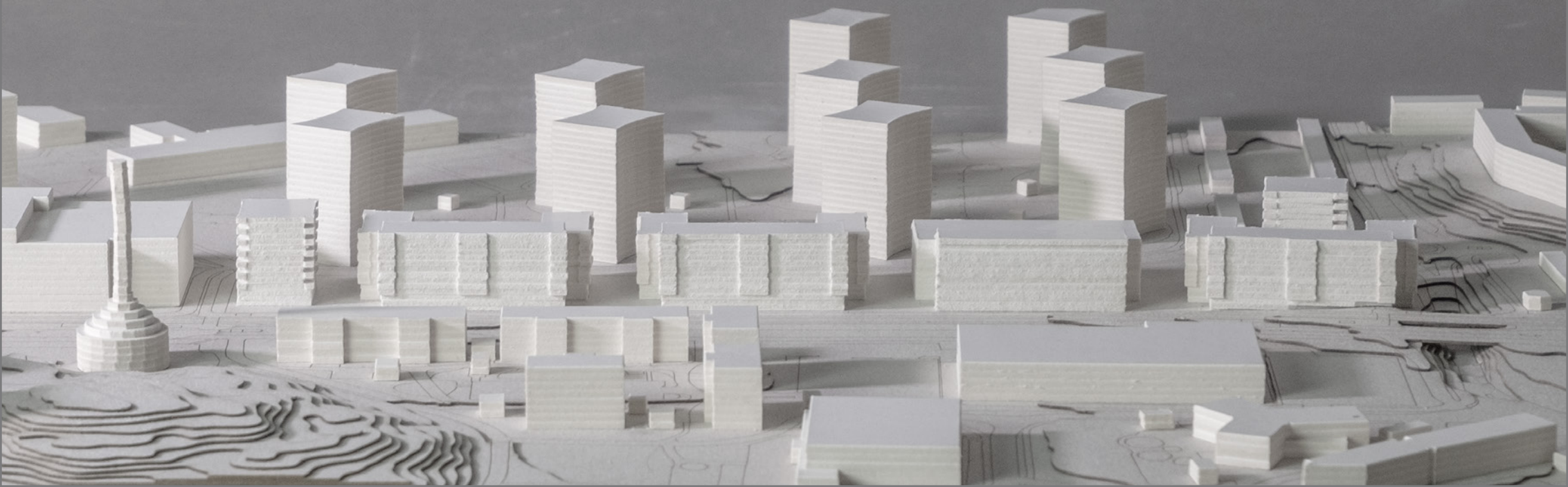
A home in the urban fringe

Gard Fintland 2023
Chalmers School of Architecture
Department of Architecture and Civil Engineering
Examiner - Björn Gross
Supervisor - Mikael Ekegren



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CHALMERS
UNIVERSITY OF TECHNOLOGY

The wave of modernist architecture that emerged during the latter half of the nineteenth century has become outdated. Jane Jacobs advocates for the value of the perimeter block as a backdrop for city life, Aldo Rossi writes about the importance of historical continuity in the urban environment, and Robert Venturi praises classical architecture ‘s aesthetic and structural principles. Over time, their arguments have gained significant recognition in the field of architecture, inspiring many architects to follow in their footsteps.

However, we must not overlook our recent history and modern heritage. Urban developments from the modern era have ensured a more democratic and higher standard of living. Many residences are larger, offering better access to natural light and vegetation. Looking towards the future, new developments need to answer to contemporary challenges such as the climate crisis and the need for affordable housing. Our discipline requires constant reinvention to meet our time’s demands while drawing lessons from both recent and distant pasts.

The outer city of Gothenburg, with large spaces occupied by infrastructure and ground parking, holds a large potential for the city’s continued expansion. In the Frölunda-Högsbo area, the municipality plans to develop housing for 100 000 new residents until 2035. Considering the scale of this intervention, planners risk upsetting the existing qualities of the district, but there is also an opportunity to improve and complement those qualities which are already there.

This project aims to develop a group of urban blocks in Frölunda, on a parking lot squeezed between the iconic high-rise towers from the 1960s and a future boulevard that will serve as a central artery of the envisioned Frölunda City. Ambitions are to balance the local identity of Frölunda and its existing qualities against the current trends towards a denser urban form and classical language of architecture. The design explores hybridity, typology, atmosphere, and style through an investigation of the building context and references drawn from the historical city.

Keywords: Modernism, Classicism, Typology, Style

Student background

Work

Architect	2021-09
Querkraft Architekten, Vienna	2021-02
Architecture Internship	2021-02
Querkraft Architekten, Vienna	2020-09
Architecture Internship	2020-08
Architekturbüro Reinberg, Vienna	2020-02
Engineering Internship	2018-08
Johanneberg Science Park, Gothenburg	2018-06

Education

Master of Architecture	2023-06
Chalmers Technical University, Gothenburg	2021-10
Exchange studies	2022-09
Munich Technical University, Munich	2021-10
Bachelor of Architecture	2019-06
Chalmers Technical University, Gothenburg	2016-09

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Thesis question

How can the contradictory ideals from classical and modern architecture inspire the design of an apartment building in Västra Frölunda?

Gothenburg inner city

Project site
Västra Frölunda

Figure 1: Maps Data:
Google Earth.

Site History

In the 19th century, Västra Frölunda had fewer than 2000 residents, mostly engaged in farming and fishing. Following the integration of Västra Frölunda into Gothenburg in 1945, most of the farmlands were developed into suburbs. Early development in the 1950s followed contemporary ideals with neighbourhood enclaves centred around a local square. Buildings of three to four floors were carefully integrated into the mountainous terrain with much sensitivity towards the existing birch and pine vegetation. Courtyards were organically arranged and partially open to improve lighting conditions in the apartments.

In the late fifties, developments became increasingly large-scale with less interest in preserving the natural terrain. Buildings grew, supplemented by extensive infrastructure, and ground parking. Frölunda Torg was planned as a B-centre, subordinate in hierarchy only to the centres of the inner city. When the shopping mall opened in 1966, it was the largest shopping mall in the Nordic countries. Development of the surrounding area was initiated in the early sixties and continued over several phases. Buildings were placed freestanding with open green spaces between them and grouped into individual enclaves sharing the same colour, material, and form. Parking lots and transit streets were located outside of each neighbourhood enclave, hoping to ensure a safe and attractive environment for play. Pathways separate from traffic, often with tunnels at the car intersections, were planned to encourage walking and cycling close to the home.

The modernistic period allowed experimentation with new forms and materials, resulting in a unique urban landscape; the district Halmplattan comprises sixteen high-rise buildings with a triangular footprint and facades clad in corrugated aluminium, the district Betongpålen is composed of ten tower blocks with concave facades coloured bright orange. Tall and uniform compositions gave the buildings a monumental expression. Most buildings had efficient apartment plans, often with daylight from two sides and views reaching far into the horizon. (Kulturmiljörapport 2015:01, Else Britt Filipsson, Sanja Peter)

1. Frölunda Torg, the urban centre in Västra Frölunda.

2. Large infrastructure and ground parking spaces occupy the lands between the buildings.

3. Buildings are free-standing in a park landscape.

4. Proximity to the natural terrain.

5. Neighbourhood enclave Betongpålen.

6. Neighbourhood enclave Halmplattan

7. Left page photo was taken from here

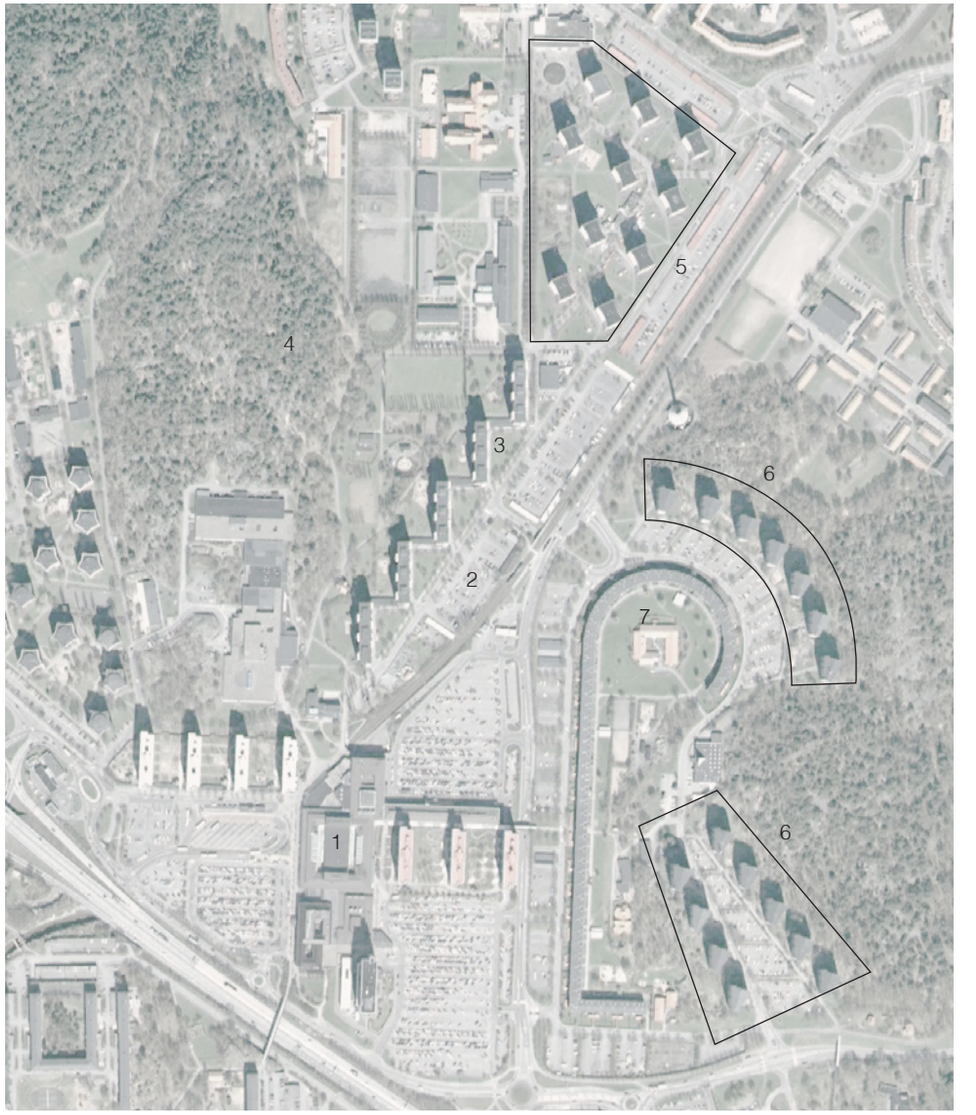


Figure 2: Maps Data: Google Earth.

Investigations from the municipality show a potential to accommodate 100,000 new residents in Västra Frölunda until 2035. A program published in 2021 outlines many of the ambitions for the development. Frölunda Torg is to be extended with additional commercial- and cultural activities to become a nucleus around which the surrounding residential districts can flourish. The need for daily commutes can be reduced through a mix of functions with more local jobs and services. Although Frölunda Torg is planned as the main attractor in the area, the strategy proposes smaller meeting places supplementing Frölunda Torg at important future junctions in the district. Marconigatan is identified as an important pathway through Västra Frölunda, potentially connecting Tynnered and Frölunda Torg to Linnéplatsen and further into the inner city.

The program identifies several issues that require extra attention during the development. In the central areas of Västra Frölunda, the main roads create large open spaces in the urban fabric, with buildings that are stepped back from the street and separated by ground parking and infrastructure. Traffic separation and empty space contribute to a feeling of insecurity when walking and cycling through the area and create barrier effects. Building additions to present-day impediment spaces could decrease the barrier effects of these spaces and contribute to a livelier and more attractive street. The strategic program proposes development in perimeter block typology to allow higher densities with buildings of lower height, which is claimed to contribute to a more urban character and pleasant environment at eye height. (Samrådshandling: Program för Frölunda: inom stadsdelarna Rud och Järnbrott, Göteborgs stad, 2021)

Although later developments in Frölunda have varied in typology and density, the largest and most recent development follows a perimeter block typology with smooth uniform facades primarily in brick. Apartments are small, with balconies located towards enclosed courtyards or towards the less trafficked street to the west. The existing ground parking is replaced by parking garages above ground, located towards the northern corners of each development.

1. Frölunda Centre, currently undergoing extensive redevelopment

2. Development, 2018

3. Development, 2014

4. Development, 2018

5. Development, 2012

6. Marconigatan, envisioned as the urban main street in Frölunda.

7. Location of left page view

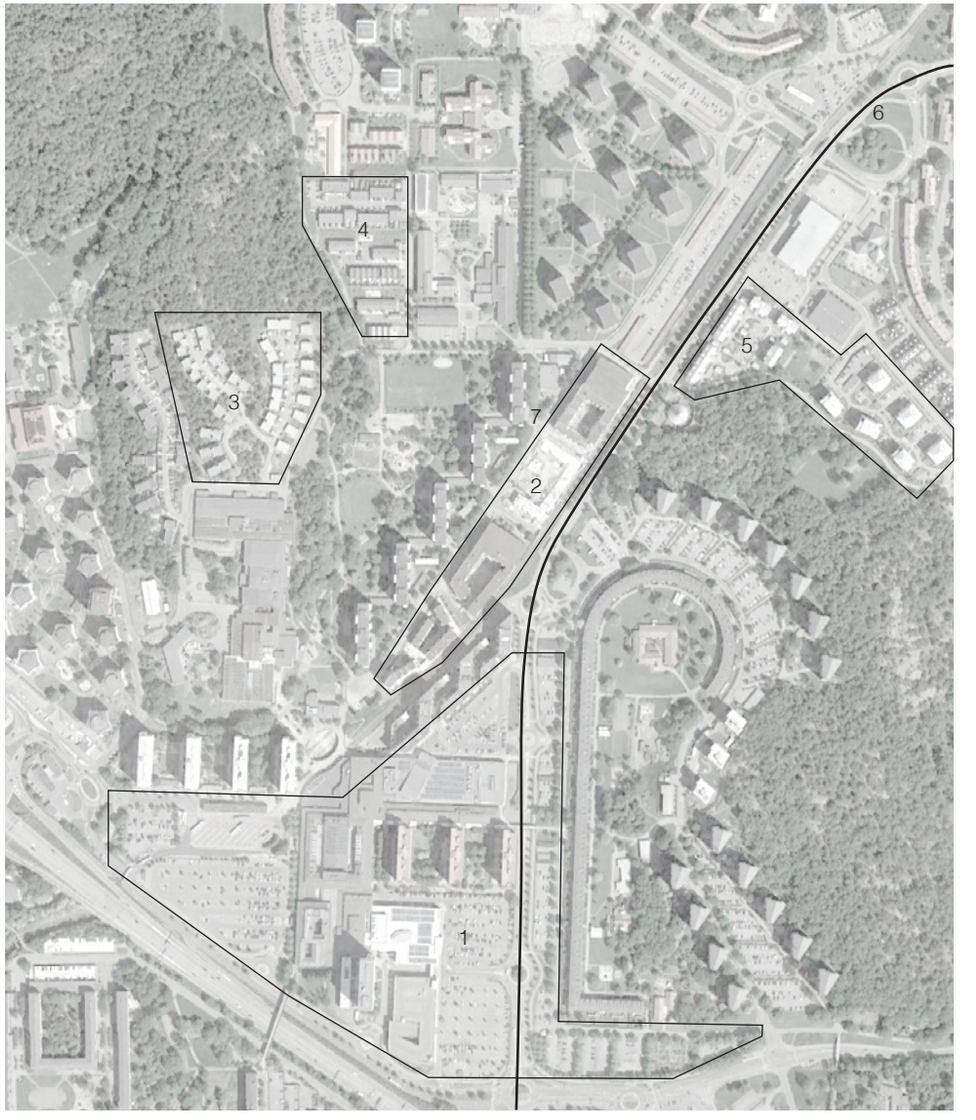


Figure 3: Maps Data: Google Earth.

Contradictions in density

The contradiction between the urban ideals of 20th-century Frölunda, based on spaciousness, and the urban ideals of 21st-century Frölunda, based on proximity, demonstrates a theme which has interested many architects. In Spacematrix, published in 2021, Meta Berghauser Pont and Per Haupt discuss the widespread confusion surrounding the concept of density. Density can be understood as population density, built net density, and ground coverage index. Each definition can be applied on a district level or on the scale of a single property, resulting in different numerical values. In the end, the authors conclude, the perception of density does not necessarily relate to any measurable values but is more concerned with the urban form than its individual parameters. As to the effects of urban density, the authors write:

The strong dichotomy between, on the one hand, the positive effects of density on transport and economics and, on the other, the negative effects on ecology, social issues and human health, is striking. It also formulates a challenging task for urban planners and designers to balance these two spheres (the system and the lifeworld), while at the same time acknowledging the need for some kind of densification to handle current urbanization rates. (Spacematrix, p.63)

The architecture office of Sergison Bates has come to similar conclusions regarding density. In the essay The Dilemma of Density (Papers 3, 2016), Stephen Bates writes that density is not something purely numerical, but very much connected to human perception. An urban environment with relatively high population density and built net density can still be perceived as spacious depending on the distance between buildings and their individual geometries. Some proximities are desirable to create a feeling of intimacy and activity on the street, but residents should also be provided with a level of privacy from the public realm.

In the Nordbahnhof project, designed by Sergison Bates, Werner Neuwirth and Ballmoos Krucker in Vienna, three apartment buildings are built as low-rise tower blocks and grouped around a small courtyard. The buildings have a distinctly urban character, but through carefully opening the block in certain directions, apartments are provided with views reaching outside the smaller courtyard.

