vititecture

Re-imagining a Swedish dairy farm to a vineyard

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abstract

The Swedish countryside has encountered several challenges over the past century. Rural depopulation, caused by people migrating to urban areas in search of better opportunities, has led to shrinking communities and a weakened social fabric. Economic shifts towards industrial farming practices have reduced the number of active farms but increased their size, leaving a considerable number of unused farm buildings scattered throughout the landscape.

However, recent years have witnessed a shift towards more sustainable rural development, characterised by the emergence of a new rurality. This modern reinterpretation challenges outdated perceptions and is driven by societal, economic, and technological changes. Rural and agricultural businesses are adapting to these shifts by reinventing themselves to provide not only for nutritional needs but also to offer leisure opportunities, promote environmental sustainability, create post-industrial employment, counteract rural depopulation, and contribute to a sense of history and tradition in regions and nations.

Furthermore, a new agricultural program, the Swedish vineyard, has been gaining prominence during the same time period. This development has been facilitated, in part, by climate changes that allow new crops to thrive in the Swedish climate, as well as more permissive policy changes concerning gate-sales of alcohol. Given that the typology of the Swedish vineyard is in its early stages, there is a notable scarcity of architectural knowledge specific to this context.

This thesis directly engages with the challenges faced by the countryside by working with the building stock of unused farms and implementing the new program of the vineyard. It investigates the current preconditions for establishing vineyards in Sweden, demonstrating its findings through the transformation of a farm in Grimeton, Halland. The farm converts from an inactive dairy farm into a vineyard and winery with associated tasting and commercial businesses. The transformation is executed with a holistic and mindful approach, considering the traditional architecture and craftsmanship of existing farm buildings, ensuring that changes and extensions harmonise with the historical past of the farmyard.

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knowledge gap

In recent years, there has been an increased interest within both research and business life for the emerging trend of wine production in Sweden. This interest stems from global warming and changing climate conditions, which are creating favourable grape-growing climates in the southern regions of Sweden. Municipalities and regions view this trend of wine tourism as an opportunity for rural development and economic diversification in rural areas, as also has been brought up by Rytkönen (2013) as a “new rurality”.

In the Swedish countryside, numerous farms have become obsolete due to the industrialization of agriculture. We see this as an opportunity to re-purpose the existing building stock of farm buildings to accommodate the program of the vineyard. In the ongoing discourse and within the field of architecture, we claim that there is a knowledge gap in how to adapt the program of a vineyard to the existing landscape of farm buildings located in the southern part of Sweden.

aim

The aim of this thesis is to bring attention to issues and opportunities of rural areas and to test a case of new rurality for a specific context. Additionally, it aims to develop knowledge on the existing conditions and how theoretical knowledge can be translated into spatial design. This will highlight the conflicts and synergies that arise in terms of functionality, cultural heritage, scale of operation, when combining the new program of a vineyard to an existing building with its own history and functionality.

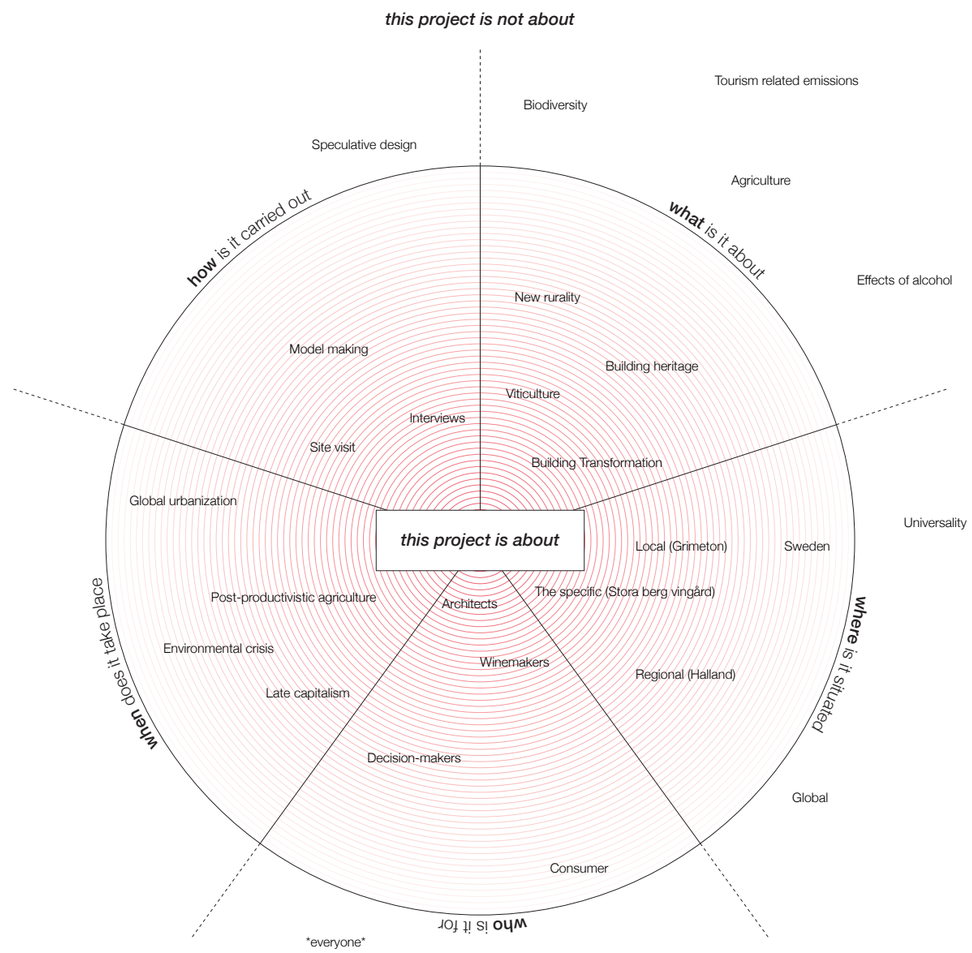
purpose

One of the effects of climate change presents an opportunity for a new industry in the Swedish countryside. This offers a chance to improve the economic conditions of rural areas.

research question

How can an obsolete Swedish dairy farm in Grimeton, Halland, be reprogrammed into a vineyard as a case of new rurality?

delimitations



METHODOLOGY

research approach
theory and concept
process diagram and methods

research approach

Research for design
The thesis is initially developed with a research for design methodology, in order to document and analyse the preconditions of vineyards and farm buildings in Sweden. The process was conducted through literature studies, GIS mapping, site visits, interviews, photographs, measuring and documenting and synthesising the findings. Limited documentation both from the aspect of vineyards in Sweden as well as construction drawings on farm buildings called for a hands-on process of creating and developing that knowledge by ourselves.

Research by design
In the final stage, the thesis transitions to a research by design methodology. The knowledge and theories developed during the research for design phase are filtered and adapted to the specific context of the Stora berg vingård to formulate design strategies. This approach is chosen for two main reasons. Firstly, planning and predicting the future today is not a certainty since we as planners, designers and architects are faced with an ever changing condition of the reality. Therefore the process of planning has to come in a form of flexible nature with multiple feedback possibilities. Secondly, the topic of Sweden as an emerging wine country is complex and affected by a multitude of factors. A phenomena that has no final solution but that is continuously transforming over time. For these types of problems a research by design is a suitable approach, because it allows creative jumps and the possibility to test bold solutions (Roggema, 2016).

“Design and research are two phenomena which some declare to be wide apart. Scientific research is analytical, searching for objective truth and eternal rules, aspiring universal application, is cumulative, and can be validated.” (Roggema, 2016)

“design is described as explorative and innovative, exceeding the limits of the body of knowledge both in a methodological and a theoretical way, it is exploring several truths, and studies multiple futures, hence it is “non-cumulative”. Design is a conversation usually held via a medium such as paper and pencil, with another as the conversational partner” (Roggema, 2016)

theory and concept

New rurality
The time after the second world war there were ideas and policy changes that favoured urbanization and the development of urban centres. Cities and urban areas were seen as attractive and forward driving places for growth, while rural areas were considered backwards driving territories, solely with the function of production (Guinjoan, et al., 2016). Contemporary agro-food globalization has led to a decline in the number of active farms in rural areas but however increasing their size, in order to increase productivity and output (Rytkönen, 2013). Similar to how policy and legislation favoured the industrialization of agricultural businesses, policy aimed at decentralization, regional development and rural revitalization can act as a driving force for a new rurality, by creating support and incentives for rural businesses and communities.

In recent decades a transformation is evident in the composition of practices that makes up the rural economy. As agriculture in many areas has been a declining activity, a new movement of diversification of rural businesses is creating a multifaceted landscape with economic, social and cultural dimensions. Rural tourism, renewable energy production, artisanal production, recreation and other activities have become new important parts of the regional rural economy. Through the lens of a new rurality, rural landscapes have changed from being solely a place of production to become a place of consumption (Douwe Van Der Ploeg et al., 2008).

The transformation of the economical landscape both affects the cultural and social dynamics between urban centres and rural areas, as well as the dynamics within the rural communities. Emerging frictions between former once dominant actors and new additions occur in the transformation of the cultural, economical and social landscape of rural areas. The countryside is a contested landscape (Douwe Van Der Ploeg et al., 2008).

For many decades, rural regions have been regarded and administered from the perspective that urban and rural areas are opposites to one another. In a one-dimensional sense, “increasingly urban” translates to “decreasingly rural.” However the basic distinction between urban and rural areas is an obsolete way of perceiving the physical, cultural, economical, and social aspects of the urban - rural relations (Douwe Van Der Ploeg et al., 2008). During the last decades an Increasing urbanization has led to congestion and high costs of living in urban centres, which in turn has led to an urban population that moves back to rural areas, seeking a better quality of life, lower living costs and closer connection to nature. Innovations in communications and transportation technology has made it possible for people to work remotely, reducing the necessity of dwelling in urban centres.

New rurality in an academic discussion is denominated as a concept in which where rural and agricultural actors reinvent themselves to not only meet existing nutritional demands, but also to create leisure opportunities in scenic landscapes, create environmental sustainability, provide post-industrial work opportunities, counteract depopulation of rural places and offer a sense of history and tradition to regions and nations. The concept is regarded as “new” because economic activities now prioritize diversification, multi-functionality, and even part-time engagements, whereas in the past, the primary objective was solely to enhance productivity (Rytkönen, 2013).

Some of the driving forces behind the new rurality is as previously mentioned urbanization, technological innovation, policy changes, an increased environmental awareness as well as an increased interest for rural culture and heritage. Author Paulina Rytkönen argues that the emerging trend of wine production in Sweden exemplifies a case of a new rurality in Sweden. As wine makers in Sweden showcases rural entrepreneurship and a new case of innovation. In wineries and vineyards in Sweden, farm activities are often combined with, tourism, conference facilities, farm stores etc. The multi activity and part time farming that can be seen in Swedish wineries are important characteristics of a new rurality (Rytkönen, 2013).

process and methods

The diagram is possible to read as a timeline from left to right, starting with the problem formulation and theoretical framework on the left while reflections and discussion conclude the project on the right. However the process is nor linear nor two dimensional, it is complex and multi dimensional, with a process of revisiting, relating and combining findings from various parts of the methods.

Research for design methods

archive searching
Searching through digital and municipal archives, as well as documentation of the culture environment in the region as a first attempt to find a farm that could be used for the project. Ordinary farm buildings was not possible to find with this method, documented buildings found in the archives were of higher cultural importance, buildings such as churches and old community centres.

literature studies
Published relevant scientific literature, topics on Swedish agriculture, legislation of alcohol in Sweden, state of the wine sector in Sweden, spatial planning of wineries. The literature reviews serve as a foundation for understanding various viewpoints on historical, theoretical, cultural, legal, and physical conditions. The research provides insightful data regarding potential conflicts and synergies to guide the design.

GIS-mapping
GIS-mapping enables the exploration of complex relationships by integrating and visualizing spatial data. Southern Sweden was analysed using QGIS to understand correlations between vineyard locations, climate, landscape, and infrastructure. This method identified potential sites for viticulture in Sweden.

site visits
Visiting wineries in Sweden helped in gaining a practical understanding of the wine-making process, as well as understanding the challenges in the Swedish context concerning policy of alcohol. It was also seen as an opportunity to interview the wine makers and collect photos and inspiration to be used in the research by design phase.

locating a farm
Lack of documentation and construction drawings of the typology of farm buildings in archives and databases, called for a process of locating a farm that we could measure, photograph and create drawings on ourselves. 23 selected farms were visited during one day. The method helped to gain knowledge about the intermediate context, identify unused farm buildings and establish a personal point of contact to the farm owner.

measuring a farm
Was carried out on Stora Berg farm in Grimeton, in order to produce a detailed and accurate 3d model. The method of measuring and creating a 3d model helped in order to understand the logic of the construction and identify characteristics of different facade materials as well as spatiality that later was used in the design phase.

photography
Has been used as a tool to document the existing conditions in Swedish wineries as well as in documenting the farm buildings on Stora berg. The method provided a base of images that could be revisited both when making drawings of the visited wineries as well as in the making of the 3d model for stora berg. Images acts as a base of knowledge and inspiration for the design phase.

Research by design methods

spatial configuration model
Was developed in the initial design phase, as a tool to quickly test out different programs to a specific set of buildings. The model works out of a grid and differently coloured cubes, where each colour represents a different part of the wine making process. The model and buildings are made with acrylic sheets, making it possible to use it as a 3d whiteboard, annotating and sketching for each iteration.

scenario based model making
Different scenarios of scale in the spatial configuration model. In the different scenarios tested, wine production (litre), area of crop (m2) and building area (m2) was considered and translated to a spatial organization of Stora Berg farm. The method together with the spatial configuration model helped to determine a scale of the program and how that could be applied to the specific buildings of Stora berg.

sketching
As a later stage in the research by design phase, sketching was applied to accurate plan and section drawing of Stora berg, based on the findings from the scenario based model making. Different spatial scenarios were iterated and tested in a more accurate sense. The method revealed certain restrictions regarding buildings limitations and natural topography of the site. However it revealed possibilities of transformation of the existing buildings, by exploring sight-lines, creating inside and outside space and flow of production as well as experience for the visitor.

model making
Concepts found during the phase of sketching was tested in simplified volumetric models, in a 3d software and then in physical plane and volume models. The method revealed points of conflict mainly in the construction of the old farm buildings, that later had to be resolved in the 3d software.

speculative design
Have influenced the research by design phase, in the way that the project is envisioning how the program of a vineyard can respond to conditions of the specific site. Not in an immediately practical or realizable way but, in a design proposal that challenges the conventional, technical and cultural aspects when transforming a Swedish farm. The method aims to stimulate discussion and evoke critical reflection about how Swedish farms can be transformed in the future.

visual narrative
The project is presented through a visual narrative, intertwining the visitor's experience with practical wine production spaces. Artefacts from site visits during the research for phase create scenes of life. This method effectively designs the nuanced experience of spaces within and between buildings, and the relationships between old and new elements in terms of colour and materiality.

BACKGROUND

growing zones
agricultural post-productivism in sweden
the farmers building
legislation of alcohol in sweden
viticulture in Sweden
vinification process

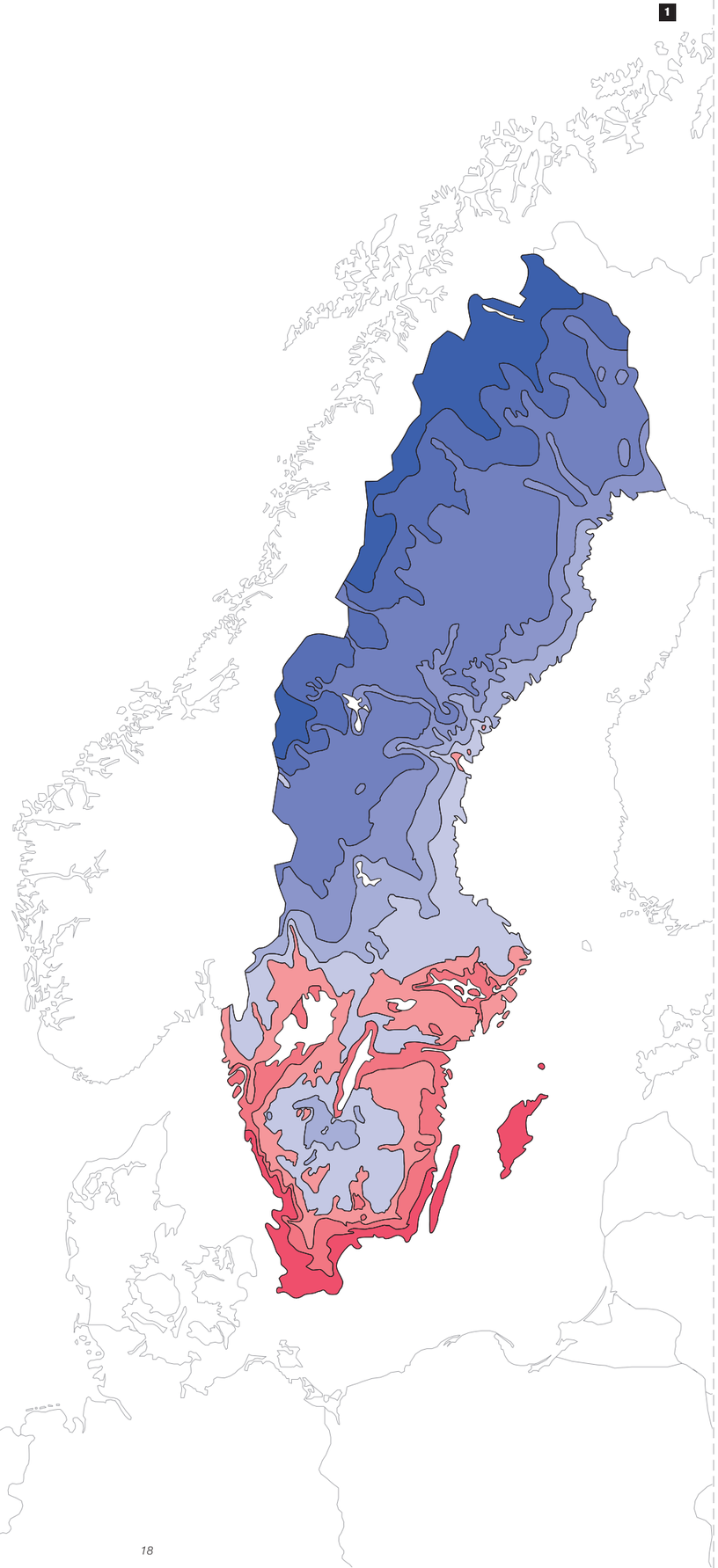
growing zones

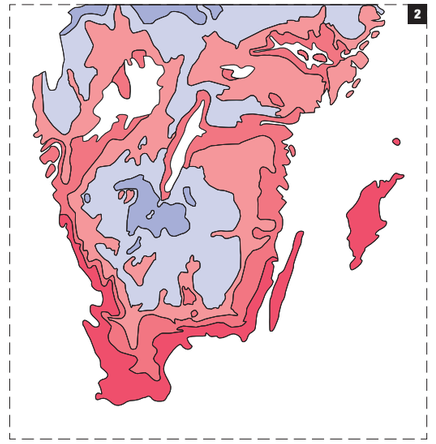
Climate change has a different impact on different regions of the globe. Some areas will warm much faster, some will receive more rainfall, while some are more exposed to more frequent droughts. These regional changes in temperature and precipitation also change the growing conditions for each region. Countries that have in the past dominated in viticulture are today trying to adapt to the changing conditions, while at the same time new countries are emerging into the field (UCAR, n.d.).

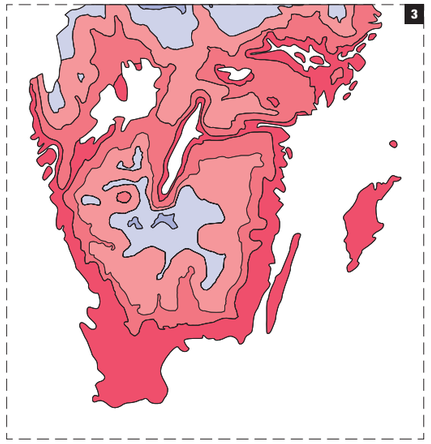
The growing zones in Sweden are moving at a quick pace, 1 metre by the hour, which results in a movement of 8,7 km in a period of a year (Wallin, S, 2012). Both the topography and the access to water are factors that dictate how the growing zones spread. The zones generally move inwards toward the country, and also move up the coastline. Viticulture grows favourably in growing zone 1, which is also why the large majority of Swedish vineyards are currently located there. Based on historical changes, an argument could be made that within the coming 20 years, the conditions of zone 1 will reach the area where zone 2 and 3 are located today.

