The Pillow Fort

- A Theatre Where Architecture Meets Imagination

By Lovisa Adolfi

ACEX15 Bachelor's thesis
Chalmers University of Technology
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Aim

The aim of this project was not the final result, but the design process itself. Developed as a competition proposal for an architecture and acoustics challenge, the project included a set program: number of seats, room sizes, acoustic targets for both the site and the MEPFIT rooms, as well as certain functional connections. The context, however, was left open for interpretation.

Rather than focusing on winning, our group chose to treat the project as an opportunity to fully explore and push a concept to its limits. This mindset allowed us to prioritize experimentation, creativity, and process-driven thinking over conventional outcomes.

Process

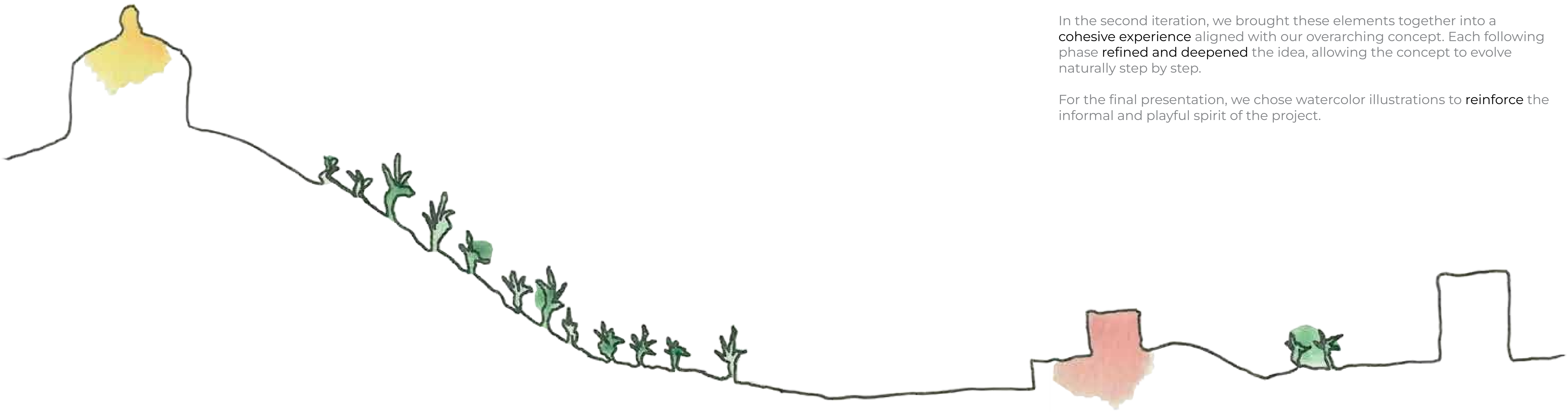
The project was developed through an iterative process, where each step helped us push the concept a little further.

The idea was sparked during a lecture in a staircase seating, from a subtle idea the playful and unconventional theatre concept started to form. From that point on, the flow of ideas felt endless. It was as if the theatre began to draw itself.

In the first iteration, we developed four acoustic prototypes: a landscaped roof to insulate exterior sound, a diffusing and absorbing ceiling in the lobby, reused sails as acoustic panels, and cushions serving as absorbers in the performance hall.

In the second iteration, we brought these elements together into a cohesive experience aligned with our overarching concept. Each following phase refined and deepened the idea, allowing the concept to evolve naturally step by step.

For the final presentation, we chose watercolor illustrations to reinforce the informal and playful spirit of the project.



Posters made for the final presentation

In collaboration with:
Alva Fjellåker, Susanna Durne & Nikola Mikšik

THE PIL-LOW FORT

Concept

Imagine the feeling of ducking under a kitchen table draped in blankets, finding yourself in a world built for daydreams. At the heart of the theatre lies a cozy sanctuary, a reimagined pillow fort where the audience is invited to rediscover the excitements of childhood. Soft materials, cheerful colors and dimmed lighting creates an atmosphere that feels informal, a place where you're always dressed just right.

The roof of the building is an open, walkable park, a natural extension of the city's public space where the grass resembles a green blanket thrown over the building. Stepping beneath it and into the lobby, your eyes are drawn directly into the performance hall. The space opens wide but stays low, revealing the intimate distance from entrance to stage and offering an immediate connection between visitor and performance.

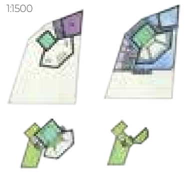
Shoes are left at the door, coats hung along the walls, details that quietly blur the line between home and theatre, while also softening the acoustics of the room.

Inside the hall, the pillow fort unfolds. Reused sails billow from the ceiling like a blanket thrown over a kitchen table and seating consists of loose, welcoming cushions. The design invites both comfort and curiosity, creating a space where playfulness and belonging meet.

Floor plans

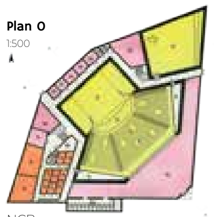
The floor plan is carefully composed to ensure smooth flow between spaces while shielding key rooms from noise. Slanted walls prevent flutter echoes in all rehearsal spaces, securing acoustic comfort. The loading dock and scene shop are placed underground both to simplify logistics to the stage and to keep noisy functions out of sight. Inside, a symmetrical lobby and performance hall contrast the building's playful, irregular exterior.

Floors
1:1500



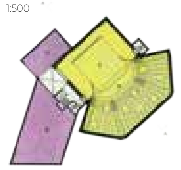
Elevation [m]
- 8.7 · - 5.6 · 0 · + 2.5 · + 5

Plan 0
1:500



NCB
40 · 25 · 20 · 15

Plan -I
1:500



1 Audience Seating
2 Stage
3 Orchestra Pit
4 Lighting and Stage Manager
5 Follow Spot Both
6 In-House Audio Mix Position
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9 Solo Dressing Rooms
10 Green Room
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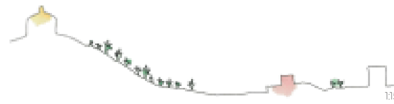
13 Office Company's Staff
14 Office Technical Staff
15 Lobby
16 Scene Shop
17 Loading Dock
18 MEPFIT and MER Rooms
19 Storage
20 WC

Context

Centrally located in Gothenburg, the theatre rests on the edge of a historic district where colorful wooden houses shape the surroundings. Inspired by this context timber became a natural choice. Nearby buildings rise no higher than 3–5 stories and the design carefully follows this scale. The entrance meets the busiest street of the site, welcoming visitors straight from the urban flow. Behind, *Skansen Kronan* crowns the hill and the theatre's silhouette subtly mirrors this famous monument in Gothenburg. Its deep *falu* red exterior ties the building to Swedish tradition while offering a warm contrast to the lush greenery draped across the roof.



