SAGVÅG SENIOR GARDEN

CTU PRAGUE
FACULTY OF ARCHITECTURE
DIPLOMA PROJECT
2023/2024

FAKULTA ARCHITEKTURY ČVUT V PRAZE

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SENIOR
HOUSING

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DIPLOMA SEMINAR

INTRODUCTORY BRIEF

Welcome to my thesis. The thesis is written in the winter semester 2023 / 2024, at FA ČVUT Faculty of Architecture, in Prague. My name is Ola Jin M. Nymoen, and I am an international student from Norway. Here, I come from a small city called Askim. In this written part of my thesis, I will write about the topic of the "elderly wave", and undergo an analysis of my chosen site for my final thesis work. This paper will work as an introduction and a guidance for the rest of my work, which will be delivered by June 2024.
The site I have chosen is located in Norway. However, not in my hometown, but in a small town called Sagvåg which is located on the west coast of the country. The reason for the chosen area is that I (author) have a big portion of my family living there. During my upbringing, I have got to experience most of my summers in the beautiful coastal landscape of Norway.
Therefore, it should be also noted that my thesis is partly formed by the fact that my uncle is a developer and builder in Sagvåg. As a helpful gesture, he has invited me to use a site for my thesis project, which is currently being developed in Sagvåg. I will observe and take part in meetings, while developing my own thesis project. Here, they want to build housing for seniors. However, looking away from the fact that the topic of "senior housing" is already implied to the site, I personally believe that the topic of the "elderly wave" is a important topic for discussion. Given the certain circumstances, the thesis will therefore try to respect certain rules and restrictions given by specific conditions, however, it should be
noted that my work and decisions will first and foremost attempt to achieve the satisfaction of the faculty's supervisors and teachers.
In this written part, I will briefly introduce you (the reader) to the topic of the elderly wave. I will explain how we are witnessing a new demographic shift, as more and more people are getting older, and people are having less children than ever before. I will look at why we should care about this new demographic wave, and provide you with 4 examples of alternative living. Furthermore, I will give a brief introduction to Norway and the location and locality of Sagvåg. In the end I will introduce the site, on which I will be conducting my thesis project.

DIPLOMA SEMINAR CONTENTS:

A. THE NEW DEMOGRAPHIC SHIFT - THE ELDERLY WAVE

A. THE NEW DEMOGRAPHIC SHIFT

A.1. 8 Billion MARK

On November 15 2022, the world's total population crossed the 8 billion mark. Achieving this milestone in just 12 years after reaching 7 billion in 2011. This brought back concerns linked to a rapidly growing population, with worries of food shortages, widespread unemployment, deletion of natural resources and environmental degradation.

However, the most critical demographic challenge today isn't fast population growth but rather the aging of populations. Despite worries about an explosion in global population, the truth is that the world's population growth rate has considerably slowed down in recent decades, and this trend is expected to continue. The latest UN projections suggest an increase in the number of countries experiencing annual population decline, going up from 41 in 2022 to 88 in 2050, including China over this period.

What's becoming a common trend worldwide is that our populations are getting older and this is happening because people are having fewer kids, are living longer, and large groups of people are getting into their senior years. (Figure 2.) Additionally, different countries, income groups, and regions show a big range in how their populations are growing. Low-income countries and Africa are seeing higher growth rates, while middle- and high-income countries, especially in Europe, are experiencing slower growth.

The world is currently witnessing a significant shift in the age distribution. In 1913, the average global life expectancy was 34 years old, a figure that has now climbed 72 years in 2022. All indications project that this is a continuous upward trend. Between 1970 and 2020, fertility rates decreased in every country worldwide. In the early days of the United Nations and World Health Organization (WHO) (1945-1950), the number of children under 15 surpassed those over 65 by a factor of seven. However, by 2050, these two age groups are expected to be about equal in size. [3]

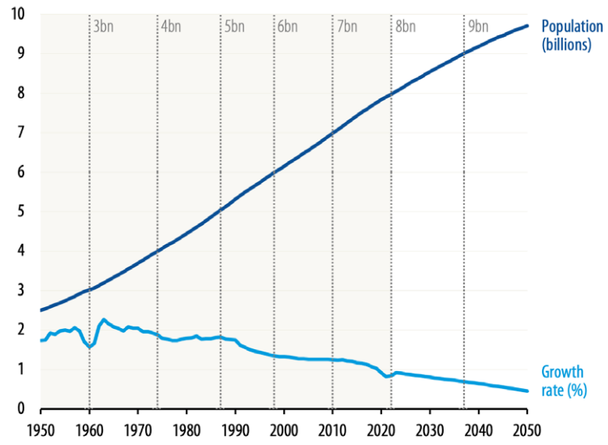


Figure 1.) Graph showing a growing population, however a significant decline in the growth rate [3]
Source: *United Nations Department of Economic and Social Affairs*

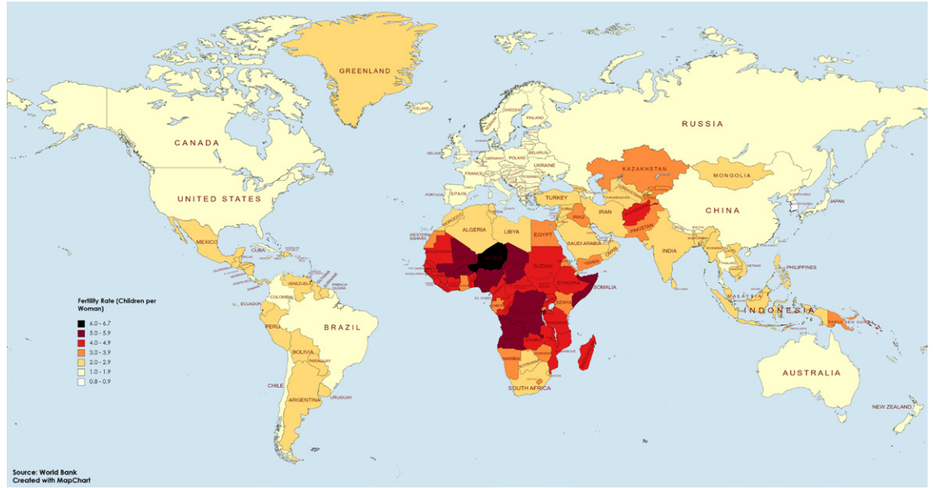


Figure 2.) Map showing fertility rates (children per women) around the world.
In 2023, the fertility rate in Niger was estimated to be 6.73 children per woman, while in South Korea it is only 0.84 child per woman. Source: *World Bank* [15]

A.1.1. Challenges

However, the convenience associated with technological advancements, the trend still brings questions of health, social and economic challenges in the years to come. As a society, being able to address these challenges will demand substantial shifts in lifestyle choices, both public and private investments, reforms in institutions and policies, and embracing new technological innovations. The consequences of not taking action will result in a shrinking workforce struggling to support a growing number of retirees. To prevent a diminishing quality of life for older individuals due to lack of human, financial and institutional resources, we as a society need to understand the age-related issues and associated healthcare expenses that are about to come. [28]

A.1.2. Solutions

Tackling the challenges brought by an aging population requires a multifaceted approach. The importance of technological solutions such as telehealth services and wearable devices can help to leverage data analytics in healthcare systems, which in return can significantly be able to improve our elderly care. In addition, smart home solutions and assistive technologies can further contribute to creating living spaces that cater to the needs of seniors. Accessible infrastructure and transportation systems need thoughtful design to accommodate the elderly. Lets keep in mind that a more cohesive urban landscape to suit everyone's needs, is in the best interest for everyone. [28]

A.2. AGING POPULATION, ISOLATION AND DEPRESSION

Individuals in today's society can anticipate living well into their sixties and beyond. This demographic trend is evident in every country, with both the size and proportion of older persons in the population on the rise. Projections indicate that by 2030, approximately 1 in 6 individuals worldwide will be aged 60 years or older. In 2020, 1.4 billion people are estimated to belong to this demographic. Individuals aged 80 years or older are anticipated to triple between 2020 and 2050.

The population aging initially manifested in high-income countries, where for example Japan today has a population where 30% of the population is already over 60 years old. However, these changes are now occurring in low- and middle-income countries. It is projected that two-thirds of the world's population aged 60 years and above will inhabit low- and middle-income countries. [22] [27]

A.2.1. Isolation and depression amongst elderly

The pervasive issue of loneliness and depression is not just applicable to elderly individuals. However, one important point to be aware of is that elderly might be more prone to factors attributing these issues. This can include factors such as physical limitations, reduced mobility or health challenges. These factors may restrict their ability to engage in social activities, which can lead to a sense of loneliness and isolation. In addition, the loss of friends and family members over time, combined with a shrinking social circle can also spiral into loneliness, where they lack the digital tools to stay connected. A rapidly changing world can be overwhelming and pose challenges for those who are not familiar, and stigma associated with aging may add another layer to the feeling of being marginalized.

In addition, financial constraints and retirement may further restrict seniors from participating in social activities or seeking necessary mental health support. Loss of daily purpose and not being able to do as one please, may as well add another layer of stress. Cognitive decline may also pose significant challenges to elderly, as communication difficulties may lead to social withdrawal. All these factors add up to the risk of depression.

These challenges require strategies that can incorporate effortless encouragement in social participation. Factors such as improved accessibility, better mental health offers and challenge the stigma associated with mental health concerns in the elderly. Building initiatives that prioritize community inclusion and appreciation for seniors is key factor to be able to nurture both their well-being. By acknowledging and proactively dealing with these factors, we can strive to establish environments that support the mental and emotional health of our aging population. [22]

A.3. ELDERLY CARE

The goal of elderly care is to enhance the overall quality of life for seniors. Making sure they can age with dignity and remain integrated into their communities and social circles. Elderly care includes a range of supportive services designed to meet the needs of older individuals, as they are entering the unique phase of life where physical limitations, health issues and social changes can not be so easily ignored. Dedication and compassionate elderly care are crucial for maintaining and preserving people's sense of self-worth.[22]
The shift towards an aging population globally underscores the importance of effective elderly care. A society that prioritizes health and comfort of its elderly population fosters intergenerational bonds, passing on wisdom and strengthening the overall social fabric.

A.4. ABOUT HOUSING FOR THE ELDERLY: INDEPENDENT AND COMMUNITY LIVING

Architecture is in continual evolution, as it must adapt to all realms in the built world. Shifts in economic, technological, political and demographic realms, all contribute to the evolution in architecture. With a decline in fertility rates and an expanding elderly demographic, the question arises: How can architecture play a role in enhancing quality of life, preserving dignity and promoting the overall well-being for the growing elderly population?

The shift in demographics has prompted a reevaluation and redesign of various elements in healthcare, hospital architecture and urban planning to accommodate an aging population. Nevertheless, examinations focusing on the mental well-being of independently living seniors reveal the adverse effects of loneliness, social isolation, and challenges in fulfilling self-care needs.

Architects can have significant influence in addressing the roots of this loneliness, offering a transformative impact on the quality of life for a demographic often marginalized by isolation. The creation of retirement communities presents an avenue for fostering engagement and social interaction, challenging the stigma associated with aging and enabling residents to maintain their independence. [24]

B. ALTERNATIVE LIVING TYPOLOGIES

B. ALTERNATIVE LIVING TYPOLOGIES

B.1. Independent living
Independent living is any housing arrangement designed for older adults, generally those aged 55 and above. Housing type varies widely, from apartment-style living to single-family detached homes. While living arrangements might often be more compact, the housing concept offers easier navigation and no maintenance or yard-work to worry about.

Independent living offers residents to live independently but most communities offer amenities, activities and services. Independent living facilities may also offer facilities such as a swimming pool, fitness center or for example tennis courts, where residents can connect with peers and participate in community activities. Other services may even include ouisite spas, beauty and barber salons, daily meals and basic housekeeping and laundry services. [17]

B.2. Community living
Community living involves individuals residing together to create a community based on shared demographics, interests, or ideologies. This can range from communal living arrangements, where many people share a single residence, to looser interpretations where families and individuals live in proximity but maintain independent households, assisting each other informally as needed. Ultimately, community living centers around residing in a community that demands active participation from its members.

The key difference between independent living and other housing options is the level of assistance offered for daily living activities. People who require "round-the-clock" help with eating, dressing, and using the bathroom, or require regular medical assistance, a nursing home would be better suited to meet their needs. [17] [24]

In the subsequent examples I will demonstrate how thoughtful design can establish a communal framework that promotes mutual support among residents:

1) Bovieran - (Indemendent / co-living)
2) Peter Rosegger Nursing home - (Nursing home)
3) WoZoCo - (Indemendent living)
4) Vindmøllebakken - (Co-living)

A.5. BOVIERAN
Sweden, Scandinavia

Figure 6.) Courtyard under glass roof. [21]

Bovieran
Bovieran senior housing embodies a contemporary concept featuring a spacious winter garden nestled under a glass roof at the heart of the complex. Developed by the Swedish company Drakenius Gardens AB, renowned for its focus on landscape and garden designs, the winter garden maintains a pleasant temperature throughout the year and houses three distinct garden areas inspired by tropical, Mediterranean, and Japanese themes. Tailored to suit the needs of an active senior lifestyle, this project aims to provide an exclusive living community for individuals aged 55 and above without children living at home, within a climate reminiscent of the French Riviera. [21]

Unique living concept
This unique living concept grants residents the freedom to retreat to their private homes, balconies, or terraces while also offering the option to relax in the conservatory. The conservatory, adorned with palm trees and diverse plants irrigated with recycled rainwater, creates a harmonious and peaceful environment for socializing with neighbors and friends. The approximately 1,500 m2 winter garden features olive trees, parrot flowers, and palm trees, providing a delightful outdoor setting irrespective of weather conditions. [21]

Figure 7.) *Socialization* [21]

Figure 8.) *Inside-outside environment* [21]

Figure 9.) *Structure in daylight* [21]

Figure 10.) *Showing the winter garden from outside in the cold* [21]

Basic concept
The Bovieran life concept serves as a platform for elderly individuals, offering opportunities for socialization, learning, and engagement that may be limited in more traditional settings. Emphasizing community and volunteering, this living arrangement encourages residents to plan and participate in shared activities like cooking, dining, and celebrating holidays. The communal nature of Bovieran living fosters a supportive and sustainable lifestyle, where shared resources and responsibilities enhance the overall well-being of each resident. Ultimately, this community-driven approach promotes meaningful connections, collaboration, and a happier, more interconnected living experience for everyone involved. [0]

Figure 11.) *Tropical environment* [21]

Figure 12.) *Each resident single or couple obtain one private apartment* [21]

A.6. Peter Rosegger Nursing Home
Graz, Austria

Peter Rosegger Nursing Home demonstrates how the shape and design of buildings can Improve a sense of belonging and community by having living centers between apartments to actively improve the participation of its members.

Figure 13.) Kitchen [16]

Concept nursing home
Situated on the grounds of the former Hummelkaserne barracks, this two-story nursing home is located in a city area surrounded by diverse urban landscapes. The home adopts a compact and square design, featuring asymmetrical cut-outs that delineate eight housing communities, four on each floor. These communities encircle a central "village square," extending from one side of the first floor to the other, partially covered by a roof terrace. In addition to this public axis, two exclusive gardens for residents are integrated into the building at right angles. The design incorporates four atria on the second floor and provides direct access to the public park east of the premises, planned by the City of Graz. [16]

Figure 14.) Dining hall [16]

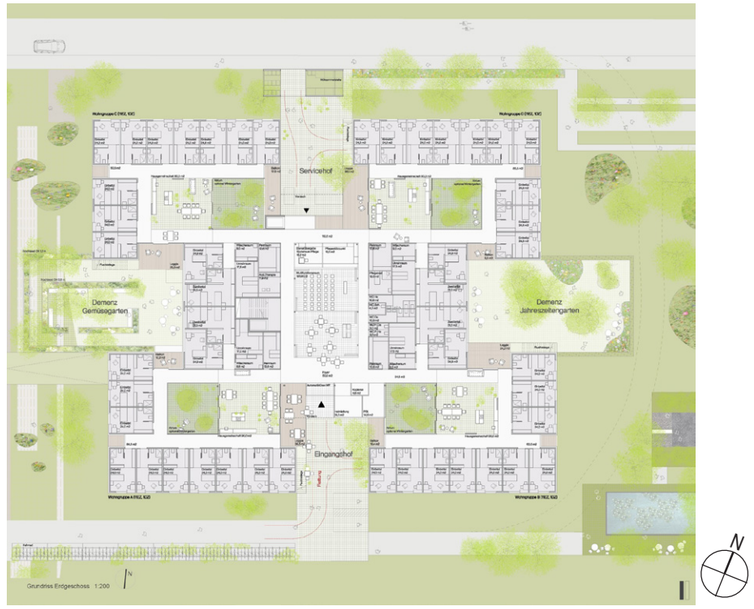


Figure 15.) Floorplan [16]

Concept of living arrangement
Each housing community is designed with rooms, a kitchen, and a dining area for 13 residents and a caregiver, fostering a manageable and familiar ambiance. The inclusion of spacious balconies, loggias, and diverse pathways, along with views into other sections of the house, creates a stimulating environment. To aid residents in orientation, each community is themed around a distinct color concept. While room layouts may vary slightly based on location and orientation, every room features a casement window and a larger window with a low, heated parapet that can double as a seat. Strategically positioned at the center of the building, the care rooms ensure convenient access for all residents, optimizing the efficiency of the home. [16]

Figure 16.) Exterior [16]

A.7. WoZoCo
Amsterdam, Netherlands

Apartments designed for individuals aged 50 and above
Situated in the western part of Amsterdam, the Netherlands, this apartment complex comprises 100 units specifically designed for individuals aged 50 and above. A departure from traditional homes for the elderly, these apartments aim to provide a heightened level of independence and may even accommodate younger residents in the future.

The building's design was crafted in accordance with existing local regulations, ensuring compliance while also establishing a distinctive presence in the neighborhood. In a city context where green spaces face increasing threats due to rising population density, preserving open ground floor areas becomes a crucial challenge for achieving the desired density.

Figure from top left to bottom right 17, 18 19, 20.)
Showing 13 apartments suspended from the north facade of the block to minimize the coverage of the ground floor space and to receive sunlight on its east or west facade. [20]

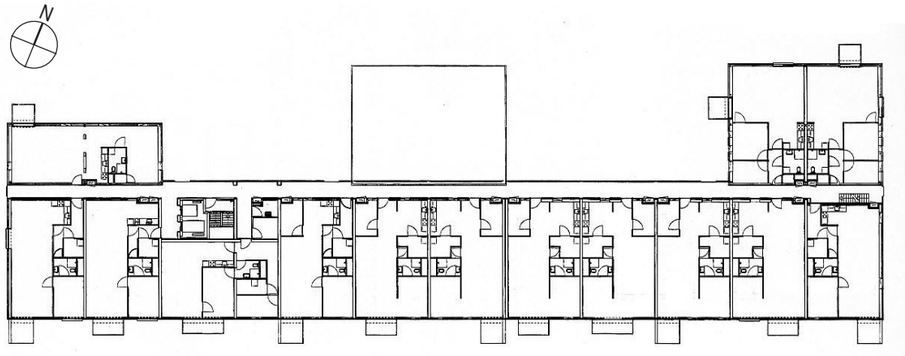


Figure 21.) Plan drawing [20]

Figure from top left to bottom right 22, 23 24, 25.) [20]

The architectural plan revolves around the current zoning envelope and the north-south orientation of the building, enabling the construction of 87 out of the 100 apartment units in a unified block.The remaining 13 units are therefore suspended from the north facade of the block to minimize the coverage of the ground floor space and to receives sunlight on its east or west facade [20]

A.8. Vindmøllebakken
Stavanger, Norway

Vindmøllebakken is a recently completed co-living housing project in Stavanger, Norway in 2019. It is located on a small peninsula where the North Sea meets the the Boknafjord. Designed by Norwegian architecture firm Helen & Hard, and developed with Kruse Smith, Indigo Vekst and Gaia Trondheim, it is the first project to be completed under the teams' co-living initiative, "Gaining by Sharing". [25]

Co-living or shared living
[3] It encompasses 40 co-living units, 4 townhouses, and 10 apartments. The project adopts a low-rise typology, featuring 3-5 stories, and is constructed using prefabricated timber elements, paying homage to the traditional timber housing style prevalent in the neighborhood. Vindmøllebakken represents a contemporary housing typology that addresses human, social, and environmental needs sustainably. Residents, who own their apartments, actively participated in the planning and development process, aligning with the Gaining by Sharing model. This pilot project in Stavanger stands as a testament to a collaborative and community-oriented approach in modern housing. [25]

Figure 26.) Streetview
Photo: [25]

Figure 27.) Plan drawing [25]
Red mark ref. view fig. 26

Sharing can mean more not less
This model addresses the conventional methods of home construction, which often fall short of meeting current societal needs. Today's residents encompass diverse groups, including modern families with "my, your, and our kids," a healthier and aging generation opting to stay home longer, individuals combating loneliness, or those desiring a more sustainable lifestyle. The essence of this model lies in resource-sharing, whether it's time, space, or assets, leading to a more sustainable way of living that extends beyond environmental considerations to encompass social, economic, and architectural dimensions. [25]

The building comprises 40 apartments, each slightly smaller than the norm, yet fully furnished. These units are arranged around 500 m2 of shared space, with each resident owning an equal portion. The shared spaces serve as the focal point of the building, easily accessible to all. Some areas are designed to foster social interactions, while others provide room for retreat and privacy. [25]

[25] **Material use** :
1. Facade cladding: Vertical white painted wooden cladding for the outside facade. Horizontal wooden cladding for the inner facade, painted red.
2. Flooring: Common/Shared space: Concrete or linoleum flooring
3. Private dwellings: Wood
4. Doors: Standard Doors
5. Windows: Three different type of standard windows
6. Roofing: Green roof made of Cedum – Bergknapp
7. Wall elements: Pre fabricated with interior finnish - Product of Hoolzbau Saurer - Holzbau Saurer
8. Bathrooms: Pre fabricated - Teknobad
9. Acoustics: SINUS/Brekke & Strand Akustikk

Figure from left to right 28, 29.) [25]
Figure 28. shows common spaces for people to share. Common dining hall.
Figure 29. shows a more secluded room.

C. LOCATION - NORWAY

C. LOCATION

C.1. NORWAY

Norway, officially known as the kingdom of Norway is a Nordic country located in Northern Europe on the Scandinavian Peninsula. Norway's coastline is famous for its fjords, which are sea inlets between steep cliffs carved out by glaciers melting and eroding their way through the landscape over a long period. The capital in Norway is Oslo, which is the largest city and serves as the focal point of the country.