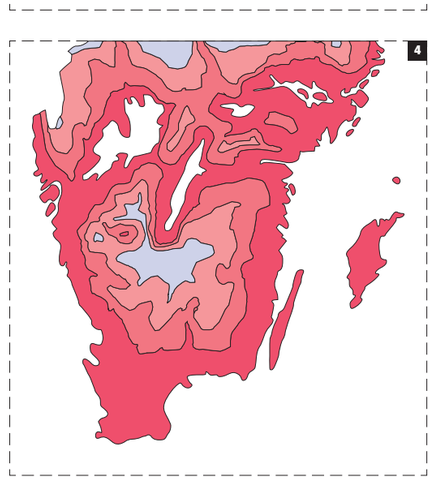
Speculating visually

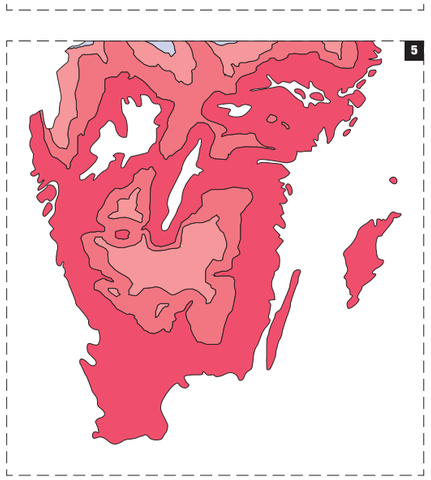
Diagrams were created by the authors showing a possible evolution of the growing zones in Sweden, based only the information that the borders of growing zones are moving 1 meter by the hour (Wallin, S, 2012). The maps visualize the change over time and are highly simplified, they should therefore be seen as speculative visualizations instead of actual future climatic conditions.











1, 2 *Growing zones in Sweden, 2024*
3 *Speculative projection for 2044*
4 *Speculative projection for 2064*
5 *Speculative projection for 2084*

agricultural post-productivism in sweden

Swedish farming up until the 20th century was characterised by a diversified and traditional approach. Farmers engaged in a variety of crops and often integrated livestock into their systems. Agriculture relied heavily on manual labour. Sustainable practices, such as crop rotation and the use of natural fertilisers, were common. Farms were small and family-owned, and the focus was on local and subsistence farming. 90% of the Swedish population lived in the countryside (Statistikmyndigheten SCB, 2015).

The form of the countryside has generally been dictated by legislation. Buildings were generally kept in a collective village in the earlier times where one would generally have several smaller plots of land. Through several policy changes that were meant to ease farming, between 1827-1928, agricultural plots were increasingly merged. The custom was then to dismantle and move one's buildings to the assigned plot (Lantmäteriet, 2023). Additional accessory buildings were added over time, which gave cue to the typical Swedish farmyard as we know it today.

Agricultural productivism

A new approach to farming and food production emerged post World War II, which is referred to as agricultural productivism. The model gained prominence over the later half of the 20th century and prioritises maximising output and efficiency. Key characteristics of agricultural productivism include the widespread use of technology, mechanisation, and chemical inputs to boost yields. The focus is on achieving high production levels, often with a specialisation in monoculture, to meet the demands of a growing global population. Higher governing bodies, such as the European Union (EU) and Food and Agriculture Organization of the United Nations (FAO), began influencing the agricultural market in Sweden (Länsstyrelsen Skåne, n.d.).

The 21st century brought additional improvements to agricultural technologies, such as remote GPS guidance systems for harvesting and planting. Swedish farms grew increasingly larger and became more specialised, which allowed the crop yield per farmer to reach new heights (Jordbruksverket, 2023). However, criticism of agricultural productivism did also arise due to its association with environmental degradation, loss of biodiversity, and concerns about sustainability. As production capacity and efficiency grew past the need for quantity, new values began to emerge that focused on sustainable, diversified, and socially conscious farming practices.

Renewed focus on poly-culture

Post-productivism in agriculture marks a departure from the intensive, high-output practices of agricultural productivism. It embraces diversification, sustainability, and quality over quantity. The approach bases itself in a holistic consideration of the interconnectedness of ecological, economic and also social aspects of farming. An outcome of this is a renewed focus on poly-culture agriculture (European Commission, n.d.). The effects of this new direction are yet to be evaluated, but an increase in small- scale farming has been noted in Sweden (Jordbruksverket, 2023).

Changes over time on Stora berg farm

1. 1860, inception. *Larger agricultural area in Grimton, outside Varberg, is divided when two brothers inherit their family farm. The younger brother constructed Stora berg farm on his half of the plot, focusing on livestock.*

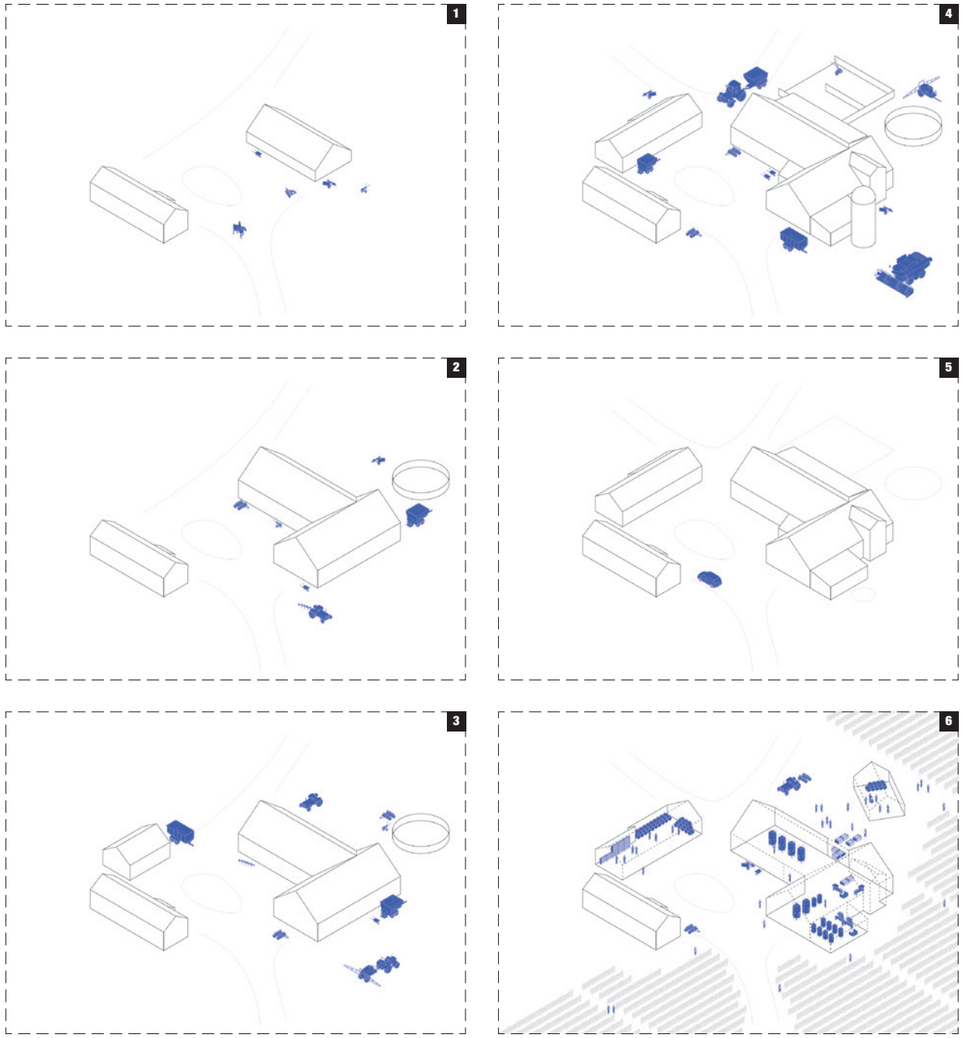
2. 1930, technological advancements. *Tractors become the norm for farming, prompting the expansion of the barn to accommodate the increase in equipment.*

3. 1970, productivism. *Production is significantly increased. A smaller building is added to the farm, as well as structures for open storage.*

4. 2000, dismantlement. *The farm faced challenges in competing with large-scale farms. Consequently, farming operations were dismantled, and the plot was leased out to a neighbouring farm.*

5. 2020, idle farm. *Farm functions only as a domestic residence, with its agricultural buildings left unused.*

6. 2040, revival as vineyard. *Grapevines are planted over time on the agricultural land, buildings are converted to accommodate a winery. Farm focuses both on the gate-sales of wine, but also on the experience of the Swedish farm as a vineyard.*



Stora berg farm, isometric diagram
1 *1860*
2 *1930*
3 *1970*
4 *2000*
5 *2020*
6 *2040*

the farmers building

Agricultural buildings have come into existence through a need-driven gradual process. Notably, they not only provide space for food production, but also facilitate the home of the owner. Historically, and often even today, the buildings are usually built by the farmers themselves, as they possess the tools, machinery and most of the resources needed to carry out such large-scale building projects. Agricultural buildings rarely exist by themselves, but are rather clustered together to accommodate the different functions of the specific farm. (Bocz, 2012)

The composition and characteristics of the buildings vary throughout Sweden, but they can generally be categorised in north-, central-, west- and south-Swedish farm type. Generally the buildings are organised to create an inner courtyard. Key differences are that the buildings are usually built with timber and are more free-standing in the north, and are increasingly built as one unit, with stone and masonry becoming more prominent, the further south you go. The west-Swedish farm type is usually composed of a few elongated farm buildings, in parallel or in 90 degrees to each other, mostly built in timber, with some elements of stone and masonry. (Bocz, 2012; Werne, 1993)

Function driven buildings

The buildings do not require any formal building permit, only a notice to the local municipality. Therefore, there are very few regulatory aspects that need to be taken into account when designing and constructing them. As the buildings primarily serve practical functions, they have usually come about in a very logical and organic configuration over time. Although they might be built very closely, or as extensions, the buildings typically represent the different eras they were constructed in, and therefore vary in shape, colour, material and construction technology. There is a visible shifting point between traditional and modern agricultural buildings that occurred around the 1950s in Sweden. Traditional agricultural buildings were limited by the construction methods known at the time and the availability of the materials. Tradition defined the building methods used and buildings were designed for natural beauty, with local materials such as wood and stone being used, which harmonised with the landscape (Bocz, 2012).

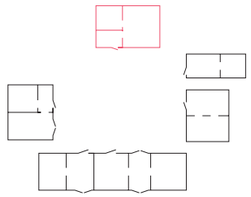
As the 20th century progressed, large-scale industrially produced building materials, such as board and sheet metal products and concrete, became available. Alongside the productivist approach to farming, this created agricultural buildings that subordinate architectural and aesthetic qualities to functional and economic aspects. Current agricultural buildings are purpose built without constraints on material or construction. Due to the use of more complex agricultural machinery, traditional buildings have become obsolete for modern large-scale agriculture. The new buildings also have a shorter life-span due to a new type of economic thinking.

Reutilization of agricultural buildings

Traditional agricultural buildings were built to last, with some dating back to the 18th century. As they are soundly built, even by today's standards, they can provide adequate indoor conditions for new programming. Statistics show that the amount of agricultural holdings has gone from 307 400 to 58 219 during 1927 to 2022, which is a reduction of over 80%. While at the same time, the amount of holdings with over 100 hectares of arable land has increased from 2 500 to 6 701 (Jordbruksverket, 2023). This has resulted in a large amount of heritage farmyards being left unused in the landscape. However, the reutilization of these spaces presents both benefits and threats.

Bocz (2012) demonstrates that reutilization aimed at rural tourism often creates an artificial rurality and a Disneyfied environment. Contributing factors include the introduction of non-local urban artefacts, functions that differ to strongly from the original purpose of the buildings, drastic alterations made to the buildings not keeping with the original style, introduction of new materials, changes to the scale of openings, alterations to the farm that disrupt the balance of the landscape, and the overall concept of 'beautification' of the existing structures.

He argues that to avoid these pitfalls, there are general principles that could be taken into account during design. These include identifying solutions that work 'with' the building and not 'against' it, using sympathetic materials as an extension of past techniques or in contrast to them, opting for techniques of repair rather than restoration, and utilisation of modern technology and solutions as a hidden means to preserve if traditional methods are too destructive.



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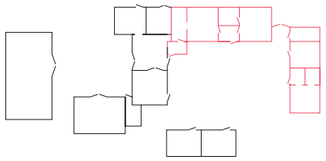

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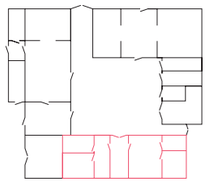


4

domestic buildings
agricultural buildings

5

1 *North-Swedish farm type, plan*
2 *Central-Swedish farm type, plan*
3 *West-Swedish farm type, plan*
4 *South-Swedish farm type, plan*
5 *Barn interior, stora berg, photograph*

1 *Re-purposed barn as Qvevri wine-cellar, Vejby vingård, photograph*
2 *Storage containers for sparkling wine, Åstad vingård, photograph*

legislation of alcohol in sweden

Sweden - a culinary destination
Since 2009 Swedish politics have worked with the vision of making Sweden a culinary destination (Sverige - det nya matlandet). The vision departs from food tourism but incorporates the entire food chain. Today the usage of food tourism is a common strategy for countries to market themselves as culinary destinations and attract the growing group of tourists that travel for food as a primary experience during their visit. The vision of the project is to make Swedish food competitive on an international level (Visit Sweden, 2022)

In Sweden the interest for beverages made with craftsmanship has grown strong, drawing attention from both skilled actors and interested consumers. Simultaneously the interest for food tourism experiences in connection with drinks and food has grown. Sweden has a great potential in expanding its capacity to handle more visitors, to become a catalyst of change for growth in rural areas (Statens Offentliga Utredningar p.245, 2021).

However there are implications, due to old policy and regulations regarding the retail monopoly of alcohol that makes it difficult for existing winemakers in Sweden to meet the requirements and demanded scale of production for Systembolaget, old policy also prohibits the possibility of on site gate sales of bottles for visitors to bring home from their visit. A common strategy today for Swedish winemakers to be profitable is to combine their wine making business with additional programs of tourism, farm activities, conference facilities, health activities, etc.. (Rytkönen, 2013)

Possibility of Gate sales
The Swedish government took a decision in november 2020 to investigate the possibility of gate sales of alcoholic beverages in Sweden while still preserving the retail monopoly Systembolaget. The investigation is conducted by the Department of Official Reports of the Swedish Government. In the investigation conditions are presented concerning who's going to be allowed to conduct gate sales (Statens Offentliga Utredningar p.3, 2021).

The investigation/report concluded that enabling gate sales of alcoholic beverages would benefit the entrepreneurship, employment and food tourism industry in Sweden (Statens Offentliga Utredningar p.57, 2021).

The investigation also includes a proposition on the forms of gate sales that should be allowed, and that it should not be an alternative to Systembolaget but rather a knowledge-raising experience. The retail of beverages should therefore take place at the manufacturing or viticulture site in connection with a study visit or lecture offered to the visitor in exchange for a fee. The investigation states that a solution like this ensures the link between gate sales to the hospitality industry (Statens Offentliga Utredningar p.127, 2021).

Only in limited quantities
The proposal states that gate sales to each individual should only be allowed in limited quantities. The sale to each person must not exceed 3 litres of wine, which translates to about 4 bottles of wine.

Who is allowed to conduct gate sales?

*"**1.** On-farm sales of alcoholic beverages are allowed for professional manufacturers under the condition that the beverages are self-produced.*

***2.** The character-defining part of the production (excluding blending, dilution, filtration, or similar treatment) must take place at the manufacturing site.*

***3.** The annual production volume of the manufacturer must not exceed 75,000 litres of spirit drinks, 500,000 litres of fermented beverages with up to 10% alcohol, or 200,000 litres of fermented beverages with more than 10% alcohol.*

***4.** The manufacturer must be independent from manufacturers with higher production volumes."*

viticulture in sweden

In the article “Sweden: An Emerging Wine Country: A Case of Innovation in the Context of the ‘New Rurality’,” author Paulina Rytkönen discusses the emergence of the wine sector in Sweden attributed to climate change. Warmer temperatures and extended harvesting seasons in growing zone 1 in Sweden provide a favourable climate for grape cultivation. However, outdated policies and regulations linked to the monopoly pose challenges for existing winemakers in meeting the required production scale and prohibit the sale of unopened bottles to visitors. Consequently, a common phenomenon in Sweden today is the necessity for winemakers to integrate additional programs such as tourism, farm activities, health activities, conference facilities, and restaurants into their business models. (Rytkönen, 2013)

To make and sell wine in Sweden

At the end of 2023, there were 64 registered wine producers in Sweden, with 57 engaging in both grape cultivation and wine production. Over 20 of these wine producers have been added in the last 5 years. In 1994, the Swedish wholesale and production monopoly underwent deregulation, prior to that, there were no commercial vineyards in Sweden. The majority of vineyards in Sweden are small, ranging from one to ten hectares, with the total area amounting to approximately 100 hectares. Out of the 64 wine producers, 54 (83 percent) indicated that their annual production was below 10 000 litres of wine. The reported production volumes show a median of 1 337 litres among the Swedish winemakers. (SPAA, 2023)

Internationally, there are vineyards that sell and export grapes, enabling external actors, including wineries in Sweden, to import and produce the wine itself. However, for a wine to be officially classified as Swedish, it must be produced using grapes cultivated within Sweden. As of February 2021, 50 Swedish wine producers had products featured in Systembolaget’s temporary assortment. The total volume of Swedish-produced wine sold at Systembolaget in 2020 amounted to 40 000 litres, representing 0,02 percent of Systembolaget’s total wine sales. (SOU 2021:95, p. 312)

Wine producers can be found in 15 out of Sweden’s 21 counties, with over half of them, specifically 35 producers, situated in Skåne. To sell an unopened bottle in Sweden today, the bottle must either be sold from a foreign company back to the Swedish consumer or be sold through the Swedish retail monopoly, Systembolaget. (SPAA, 2023)

Soil composition

When cultivating grapevines in Sweden, various soil conditions must be considered to ensure optimal growth and grape quality. Grapevines require well-drained soil to prevent water-logging, but also soil with good water retention to sustain themselves during dry periods in the summer. These requirements are mainly determined by the soil composition and mineral content. While well-drained fertile loam is preferable, grapevines can also thrive in clay, slate, gravel, shale, and sand soil, depending on the type of vine. Growing zones 1 and 2 in Sweden offer favourable conditions for agriculture, due to their proximity to the sea contributing to the soil fertility. Additionally, pH value, organic matter content, and nutrient availability are crucial for supporting vine growth and fruit development. A thorough analysis of soil conditions is necessary for successful vineyard establishment and grape production in Sweden.

Soil dictates taste

The soil composition also plays a significant role in influencing the taste of grapes and consequently the wine they produce. The grapevines root system can extend to depths of 50 meters, allowing it to absorb subtle variations in the soil. As a result, grapes grown in different agricultural plots yield wines with distinct flavours. The Swedish soil conditions in growing zones 1 and 2 are typically suitable for production of grapes with high acidity, which are well translated in white still or sparkling wines.

1

2

1 *Soil sedimentation, isometric diagram*
2 *Logistical warehouse, Winemechanics, photograph*

vinification process

The wine production process is a multi-step process that starts with the harvest or receival of grapes and ends with some commercial aspect. The type of wine being produced, the size of the production and the design of the business are key aspects that dictate the spatial design.

The process begins with the cultivation of grapevines. New vines require approximately 6 years to achieve optimal grape production. The grapes are regularly analysed to measure acidity, pH balance, sugar content, as well as ripeness of seeds and skins. Harvesting at the peak ripeness influences alcohol content and contributes to the overall wine quality and style. Once harvested, the grapes are crushed and de-stemmed to release juice. For white wines, the grapes are separated from their skins, seeds, and stems immediately after crushing. Red wines, on the other hand, may undergo fermentation with the skins to extract colour and tannins.

The grape juice, or must, undergoes fermentation, a process where natural or added yeast converts sugars into alcohol. This process can take place in stainless steel tanks, wooden barrels, concrete or clay wine tanks, or other fermentation vessels. The fermentation process within the tanks lasts from a few weeks, up to a year, depending on the style of wine. After fermentation, the wine may be clarified to remove solid particles, sediments, or unwanted microorganisms. This can involve filtration or allowing the wine to settle naturally within the tanks.

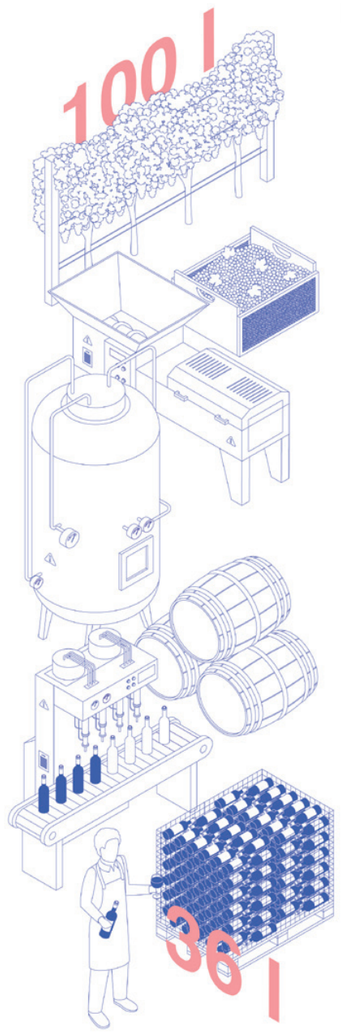
The next steps vary depending on the style of wine being produced. The wine could be bottled straight after the tank fermentation to be consumed, suitable for still white wines. Alternatively, it could be bottled with yeast to begin a second fermentation and ageing that last from 6 months to a few years, common for sparkling wines. The wine could also be matured in a container to develop more complex flavours and aromas, such as oak barrels or previously mentioned tanks. This is typical for red wines, the length and type of ageing depend on the desired characteristics. (Föreningen Svenskt Vin, 2023)

The final step involves filling the wine into bottles, often preceded by an additional process of fining, which is a term for chemical wine clarification, to increase clarity and stability in the wine. The bottles are sealed with corks, caps or alternative closures. Winemakers may blend different batches of wine to achieve the desired taste and quality. This step is common in the production of many red and some white wines. The wine is thereafter packaged in cardboard boxes or cage pallets to be sold in-house, to bars and restaurants, Systembolaget or exported.

