Made in Oslo

Production School in Brenneriveien

Process

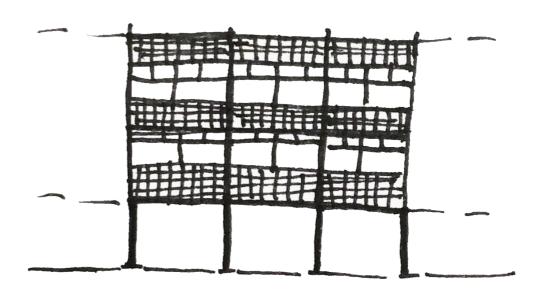
Introduction

This booklet tries to track the progression of the project, and is organized chronologically, rather than thematic.

This is partly due to the strange progression of this semester, during the ongoing Covid-19 pandemic. We believe this could be of value to future architects, searching to investigate how the architectural practise is changed by a global lock down situation.

The book is structured by a time line, visible in key moments of the project development. The lighter shade of grey between early March and late April signifies the period if national lock down in Norway.

For a more distillate version of key findings, please see our booklet concerning 'Analysis and Reflections'.

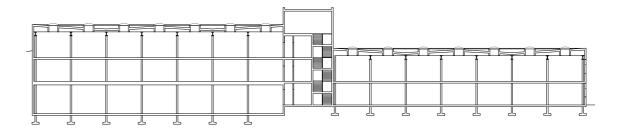


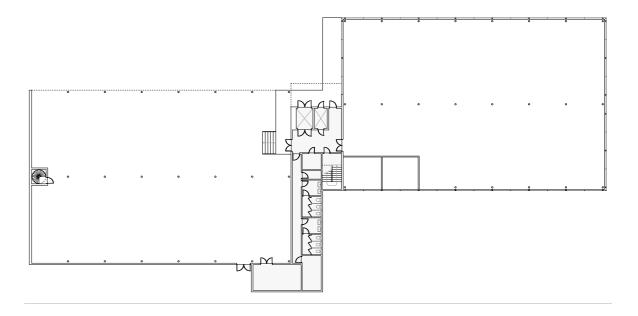


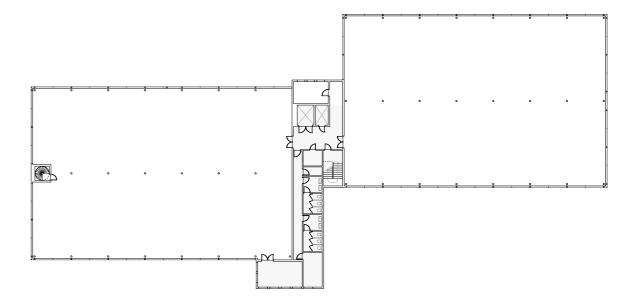
The project starting with a familiarization of the excising building. This included tracing plans, sections, mappings of façades, and essential details.

During this phase, we learned to appreciate the structural logic of the building. The building consists of two large wings, built mainly of prefabricated elements. Connecting them are a central core in exposed concrete. This core is housing stairs, elevators, and toilets. Leaving the wings with a free and open plan.

Further analysis of the building can be found in the booklet named research and analysis.





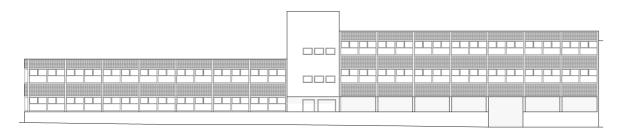




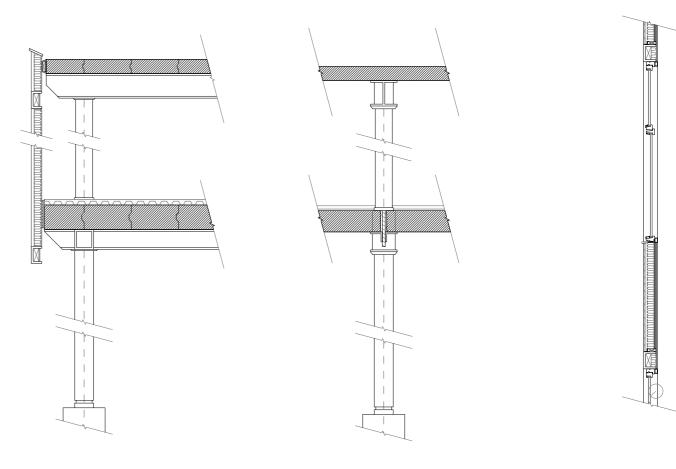
Facade 2020 1:500

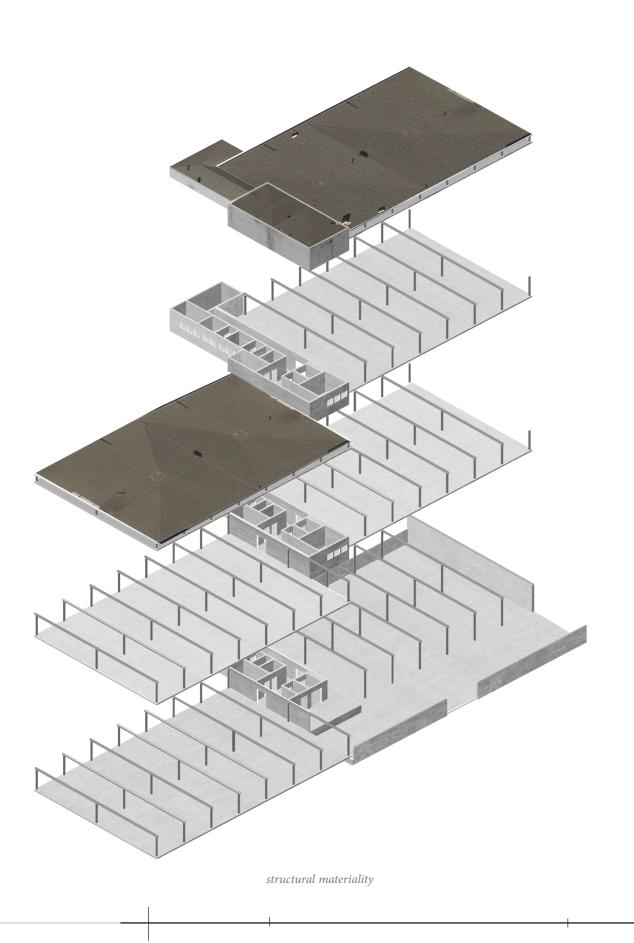


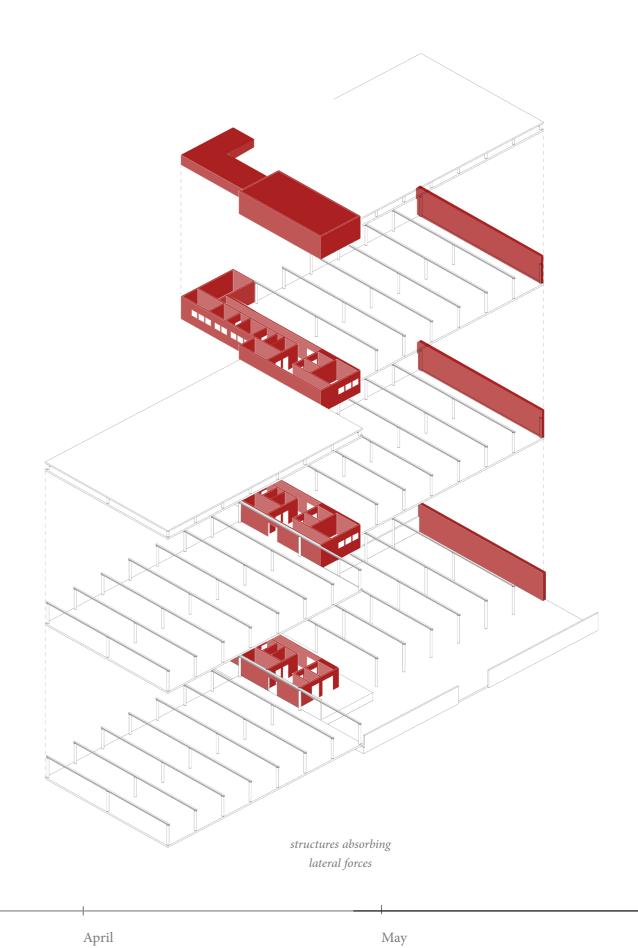
Facade 2020 1:500



Facade 1967 1:500

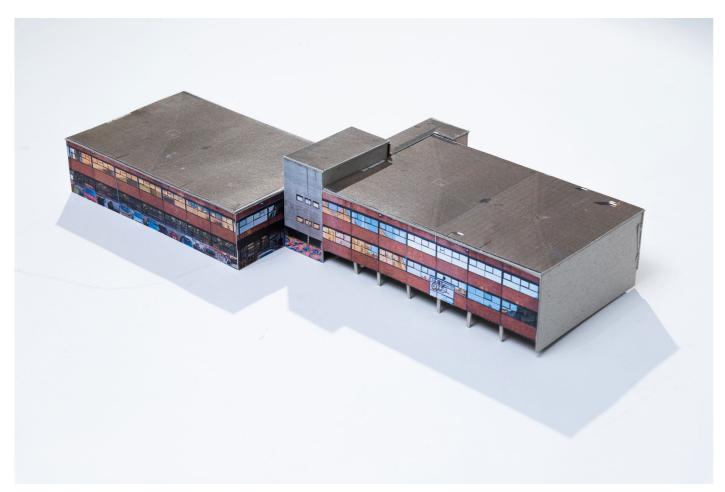






March January February

May



Existing building, model 1:200



Existing building, model 1:50



Existing building, model 1:500

Excursion, Oslo Schools

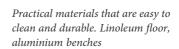
Since our program deals with drop outs from secondary eduction, we found it interesting to visit these institutions of higher education. Our excursions are further documented in our excursions booklet, however, these are our most relevant findings

Firstly we visited Etterstad School, which is Oslo's only school specializing in food preparation. Here we learned a lot about how to organizing a kitchen, and the pedagogy of educational kitchens. We found their idea of a restaurant run by students especially intriguing.

We also visited Kuben Yrkesarena, the largest school in Oslo focusing on construction and building trades. Here the importance of materiality became obvious, as they told us about their ideas for a educational workshop. Furthermore, the integration of theory and practise was thoroughly emphasized.

