

ROOTED IN UTSIKTEN

SUSTAINABLE APARTMENTS IN THE ECOVILLAGE

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BACKGROUND

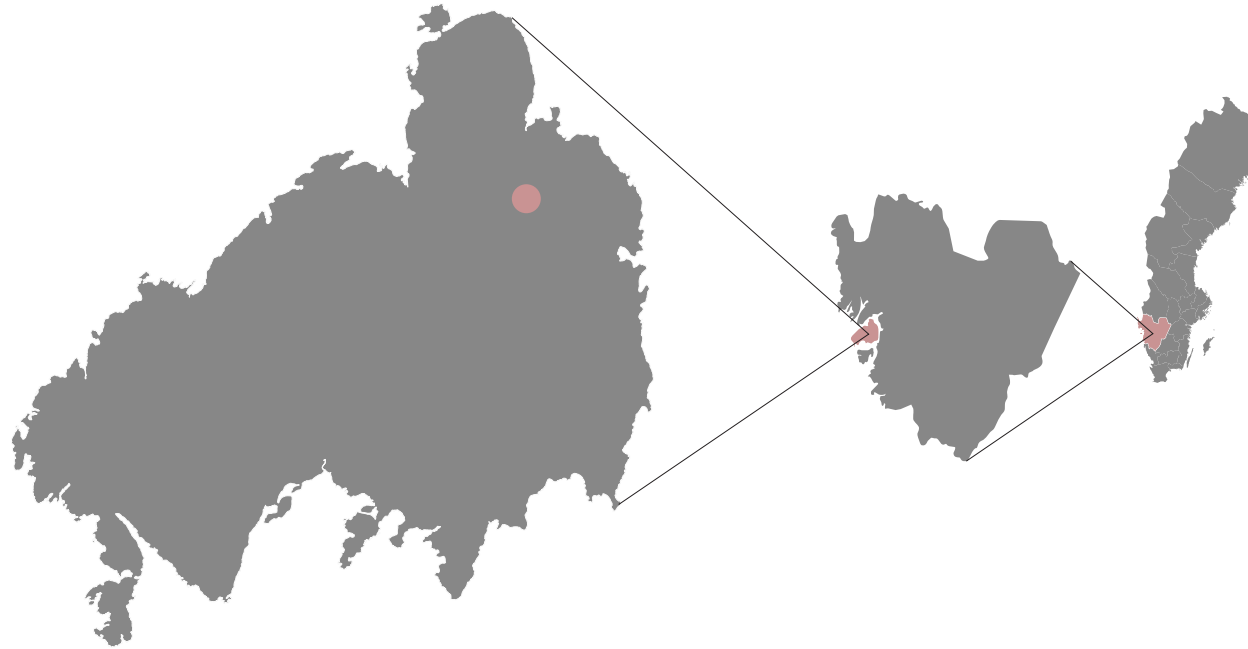
Introduction

This project is the result of a group work in the design studio *Planning and Design for Sustainable Development in a Local Context* with focus on sustainable development on Orust at Chalmers School of Architecture during the fall semester of 2017.

The course has been divided into two parts. In the first part the whole studio did several analyses on different levels: global, european, national, regional and sub-regional, as well as on different areas of Orust. This gave us a solid amount of background material, and by creating a SWOT-analysis we got an idea of the strengths, weaknesses, opportunities and threats of Orust. Based on the analysis we then developed local objectives and strategies to reach these objectives. In the second part of the studio we developed our in-depth projects on Orust, based on the knowledge we gained in the first part.

This project is a housing project where we have designed an apartment building and a greenhouse building with common areas in an existing ecovillage.

Orust in a context



Orust is an island and a municipality situated 60 kilometers north of Gothenburg and 30 kilometers southwest of Uddevalla, with connections by bridge both to the north and south, as well as two ferries to the mainland. Orust is the third biggest island in Sweden and measures 28 kilometers from west to east, and 25 kilometers from north to south. It is a typical rural municipality where around 60% of the inhabitants live in the countryside, and the sea is never far away. The largest community is Henån with around 2000 inhabitants. (Orust Kommun)

There are around 5000 summer houses on the island, and around 7000 permanent dwellings. Since it is such a popular destination for tourism, the population of 15000 is tripled during the summer. Only 10% of the population live in apartments, and Orustbostäder disposes of around 800 apartments. The majority of these apartments are in Henån, Ellös and Svanesund (Tegenfeldt, 2016).

SWOT-analysis

Below is the SWOT-analysis that was agreed upon in the studio. It shows what we consider are the most important strengths, weaknesses, opportunities and threats to consider when working with the development of Orust.

STRENGTHS

Closeness to a diverse landscape and rich bio-diversity
(in terms of both leisure and resource qualities)
A rich cultural heritage, identity and history
A large local engagement and many local associations in active local networks
Suitable land and sea for local food and energy production (An asset for both local economy and self sufficiency)
Local craftsmanship
A municipality engaged in sustainability
Many local small businesses
Attractive school facilities
A high-quality care for the elderly
Alternative rural living possibilities (in f ex Ekobyn Utsikten)

WEAKNESSES

Homogenous housing market
(lack of apartments and affordable housing)
Ageing population
Unsustainable transportation / Car dependency
Big differences between summer and winter
Lack of meeting places, public facilities and public space
Lack of culture and activity in winter
Gap between the east and west/permanent and temporary inhabitants of Orust
Lack of higher education possibilities
Few jobs for highly educated people
Fresh water shortage during summer
Centralisation to Henån
Inadequate communication/collaboration between the municipality and the population

OPPORTUNITIES

Increased environmental awareness
Rural/ Slow/ Sustainable lifestyle
Circular economy in local networks
Renewable energy production
Digitalisation and connectivity
Eco tourism
Plans for new bridge
Aquaculture
Migrants and cultural diversity

THREATS

Rising sea level and flooding
Individualization
Ageing population
Urbanisation
Automatisation
(Less demand for blue-collar jobs)
Tourism
Mainland dependency
Cultural gaps
(us-them/ east-west/ summer-winter/ temporary - permanent)

Local objectives and strategies

Based on the analyses made in the studio, 13 local objectives/goals for the development on Orust were agreed upon and after that a number of different strategies were developed to reach these goals. We have chosen to focus on eight of the objectives and three different strategies.

Local objectives

Orust is an interesting and active place to live in for people in all different stages in life.

All the new built development is climate safe, built and run with local resources. Materials are produced, used and reused locally.

Regardless of economic preconditions, everyone can find a suitable place to live permanently on everywhere on Orust.

Local residents have a sustainable lifestyle and are aware and well informed about environmental and local issues.

Fresh water shortage in the summer is no longer a problem since Orust retains, collects and recycles its water.

Orust uses only and is self-sufficient regarding renewable energy.

As much as possible of food consumed is locally and organically produced.

Eco-tourism and developed eco-village movement makes Orust a model within sustainability.

Strategies

Increase the percentage of permanent residents in relation to temporary by building more rentals

Shift focus from large communities like Henån and plan for all areas/communities on Orust

Break the urban norm and instead plan Orust with a rural perspective adapted to the local situation by designing meeting places for entrepreneurs and students

The ecovillage Utsikten



An ecovillage is a community built with all four dimensions of sustainability (social, cultural, ecological and economical) in consideration, promoting a sustainable lifestyle (The Global Ecovillage Network).

