Room for weather

Chalmers School of Architecture
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2026

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Figure 1. Cover.

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Masters program: Architecture and urban design

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Abstract

This thesis addresses a contemporary paradox: as buildings become ever more robust and environmentally controlled, everyday contact with weather, its shifts of rain, wind and light, recedes from embodied experience. Taking Gothenburg's Skeppsbron as a testbed, the work explores how graded thresholds between inside and outside can orchestrate sensory experience , developed through the architectural proposal of a public bathhouse on the river.

The research question investigates how architecture can choreograph weather as a co-designer through spatial sequences, materials and tectonic detail. Methodologically, the project is research-through-design: comparative readings of key references, site analysis, iterative sketching, and prototypes at multiple scales. The stance is phenomenological and tectonic where atmosphere is treated as an operative design parameter.

The outcome is a buildable proposal, including detailed drawings for a public bathhouse at Skeppsbron. From a sustainability perspective, the project advocates for gentler environmental control, extended seasonal use, and socially legible spaces that foster civic life in all weather conditions. This approach embodies an ethical stance of living with, rather than against, the local climate.

Acknowledgements

Special thanks to

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Introduction

Purpose

In recent years, both research and practice have clarified how vital human contact with nature is for health, orientation, and well-being(World Health Organization Regional Office for Europe [WHO], 2016, p. 4). At the same time, environmental control and building construction make our houses more efficient and robust, with indoor climates increasingly decoupled from what happens outside. Here a paradox appears where our knowledge of nature's importance grows, yet the built environment withdraws from the embodied experience of change. The question becomes how the architecture of the future can unite sustainable solutions with an everyday, legible bond to weather and season.

This work addresses the paradox by focusing on the experience of weather rather than the view of it. What is often missing in the city is not an image of nature, but the feeling of change. The aim is to create spaces strengthened by natural phenomena where transitions are sensed in the body even as environmental control safeguards function and operations.

Gothenburg, a coastal city, is characterized by rapidly changing weather conditions. These meteorological fluctuations shape patterns of movement, pauses, and route selection among residents. When urban design suppresses these variations, the public realm risks becoming climatically neutral and lacking in sensory engagement. Additionally, the increasing frequency of intense cloudbursts and brief heat spikes necessitates the development of resilient threshold spaces that facilitate movement, rest, and social interaction under pronounced climatic conditions (Intergovernmental Panel on Climate Change [IPCC], 2022).

The work rests on three interlinked principles: atmospheric architecture, sensory design, and phenomenological architecture. Together they form a practical framework as tools for translating weather and season into spatial decisions.
At present, there is no standardized language or established methodology for addressing the gradations between exterior and interior environments. Challenges such as driving rain, drafts often emerge late in the design process and are typically regarded as disturbances to be mitigated, rather than as foundational elements of spatial composition.
Skeppsbron sharpens the relevance of the problem. The site is an urban threshold between the river and the daily flows of pedestrians, cyclists, buses, and ferries. Its open exposure offers great assets such as sky, water, horizon but also microclimates that shift quickly with wind direction and precipitation. Here, people decide whether to go inside, change route, or linger at the edge. Testing how weather can be given form without sacrificing everyday care makes the place a testbed for climate adaptation.

A public bathhouse at Skeppsbron offers a particularly creative frame. Water, temperature, and clear sequences are already at the core of the typology. Through graded transitions between outside and inside, experiential quality and wayfinding can increase, while the city gains a robust instrument for living with weather and not against it. This lays the groundwork for the project's aim and research question.

Thesis question and objectives

How can architecture orchestrate the sensory experience of Gothenburg's rain, wind, and light through graded thresholds between inside and outside, exemplified by a public bathhouse at Skeppsbron?

Method

Methods and tools

The work was conducted as research through design where knowledge is shaped by making, testing, and reflecting. (Frayling, 1993). Acts of design: sketch, model, prototype, are a way of thinking in material; they make it possible to specify how rain, wind, and light actually alter experience when the boundary between outside and inside is made gradual.

In this context, sustainable development is understood as a temporal stance. Environmentally, it involves calibrating climate within transitional zones. Socially, it emphasizes legibility and accessibility throughout the sequence to ensure that a greater number of individuals feel secure throughout the year.

Methods

Case studies

Completed projects in which architecture and weather interact were examined to investigate how the boundary between interior and exterior can be extended in constructed environments.

Literature review

At the outset, books, articles, poetry, and journals were reviewed to establish frameworks for atmosphere, perception, and tectonics. This process developed conceptual tools for crafting atmospheres and understanding how spatial configuration influences sensory experience.

Sketching

Sketching and rapid idea testing prioritized spatial relationships and mood over precise detailing. This approach enabled multiple iterations and facilitated early design selection.

Model making

Physical and digital models functioned as both exploratory tools and presentation media. These models clarified spatiality, proportion, daylighting, and scale, made the consequences of design decisions apparent, and communicated the qualities of the rooms.

Delimitations

This master's thesis takes the form of a case study at Skeppsbron, using a public bathhouse as a framework to explore graded inside-outside transitions. The focus is on public sequences and thresholds rather than the facility's full programme and logistics.

The point of departure is atmospheric and phenomenological architecture within a tectonic stance and theories with general validity are tested through a concrete project.

Technology is treated at the level of principles and no complete sizing of structure, fire safety, or control systems is undertaken and no detailed energy calculations or simulated comfort indices are produced. Economy, regulatory requirements, and operations are addressed in outline for plausibility, but without cost estimates or formal compliance review.

The project is fictional and has no client, yet the design aspires to realism. The outcome is presented as a coherent architectural proposal. The delimitations are chosen to maximise architectural learning about weather as a design driver within the given timeframe.

Reading instructions

The following section clarifies the rationale behind the choices made in the project. It explains why the topic is considered relevant, the principles on which it rests and the reasons for selecting the specific programme for the case study.

Theory

Calibrating atmosphere

A phenomenological framework underpins the work, in which experience is understood as bodily situated and temporal (Jacquet & Giraud, 2012). The body serves as a measure, perception is multisensory, and spatial meaning emerges relationally over time (Holl et al., 2006). Within this frame, atmosphere names the room's cumulative effect on the body, registered prior to interpretation (Zumthor, 2006; Pallasmaa, 2012). Design is consequently understood as the calibration of details so that this effect endures across shifting uses and over time (Zumthor, 2006).

Pallasmaa emphasizes haptics and the collaboration of the senses, critiquing ocularcentrism by arguing that vision participates in tactile perception and that peripheral attention enables legibility through light, shadow, and resonance (The Eyes of the Skin; Pallasmaa, 2012). For greater specificity, Zumthor's Atmospheres serves as a guide, identifying the building's body, material consonance, perceived room temperature, soundscape, and degrees of intimacy as indicators of how the effect is composed (Zumthor, 2006). The tension between interior and exterior also requires a transition with spatial thickness; in this context, the threshold functions as a haptic organ, where material and texture render inside and outside legible to the body and establish the sequence that advances the experience (Pallasmaa, 2012; Zumthor, 2006).

Spatial Thickness

The threshold is a zone where mood can be tuned through a brief pause that lets the body change tempo (Zumthor, 2006). Here, the sensorium shifts, and sounds are damped or amplified; the direction of light is refracted, temperature slides, materials meet, and precisely this concentration of differences turns the threshold into a generator of presence (Zumthor, 2006).

Zumthor argues that one can imagine a gradient of enclosure: antechambers, semi-open zones, and niches that, step by step, change how closely the room comes to the body. Each step calibrates exposure and thus how the atmosphere is felt, as the outcome of precise spatial decisions.

Within this gradient, the threshold acts as a sensory filter, preparing the senses before entering the next room. It becomes an instrument through which each sense can be separately tuned to atmospheric registers, and it is here that the architect can be most precise in their control over the room's sensory experience.

Light: the opening's shape, depth, and edge profile can shift a space from glaring reflections to soft grazing light; a slight rotation suffices to change the light's register (Zumthor, 2006).

Acoustics: a short passage with different surface density and texture breaks high frequencies and sets a legible resonance for the next room (Zumthor, 2006).

Thermal: simple microclimates mark the transition tactually and return scale to the body (Zumthor, 2006).

Haptics: the meeting of materials becomes a cognitive interface where hand and foot read direction, weight, and friction (Pallasmaa, 2012).

The threshold also establishes a ritual beat, in which we pause, orient, and change our gaze. The sequence "holds" when the passage is felt as necessary and meaningful (Zumthor, 2006). Foretaste is central; the next room is sensed without being shown, a trace of sound that creates pull while preserving orientation. Scale and embodiment are decisive; for example, a low passage concentrates, a gradual opening releases. This kinesthetic dramaturgy is central to atmosphere, where the body knows where the transition lies, how it begins, and when it is complete. In practice, it means exact edges, interstices, and layers that together give weather and movement spatial order so that the shift is felt before it is perceived (Zumthor, 2006; Pallasmaa, 2012).

Weather-World

Weather is not simply an external load but functions as a spatial agent that shapes direction, tempo, and presence (Hill, 2012). In alignment with Hill, this study conceptualizes weather as a generative medium in design, characterized by the interplay of flows, materials, and order. The environment is regarded as an active field composed of air, light, moisture, and temperature- a weather-world where orientation occurs through movement . Perception is enacted along paths, wind drafts, and shifts of light, rather than at static points. Consequently, weather determines direction and pace, with experience emerging through the interaction between the body and environmental currents (Hill, 2012). Rain, wind, and light are understood as formative flows, whose organization becomes perceptible through spatial sequences and thresholds. In this context, these flows acquire architectural significance through graded transitions between interior and exterior spaces, making environmental change perceptible to the body (Hill, 2012).

Thermal thresholds

Beyond its atmospheric qualities, the threshold carries microclimatic potential. It establishes a boundary between inside and outside, and between private and public realms, a distinction that architecture has historically articulated through elements such as verandas, terraces and courtyards. These structures mediate climate allowing the body to adapt gradually to different conditions. In doing so, they provide shelter from the weather while simultaneously enhancing exposure to natural environments and fostering both individual relaxation and civic engagement (Benedito, 2021, p. 94). As urban density increases and green spaces decline, maintaining regular contact with nature becomes increasingly challenging for city residents. Currently, a changing climate necessitates the creation of spaces capable of absorbing and moderating climatic extremes (IPCC, 2022). Within this context, thermal thresholds function as civic infrastructures, providing environments where individuals can gradually acclimate to outdoor conditions (Benedito, 2021, p. 94).

Together, these theoretical frameworks share a common premise: that weather shapes spatial experience. Where Zumthor (2006) and Pallasmaa (2012) articulate how the body registers atmosphere through the senses, and Hill (2012) positions weather as an active co-designer of space, Benedito (2021) grounds this in concrete architectural form, the thermal threshold as an instrument for both climate mediation and civic life. This convergence forms the theoretical foundation of the project: that graded thresholds between inside and outside, designed with weather in mind, can simultaneously enhance sensory experience, promote human health, and strengthen urban life.

References

The reference study brings together projects that test three interlinked themes: where the boundary between inside and outside actually lies; how weather can act as a co-creator; and how sequence carries atmosphere. Through brief comparative readings, the section focuses on programme logic, the ”thickness” and ordering of thresholds, thermal conditions, and materials are calibrated in the day-to-day operation.

The selection ranges from robust programmes to radical weather rooms. Vandhalla is used for its clear functional programme and its legible ordering of dry/mixed/wet zones, useful for public sequences and operational logic in bathhouses (ArchDaily, 2014). Therme Vals shows how material, light, and temperature are held in a consistent register over time; even without overt weather ingress, it offers lessons on room temperature, soundscape, and the tempo of movement within a heavy enclosure (ArchDaily, 2009). Kastrup Sea Bath operates differently: positioned within the Øresund rather than beside it, its value lies not in mass or material register but in choreography — the pier delays arrival, the circular timber form gathers the body, and the openings frame water and horizon as the primary spatial material (White Arkitekter, n.d.). Teshima Art Museum opens the shell and lets in rain, wind, and light as formative flows; here, spatial thickness and light on things become operative tools (ArchDaily, 2011). Peter Zumthor’s Serpentine Pavilion establishes a controlled transition around an open-air inner garden and demonstrates how the city’s noise can be filtered into the still centre of a weather room (Serpentine Galleries, 2011). Blur Building serves as an extreme: a fog apparatus in which atmosphere is produced; technically different, but as a counterpoint it sharpens the question of when atmosphere should arise from a place’s own flows rather than be added (Diller Scofidio + Renfro, n.d.). Taken together, the references provide a working trajectory from programme and explicit threshold spaces to open weather-rooms, and a vocabulary for how edges, openings, and layers can calibrate experience without dissolving order.

