

Programme

The programme established in the pre-diploma is for a care home for cognitively healthy young adults suffering from a physical injury or disability, making them dependent on round the clock care and assistance.

A care home for a user group like the one in question should exist for the right of all people to have an independent existence, for all people to have equal opportunities and freedom to create their own everyday lives, regardless of physical conditions and predispositions. Life after injury does not end. The placement of the institution in a central urban context will be crucial for the users engagement with the city, and eventual re-entry and continued participation in society. Both functionally able, and functionally disabled, should live side by side.

The diploma project intends to bring into question whether the care home typology can be supplemented with a new way of approaching the planning of care homes, particularly for a cognitively healthy user group like the one presented in the pre-diploma.

This calls for an institution that facilitates for a more active day and life, not residing to the country side. The care home, and in turn the users, should be an active part of the city.

The typology bridges two programme types with vastly different character and function - both practically and emotionally (a building that is both a home and a workplace), and the project questions whether the planning of care homes can be re-thought or re-interpreted to better deal with the friction that occurs in such a dissonant mixture of programmes.

The project explores the potential for the care home to become an integrated part of the urban context of the inner city of Oslo; with a user group that does not necessarily want to reside from the city, but be an active part of the city, the community and society.

Functional programme

The intention of the diploma project is to explore a new type of care home for young adults who have suffered an injury or otherwise, and thus need to have round the clock assistance available. The project does so by reinterpreting the care home as a co-living environment consisting of care home apartments and student apartments, as well as a variety of communal and shared spaces.

The building includes:

Care home apartments
Student apartments
Guest apartments

Hallways

Communal kitchens
Communal living rooms
Laundries
Training facilities
Study spaces
Common library
Lecture/screening space
Shared office/work space

Shift room for workers
Small wash room (skyllerom)
Janitors office
Workshop

Storage

Abstract

For four years I worked at both a public and a private care home. In both of these typical care homes for the elderly and people suffering from dementia, I encountered a group of young adults, cognitively healthy, but with a functional disability that caused them to be dependent on a customised residence and available assistance around the clock. In the lack of a better offer or other types of care home, the group I met had been placed in their own ward in a typical nursing home.

Their injuries ranged from being paralysed from the neck down, partly paralysed because of an injury or accident, traffic injuries, or suffering from MS that had progressed to a stage that made them no longer able to live at home, and so on. The group of people living there was diverse, however shared some similarities when it came to the care and assistance needed. All the residents needed help with sanitary care, such as taking a shower, brushing their teeth, getting dressed. To a varying degree, the residents could take part in the cooking and preparation of food. Most of the residents were able to use a computer, the TV, their phone, as these had been adapted with customised solutions, and of course, enjoyed being social.

All the residents had an electrical wheelchair they could operate on their own, to get around both indoor and outdoor. Some residents went to school, others work. Some even worked from “home” - their room in the institution.

In addition to the general help and care provided by the health care workers, most residents went to physiotherapy with a professional physiotherapist on a regular basis. On a daily basis, however, the resident and care worker together had to work through some simple workout routines, as well as some bending and stretching exercises. Limited by the fact that there were no appropriate training facilities at the nursing home, the daily workouts were limited to what one could do in the patients own room. All kind of movement, bending, stretching and activity was encouraged. However, the lack of proper facilities and an engaging environment made this difficult.

All the residents shared one communal kitchen and one communal living room, in addition to their own patient room. Their private room included

a miniature kitchen, and they all had their own bathrooms, yet the rooms were not dimensioned appropriately to the specific user group, which made the kitchen and most other space in the room hard to utilise and thus useless for anything but staying in bed.

The experience of the care home reflected a fact: the facilities had been planned and programmed for a different user group; the elderly.

The care homes lacked space and variety in their communal areas. The common areas were quickly filled with electrical wheelchairs, put in the living room for charging in the lack of a better place.

The hallways were narrow and dark, and the patients mostly stayed in their rooms. The activities in the care home were mostly for the elderly - not appropriate for a cognitively healthy user group who still want to be part of society. In all, this amounted to a feeling of not actually helping the residents of the care home, and in such leaving both the residents and workers with a feeling of hopelessness/helplessness in the situation; the care home became a terminal destination, existing in itself outside the context of the rest of the city.

The issue of cognitively able people being moved to typical nursing homes has, unfortunately, been an issue for quite some time.¹ On the 24th of August 2021, the national union for heart and lung disease (LHL) stated that the problem is continuing, pointing to statistics published by the National Health Directorate showing that more than 100 young adults in the age between 17 and 49 are living in typical nursing homes for the elderly, many of which against their will.²

Unfortunately, these numbers might not be giving an appropriate picture of the actual situation, as is made clear by recent articles and news interviews shedding light on people living at home when they ideally should live in an appropriate care home. In a recent interview with TV2, Cathrine Norstrand (52), suffering from ALS, stated that she would rather die than have to move to a nursing home; her biggest fear being to spend the last days of her life in a typical care home for people with dementia.³

1 (www.aftenposten.no, 2004)

2 (Machlar, 2019)

3 (Bjørnson Jacobsen, 2021a)

This calls for a new type of care home, and a widened vocabulary of what a care home is, how it is planned and should consist of.

In 1948, 100 000 more people were living within Ring 2 than there are today.⁴ The development of mono-functional commercial areas, in combination with low development rates of new homes in the inner city of Oslo, have an unfortunate social effect, as indicated by “Sykepleierindeksen” from 2020, showing that only 1,3% of all property transfers in Oslo would be possible for a single nurse to buy.⁵

Discussions on transformation, densification and programming of the city core in Oslo is often related to recreation and retail as main drivers for securing the multifunctional and heterogenic city, providing what we often refer to as “urbanity.” But what if this urbanity better can be catered for through an increased focus on social heterogeneity and sustainable housing programs?

This diploma project argues for the care home to be located centrally in the city of Oslo, to address the issue of care homes becoming an “other”, not existing as an integrated part of the urban context and city. This will provide a home within an urban context where young adults, many of which become minimum pensioners because of a short working life, might not afford a customised apartment, countering the unfortunate trend for the whole of inner Oslo.

Life after injury does not end. The placement of the institution in the centre of Oslo will be crucial for the user’s engagement with the city, and by extension their re-entry and continued participation in society. Thus it is the responsibility of the metropolitan city to provide these young adults with a home in the city. Both functionally able, and functionally disabled, should live side by side.

The diploma project attempts to create a home for those in need of round the clock care and assisted living facilities. The intention is to bring into

⁴ (Tokheim, 2019)

⁵ (eiendomnorge.no, 2020)

question whether the care home typology, a typology that bridges two programme types with a vastly different character and function - both practically and emotionally (a building that is both a home and a workplace), can be re-thought or re-interpreted to better deal with the friction that occurs in such a dissonant mixture of programmes. It explores the potential of the care home to become an integrated part of the urban context of the inner city of Oslo by including the programme into current discussions about establishing more homes in Kvadraturen, as well as the potential for a different way of approaching the planning of a care home.

Establishing a care home in Kvadraturen does not come without problems. The area is dense with listed buildings, being one of the oldest remaining urban areas in Oslo.

Occupying three quarters of the easternmost block in Kvadraturen is a large parking facility; the existing Paleet parking facility. The building comprises eight floors, and mainly consist of parking facilities with a small section of offices facing Paléhaven and Christian Fredricks plass. The plot was recently sold to Bane Nor, and current plans are for the building to be demolished.

The building is not listed, making it one of only a few buildings in Kvadraturen where there is more potential for adapting, removing, and adding to the structure in the case of facilitating for a user group whose mobility is constrained, and need for mobility aids might be hard to reconcile with the constraints of adapting a listed building.

Thus this diploma proposes to transform the existing building, as a counter-proposal to the current plans of demolishing it, exploring the possibility for adaptive re-use of the existing structure into a communal working and living environment, consisting of both homes for the care home residents, as well as student apartments. Emphasizing the argument for both functionally able and functionally disabled living side by side in the city, it does not distinguish between one or the other. With a user group that does not necessarily want to reside from the city, but be an active part of it, the community and society, the site and existing building offers an opportunity for an inclusive integration of the user group into the very centre of Oslo.

Kvadraturen

Kvadraturen in Oslo was established by king Christian the fourth, next to Akershus festning, in 1624. The area is one of the oldest remaining urban areas in Oslo, and is still the home of some of the oldest remaining buildings in the city.

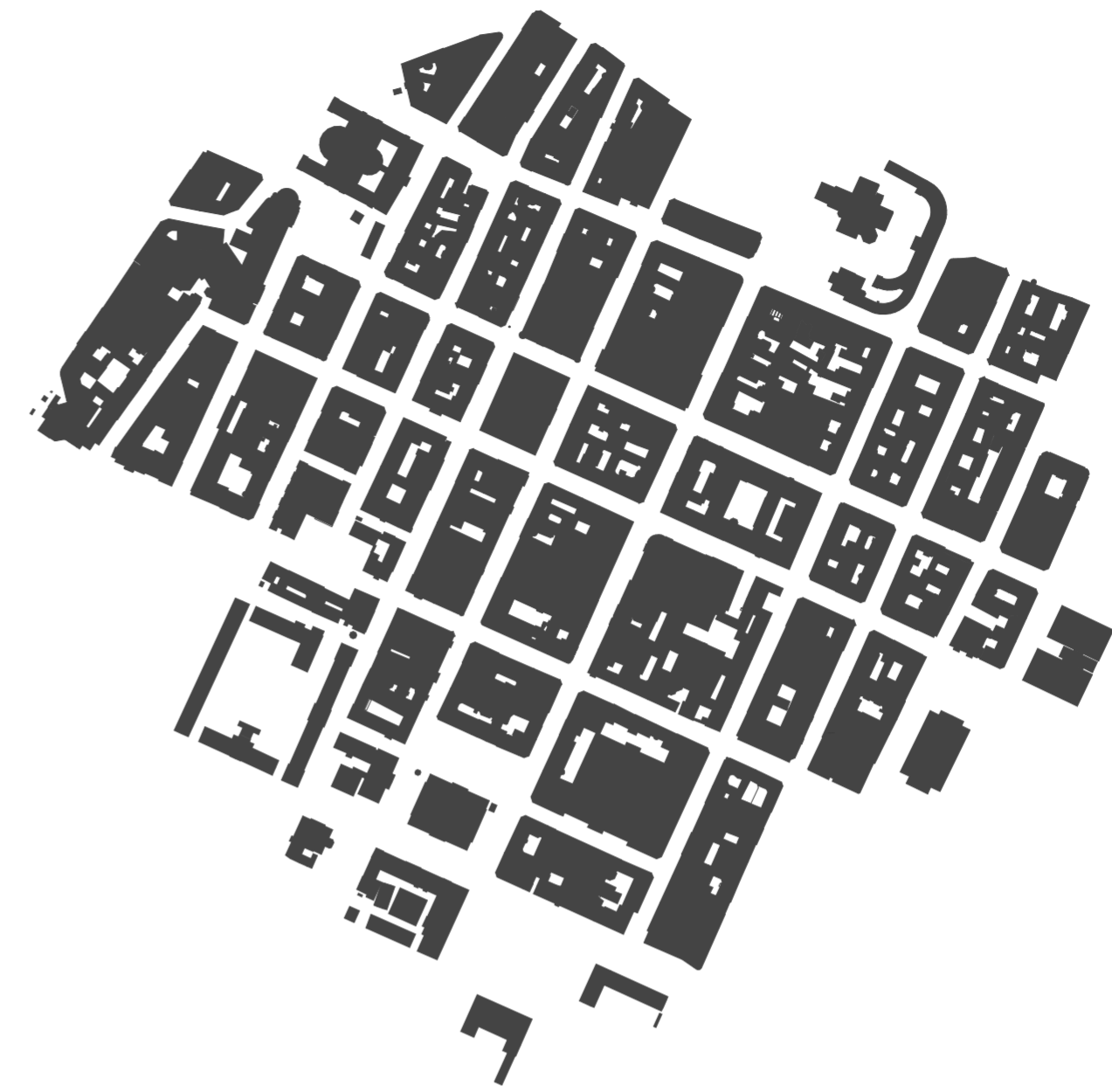
The area originally consisted of mostly small scale timber buildings. However, the area changed character following the rapid growth of Oslo in the 1800s. Many of the smaller buildings were replaced by larger trade and office buildings, and in time the area has developed to become an office and administrative centre currently housing around 25 000 workplaces.¹

For the past 13 years Kvadraturen has been the focus of numerous reports and feasibility studies. Few other areas in Norway has been so extensively analysed, all the while still bearing resemblance of an area lacking proper urban development and social integration. There are many reasons for this being the case; one of the main reasons being that the area is one of the oldest neighbourhoods in Oslo, thus cultural heritage interests have had an effect.