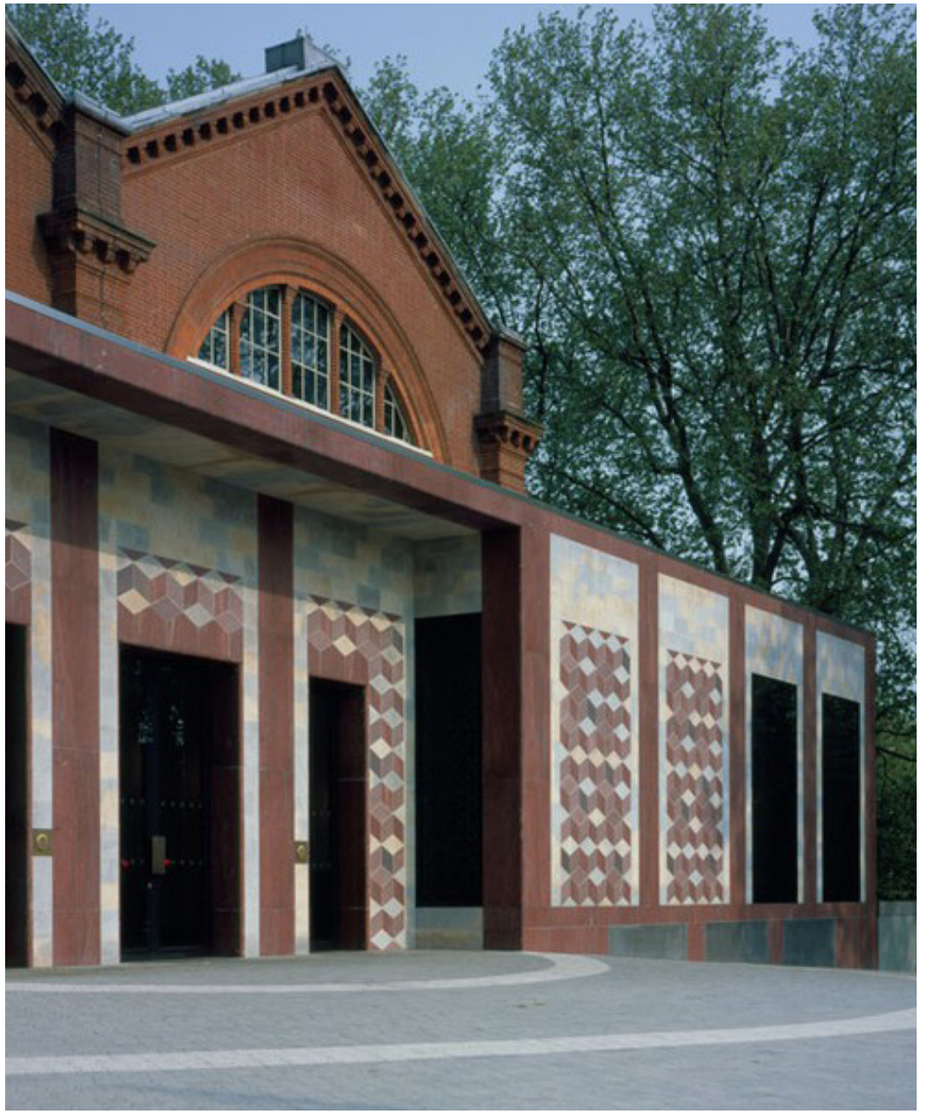
Existing buildings in Västra Frölunda have an industrial aesthetic with primary materials such as brick, metal, and glass. Decorative motifs are minimalistic and purely functional, such as ventilation fans, chimneys, and rain gutters. In recent years, there has been a growing critique of the modernistic building tradition and of contemporary architecture practice. The interest group Arkitektupproret, which can be seen as an embodiment of this frustration, calls for a more traditional style of architecture. There are also influential architects who have voiced resentment towards the norm of architecture today. In the essay Traditions from 2004, Adam Caruso writes that contemporary architects seem more interested in technological novelties and in generating original shapes than in the intimate artistic ambitions of traditional architecture.

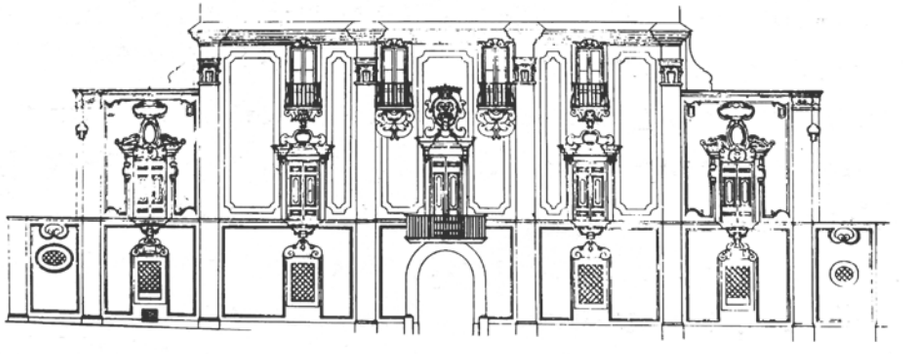
The perceived qualities of a building or a city are not something that can be easily measured and will naturally differ between different individuals. But if classical architecture does contain some level of higher aesthetic ambition, the question emerges as to how a classical language of architecture can be implemented today.

Design interventions in the historical city can easily blend into their surroundings by maintaining a classical style, but in the context of Frölunda, the situation is more difficult. In my view, a district needs a certain coherency, and buildings of a similar style, to feel harmonious. Is there a way for the aesthetic principles of classical architecture to coexist with the modernist style of building represented by Frölunda?

Figure 4 (p.12): Müller, Stefan (photographer). *Nordbahnhof housing and studios*, Vienna, Austria (2013). Sergison Bates Architects.

Figure 5 (p.13): Binet, Hèléne & Grandorge, David (photographers). *V&A Museum of Childhood*, London, UK (2007). Caruso St. John Architects.





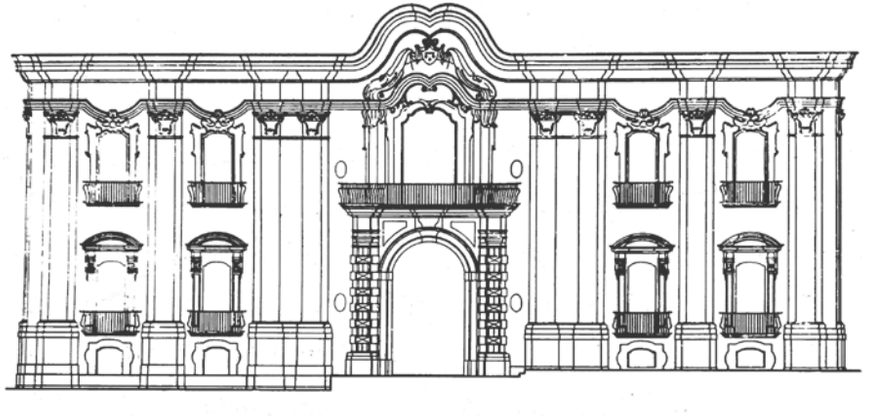


Figure 6 (top): *Villa Pallomba*, Napoli, Italy (1742). Marquis del Gallo.

Figure 7 (bottom): *Villa Pignatelli* di Montecalvo, Napoli, Italy (1747). Fernando Sanfelice.

Drawings retrieved from Venturi, Robert (1966). *Complexity and Contradiction in Architecture*. Museum of Modern Art.

In Complexity and Contradiction in Architecture from 1966, Robert Venturi writes that contradictions in building form can be a source of inspiration and contribute to a more interesting result. By balancing different complexities into a design, the building is given a level of ambiguity and tension which according to Venturi is necessary for all artistic experiences. Venturi exemplifies the argument by comparing the architectural forms of two palaces from Renaissance Milan.

In the facade of Villa Palomba, the windows are placed according to interior needs rather than harmonizing with the exterior wall panels and bay systems. The order of the windows is juxtaposed against the order of the facade panels, resulting in a perceived rupture where the orders meet. In the facade of Villa Pignatelli, like Villa Palomba, windows are placed according to interior needs rather than exterior expression. But rather than having the elements clash against each other, they are carefully adapted into a less pure but more harmonious and coherent assembly.

The concepts of contradiction juxtaposed, and contradiction adapted can be observed in many buildings and urban projects which have gained public favour. The urban development in Övre Johanneberg from the 1930s displays attributes both from traditional town planning and the garden movement. This contradiction between urban forms has resulted in a type of hybrid district. The area has a relatively high built net density with linear blocks defining the street, but through the spacing between the buildings as well as the park landscape towards the backside of each block, apartments have much contact with light and nature.

The Hansaviertel in Berlin, designed in the 1950s, explores contradictions in building typology. The building is composed of two interconnected tower blocks merging into a U-shaped apartment building with varying building depths. The front side of the building has a flat continuous facade fit to face a street in the urban centre. The back side of the building is uneven, with two protruding towers adding additional density to the block and providing more varied apartment plans and views towards the outside.

Focusing more on contradictions in architectural style, the works of Gunnar Asplund are of special interest. His proposal for the city library in Stockholm, built in 1928, displays attributes of both classical and national romantic styles. In Gunnar Asplund: A great modern architect from 1955, Eric de Maré writes that Asplund had prepared an almost orthodox classicist proposal, with a dome reminiscent of the Villa Rotunda by Andrea Palladio. But as the work progressed the proposal deformed to display attributes more unconventional, almost Egyptian. The detailing is eclectic, yet with a restraint and rationality fitting of the modern era.

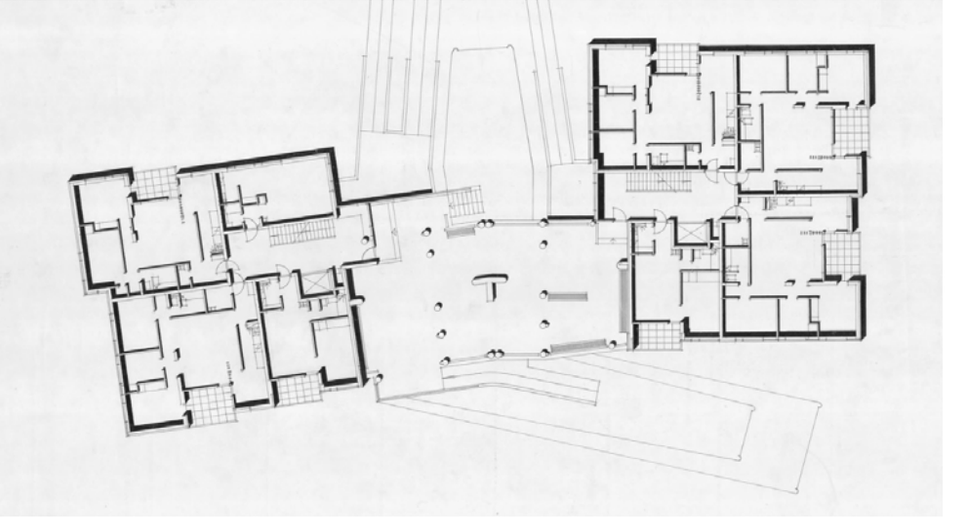


Figure 8 (top left): Bladh, Oskar (photographer) / Arkdes. *City plan for Övre Johanneberg*, Göteborg, Sweden (1937). Uno Åhren.

Figure 9 (top right): Reisz, André & Reisz, Irene (photographers) / Arkdes. *City Library*, Stockholm, Sweden (1928). Asplund, Gunnar.

Figure 10 (bottom): Author unknown / Flickr. *Hansaviertel*, Berlin, Germany (1957). Aalto, Alvar.

Over the last few pages, several thematic areas have been addressed. I discuss the modern heritage in Frölunda and the plans for its future development, but also the issues regarding urban density and building style. Finally, I propose hybridity to merge modern and classical, dense, and spacious into a coherent design. The design work can be divided into two phases.

During the initial phase, I explore the character of the historical city in relation to the modern city. To make the exploration more concrete, one apartment building is chosen to represent each area. The exploration is based on the concepts of contradiction juxtaposed and contradiction adapted as a design tool. The apartment buildings are carefully documented through photography and architectural drawings and then combined into several collage buildings with characteristic features from both references. The collages are carried out through a series of design explorations in plan, façade, element, and detail. Although the explorations are carried out in parallel, they should be considered individual exercises that do not necessarily combine into a coherent final design. By producing sketches not connected to a specific site, but looking more widely at its characteristics, aspirations are to produce more creative designs.

During the design phase of the project, a more pragmatic stance is taken on the design. The specific site is analysed with its borders to the surrounding terrain, communication, and buildings. Important aspects such as daylight access, fire regulation, noise pollution, and economic viability are considered. Based on the design input from the early phase, a proposal for the district is made. A portion of the district is designed in higher detail and should be seen as a model for the overall development.

Due to the limited scope of the thesis and the size of the intended design, the work is purely design-based, with knowledge being accumulated from the experience of designing, rather than literature overviews or other methodologies.

The primary objective of the project is to investigate architectural form rather than architectural program. Instead of aiming to radically disrupt existing societal norms, the project seeks to understand how architecture can effectively support current ways of living.

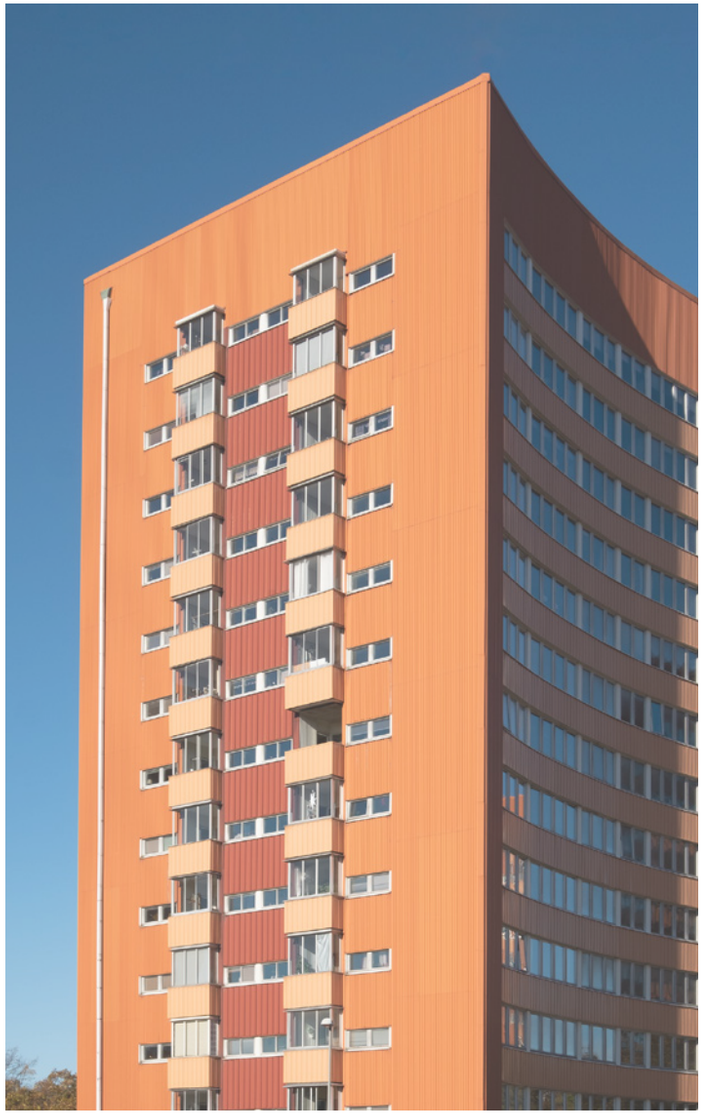
To represent a classical style of architecture, an apartment building in the historical city centre is analysed. The building can be perceived as a pure example of a New Renaissance style architecture in Gothenburg.

Today most of the building has been converted into retail and offices, with necessary changes to the interior spaces and ground floor facades. This individual block was chosen because it has a consistent style and typology and contains many interesting spatial, and aesthetic ideas.

Representing the architecture of Frölunda, an apartment building close to the project site is analysed. The high-rise towers on Mandolingatan are chosen because of their visual impact on the surrounding area and because I enjoy the playfulness and monumentality of the facades. The architecture has a clear connection to the modernist ideals of its time.

Figure 11 (p.17 left): Kungsportsavenyen 20-22, Göteborg, Sweden, (1883). Peterson, Adrian.

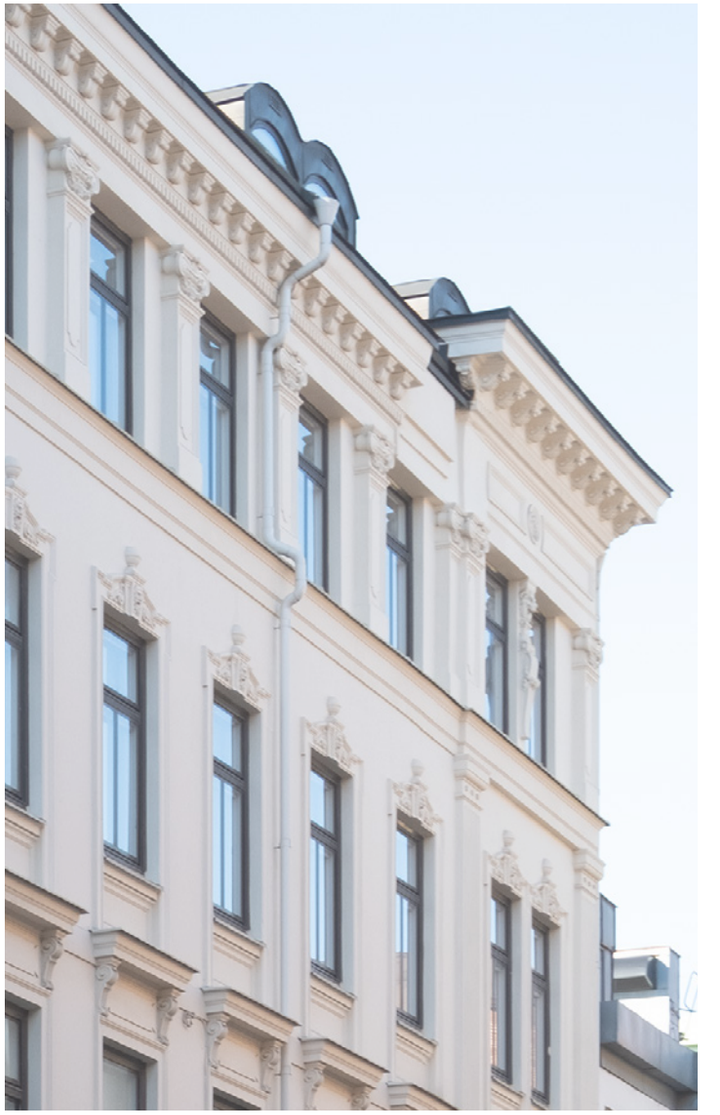
Figure 12 (p.17 right): Mandolingatan 11, Göteborg, Sweden (1962). Ågren, Lars.