Operational process

The flowchart depicted in Figure 2 outlines the essential steps involved in winemaking, It showcases the various pathways grapes follow based on the type of wine, red, white, or sparkling, being produced. While the flowchart provides a generalised overview, there are a multitude of diverse methods used in winemaking to accommodate different styles of wine. Grape stems and other coarse by-products are composted and reused in agriculture. Whereas, lees, pomace, and other winemaking sediments are commonly outsourced to distilleries to produce liquor with higher alcohol content, which can subsequently contribute to the commercial aspect of winemaking. (Torreggiani et al., 2010)

1



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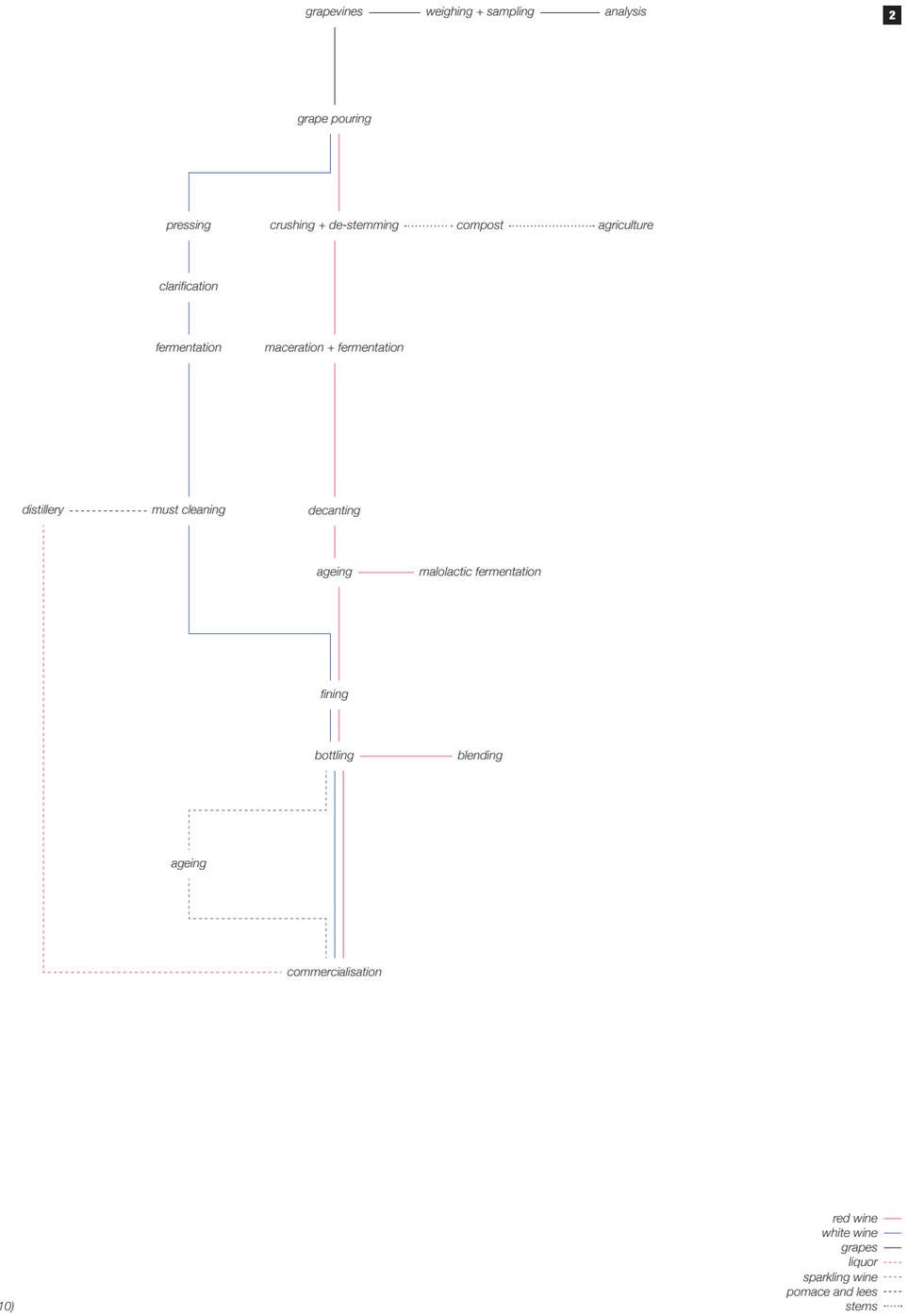


1 *Vinification process, diagram*
2 *Vinification flowchart (Torreggiani et al., 2010)*

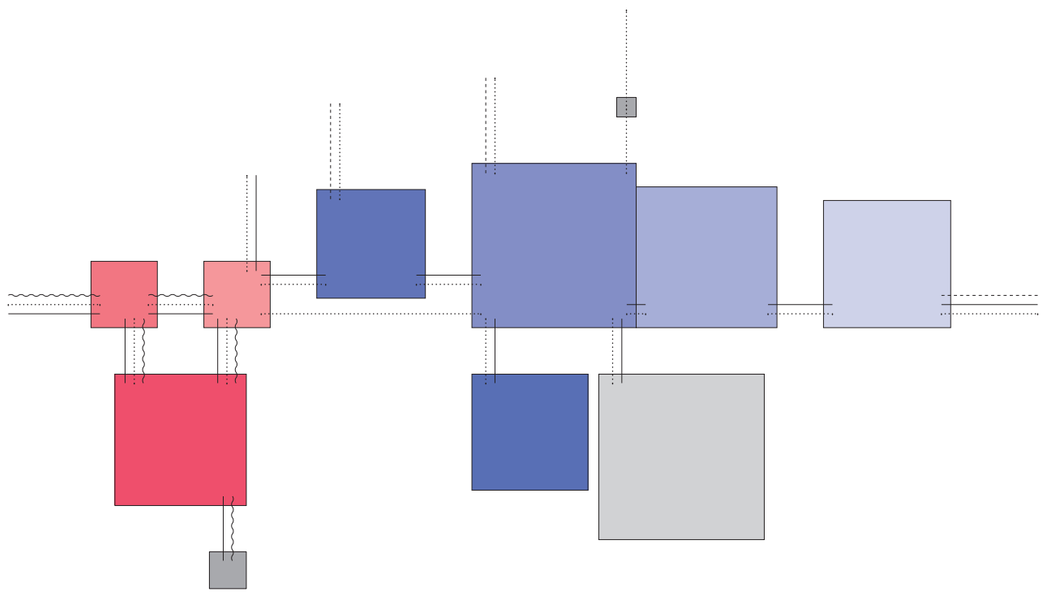
Spatial relation

The spatial configuration and scale of a winery are highly dependent on the size and purpose of the business. However, a general aim of the design is to optimise work flow efficiency, as wineries often operate with a minimal workforce for most of the year. Certain parts of the production line also have specific requirements, such as climate control, light exposure, and sanitation. Certain spaces may serve multiple functions during various stages of production, as the wine production cycle tends to be relatively stagnant for most of the year, with a dynamic period during the harvesting months.

Figure 1 illustrates a scaled spatial relations model of an average winery, with an indoor area of 1000 m2. It offers a basic understanding of the spatial relationships needed for efficient logistics, including the flow of products, workers, waste, and customers, as well as external access points. Depending on the type of product being produced and the business's commercialization strategy, the sizes of the spaces can vary significantly. However, the relations and organisation generally remain the same. (Torreggiani et al., 2010)

Synoptic table of production and space

Figure 2 presents a detailed table describing the various processes in production. It illustrates the transformation of materials into the final product, the equipment utilised, and the intensity of labour involved. The table is constructed based on the previous example of the 1000 m2 winery. Additionally, it outlines the timing of each step in the production cycle and the proportion of space allocated to each area of production. (Torreggiani et al., 2014)



1

grape receipt
must production
wine tanks
bottling and packaging
ageing
commercialisation
store
tasting
storage
dressing room, shower, toilet
product
worker
customer
waste

2

process						*time*	*space*		
macro-phase	*section*	*operation*	*material*	*equipment*	*labour*	*j f m a m j j a s o n d*	*spatial unit*	*area (m²)*	*%*
cultivation	*maintenance*	*pruning* *nutrient management*	*grapevine* *fertilization*	*pruning equipment* *tractor*	*II* *II*	●●○○○○○○○○○● ○○●●●●●●●○○○		*5,1* *28,3*	*0,5* *2,8*
	harvesting	*harvesting*	*grapes*	*shears, crates*	*IIIII IIIII IIIII*	○○○○○○○●●○○		*58,2*	*5,8*
transformation	*grape receipt*	*weighing* *sampling* *analysis* *pouring* *crushing & de-stemming* *evacuation*	*grapes* *grapes* *grapes* *grapes* *grapes* *stems, pomace, lees*	*weighbridge* *sampling equipment* *refractometer* *hopper* *crusher, de-stemmer* *truck*	*I* *I* *I* *IIII* *IIII* *IIII*	○○○○○○○○○●○○ ○○○○○○○○○●○○ ○○○○○○○○○●○○ ○○○○○○○○○●○○ ○○○○○○○○○●○○ ○○○○○○○○○●○○		*6,2* *10,1* *4,8* *14,8* *37,9* *32,1*	*0,6* *1,0* *0,5* *1,5* *3,8* *3,2*
	wine-making	*pressing* *maceration* *fermentation* *must cleaning*	*grapes, crushed & de-stemmed grapes, pomace* *crushed & de-stemmed grapes* *crushed & de-stemmed grapes, must* *must*	*pneumatic press* *fermentation tank* *fermentation tank* *tank*	*II* *II* *II* *II*	○○○○○○○○○○●○ ○○○○○○○○○○●○ ●●●●●●●●●●●● ○○○○○○○○○○●○		*34,2* *18,5* *137,2* *18,5*	*3,4* *1,9* *13,7* *1,9*
	storage	*malolactic fermentation* *conservation* *decanting clarification*	*wine* *wine* *wine*	*storage tank* *storage tank* *storage tank*	*-* *-* *-*	○○○○○○○○○○○○ ○○○○○○○○○○○○ ○○○○○○○○○○○○		*8,8* *5,0* *7,4*	*0,9* *0,5* *0,7*
	fining	*filtering*	*wine*	*filtering system*	*II*	●○○○○○○○○○○●		*31,2*	*3,1*
	ageing	*ageing*	*wine*	*barrel*	*II*	●●●●●●●●●●●●		*93,9*	*9,4*
	bottling & packaging	*bottling* *packaging*	*wine, bottles* *bottles, packages*	*bottling machine* *various*	*IIII* *IIII*	●●●●●●●●●●●● ○○○○○○○○○○○●		*26,1* *55,3*	*2,6* *5,5*
commercialisation	*tasting*	*tasting* *guest toilet*	*finished product*		*II* *-*	○○○○○○○○○○○○ ○○○○○○○○○○○○		*83,1* *7,6*	*8,3* *0,8*
	retail selling	*in-house selling* *external selling*	*finished product* *finished product*	*tap*	*II* *II*	○○○○○○○○○○○○ ○○○○○○○○○○○○		*44,1* *16,5*	*4,4* *1,7*
support	*services*	*dressing room* *showers* *workers toilet*			*-* *-* *-*	○○○○○○○○○○○○ ○○○○○○○○○○○○ ○○○○○○○○○○○○		*16,1* *4,2* *5,3*	*1,6* *0,4* *0,5*
	warehousing	*warehousing*	*finished product*	*truck*	*II*	○○○○○○○○○○○○		*189,5*	*19,0*
								1 000	*100*

1 *Scaled spatial relations of a commercial winery, diagram, 1:500 (Torreggiani et al., 2010)*
2 *Synoptic table of production and space (Torreggiani et al., 2014)*

REFERENCE PROJECTS

adaptive re-use projects
analysis of swedish vineyards

adaptive re-use projects

Adaptive re-use in architecture refers to the practice of re-purposing existing structures for new functions while preserving their historic or architectural significance. Rather than demolishing old buildings, adaptive re-use seeks to find innovative ways to utilize them, often transforming them into spaces that serve contemporary needs while retaining their character.

The approach involves careful planning and design to adapt the existing structure to accommodate its new use. This offers several benefits, including sustainability by reducing the need for new construction materials and minimizing environmental impact. It also contributes to the preservation of cultural heritage breaths new life into underutilized or abandoned buildings.

Two projects have been analysed to contribute to a better understanding for design decisions later on in the thesis. The projects are set in both international and local settings, providing different information regarding re-use. They also serve as inspiration for the transformation project within this thesis.

1 *Re-purposed farm building, Vejby vingård, photograph*

psychiatric clinic caritas

location	*Melle, Belgium*
year	*2016*
architects	*de Vylder Vinck Taillieu*
program	*healthcare*
type	*restoration, addition*


1


2

Historical buildings at a psychiatric clinic in Melle, Belgium, faced demolition due to obsolescence in 2014. However, one pavilion was saved halfway through demolition, and through an architectural competition, it was transformed into a communal space for the clinic.

The winning project preserved the pavilion's incomplete state, leveraging its architectural value and integrating it with the surrounding park. The intervention included removing ground floor paving, allowing sunlight to filter through, planting trees inside, and re-purposing old rooms into glass greenhouses and an amphitheatre. The restored pavilion now serves as a tranquil space for patients, staff, and visitors, hosting various activities and events while blending with nature.

The project illustrates how contemporary structural techniques can collaborate with old ones to establish a new atmosphere in a building considered obsolete. The old building is preserved as an outer shell, while permanent openings extend the public space into the building, with some areas still serving as semi-private enclosed spaces.


3


4

1 *Interior detail, photograph (Dujardin, 2017)*
2 *Reworked structure in steel, photograph (Dujardin, 2017)*
3 *Entrance detail, photograph (Dujardin, 2017)*
4 *Enclosed addition, photograph (Dujardin, 2017)*

renovering i roslagen

location	*Roslagen, Sweden*
year	*2017*
architects	*2BK Arkitekter*
program	*residential*
type	*restoration, addition*

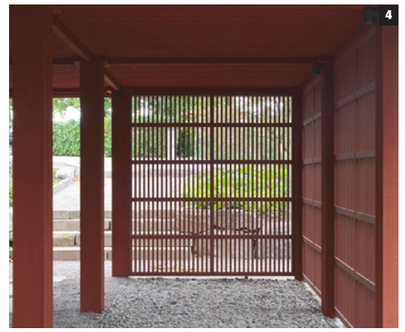

1

Renovation and restoration of a farm building on an old farm in Roslagen, Sweden. The exterior showcases a falu-red monochromatic expression, typical of Swedish farms. Wooden slat panels have been installed to offer privacy while also providing sun protection. The restoration maintains the simple aesthetic of a traditional farm building and emphasizes a high level of craftsmanship and execution.

The project offers a modern interpretation of a Swedish farm restoration. The extensions and alterations blend seamlessly with the original building's expression. Through simple elements like the use of falu-red colour, slat panelling, and gravel, the building has been revitalized, breathing new life into it.


2


3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1 *Exterior elevation, photograph (Olsson, 2017)*
2 *Post detail, photograph (Olsson, 2017)*
3 *Blinds detail, photograph (Olsson, 2017)*
4 *Space below building, photograph (Olsson, 2017)*

analysis of swedish vineyards

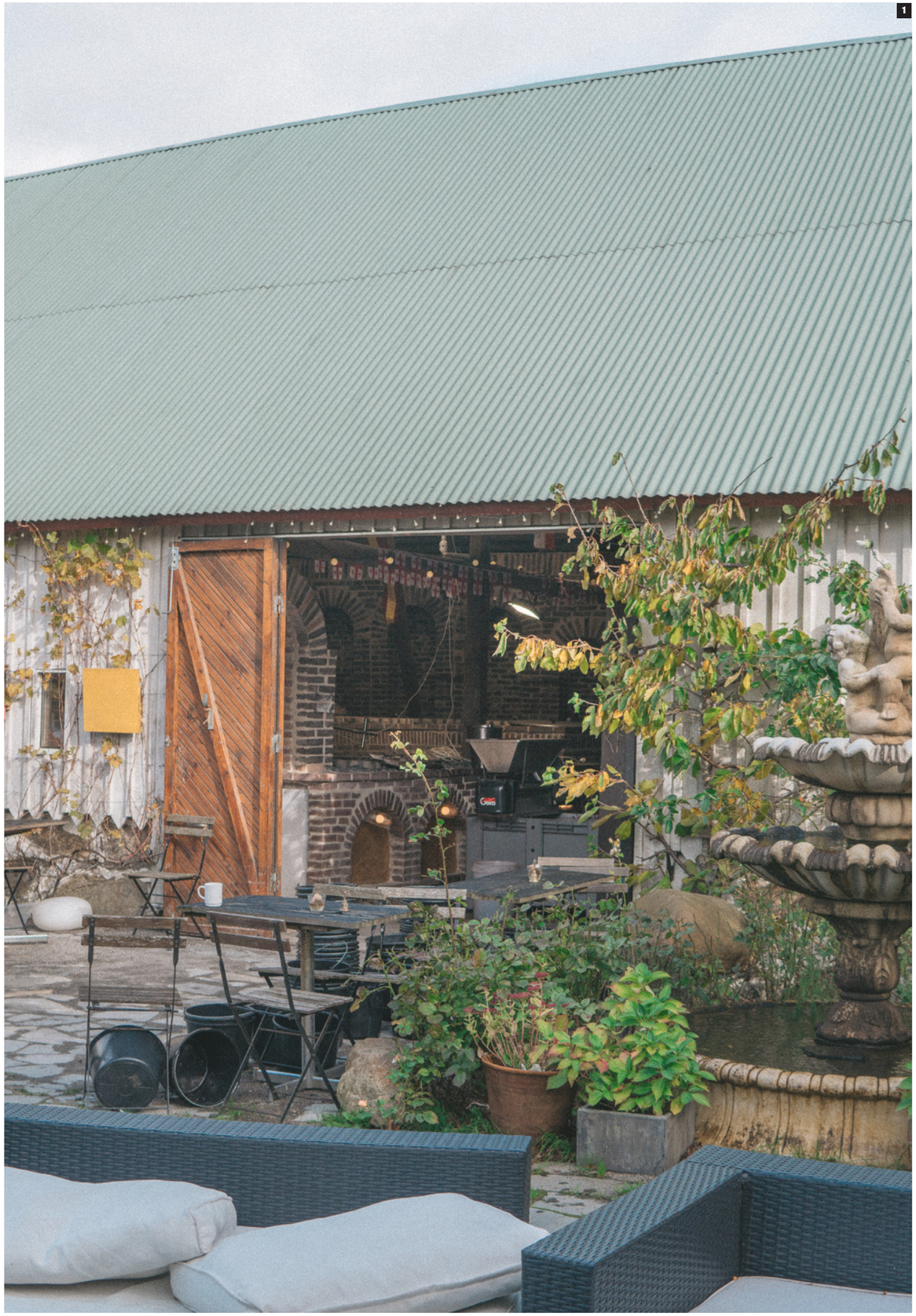
Wineries and vineyards require several years to establish. It takes approximately 6 years for grapevines to reach optimal fruit quality for wine production. The opportunity to develop such businesses has been available for the past three decades in Sweden, with the climate becoming more favourable in the last two. Consequently, there have been few attempts to enter this new industry.

There is limited knowledge regarding winery design in Sweden, particularly concerning how adaptations should be made to suit the Swedish context. Those currently operating wineries in Sweden therefore possess valuable information. To gain relevant insight into the design of wineries in Sweden today, several case studies have been conducted. These wineries vary significantly in scale, production capacity, production methods, and business models. The subsequent pages present a comparison of a large-scale vineyard, an urban winery, a small-scale vineyard, and a hobby vineyard and winery. Whenever possible, interviews were conducted with the winemakers at each location. The analysed aspects include:

- Initial design process for the business.
- Spatial organisation of facilities.
- Operational processes.
- Knowledge gaps relating to the Swedish context.

The outcomes from this research have enhanced our understanding of the current challenges and opportunities within the Swedish wine industry. Despite abundant information available on wineries in an international context, there is a notable scarcity of data specific to Sweden. However, this gap presents an opportunity to develop localised knowledge independently. These insights have also influenced decisions regarding spatial design and operational strategies for a business in Sweden further on in the thesis. The final case study, Stora berg vingård, serves as the focal point of the thesis. As the thesis progresses, the farm transitions from its current hobbyist state to a fully operational vineyard.