Etterstad School







Few windows and deep volumes creates dark work areas



Too large to function as a successful and proper restaurant kitchen, yet ideal for education

Kuben School



The restaurant is located far from the entrance, however it attracts many guests from the local community



Many costumers from the local community. Lacking seating area.



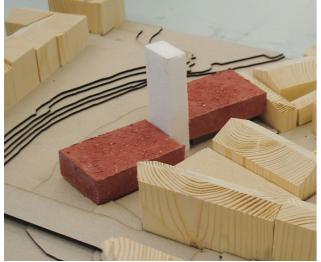
No proper area for teaching- the teachers want a more defined and suited space for these types of activities



The tiles in the floor are highly un-suitable and not durable. The white colors reveal all damage and dirt

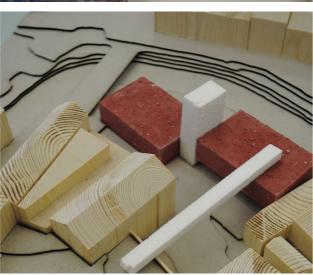


The teachers and students prefer concrete floors in the workshop: durable and easy to clean









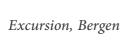




Early playful intuitive model studies

Early playful intuitive model studies





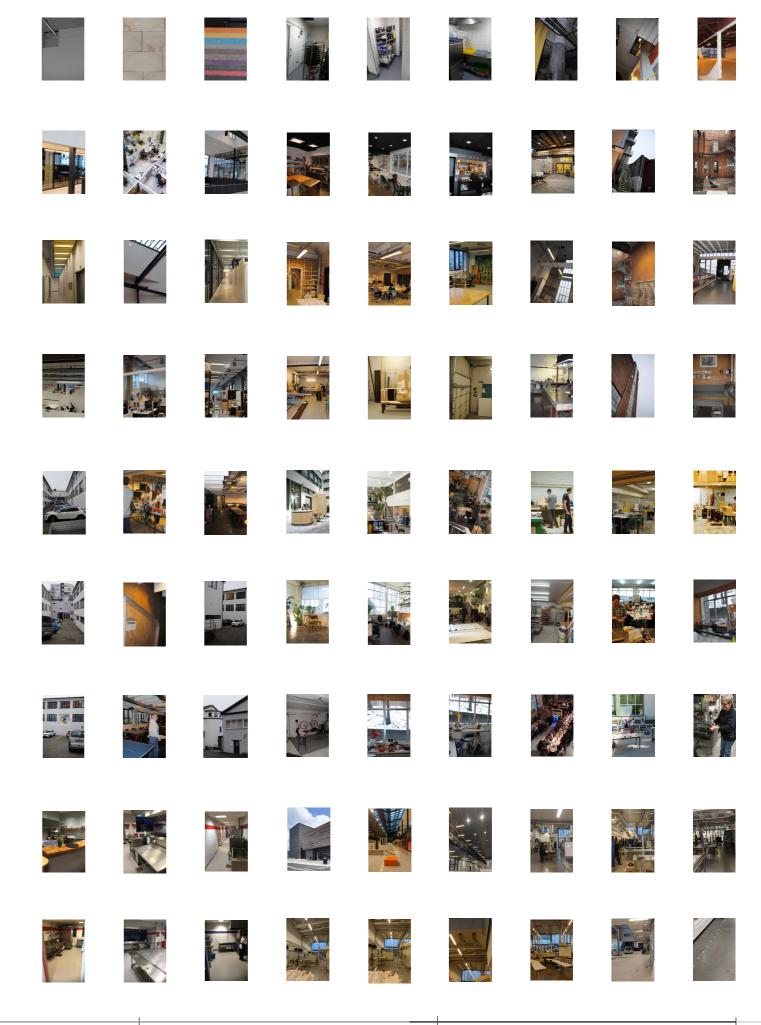
In the beginning of February, we flew to Bergen, to visit the largest production school in Norway, Hyssingen.

While in Bergen, we also took the time to visit the new academy of fine arts, KHIB, designed by Snøhetta. As well as the Bergen School of Architecture. Our excursions are further documented in our excursions booklet, however, these are our most relevant findings

The relevance and value of production schools were really convayed to us during our visit to Hyssingen.

We learned about the ideal size of the student body, and important issues regarding privacy and sensitive students.

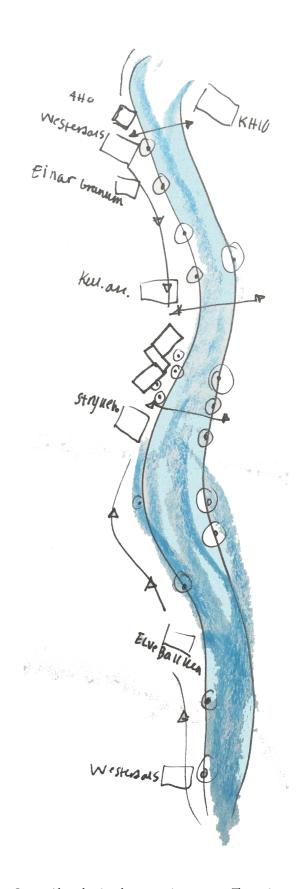
The question of how to adapt the program of the production schools to a new city was also disgussed, and we gor important information about the different workshops.



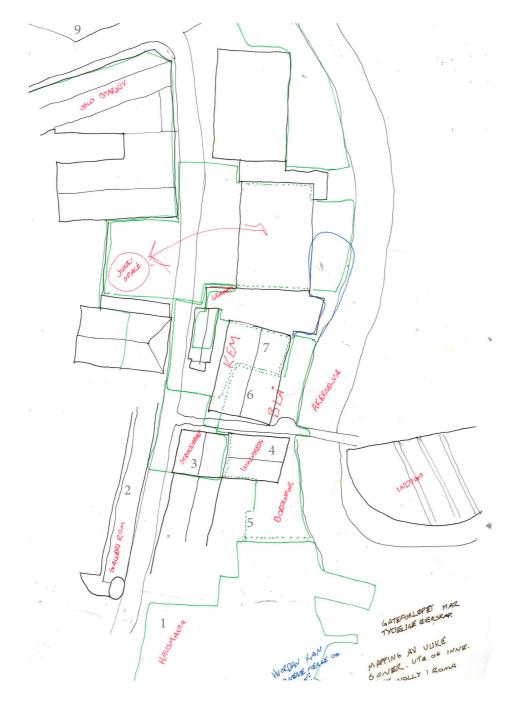


After having conducted research of the existing building and program, we continued by researching the neighbourhood of Brenneriveien.

These mappings included mapping the larger Akerselva area, neighbouring program, traffic, green areas, public spaces and future developments.



Lower Akerselva is a large creative campus. The main actors here are The Oslo school of Architecture, The academy of fine arts, Einar Granum Art School, Strykejernet Art School and Westerdals School of art and communication.



Mapping of neighbouring program

1; Hausmania Occupied City Block, 2; Gallery ROM, 3; Strykejernet Art School, 4; Ingensteds Cultural House, 5; Bortenfor Bar, 6; Blå Concert Venue, 7; KEM Art store, 8; House of Dance



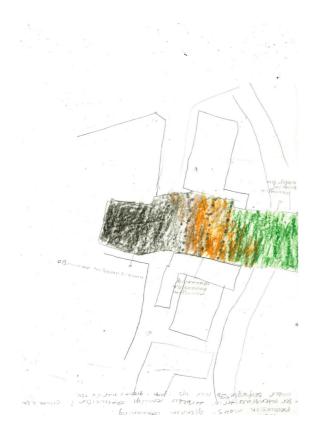
Collage and model showing façades in Brenneriveien



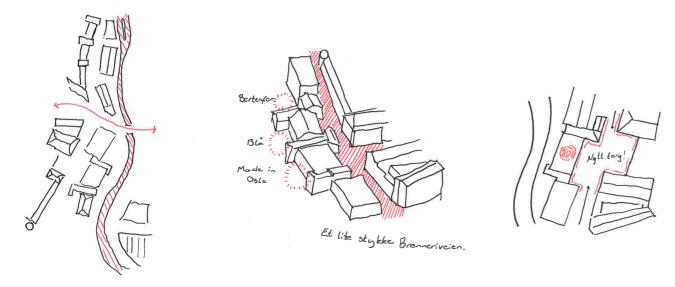
Yellow colour showing public roads, red is showing outdoor spaces.



Yellow colour showing public accessible outdoor spaces, red showing closed off spaces.



The open ground floor in the southern wing has a potential to tie the productive city and the recreational river together. The room is today quite dark, and we want to transform this into a inviting space.

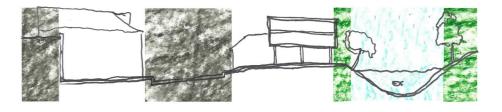


Some initial sketches showing Grünerbroen, the river facing institutions, and the potential for a new plaza.



The diagram on the left shows the current situation, where there seems to be a strong division between production and recreation.

The right hand diagram shows the potential for a unification of these two landscapes.



The relationship between the pulsating productive city shown in grey and the tranquil river became an important diagram throughout the design process.

May

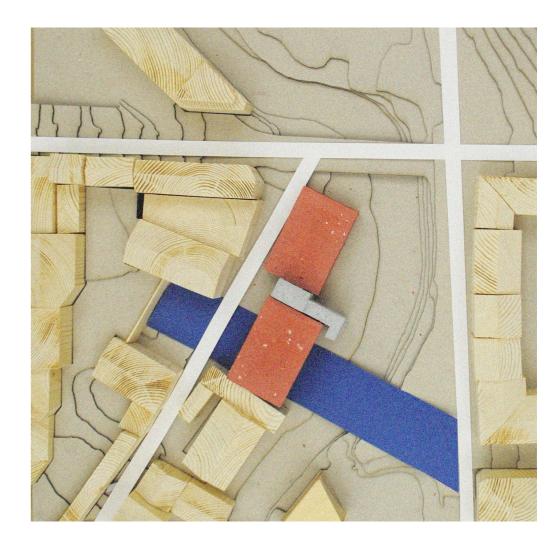
April

Findings and Conclusions

Akerselva river is a significant part of Oslo's landscape, and it played a decisive role in the industrialisation of the city. As with most urban rivers, it's banks were the sites of heavy industrialization in the late 18th century. However, Akerselva is nothing like the great Rhine or Mersey, it is narrow and winding, filled with violent falls and strong currents. This feature of physical geography made the river unusable for transport of goods, thus the riverside industry doesn't really engage and form the river. Instead, the industrial buildings seems to create a barrier protecting the tranquil river form the busy city surrounding it.