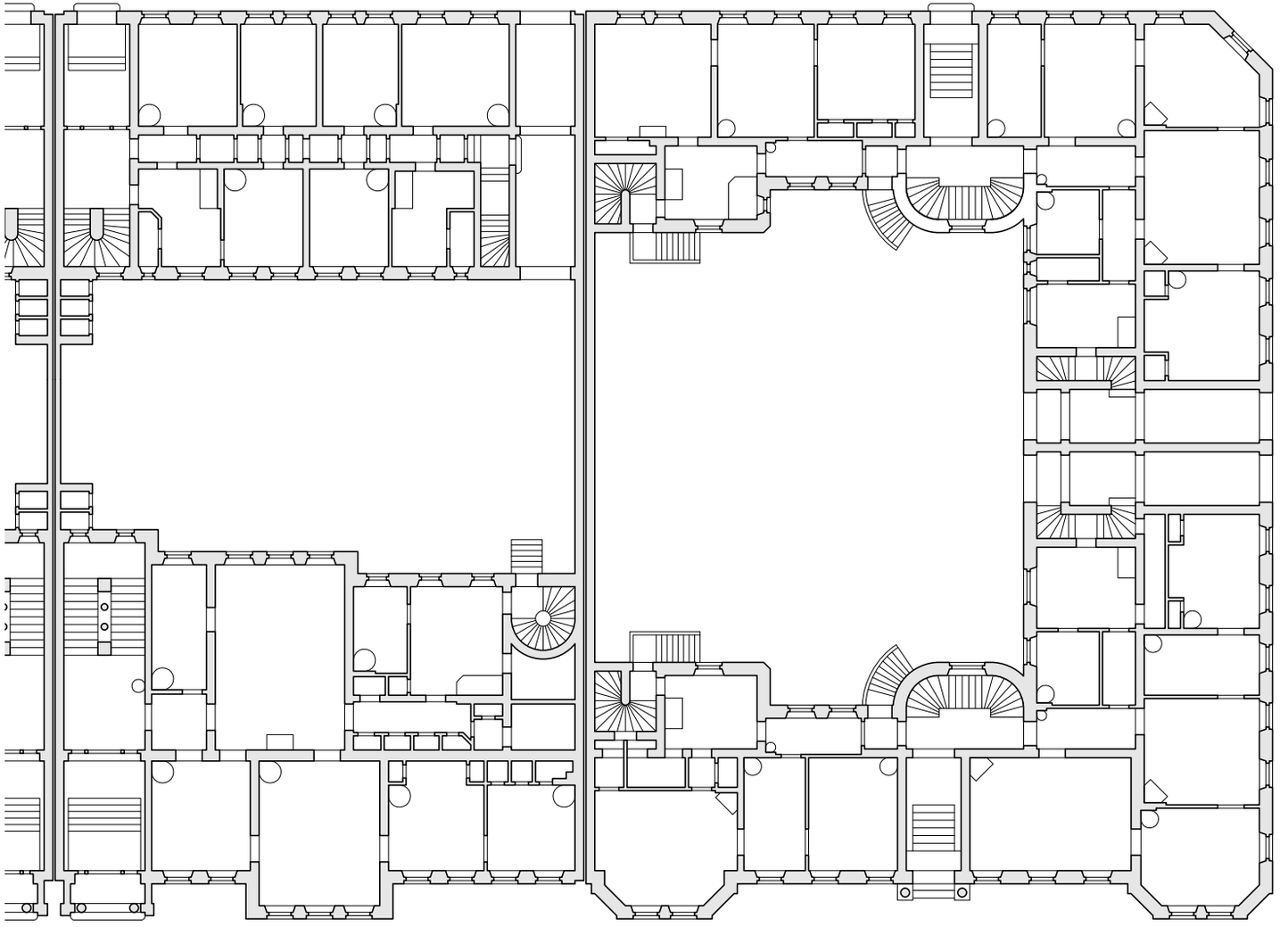
Playfully coloured, meticulous repetition, horizontal windows, highlighted technical services, informal use of ground floor border zones.

Inconspicuous entry, industrial doors and lamps, copper statues along the garden path.

Sculptural facade of varying depth, articulated entablature, vertical wooden windows between rhythms of pilasters.



Distinct, representative entrance, backside with less variation and ornament.



Kungsportsavenyen 20-22 (1883). Peterson, Adrian. Drawing 1:300

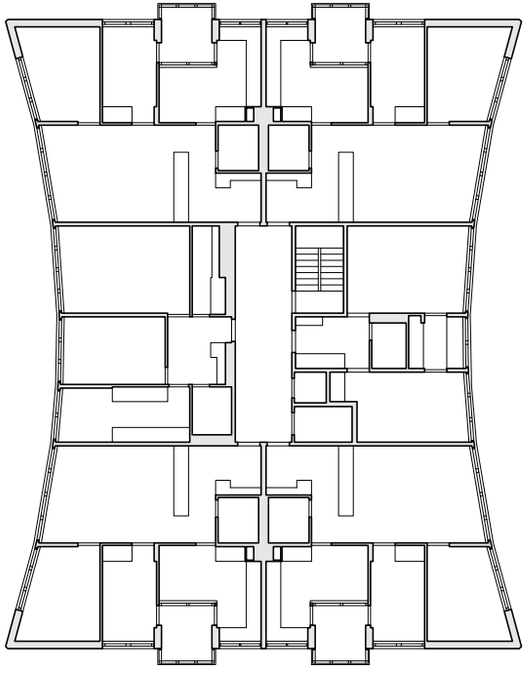
Perimeter-type apartment block with narrow oblong yard and streets enclosed by buildings, lesser plan depth towards difficult corner situations, a combination of small and very large rooms, generous stairwells with ample daylight.

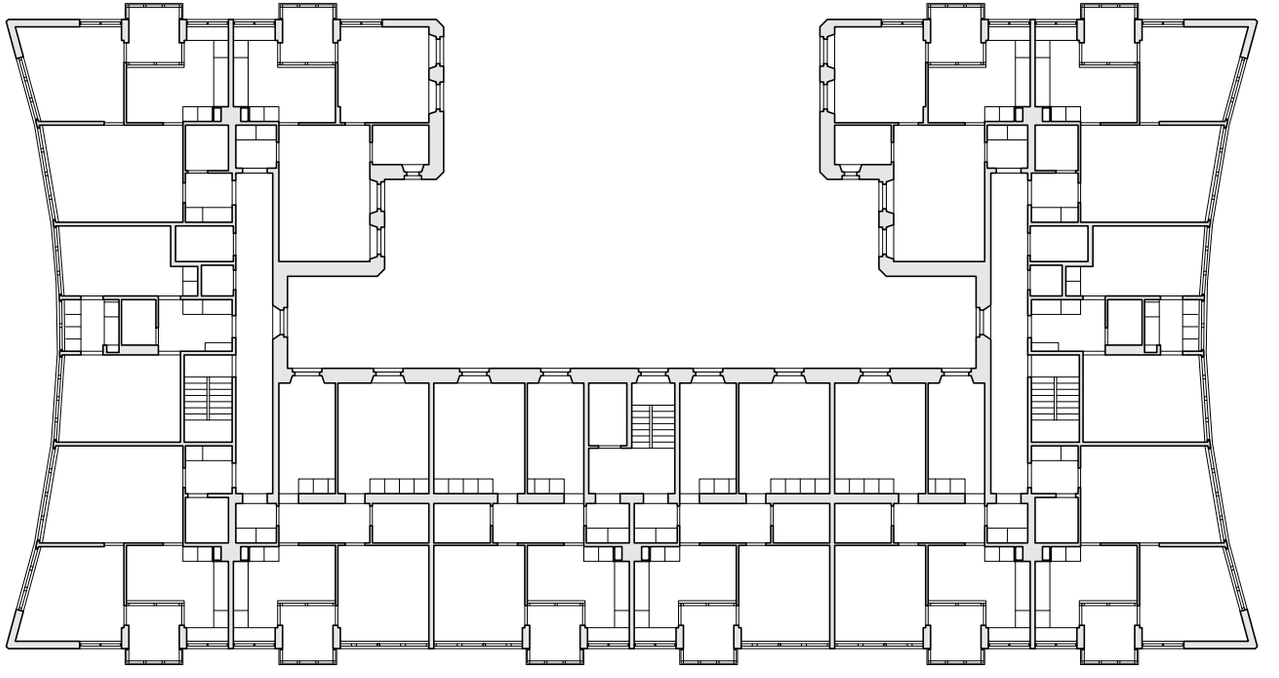
Mandolingatan 11 (1962). Ågren, Lars. Drawing 1:300

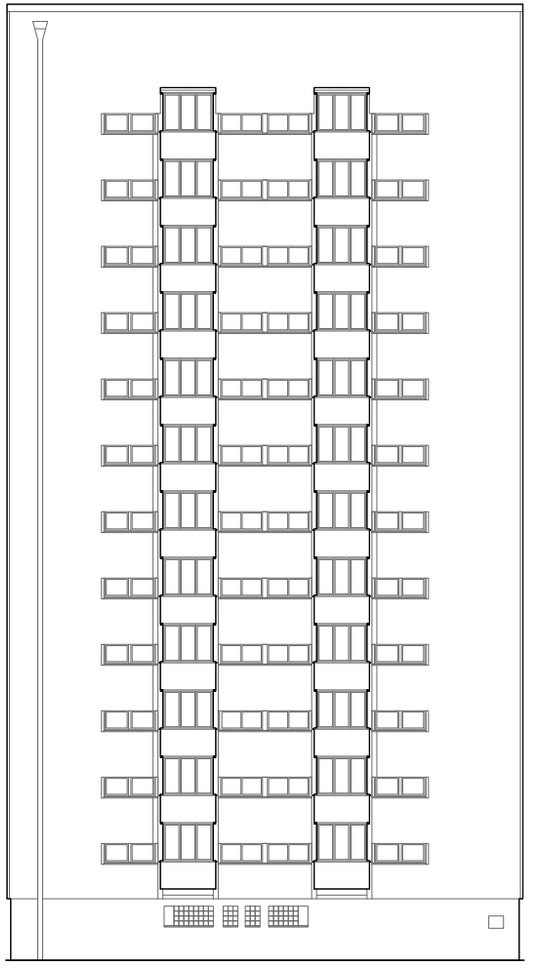
Tower-type apartment block situated in a park landscape, sharply accentuated corners, curved facade with an unhindered view towards the exterior landscape, social kitchen area connected to facade and loggia, dark but efficient central stairwell.

Hybrid plan variation

Towards the front: symmetrical facade with large social rooms and only occasional variations in facade depth. Towards the back: less orderly facade with a courtyard only partially enclosed to provide more sunlight and longer views in the apartments.

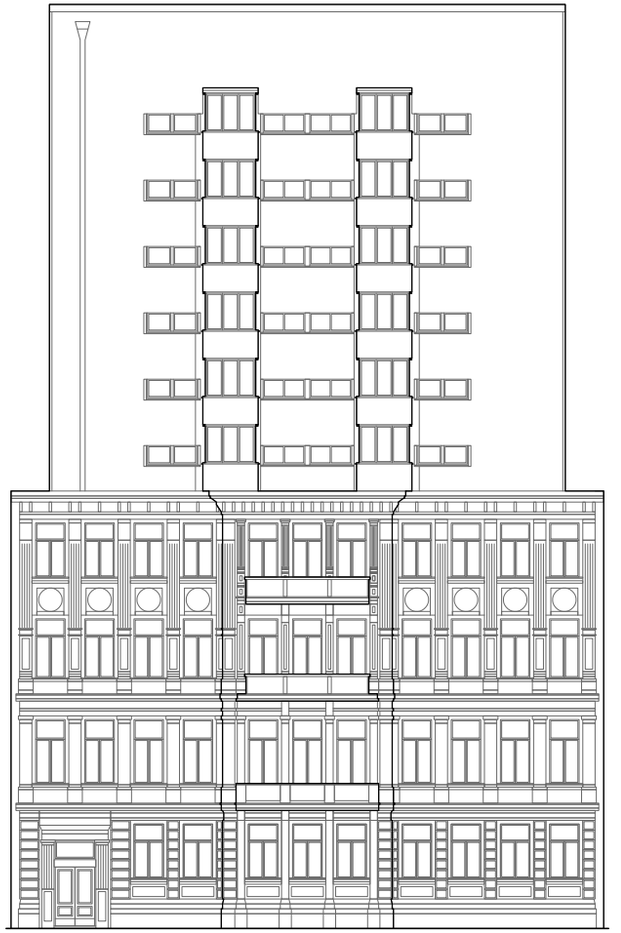




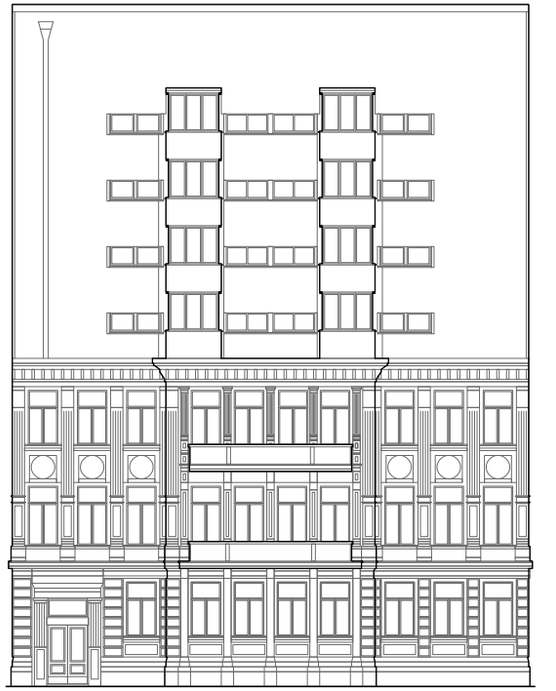


Mandolingatan 11 (1962).
Ågren, Lars. Drawing 1:300

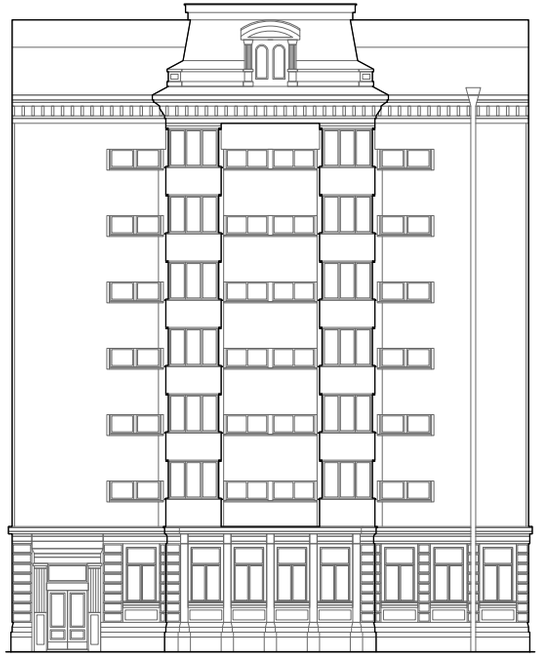
Kungsportsavenyen 20-22 (1883).
Peterson, Adrian. Drawing 1:300

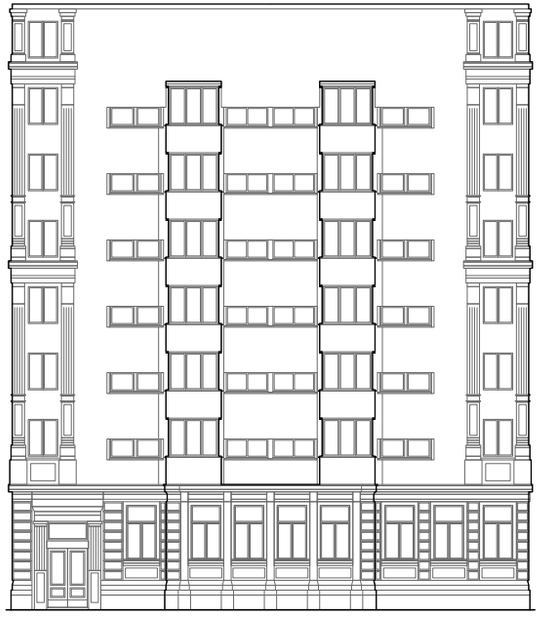


Step 1: Reference facades are overlayed.