The idea of the ecovillage Utsikten (“The view”) has its origins in discussions among a group of people interested in gardening from Gothenburg in 1998. They wanted to start a market garden, but the idea was soon developed into the idea of an ecovillage. In 2001 the group found the perfect site: Lilla Krossekärr on Orust.

The site has been inhabited for a long time. This is easy to understand due to its favorable conditions with fertile soil, slopes facing south, the lake as well as closeness to the sea.

The association Utsikten was founded in 2006, and has today around 20 members. They are responsible for maintaining common facilities. This is financed by a monthly fee of 200 SEK per member. 15 plots and two houses

have been sold to members of the association, and the owners are responsible for their own design and building of their house.

However, there are guidelines that must be considered. For example, the materials used should be reusable and cannot be harmful for the health of the inhabitants or the cycle of nature. Different building methods have been used in the village. There are houses built of straw bale and clay, as well as traditional wood and log houses.

All buildings in the village are unique and very different in their design, but the colors are within a color scheme of Falun red, copper grey, warm white colors and black. (Utsikten)

Why build apartments in the ecovillage?

Today there are only villas in the ecovillage, most of them built by the people that live there. We believe that the homogenous typology leads to like-minded people moving to the ecovillage. By broadening the supply of housing options and introduce rental apartments in the area, we hope to contribute to a bigger variety of people, where people with different backgrounds and experiences can meet.

The lifestyle in the ecovillage attracts a lot of people, but also requires some engagement, for example maintenance of house and garden. For someone who is living in a villa but wishes to move to a dwelling with smaller demand on maintenance, apartments can offer an opportunity to stay in the ecovillage. It could work in the opposite way for someone else, who might be interested in moving to the ecovillage or the countryside, but is not sure that the lifestyle suits them. They then get a chance to have a trial period in the ecovillage before building their own house for example.

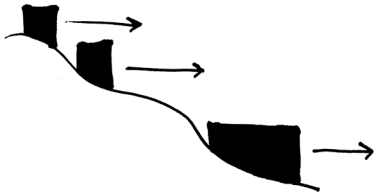
We believe that the introduction of apartments in the ecovillage could have a positive effect on the inhabitants, as the increased population gives a bigger support for and use of common facilities. It might also lead to a higher frequency in public transport to and from the ecovillage.



CONCEPTS

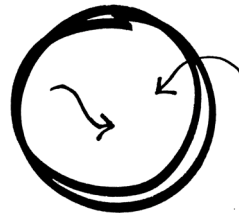
Design principles

The view



The new apartments have a view towards the lake. At the same time they are designed to preserve the view from the existing houses.

Moving to and within the ecovillage



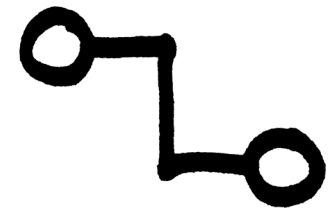
The apartments create opportunities to move within, as well as to, the ecovillage.

Localized lifestyle



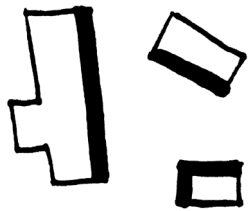
The apartments and the greenhouse promote a localized lifestyle.

Connect the ecovillage



The buildings tie together different parts of the ecovillage.

Preserve the farmyard



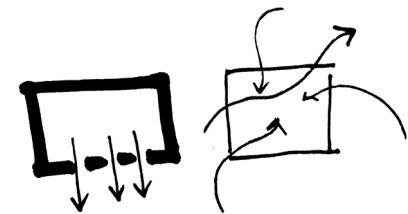
The old farmyard is preserved when building new houses.

Conscious material choices



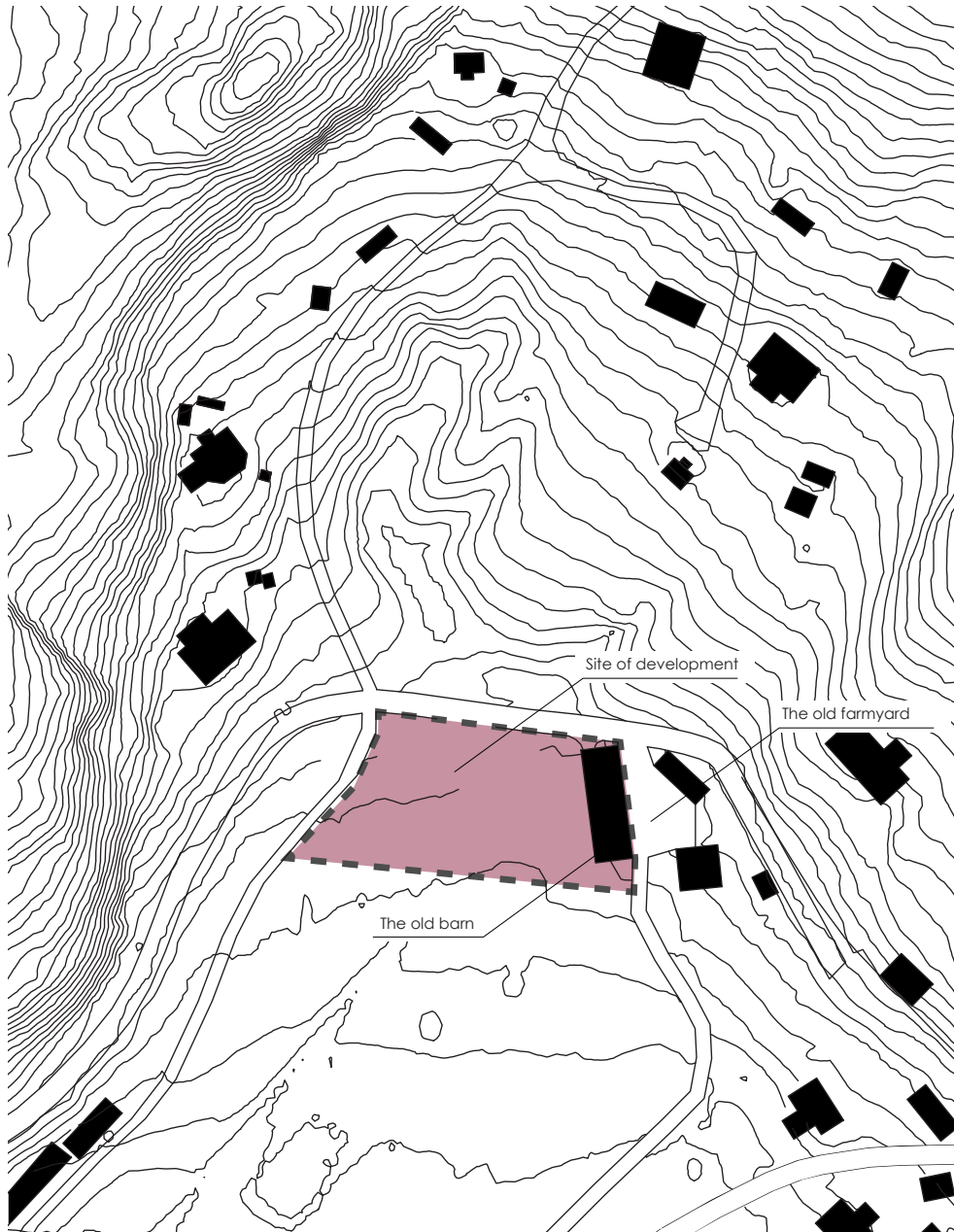
The materials that are used are local, renewable and/or recyclable.

