

Process Booklet

Daytime Activity Center at Vålerenga
for people with intellectual disabilities and autism

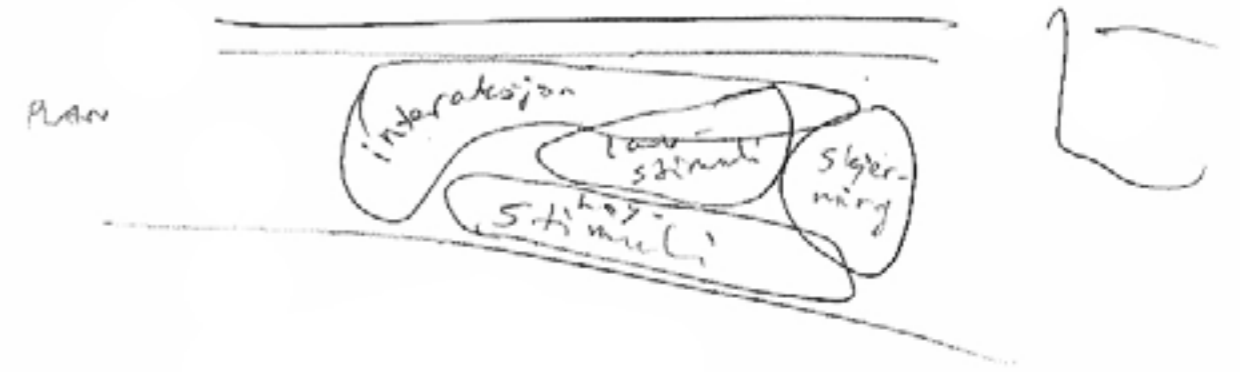
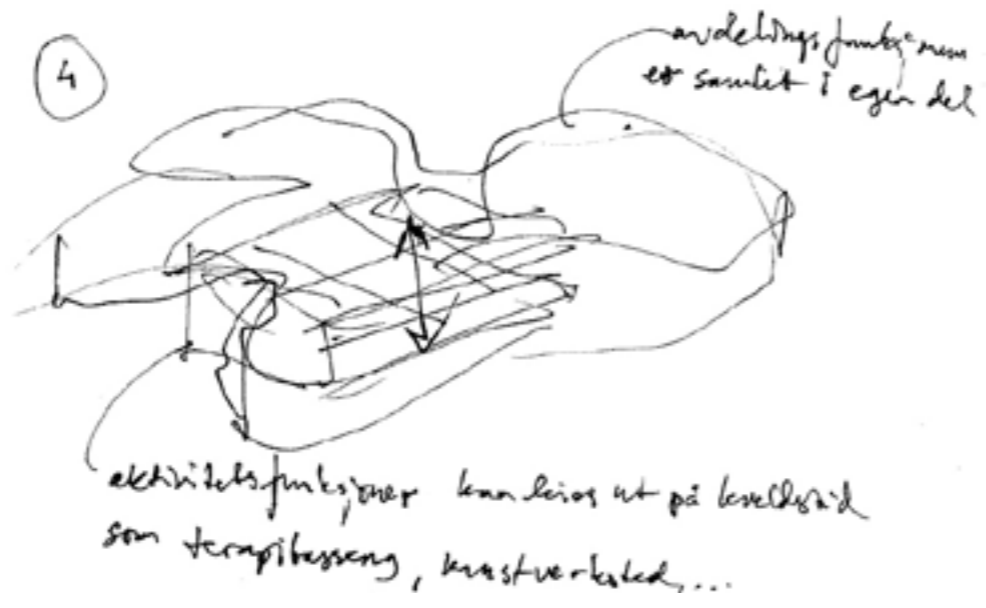
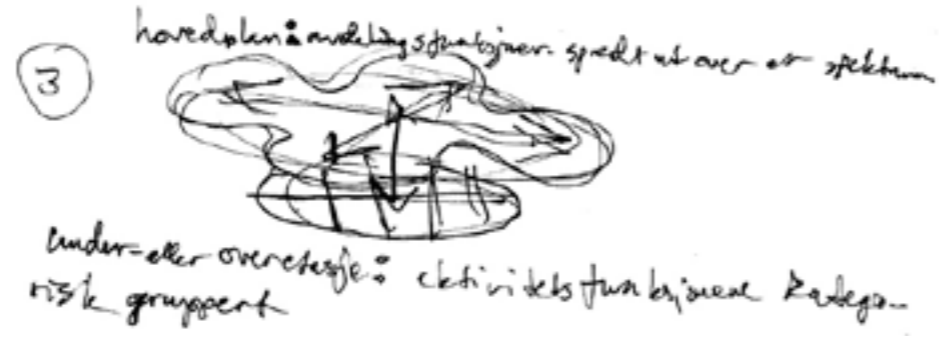
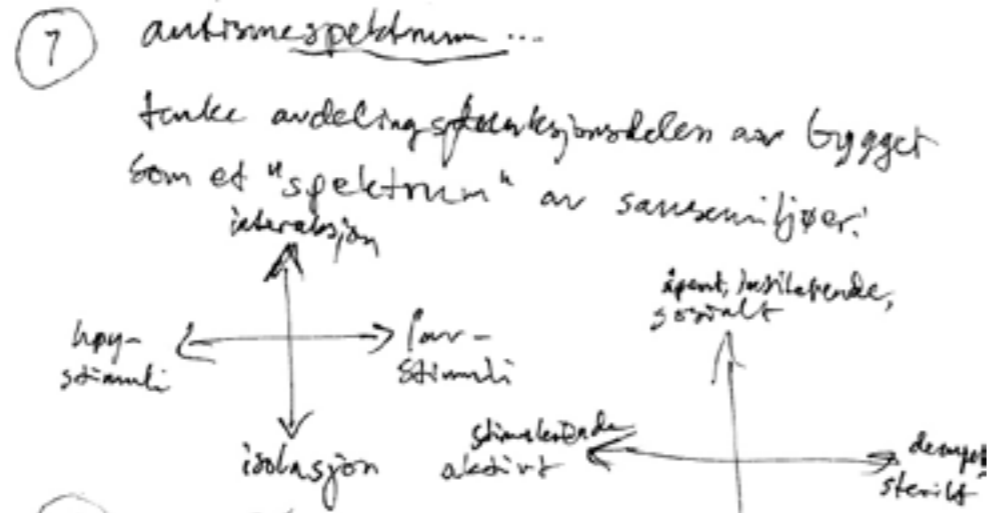
Diploma project Ville Kohtala

Oslo School of Architecture and Design

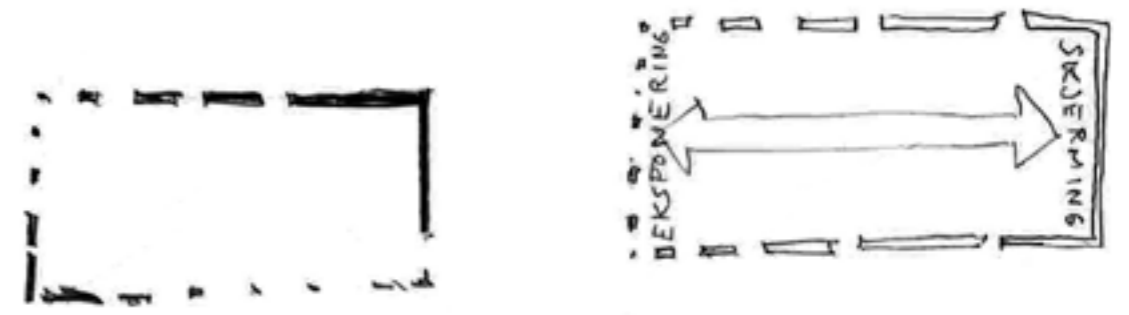
Preliminary sketches

Basic idea:

Autism is a spectrum of different symptoms, challenges and properties, and each individual is different. The building could also be thought of as a spectrum - of different qualities and different relations to the surroundings.



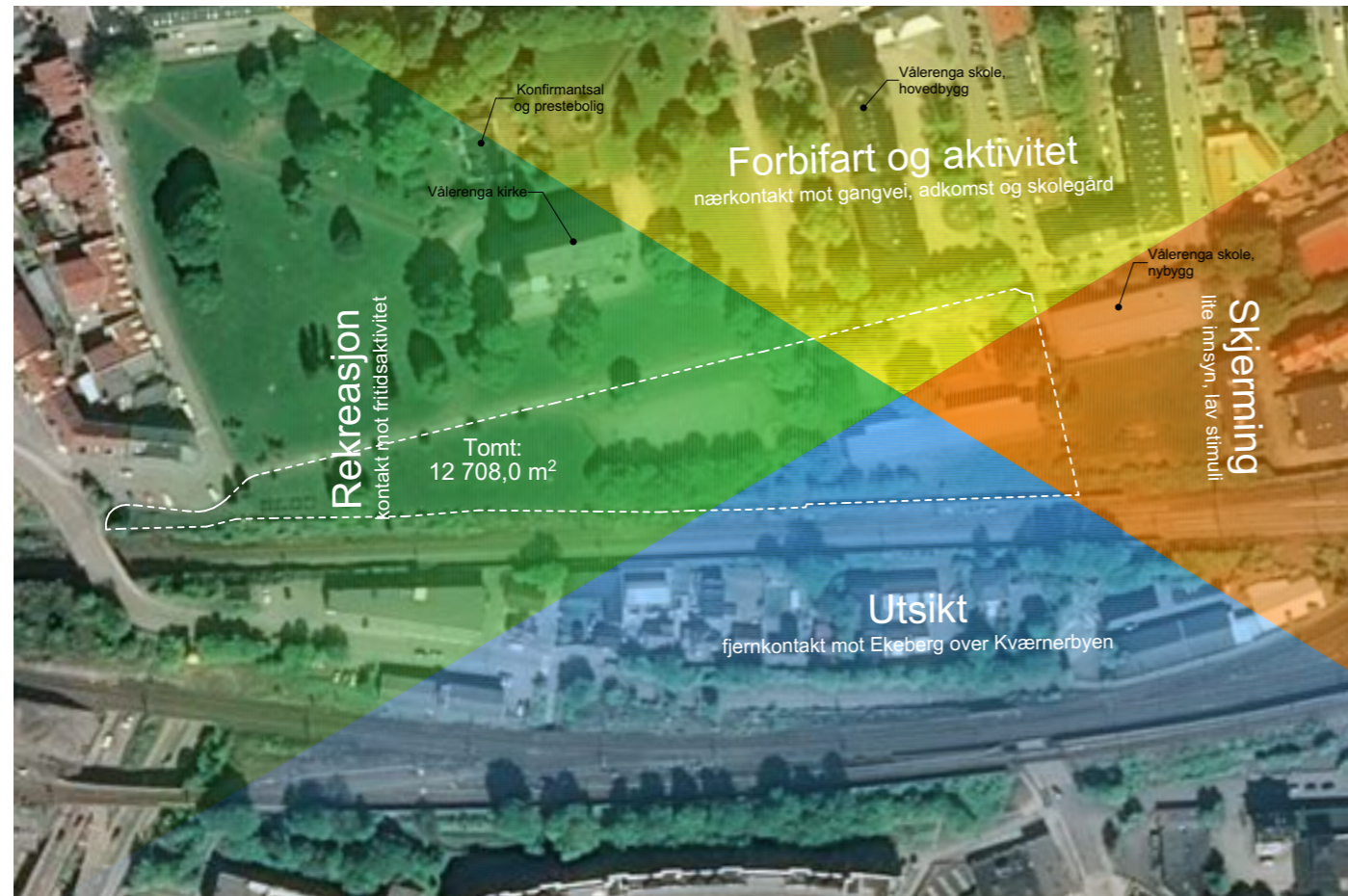
-Different conditions on the site can be the basis for a spectrum of qualities



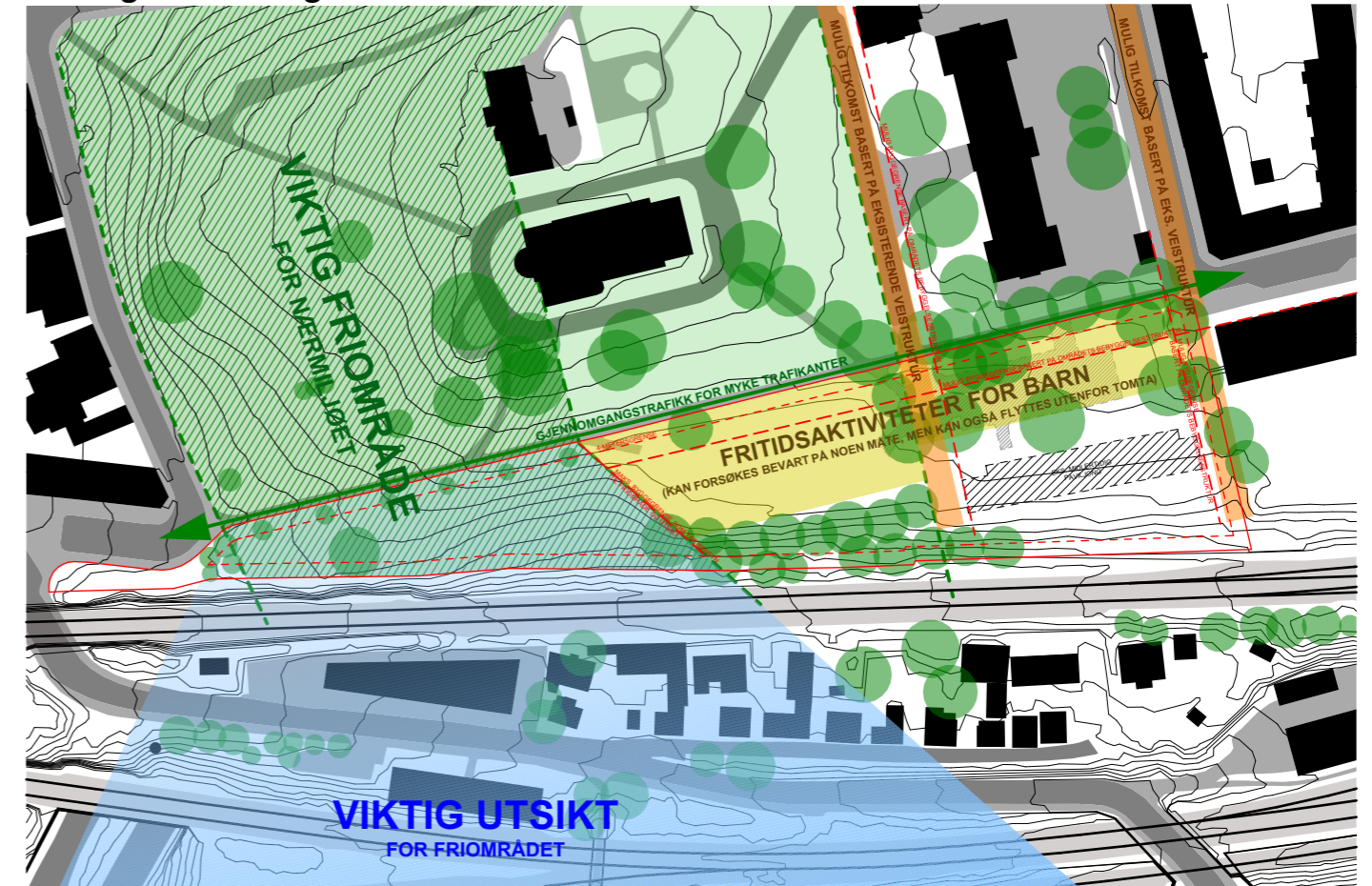
-The facade as a screen that encloses the program with smooth transitions from one part of the "spectrum" to the other in a manner of a scale between exposure and protection...