1:1500

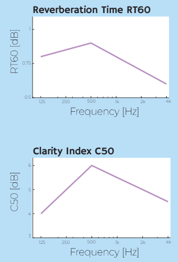
Section

The theatre is partly embedded into the ground, allowing the landscaped roof to form a gentle, walkable slope that blends naturally with its surroundings. Visitors enter at the upper level of the seating, following an intuitive path down toward the stage, a layout that enhances both flow and everyday simplicity. The theatre rests on springs to shield against vibrations while the scene house is carefully damped to avoid echoes. An adjustable curtain in the orchestra pit adapts the room's acoustics and a curved front edge ensures clear sound also reaches the stage.

Rehersal room

The rehearsal room mirrors the atmosphere of the performance hall, with colorful sails draped overhead and a few seating steps inviting both rest and small audiences. Here the sails are absorbing, ensuring higher clarity so musicians can detect even the smallest mistakes while maintaining a similar reverberation time for consistency. If needed, additional absorption can easily be added above the sails.

The rehearsal room is enclosed by double walls with an air gap for maximum sound isolation while MEPFIT rooms rest on floating floors tuned to 3–4 Hz.



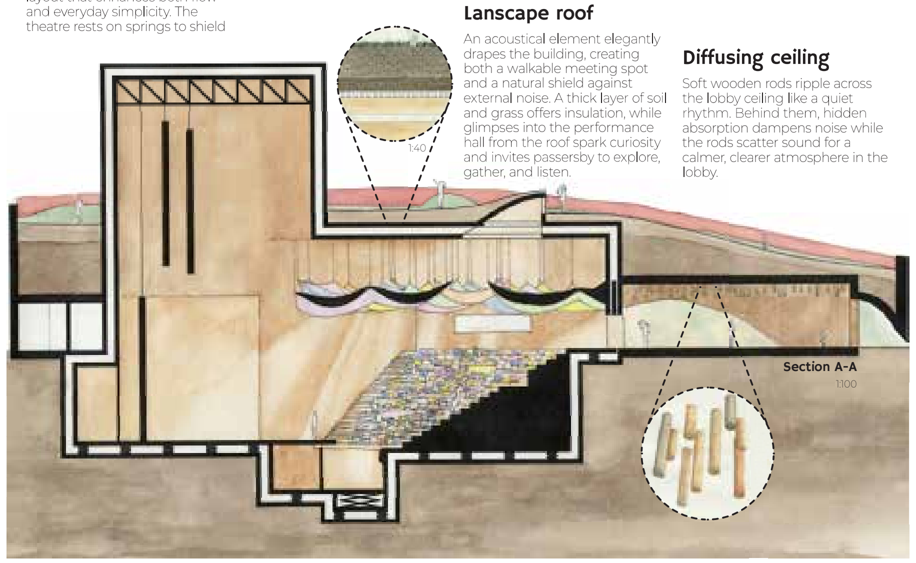
Section B-B
1:100

Lanscape roof

An acoustical element elegantly drapes the building, creating both a walkable meeting spot and a natural shield against external noise. A thick layer of soil and grass offers insulation, while glimpses into the performance hall from the roof spark curiosity and invites passersby to explore, gather, and listen.

Diffusing ceiling

Soft wooden rods ripple across the lobby ceiling like a quiet rhythm. Behind them, hidden absorption dampens noise while the rods scatter sound for a calmer, clearer atmosphere in the lobby.



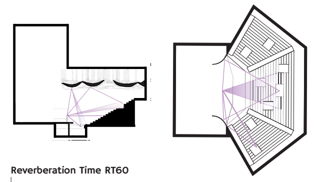
Section A-A
1:100

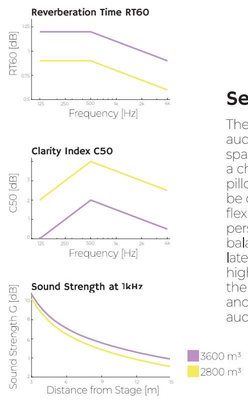
The performance hall

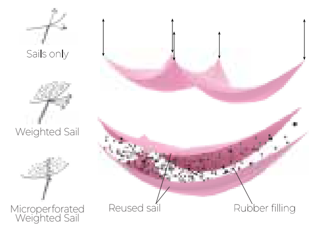
The performance hall is the heart of the theatre, a cozy and safe pillow fort, where soft materials, bright colors and dimmed lighting create the feeling of crawling under a blanket into a secret world.

Amphitheater-style seating supports the informal feel which allows most sound to reach the audience directly and ensures early reflections, within 20 ms for clarity and intimacy. The hall's total volume is around 3000 m^3 and by adjusting the height of the sail ceiling elements, the volume can vary by up to 30%.

Instead of fixed chairs, a wooden staircase covered in soft cushions creates a compact layout that invites a shared experience. Blankets and beanbags are scattered throughout, allowing each visitor to find their own way of watching the performance. The staircase itself features irregularly placed cutouts, forming small, private pockets where families or groups of friends can gather and maybe even build their own pillow fort to enjoy the show from.