The same juxtaposition of recreation and production is also a defining characteristics of Brenneriveien. The street currently houses cafés, night-clubs, an art school, galleries, offices and smaller industrial spaces. The architecture is mainly 18th century industrial brick architecture, a notable exception being Brenneriveien 11.

We also concluded that we want to create a fruitful relationship between the different actors in Brenneriveien and the production school.

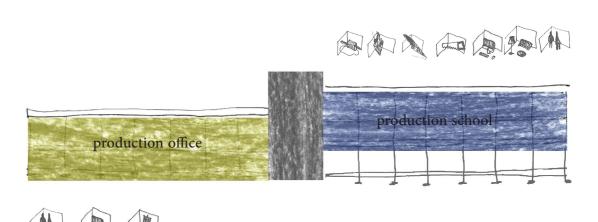


Programmatic studies

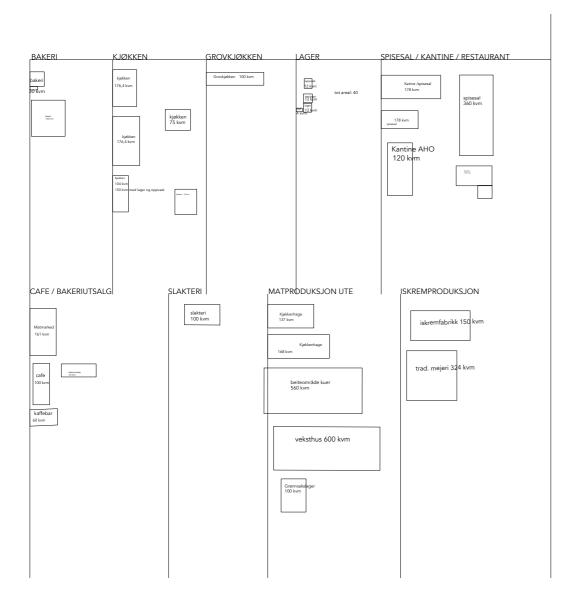
Due to this typology not being an established school in Norway, we were given quite free reign when deciding the different sizes.

However, we knew that the headmaster of Hyssingen strongly warned us about designing for more than about 40 students. Hyssingen is about 30 students, and occupy a building of about 1 400 m2. Due to the size of Brenneriveien 11 being about 3 800 m2, we decided to include some production offices and ateliers. This being a way of including the already creative character of the street into our project.

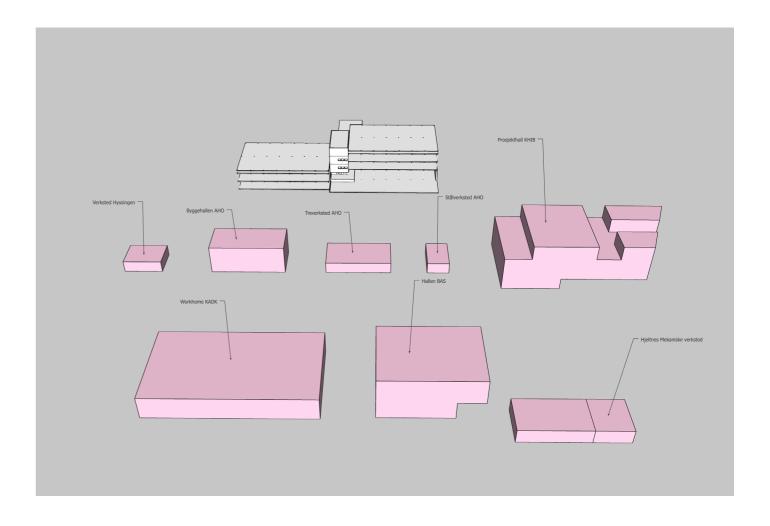
Since the program does not have any specific requirements fore areas, we decided to base our sizes on Hyssingen, their advises, and the logic of the building.



Distribution of the programs categorised as separate for the production school and the production office



Comparative sizes for programs relating to food production and preparation.



Comparative sizes for workshops

Hyssingen workshop - 130 m2

Project hall AHO - 305 m2

Wooden workshop AHO - 270 m2

Steel workshop AHO - 90 m2

Project hall KHIB -

Workhome KADK - 1 300 m2

Project hall BAS - 600 m2

Hjeltnes mechanical Workshop - 350 m2

Excursion, Kroloftet

After having made the decision to include production offices and ateliers, we visited Kroloftet in Oslo, which proved to become a valuable inspiration for the production offices. Our excursions are further documented in our excursions booklet, however, these are our most relevant findings:

The importance of involvement in the local community.

The fact that Kroloftet actually had considered to move into Brenneriveien, however due to the planed demolition it would be to costly for a short period of time.

The importance of creating a combination of regular workers with time shared offices.



Large windows and doors in facade providing gives good natural light.



Tall ceiling height in commo areas



Flexible walls and desks that separates the open space. These desks are made by the carpenters in the workshops.



Private offices with windows towards common area. Rough and durable concrete floor.



Tall ceiling height, great light conditions and pleasant air quality



Open kitchen is suitable for different use





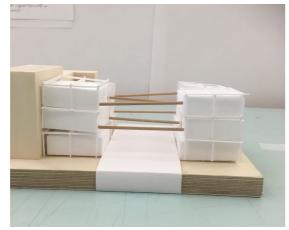


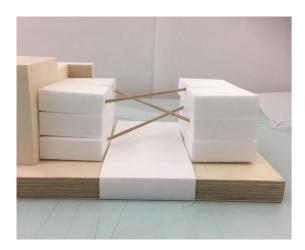
Work spaces with natural light













Early intuitive models exploring the spatial qualities of the structural grid.













Early intuitive models exploring the spatial qualities of the structural grid.

The Project Hall

Locating in the Southern Wing of Brenenriveien 11

Central for the idea of the production school is the continuous interaction between the students and their neighbouring communities. Thus we have chosen to organize the building around a grand project hall, offering opportunities for students, workers, and visitors to connect, discover and learn from one another.

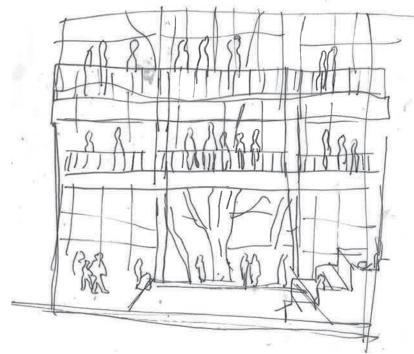
The production hall is a multi-use production space for students and workers, used for day-to-day production and learning, as well as facilitating exhibitions, events, and markets. It exists in the intersection of the public and private realm, thereby opening the building and engaging in dialogue with both Akerselva and Brenneriveien. Our ambition for the project hall is to provide broad spatial freedom for the school, as well as being a new type of climatized public space for the general population and urban industries along the river.

To achieve a public and shared use of the production hall we find it natural to locate the active + public + shared programs in this area:

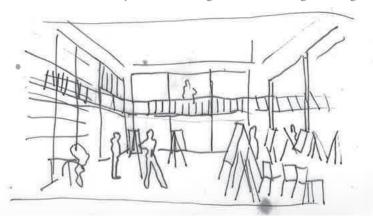
Findings from the previous diagrams show that the following programs should be placed in the Production hall:



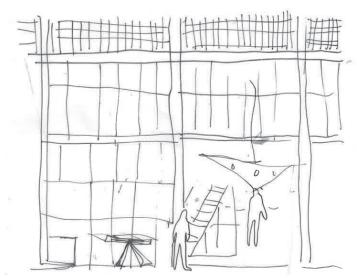
We have decided to locate the project hall in the southern wing of Brenneriveien 11. This decision was reached by looking at programmatic concerns, as well as a desire for structural pragmatism:



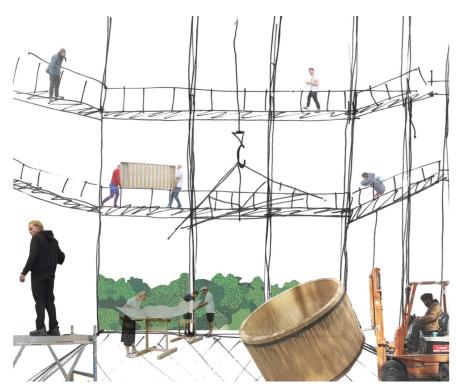
Project hall with galleries and large sliding doores



Possibility of art classes and exhibitions



Open towards the street, inviting people in



Project hall in daytime



Project hall at night



Restaurant in daytime

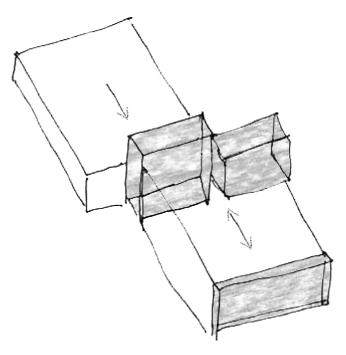


Restaurant at night

Where locate the project hall?

Stability

The building's horizontal stability is guaranteed by concrete slabs. Thus, a large open space in the existing structure would undoubtedly create complications when dealing with these horizontal forces.



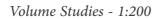
The stiffness in structure is furthermore created by the central concrete core, as well as the gable wall on the building's southern end. This provides the southern wing with two supporting walls, while the northern wing only gains support from the core. Hence the southern wing provides greater freedom when striving for a large open space.

Location

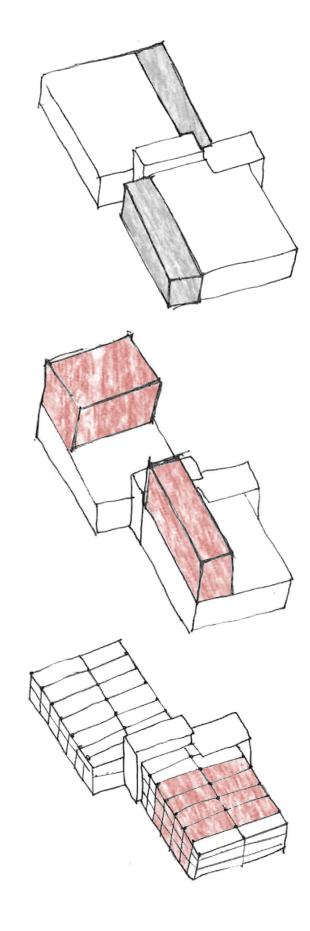
However, we believe that our programmatic concerns are an even stronger argument for locating the project hall in the southern wing.