Context analysis

Area character: 4 distinct directions

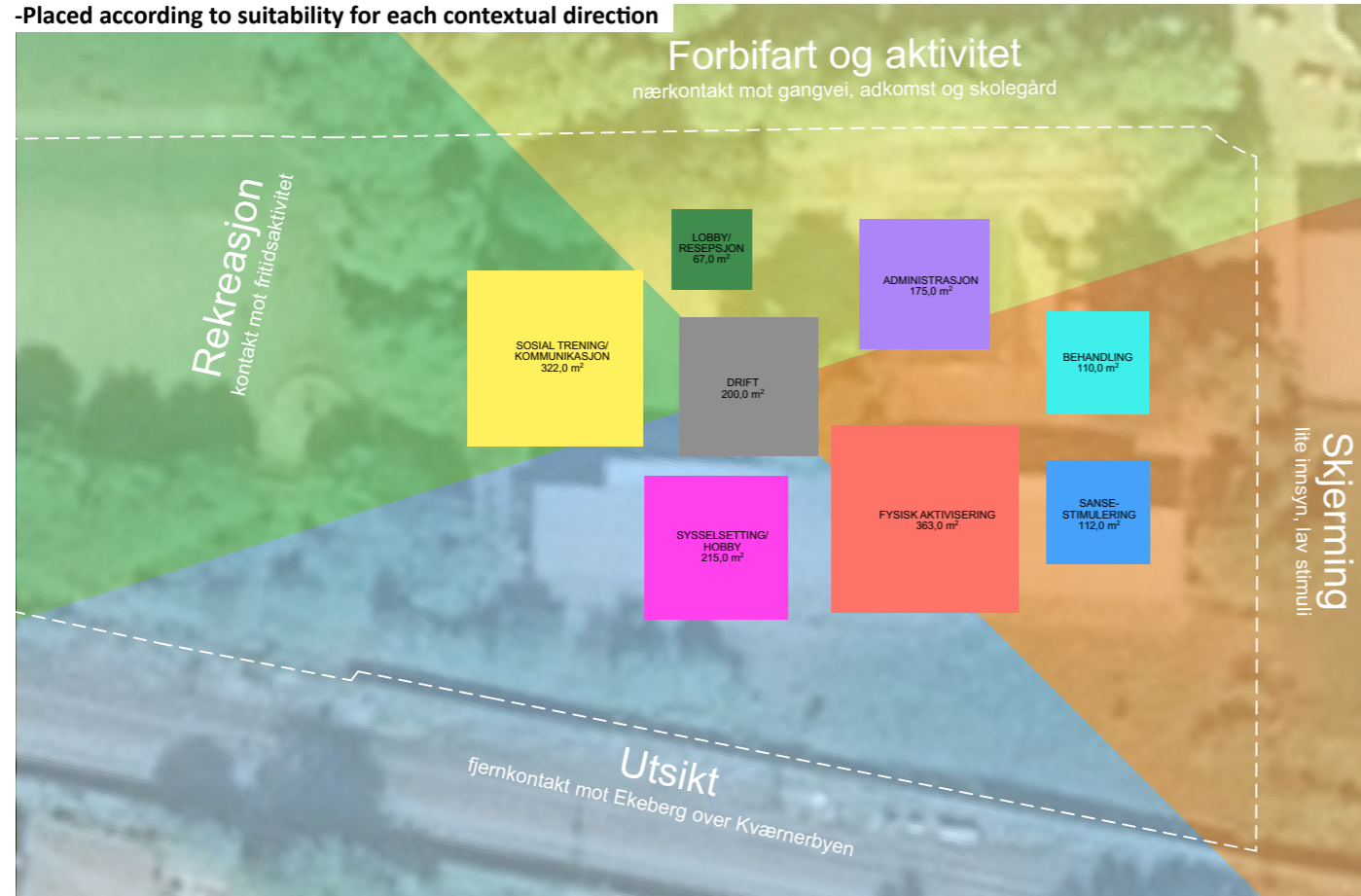


Guiding lines for organization on the site



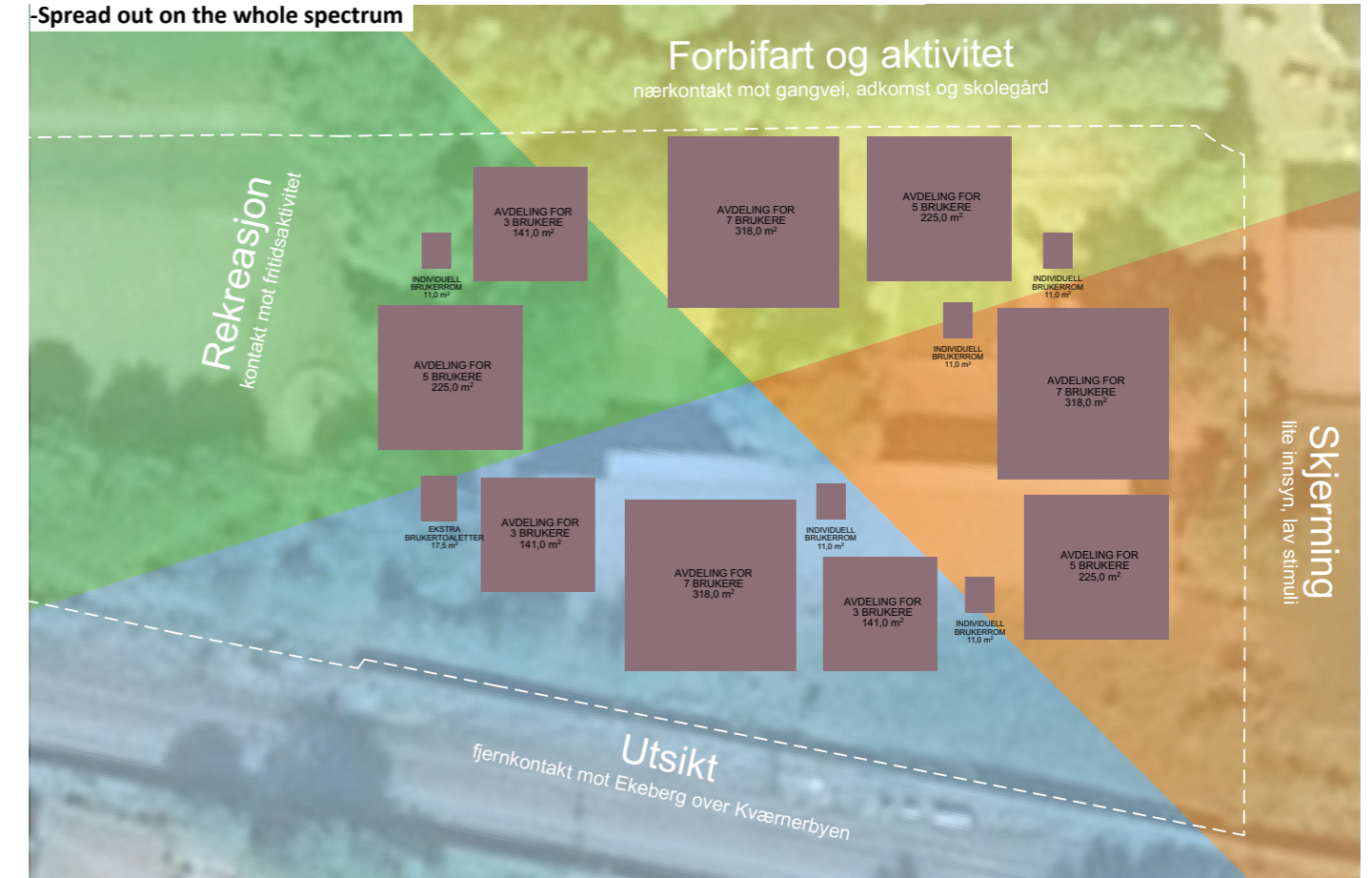
Shared functions

-Placed according to suitability for each contextual direction



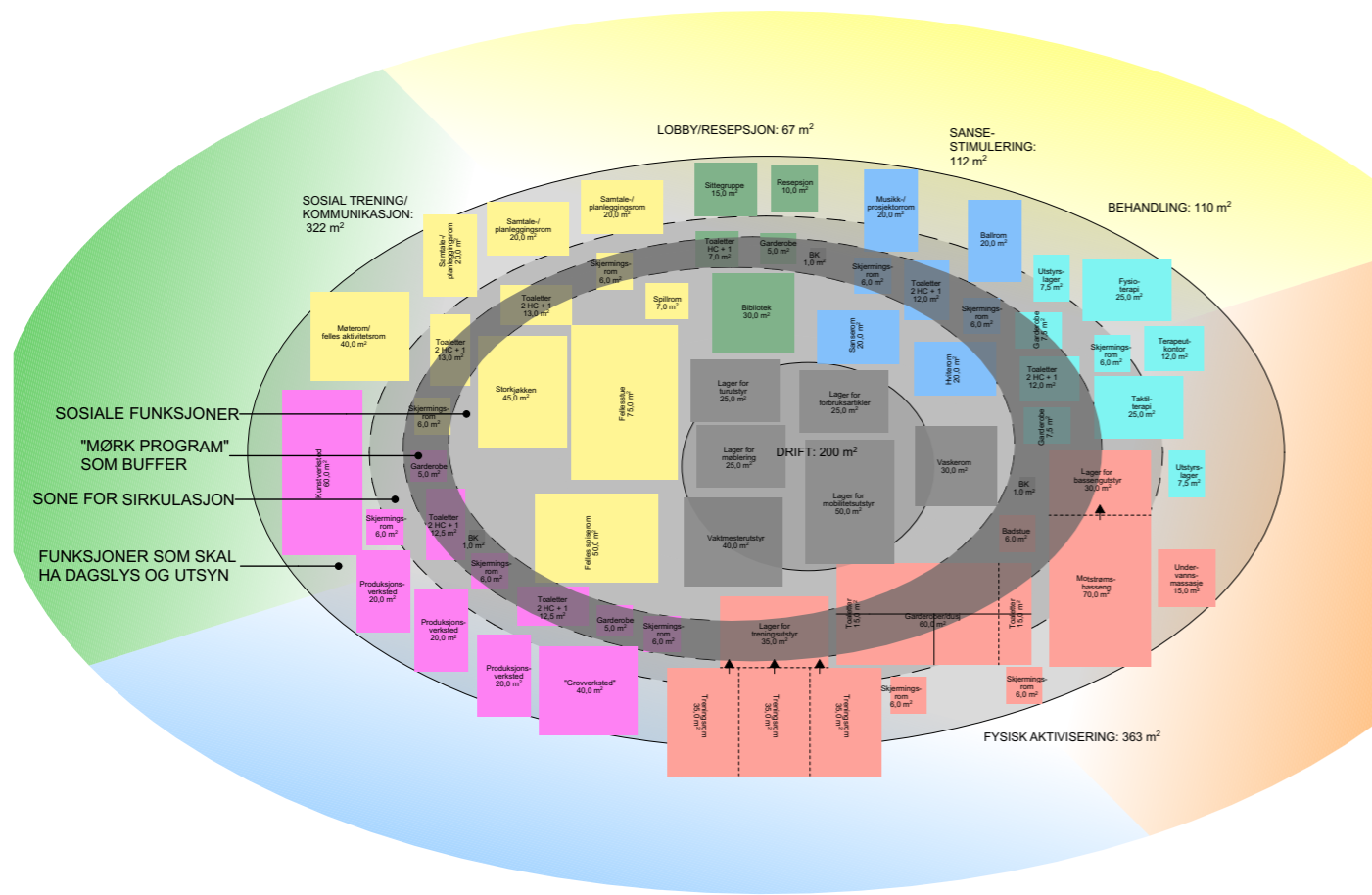
User units

-Spread out on the whole spectrum

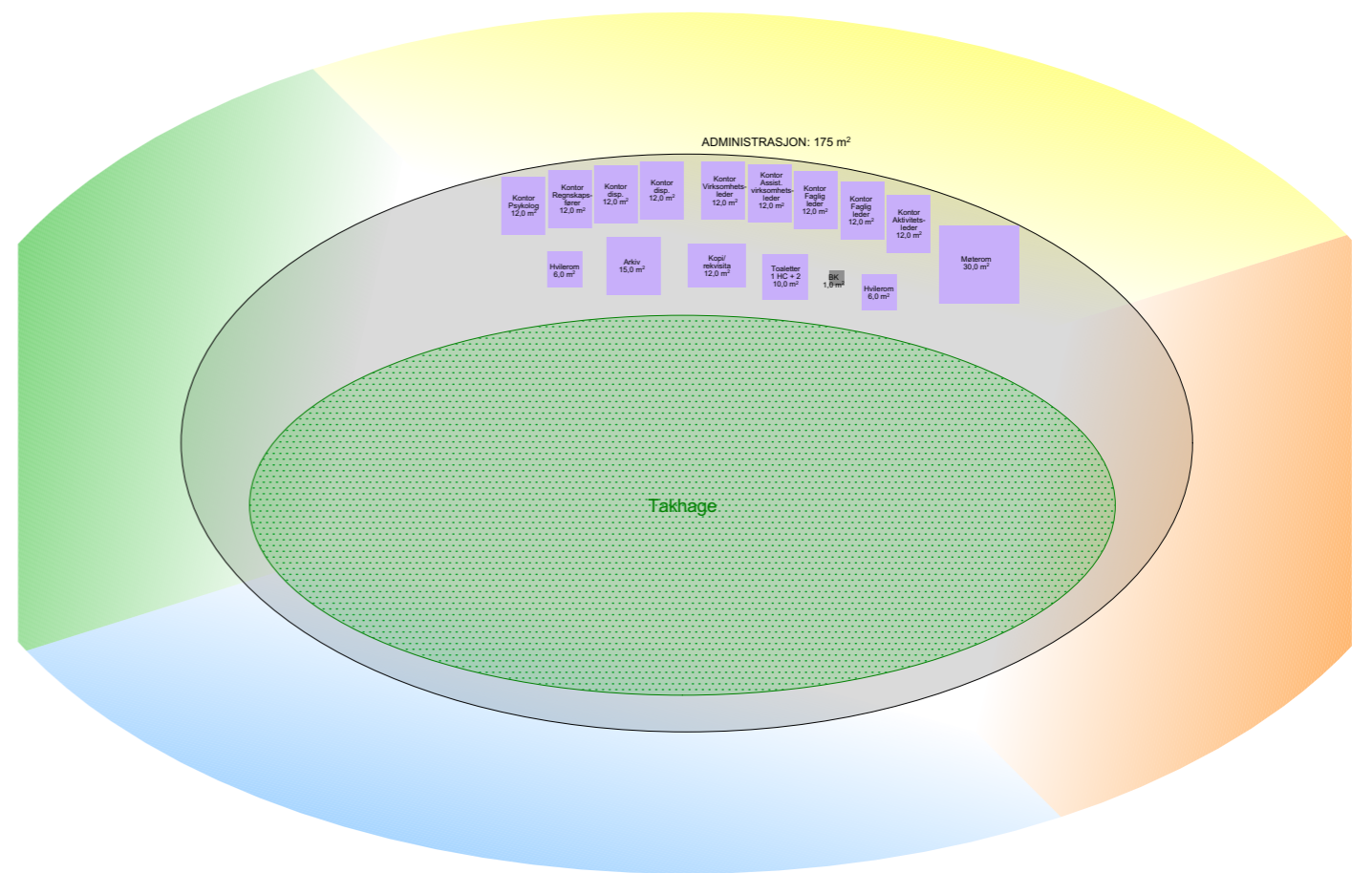


Organization of the program according to context

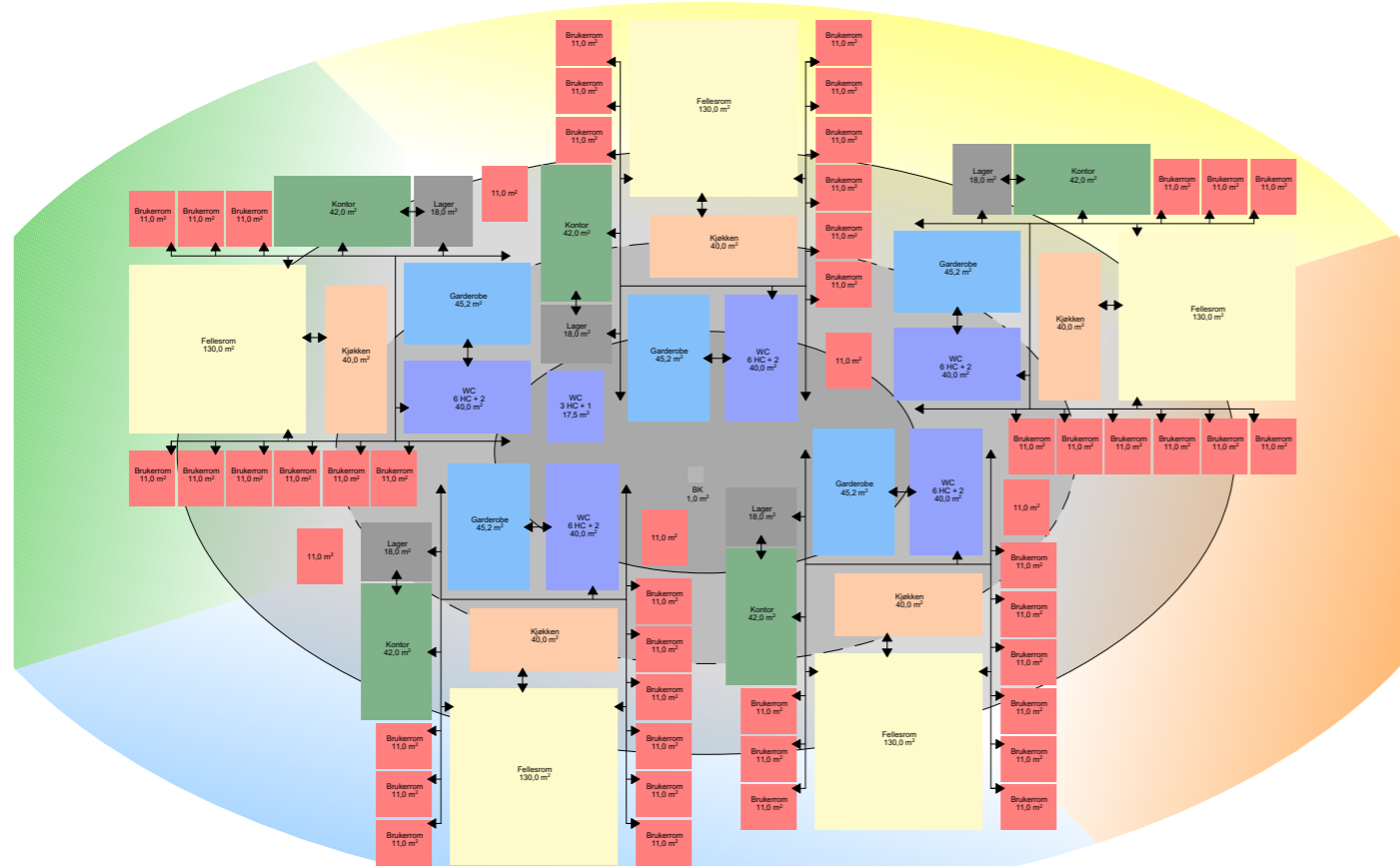
Shared functions



Administration and roof garden



User units

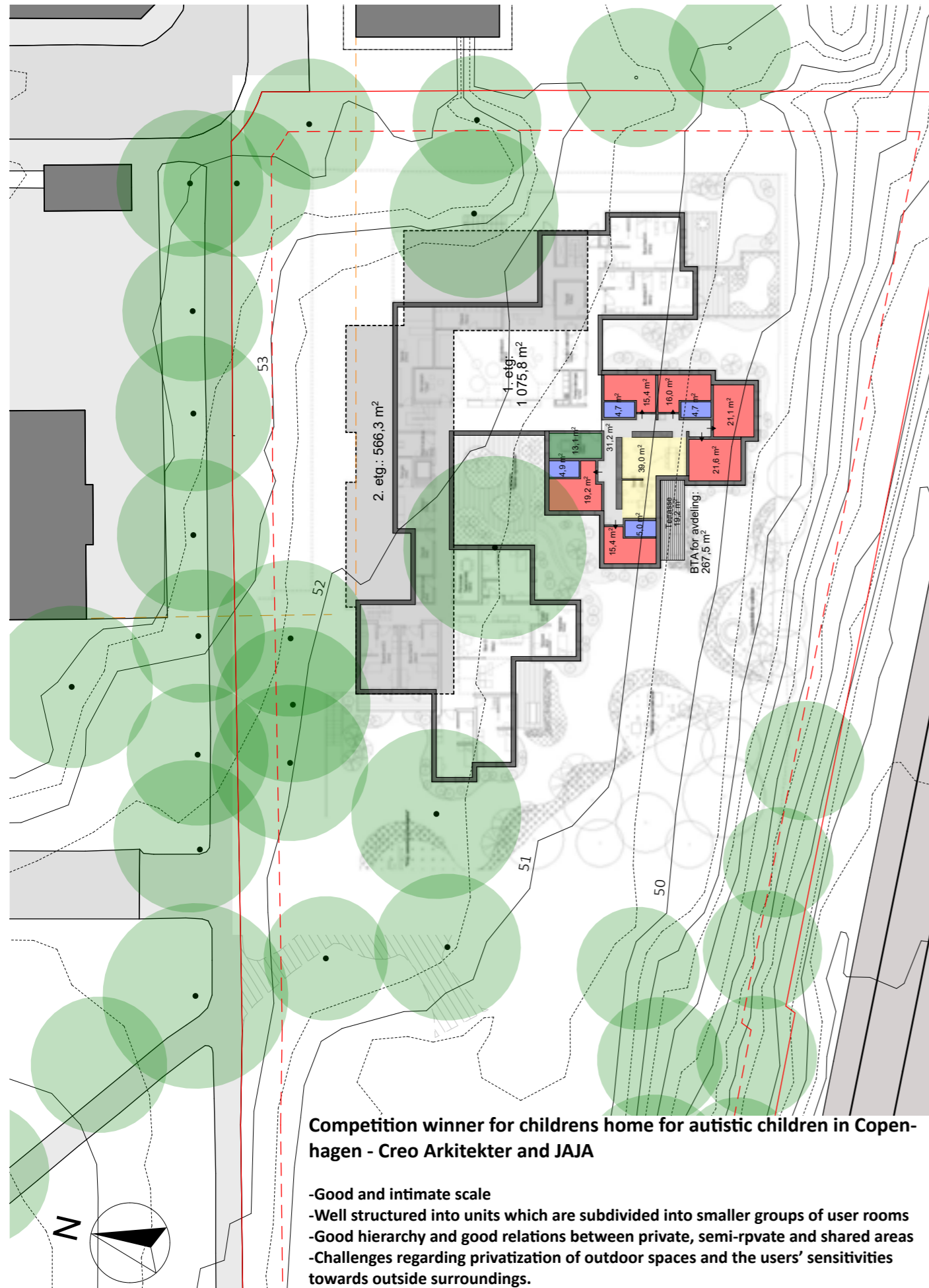


The program placed on the site, in a 1:500 model



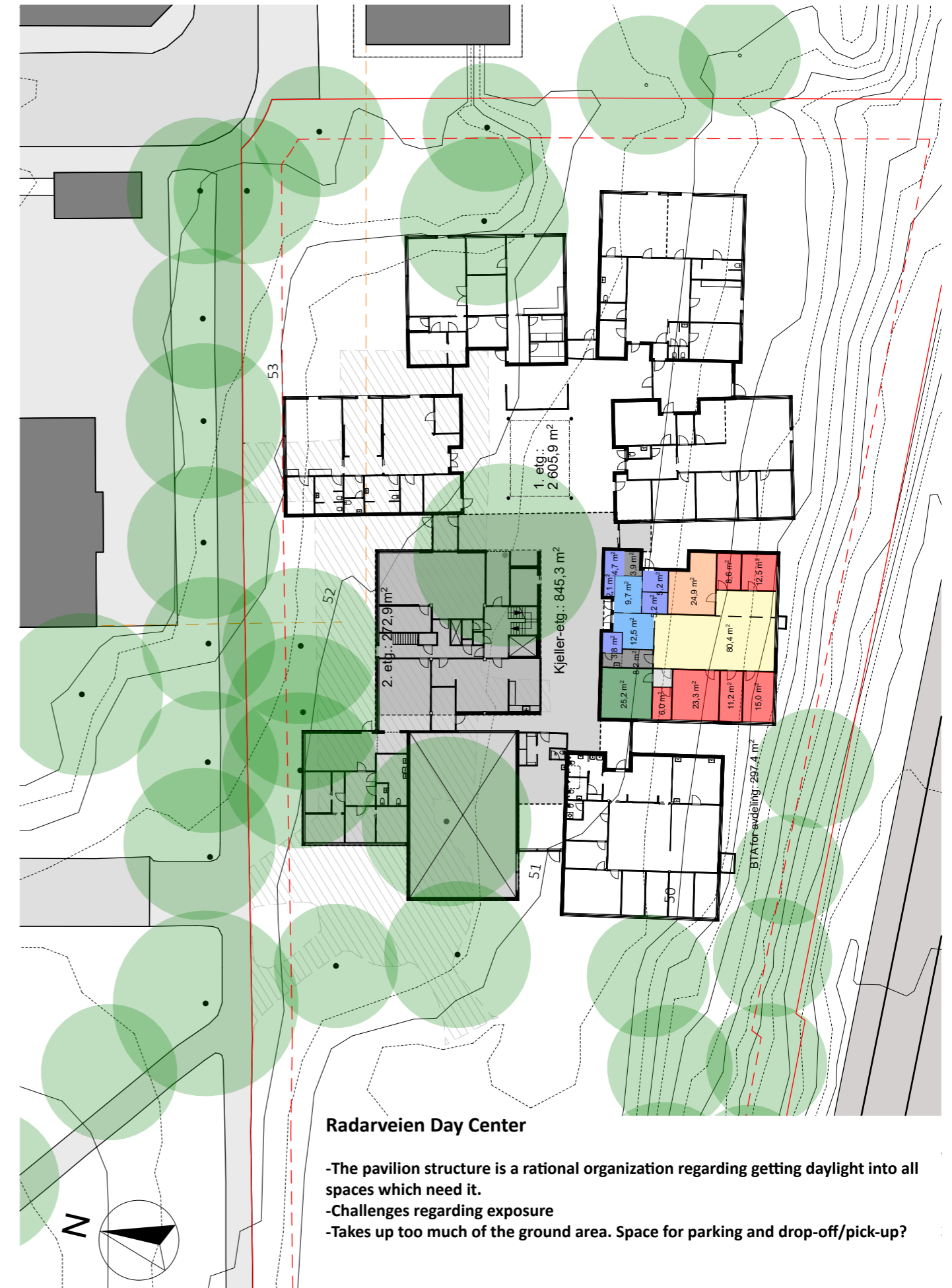
Comparative study: Sofieskolen home for children with autism

1:500

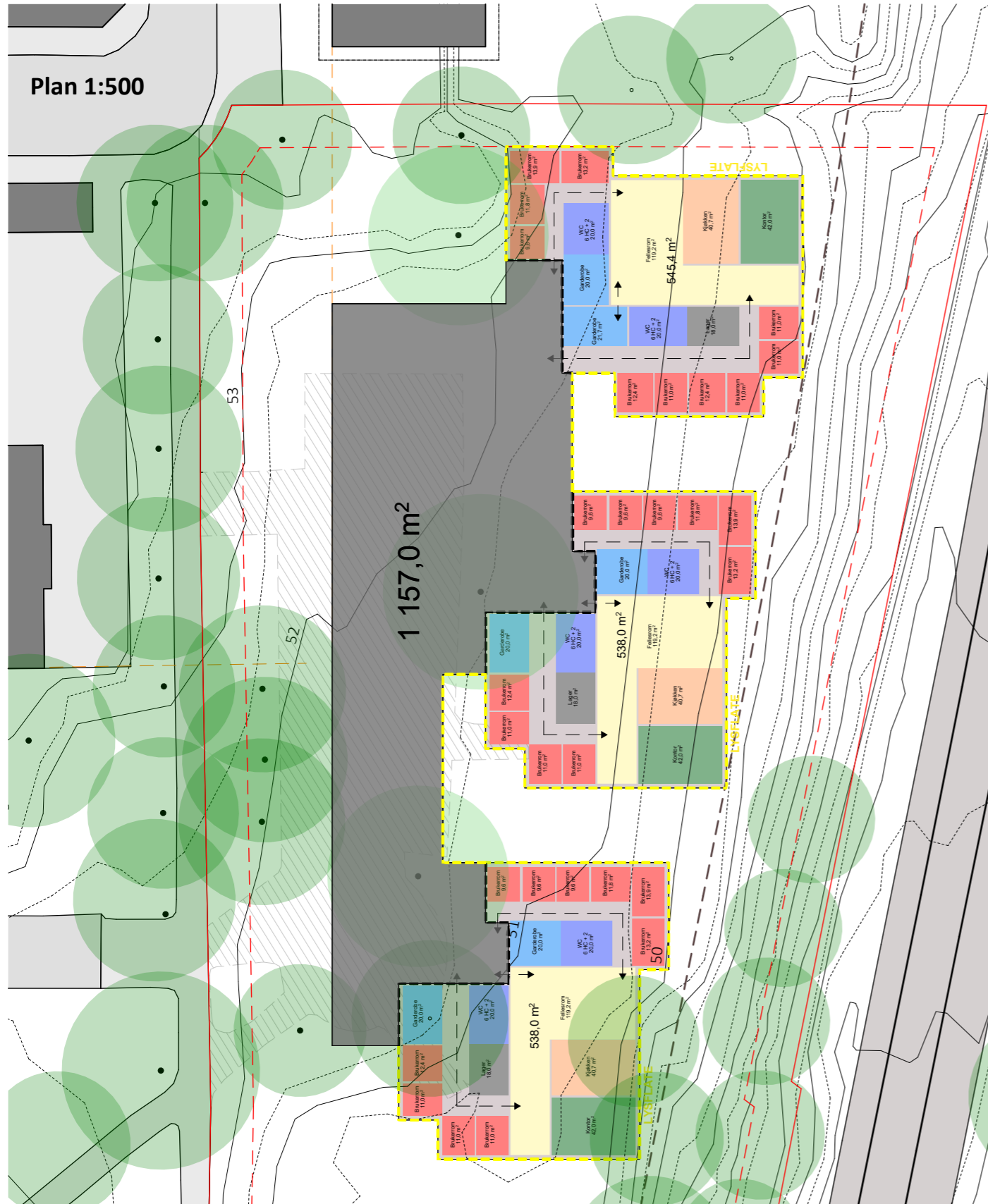


Comparative study: Radarveien Day Center

1:500



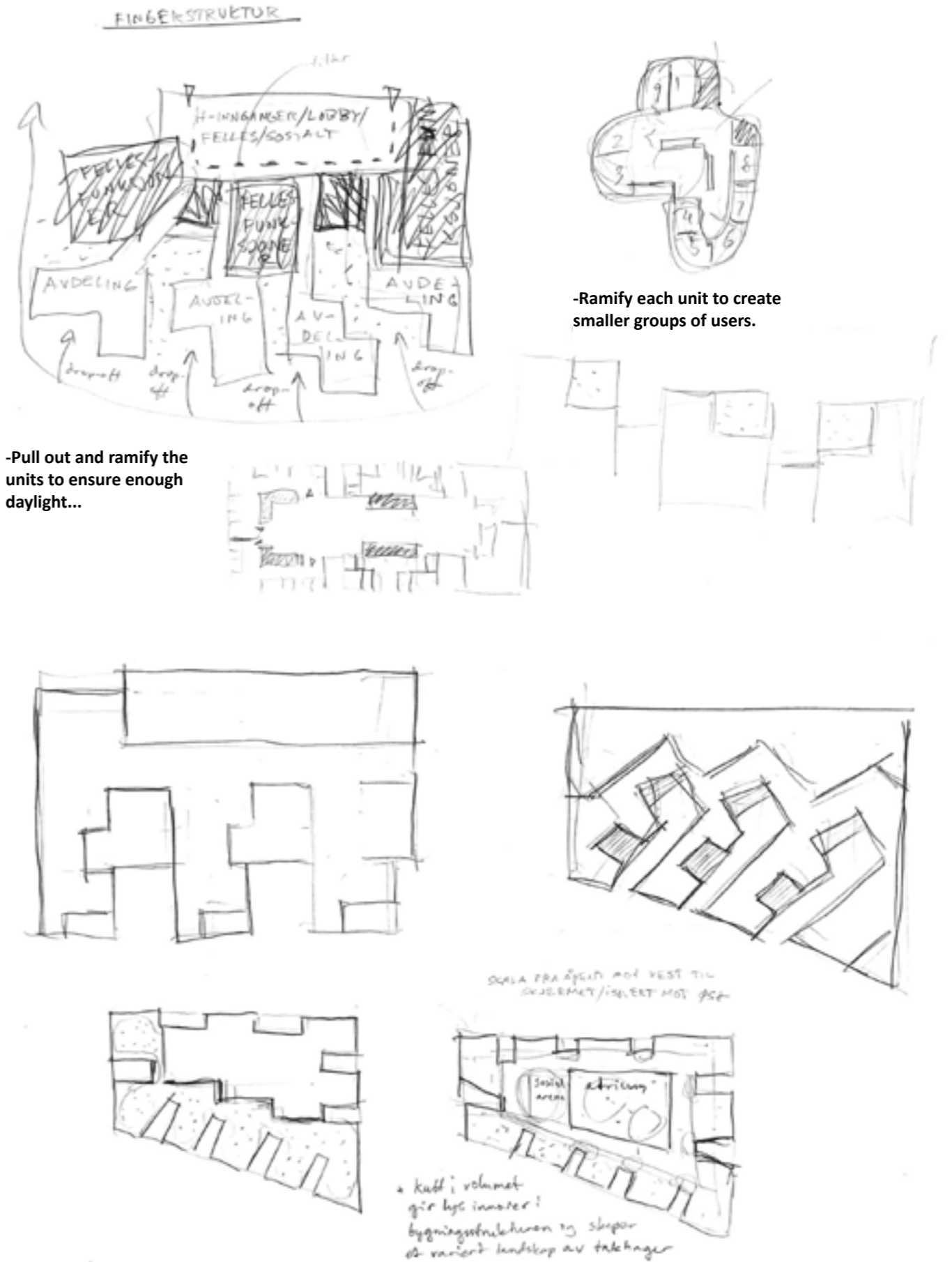
Study of organizing some units on the site



3 units placed on the site along a "back bone" towards the street

- The functions of the user units demand a lot of facade length due to all the spaces which need daylight...
- How to adequately protect the user rooms from exposure to the outside?
- Could the shared spaces of the units be smaller? Should the number of users in each unit (and the entire project) be reduced?
- How to achieve protected and controlled outdoor spaces without artificial borders?

Sketches for organization

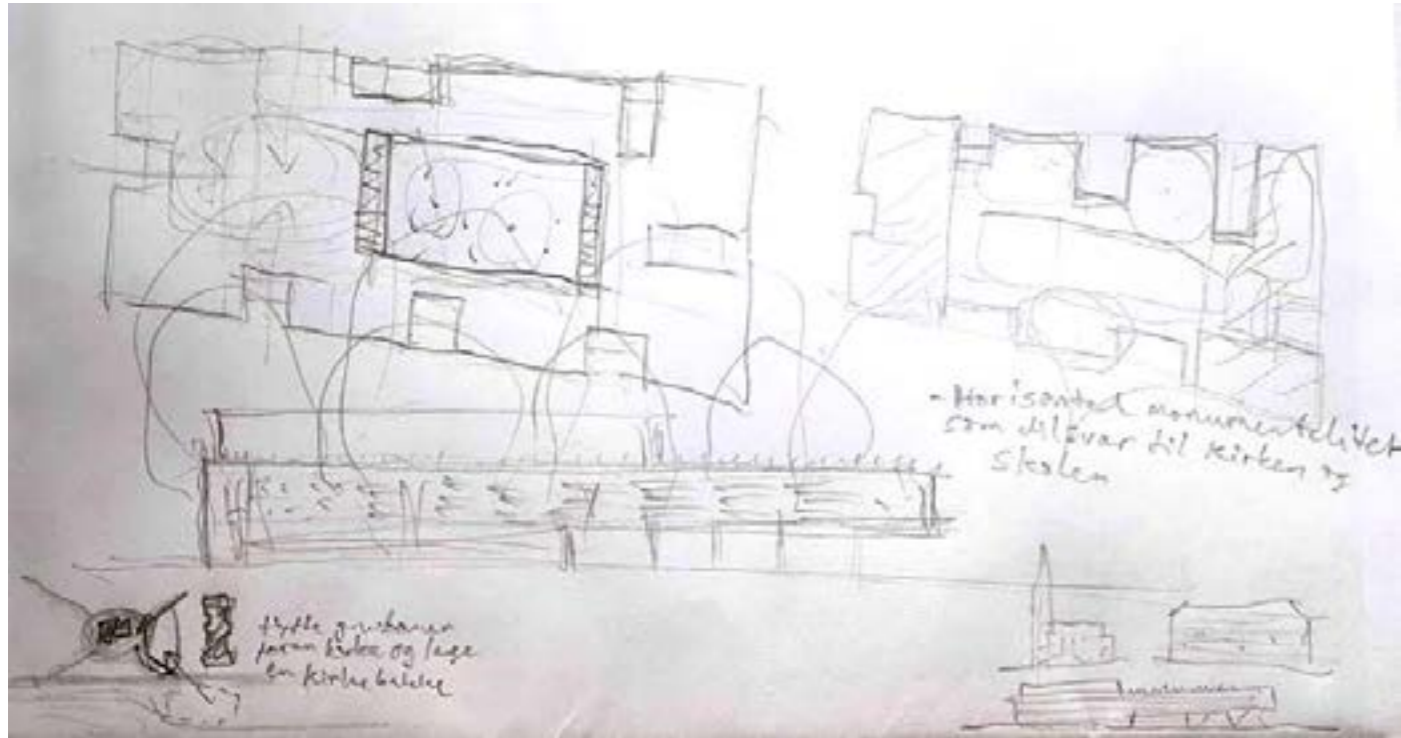


-Ramify each unit to create smaller groups of users.

-Pull out and ramify the units to ensure enough daylight...

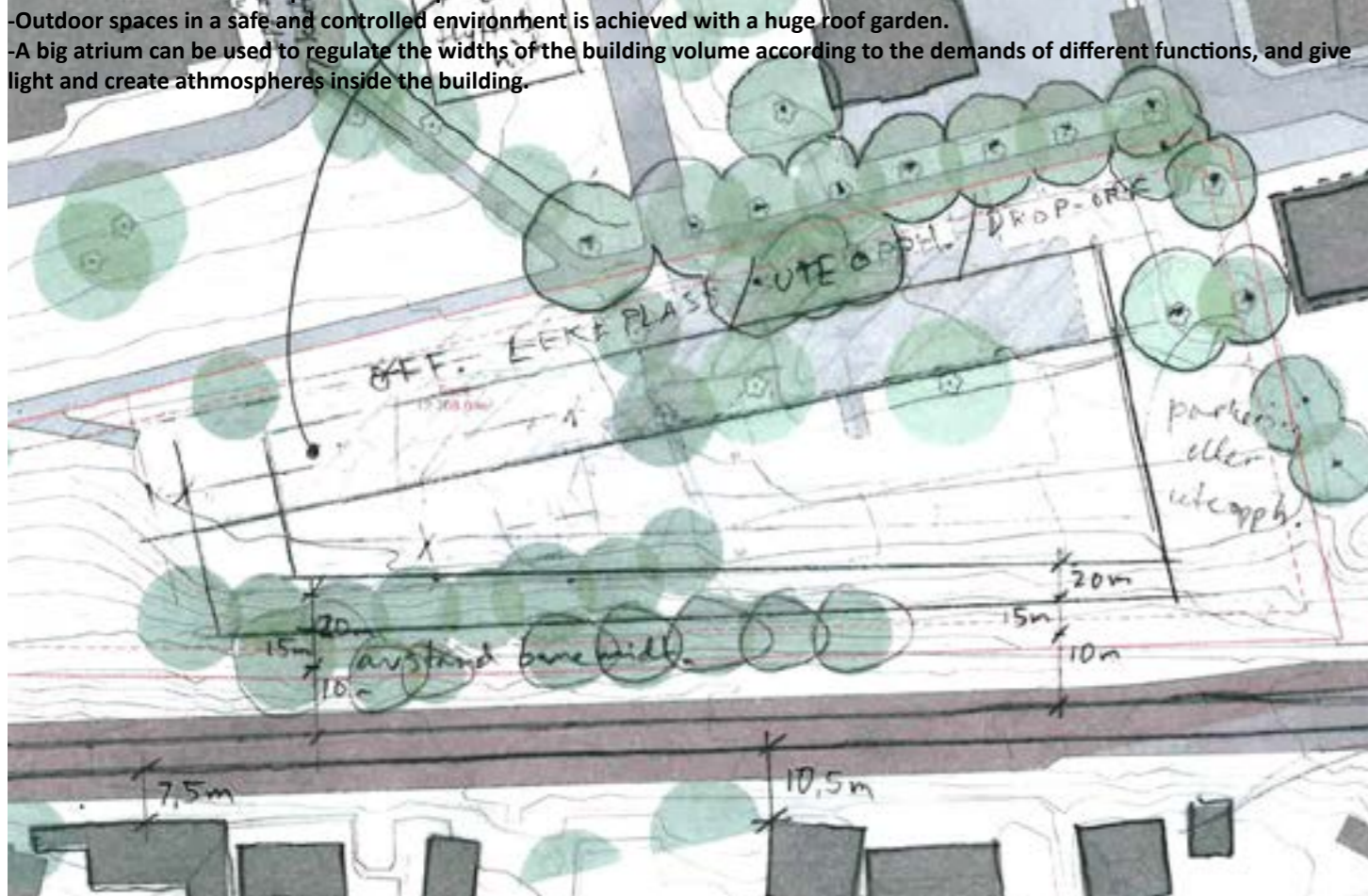
-A more compact and monolithic volume can have atriums and cuts into it which bring in daylight...

