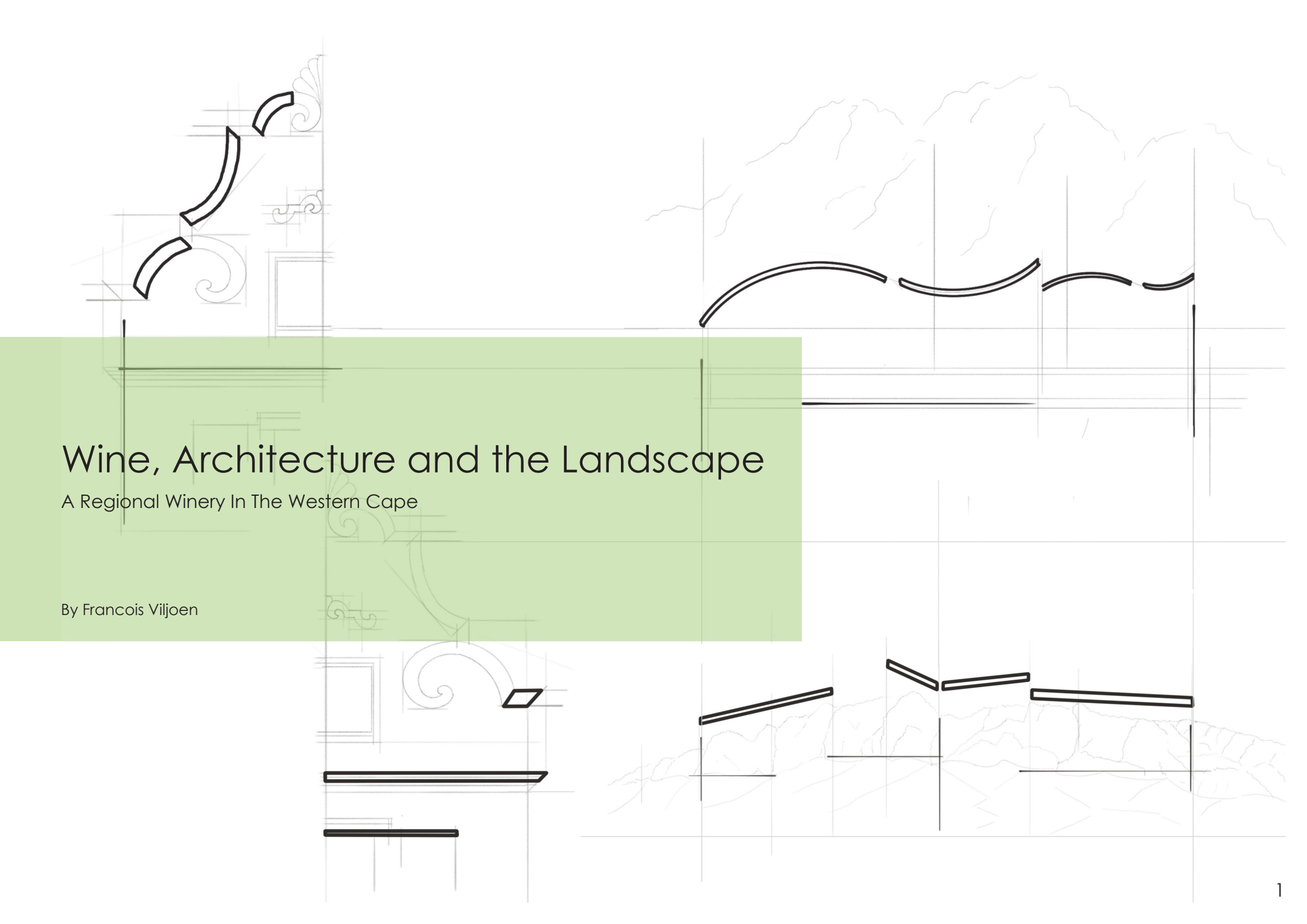




The background of the slide features two architectural sketches. On the left, a sketch of a building facade shows a window with a decorative pediment and a curved architectural element. On the right, a sketch of a landscape shows a winding path or road through a hilly area, with a building visible in the distance. The title text is overlaid on a green rectangular background.

Wine, Architecture and the Landscape

A Regional Winery In The Western Cape

By Francois Viljoen

Declaration

A Regional Winery In The Western Cape, Wellington

This dissertation is submitted in partial fulfillment of the requirements for the degree M.Arch.
(Prof).

Department of Architecture, Faculty of Natural and Agricultural Sciences

University of the Free-State.

Candidate

Francois Viljoen | 2017076445 | fafviljoen08@gmail.com | +27 795211040

18 October 2022

Supervisors

Prof. J.D. Smit, Mrs. P. Smit, Mr. D. van der Merwe, Mr. H. Raubenheimer

Declaration of original authorship



The work contained in this document has not been previously submitted to meet requirements for an award at this or any other higher education institution.

To the best of my knowledge, this document contains no material previously published or written by another person except where due reference is made.



Project Summary - M.Arch Prof Dissertation

Programme	Wine Industry: An interactive wine cellar and social facilities.
Site Location	Wellington, Western Cape, Perdeskoen Road
Site Description	The site is located on a farm one and a half kilometers outside of the town of Wellington. The site is located in the ruin of a failed dam that is currently standing empty.
GPS Coordinates	-28.522631, 28.414325
Client	Wellington Co-operative Winery Ltd.
Theoretical Approach	Critical Regionalism
Architectural Approach	Using the existing rich built heritage of the Cape Winelands in balance with the inspirational mountains and surrounding landscape as an architectural language for the designing of a winery.



Acknowledgments

I would like to thank Prof. Smit and Mrs. Petria Smit for their constant guidance and encouragement throughout the year.

Also a special thank you to my supervisor David van der Merwe for enduring with me and guiding me through the process. This has been a memorable journey.

Furthermore, I thank all who supported and guided me throughout the year.



Abstract

Architecture is constantly evolving and the identity of certain regions are at risk because of new architectural styles, processes and techniques. This is prominent in the Cape Winelands region, where the built heritage of Cape Dutch architecture is in constant battle with the new. Looking at relevant modern wineries in the region and analyzing their approaches to heritage, modernism and regionalism and by analyzing these wineries, a architectural language is developed to understand how to approach the design of a winery in the Cape Winelands region. This language is further enhanced by researching Critical Regionalism in architecture which is relevant when designing and taking into consideration the surroundings and the heritage of the region.

By using the developed language the process of designing a winery is explored through various methods of exploration. The design exploration identifies what is relevant to the specific site and program and applies the architectural language where it is relevant. This results in the design of a new winery in the Cape Winelands which relates to the heritage and the region in a sensitive way.

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Research Question

How can a balance between the influence of the landscape of the Cape and the identity of built heritage of the wineries of the region be synthesized to embody the specific place in the designing of a new winery, just like a bottle of wine epitomizes the soil from which it originates ?

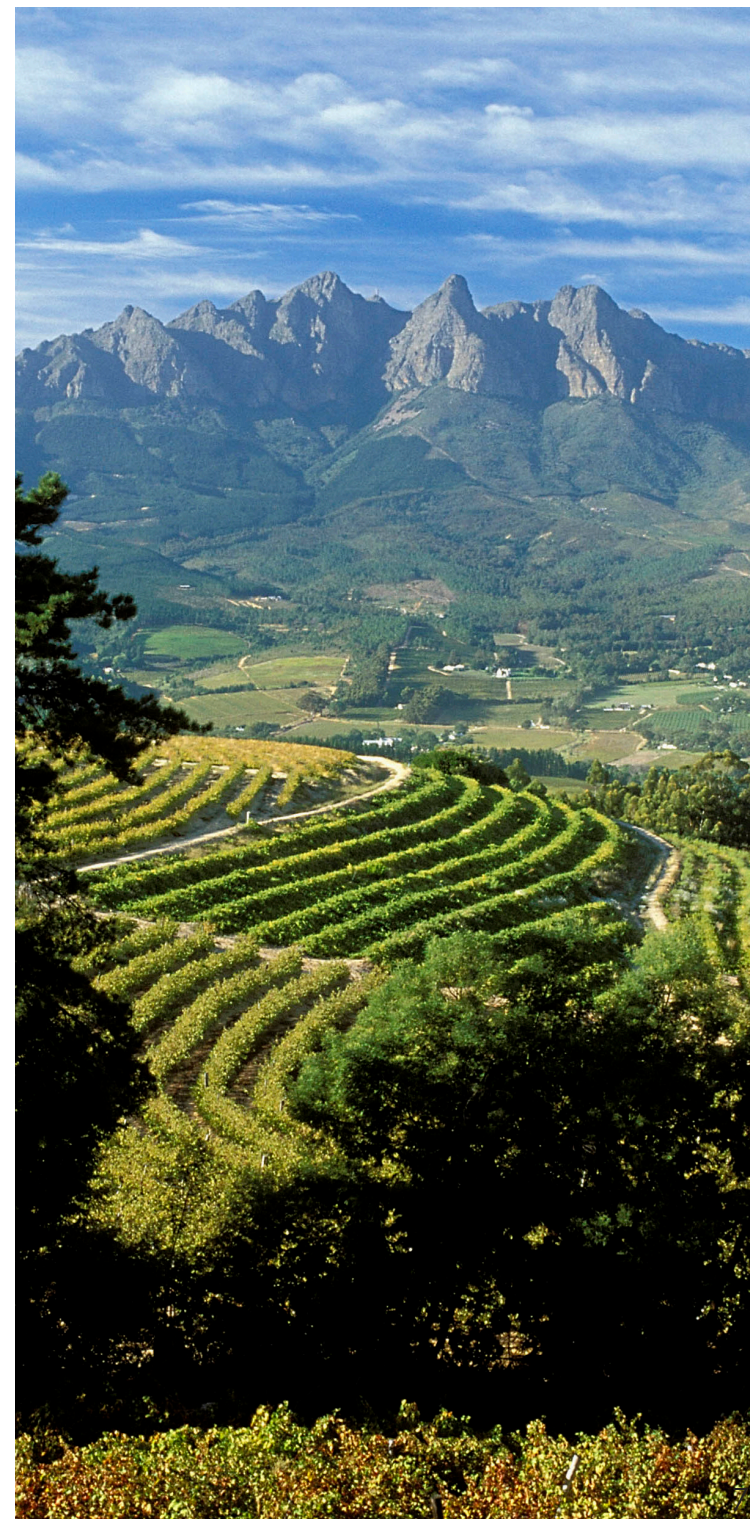
Introduction

The architecture of South African wineries has long been rooted in the traditional built styles linked to Cape Dutch architecture, however, in recent years a movement of new built modern wineries has emerged that is rooted in the time that it was built in, rather than the traditions which came before. Architecture is continuously developing, and the wineries have developed with the times. This project aims to understand the relationship and connection of the heritage of the past and the new wave of wineries to find a suitable balance in the design that is respectful of both. Each winery is unique in its own circumstance and adapts to the specific conditions in which it finds itself. That is why there can't be a formulaistic approach to the design of a winery. There are however certain processes of wine making that remain fixed and require certain design solutions. Within these specific conditions there lies opportunity for the development of something that is completely unique. Another key aspect, or influence, is the sculptural qualities of the Cape landscape and how it can be interpreted into a visual language for the building. The landscape in which the project is situated has numerous qualities that can be enhanced through the building; this would also help the building to be true to the character of the place by emulating the area's heritage as well as the specific site and its surroundings.