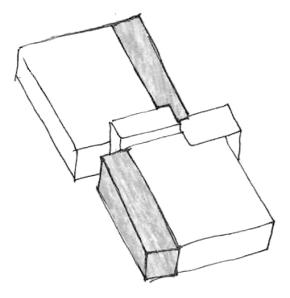


The intersection of Brenneriveien and Grünerbrua might boast a larger quantity of bypassers, yet we find it more crucial to work with the existing cultural institutions in Brenneriveien. This is due to the nature of the production school, as well as the potential of providing new facilities to one of Oslo's most vibrant cultural street. Among the actors in this street are KEM, Blå, Ingensteds, Rom for Kunst og arkitektur, and Bortenfor. Our stated mission of the project hall is to create a meeting point between the school and the neighborhood. Therefore we believe the most natural location of this space is in the southern wing of Brenneriveien 11.



To investigate the production hall and its architectonic potential and organisation we have tested different opportunities within three different strategies: 1- outside, 2- on top of , 3- within existing building mass. All model studies are done in model 1:200, where the existing bearing structural grid creates a formal framework for all of the studies. We have chosen to do this to test and discover the full potential of the existing bearing construction. The following pictures show a selection of the studies done within strategy 1: To build around existing construction.

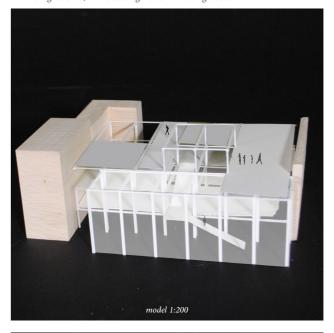




strategy 1; building around existing building

project hall located around south wing

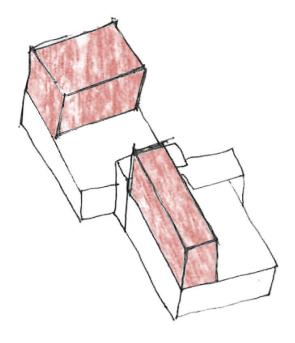
Study 1; Extending building volume Extending volume, while cutting holes in existing decks.





notes

- Public and direct approach to Brenneriveien
 Visibility and strong presence in the street and cityscape
 Increase the vertical stability in the existing structure
 Possibility for a new and more efficient facade
 The plaza in front of the building would disappear
 The visual architectonic identity of the building would be lost
 The deep volume will reduce accessibility to natural light



strategy 2; building on top of existing building project hall located exicitng south wing

Study 4; *Pixalated extension of grid*Cutting holes in existing slabs. The cuts contrast and play with the existing grid





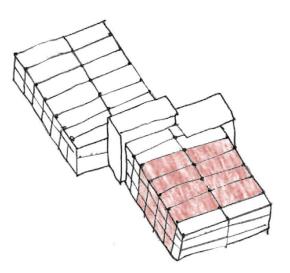
- A strategy for maximising floor area
 Preserving the open ground floor, providing views of the river
 Suboptimal location of the project hall regarding heavy machinery
 Far away from the urban floor
 Quite small production hall

Study 3; extruding building envelope upwards Cutting holes in existing slabs, these holes follow the existing grid





- A strategy for maximising floor area
 Preserving the open ground floor, providing views of the river
 Suboptimal location of the project hall regarding heavy machinery
 Far away from the urban floor
 Dominating volume, regarding the scale of neighbouring buildings
 This volume would cast long shadows towards the river park.



strategy 3; building inside existing building

project hall located within existing volume

Study 5; *fine grain pixelation*Cutting holes in existing slabs. The holes follow the existing grid





- Potential of creating a variety of different spatial qualities
 Flexible in terms of location of program
 Follows the structural logic of the building
 Highlighting the load bearing steel grid
 Might appear chaotic

- Remove much original building mass
 Struggling to achieve large open spaces

Study 6; larger grain pixelation
Cutting holes in existing slabs. The holes follow the existing grid.

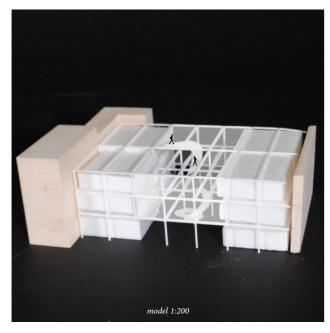




- Potential of creating a variety of different spatial qualities
 Flexible in terms of location of program
 Follows the structural logic of the building
 Highlighting the load bearing steel grid
 Might appear chaotic

- Remove much original building mass

Study 7; rectangular atrium with central stair Cutting holes in existing slabs. The holes follow the existing grid





- + Central location in the building
- New open spiral stair
 The project hall as the connection between the street and the river
 New circulation connects all programs to the project hall
 The added circulation occupies a lot of space in the project hall

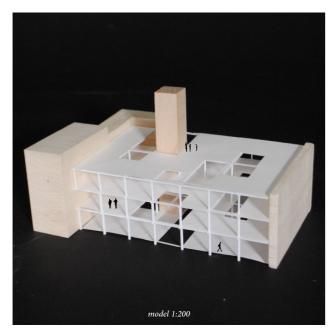
Study 8; *central atrium with bridges* Cutting holes in existing slabs.





- + Central location in the building
- New open stair
 The project hall as the connection between the street and the river
 New circulation connects all programs to the project hall
 The added circulation occupies a lot of space in the project hall

Study 9; selective cuts
Cutting holes in existing slabs. The holes follow the existing grid



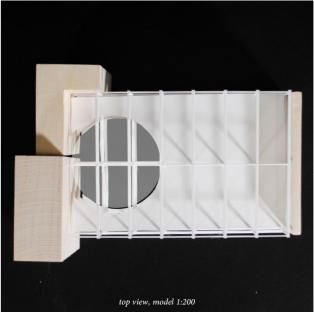


- + Potential to create a variety of spatial qualities
- + Interior atrium providing good light conditions in excising volume

Study 10; circular atrium

The new atrium contrast and plays with the existing grid





notes

- + Central location of the project hall
- + Maintain the visual contact to the river
- Stark contrast to the load bearing principles
- Introvert placement of project hall

Study 11; rectangular atrium
Cutting holes in existing slabs, The holes follow the existing grid

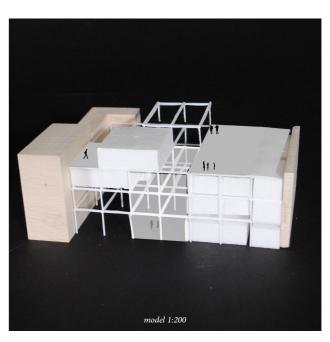




notes

- + Central location of the production hall
- + Maintain the visual contact to the river
- + The project hall is activating the façades

Study12; *circular atrium* Cutting holes in existing slabs.





note

- + Central location of the production hall
- + Maintain the visual contact to the river
- + The project hall is activating the façades

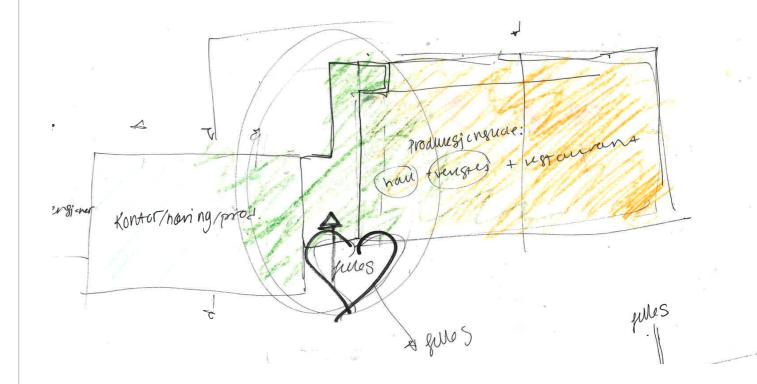
Findings and conclusions

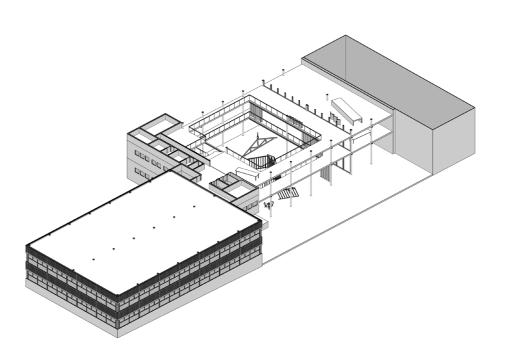
It quickly became clear that increasing the buildings footprint was an undesirable route forward. This due to the increased depth of the volume, and occupying important open space narrow street.

The reason not to locate the project hall on top of existing building was mainly a question of public access. However, after disguising this alternative with structural engineer Finn Erik Nilsen, this alternative seemed un-probable without making radical changes to the excising building.

Thus we arrived at the conclusion of weaving the project hall into the structure. This insertion of the new program in the existing structure looked to be a fruitful path forward. It has the potential of vertically connecting the building, while also preserving the visual identity of the building.

Furthermore, we also concluded to place the project hall close to the core, giving it a central location.