Concept idea



A compact volume lifted off the ground with outdoor spaces on the roof and parking, drop-off/pick-up at the ground level

- The "main weight" of the building volume is put within the lines drawn from the existing city block grid north-east from the site.
- The volume will follow the max. height and street facade line of the neighboring building to the east (Vålerenga School addition from 2005) and subordinate itself to the massive trees.
- The building could resonate with the massivity and presence of Vålerenga Church and School with a "horizontal monumentality".
- It will "float" out over the park and lift up the users to create a safe but close contact to the environment.
- Outdoor spaces in a safe and controlled environment is achieved with a huge roof garden.
- A big atrium can be used to regulate the widths of the building volume according to the demands of different functions, and give light and create atmospheres inside the building.



Konseptmodell 1:500

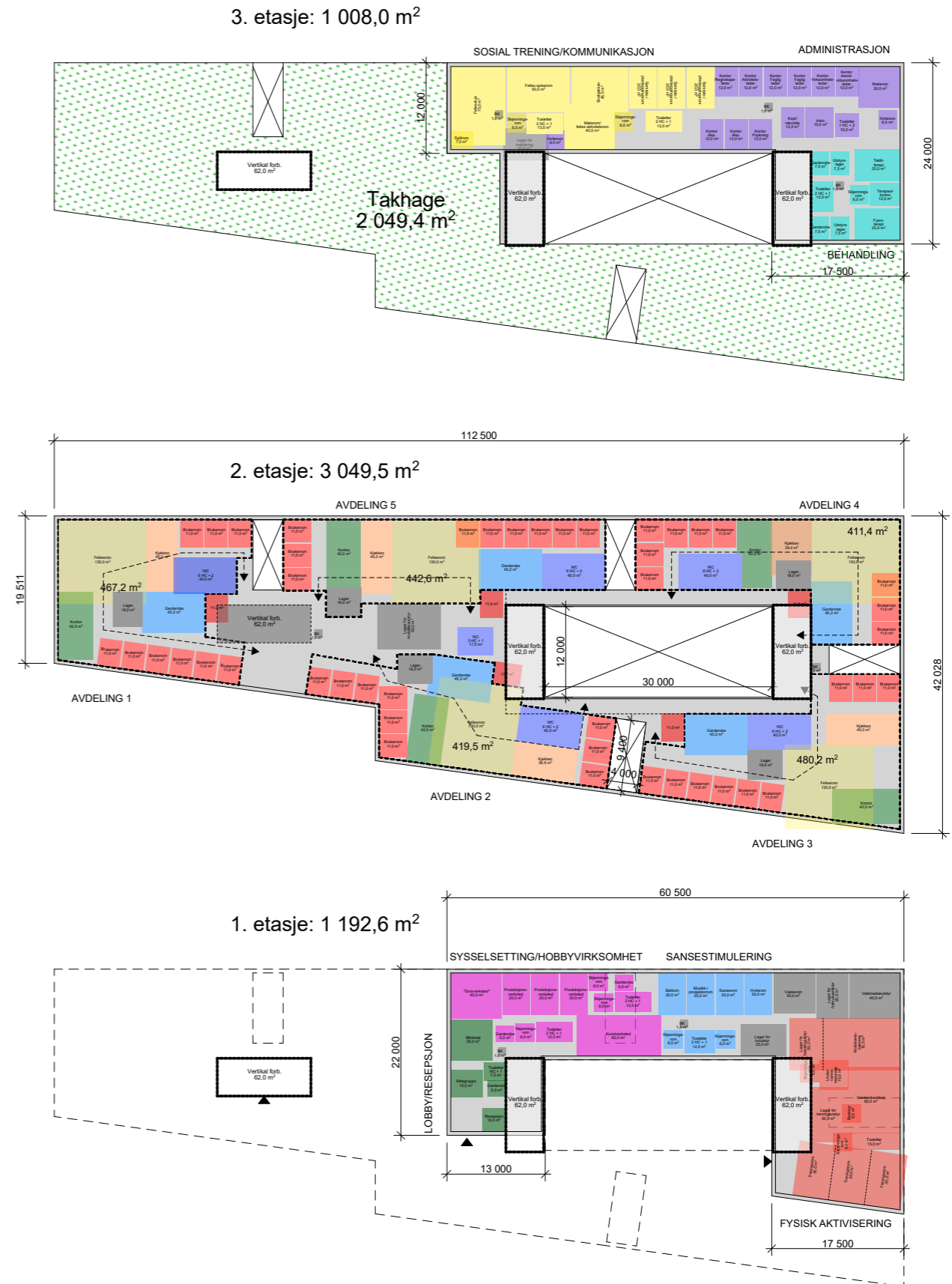


- Good size and proportions which go well with the old school and the church.
- Subordinates to the big trees and lies well in the park surroundings.

Test of the program within the concept idea



Plans 1:750

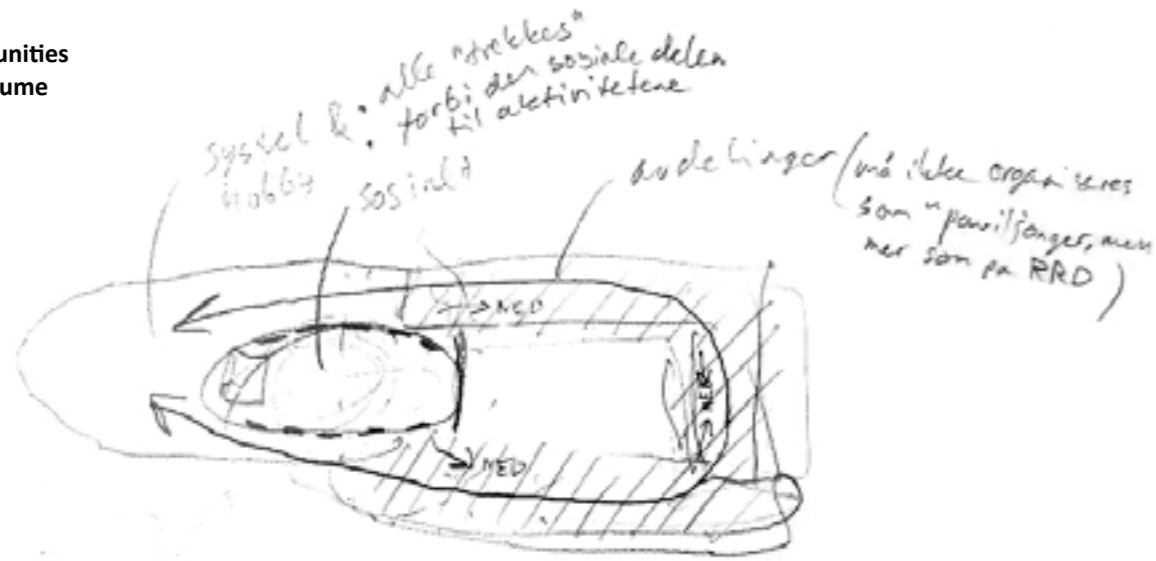


- Unclear access situation.
 - Messy and unclear placement of functions; re-arrange in a way which exploits the different parts of the building volume more appropriately.
 - Difficult to place the user units as they are; should be reduced.
- Apart from these main issues, to concept seems robust enough to deal with the whole program.

Re-arrangement and further organization:

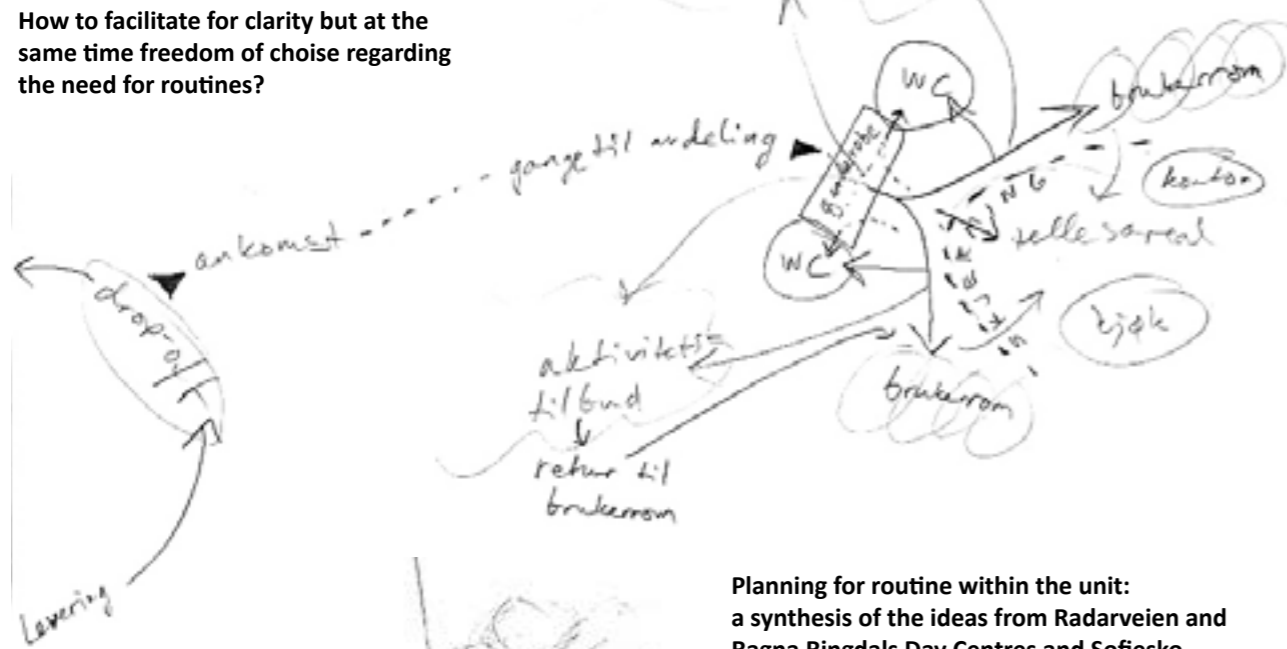
-routine and freedom of choice for the users

What kind of opportunities does the building volume offer?

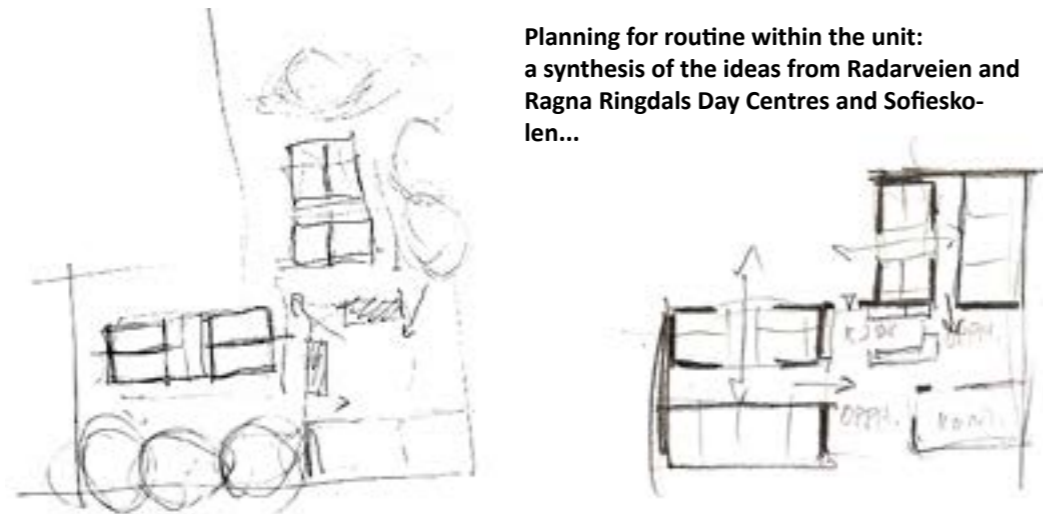


strukturering for ROUTINE!

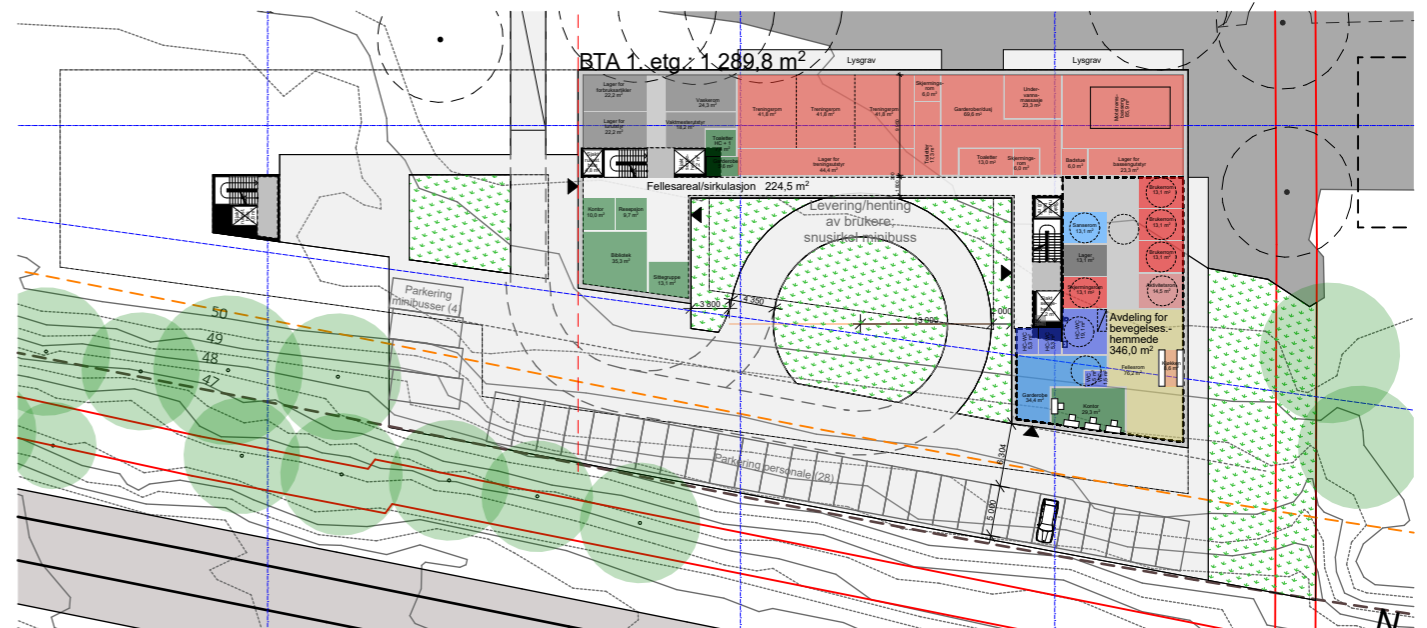
How to facilitate for clarity but at the same time freedom of choice regarding the need for routines?



Planning for routine within the unit: a synthesis of the ideas from Radarveien and Ragna Ringdals Day Centres and Sofieskolan...



Processing of plans and the program:



Ground floor

- Drop-off/pick-up of the users happens with a clear movement and is visible from the circulation spaces throughout the building.
- A unit for users with additionally reduced mobility is established on the ground floor.
- The physical activation unit is placed towards north with light-wells along the facade.

1:750

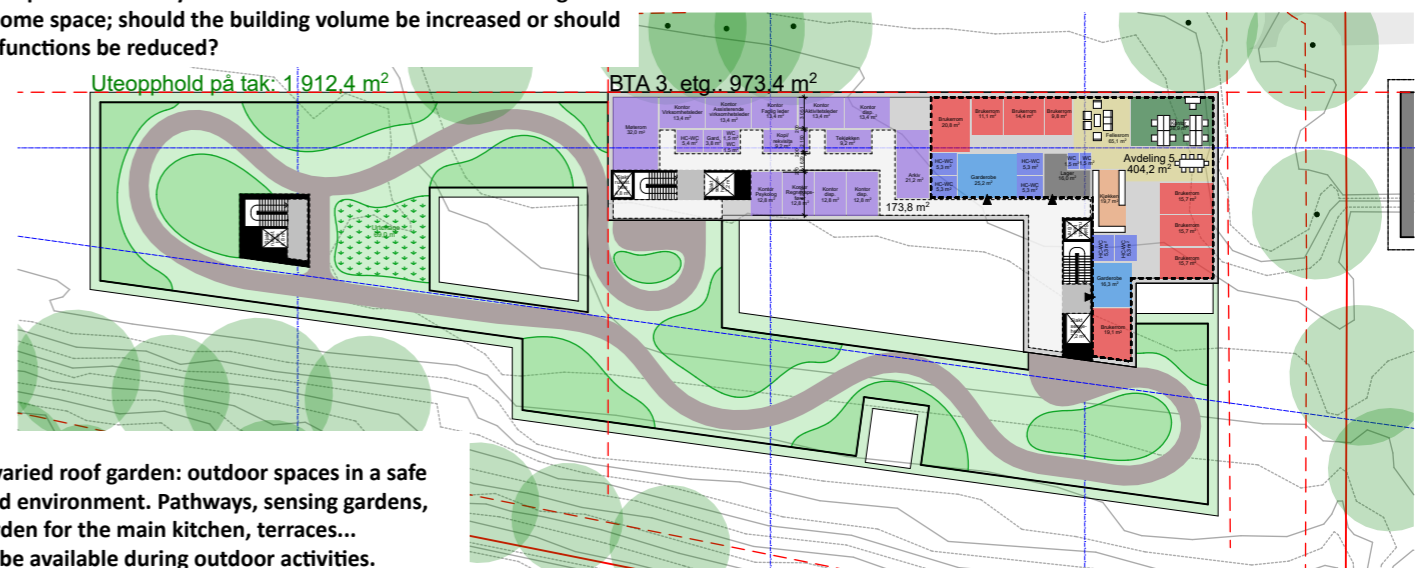


1st floor

- A new atrium is established above the access road.
- 3 cores for stairs and lift: possible to keep the max. distance to fire-escape routes under 30 meters.
- Different social functions established in the middle and next to the atriums, which the users pass on the way to different activities in the west wing.
- Still lacking some space; should the building volume be increased or should some shared functions be reduced?

2. Etasje

1:750



2nd floor

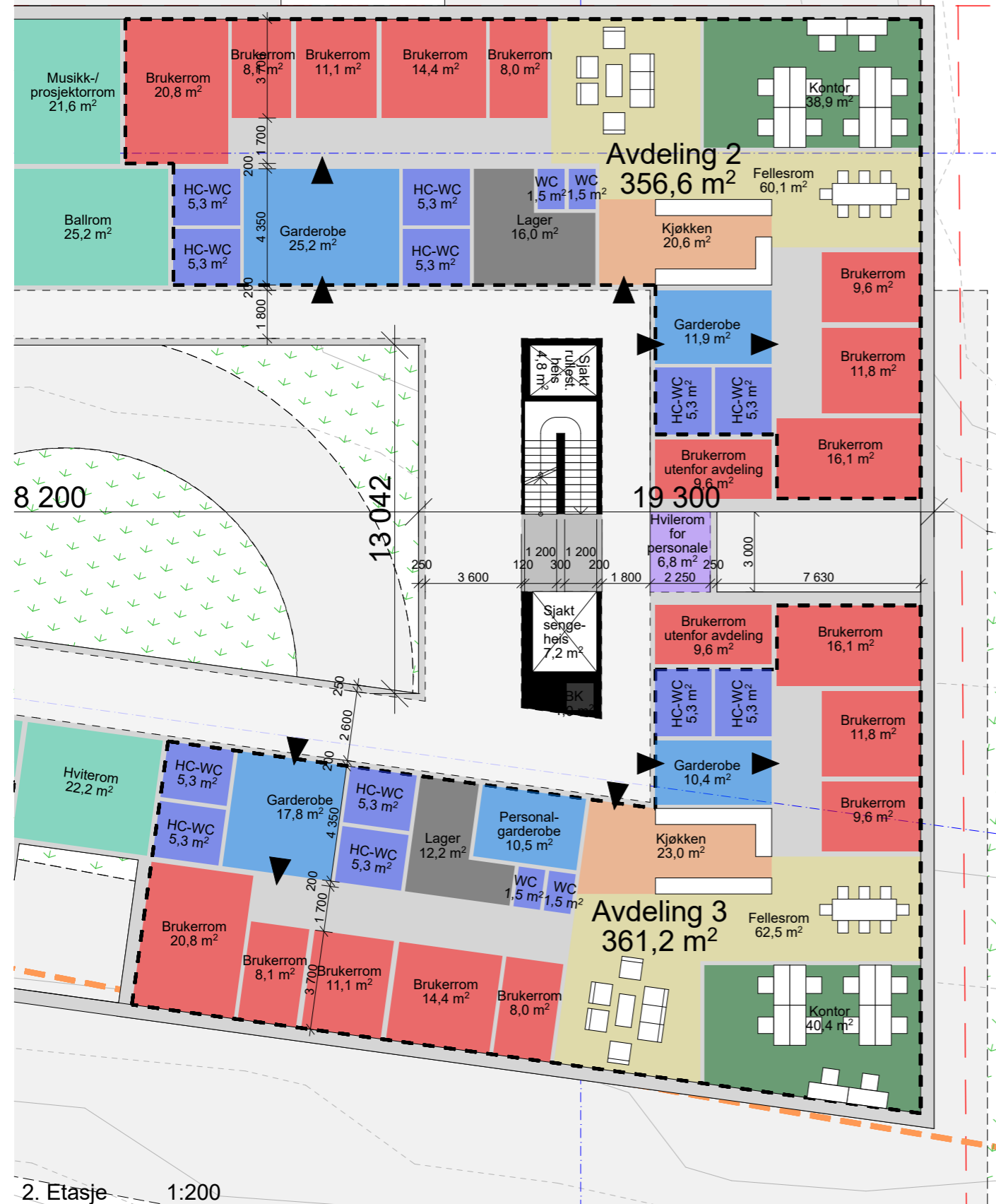
- A huge and varied roof garden: outdoor spaces in a safe and controlled environment. Pathways, sensing gardens, vegetable garden for the main kitchen, terraces...
- Toilets must be available during outdoor activities.
- Tool sheds

3. Etasje

1:750

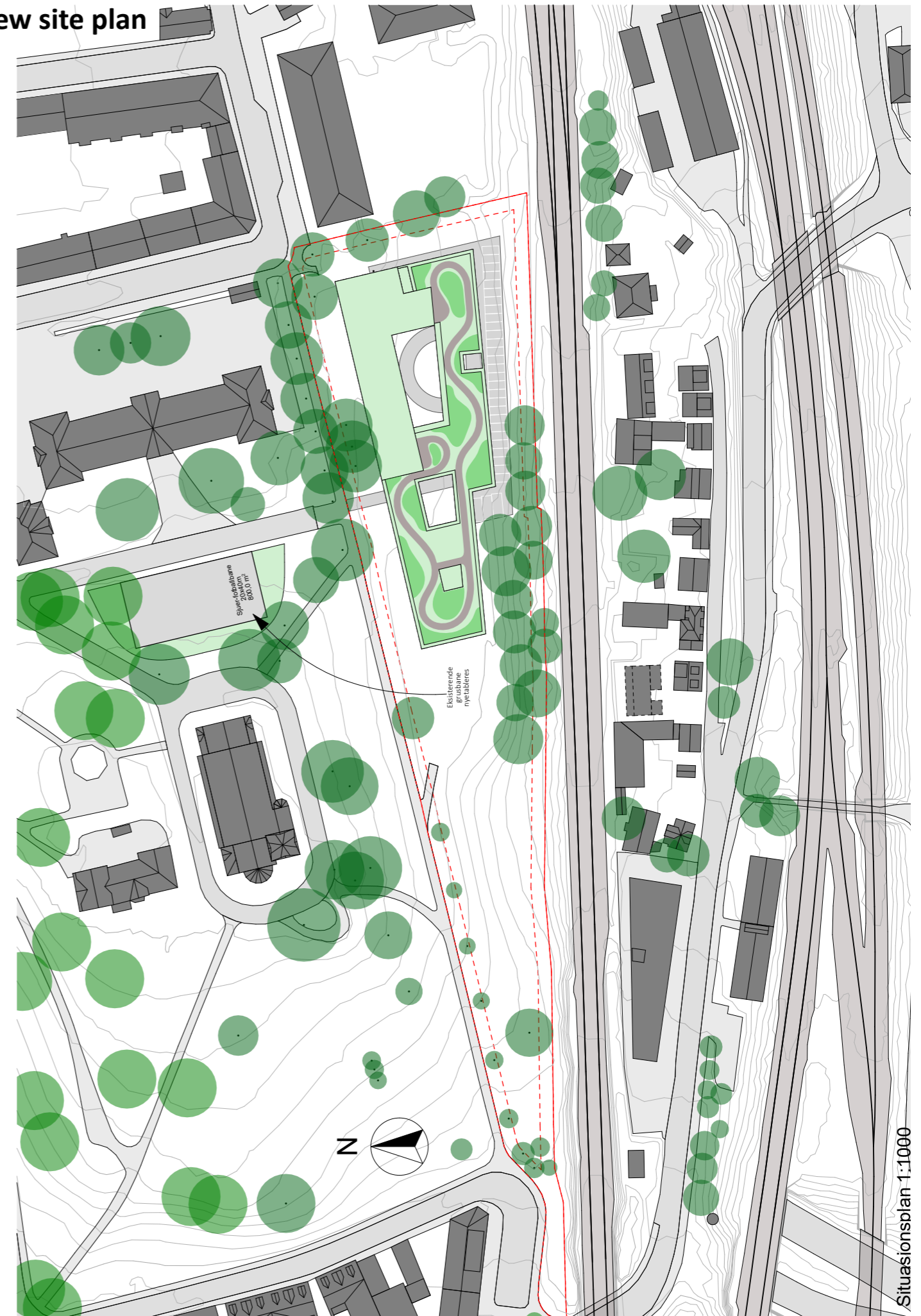
Internal organization of user units 1:200

- The user units are divided into two wards of user rooms so that there are fewer users near each other. One user room for each unit is placed outside of the unit due to some users' preference.
- The wardrobes and toilets create a filter between the main circulation and the units, and give access into the units in several places to give more options of choice.
- The unit office room can be placed to split the shared space of the unit into two parts.
- The kitchen reduces further the contact between the different zones of the shared space and becomes a "security buffer" in case of an act-out.
- Atriums or cuts in the volume give light to user rooms placed further inside the volume.