Spatial contrast



There is a spatial contrast between private and public spaces.

The site in the ecovillage



On site in Utsikten we experienced a division of the village into two parts. By the postboxes the road splits into two, one road continues up to the area where most of the villas are and the other road goes to the old barn and the farmyard in front of it. By placing the new development (which includes common areas for everyone living in the village) between these two roads we want to promote usage of a historical road in between them, and by this connect the different parts of the ecovillage.

In front of the old barn, with a farmyard between them, there is a farm house. The barn is in a bad condition and will be taken down, but we believe that the shape of the farmyard should be preserved. Therefore we place the new greenhouse with common areas on the site of the old barn and keep the facade relatively closed towards the farm.

Lifestyle

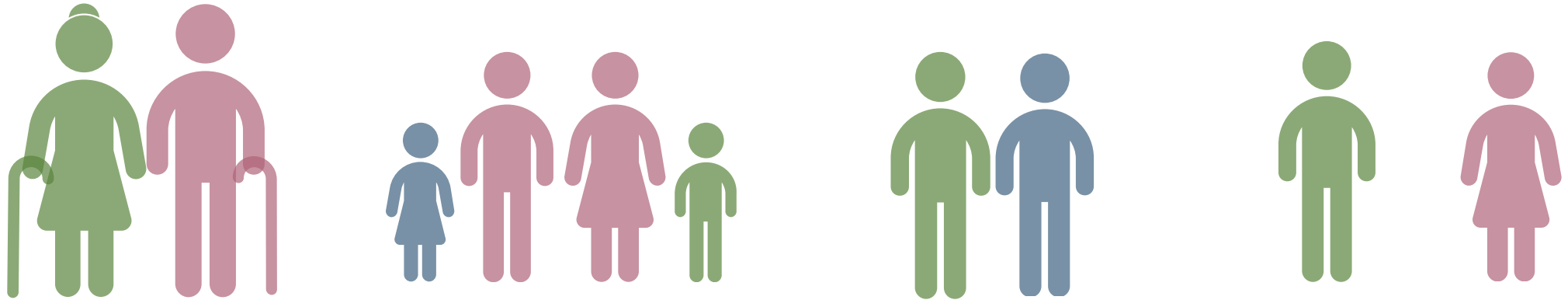


Figure 1-4. Target groups (The noun project, 2017).

The new dwellings and the common areas in the greenhouse will promote a localized lifestyle. The inhabitants in the village shall not feel that they have to leave the village to get food, to work and meet friends. There is space to work from home, opportunity to become self-sufficient on vegetables by growing them in the greenhouse, and spaces that create spontaneous, as well as planned, meeting places.

The main target groups for the project are elderly people that have been living in a villa in the ecovillage and now want to move to an apartment that demands less maintenance, as well as people that want to move to the

ecovillage but first would like to “try” the lifestyle for a while. Therefore we believe that it is important to make the apartments accessible for more people, both physically and economically. This is done by following the requirements for accessibility according to Swedish Standards Institute, as well as planning rentals, which are more affordable. We have also considered the possibility that a person might like to rent out a room in their apartment, or that people would like to share an apartment.

Integration in the landscape



In the ecovillage Utsikten the view is of great importance. Therefore all the new apartments have a view towards the lake. When possible, they also have additional views in other directions. At the same time the new building must not block the view for the people already living in the ecovillage. The building is therefore placed at the bottom of the valley and its height is constrained to two stories.

The location in the valley is sunny during the majority of the day, and gives protection from winds while offering an undisturbed view to the south.

Spatiality of the apartments



Figure 5. House on Gotland (Jarefalk, 2017).



Figure 6. Window recess (Mattern, 2009).



Figure 7. Contrasting walls and ceiling (Ruiz, 2014).

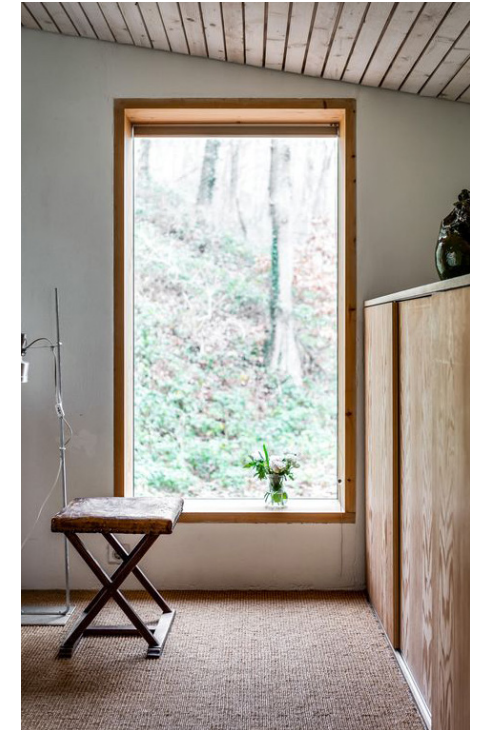


Figure 8. Framed view (Jansson, 2017).

The spatiality of the apartments are enclosed, snug and intimate with materials that are perceived as heavy and warm. The thick walls offer deep niches in its openings, that are focused to the south and the lake, and fewer openings are made to the north and the rest of the ecovillage.

Planning the apartments according to the requirements for accessibility, in combination with the qualities we want to achieve, makes the apartments quite spacious. We believe that when planning apartments in the countryside, it is possible to make them a little bit larger. However, we have optimized the areas so that they are not any bigger than necessary.

Spatiality of the greenhouse

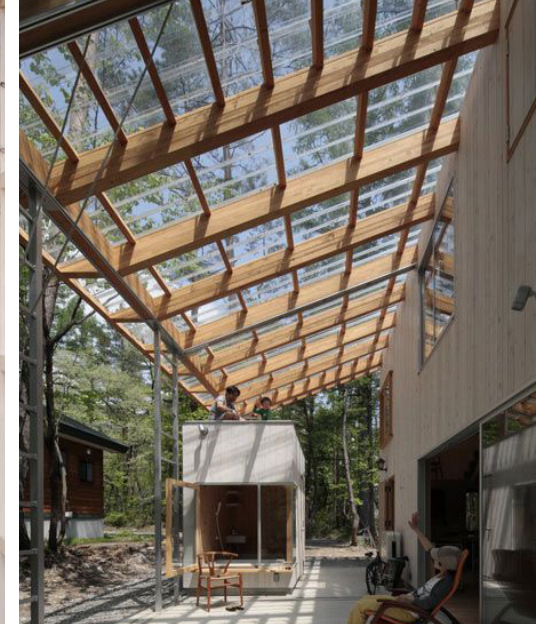


Figure 9. Uterum i växthuset (Ecorelief, unknown).

Figure 10. Greenhouse (Plantation Services Inc., unknown).

Figure 11. Conservatory 1 (Dezeen, unknown).

Figure 12. Conservatory 2 (Dezeen, unknown).

In contrast to the spatiality of the apartments, the public spaces in the greenhouse are spacious, airy and light with high ceilings. It is perceived as very open with views in all directions. The closeness to nature is enhanced by filling the common spaces with vegetation.

Materials



Figure 13. Strawbales (Altenergo, unknown).