May

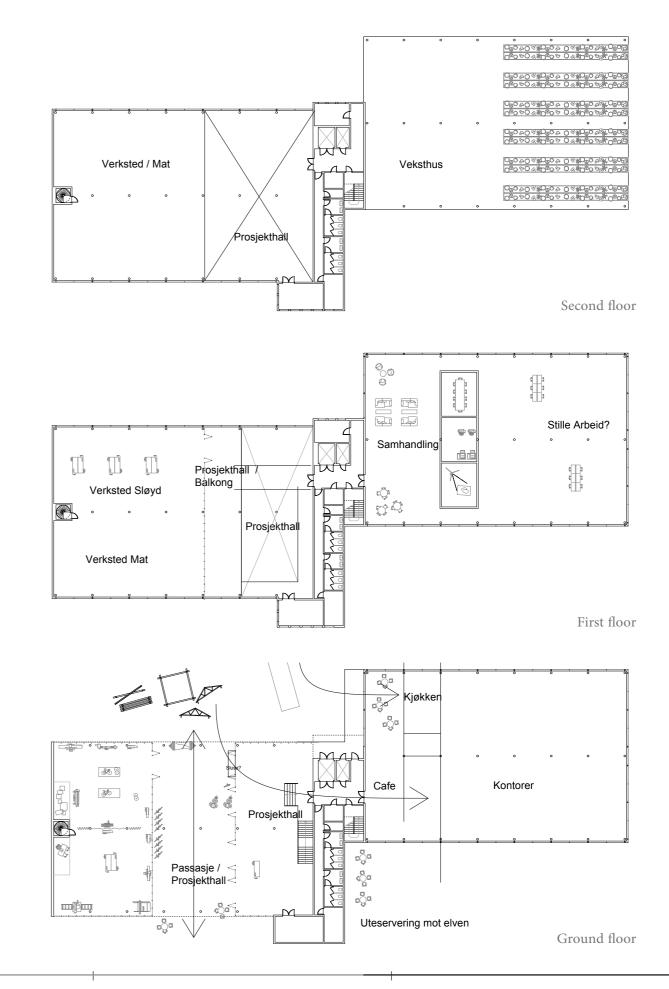
Early plan studies

The early analysis of building, program and site led ut to the following first draft of the ground floor plan.

Already, the idea of dividing the building into one area for the school, and one wing for the offices have been established.

The connection between the street and the river have been preserved by a proposed passage under the southern wing.

The cafeteria have been placed in the corner, jutting out into the street and the plaza.



January February March

April

Facade studies

After settling in the primary organisation of the southern ground floor, we decided to experiment with the façades, mainly to investigate how to treat the existing facade.

The result of this exercise was that we did not want to tear down the existing facade. This was both due to the graphic quality of the building, and also due to how the facade pays an homage to the neighbouring industrial building.

Instead, we opted for a strategy of adding a new more transparant facade, being more in line with our desire for a public program.









January February March April

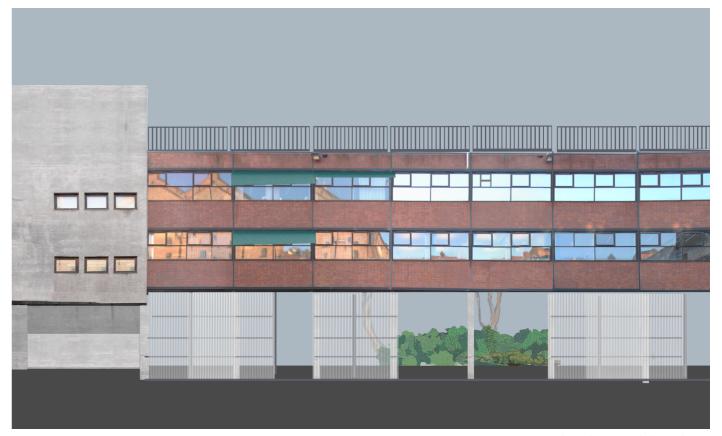
May



Replacing existing facade



Static polycarbonate facade



Polycarbonate sliding doors



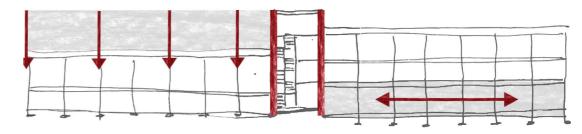
Night view with LED

April

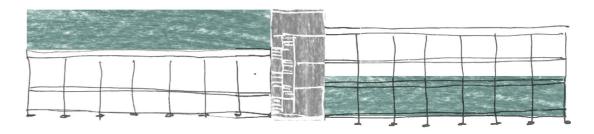
The new public programe

After consulting the our structural advisor, we saw the potential of building a new floor above the northern wing. This was due to the fact that identical foundation were utilized across the whole building, thus also having the load bearing capacity for three floors every were in the building.

These following pages shows the testing of different heights.