The country covers a total area of 385 207 square kilometers, and as of January 2023, Norway had a population of 5 488 984. Norway shares its borders with Sweden, Finland and Russia. Nearly half of Norway lives in the southern part. Nearly two-thirds of the land is mountainous. It boasts about 50 000 small islands along its coast. [14]

Figure 30.) Location of Norway
Data source: *mapsvg.com*

Figure 31.) Norway
Data source: *mapsvg.com*

Population and area. Urban settlements.1 January			
	2023	2022 -2023	
	Population	Change	Change in per cent
Residents in urban settlements	4 554 562	69 326	1.5
Residents in rural settlements	928 566	-4 598	-0.5
Area of urban settlements (km²)	2 266.99	16.05	0.71
Number of residents pr km2 in urban areas	2 009	17	0.8
Proportion residents in urban settlements, per cent	82.98	0.30	0.4
Residents in the five largest urban settlements			
Oslo	1 082 575	18 340	1.7
Bergen	269 548	2 431	0.9
Stavanger/Sandnes	234 757	3 064	1.3
Trondheim	196 948	2 088	1.1
Drammen	122 955	11 919	10.7

Figure 32.) Chart of Norway's population as of 2022-2023.
Source: *Statistisk Sentralbyrå SSB* [10]

C.1.1. Coast line

Norway boasts an extensive coastline along the North Atlantic Ocean and the Barents Sea, and the coastal landscape has had a great impact on the development of its coastal cities. Cities like Trondheim, Bergen, Stavanger, and Oslo have been profoundly influenced by their maritime connections, serving as historical trading hubs and centers of maritime activity.

C.1.2. Cities in Norway

Trondheim (third biggest city), has been an essential center for shipping and commerce. Bergen, a UNESCO World Heritage site, boasts a rich maritime history as a Hanseatic trading post. Stavanger evolved as a key port city. Lastly, the capital Oslo, positioned at the head of the Oslofjord, has been a central hub for trade and cultural interactions. These cities have together contributed in their own unique way to Norways coastal narrative. [14]

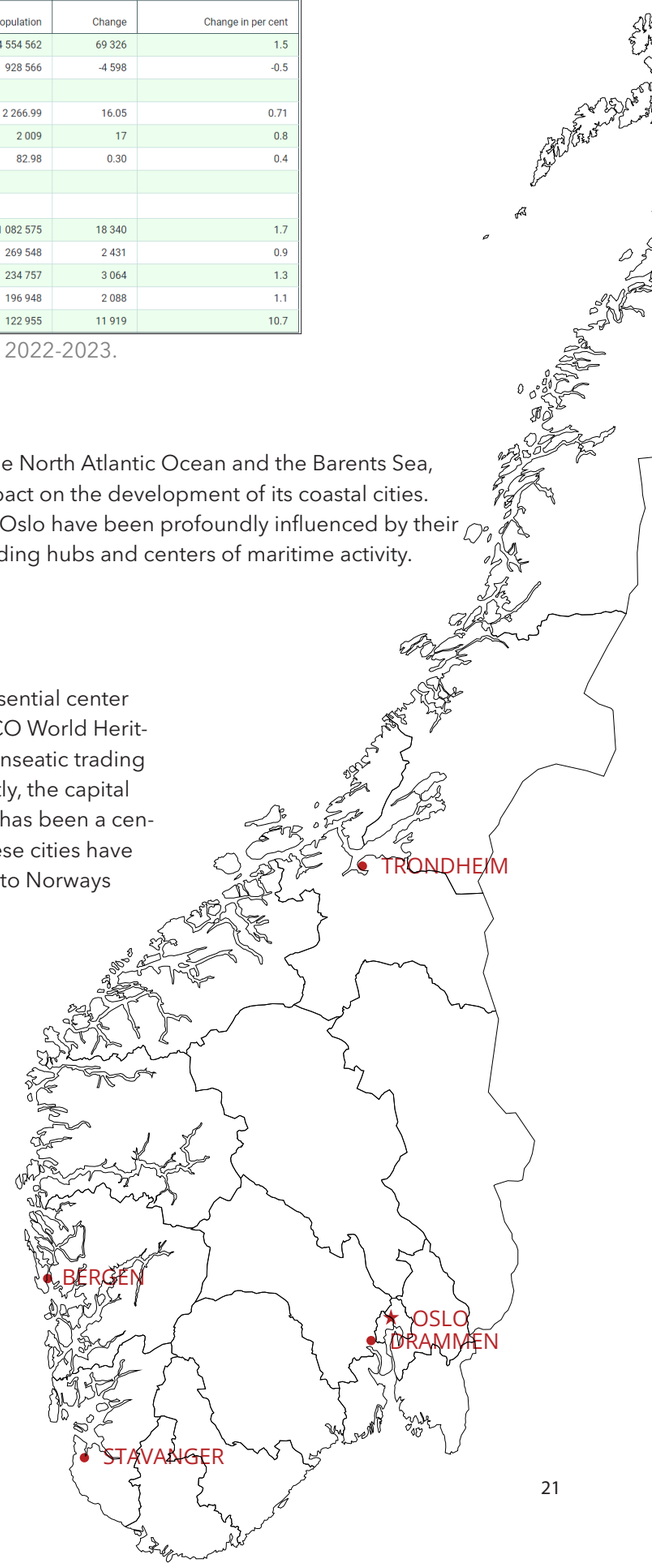


Figure 33.) Location of Norways five largest urban settlements [10]
Data source: *mapsvg.com*

C.2. MUNICIPALITY STORD

Vestland County is located on the western coast of Norway. It is a region characterized by fjords, coastal landscapes, and urban centers. Notable cities like Bergen are located in Vestland county. [14]

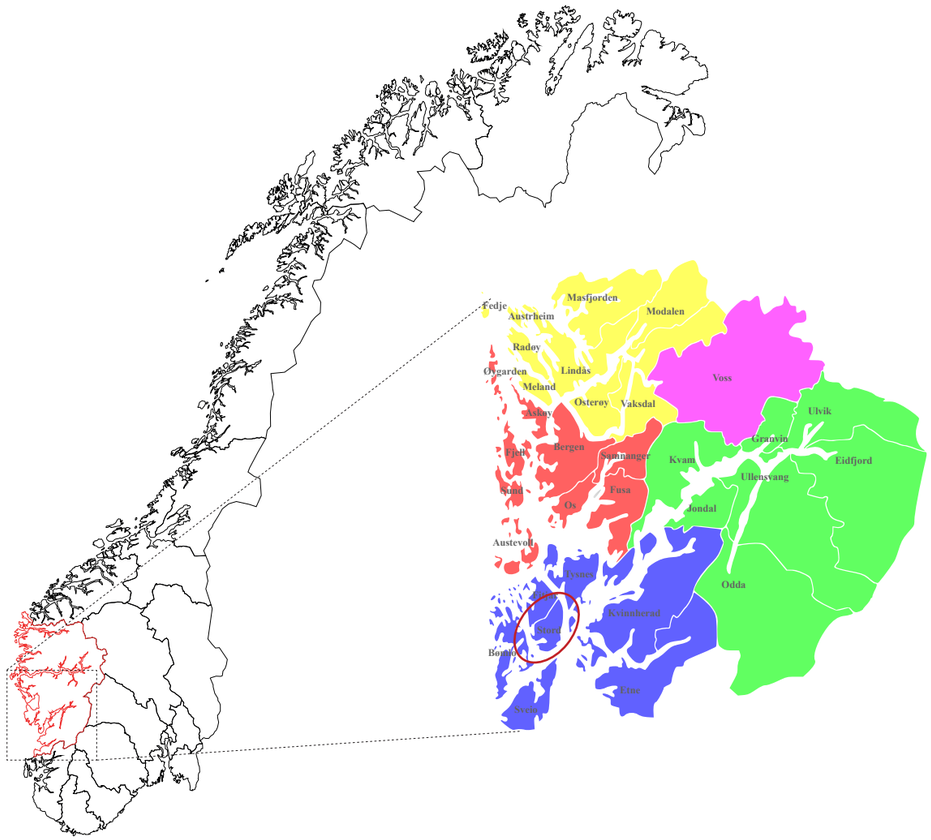


Figure 34.) Vestland (Westland) county. Sunnhordland is located in Vestland (Westland) county, consisting of seven municipalities, Bømlo, Etne, Fitjar, Kvinnherad, Stord, Sveio and Tysnes. [11] [14]

Figure 35.) Location Stord [7]

C.2.1. Stord

Area: 143.7 km²
Stord municipality includes the inhabited islands of Stord, Huglo, and Føyno, along with various smaller islands and islets. The southern half of the island falls under Stord municipality, while the northern half is part of Fitjar municipality.

The overall population of Stord municipality exceeds 19,098 inhabitants (estimated per today [4]). The largest settlements on the island are the town of Leirvik which was granted town status in 1997, and the villages of Sagvåg and Fitjar. [11] [14]

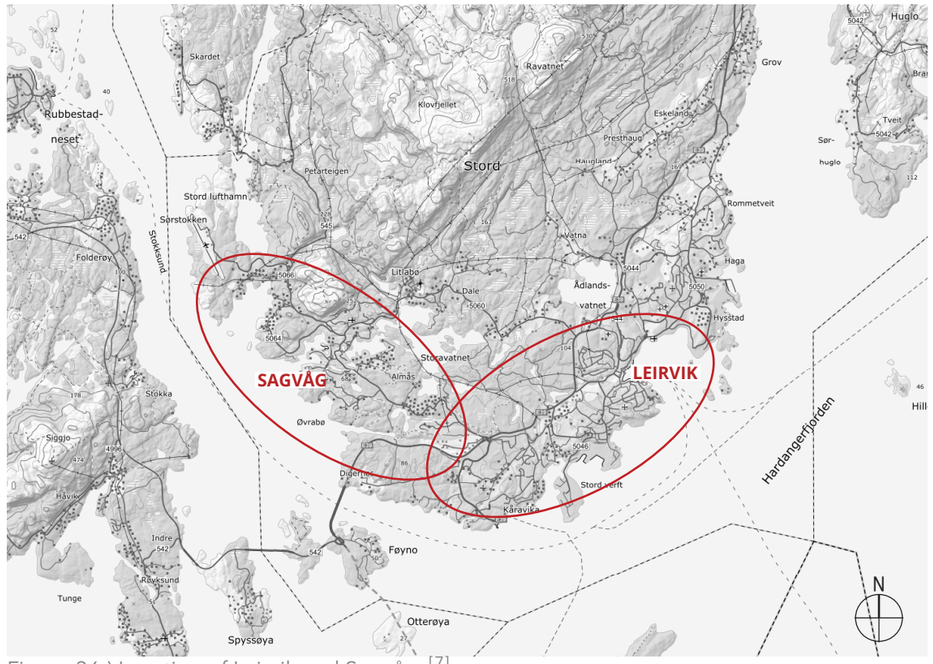


Figure 36.) Location of Leirvik and Sagvåg. [7]

C.2.2. History

Industrial development in Stord started between 1920 and the 1970s, with manufacturing emerging as the primary sector. Key players such as Kværner and Apply Leirvik played significant roles, focusing on offshore oil installations and onshore facilities for oil recovery. Aker Solutions, previously Aker Stord, was involved in constructing supertankers with a capacity of up to 370,000 tonnes dv. (until 1975). After a drop in the tanker market, the company shifted its focus to building large production platforms in the North Sea. By year 2000, manufacturing accounted for 63% of the economically active workforce within the trade and service industries, while only 1% were associated with primary industries. [14]

Figure 37.) Trekantsambandet (English: The Triangle Link) is a connection link with three branches that link the islands of Stord and Bømlo to each other, as well as to the mainland at Sveio, Norway. The island of Stord is in the middle of Sunnhordland and can be reached by road via Bømlo and Haugalandet/Haugesund, via the Triangle Link. [11] [18]

Figure 38.) Picturesqueo view of Leirvik [29]

C.2.3. Leirvik and Sagvåg

The municipality's two towns are the administrative center Leirvik and Sagvåg. Leirvik, locally known as "Vikjo," serves as the municipal center with an approximate population of 14,000 inhabitants, while Sagvåg stands as the second-largest town with around 4000 residents. [18] [14]

C.2.4. Leirvik

Leirvik is the regional center in the area. The center of Leirvik is located around Leirvik harbor. Here you can find everything you would expect from a small town. Leirvik is the hub for communication between Bergen, Kvinnherad and Haugesund / Stavanger for both coastal buses and speedboats.

There are primary schools, secondary schools, several high schools, many shops, a shopping center but also a medical center/health services and municipal administration are located here. There are several kindergartens. [19]

Figure 39.) Storddøra (The Stord door) [19]
The 18-meter-tall installation "Storddøra" stands prominently at the entrance to Leirvik harbor. Comprising steel, glass, and 20 illuminated propellers that turn with the wind, the structure evokes associations with fantastical portals or industrial cranes.

C.2.5. Other amenities in Leirvik

Figure 40.) Amfi Stord [11] [14]
AMFI Stord is a shopping center in the middle of Leirvik center. It boasts a large selection of shops. A food shop, pharmacy and a café. The mall has its own built in parking house. The center was opened in 1984 and has been expanded and modernized several times, most recently in 2016.

Figure 41.) Leirvik bus terminal

Bus terminal connects Leirvik to its neighboring locations.

Figure 42.) Stord secondary school [11]

Stord ungdomsskule is a central secondary school in Stord near the center of Leirvik. The school has about 330 students.

Figure 43.) Stord High School [11]

Stord VGS has 10 pre-study/vocational education programmes, The school has regional responsibility for adolescent education.

Figure 44.) Stord Sports Park - Vika Haugane AS [11]

Stord Idrettspark is the largest sports facility between Stavanger and Bergen. A number of sports events are organized here annually. It boasts artificial grass football fields, indoor halls for handball, volleyball, gymnastics and athletics.

C.3. SAGVÅG (Introduction to site location)

Sagvåg is the second-largest urban settlement in Stord, second to Leirvik. It is situated about 8 kilometers west of Leirvik. It is in close proximity to Sunnhordland Airport, offering various service institutions, shops, and serving as a desirable residential area. Although Sagvåg covers a significant area, its central core revolves around Sagvåg Harbor.

Sagvåg has a population of around 4000 inhabitants. It has 3 primary schools and 1 secondary school. There are multiple nurseries, a medical center, hair salon, and a gas station. The town center boasts amenities such as bus stops, a cafe, and a pub. In addition, there are two grocery stores both located within close proximity to the center. [11] [14]

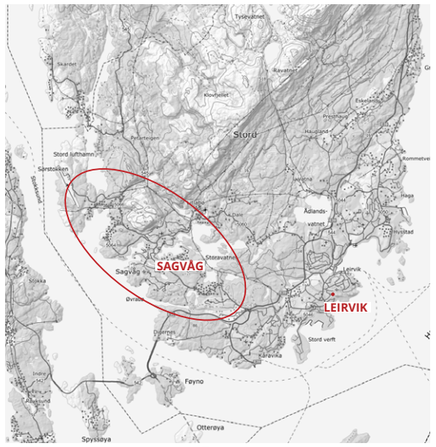


Figure 45.) Sagvåg [7]


Figure 46.) Stord Airport [SRP]. Opened: 25 October, 1958. [14]
Runway: 1,460 meters

Stord Airport, situated in Sagvåg, is an important transportation hub on the island of Stord in Vestland county, Norway. It's about 6 kilometers away from Sagvåg's center and plays a vital role in making travel easier for the local community and surrounding areas.

It is classified as an airport of entry. Danish Air Transport operates up to three daily flights to Oslo Airport, Gardermoen. In the past, Stord Airport has been serviced by various airlines including Coast Aero Center, Fonnafly, Air Stord, Teddy Air, Widerøe, and Sun Air of Scandinavia. [14]


Figure 47.) Areal photo Sagvåg [11]

C.3.1. Distances and connections

Heiane 4 km , Kværner 5 km , Leirvik 8 km
Convenient bus strops connect Sagvåg to the north, and to the city center in the south.Buses primarily operate every hour. Sagvåg is located along the main bus route.
Stord Airport is situated in Sagvåg, approximately 6 km from the center of Sagvåg. [5]


Figure 48.) Areal photo Sagvåg [11]

C.3.2. Nature and recreation

The area offers excellent recreational options, featuring hiking trails, forested landscapes, beaches, and scenic rocky cliffs. Enthusiasts can enjoy a motocross track, well-lit football pitches, and fishing spots. [11]

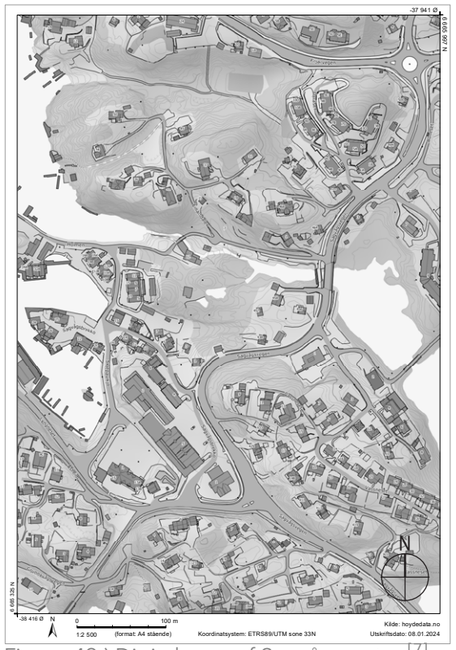


Figure 49.) Digital map of Sagvåg center [7]

Figure 50.) Sagvåg center
Source: *Google earth pro*

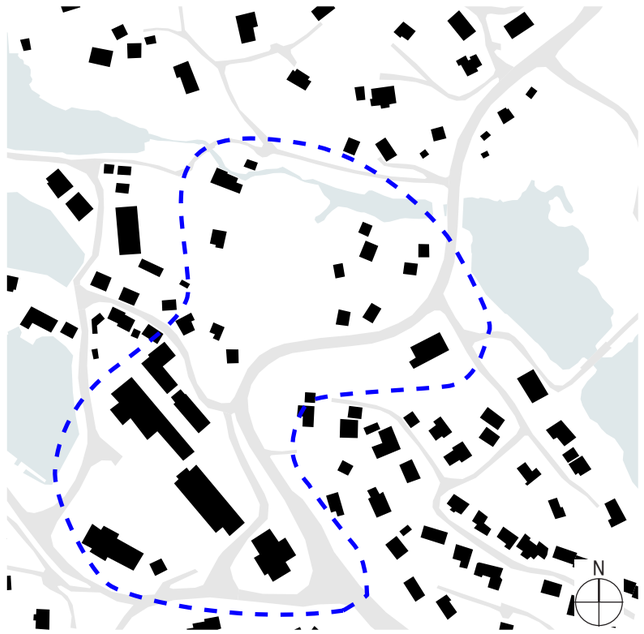
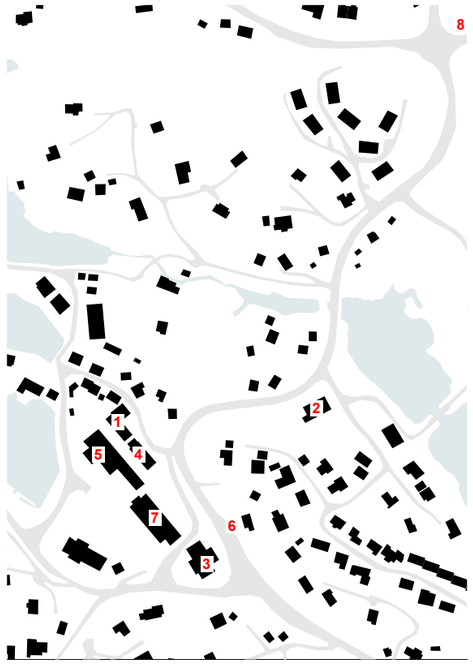


FIgure 51.) Sagvåg center core

C.3.3.Sagvåg center core

8 million turnover of groceries
1 million liters of fuel sold
6,500 annual traffichours
60 residential buildings (2015)
4000 m² usable living area
Home to 15 companies
8000 m² usable industry area
Public services [5]

C.3.4. Buildings



Some important buildings in Sagvåg

N

1 Sagvåg cafe building
2 The Blue building
3 Gas station
4 Central building
5 Electro building
6 Bus stop
7 Sagvågsgården / grocery store
8 2nd grocery store 5 min. by walk

Figure 52.) Building location diagram

C.3.4.1. Sagvåg café building

Erected in the early 1950s, the primary structure initially served as Stord's office and Electrical shop, featuring a butcher shop on the lower floor. This wooden house, with brick cellars and standard ridge roofs, underwent expansion in the late 1970s to accommodate an enlarged grocery store, a clothing store, and the canteen for Stord Elektro. Over the years the building has been repurposed into a residential space, cafe and shop. Sagvåg Café, established over three decades ago, has become a popular social hub in the center. Boasting a welcoming bar and dining area, the cafe occasionally hosts events like karaoke or live bands on weekends. Additionally, the cafe offers room and dormitory rentals. [2]

Figure 53.) Café building
Source: *streetview google earth*

Figure 54.) Blåbygget (The Blue building)
Source: *streetview google earth*

C.3.4.2. Blåbygget (English: The Blue building)
Constructed in 1990 by Sunnhordland Elektro, this concrete building features a steel sheet facade. The current occupant of the blue structure is the municipality's health and social services. It houses various medical and social welfare facilities. [0] One offer is day activity offers for people with dementia. [2] [11]

Figure 55.) Gas station
Source: *streetview google earth*

C.3.4.3. Gas station
The main structure, erected in 1984 by Stord Elektro, originally served as the premises for Sunnhordland Elektro (formerly Stord Elektro) and Big Data. Constructed with a concrete foundation and adorned with a steel sheet facade. Sagvåg Petrol station has been important for Sagvåg's total city center offer. [2]

Figure 56.) Sagvågsgården
Source: *streetview google earth*

C.3.4.4. Sagvågsgården (Sagvåg yard)
Built in 1994 by Aktum Eigedom, to house grocery store and apartments.
The building is made of concrete elements, with outer walls of wood and ridge roof. Built on i 2010 for the expansion of the grocery store. [2]

Figure 57.) The Central building
Source: *streetview google earth*

C.3.4.5. The Central building
The main structure, erected in 1984 by Stord Elektro, originally served as the premises for Sunnhordland Elektro (formerly Stord Elektro) and Big Data. Constructed with a concrete foundation and adorned with a steel sheet facade. There are currently proposed renovation plans, converting the building into a fitness center, a cafe and restaurant. In addition, there are proposed 4 apartments in 3rd floor and 3 apartments in 4th floor. [2]

Figure 58.) The Electro building [5]
Source: *streetview google earth*

C.3.4.6. The Electro building
Constructed in the 1960s by Stord Elektro, now Aktum Eigedom, the Elektrobygget was initially intended to house Stord Elektro's electrical shop and production department. The building was constructed in several stages over a 10 year period, and was expanded three times. Transitioning from wood to a combination of concrete and wood with a ridge roof.