1.

Wine and the Cape

- **South African wine industry**
- **Terroir**
- **The Client**



South African wine industry

One of the major wine-producing nations in the Southern Hemisphere is South Africa. South African wine has gained recognition for its vast range of styles on a global scale since the end of apartheid.

It is sometimes referred to as bridging the gap between the Old World and the New World because of its more than 350 years of winemaking heritage. Although the majority of wines are produced using New World winemaking methods, their Old-World counterparts sometimes share more distinctive characteristics (WineLand Media, 2022: Online).

The Western Cape's lush, mountainous topography serves as the backdrop for South Africa's wine industry. Due to the numerous mountains, valleys, and plateaus in this region, winemakers may create a wide variety of styles. The Orange River area of the Northern Cape also has vineyards. The Atlantic and Indian Oceans' confluence has a considerable impact on the Mediterranean climate that prevails in the majority of South Africa's wine-producing areas.

The nation's iconic grape variety is pinotage. Along with Merlot and Cabernet Sauvignon, Shiraz is also commonly cultivated.



Fig.1: Grapes being harvested (WineLand Media, 2022: Online)

On the other hand, of the 237,000 acres of vineyards in the nation, 55 percent are planted with white grape types. With 18.5 percent of all plantings, Chenin Blanc is the grape that is most widely grown in the country. It still holds the top spot despite losing some of its former supremacy in vineyards as a producer of brandy and fortified wines, having mostly switched to a role supplying crisp, dry white wines (WineLand Media, 2022: Online).

In recent years, Sauvignon Blanc and Chardonnay from South Africa have gained popularity abroad. In fact The Wine of origin system, a legal structure introduced in 1972 to acknowledge and protect the diversity of terroir in the country, classifies South Africa into the regions, districts and wards where vineyards are found.

Dutch immigrants originally planted vines in South Africa in the 1650s, but it wasn't until the French Huguenots arrived in the 1680s with viticultural expertise and understanding that wine production truly started to take off. Constantia gained international recognition in the 18th and 19th centuries thanks to its location as the oldest wine estate in South Africa. The first vines were established in Stellenbosch in the 1690s, making it a location with a long history of producing wine (WineLand Media, 2022: Online).



Fig.2: Red grapes (WineLand Media, 2022: Online)

Throughout the 19th and 20th centuries, there were significant setbacks for the South African wine industry. The vineyard land was drastically decreased in the 1860s due to a disastrous outbreak of the insect phylloxera, which consumes the vine roots. The subsequent replanting led to large-scale overproduction, prompting the South African government to fund the “Kooperatieve Wijnbouwers Vereniging van Zuid-Afrika.” or rather the South African Co-Operative Wine Growers Association, better known as KWV (WineLand Media, 2022: Online).

Wine production was severely constrained by KWV during the 20th century, making it difficult to innovate and prioritize quantity above quality. Minimum prices were set at a level that supported the manufacture of brandy. The South African wine business was under KWV's control until the 1990s, and even now, the industry is exceptional for having so many co-operatives.



Fig.3: Original Cape wine farm (WineLand Media, 2022: Online)



Fig.4: The first wine route is established (WineLand Media, 2022: Online)

South African wine saw a severe decline in popularity during the 20th century, hitting an all-time low in the 1980s when trade restrictions were imposed on the nation because of its apartheid practices. South Africa's wine industry steadily began to grow in the international market after the apartheid period. South Africa produced 3.9 percent of the world's wine in 2016, making it the seventh-largest wine producer in terms of volume. The sector employs more than 300,000 people; given the history of the nation, great attention is devoted to worker welfare, and many wineries have developed unique brands to support initiatives like home construction and educational facilities.



Fig.5: Tractor with harvested grapes (WineLand Media, 2022: Online)

A unique terroir

The Atlantic and Indian oceans, which converge at this southernmost point of Africa, have an impact on most the Cape's winegrowing areas. One may produce wines with particular character and complexity if you combine favourable maritime effects like regular coastal fog and cooling sea breezes with a mild Mediterranean climate, distinctive and varied terrain, and diversified soils.

In addition to this, a winemaking tradition and history that spans more than 350 years, combines the approachable fruit-driven styles of the New World with the controlled elegance of the Old World to produce wines that eloquently showcase the distinctive terroir of the Cape (WineLand Media, 2022: Online).

No wonder that this extraordinary wealth of natural assets and tradition should instil South Africa's wines with a true sense of place.

The idea of terroir is not new, although being popular right now. Terroir is the term used to describe a body of land's natural features that interact to generate a special set of circumstances that give the wines made their particular qualities. Topography, climate, geology, and soil are significant factors that contribute to this concept. Numerous geographical indicator systems, such as the Wine of Origin System in South Africa, are based on this idea. The remarkable diversity of South Africa's vineyard and wine landscapes is regarded as an asset, and the industry places a high value on zonation and identification of areas of origin (WineLand Media, 2022: Online).



Fig.6: Tractor in vinyard (WineLand Media, 2022: Online)

The identification of viticultural terroir is currently attracting a lot of attention, supported by a rising consumer desire for knowledge and comprehension of the origin of each wine produced. The Cape offers a wide variety of terrain and mesoclimatic variables that have an impact on viticulture, despite being located in one of the hottest winegrowing regions. Wine producers in South Africa, as in much of the New World, are primarily concerned with locating and choosing the finest locations for certain grape varieties. In addition, new clones and rootstocks which are particularly well adapted to the local soil and climatic conditions are being selected.



The Client

The rich history of three exceptional wineries paved the way for the birth of Wellington Wines, and dates back to 1906, 1907 and 1941 when Wellington Co-operative Winery Ltd., Bovelei Co-operative Ltd. and Wamakersvallei Winery were founded respectively (Wellington Wines, 2022: Online).

The accomplishments of each winery, together with a shared passion for wine and an interest in enriching the Wellington Wine industry, led to the three wine giants combining forces, merging in recent years to form Wellington Wines. After the establishment of Wellington Co-operative Winery Ltd. in 1906, the declaration of Bovelei Co-operative Winery Ltd. in 1907 and the founding of Wamakersvallei Winery in 1941, the accomplishments and passion with which these three wineries nourished the growth of the Wellington Wine industry, ultimately became the pillars on which Wellington Wines can now base our excellence (Wellington Wines, 2022: Online).

The members of Wellington Co-operative Winery Ltd. and Wamakersvallei Winery officially voted for an amalgamation of these two cellars at a meeting held on the 21st of December 2010. This decision marked the merger of two neighbours, both giants in the Wellington wine industry. The economic advantages and the vision of vitality and possibilities urged the role-players to come to this wise agreement (Wellington Wines, 2022: Online).



Fig.7: Wellington wines logo (Wellington Wines, 2022: Online).

On the 17th of January 2013, Bovlei Co-operative Winery Ltd. also became a part of Wellington Wines, and this second amalgamation ensured the continuation of a winemaking tradition that started in 1906.

The original reasons for the establishment of the Co-operative cellars in Wellington during the early 1900s were to promote the interests of the wine farmers and the progress of the local community. Wellington Wines still pay tribute to these principles and continue to build on the credo of our founders.

The principles for the existence of this new company are exactly the same as they were in 1906: in order to be a shareholder, you have to be a bona fide wine farmer.

Today, there are sixty members, who are all farmers from Wellington and neighbouring areas of the Swartland and Paarl, work closely with our winemakers and viticulturists to ensure that only the best grapes are grown and selected for their outstanding quality (Wellington Wines, 2022: Online).



Fig.8: Old photo of wine harvest (Wellington Wines, 2022: Online).

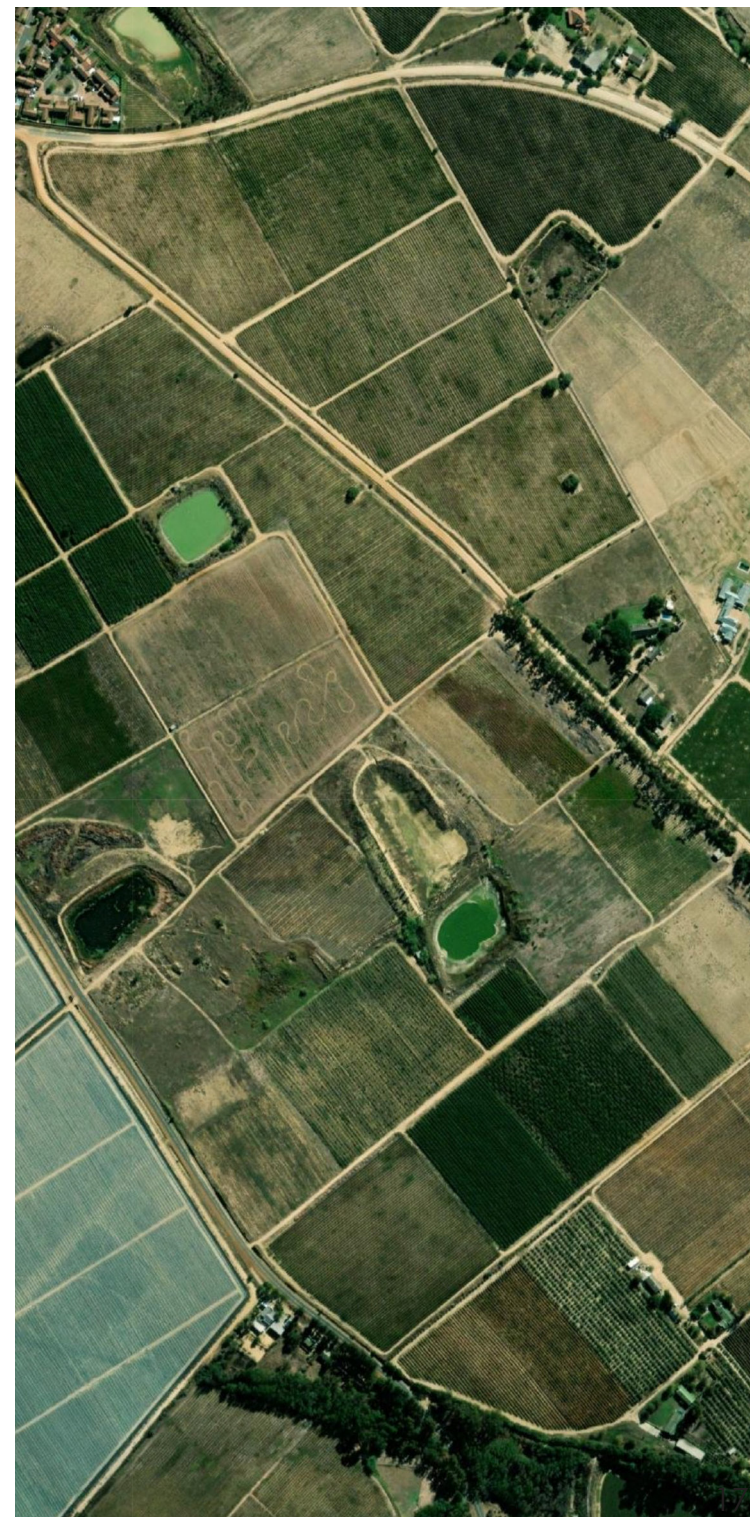


Fig.9: Old photo of grape picking (Wellington Wines, 2022: Online).