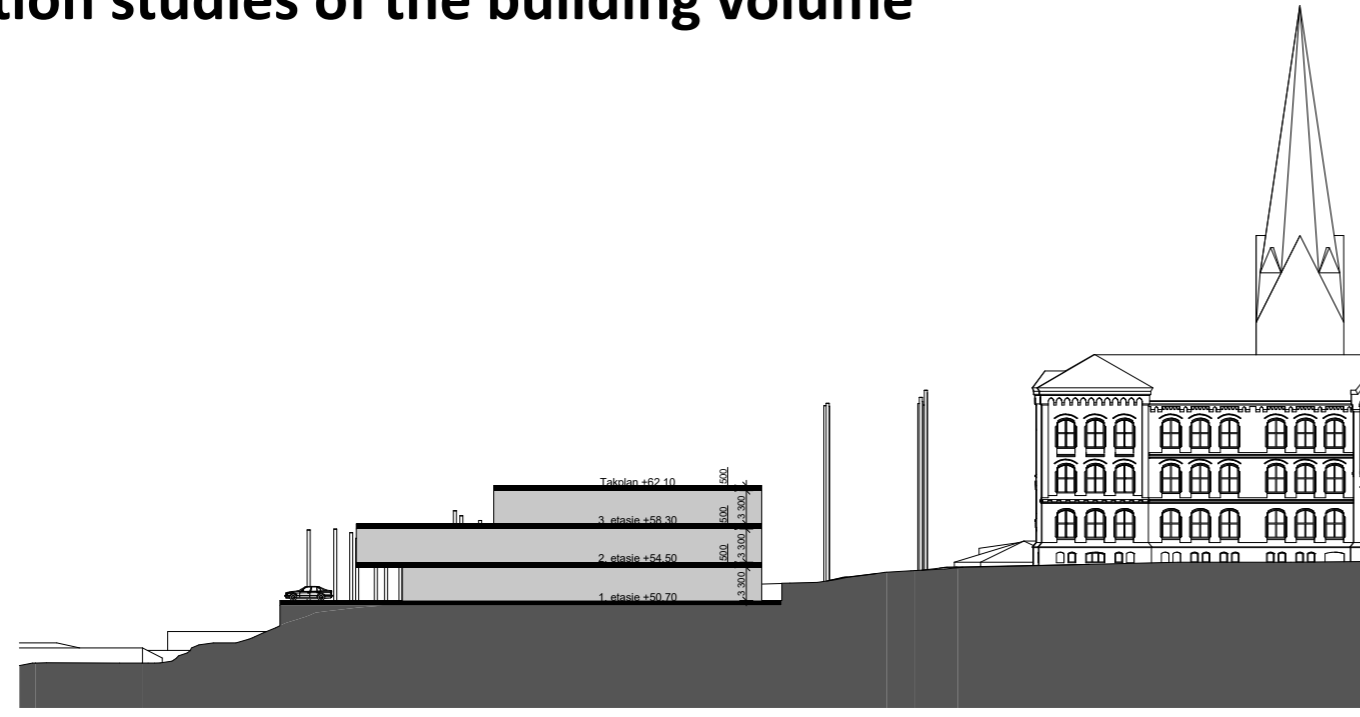
2. Etasje 1:200

New site plan

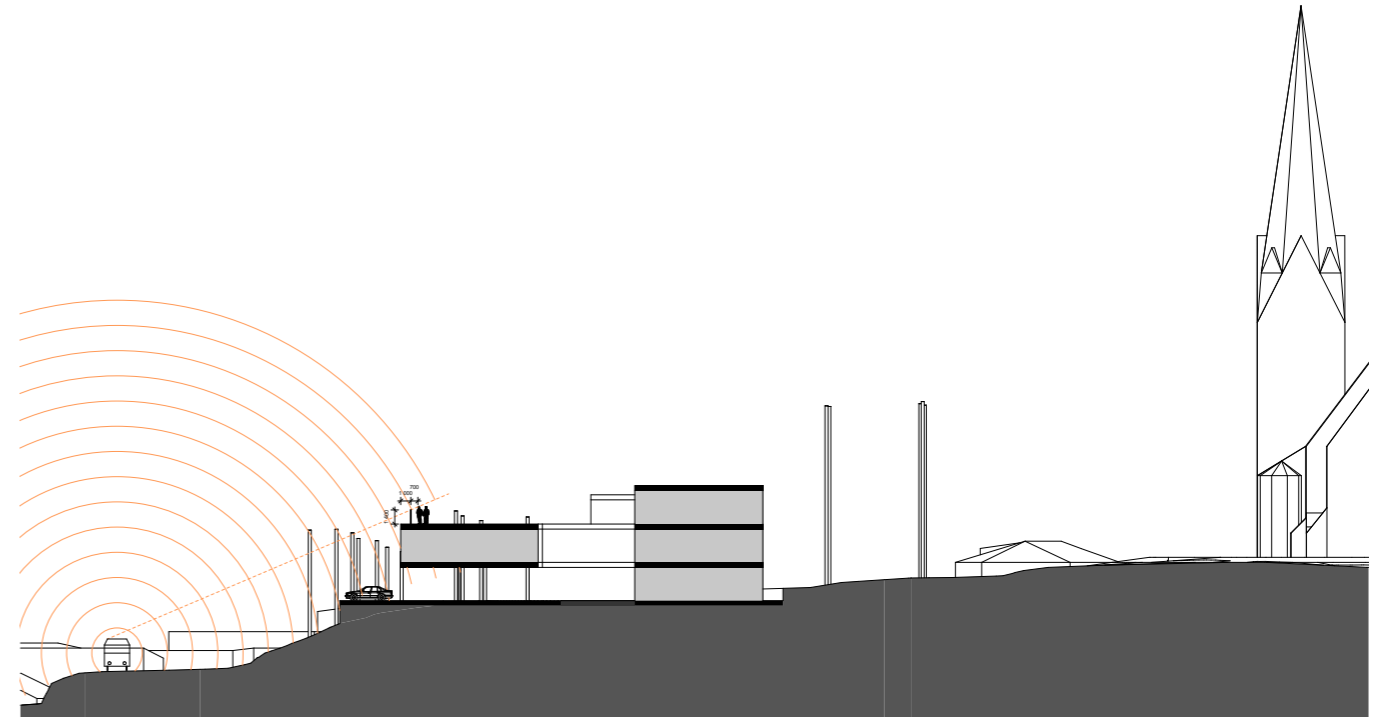


Situationsplan 1:1000

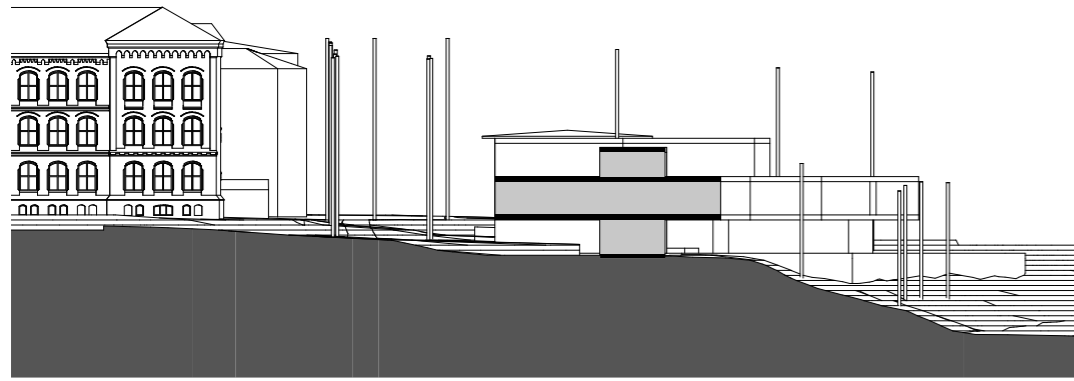
Section studies of the building volume



1:750 Snitt A



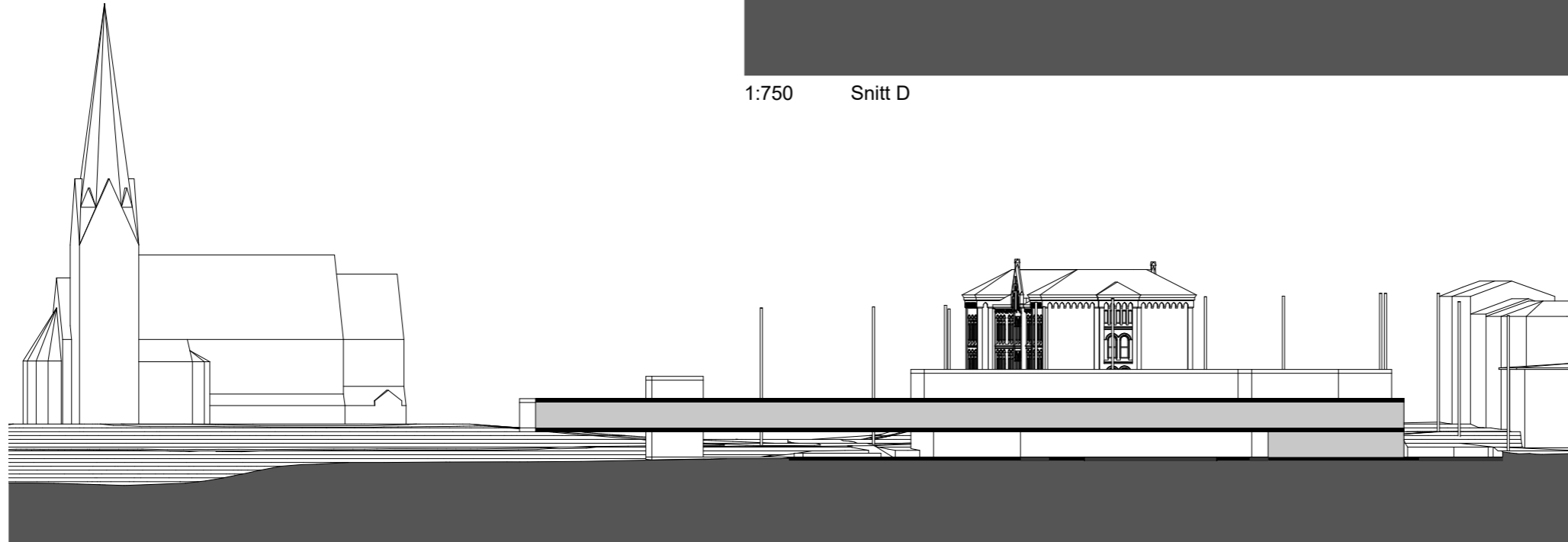
1:750 Snitt B



1:750 Snitt C

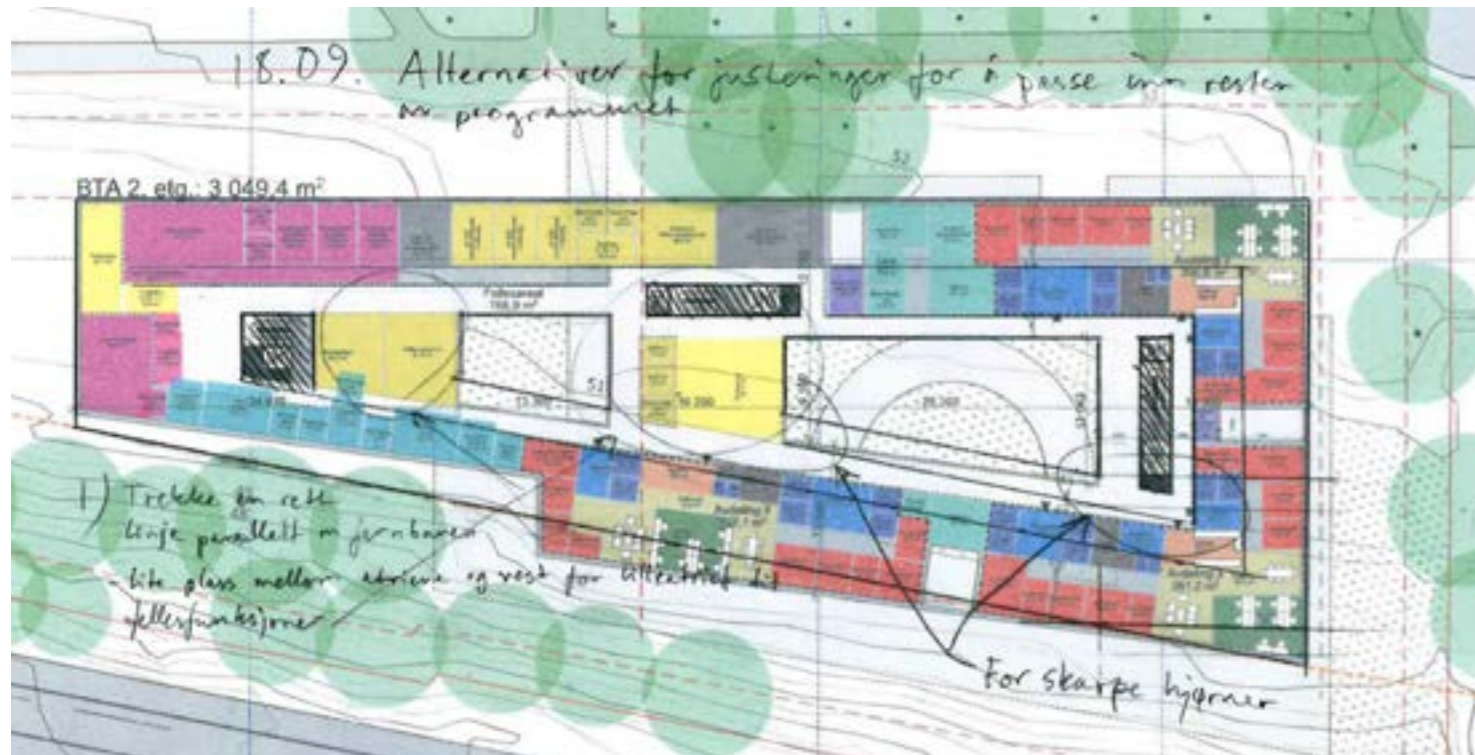


1:750 Snitt D

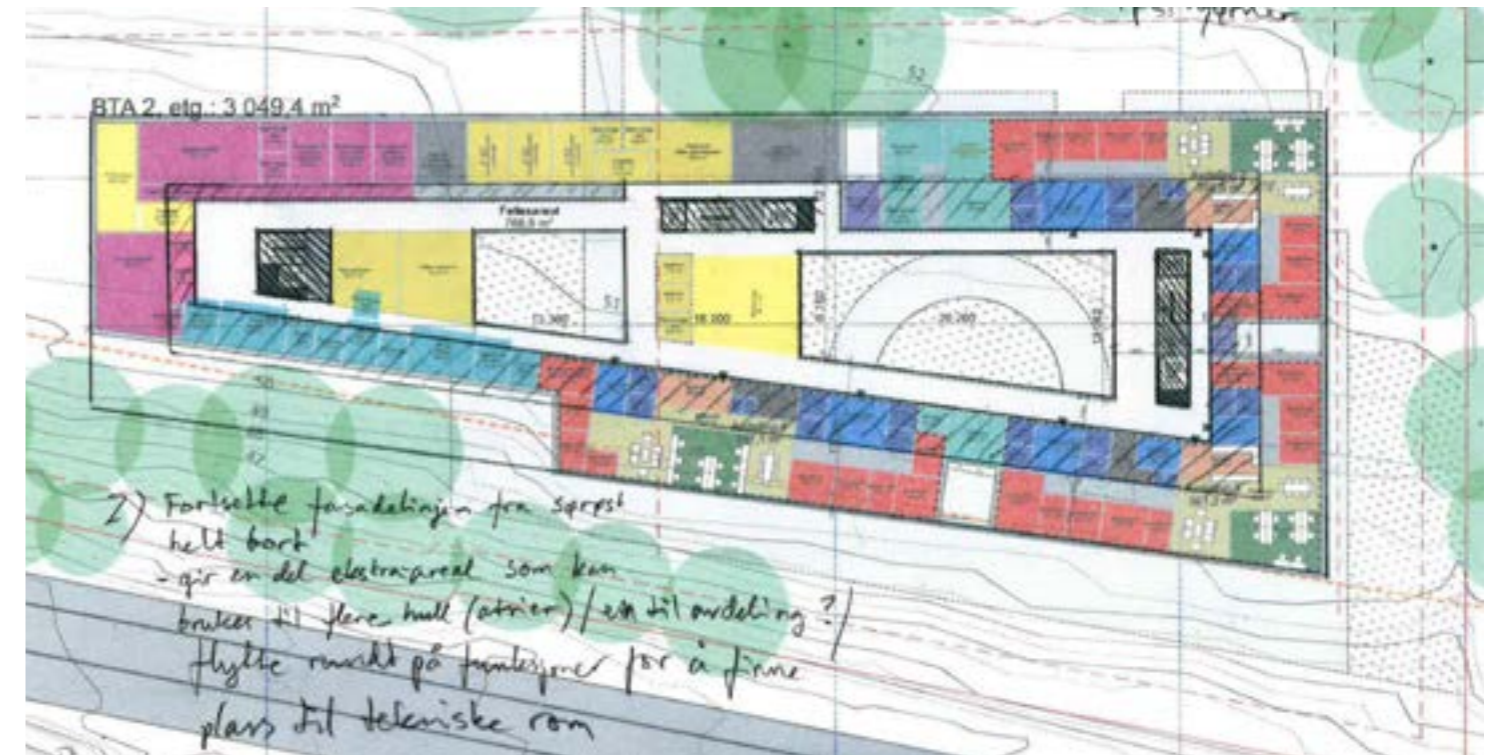


1:750 Snitt E

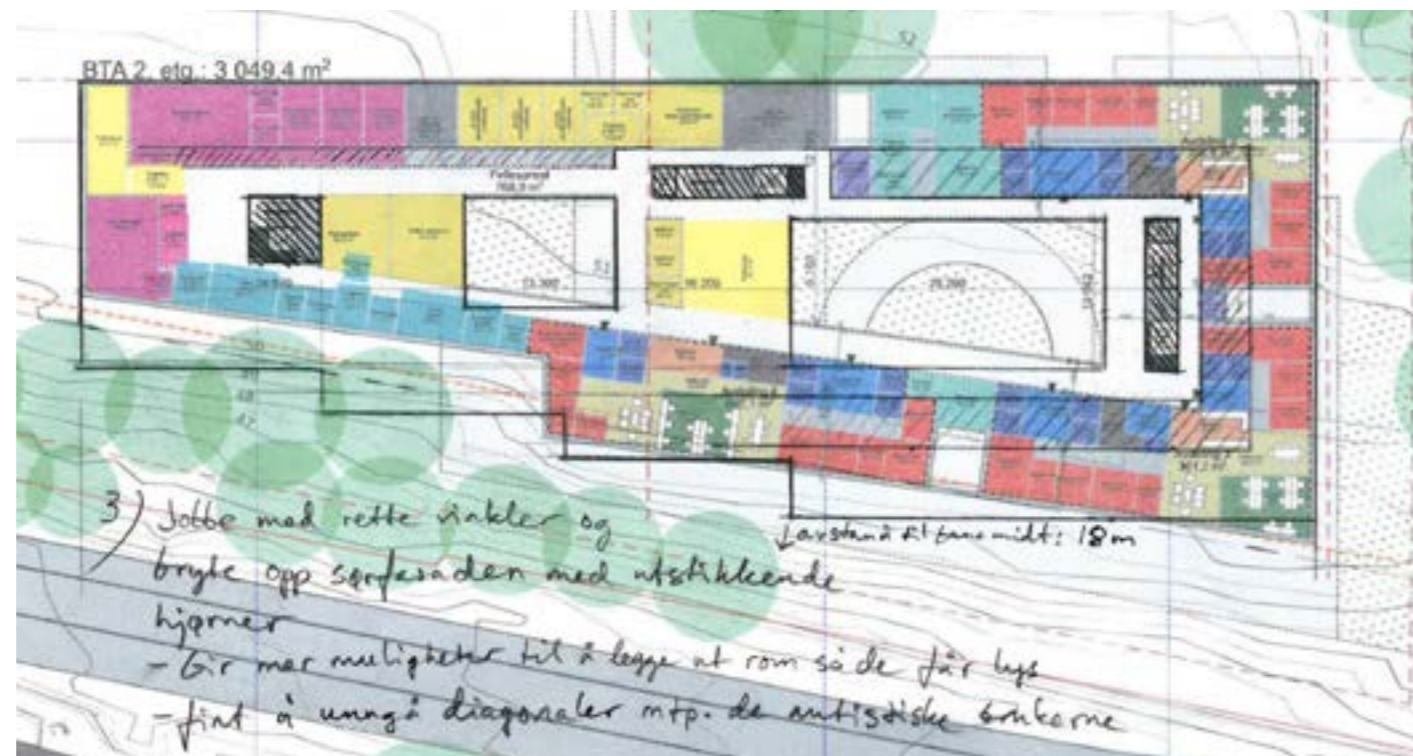
Alternatives for further modification of the volume, to solve current issues (1st floor plans)



- Pulling a straight line parallel to the railway:
- Gives little space for functions between the atriums.
 - Too sharp corners?

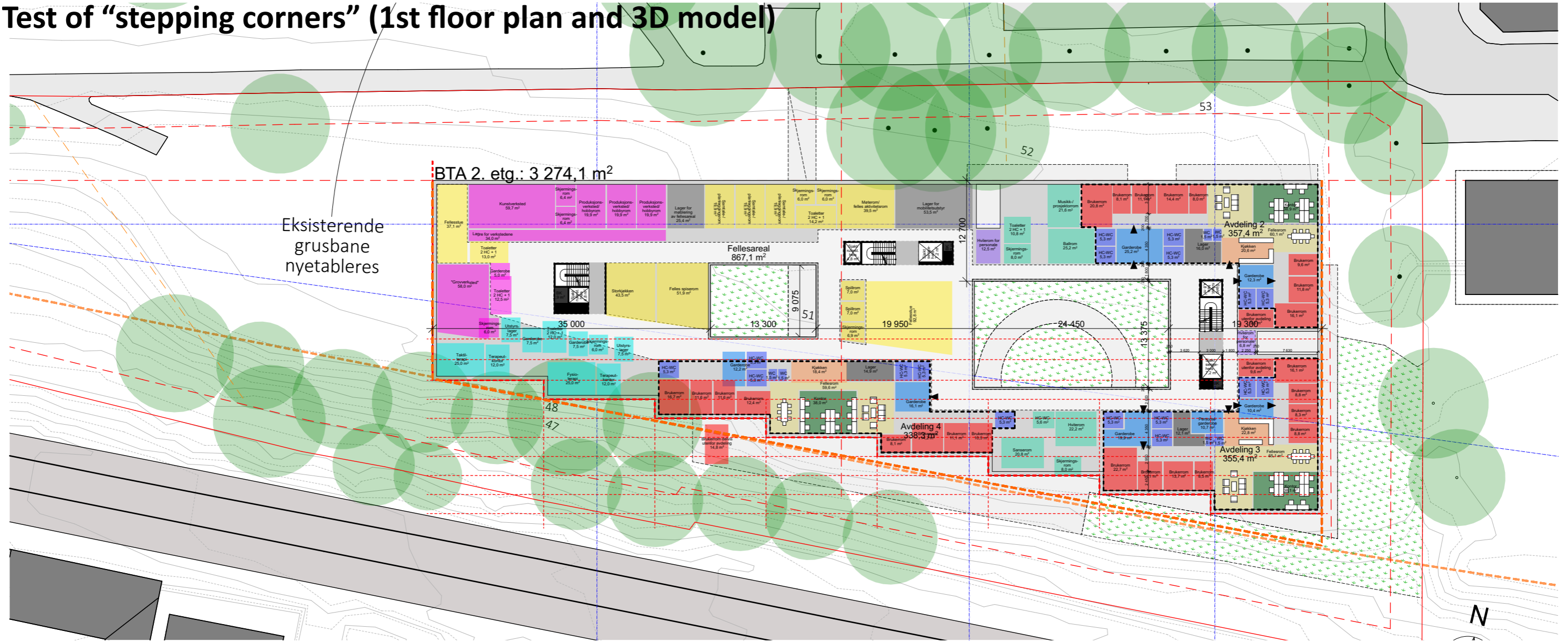


- Continuing the facade from the south-east all the way:
- Gives a lot of extra space which can be used to create more atriums and an extra user unit.
 - The building volume can become too massive and heavy in expressions and create too much covered outdoor space on the ground.

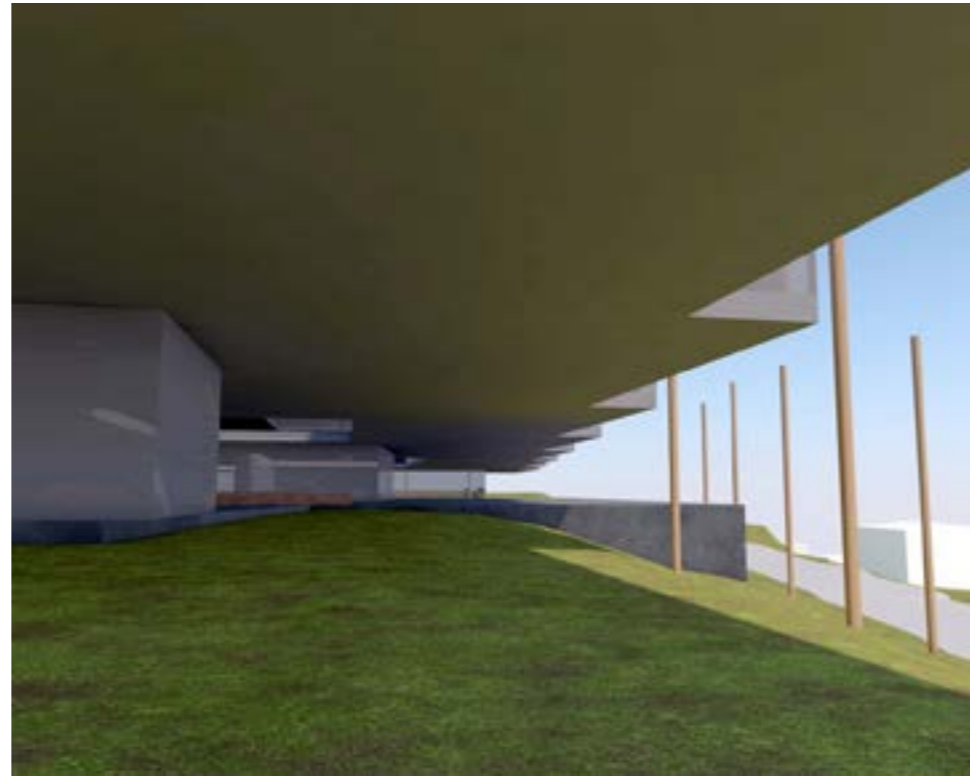


- "Stepping corners":
- More possibilities to place rooms along facade.
 - Avoids difficult corners and diagonals inside.
 - Might extend too far south towards the railway.

Test of "stepping corners" (1st floor plan and 3D model)



-Can function well in plan, but gives an uncomfortable expression...



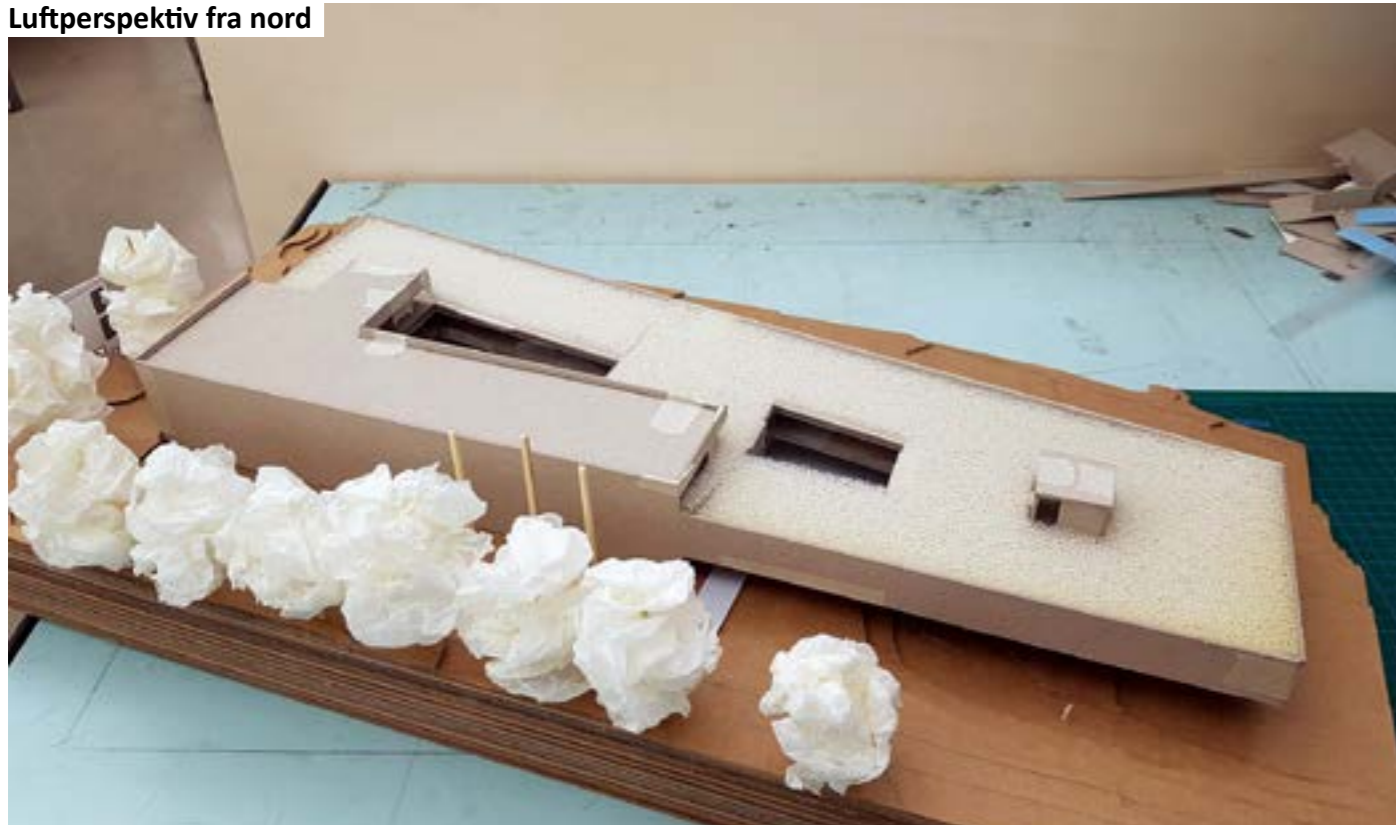
1:200 model study of maximum volume

Birds-eye view from south



- The volume appears very massive and covers up a lot of space. Maybe also extends too far south.
- The western wing could be narrowed and the south facade broken up a little.
- Create a situation which offers more of the view towards south for the access way.
- The parking situation looks no good.

