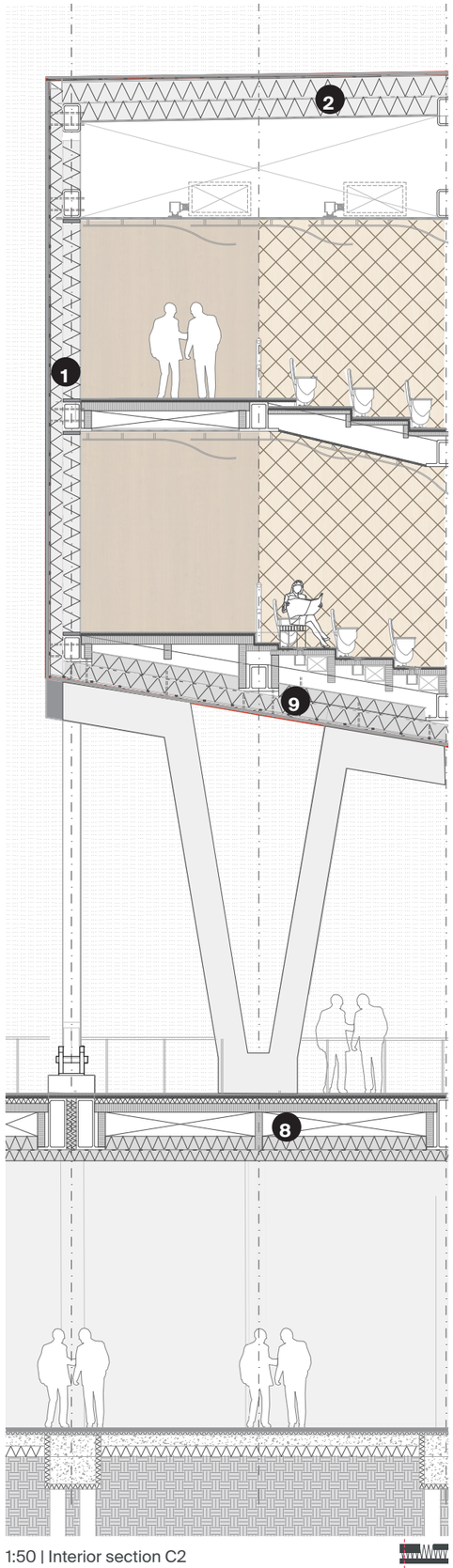
Shakespeare hall incline is designed for plays and movie screenings

Exposition hall can be turned into hybrid music hall

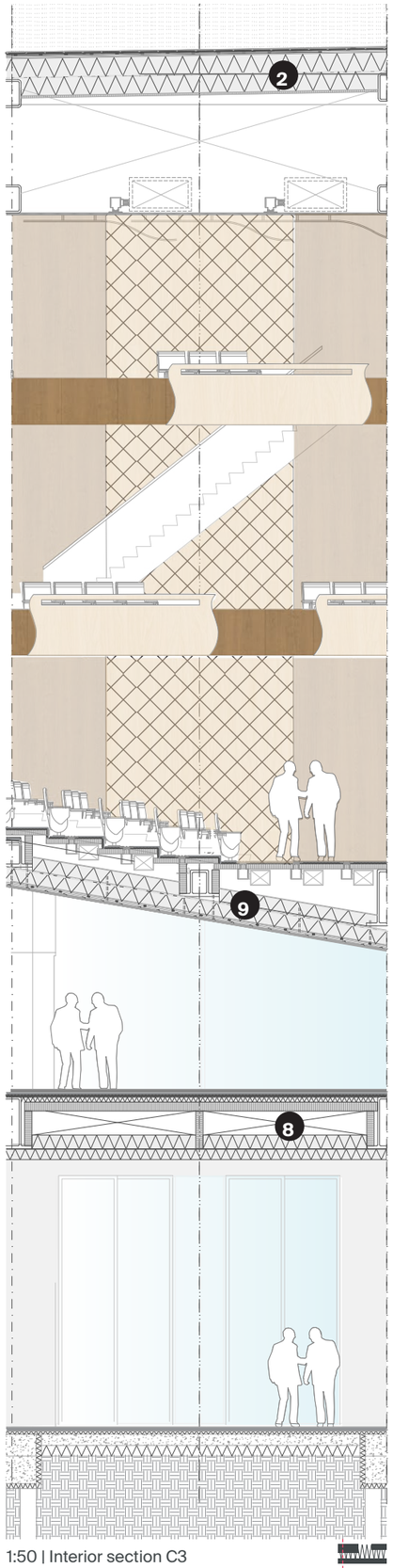
Parking garage can in time be phased out for exposition extension

Horseshoe hall balcony as public accessible element

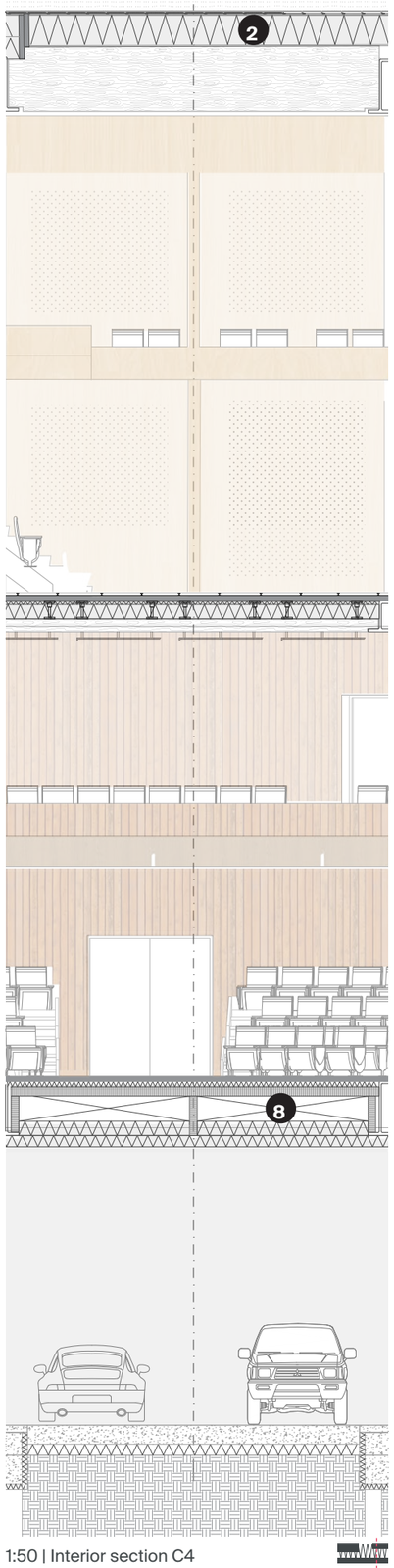
Appendix: architectural details P5



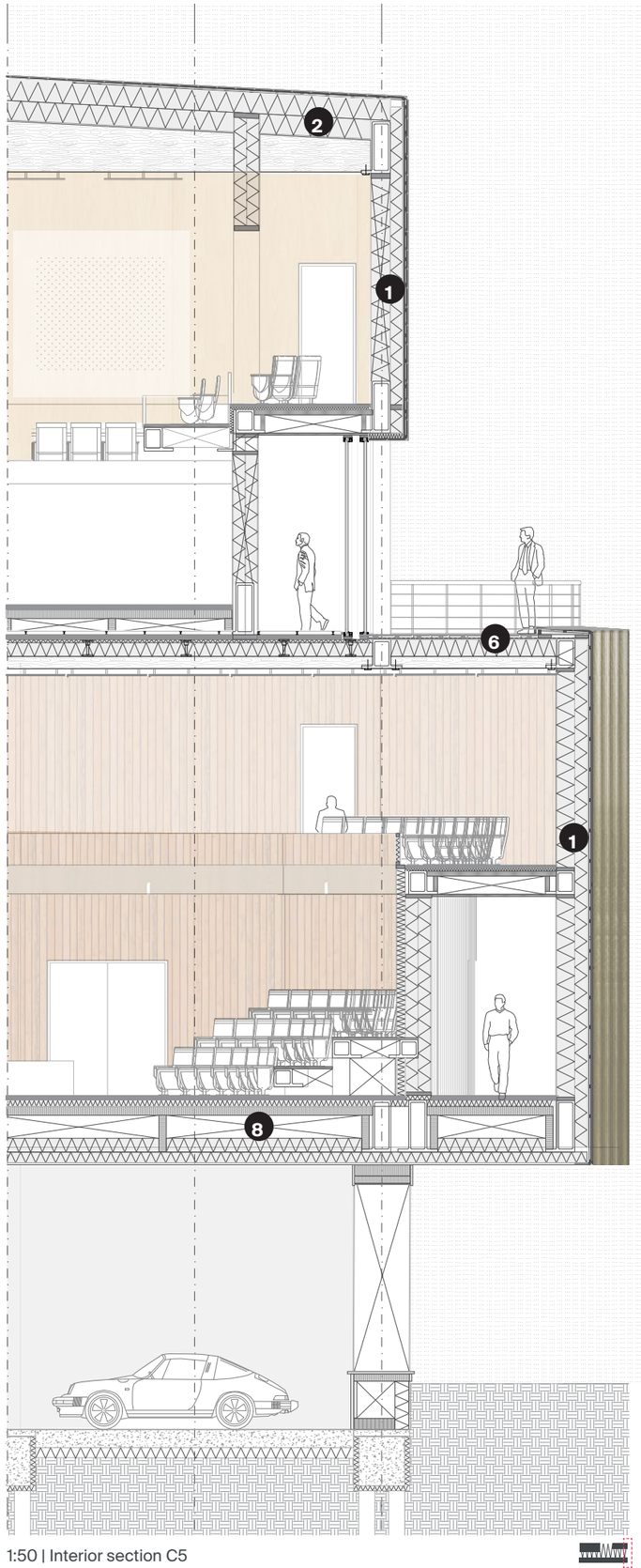
1:50 | Interior section C2



1:50 | Interior section C3



1:50 | Interior section C4



1:50 | Interior section C5

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Recycled sheet metal
metallic paint coated
450mm BioFoam insulation
Wooden rails
Tube steel beam frame
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Load bearing facade

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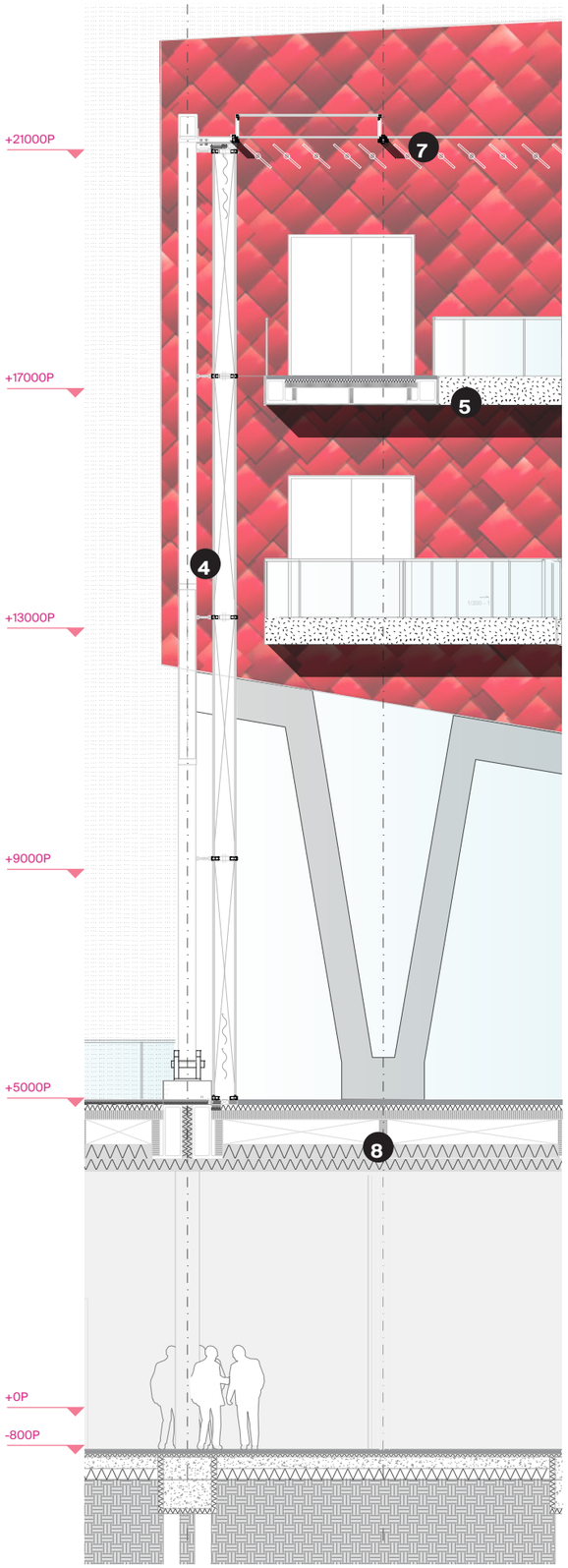
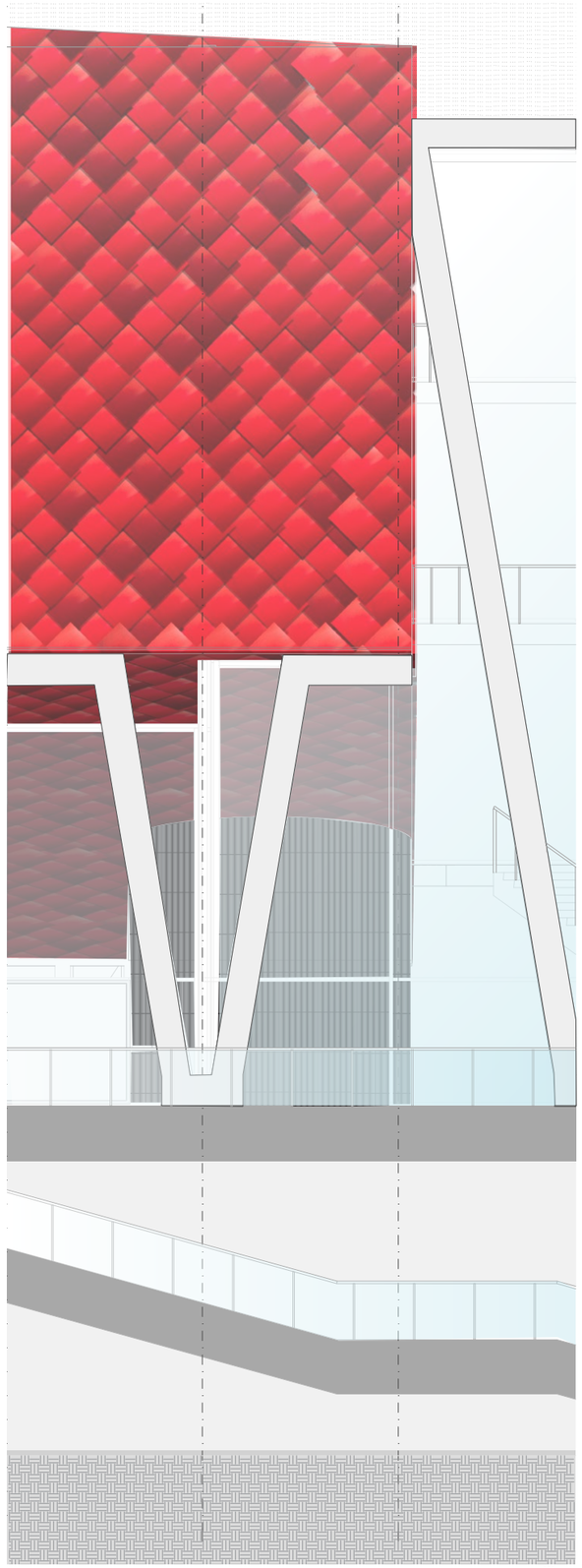
Wooden railing
Recycled sheet metal panels