2.

Site Analysis

- **Wellington**
- **Climate**
- **The Site**



Wellington

A 45-minute drive from Cape Town in South Africa finds the town of Wellington, which is located in the Western Cape Winelands. Agriculture, including the production of wine, table grapes, fruit, and brandy, forms the backbone of Wellington's economy. With its attractive surroundings and numerous vineyards nearby, Wellington, which is located at the foot of Groenberg and on the banks of the Kromme Rivier, serves as the geographic center of the Cape Winelands. The settlement is located at the foot of Bain's Kloof Pass, one of South Africa's oldest mountain crossings. Since the French Huguenots originated from France's wine-producing regions, they had a significant impact on the growth of viticulture in the Valley when the town just began to develop.

The area of Wellington is among of the hottest in the world for the production of wine. Due to the mountain ranges that surround the valley, the area endures very hot summers and cold winters. The Wellington Wine Route has three producing cellars, 26 member producers, and a few small winemakers, all of whom are conveniently located near one another.

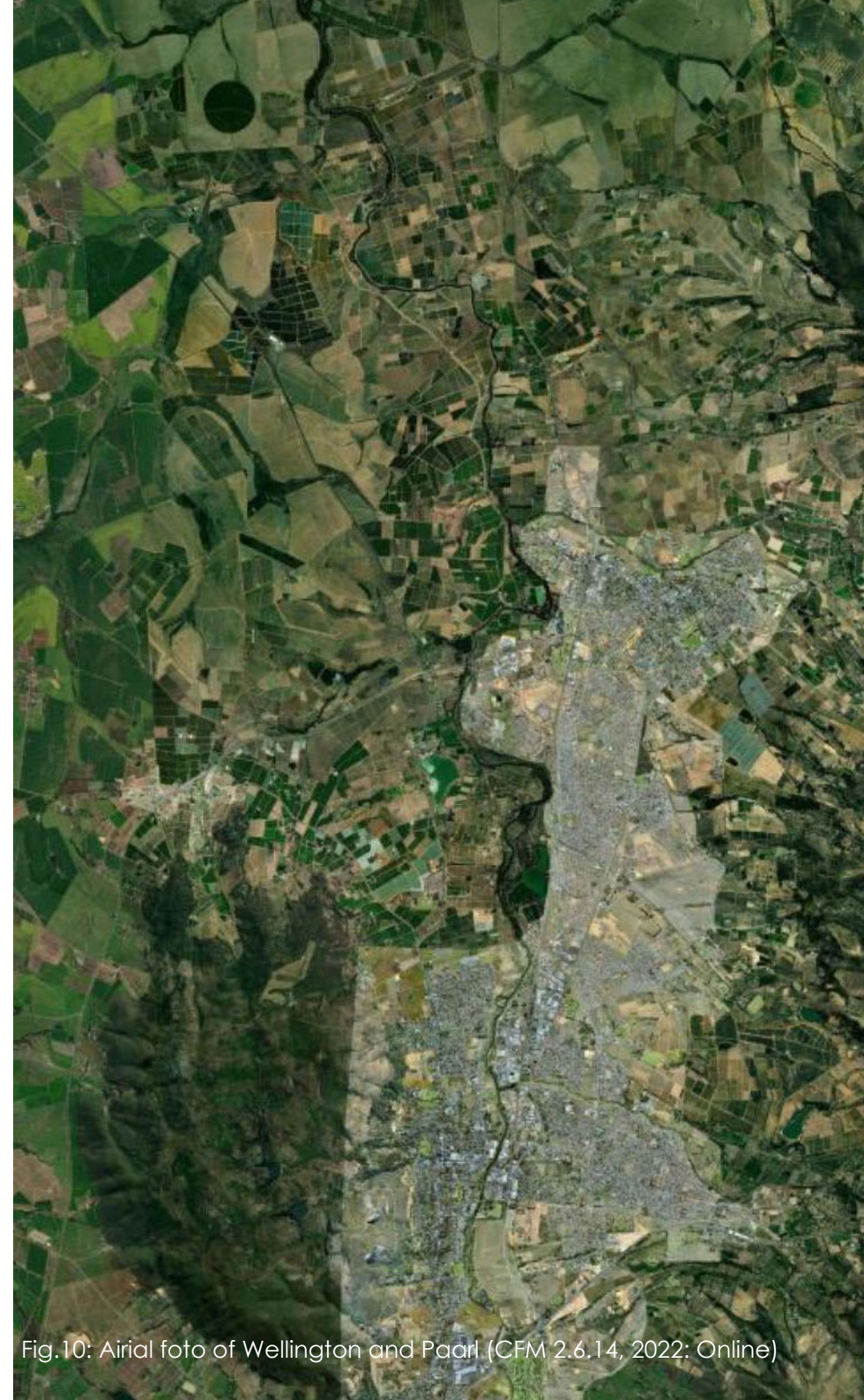


Fig.10: Aerial foto of Wellington and Paarl (CFM 2.6.14, 2022: Online)

Weathered granite and sandstone soils with a high clay content, excellent acidity, and water retention are most common on the mountain slopes. Rich organic oakleaf topsoil in the foothills gives place to shale and alluvial deposits on the valley floor as one descends into it. This mix of slopes, soil types, drainage, micro-climates, and sun exposures not only imparts character to Wellington's cabernet sauvignon, pinotage, shiraz, chardonnay, and chenin blanc wines, but has also established Wellington as the Cape's vine nursery and a top wine-growing location. While Wellington is rooted in the winelands of the Cape it is, however, not the most popular destination for wine lovers. Stellenboch and Cape Town are by far the places that reap the most benefit of the region; however Wellington has the potential to further develop its influence on the wine industry.



Wellington – climate

In Wellington, the summers are hot, dry, and mostly clear and the winters are long, cold, wet, and partly cloudy. Over the course of the year, the temperature typically varies from 6°C to 32°C and is rarely below 2°C or above 38°F (Wheather Spark, 2022: Online).

The *hot season* lasts for 3.6 months, from December 6 to March 25, with an average daily high temperature above 28°C. The hottest month of the year in Wellington is *January*, with an average high of 31°C and low of 16°C.

The *cool season* lasts for 3.7 months, from May 25 to September 14, with an average daily high temperature below 20°C. The coldest month of the year in Wellington is *July*, with an average low of 6°C and high of 18°C.

A *wet day* is one with at least 1mm of liquid or liquid-equivalent precipitation. The chance of wet days in Wellington varies throughout the year.

The *wetter season* lasts 5.5 months, from April 17 to October 2, with a greater than 17% chance of a given day being a wet day. The month with the most wet days in Wellington is *June*, with an average of 8.2 days with at least 1mm of precipitation.

The *drier season* lasts 6.5 months, from October 2 to April 17. The month with the fewest wet days in Wellington is *February*, with an average of 2.0 days with at least 1mm of precipitation (Wheather Spark, 2022: Online).

Road



Zoned for building



Existing Farm



Site



Farm border



Fig.11: Aerial foto of farm area and building site (CFM 2.6.14, 2022: Online).

Perdeskoen road

The site is approximately 1,5 km out of town on a circular farm route / road called the “Perdeskoen” or horseshoe. This farm route is part of the existing Wellington wine route, so the site is ideally located for the use of a winery. The route is also widely used by outdoor enthusiasts like cyclist, joggers, and casual exercisers, so there is a constant interaction with the people of the town.

The site is far enough out of town to be integrated with the surrounding farmlands as well as close enough to the town to be convenient and easy for the people of the town and tourists to visit.

The dam

The dam was originally built as an extension of an existing dam. The plan was to build the extension and then remove the existing dam wall that would form between the two to create one large dam. However, the plan never succeeded because of poor soil conditions that is situated beneath the dam caused by weathered granite that is common in the Wellington area, this caused the dam to leak down into the underground water. The dam hasn't been fixed and is not currently being used. This resulted in the surrounding farmland not being irrigated.

This will serve as the site of the proposed wine cellar. The empty dam holds possibilities for intervention and to be adaptively reused not only as a tool to aid the farm but to use it in an architectural application as well.

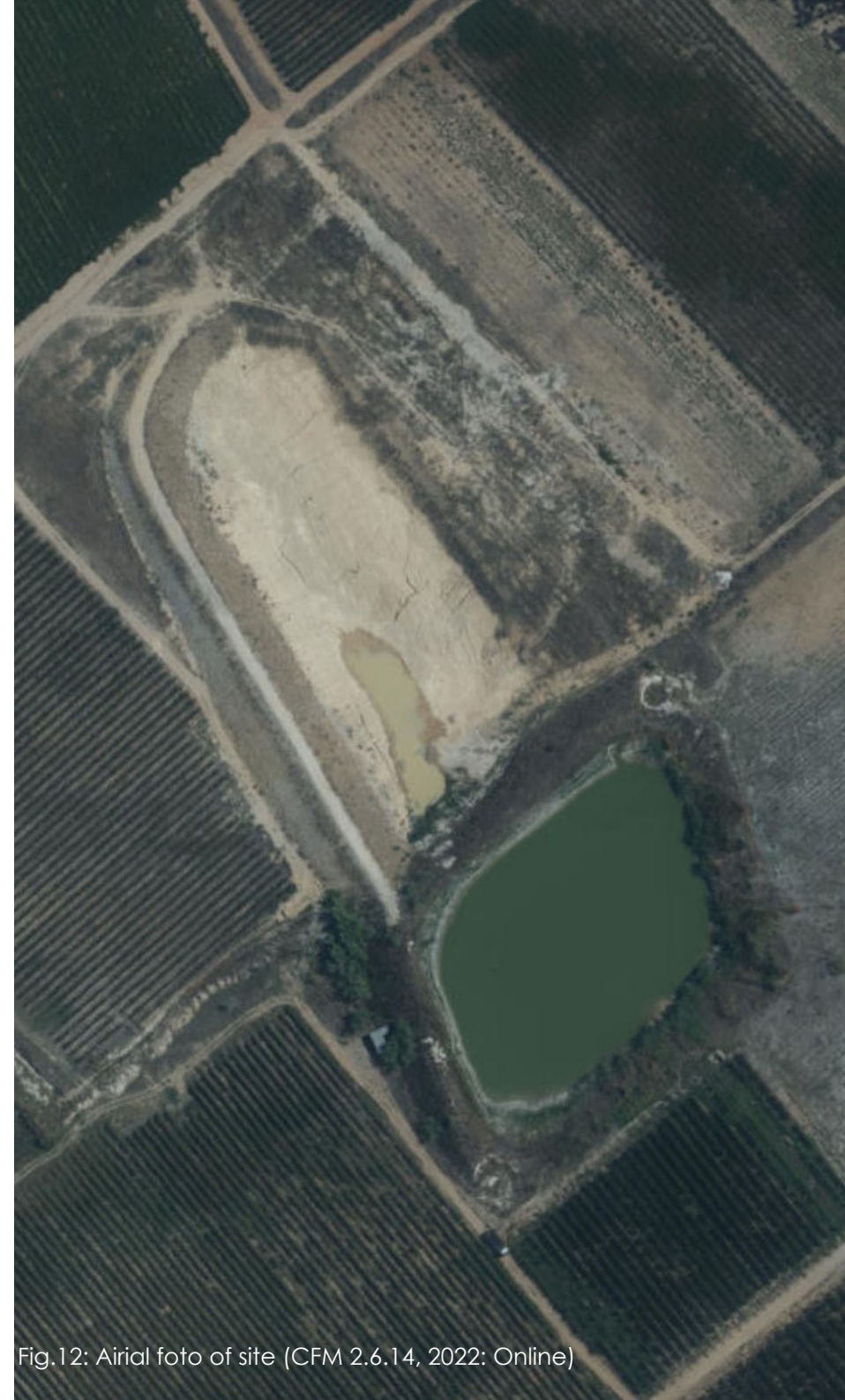


Fig.12: Aerial foto of site (CFM 2.6.14, 2022: Online)