Structural diagram



Public functions

Adding one floor







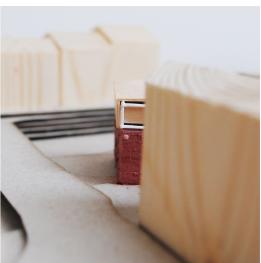


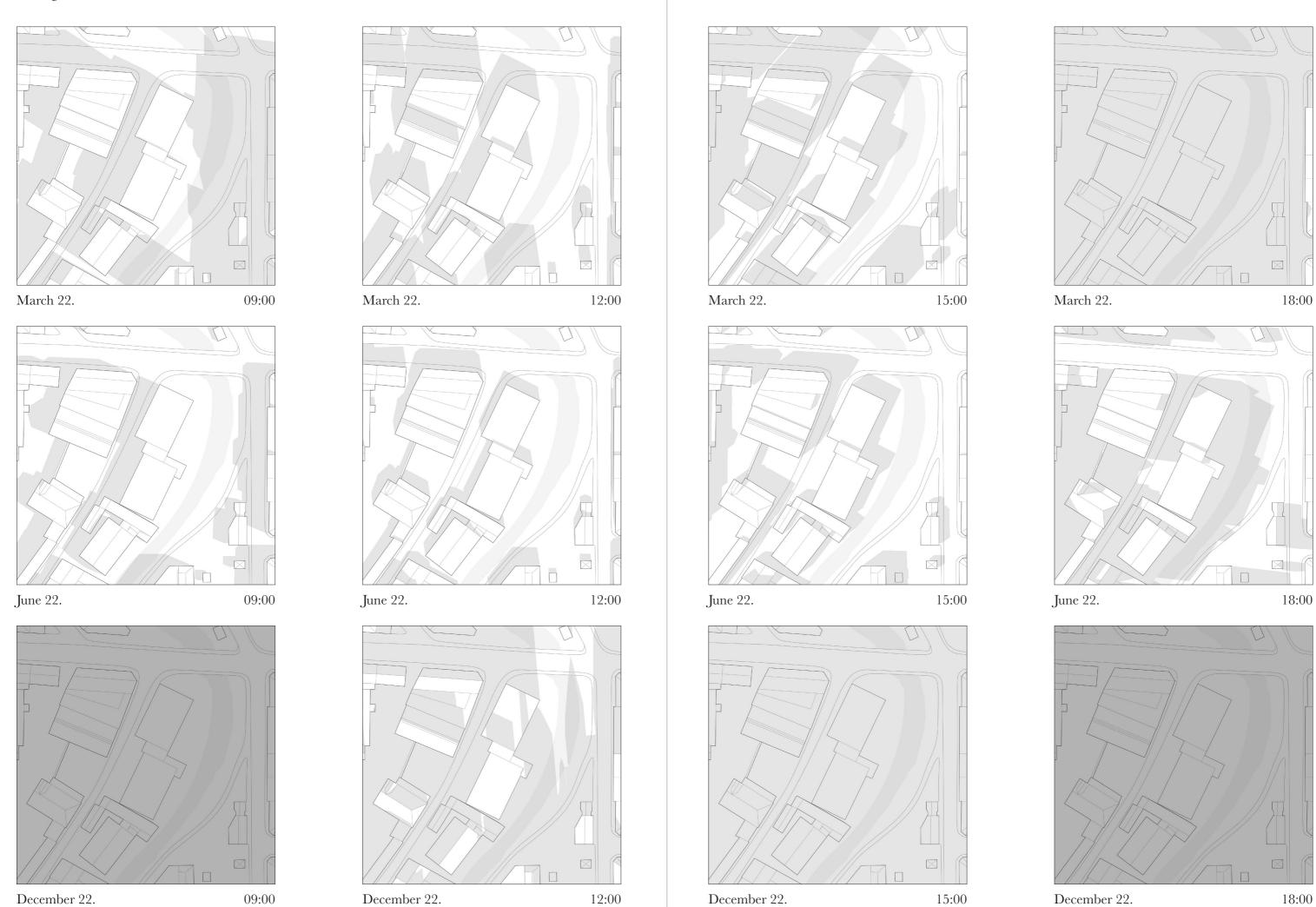
March











Adding two floors







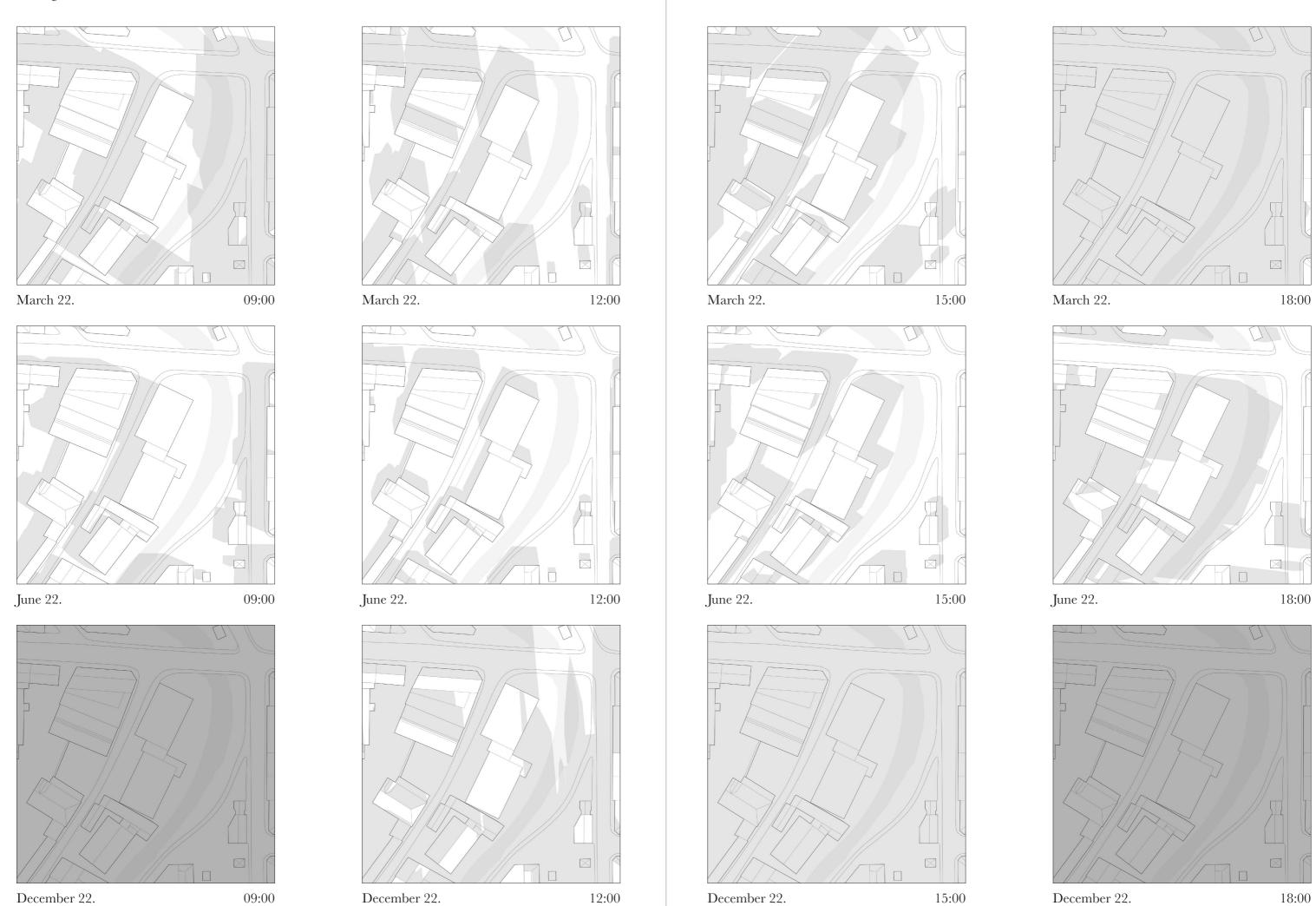




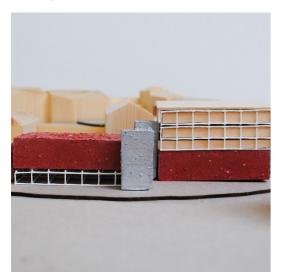








Adding three floors



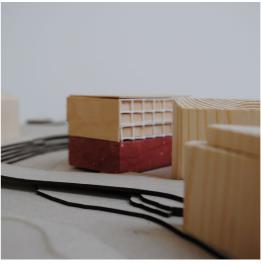






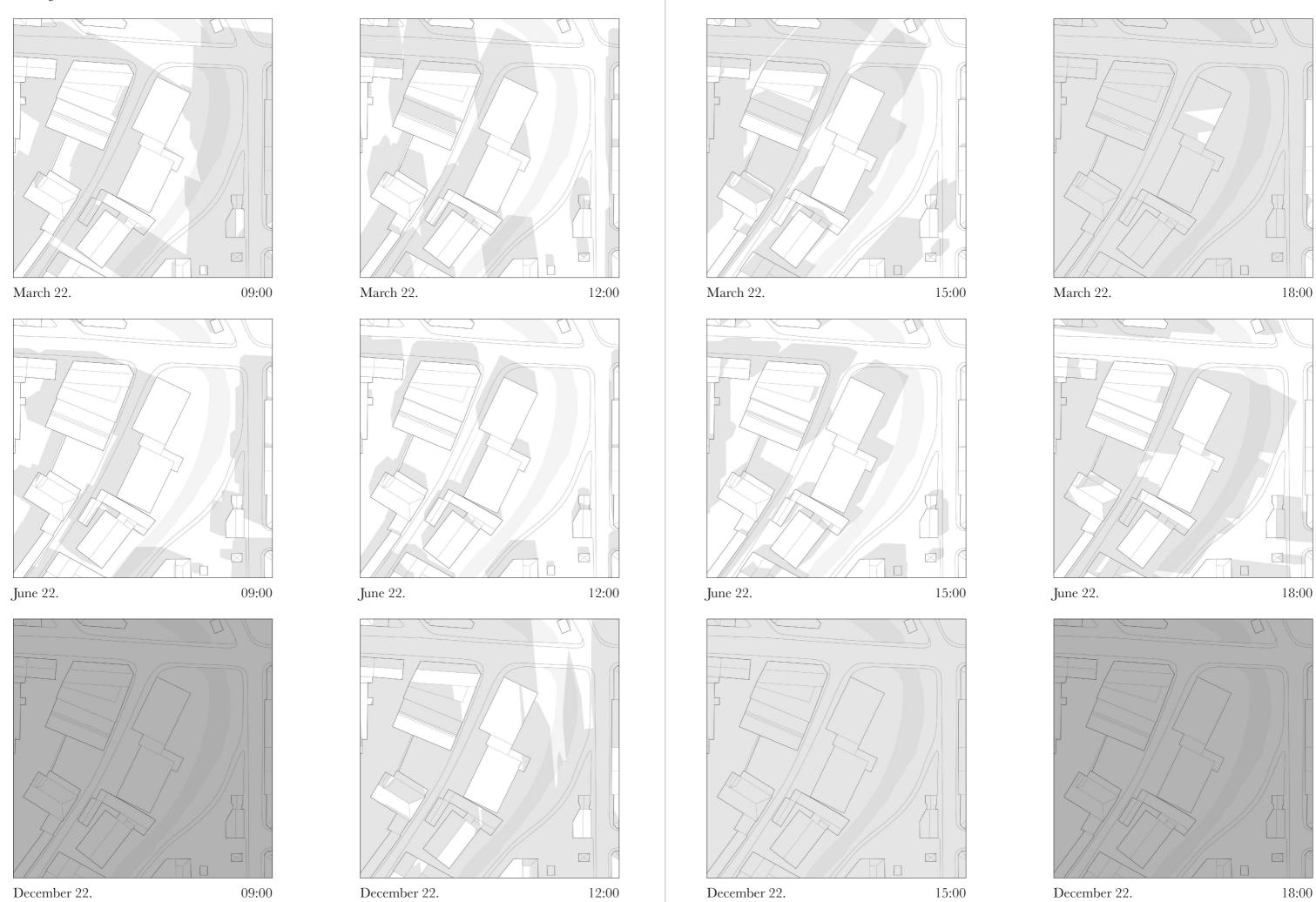








Adding three floors



Adding ten floors

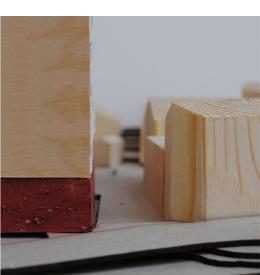


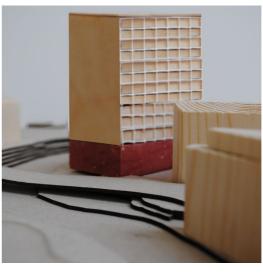














Findings and conclusions

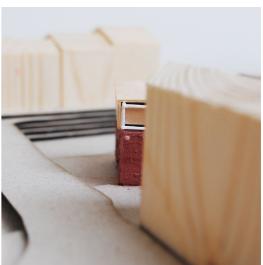
We found it most interesting working with only adding one floor to the existing building. This decision was based both in the desire not to overwhelm the existing volume, as well as the desire to work within the smaller scale in Brenneriveien.

This decision was further grounded by consultation from our structural engineer, advising us against creating new foundations for the building.









Façades and roofscapes

The next stage of design was finding an expression for how to articulate the physical presence of the public program in the building.

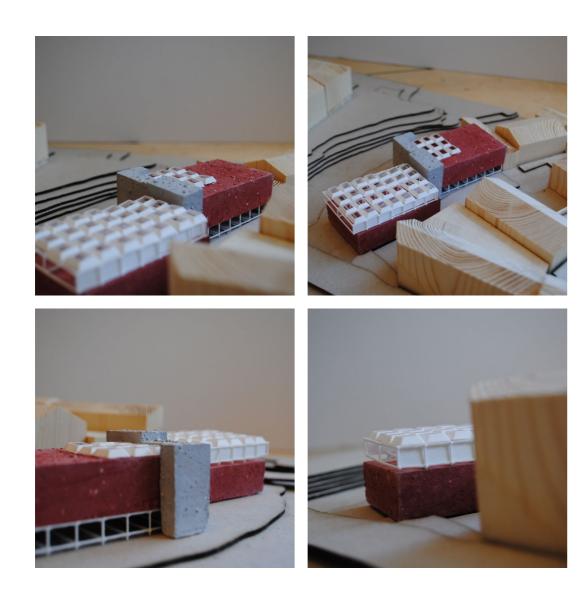
We started doing these studies using physical models, however due to the national lock down, we were soon constrained to conducting these studies mainly using collages.







Skylights inspired by surrounding industrial buildings



Skylights inspired by Louis Kahn's Centre for British art at Yale



Creating an interior couryard on the roof



Steel frames, replacing existing facade



Partly closed wooden facade



Green steel frames, changing existing facade



Open wooden frames



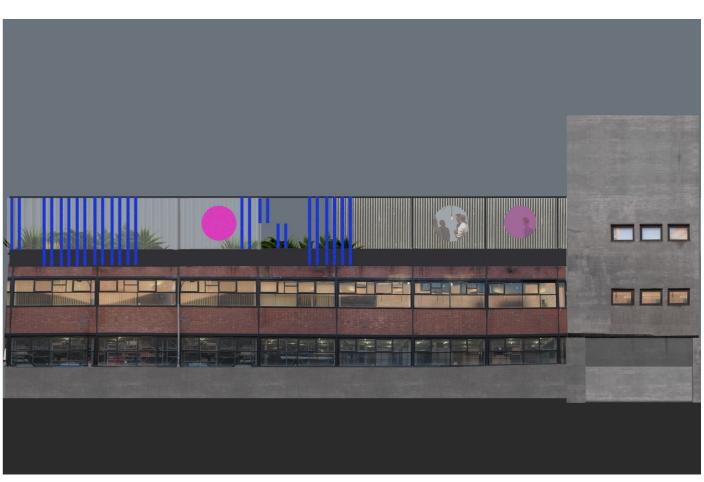
White steel frames, transparent facade



Inspired by 'Damesalen' Mikkelsen Architects



Black steel frames



Night view, LED lights



White steel frames, semi-circular vaults



Wooden frames, trapezoidal skylights



Roofscape inspired by industrial architecture



Roofscape inspired by green houses



Roofscape with playful skylights



Roofscape with small individual skylights



Roofscape with larger square skylights



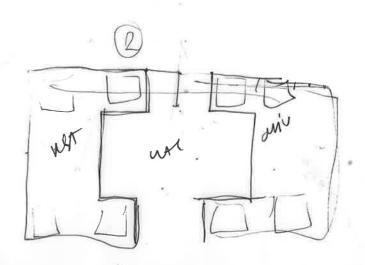
Roofscape with small connected skylights

Findings and conclusions

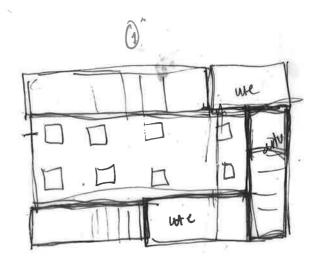
During these investigations, we started to view the building as a blanc canvas in the street. Its anonymous appearance seems to be an attractor for local street artists.