1 *Re-purposed barn as Qvevri wine-cellar, Vejby vingård, photograph*



ästad vingård

location	*Ästad*
inception	*2011*
full time employees	*4*
seasonal employees	*30*
winery	*200 m²*
storage	*1 000 m²*
grapevine	*65 000*
agriculture	*8 ha*
production	*300 hl*
yield	*37,5 hl/ha*

Dairy farm that was transformed into a vineyard in 2011. Currently one of the largest wine producers in Sweden, aiming to be the largest one. Supported by a large hotel and restaurant business. Wine production is currently sufficient to supply their own restaurants. Expansion in production facilities is in process, increasing their production capacity from 300 hl to 3 000 hl.

Specialise in sparkling wine, which the Swedish agricultural condition is suitable for. As production is unpredictable in Sweden due to the climate, they aim to spread out their agriculture on multiple plots along the west coast of Sweden to increase production redundancy.

"Vad är klimat och vad är väder"
Claes Bartoldsson, Winemaker

There is a difficulty in determining how viticulture thrives in Sweden due to the young age of the agriculture. However the sampling size will become large enough in the decades to come.


1

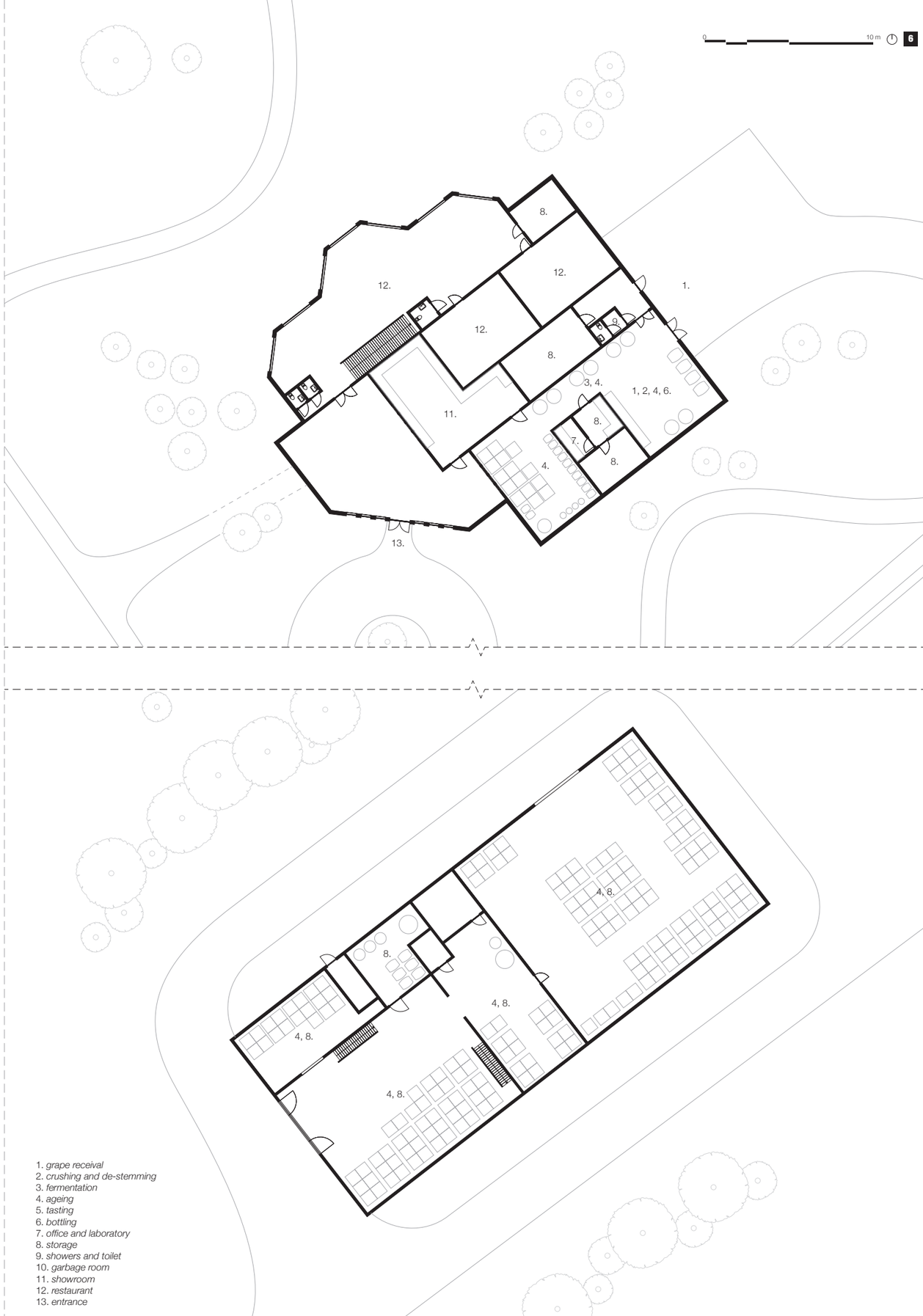

2


3


4


5

1 *Aerial photograph (Google, n.d.), 1:20 000*
2 *Fermentation tanks and barrel ageing*
3 *Disgorging and dosage unit*
4 *Working bench*
5 *Fermentation tanks and bottle ageing*
6 *Plan drawing, 1:400*



1. *grape receival*
2. *crushing and de-stemming*
3. *fermentation*
4. *ageing*
5. *tasting*
6. *bottling*
7. *office and laboratory*
8. *storage*
9. *showers and toilet*
10. *garbage room*
11. *showroom*
12. *restaurant*
13. *entrance*

wine mechanics

location	*Göteborg*
inception	*2017*
full time employees	*2*
seasonal employees	*2*
winery	*250 m²*
storage	*860 m²*
grapevine	*-*
agriculture	*-*
production	*400 hl*
yield	*-*

Sweden's only city-winery. Opened in 2017 in a re-purposed building in the Gothenburg slaughter-house area. The area is currently going through a larger transformation, and Winemechanics were one of the first actors on site. Slaughter building that was transformed into offices and logistics in the 1960s, and then rebuilt again into the current winery and restaurant in 2015. Interior structure slightly changed to accommodate the height of fermentation tanks. Exterior restored to original design. Building partly heritage protected.

Winery built into the restaurant to make the creation accessible for guests. Large garage door used to separate the areas during the production weeks, due to sanitary regulations. The winery was heavily designed by the winemaker, with assistance from the equipment manufacturers. There is a lack of knowledge for these types of buildings, but some parallels can be drawn from beer microbreweries.

"Vin ska vara enkelt"
Magnus Holmgren, Co-founder

Wine has a tendency to be over complicated and exclusive. The aim since their inception has been to simplify the production and the product to increase accessibility. Not being locked to a specific region or farm gives them stability over their business and the ability to shift scales quickly.

1 *Aerial photograph (Google, n.d.), 1:20 000*
2 *Building exterior*
3 *Packaging and labelling*
4 *Fermentation tanks and ageing barrels*
5 *Logistical storage*
6 *Plan drawing, 1:400*

1. *grape receival*
2. *crushing and de-stemming*
3. *fermentation*
4. *ageing*
5. *tasting*
6. *bottling*
7. *pantry*
8. *storage*
9. *showers and toilet*
10. *garbage room*
11. *parking*
12. *restaurant*
13. *entrance*

vejby vingård

location	*Vejbystrand*
inception	*2007*
full time employees	*1*
seasonal employees	*0*
winery	*150 m²*
storage	*221 m²*
grapevine	*3 000*
agriculture	*1 ha*
production	*20 hl*
yield	*20 hl/ha*

Farmyard with a very small plot slowly transformed into a vineyard over the past 20 years. 2000 vines were planted in 2007, which is the amount that is considered to be maintainable outside of a full-time job. Since then the operation has grown from a hobby to a full time business.

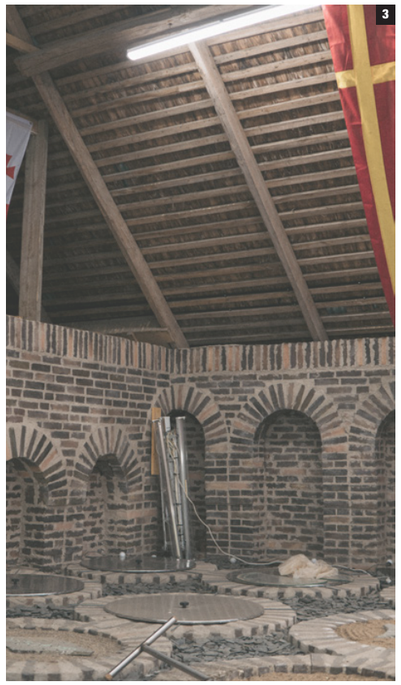
The owner and winemaker originally transformed one of the farm buildings to function as an office for his architecture business. The same building functions today as the ageing and tasting room. The larger barn has a new brick structure built inside to accommodate clay fermentation pots. The pots are partly dug into the ground to utilise the stable temperature in the ground. The wine making technique used is very traditional and is considered to be one of the oldest methods. Large focus on blue grapes, which is unique for Sweden. It is the only biodynamic vineyard in Sweden. Production accommodates wine tasting business.

"Vinet tolkar platsen"
Jeppe Appelin, Winemaker

Grapevines have an extensive root network that transcribes every quality of the soil into the fruit. Even more so when it is grown in a biodynamic way.


1

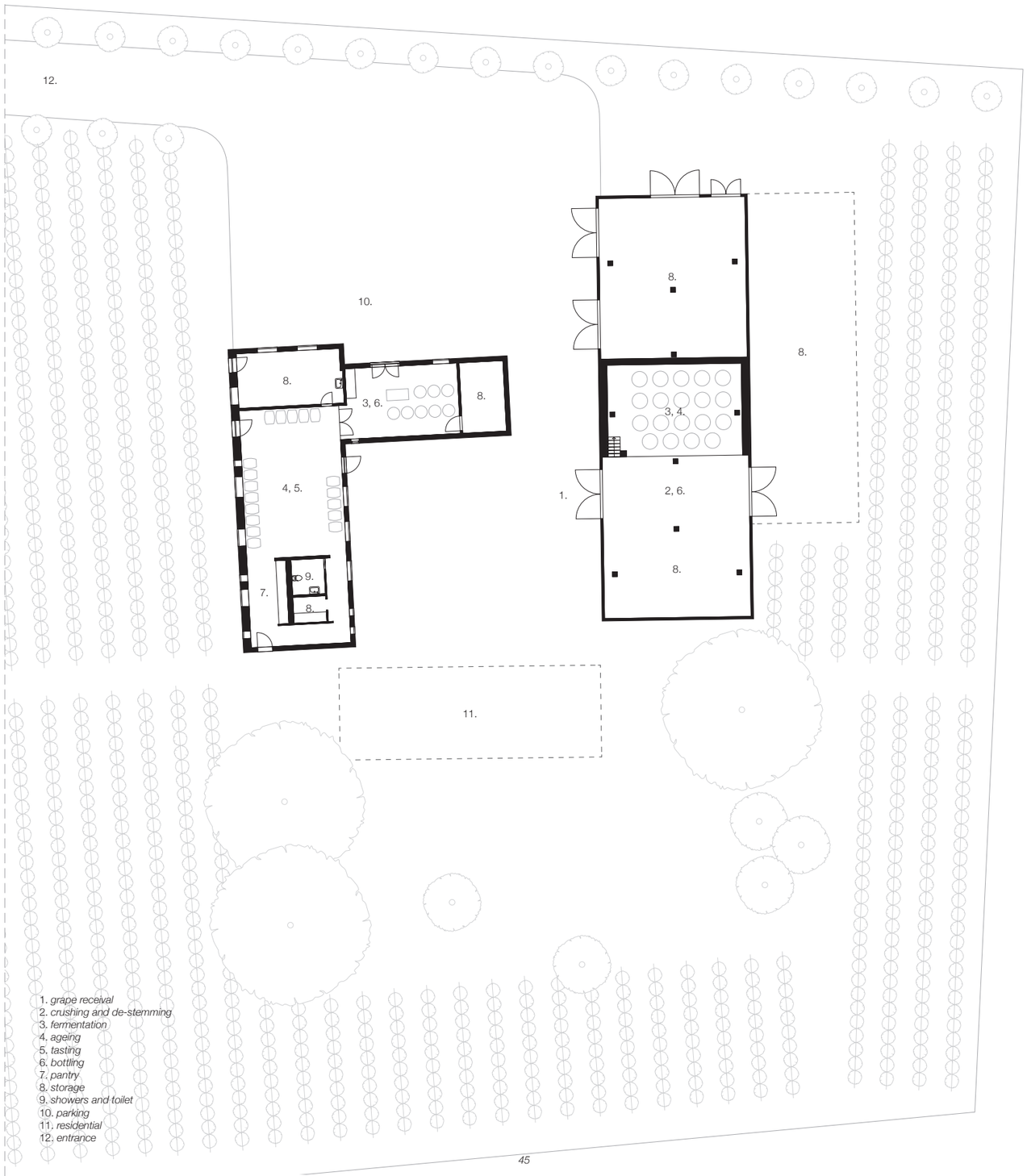

2


3


4


5

1 *Aerial photograph (Google, n.d.), 1:20 000*
2 *Grape harvest*
3 *Marani wine cellar*
4 *Vineyard and buildings*
5 *Loading of Qvevri (clay fermentation pots)*
6 *Plan drawing, 1:300*



1. *grape receival*
2. *crushing and de-stemming*
3. *fermentation*
4. *ageing*
5. *tasting*
6. *bottling*
7. *pantry*
8. *storage*
9. *showers and toilet*
10. *parking*
11. *residential*
12. *entrance*

stora berg vingård

location	*Grimeton*
inception	*2011*
full time employees	*0*
seasonal employees	*0*
winery	*1 m²*
storage	*1 m²*
grapevine	*240*
agriculture	*0,1 ha*
production	*0,5 hl*
yield	*5 hl/ha*

A family-owned farm that has remained within the ownership of the same family for nearly two centuries. Active dairy farm until 2001, agricultural land has been leased out to nearby farmers since then. News article in 2009 about Swedish viticulture sparked interest and curiosity. The son of the current owners planted the first 100 grapevines in 2011, and more have been added over time to the current 240.

The location where the plants are is both unattractive for regular farming, but also well positioned for viticulture, due to its odd location and slope. Aim has been to slowly learn more about the craft and increase the yield from the plants. Most of the knowledge has been provided by the Swedish Wine Association (Föreningen Svenskt Vin).

"Arbetet följer antalet"
Daniel Steen, Winemaker

Caring for the grapevines is a craft that takes time to perfect. Each plant needs about 30 minutes of care during the year. The most effective way to increase production is to increase yield per plant instead of increasing the amount of plants.


1

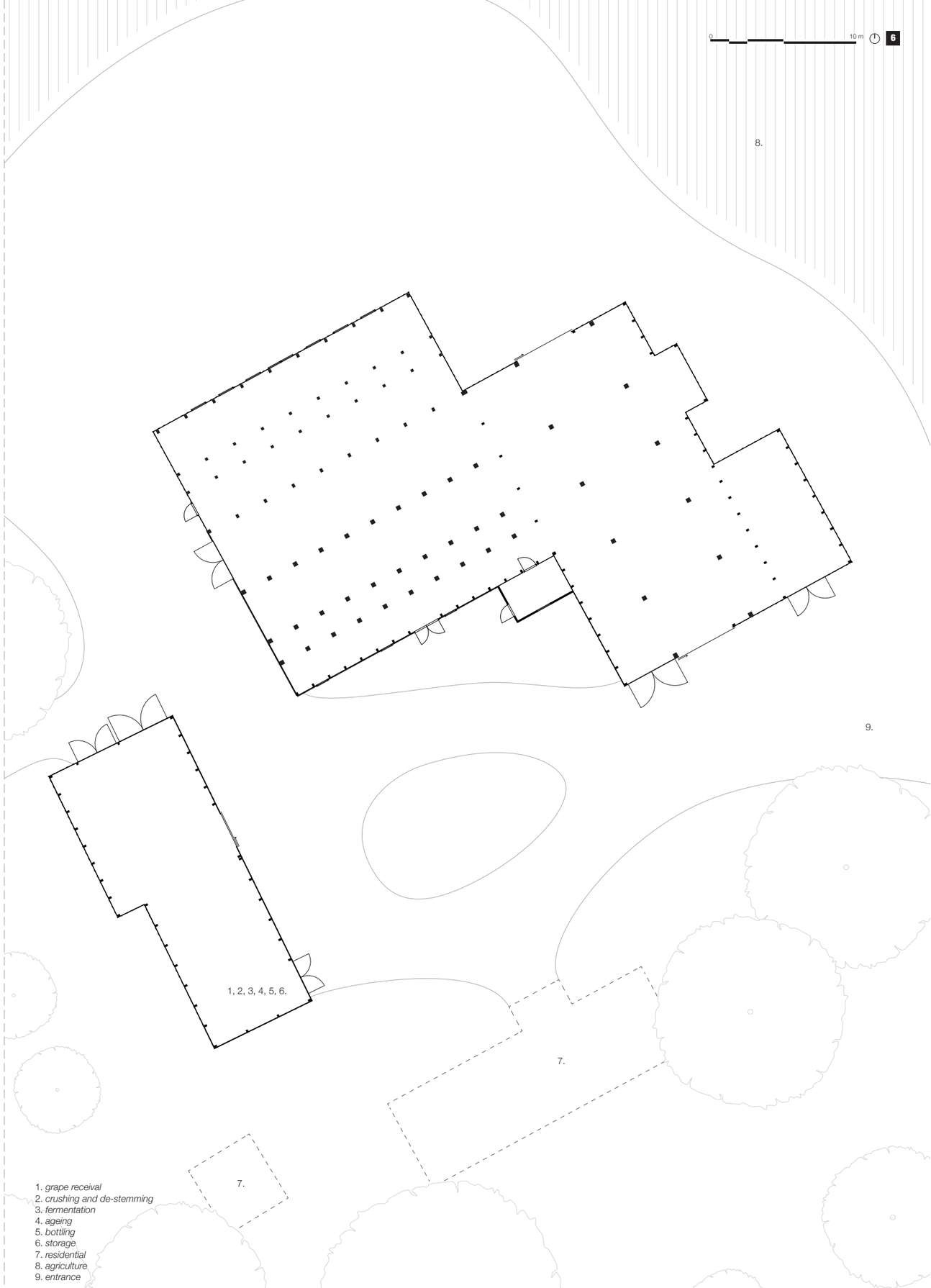

2


3


4


5

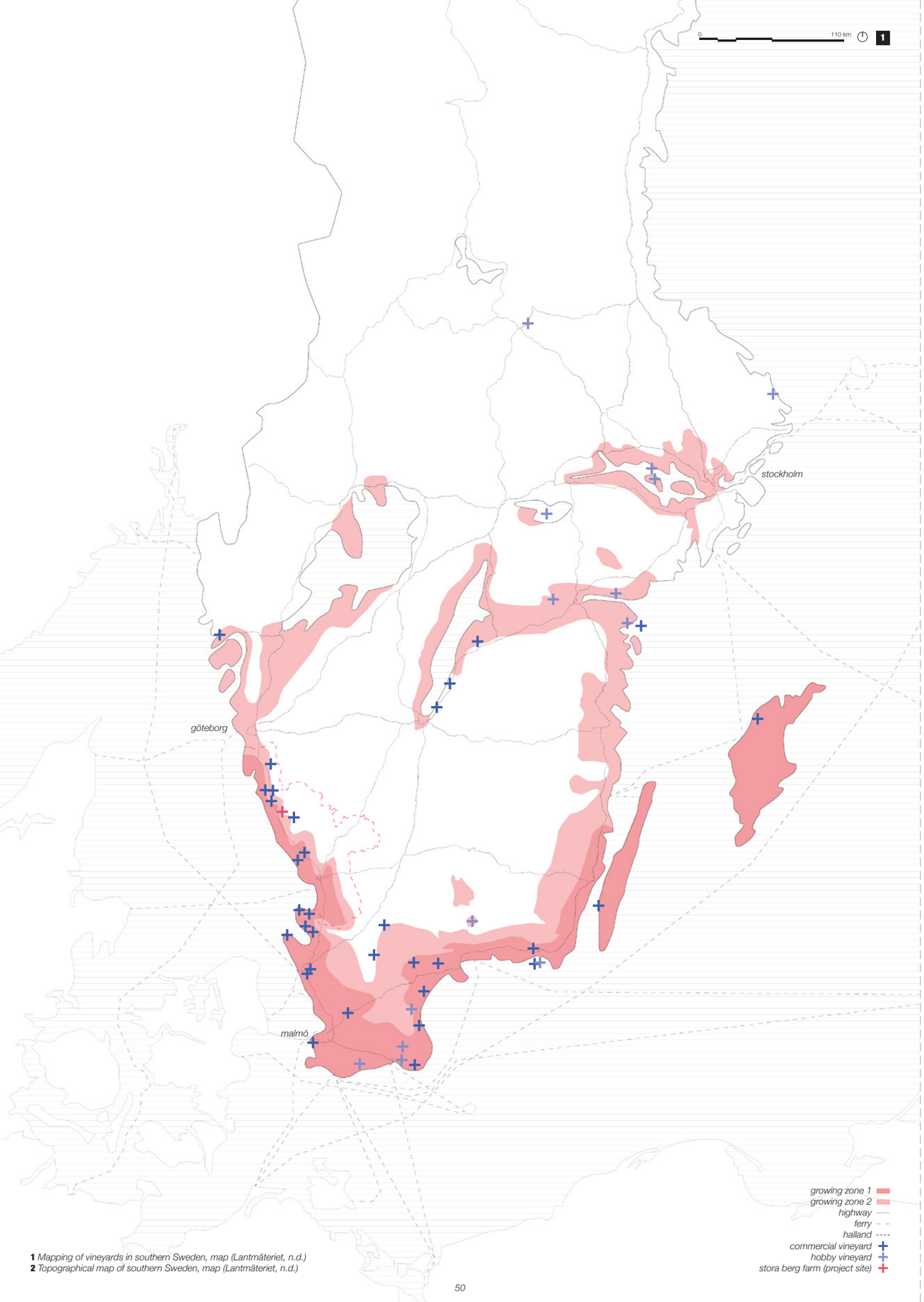
1 *Aerial photograph (Google, n.d.), 1:20 000*
2 *Entrance to stora berg*
3 *Facade of farm building*
4 *Timber structure in farm building*
5 *Vineyard with Grimeton radio tower in background*
6 *Plan drawing, 1:300*



1. *grape receival*
2. *crushing and de-stemming*
3. *fermentation*
4. *ageing*
5. *bottling*
6. *storage*
7. *residential*
8. *agriculture*
9. *entrance*

CONTEXT

southern sweden
region of varberg
urban rural condition
locating a farm
stora berg context



1 *Mapping of vineyards in southern Sweden, map (Lantmäteriet, n.d.)*
2 *Topographical map of southern Sweden, map (Lantmäteriet, n.d.)*

southern sweden

To understand the placement of vineyards in Sweden, as well as the conditions influencing these locations, a process of multi-scalar mapping was conducted. Analysing the topic through different scales reveals correlations between vineyard placement, climate, infrastructure, and soil. GIS-software (QGIS) was used to map various levels of information, incorporating data from OpenStreetMap, SCB, and manually mapped information from Föreningen Svenskt Vin about their members' locations.