There is only a dam wall towards the western side of the dam because it is located on a hill that slopes down from east to west. The hill invites the potential application of a gravity-fed wine cellar. The specific site also provides views of the town of Wellington as well as the surrounding mountains. The relation to nature and natural elements is a recurring theme amongst wineries in South Africa as well as around the world. With the existing dams still intact, the surrounding vineyards, views of the mountains and the town of Wellington, the site is the ideal location for a winery.

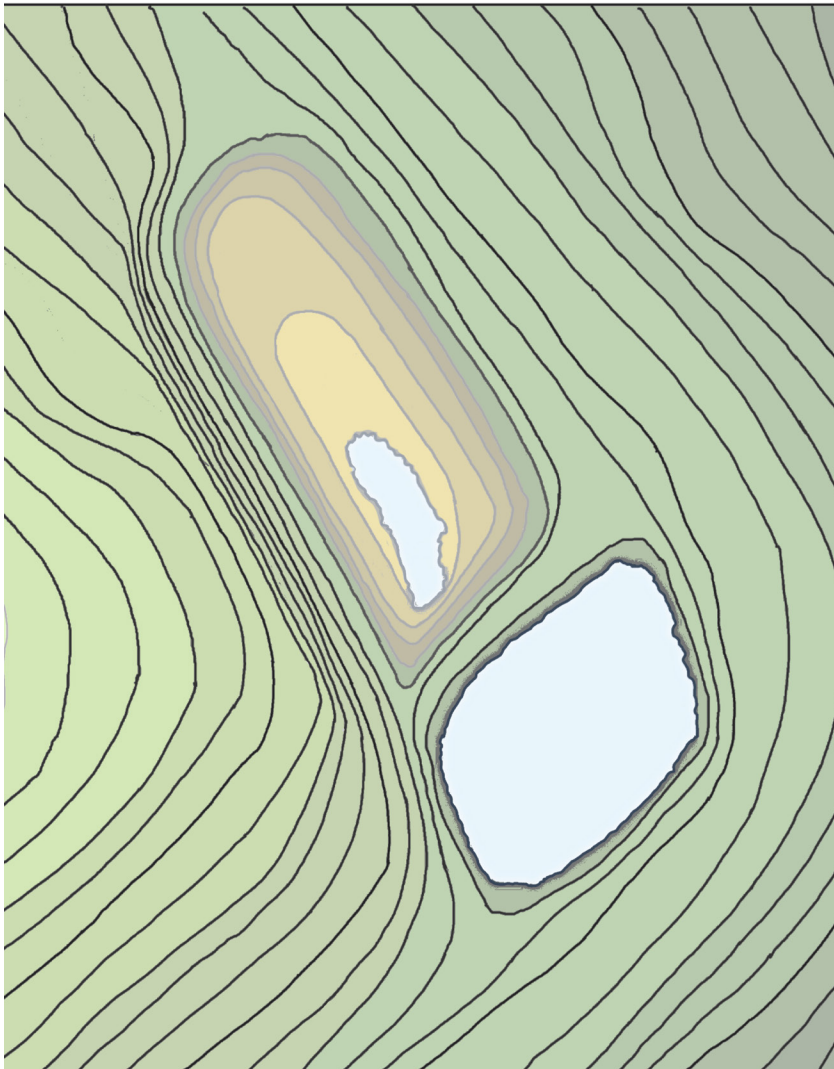


Fig.13: Contours of site (Author, 2022).

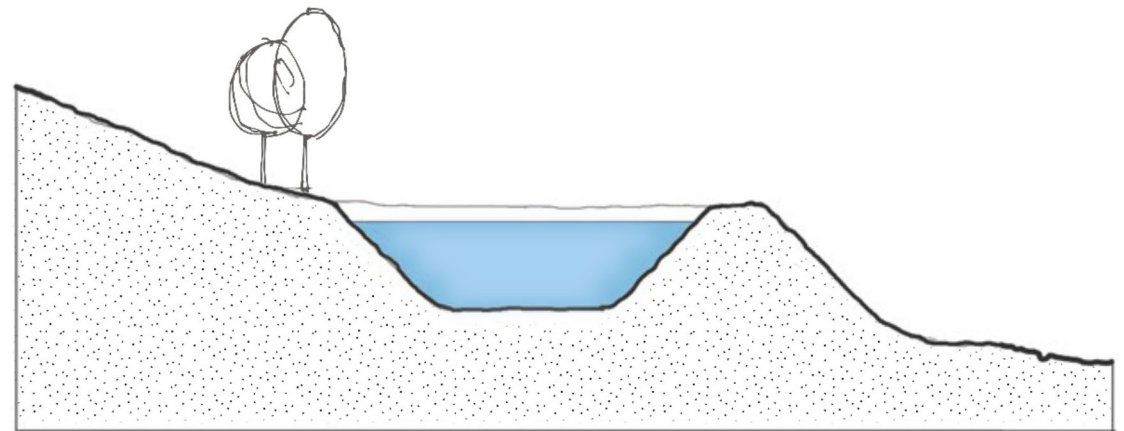


Fig.14: Existing dam present on site (Author, 2022).

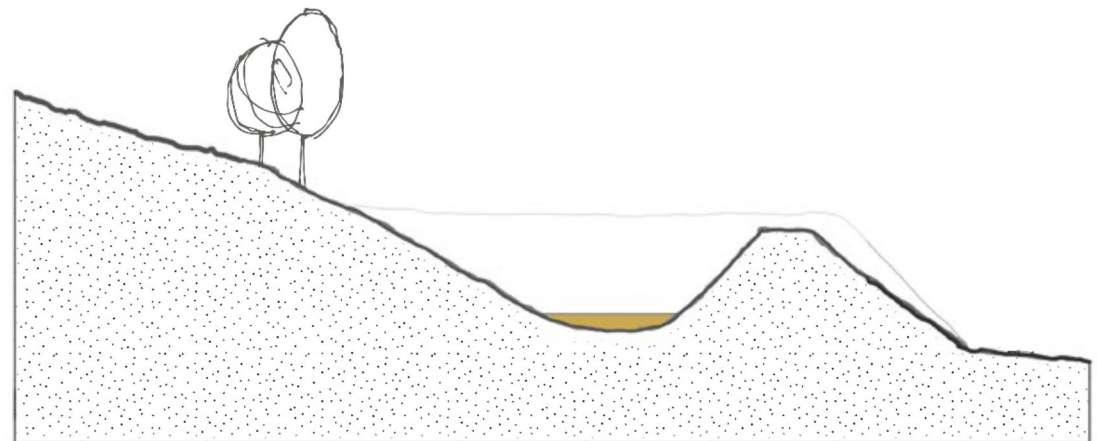


Fig.15: Failed dam (site of building) (Author, 2022).

Site Photos



Fig.1.6: Southern view of mountains (Author, 2022).





Fig.17: Eastern view of town and neighboring farms (Author, 2022).





Fig.18: Northern view of landscape (Author, 2022).



3.

The Process of wine

- Harvest
- Crushing and Pressing
- Fermentation
- Clarification
- Ageing
- Gravity Flow



The process of wine

The precise phases in the winemaking process will differ in time, method, and technology depending on the grape, the area, and the sort of wine that a winemaker desires to produce. Regardless of these variances, each harvest must go through the same six fundamental processes namely picking, crushing, and pressing, fermentation, clarification, aging, and lastly, bottling.



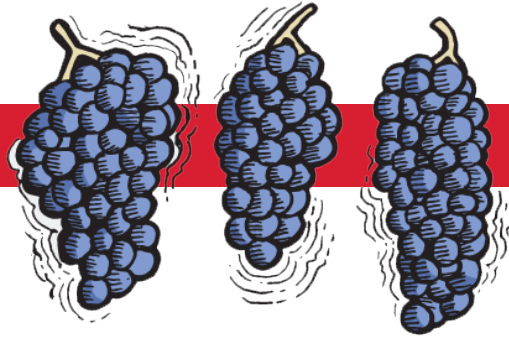
Fig.19: Barrels in cellar (WineLand Media, 2022: Online)



Fig.20: Harvested grapes (WineLand Media, 2022: Online)

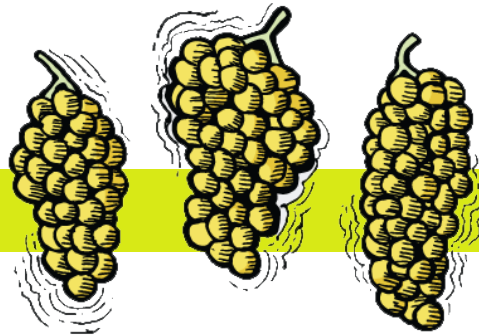


Red grapes



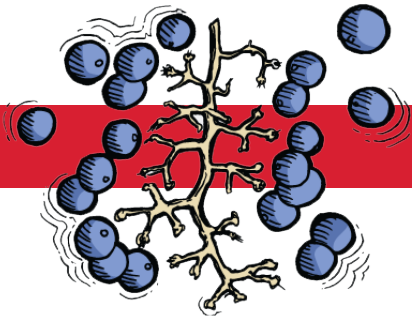
The Harvest

Picking grapes from a vine is the first step in the winemaking process. It is up to the winemakers to decide when to harvest, but it is better to do it when the grapes are completely ripe to give yourself the best chance of making decent wine. When the time is, is often determined using a mix of technology and traditional tasting. Harvesting might be performed either manually or mechanically. However, because machine harvesters may sometimes be too harsh on the grapes and the vineyard, many estates choose to manually harvest. Reputable winemakers sort the grape bunches as they arrive at the winery, removing any rotting or immature fruit before crushing (Puckette, 2019).