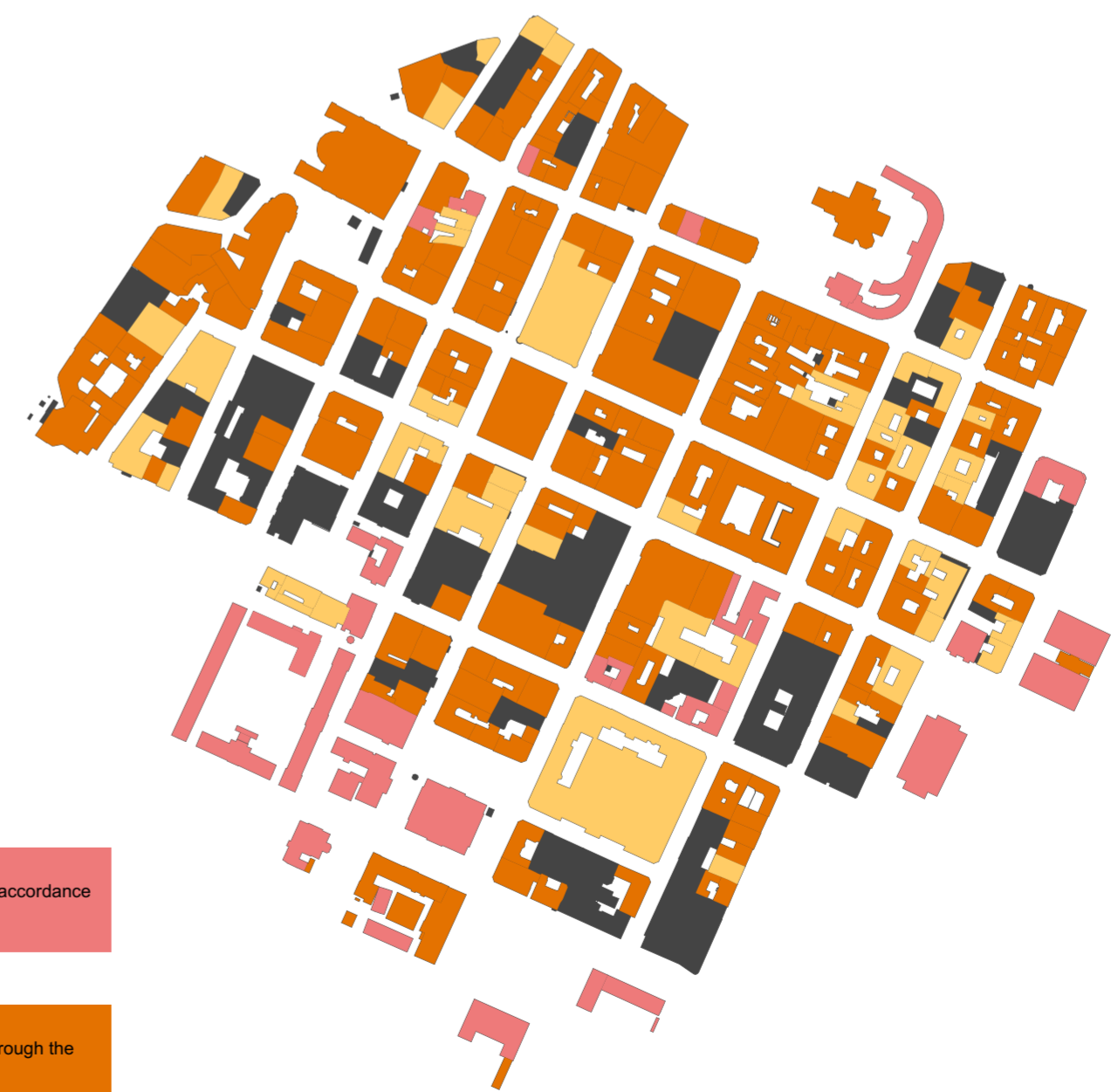
Several studies of the area point to the fact that it has become an almost mono functional neighbourhood, consisting of offices and businesses, with almost no residential presence; currently only housing 529 people.²

This uncovers a trend for the whole of inner Oslo; in 1948 there were 100 000 more people living within Ring 2 than there are today. (Tokheim, 2019). The development of mono functional commercial areas, in combination with low development rates of new homes in the inner city of Oslo, have an unfortunate social effect, as indicated by "Sykepleierinndeksen" from 2020, showing that only 1,3% of all property transfers in Oslo would be possible for a single nurse to buy.³

1 (Wikipedia, 2021b)
2 (Wikipedia, 2021b)
3 (eiendomme.no, 2020)

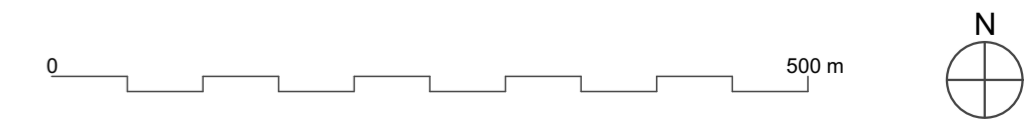


Kvadraturen nolly
1:5000



Conservation nolly
1:5000

- Protected cultural heritage in accordance with the Cultural Heritage Act
- Protected cultural heritage through the provisions of the zoning plan
- Listed by Byantikvaren or Riksantikvaren



The latest publication on measures to vitalise the area is called “Samskaping i Kvadraturen”. The extensive summarising report was published by Oslo Metropolitan area, Kvadraturen Områdeforum, Urban Vibes and Rodeo Arkitekter, in collaboration with many other stake holders. There they discuss measures and opportunities for how buildings, “the city floor”, and new forms of public-private cooperative forms can contribute to more urban life establishing itself in the area, emphasising the importance of a stronger residential presence in order to make this happen. The report further concludes that:

Development in the area must focus on the development of a car free inner city.

Development should be based on the needs of today and the future, considering new ways of inhabitation, co-living and -working, as well as environmental impact and CO2 emissions.

New projects must allow future adaptation, as the function or programme can change over time, even for homes.

The streets should have a stronger character and one should consider connecting urban spaces, streets, green areas and Paléhaven together in a better way.

Distinguish less between indoor and outdoor - public and private.

Side walks surrounding the city blocks are essential to the quality of the urban spaces. The recent refurbishment of Prinsens Gate has given the street generous side walks which can be used to host activities in relation to nearby shops/retail and other public programmes.

In an interview with arkitektnytt, former head of city planning in Oslo, Ellen de Vibe, speaks about the area and the existing structures there. From an environmental perspective, a goal must be to explore how the existing buildings in Kvadraturen can be re-used and adapted to new functions. This applies both to different types of listings and buildings, as well as how one uses and re-uses materials and existing structures.¹

The area should be a multi functional urban area, with lots of “life” in the streets, and more homes which will strengthen the “city life” in the streets. The streets and façades should be developed to be more extroverted, with inviting public functions - and in this development, one should also consider the court yards within the city blocks.²

¹ (Ando Woltmann, 2021)
² (Ando Woltmann, 2021)



Paleet parking facility

Occupying three quarters of one of the easternmost blocks in Kvadraturen is a large parking facility, with a small part of separate offices facing Paléhaven and Christian Fredricks plass. The building is owned by Snorre Bentsens company AS Parkeringshus, and was drawn by Architect Petter Bogen in 1984. In total, the building comprises eight floors; the eighth floor being a lighter steel frame structure surrounding an atrium roof terrace.

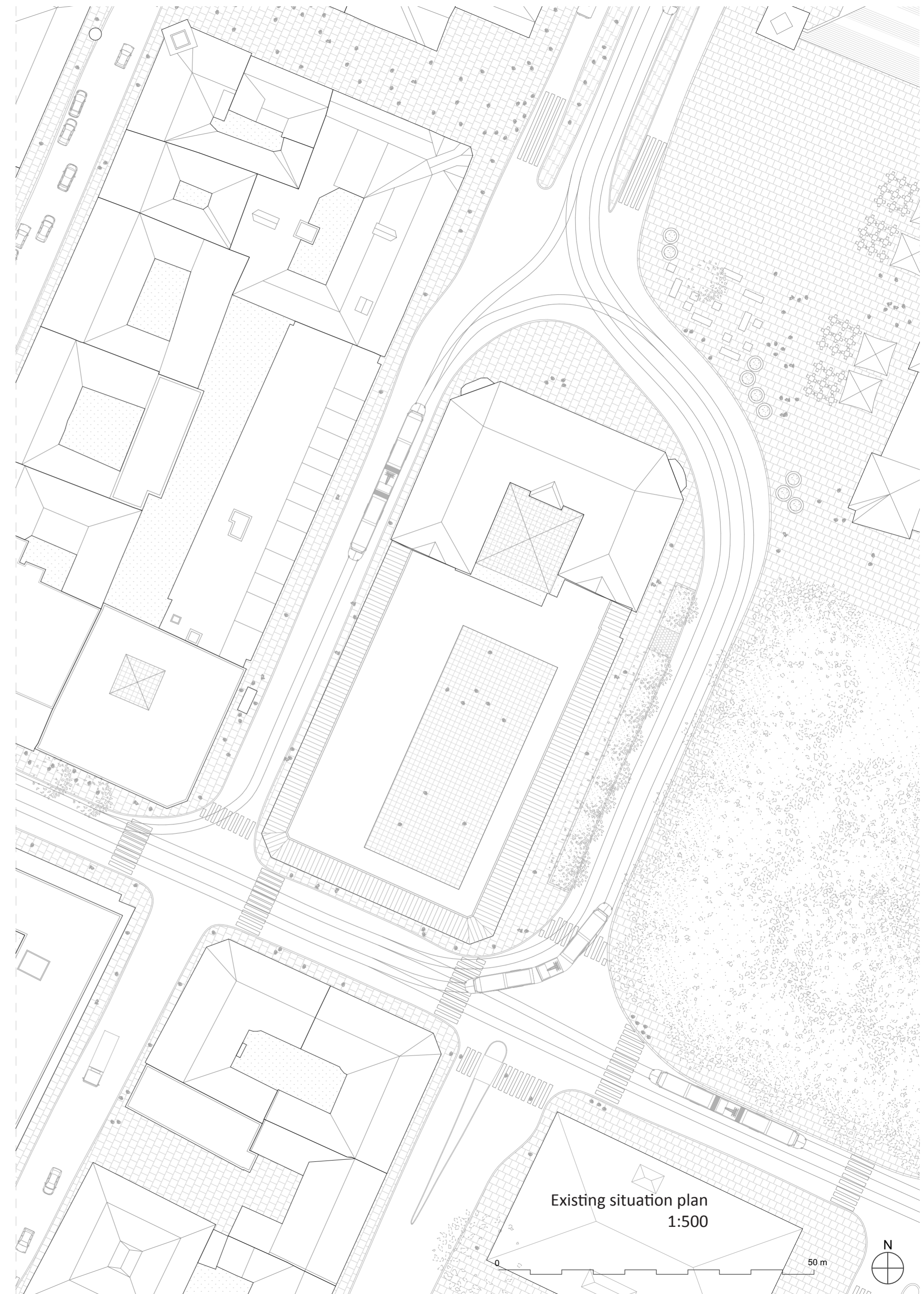
The plot is currently regulated for “Parking facilities / public or private service”. However, in light of the plans for a car free inner city, the current programme could soon be rendered unnecessary. This begs the question of the importance of a parking facility right here, and whether the building or plot could be redeveloped to better deal with the intentions of the area. This question is already being asked; in a preliminary meeting between the owner of the existing building and the planning authorities, the building was proposed demolished due to low ceiling heights, and a concept for a new office building was suggested. Finally, today the plot has been sold to Bane Nor Eiendom, who plan to demolish it.

In an environmental perspective, it seems unacceptable to demolish the dense concrete structure, in a dismissal of the existing structures potential for (adaptive) re-use. Of the existing built environment, we should attempt to adapt and re-use as much as possible. Furthermore, the existing structure holds many interesting qualities which could inform an approach, or be interesting to bring forth into a proposal; the pattern of the rib ceilings formed by the DT-elements gives the space underneath an interesting character, the long spans of the floor slabs could inform an interesting floor plan, and the ramps leading up and down the building could inform the circulation and use of the building.

The site and existing building offers an opportunity for an inclusive integration of the user group from the pre-diploma into the ongoing discussions about an increased residential presence in Kvadraturen. The building is not listed, thus allowing more freedom to adapt, remove, and add when facilitating for a user group whose mobility is constrained, and need for mobility aids might be hard to reconcile with the constraints of adapting a listed building.

Furthermore, the programme can give something back to the area, by looking at the interdependency between inside and outside, allowing the programme and its associated functions to become part of the context. Not only seeing how the context is appropriate for the programme users, but how the programme is appropriate for the context.