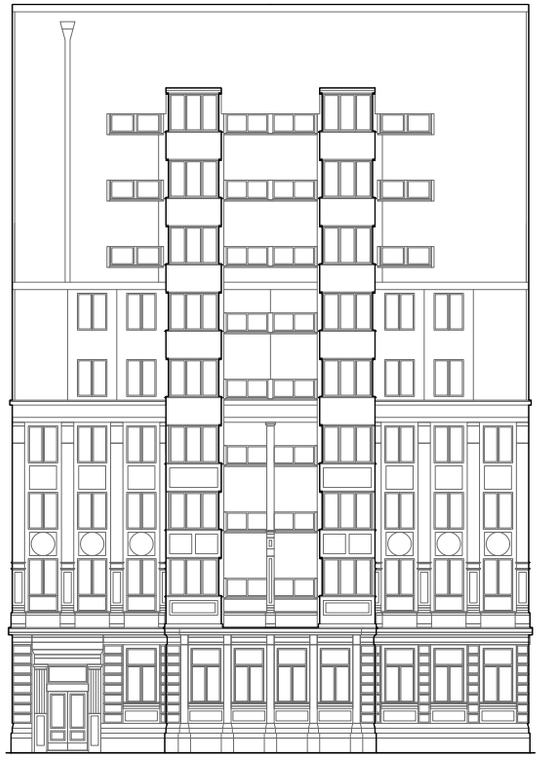


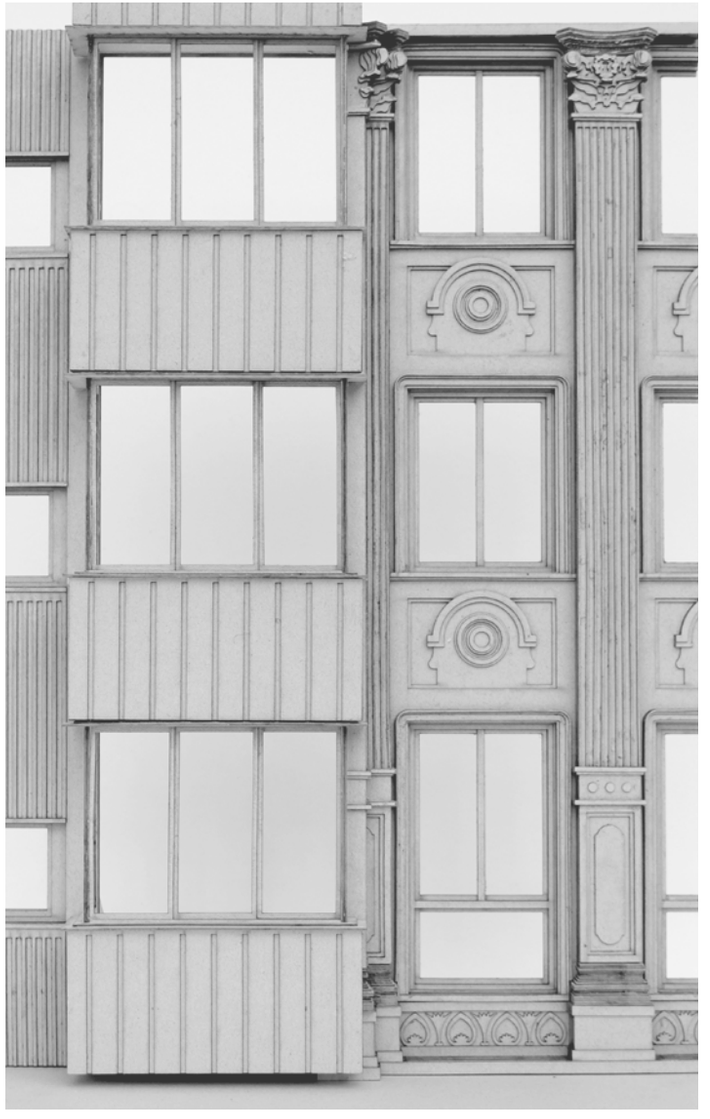
Step 2: A middle volume is chosen. Small adjustments ensure a smoother transition.

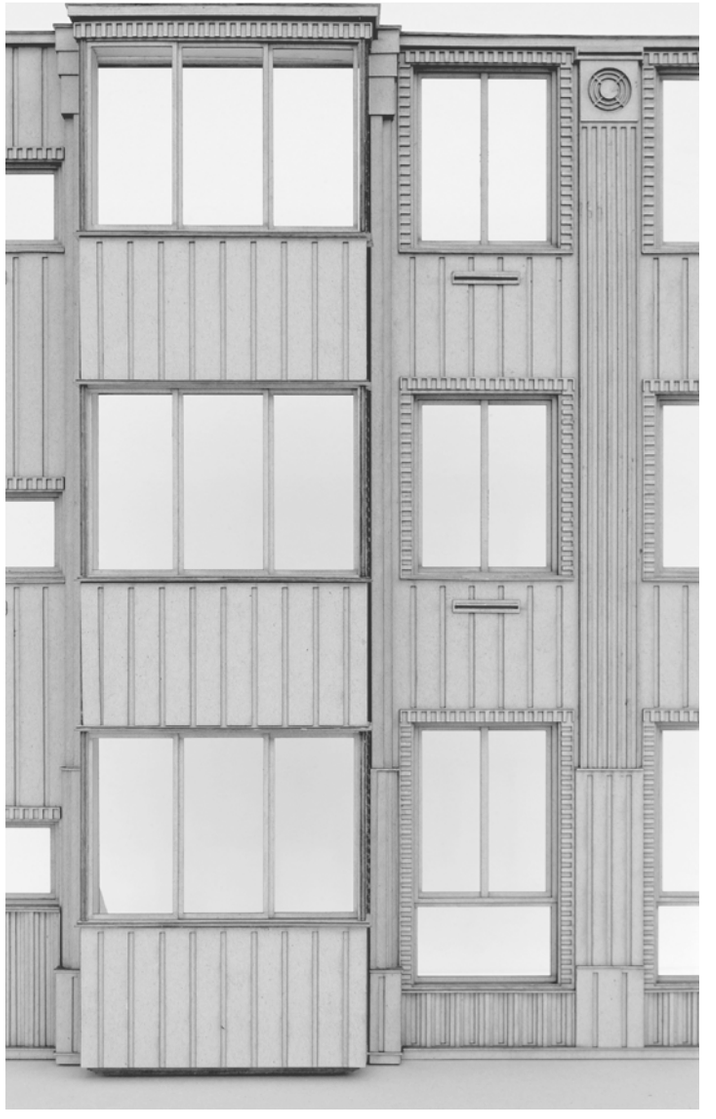




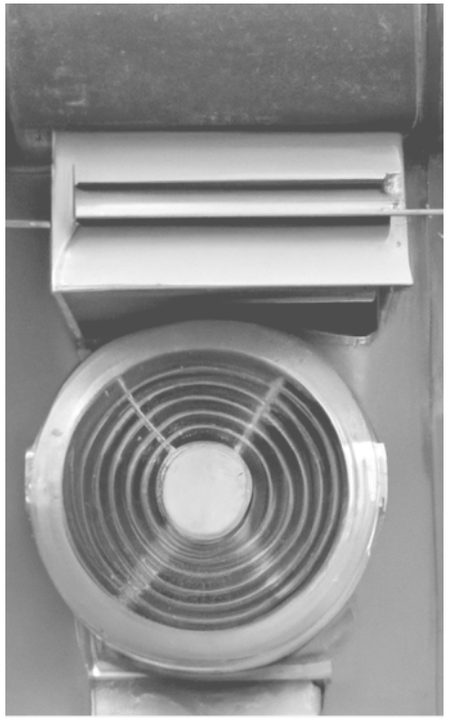
Step 3: Portions of each facade are collaged together in different variations.







A portion from one of the facade explorations is developed in detail using cardboard models in 1:20. In the left picture, the original facades are uncompromising in their style, resulting in a rupture where their respective orders meet. In the right picture, adjustments have been made in their detailing to make the assembly feel more coherent and harmonious.



Images generated by author using DALL-E

In the detail scale exploration, photos from the reference buildings are described with words, which are then combined into collage sentences. For example: corrugated metal, and classical pilaster, juxtaposed. By feeding the sentences into an open AI system, images are produced in which the AI interprets the collage sentences into physical form.


OTIS
the old
house INN

Currently used as ground parking, the site spans approximately 320 x 43 meters and covers a total of 17,000 square meters. As part of the strategic program for the district, there are plans to develop the site into housing in the years 2024-2026. Notably, several developments have already taken place in the surrounding area. The site is well suited for an exploration into modern and contemporary ideals, because of its location between the iconic high-rises of the 1960s and an important pathway in the envisioned Frölunda City.

1. Project site
2. Residential towers from 1962, can be considered cultural heritage in Västra Frölunda
3. Housing development 2021, parking garage towards the north
4. Tratten, district heating plant no longer functional, possible development into a public function
5. Housing development, 2012
6. Marconihallen ice rink
7. Marconigatan, well-trafficked street, recognized in the program as a potential urban main street.
8. Mandolingatan, secondary street supplying local neighbourhood
9. Highspeed public tramway, connecting Västra Frölunda to Gothenburg city.
10. Main pedestrian pathway, connecting forested recreational areas in the east and the west
11. Tramway stops

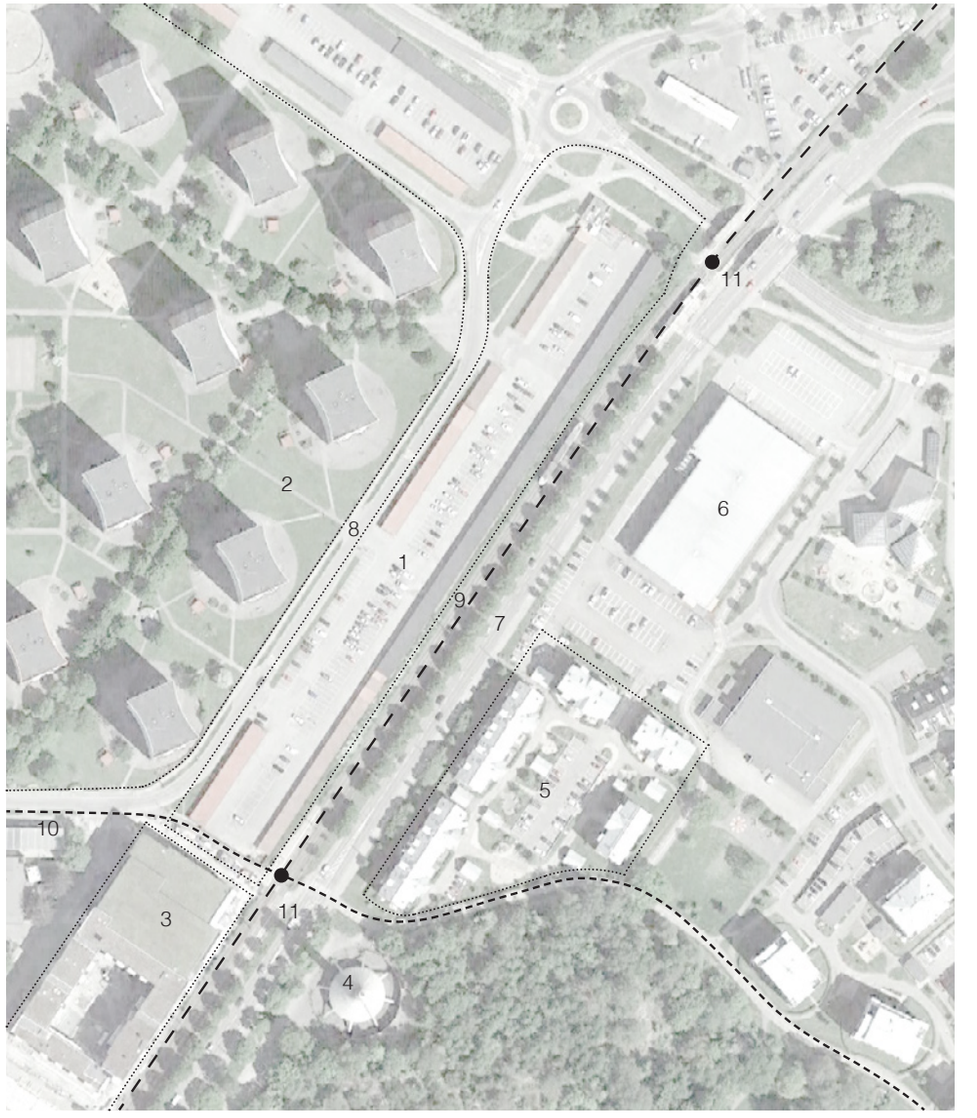
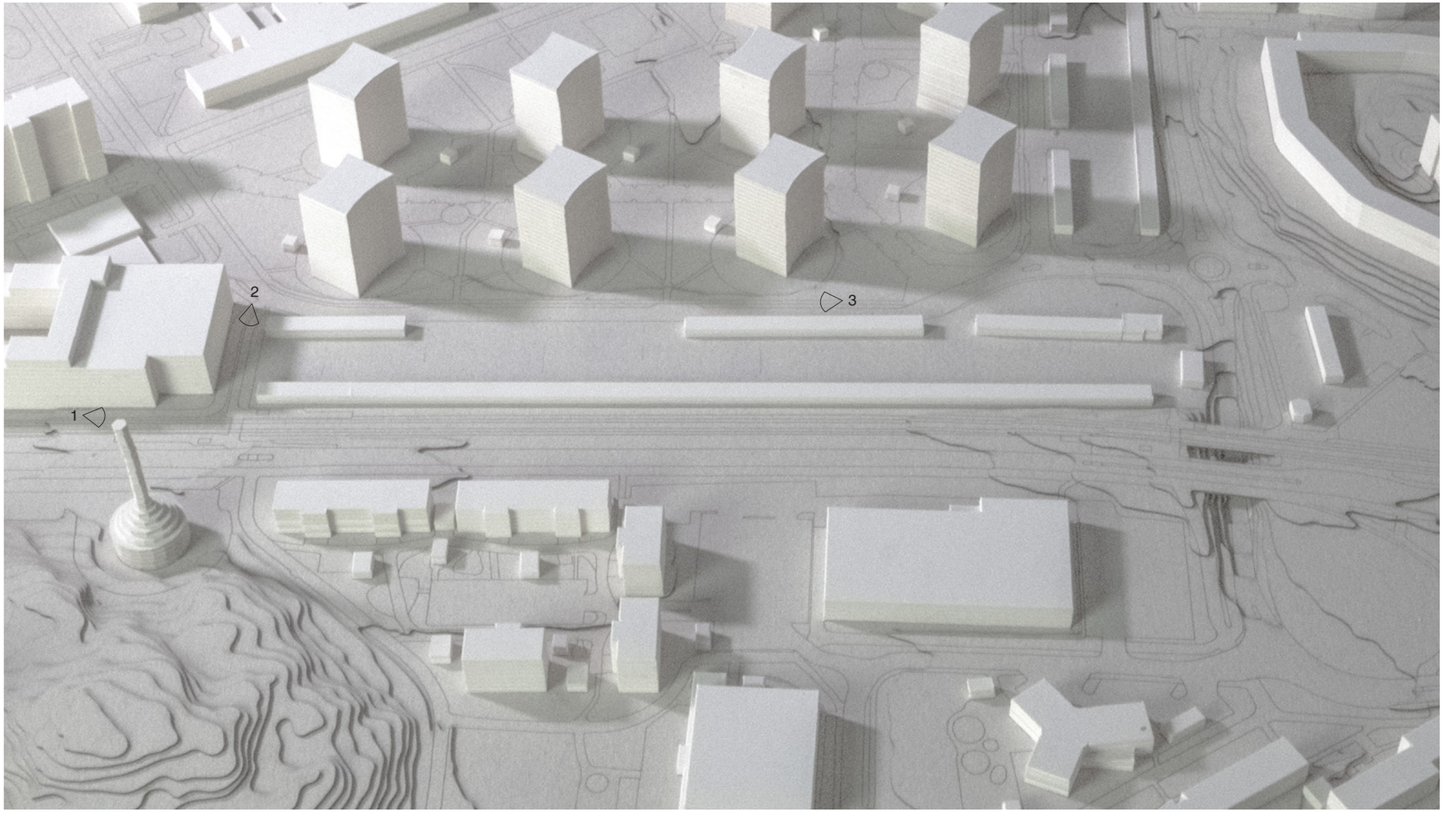


Figure 13: Maps Data: Google Earth.


1
2
3

1. Marconigatan runs along the eastern side of the site, the tram line disconnects the main road from the buildings in the west and becomes a large barrier when moving through the area.

2. A walking and cycling path runs along the southern side of the site connecting east and west. The old district heating plant and the tram line stop show potential for a future meeting place.

3. Mandolingatan runs along the western side of the site. Provided continued development, the path has the potential to become an attractive pedestrian pathway.

↗ N

District plan, 1:3000

The focus for the urban development has been to design a mix of small, intimate rooms and large, monumental rooms, while at the same time providing good living conditions in the resulting interior spaces.

The district proposal includes development into:

3 Perimeter blocks
gross floor area: 3 x 6,450 m^2

2 Tower blocks
gross floor area: 2 x 2,790 m^2

1 Parking garage
gross floor area: 10,500 m^2

The additions add up to a total gross floor area of 35,430 m^2 on the 17,000 m^2 large site.

1.Towards the tram stops, tower blocks are recessed from the street, providing space for vegetation, and allowing ground floor functions to expand into the created pockets.

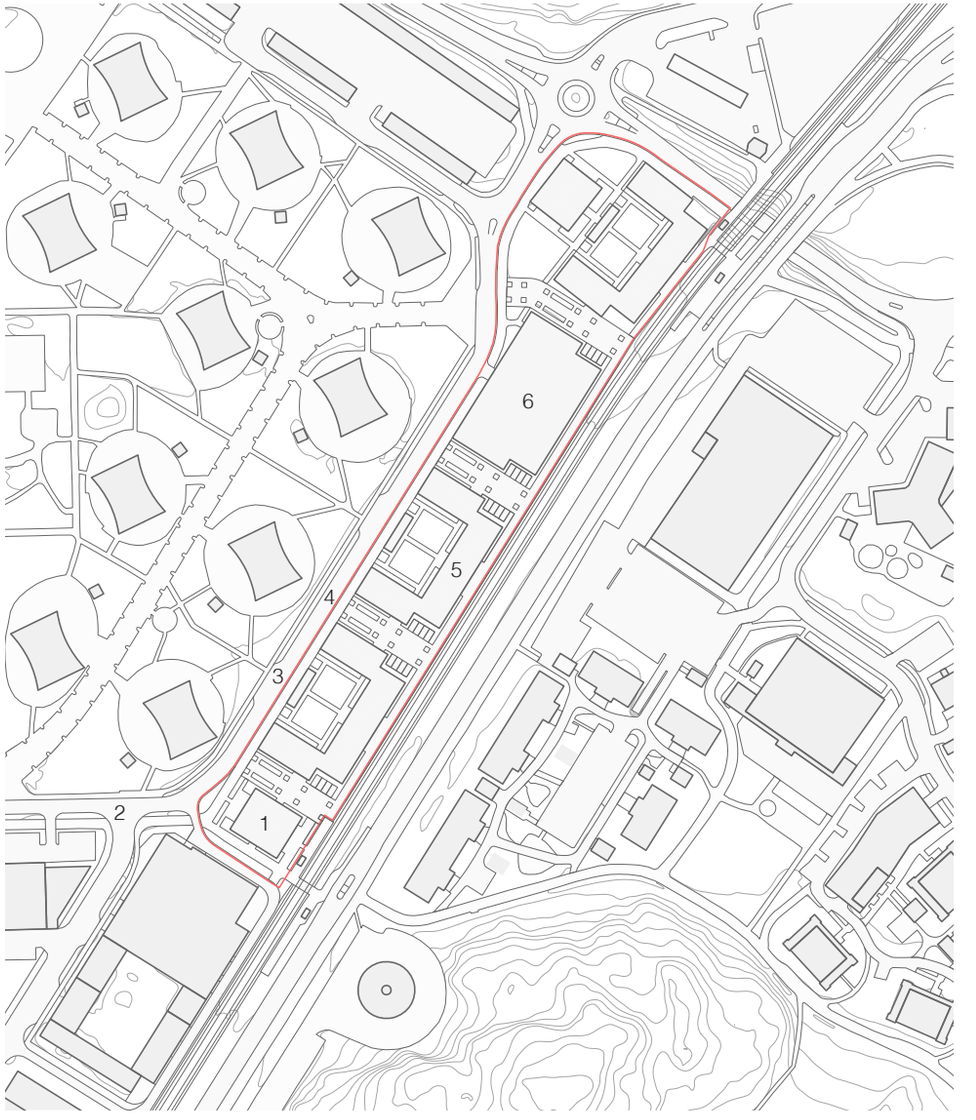
2. The tower blocks become a visual backdrop when moving along Mandolingatan.