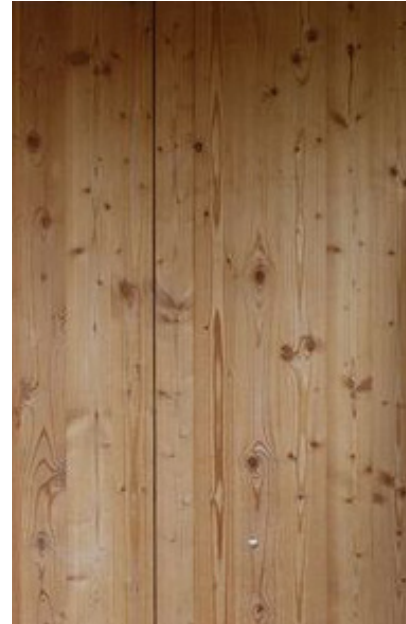


Figure 14. Wood (Wormbs, 2014).



Figure 15. Clay plaster (Earth Sweet Home, unknown).



Figure 16. Glass (Sköna Hem, unknown).

The materials that are used in the project are local, renewable and/or recyclable. The houses are built with straw bale-technique and the building parts are prefabricated to keep the straw dry during construction and to make a fast and efficient construction on site. Straw is a local, renewable material as well as a surplus resource, therefore a cheap material. The load bearing material and interior walls are made out of wood, which also is a local and renewable resource. The plaster used for the houses is made of clay which is a material there is plenty of in Orust and its surroundings. In the greenhouse, a lot of glass is used. Glass is not a renewable resource, but it is recyclable. According to Svensk Glasåtervinning one kilogram of crushed glass becomes one kilogram of new glass without deteriorating quality.

Colors



The new buildings in Utsikten must harmonize with the already existing ones. The color scheme of the existing buildings varies from Falun Red, copperas grey, warm white colors to black. The colors have in common that they all have dull tones.

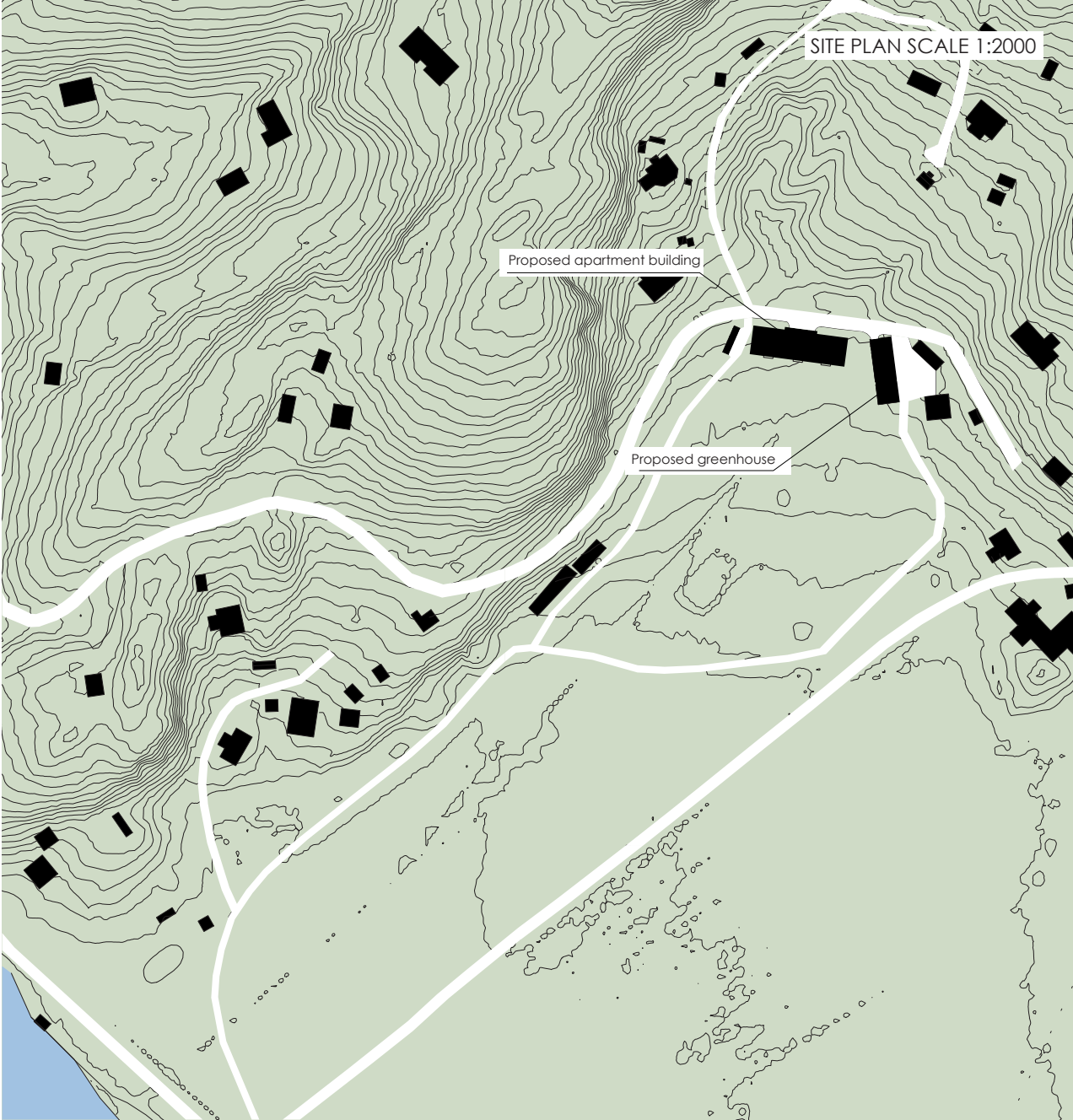
The new buildings will be of a warm tone white plaster combined with details of wood and glass.

Figure 17-22. Houses in the ecovillage (Ekobyn, unknown).