Vandhalla

Type: Bathhouse
Client: Egmont Højskolen
Architect: CUBO Arkitekter + FORCE4 Architects
Place: Hou, Odder, Danmark

Year: 2013
Area: 4000sqm

Vandhalla is an extension to Egmont Højskolen in Hou: a bathing and rehabilitation centre where universal design is the project's structuring principle. The architecture gathers an everyday logic where entry, reception, clearly legible changing-room zones, that leads to showers and an open pool landscape; a central dressing-room hub organises the sequence and ties the complex together. As a new hub for the school, the building signals its role to the town without losing its unpretentious, day-to-day character (ArchDaily, 2014).

The programme is tied together by a functional core around the changing facilities. From this nucleus, the water rooms unfold :a larger swimming pool for training and instruction, a warm-water/hydrotherapy pool, a a sauna/steam room. Taken as a whole, the layout makes the public bath legible as a consequence in which care and accessibility are not side notes but the structure itself (ArchDaily, 2014).

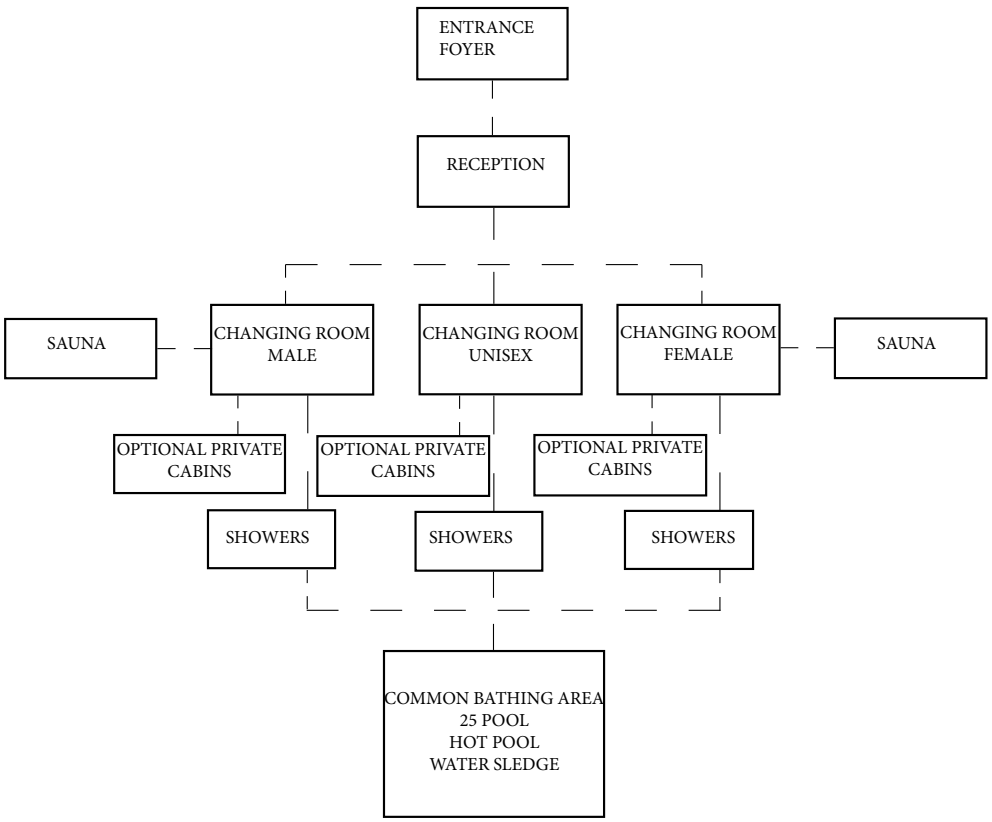


Figure 2. Vandhalla function-programme. Note. Adapted based on a untitled diagram in Royal Danish Academy – Architecture, Design, Conservation, Bathing houses: A case study in the programme, circulation, facilities and materiality of selected bathing houses.

Therme Vals

Type: Spa
Client: Hotel und Thermalbad Vals AG
Architect : Peter zumthor
Place: Vals, Graubünden, Schweiz

Year: 1996
Area: 5 600sqm

Therme Vals is a hotel and spa designed by Peter Zumthor and opened in 1996. The concept is grotto-like where bathing rooms are partly embedded in the slope beneath grass-covered roofs and built, layer upon layer, from local Valser quartzite. Here, stone is not décor but a governing principle, it sets tempo, direction, and tone, making the architecture slow, clear, and legible (ArchDaily, 2009).

The shaped negative space, referred to as the “meander,” connects the stone volumes and organizes the complex into a quiet sequence, allowing visitors to discover spaces incrementally. In this design, sequence takes precedence over form, with thresholds and transitions functioning as subtle shifts of attention. Light enters through roof openings, tracing the movement of clouds across the quartzite, so that illumination becomes a dynamic register. The spatial rhythm remains restrained, demonstrating how order and materiality can create atmosphere without excess, how light can be modulated through nuanced transitions, and how precise openings facilitate a clear and operable encounter with the climate (ArchDaily, 2009).

Figure 3. "Therme Vals" by jpmm is licensed under CC BY-NC-ND 2.0.

Teshima Art Museum

Type: Museum
Client: Benesse Holdings, Inc. / Fukutake Foundation
Architect : Ryue Nishizawa + Rei Naito
Place: *Teshima*
Year: 2010
Area: 2155sqm

Set into terraced fields on the island of Teshima in the Seto Inland Sea, the pavilion sits low and matter-of-fact. It is a thin, cast-in-place white-concrete shell- about 25 cm thick and roughly 40 × 60 m- its curved roof cut by two large elliptical openings. A small, partly sunken reception building connects to the approach road and choreographs shifting views of the site and the pavilion's soft contours (ArchDaily, 2011).

Inside, one uninterrupted, column-free room opens, the sky working as a moving ceiling. Through the openings, light, wind, and rain carry the surroundings' cadence into the space. Water beads gather and drift across the floor; minute variations in the surface guide their paths, Rei Naito's work Matrix makes this motion legible across the day. Stillness arises, one is inside and outside at once, present within a slow temporality (ArchDaily, 2011).

This project demonstrates how geometry and precise edges can shape an atmosphere, with the size and profile of the openings influencing both the direction of light and the degree to which weather is experienced. Even minor adjustments in section or gradient can shift the space from dynamic movement to stillness. Landscape, art, and architecture converge to form a unified spatial experience in which transformation is perceived intuitively before it is consciously identified (ArchDaily, 2011).

Figure 4. Teshima Art Museum. "ryue nishizawa III" by antjeverena is licensed under CC BY-NC-ND 2.0.

Serpentine gallery pavillion 2011

Type: Pavilion
Client: Serpentine galleries
Architect : Peter Zumthor
Place: London, UK

Year: 2011
Area: 390 sqm

During the eleventh edition of Serpentine Galleries' annual series, Peter Zumthor's pavilion acted as a public room for three and a half months. The concept was Hortus Conclusus, a "garden within a garden", framing a quiet refuge from London's noise. A deliberately simple rectangle holds a dark perimeter passage; staggered doorways choreograph the approach so the inner garden arrives as a reveal. A roof aperture frames the sky and admits rain to the courtyard while deep overhangs shelter the surrounding ambulatory amplifying weather without sacrificing orientation. The inner garden by Piet Oudolf was designed to remain alive across the seasons (Serpentine Galleries, 2011).

The key takeaways from this project is the following notes:

- A garden within a garden- what is usually outside is drawn inward so seasons are sensed from within.
- Weather is foregrounded by filtering the city's stimuli into a still centre.
- Expression stays simple while configuration is precise; sequence, thresholds, and edges are tuned to magnify effect (Serpentine Galleries, 2011).

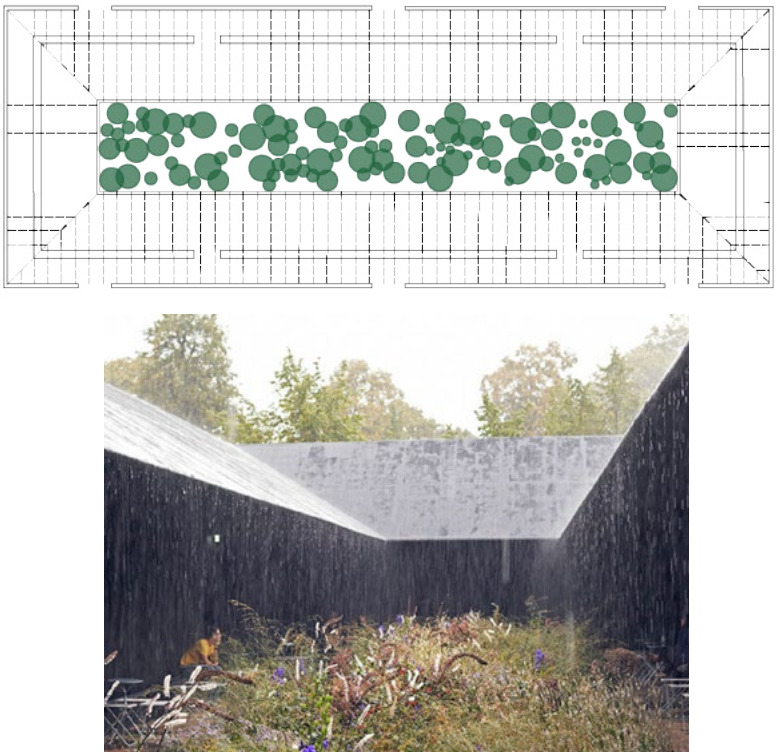


Figure 5. Serpentine Gallery Garden (London, 2011), a photograph by Walter Herfst; source: Piet Oudolf, "Serpentine Gallery" (https://oudolf.com/garden/serpentine-gallery). Author's adaptation; cropped

Blur Building

Type: Pavillion
Client: Swiss National Expo 2002
Architect: Diller Scofido + Renfro
Place: Yverdon-les-Bains, Lake Neuchâtel, Schweiz
Year: 2002
Area: 7 430sqm

An architecture of atmosphere: fog as the medium where nature and machine interlock. Set out over Lake Neuchâtel, the pavilion suspends reliance on sight. An open-air platform-supported on four columns via a lightweight tensegrity system- threads ramps and walkways through a gauze of mist. Water is pumped from the lake, filtered, and expelled as a fine spray through approximately 35,000 high-pressure nozzles. A weather-responsive control system measures temperature, humidity, and wind speed, modulating pressure by zone so the fog continually recalibrates to real-time conditions (Diller Scofidio + Renfro, n.d.).

Arrival is via a long ramped bridge that takes up the shore's change in level. Crossing the threshold into "Blur," contours dissolve; optical whiteout and the hiss of nozzles replace familiar references. Steps slows, breath steadies, and the body begins to read space with skin, balance, and peripheral cues rather than with the eye alone (Diller Scofidio + Renfro, n.d.).

The project frames climate as form: fog becomes an edgeless material, a soft boundary mediating between visible and invisible. Here, opening is a degree; small shifts in edge, pitch, and density tip the room from movement to repose. The fog is the architecture's very medium (Diller Scofidio + Renfro, n.d.).

Figure 6. Blur building. "Expo.02 in Neuenburg, Yverdon, Biel and Murten" by Aepli is licensed under CC-BY-2.5

Kastrup sea bath

Type: Cold bathouse
Client: Tårnby Municipality
Architect: White arkitekter
Place: Kastrup, Denmark

Year: 2005
Area: 1100sqm

Set off the coast of Amager, Kastrup Sea Bath extends from the shoreline into the Øresund as a circular timber structure reached by a long pier. The project is less a building placed beside water than a spatial instrument positioned within it. The approach stretches the transition from land to sea, turning arrival into a gradual exposure to horizon, wind, salt air, and open sky. Its curved form creates a concentrated interior, providing shelter from wind while opening back toward land and beach(White Arkitekter, n.d.).

Inside the circular enclosure, bathing becomes a sequence . The body is repeatedly placed between protection and exposure: sheltered from the wind, but visually connected to the sea; enclosed by timber, yet surrounded by open water. The continuous bench along the pier extends the architecture into a place of pause, allowing waiting, resting, and watching to become part of the ritual(White Arkitekter, n.d.).

For this thesis, Kastrup Sea Bath is relevant because it demonstrates how a public bath can occupy water directly without becoming monumental or closed. Its value lies in the choreography of access, exposure, and enclosure: the pier delays arrival, the circular form gathers the body, and the openings frame water and horizon.

Figure 7. Kastrup Sea Bath (amitylux, n.d.)

Skeppsbron

Skeppsbron a long edge between Packhuskajen and Masthuggskajen where everyday movement meets an open horizon. Ferries, buses, cyclists, and pedestrians pass close, yet the place is oddly still in its exposure to wind, rain, and light. Its chief asset is free weather and an unbroken view, a place where the sky is allowed room. The movement logic is legible: pedestrian and cycle routes trace the quay; ferry berths stitch the riverbanks together, with Stenpiren as the key public node (Göteborgs Stad, 2023; Sweco, n.d.; Västtrafik, n.d.).