Vineyard locations
The majority of vineyards are located near the sea or a large body of water. Most farms are situated in agricultural landscapes, with no significant correlation to the proximity of larger urban centres.

Climate zones & topography
When overlaying climate zones 1 and 2 with existing vineyards, a clear correlation emerges. Most of the vineyards mapped out are located within these climate zones. These zones are related to the landscape and its topography. In the southern part of Sweden, climate zones 1 and 2 correspond to lowland areas along the coast. As the land rises inland, the climate shifts to a colder zone.

Land elevation and geology
Traces of post-glacial uplift are evident in the topography and play a significant role in the placement of vineyards. Along the coastline, areas that were once seabeds have transformed into agricultural landscapes with mineral-rich soil, which is beneficial for the characteristics of the wine produced. Consequently, vineyards are often situated on this type of soil due to these benefits.

Infrastructure & globalization
For economic feasibility and tourism potential, infrastructure and traces of globalization are crucial layers to analyse. A vineyard cannot be placed arbitrarily; it must connect to international and domestic transportation and touristic networks. Mapping out larger highways and ferry routes reveals the connections between existing vineyards and infrastructural networks.

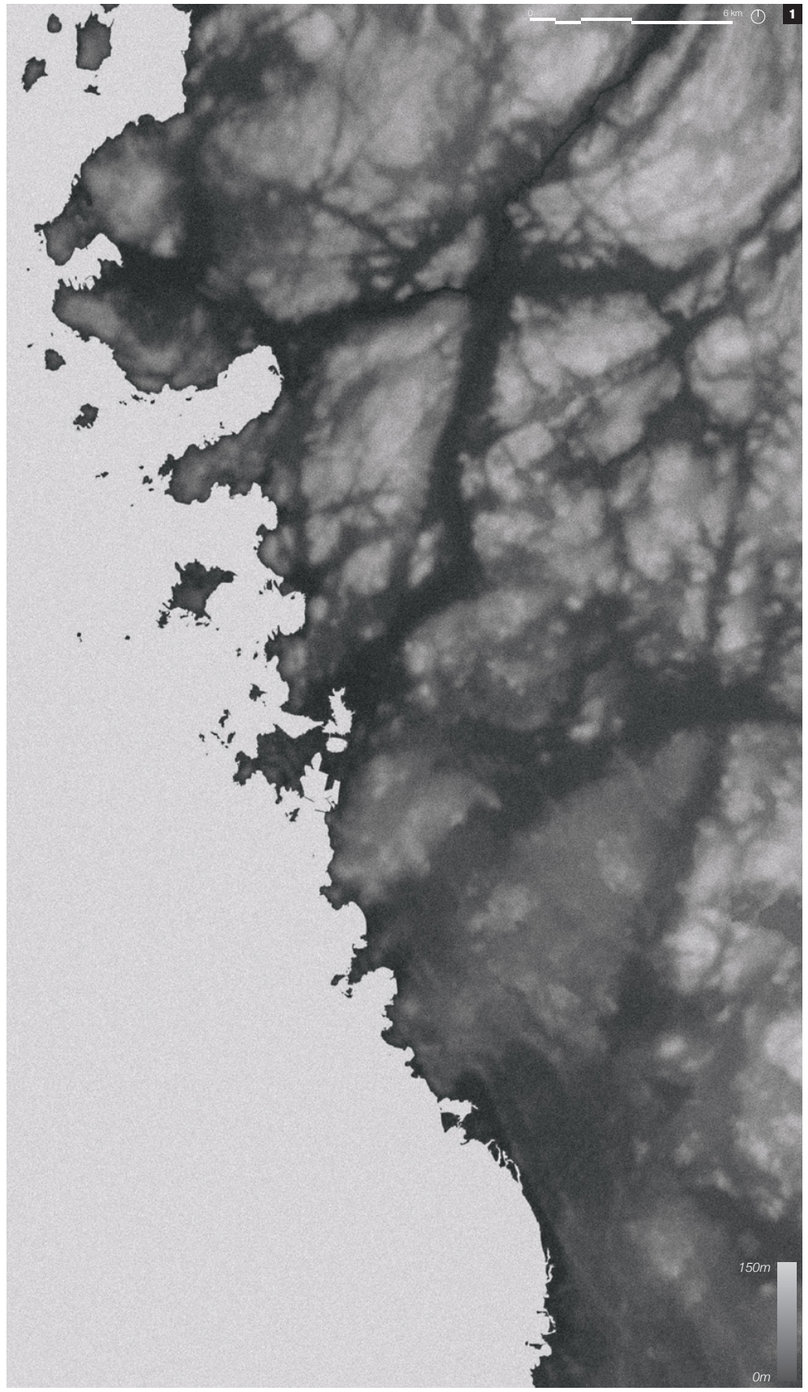
region of varberg

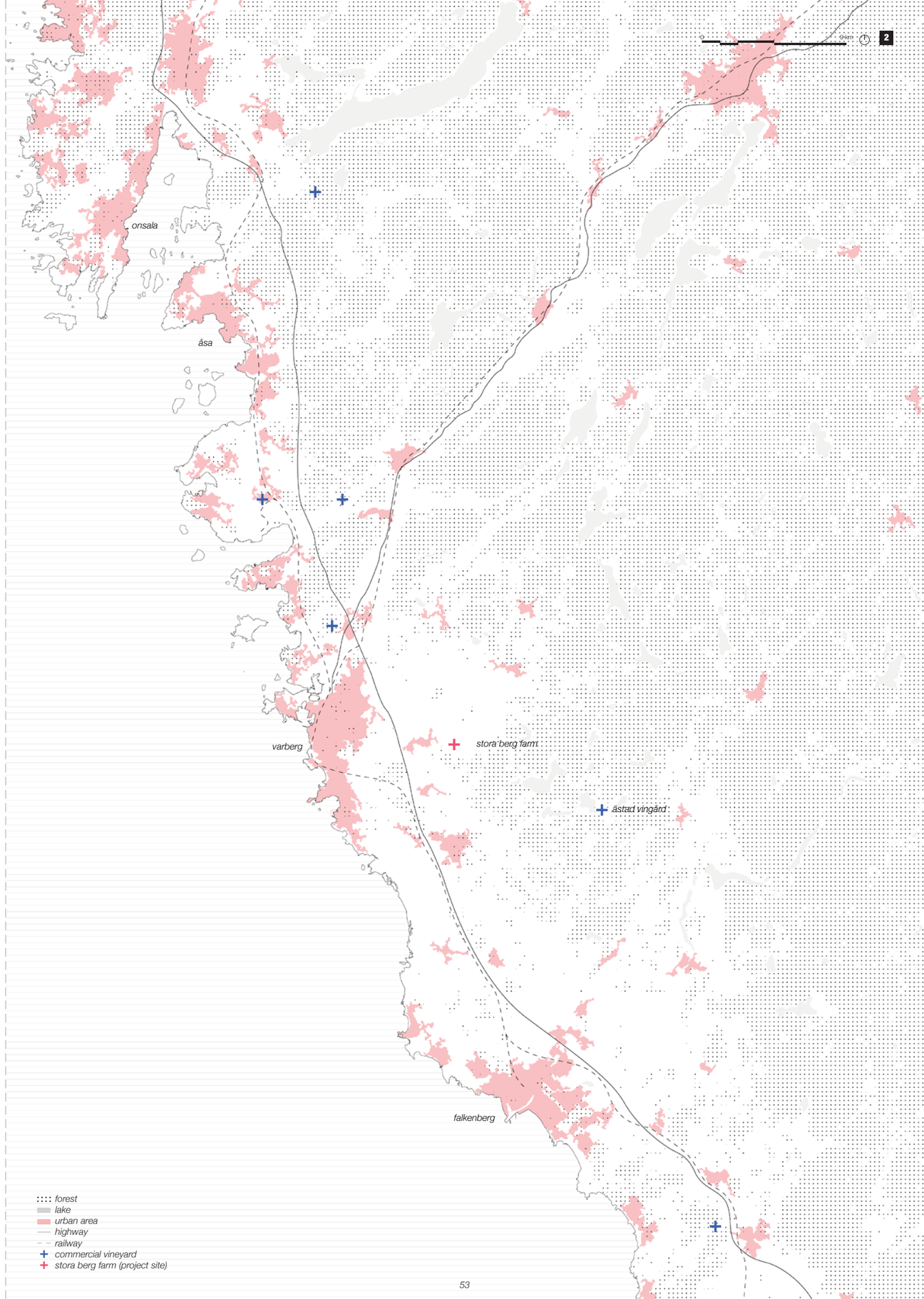
The area of Halland and Varberg was chosen for this project due to its existing cluster of vineyards, fertile and picturesque agricultural landscapes, and its popularity as a summer tourist destination.

Urban - agricultural - forest
The landscape of Halland can be simplified into three parts from west to east: the coast, the plain, and the forest. Along the coast, the largest cities and urban areas are located, serving as tourist destinations and harbour cities. The plain is dominated by an agricultural landscape, where infrastructure such as highways and railways is placed, along with solar farms, wind turbines, logistical and storage facilities, as well as agricultural and smaller rural businesses like farm shops, cafés, restaurants, hospitality, and conference facilities. The forestry landscape is characterized by the central beech forest area in Halland, particularly the Åkulla beech forests, which contain 66 km of hiking trails within a cluster of well-preserved nature reserves.

Dreamland
Varberg and its surrounding coastal areas could be considered as *dreamlands*, seen as idyllic destinations, attracting affluent visitors during the summer. This proximity to a high-end tourism market is advantageous for the project, as it aligns with the target group of affluent visitors who frequent vineyards in Sweden today.

Networks and clusters
In Varberg and the surrounding areas, various networks and clusters of organizations are working towards the development of the hospitality industry and destination-making. These networks are formed based on both industry and location. Existing vineyards in the area are already connected to these networks. Therefore, we see it as suitable and realistic for our vineyard project to connect with one or more of these networks. This connection will help attract visitors to the farm and establish sales channels to local restaurants. Selling locally produced wines benefits both the restaurants and the vineyard, enhancing the local economy and providing unique offerings to customers.





1 *Topographical map of Varberg, map (Lantmäteriet, n.d.)*
2 *Urban, rural, forestry map of Varberg, map (Lantmäteriet, n.d.)*

urban rural condition

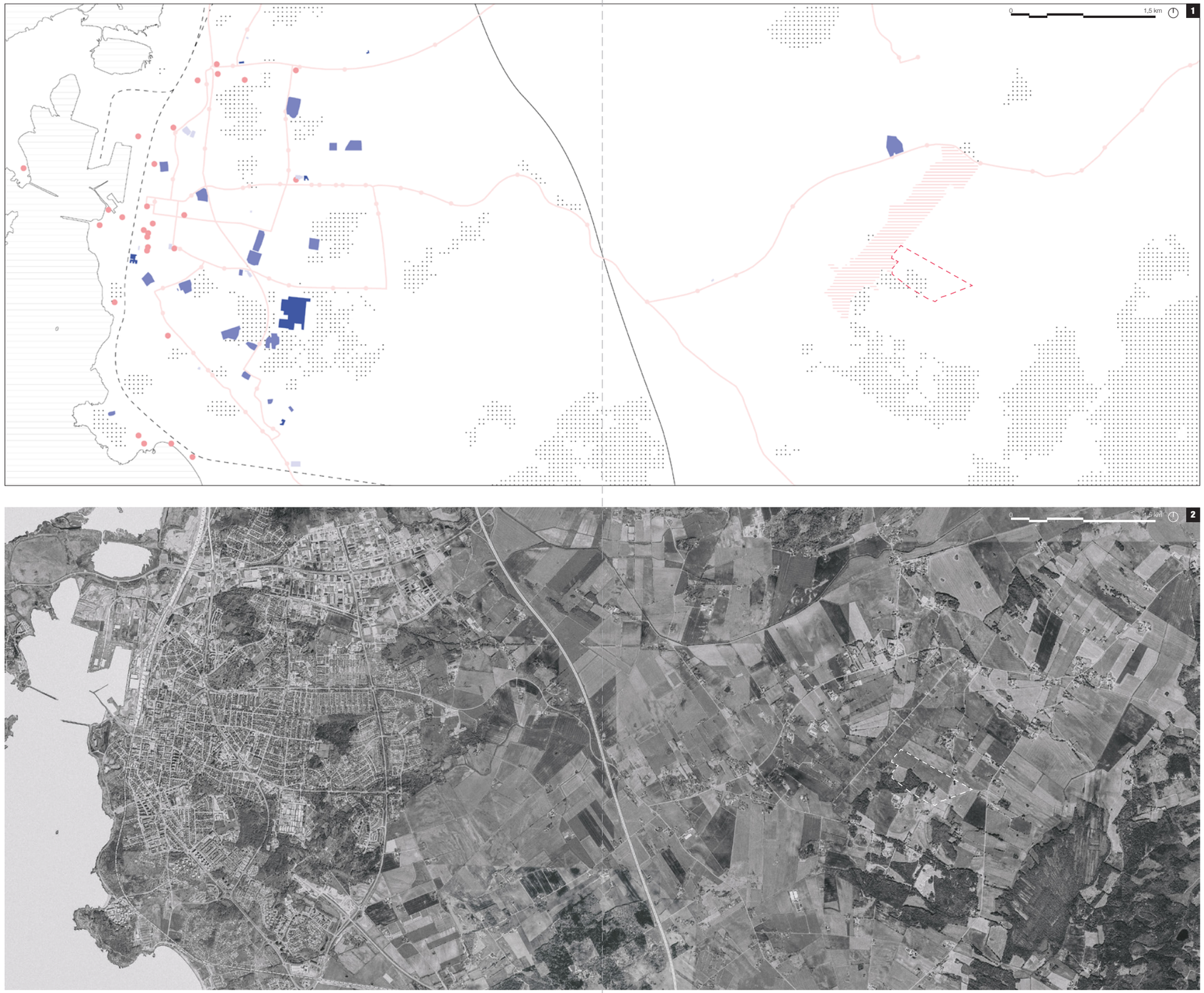
Urban and rural regions have similarities and differences in their ways of living, traditions, and culture. However, there is generally no distinct boundary or sharp division separating the social or physical differences between the two. Observing a satellite map, a clear gradient appears in the landscape when moving from urban areas to rural ones. This gradient transitions from the man-made environment of a city through the agricultural fields to the natural landscape of the forest. Although agricultural landscapes might initially seem natural, the satellite image reveals the precise geometry and land appropriation that divides the land into various geometric shapes of crop fields.

Access to services

Mapping basic services using GIS-software was conducted as an exercise to examine the access to services in the selected location of Stora Berg. Producing the map provided insight into the disparities in access to basic services within the region. The map's results clearly depict differences in the density, accessibility, and distribution of services between urban and rural areas. Unlike the satellite imagery, the abstracted map aims to reveal differences that are not distinguishable through a regular map.

Public transport

Access to services is primarily considered from the viewpoint of the individuals residing and working on the farm. Initially, the assessment of public transportation access was approached from a tourism perspective, envisioning visitors arriving in Varberg by train and then reaching the vineyard by bus. As of now the site is somewhat isolated, situated between bus routes. The most practical mode of transportation for both visitors and residents is by car. However, access to public transportation could be significant for the family residing on the farm, particularly if there are children requiring transportation to a school located in the urban area.



1 *Separation of services, Varberg, diagram (Lantmäteriet, n.d.)*
2 *Urban to rural, Varberg, aerial photograph (Google, n.d.)*

locating a farm

Working with the particular typology of farm buildings in Sweden necessitated a different approach than initially expected when starting the project. The absence of documentation and construction drawings in regional and municipal archives, prompted a search for a farm that could be measured, photographed, and drawn by ourselves. There was no investigation of previous experiences or reference projects in developing the method; rather, personal intuition guided the planning and execution, shaping the process's outcome.

Area of interest

To manage the mapping of farms effectively, an area of interest was defined, covering approximately 10 by 10 kilometres. Within this delimited area, certain areas were investigated more thoroughly than others, such as roads along regional bus routes, areas in close proximity to existing tourist destinations, and scenic roads. Farms within the area of interest were marked as pins on a Google Maps list, with each location rated from 1 to 10 based on our initial perception and overall impression of the location. The selection criteria for farms were based on how well the building size, construction year, crop size, accessibility to services and infrastructure, and architectural expression aligned with our intended program. The entire process of farm selection was conducted using satellite imagery and road photos from Google Maps, resulting in the identification of 23 farms deemed as interesting objects to work with.

Archives

Construction drawings were requested for each of the 23 selected properties. However, none of the cases provided any drawings of the farm buildings that could have served as a foundation for the project. Therefore a decision was made to contact the landowners directly to inquire about the possibility of personally measuring and documenting the farm buildings.

Aerial photograph from south (Varbergs kommun, 2022)
1 *Runeberg 2*
2 *Tjärby 1*
3 *Träslöv 107*
4 *Träslöv 102*
5 *Tjärby 25*
6 *Tjärby 42*

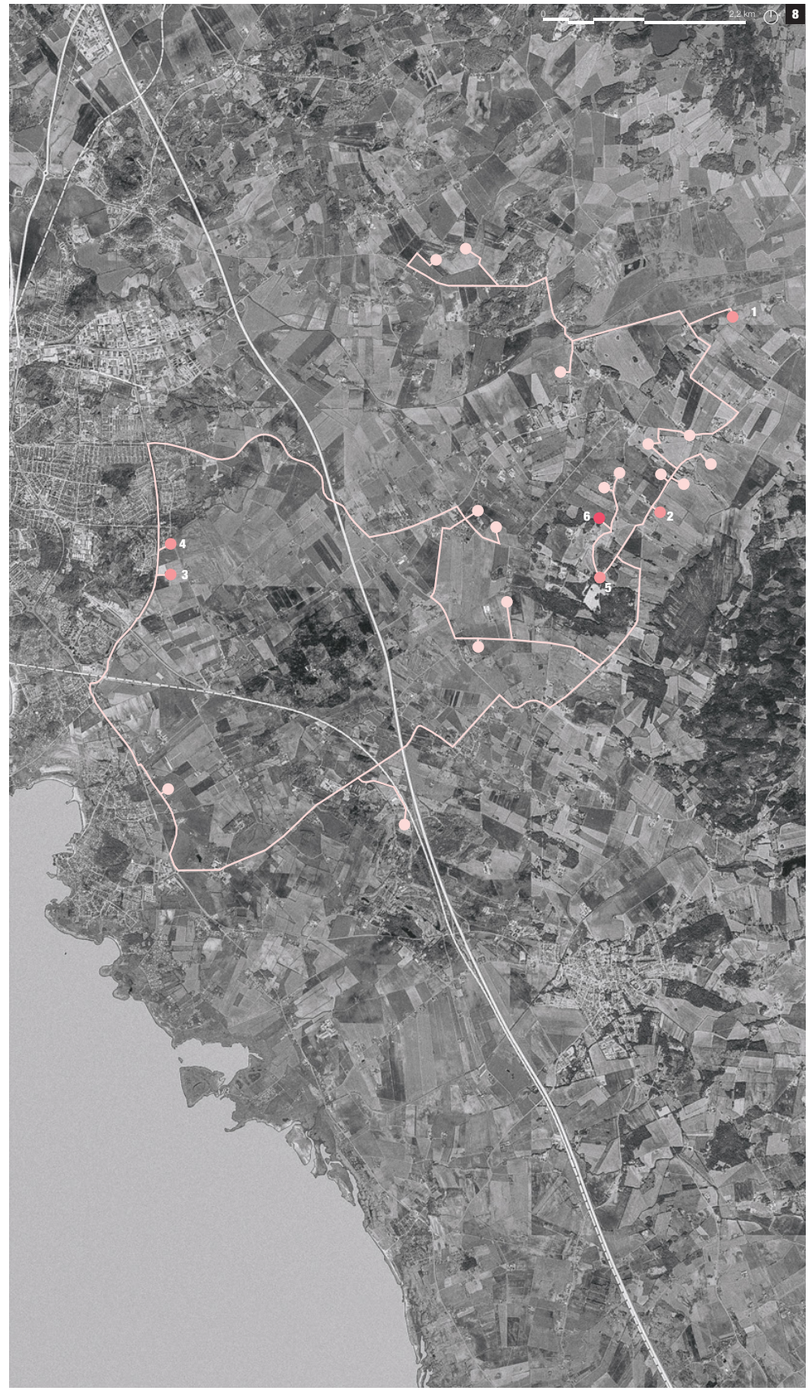
7 *Runeberg 2, photograph from door knocking process*
8 *Route of door knocking, map (Google, n.d.)*

Means of contact

In the initial stage, various methods of contacting the landowners were considered. However, two approaches appeared most suitable for the purpose: either sending a letter to the mailboxes of the selected farms without personal visitation, accompanied by a letter detailing the project and the farm owners' potential involvement, or visiting the area and directly engaging with the residents by knocking on their doors and explaining our purpose. The chosen method combined both approaches: we visited the selected farms in person, bringing along the project plan and a letter of explanation outlining the project and their potential role in the process. Establishing a personal connection by meeting the owners face-to-face was deemed valuable and preferable for fostering ongoing collaboration.