Luftperspektiv fra nord



- Should the west-wing be articulated as something different than the main volume? Pull back the facade a little? Break it off somehow? A different materiality/expression?

From the west on the pedestrian street



- The west-wing lies nicely above the terrain with increasing height under it the further out it extends.
- Ensure enough height to enter by mini bus.
- The public entrance/visitor center area seems to be too far away from the pedestrian street.

Perspektiv fra gangvei i øst



- Subordinates well in relation to the trees with a well balanced height.
- Might appear a bit tame if the west-wing facade is pulled back?
- What should happen on the area between the facade and the pedestrian street?

Access way/public entrance



-The public entrance must be articulated to be more inviting, but yet somewhat discrete.
-The access way can be a "shared space" which is articulated so that it is natural to enter as a pedestrian.

Atrium with drop-off/pick-up, towards the visitor center



Atrium with drop-off/pick-up, towards the user entry



Public entrance/lobby/visitor center from south



-The visitor center appears to lie rather far under the 2nd floor, although it has contact with atriums to either side.

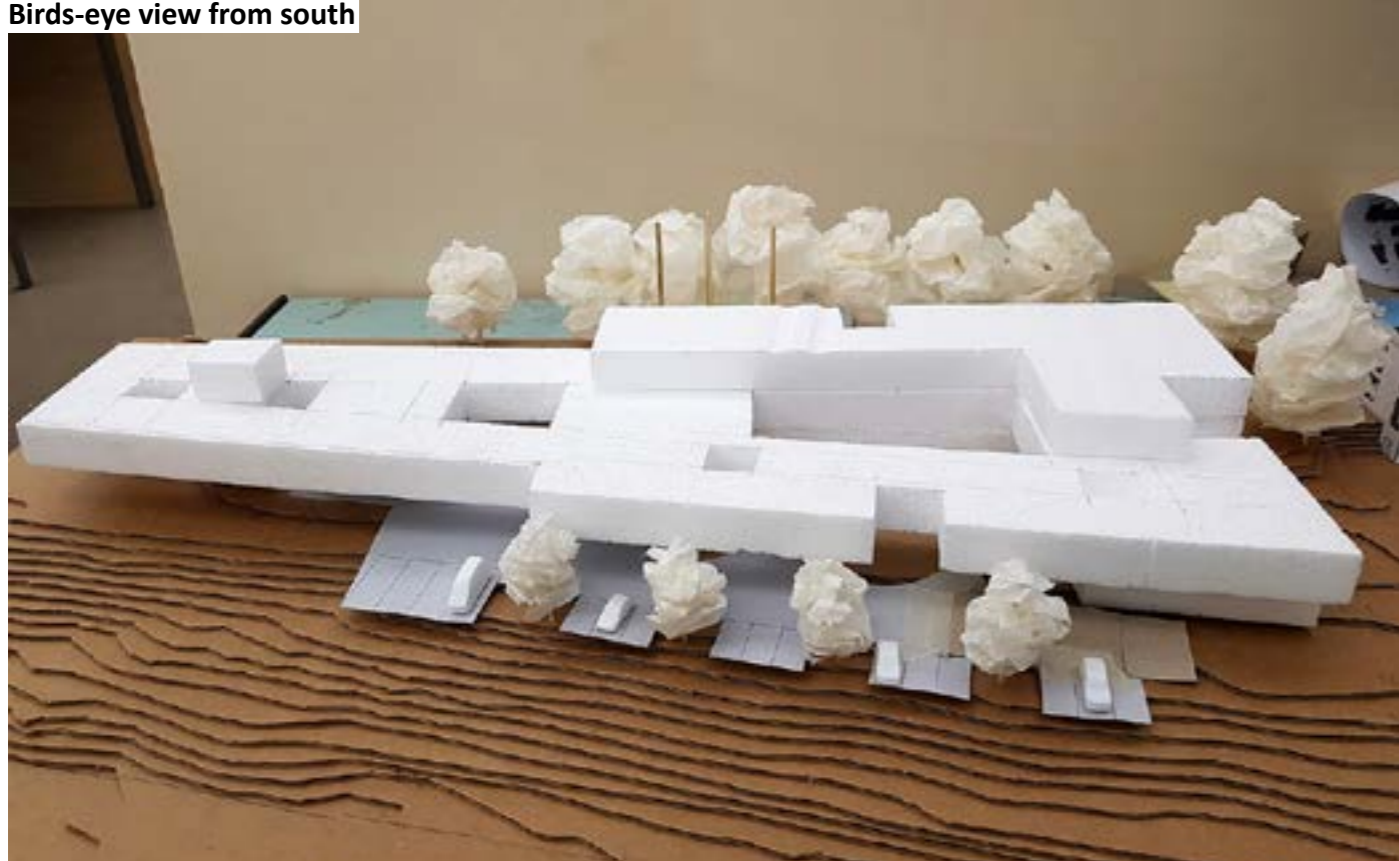
Drop-off/pick-up situation



-The drop-off/pick-up situation can be shaped to be more coherent with the shape of the atrium.

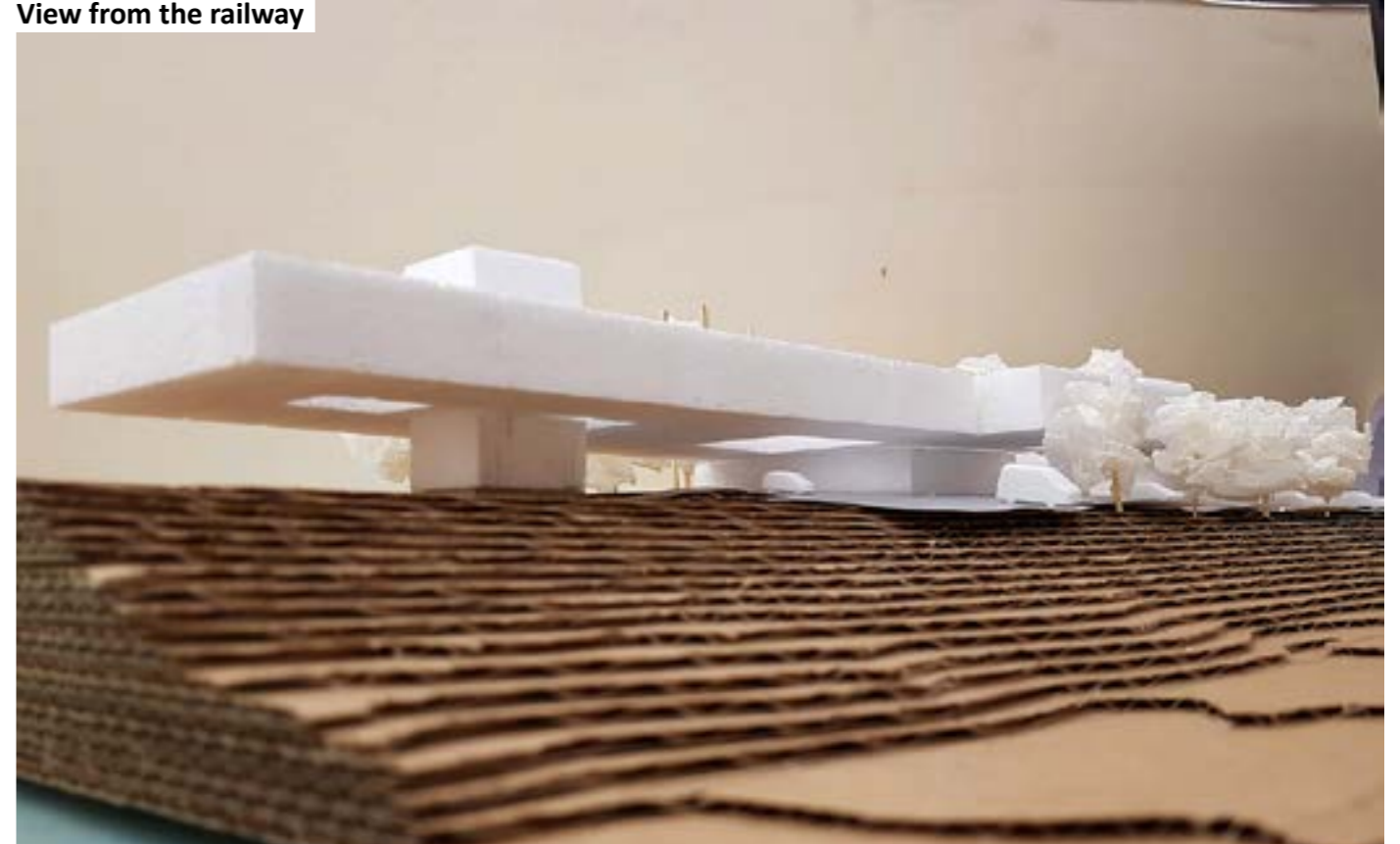
Processed volume study 1:200

Birds-eye view from south



-More atriums are established together with several cuts into the volume. The building appears much lighter and more neat.
-The parking situation is more dissolved by splitting it up into small groups of parking spots divided by green areas.

View from the railway



-The atriums let more light to the public space under the volume.

View from public space under the west-wing towards drop-off/pickup and the parking



-The parking spots can be pushed further east to give more open space in relation to the access way.

View from the pedestrian street from the west



-What should happen underneath the west-wing?
-A public space which offers something exciting to the park and the neighborhood...

Public space underneath the volume

How can the outdoor space under the building add something to the surroundings?

- Avoid gloomy and oppressive effect.
- Facilitate interaction between users and the public; create a space which challenges the user to enter the public domain.
- Create a qualitative sensing environment which is attractive for both the users and the public.

References:



LAN Architecture - Student Housing in Paris: Reflective ceiling that extends the light into an outdoor space under the building



Herzog & de Meuron - Barcelona Forum: A sense-stimulating environment of light and reflections under a very massive building volume



Denton Corker Marshall - Stonehenge Visitor Center: A forest of slender columns creating a filtered spatial environment



A test with foil on the ceiling to get more light and introduce other qualities underneath the volume.



Adjustments to the volume 1:200

Birds-eye view from south



- Three atriums are now located more orderly and with more coherent relation to the situations on the ground level.
- Plan studies show that there are no room for "local" atriums within the user units.
- The parking spots are pushed further east and create a better balance with the whole building.

Parking and east facade



- The unit for users with additional reduced mobility can have its outdoor space on the east side of the building.

From the west on the pedestrian street



- A pond of water is established underneath the small atrium as an attempt to create something for the public environment and at the same time reflect light and create a sensing environment under the volume. It could be used for ice skating in the winter.

Atrium with drop-off/pick-up of users



- The movement of drop-off/pick-up is shaped to be more coherent with the shape of the atrium.

Meeting with a therapist at Radarveien Day Center

September 29th 2018

-The user unit offices do not need to be that large; it is sufficient to have room for 6 fixed + 2 flexible work stations.

-It is very positive that the shared space of the unit is split into two zones. Make sure that all staff members within the unit can have daily staff meetings in one of them together.

-It should be possible to close off the unit kitchen from the shared space, and there should be room for a small table with 3 chairs so that one user can have meals there together with two staff members without disturbances.

-The circulation areas in the building can have small pockets for bypassing. Then the corridors need not be wider than for 3 people to pass side by side (1,8m). These pockets need not be physically separated from the circulation as this could hinder movement.

-One bed-sized elevator is enough for the whole building.

-If there are to be light-wells along the north facade, they must be secured against school children and others and it must be ensured that the users do not experience any disturbances during their activities in the gym and pools.

-The visitor center could be used also as a place to sell stuff crafted by the users at the day center!

Discussion about Vålerenga School as neighbor:

This presents a nice opportunity to spread information to the public about intellectual disability and autism and to enlighten society through the younger generation. The day center can hold information meetings at the school or the center, and the building itself can open its lobby to the public.

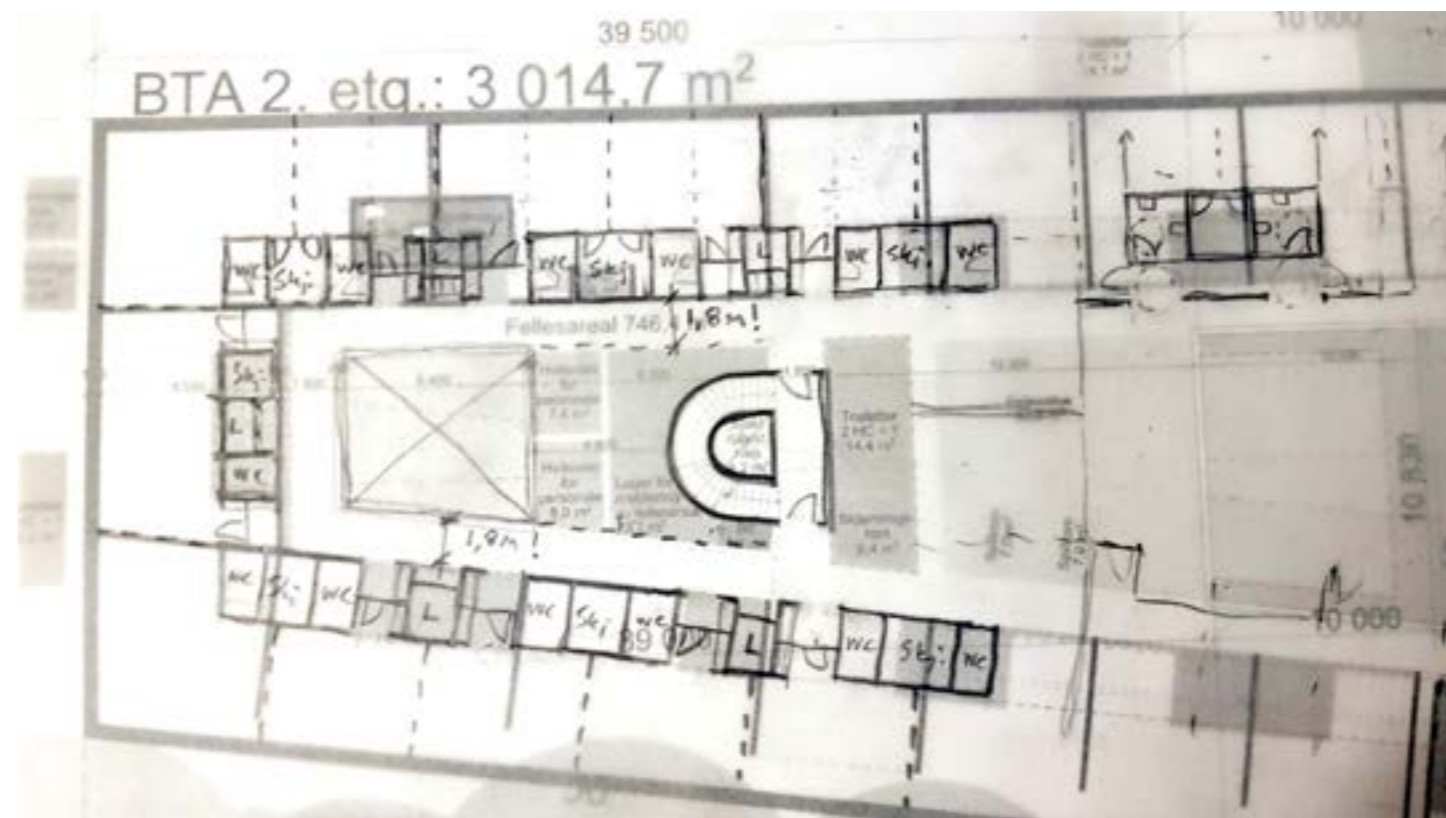
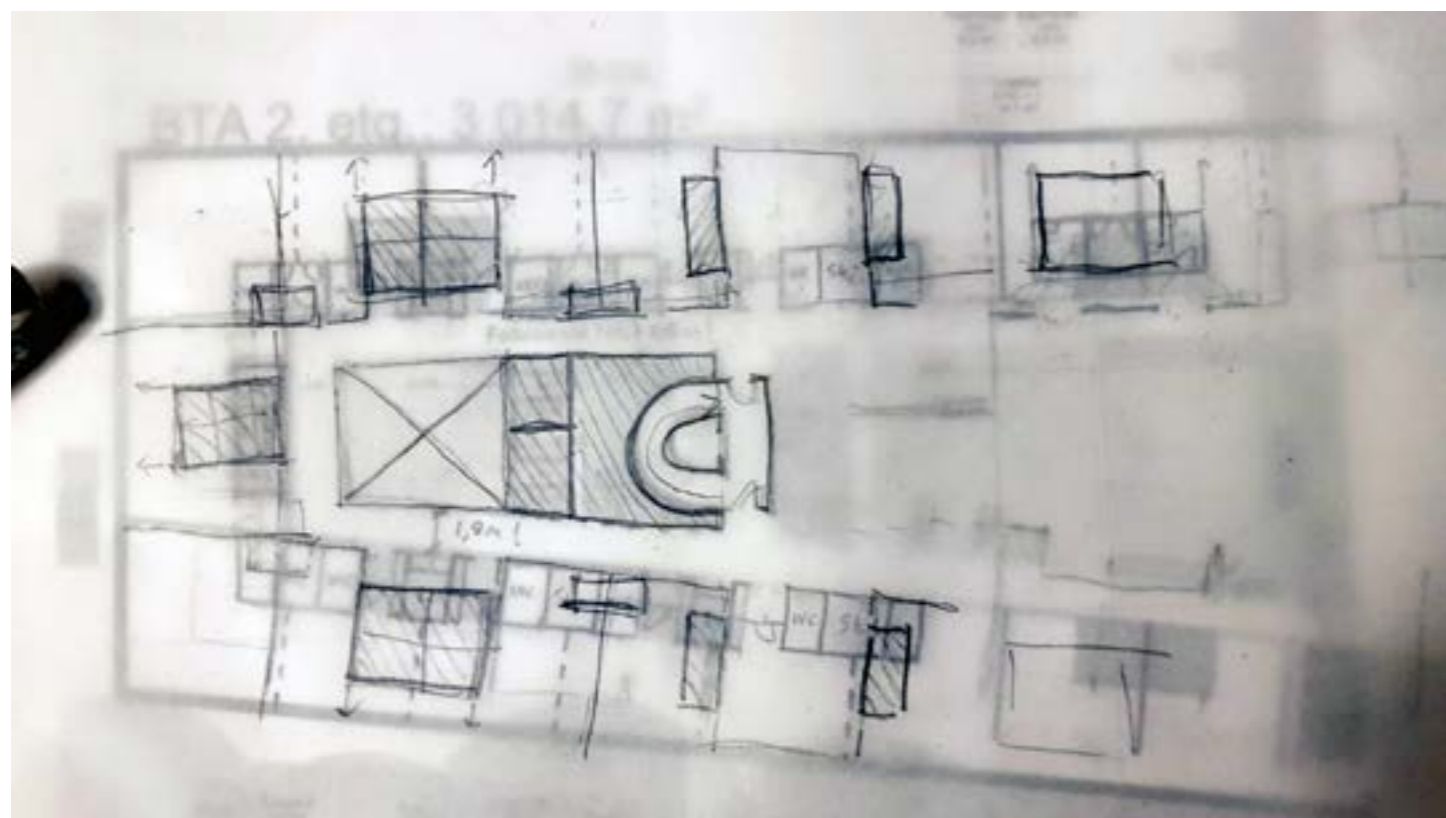
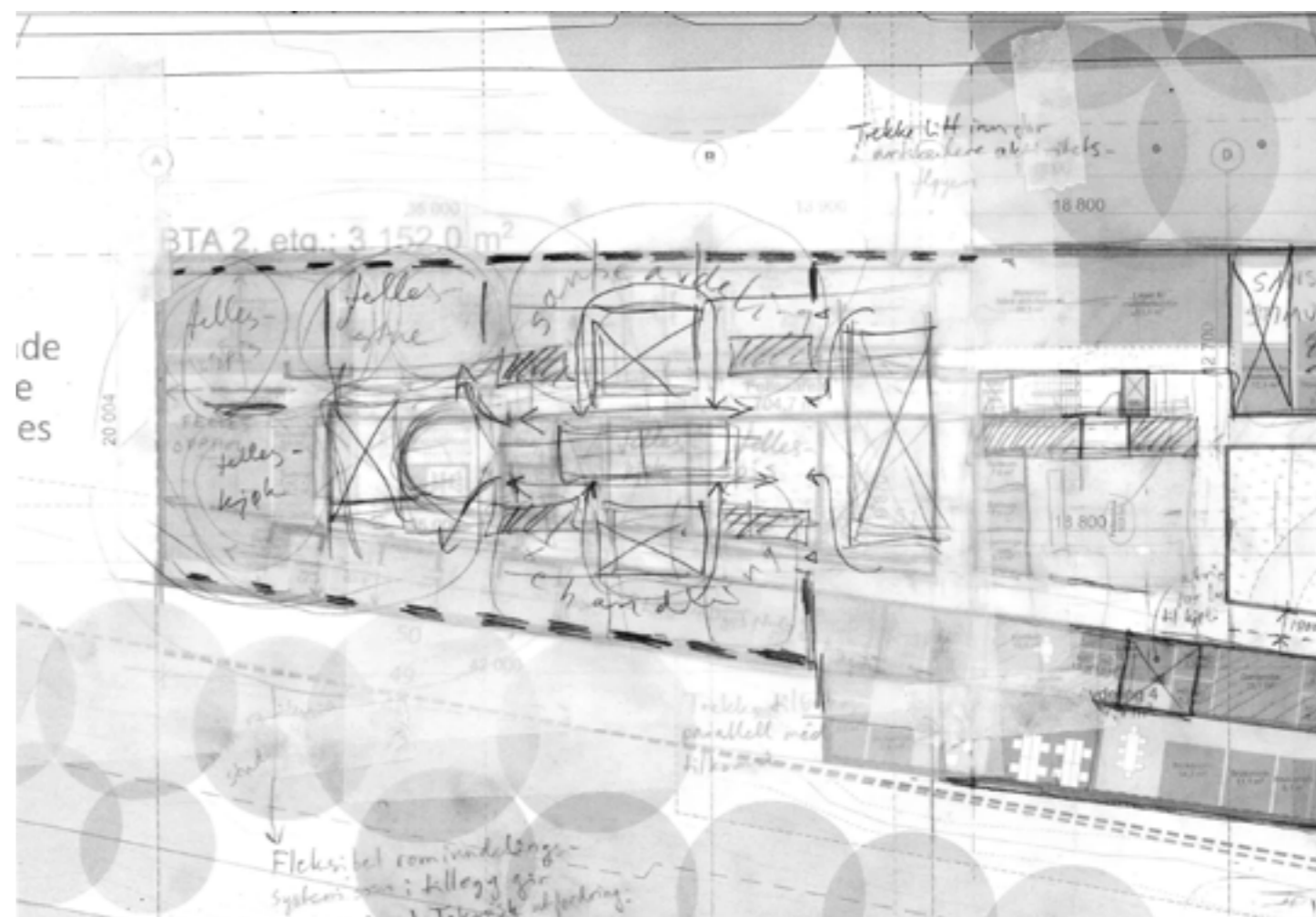
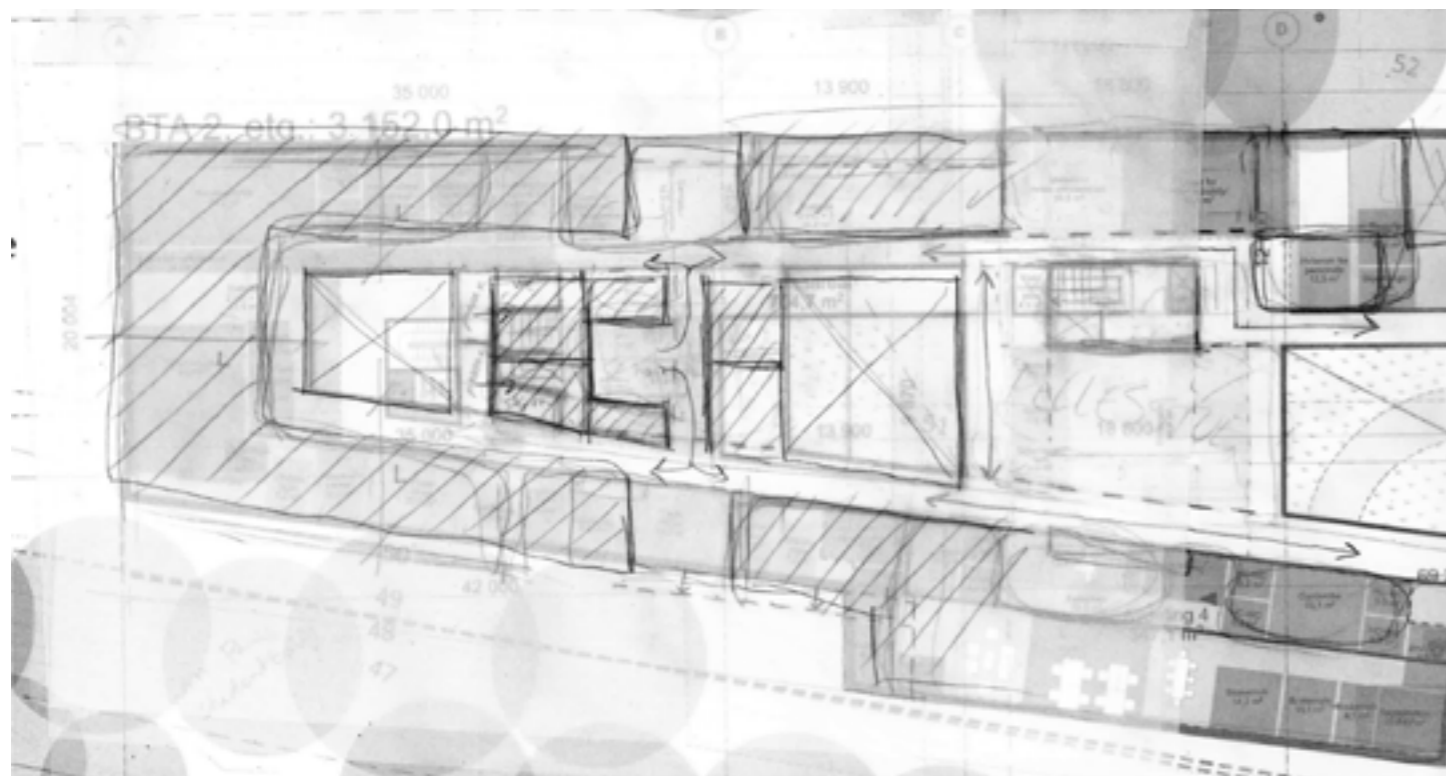
Radarveien Day Center hands out information pamphlets to people who have experienced events which related to the act-outs and use of forceful methods to handle them.