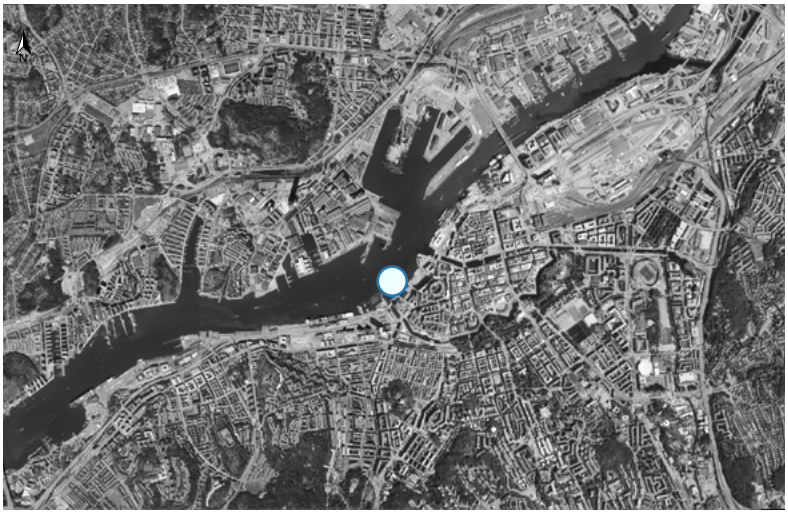
Historically, the shore transformed from a working waterfront of quays, tracks, and cranes into today's central site in transition; Stora Tullhuset anchors the eastern memory of the port city (Göteborgs Stad, n.d.; Higab, n.d.). In the 2010s, Stenpiren Travel Centre marked a renewed public interest in the water. The subsequent detailed plan for perimeter blocks and a more urban quay is currently paused pending a new planning assignment (Göteborgs Stad, 2023).

Read east to west: the memory of the port city in Stora Tullhuset; the preserved sheds and quays; Maritiman's ships. In the backdrop, the Opera; to the west, Masthuggskajen. At Stenpiren the travel centre takes over glass, steel, and a generous roof for waiting. (Sweco, n.d.).

The architectural voice is mixed. To the east: a harbour-industrial character- masonry, plinths, straight rooflines- with the sheds lightness as counterpoint. At the travel centre: contemporary, transparent infrastructure that prioritises movement, sight, and weather protection over monumentality (Sweco, n.d.).

The material palette is robust and clear. In facades, brick that ages well, timber and sheet metal from the shed era, glass/steel where visibility is needed. Along the quay there is granite and concrete edges and paving, bollards, rails and steel stair runs; on some piers.

Vegetation is limited; the area is characterized more by harbor elements than by parkland, and stone predominates over soil. This bareness accentuates the environment, where wind accelerates, rain falls at an angle, and sunlight reflects off the water, casting distinct tones over stone and metal surfaces (see Figure 8).



1. Stenpiren
2. Kinesiska Muren
3. tullhuset
4. Rosenlundsverket

Figure 8. Facade materials at Skeppsbron. Figure 9. Siteplan 1:1000.

Bathing history at skeppsbron

The history of Skeppsbron and its immediate surroundings reveals a layered relationship between the body, water, and the city. As the following examples suggest, bathing at Skeppsbron was once an integrated part of urban life rather than a specialised or isolated program.

In 1830, Alexander Keiller established a warm bathhouse at Skeppsbron 1, known as Rotundan. Located within a courtyard and surrounded by a garden, the building operated until 1856 (Göteborgs stadsmuseum, u.å., GhmB:13305). Architecturally, it embodied a 19th-century model of bathing as an enclosed interior condition, shaped by emerging concerns for hygiene, privacy, and regulation of the body.

Alongside this, a parallel tradition of outdoor and river-based bathing existed. From 1875, the Löfströmska kallbadhuset was positioned directly at the water and associated with swimming and public recreation (Göteborgs stadsmuseum, u.å., GhmPK:1089). Unlike the enclosed bathhouse, this structure engaged the river as an active medium.

In the author's reading of the site, these examples demonstrate that bathing at Skeppsbron was part of a broader spatial condition in which different modes of bathing coexisted: the enclosed and regulated, and the open and exposed. The disappearance of these bathing structures coincided with the transformation of Skeppsbron into an infrastructural waterfront and later into its current transitional state. As a result, the direct relationship between body and water has largely been erased from the site. In this context, the present project can be understood not as an insertion of a new program, but as a reactivation of a suppressed spatial condition.

Figure 11. Broling, C. A. (u.å.). Badinrättningen vid Skeppsbron [GhmD:4125]. Göteborgs stadsmuseum. Public Domain.

Figure 10. Bonsdorff, L. (1916). Gamla kallbadhuset eller Löfströmska badhuset vid rivningen sommaren 1916 [GhmD:21525]. Göteborgs stadsmuseum. Public Domain.

Site analysis

Future development

Although the detailed plan is currently paused, the project is being developed in anticipation of a likely future condition in which new buildings will densify the quay and alter views, sunlight, and the character of the public edge. The bathhouse is therefore conceived as a permanent public building that works within this changing context.

Position

The building is positioned in the water to maximise exposure to weather and horizon, freeing it from the conditions of future quay development and allowing the focus to remain on the river and its climate.

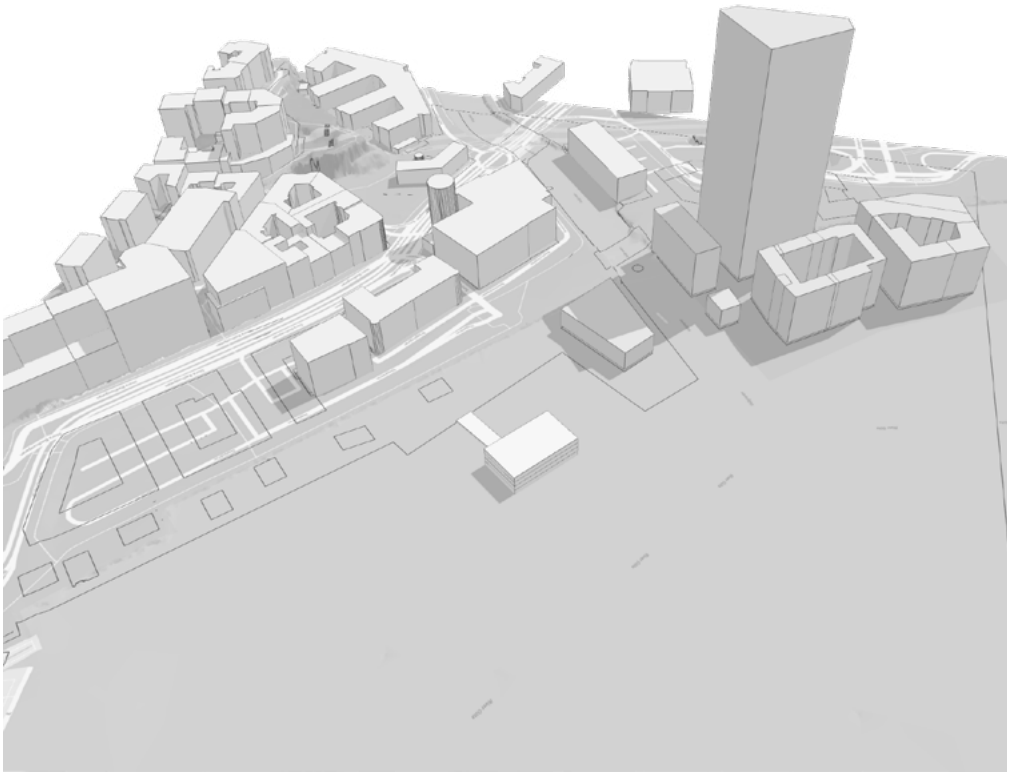


Figure 12. Axionometry of future devolopment at skeppsbron.

Figure 13. Siteplan of future development 1:5000

Sun hours and wind analysis

A climate analysis in Autodesk Forma was conducted to get a good understanding of the sites conditions. An anlysis of the sun conditions and the wind was made.
The sun analysis shows that the site benefits from good solar conditions, creating opportunities to design spaces that maximise sunlight exposure.
The wind analys shows that the site is highly exposed to wind, which creates opportunities for the design to create both sheltered and exposed zones.
Both analyses are conducted in relation to the projected future development of the quay, ensuring the findings remain relevant to the long-term context of the site.

Key takeawayas

Several conclusions emerge from the site analysis. The development of Skeppsbron is accounted for in the project; the new construction does not significantly alter the climatic conditions of the site, and the weather analysis holds regardless. The site's orientation creates a clear north-south logic that the project will work with directly, positioning specific rooms according to which exposure is most advantageous for their use. And the historical reading of the site only strengthens the case for the bathhouse as a typology: it does not arrive as an imposition but as a continuation of what the place has already been.

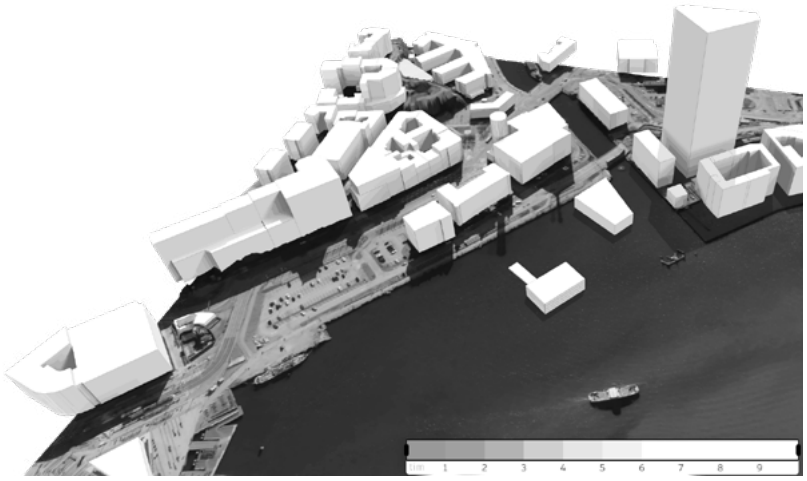


Figure 14. Sunhour analysis.

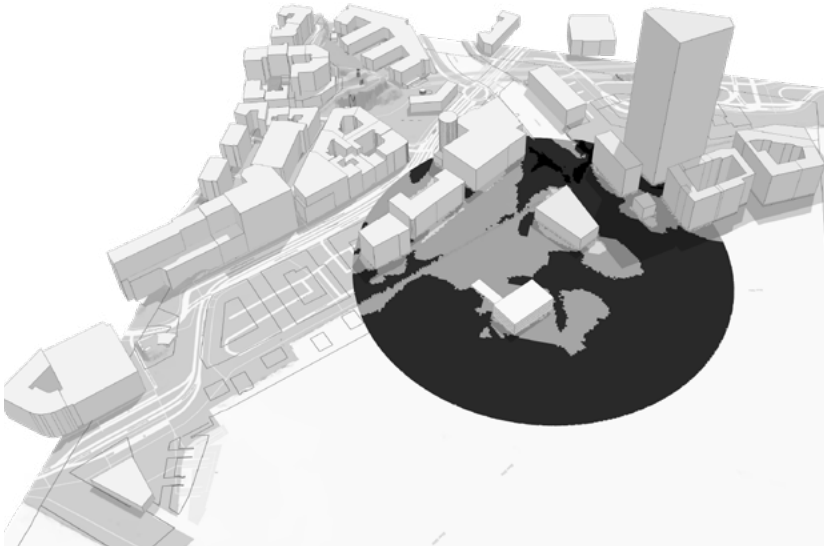


Figure 15. Wind analysis.

Main material

Figure 16. Bridge perspective

Proposal

The project takes shape as a public bathhouse at Skeppsbron a building that tests how Gothenburg's weather can be invited in without disturbing stillness. The bathhouse is understood as a threshold between city and river, a sequence of rooms in which the perception of weather gradually shifts from street to water. The experience is carried by order and detail, how one steps inside, how the rhythm slows, how water meets edge, how surfaces answer as the body moves through the space.

The bathhouse gathers indoor and outdoor swimming pools, showers, and sauna, rooms for rest, and simple places to dwell by the water. The sequence is: arrival- changing - washing - swimming - rest - return. The edge toward the quay is kept generous so the house is public in both function and attitude. Transitions are designed as graded, inside-outside passages in the form of windbreak pockets and sheltered niches, where the perception of weather shifts in small steps.

The choice of project rests on a question: why is weather so seldom used as everyday material in Gothenburg's architecture? A bathhouse is a fitting instrument for this inquiry; water, body, and time are already there.