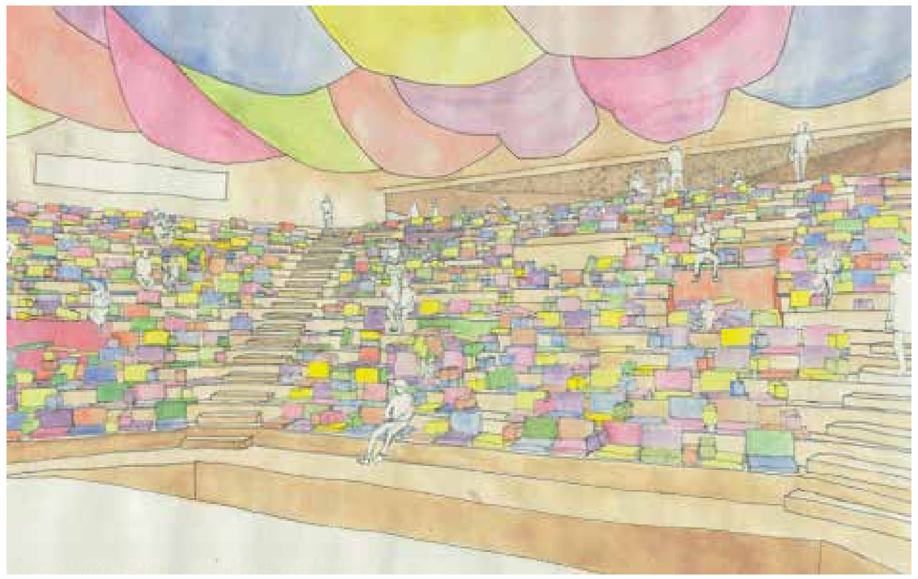


Seating modules

The soft cushions invite the audience to shape their own space, to build comfort much like a child arranging their perfect pillow fort. Seating modules can be combined freely, providing flexibility that creates both personal comfort and acoustic balance. The soft surfaces absorb late reflections, especially in the higher frequencies, ensuring the hall sounds equally warm and clear, with or without an audience.

Sails

Like blankets draped across a pillow fort, reused sails hang from the ceiling, shaping both the atmosphere and acoustics. Chosen for their generous surface and circular reuse, the sails adjust the hall's volume and reverberation by shifting height and tilt. In the performance hall they reflect sound; in the rehearsal room, micro-perforation turns them into absorbers. Double-walled and weighted with recycled rubber, they combine flexibility with stability, a simple yet effective acoustic solution.



Concept

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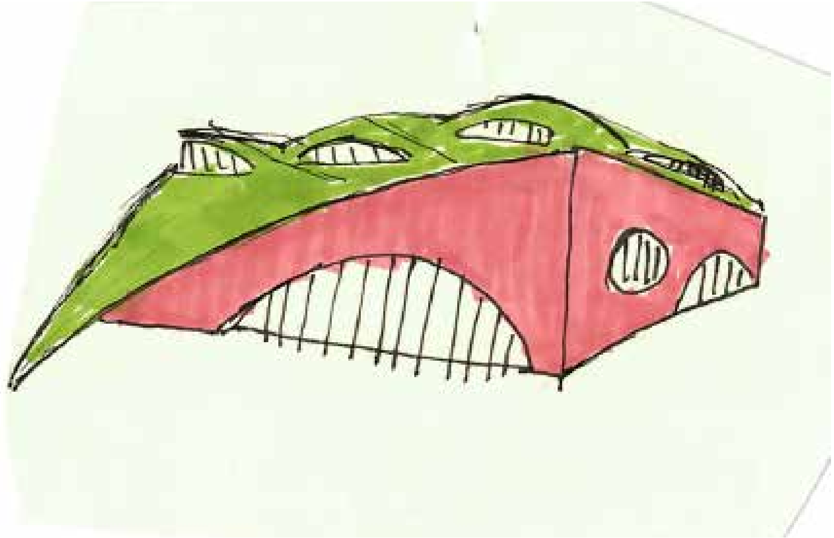
The roof of the building is an open, walkable park, a natural extension of the city's public space where the grass resembles a green blanket thrown over the building.

Stepping beneath it and into the lobby, your eyes are drawn directly into the performance hall. The opening is wide yet low, revealing the short distance from entrance to stage and offering an immediate connection between visitor and performance. Shoes are left at the door, coats hung along the walls, details that quietly blur the line between home and theatre, while also softening the acoustics of the room.

Inside the hall, the pillow fort unfolds. Reused sails billow from the ceiling like a blanket thrown over a kitchen table and seating consists of loose, welcoming cushions. The design invites both comfort and curiosity, creating a space where playfulness and belonging meet.