In 2016 the Electro building was converted into apartments under the name “The Electro building housing association”. The building has a large common entrance area and a lift. The building is located with facades mainly to the west/south and has spacious balconies/terraces for each apartment. The project is offering tenants convenient living. [2] [5]

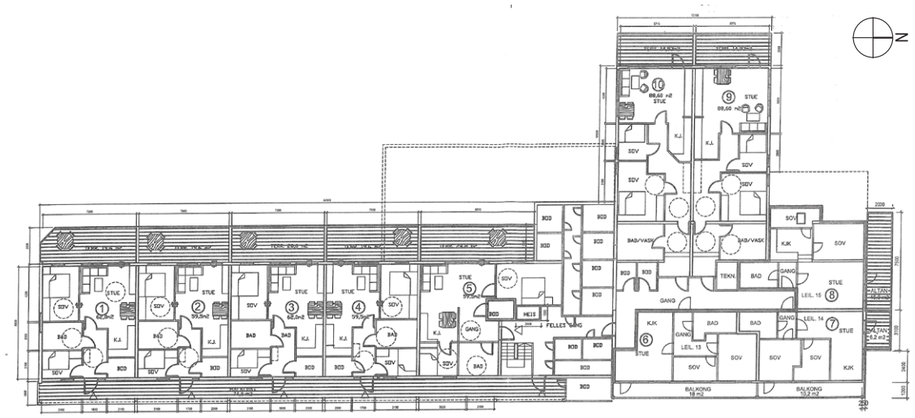


Figure 59.) Plan drawing of apartments in the Electro building.
Apartments 59m², 2 bedrooms [1]

Figure 60.) Private terraces with good sun conditions. Private entrances.
Photos: Aktum Eigedom [1]

C.3.4.7. Sagvåg School

Sagvåg School is a elementary school located right on the outskirts of the center.

Figure 61.) Sagvåg School [11]

Figure 62.)
Nysæter junior high school.

C.3.4.8. Nysæter School (2023)

Nysæter junior high school. There are approximately 219 students in 8th to 10th grade. The school includes room for activities such as climbing, 25 m of pool and big halls [11] [11].

Figure 63.) Nysæter Church

C.3.4.9. Nysæter Church

The red brick church was built in 1991. It is located right on the outskirts of Sagvåg center. The church seats up to about 350 people. [11]

D. SITE

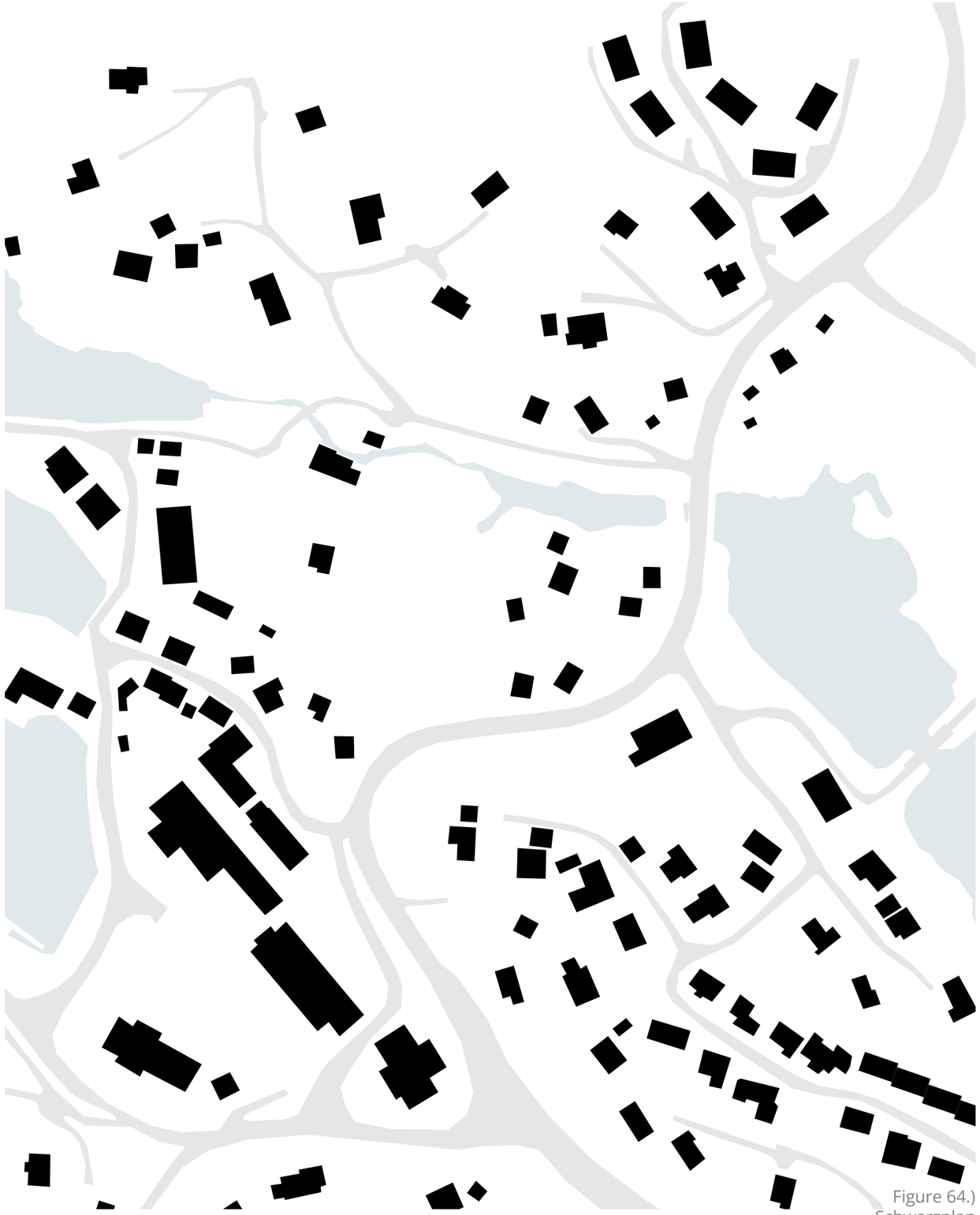


Figure 64.)
Schwarzplan

Schwarzplan Sagvåg centrum

Scale: 1:2500

0m 10 20 30 40 50 100

N

Format A4

D. SITE

D.1. CURRENT TYPOLOGY IN SAGVÅG

Legend

- Public amenities
- Grocery store
- Mixed use
- Gas station
- Kindergarten
- Residential
- Residential shack
- Fire station
- Technical structures

N

Figure 65.)
Typology map

Sagvågs proposed vision is to acquire 80% residential and 20% commercial building-area. From 2015 - today. [5]

With its 80/20% principle, Sagvåg wants to focus on:
Residential development: (center development, young adults, seniors, familiar, apartments, small units, semi-detached houses, terraced house) -
Commercial development: (crocery, public services, health related industry, personal care, small private businesses, hospitality)[5]

D.2. SITE LOCATION WITHIN SAGVÅG

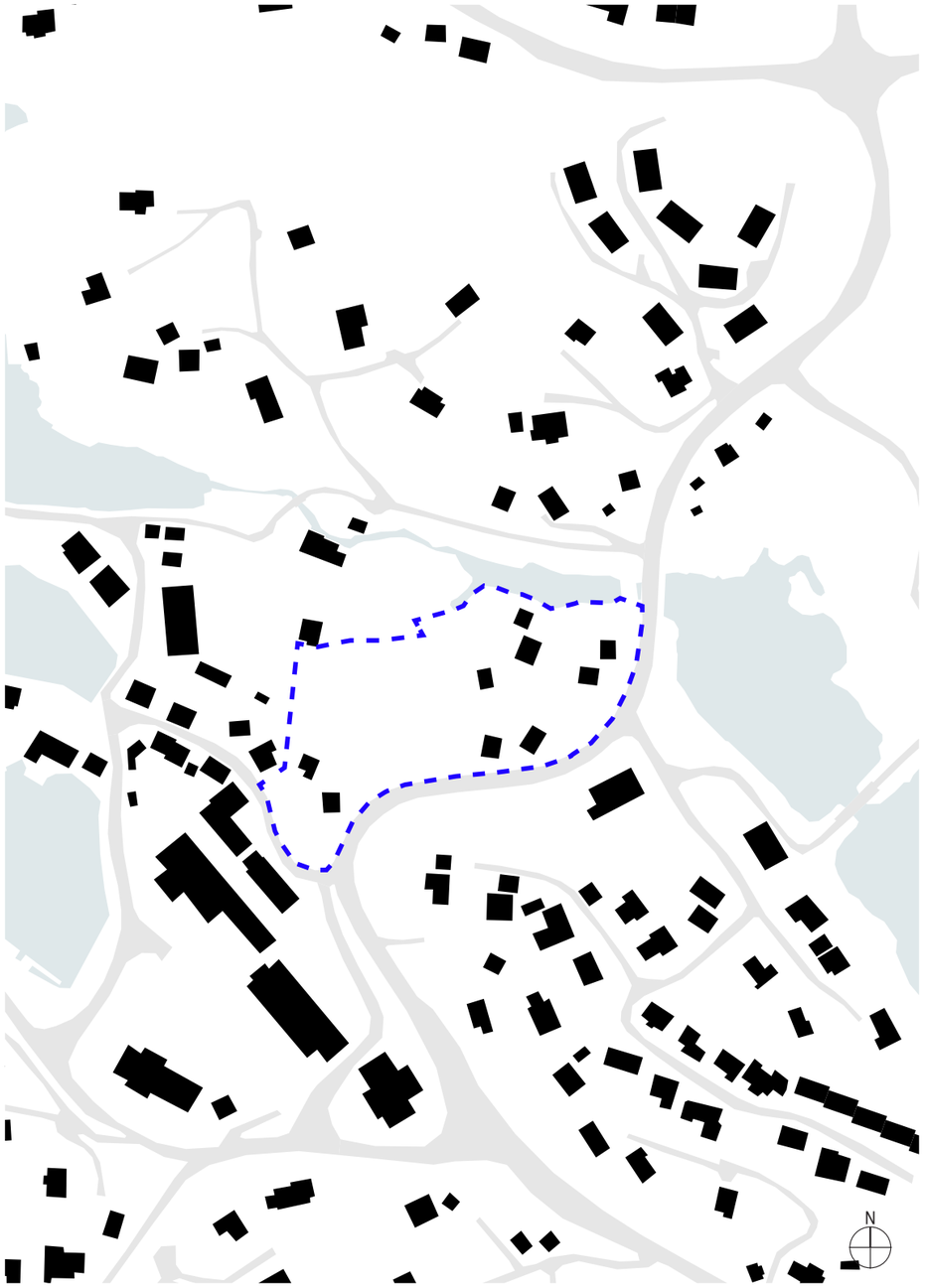


Figure 66.)
Site location

Site outline

The site is located right in the heart of Sagvåg. It is surrounded by amenities and other residential buildings. The site is well connected to the rest of Sagvåg, with less than 5 minutes by walk to every necessity.

D.2.1. Current regulation plans for Sagvåg

Figure 67.)
Current regulatory plans surrounding the site [6]

D.2.2. Current regulation plan for the site

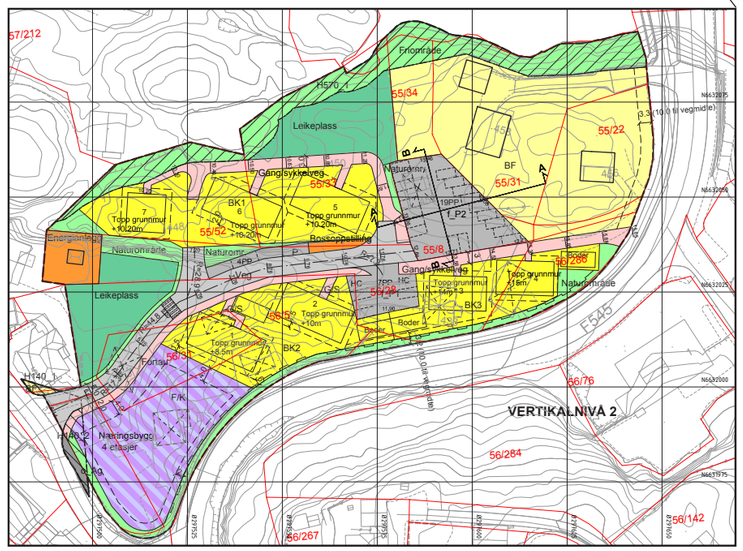
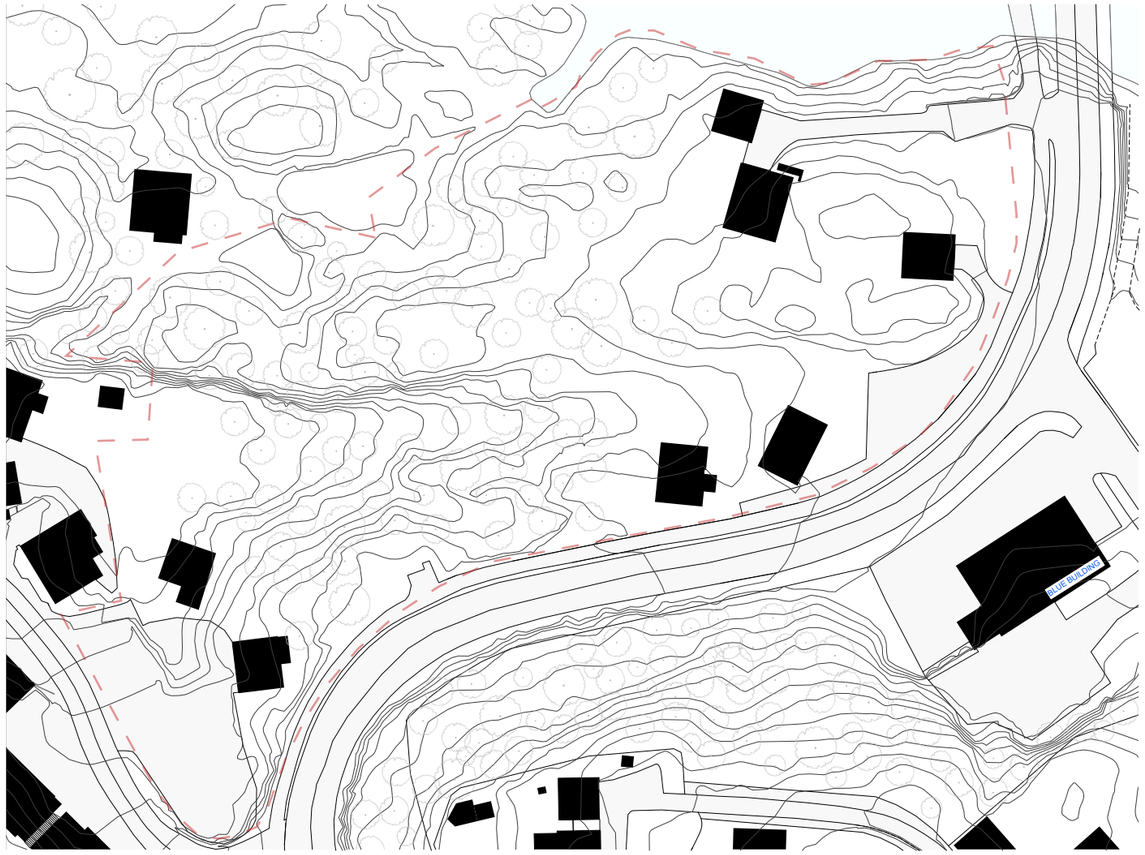


Figure 68.)
Current regulatory plan for the site [4]



D.3. SITE PLAN

Scale:1:1000

Figure 69.) Site plan
The site is situated on the rocky terrain with uneven ground. The heights vary on the site. A natural slope pierce through the middle of the site, splitting the site in two. The site is in close proximity to both seawater and groundwater, as well as good connection to the nature surrounding recreational areas. The site has natural sunlight, and is not affected by the steep hill on the south. As well as a good connection to the town center, and two grocery stores within close proximity, the location is also right next to "The blue building", which currently holds the function as medical center, as previously mentioned.

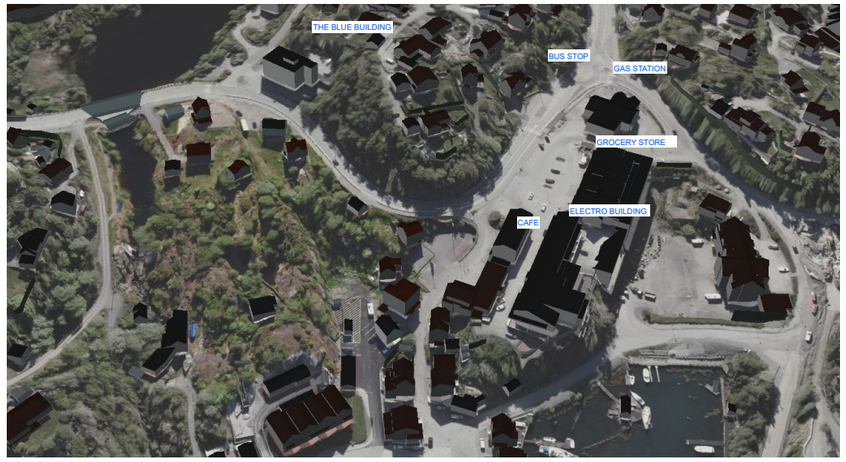


Figure 70.) From direction: north-west [8]
Road is going around the site

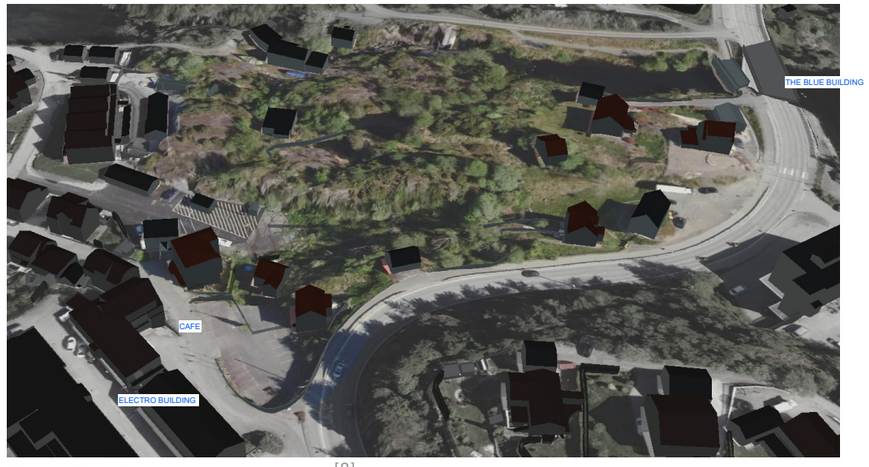
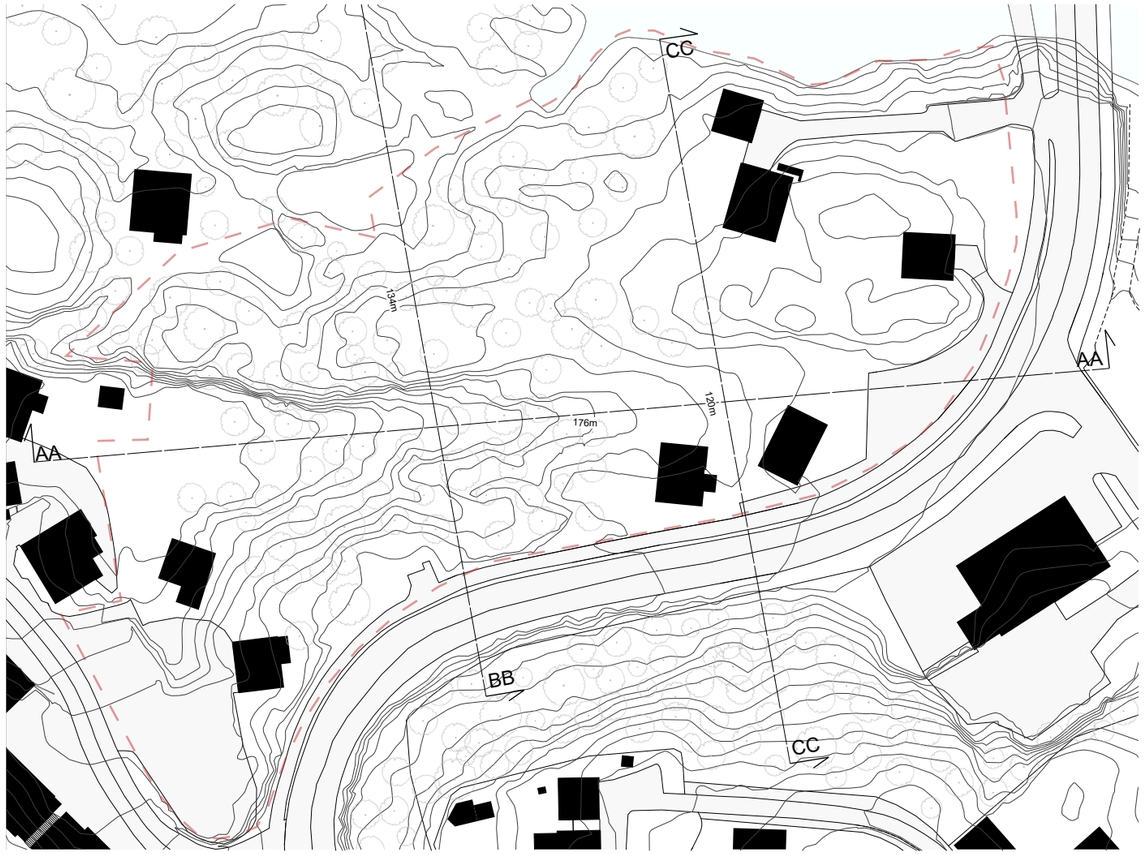


Figure 71.) From direction: south [8]
The terrain lays on top of a plateau, with view towards the sea



D.3.1. Terrain section sample

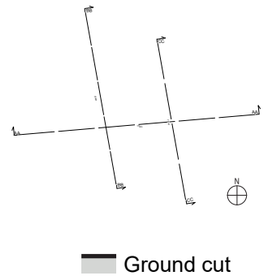
Scale:1:1000

Figure 72.) Plan showing section cuts

D.3.1.1. Terrain section sample - cuts

All in scale:1:1000

Data taken from *hoydedata.no* [0]



Vertical cuts

Figure 73.)
Section C-C

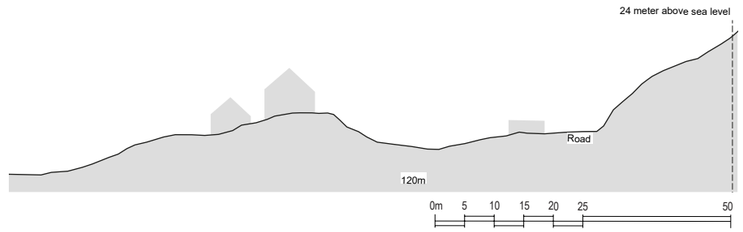
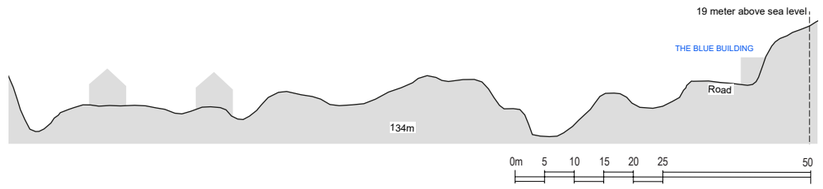