Technical elevations & sections



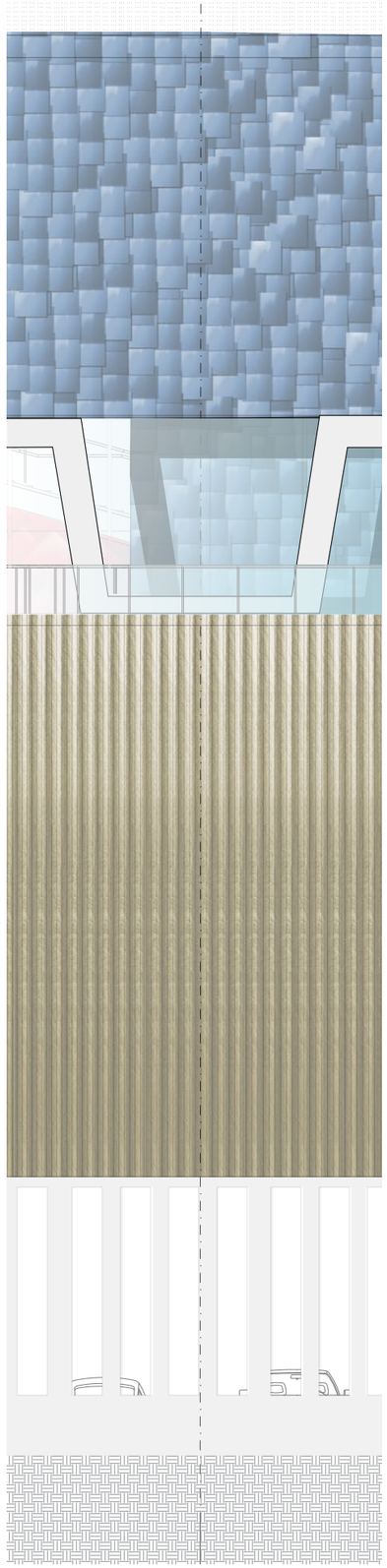
1:50 | Interior section C1



1:50 | North facade elevation



1:50 | North facade elevation



1:50 | West facade elevation

1 Hall facade buildup
Recycled sheet metal
metallic paint coated
450mm BioFoam insulation
Wooden rails
Tube steel beam frame
Cork/Woodmix acoustic paneling
Load bearing facade

2 Hall Roof buildup
Recycled roof paneling
Rigid 400mm BioFoam insulation
Tube steel beam frame
Cork/Woodmix acoustic flooring
Air exhaust ducts
Acoustic panels

3 Foyer roof buildup
500/300/16 steel load bearing facade
Reynaers openable aluminium frames
Sun-angle adjustable louvers

4 Foyer facade buildup
500/300/16 steel load bearing facade
Reynaers double aluminium frames
Ventilated double facade HR+++
Adjustable bolts to load bearing facade

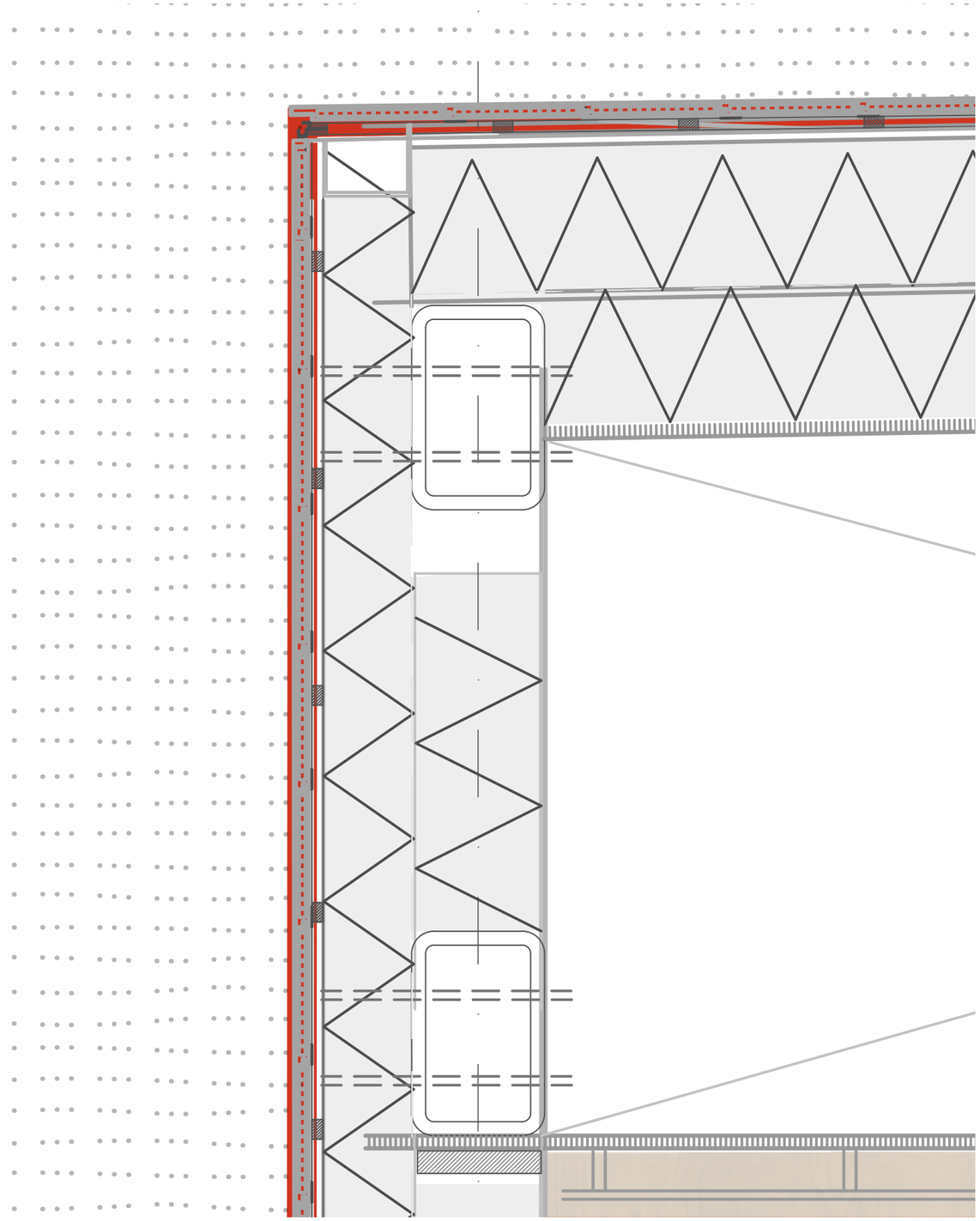
5 Foyer staircases
PVC flooring
Steel beam system
Vertically laminated veneer lumber - panels
Side and underside panels cladded with recycled cloth material

6 Horsehoe hall balcony
Wooden terrace panels for water drain
Wooden railing for panels
Integrated water rain
Stainless steel railing
400mm rigid BioFoam insulation

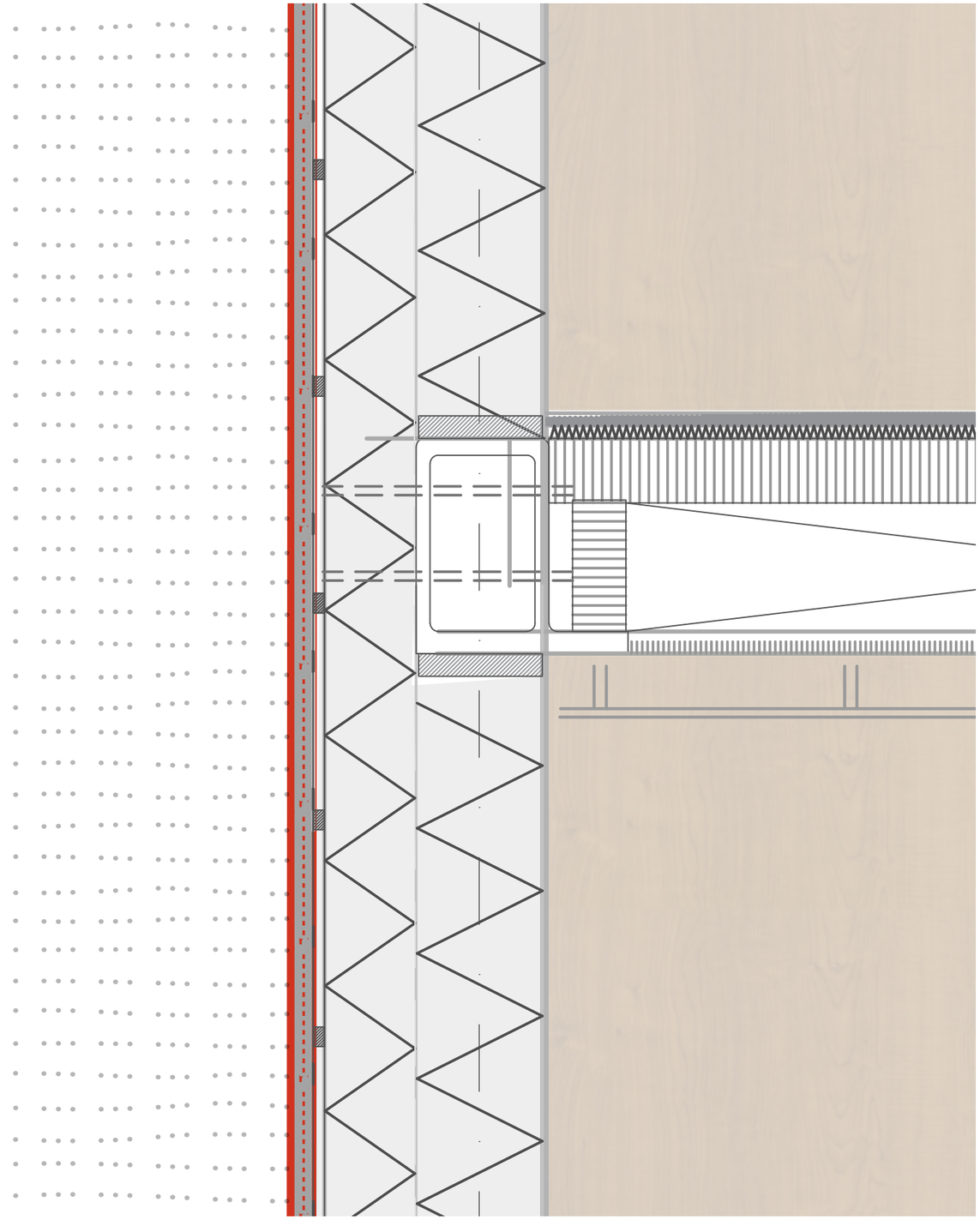
7 Foyer roof buildup
500/300/16 steel load bearing facade
Reynaers openable aluminium frames
Sun-angle adjustable louvers

8 Plinth floor buildup
PVC demountable flooring
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Cork/Woodmix acoustic paneling

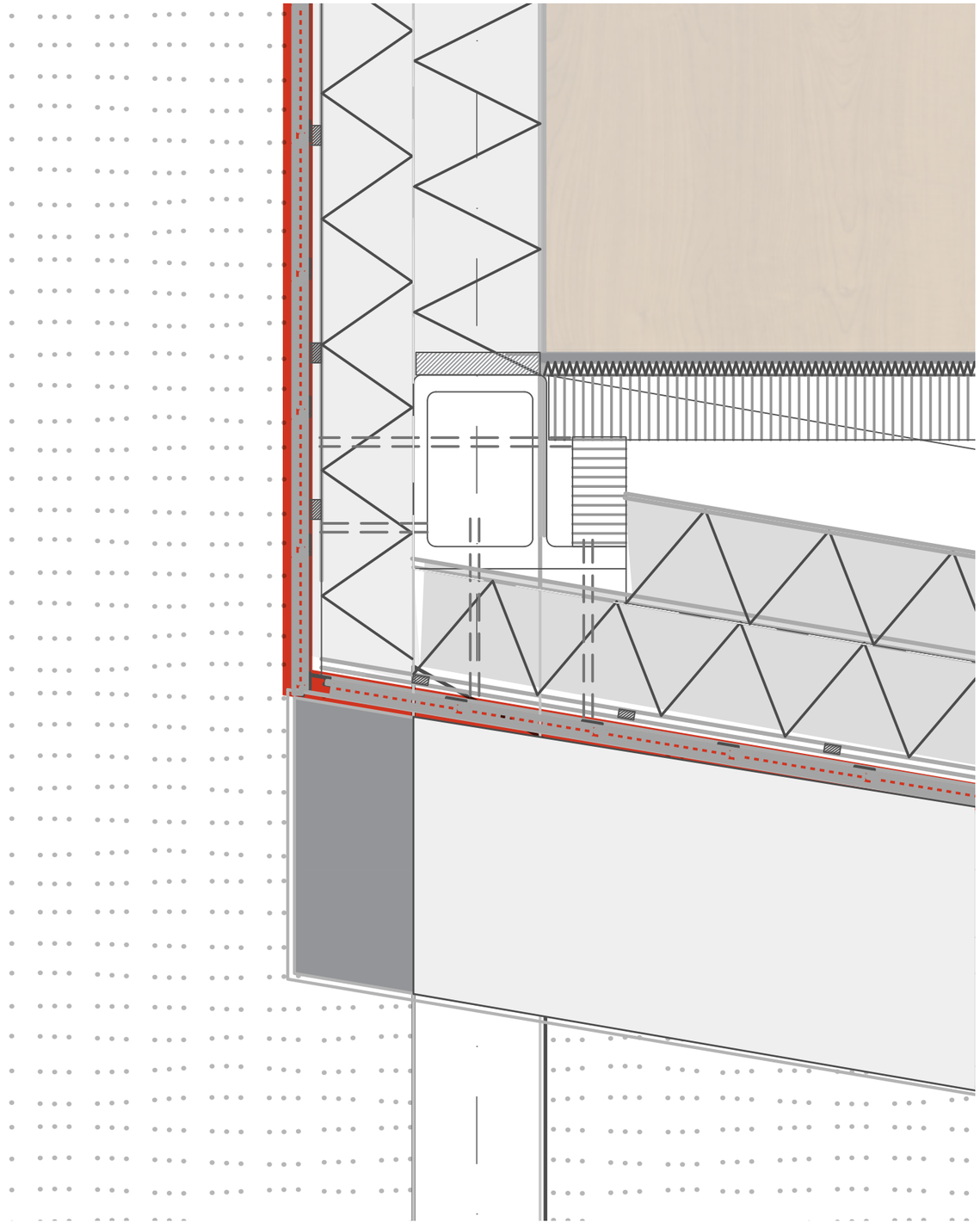
9 Hall floor buildup
Cork/Woodmix acoustic paneling
Sound dampening insulation
Vertically laminated veneer lumber - panels
THQ steel beam structure
450mm BioFoam insulation
Wooden railing
Recycled sheet metal panels



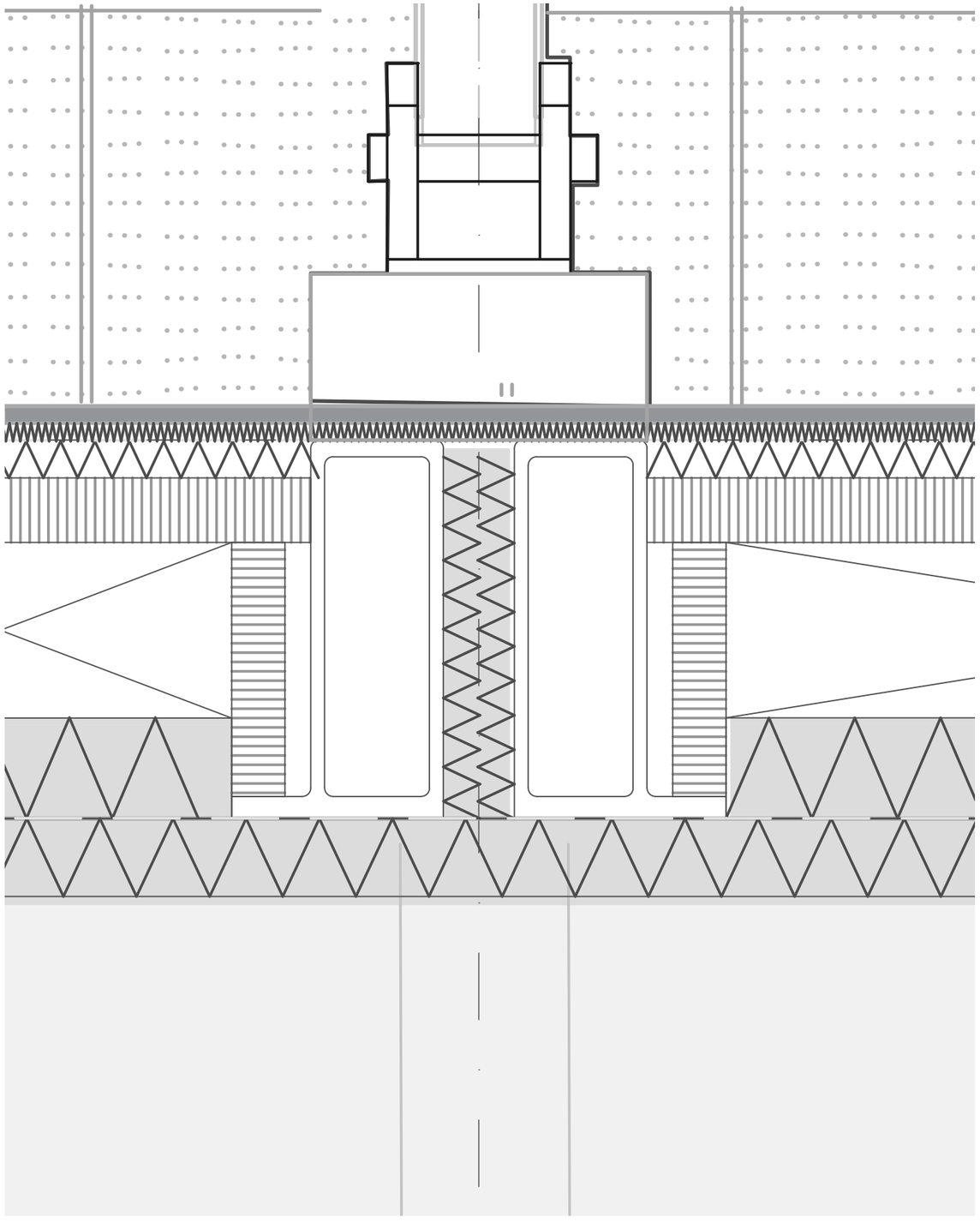
1 rooftop trim 1:10
Metal cladding on tiles continues from roof to wall
450mm BioFoam insulation
500/300/16 steel beam system load bearing
Lowered ceiling for air duct system