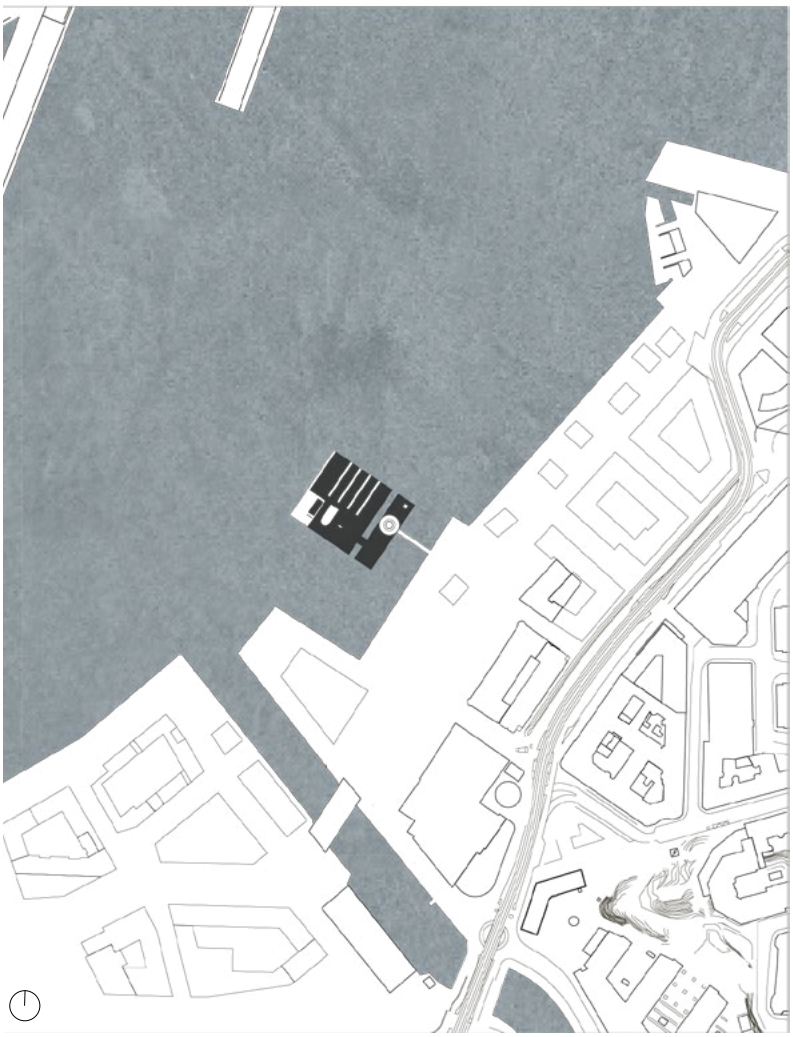
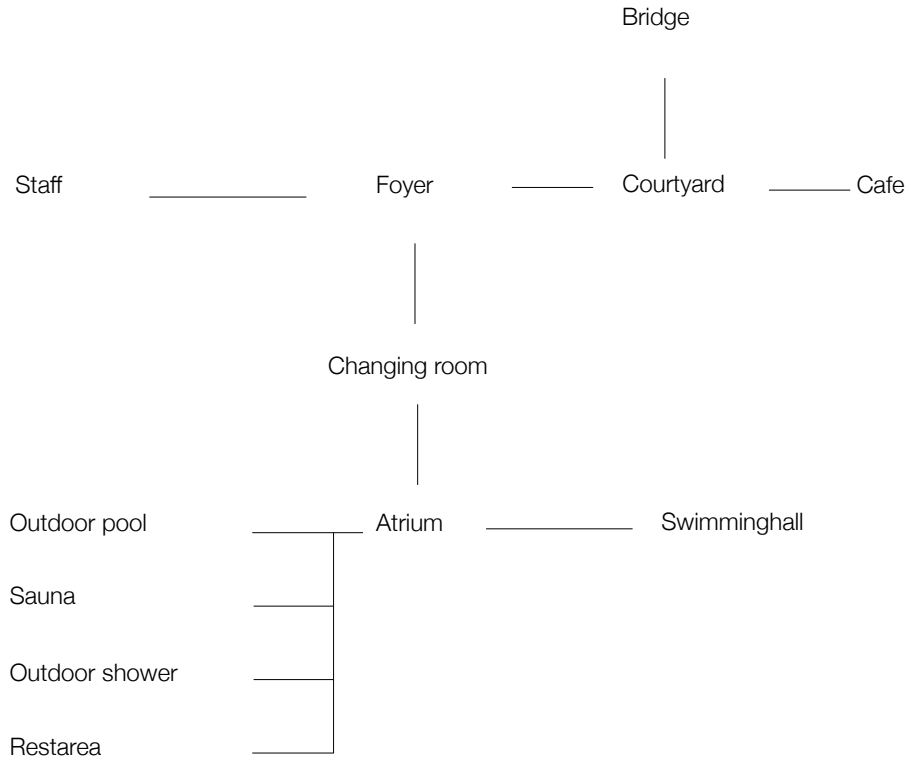


Figure 18. Site plan 1:5000

Program



Cafe 156sqm
- Vestibule 6 sqm
- toilet 7 sqm
- recycling 11 sqm
- cleaning storage 12 sqm
- kitchen 28 sqm

Foyer 306 sqm
- Vestibule 12 sqm
- Staff break room 35 sqm
- Office 50 sqm
- toilets 10 sqm
- cleaning storage 17 sqm
- recycling 17 sqm
- Storage 2 sqm

Changing room mixed 50 sqm
Changing room women 135 sqm
Changing room men 135 sqm

Swimminghall 1120 sqm
- Staff changing room 30 sqm
- staff changing room 30 sqm
- Toilet 5 sqm
- Vestibule 6 sqm
- Swiminstructor office 64
- 25x20 m Pool 500 sqm
- Storage 18 sqm

Technique (first floor) 450 sqm

Circulation space 452 sqm
Total floor area 2352 sqm

Sauna outdoor 15 sqm
Sauna outdoor 15 sqm
Recessed outdoor seating area 70 sqm
Outdoor pool 6x14m 84 sqm

The visitor begins on a bridge extending from the quay out over the river. The bridge arrives at an open courtyard with a single tree at its centre, framed by two projecting roofs of differing heights. From here, one enters either a small café or the foyer of the bathhouse.

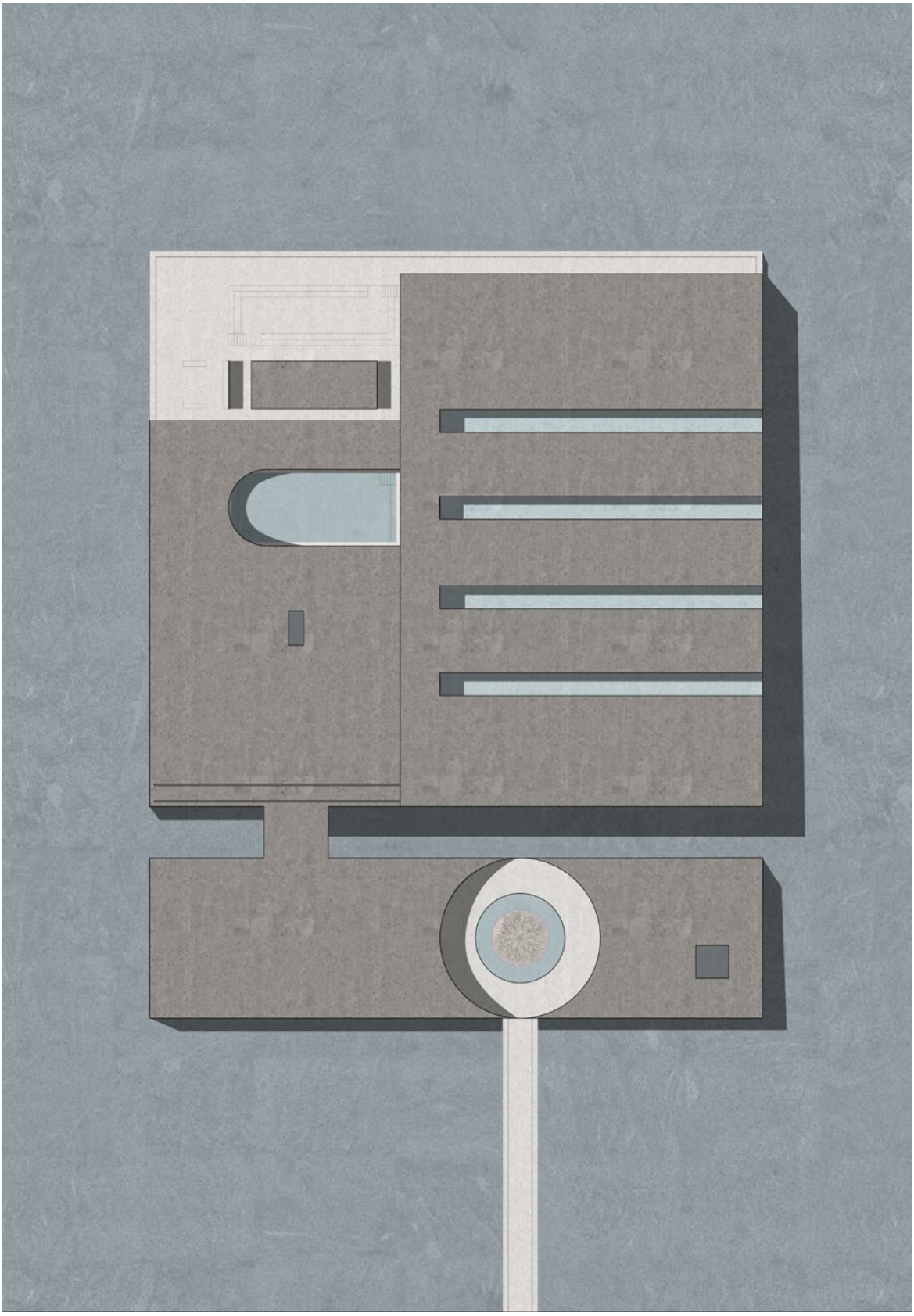


Figure 21. Roof plan 1:200

Entering

The curving roofline wraps around the existing tree, creating a sense of shelter. But the gesture carries symbolic weight as well, the building does not impose, it accommodates and is bending its own logic to make room for the natural, as if in recognition of a higher order.

Figure 22. Entrance.