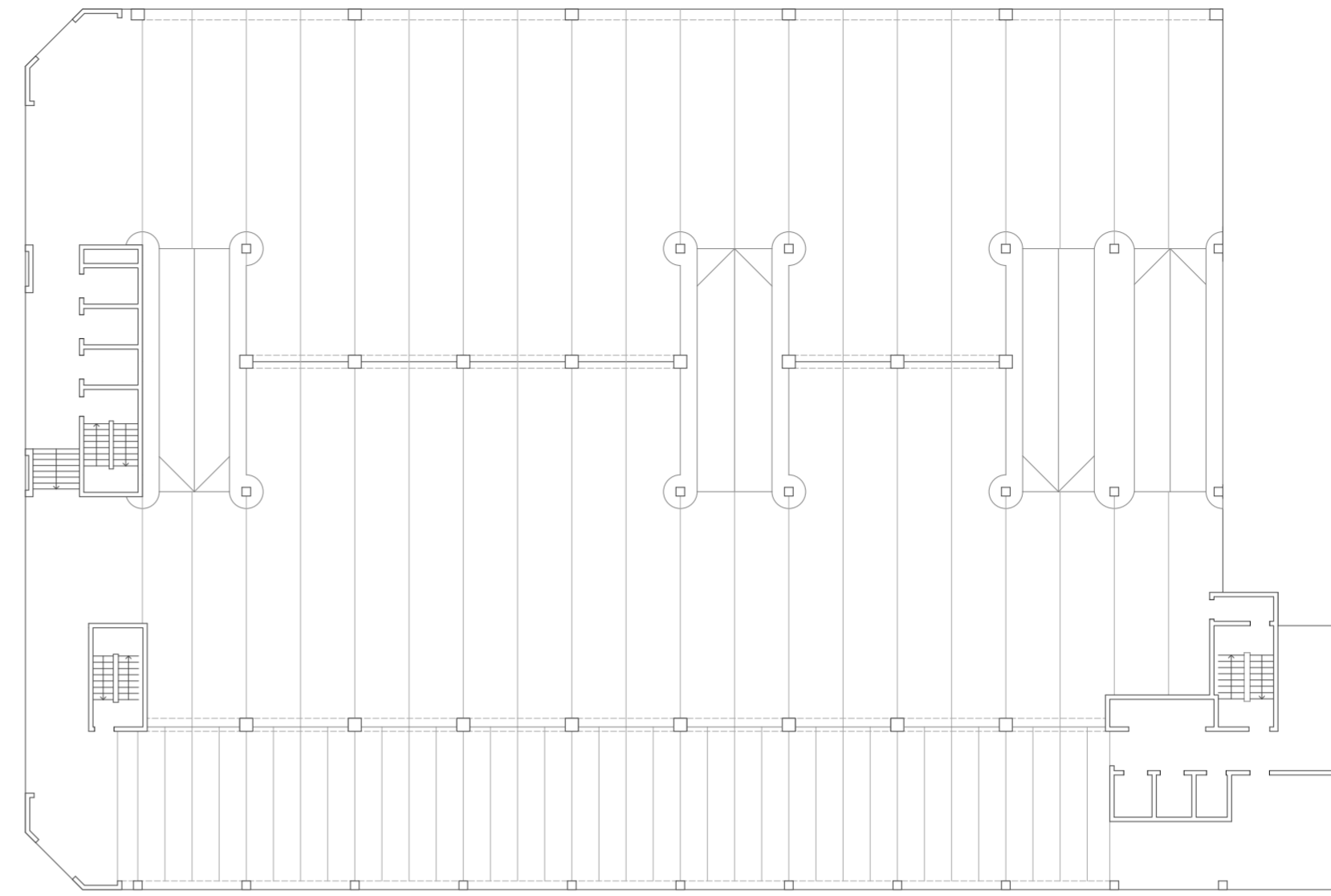
Thus I am proposing to transform the existing building into a multi functional, communal living environment, including care homes for the user group, as well as student housing, and the necessary functions of a care home into this environment.



The existing structure

The existing parking facility is a dense, heavy structure, with low ceiling heights. Because of its total depth, in combination with the low ceiling heights, not a lot of natural light reaches in to the middle of the volume.

The load bearing structure of the existing building is a mix of pre-cast concrete elements, and in-situ concrete. The top eighth floor is a lighter steel frame structure, surrounding an atrium roof terrace. On the plan drawing to the right, the information is reduced to highlight the load bearing elements. Load bearing walls and columns provide the vertical structure, while a mix of beams, DT- and HD- elements, as well as cast concrete slabs make up the horizontal spans in the building.

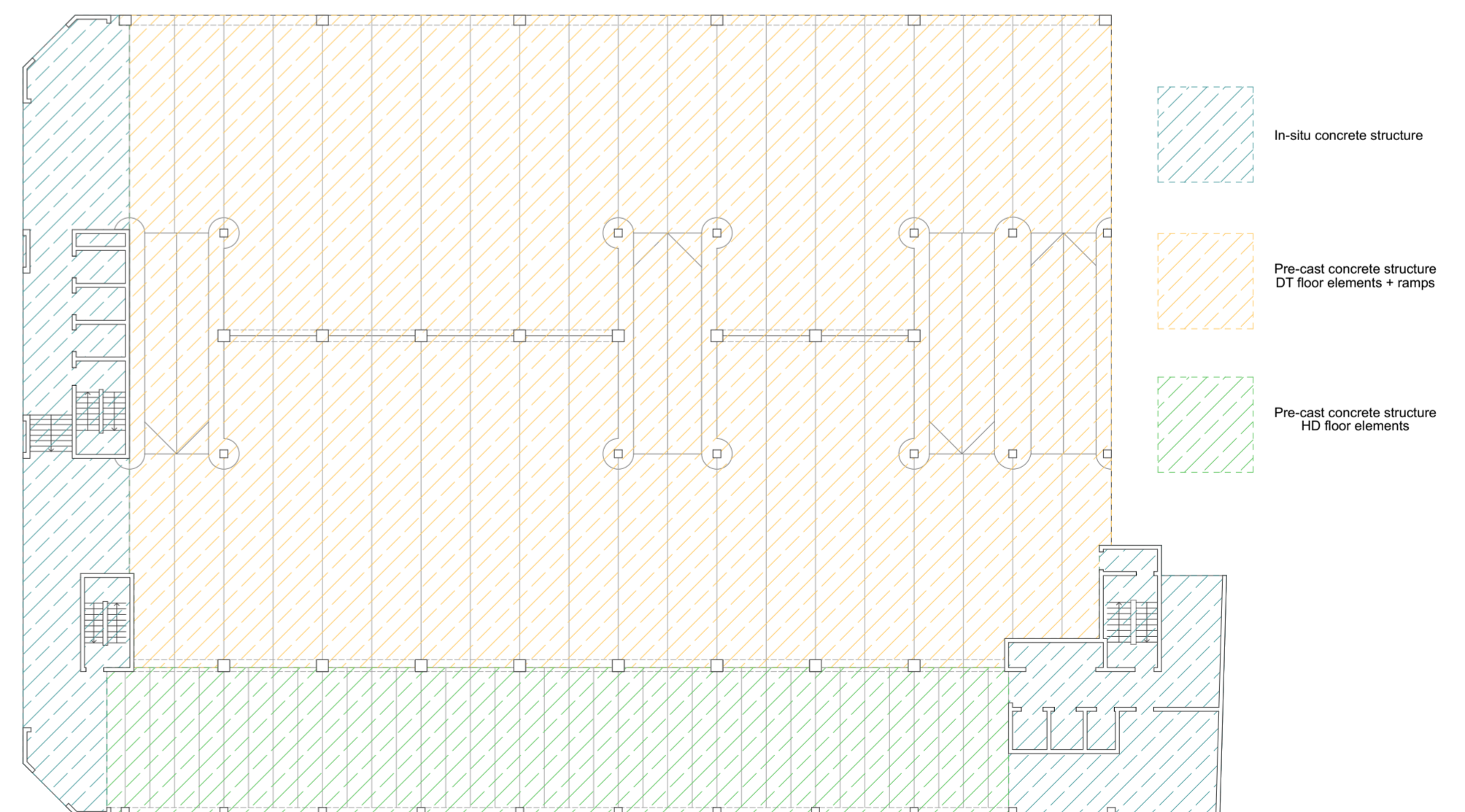


Existing structure plan

The parking facilities, and most of the office area, is a post-and-beam structure of pre-cast concrete; the columns hold up beams, onto which DT- or HD-elements are rested.

The three circulation cores, and the area immediately surrounding them, is an in-situ concrete structure with load bearing walls and floor slabs.

The three vertical circulation cores provide the lateral stability in the structure.



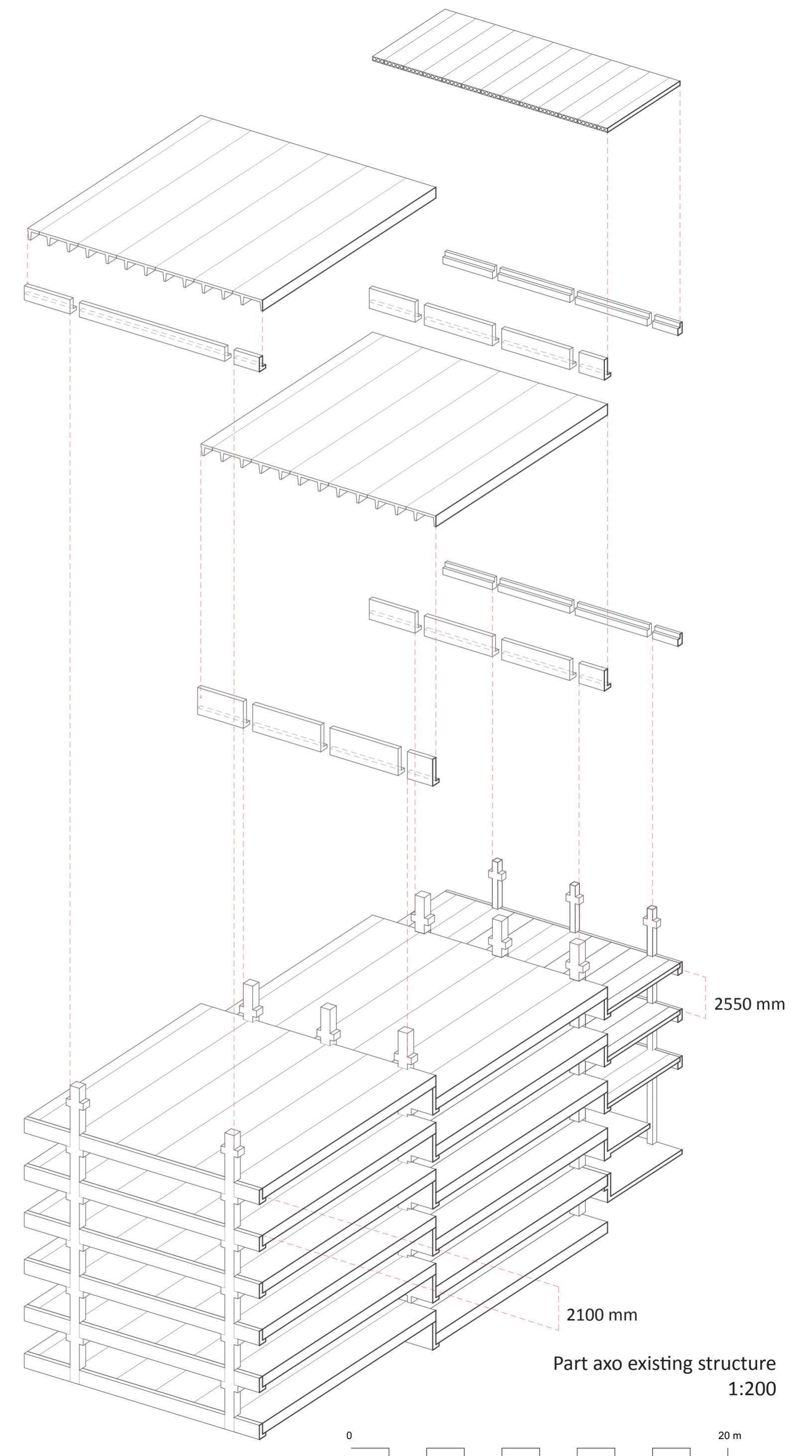
Existing structure plan diagram

The pre-cast concrete columns are fitted with consoles from where beams span in the longitudinal direction of the building.

The DT- and HD-elements are laid perpendicular to the direction of the beam, spanning (at the most) the 16 metre distance between each row of columns and beams. The pre-cast elements are then “welded” together using expanding steel bolts and structural expanding mortar.

After laying all the floor elements in place, a layer of reinforced screed is cast onto the elements, tying together and levelling out each floor.

The total floor to ceiling height in the parking facilities measure only 2,1 metres from top of the floor to the bottom of the DT-element. In the area consisting of HD-elements however (the current office part of the building), the floor to ceiling height measure 2,55 metres.