Pamphlet given to people who have experienced an act-out episode and use of methods of force:
"You have just witnessed a situation which is difficult to understand and to explain. Unfortunately we cannot talk about it right now, but if you contact us we will be happy to answer your questions."

Plan sketches for the west wing

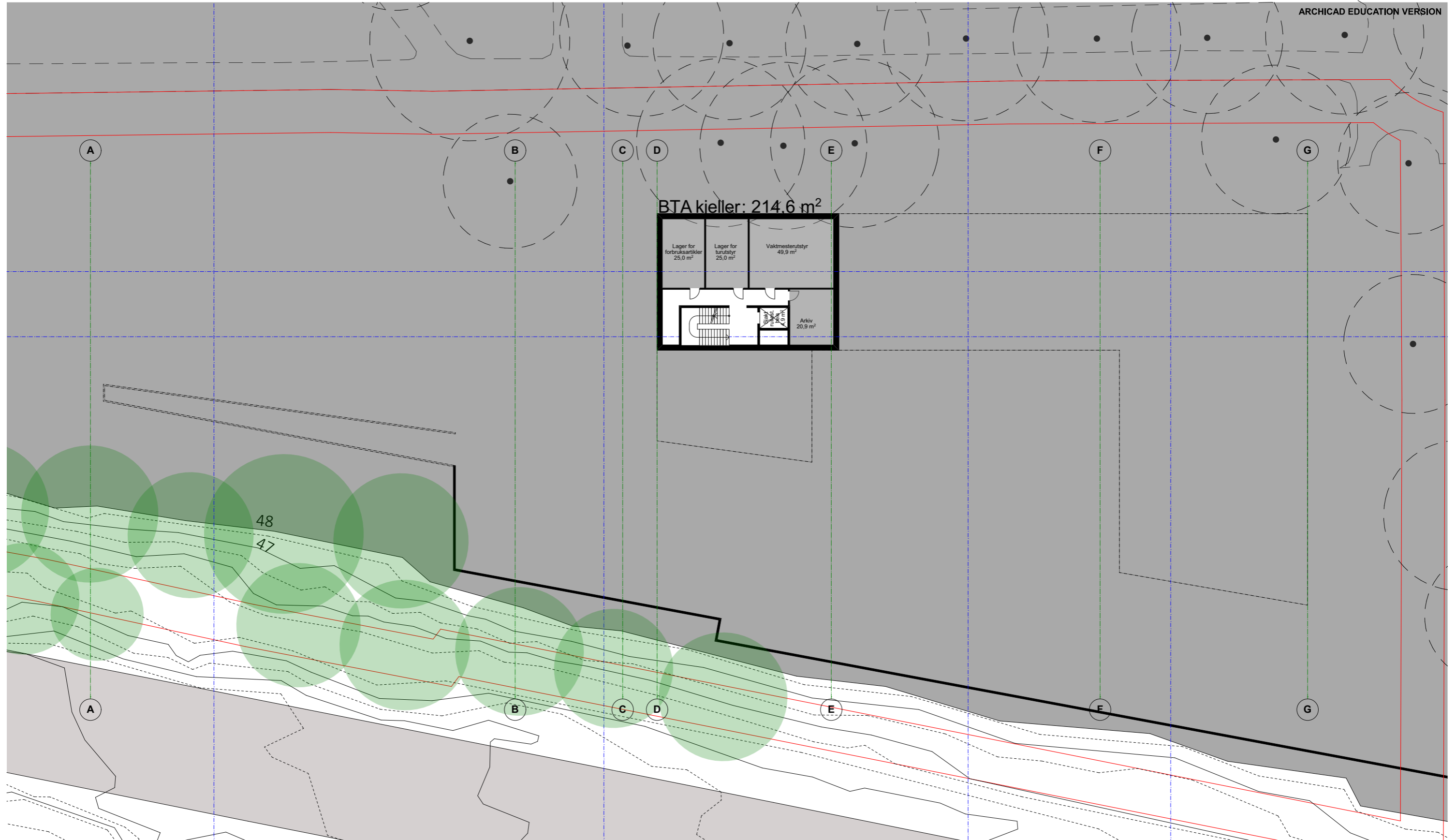
According to the intention of the program to work on the relationship between protecting and challenging the users on their premises, I am seeking to develop a flexible concept for organizing and dividing the activity rooms in the west wing. Support-functions like toilets, seclusion rooms and storage rooms can be organized as filters or buffers between the activity spaces and the circulation areas. The activity rooms could be opened between each other into open landscapes or divided into smaller spaces depending on the need. I can also work on deploying fixed furnishing and acoustic attenuation in a way which makes it easier to challenge the users to work in a more open environment.



Plan development - Basement plan

First drafting of floor plans. Here it is about fitting in all the spaces focusing on functionality, appropriate sizes and organizational concepts. Final location of the scapes or the different programmatic parts is not locked!

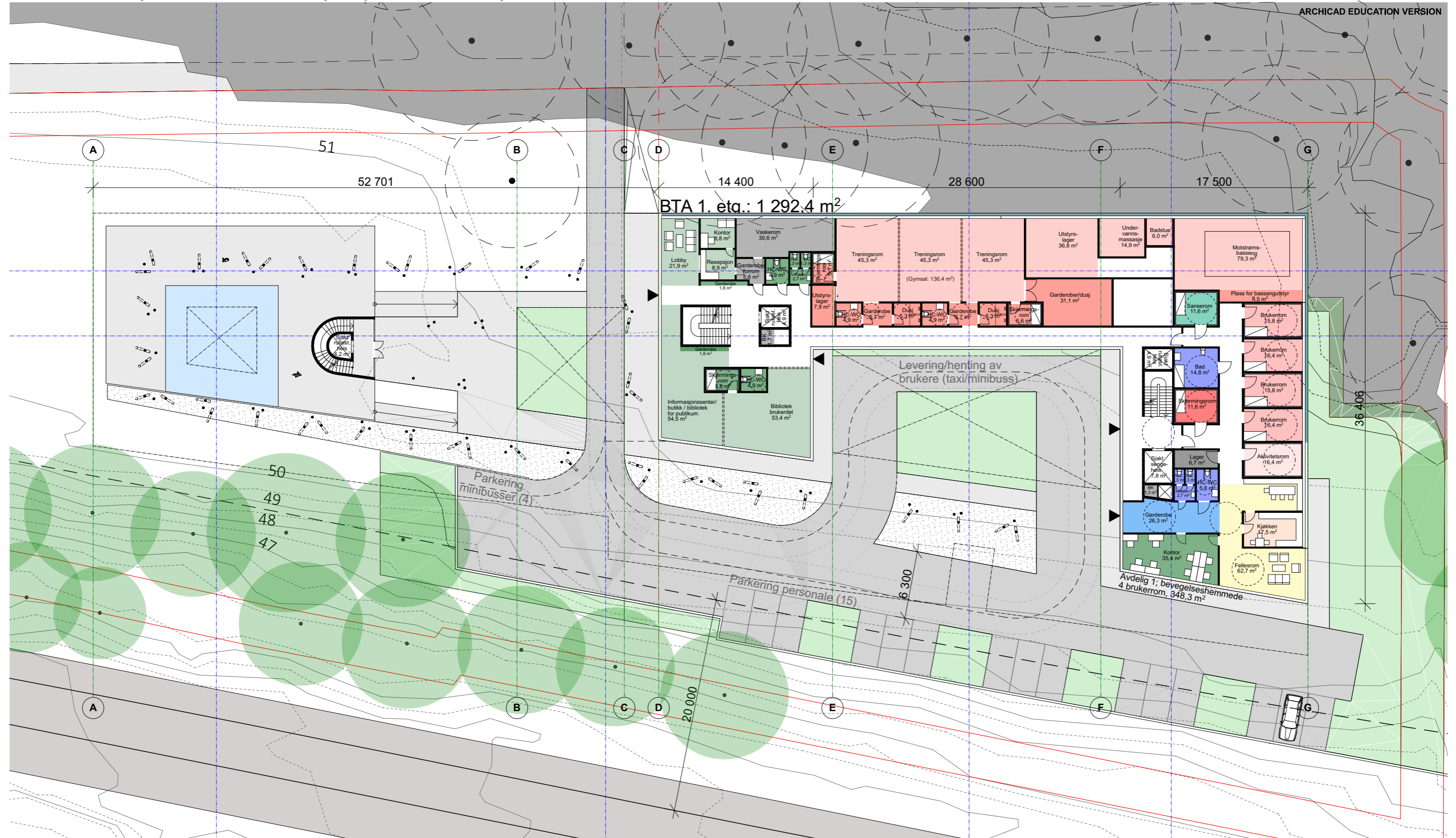
A basement floor is established with various support functions that do not need daylight. There is plenty of room for expanding the basement to cover the need for technical rooms.



Plan development - Ground floor

The outdoor spaces at ground level are developed. Groups of columns stand at different angles to support the building volume above, and also to add a filter to the public space under the building. Along the southern part the columns stand in a strip of rain water basins with river stones in. The water is used as a means to bring more light and the sky into the space below and to create a stimulating environment. The western facade of the ground level will represent the building's public part. Here I have established a public information center/library as an extension of the lobby/reception area. The library has a user side towards the

atrium which is separated by a folding wall, so that the whole section can be fused together for example when user-crafted products are being sold. The training rooms are gathered so that they can be opened into a larger gym, but they still have their own wardrobes, toilets and showers. The primary entrance for the users is on the east side of the atrium well protected from the surroundings. A unit for users with severe mobility dysfunctions is established with 4-5 user rooms.

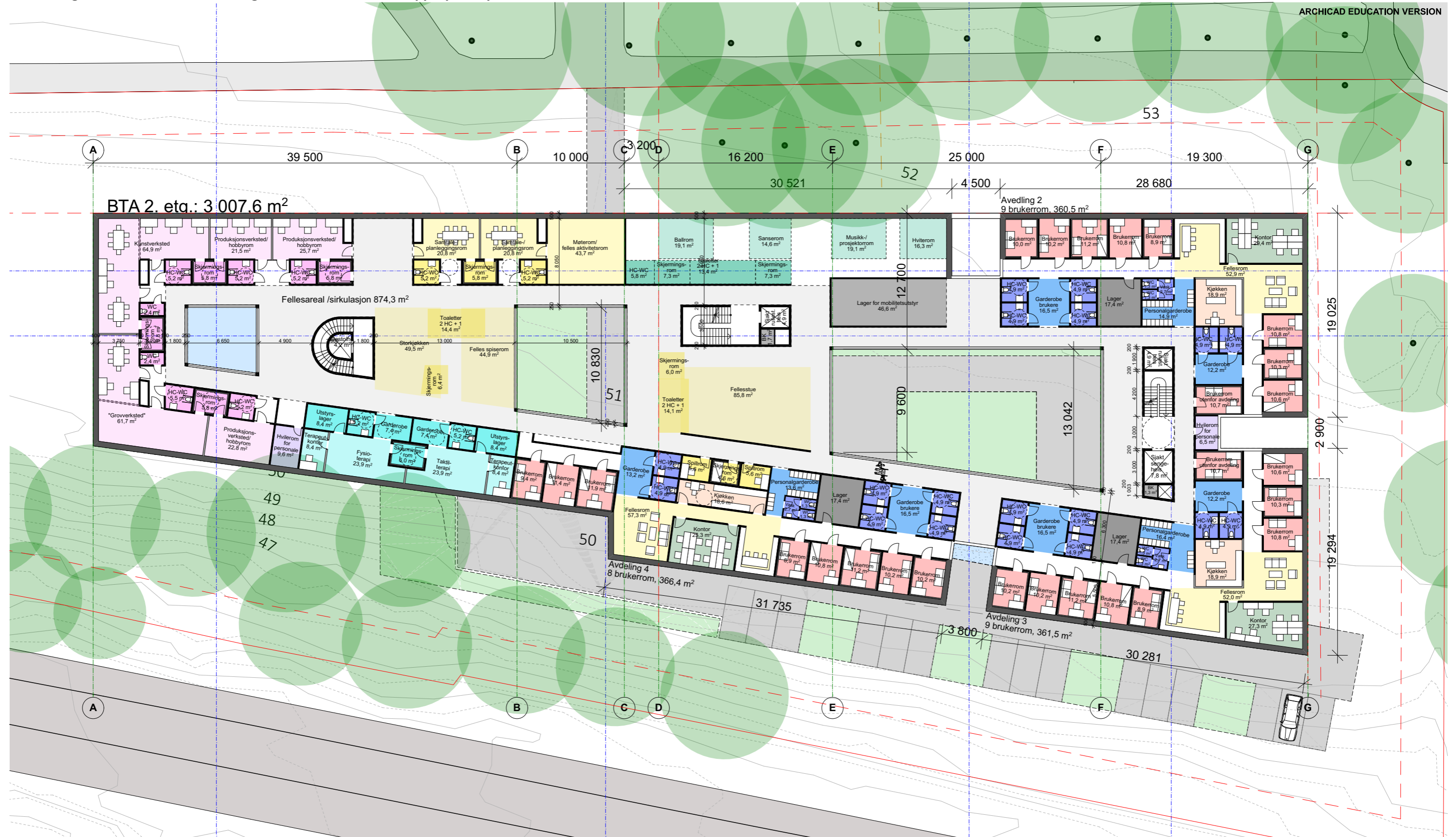


Plan development - 1st floor

The user units are made more clear as distinct parts of the building volume. Support functions like wardrobes, toilets and storage and protection rooms create a filter between the circulation areas and the units and activities, according to the concept drafts. The large shared functions like the common kitchen, dining area and the common space; the main "social arena" of the building, are thought to be located between the atriums. I should work further on breaking down the long walls and strict corridors, and the activity functions along the facade in the west wing can be shuffled to add appropriate pauses to the circulation areas

and let more light to the the middle section of the wing.

The core with the main staircase in the middle of the building can be developed to appear more central and connecting as the main vertical communication of the building.

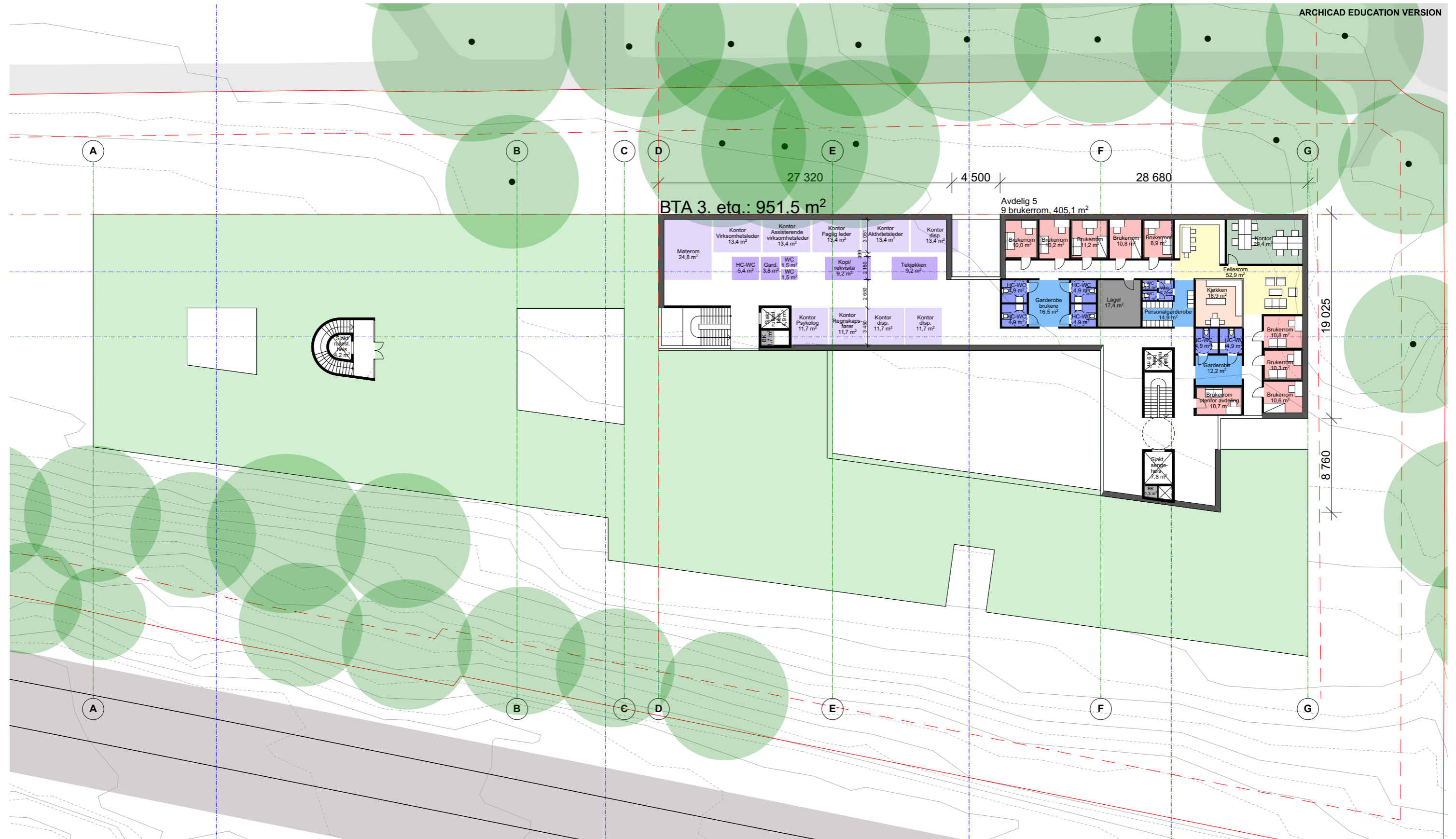


Plan development - 2nd floor

The administration section has not yet been processed, but has its most appropriate location with room for all intended functions. The 5th user unit gets a very sheltered position as it is so independent in relation to the rest of the building.

There must be room for toilets and storage facilities for gardening in connection with the roof garden.

Skylights could be established for the common spaces on the floor below.



3D studies - Remote effects

From the pedestrian street in the west.
-The building appears humble yet strong in relation to the church and the school.



Next to the main entrance of Vålerenga Church.
-The columns appear rather messy and disturbing.
Perhaps a more organized array of columns, with larger dimensions and a different shape would be more appropriate?



From the rooftops of the apartment block down at Kværnerbyen.
-The building accentuates the plateau below the park and the horizontal character of the landscape further below.

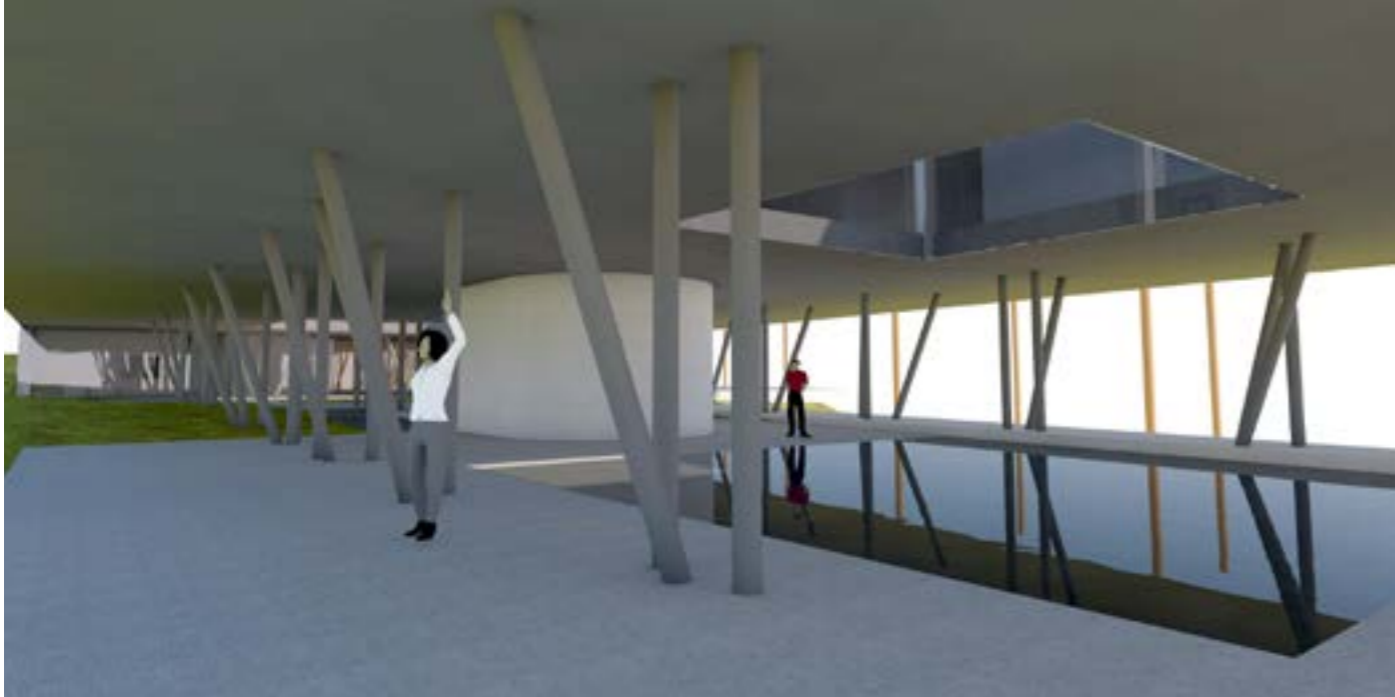


From the pedestrian street in the east.
-The building relates to its eastern neighbor in scale and subordinates to the large trees. It follows the motion of the pedestrian street.

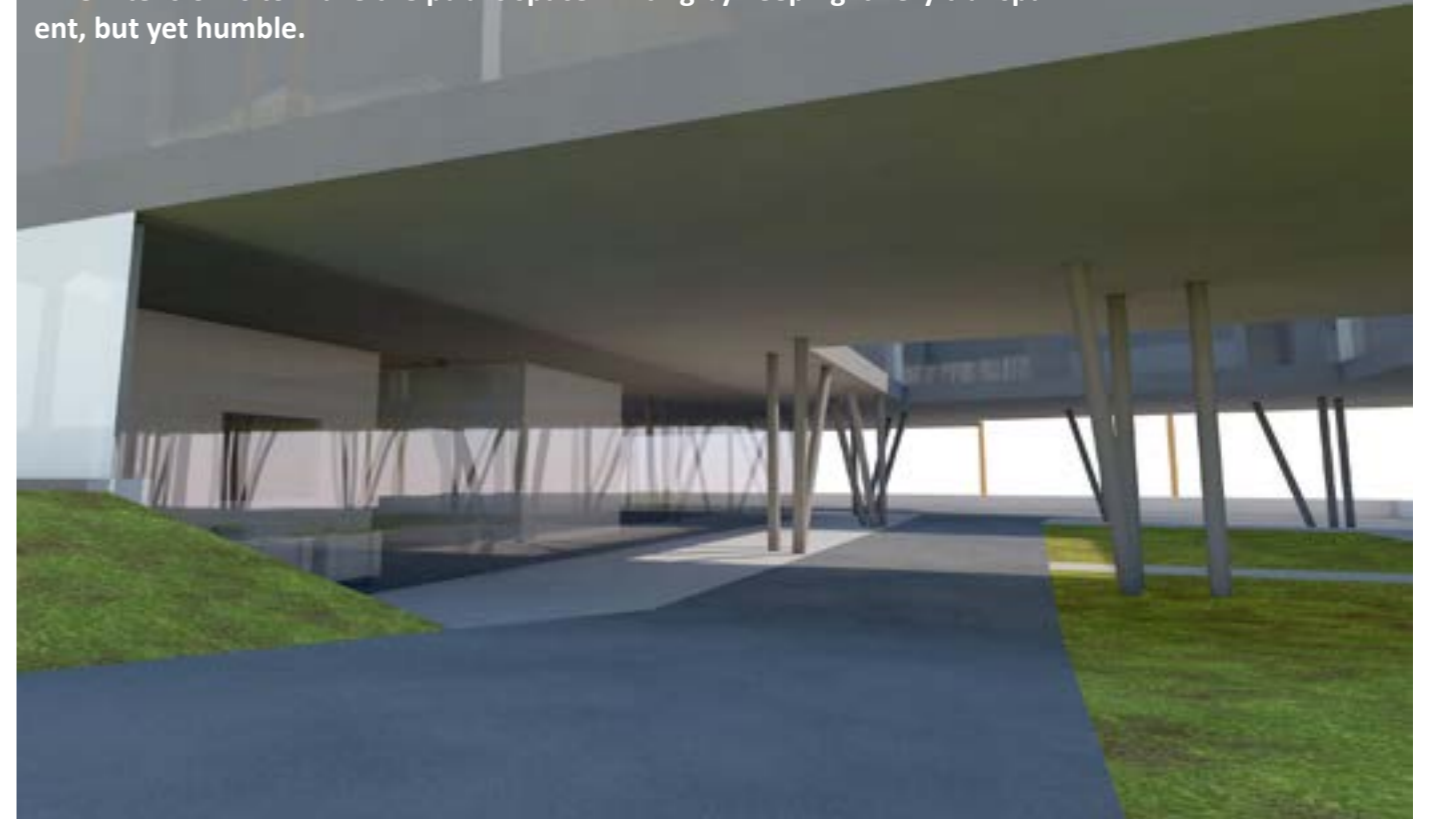


3D Studies - Outdoor spaces underneath the volume

Water basin below the small atrium in the west wing.
-The basin brings the sky to the space below. The columns are supposed to create a subtle psychological barrier to the public park, while still keeping the space public.



Approach towards the middle atrium with public functions on the left side.
-The intension is to make the public space inviting by keeping it very transparent, but yet humble.



Middle atrium towards Vålerenga Church.
The atrium makes the approach intimate and visible from the interior. It creates a transition from the open public domain to the public part of the center. The arrival and departure of users is broken down into distinct sequences from public to private.



In front of the user entrance facing the approach.
-The users are delivered all the way to the back of the large atrium and can go directly to their units. This way they are totally protected from the surroundings. The staff parking near this area gives familiarity towards the user approach.



3D studies - Interior perspectives

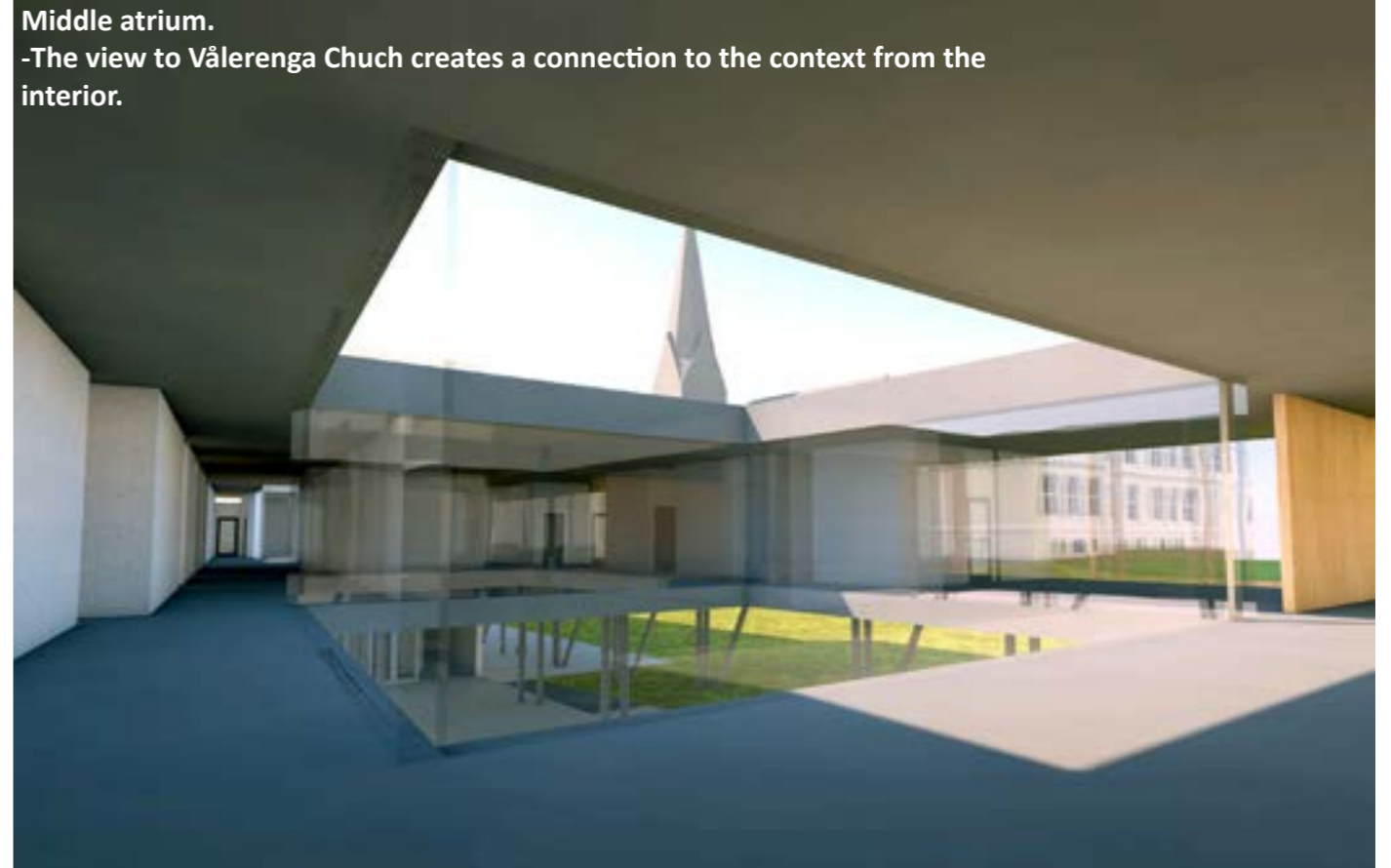
Large atrium.