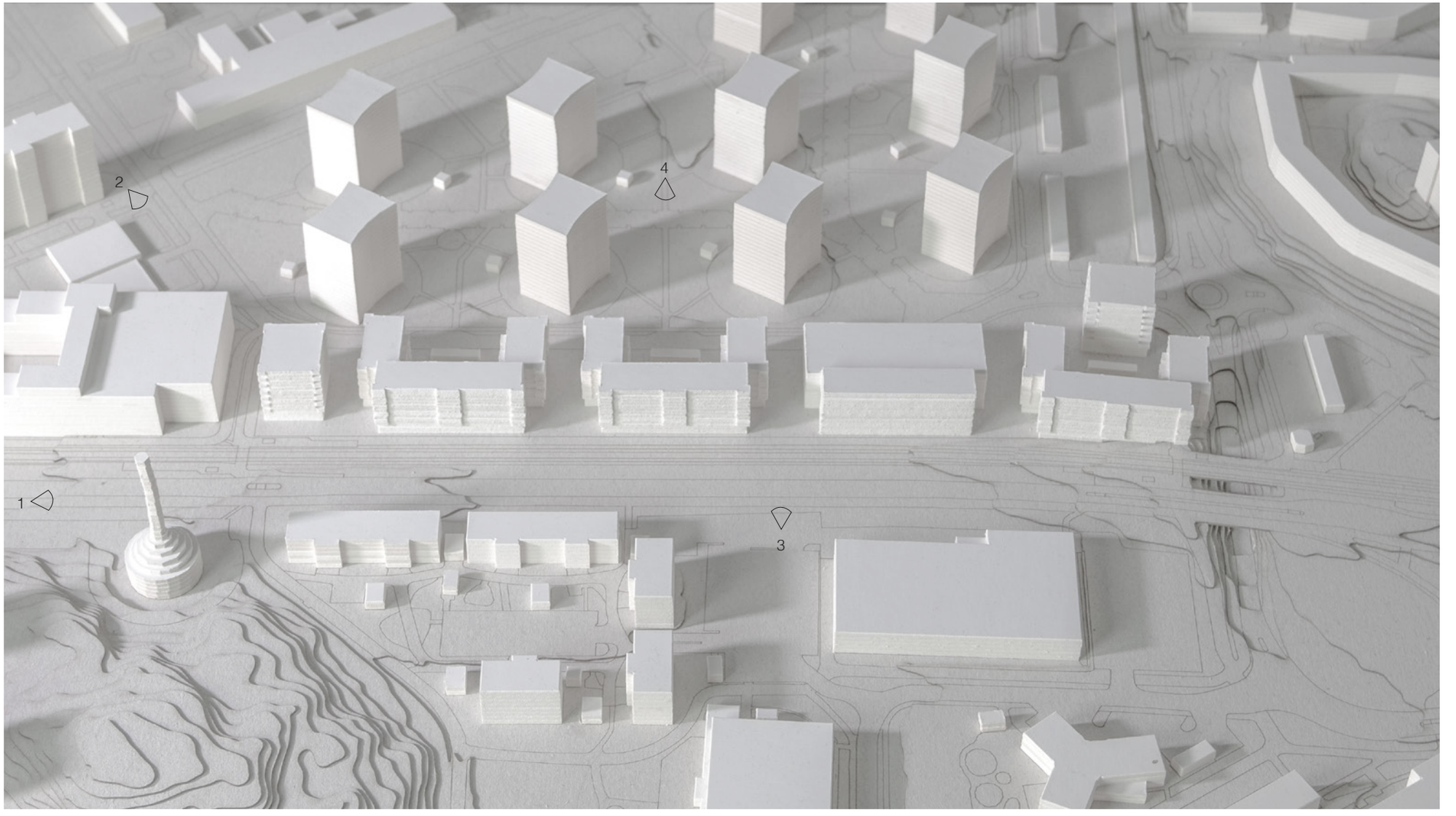
3. New volumes are spaced to extend the existing park landscape into the courtyards of the new development.

4. Aligning new streets to the rhythm of the existing towers establishes a visual connection between Marconigatan and the landmark buildings of the area.

5. A repetition of almost identical perimeter blocks speaks to the monumental character of the neighbourhood and gives the district a feeling of order. Volumes may instead differentiate themselves through variations in material and colour.

6. A parking garage replaces existing ground parking and provides car spaces for new residents. In the future, it could be something else.



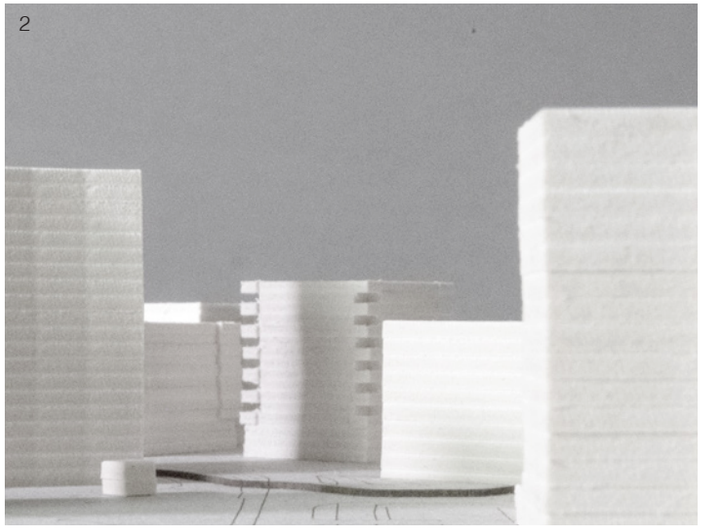

1
2
3
4

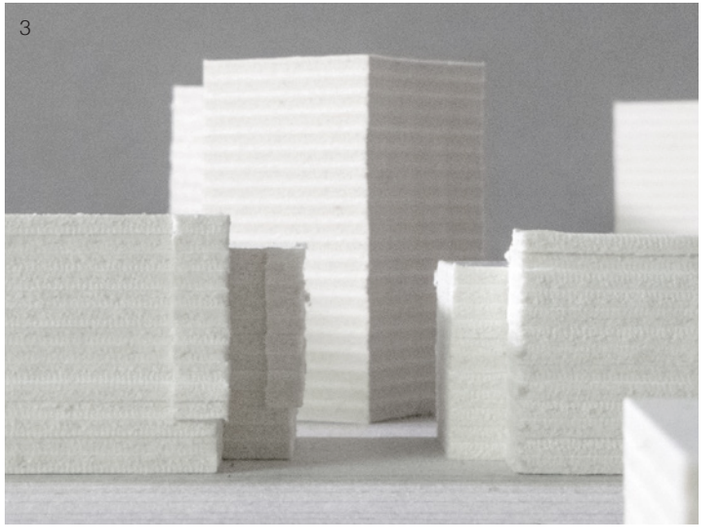
1. Towards Marconigatan, smooth facades of uniform height are directly facing the street.

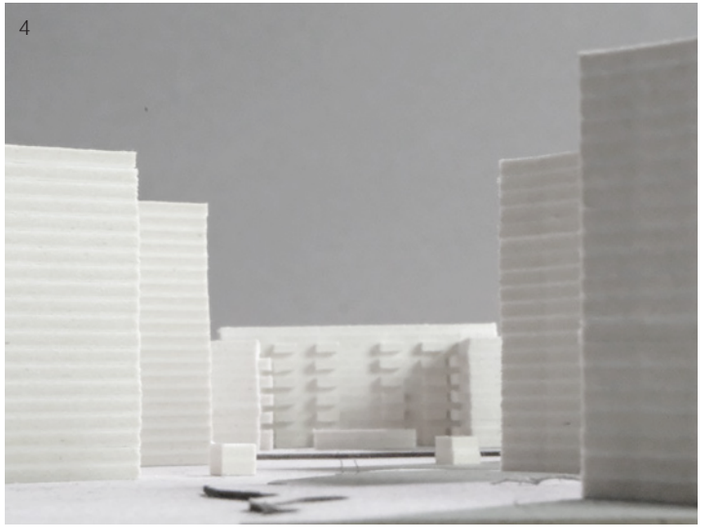
2. Public spaces towards the tram stations are highlighted by the slightly taller tower blocks.

3. New streets are planned as a sequence of rooms, a wider entrance room, followed by a narrow residential street and the open park landscape in the back.

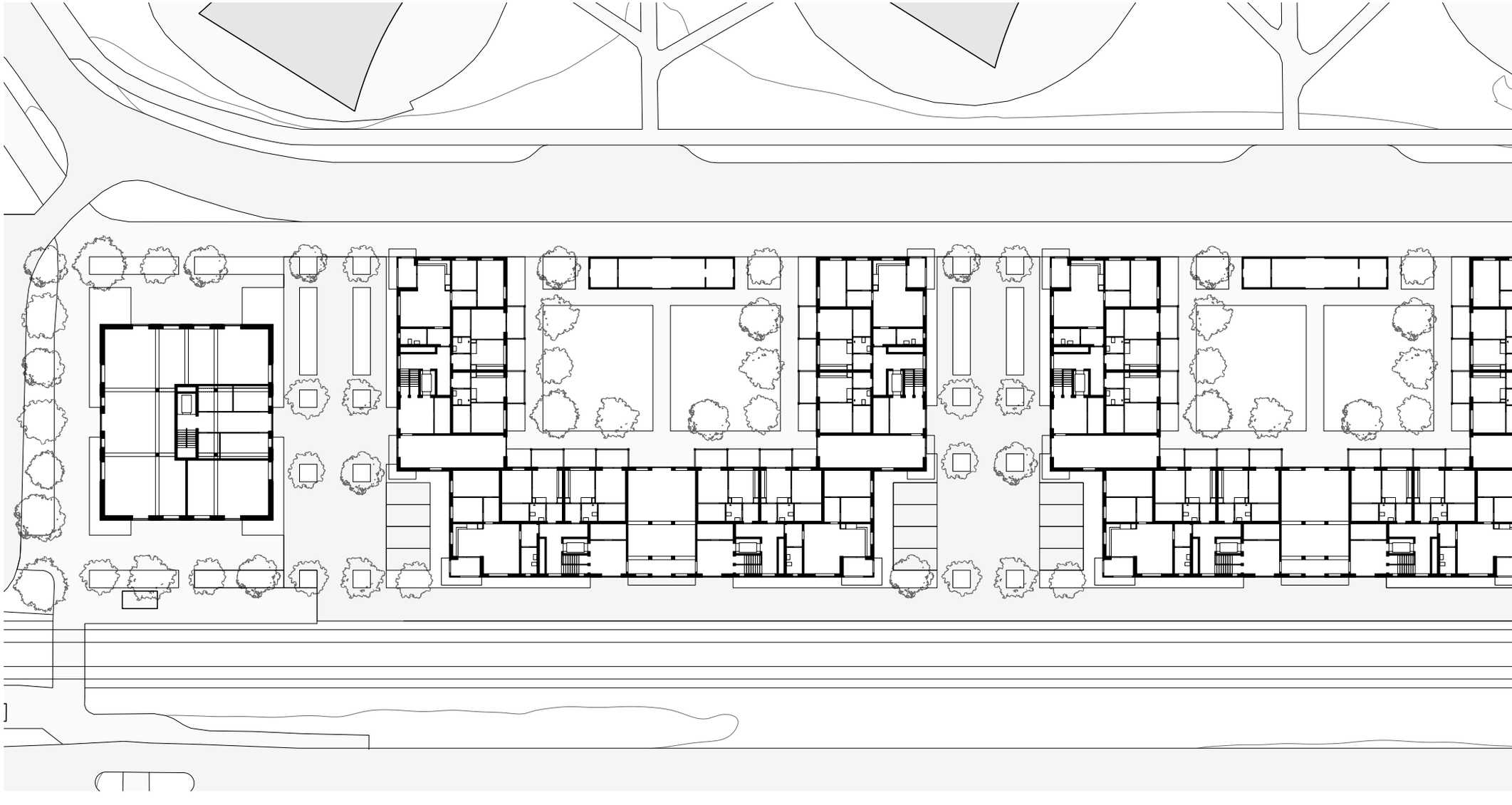
4. Courtyards are open towards the west and aligned with the open spaces between the towers, providing apartments with the far-reaching views which are characteristic of Frölunda.

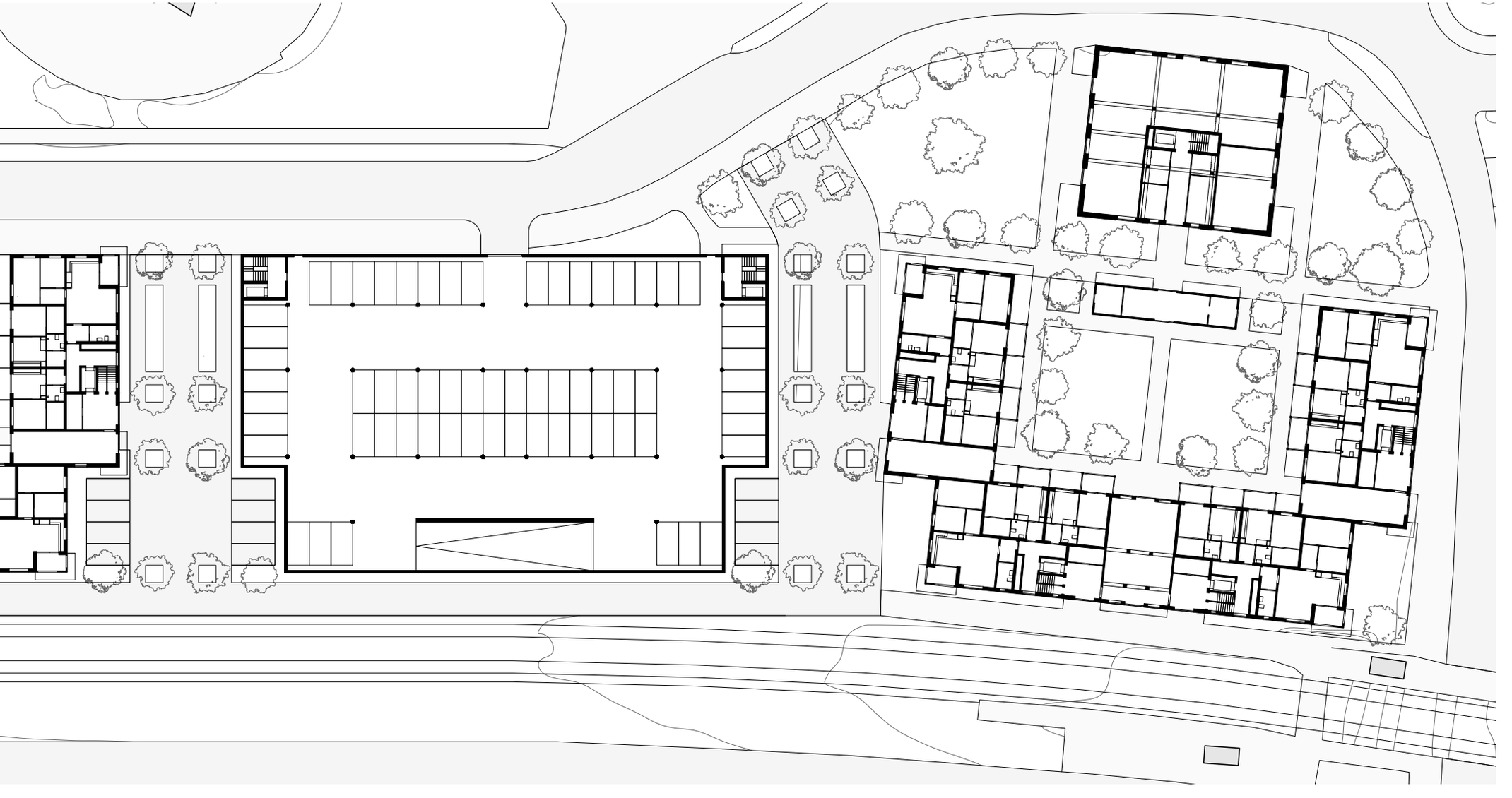






District plan, ground floor, 1:600

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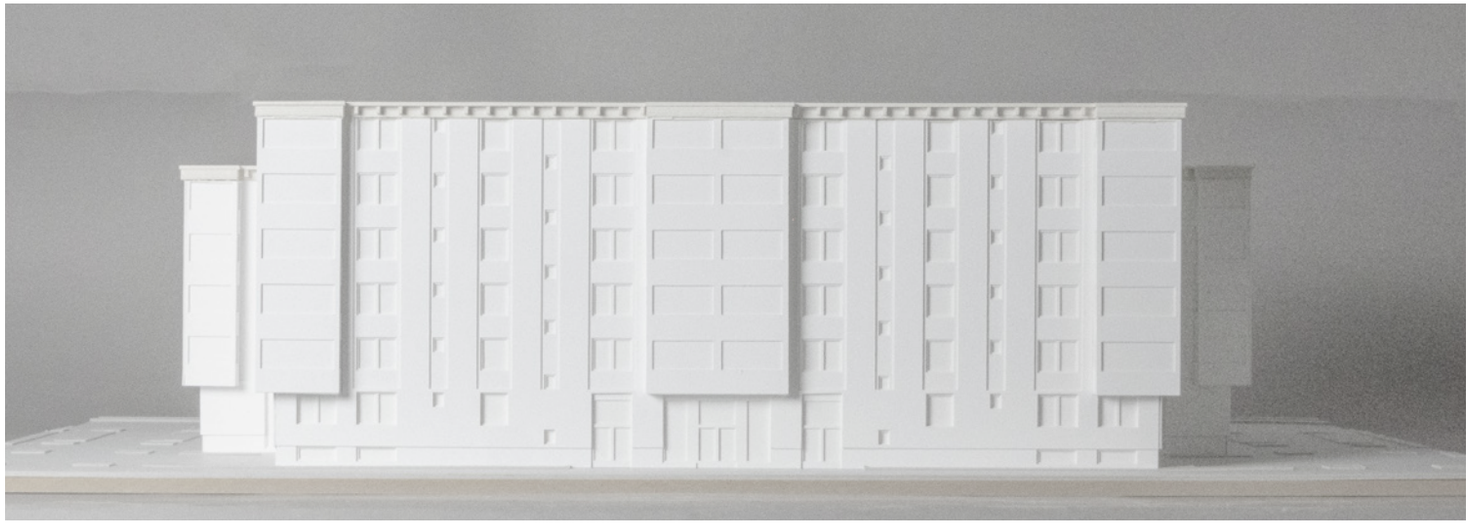


Typical floor, 1:600

A detailed proposal is made for one perimeter block and one tower block, both of which can be seen as models for the district.