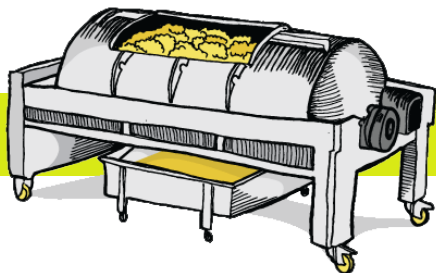
White grapes

Prepare grapes

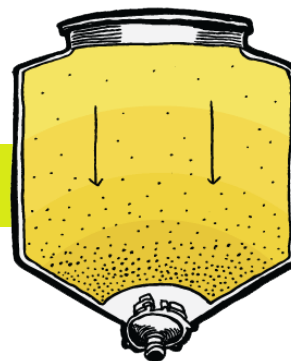


Crushing and Pressing

The grapes should now be de-stemmed and crushed after being separated into bunches. In the past, this crushing procedure was carried out by foot, although most wineries now carry out this crushing procedure mechanically. It is possible to use mechanical presses to crush or stomp grapes into “must.” Fresh grape juice from the crushing process, which includes the grapes’ seeds, solids, and skins, is what is known as “must”. While winemakers want to avoid using machines when grapes are being harvested (since it has a detrimental impact on the grapes), machines have made the crushing process more hygienic and have also assisted in improving the quality and durability of the grapes. To avoid tannins and colour from leaking into the wine when making white wine, the seeds, sediments, and skins are promptly removed from the grape juice. In contrast, while making red wine, the seeds, solids, and skins are left in contact with the juice to help the liquid absorb more tannins, flavours, and colours.



Press grapes



Settling



Fig.21: Grape crusher

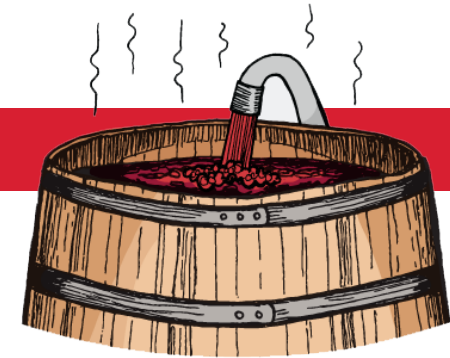


Fig.22: Grape crusher

Add yeast



Fermentation

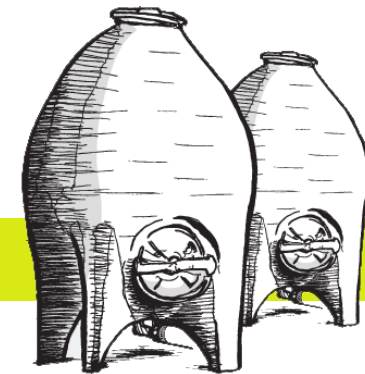


Fermentation

Because fermentation occurs when alcohol is produced, it is perhaps the most crucial process in the making of wines. Although this process does occur naturally, many winemakers prefer to step in at this point by adding a strain of yeast to better foresee the outcome. Normal fermentation lasts until the sugar is completely metabolized into alcohol and a dry wine is created. Ten days to a month or more may be needed for fermentation. Because of the overall sugar content of the “must”, the final level of alcohol in a wine varies from location to location. It is common to have an alcohol level of 10% in chilly regions against a high of 15% in hotter settings. When the fermentation process is interrupted before all the sugar has been metabolized into alcohol, sweet wine is the product. Usually, the winemaker makes this choice with awareness and purpose (Puckette, 2019).



Add yeast



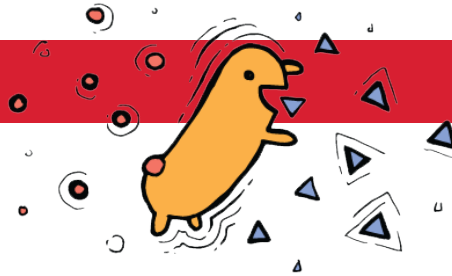
Fermentation

Press



After the fermentation, vintners drain the freely running wine from the tank and put the remaining skins into a wine press. Pressing the skins gives winemakers about 15% more wine (Puckette, 2019).

Malolactic fermentation



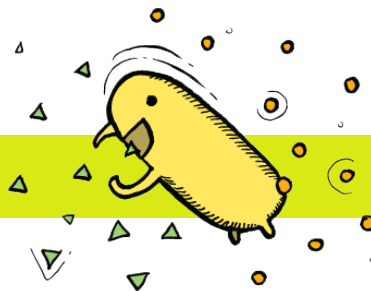
As the red wine settles in tanks or barrels, a second fermentation happens. A little microbe feasts on the wine acids and converts sharp-tasting malic acid into creamier, chocolatey lactic acid. Nearly all red wines go through Malolactic Fermentation but only a few white wines. One white wine we all know is Chardonnay. MLF is responsible for Chardonnay's creamy and buttery flavors.

Ageing



Wooden barrels affect wine the most noticeably. The oak wood itself flavors the wine with natural compounds that smell like vanilla. Unlined concrete and clay tanks have a softening effect on wine by reducing acidity (Puckette, 2019).

Stirring causes all these little dead yeast particles, called lees, to float up into the wine. The lees add flavor to the wine and it also gives wine more of a creamy texture.



Malolactic fermentation



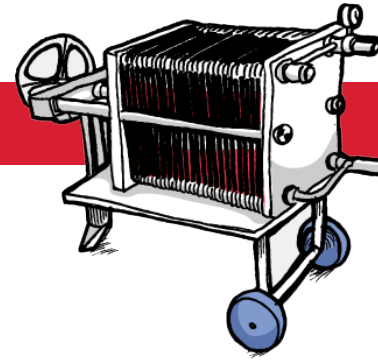
Stir

Blending



After the wine is done aging it can be made into a blend, which is a mixture of wines to achieve certain tastes or to improve a wine. While it's common to have single varietal white wines, the winemaker can still go through a barrel selection process to create a single variety blend.

Clarification

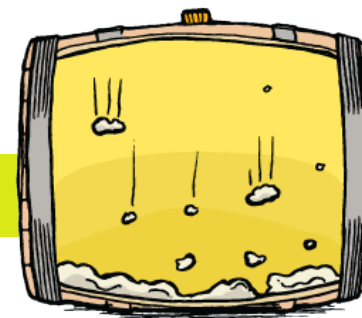


Clarification

Clarification is the fourth step in the wine-making process. It describes the process of removing the particles from the liquid wine, such as dead yeast cells, tannins, and proteins. This is frequently accomplished by moving the wine into another tank or barrel, filtering, and fining it until all particles are deposited at the bottom of the container. Fining is the process of adding chemicals to wine to make it clearer. After being transferred to another container, the clarified wine is prepared for bottling (Puckette, 2019).



Blending



Clarification



Bottling



Ageing

The wine can then be aged to bring out its natural flavours or immediately bottled by the winemaker. There are various techniques to age wine, including: large wooden ovals, little oak barrels, wine bottles, and stainless-steel tanks. Based on the wine's quality, tannin structure, and winemaker preferences, a decision is made. The wine would be aged in fresh oak barrels, for instance, if the winemaker wanted the beverage to have earthy and woody aromas. Throughout the winemaking process, the wine is continuously tested for pH, acidity, residual sugar, and alcohol content. It aids the winemaker in keeping an eye on wine quality and making the best choices possible (Puckette, 2019).



Bottling

Bottle Ageing



A few special wines continue to age in the winemaker's cellar for years until it is ready to be consumed. A red wine that has been aged is called a reserve.

For most white wines, the time to market is much less than red wines. This is because whites are loved for their fresh, fruity, and floral flavors, all of which come through freshness, not age (Robillard, 2021).



To Market



Gravity flow winery

Pumps are used to carry wine through several production stages in standard wineries, which are constructed with a single-story architecture. Consequently, they must utilize mechanical pumps or electrical pumps to transfer wine between crushers, pressers, barrels, and tanks.

On the other hand, gravity flow or gravity-fed wineries feature operational systems that rely on gravity to convey wine through several floors. As the name implies, it uses gravity to propel wine downward. This milder method reduces the possibility of the wine being too oxidized, over extracted, or tannic (Robillard, 2021).

Winemakers and wine enthusiasts are increasingly recognizing the benefits of gravity-flow winemaking. The wine may flow through several levels of the winery thanks to the gravitational winemaking process. The winemakers may gently extract colour, flavour, and tannin because there are no pumps or other mechanical forces involved, unlike in conventional single-level cellars. Making wine by gravity instead of mechanical pumping is gentler. This pumping effectively maintains the wine in continual motion until it is ready to be bottled. The lowest number of disruptions are ideal for wine (Wine Collective , 2020). Even though gravity flow appears to be a recent practice in the wine industry, the method has been used since the 1800s, it only became more popular in recent times.

A typical gravity-flow winery has four to five floors and uses the same techniques as a traditional winery. However, each phase is divided into a few floor levels, allowing the wine to go from crushing to cellaring through gravity.

1 Sorting and grape reception is the very first step in the wine making process. The grapes are harvested and then brought to the cellar where it can be sorted and prepared for the crushing or pressing phase. The grapes can also be stored until the winery has the capacity to use the grapes. Grape clusters are transported to the winery's lower floors, where they are crushed or put through a press. Through pipes that link each level, the grape juice flows to the fermenting barrels on a lower level (Robillard, 2021).

2 Regular fermentation occurs when added or natural yeasts convert grape juice to alcohol. Fermentation tanks with twin jackets are a common temperature control measure in wineries. The wine is then transferred to the lower floors for the next step in the process.

3 The wine is drained from the fermentation tanks into barrels in the cellar where the wine sits in the barrels aging until it is ready to be bottled (Wine Collective , 2020).

4 When bottling wine, nitrogen is frequently used to push the final product into bottles. The last touches, however, differ according on the winery's selections for filtering, fining, and settling (Robillard, 2021).

The textures of wine are improved by a gravity-flow winemaking technique. The wine is not subjected to any extreme motion, pressing, or other pressures. Because of the system's gentleness, wine's inherent flavours and aromas may emerge. A winery's costs and energy use are significantly decreased by a gravity-flow system because no equipment or pumps are required (Robillard, 2021).