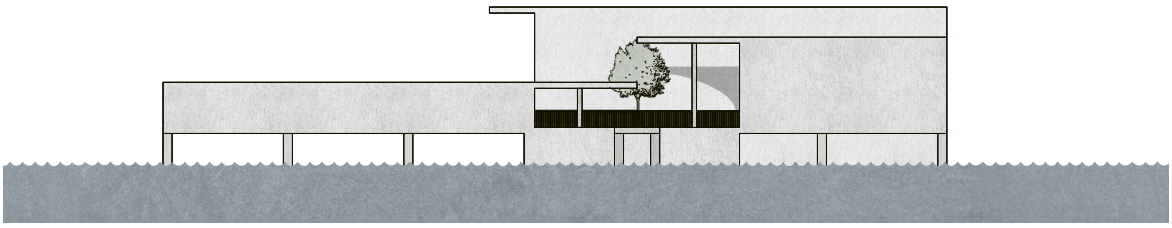


Figure 23. South west elevation scale 1:350

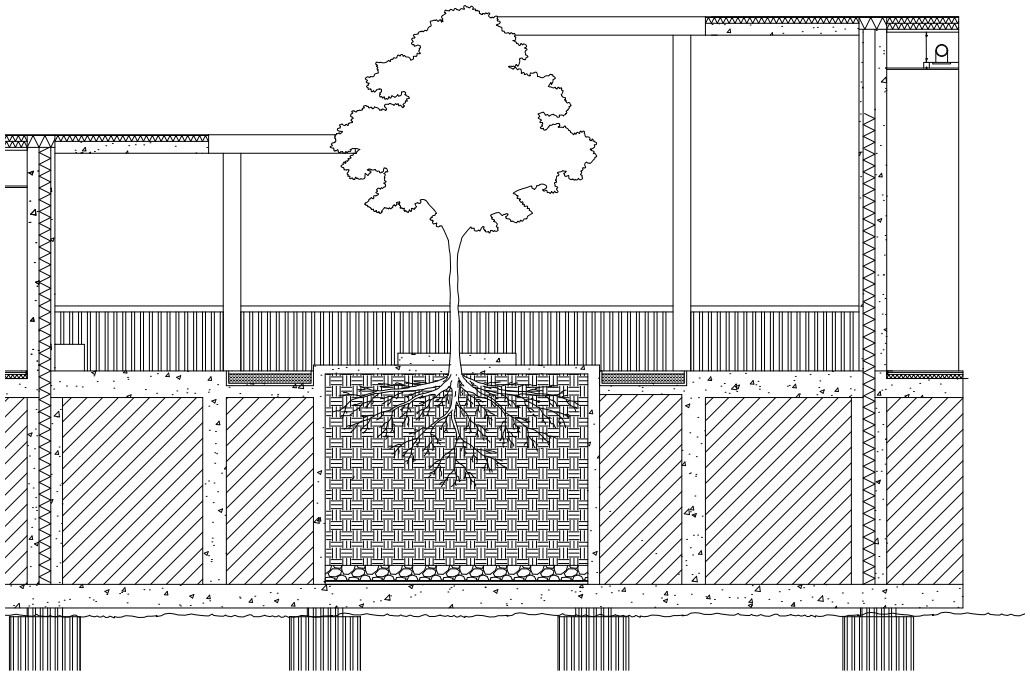
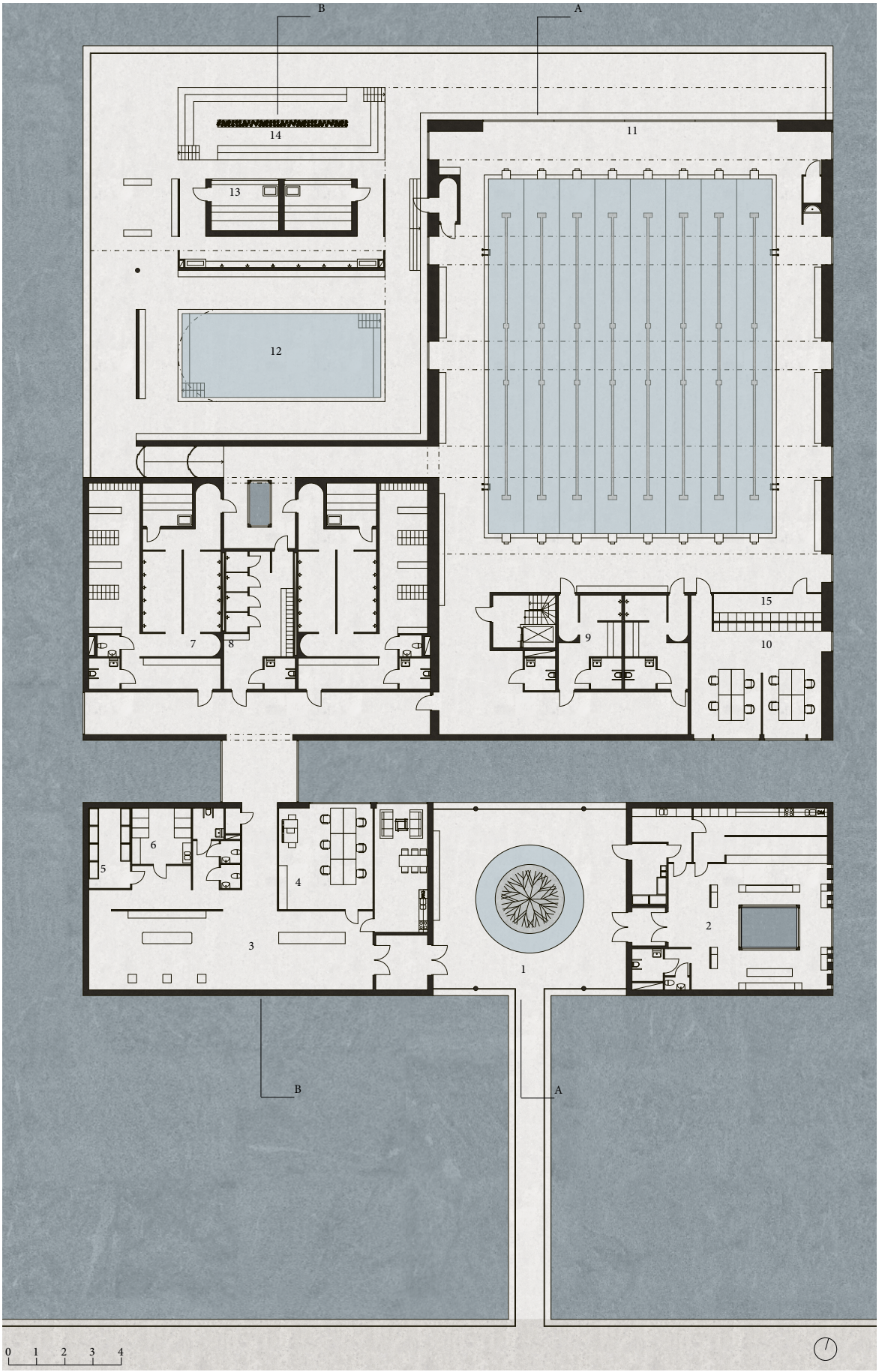


Figure 24. Section detail scale 1:50

Floor plan scale 1:400

1. Courtyard
2. Cafe
3. Foyer
4. Staff
5. Recycling room
6. Cleaning room
7. Chaning room
8. Mixed changing room
9. Staff changing room
10. Swimteacher office
11. 25m pool
12. Outdoor rehab pool
13. Sauna
14. Recessed seating area
15. Storage


B
A
14
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0 1 2 3 4

At the heart of the café, the atrium opens up it is drawing in both the river and the sky, collapsing the boundary between inside and out. Light filters through the small, rastered openings above, falling into the room in fragments, casting shifting patterns across surfaces. The sunlight becomes something more than illumination here; it is an active presence, a design element that rewrites itself through the day.

Figure 27. Cafe

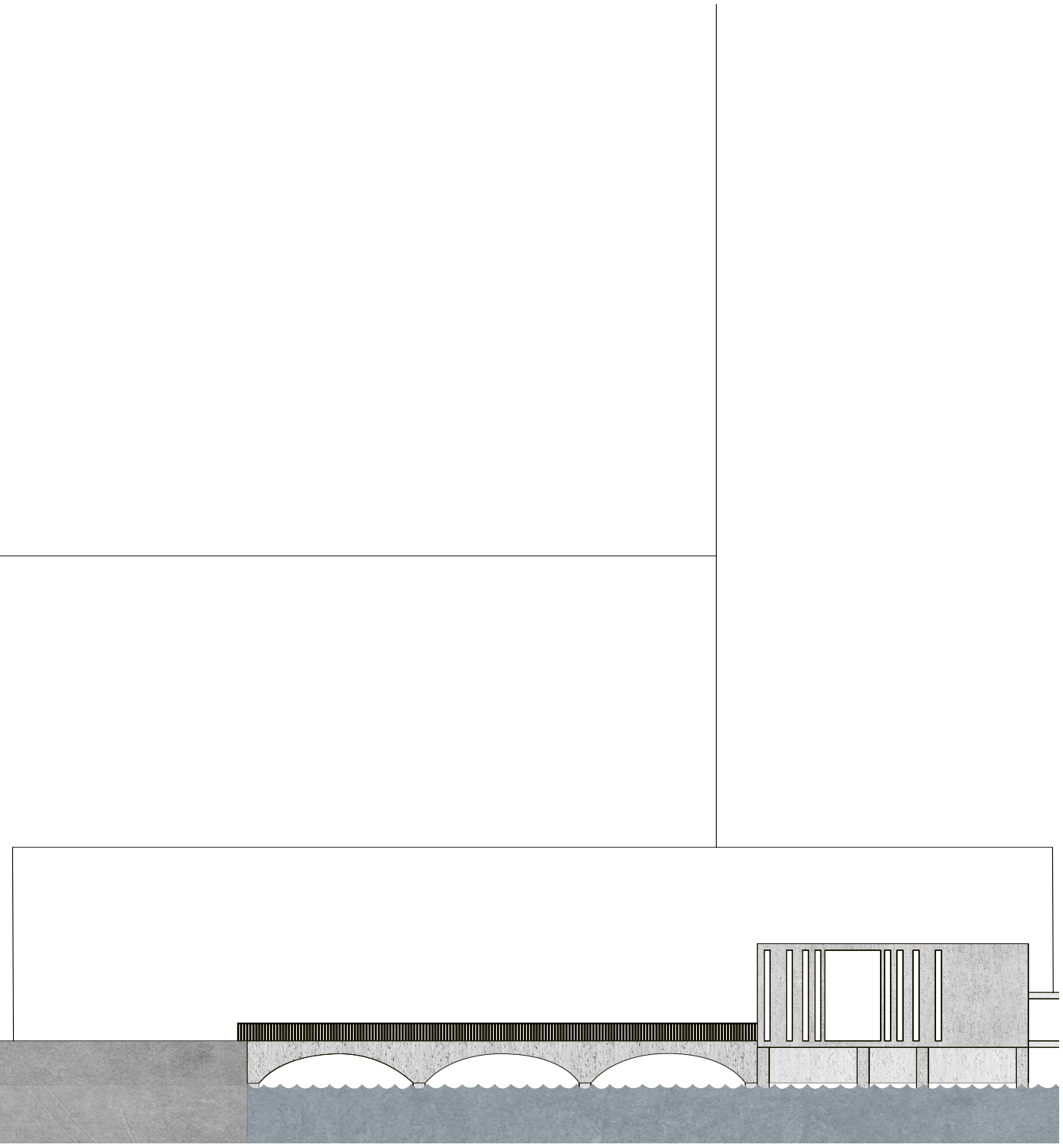
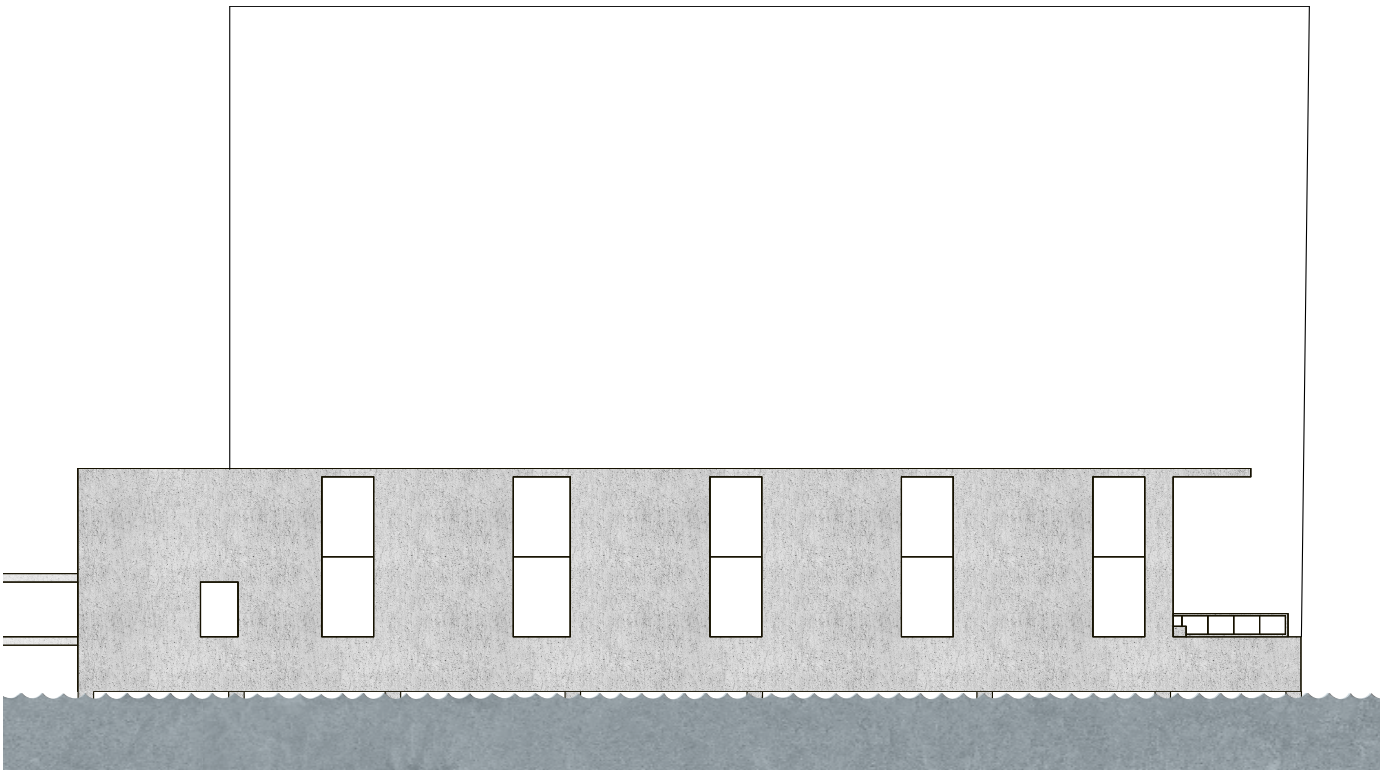