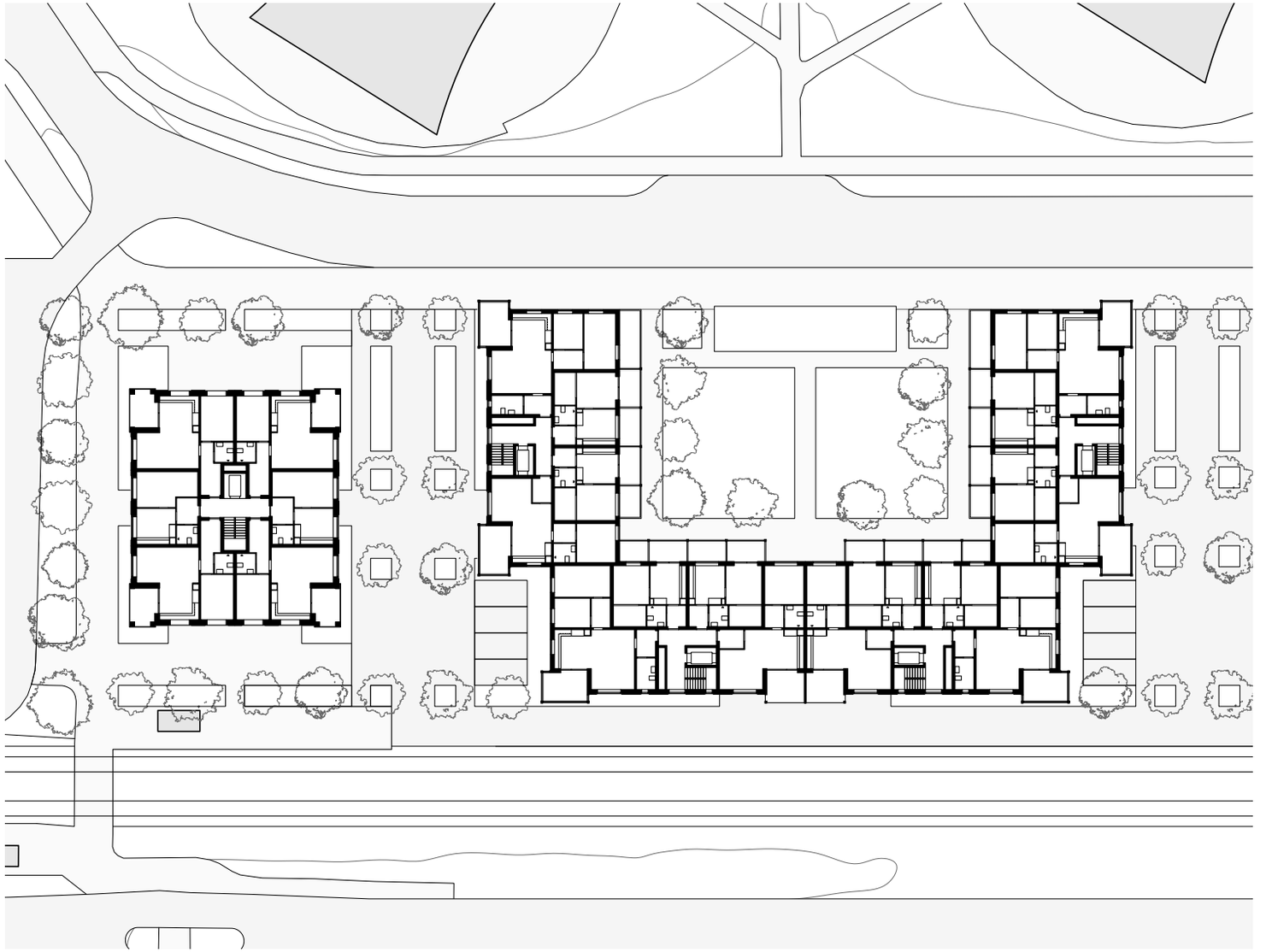
The building development has revolved around several themes:

Supporting the vision for the larger district connected to well-defined streets, squares, and courtyards.

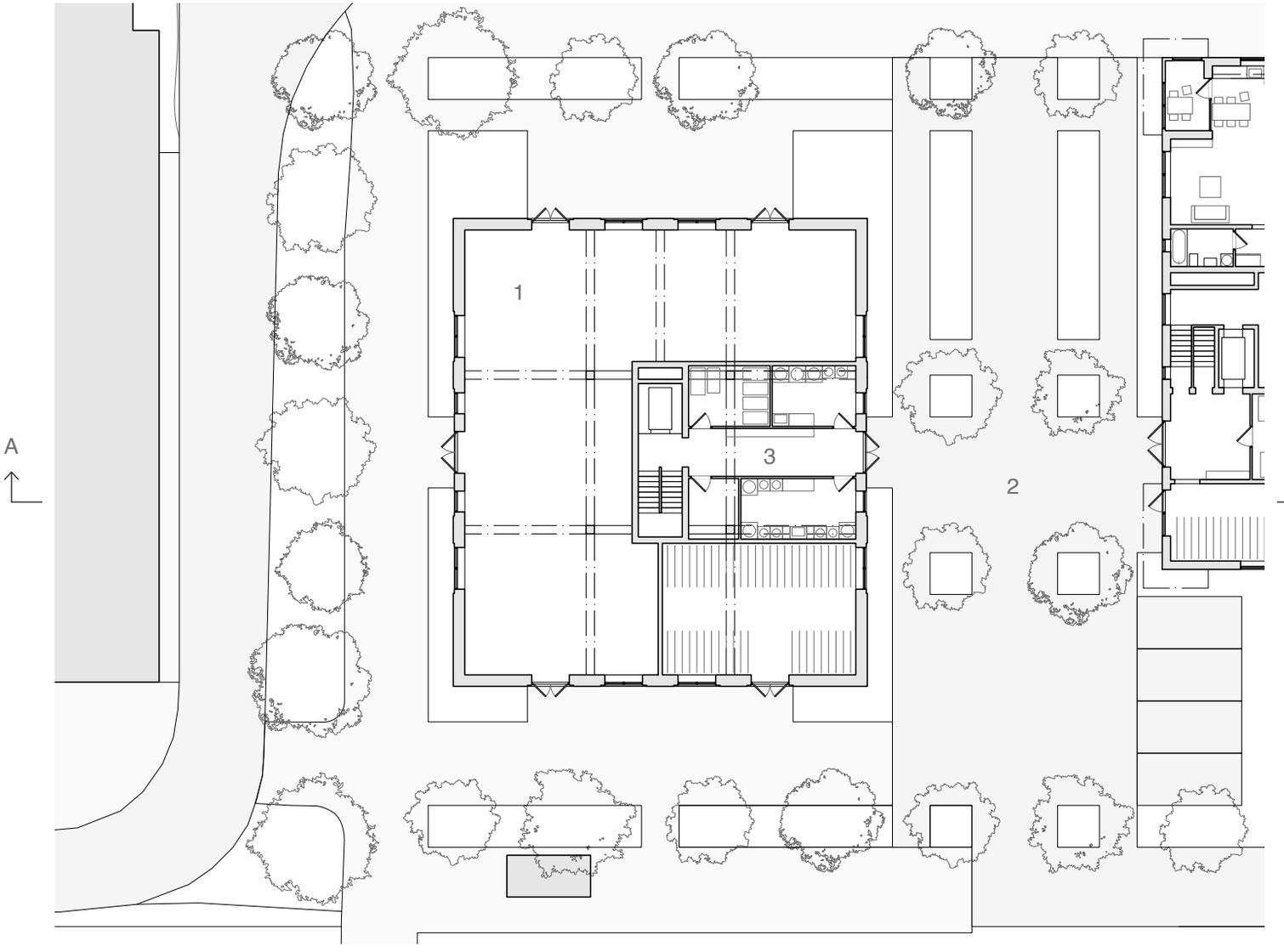
Solving issues connected to the specific site, such as the narrow property depth and the adjacency to the tram.

Finding an efficient arrangement of different apartment types, with a shared collection of interior qualities.

Finding inspiration from classical typology, composition and symbolism as found during the initial phase of the thesis project.



Tower block, ground floor 1:300



Tower block:

1. The ground floor can be arranged according to different functions including public use.

2. The building can be entered from all sides, with the residential entrance located to the north under a small tree canopy.

3. Shared laundry facilities, storage spaces and bike rooms are directly adjacent to the entrance.

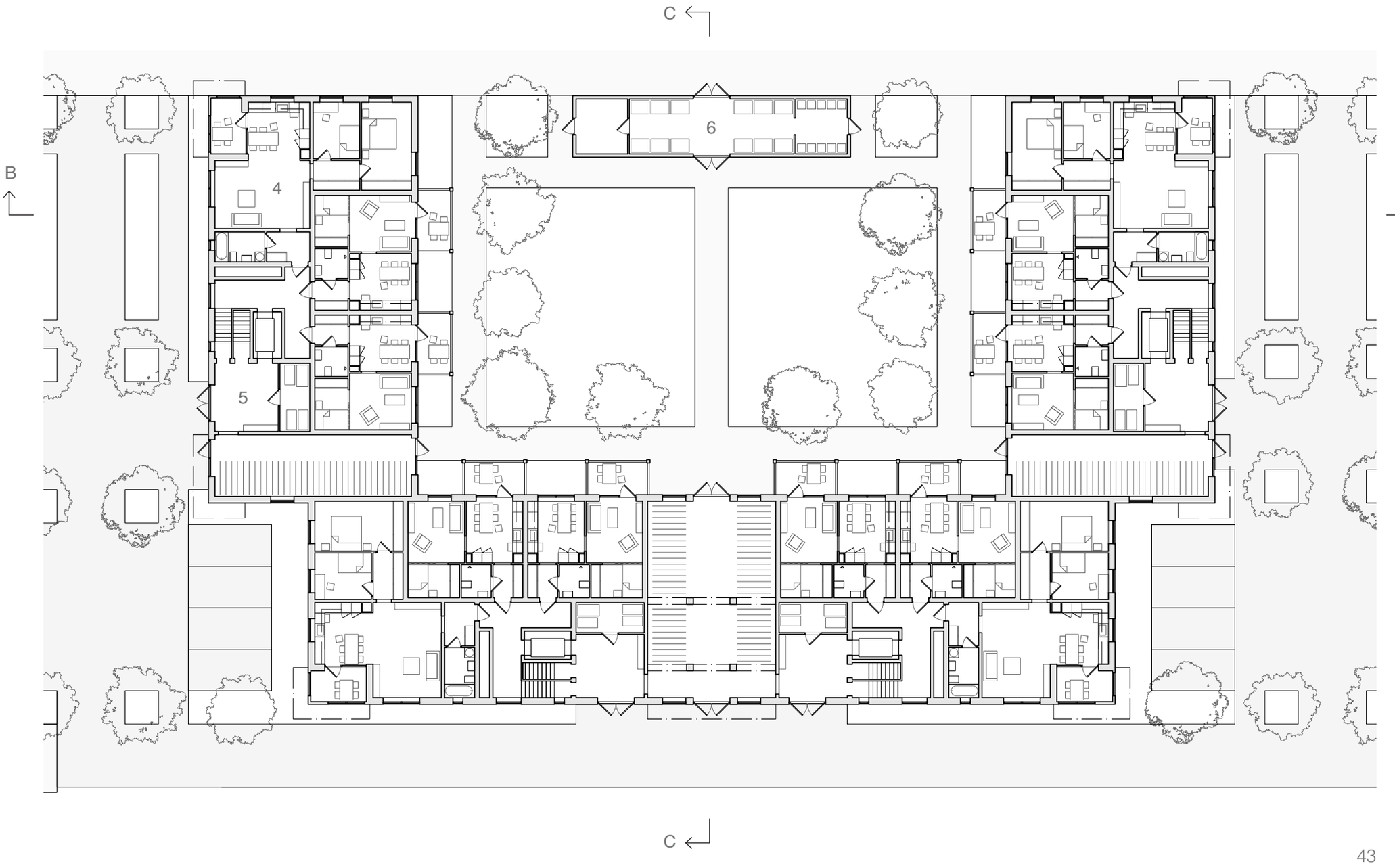
Perimeter block:

4. The ground floor is primarily residential.

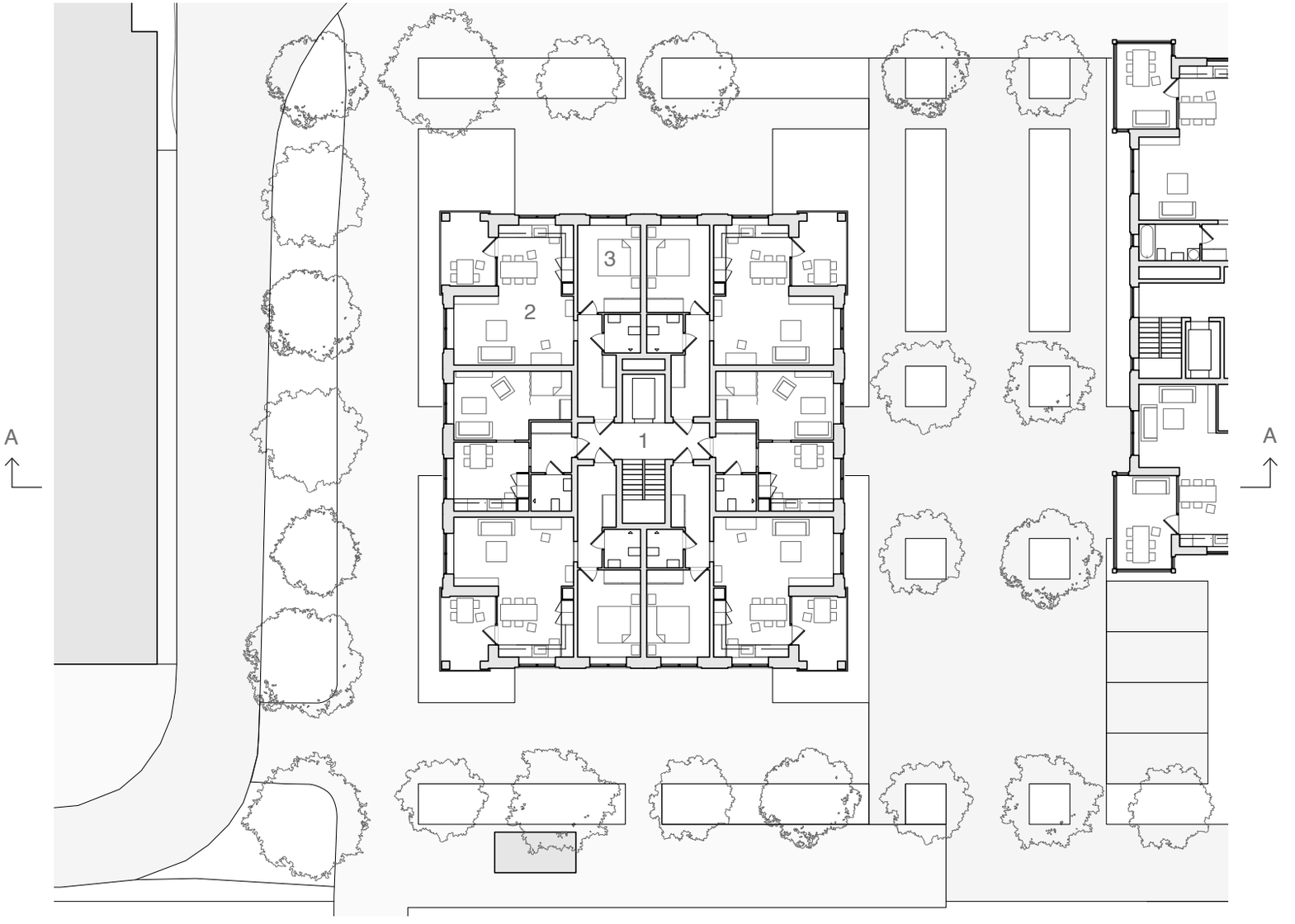
5. Entrances can be reached either from the street or the courtyard. Each entrance has a generous foyer space with connected bike and storage facilities.