DESIGN PROPOSAL

Surroundings

Site plan for Utsikten



Site plan for the development area

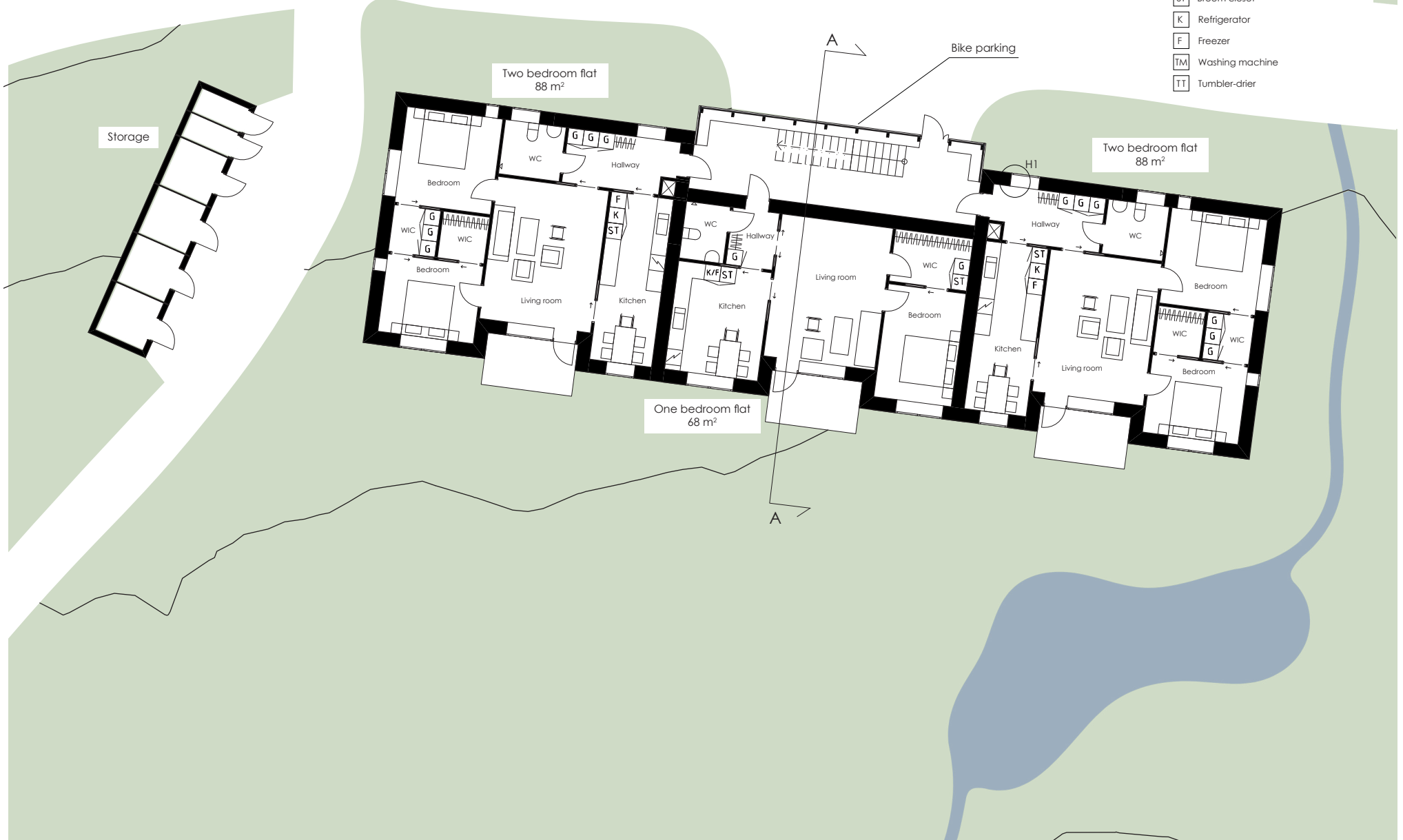


The apartment building

Floor plan

FLOOR PLAN SCALE 1:200

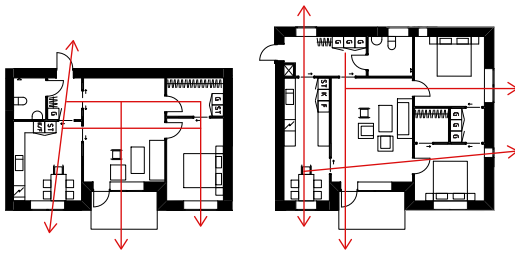
- G Wardrobe
- ST Broom closet
- K Refrigerator
- F Freezer
- TM Washing machine
- TT Tumbler-drier



Qualities in the apartments

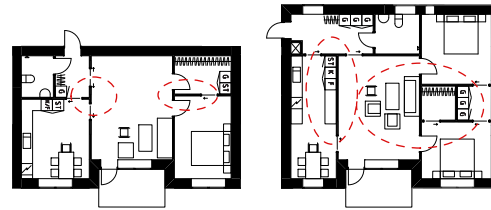
To create enjoyable and qualitative apartments we have chosen to plan the apartments keeping sight-lines, movements, zoning and flexibility in mind. The graphics below are inspired by the book *Bostäder att trivas i - Analyser för ökad trivsel och ökat välbefinnande* (Homes to thrive in - Analyses for increased comfort and increased well-being). The book presents a collection of analyses made by the office Liljewall arkitekter, on their own housing plans, made in dialogue with Ola Nylander, artistic professor in architecture at Chalmers.

Sight-lines



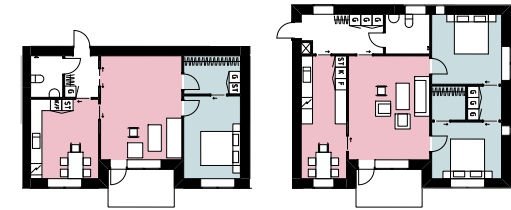
The possibility to follow sight-lines that stretch through several rooms in the apartments make the apartments seem bigger. Ending the sightlines in a window looking out gives a great quality to the apartment.

Circulation



The possibility to circulate in an apartment also increases the impression of it being bigger. The rooms have several openings to create a bigger choice of paths to take with no dead ends, while still considering furnishability.

Zoning



The apartments are divided into more and less private zones, which makes them easier to use in different ways at the same time. For example, someone sleeping in their bedroom is not disturbed by another person cooking in the kitchen. This is especially important in the apartments that might be used as shared apartments, with no previous relation between the people renting it.

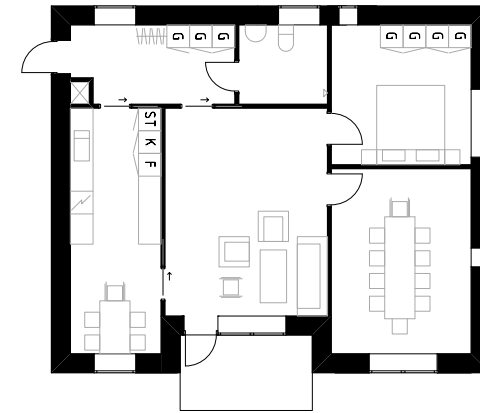
Flexible apartments



The three room apartment can be used as a shared apartment, where the walk in closets create a physical distance and sound barrier between the bedrooms. Further, there is a possibility to close off between rooms to not disturb one another.

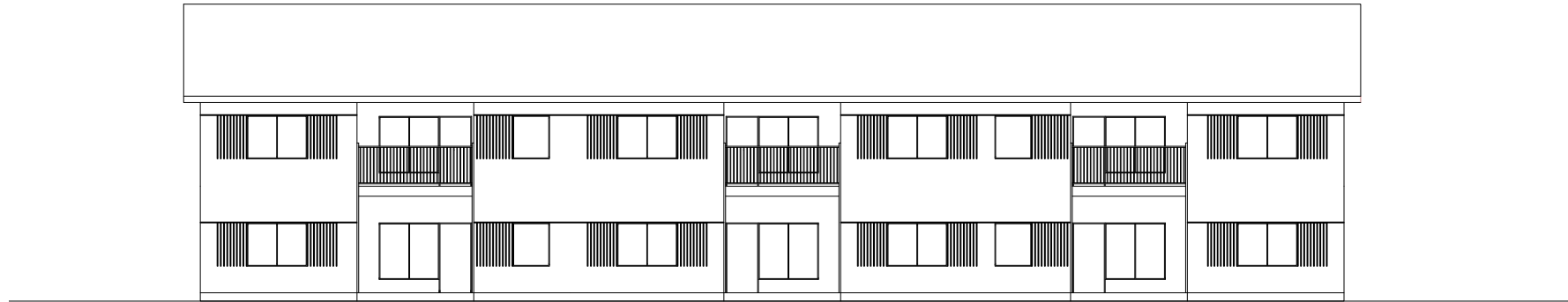


If the apartment is used by a family with children they might want to tear down walls to create an open floor plan. This strengthens the connection between the rooms and parents can look after their children while cooking.