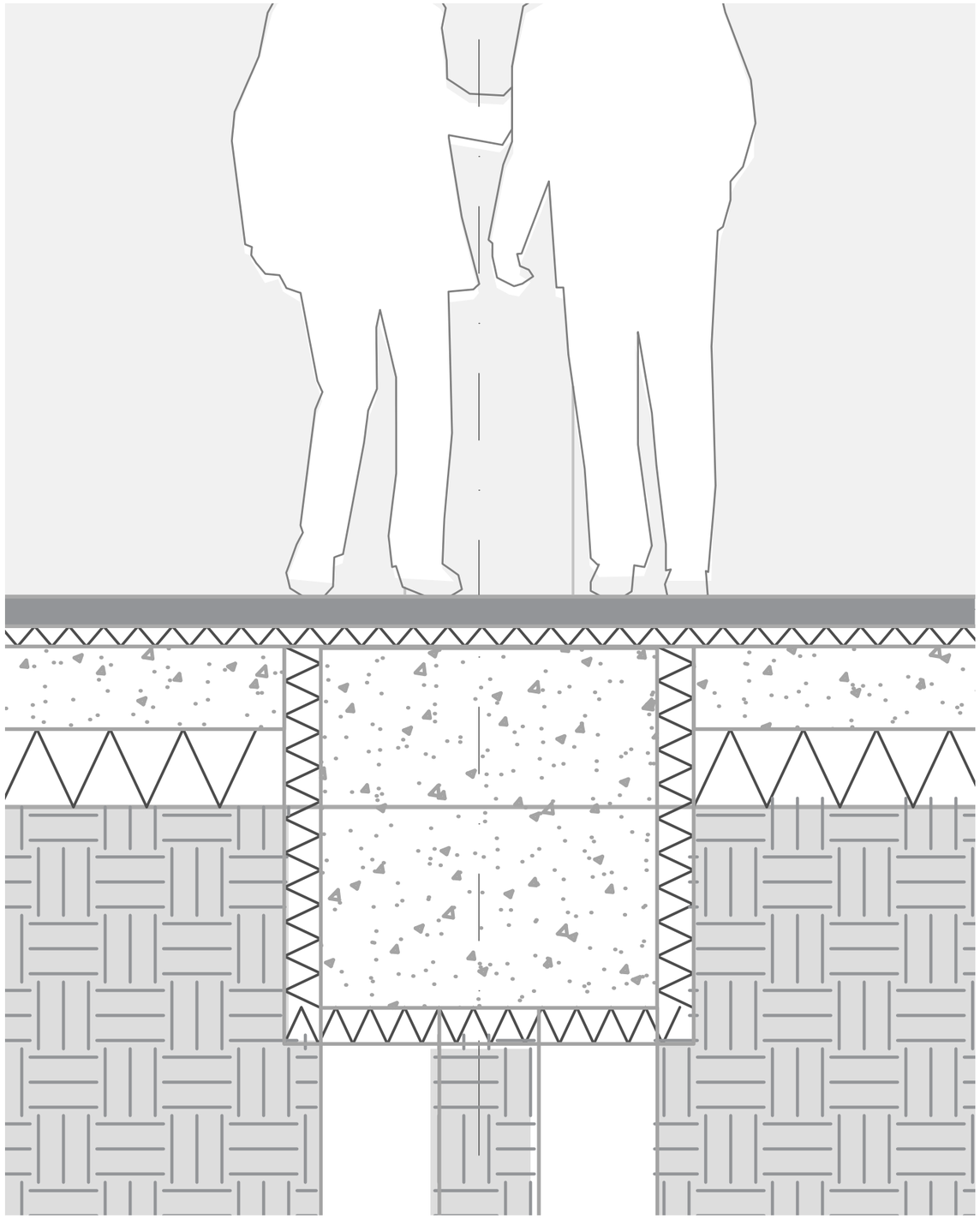
2 wall-floor joint 1:10
Steel deconstructable THQ beam
PVC/wood flooring, deconstructable
Vertically Laminated Veneer Lumber Panels
Wooden ceiling panels
Acoustic Panels



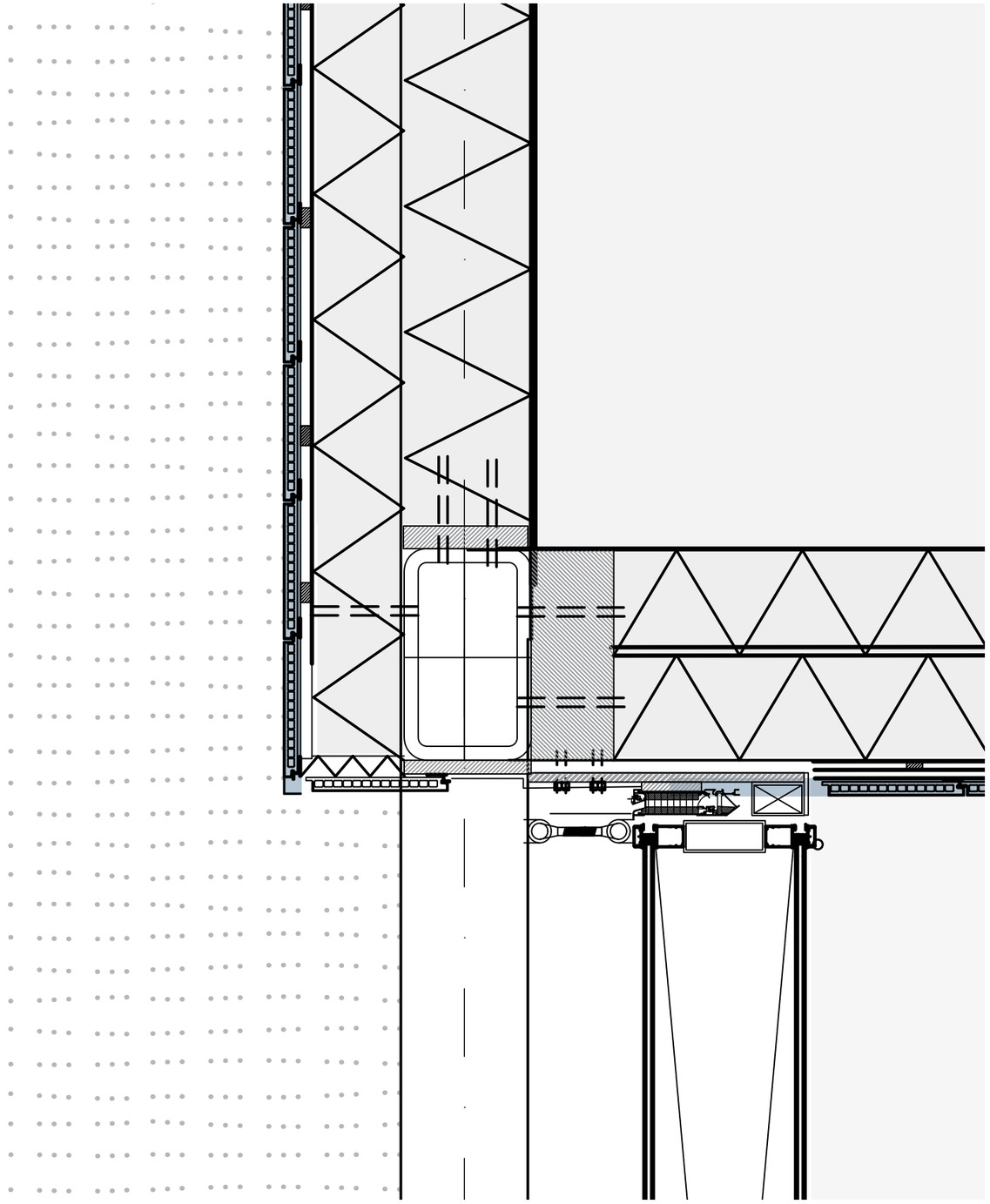
3 wall-floor joint 1:10
Steel deconstructable THQ beam
PVC/wood flooring, deconstructable
Vertically Laminated Veneer Lumber Panels
Recycled steel cladding



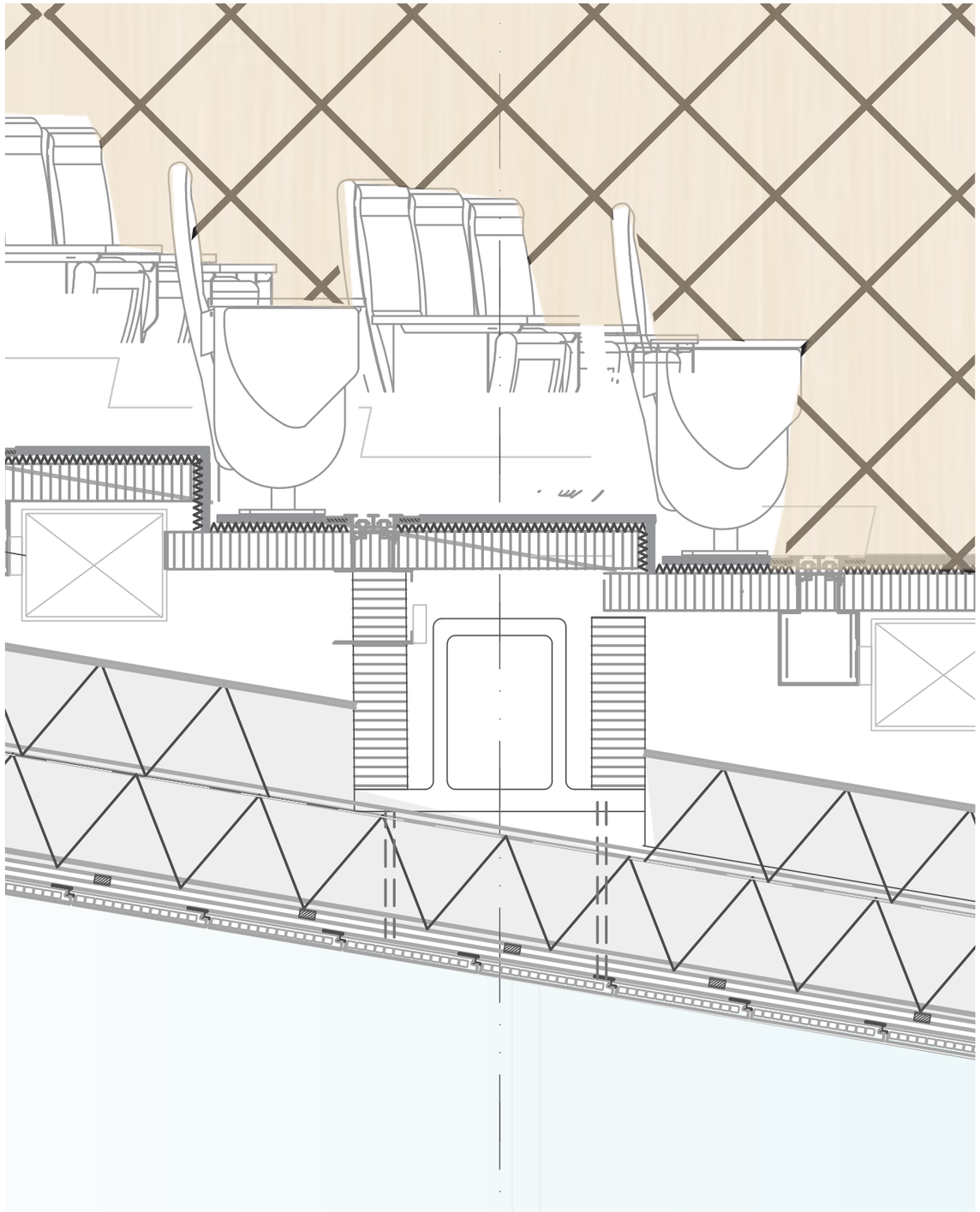
4 column-floor joint 1:10
Slanted colums on steel foot, bolted to two THQ beams for load dispersion
Vertically Laminated Veneer Lumber Panel system
Exterior stone panels
BioFoam two-layer insulation



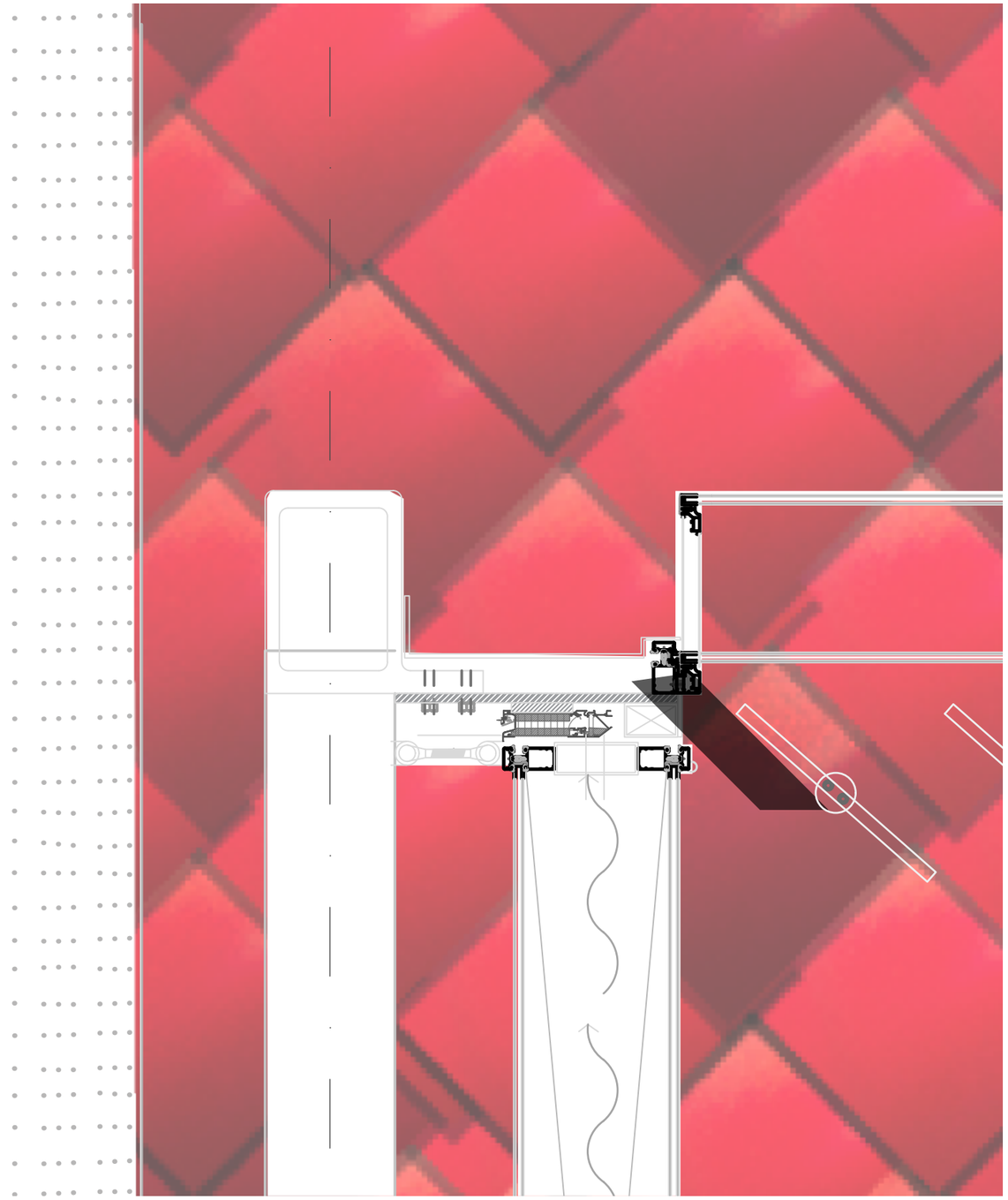
5 floor joint 1:10
Finishing floor with pressure layer
Concrete foundation floor
Concrete foundation to two poles per column