Initial sketch

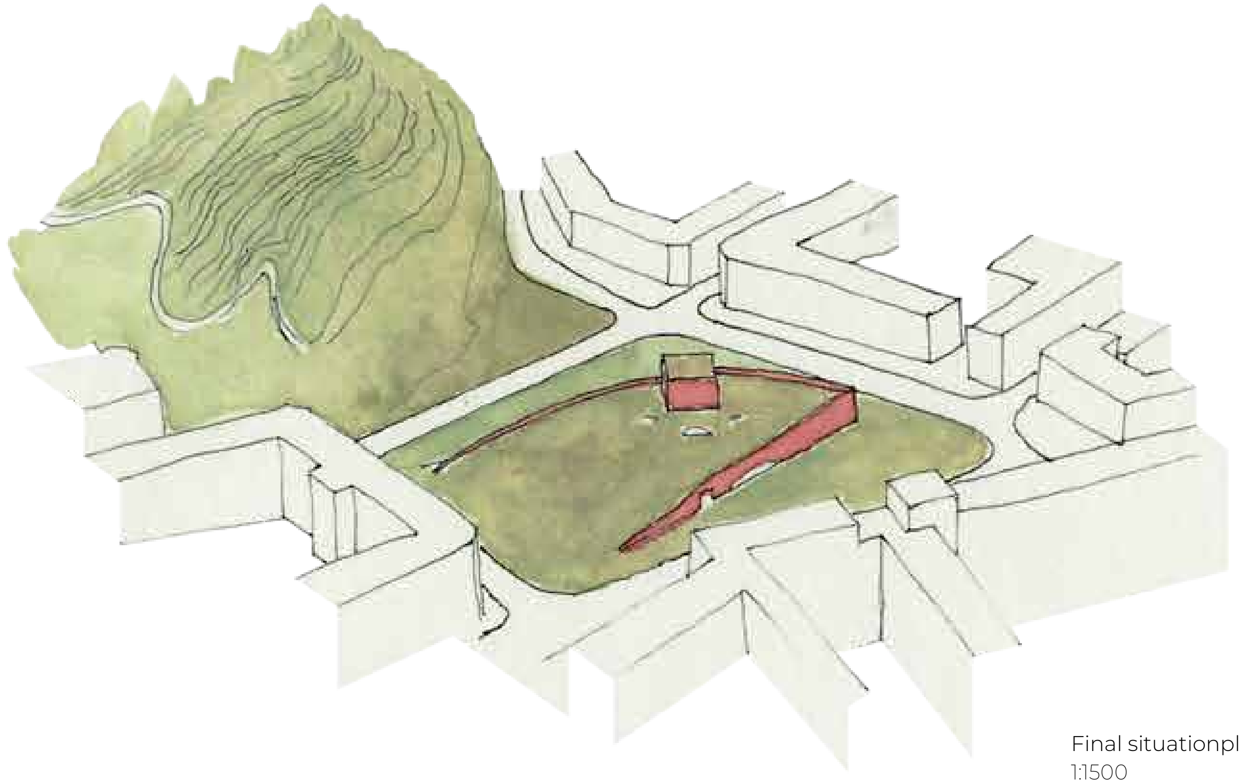
Context

The theatre is centrally located in Gothenburg, on the edge of a historic district where colorful wooden houses shape the surroundings. Inspired by this context timber became a natural choice. Nearby buildings rise no higher than 3–5 stories and the design carefully follows this scale.

The entrance meets the busiest street of the site, welcoming visitors straight from the urban flow. Behind, Skansen Kronan crowns the hill and the theatre's silhouette subtly mirrors this well known landmark in Gothenburg. Its "falu"red facade ties the building to Swedish tradition while offering a warm contrast to the lush greenery draped across the roof.

What began as a simple sketch of a red house with a green roof gradually evolved into a carefully integrated structure. Merging into the landscape, the theatre acts as a link between the hillside and the surrounding neighborhood.

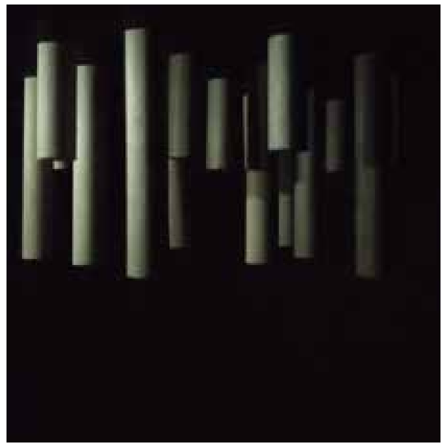
Initially, the design did not feel entirely natural. But as the process unfolded, the concept matured. The green roof started as an improvisation and emerged into a key element. Over time, we began to imagine it not only as an informal park that invites people to climb up and linger, but also as a soft green blanket draped over the building. This narrative enriched our concept and became a defining part of the project's identity.

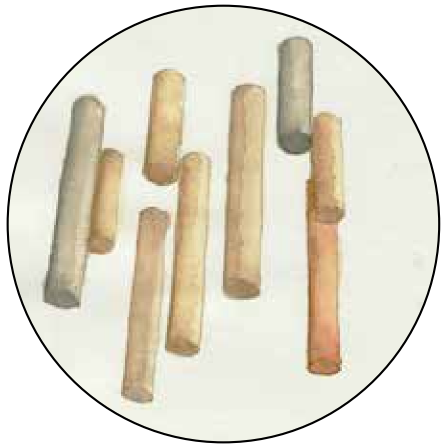


Final situationplan
1:1500

Acoustic prototypes

From the outside in, four acoustic prototypes were developed. These prototypes helped us stay true to our concept and played an essential role in shaping the building. Starting from initial ideas and rough sketches, they evolved through both physical and digital models, and were later represented through the hand drawings.



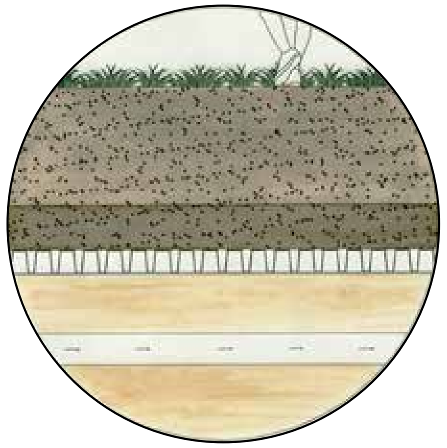


Diffusing ceiling

Soft wooden rods ripple across the lobby ceiling like a quiet rhythm. Behind them, hidden absorption dampens noise while the rods scatter sound for a calmer, clearer atmosphere in the lobby. The rods mimic roots growing down through the roof from the landscape above, deepening the narrative of stepping into a child's fantasy world.

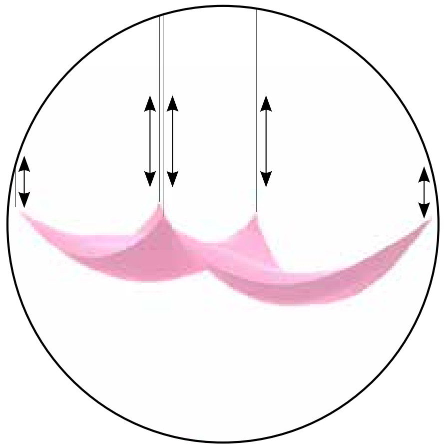
Seating modules

The soft cushions invite the audience to shape their own space, to build comfort much like a child arranging their perfect pillow fort. Seating modules can be combined freely, providing flexibility that creates both personal comfort and acoustic balance. The soft surfaces absorb late reflections, especially in the higher frequencies, ensuring the hall sounds equally warm and clear, with or without an audience



Landscape roof

An acoustical element elegantly drapes the building, creating both a walkable meeting spot and a natural shield against external noise. A thick layer of soil and grass offers insulation, while windows offer glimpses into the performance hall from the roof spark curiosity and invites passersby to explore, gather, and listen.



Reused sails

Like blankets draped across a pillow fort, reused sails hang from the ceiling, shaping both the atmosphere and acoustics. Chosen for their generous surface and circular reuse, the sails adjust the hall's volume and reverberation by shifting height and tilt. The sails will be painted in the same colors as the seating modules to highlight the playful theme.