Figure 74.)
Section B-B



Horizontal cut

Figure 75.)
Section A-A

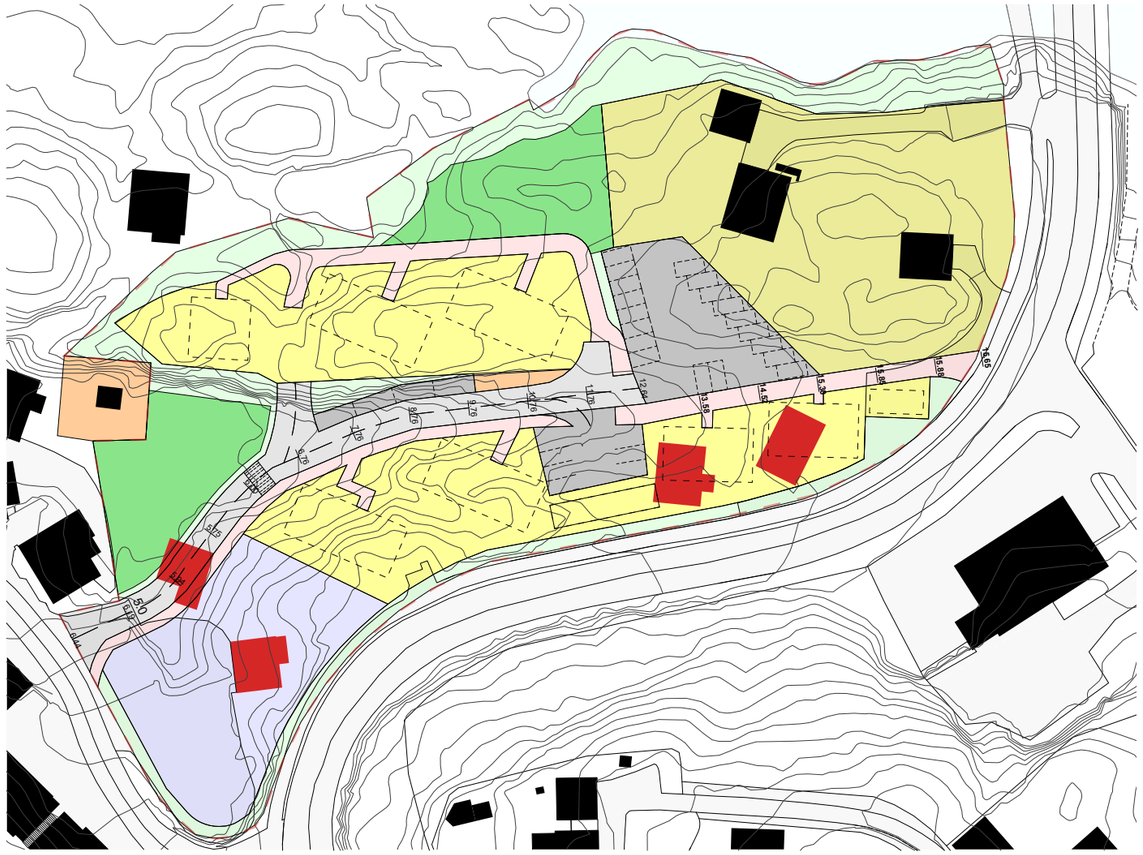


Figure 76.)

D.3.2. Current regulation plan notes

Scale: 1:1000

0m 5 10 15 20 25 50

N

Buildings and facilities

- Residential development-detached
- Residential development-concentrated
- Energy plant
- Renovation facility
- Playground
- Business/office

Transportation facilities and technical infrastructure

- Road
- Sidewalk/pedestrian/cycle path
- Parking spaces

Greenery

- Natural area

Demolition plan

- Structures to be demolished

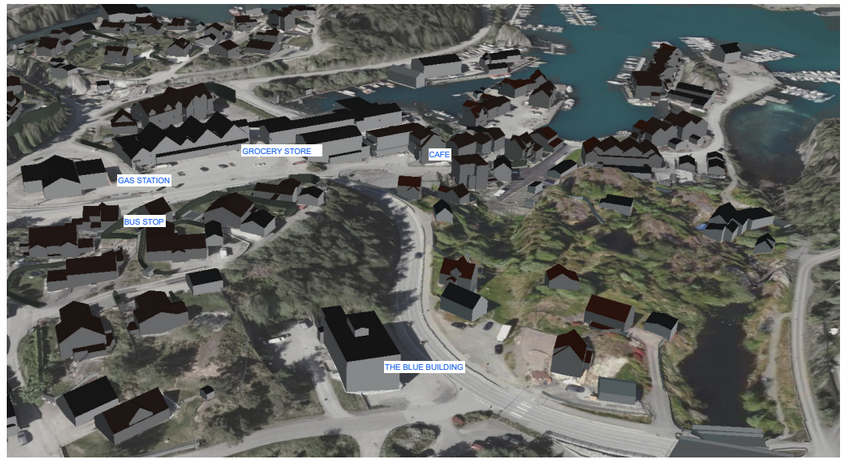


Figure 77.) From direction: east [8]
Coast view. The site have good sun and light conditions

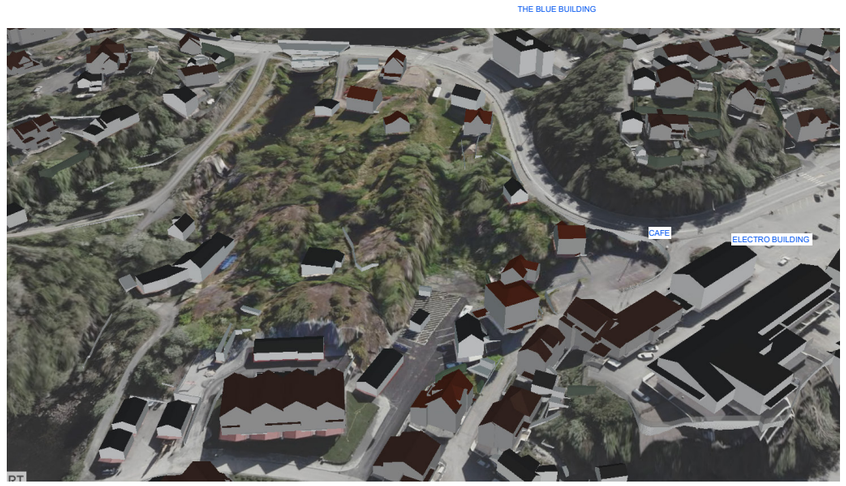
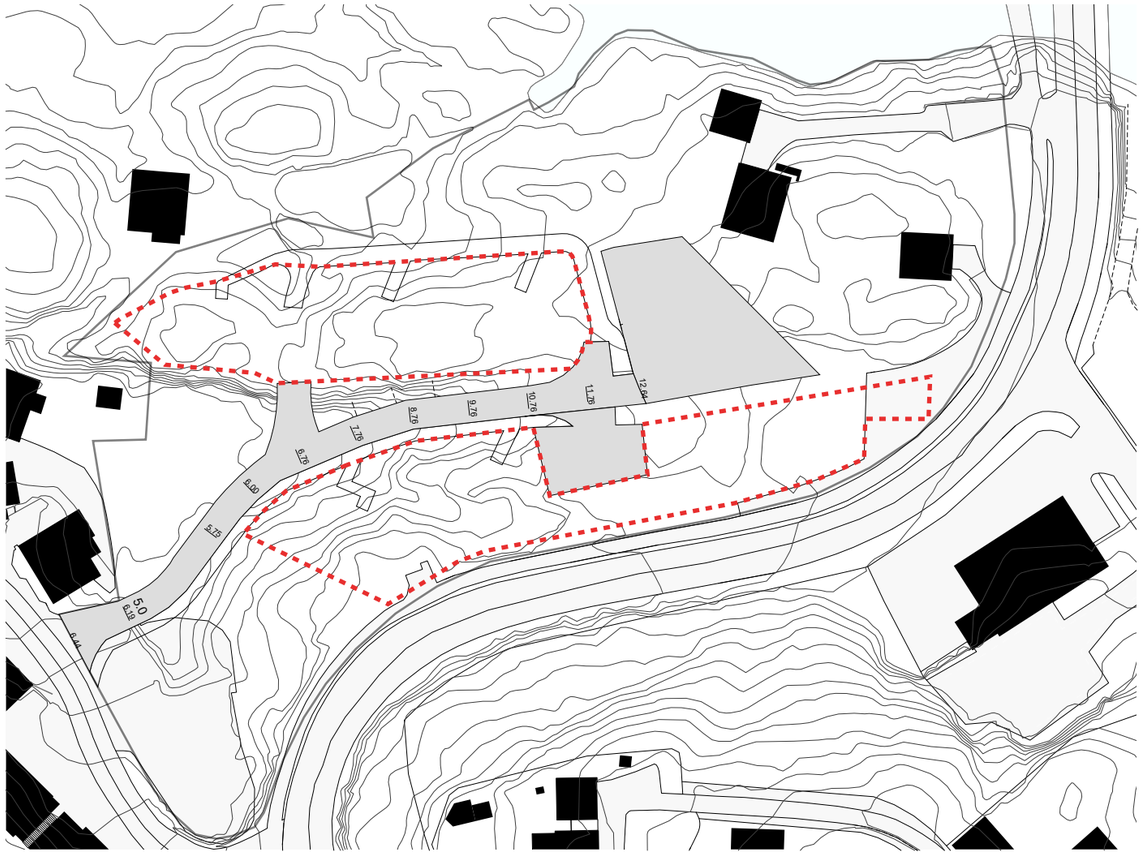


Figure 78.) From direction: west [8]



D.3.3. Building plot location

Scale: 1:1000

Legend

Road/parking

Figure 79.) Plan showing building plot location[s]

This land is already owned, and the owner wants to develop it. Based on previous analysis and planning drawings, I will base my plot on previous research. On this land, the owner wants to build:

Approximately 4-5 buildings that can accommodate 4 semi-detached houses each. Total living space for 20-25 adults + 3-5 single adults.
3-5 single person homes cirka 60m2. Apartments can be be included in the larger building bodies, which means apartment buildinngs of 2-3 floors.
Larger apartments must include 1 large bathroom, 1 small bathroom. 1 large bedroom, 1 small bedroom.
Outdoor areas and roads, to be discussed.

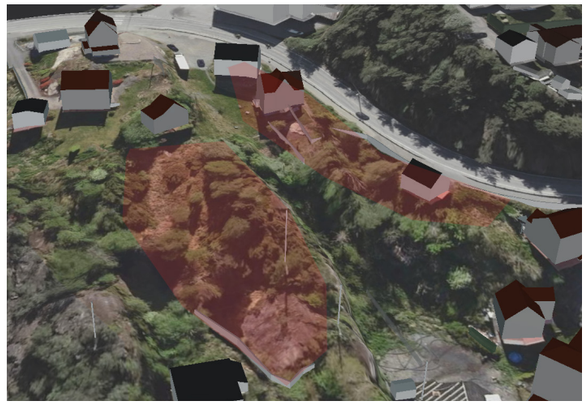


Figure 80.) [8]
Key words: Attractive location, good light condition, quality views, close to nature, situated on two hills, the sea, well conneceted to the rest of Stord.

Target group: Seniors

Cost: Reasonable cost

D.3.4. Goals

The goal is to create a building structure that could theoretically be used for something in real life. The design of the one building body, should be able to be "copied" and placed around several places on the plot, both for economical and practical reasons. The goal is to end up with something that can give some value to the owner of the plot, however, given that this is a theoretical task, the satisfaction of the faculty's teachers and supervisors are the highest priority.

D.4 CONCLUSION

In this written part, I have briefly introduced you (the reader) to the topic of the elderly wave. I have further explained how we are witnessing a new demographic shift, and how we can meet the needs with high quality infrastructure and architecture. The 4 examples are provided to give a framework of how it is possible to implement both literal and figurative ideas into structures that can in return impact everyone in our society in a beneficial way. Small ideas and simple principles can have a huge impact.

Furthermore, I have given a brief introduction to Norway and conducted a relatively described brief of Sagvåg, its locality, structure, some development plans and existing buildings. The site location has been described with plan view, sections and 3D views, providing basic understanding of the area.

Furthermore, I hope I have with this written part, created a basic understanding of what my thesis project is going to be about, the site and some of the implementations. There is of course a lot to be further discussed, but this part of my thesis will work as a threshold for the rest of my work.


544 Leirvik


GRIND


S1
S2

DIPLOMA PROJECT

SAGVÅG SENIOR GARDEN

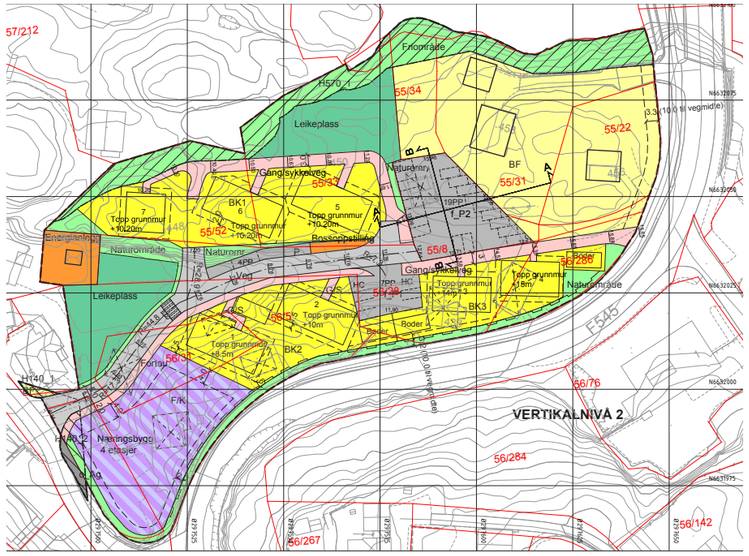
The project is an attempt to use a developer's plan of creating housing for people above the age of 60 years of age. The aim is to come up with a solution that can meet the requirements of a property developer, while keeping the inhabitants' well-being in the center of focus.

SITE LOCATION

Sagvåg
Norway
59.776646, 5.393782

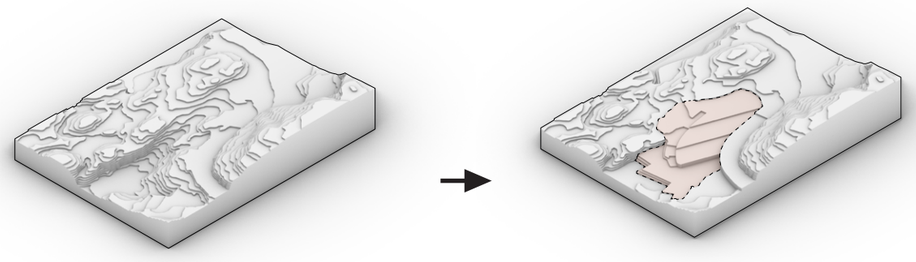
SITE

Current regulation plan:



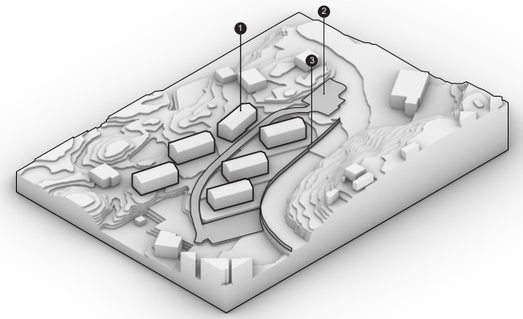
6000M^3 OF LANDMASS TO BE FILLED IN AT CURRENT LOCATION

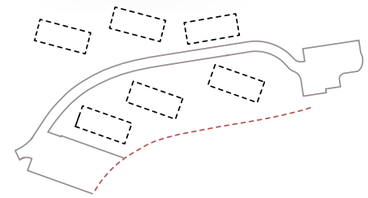
As part of a larger project ongoing in near proximity, cirka 6000m3 of landmass is to be moved and replaced at given location. The larger project is also conducted by the same developer, and wants to do this as an overall environmentally friendly approach.



BRIEF

Here, the developer wants to build six structures, including a private road. A sound barrier wall should also be taken into consideration as a necessary part of the project.

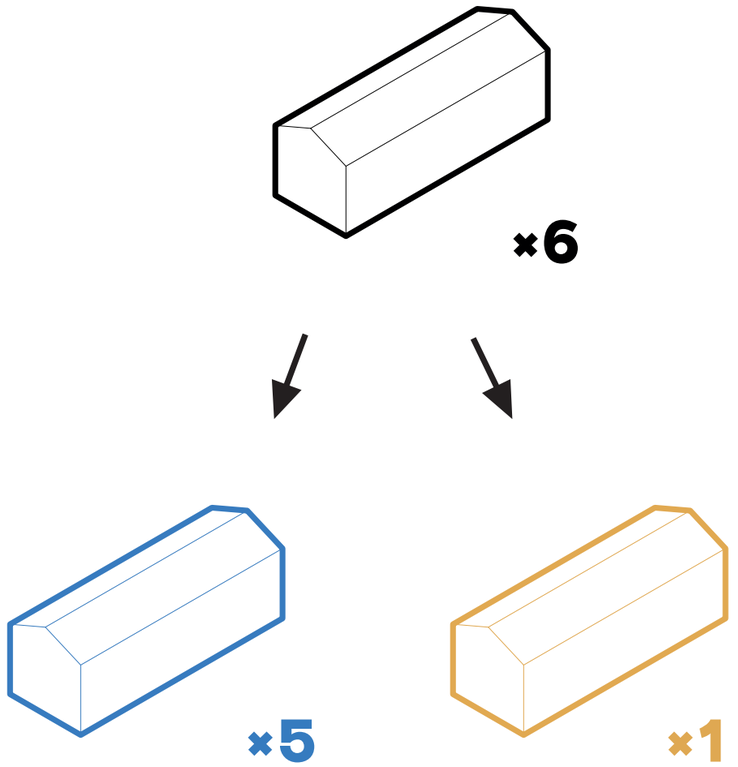


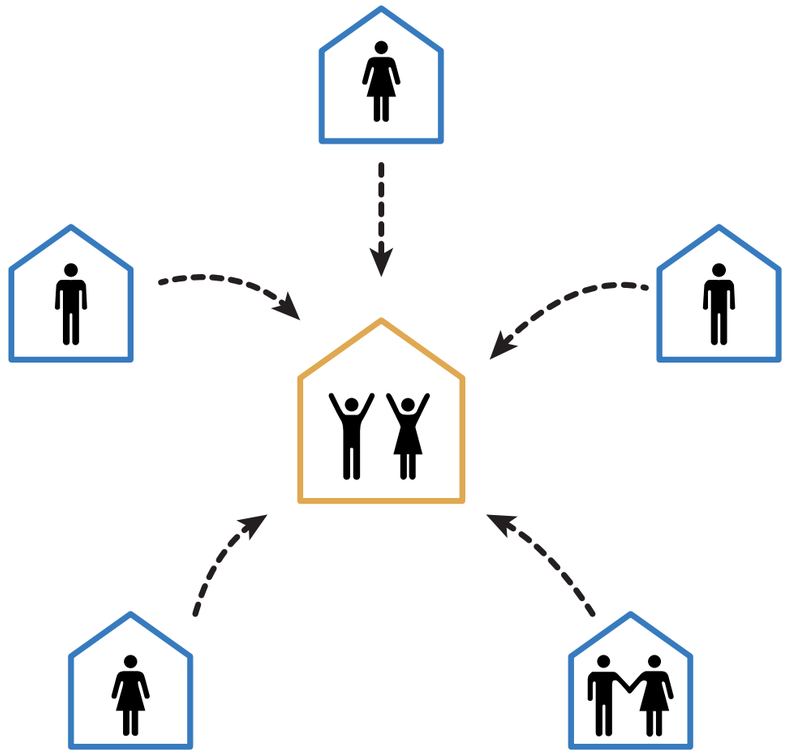


HOUSING FOR PEOPLE ABOVE 60 +

As part of the brief, the main idea is that it should be aimed towards people that are of 60-plus years of age. The individuals are ideally healthy individuals, looking for independent living with a twist.

In addition, the project should take into consideration the fact that the buyers should be able to afford it, as buyers would mainly be retirees.



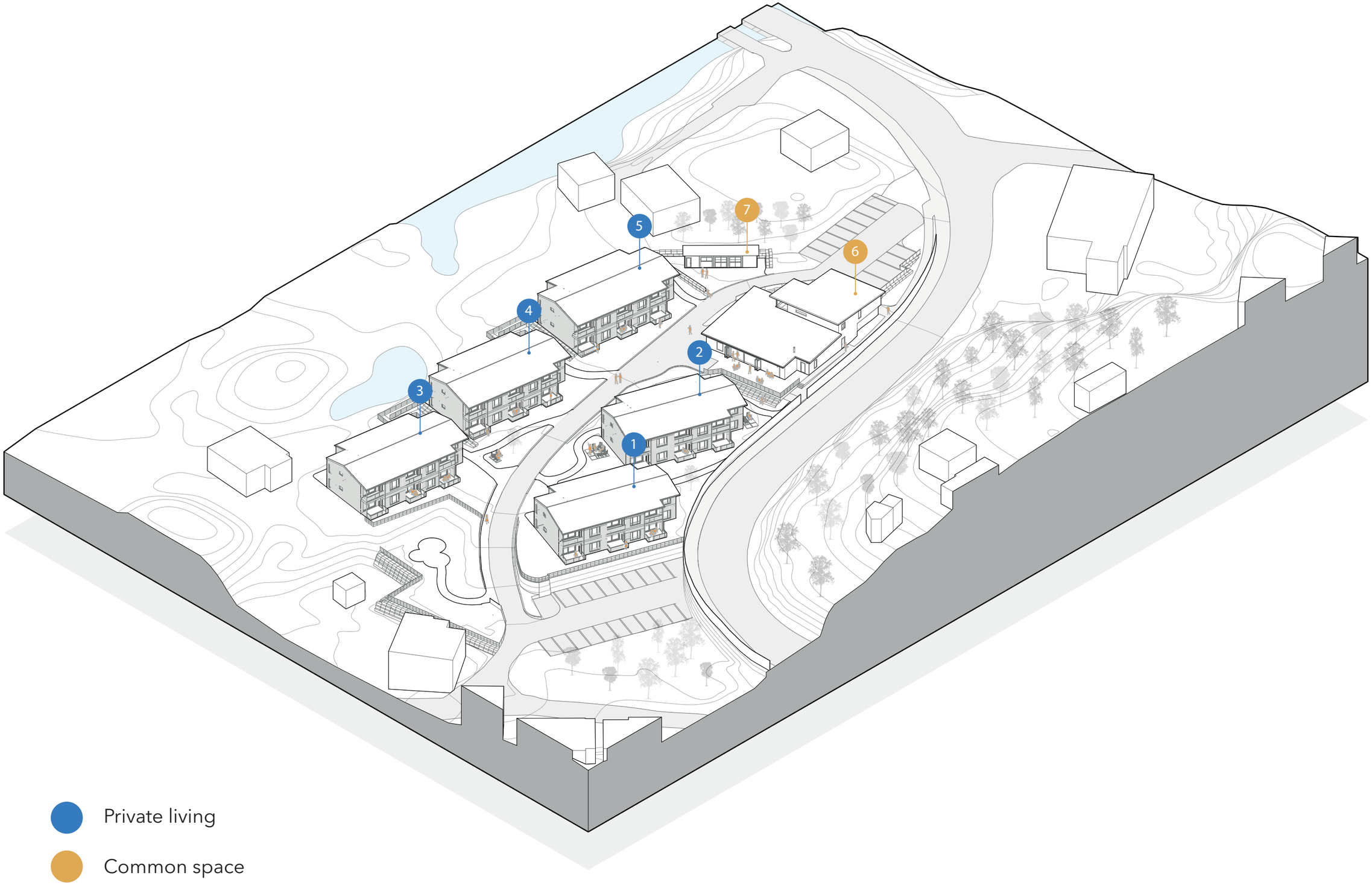


The concept is based on the already six planned structures that are to be built. Taking into consideration the issues that the elderly wave are bringing, it is important to consider how architects can weave in solutions against isolation and depression.