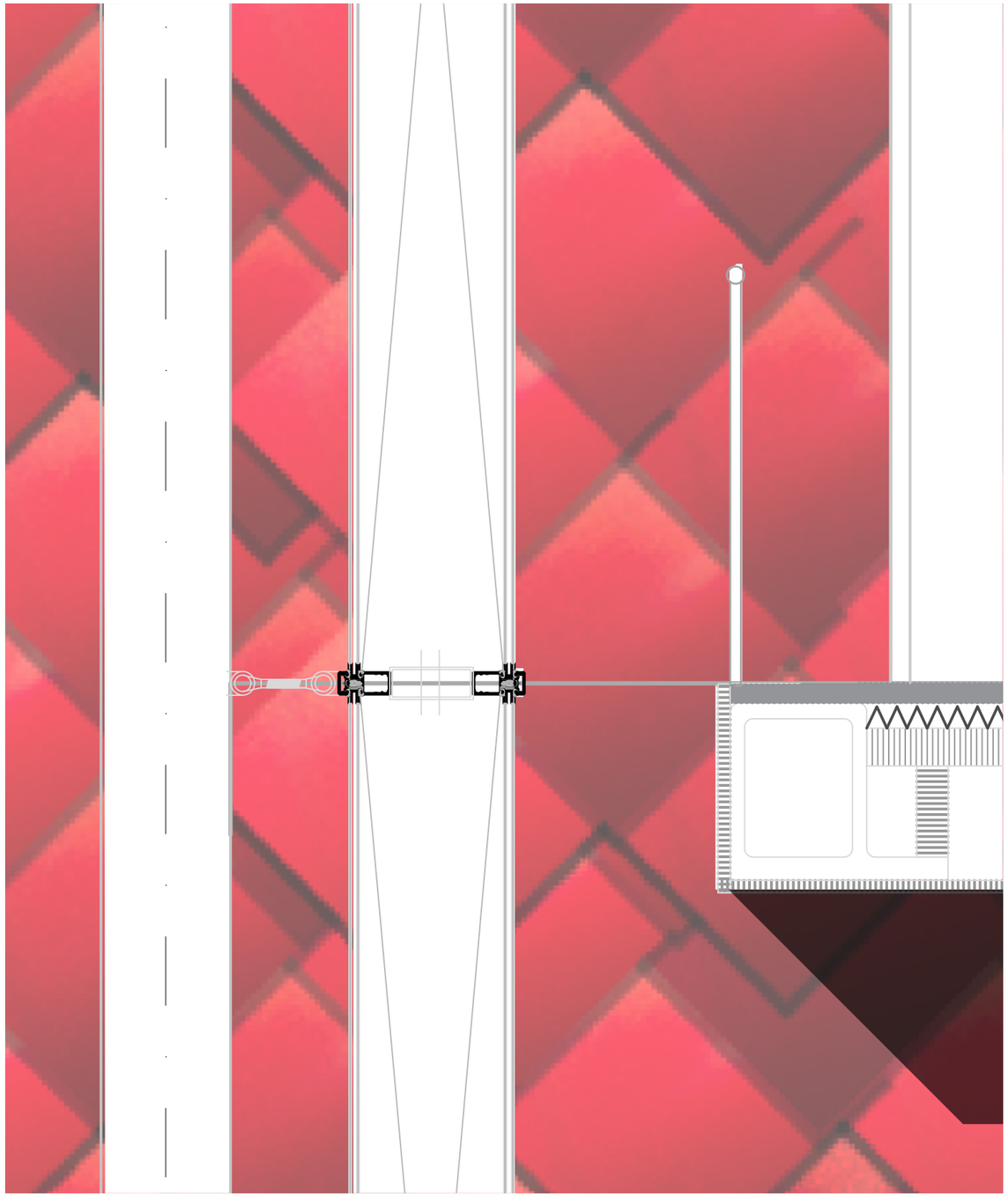
6 vertical corner wall joint 1:10
Sheet metal panels on wooden railing
Double insulation layer on wooden frame
Load bearing steel column, 500/300/16
Reynaers ventilated double aluminium facade



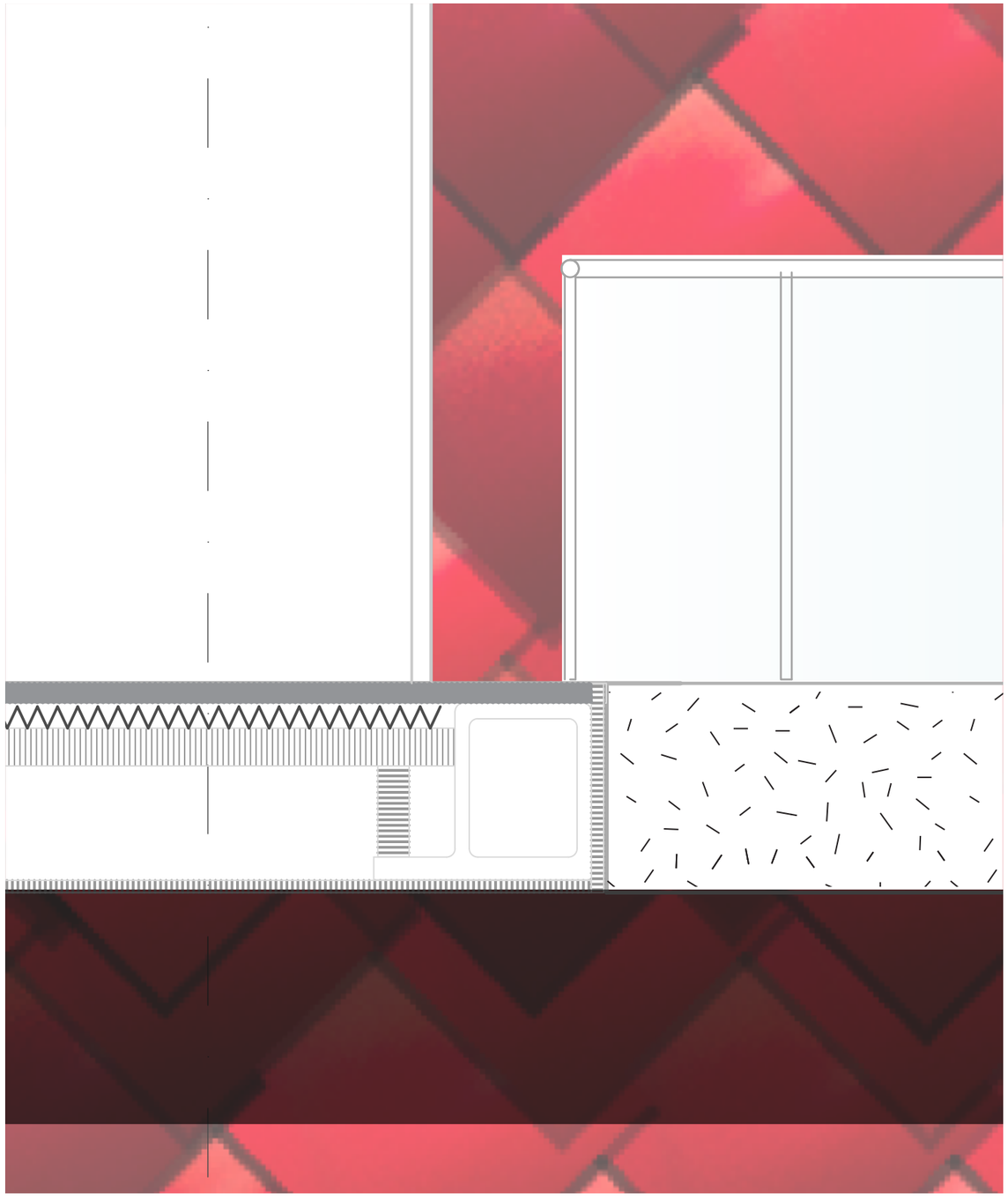
7 floor joint 1:10
Steel deconstructable THQ beam
PVC/wood flooring, deconstructable
Vertically Laminated Veneer Lumber Panels
Recycled steel cladding



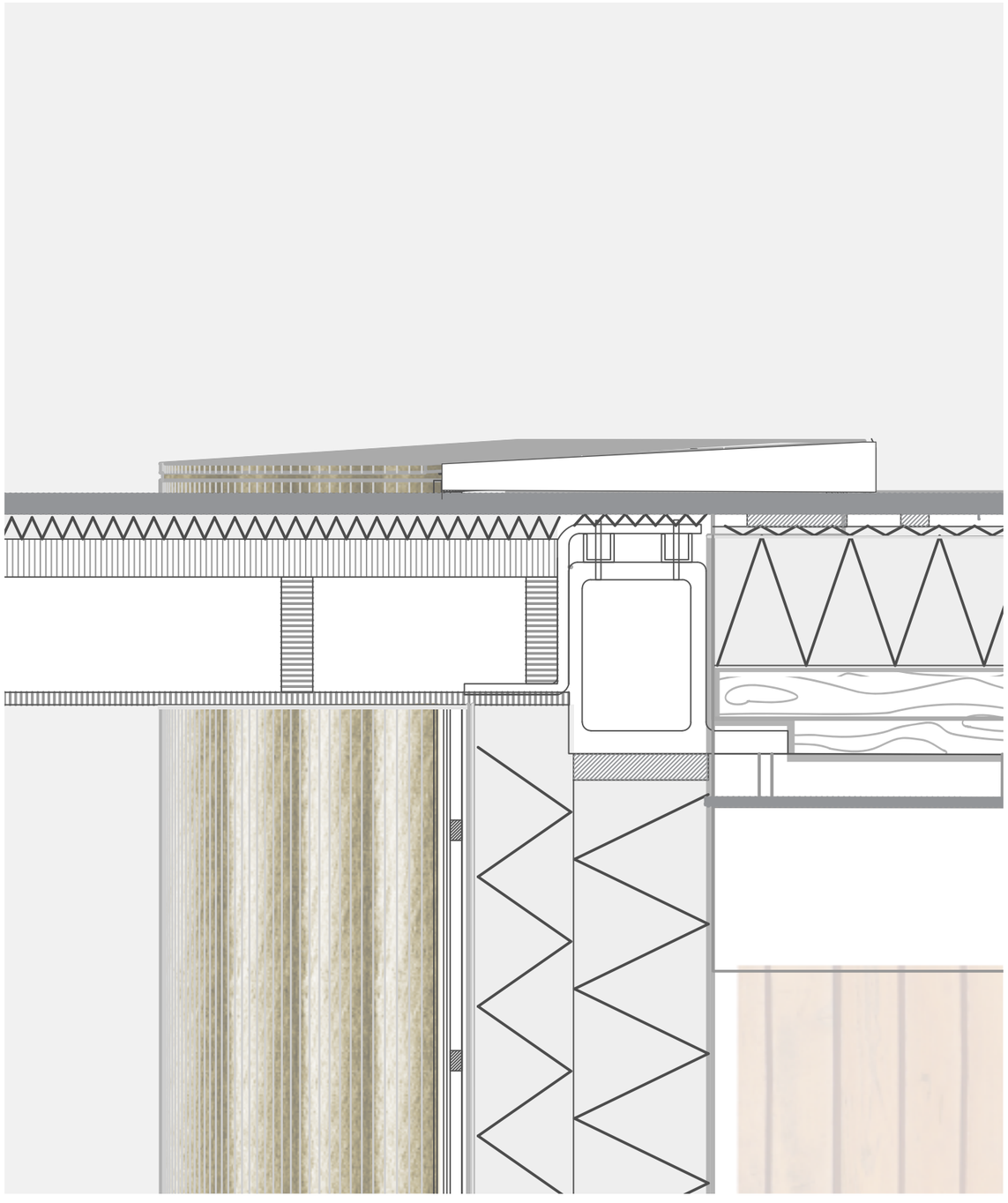
8 Horizontal glass facade joint 1:10
Load bearing steel beam facade 500/300/16, external structure
Steel plate bolted to bearing facade with gutter
Reynaers ventilated double aluminium facade
Openable reynaers aluminium roof



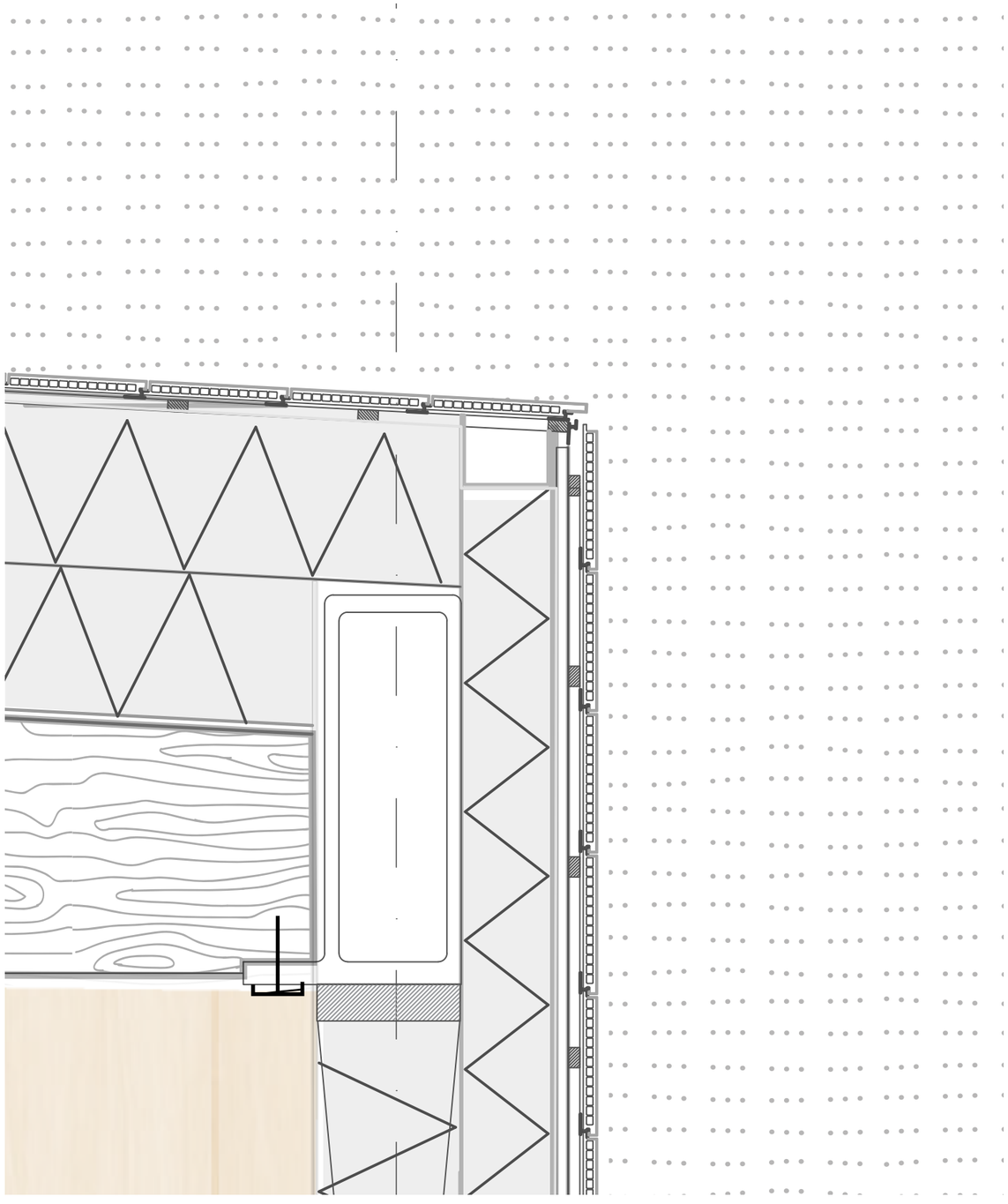
9 Horizontal glass facade joint 1:10
Load bearing steel beam facade 500/300/16, external structure
Facade coupled to construction through steel thread
Reynaers ventilated double aluminium facade
Steel/wood hybrid system floor