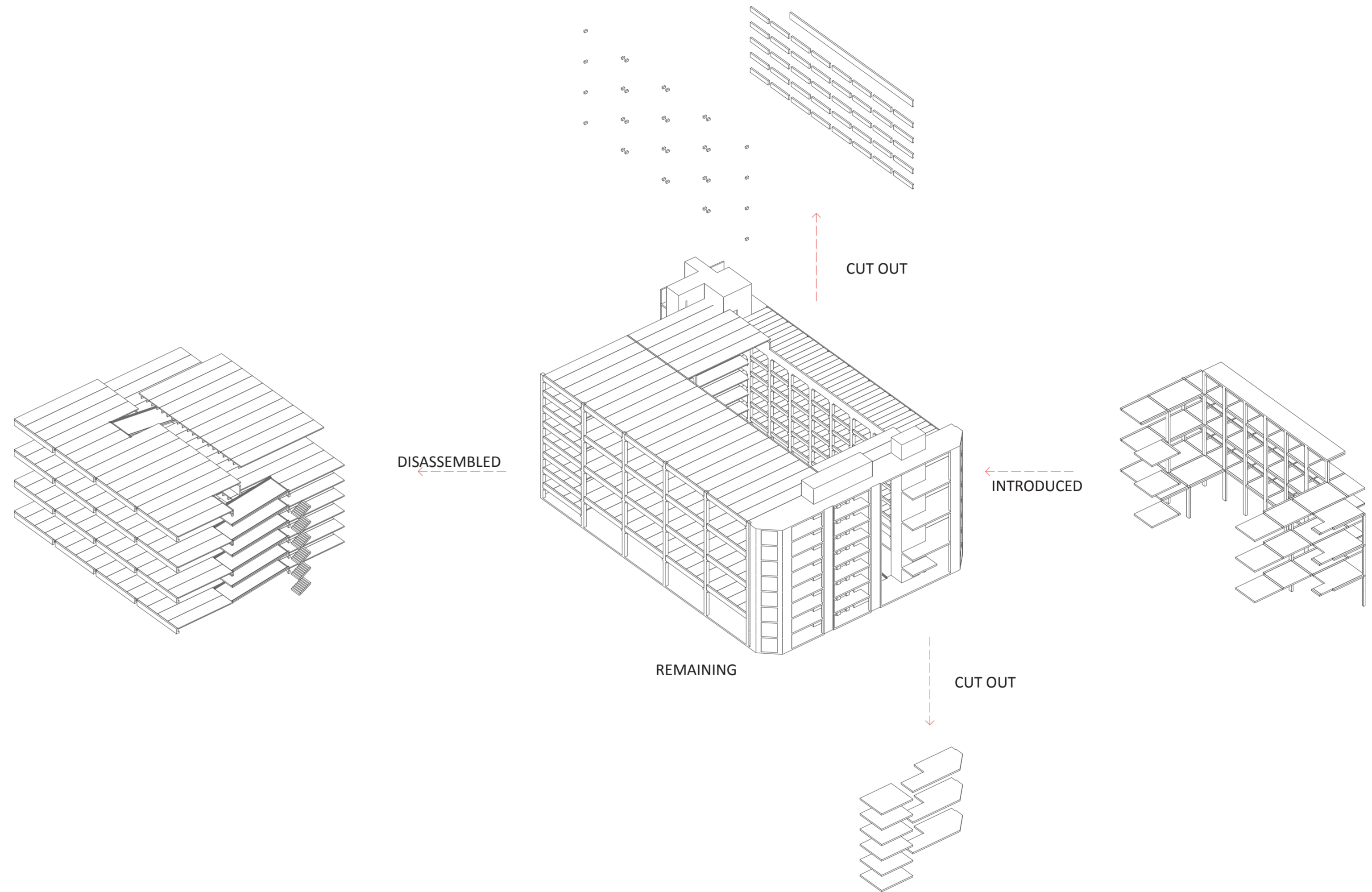
Adaptation

The main intervention done to the existing structure is reducing the existing to its load bearing structure, and:

- Removing all “half-floors” in the middle of the structure, to let light and air into the middle of the structure, and establish a court yard.
- Removing every other floor of the remaining part of the parking facilities, to allow enough vertical manoeuvring area in order for residents and workers to be able to properly operate their day-to-day mobility aids.

The proposed new structure is a post and beam massive wood structure, with closed rib CLT floor slabs, placed in the middle of what is left of the existing structure.

The new timber frame structure is introduced to establish new connections and floor planes within the remaining structure - connecting the two, previously separated, equal level floor planes; the parking floors towards the west and office area towards the east.



Adaptation diagram
1:500

0 50 m

Ground floor plan

From the street, the residents can access the building from all sides; from the west one can access the ramp route leading all the way up the building.

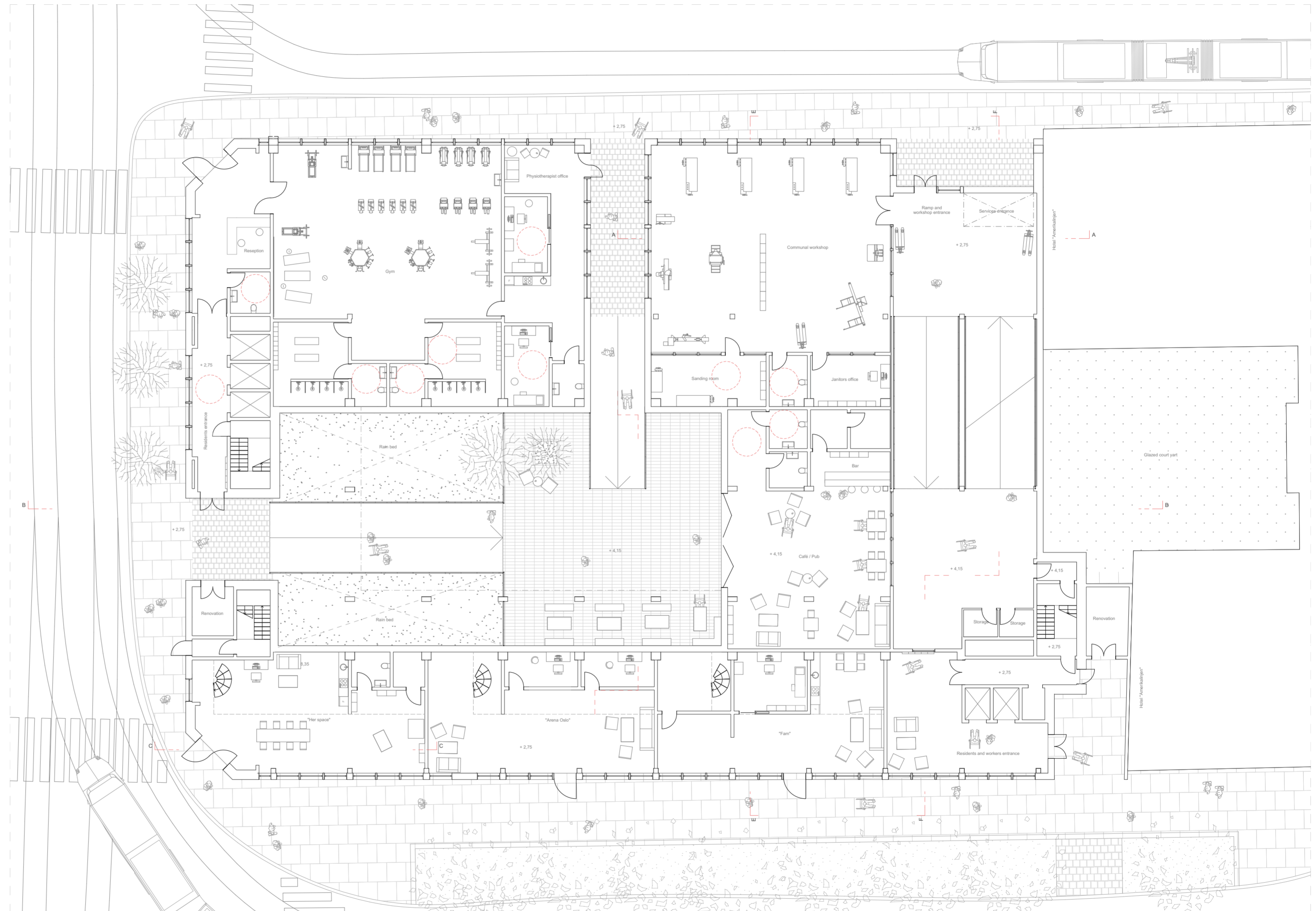
From the south and east one can access elevators leading all the way up the building.

The removed half floors form a new courtyard in the middle of the structure. Two existing ramps takes you inn and up from street level onto a slightly raised courtyard. A small pub/café face outwards towards the courtyard.

Three existing programmes have been preserved; “Her space”, “Arena Oslo”, and “Fam” fertility clinic facing east. Towards the west the ground floor has been fitted with a large gym, to which a new physio therapist office have direct access.

The communal workshop is placed close to the ramp route leading up the building, as this can be used as means of moving furniture and work to and from the workshop and the residential floors. Furthermore, the workshop can from here access the basement level via the preserved ramps, which could be used for storing materials or work.

The janitors office is placed inside the workshop, extending the role of the janitor to a workshop technician.



Ground floor plan
1:200



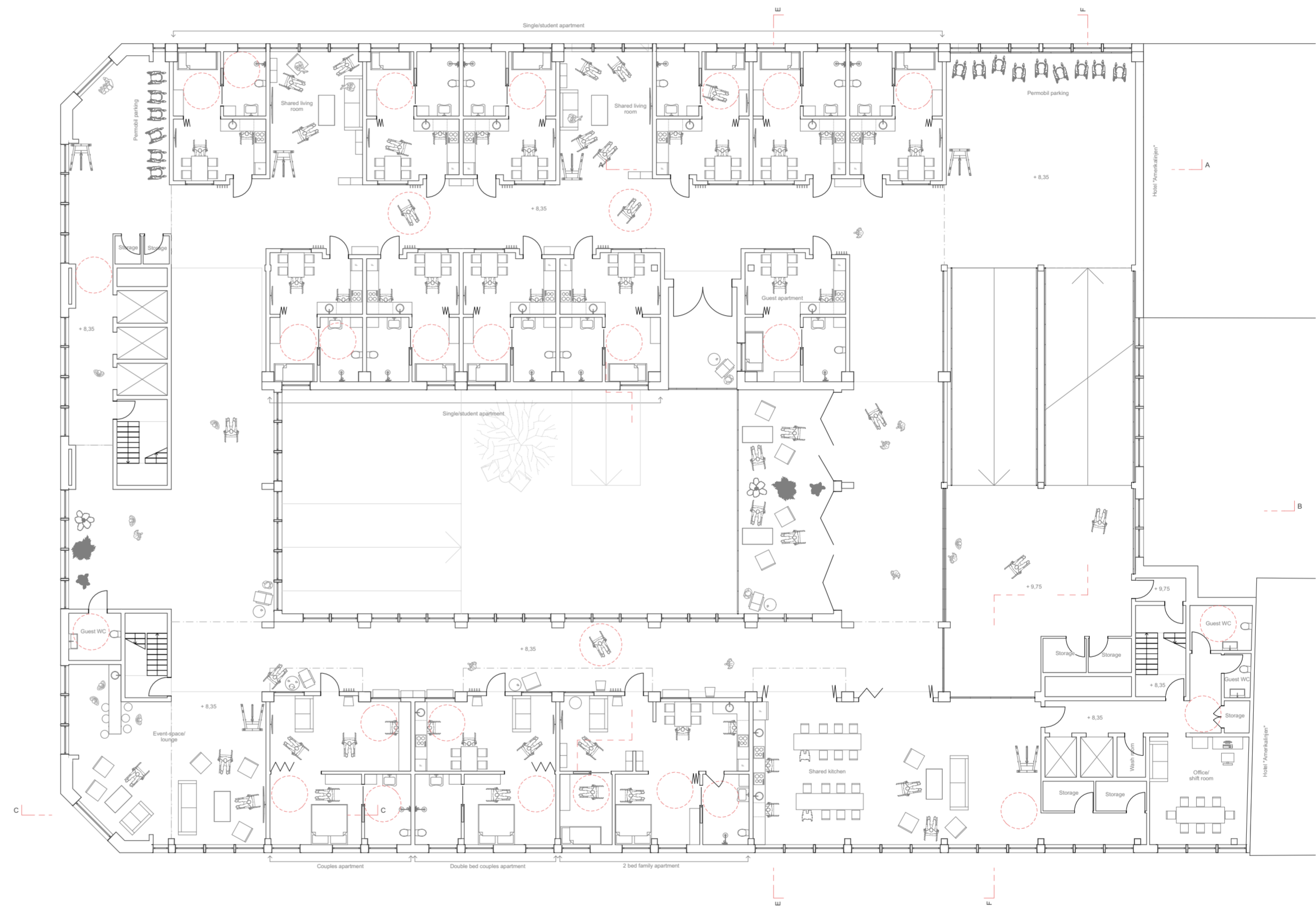
Second floor plan

As you reach the first residential floor you either enter from one of the two elevator cores, or you arrive by the ramp route.