Thus we decided to proceed with a toned down expression. Simultaneously, we discovered the potential of a polycarbonate facade. This responds well to the issue of public program, while also sheltering students inside, obscuring more the further one is from the pane.

We also started working on a concept where a outer ring of balconies and greenhouses surround a central interior space.



Concept of creating an open courtyard on the roof



Concept of creating an outer ring of greenhouses and balconies

January February March April

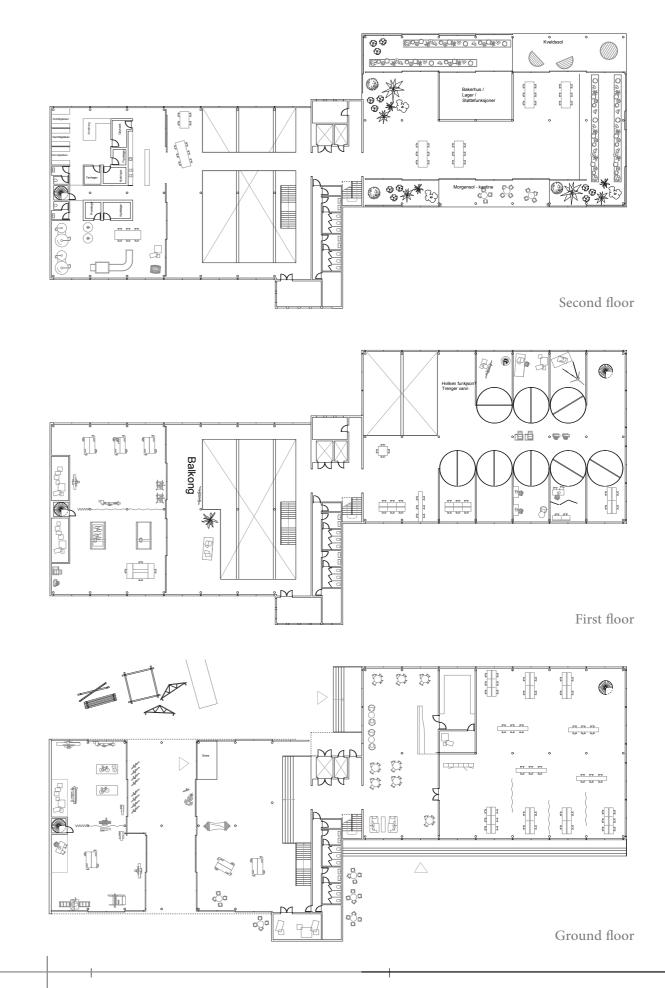
May

Early plan studies

Simoutaniosly as we are investigating the exterior expression of the building, we are taking care to ensure this is happening in acordance with what is happening in the inside.

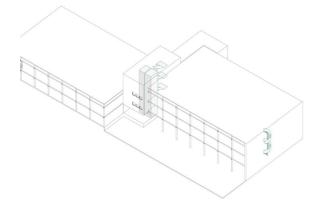
Here, the central core have been opened up to a larger degree



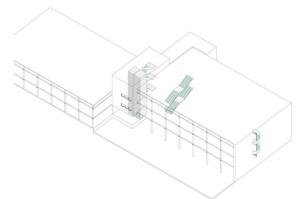


Sirculation

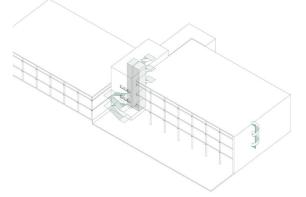
Simoutaniosly as we are investigating the exterior expression of the building, we are taking care to ensure this is happening in acordance with what is happening in the inside.



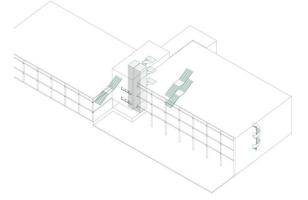
Current circulation



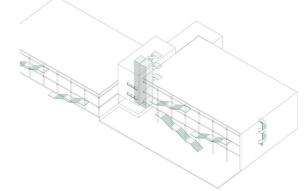
Circulation in project hall



Exterior central circulation



Circulation in project hall and cafe

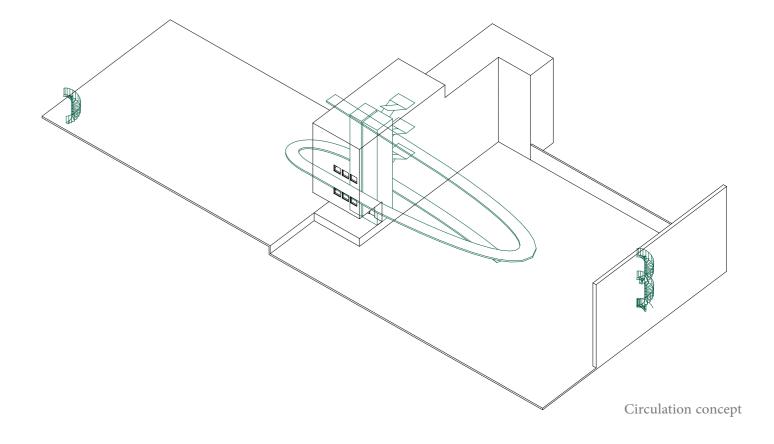


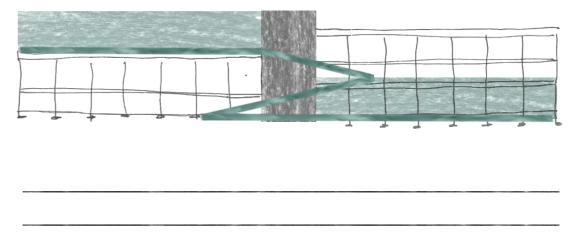
Exterior dispersed circulation

Findings and conclusions

The conclusion of these studies were a new circulation concept, perforating the core, uniting the school and the offices.

This new circulation is a sequence of spaces, manifesting itself as a public journey from the urban floor, to the rooftop.



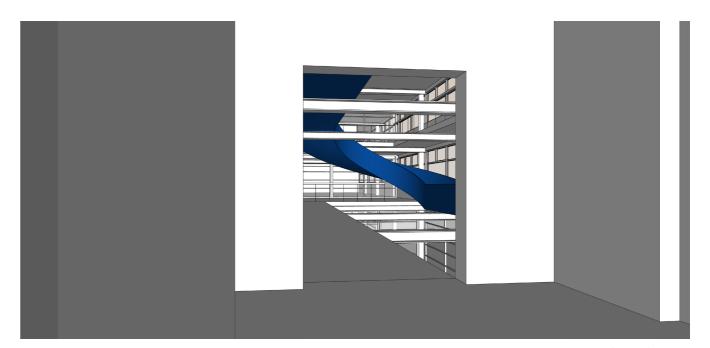


Connecting the new public program

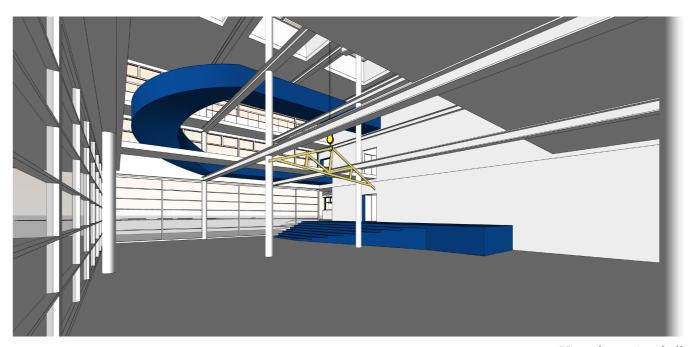
Sculptural circulation

This new circulation has the potential of becoming a sculpture in the large open project hall.

In the plans we see this axis articulated as the public path, winding around, and sheltering the more private areas of the project.



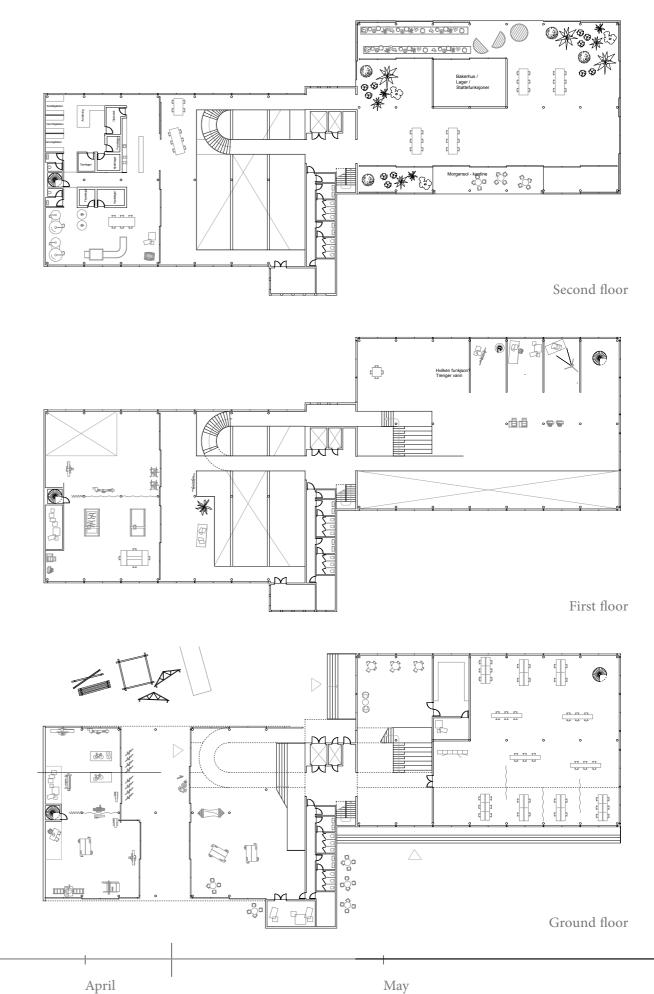
View from the core



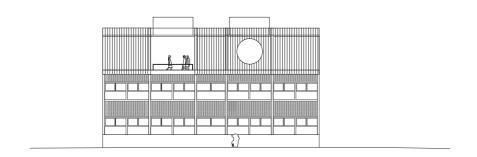
View the project hall

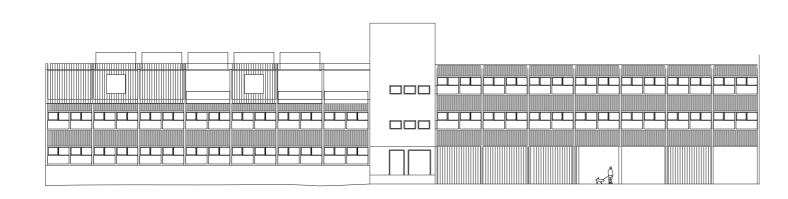
Early plan studies

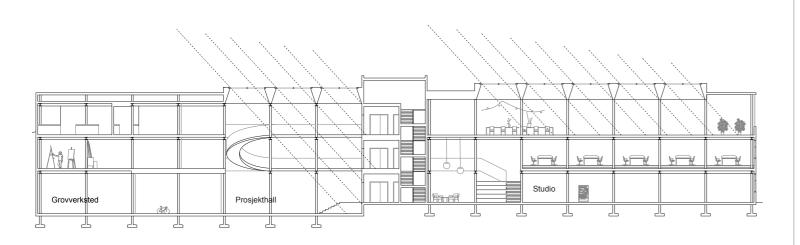
These are the first plan studies showing a new circulation principle, penetrating the core.