Figure 28. North elevation scale 1:350



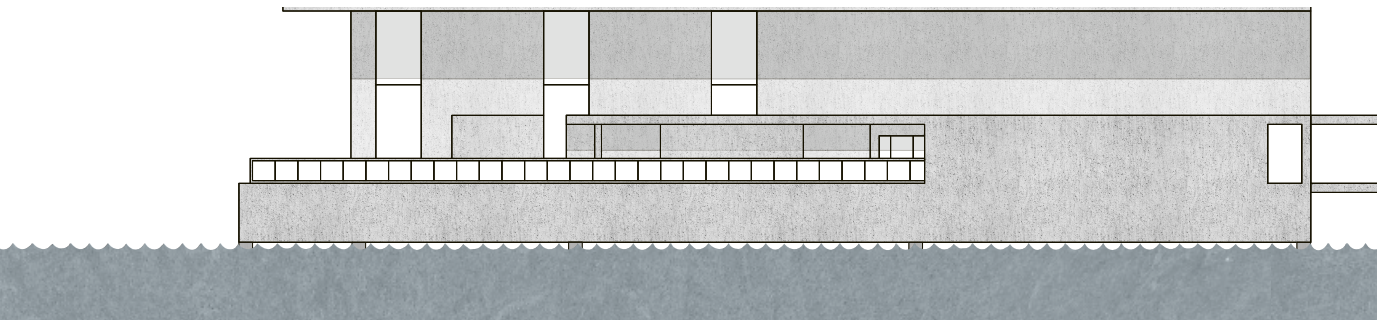
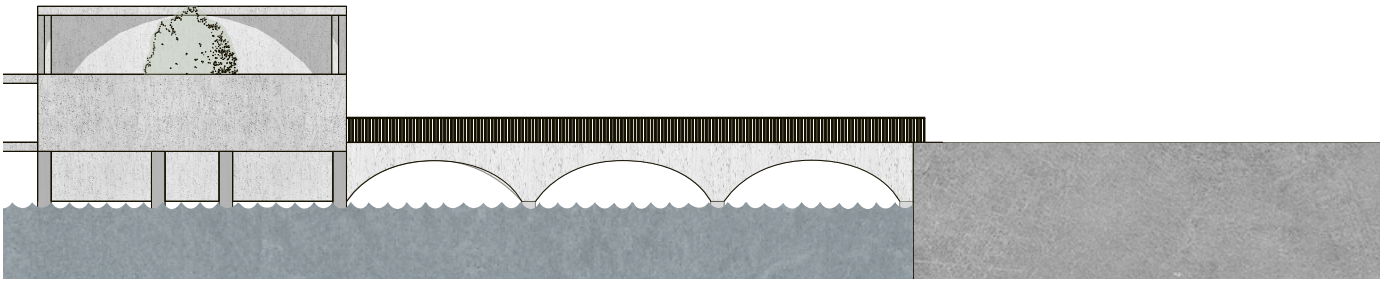


Figure 29. South facade scale 1:350



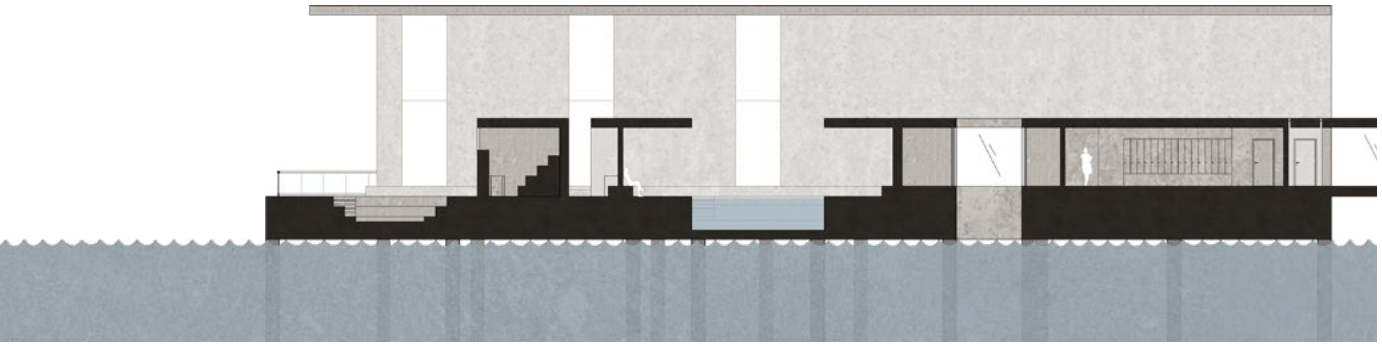
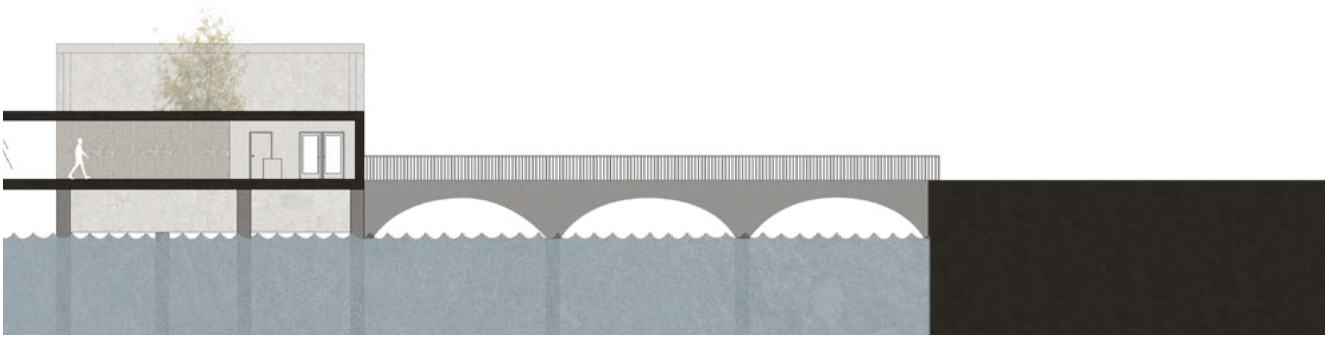


Figure 30. Section B scale 1:350



The foyer is a quiet and restrained room, defined by the weight of concrete and the warmth of wood. Here, visitors arrive, register, wait, and slowly orient themselves before moving further into the building. The stillness of the space allows the reception, seating, and art exhibition to become part of a calm threshold between the city outside and the more atmospheric sequence of water, sky, and weather beyond.

From the foyer, a glazed bridge leads to the changing rooms, and from there a glazed atrium opens toward sky and water- a moment that allows the body to register the condition of the weather before the threshold is crossed.

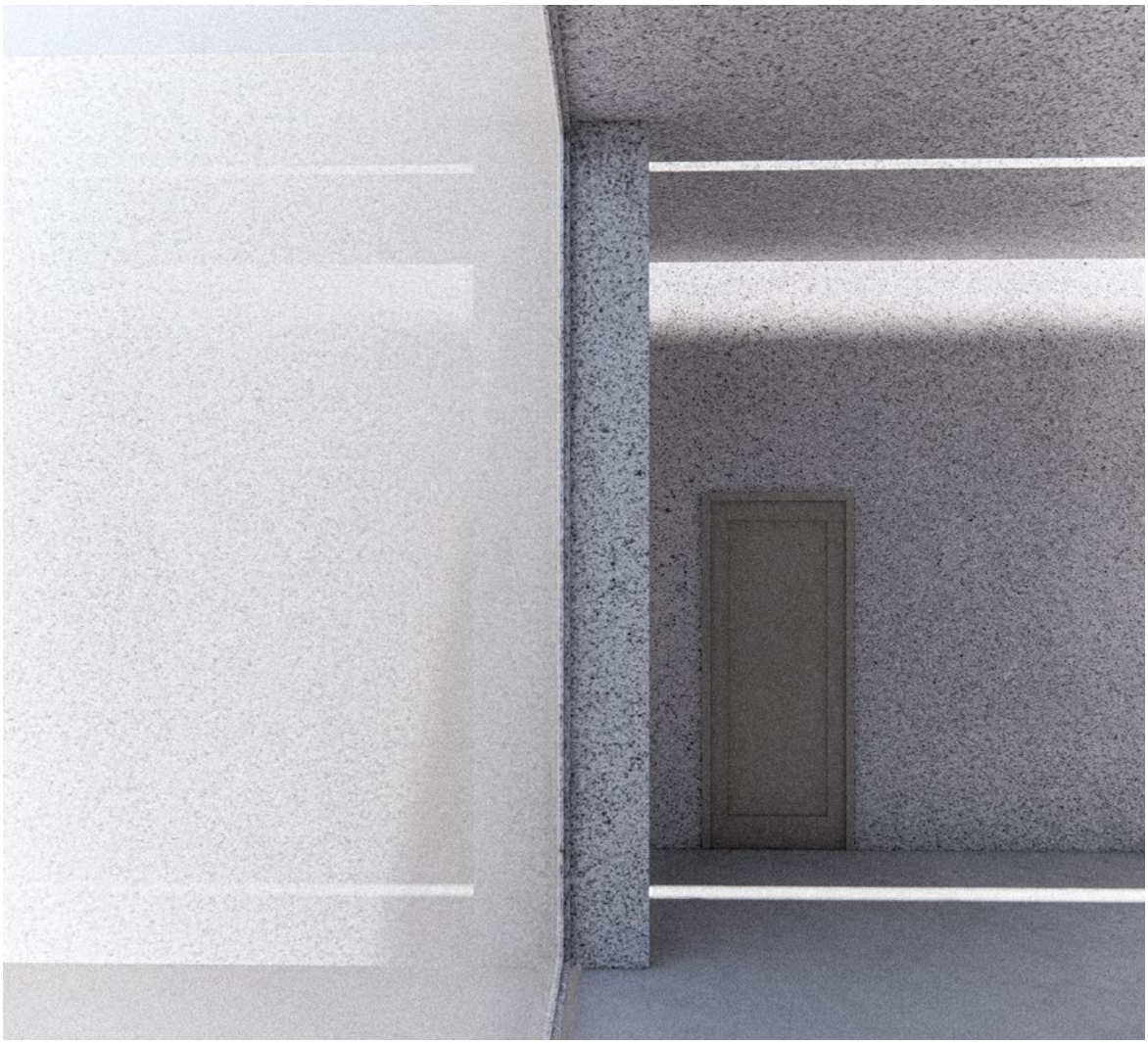


Figure 31. Atrium.