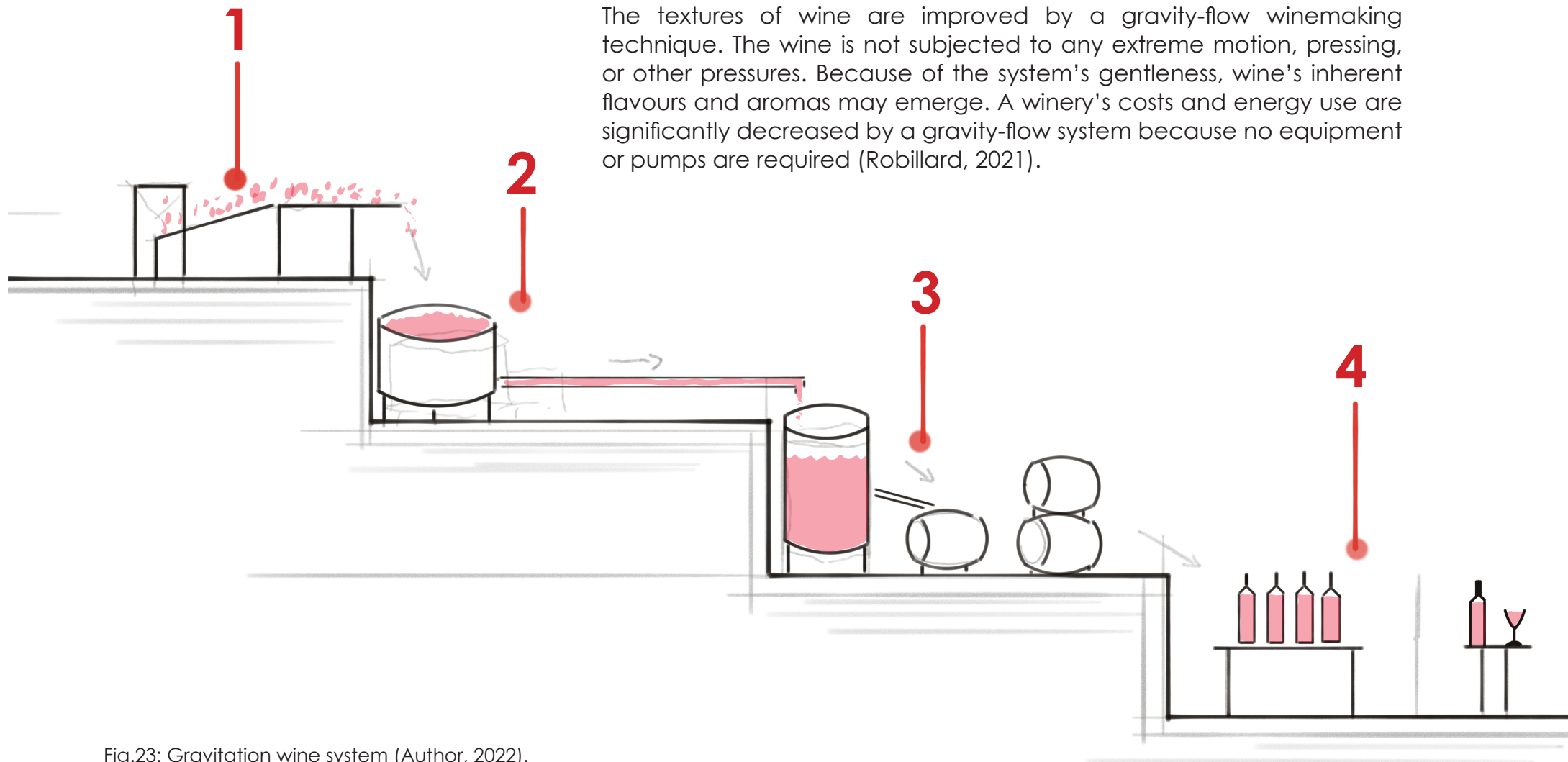


Fig.23: Gravitation wine system (Author, 2022).

4.

The Identity of the South african winery

- **Introduction**
- **Heritage**
- **Site History**
- **Programmatic**
- **Appropriation**
- **Landscape**
- **Theoretical Standpoint**
- **Critical Regionalism**



Introduction

The Cape is synonymous with wine, picturesque Cape Dutch homes and farmsteads. For years the tradition and culture of wine making in the Cape has remained dormant, following the traditions laid down by the previous generations that came before. However, in recent times new wine makers, owners and farmers has emerged and transformed the built environment surrounding the wine industry in the Cape with new and innovative designs that explores the identity of the modern winery in the Cape Winelands.

A few of the more prominent wineries that have been built in recent times have been documented and put together in a book by Graig and Hugh Fraser, *Modern wineries of South Africa*. This book forms the basis for the chapter which aims to analyze the various methods, techniques, elements and approaches one can apply when designing a winery. For the investigation into the various methods to be categorized to allow for the full understanding of them, (although the wineries seldomly falls only under one category but rather have elements of multiple categories), these were the most prominent elements that stood out. The aim of the chapter is to fully understand the chosen topic and to identify theoretical and design principles which can be further explored and are relevant to the specific project.

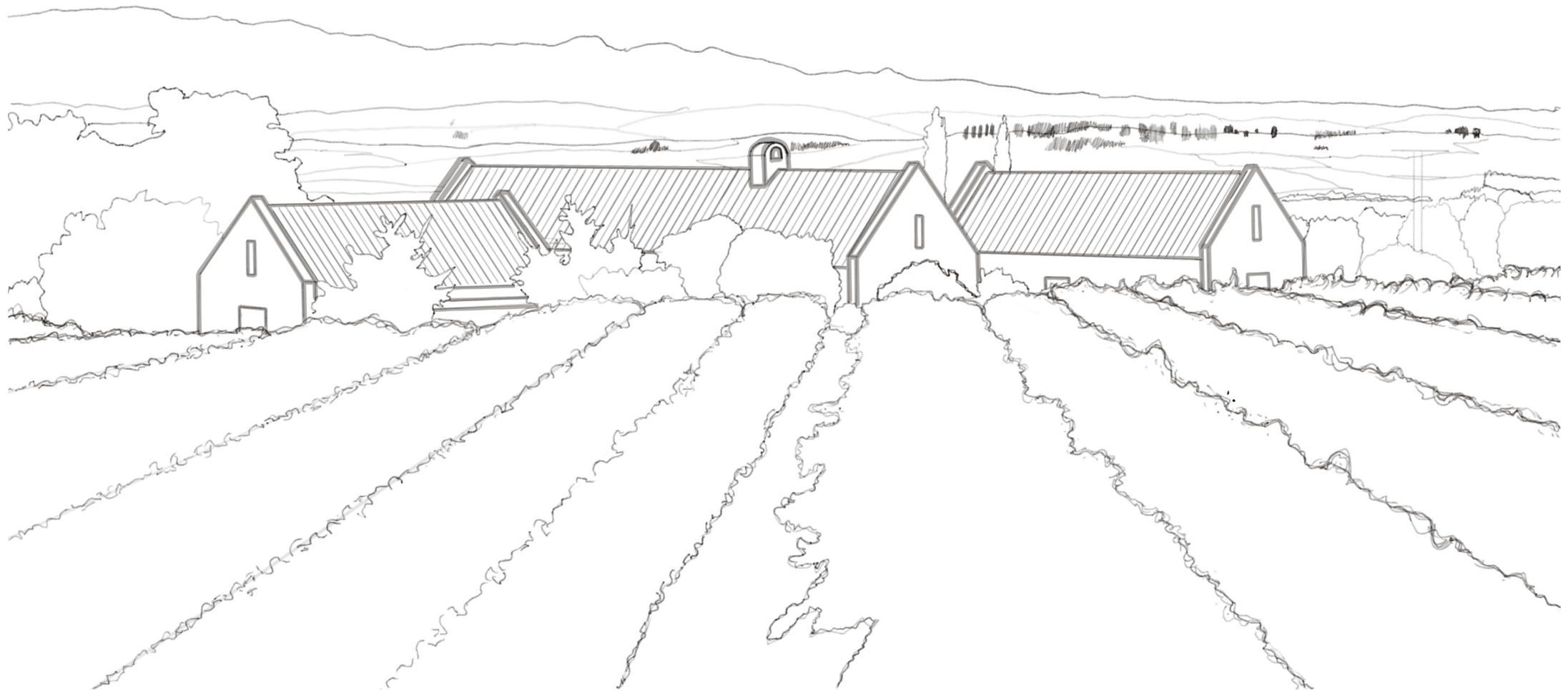


Fig.24: Contemporary Cape wineland house (Author, 2022).

Tradition / heritage

The first and obvious category that is explored is that of built heritage, and it is with good reason. Cape Dutch architecture cannot be separated from the wine industry of the Cape seeing that the two developed simultaneously from the very beginning. It is among the oldest and most prominent styles in South African architectural history and a lot of new developments on wine farms must deal with existing buildings and structures. Thus, the new developments that are considered have to be sensitive to the existing heritage that is present in the Cape Winelands, especially that of Cape Dutch architecture.

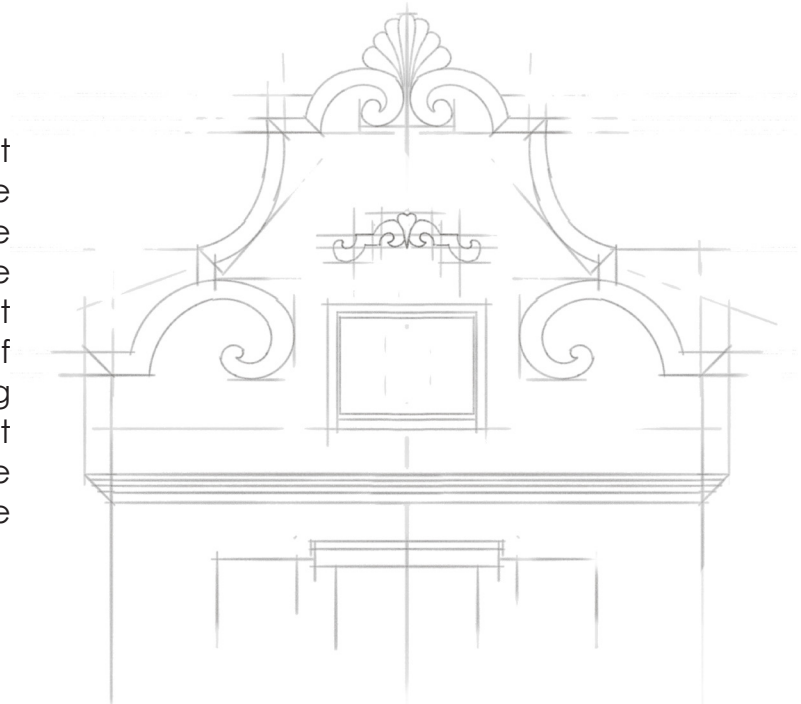


Fig.25: Cape Dutch Facade (Author, 2022).

Direct Transformation

Cape Dutch architecture has many qualities and elements that make it unique. These different elements, such as the letter shaped plans, have been used as a formula when building in the region. These elements have seldomly evolved or transformed, but have more or less remained the same and only adapted to comply with modern materials (Fraser, 2010).

The use of the werf is incorporated in the Almenkerk winery, The winery has three buildings which forms the werf and opens to the view on the side that is not enclosed. The werf does not serve its traditional purpose as a space that would be used for practical purposes, but rather tries to encapsulate the surrounding landscape.

Materiality is another element of Cape Dutch architecture that is continuously applied to contemporary buildings in the region. Original Cape Dutch architecture's use of materials were of the landscape it was in, thus giving it the ability to resonate with its surroundings. These elements have the luxury of not having to undergo a defamiliarization process to be contemporarily applied, it is rather the manner in which the materials are used in the design which needs that process.