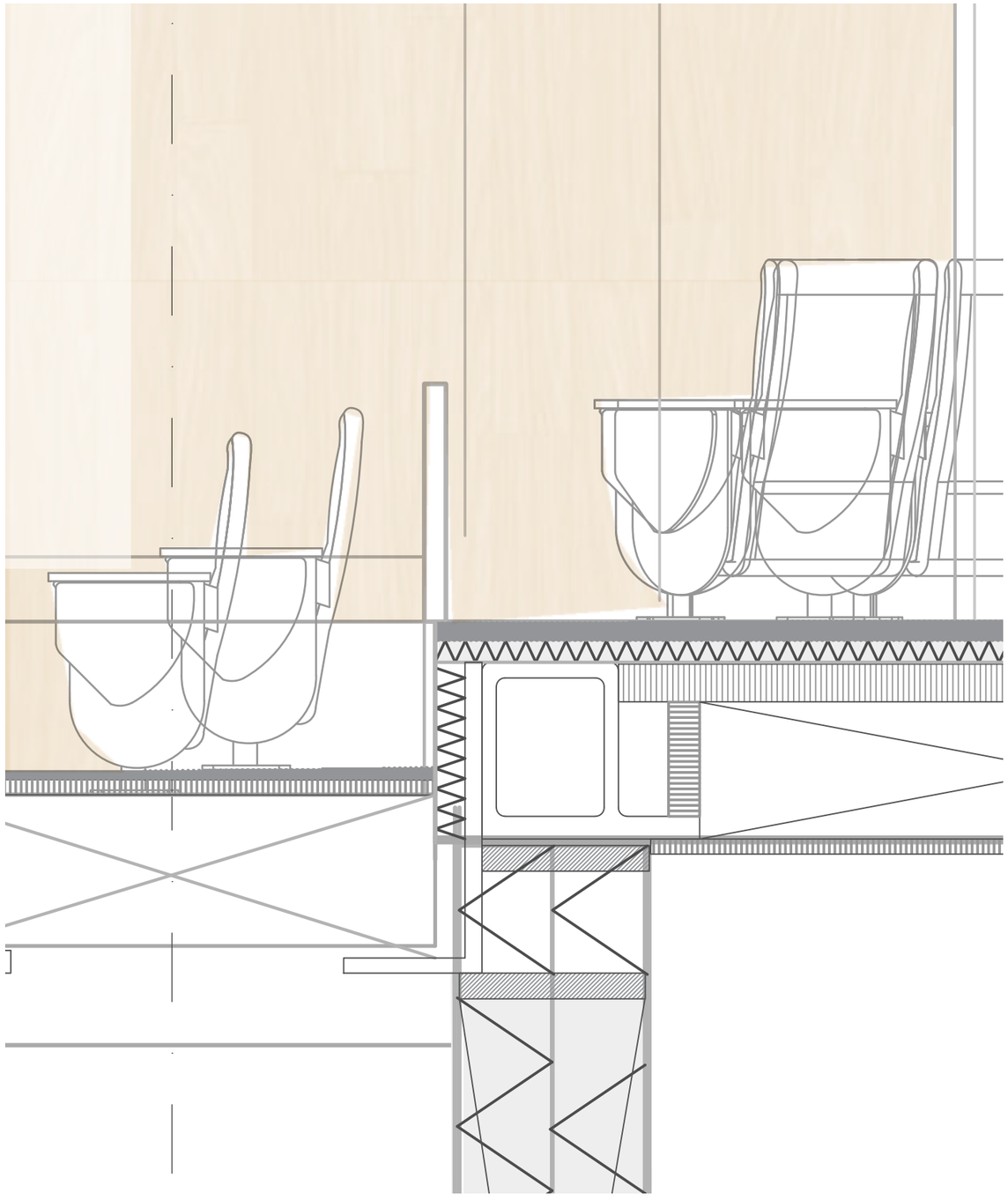
10 Horizontal balcony joint 1:10
Steel/wood hybrid system floor
Acoustic material finishing to prevent echo in foyer
Demountable PVC flooring system



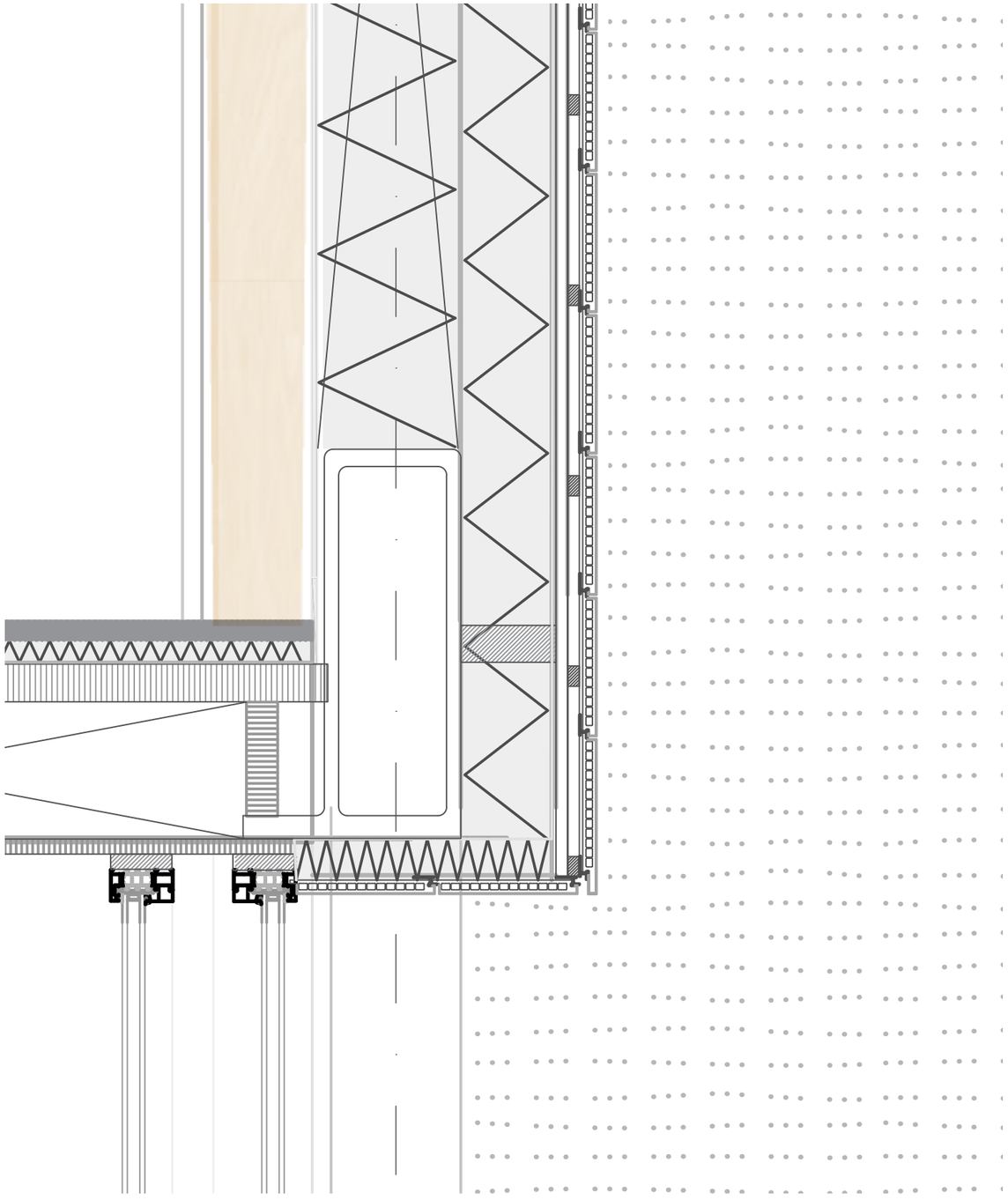
10 horseshoe hall - staircase joint 1:10
Metal cladding on tiles continues from roof to wall
450mm BioFoam insulation
800/300/16 steel beam system load bearing
Lowered ceiling for air duct system
Steel staircase system connected to steel construction, dampened by rubber bushings



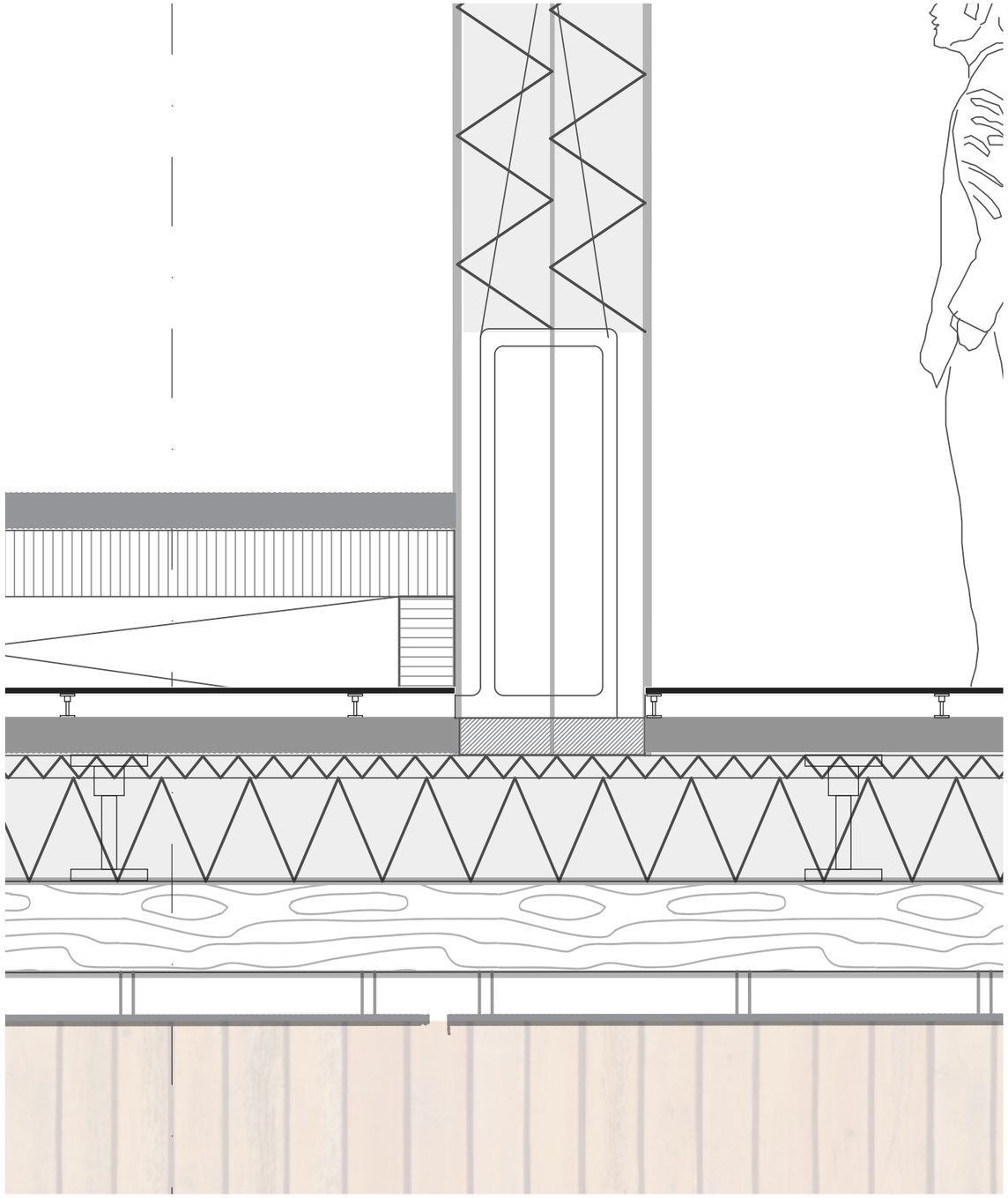
11 rooftop trim joint 1:10
Metal cladding on tiles continues from roof to wall
450mm BioFoam insulation
800/300/16 steel beam system load bearing
Lowered ceiling for air duct system



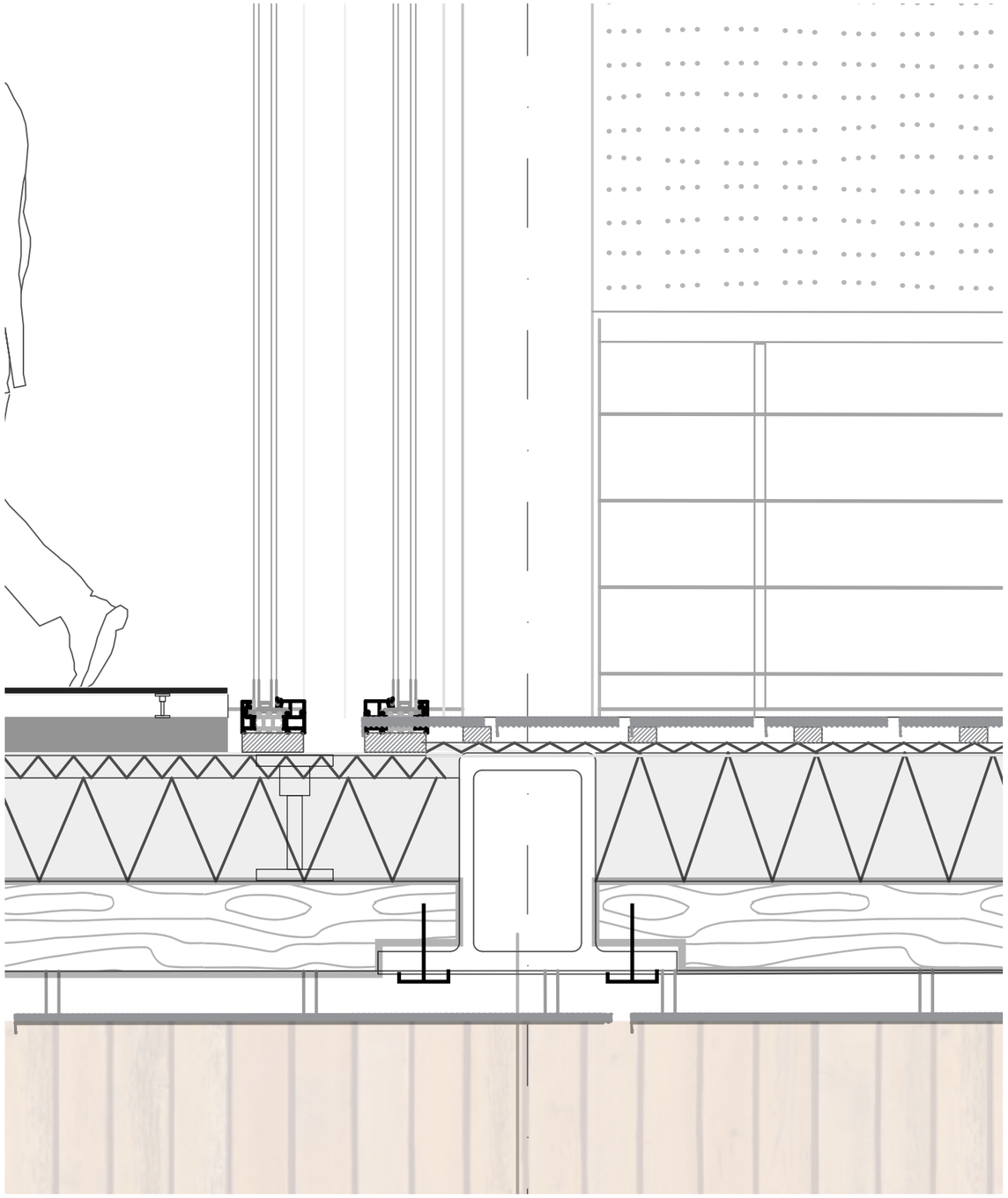
12 hall balcony joint 1:10
Steel beam system joined into wall
Wooden wall system
Acoustic material finish
Acoustic insulation