-The transparency created a very exposed situation. The outside could be shielded by a filtering screen of for example perforated metal sheets and vegetation.



Middle atrium.

-The view to Vålerenga Church creates a connection to the context from the interior.



Small atrium.

-This section of the circulation area is challenging to the users by exposure to the public space below. This could also be shielded by some sort of screen facade covering the glass to different extents.



Common space towards main stairway and middle atrium.

-Perhaps the stairs are appropriately covered staying inside a core, rather than a free structure in an open space. I would like to additionally add filters to the common space so it will be a more shielded social arena.



Parking underneath or away from the elevated floor?

During the reviews, the outdoor space underneath the building volume has always been the main issue. It has been suggested that the staff parking should be drawn right under the volume to free the outdoor space in the south which is open to the sky. This would create great difficulties regarding fitting the col-

View towards east with visitor center to the left



umns under the volume. I also believe that it is more important to free this space, and by introducing the water basins I am bringing in the sky. I also believe in the row of parking outside in the open space as an appropriate filter towards the heavily trafficked railway below.

View towards west with 1st user unit on the right

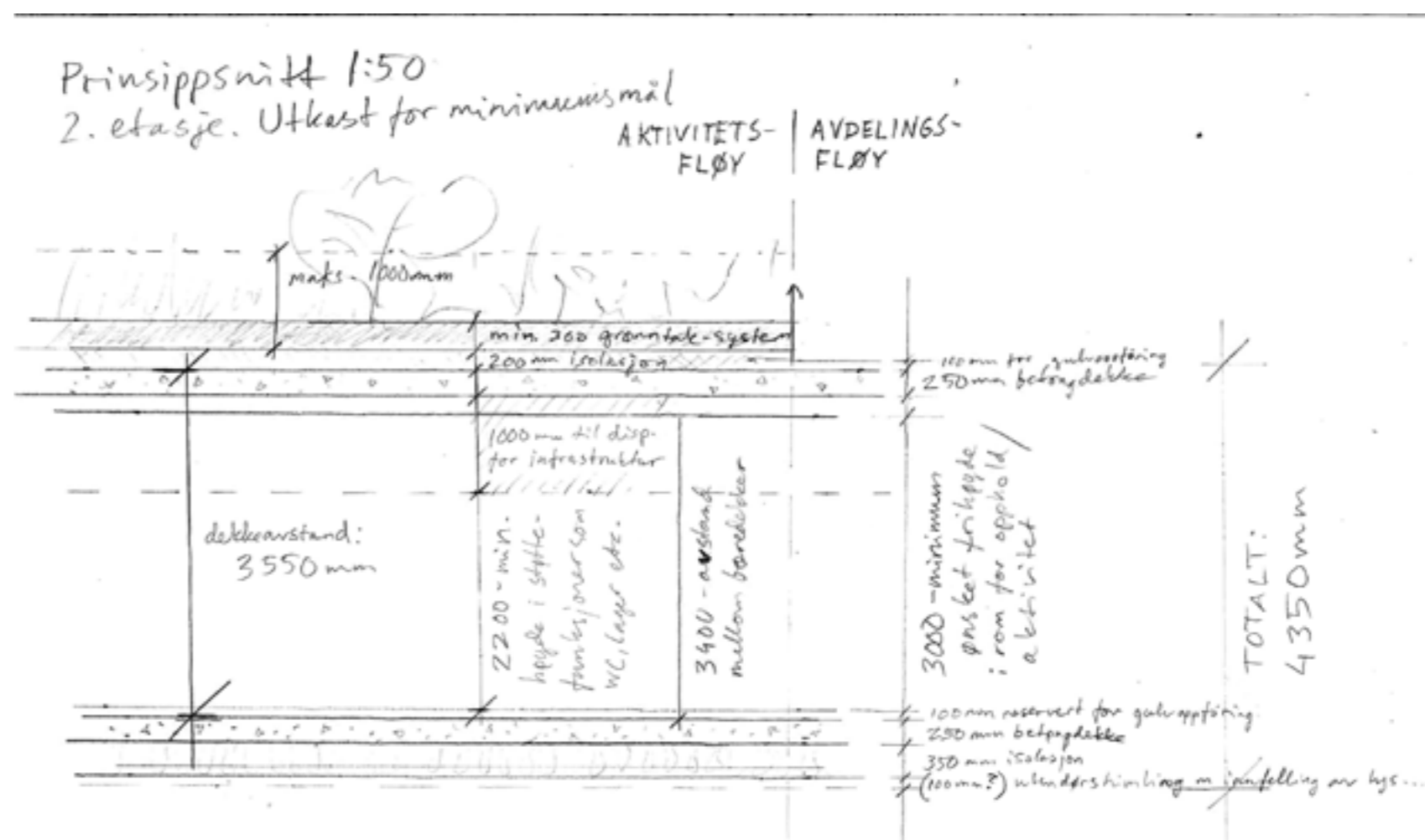
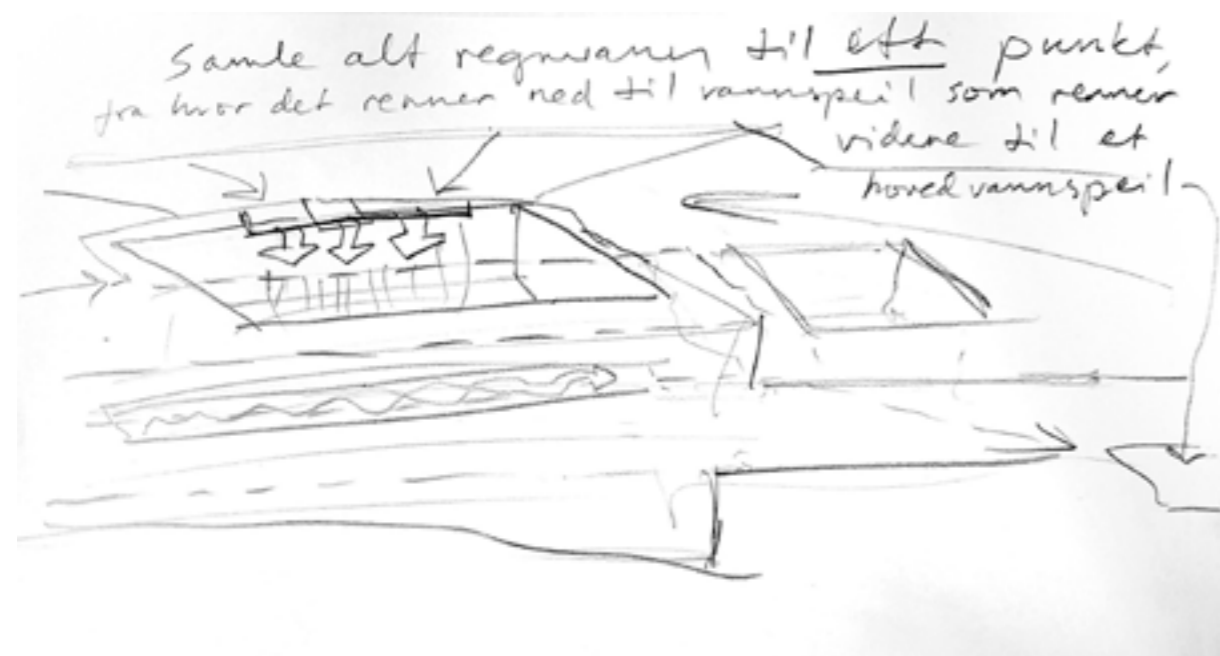


Here I have tested square-shaped pillars instead of round columns, with larger dimensions and a more organized arrangement. I believe this alternative plays much better along with the building.



Concept for rain water management and sketch for roof garden section

The water basins would function as rainwater management for the roof garden, but also for the surroundings where an appropriate amount of water running in the area can be directed to the basins. The fall of rain from a saturated water management system for the roof can be orchestrated down to the basins in waterfalls. The basins should also be filled with aesthetic elements like river stones for dry periods.

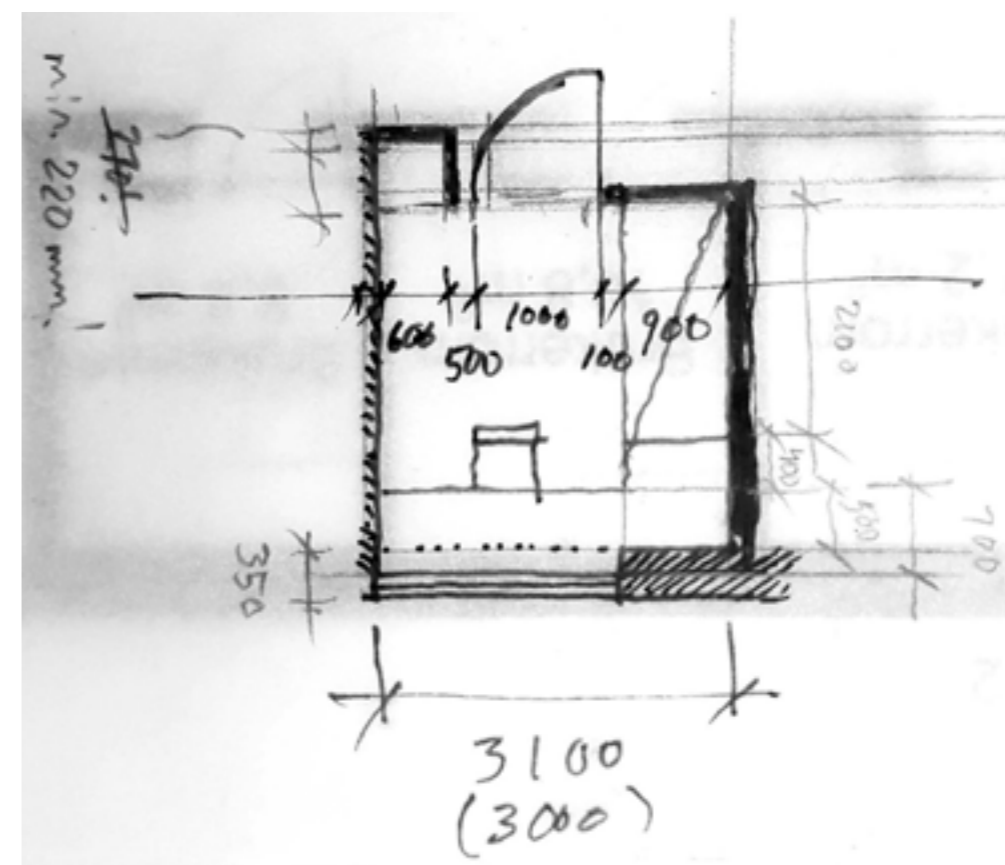
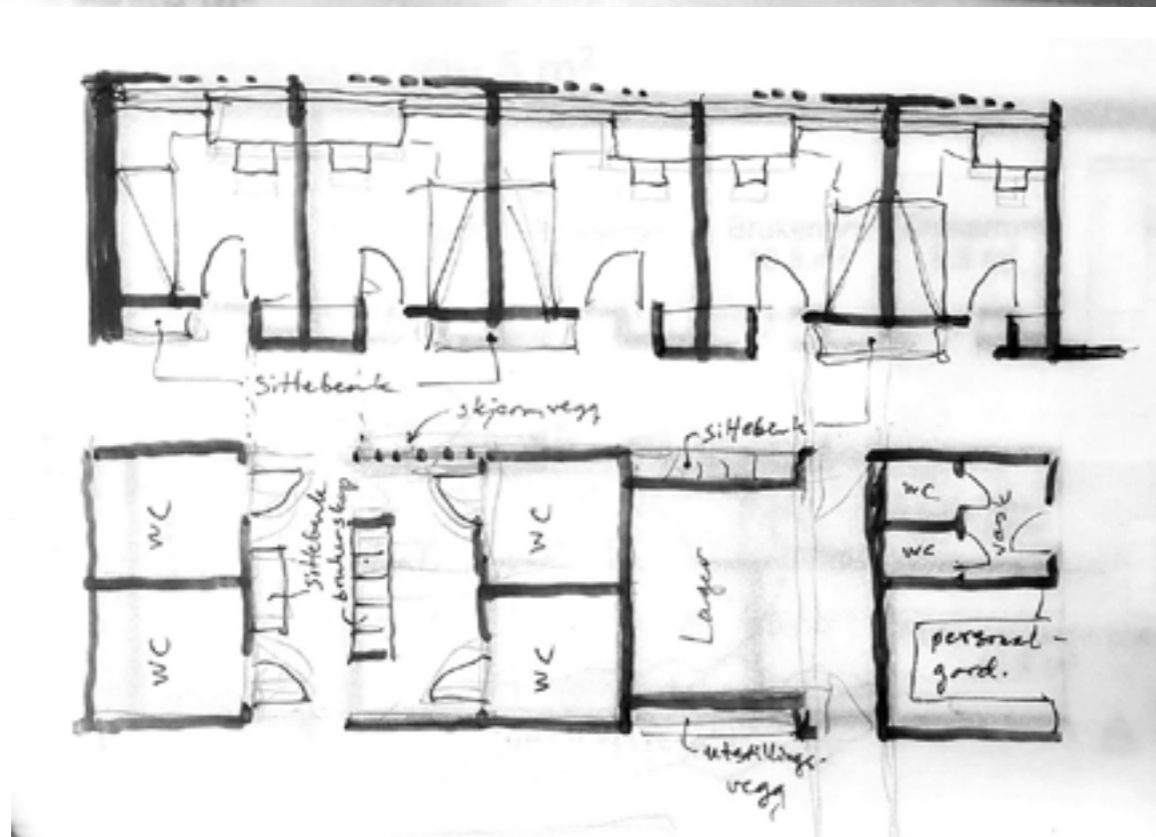
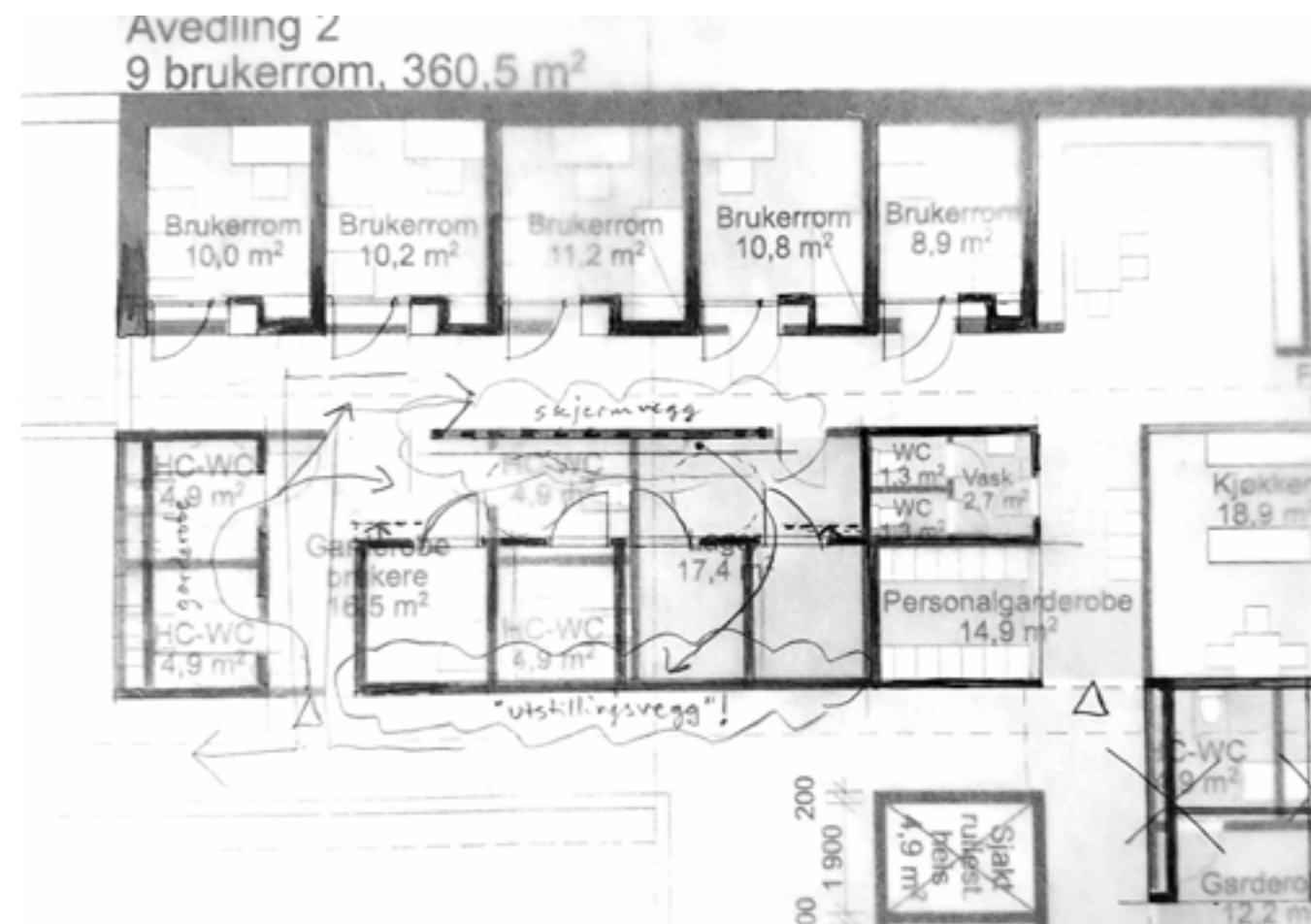
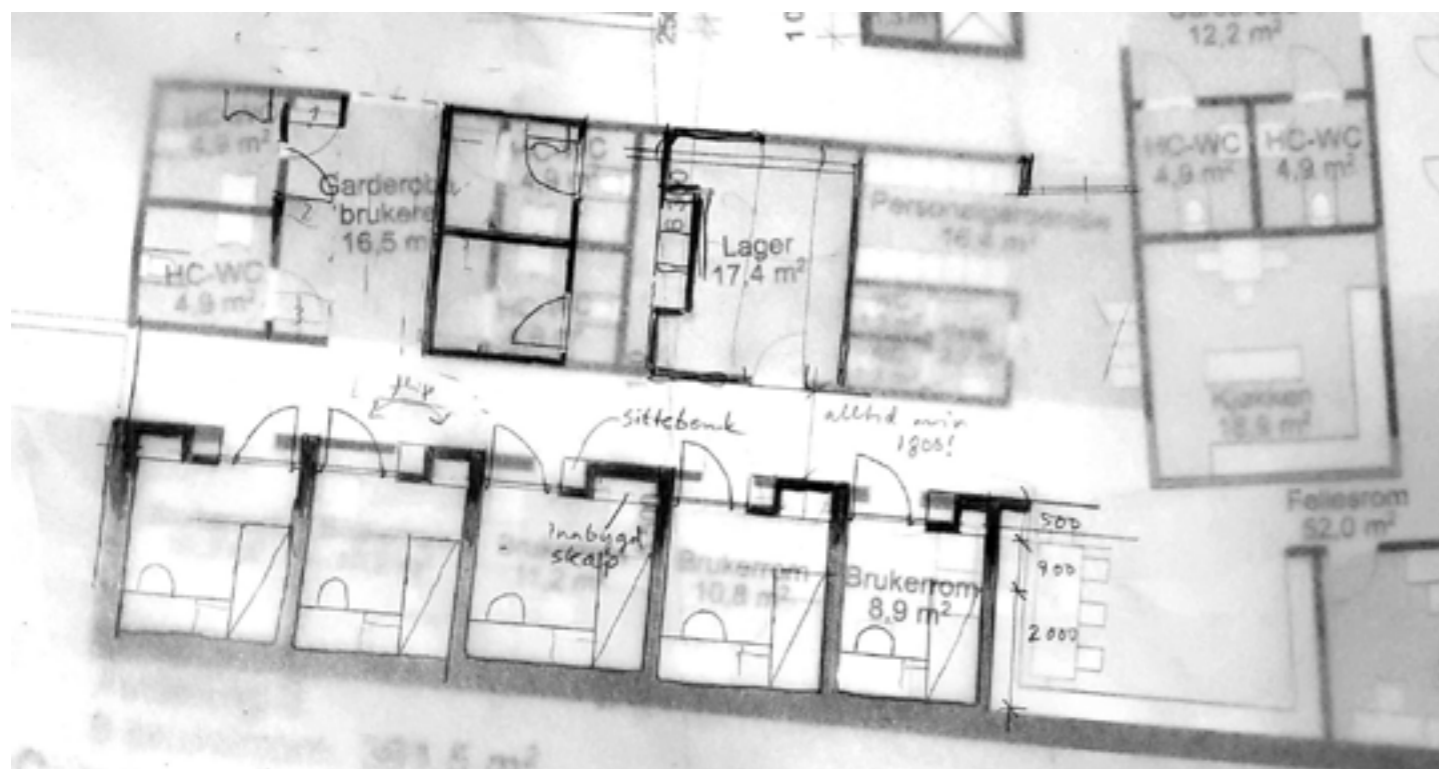


Here I have made a preliminary study of the section of the 1st floor with roofgarden on top to reserve appropriate thicknesses for all necessary layers. To elevate the 2nd floor to the elevation of the roof garden, technical installations could be placed under a built-up floor rather than in the ceiling.

Development of the user room wings of the user units

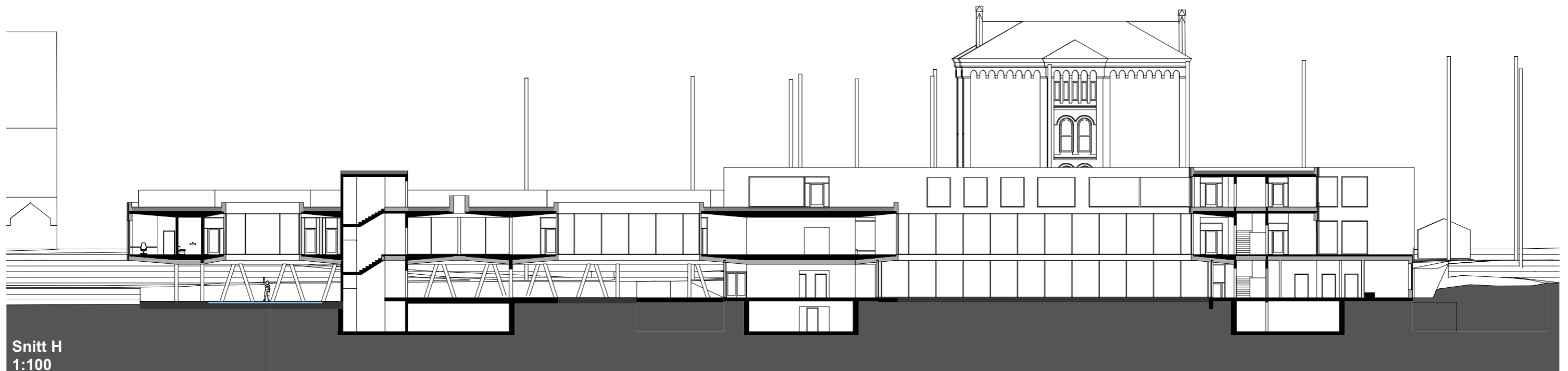
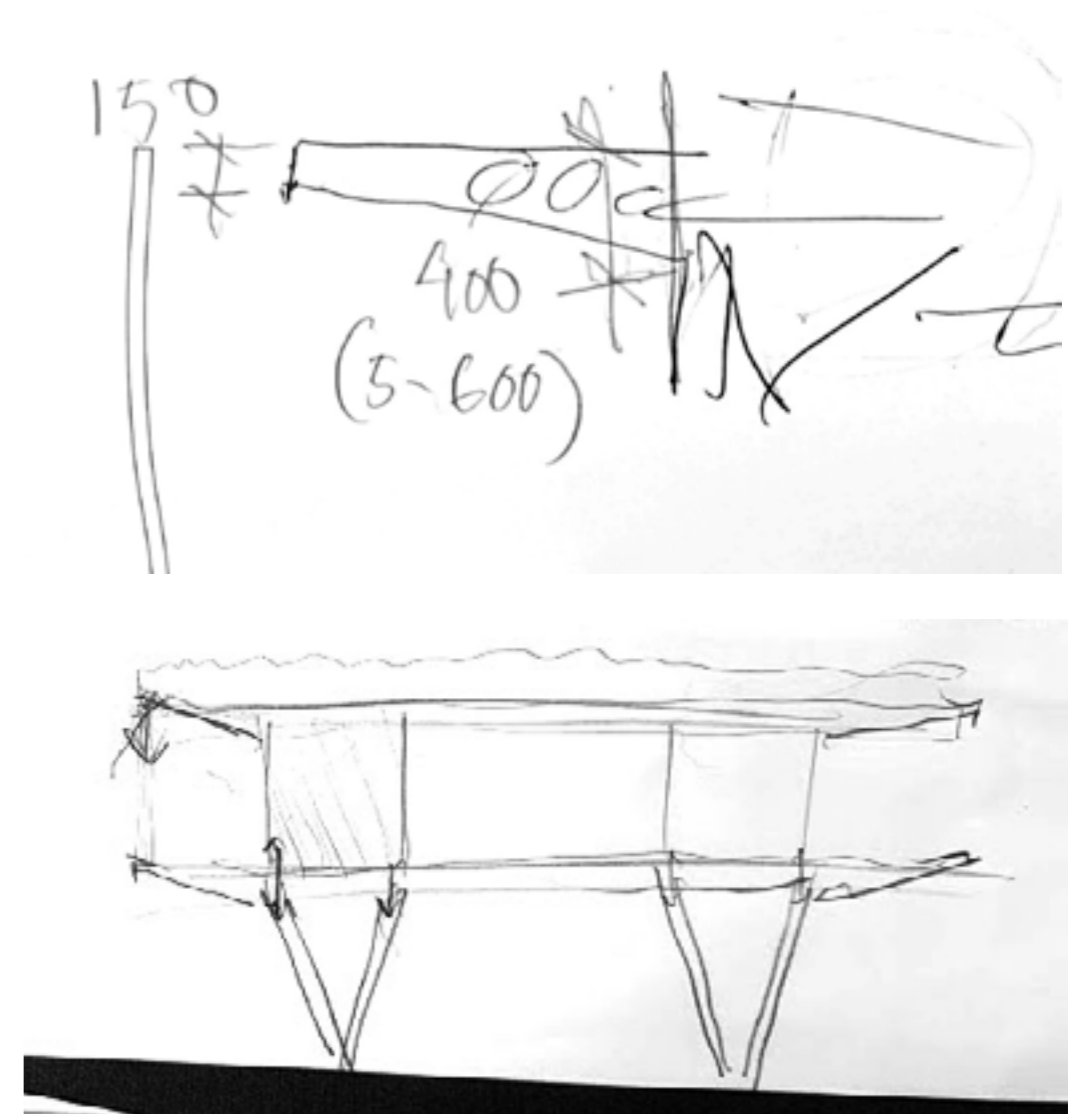
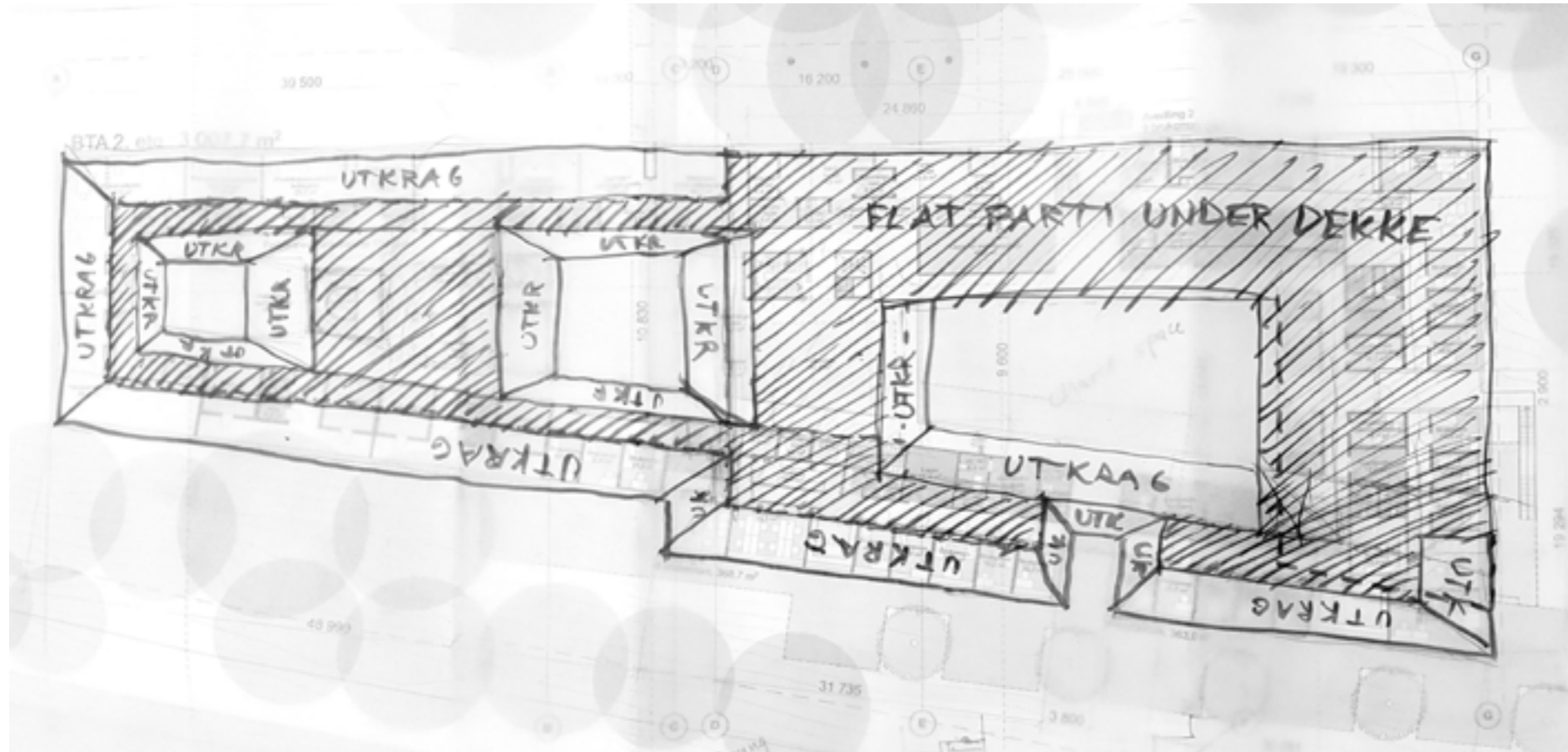
Attempts to break up the corridors to make better spaces for the user room section, and facilitate for routine when arriving and leaving through the wardrobe space. The spaces are kept open but filtered.