Modern Interpretation

It is hard to imagine Cape Dutch architecture without the prominent gable, it is what the style is most associated with. When designing with these prominent buildings most of the architects opted not to try and modernize or contemporize Cape Dutch but rather doing something completely different to not compete or draw attention away from the old buildings. A predominant feature among those of the modern wineries is to try something completely new, rather than to modernize the built tradition of the area. However, the process of defamiliarization can bring a solution to this seemingly untouchable problem; it has not been attempted a lot in the past. Modern architecture in the Cape has either abandoned the sculptural gable completely, or just replaced it with a plain gable with the walls painted white to bare a resemblance to it (Fraser, 2010).

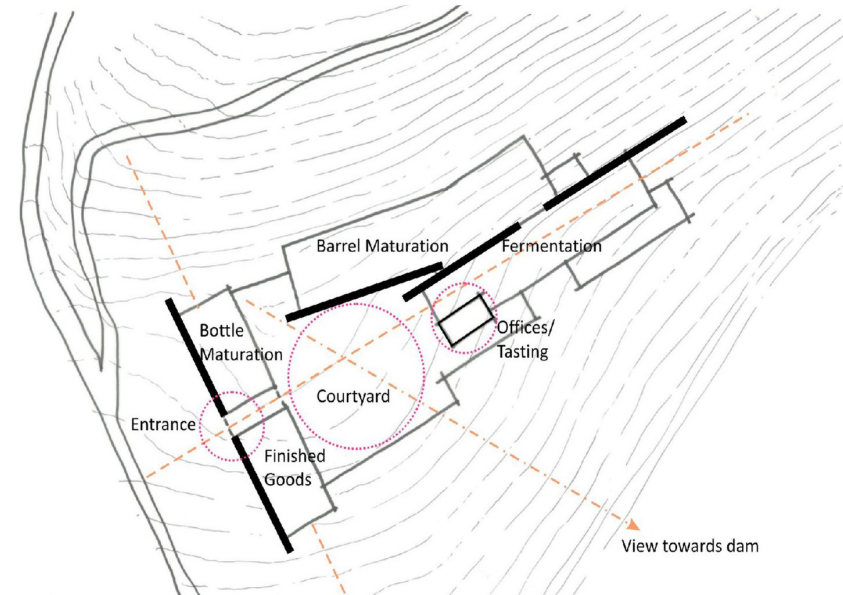


Fig.26: Contemporary layout of modern winery Almenkerk (Fraser, 2010)



Fig.27: Courtyard of modern winery (Fraser, 2010)

Moving past the gable, there seems to be a fine balance between using too much abstraction or too little abstraction: the former producing an architecture that is removed and disassociated from the existing and the latter which is too direct and tries to mimic the existing. Finding a balance is where the design challenge lies.

The traditional Cape Dutch gable has a strong connection to the surrounding mountains of the Cape. Whether it was an accident or intentional, there is no denying the fact that the two has become inseparable. The gable in the foreground with the majestic mountains looming in the background (Fraser, 2010). A way in which one can bridge the gap between respecting the heritage of the region and creating new contemporary architecture that also resonates with the region, could be to defamiliarize the mountains of the background, not touching the gable but reaching out to it through a common variable.

Personal / site history

A lot of wineries have a history and traditions which are reflected in the buildings and can be seen as forming part of the identities, conveying a personal story through the use of architecture. Seeing that some farms have a long and rich history, it is an appropriate route to take in keeping with the, already in place identity, by making the personal history of the site or owners the main concept for the design process.



Fig.28: Cape dutch facade with mountain background (Author, 2022).

The Vergelegen estate has, for example, a history of more than three hundred years. Wine is not their only venture, but the newly designed cellar is one of the new additions to the farmstead. The winery does not attempt to compete with the existing buildings or the surrounding landscape, but rather finds its inspiration from the geometrical gardens that are present on the site. The building is situated on a hill and has five stories but only one is above ground level; the rest is hidden so as to not attract too much attention to themselves. The plan of the building is in the form of an octagon, which is one of the main forms found in the gardens of the estate (Fraser, 2010). The building respects the heritage of the site by not overpowering it but using certain elements to create something new. The building also respects the landscape by acting in a limited way and allowing the landscape to flourish more than the building. The building in a certain sense works around these elements instead of embracing it in a contemporary way.



Fig.29: Vergelegen winery (Fraser, 2010)

L'ormarins is another example that has a site with a rich history and numerous heritage buildings on the site. In this case the client has a strong connection to the watch making industry, which resulted in the building being circular. The building also hides two of its three stories below ground level to not compete with the existing werf that is close by (Fraser, 2010). The roof is utilized to provide views of the werf as well as the surrounding views. The building also has dense vegetation surrounding it which will in time cover the building, making it blend into the landscape completely.

In both these cases, the new wineries do not want to detract from the existing Cape Dutch structures but rather respect it by doing something completely different while also staying true to the identity of the site.

Programmatic



Fig.30: L'ormarins new winery (Fraser, 2010).

In the wine industry, the process is the most important function of a winery. If the physical process does not function as it should the architecture and any other feature would not matter. However, when a winery can both function effectively in the making of wine and the experiential factor of consuming, viewing and experiencing it, that's where architecture can establish itself in the modern winery (Fraser, 2010).

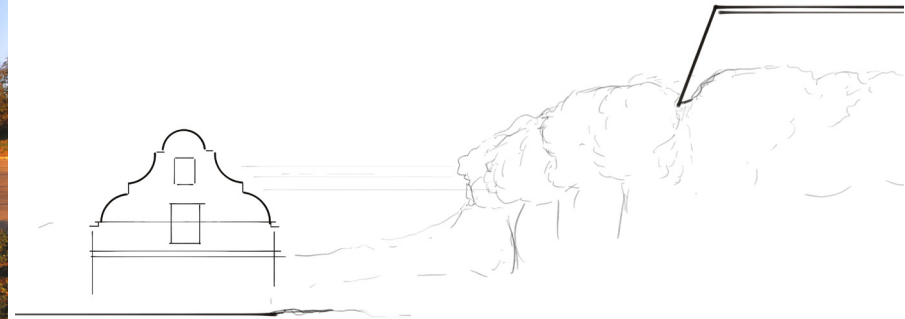


Fig.31: Winery in relation to heritage (Author, 2022).

Process

A wine cellar is essentially a factory, it must function as a factory, and there are numerous ways in which it can function in order for it to deliver the desired product. In recent years it has become popular to make use of a gravitational system in wine making (Fraser, 2010). This is essentially allowing gravity to move the wine through the various stages of the process. The gravity fed process is a much gentler process than that of mechanized pumping that can cause some light damage to the wine if it is not done correctly.

This gravity-fed process can have a large impact on the design of a cellar and in some instances be the main source of form giving. In Glenelly winery the process driven design is prominent.

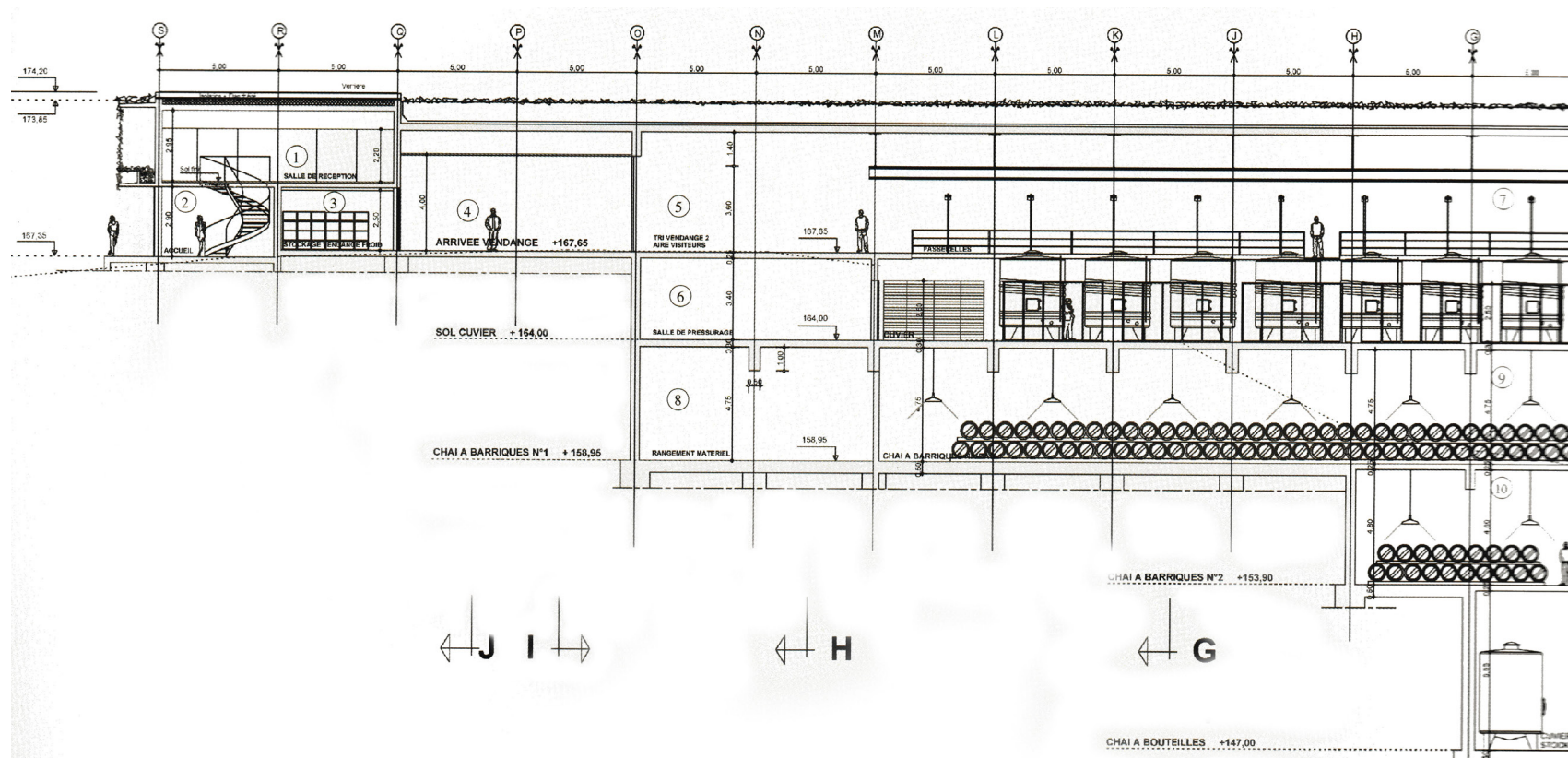


Fig.32: Section of Glenelly winery (Fraser, 2010).

The winery is situated on a hillside, which allows for the gravity fed process to manifest, and slopes down for six stories. The grapes come in at the top and slowly moves down the stories until eventually it exits the bottom floor as a bottle of wine. This approach to the design of a cellar works because the landscape, or rather the site, allows it to. This is one way in which a programmatic approach could be used as the main concept for a winery.