The main idea is therefore that the project should aim towards creating a place to comfortably become older. Five structures should be apartment buildings, while one structure holds the function as an attractor, dedicated to create togetherness and wellbeing amongst the residents.

The common space should function as a place for the residents to gather and be together. The structure should accommodate functions as to passive-activate residents, as it shouldn't be pushed upon the residents, but rather give them the option. However, a small responsibility on maintaining the spaces lies on the residents, as these individuals are healthy and are looking for wellbeing rather than care-taking.

SITE AXONOMETRY



Private living

Common space

SITE PLAN

Scale: 1:500

1 2 5 15 25 35 50

N

SITE PLAN

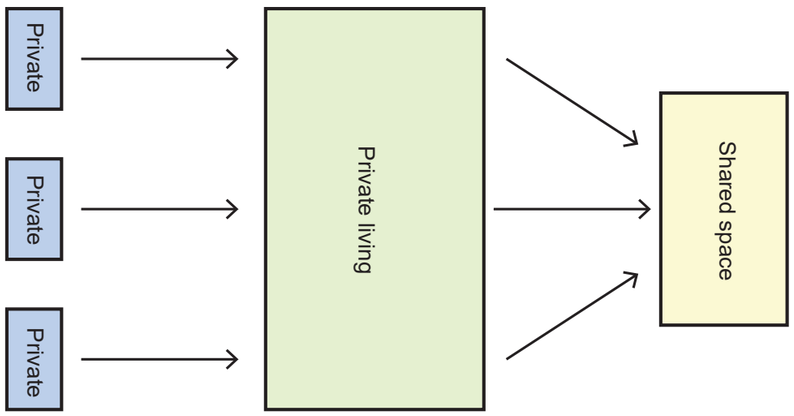
Scale: 1:500

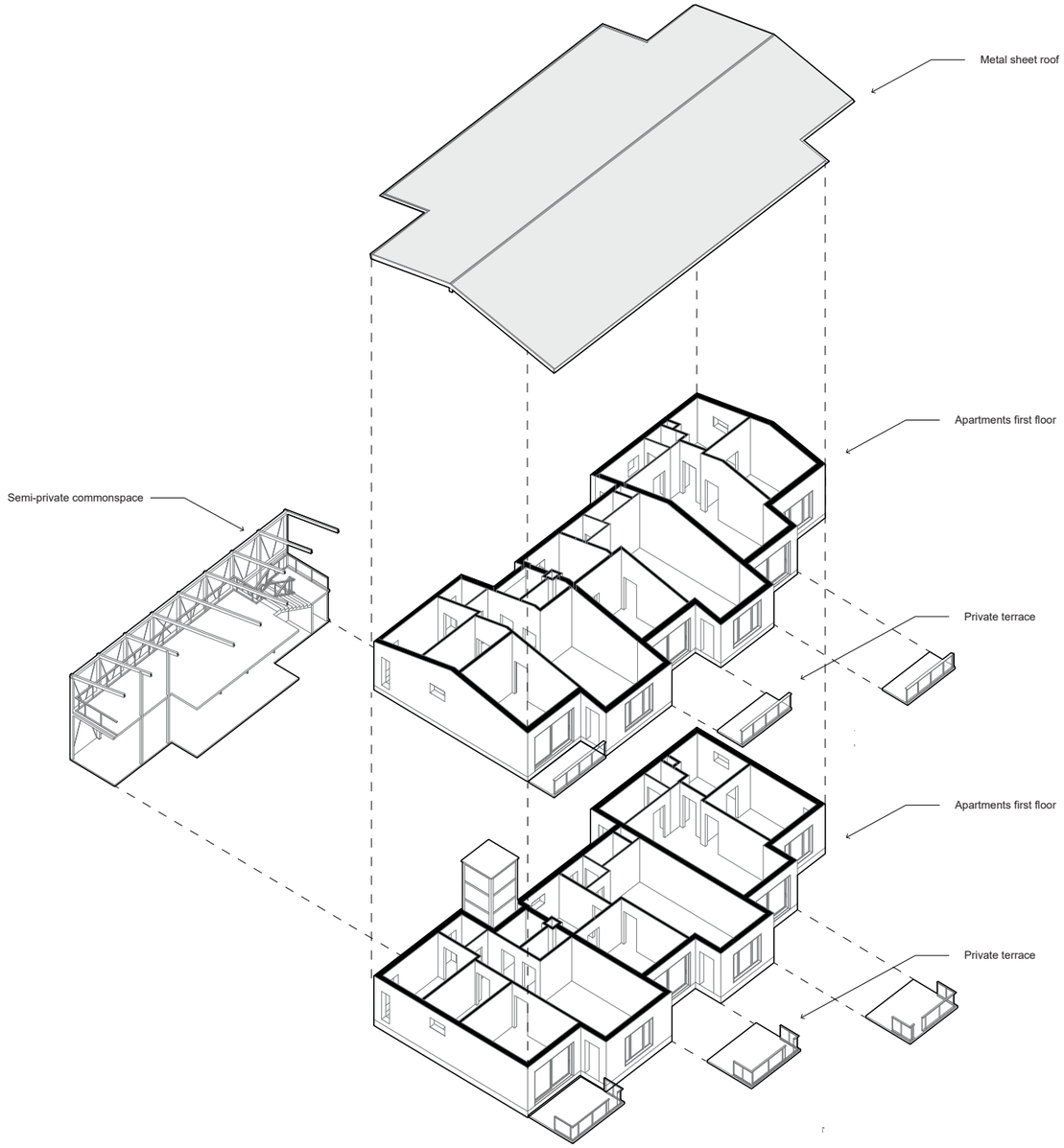
1 2 5 15 25 35 50

N

FIVE APARTMENT BUILDINGS

The apartments are based on the idea of creating multiple functions and spaces for the inhabitants. The inhabitants should be able to get the feeling of privacy, while at the same time be able to make easy contact with one another.





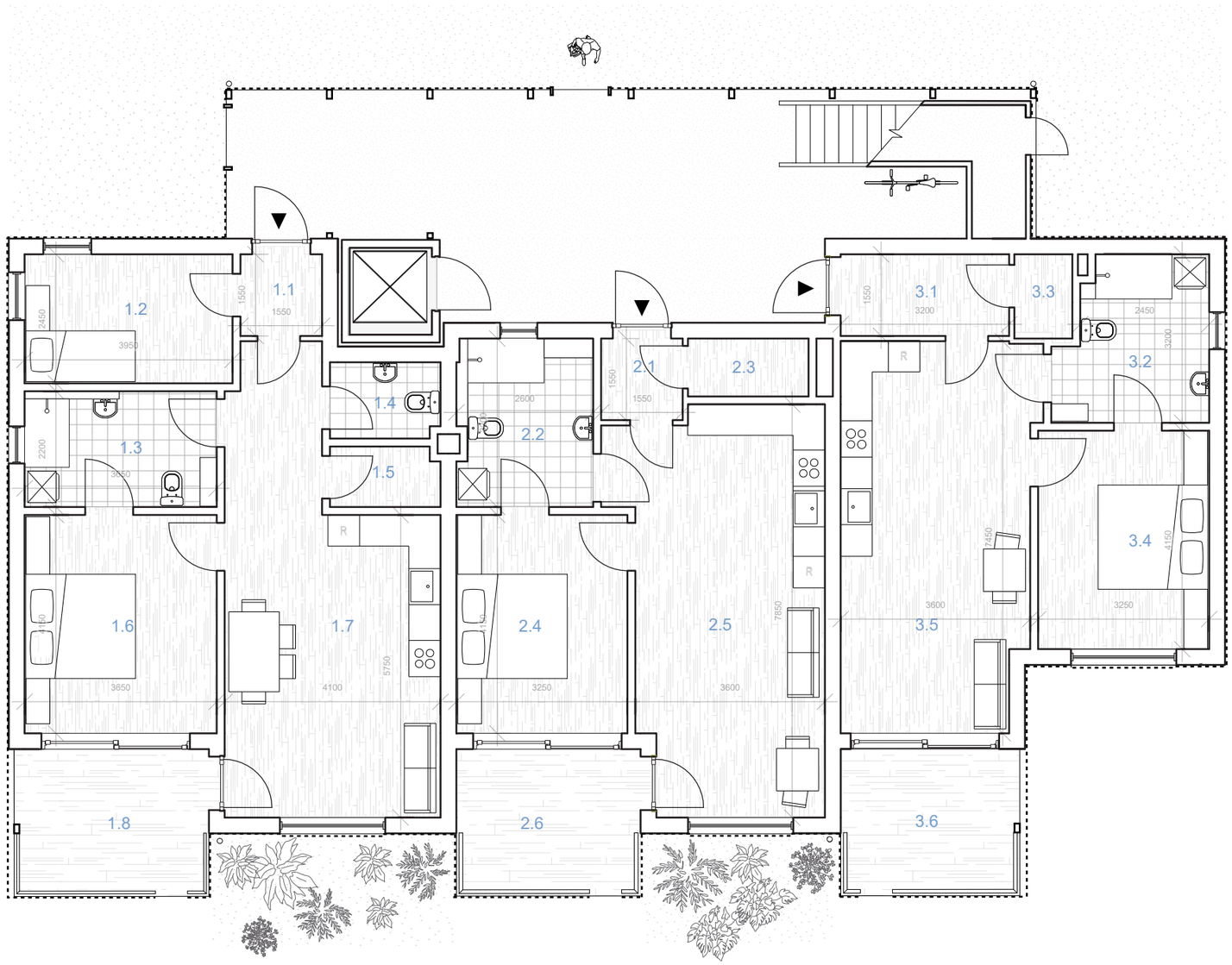
1. PRIVATE TERRACES
Terraces on the first floor gives the inhabitant room for relaxation, while still being in private. The inhabitants should be able to come here to get a break from socialization, while still feeling connected to the whole.

2. DOWNSTAIR TERRACE AND PLANT BEDS
Each house will have plant beds in front of their apartments, creating a sense of "their" plant beds.

3. SEMI PRIVATE COMMONSPACE
Each apartment will have a common entrance space. This includes shared space on the ground floor, and the first floor. Here, the people living in each apartment can easily meet and socialize, without having to go too far out of their way.

4. GROUNDFLOOR COMMONSPACE
Although not a dwelling space, the area should function as a break between the outside. Here, the inhabitants can store general items such as bikes, brooms or other everyday items.

PLAN - GROUNDFLOOR



Room number	Room name	Area m²
1. 1.	Entrance	2 m²
1. 2.	Bedroom	10 m²
1. 3.	Bathroom	8 m²
1. 4.	Bathroom	3 m²
1. 5.	Storage	2 m²
1. 6.	Bedroom	15 m²
1. 7.	Living room and kithen	29 m²
1. 8.	Balcony	9 m²
		78 m²

Room number	Room name	Area m²
2. 1.	Entrance	2 m²
2. 2.	Bathroom	8 m²
2. 3.	Storage	3 m²
2. 4.	Bedroom	13 m²
2. 5.	Living room and kithen	28 m²
2. 6.	Balcony	9 m²
		63 m²

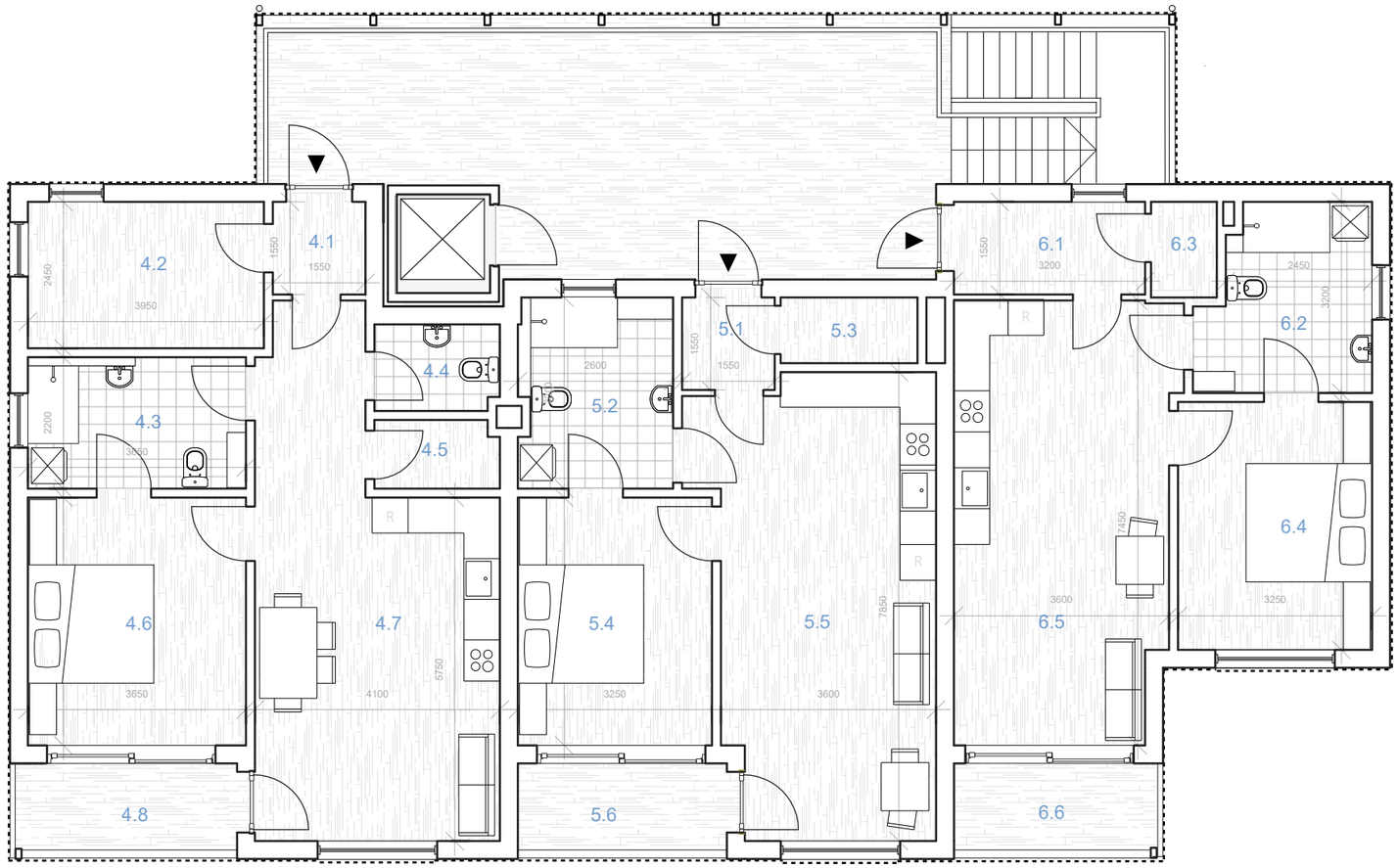
Room number	Room name	Area m²
3. 1.	Entrance	5 m²
3. 2.	Bathroom	8 m²
3. 3.	Storage	2 m²
3. 4.	Bedroom	13 m²
3. 5.	Living room and kithen	27 m²
3. 6.	Balcony	9 m²
		64 m²

Scale: 1:100

0m 1 2 3 4 5 10

N

PLAN - FIRST FLOOR



Room number	Room name	Area m²
4. 1.	Entrance	2 m²
4. 2.	Bedroom	10 m²
4. 3.	Bathroom	8 m²
4. 4.	Bathroom	3 m²
4. 5.	Storage	2 m²
4. 6.	Bedroom	15 m²
4. 7.	Living room and kithen	29 m²
4. 8.	Balcony	5 m²
		74 m²

Room number	Room name	Area m²
5. 1.	Entrance	2 m²
5. 2.	Bathroom	8 m²
5. 3.	Storage	3 m²
5. 4.	Bedroom	13 m²
5. 5.	Living room and kithen	28 m²
5. 6.	Balcony	5 m²
		59 m²

Room number	Room name	Area m²
6. 1.	Entrance	5 m²
6. 2.	Bathroom	8 m²
6. 3.	Storage	2 m²
6. 4.	Bedroom	13 m²
6. 5.	Living room and kithen	27 m²
6. 6.	Balcony	5 m²
		60 m²

Scale: 1:100

0m 1 2 3 4 5 10

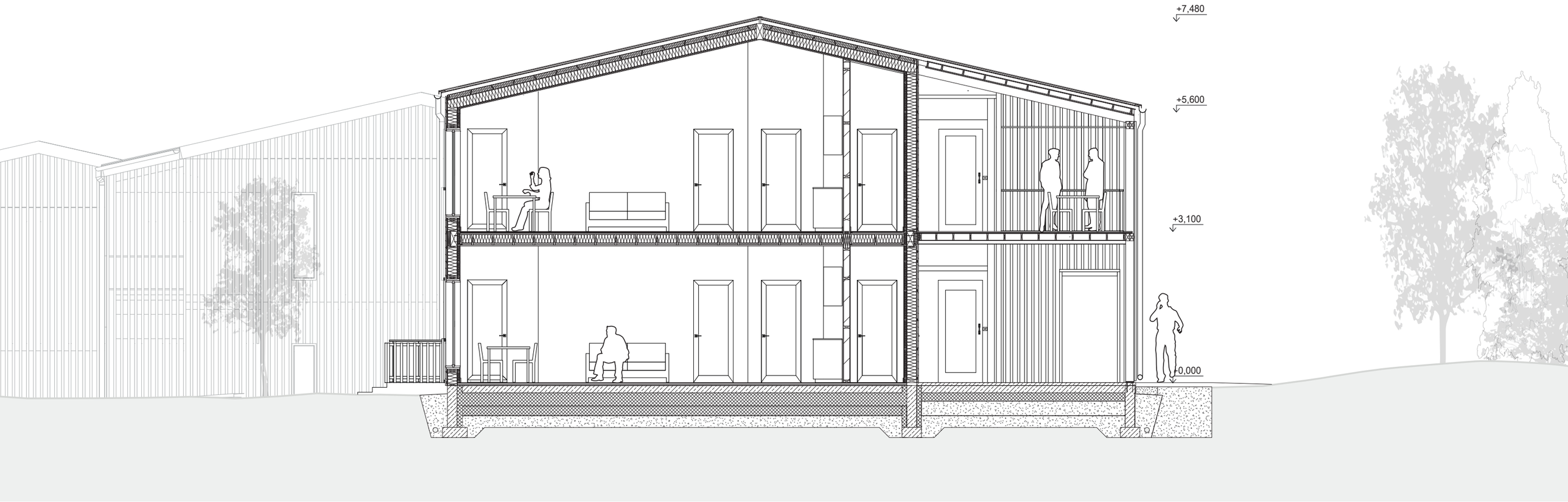
N

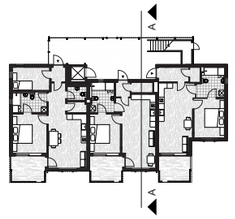
INTERIOR VIEW

60 ~ m2 apartment
One person apartment to accommodate single adults, who are moving into a phase in life where socialization does not come natural anymore.

70 ~ m2 apartment
Two person apartment to accommodate elderly couples, who seek easier accessibility for socialization.