- Seating for staff is established outside the user rooms, as staff must always be available to the user.
- Integrated closet/shelf space, day-bed and work desk are created in the user rooms
- It is difficult to establish a good-sized storage-room for the unit, maybe it has to be located out in the circulation area...

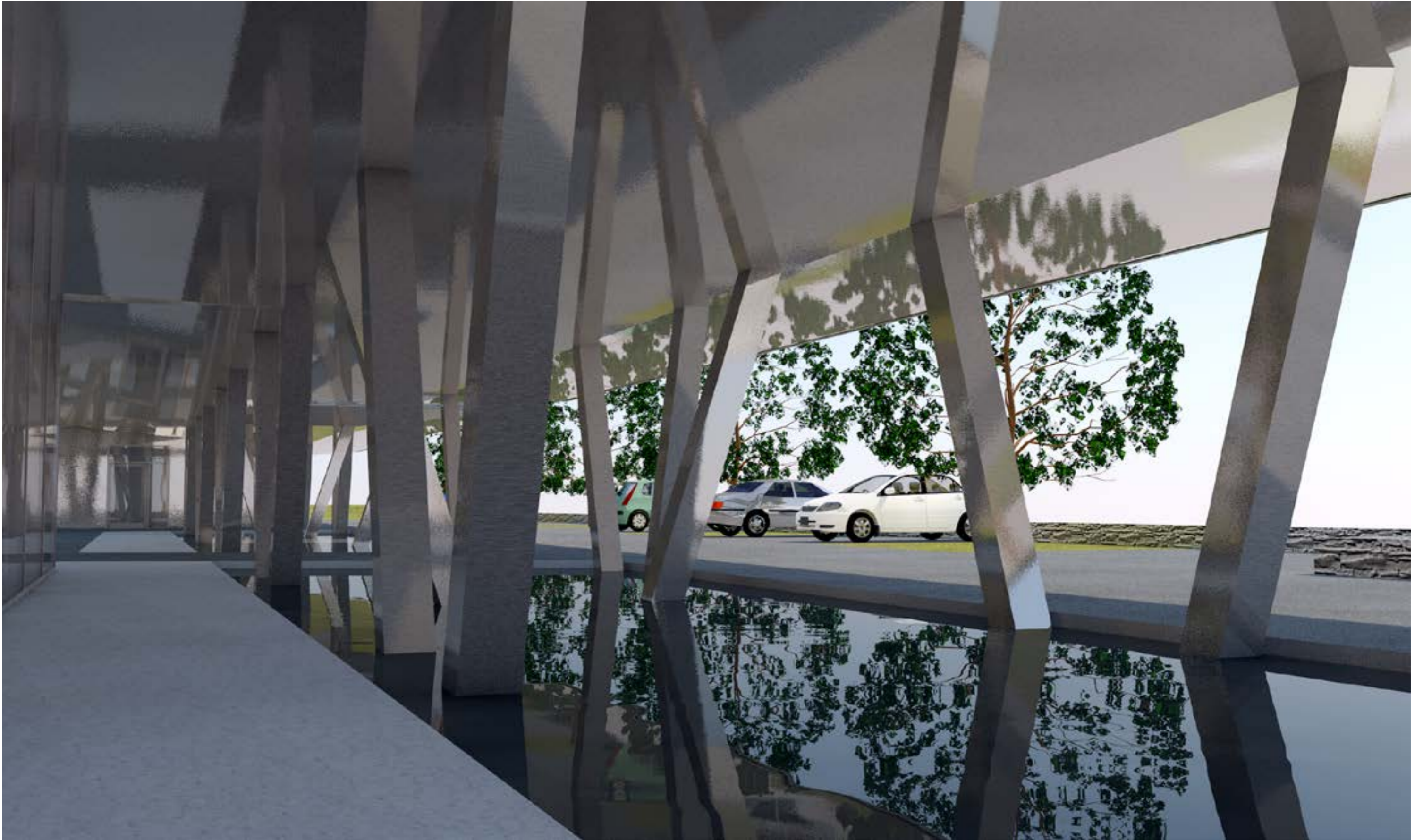


Concept for cantilevering and structural support underneath the lifted volume

In order to free up space for arrival by car/mini-bus, 1/3 of the space under the southern part of the volume from either side must cantilever. This will keep the columns within the ponds. In order to structurally achieve the cantilever, the floor slabs will increase in thickness from 150mm on the edges to 500mm in the middle between the columns. This gives a distinct upward lift to the space under the building which I have made into a formal characteristic for the entire building. This also gives the space a more airy quality compared to a flat slab, and can with a reflective surface bring the exterior in even more. I also decide to choose structural axis' on the 1st from along the column rows where concrete walls will carry the roof slab above.



The effect of structural concept for cantilevering slab



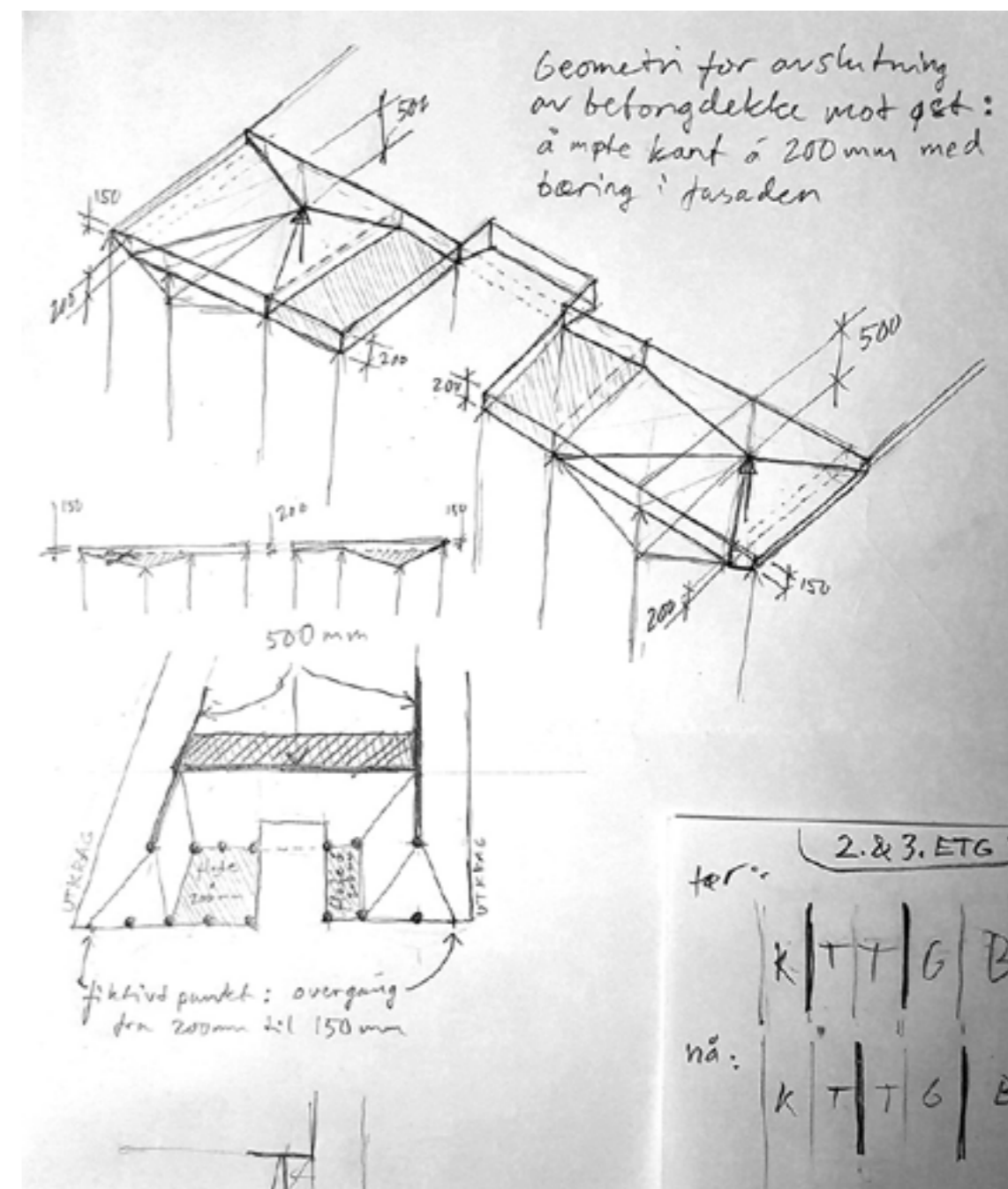
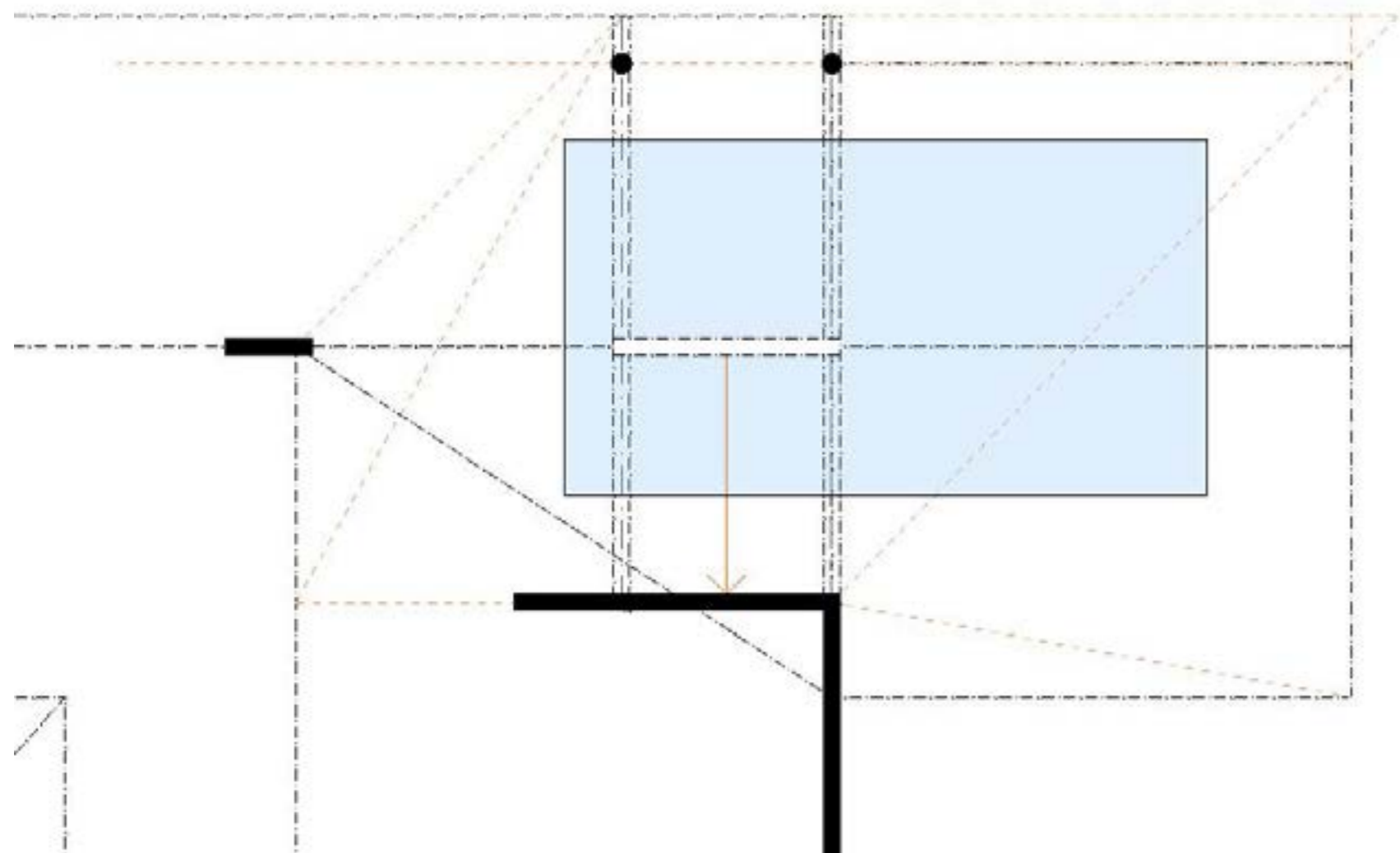
Structural concept as a whole

The structure consists now of the cantilevering concrete slabs that are supported by columns where there is outdoor space under the volume, and concrete walls along the axis' of the columns. The rest of the building also has load bearing walls which correspond as much as possible on all three floors, plus slender steel columns packed inside the east and north facades so the don't need to cantilever. The reason for choosing hidden steel columns is to avoid extra wall thickness, but more importantly to achieve an uninterrupted horizontal ribbon of frosted glass to the training room and pools section.



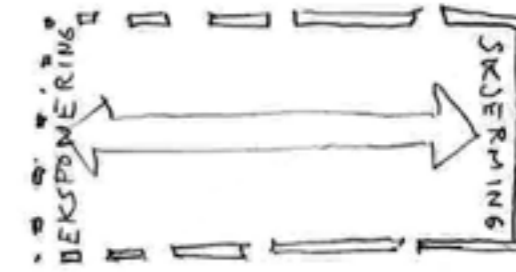
Removing northern columns and exchanging loadbearing walls above gym and pool

In choosing to remove the steel columns to cantilever the northern edges of the decks like in the rest of the building, challenges arise concerning structural walls going down in the middle of the gym and the pool. This is solved by moving the wall inwards and adding columns near the facade, with 800 mm high concrete beams spanning across to take the load from the structural walls of the floors above. I am still keeping the steel columns inside the eastern facade, resulting in a complex geometry of the decks towards east.

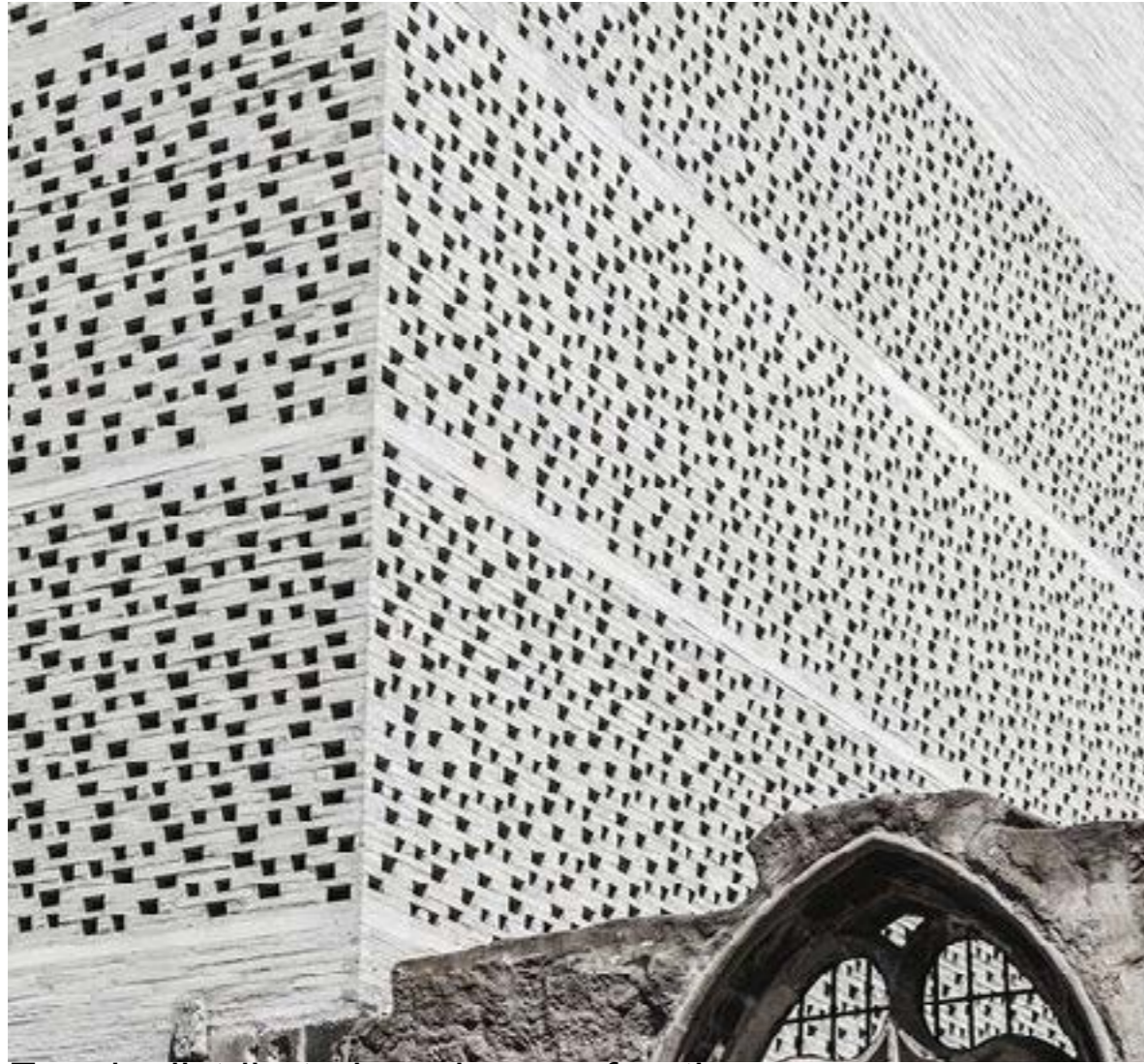


Facade concept - relating to the neighbors and the basic idea of protection vs. exposure

The three main neighbours of Vålerenga Church, and the old and new school buildings dominate the surroundings with their articulated and monumental facades. My idea is to respond to the monumentality and as well the ornamentation with an open brick screen facade. This way I introduce my early idea of a fluently transitioning screen that on one hand may protect the users from the environment outside and on the other expose and challenge them to it. The windows behind the screen can be proportioned according to the new school building to relate to it as far as the windows and the light from inside projects onto the brick screen.



Brick screen references - alternatives of principle for pattern and composition



Evenly distributed random perforations



Three kinds of uniform fields: open, transparent, opaque.

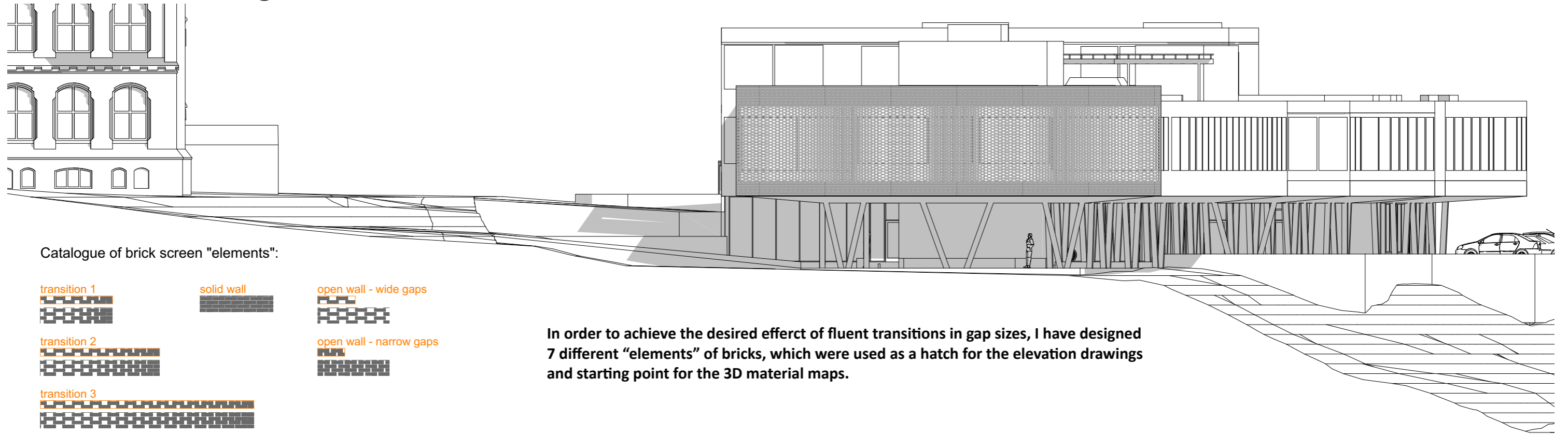
Organic gradients



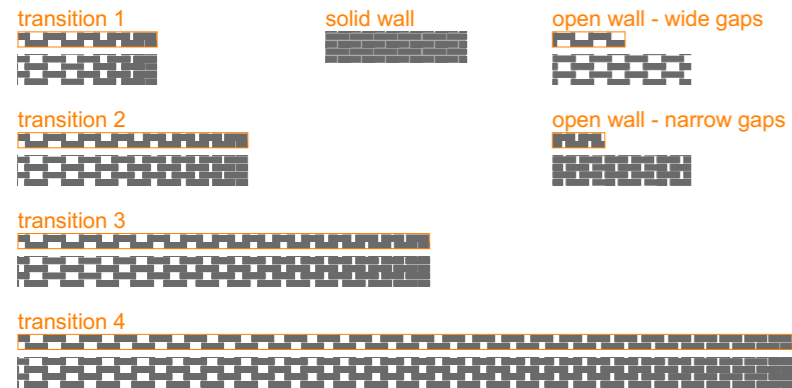
Horizontally fluid transitions



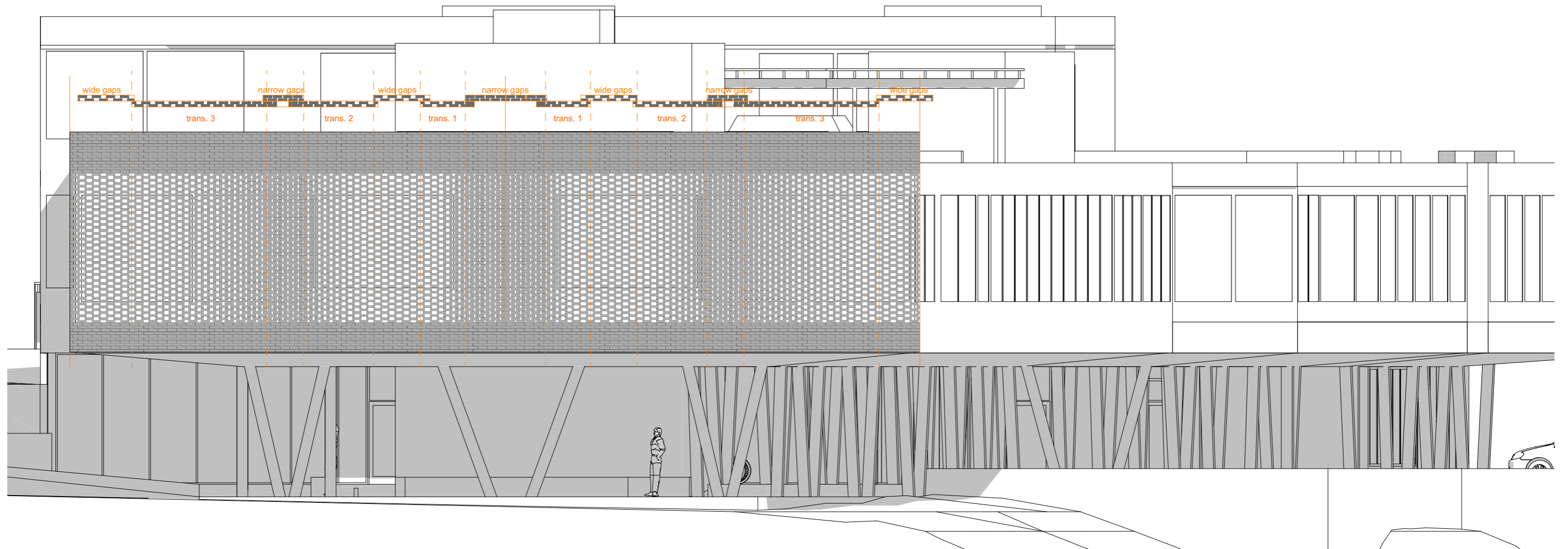
Method of working with the facades



Catalogue of brick screen "elements":



In order to achieve the desired effect of fluent transitions in gap sizes, I have designed 7 different "elements" of bricks, which were used as a hatch for the elevation drawings and starting point for the 3D material maps.



Facade and materiality experiments