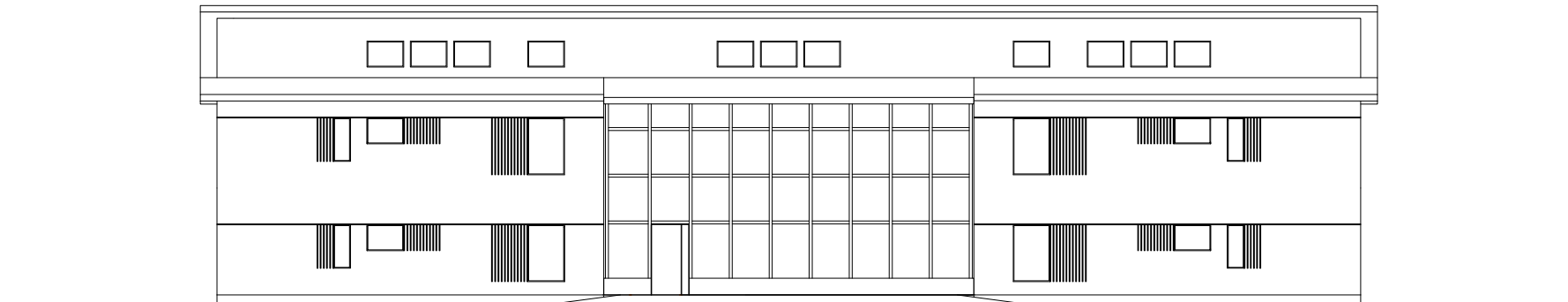


An older couple living in the apartment might want a separate dining room or library. This is done by removing one of the bedrooms and the closets. Wardrobes can then be placed in the remaining bedroom instead.

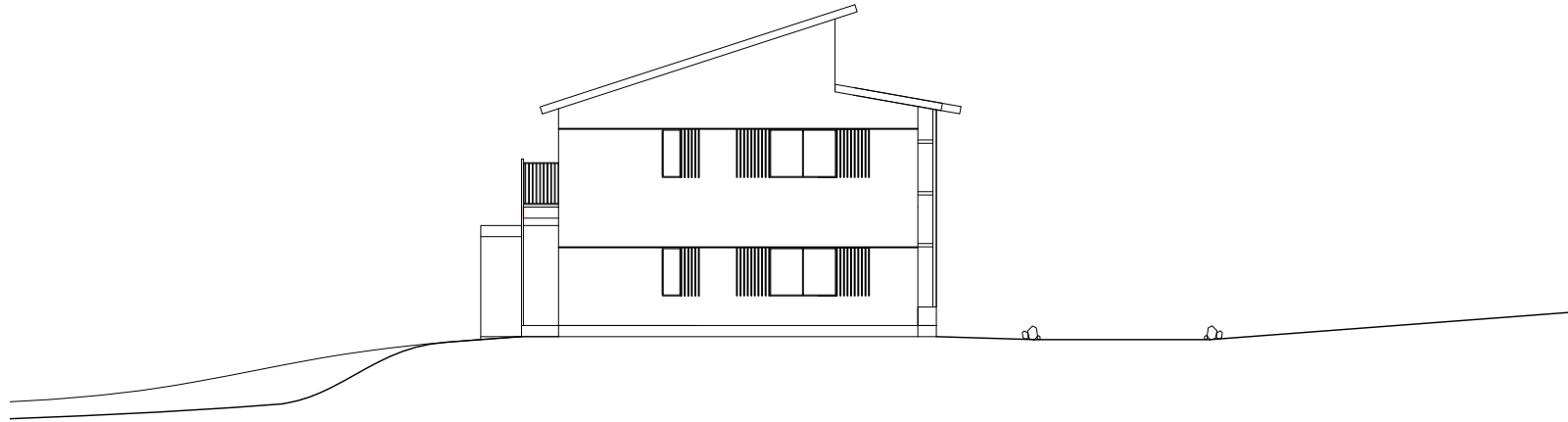
Facades & section



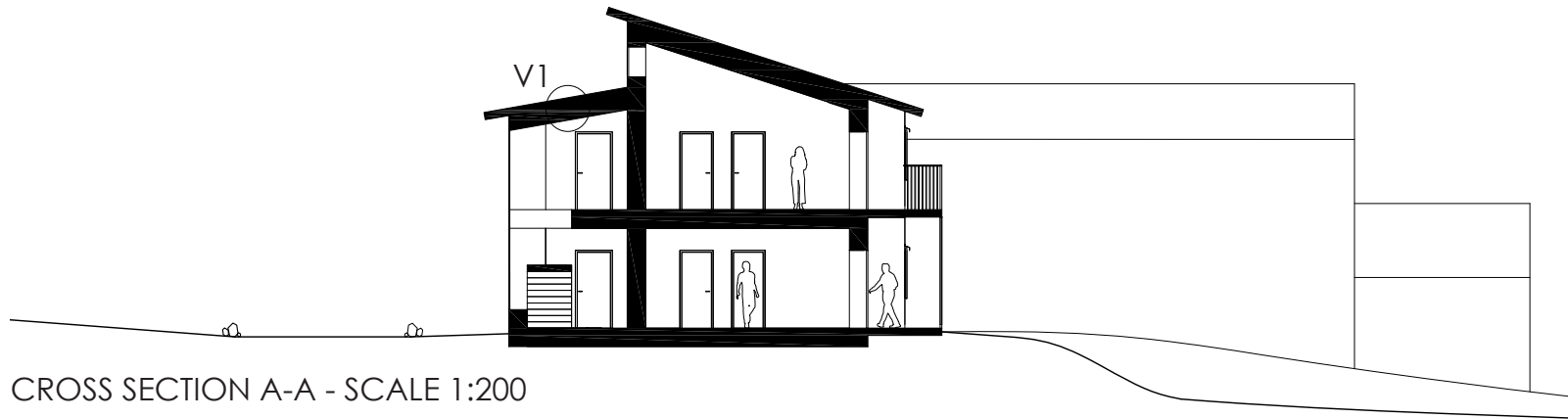
FACADE FACING SOUTH - SCALE 1:200



FACADE FACING NORTH - SCALE 1:200

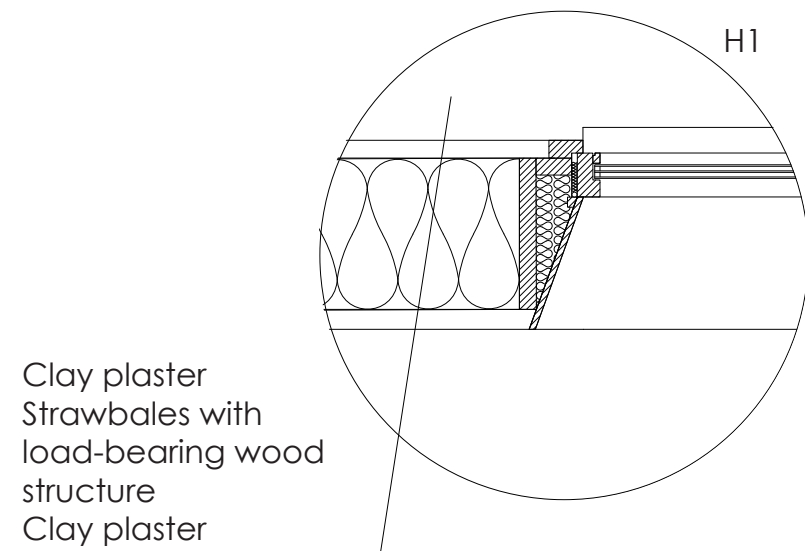
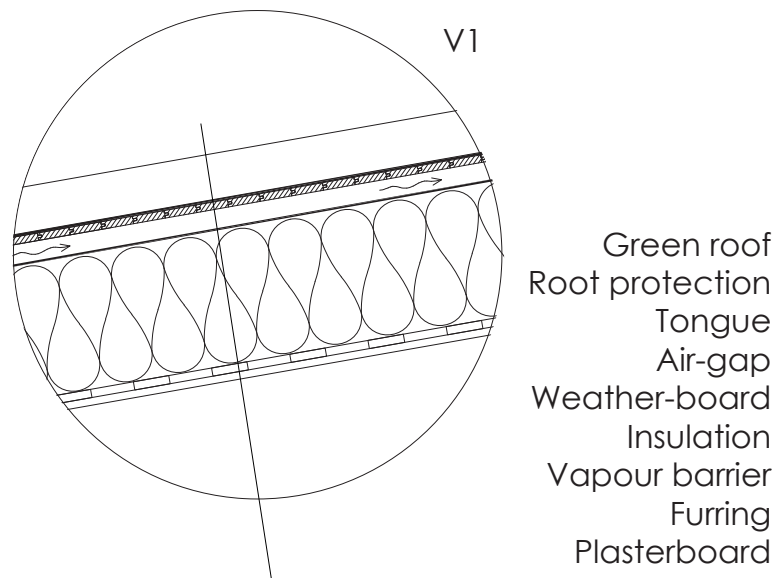