SECTION A-A





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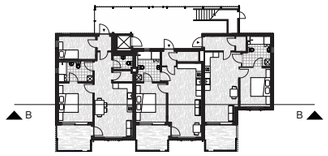
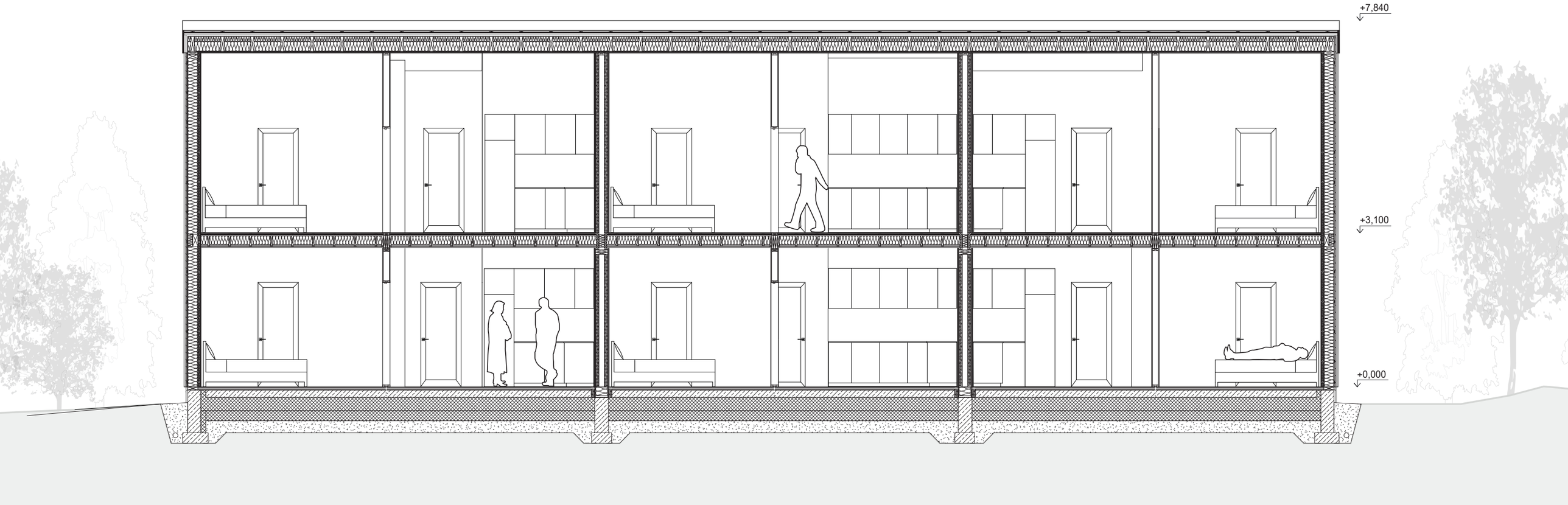
0m 1 2 3 4 5 10

SECTION B-B

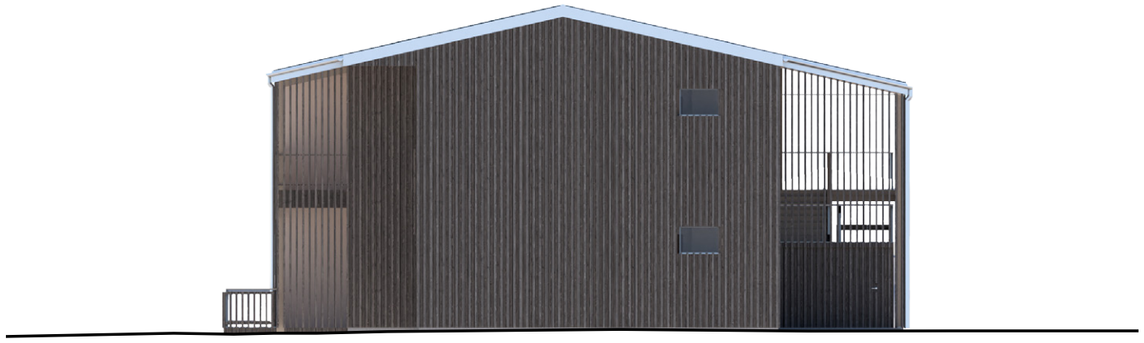




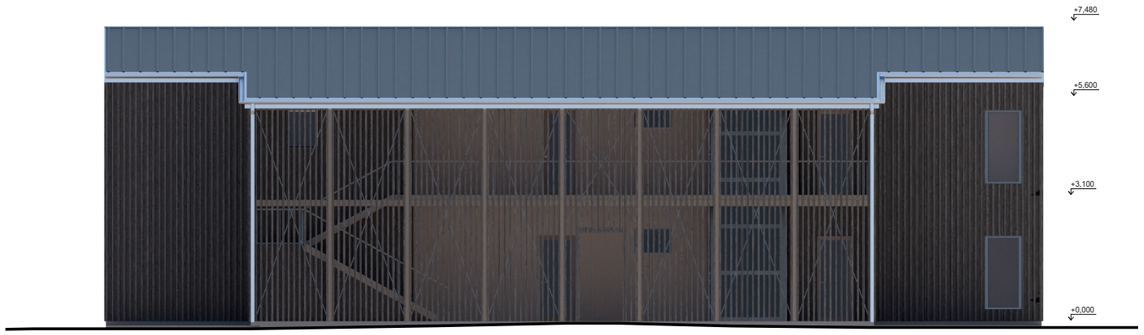
Scale: 1:75

0m 1 2 3 4 5 10

ELEVATIONS

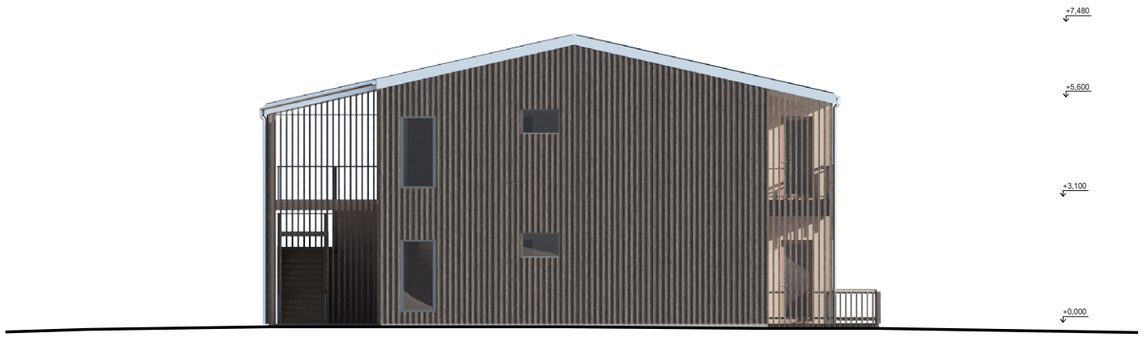


EAST FACADE



ENTRANCE FACADE

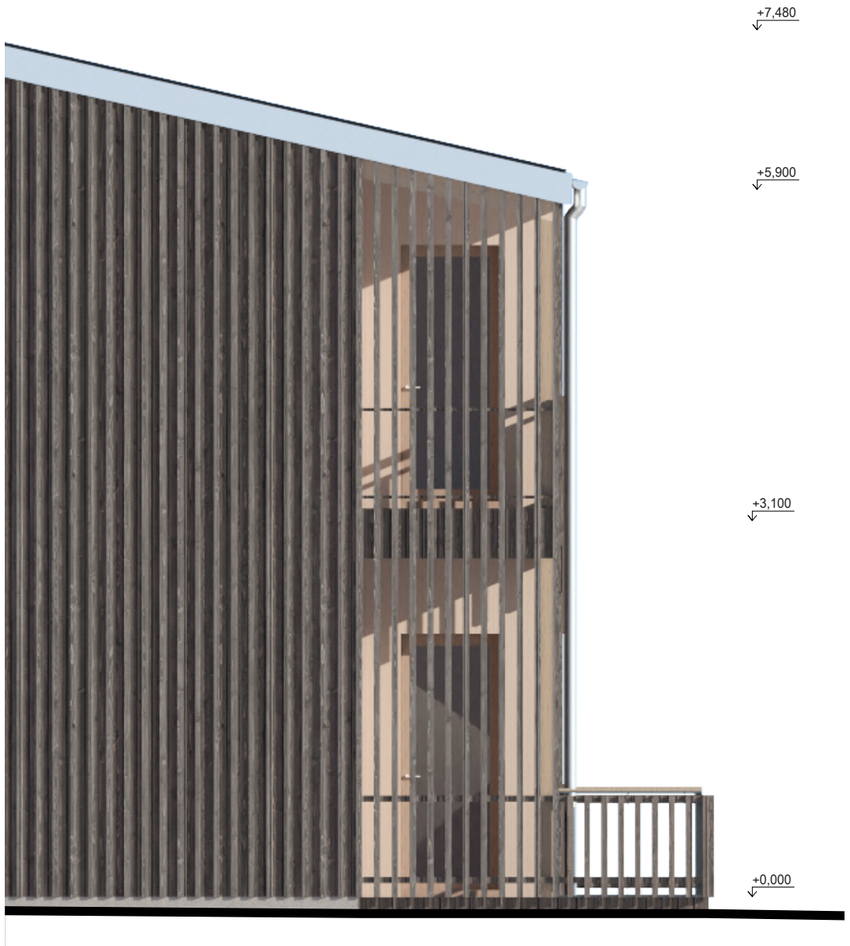
FRONT FACADE

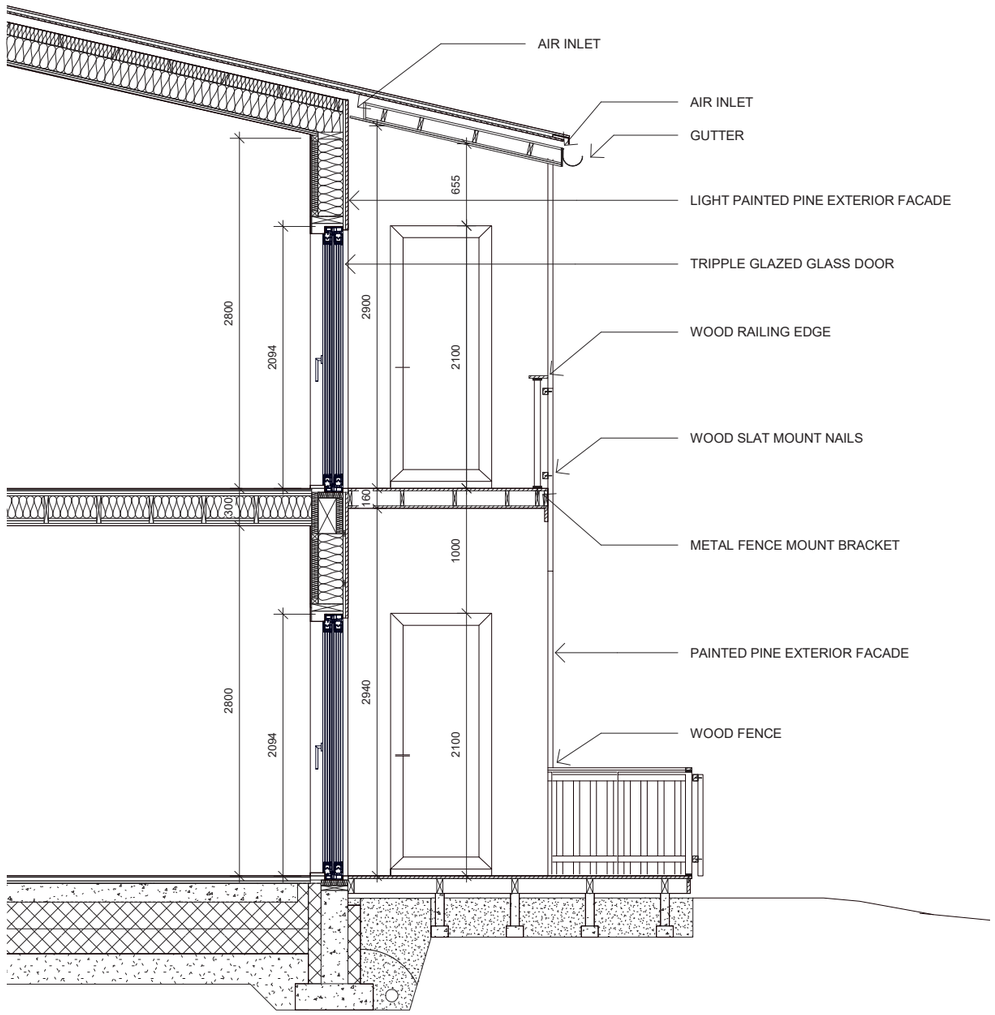


WEST FACADE

Scale: 1:150

0m 1 2 3 4 5 10

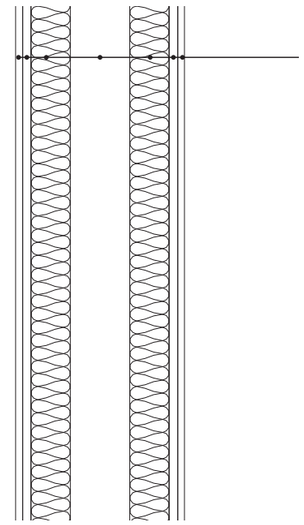




Scale: 1:50

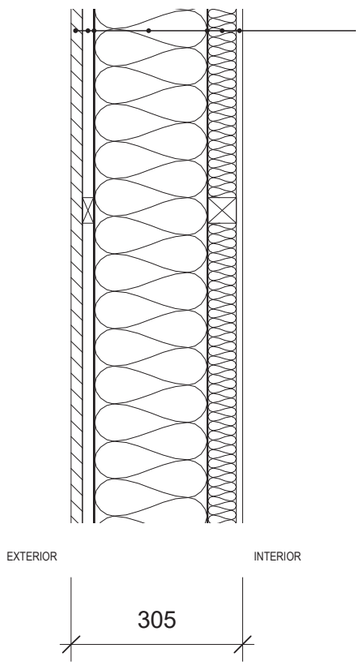
0m 1 2 3

INTERIOR WALL APARTMENT DIVISION



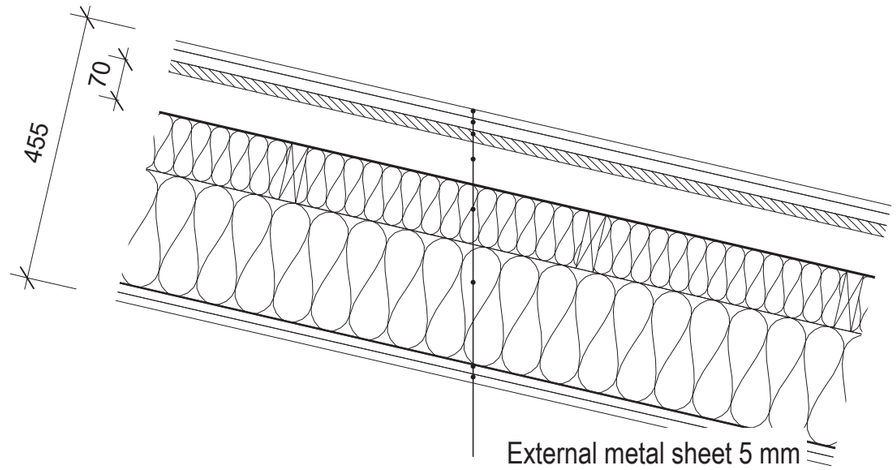
Double layer interior wall 12 mm interior planks + 15 mm fireplaster
50 mm studs
70 mm mineral wool
Soundbarrier
70 mm mineral wool
50 mm studs
Double layer interior wall 12 mm interior planks + 15 mm fireplaster

EXTERIOR WALL



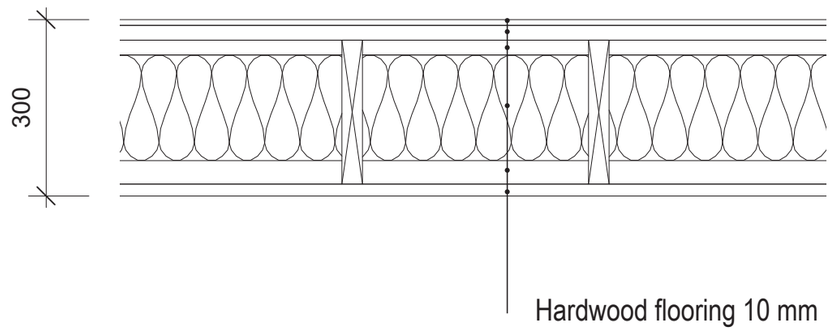
Exterior cladding 20 mm
Joists 20 mm
Wind break 2 mm
Insulation 200 mm + 50 mm
Vapour barrier 2 mm
Interior cladding 13 mm

ROOF



External metal sheet 5 mm
Seperation layer 2 mm
Structural support deck 20 mm
Ventilated void 70 mm
Pre-covering 2 mm
Pitched rafters
Rigid insulation 100 mm + thermal insulation 200 mm
Vapour control layer 5 mm
Interior panel 15 mm
Interior wood planks finish 15 mm

WOOD FLOOR



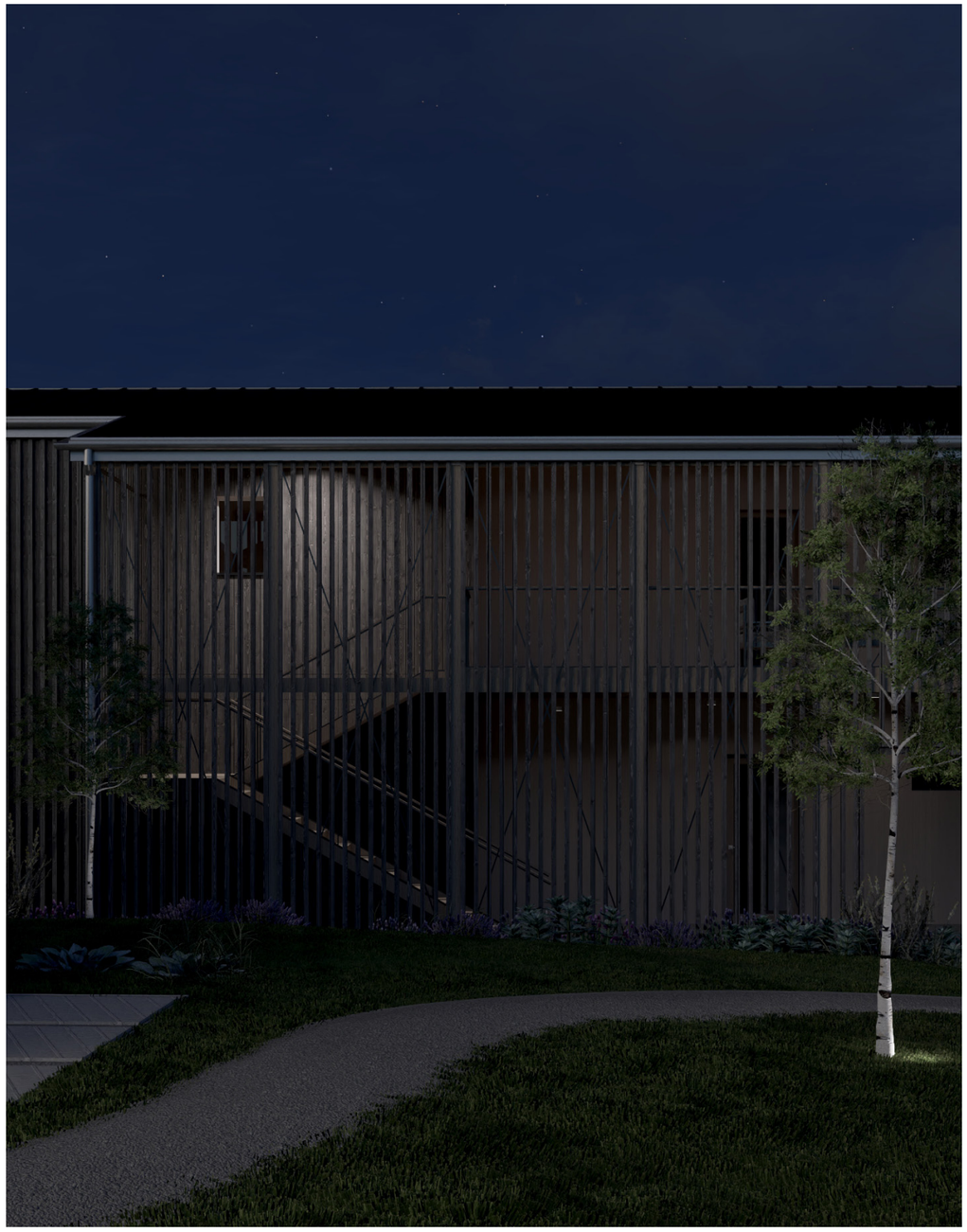
Hardwood flooring 10 mm
Subfloor 20 mm
Lightweight concrete 30 mm
Wood joists 245 mm
Sound insulation
Plaster ceiling finish 20 mm

EXTERIOR VIEW

WOOD SLAT FACADE

The wood slat wall facade functions as both protection from the elements, as well as it creates a semi open atmosphere where the inhabitants can feel privacy without being completely shut off from the outside.

EXTERIOR VIEWS



The apartments in themselves should feel like a private space. Although it is difficult to find true alone time here, nature is in close proximity. Both woods and the sea.

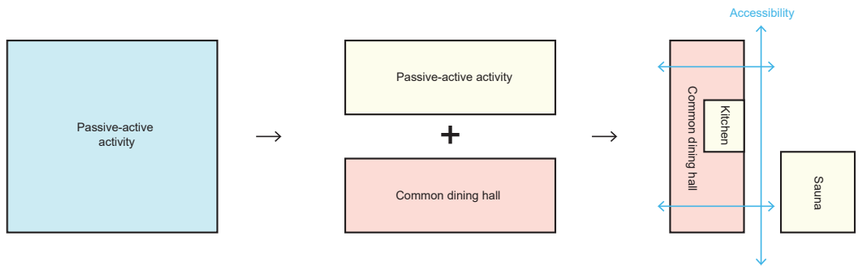
Living alongside others is not always easy. But for people whose socialization does not come as a natural part of their daily life, the Sagvåg Garden can create a feeling of belonging, as no one should feel alone and isolated at the end of their day.

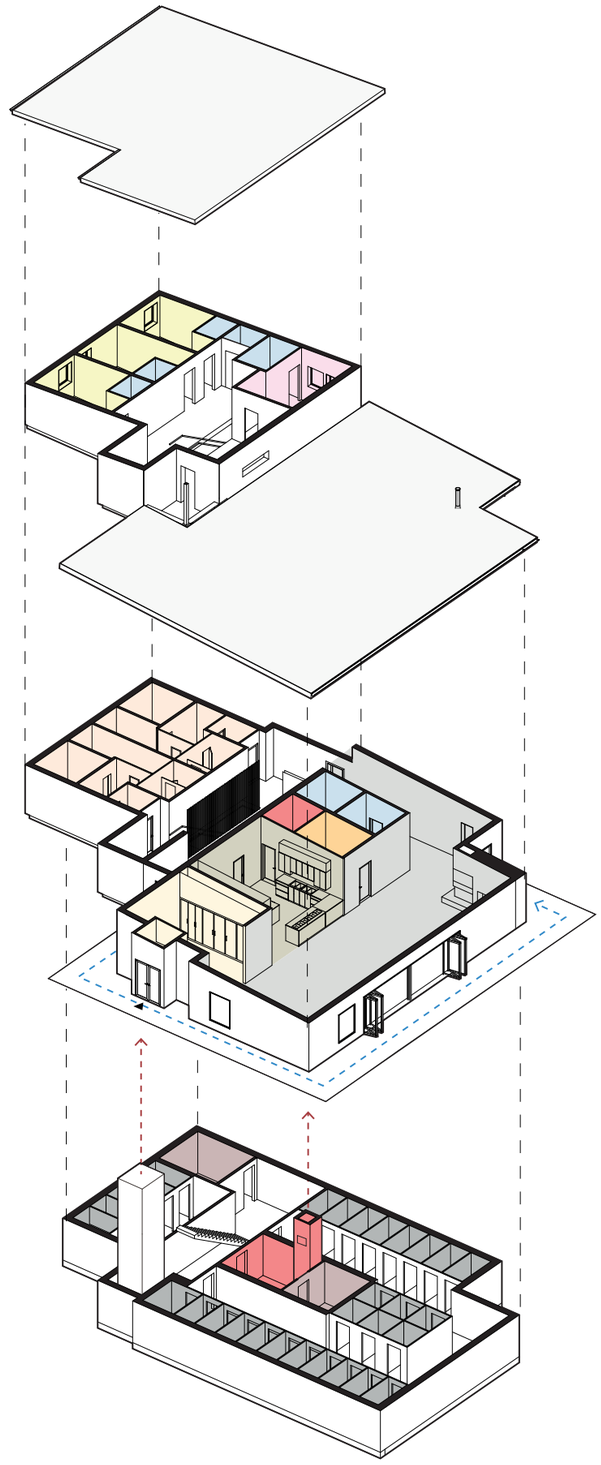
THE COMMONHOUSE

The commonhouse functions as the main attractor on the site. The inhabitants themselves will be the ones who are mainly responsible for the cleaning and maintenance of the building. This is also to create a sense of togetherness, as it is something they have to do together. All functions and spaces are open for the inhabitants to use, as included in the price and the concept when the individual decides he or she wants to buy an apartment.