February March January











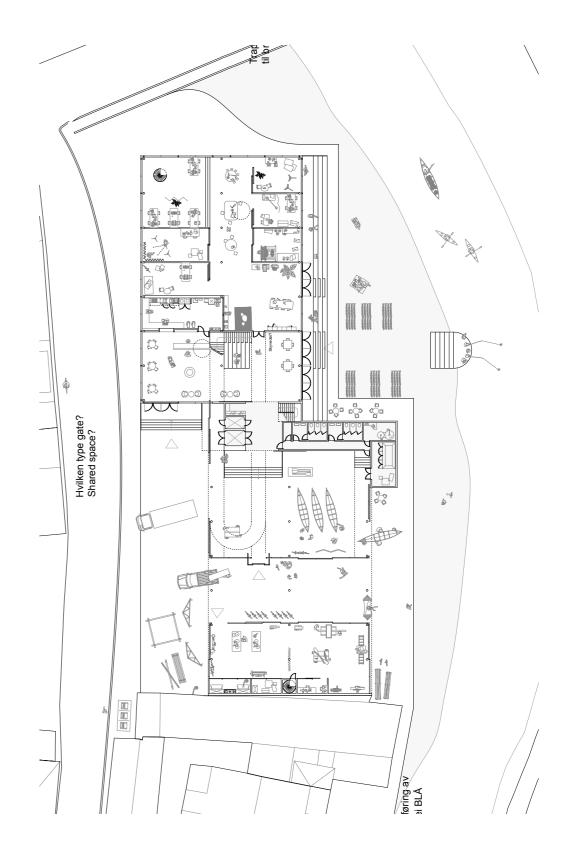


Exterior studies

At this point in the process, we started to focusing more on the immediate surroundings of the building. One interest that had grown out of earlier facade studies was to work with nightly views. This also had its basis in our analysis of how dark the surrounding area seamed to us.







Ground floor

Detail studies

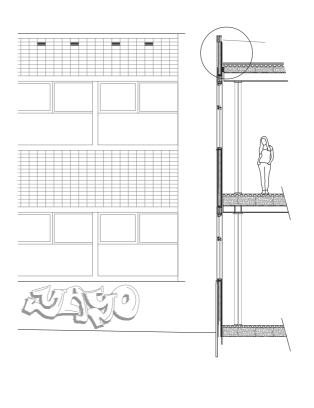
At this point in the process, we wanted to dive into the detailing of the building. This led us to the discovery of the windows placement on the walls. These windows were designed for a standing working environment, however the new modes of production is mainly based around sitting at a desk.

The detailing also gives a new dimension to the new façades, and how the new and the old is merging.

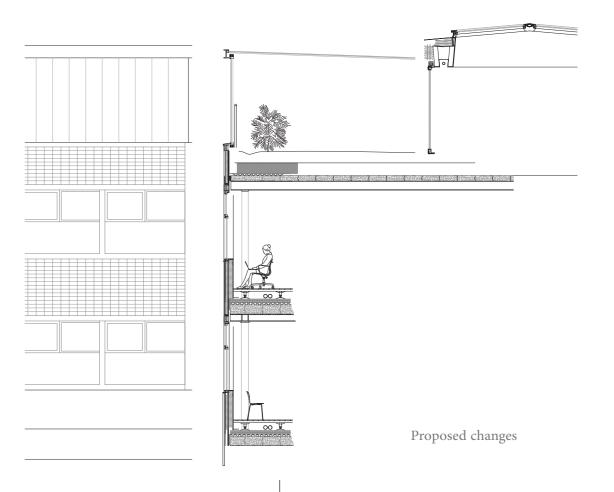




We also started experimenting with a new way of integrating vegetation into the streetscape using perforated concrete to allow shrubs and flowers to grow.



Original Detail



Materiality and Collage

After this point, we started investigating the interior qualities of the spaces, using collages. This proved to be a great way to discuss materiality and, which again influenced the details.

The hard surfaces are complimented with wooden interior walls. The green /teal colour is already used in toilets. Steel painted in this colour and became a way to create identity, and signify public functions.



Bridges and load bearing structure



Materiality in the project hall



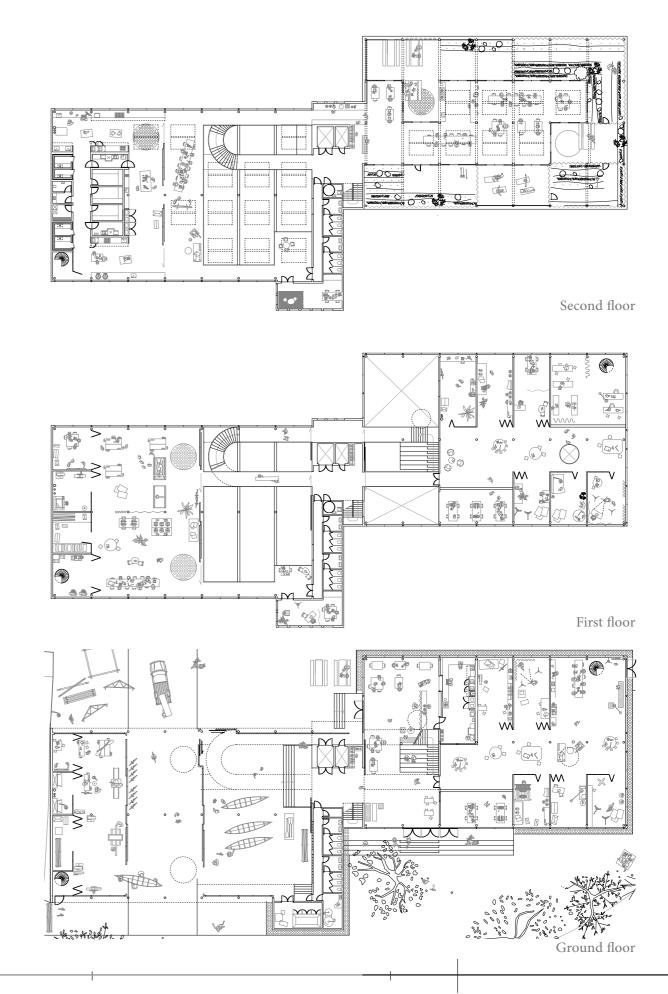
Materiality in the roof top gardens











Model 1:50

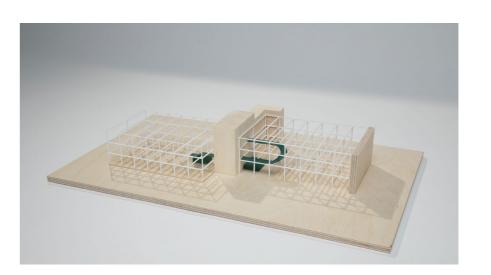


Physical model 1:50





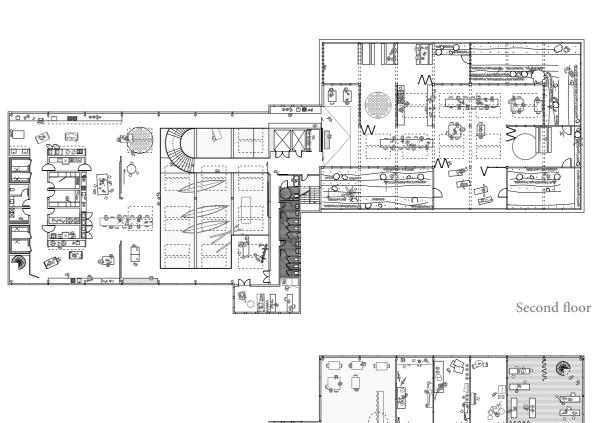


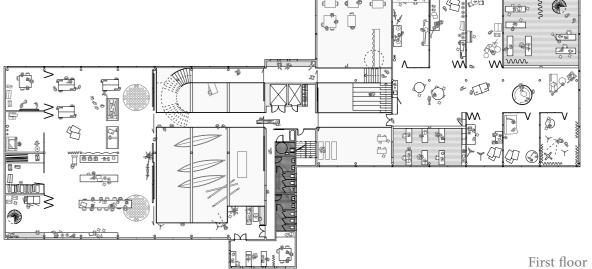


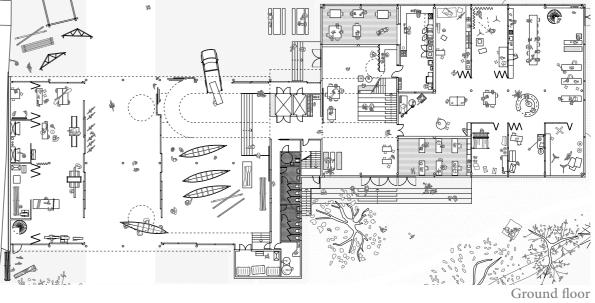
Conclusions

The exercises concerning materiality and collages proved to further informed the plans. The plans on the right are showing the proposal.

Any material created after this point is considered finished result, and can be seen at the project posters.







February March April May January