Floor plans

The floorplans began as hand **sketches** and a **puzzle** of cut-out rooms, gradually **evolving** through a **shared** and iterative design process. We used a **volume model** to explore the heights, then moved into **digital tools** to fine-tune room sizes, printing, sketching, and **reworking** them again by hand. We took turns weaving our ideas **together**, translating abstract thoughts into drawings and **refining** them with each **iteration**. When one of us got stuck the next picked up the thread. It became a continuous cycle of **testing, failing, adjusting, and improving**, all in pursuit of a layout that was both **functional** and true to our concept.

The floor plan is carefully composed to ensure smooth **flow** between spaces while **shielding** key rooms from **noise**. **Slanted walls** prevent flutter echoes in all rehearsal spaces, securing acoustic comfort. The loading dock and scene shop are placed **underground** both to simplify logistics to the stage and to keep noisy functions out of sight. Inside, a **symmetrical** lobby and performance hall **contrast** the building's **playful, irregular** exterior.

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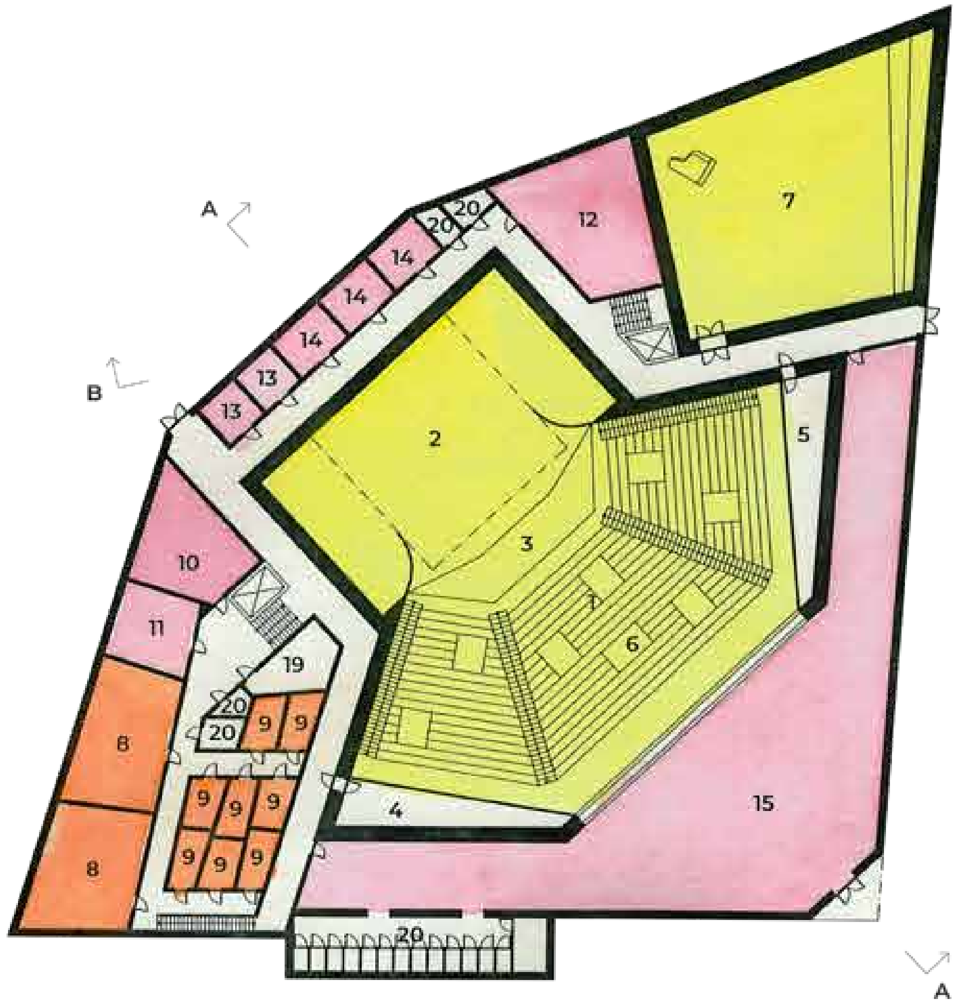
Elevation [m]