While it mostly functions as a secondary dwelling space for the inhabitants, some spaces are dedicated for external support such as a small reception desk by the entrance, as well as a doctor's ward on the first floor. This allows for occasional help such as cleaning, catering and health services. All these rooms are still fully accessible for the inhabitants.

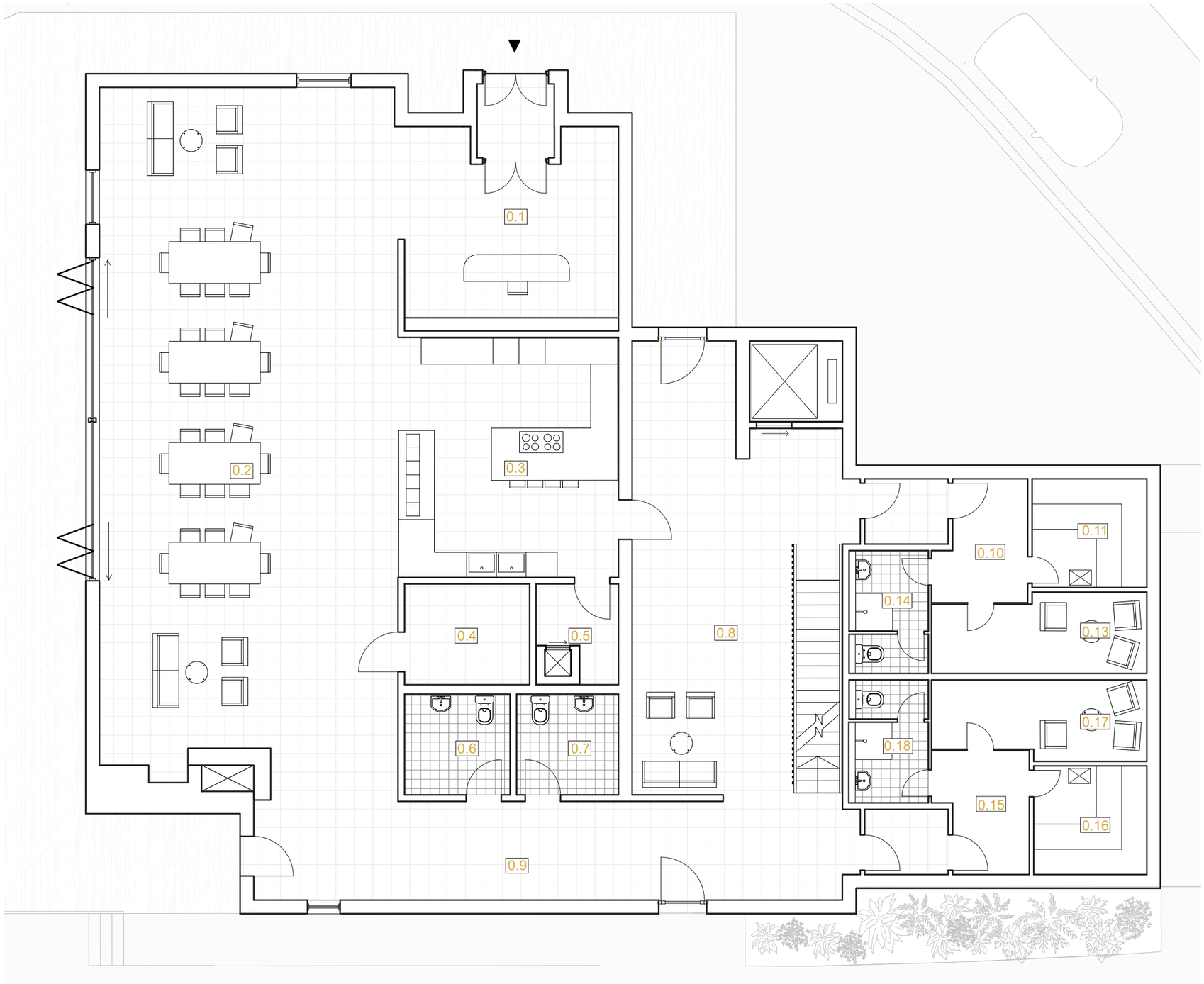
Every inhabitant will have a private key to the commonhouse. Here they can come for saunas whenever they want, as well as having weekly common meals. While common meals will mainly be on the inhabitants own initiative, catering arrangements will also be held. They will have their private storage unit in the basement, as well as a dining hall which can also be used as a lounge area. This is all to create private-active arenas, to engage people in socialization.





ENTRANCE / RECEPTIOIN
KITCHEN
DUMBWAITER AND FOOD STORAGE
STORAGE
WETROOM
DINING AREA
GUEST ROOM
DOCTOR'S WARD
TECHNICAL ROOM
PRIVATE STORAGE

PLAN GROUNDFLOOR



Room number	Room name	Area m²
0. 1.	Entrance	23 m²
0. 2.	Dining hall	112 m²
0. 3.	Common kitchen	25 m²
0. 4.	Storage	7 m²
0. 5.	Dumbwaiter room	4 m²
0. 6.	Accessible WC	6 m²
0. 7.	Accessible WC	6 m²
0. 8.	Entrance hall	45 m²
0. 9.	Hallway	31 m²
0. 10.	Men's sauna entrance	9 m²
0. 11.	Men's sauna	7 m²
0. 12.	Men's sauna tranquility room	9 m²
0. 13.	Men's sauna wetroom	5 m²
0. 14.	Women's sauna entrance	9 m²
0. 15.	Women's sauna	7 m²
0. 16.	Women's sauna tranquility room	9 m²
0.17.	Women's sauna wetroom	5 m²
		319 m²

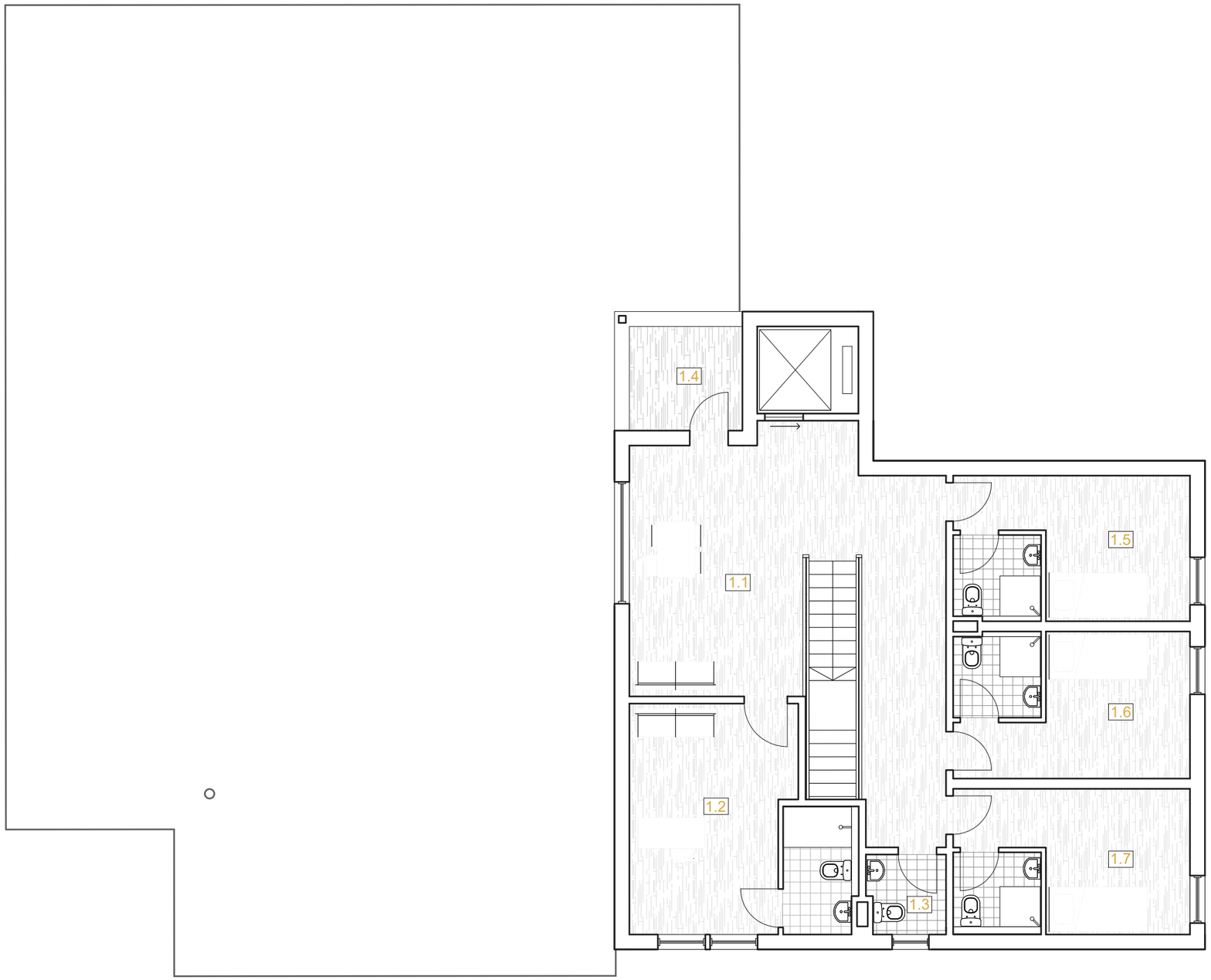
Scale: 1:100

0m 1 2 3 4 5 10

N

PLAN FIRST FLOOR

Room number	Room name	Area m²
1. 1.	Sitting area	30 m²
1. 2.	Doctor's ward	21 m²
1. 3.	WC	3 m²
1. 4.	Balcony	5 m²
1. 5.	Guest room 1	15 m²
1. 6.	Guest room 2	15 m²
1. 7.	Guest room 3	15 m²
		104 m²

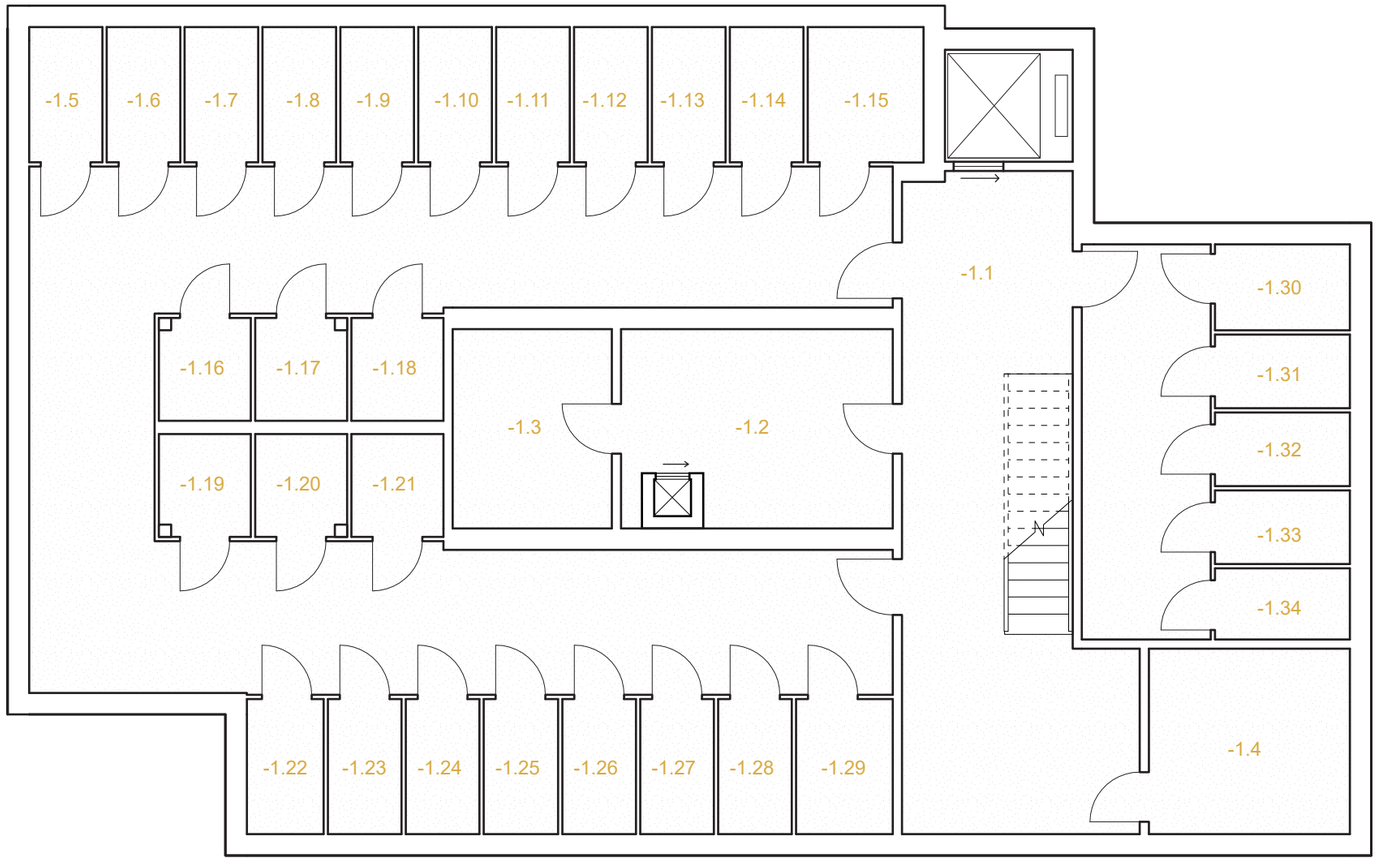


Scale: 1:100

0m 1 2 3 4 5 10

N

PLAN BASEMENT



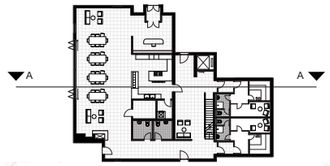
Room number	Room name	Area m²
-1. 1.	Hallway	33 m²
-1. 2.	Common food storage with dumbwaiter lift	14 m²
-1. 3.	Technical room 1	8 m²
-1. 4.	Technical room 2	10 m²
-1. 5.	Private storage room 1	3 m²
-1. 6.	Private storage room 2	3 m²
-1. 7.	Private storage room 3	3 m²
-1. 8.	Private storage room 4	3 m²
-1. 9.	Private storage room 5	3 m²
-1. 10.	Private storage room 6	3 m²
-1. 11.	Private storage room 7	3 m²
-1. 12.	Private storage room 8	3 m²
-1. 13.	Private storage room 9	3 m²
-1. 14.	Private storage room 10	3 m²
-1. 15.	Private storage room 11	3 m²
-1. 16.	Private storage room 12	3 m²
-1. 17.	Private storage room 13	3 m²
-1. 18.	Private storage room 14	3 m²
-1. 19.	Private storage room 15	4 m²
-1. 20.	Private storage room 16	3 m²
-1. 21.	Private storage room 17	3 m²
-1. 22.	Private storage room 18	3 m²
-1. 23.	Private storage room 19	3 m²
-1. 24.	Private storage room 20	3 m²
-1. 25.	Private storage room 21	3 m²
-1. 26.	Private storage room 22	3 m²
-1. 27.	Private storage room 23	3 m²
-1. 28.	Private storage room 24	3 m²
-1. 29.	Private storage room 25	3 m²
-1. 30.	Private storage room 26	3 m²
-1. 31.	Private storage room 27	3 m²
-1. 32.	Private storage room 28	3 m²
-1. 33.	Private storage room 29	3 m²
-1. 34.	Private storage room 30	3 m²
		156 m²

Scale: 1:100

0m 1 2 3 4 5 10

N

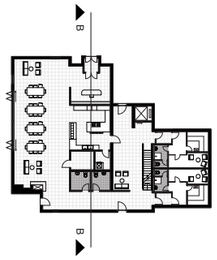
SECTION A-A

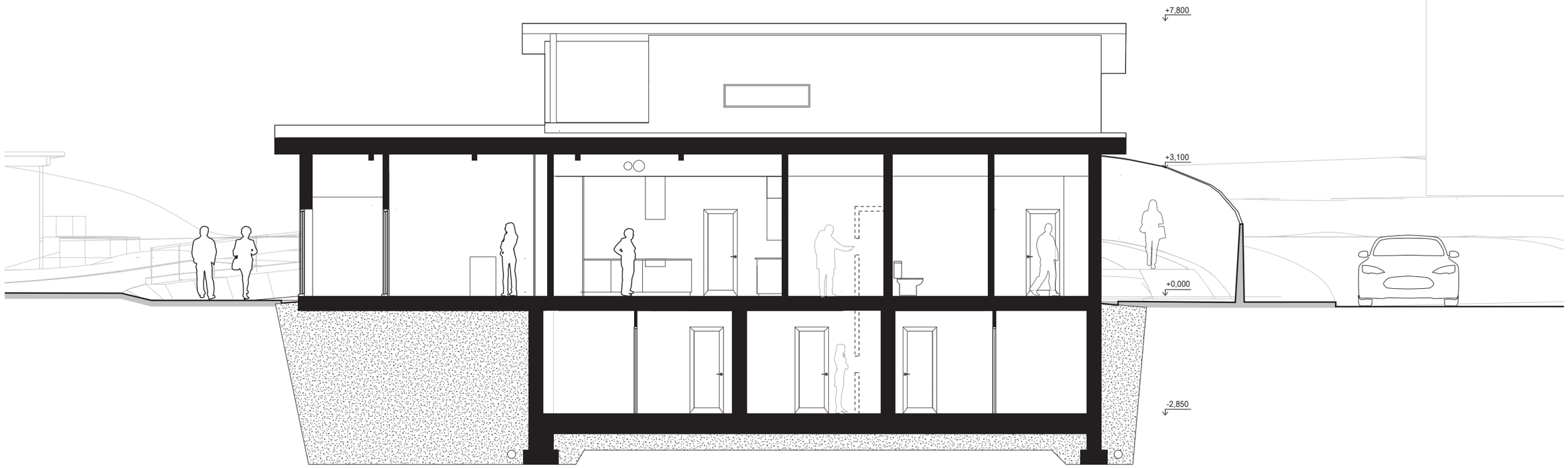


Scale: 1:100

0m 1 2 3 4 5 10

SECTION B-B



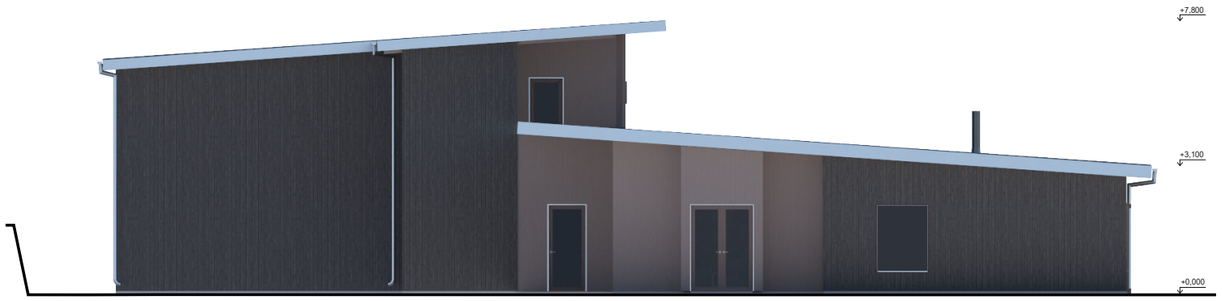


Scale: 1:100

0m 1 2 3 4 5 10

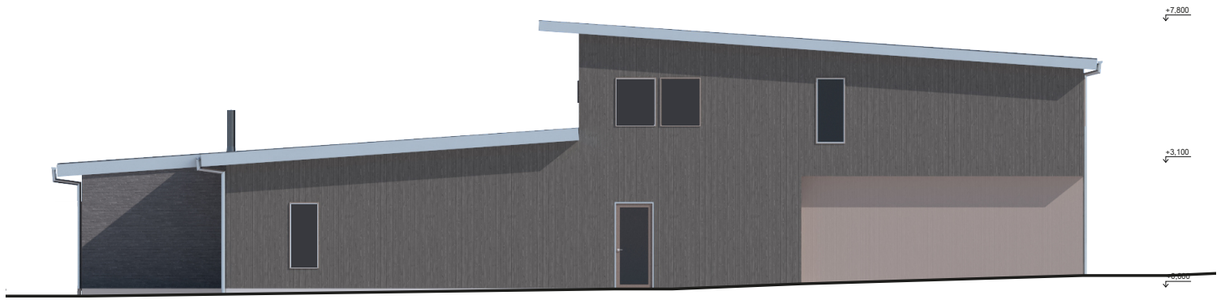
ELEVATIONS

WEST FACADE



NORTH FACADE

EAST FACADE FACADE



SOUTH FACADE

Scale: 1:150

0m 1 2 3 4 5 10

EXTERIOR VIEW

VIEW OF THE COMMONHOUSE
A terrace and an opening outwards, creates a welcoming feeling for the inhabitants. The shape of the building is trying to respect the limited space on the site, by not creating large front facades. This way, it does not create a strong visual barrier from the surroundings.

INTERIOR VIEW

KITCHEN AND FIREPLACE

The kitchen is the hearth of the commonhouse. The kitchen is spacious, and there is room for multiple people to cook together. A food warmer is also included as part of the kitchen, allowing for catering, and long hour meals such as christmas, new years eve and more.

The fireplace is included in the dining room, as a small permanent lounge area.

INTERIOR VIEW

DINING HALL
The dining hall will mainly function as a meeting place for eating. However, the room can be used as the inhabitants want, and could also function as place to put out lounge chairs and tables.

INTERIOR VIEW

SAUNA ENTRANCE AND MAIN ENTRANCE

The main entrance is equipped with a small reception desk, as well as closests to obtain necessary first aid assistance.