The westernmost part of the floor plan is the deepest. Utilizing the full depth of the long spanning DT-elements gave room for two rows of single bedroom apartments. The two rows are punctuated by common/supportive living rooms and TV-rooms, as well as an instance where a ramp has been removed, letting light into the hallway.

The common living rooms punctuating the row of apartments facing west provide communal support area for the single bedroom apartments. The largest communal areas are placed towards the east, benefiting from a view over Paléhaven, Christian Fredricks plass, and on towards Deichman library, the Opera, and Munch museum.

A double height gallery walkway connect the two equal levels of the floor plane.

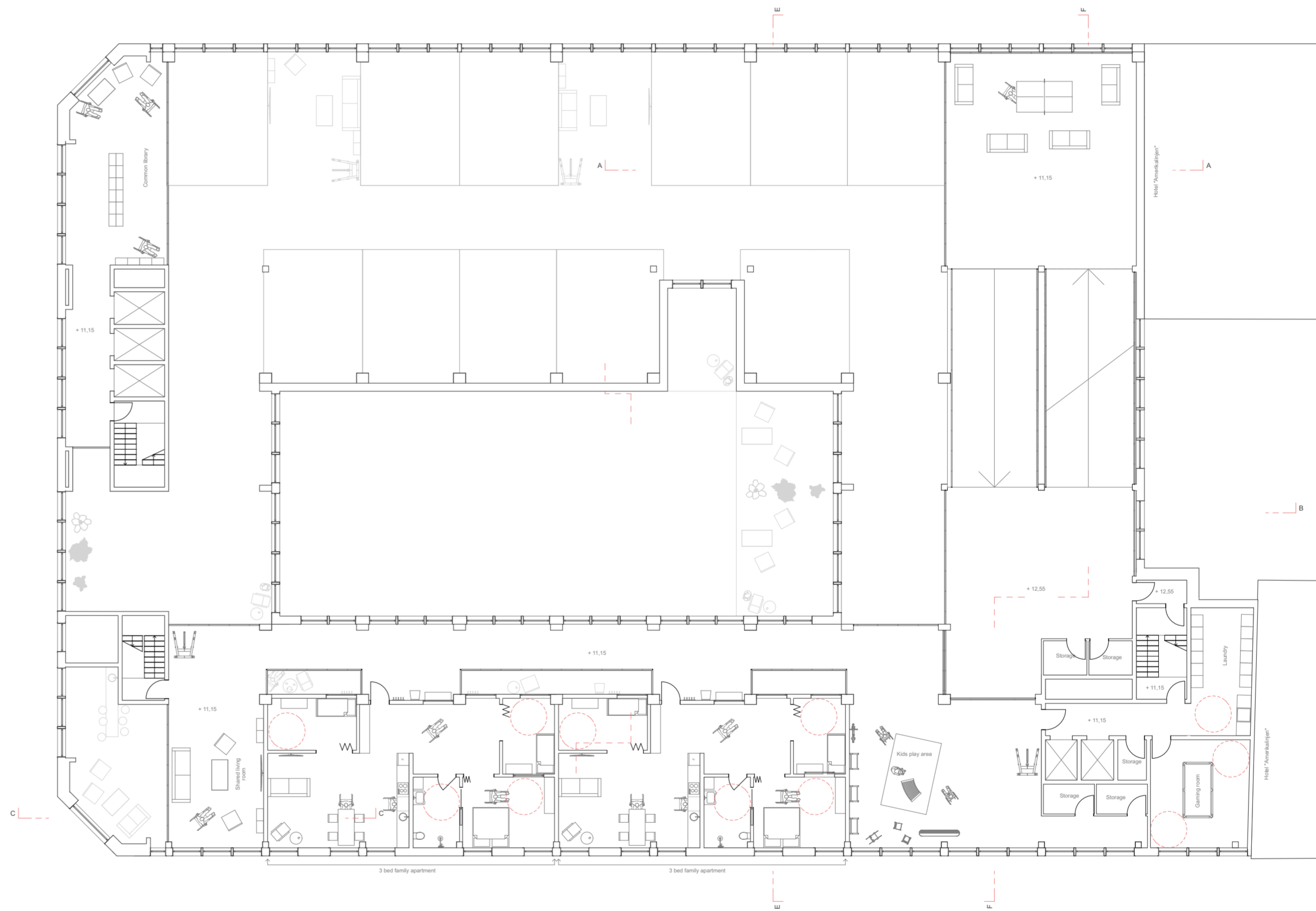


Second floor plan
1:200

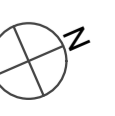


Third floor plan

The third and fifth floor only contain apartments in the east part for the building, where no floor slabs have been removed. The two family apartments have two alcove bedrooms facing inwards towards the gallery walkway and court yard. Openings in the floor of the gallery walkway outside the alcove bedroom window mediate the walkway and bedroom, as well as establishing a visual connection to the entrance of the family apartments in the floor below.



Third floor plan
1:200

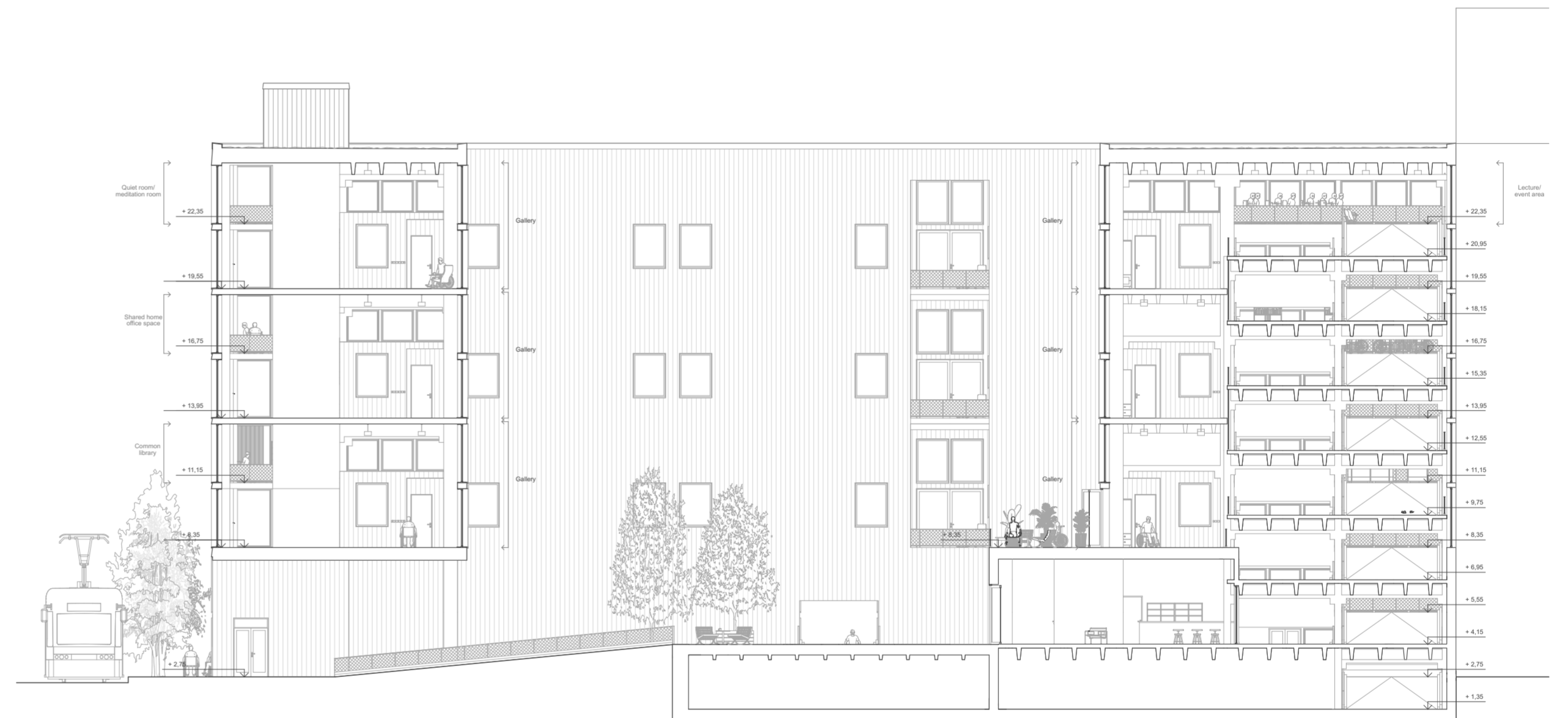


Section B-B

Entering the courtyard from Dronningens gate, an existing ramp leads up to a slightly elevated, rectangular courtyard.

A communal balcony extends over the roof of the pub/cafe facing the court, accessible from the second floor gallery. Another three small balconies are formed in the cavity where there once were ramps.

On three out of four sides the courtyard have the gallery walkway of each residential floor facing inwards towards the court.



Section B-B
1:200



Section D-D

Another ramp leads from Fred. Olsens gate into the raised courtyard.

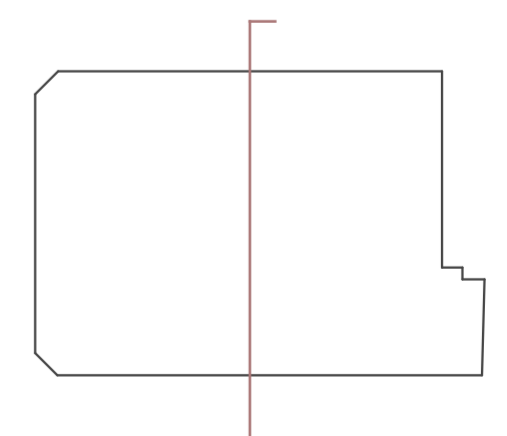
The removal of every other floor in what is remaining of the parking facilities, leaves three double height floors, in which the single bedroom apartments are located. The single bedroom apartments benefit from a tall ceiling height, yet leaving enough free space above each unit so to be able to span ventilation and electrical services perpendicular to the direction of the long spanning DT-elements.

Towards the east facing Paléhaven, are the family units, accessed via the gallery walkway facing the court.

On the seventh floor, a large common roof terrace span the full length of the building, with an associated common room at the north end of the terrace (towards the hotel).



Section D-D
1:200



East elevation

The facade of the building is a simple, self carrying timber frame structure, clad in lapped vertical timber.

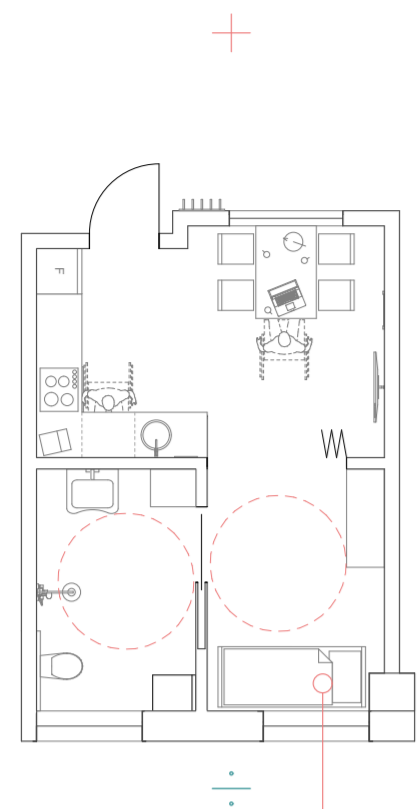
Where there are common functions behind, the facade opens up with large floor to ceiling windows.