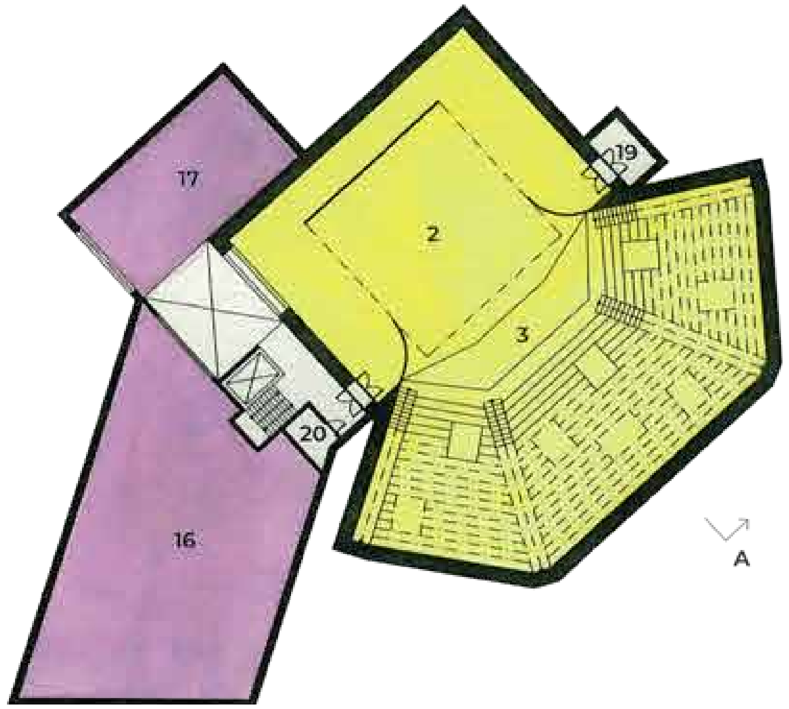
-8.7 -5.6 0 +2.5 +5

NCB

15 20 25 40

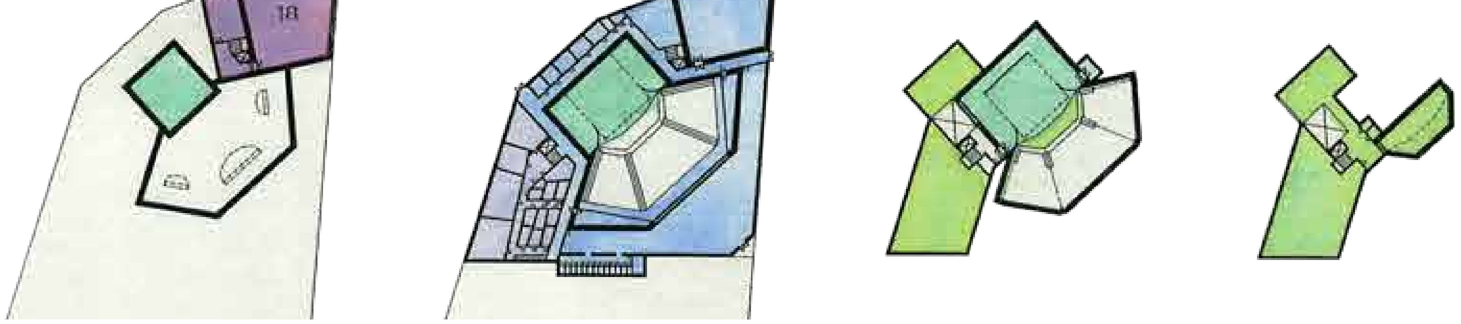


Plan 0
1:500



Plan -1
1:500

Floor levels
1:1500



Process sketches

Section

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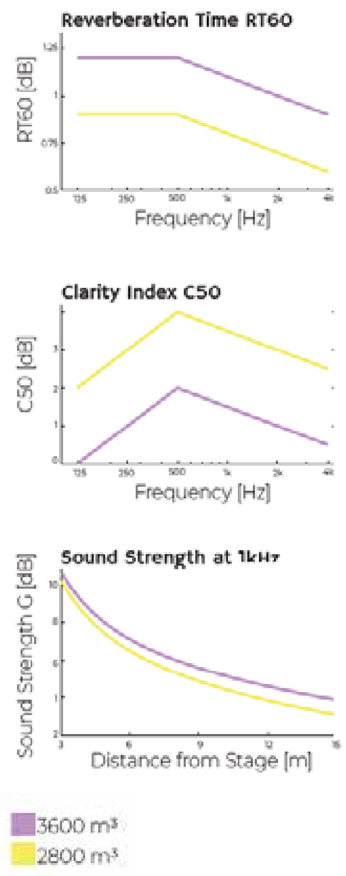

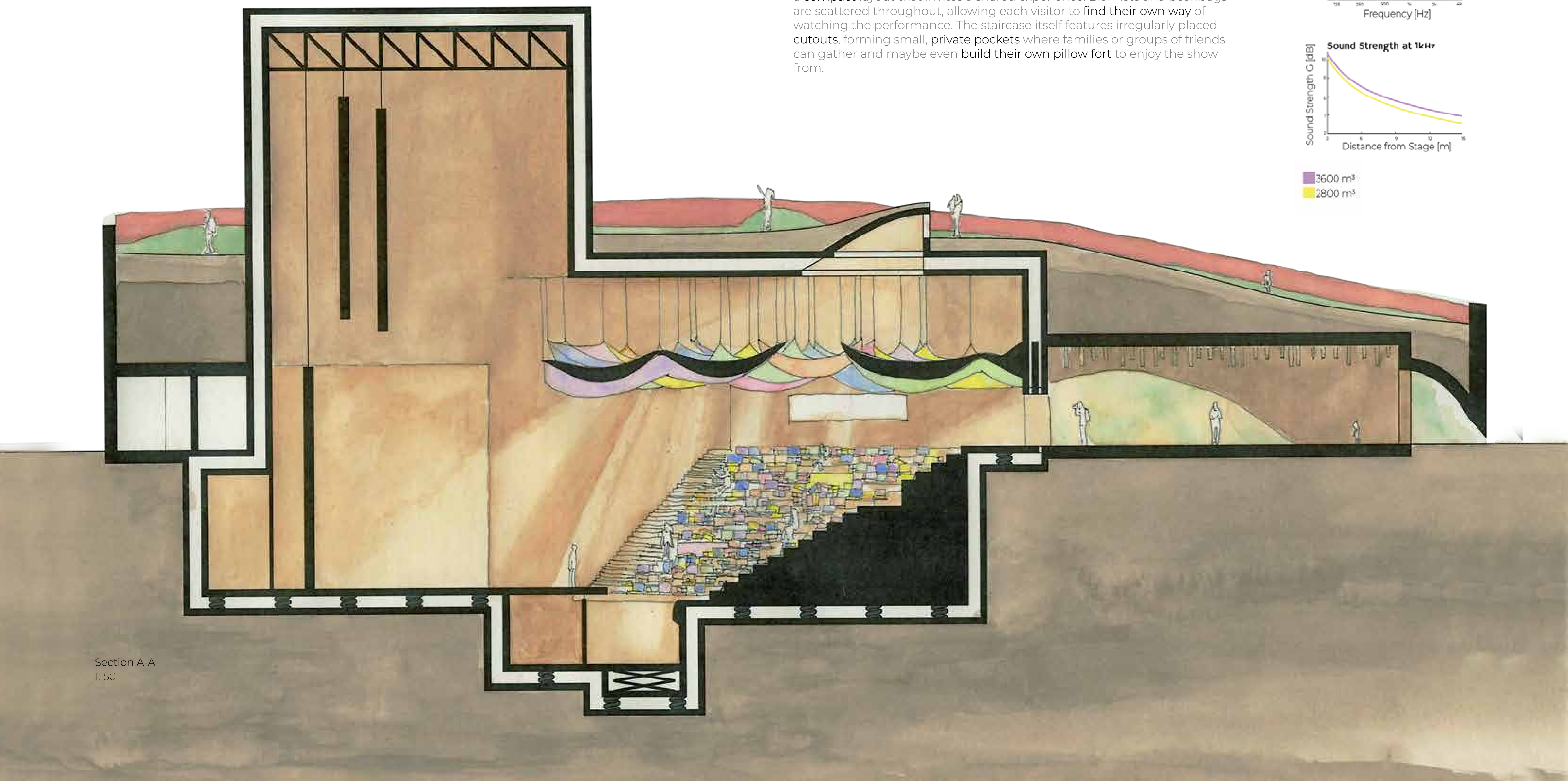

Section A-A
1:150

Rehersal room

The rehearsal room mirrors the atmosphere of the performance hall, with colorful sails draped overhead and a few seating steps inviting both rest and small audiences. Here the sails are absorbing, ensuring higher clarity so musicians can detect even the smallest mistakes while maintaining a similar reverberation time for consistency. If needed, additional absorption can easily be added above the sails.