First visit

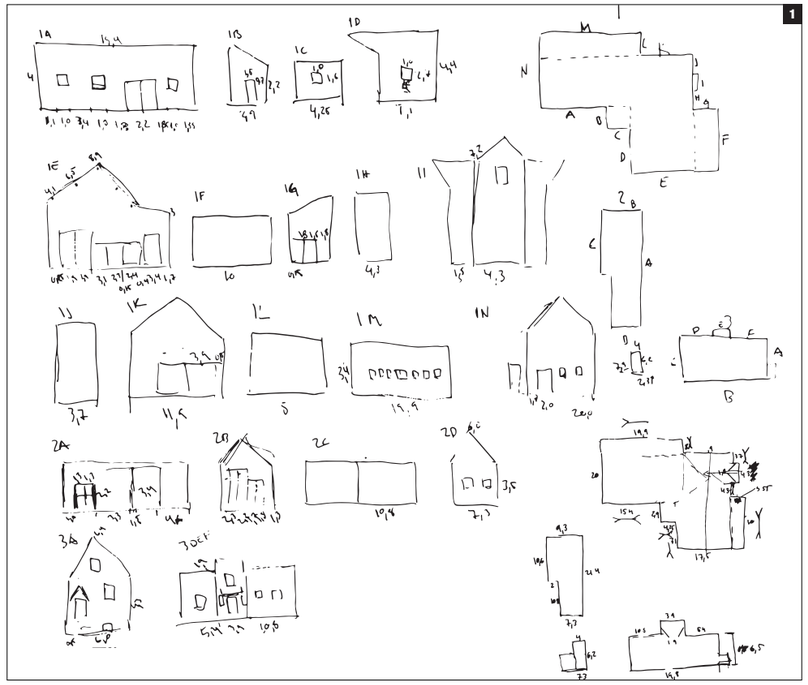
On a cold, sunny day in January, the door-knocking trip took place, with Google Maps used to plan an efficient route between the different farms. Throughout the day, various forms of interaction occurred at the farms. In some cases, residents were inside, necessitating a knock on the door, while in others, the owners were outside upon arrival. If no one was home, a letter was left by the door. The most successful interactions involved meeting the owner outside, leading to more relaxed conversations and a more positive attitude toward participating in the project. Interactions that occurred with the owner standing in the doorway of the house were typically more stressful and resulted in a less positive attitude toward involvement. From the door-knocking exercise, six farms agreed to be part of the project.



selected farm
visited farm
consent to document farm
path
1 *photograph number*

Second Visit

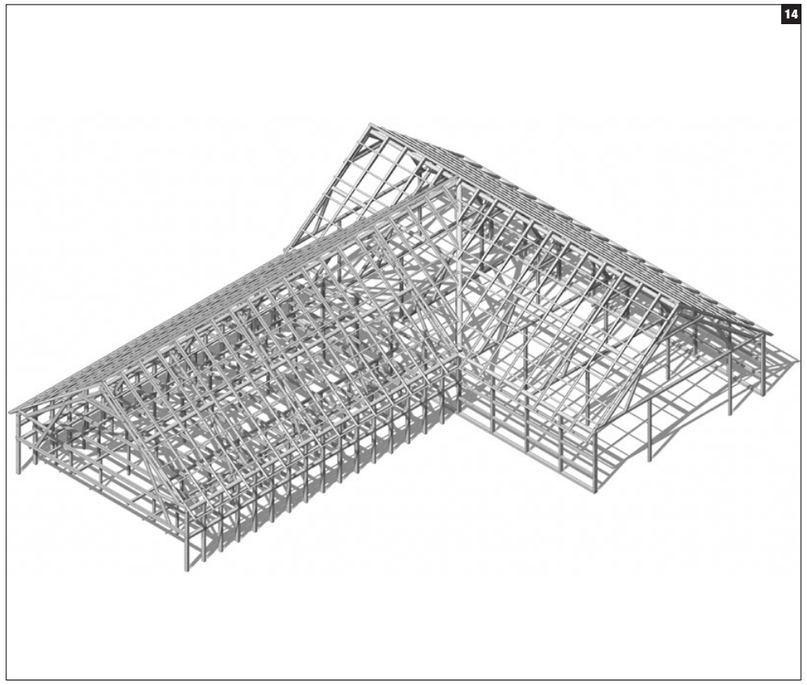
The following week, a second visit was scheduled to one selected farm for measurement and photography. This occurred in the afternoon during the same trip as a site visit to Ästad Vingård, located nearby. During the second visit, the owners showcased the farm buildings and land, sharing the history of the farm. Measurement and documentation of the farm took approximately 2-3 hours, during which time one large farm building, one smaller one, and a dwelling house were measured and photographed. After reviewing the material and potential of the farm, it was confirmed as the chosen site for the project. Subsequently, the remaining five farms were contacted either via email or phone to express gratitude for their cooperation and interest, but to inform them that the project would be situated on a different farm, and they would no longer be involved in the process.



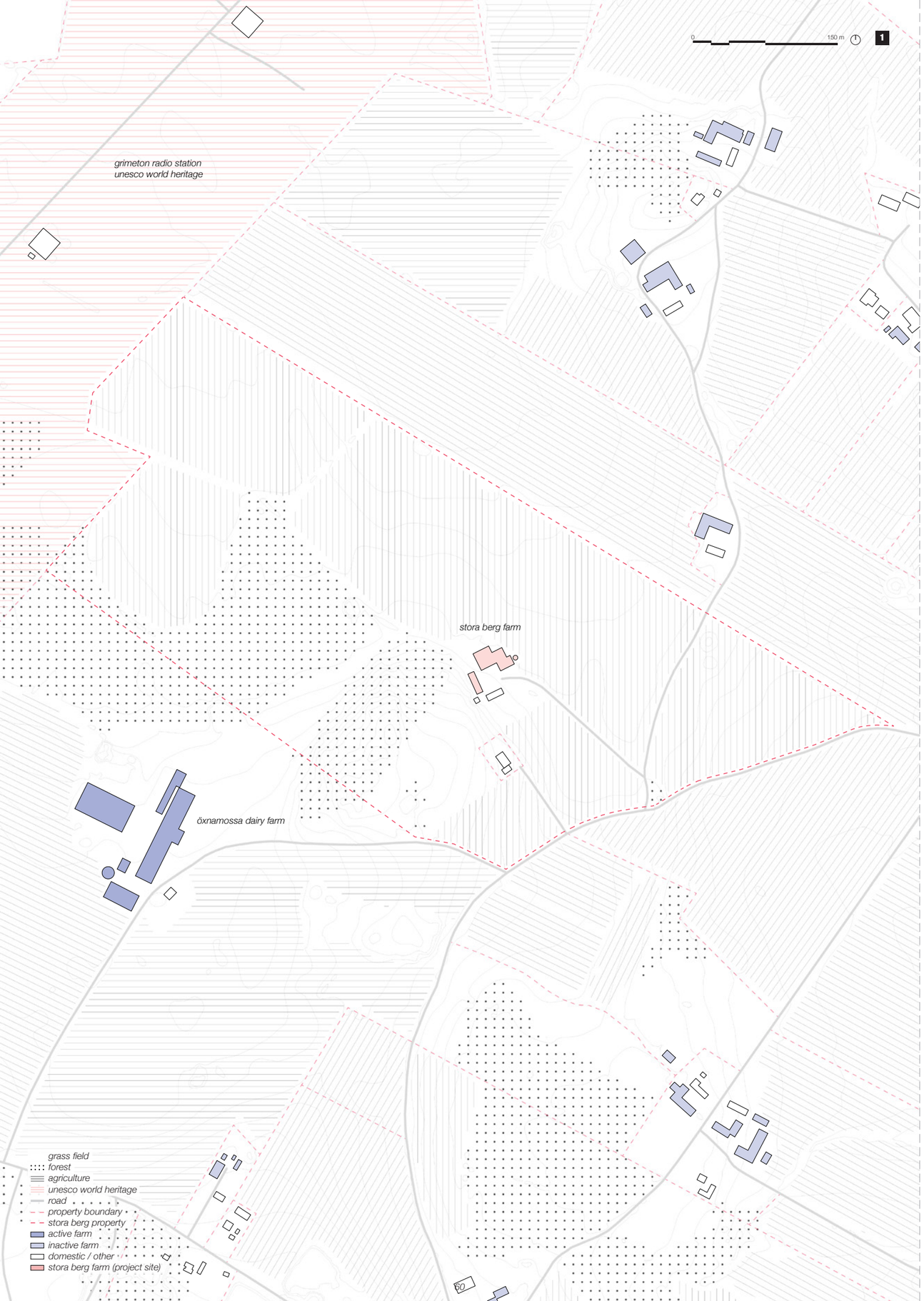
1 *Notes from measurements of buildings, Stora berg*
2-7 *Facades, large farm building, Stora berg*
8-10 *Facades, garage & storage, Stora berg*
11-13 *Facades, residential building, Stora berg*

3D model

Later, a 3D model was generated based on the measurements and photos captured of the façades. Initially, a plane was established to define the dimensions of the outer envelope. Subsequently, various wall and roof textures and materials were applied to the plane model. By extensively reviewing numerous pictures of the load-bearing timber structure, it became feasible to create a 3D model that reasonably depicted the existing structure in the barn. This process of accurately reproducing the farm in 3D software serves as a valuable exercise for enhancing understanding of the building's structural integrity and for discovering unique solutions as sources of inspiration.



14 *3d model, timber structure*
15 *Roof construction, wood & corrugated metal, cow house, 1930*
16 *Connection of cow house & silo storage, 1930*
17 *Roof construction, wood & corrugated metal, cow house, 1930*
18 *Roof construction, wood & corrugated metal, pig house, 1970*
19 *Interior wall structure, wood, pig house & cow house, 1970*
20 *Wall meeting hay loft structure, wood & brick, cow house,1930*
21 *Hay loft structure, wood & concrete, cow house,1930*
22 *Roof structure meeting wall & floor, wood & concrete, 1930*
23 *Roof / wall structure, wood & concrete, brew house 1970*



stora berg context

Stora Berg is a farm that has been passed down through generations. The surrounding landscape is characterized by agricultural land, small heights with leafy forests, ancient grave monuments, and the UNESCO World Heritage radio station. Approximately 20 years ago, when the farm was active, it operated as a dairy and pig farm.

Form follows legislation
The organization of the agricultural landscape and residential buildings is a result of the Swedish estate reform and agricultural rationalization known as 'Laga Skifte'. This reform led to a spatial organization of the landscape where farms now had larger plots of land connected to the dwelling and farm buildings.

The agricultural landscape is flexible and has undergone changes in its crops and organization over time. Aerial photographs from different historical periods reveal the spatial morphology of the agricultural land. The landscape in 1960 appears divided into smaller crops with greater variety. Contrasting this with the image from 2000, it is evident that certain areas of the landscape have been merged into larger fields with what seems to be single crops. A notable example of this transformation can be observed on the plot of Stora Berg.

Invisible layers of cultivation
Not only the changes in the agricultural landscape are visible in the photos, but also the transformations of buildings. In the bottom left part of the images, Öxnamossa farm is visible. In the image from 2000, a noticeable expansion is evident on the farm, which occurred around the same time that Stora Berg ceased its agricultural operations. Observing the image from 2023, another expansion of the farm buildings and Öxnamossa is apparent. According to interviews with the owners of Stora Berg, Öxnamossa is leasing their land.

It can be concluded that a majority of the land visible in the images is not owned but cultivated by the large farm of Öxnamossa.


2


3


4


5

1 *Stora berg with immediate context, map (Lantmäteriet, n.d.)*

Spatial morphology, Stora berg (Lantmäteriet, n.d.)
2 *1960*
3 *1975*
4 *2000*
5 *2023*

DESIGN

stora berg farm
structural transformation
design methods
design proposal

stora berg farm

The farm has since its creation in 1860 had different uses and production over time. In recent times functioning as a pork and dairy farm, until regulations were changed in Sweden preventing different types of livestock to be housed in the same farm buildings. The farm thereafter specialised as dairy farm with cows for the remainder of its time as an active farm. Farming operations were dismantled in 2000 due to challenges in competing with larger-scale farms. The agricultural land has since then been leased on a yearly basis to the neighbouring large-scale farm.

The farm is located a few hundred meters into the plot, which is a unique feature compared to the surrounding farms. It consists of a series of buildings that have come up over time and several times been reconstructed due to changes in the production needs. The ***residential building*** houses the owners of the farm, the house is surrounded by a backyard to the south. The backyard is partly enclosed by vegetation.

The ***cow barn*** is the oldest and the largest of the farm buildings. The original building was built in 1860, but burned down in 1930. The current building, a slightly larger version of the original, was built on the same foundation the same year. As the cows were positioned in rows, the building contains a complicated concrete floor with many level differences to accommodate for the cows, workers, feeding and gutters. The barn also contains a second level for hay storage, the second level is supported by a large amount of posts that also doubled as fencing for the cows.

The ***pig pen*** is an extension to the cow barn that was added somewhere in the late 1900s. The ceiling height is the same as the cow barn, slightly lower than 2 meters. The ***grain storage*** is an angled extension of the cow barn. It houses larger tractors, their equipment, as well as several indoor silos. The ***silo extension*** is a small extension that was made to increase the sealing height in the grain storage to accommodate for larger silos in the building. The tractor garage is a extension previously used to house smaller tractors, but functions today as a storage. A large grain silo existed previously outside the tractor garage. It has been dismantled since the farm has been idle, the foundation still exists today.

Some external ***open storage*** is located to the north of the large barn. This space was used to store fertilizer and water, among other things. The ***machine house*** is a smaller barn that was added in the 1970s, to function as additional storage as well as a workshop for the farm. The brew house is the other half of the smaller barn. It functions mainly as storage and garage for the residential building. The name stems from over a century ago were they distilled moonshine in the building, during a time when alcohol was rationed in Sweden.

Materiality and details

The farm is built with period typical materials and building methods. The oldest foundations consist of rocks, with newer ones built out of concrete. The flooring in the larger barn consist of many layers of concrete, added over time through changes. The wall and roof structures are to a large majority made out of timber. There is a high redundancy within the structure due to older structures being left in place when newer structures have been added in addition to them. Expansions and reparations have been done with whatever material that have been available at that time. As the buildings are purely to provide function, reparations and patchwork have been done in a functional matter. This amounts to a many layered aesthetic that is typical for the Swedish farm building.

Driving factors for change

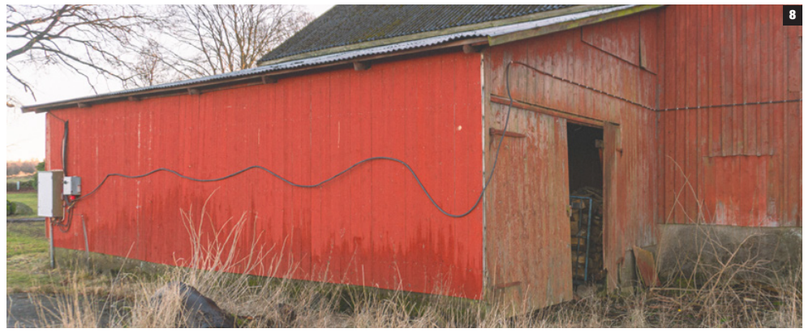
Several factors can significantly influence the reprogramming of a farm. In this instance, key drivers include a generational shift within the farm, leading to new agricultural approaches and interests. Additionally, the ability to work remotely provides opportunities for part-time vineyard development in the initial years. Economic shifts in the rural landscape, marked by the growing number of farm stores, also contribute. Furthermore, the expanding network of vineyards within Halland plays a crucial role in driving the reprogramming process.

1 *Stora berg farm, aerial photograph (Varbergs kommun, 2022)*







1 *Renovated facade with corrugated sheet metal*
2 *Patchwork*
3 *Electrical wiring*
4 *Stone foundation*
5 *Fusebox*
6 *Daylight inlet*
7 *Patchwork*
8 *Partly renovated facade*








1 *Roof structure*
2 *Cow aisles*
3 *Wall structure*
4 *Pig pen*
5 *Roof structure*
6 *Cow aisle and hay loft*
7 *Indoor silo*
8 *Post detail*

structural transformation

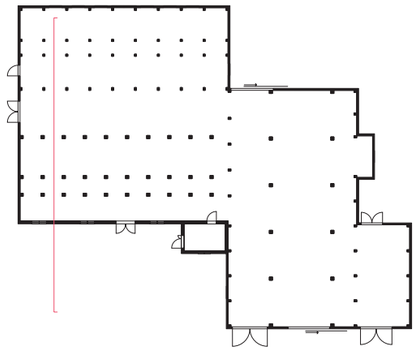
As preservation has been a high priority during the design process, the main dictating factor has been how the structure can change to accommodate a modern usage. The previous structure was made to accommodate aisles for the cows, pigs, their feeding as well as gutters for sanitation. The other side of the barn housed grain silos as well as tractors, therefore the posts were spaced in an irregular manner, to fit those objects. The hay loft above the cow aisles was built at a very low level, to minimise labour.

To be able to preserve the envelope and most of the roof structure without any changes, a new load bearing steel structure was designed. The steel structure is centred in the middle of the two larger barn structures. Sitting on top of a new concrete flooring. The concrete holds only the new structure, leaving the other flooring to be gravelled as the ground on the outside, allowing the outside to partly flow in.

The new concrete flooring and steel structure allow for enclosed, sanitary and heated spaces to be created within it. The enclosed spaces can be added over time, and sizes can be changed, depending on the need. The steel posts are the structure for these spaces, therefore they also dictate the sizing of them. The steel structure also allows for a second level to be fitted on it. The second level will only be enclosed by the old barn, and should therefore be seen as outdoor spaces. Furthermore the second level creates the opportunity to utilize gravity within the wine making process, allowing grapes to be crushed above, and the juices to be naturally run down into the fermentation tanks.

These structural changes allowed for further design development which created the opportunity to change how the inside and outside spaces on and around the farm buildings functions.