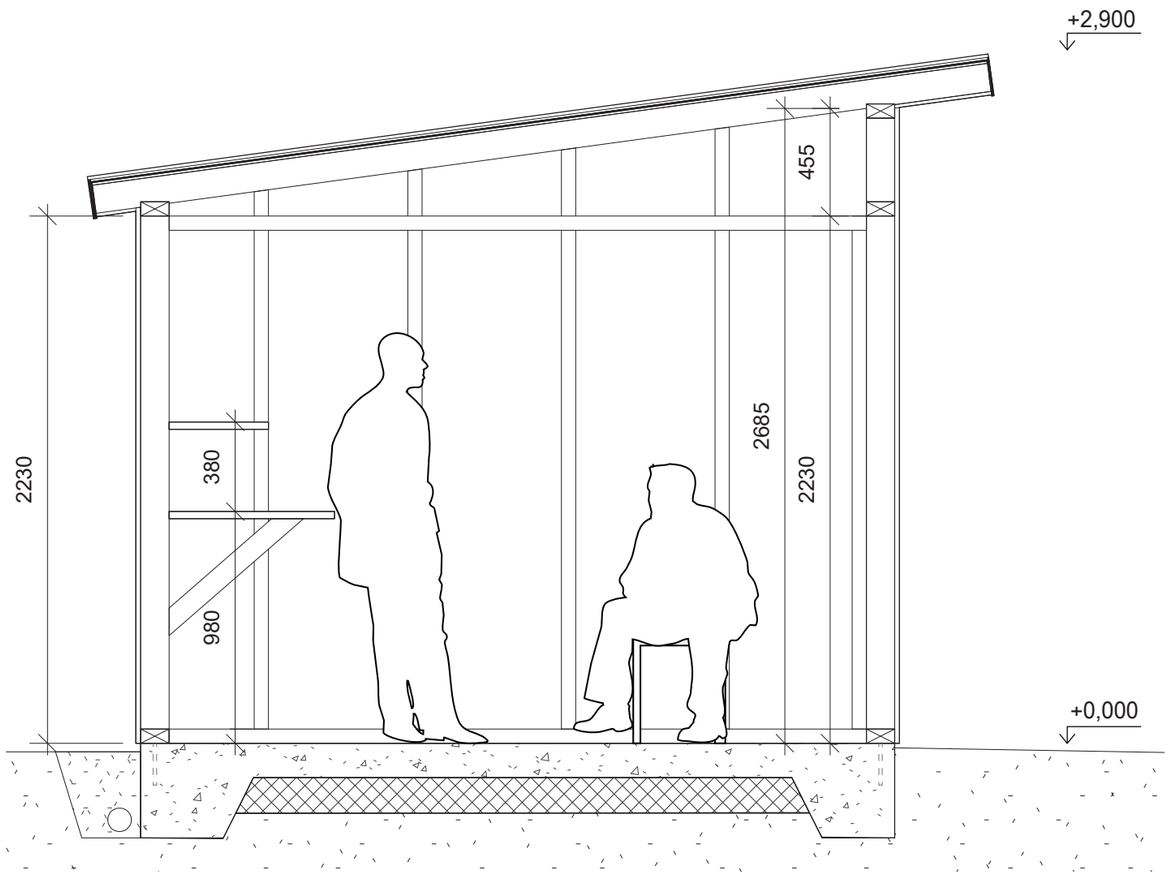
The sauna entrance functions as a second entrance from both sides of the building, including a sitting area for spontaneous meetings.

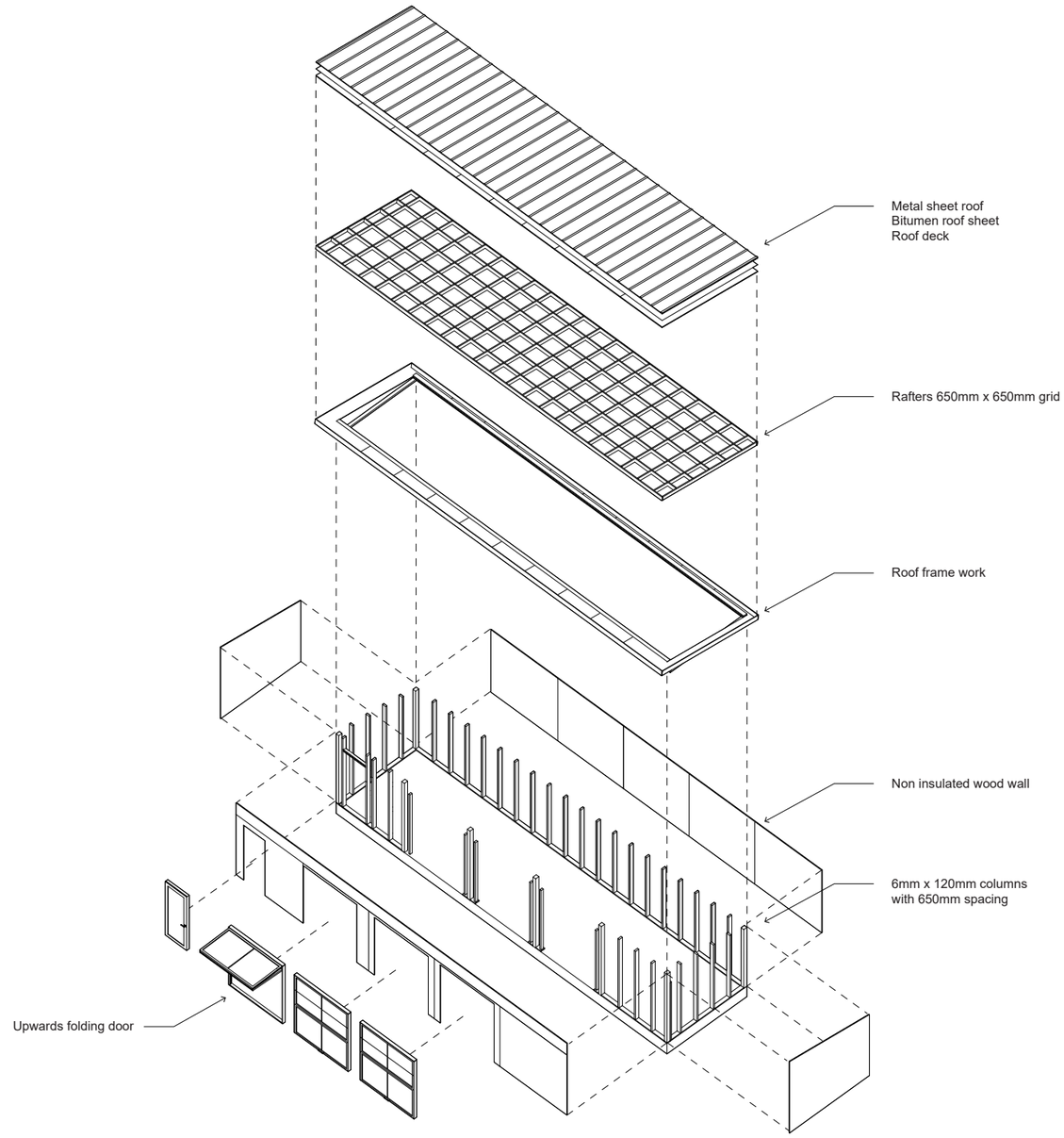
EXTERIOR VIEW

COMMON GARDENS
The area around the commonhouse as well as other places around the site should create areas to passively engage inhabitants in taking care of the space together.

THE DEN

The den is in practice a shed, with mainly a practical function. It can be used to store larger shared equipment, as well as people can come to fix and prepare things.



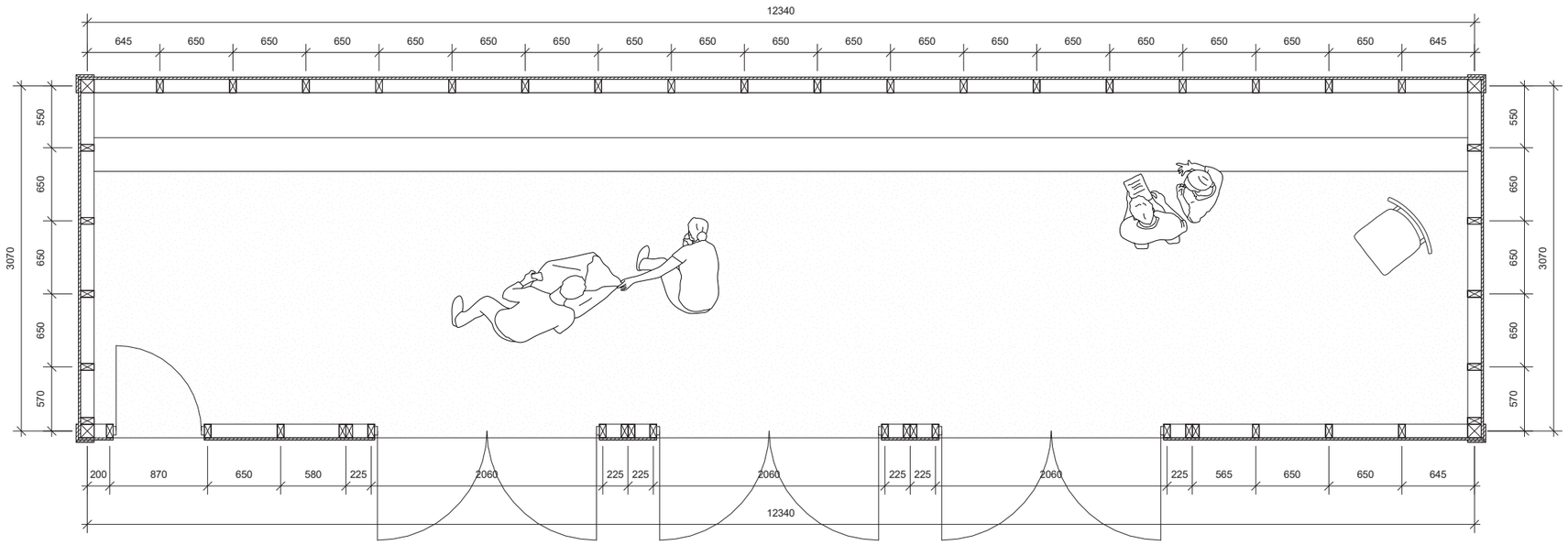


Scale: 1:25

0m 1

PLAN

Though having a practical function, it can also be used for people to come, work together and talk. The den can also be used as a getaway if anyone would feel the need to get away for a minute.

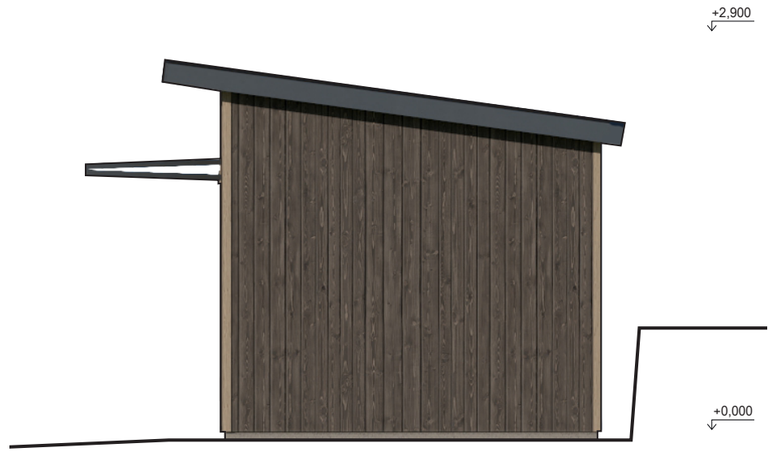


Scale: 1:50

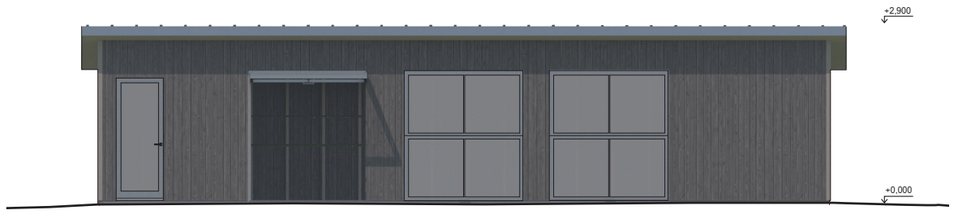
0m 1 2 3

ELEVATIONS

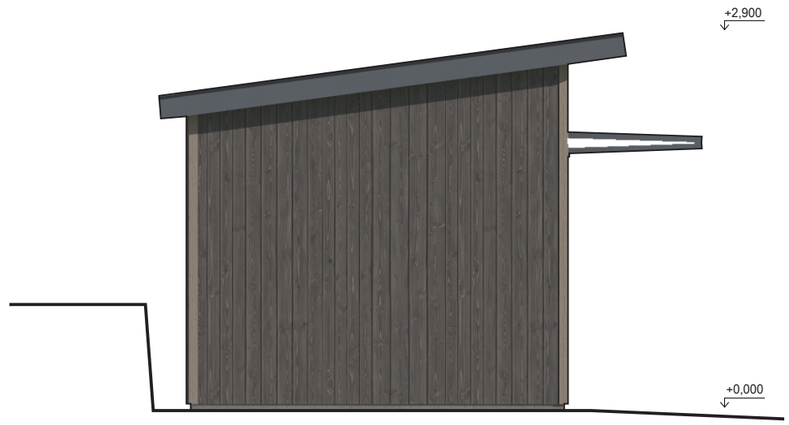
BACK FACADE



EAST FACADE



FRONT FACADE



WEST FACADE

Scale: 1:100

0m 1 2 3 4 5 10

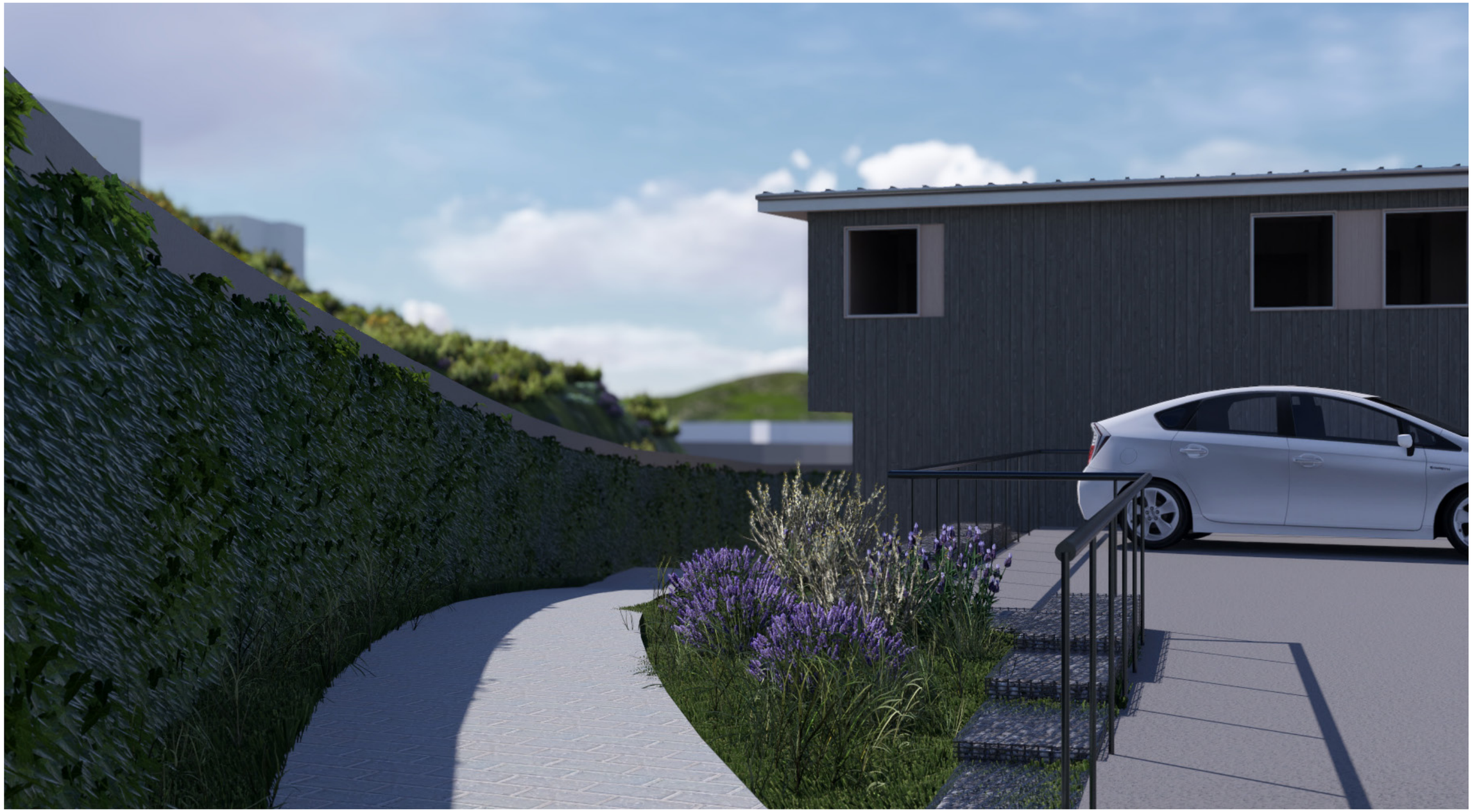
Scale: 1:50

0m 1 2 3

EXTERIOR VIEW

VIEW OF THE WORKSHOP

EXTERIOR VIEW



VIEW COMING ENTERING FROM THE WEST OF THE SITE

EXTERIOR VIEW

SITTING AREAS AROUND THE SITE CREATE MORE ARENAS FOR SPONTANEOUS MEETINGS

HEATING
The commonhouse is partly heated through a ventilation system located in technical room 1, as well as electrical heating panels placed throughout the building.
The apartments are heated by electrical heating, consisting of floor heating in wetrooms and electrical panel ovens.

VENTILATION
In the commonhouse, a ventilation aggregate is located in technical room 1.
The apartments will be based on natural airflow.

WATER SUPPLY
The whole facility is connected to the local water pipes.
In the commonhouse, a water heater is located in the technical room 2.
Smaller water heaters will be located in each apartment.

ELECTRICITY
The facility is connected to the local electric power network.

WASTE
Waste management is frequently treated by the municipality.

MATERIALITY
Exterior facades are painted pine. Pine offers several advantages such as cost-effectiveness, versatility, aesthetic appeal and workability. It can be used for several cladding styles, as well as having a natural appearance. In addition, it can be stained or painted in various colors, making it a preferable choice for wooden structures.
The roofs consist of metal sheeting. Considering the harsh environment on Norway's coast the metal roof is durable, and resistant to weather conditions such as heavy rain, snow, hail and strong winds.

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CZECH TECHNICAL UNIVERSITY IN PRAGUE
Faculty of Architecture

International Office
Thákurova 9, 166 34 Prague 6, Czech Republic

Czech Technical University in Prague, Faculty of Architecture

DIPLOMA PROJECT APPLICATION FORM

Name and Surname: OLA JIN M. NYMOEN

Date of Birth: 22. 08. 1996

Academic Year / Semester: 2024 / SUMMER SEMESTER

Department Number / Name: UN 11

Diploma Work / Diploma Project Leader: PETR KORDOVSKÝ

Diploma Work / Diploma Project Theme – title in English language:

SENIOR HOUSING

Signature of the Diploma Work / Diploma Project Leader:

The Student's Declaration:
I declare that I have fulfilled all the diploma work / diploma project initiation requirements stipulated by the "Study Plan" and "Study Rules" at the Faculty of Architecture, CTU in Prague.

In Prague on 12/03/24 Signature of the Student

CZECH TECHNICAL UNIVERSITY IN PRAGUE
Faculty of Architecture

International Office
Thákurova 9, 166 34 Prague 6, Czech Republic

Czech Technical University in Prague, Faculty of Architecture

ASSIGNMENT of the Diploma project

Master degree

Date of Birth: 22. 08. 1996

Academic Year / Semester: 2024 / SUMMER

Department Number / Name: UN 11

Diploma Project Leader: PETR KORDOVSKÝ

Diploma Project Theme: SENIOR HOUSING

See the Application Form for DP

Assignment of the Diploma Project:

1/description of the project assignment and the expected solution objective

2/description of the final result, outputs and elaboration scales

3/list of further agreed-upon parts of the project (model)

To this list further attachments can be added according if necessary.

Date and Signature of the Student: 12/03/24

Date and Signature of the Diploma Project Leader:

Date and Signature of the Dean of FA CTU:

Assignment of the Diploma Project:

1/description of the project assignment and the expected solution objective

Senior housing. My uncle is currently developing a site in a village in Norway. On this site, my goal is to create something that could potentially have real value. However, my work and decisions will first and foremost attempt to achieve the satisfaction of the faculty's supervisors and teachers.

2/description of the final result, outputs and elaboration scales

Physical model, drawings, technical details, scale 1:500 / 1:100

3/list of further agreed-upon parts of the project (model)

(not yet been specified with teacher)

Date and Signature of the Student:

19/02/24 Ola Jørgen Nymoen

CZECH TECHNICAL UNIVERSITY IN PRAGUE
Faculty of Architecture

International Office
Thákurova 9, 166 34 Prague 6, Czech Republic

CTU CZECH TECHNICAL UNIVERSITY IN PRAGUE

CZECH TECHNICAL UNIVERSITY IN PRAGUE
FACULTY OF ARCHITECTURE

AUTOR, DIPLOMANT:
AUTHOR OF THE DIPLOMA WORK / DIPLOMA PROJECT
Academic Year 2024, summer Semester

TITLE OF THE DIPLOMA WORK / DIPLOMA PROJECT
(IN CZECH LANGUAGE) Sagvåg Senior Garden

TITLE OF THE DIPLOMA WORK / DIPLOMA PROJECT
(IN ENGLISH LANGUAGE) Sagvåg Senior Garden

LANGUAGE OF THE DIPLOMA WORK / DIPLOMA PROJECT:

Diploma Work / Diploma Project Supervisor	Ústav: Department doc. Ing. arch. Petr Kordovský
Diploma Work / Diploma Project Opponent	Ing. arch. Jan Šabar
Key Words (Czech)	Norway, coast, senior housing, developer / Norsko, pobřeží, bydlení pro seniory, developer
Annotation (Czech)	Projekt využívá developerský záměr vytvořit bydlení pro seniory nad 60 let. Cílem bylo vytvořit řešení které splní požadavky developera, při zachování pohodlí uživatelů.
Annotation (English)	The project is an attempt to use a developer's plan of creating housing for people above the age of 60 years of age. The aim is to come up with a solution that can meet the requirements of a property developer, while keeping the inhabitants' well-being in the center of focus.

The Author´s Declaration
I declare that I have elaborated the submitted diploma work / diploma project independently and that I have stated all the used information sources in coherence with the "Methodological Instruction for Ethical Preparation of University Final Works".
(The complete text of the methodological instruction is available for download on http://www.fa.cvut.cz/En)

In Prague on 30/05/2024 Ola Jørgen Nymoen Signature of the Diploma Project Author

This document is an essential and obligatory part of the diploma project / portfolio / CD.

SENIOR
HOUSING

FAKULTA
ARCHITEKTURY
ČVUT V PRAZE

Student: Ola Jin Myhre Nymoen

Professor: doc. Ing. arch. Petr Kordovský
Assistant professor: Ing. arch. Ladislav Vrbata

CTU PRAGUE
FACULTY OF ARCHITECTURE
DIPLOMA PROJECT
2023/2024