East elevation
1:200

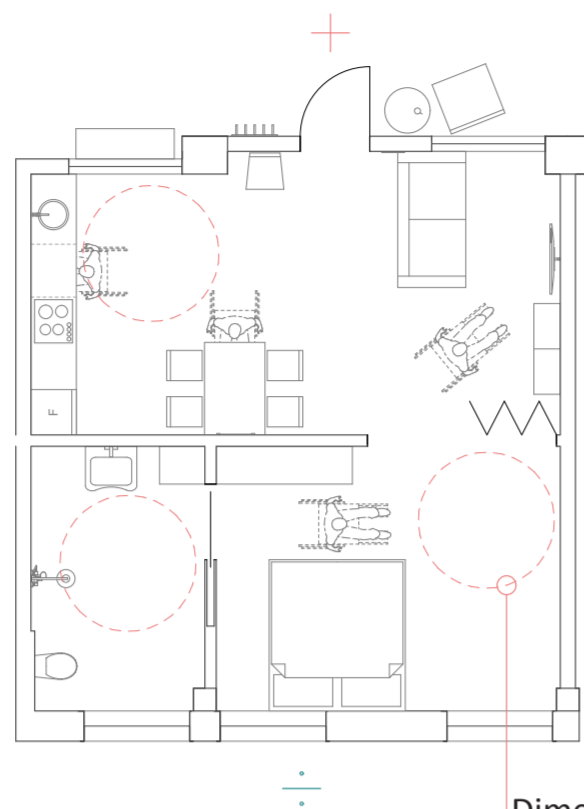


Single / student apartment



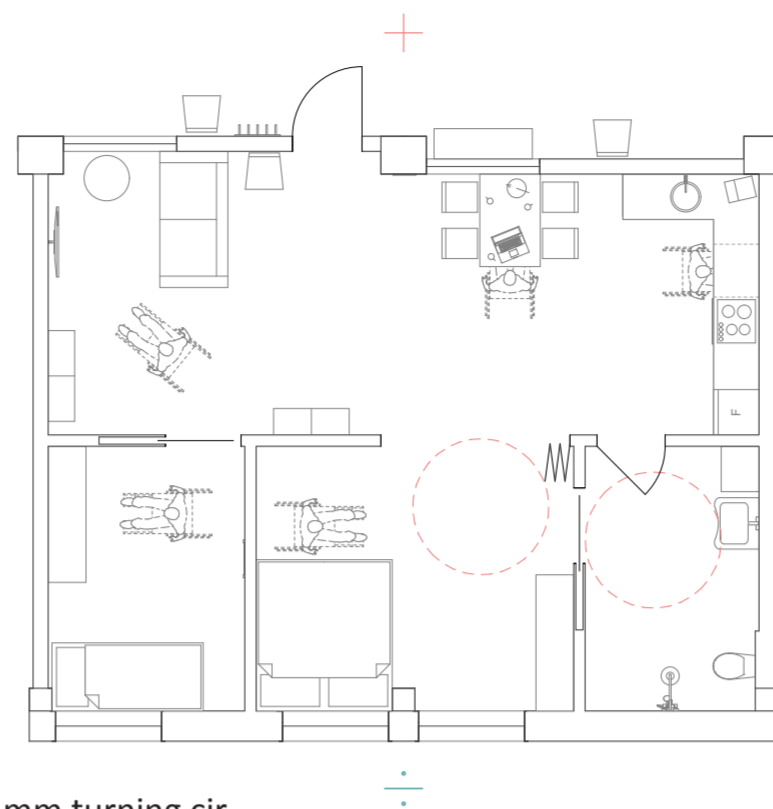
Residents are encouraged to do as many things them selves as they can. Adjustable bed close to window in bedroom to encourage residents to operate bed and window by them selves.

Double bed couples apartment

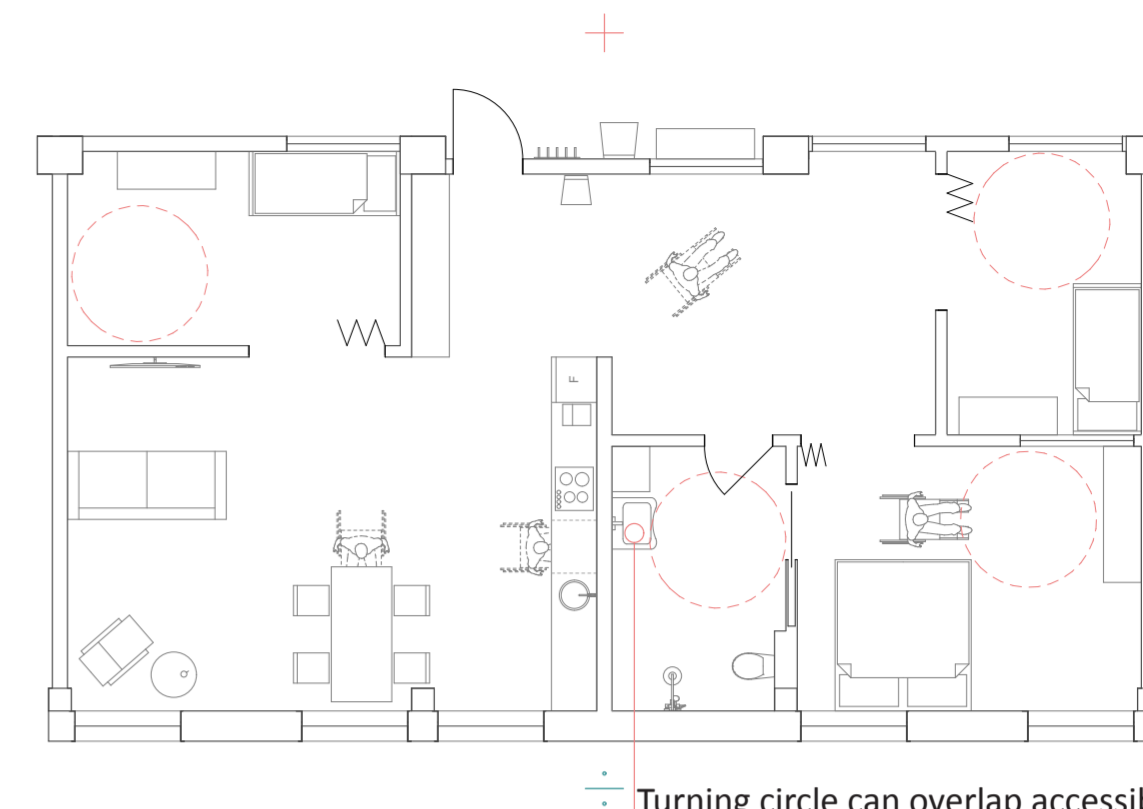


Dimensioning rooms to a 1800 mm turning circle, rather than the typical 1500 mm to account for the extra navigational space needed when operating an electrical wheel chair.

Two bed family apartment



Three bed family apartment



Turning circle can overlap accessible sink, as these are positioned higher on the wall than the seat height of an electrical wheel chair.

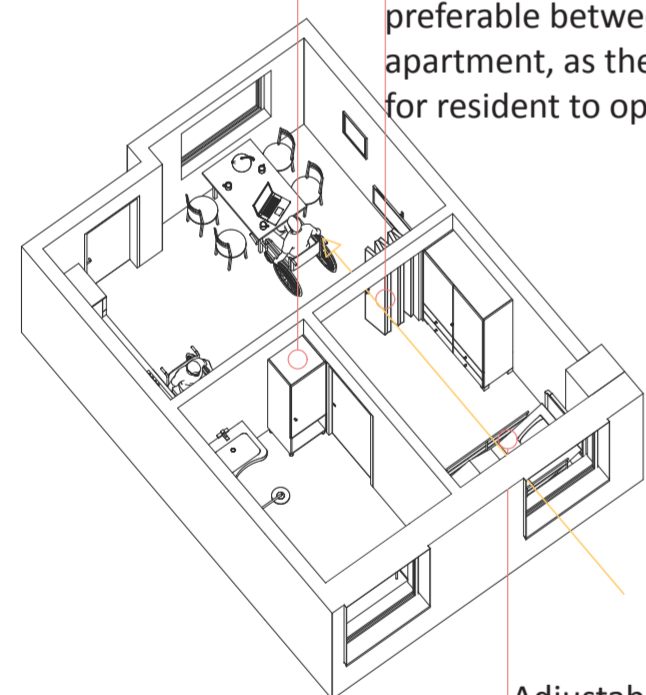
Closet in bathroom contain, in addition to private toiletries, sanitary coats and boots the workers put on when helping the resident. This in turn allows the workers to not wear uniforms.

Folding and sliding doors are preferable between rooms in apartment, as these are easier for resident to operate.

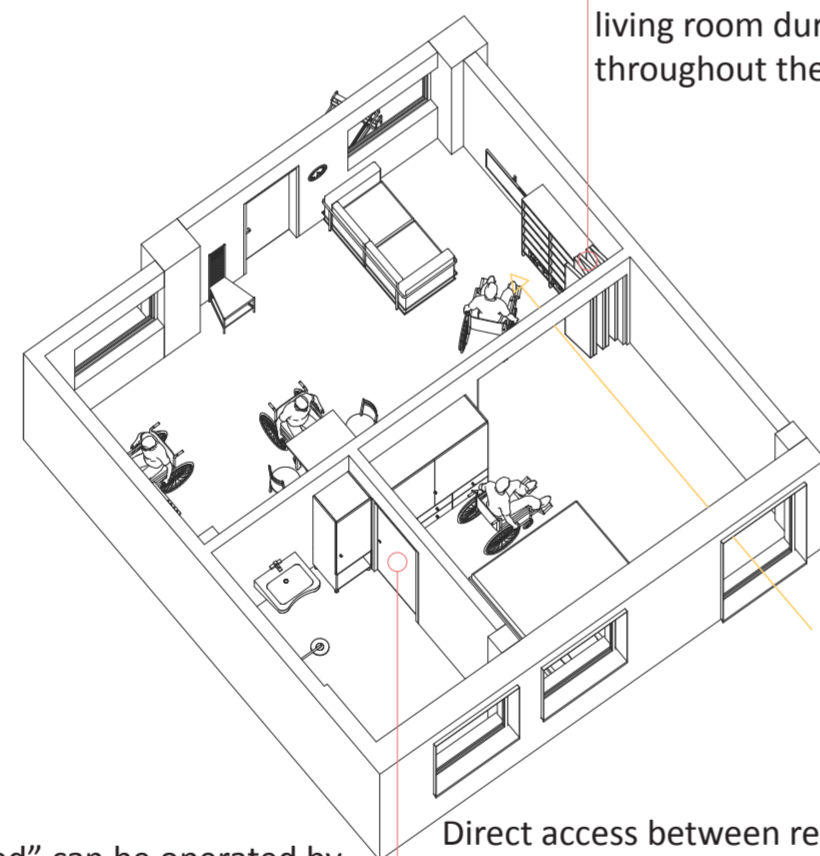
Large folding doors between main living area in apartment and bedroom facing out, allowing the bedroom to become part of living room during day, letting light and air throughout the apartment.

Accessible work space in kitchen with no shelves under kitchen counter.