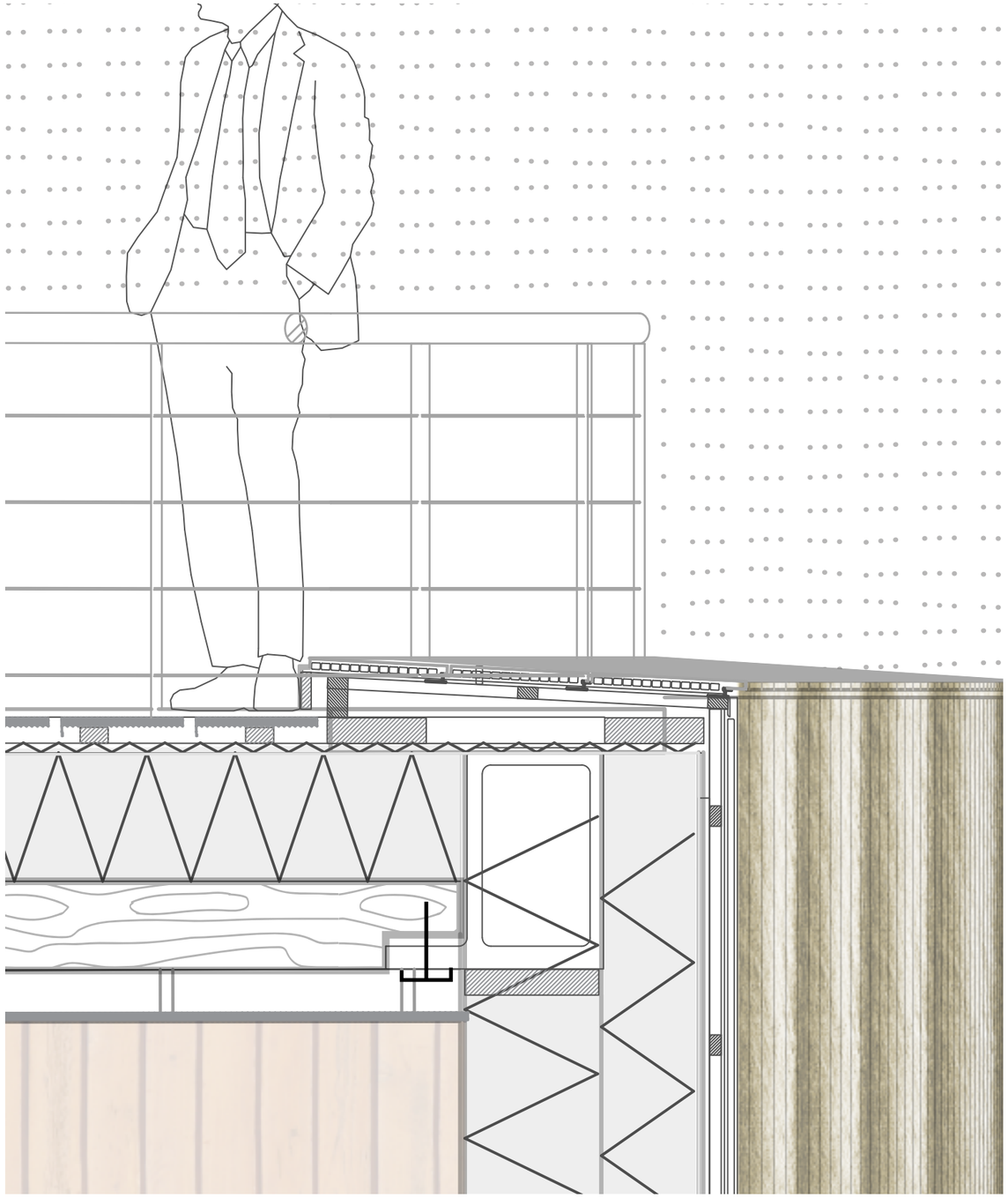
13 hall to glass facade joint 1:10
Metal cladding on tiles continues from wall to corner
450mm BioFoam insulation
500/300/16 steel beam system load bearing
Wood paneling
Reynaers aluminium double facade



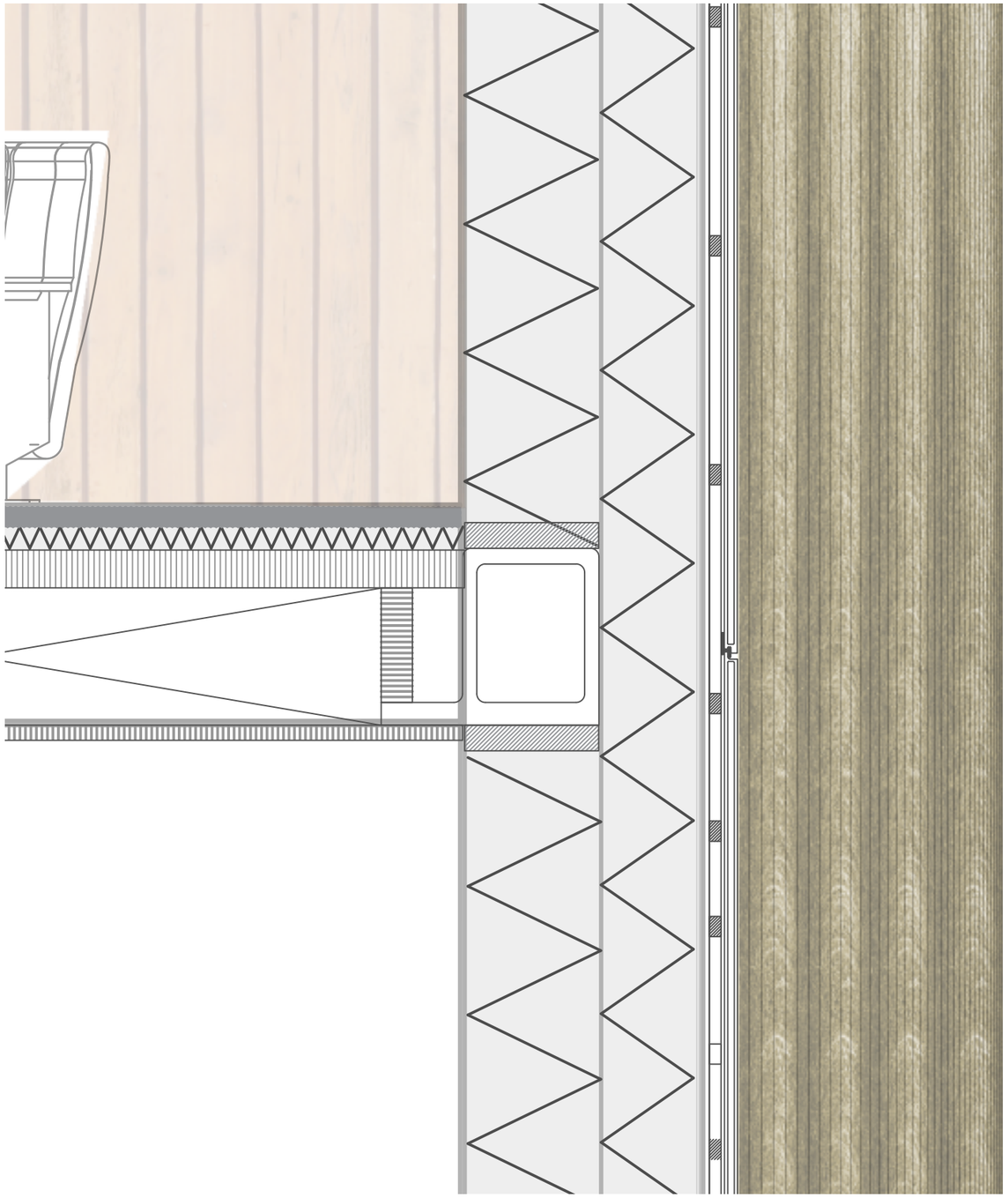
14 hall to hall decoupling joint 1:10
Layered insulation on both sides of construction to prevent audio leak
Acoustic system panels for sound reflection
Wooden wall system



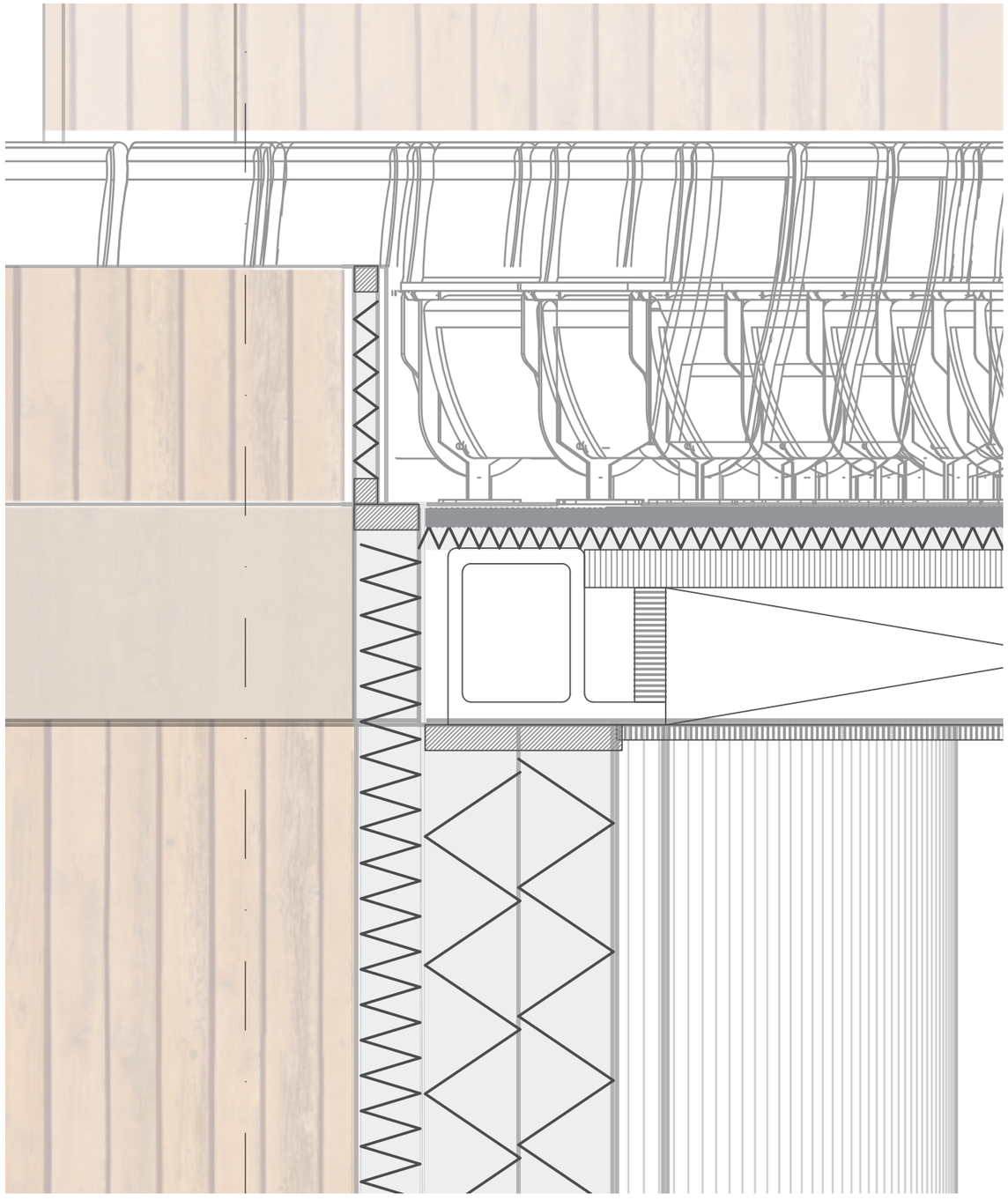
15 glass facade to hall joint 1:10
Double reynaers aluminium facade
THQ steel beam system, load bearing from facade, onto hall walls
Balcony tiles with integrated grey water collection



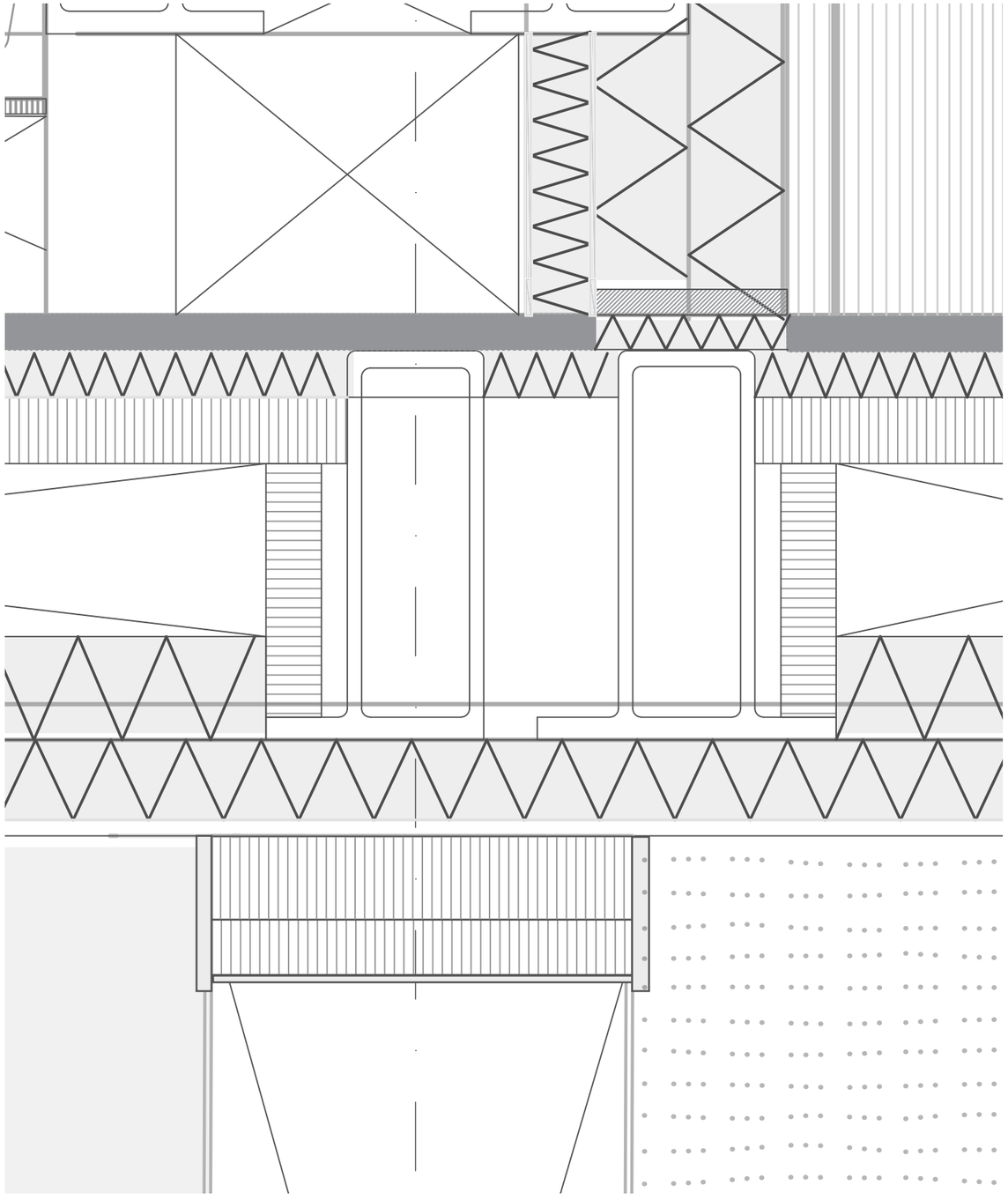
16 Balcony to facade 1:10
Detailed as roof trim
Metal cladding on tiles continues from roof to wall
450mm BioFoam insulation
500/300/16 steel beam system load bearing
Wooden wall system