1



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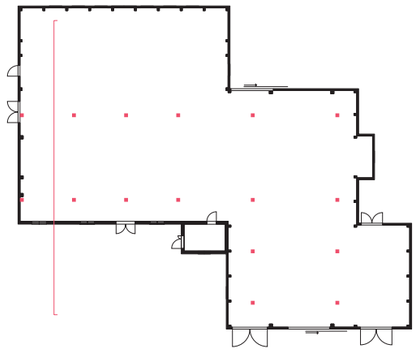
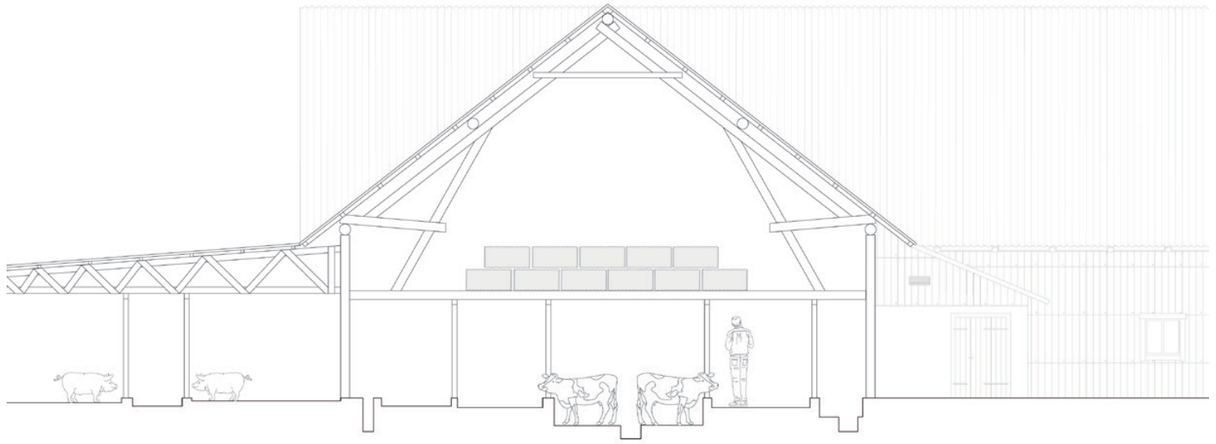


1 *Existing structure in the cow barn, plan*
2 *New structure in the cow barn, plan*

1



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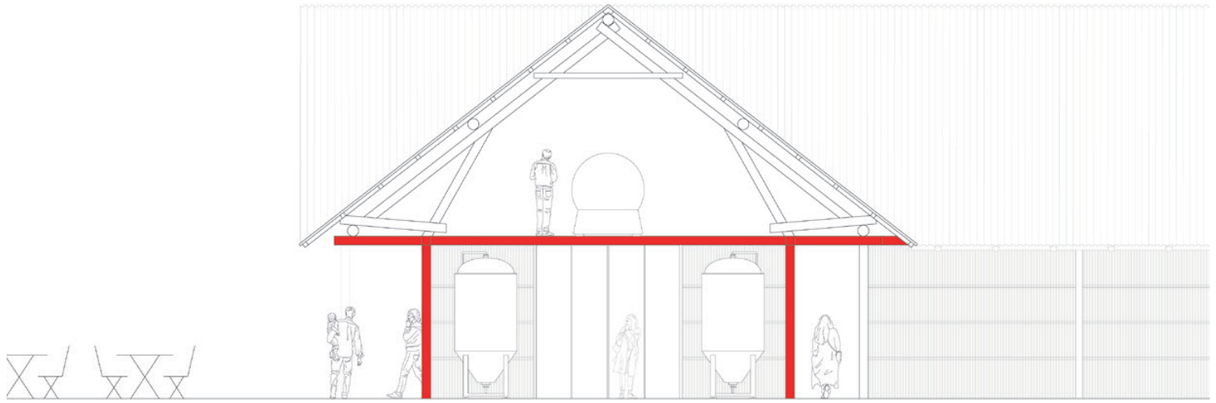


1 *Existing structure in the cow barn, section*
2 *New structure in the cow barn, section*

design methods

spatial configuration model
During the process of understanding the operational process of a winery, a spatial configuration model was developed. The model acts as a 3d white board where different spatial scenarios can be created as a base of discussion.

The model works in a way that the spatial requirements from the operational process of wineries is translated into cubes with different colours where each colour represents a specific part of the program. Each cube represents a 2x2 meter square of area. The cubes can be organized in different configurations and locations to test different scenarios of scale and flows on the farm.

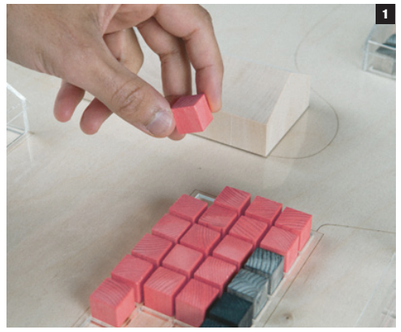
The plan drawings for the farm is translated to a grid, that follows the same size as the cube. The building grid and the nearby surroundings are printed on a acrylic sheet. The base sheet can be changed for the tool to be used on a different farm.

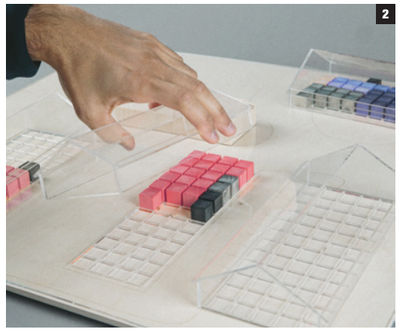
1. Decide the scenario and scale of operation regarding agricultural land, production capacity, and building usage. Place the cubes in desired place

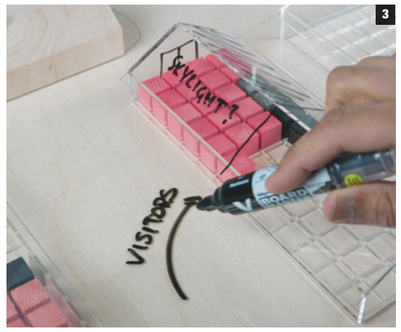
2. Place the acrylic buildings where they belong, covering the spatial configuration scenario created.

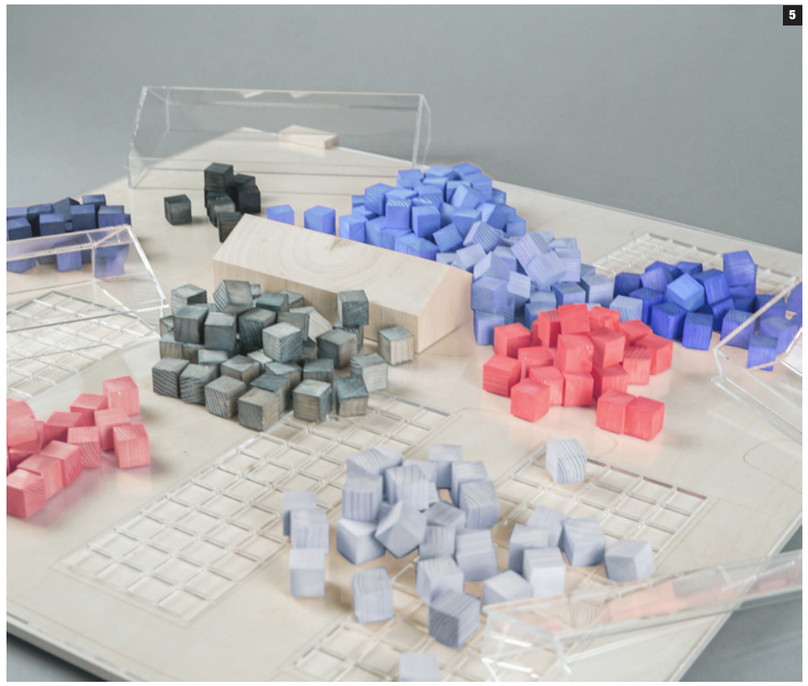
3. Annotations can now be made on the model with a whiteboard marker, visualizing different types of flows and changes to the landscape and buildings.

4. Use the board for discussion, document and reflect on the result. Remove the scenario and iterate a new one









1-4 *Spatial configuration model in use*
5 *All the components of the model*

design scenarios
Based on the results from the spatial configuration model, several scenarios have been created that simulate the development of Stora Berg vineyard over time. As grapevines take years to cultivate, reaching maximum production capacity in a secure and steady expansion pace could take 10-20 years.

However, depending on the business model, the requirements and proportions for each space changes drastically. For example, if a business would focus on in-house tasting or a restaurant business, the agricultural land used could be as low as 1 hectare, with the production spaces following suit. If the focus is on export and sales to Systembolaget, a large majority of the grape production could be outsourced to external farms, with larger winery facilities being build on site.

If a farm would focus on commercialisation through gate sales, a balanced approach could be taken, as the whole farm would become part of the product being sold. Stora Berg farm has 20,7 hectars of agricultural land, and 728 m2 of building space available. The scenarios showcase how the agricultural land could be developed over time.

1. Small production

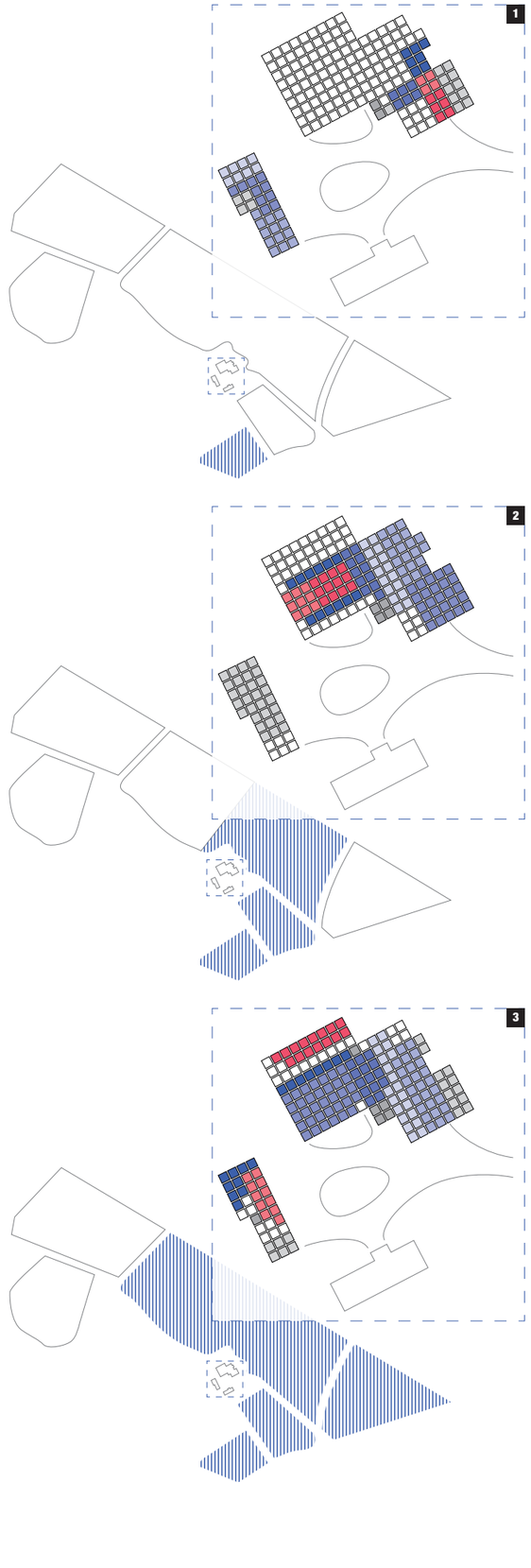
agricultural land	*1 ha*
building usage	*277 m²*
yield	*50 hl*

2. Balanced production

agricultural land	*7 ha*
building usage	*550 m²*
yield	*350 hl*

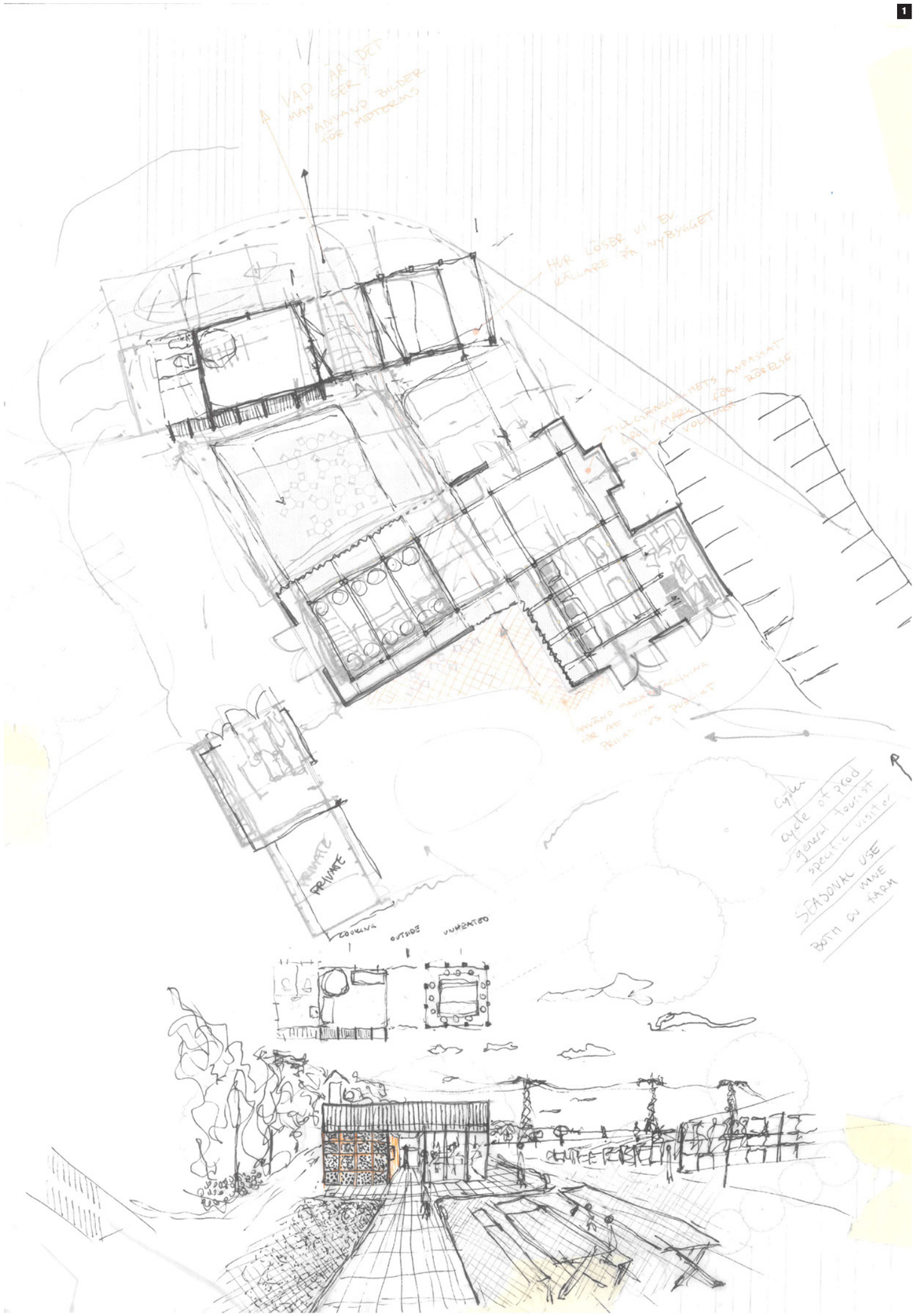
3. Maximum production

agricultural land	*15,5 ha*
building usage	*728 m²*
yield	*775 hl*



grape receipt
must production
wine tanks
bottling and packaging
ageing
commercialisation
store
tasting
storage
dressing room, shower, toilet

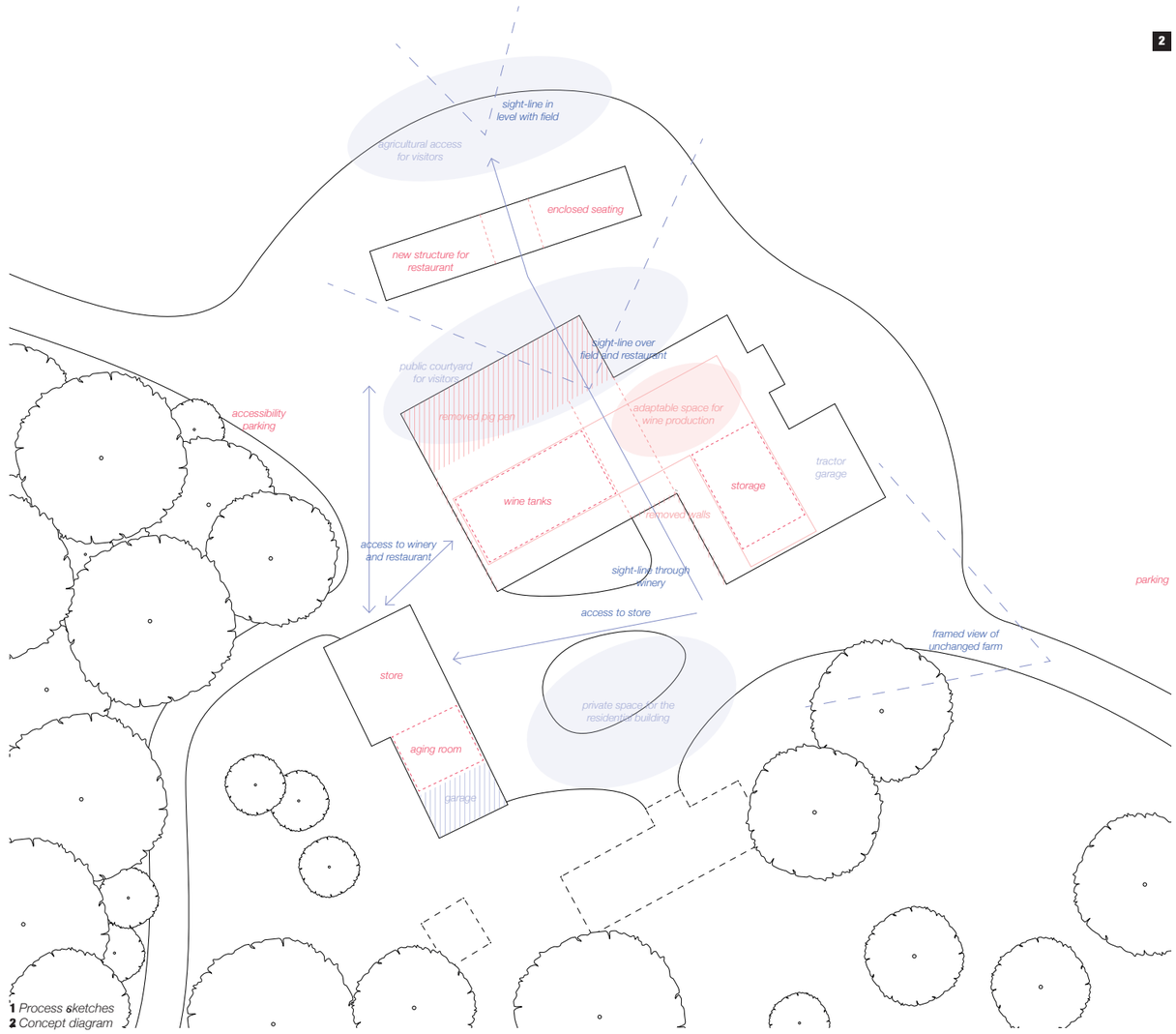
1



design concepts

As a later stage in the design process, learnings from the spatial configuration model was translated and tested on accurate plan drawings and sections of the farm. Designs, flows, and spaces were tested through iterative sketching, feeding into digital scale drawings to maintain accuracy of spaces and meet production needs. The results through this process became our main design concepts, annotated in the second figure.

2



1 *Process sketches*
2 *Concept diagram*

design proposal

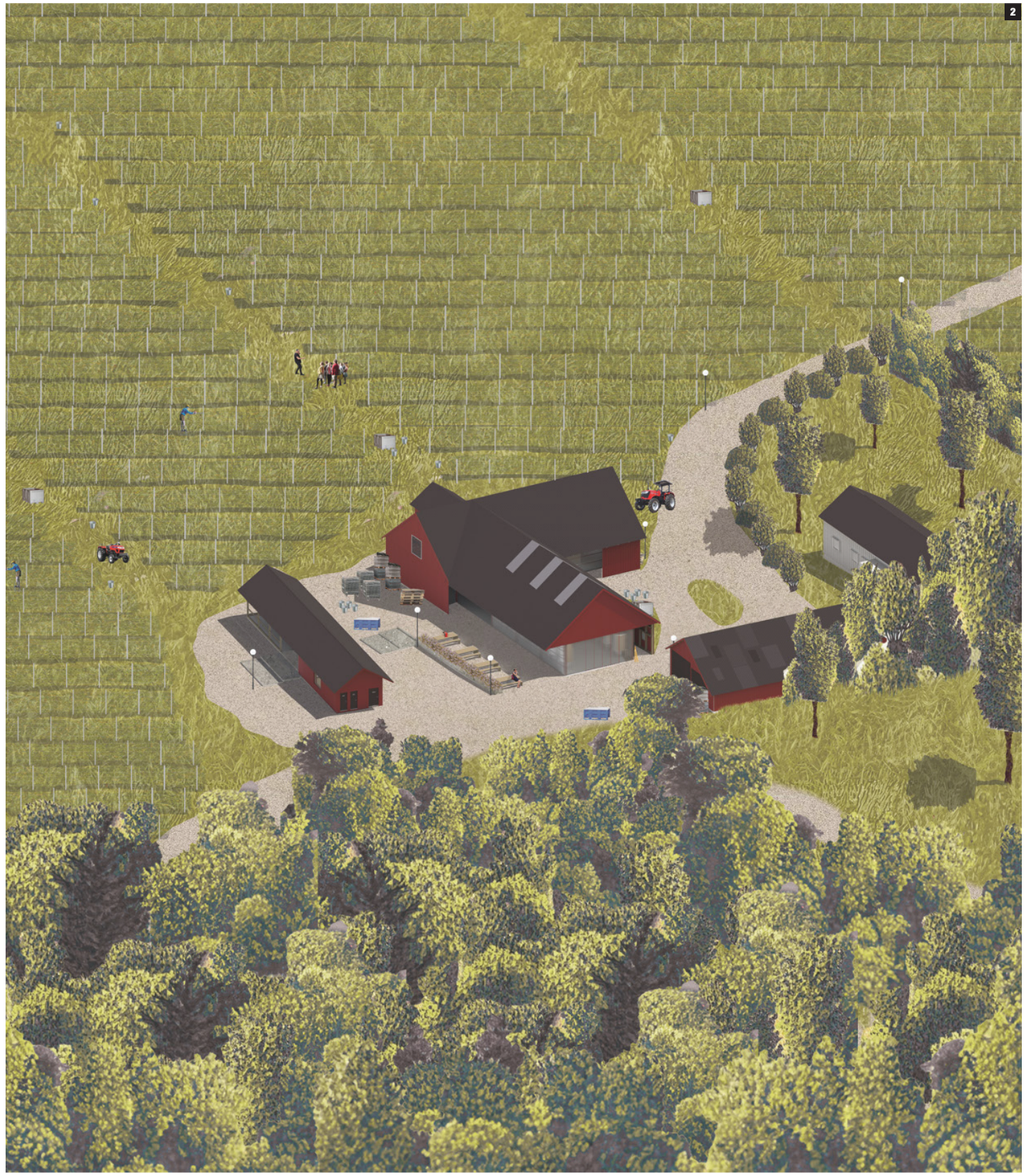
1 *Perspective from entering the vineyard, collage*
The new landscape of grapevines isolates the view ahead along the straight gravel road as you approach Stora Berg. The almost 100-year-old red farmhouse is framed together with the even older Grimeton UNESCO World Heritage radio tower in the background.