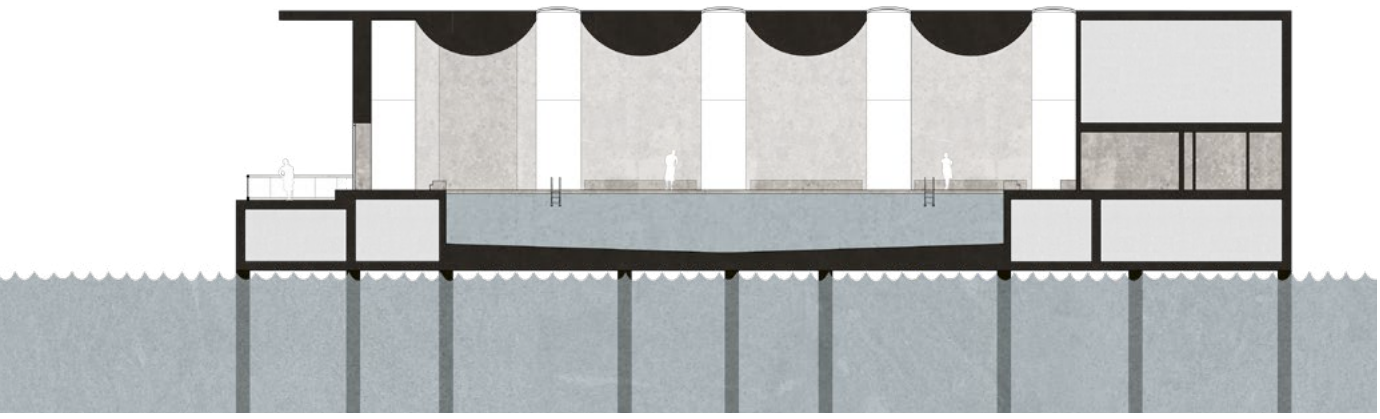
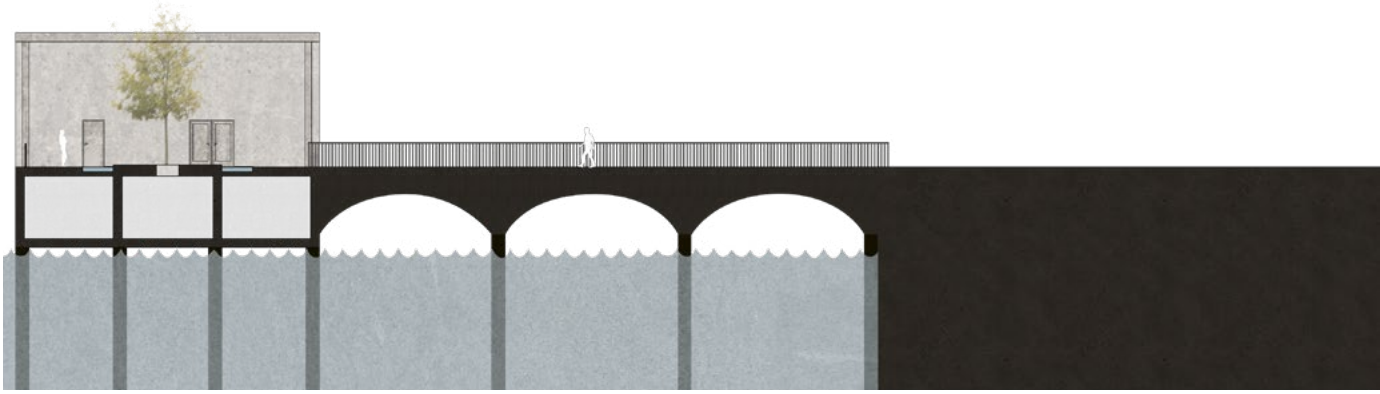
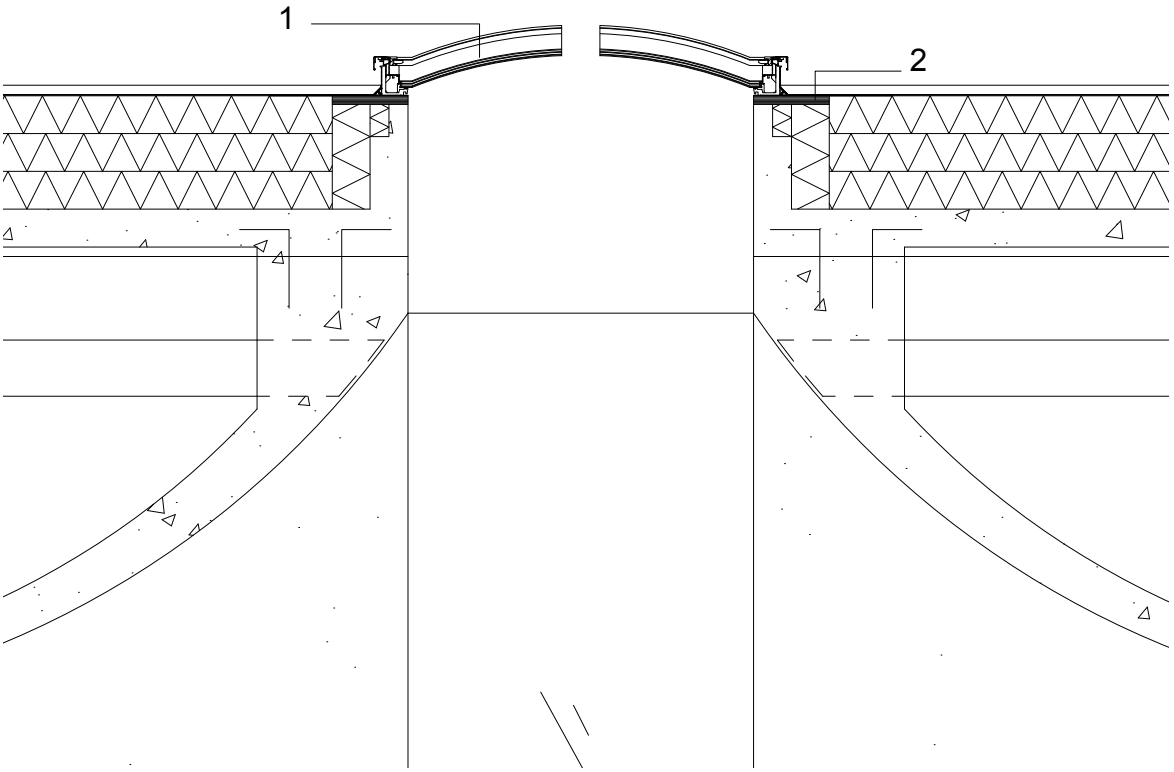


Figure 32. Section A scale 1:350



A series of convex curves cross the ceiling, interrupted by narrow strips of open sky. These gaps keep the room from feeling enclosed. Light and air permeate the space, creating a persistent ambiguity. The interior is neither fully enclosed nor entirely open. The boundary between concrete and clouds dissolves, leaving the swimmer suspended in a space that belongs equally to shelter and open air.

Figure 33. Swimminghall



1: Curved insulated glazing unit

2: Red air link

Figure 34. Section scale 1:20

57

Figure 35. Swimminghall.

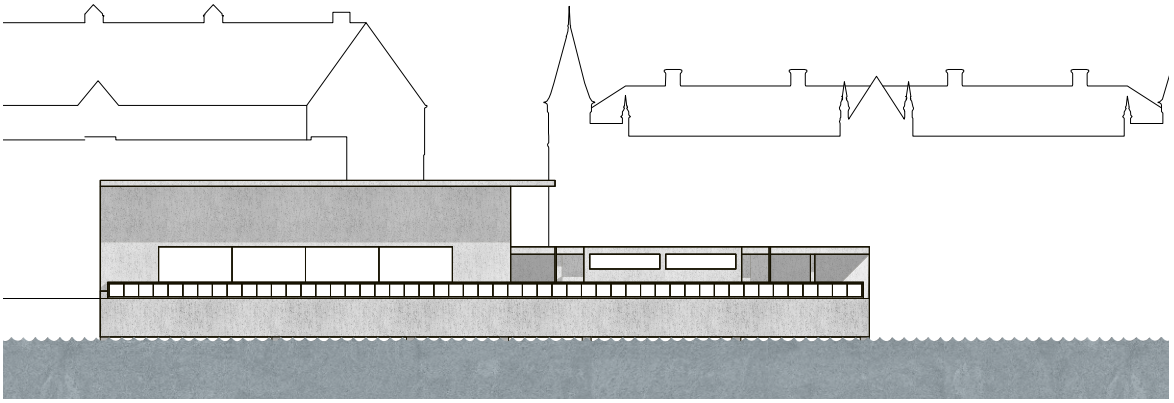


Figure 36. North west elevation scale 350

Figure 38. Facade 1:20

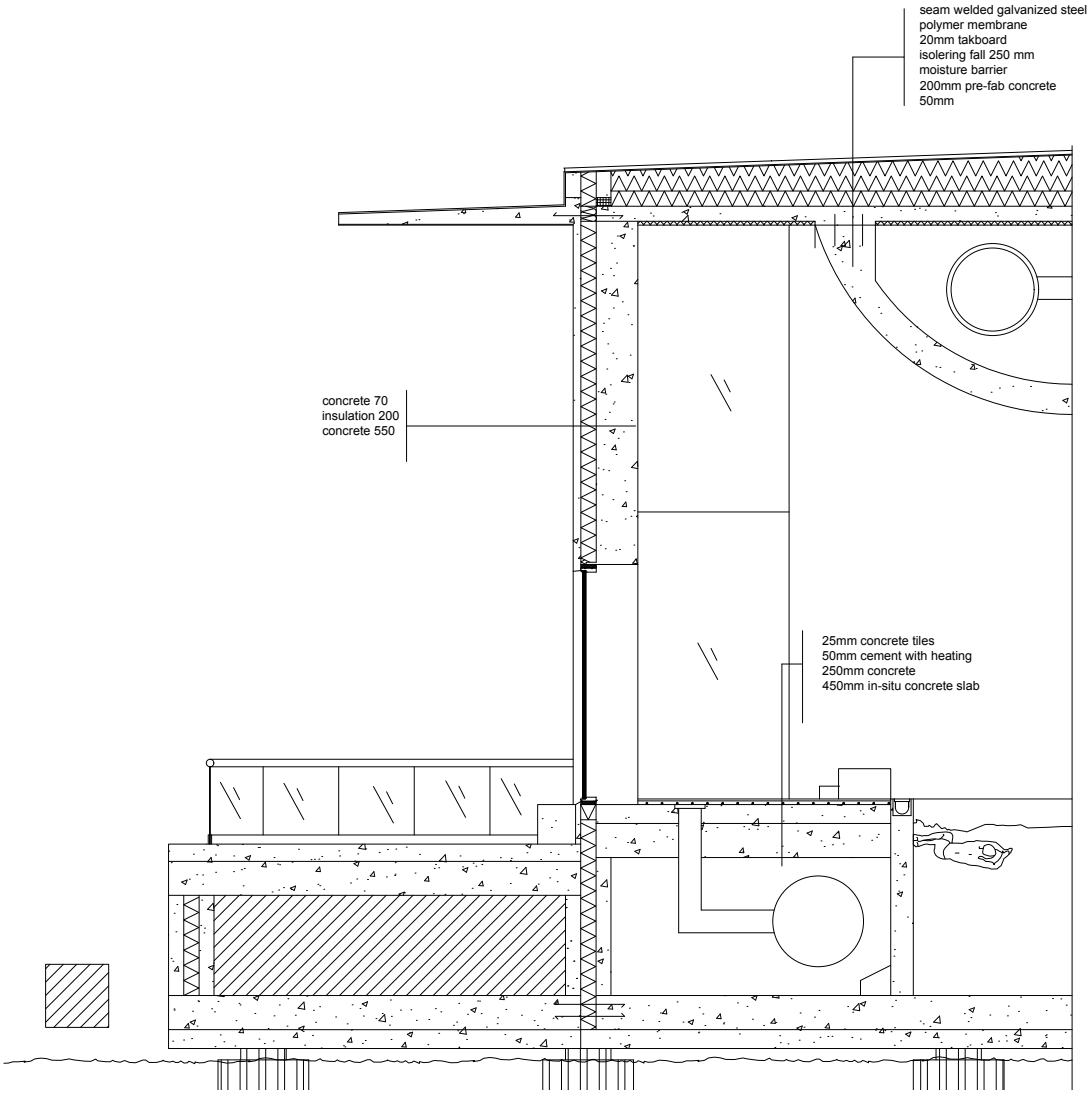


Figure 39. Section 1:20

Outside

Stepping outside, the roof extends at varying heights, offering shelter from rain and wind before the sky fully opens up. Here the pace slows. The outdoor program gathered here is for recovery. A pool for rehabilitation, saunas and outdoor showers punctuate the space, and a recessed seating area draws you in; sheltered from the wind yet open to the warmth of the sun, the sound of water close enough to feel like company. Above the pool, the sky is framed, held between the edges of the roof like a painting that changes throughout the day.