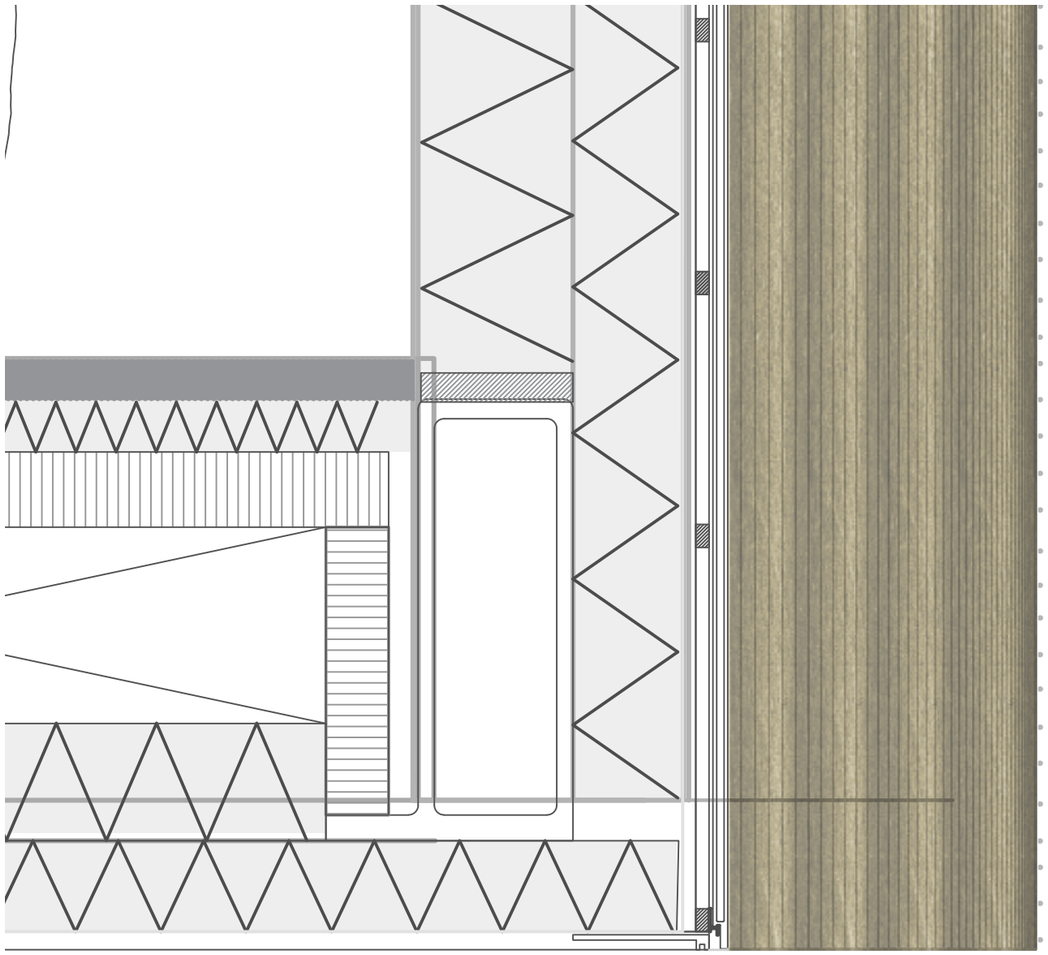
17 horseshoe hall wall and balcony 1:10
Steel system bolted onto wall columns
Metal cladding on tiles 450mm BioFoam insulation
500/300/16 steel beam system load bearing
Wooden wall system



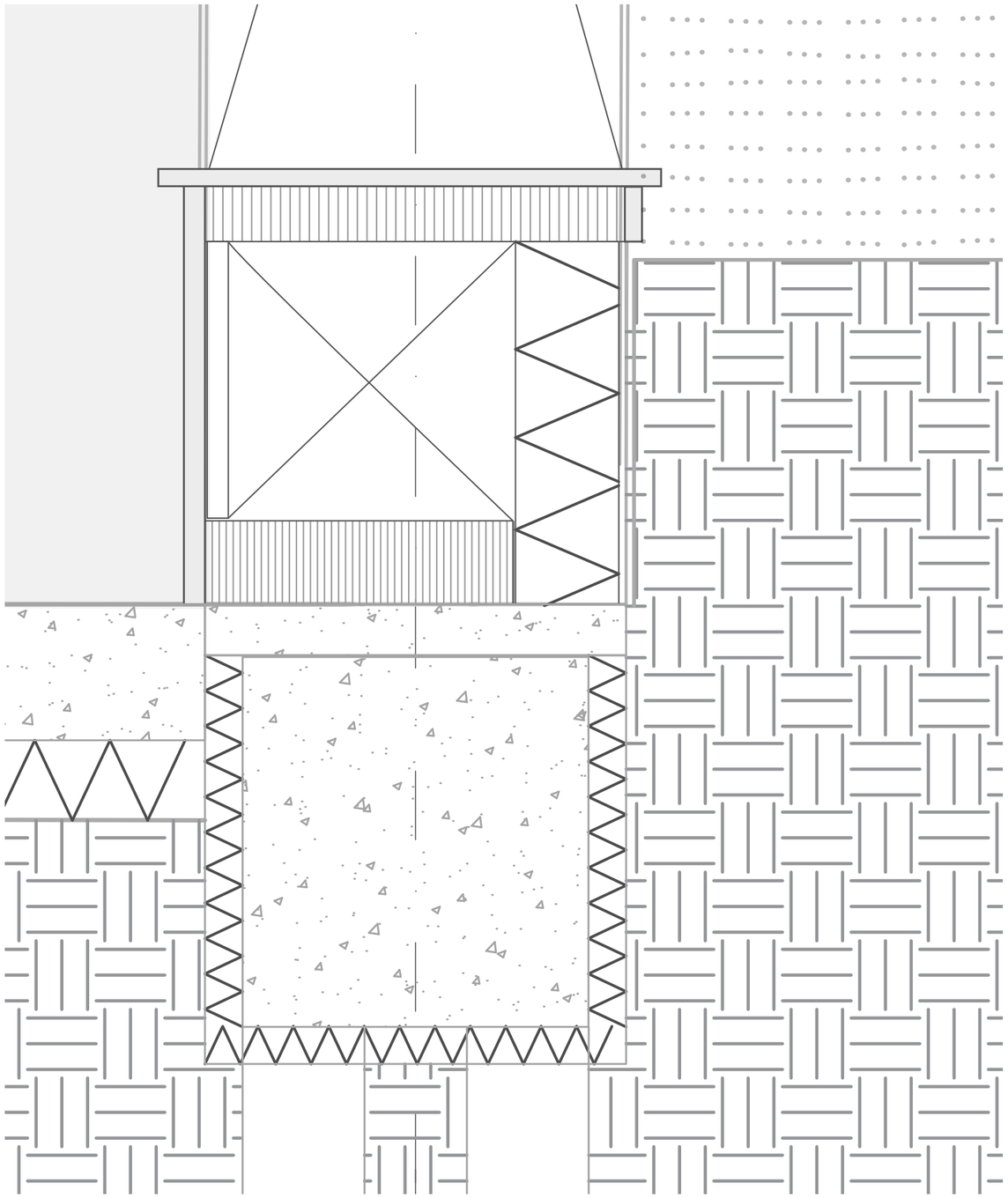
18 Balcony to facade 1:10
Steel system bolted onto wall columns
Air ducts in buffer zone
450mm BioFoam insulation with exits for sound leaks into buffer zone
500/300/16 steel beam system load bearing
Wooden wall system



19 wall-floor joint 1:10
Two 900/300/16 THQ beams for load dispersion
Vertically Laminated Veneer Lumber Panel system
BioFoam two-layer insulation
Fireproof ceiling panels
Brickwork for garage wall, not bearing
Integrated steel column into brick wall

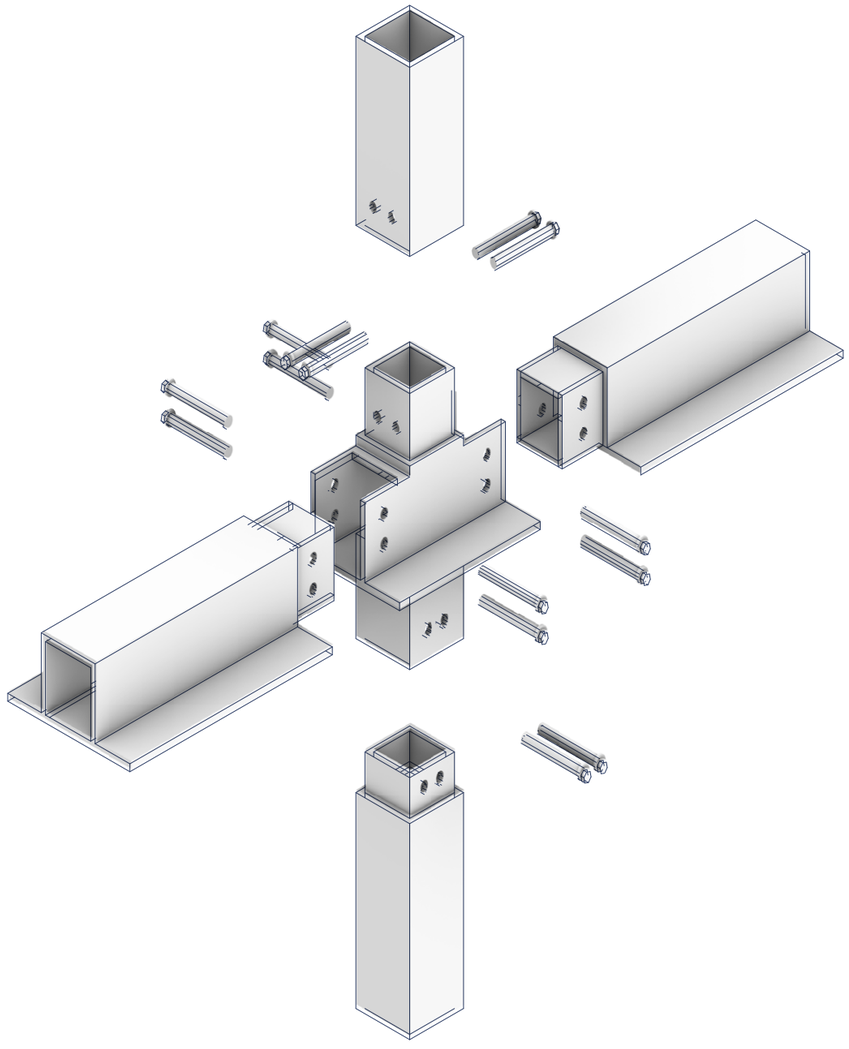


20 wall to ceiling 1:10
Metal cladding on tiles on wall
Aluminium trimline on circular corner
450mm BioFoam insulation
900/300/16 steel beam system load bearing
Wooden wall system
Fireproof ceiling panels

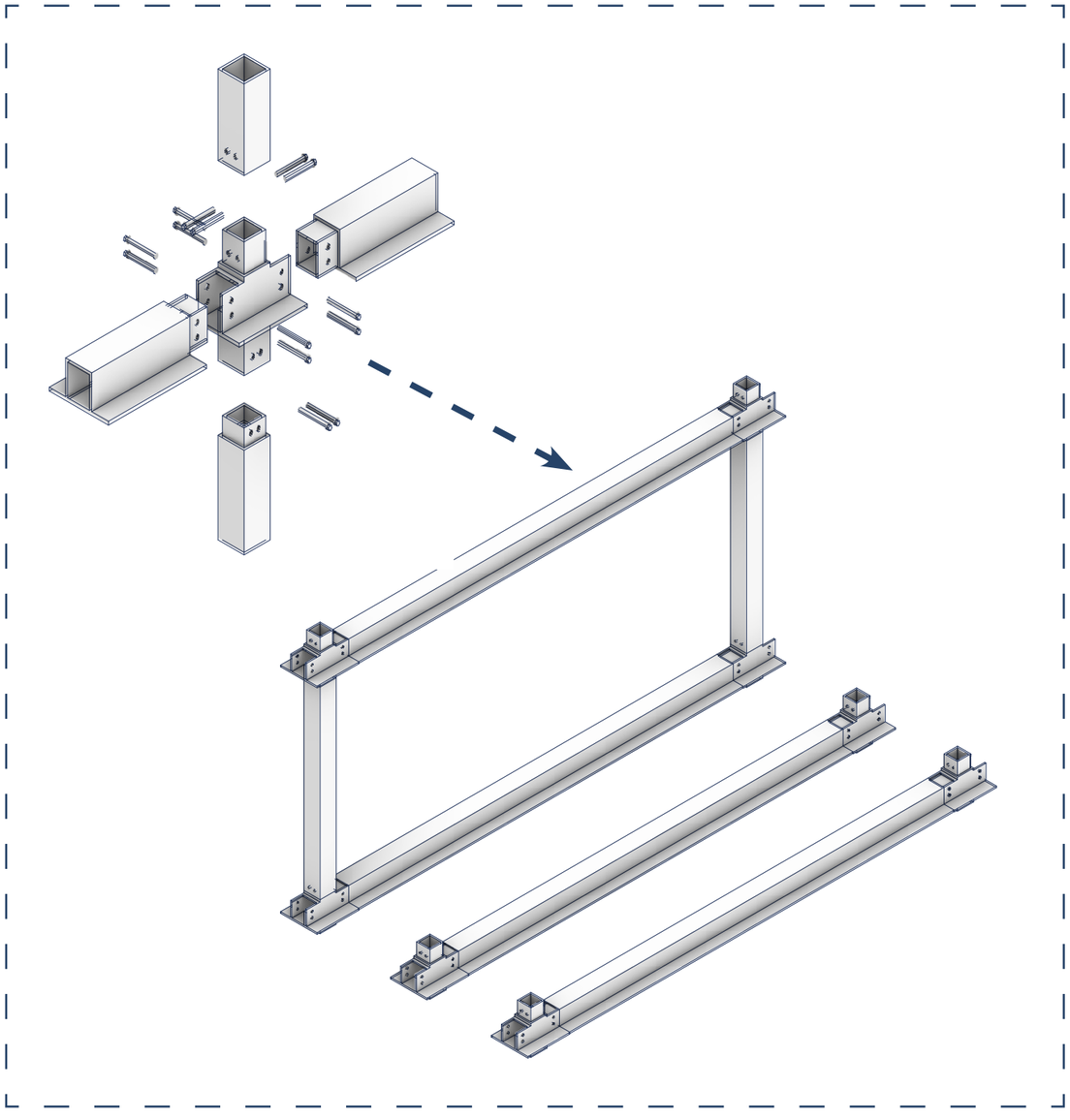


21 floor joint garage 1:10
Finishing floor with pressure layer
Brick wall non-load bearing around fireproof coated column
Concrete foundation floor
Concrete foundation to two poles per column

Deconstructable detail



22 deconstructable axonometric
Top-down constructable and boltable steel structure based on THQ beams
Both cilindrical and square columns connect
Made using recycled scrap steel to limit raw material need; waterproofed for oxydation risk
Use of only bolts and weight to remove need for welding



23 deconstructable axonometric
Pre-assembly in beams and frames, for truck-sized transport
Minimize mobile crane use by pre-assembly

CONCERTO DINAMICO

Michael Landman
Public Building
Music Marvel
Music and Popular Culture Re-Wired
P5 Academic Reflection



Concerto Dinamico
Michael Landman

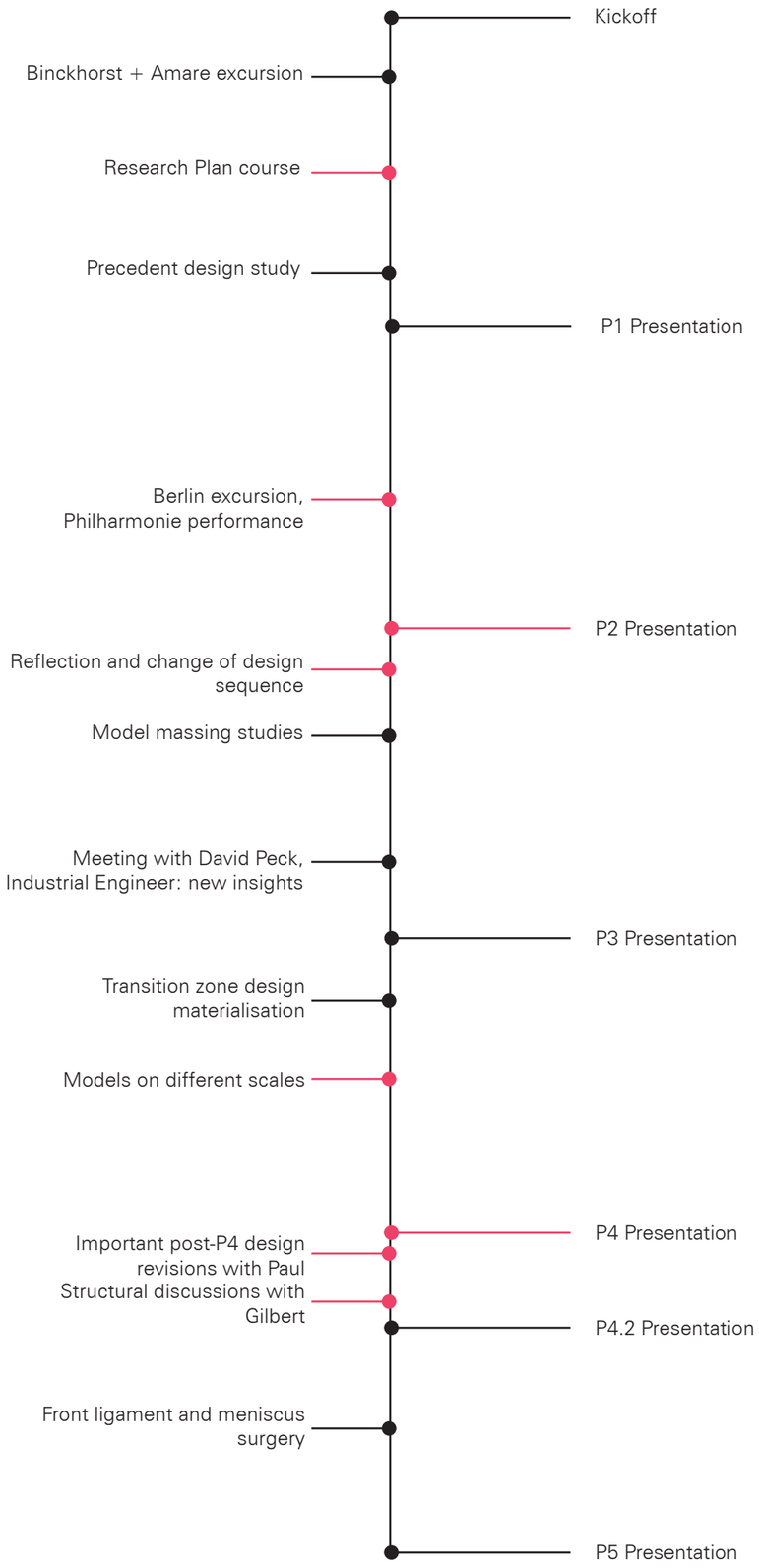
Academic Reflection
P5 August 30 2022

Public Building
Music Marvel
Music and Popular Culture Re-wired

MSc. Architecture, Urbanism and Building Sciences
Delft University of Technology

Paul Kuitenbrouwer
Gilbert Koskamp
Nicola Marzot

TIMELINE



Concerto Dinamico is part of the 2021-2022 Public Building Graduation studio Music Marvel, Music and Popular Culture Re-Wired. My choice for this studio was based on my interest for spatial public interventions and intense appreciation for (classical) music. My choice in studios has been eclectic to say the least, from The Why Factory to Heritage in Architecture, along with a thesis on Dutch building policies. I aimed to apply the experiences and knowledge gained from both studios in the graduation course, as to focus on urban concepts but also apply my interest in architecture history and precedents.