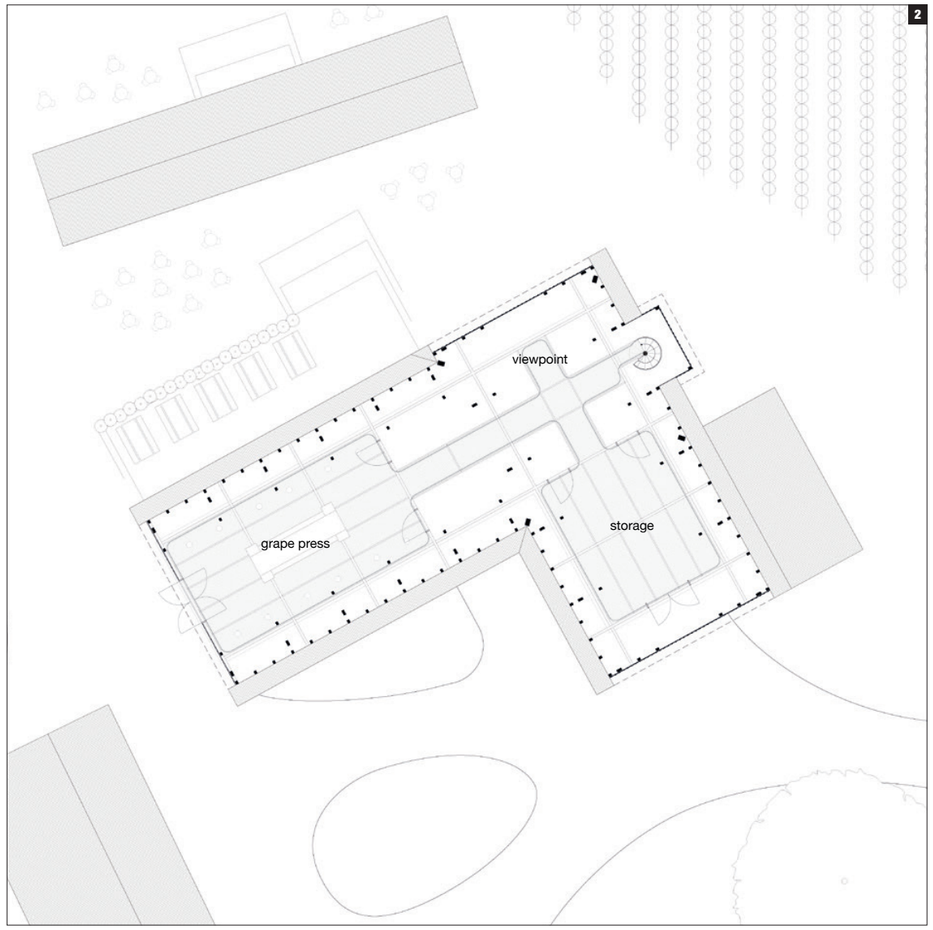
2 *Approaching the store, collage*
After leaving the parking you approach the farm by foot as you are moving towards what appears to be an untouched farm. The farm store is straight ahead and signage reassures that you have arrived at the right place.

3 *View through the winery, collage*
Passing the corner of the big farm building, the old courtyard suddenly opens up. The facade of the big farm building volume however now opens up and invites you towards the new building, new courtyard and fields of grapevines in the distance.

1 *High season, isometric collage*
In the summer when there's a peak of tourism in the area of Varberg, Stora berg vineyard will be filled with activity. Seated visitors will be in the new courtyard between then winery and restaurant, as well as between the restaurant and grapevines. During this period of time tourism and hospitality business is more evident. Seasonal workers for the restaurant and visitors experience is required during this period.

2 *Low season, isometric collage*
During the low seasons of tourism such as autumn, winter and spring. Objects and activities of wine making will be more evident on site, while at the same time the tourism activity will be lower. The restaurant is not open regularly, however smaller groups of people can come to the farm for a closed event to utilize the restaurant and unheated space temporarily for an evening. Seasonal workers are required for the grape harvest, during a period of approximately 3 weeks. The store however functions in a higher capacity as people from the surrounding area still come by to buy a locally produced bottle of wine.





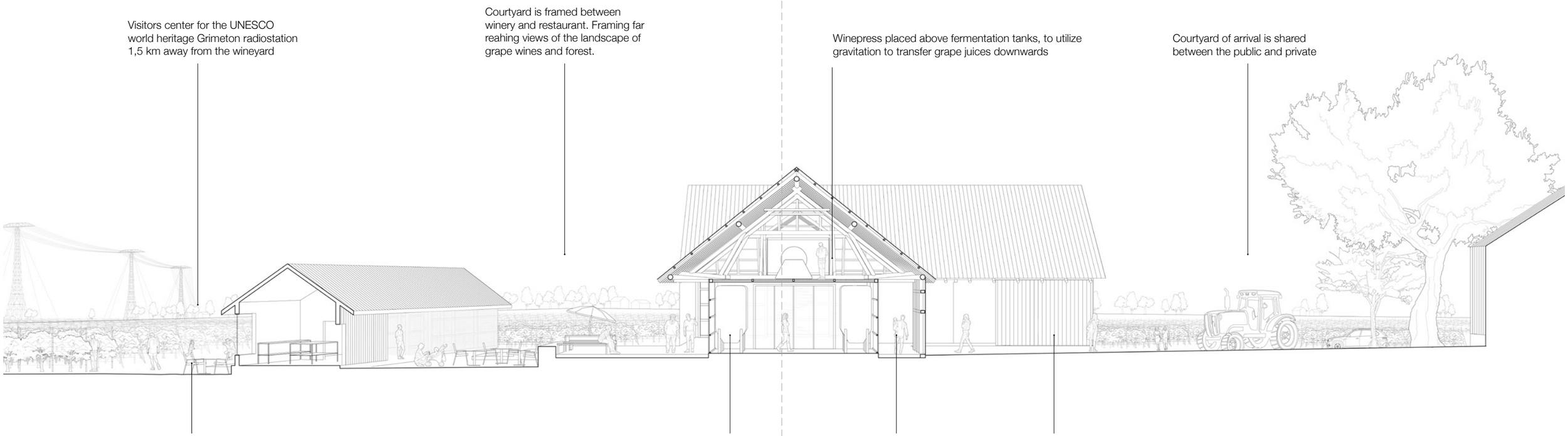
1 *Stora Berg vineyard, plan, scale 1:400*
2 *Second level in winery, plan, scale 1:400*

Visitors center for the UNESCO world heritage Grimeton radiostation 1,5 km away from the wineyard

Courtyard is framed between winery and restaurant. Framing far reahing views of the landscape of grape wines and forest.

Winepress placed above fermentation tanks, to utilize gravitation to transfer grape juices downwards

Courtyard of arrival is shared between the public and private



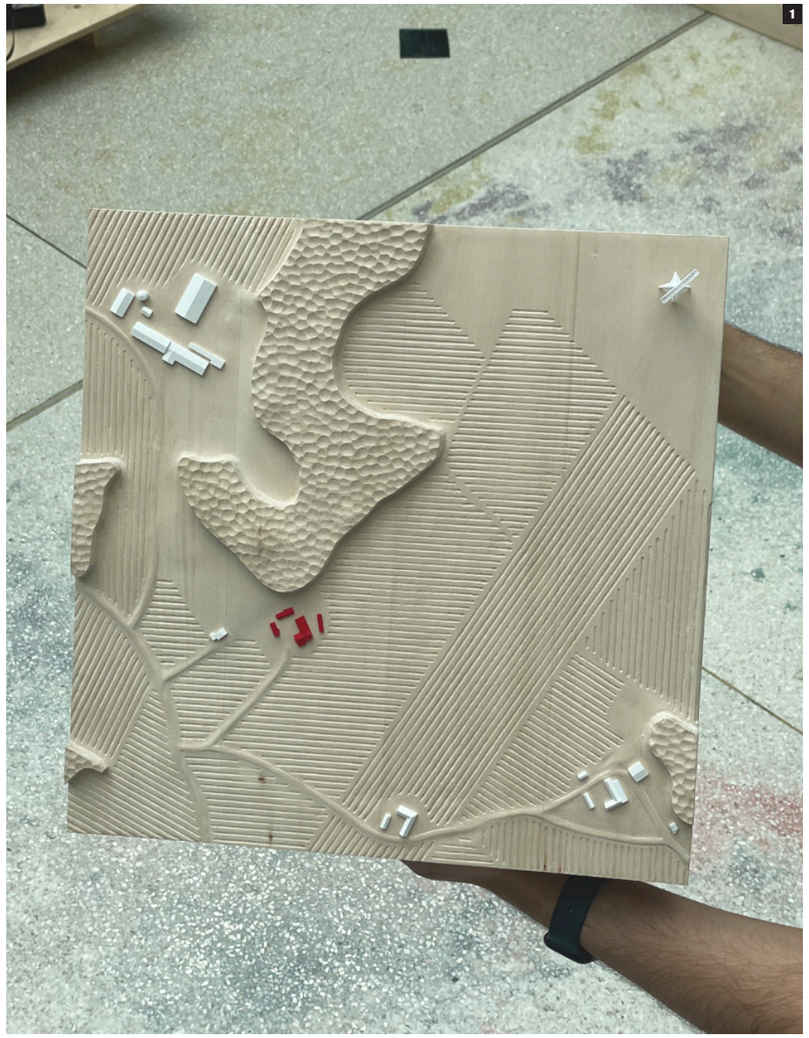
Seating area in level with grapevines

Fermentation tank

Path between new transparent winery walls of channel plastic and old wall of timber and corrugated metal

Movable vinyl curtain wall attached to a rail on the new load bearing structure, creating a flexible facade that can be open or closed

1 *Stora Berg vineyard, perspective section*

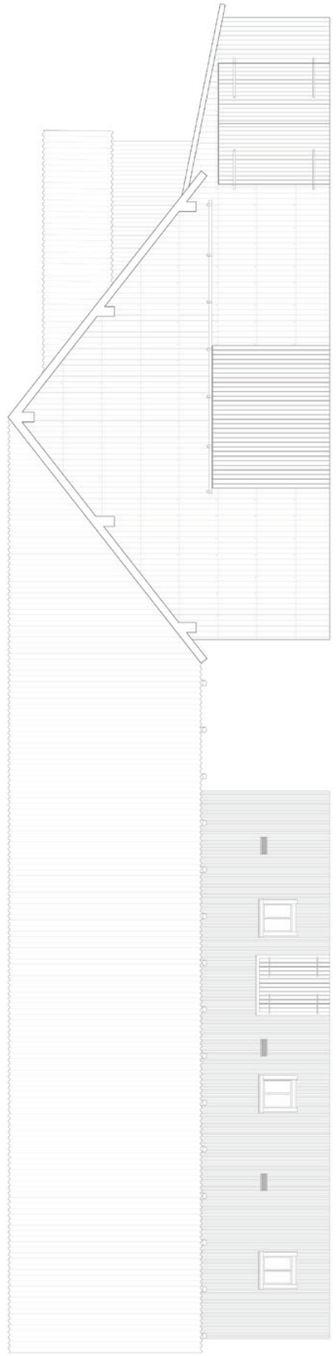


1 *Diagrammatic model of context, photograph, scale 1:2 000*
2 *Stora Berg vineyard, photograph*
3 *Direction of agricultural plots, together with forest and grass fields, photograph*

1 *Diagrammatic model of Stora Berg vineyard, photograph, scale 1:250*
2 *View inside winery, removable roof structures, photograph*
3 *View over grapevine fields, photograph*

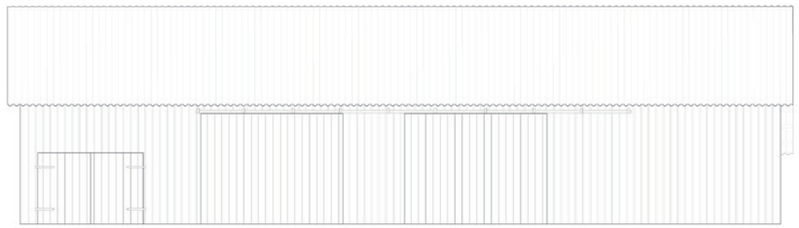
1

2



1 *Winery, south elevation, scale 1:100*
2 *Winery, north elevation, scale 1:100*

1



2

1 *Store, elevation, scale 1:100*
2 *Restaurant, plan, elevation, scale 1:100*

1

2

1 *Second level in the winery, collage*
After going up the spiral staircase to the second floor the grape press is straight ahead, behind you is a window framing the landscape. The space outside is visually and auditory filtered through layers of old and new structure.

2 *View inside winery, collage*
In the winery traces from the art and science of wine-making is visible. In forms of notes and annotations, samples and tests of the juice as well as barrels soon to be filled. The wall of channel plastic filters and distorts the outside while bringing light into the winery.

3 *View from the new courtyard to the winery, collage*
The courtyard between the winery and the restaurant invites you to sit and enjoy a pizza with a glass of wine. The fermentation tanks in the winery are visible through a clear plastic wall, becoming part of the space. The scene is complemented by trees on one side and grapevines on the other. Here, wine enthusiasts are mixed with local people from the area.

4 *View over adaptable area in winery, collage*
Walking through the opening of the large farm building, the path of visitors cross areas of the wine making process. The new structure reveals the spatiality of the old wooden structure and highlights itself with a red colour taken from the facade.

3

4

DISCUSSION

outcome
conclusion

outcome

This thesis aims to answer the question:
How can an obsolete Swedish dairy farm in Grimeton, Halland, be reprogrammed into a vineyard as an example of new rurality?

To address this question, it is essential to understand what constitutes an obsolete Swedish dairy farm. Throughout the research, it became increasingly clear what an obsolete farm is and how it may or may not function. Obsolete farms can vary in shape, degree of use, stages of obsolescence, and decay. Conversations with farm owners during the research revealed that many farm buildings previously used for agricultural purposes now primarily serve as storage for the owners.

In the case of Stora Berg, spaces that once functioned as pig pens and cow houses have been unused for 20 years. Some buildings are used for specific purposes, such as storing a large tractor and its equipment, serving as a personal garage, or functioning as a workshop. While parts of the buildings have lacked a clear purpose for two decades, the agricultural land is leased to a neighbouring large-scale farmer who grows wheat. A key learning outcome is that the industrialization and up-scaling of farms can cause neighbouring farms to become obsolete. This results in an agricultural landscape that remains active, but with buildings scattered across it that have no or only partial purposes.

Reprogramming a farm into a vineyard does not have a single answer or a definitive proposal. Our approach to answering this part of the question involved gathering information about the spatial program of a vineyard based on theoretical knowledge of small to medium-sized wineries in Italy. We then applied this knowledge using a method involving a spatial configuration model that we developed as a tool. This method allowed us to test different spatial scenarios, representing various stages of a farm's growth from a hobby winemaker's scale to a commercial operation.

New Rurality
The question of how a vineyard program in the Swedish countryside can exemplify new rurality has been a central element of this thesis. Related subtopics and driving forces of new rurality, such as urbanization, technological advancements, economic restructuring, environmental awareness, interest in rural culture and heritage, and policy changes, are crucial aspects considered during the mapping and design stages.

This thesis contextualizes the current conditions for vineyards in Sweden through literature reviews, addressing policy changes and the cultural heritage of farm buildings. The analysis of Swedish vineyards presents various cases of scale and placement, from urban to rural areas. The exercise of showcasing selected vineyards has been an important learning experience, allowing us to explore spaces that blend consumption with production—an essential aspect of new rurality. These examples are given an architectural dimension through pictures and floor plans produced by us. The production and presentation of this material are important for making these spaces visible and providing valuable knowledge to the architectural field.

In the context chapter, the topic is explored through multi-scalar mapping, where selected layers of information reveal significant relationships at different scales. These scales address climate change, transportation networks, urbanization, west coast landscapes, the distribution of services between urban and rural areas, and the effects of agricultural industrialization. These topics are vital for understanding and transitioning towards new rurality.

The design project investigates and demonstrates how a former place of production can be transformed into a multifunctional space for consumption and production, exemplifying new rurality. The proposal explores one spatial scenario and its application to the context of Stora Berg and its existing buildings. The design proposal is speculative, aiming to challenge conventional, technical, and cultural aspects when transforming the typology of a Swedish farm, both for the buildings and their in-between spaces.

Knowledge Gap
The knowledge gap regarding how a wine production program can be adapted to the Swedish countryside has been addressed through various steps in this thesis.

One of the main driving forces behind the emerging trend of wine production in Sweden is the changing climate. In this thesis, an area of delimitation is visualized through maps of climate zones, showcasing the existing conditions of vineyards in relation to growing zones in Sweden. We see this map, along with the non-scientific projection of growing zones, as an essential basis for understanding the current conditions and the evolution of future vineyard locations. It could also serve as an important guideline for actors deciding where to place vineyards in the future.

The spatial configuration of vineyards is a new program for the architectural field in Sweden. This thesis provides knowledge about the spaces required for wine production as well as their architectural dimensions. This knowledge is presented through a spatial configuration diagram that illustrates the scale and necessary relationships and flows between spaces in the wine-making process. The architectural dimensions of wineries are further presented through four different cases of wine production in the Swedish context, showcasing the diversity of scale, placement, and organization of spaces for each case.

In the course of the thesis, knowledge has been developed on how to handle the existing building stock of unused farm buildings. The process of locating a farm has provided a useful method for identifying unused farm buildings and establishing contact with the farm owners. Additionally, this involves the method of measuring and creating drawing materials for these buildings. Measuring and documenting is one part of filling the knowledge gap regarding the architectural qualities of a specific farm building. The other part is presenting how the measuring and documenting were carried out to create accurate drawings that can later be used when transforming the space and structure for a new purpose.

The design project investigates a possible future for an obsolete farm building in Grimeton, envisioning a scenario where it is transformed into a vineyard with accompanying commercial spaces. The design proposal offers one of many solutions for adapting farm buildings to the new program. The topic and discussion regarding potential programs for the building stock of unused farms remain an untapped area within the field of architecture. We see this project as a contribution to the field, aiming to increase interest in rural development and the obsolete farm buildings located in the rural landscape. We also believe that the knowledge created in this thesis should be seen as a valuable asset for the field of architecture and for future actors looking to utilize the space available in these unused farm buildings.

Reflections
From the beginning, we were determined to work with the concept of a vineyard and apply it to the existing stock of farm buildings. However, accessing material on these buildings proved challenging and took longer than anticipated. Throughout the process, we consulted literature, archives, and databases, and reached out to the municipality and a cultural environment organization in Halland. Despite several setbacks, we maintained a clear goal, which led us to realize that visiting the farms ourselves and asking for permission to document and measure was essential. Having no prior experience with such visits, we were uncertain about what to expect, but working together proved invaluable. We prepared thoroughly, and the visits were successful in both securing participation and allowing us to meet people in the area, engaging in small chats and hearing their stories.

One important aspect that the thesis did not explore extensively is the process of participation from both the farm owners we worked with and the local community. This decision was made early on and communicated to the owners. Being clear about our intentions helped us stay focused on creating drawing materials for the farm buildings without deviating from our project's goals.

Generally, we found that farm owners were positive about having their buildings documented. We believe this is due to the lack of existing documentation for these structures. It became a win-win situation: we, as students, obtained material to work with, while the farm owners received accurate drawings of their buildings. At the same time, valuable knowledge about these buildings was generated in an academic context. The drawings produced during the project could help farm owners plan and execute future transformations of their buildings. Documenting and creating accurate drawings of a farm is a time-consuming task and would likely be impractical for most farm owners to undertake themselves. We therefore see potential in student projects applying this method in future work.

conclusion

This thesis adds a spatial and architectural understanding to the emerging wine sector in Sweden and applies it to the typology of a former dairy and pig farm in Grimeton. The work provides the wine sector with an architectural dimension, highlighting the challenges of re-purposing farm buildings and presenting methods to address these issues. Rather than offering single or definitive answers, the thesis raises questions, proposes methods of working, and visualizes one possible future for an obsolete farm building in the context of Grimeton, Halland.

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Images, photographs and drawings without a reference have been developed by the authors of this thesis.

Vititecture
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