6. The waste recycling station spatially defines street from courtyard.

Perimeter block, ground floor, 1:300



Tower block, typical floor 1:300

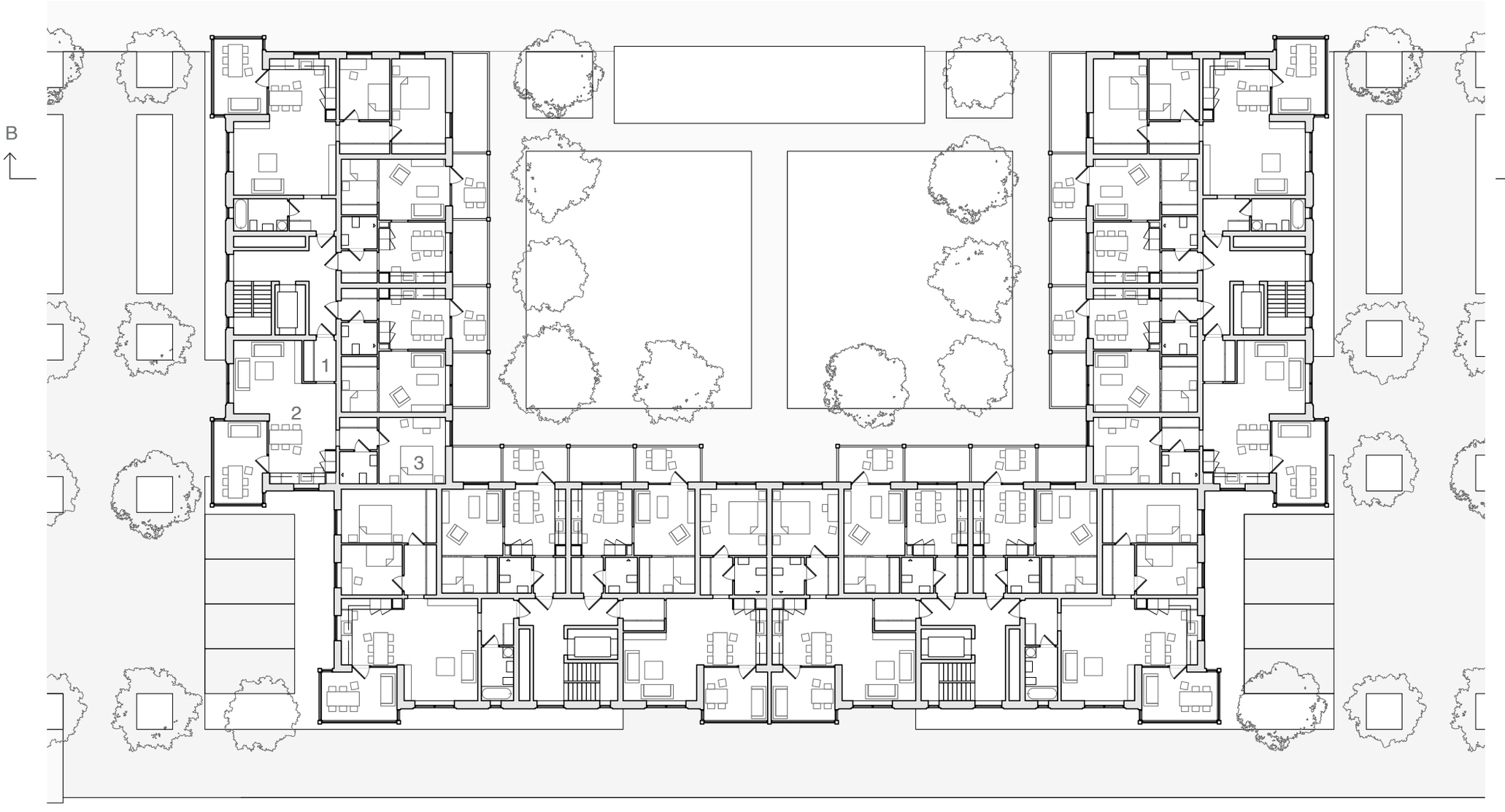


1. Corridor and storage spaces are minimized to allow larger social areas, giving residents a feeling of spaciousness despite small apartment sizes.

2. Apart from the smallest units, all other units have open connections between kitchen- and living room areas to make rooms feel individually larger.

3. Private rooms are located towards the innermost portion of the apartment, preferably towards the inner courtyard.

Perimeter block, typical floor, 1:300

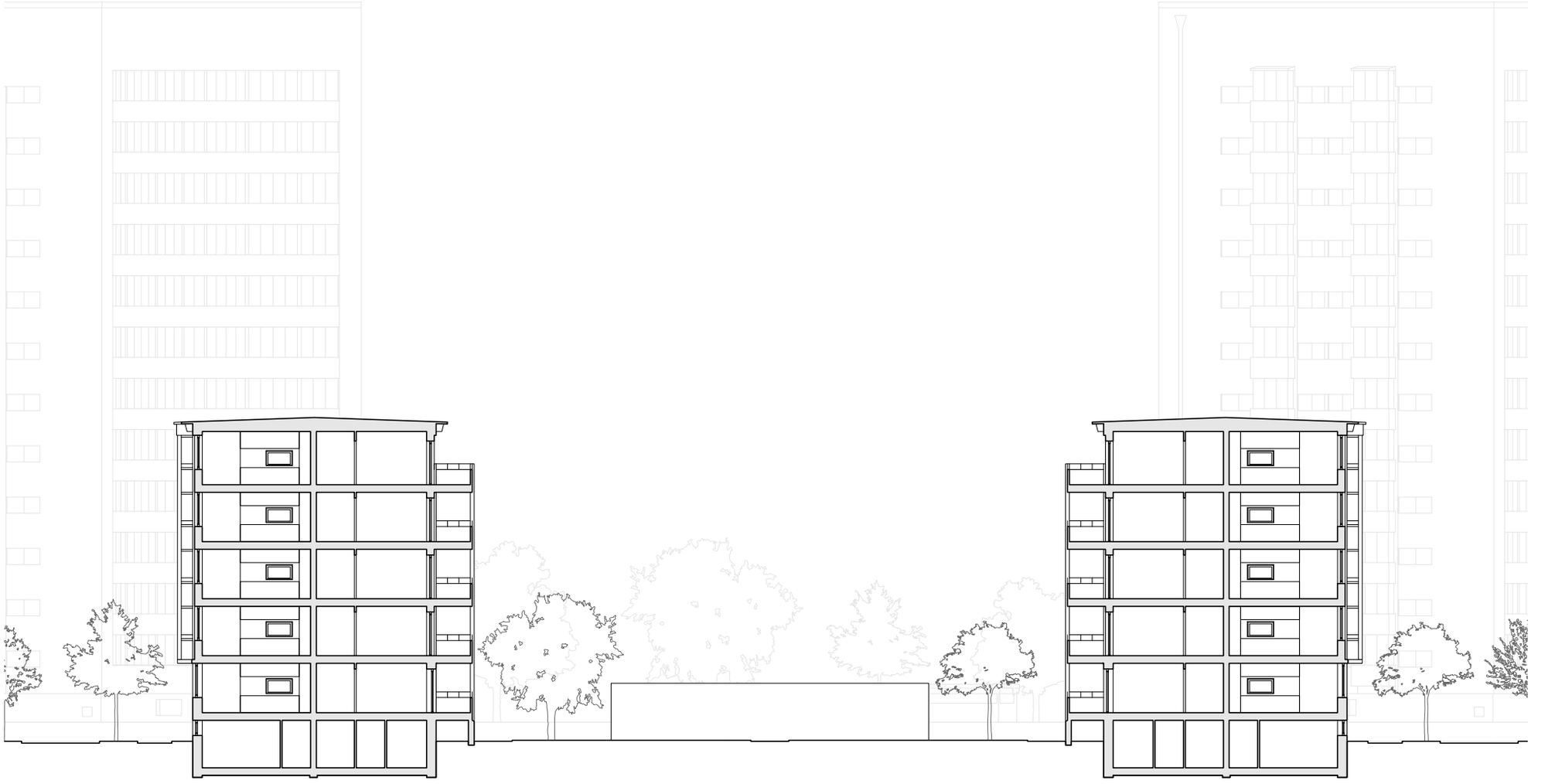


Section A, 1:300

The new streets in the proposal are narrow with paved spaces shared by pedestrians and cars alike. Ambitions are to create a slow and intimate street.

Courtyards are wider and provide far-reaching views from the individual apartments into the park landscape. Air and vegetation become integral components of the home.

Section B, 1:300



Tower block, east facade, 1:300

Towards Marconigatan, the facades are of a representative character, with strong symmetry, broad pilasters, and articulated corners.

The strictness of the vertical pilaster system is broken by a playful composition of windows in different sizes.

The corners of the blocks are cut off in a modernist fashion, increasing daylight intake in the apartments. The resulting exterior rooms are consciously designed.

Perimeter block, east facade, 1:300

Perimeter block, west facade, 1:300

Tower block, west facade, 1:300

Towards Mandolingatan, the facades are less formal and more open. Balconies are allowed to extend into the courtyard and become strong elements in the composition.

The facades have a more horizontal character with bigger windows and fewer vertical partitions.

Section C, Marconigatan, 1:300

The width of Marconigatan in relation to the neighbouring buildings makes it difficult to create a feeling of proximity and urbanity when moving along the street.

Section C, Mandolingatan, 1:300

New building additions have a small distance from the tram. To increase the feeling of privacy, ground-floor apartments are lifted 1.5 m from the street.

Courtyards are open to the west but separated from Mandolingatan by the addition of a waste recycling station.

Tower block, south facade, 1:300

Corrugated metal and red brick are common materials in the neighbourhood. The design proposes continued development using the same materials, but with additions in wood to make the facades feel warmer.

Perimeter block, north facade, 1:300

Perimeter block

Ground coverage area:	1335 m²
Gross floor area:	6450 m²
Living area:	4600 m²
44 x 1.5-room apartment	
18 x 2-room apartment	
22 x 3-room apartment	

Ground floor	
4 x Entrance foyer	16 m²
4 x Stairwell	28 m²
2 x Bike room	44 m²
1 x Bike room	91 m²
4 x Storage room	7 m²
1 x Recycling station	54 m²
8 x 1.5 room apartment	40 m²
4 x 3-room apartment	80 m²

Floor 1-5	
8 x 1.5-room apartment	40 m²
4 x 2-room apartment	60 m²
4 x 3-room apartment	80 m²
4 x Stairwell	28 m²

Floor 6	
4 x 1.5 room apartment	40 m²
2 x 2-room apartment	60 m²
2 x 3-room apartment	80 m²
2 x Stairwell	28 m²

Basement	
2 x Shared laundry room	15 m²
1 x Drying room	7 m²
32 x storage unit small	3 m²
48 x storage unit large	5 m²
Technical rooms	247 m²
4 x Stairwell	28 m²

Tower block

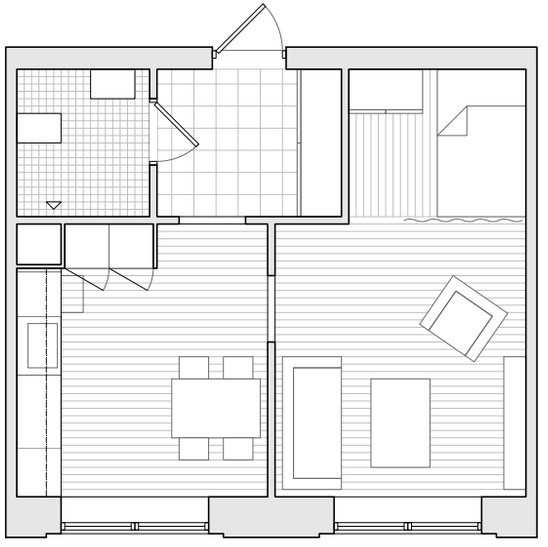
Ground coverage area:	444 m²
Gross floor area:	2790 m²
Living area:	1920 m²
12 x 1.5-room apartment	
24 x 2-room apartment	

Ground floor:	
1 x Commercial use	246 m²
1 x Entrance foyer	18 m²
1 x Stairwell	15 m²
1 x Bike room	58 m²
1 x Storage room	11 m²
1 x Shared laundry room	16 m²
1 x Shared laundry room	12 m²
1 x Drying room	7 m²

Floor 1-7	
2 x 1.5-room apartment	40 m²
4 x 2-room apartment	60 m²
1 x Stairwell	15 m²

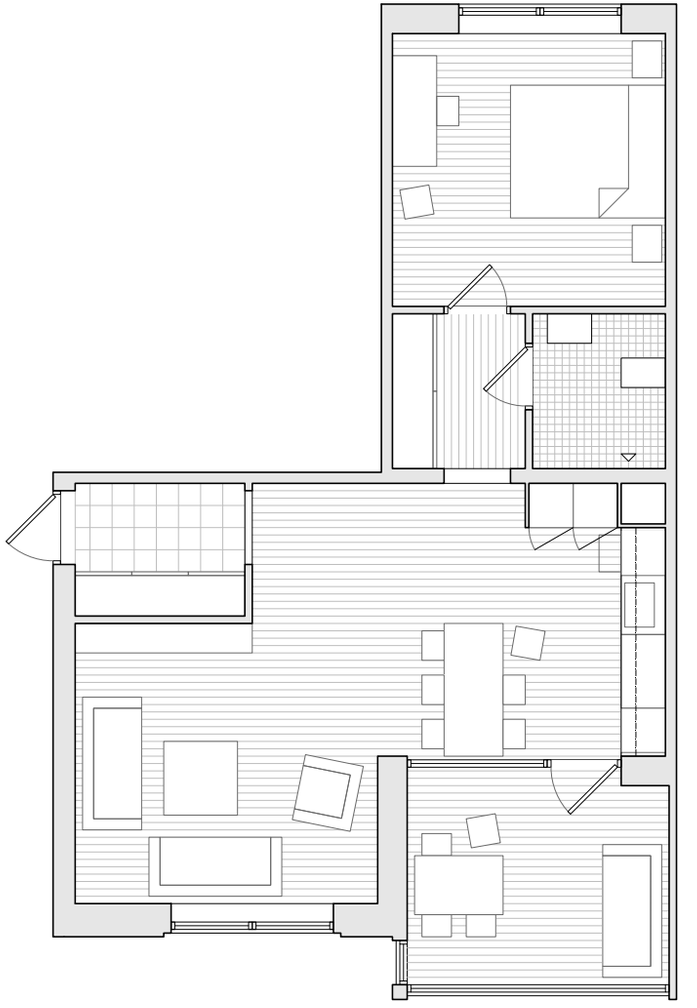
Basement (not developed):	
Storage units	? m²
Technical rooms	? m²

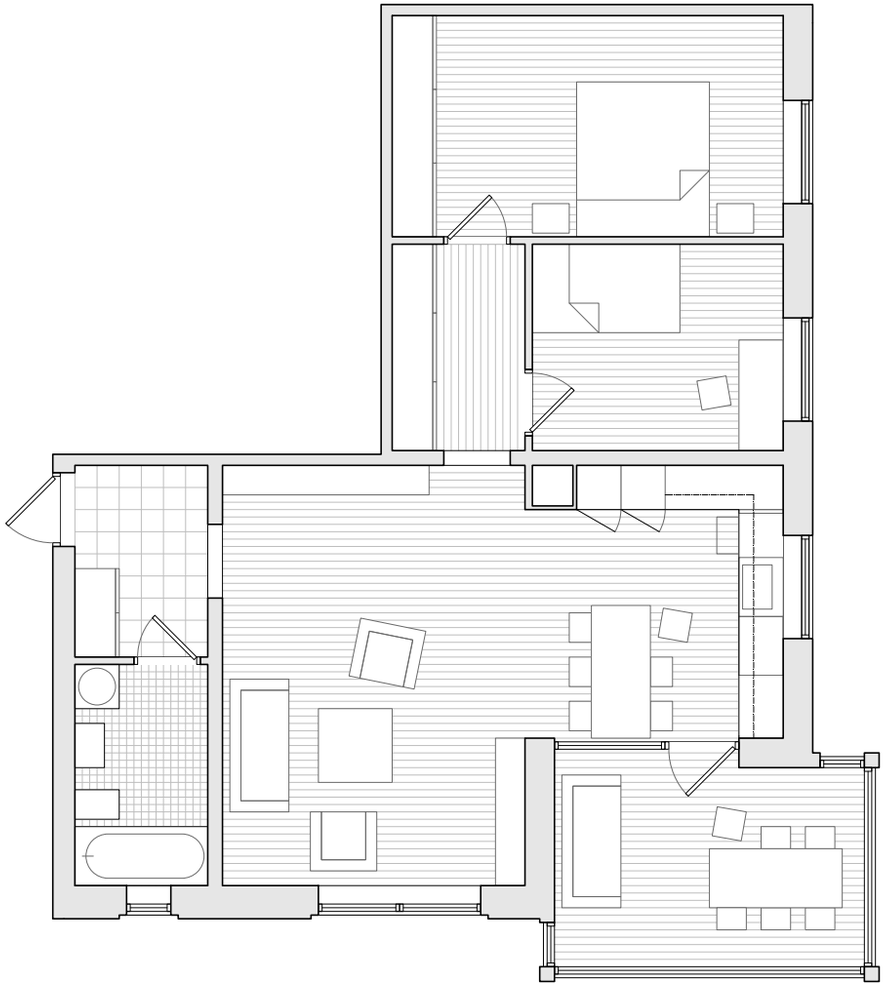
12 x 1.5-room apartment, 40 m²
24 x 2-room apartment, 60 m²



Perimeter block, apartment types, 1:100

44 x 1.5-room apartment (40 m²)
18 x 2-room apartment (60 m²)
22 x 3-room apartment (80 m²)



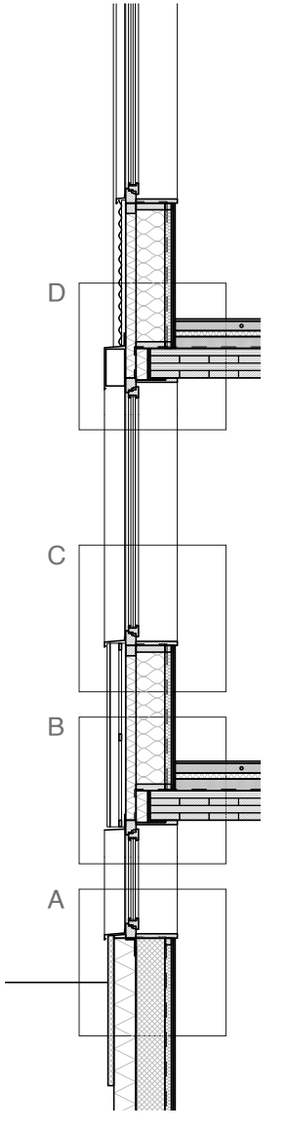


Refined details and construction are developed only for the perimeter block. Here the project follows a contemporary tradition rather than a classical one but with a few exceptions made primarily in the ground floor facade and the transition to the roof.