FACADE FACING EAST - SCALE 1:200



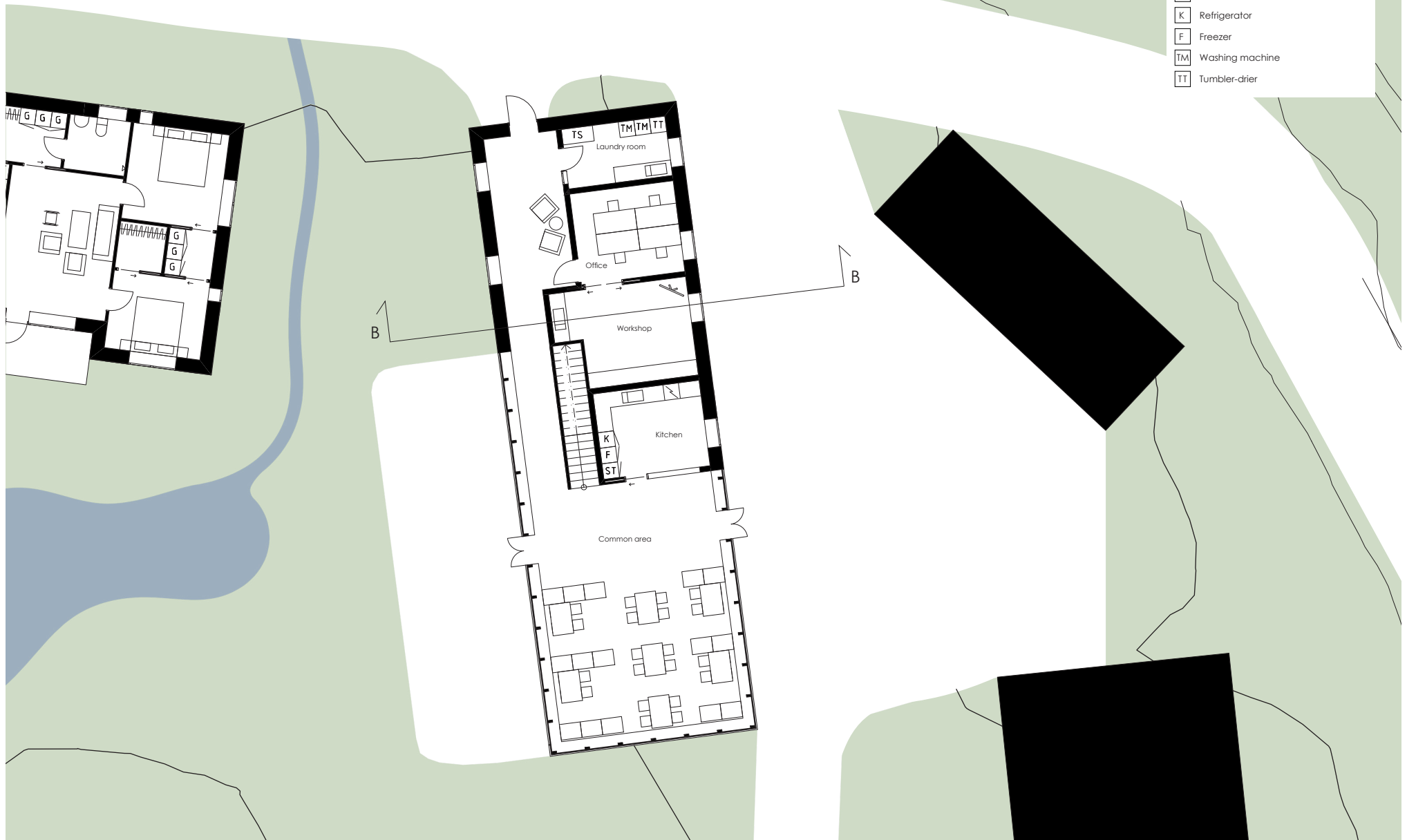
CROSS SECTION A-A - SCALE 1:200

Details

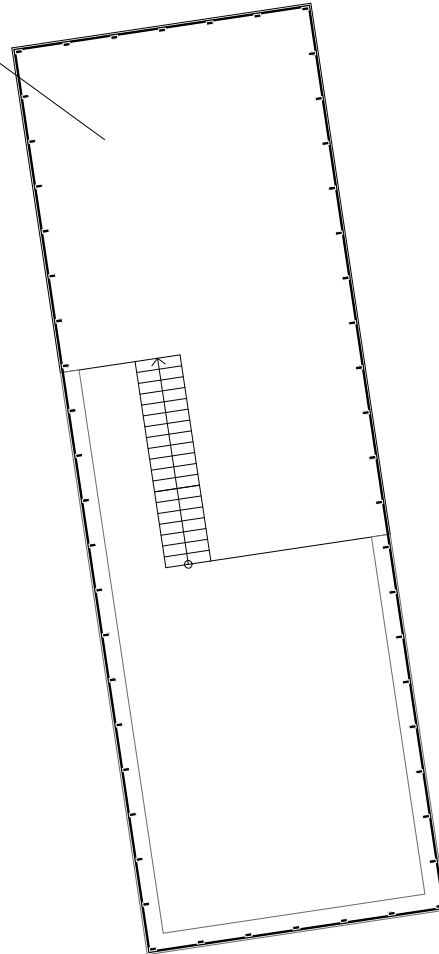


The greenhouse

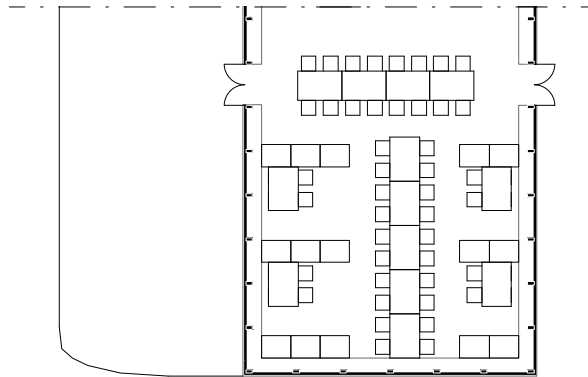
Floor plans



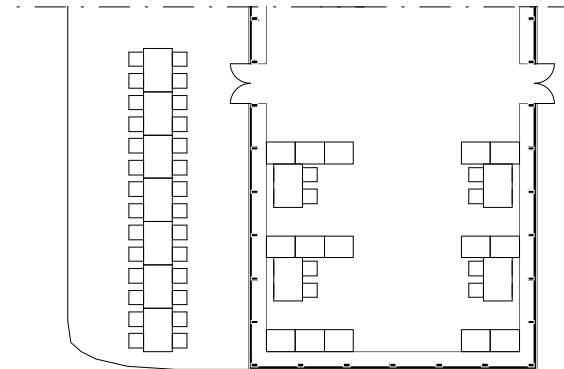
Productive cultivation 100 m²



Flexible common area

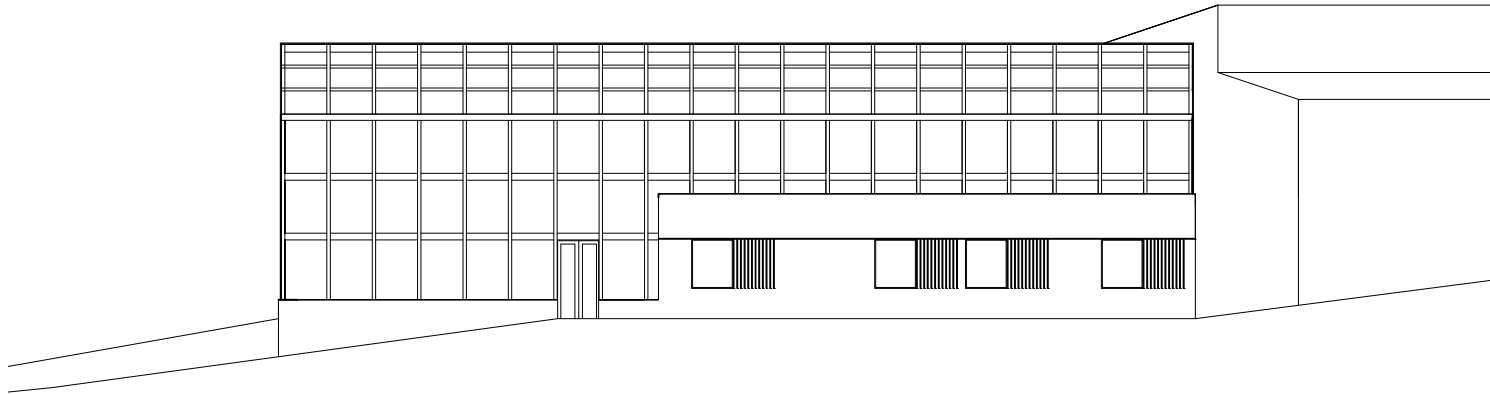


For big events or dinners the common area in the greenhouse can be furnished with two long tables, hosting the whole ecovillage if desired.

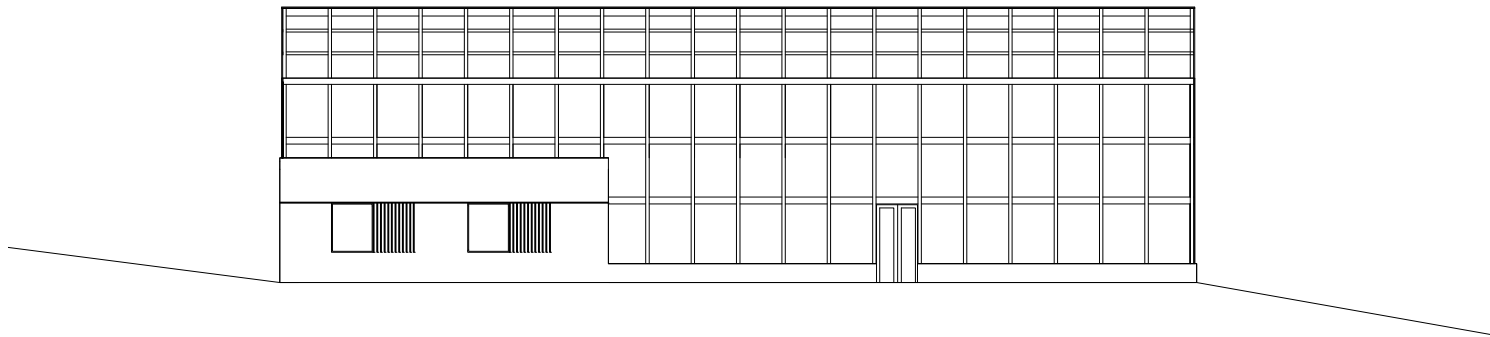


In the summertime the terrace might be used for dinner. The big spaces in the greenhouse can then be used for mingling, leaving a few tables for those who want to sit down.