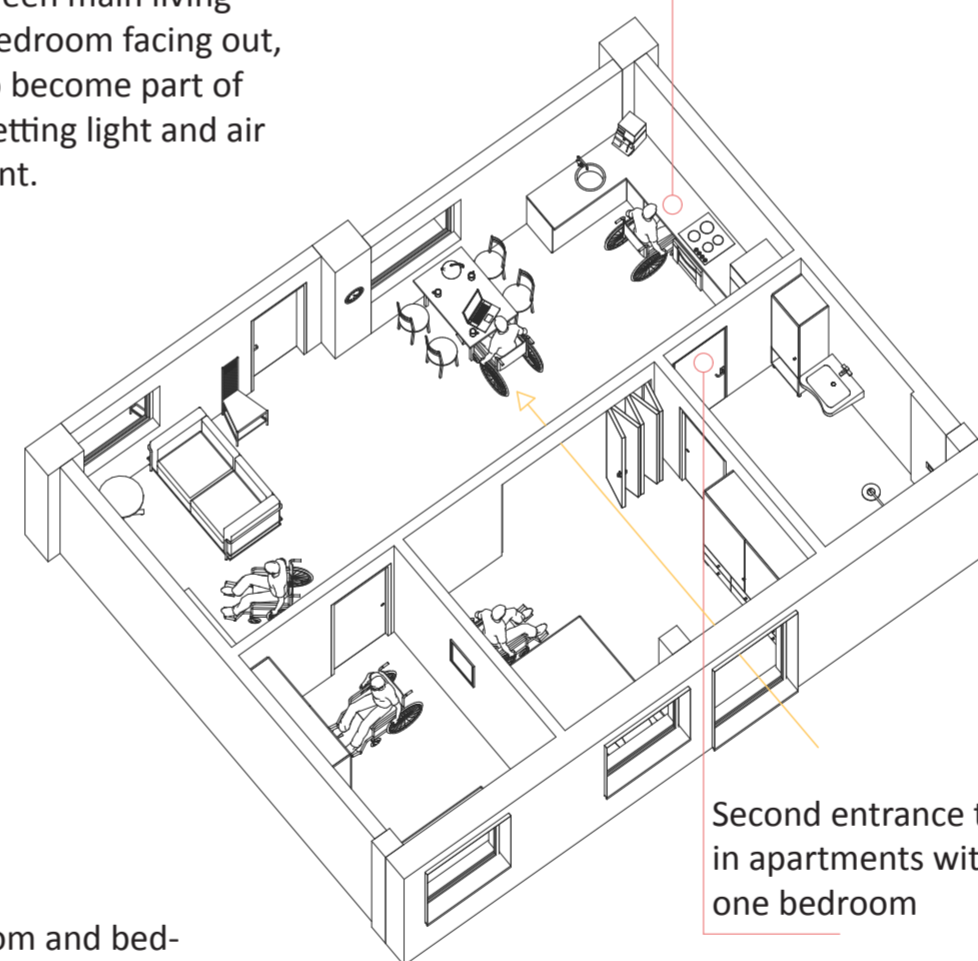
Alcove bedroom



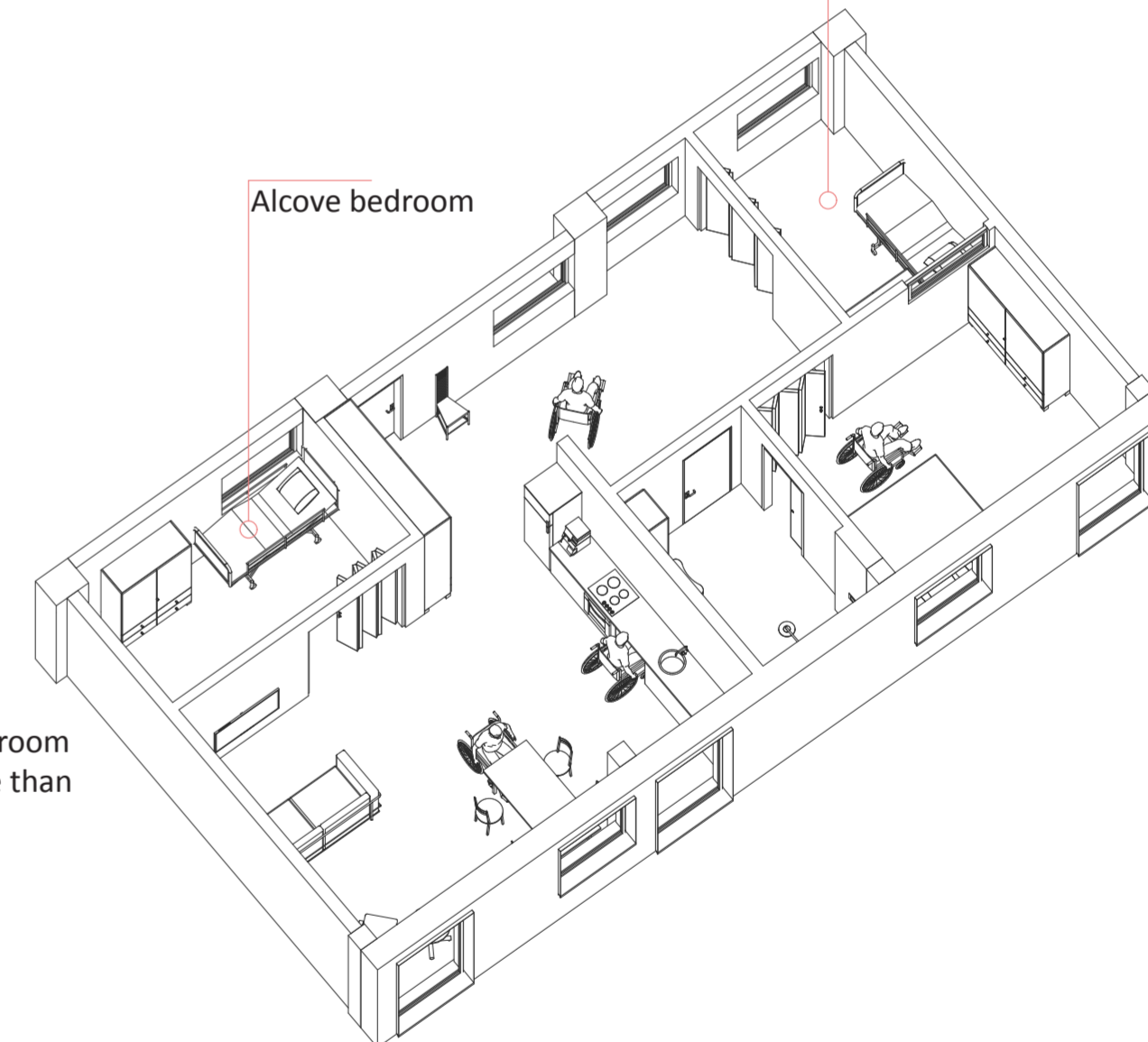
Adjustable "hospital bed" can be operated by the resident via a small remote connected to the side rails of bed.



Direct access between resident room and bedroom is essential for completing morning routine and morning care



Second entrance to bathroom in apartments with more than one bedroom



29 square meters

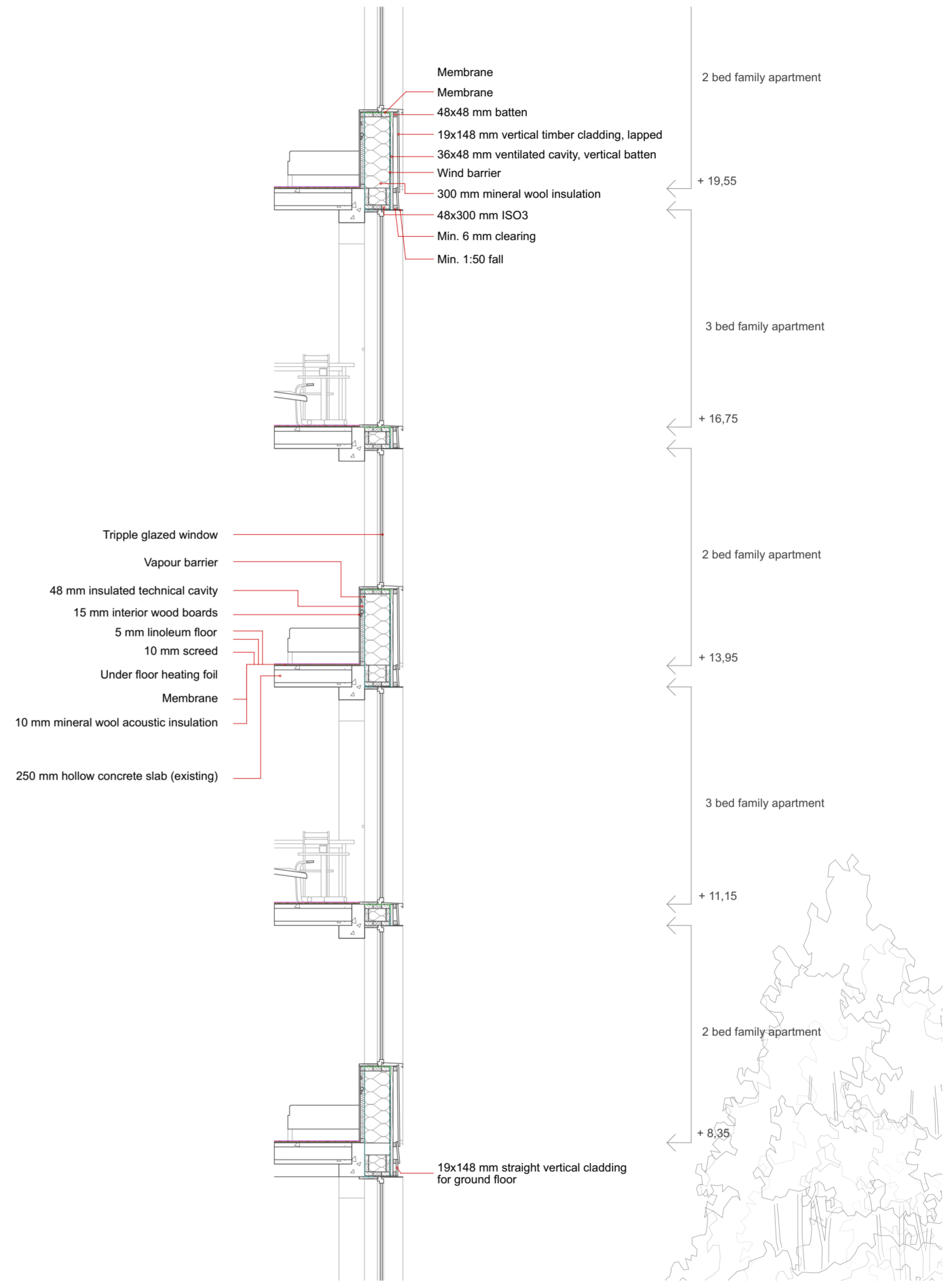
51 square meters

68 square meters

103 square meters

Apartment types
1:100



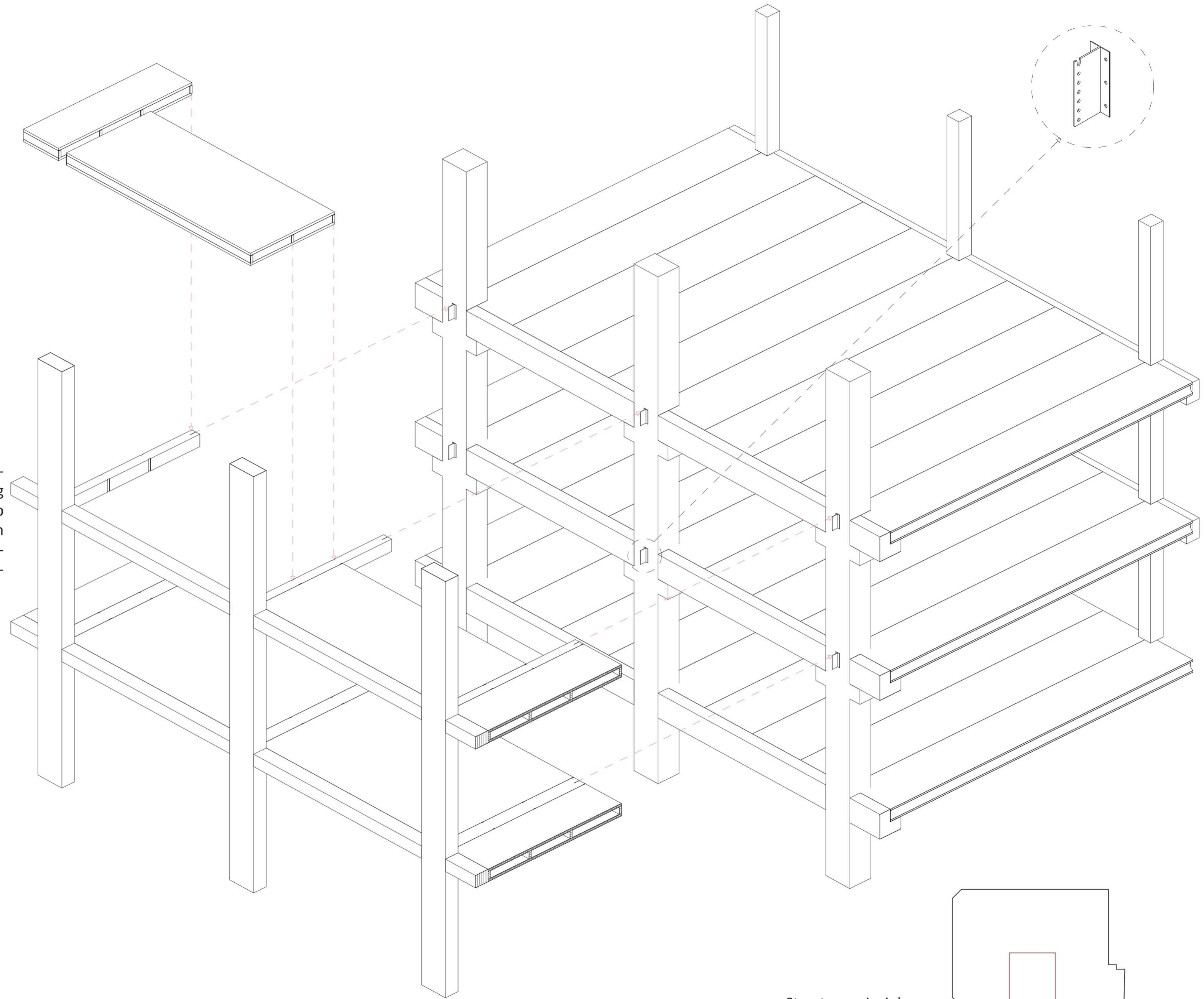


Detail section + elevation
1:50

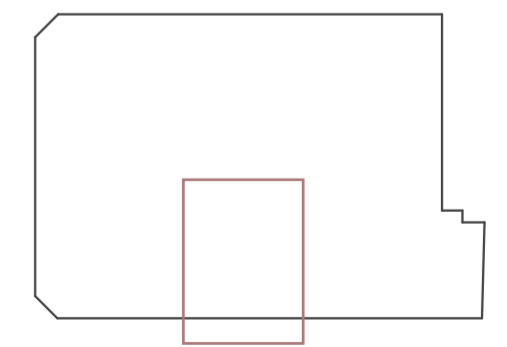


Structure principle axo

The post and beam massive wood structure connect to the concrete structure via load bearing beam anchors. Closed rib CLT panels make up the floor slabs, spanning between the glu-lam beams. The closed rib panels connect to the glu-lam beams via concealed face-fixed steel connectors that are pre-fixed to the panels and beams.