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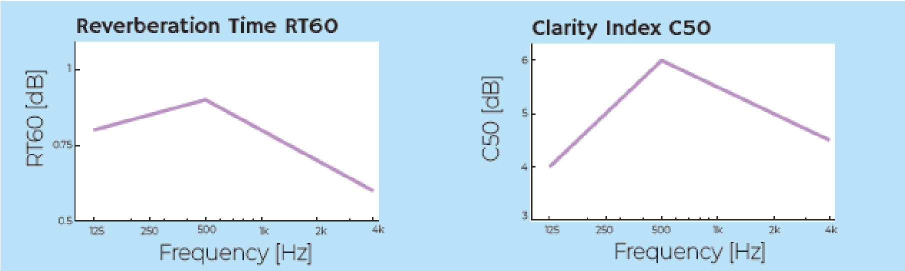
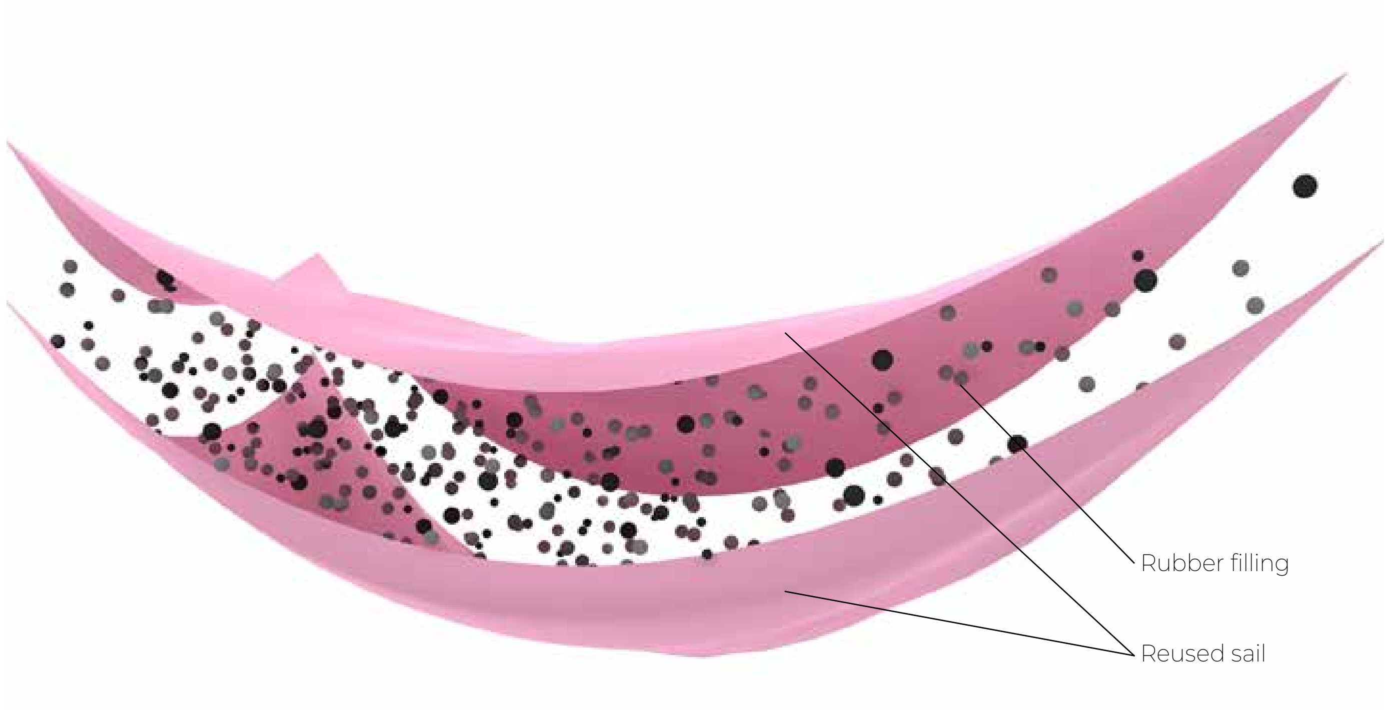
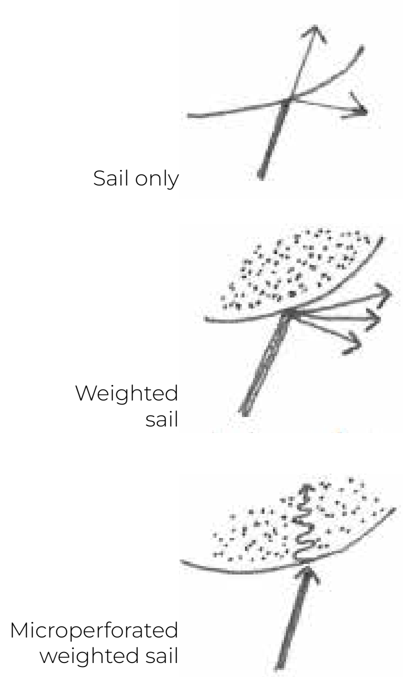