My appreciation for classical music has been one of the main drives behind this project. I was raised by parents who have a large passion for music and film, covering a wide variety of genres. This resulted in an early love for composers as Tchaikovsky, Beethoven and Philip Glass. As a millennial however, classical music has a different appreciation by my peers, one that is mainly perceived through modern media consumption and distribution. This new perception of a genre that echoes back ages, was one of the main inspirations for my Music Marvel.

However, my peers do not make up the biggest part of classical music enthusiasts. Classical concerts are still mostly visited by seniors (Tommasini, 2020), and the genre is still mainly known for its old demographic (Crawford, 2014). The experience of a classical concert is one of formal nature and features a certain choreography. Performances are experienced through listening, sitting in place, its duration dictated by the performance. This century-old concept translates to a building complex which accommodates the static experience. Even in new design, it reflects the heritage of the cultural tradition.

While respecting this tradition, I aimed to design a Music Marvel that allows for introduction, reinterpretation, and reappreciation of the enormously wide classical music experience, while creating a hub of culture and social activity in the Binckhorst area in The Hague. Binckhorst as we know it today, is a hub of business and industry. Planned is a mixed city neighbourhood, allowing for the development of homes, start-ups and creative hubs (Gemeente Den Haag, 2021). In order to further enhance the cultural development of a new bustling district in The Hague, the Music Marvel will fulfil a function of public engagement, in the form of a classical music venue. The Hague has a long history of classical music: the Royal Conservatoire has been housed in The Hague since 1826, integrating the Royal Academy of Art. Since the recent completion of the Amare music venue by Jo Coenen, The Hague again has a formal home for classical music. Concerto Dinamico aims to juxtapose the known tradition of classical music, by experimenting with dynamism, expectation, simultaneousness and choice. This ended as its main research question.

How can dynamic re-iteration of concert hall designs modernise the audience experience of the live contemporary classical music scene?

As stated, I strongly believe that classical music and its accompanying live scene follows a certain choreography, etiquette and relationship between performer and audience that allows for testing and tweaking. Because of this long-lasting heritage, as a designer I carefully touch upon this formal tradition. What can be changed? To what degree can a designer influence such events? Are we to maintain the status quo of this example western European culture that we know, or does it allow evaluation? Throughout the entire process of designing Concerto Dinamico, I tried to respect these questions.

1. Tommasini, Anthony. “Classical Music Attracts Older Audiences. Good.”. The New York Times (August 6 2020).
2. Crawford, Garry. “An Orchestral Audience: Classical Music and Continued Patterns of Distinction.” University of Salford. (January 2014)

FIRST DESIGN

The first attempt at a spatial design was to translate the spatial programme to a shape that was to stand out in its orthogonal context. The sequence of the proposed research, Object, Movement, and Perception resulted in the design of an object that was to be defined and adjusted in order to fit movement and perception. This resulted in a shape that stood out in an otherwise orthogonal masterplan of the new Binckhorst district. Before P2, focus laid much on the morphological subjects of the design, as was proposed in the research sequence. By having the mass lay back from the general building line, it would be recognised more easily, from several approach factors, such as by car, public transport, bicycle and by foot. The mass would be gently lifted in order to elevate it from public space, to put it on a pedestal as a sculpture.

This heavy focus on morphology resulted in a mediocre tentative organisational design, that was evident after the P2 presentation. The concept was to shuffle the traditional activity sequence, its corresponding programmatic scheme, and implement it into the shape that was defined by its surroundings. Eventually this caused a ‘form over function’-dilemma; the organisational quality suffered because of the form.

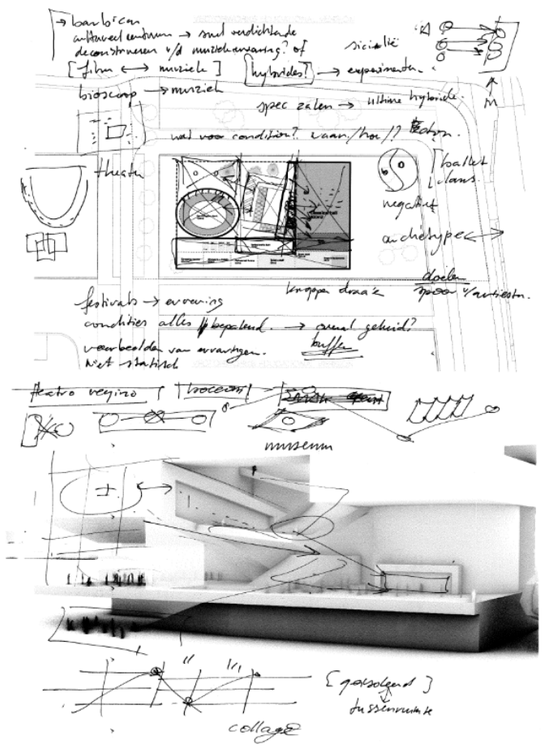
P2 EVALUATION

The presentation of P2 allowed for the first proper reflection of the period; following a strong change in direction, specifically the 180-degree turn of the Object - Movement – Perception process. Instead of starting with WHAT, starting off with HOW. Whereas the original process hinted towards the implementation of phenomenology and praxeology in existing typology, post-P2 design asked for the application of typology, rather than implementation of epistemes. This ultimately resulted in a different structure entirely, but still a child of the same theoretical parents. This changing of sequence provided the focus of a design on the perception and movement of a dynamic concert, rather than a formalist object that houses this.

180: ORGANISATION TO FORM

Focusing on perception and movement first, rather than the object, caused an evaluation of the organisational aspect. Elements that were present in the P2-design; routes, different experiences, public space, still were the ingredients for the new organisation, however, were not limited by the borders of form. Design started off with the design of simple space-syntaxes; relational schemes that provided the spatial sequence basis in the post-P2-design. The organisational concept focused on the possibility of composing your own ‘playlist’ of classical performances, while integrating a strong public connection.

With focus laid on organisation and experience, I dove into projects that focus on spatial typologies of public buildings. Casarts, Almere Block 6 (OMA), Forum Groningen (NL Architects), Tokyo Opera House (Jean Nouvel) all provided insight into the overall spatial-organisational aspect for the new design. The specific elements that fill this organisation are drawn from the typological catalogue of classic typologies, such as Opéra Garnier, Teatro Regio and the Bayerische Staatsoper. These classic typologies arranged together as a whole provide the negative that allows the mixing; metaphorically and functionally; the publicly accessible space as a living room. Gilbert and I discussed the term ‘Gelijktijdigheid’ (Simultaneousness), as to introduce and emphasize a grade of flexibility into the design of the foyer. Must performances be limited to the concert halls, or is there a possibility of transition? This eventually resulted into the design of various ‘preview rooms’ that allow for a unique audio-visual experience.



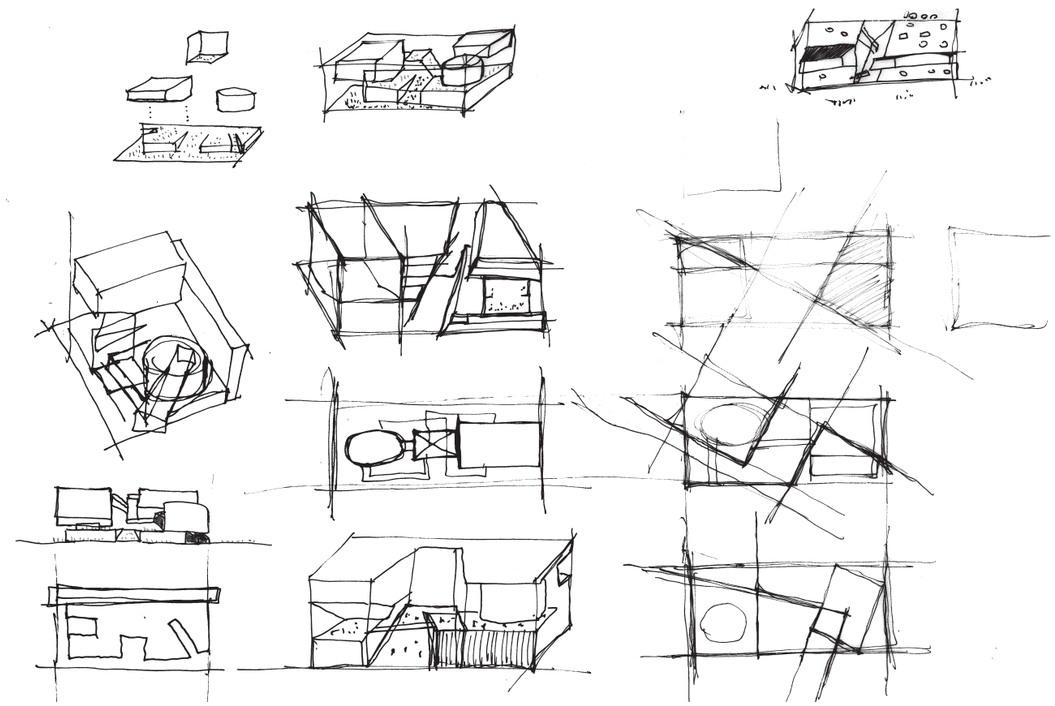


Fig 2,3. Dialectics in tutoring help evaluate my design, translating to sketches and notes. Discussion sketches on floor plan and render.

This living room is focused on providing various choices, while functioning as a served space which houses the foyer and the concert halls, with functional ‘back of house’ aspects as the servant space. The wall of the structure agrees with the orthogonal structure of new Binckhorst, the front of the house opens towards the city.

TOWARDS THE CITY

After a healthy relationship between function and form was established, there was time for me to confidently shape the form of the building, knowing that its organisational aspect properly satisfied the needs as dictated by the concept. Using the 1:500 model that we made with the group, I used traditional pink foam to create several mass models, in order to research its role in the urban mass. In combination with collage-technique for interior impressions, I had established a ‘looking out’ and ‘looking in’ perspective for the complex, resulting in the open balcony towards the crossing, while offering ample room for dynamic music performances. This adaptable foyer allows for multiplicity in its urban surrounding; through the easily adjustable panels the living room of the complex can be used for a wide variety of functions.

ENGINEERING

Dynamism as a core value of the design, should connect and reflect to the engineering of the building. In an age of increasing value for raw materials and sustainability, buildings will not be constructed as they used to. If Concerto Dinamico is to be a modern-age classical music experience, then it should be constructed using modern-age building technique ethics.

From the Binckhorst surroundings and the dynamic nature, I drew inspiration of mechanical engineering, the building as a machine in the literal sense of the word. When discussing with dr. David Peck, we explored the possibilities of a recyclable and replaceable structure. The metaphor of a mechanical appliance, like a combustion engine, is to display the idea of a deconstructable machine, where parts can be deconstructed, replaced and improved. This means a closer look at joints; welding, pouring, gluing, pasting, painting; all means of joining one material to the other, permanently. The design is to introduce as much cradle to cradle, demount ability as possible, as so to sustain and maintain this complex as easy and material efficient as possible.

CONCLUSION

With Concerto Dinamico, I have tried to create a public catalyst, which also challenges the rules that are posed in the design of concert halls. It aims to draw the public of The Hague and Binckhorst in and plays a vital role in the cultural development of the neighbourhood to be. One of the most vital lessons that I have learned is the importance of organisation with its regard to form and shape, even in this stadium of my architectural education. I highly regard formal notions of architecture, and draw much inspiration from the classics, but have learned that they are mostly useful as ingredients; the recipe is still to be made. The venue also ended up being not only dynamic in its spatial concept, but also in its materialisation and engineering. If the venue is to respect its long-lasting heritage, then it should be long lasting itself, adapting to time and culture.

P4.2 ADDENDUM

After the P4 presentation on 18th of May, combined with a lengthy discussion it was unfortunately decided that the project did not suffice to pass. Because of the positive P3 comments I did not foresee this coming, which immediately asked for reflection of the project. Due to a planned surgery for my left anterior ligament and meniscus right after the originally planned P5, this caused some distress. Thankfully adjustments were able to be made.

The P4 comments were mainly aimed at the lack of engineering/architectural integration, as well as a lack of various spatial solutions. Together with the tutors I reflected and discussed the shortcomings of the last iteration of the project. After a lengthy session with Paul I had enough food for thought to dive into the project, first starting with repairing technical and spatial solutions. Using reference projects into high detail, like the Royal Festival Hall and TivoliVredenburg allowed for a secure specification of technical elements, such as elevators, fire escapes and floor dimensions.

Nicola had commented ‘the design does not meet your story’, which caused me to improve my design for the better of the theory behind the design; the three various musical experiences that the building should offer. This translated to various morphological changes, which in itself caused various technical changes. The focus now laid on the realisation of three independent musically oriented structures, which serve their own purpose within a set frame. This frame also finally received the architectural attention it needed. By designing a frame that not only was structurally correct, it allowed for an instantly recognisable morphology, emphasizing the three boxes that landed in the frame.

Detailing and drawing up two more 1:20 elevations and sections informed me towards the independance of the several components that now make Concerto Dinamico. They are meant to be recognised as independant structures, as the work of TivoliVredenburg.

At the moment of writing I compare my current work with that of P4 on the 18th of May, and can say that an effort was made to improve the work. In hindsight and honesty, the lack of integration and detail appears to me partly as a result of being too comfortable with the work as was presented. I learn from this to not let my guard down in terms of design, to not settle. In combination with new P4.2 posters, appendix and presentation, I hope to achieve a satisfactory result for P4 and finish my P5 soon after.

FINAL P5 ADDENDUM

With P4.2 succesfully completed, the last stretch for P5 was discussed with the tutors. Because of the last iteration of COVID restrictions (so far), a selection of students was allowed to retake P4 earlier and finish P5 at the very end of the academic year. Because of a planned surgery to replace and repair my front ligament and meniscus, I was allowed to finish it in 2021-2022. While not necessarily academic, it was a major influence on the process of P5, causing logistics and concentration issues. With help of family and friends I was able to complete the list of products, including a (too large) 1:100 scale model of the project, which turned out to be too heavy to be carried by one person.

During the last session of tutoring with Paul we already reflected shortly on the process of the project, emphasizing the importance of the P4 retake and the fruits it delivered. I am confident that the design has developed a certain clarity in design choices which strongly reflect the concept of the various concert halls in the building complex.

Paul mentioned that dealing with such a ‘setback’ is a lesson on its very own, professionally. In practice it turns out to be very common to deal with a series of serious changes and alterations, aswell as the management of the accompanied expectations. During my master’s I experienced few setbacks, although never held back to improve a finished product. For both the first Delft lecture series as the Heritage design studio I expanded the products after finishing the course. In this case, Music Marvel follows this tradition.

I hope to use these experiences in design; research and process in my future career, looking back on a tumultuous, educational but foremost highly enjoyable graduation process.

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Michael Landman

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MSc. Architecture, Urbanism and Building Sciences
Delft University of Technology