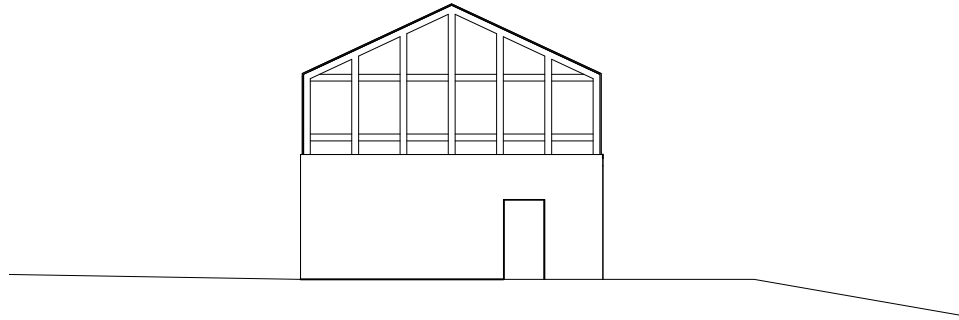
Facades & section



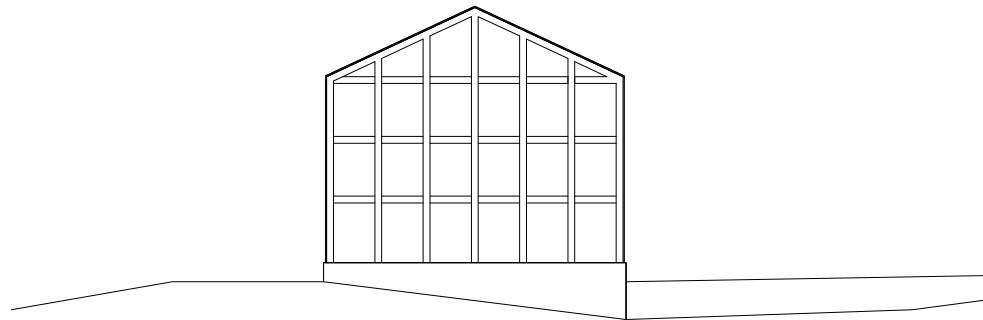
FACADE FACING EAST - SCALE 1:200



FACADE FACING WEST - SCALE 1:200



FACADE FACING NORTH - SCALE 1:200



FACADE FACING SOUTH - SCALE 1:200



CROSS SECTION B-B - SCALE 1:200

ILLUSTRATIONS



View from the main road towards the ecovillage.



Entrance to the apartment building.



Interior view of one of the apartments on the first floor, facing the lake.



View from one of the balconies on the second floor of the apartment building towards the greenhouse.



Interior view of the common area in the greenhouse.

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