Structure principle axo
1:50 / 1:10





Landing outside south elevators (all floors)



View down gallery walkway outside east-facing family apartments (second, fourth and sixth floor)



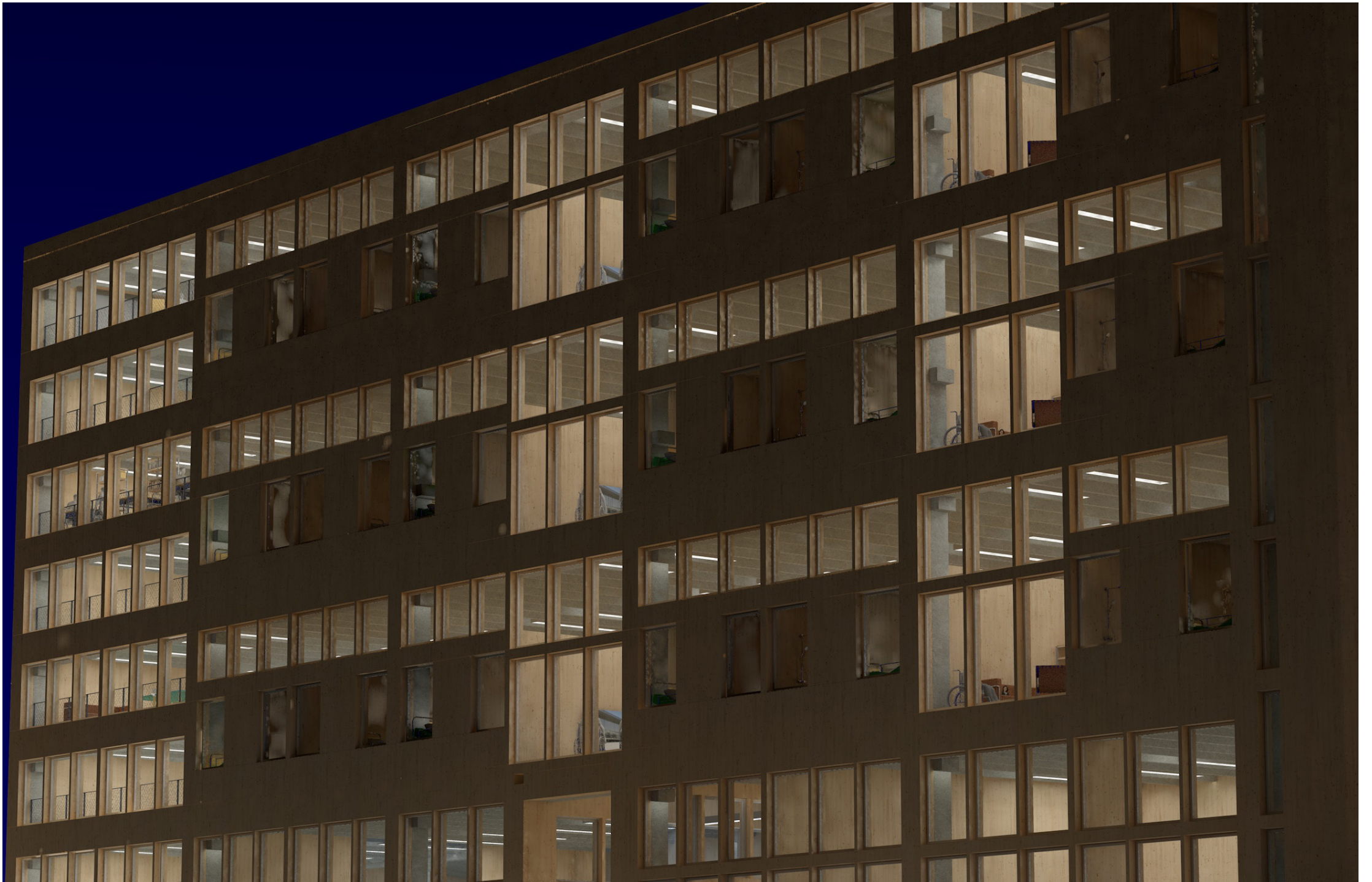
View down gallery walkway outside east-facing family apartments (third and fifth floor)



View towards east, down gallery walkway behind south elevators (second, fourth and sixth floor)



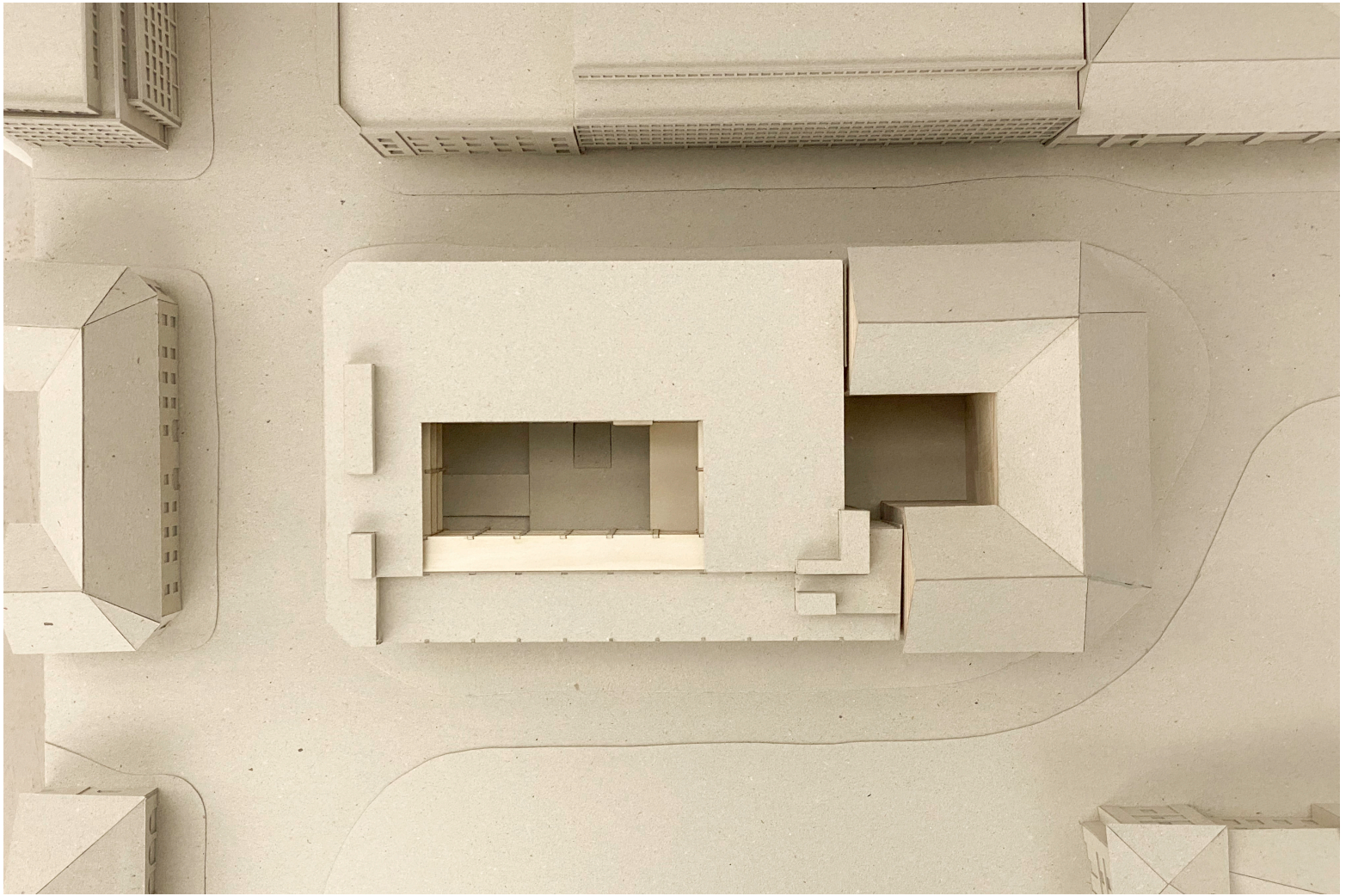
View towards east, down gallery walkway next to ramp route (second, fourth and sixth floor)



West facade (towards Fred. Olsens gate), night time illustration.



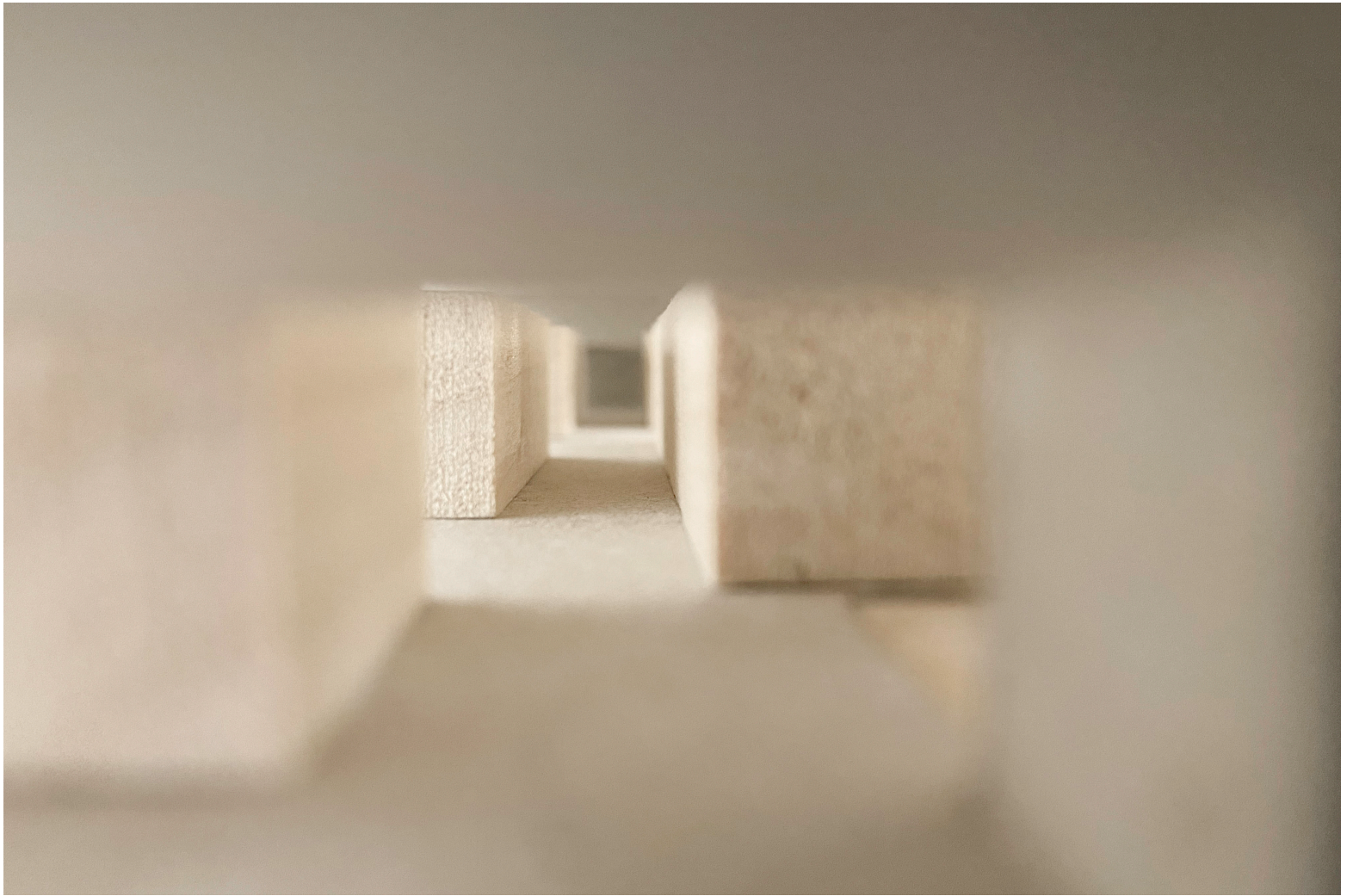
1:200 model, part



1:200 model, top view



1:200 model, view towards landing outside south elevators



1:200 model, view down hallway between single apartments in west part of building



1:200 model, view towards west through gallery next to ramp route (2nd, 4th, 6th)



1:200 model, view towards west down through gallery next to ramp route (3rd, 5th)



1:200 model, from Fred. Olsens gate



1:200 model, ramp to court from Dronningens gate



1:200 model, view from entrance area next to south elevators (2nd, 4th, 6th)