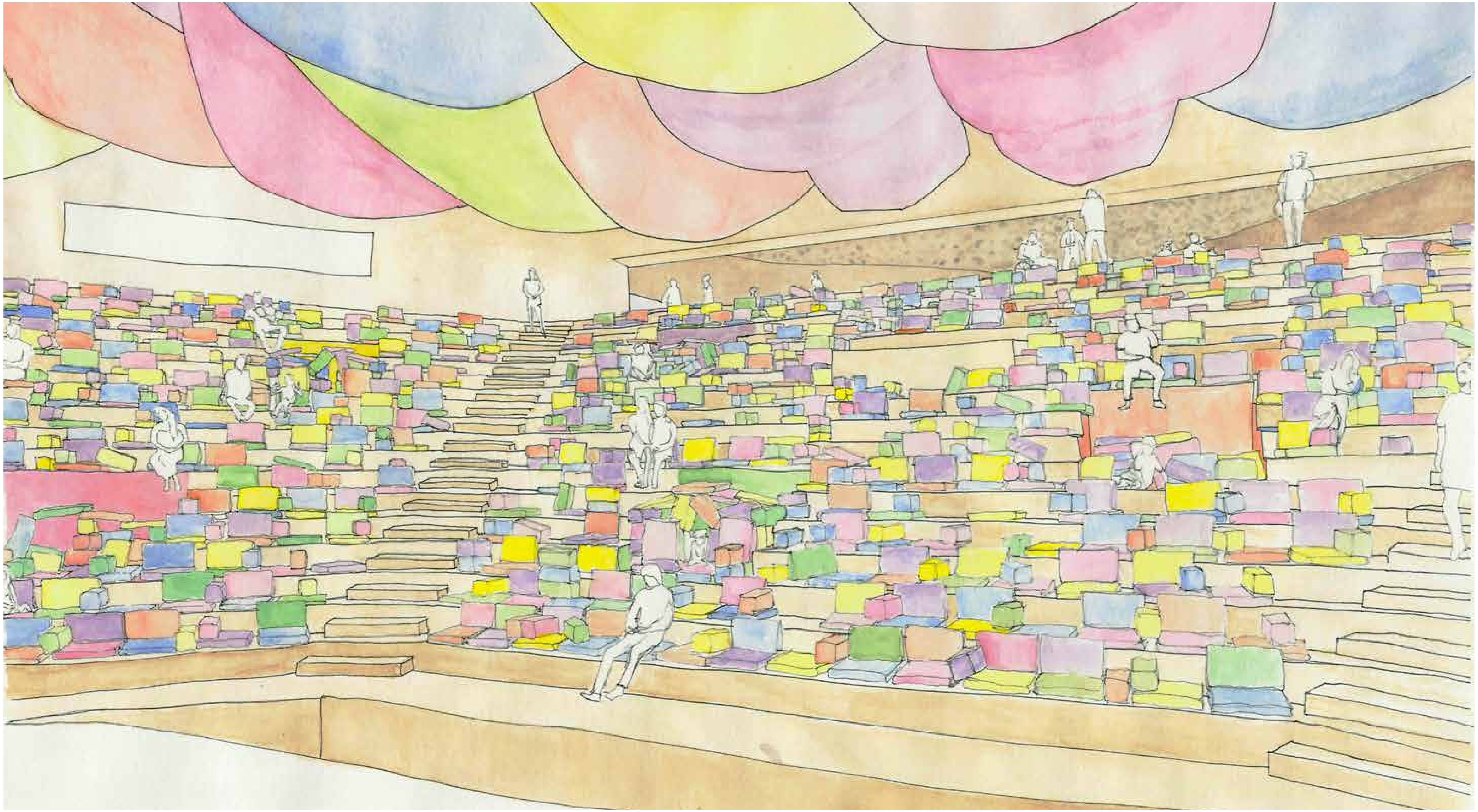
Section B-B
1:100

Technical soloution

To function acoustically, the sails need to be heavy, the opposite of their original purpose. However, their high weave density makes them an excellent material for this adaptation. In the performance hall, they are used to reflect sound and in the rehearsal room, micro-perforation transforms them into absorbers. By making the sails double-walled and weighting them with recycled rubber to achieve a density of approximately 14 kg/m², an acoustically optimal value, they become a simple yet effective solution.



VIEW OF PERFORMANCE HALL
FROM LOBBY



VIEW OF PERFORMANCE HALL
FROM STAGE

Reflection

I feel proud of this project, particularly because of the strength and consistency of the concept throughout the design process. The level of detailing is well balanced for the scale of the project, and I'm especially pleased with how the acoustic prototypes were thoughtfully integrated into the architecture.

Of course, there are aspects that could have been developed further. I still carry ideas about how the concept could have been pushed even more, making the design more unconventional and tightly tied to our vision. One idea we didn't have time to fully explore was a more playful seating arrangement where the staircase would gradually dissolve. However, removing the staircase might have meant losing the loose cushions, which I feel are a key part of the project's identity and charm creating a structured chaos.

Looking back, there are also some design decisions I would reconsider. For instance, the double walls under the soil now seem unnecessary and could likely be simplified.

Some elements of the visual representation could also be improved. A background in the section drawing would clarify that the building isn't entirely buried underground, and a slight perspective angle could add depth and character. The materiality could be more clearly communicated, right now, it's not obvious whether the walls are made of soil, wood, or something else unless you already know the project.

That said, I'm very happy with the choice to use hand-painted watercolors. It supports the playfulness we aimed for and adds warmth to the presentation.

Sustainability is a vital aspect to consider in all projects. In this one, I believe we achieved a thoughtful level of sustainable thinking, integrating green spaces on the roof, reusing materials in the interior, and using timber, a renewable material, as the primary structural element.

I also believe we made well-considered decisions regarding colour and light, treating them as core components of the design, almost as materials in themselves.

Functionality was present throughout the process. We continuously discussed how indoor climate and acoustics could work together with the design. While not fully resolved, we developed ideas for how these challenges could be addressed at a detail level appropriate for the scale of the project.

The artistic methodology, improvise, iterate, and translate, used in this project was especially rewarding for me. I appreciate being able to test ideas before fully knowing where they will lead, and allowing those early thoughts to evolve through iteration. Translating between different representations is crucial in projects like this, and I've found that this back-and-forth process often leads to stronger, more coherent designs.

The Architecture and Engineering programme

Three years of study have provided me with a broad academic foundation, and just as importantly, deeper insight into who I am, what motivates me, and how I work best. The close contact with the teachers has given me valuable insights and confidence.

Looking forward, I aspire to work at the intersection of architecture and engineering, where structure and form are intertwined. I'm drawn to architecture where the structure isn't just necessary for the building to stand, but essential to its expression.