Structural CLT slabs in the ceilings are left exposed and extend into the loggia and balcony areas. Wooden parquet flooring and wooden windows ensure that wood becomes a dominant material in the interior, even with walls clad in gypsum.

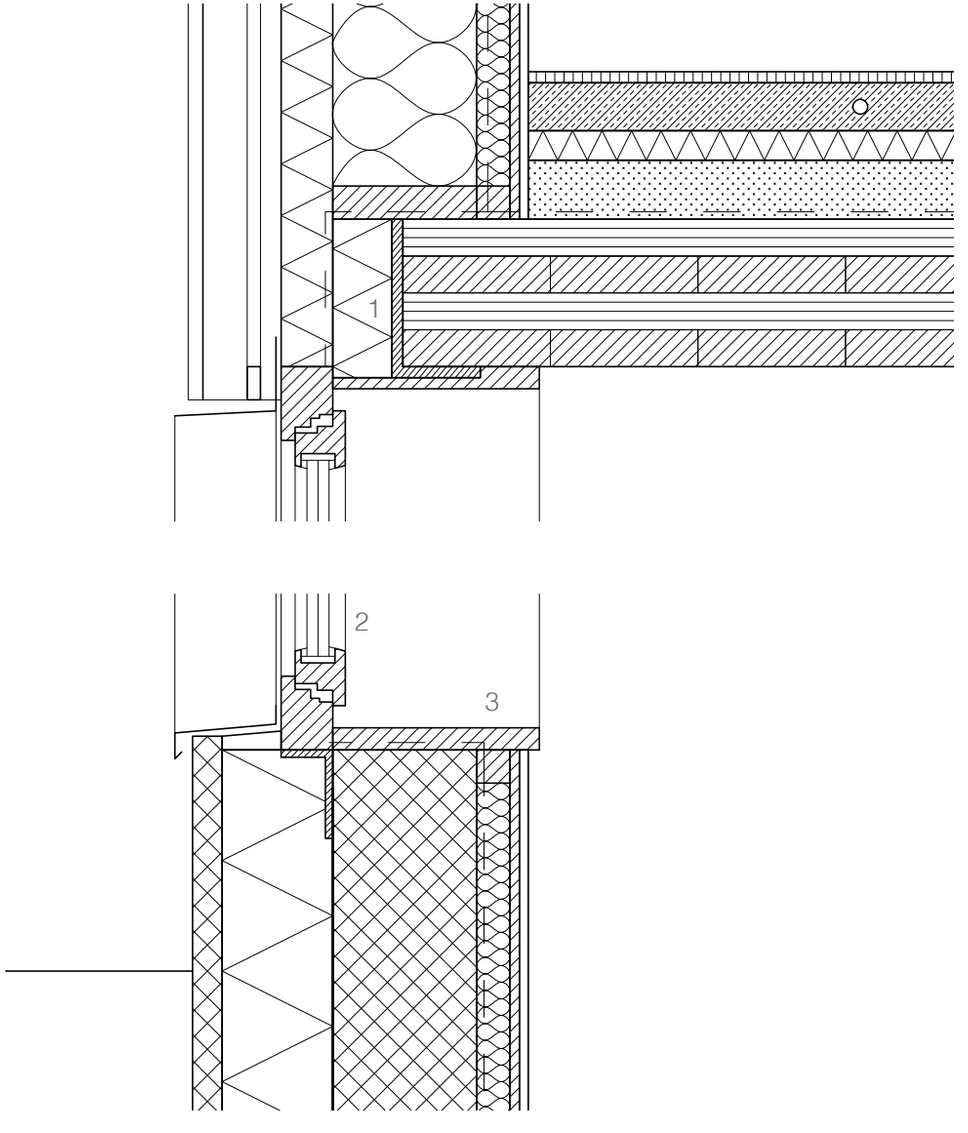
In the exterior, Alu-zinc-coated corrugated metal remains the dominant material, with most variations made through form rather than changes in material or colour.

Facade and ground floor detail, 1:50



Facade and top floor detail, 1:50

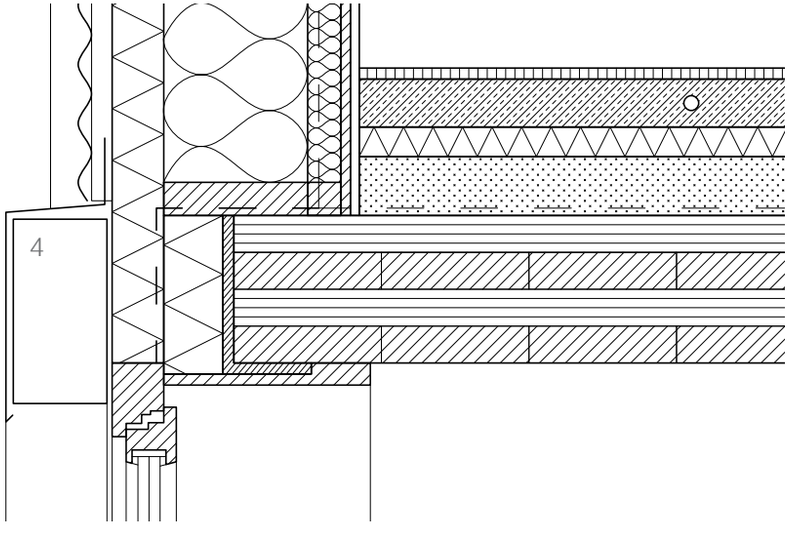
Details A & B, 1:10

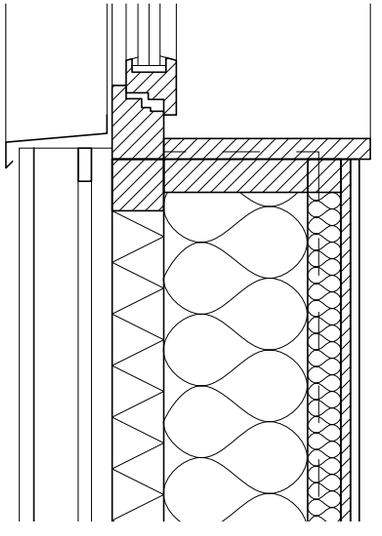


Typical floor slab:	400
Oak parquet	15
Heating screed	65
Separating layer of PE foil	-
Impact sound insulation: mineral wool	40
Bonded chipping infill	80
Emergency seal	-
Cross laminated timber: Spruce	200

Basement Wall:	455
Precast concrete facade element	40
Hard insulation	150
Concrete, cast on site	195
Timber 45 x 45 / insulation	45
OSB panel	13
Plasterboard	12

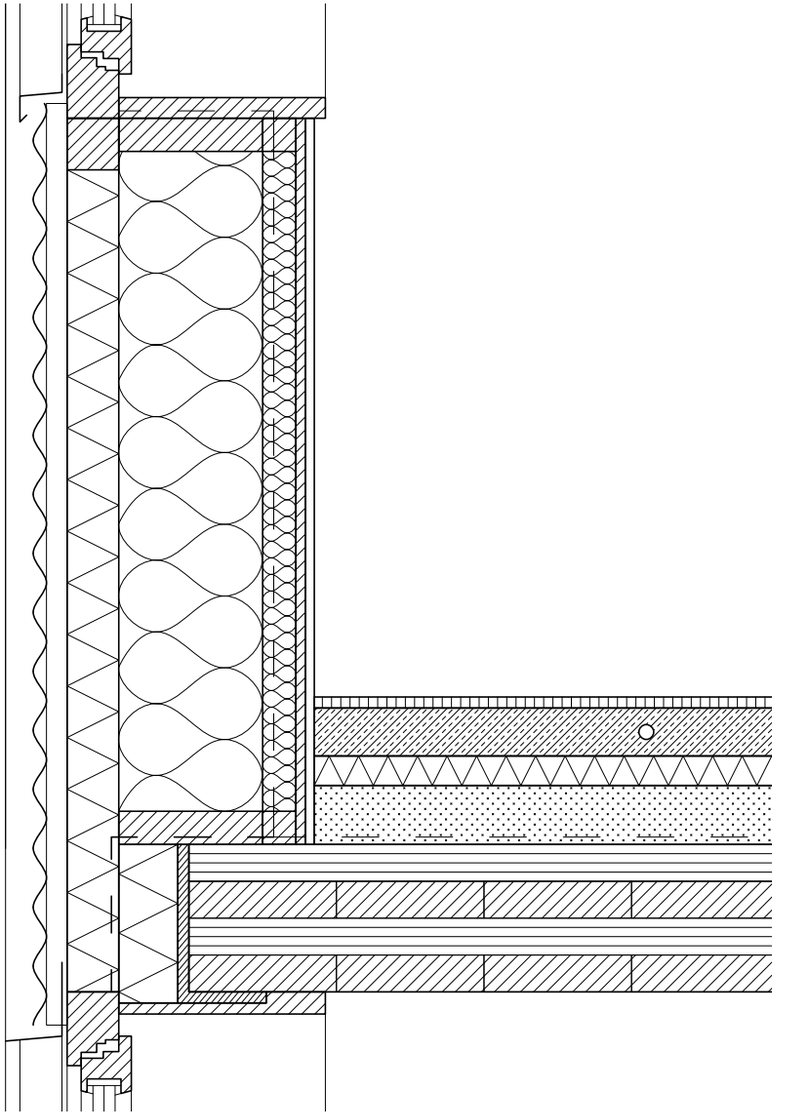
1. 215 x 120, Steel L-profile
   supporting floor slab over window.
2. Timber frame window,
   triple glazing
3. 28 x 280mm, plywood panel



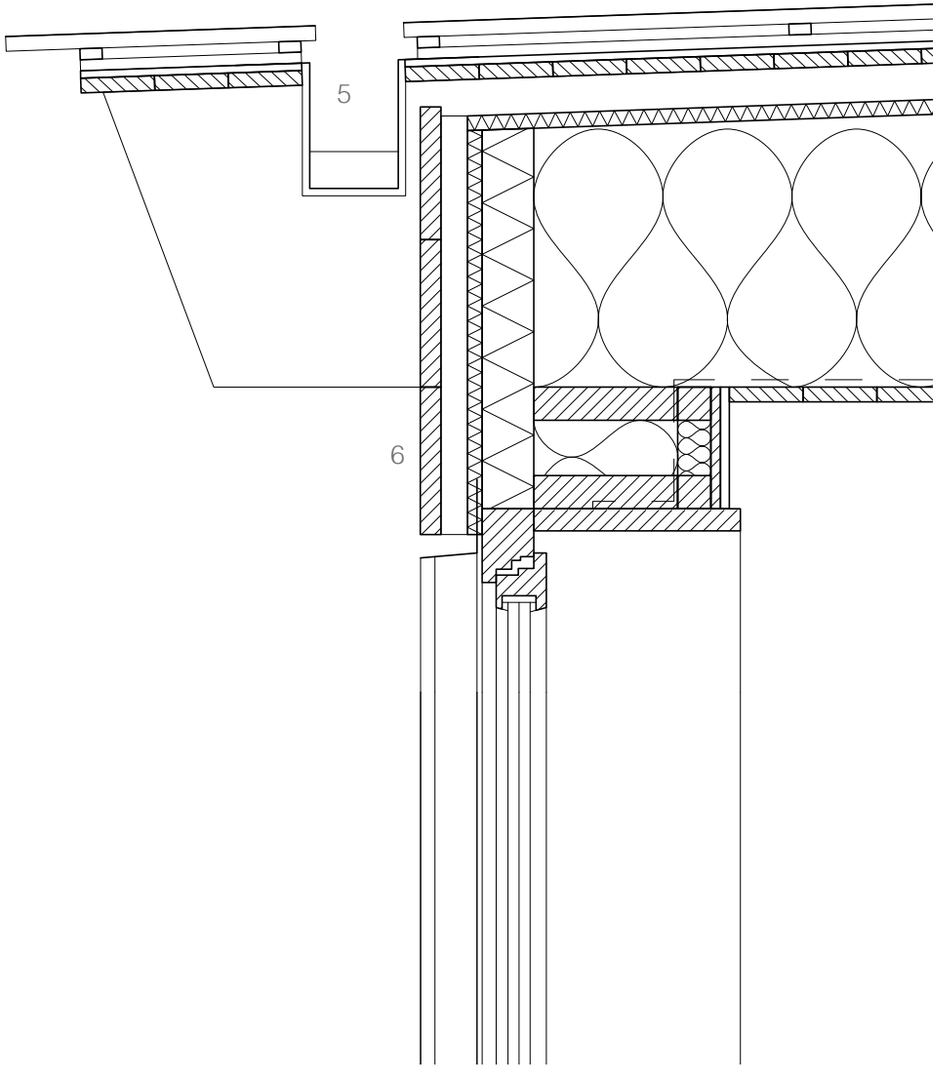


First floor Wall:	461
Corrugated metal sheet: Alu-zink coating	80
Timber substructure with rear ventilation	46
Celloluse fibre board insulation	70
Timber 45 x 195 / insulation	195
Timber 45 x 45 / insulation	45
OSB panel	13
Plasterboard	12

4. 125 x 280, Metal profile,
facilitating transition in facade depth



Typical floor wall:	381
Corrugated metal sheet: Alu-zink coating	18
Timber substructure with rear ventilation	28
Celloluse fibre board insulation	70
Timber 45 x 195 / insulation	195
Timber 45 x 45 / insulation	45
OSB panel	13
Plasterboard	12



Roof:	480~680
Corrugated metal sheet: Alu-zink coating	18
Timber substructure with rear ventilation	30
Taped and sealed bitroc board	10
Tongue and groove decking	22
Glu-lam beam, 2 degree top inclination, cutout for rain gutter / cellulose insulation	400~600
Vapour barrier	-
Tongue and groove wood panel 100 x 22	22

5. 180 x 120, box gutter
6. 22 x 200, tongue and groove wood panel

With my master's thesis, I have tried to answer how traditional and modernist ideals can combine into a sensitive and coherent design for an apartment building. In the end, I have arrived at one possible answer for one specific site. The proposal is very much derived from its proximate context and as such it can only with difficulty be understood in a more general sense. This shows that the question of combining different complexities and architectural references will never be solved but can only be continuously sought after in various situations. What is the value of a research project that can only be understood in a single context? My answer would be, that I hope it can serve as an inspiration, not towards an end design, but rather in terms of methodology. How do we work with architectural references in a meaningful way? How do we concretize somewhat abstract and contradictory ideas into a simple and relatable building design? How do we combine the pragmatic issues of modern society regarding sustainable economy and ecology, with the lifestyle ideals of the last century and the aesthetic intentions of the decades before it?

With my project, I hope to inspire fellow colleagues, but primarily this is a work for me; for me to find a way to structure my own future work and to take a stance on some of the important questions in architecture discourse today.

Books:

Bates, Stephen & Sergison, Jonathan (2016). *Papers 3: Sergison Bates Architects*. Quart Architektur.

Berghauser Pont, Meta & Haupt, Per (2021). *Spacematrix: Space, Density and Urban Form*. NAI Publishers.

Eric de Maré (1955). *Gunnar Asplund: A great modern architect*. Art and Tectonics.

Venturi, Robert (1966). *Complexity and Contradiction in Architecture*. Museum of Modern Art.

Official Documents:

Filipsson, Else-Britt & Peter, Sanja (2015). *Kulturmiljöunderlag: Frölunda Stadsdel. Göteborgs Stadsmuseum*. Göteborgs Stadsmuseum.

Stadsbyggnadskontoret (2021). *Samrådshandling: Program för Frölunda: inom stadsdelarna Rud och Järnbrott*. Göteborgs stad.

Articles:

Caruso, Adam (2004). *Traditions*. OASE (Issue65 'Ornamentation', p.76-89).

Figures:

Figure 1. Maps Data: Google Earth. Retrieved 10th May, 2023.

Figure 2. Maps Data: Google Earth. Retrieved 10th May, 2023.

Figure 3. Maps Data: Google Earth. Retrieved 10th May, 2023.

Figure 4. Müller, Stefan (Photographer). Retrieved from *https://divisare.com/projects/343120-sergison-bates-architects-stefan-muller-urban-housing-nordbahnhof* (10th May, 2023)

Figure 5. Binet Hèléne & Grandorge, David (Photographers). Retrieved from *https://carusostjohn.com/projects/victoria-and-albert-museum-childhood/* (10 May, 2023)

Figure 6. Author unknown. Retrieved from Venturi, Robert. 1966. *Complexity and Contradiction in Architecture*. Museum of Modern Art.

Figure 7. Author unknown. Retrieved from Venturi, Robert. 1966. *Complexity and Contradiction in Architecture*. Museum of Modern Art (2022).

Figure 8. Bladh, Oskar (Photographer). Retrieved from *https://digitaltmuseum.se/011015010760/johanneberg-goteborg-flygfoto* (10th May, 2023).

Figure 9. Reisz, André & Reisz Irene (Photographers). Retrieved from *https://digitaltmuseum.se/0210111762821/stockholm-stadsbiblioteket-sedd-fran-spelbomskans-torg* (10th May, 2023).

Figure 10. Author unknown. Retrieved from *https://www.flickr.com/photos/147316538@N02/32657630984/in/photostream/* (10th May, 2023)

Figure 13. Maps Data: Google Earth. Retrieved 10th May, 2023.