figure 40 Perspective of the bath

Figure 41. Floor plan 1.20

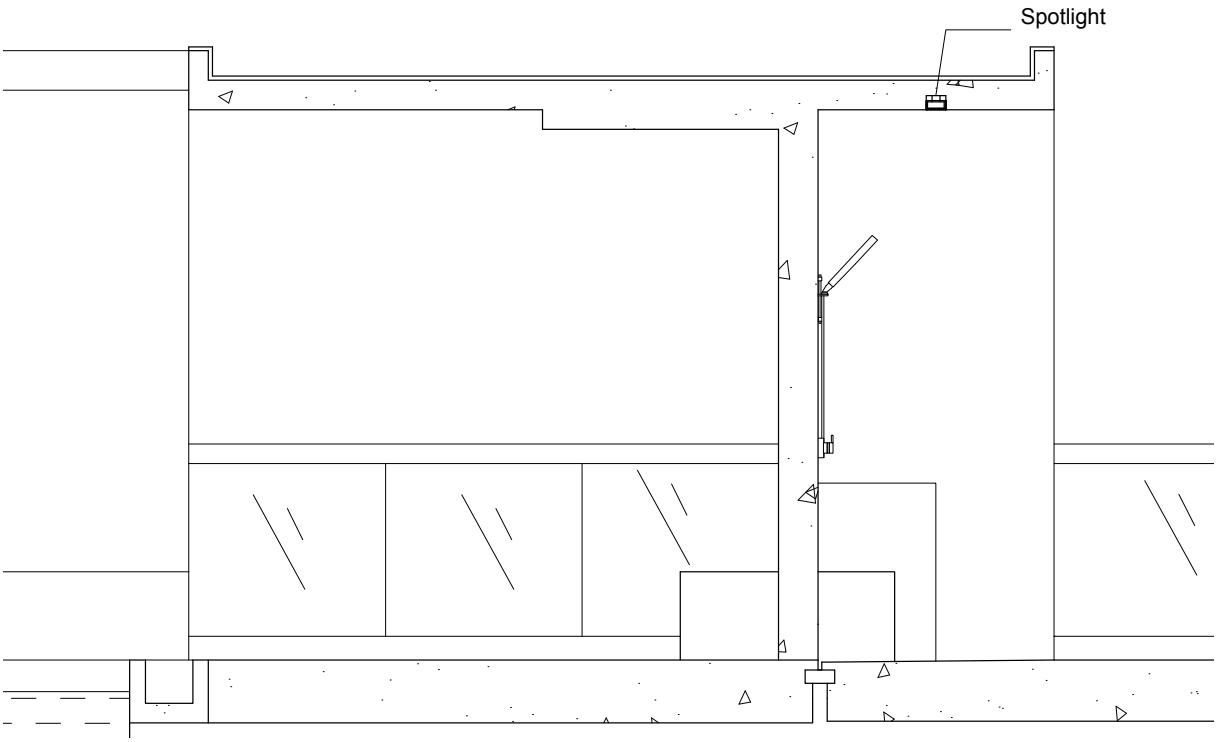


Figure 44. Section scale 1:50

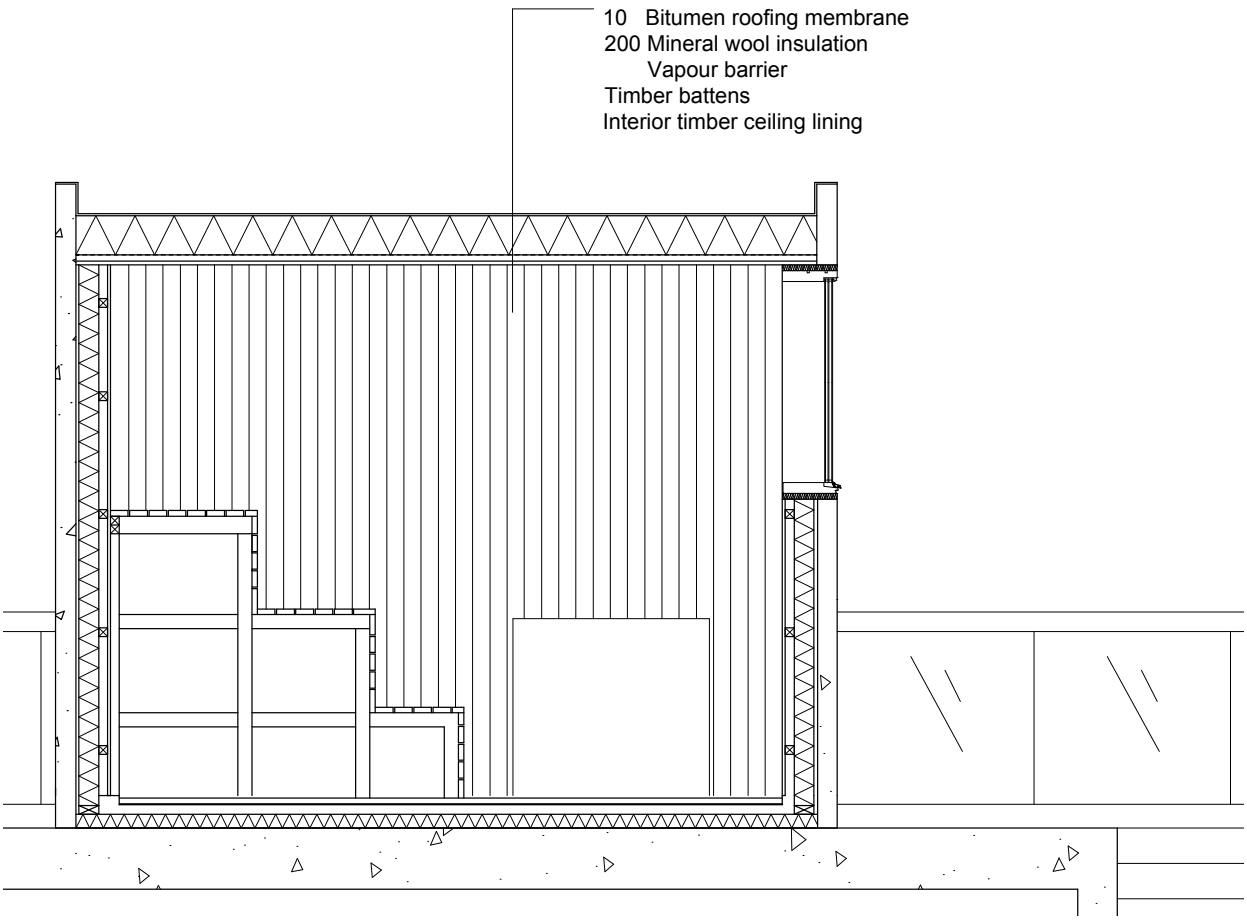

10 Bitumen roofing membrane
200 Mineral wool insulation
Vapour barrier
Timber battens
Interior timber ceiling lining

Figure 45. Perspective.

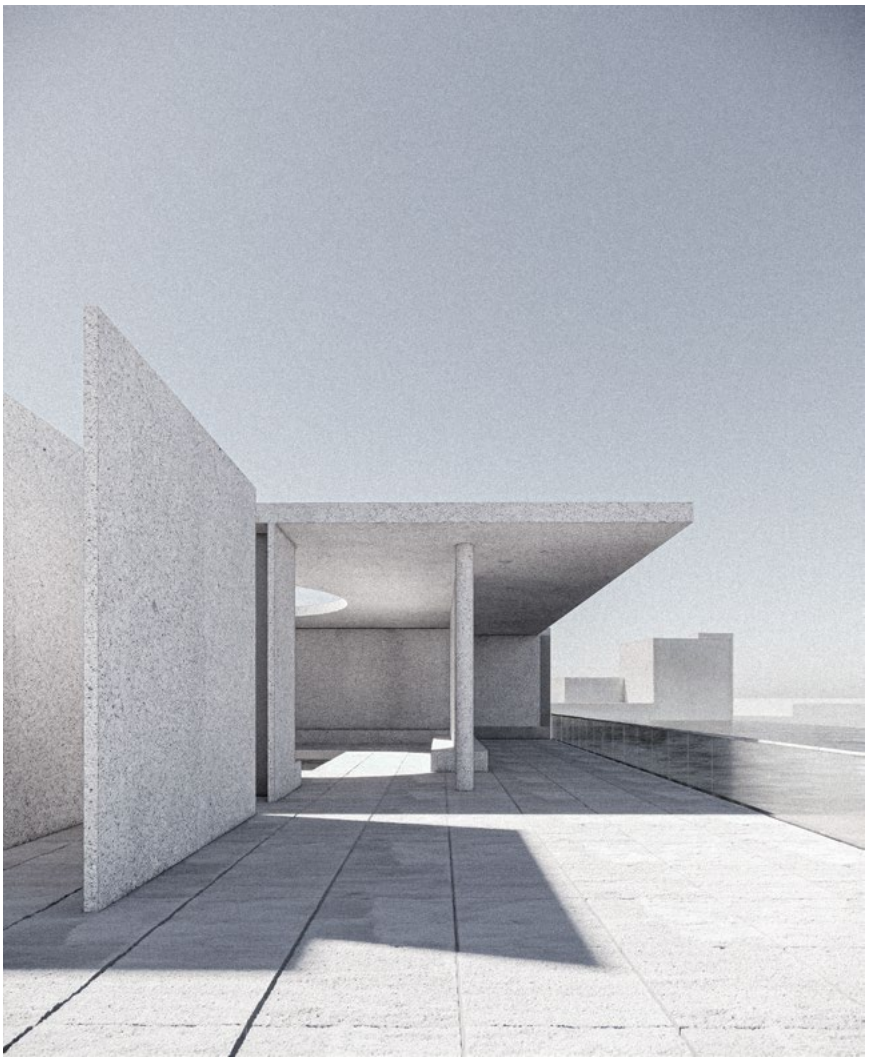


Figure 46. Perspective.

Discussion

Room for Weather began with a simple question: what would it mean to design a building in Gothenburg that does not treat weather as something to be shut out, but as something to be lived with? The city's climate is not incidental to its character. Rain, shifting light, the cold proximity of the river: these are not interruptions to daily life but part of its texture. Yet architecture here, as elsewhere, tends to respond by sealing the body inside. The contemporary building manages climate rather than mediates it. This project asks whether that has to be so.

The answer it proposes is not exposure for its own sake. It is calibration. The body does not experience space in an instant but unfolds within it, and spatial meaning accumulates through movement, pause and return. Atmosphere, understood in this way, is not a quality applied to a room but something the body registers before it has words for it. It is felt first. The question for design becomes: what decisions produce that feeling, and how precisely can they be controlled?

Pallasmaa argued that architecture has long over-invested in the visual, training the eye at the expense of the other senses. But a room is not only seen. It is heard, touched, smelled and thermoregulated. Light grazes rather than illuminates. A surface is read by the foot before the eye reaches it. It is through this peripheral and multisensory attention that a building becomes fully present to the body. Zumthor gave this insight a more compositional form. Atmosphere is the outcome of exact decisions: the weight of a material, the temperature a surface implies before it is touched, the way sound shortens or lengthens in a given enclosure. Nothing is accidental. Everything either contributes to or dilutes the effect.

The threshold is where this precision matters most. Not as a line between inside and outside, but as a zone with spatial thickness, where each sense is separately prepared for what comes next. Sound changes first, then light, then temperature, then the material underfoot. In a threshold that works, the body knows where it is in the sequence before the mind has registered the transition. This kinesthetic knowledge, the body's sense of where it stands in a spatial progression, is what gives a building its atmosphere of necessity, the feeling that each room could not have been arrived at any other way.

Jonathan Hill extended this understanding into the dimension of weather. Wind is not background noise but gives direction. Rain marks surfaces and slows the body's pace. A change in light restructures what is near and what recedes. Weather, in this account, is not something architecture protects against. It is something architecture can organise, a spatial agent whose flows of air, moisture and temperature become legible through the sequences and thresholds a building constructs. The body does not perceive weather from a fixed point. It perceives it through movement, and movement is what architecture can shape.

The bathhouse typology made this argument concrete. Bathing already suspends the body's ordinary defences. Heat, cold, water and skin meet without the mediation of clothing or interior conditioning. The senses are closer to the surface. This heightened vulnerability made the bathhouse an effective site for testing how a building might choreograph the relationship between body, interior and climate. And Gothenburg's river provided the site: not as a picturesque backdrop, but as a physical and climatic presence that the building could be placed within rather than beside.

The spatial sequence that resulted moves from the exposed approach across the bridge, through changing rooms and transitional spaces, and outward again toward the open bath and the river. Each step in this progression is calibrated. The enclosed bridge allows the visitor to remain aware of the outside without yet being subjected to it. The changing rooms compress and quiet the experience before it opens again. The outdoor terrace does not need architecture to frame it: its ceiling is the sky, its atmosphere is the water, and its enclosure is created through openness rather than built form. To have extended the arches into that space would have made the architectural gesture stronger but the sky less central. Restraint here was not timidity. It was a decision about what the building should let alone.

This became one of the clearest lessons of the project. A building conceived with weather in mind does not need to announce that intention at every moment. The outdoor terrace is most itself precisely because the architecture steps back. The enclosed bridge contributes to the sequence precisely because not every passage can be exposed. If every moment insists on weather, no moment is surprising. The calibration depends on relief as much as on intensity.

The project also confronted the limits of phenomenological theory as a design method. Pallasmaa and Zumthor are more useful as instruments of reflection than as instructions for making. The atmosphere of a room cannot be derived from their writing. It has to be found through iterative drawing and spatial testing, through decisions that are evaluated by feel as much as by argument. Theory clarifies what has already been made. It does not replace the making.

Nor does atmospheric ambition exist outside practical reality. Rain creates atmosphere, but it also creates slippery surfaces. A threshold alive in the wind may become unusable in certain conditions. Water connects the building to the river, but it demands structural clarity and material resilience over time. Regulatory requirements around accessibility, moisture and thermal performance are not obstacles to the design idea. They are part of it. The question the project kept returning to was not how much weather to admit, but how, and where, and at what cost to the sequence already constructed.

From the outside, the building may read as a restrained concrete structure in the river. This is intentional. The project does not announce itself. Its difference is revealed through use, through the accumulation of moments: light falling through a roof opening, the sound of rain on water, the temperature shift at a threshold, the sky encountered without a frame. These are small things. But smallness is not the same as insignificance. It is through the concentration of precise decisions that a building produces the feeling of having been made for the body rather than for the eye.

Ultimately, Room for Weather is an argument for a different relationship between architecture and climate. Not the elimination of discomfort, and not exposure as gesture, but something more patient: a building that gives the body enough contact with the world outside that it does not forget the world is there. In an era of increasing environmental disconnection, that is not a minor ambition. It may be one of the things architecture is most needed for.

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AI Apendix

AI was used during the writing process in the form of ChatGPT. It was employed to check grammar and suggest synonyms at the word and sentence level. The content, arguments, and structure of the thesis remain entirely the author’s own.

Student Background

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ACE520 Residential healthcare: Housing for seniors
ACE350 Building climatology
ACE445 Design systems
ACE485 Housing inventions 1
ACE400 Architecture in the Anthropocene
ACE380 Sustainable development and the design professions

Master thesis

2026