Experience

Another way to incorporate a programmatic way of design in a cellar is to make it part of the experience of the users of the building. There are two choices when it comes to functional program of the cellar: one is to decide to which degree the visitor can experience the workings of the cellar and the second is to decide whether to allow the visitor to experience the process at all and rather separate the two completely. In wineries, within which multiple functions are integrated into one building it becomes easier to include the visitors' experience, but in other wineries that houses separate functions in separate buildings it becomes harder to integrate the two elements.

In Hidden Valley Wines the two elements are separated. The cellar is situated in the bottom floors that is a part of the heavy base of the building, whereas the public areas are situated above in a lighter structure (Fraser, 2010). There is, however, a constant visual connection between these two elements that link them without combining them.

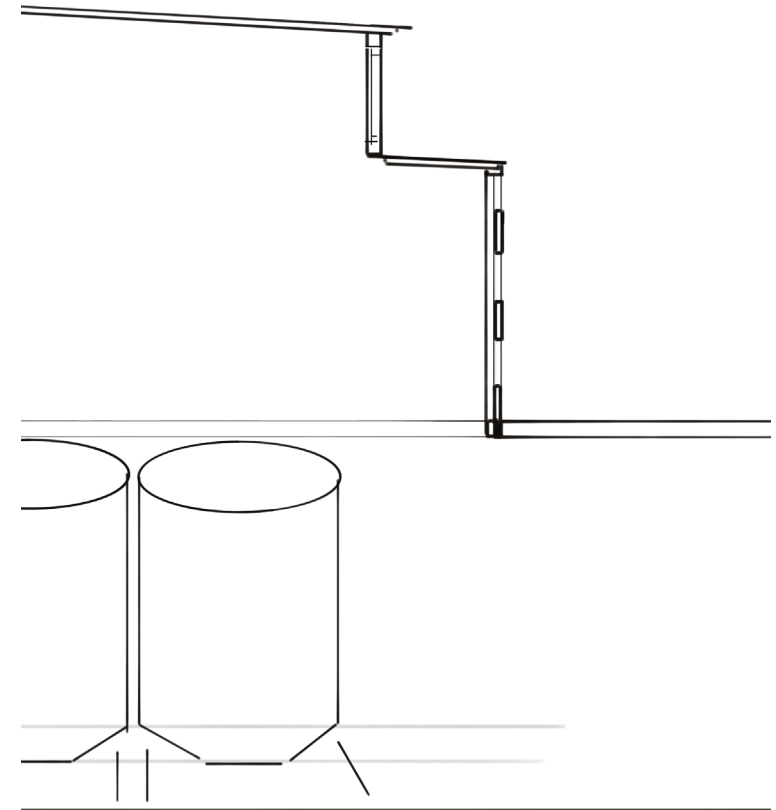


Fig.33: Section of Hidden valley (Author, 2022).

For a large part of the year the cellars are not that busy and the harvest season is extremely hectic. When that passes, and the slower aging and other processes start the cellar is quite peaceful. Some cellars start to use these spaces for different functions other than only wine making. These spaces with high fermentation tanks, or rows and rows of aging barrels create pleasant spaces that can be utilized for more than their intended functions.

Mixed use

Another programmatic design method is to incorporate other functions with the winery to make a more dynamic program. The incorporation of art galleries and exhibition spaces in wineries is especially prominent. Art and wine are two things that can easily mix, seeing that the type of crowd that would be attracted by the one would also enjoy the other.

Modern

The buildings in this category are classified as modern because they do not follow any preset techniques or design principles but rather focus on the experience of the user and creating something new that is not bound to heritage or tradition. Without any conceptual boundaries or restraints these buildings can focus on whatever they deem important and necessary in order for them to function as they need to.



Fig.34: Waterkloof winery (Fraser, 2010)

Delaire Graff is focused specifically on the experience of the user. The architects separate functions along an east west axis which divides the cellar functions to the south and the social and public functions to the north (Fraser, 2010). The axis takes the form of a walkway along a stone tile wall with the outside water features that flow all along the base of the wall to produce a calming effect on the interior. There is also strong visual connection to the outside as well as interior visual connection along the axis that peers into the cellar. Two different roof structures are also separated by the strong axis; the southern part has a slightly curved roof that is steeped upwards towards the west to allow for natural lighting.

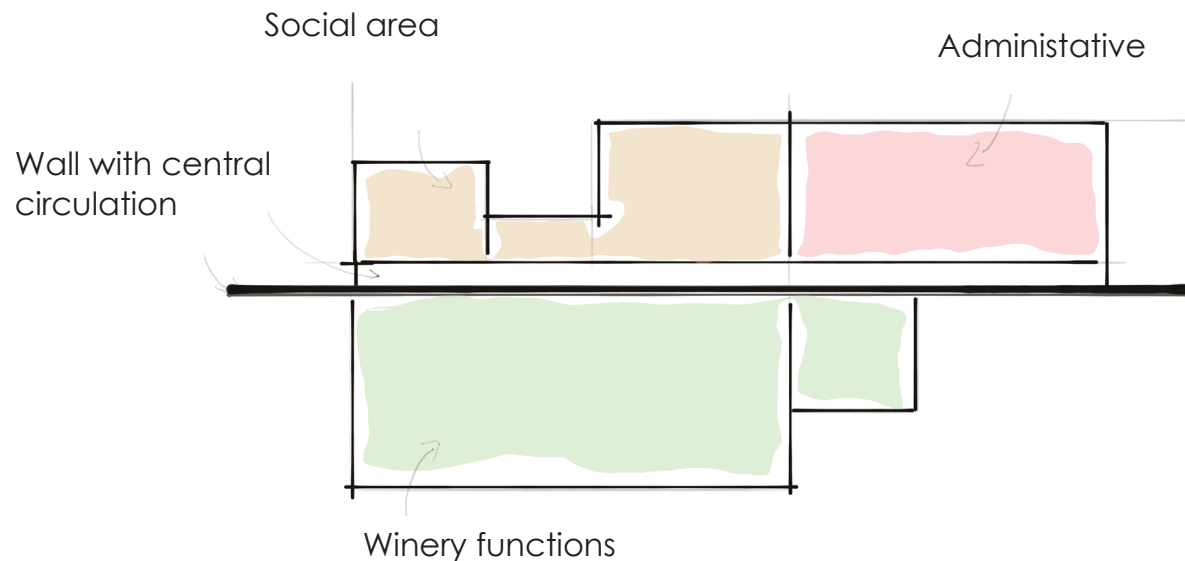


Fig.35: Delaire Graff winery layout (Author, 2022).



Fig.36: Delaire Graff axis wall (Fraser, 2010)

The northern part of the building is also curved, but more drastically, in contrast to that of the curve of the southern building. There is also a light strip all along the axis that is right above the water feature of the building which allows for natural light along the axis as well as contributing to the atmosphere of the building.

Durbanville Hills Winery, on the other hand, is more focused on the cellar than on the visitors' experience. The building seems to fit into the landscape without any of the traditional building methods. The use of stone cladded walls is used throughout the interior and the exterior that is complimented by plastered walls which are painted with a light brown color that is similar to that of the soil of the region (Fraser, 2010). The use of these natural colors and materials with large glass openings gives the building a modern feeling whilst not being detached from the user.

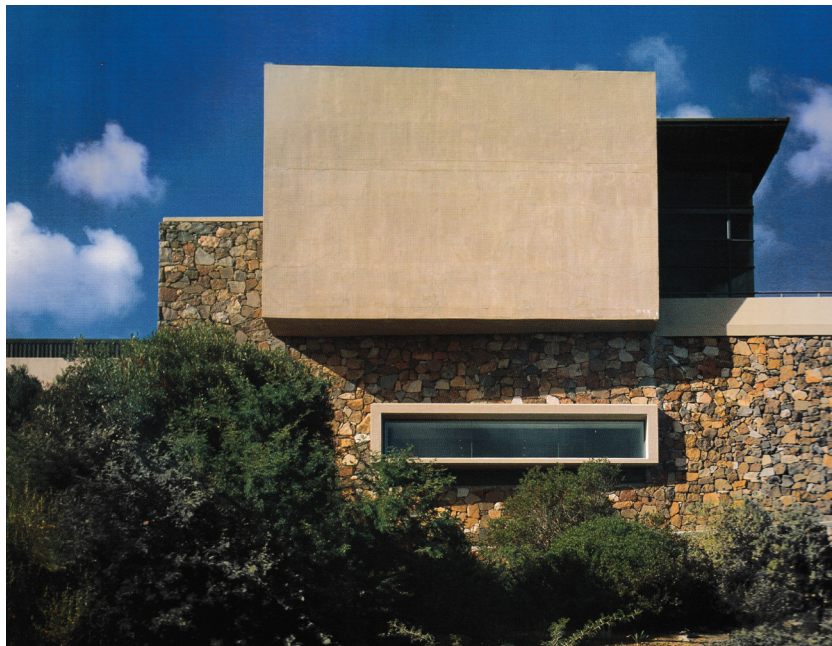


Fig.37: Durbanville hills facade (Fraser, 2010)



Fig.38: Durbanville hills cellar (Fraser, 2010)

The use of bush-hammered concrete as a reinterpretation of old maturation cellars (which is also stained to have a more natural tone), also adds to the warm and calming feeling created throughout the building as well as in the cellars which can easily become cold and feel detached, especially when built with materials like smooth concrete and large steel fermentation tanks.

Appropriation

This is definitely not the approach most appropriate or favored by architects in South Africa, but it is still used in some cases. Themes and built traditions from other nations where wine culture is prominent like Italy or France are taken directly and applied to wineries in South Africa (Fraser, 2010). This format of practice creates buildings that are alienated from their surroundings and generally doesn't fit in with the landscape or the surrounding built environment. When settlers started to build houses in the Cape, they used the available materials, thatched roofs, sun dried clay bricks, whitewashed walls, which made the new style appropriate to the landscape and the qualities it holds. But taking an entire style and imposing it onto the existing fabric disconnects the building from its environment.



Fig.39: Waterford winery (Fraser, 2010)

Landscape

Landscape is always a determining factor when it comes to design and design tools. The manner in which the landscape should be incorporated or inspire the design is up to the designer to decide. The landscape holds many possibilities for the resolving of structure, the determining of shape, the inspiring of details, solutions to the character making and the inspiring of form. The approaches towards working with the landscape can take many forms. It is what is relevant to the specific situation that can make a building speak with the environment.

Incorporation

The incorporation of landscape elements in a building makes it naturally fit better into its surroundings than using elements that is foreign to it. This can take a couple of forms, for instance the using of materials that can be found on or near the site or using materials that mimic that of the landscapes' colours and textures. Another way is for the building to allow the plant life and other natural elements to integrate with the building, to blur the lines of the building and the landscape so that they become integrated.

Almenkerk Winery uses a few of these elements to integrate with the surrounding landscape, for instance the use of stone walls and earthy colours on the walls (Fraser, 2010). The building is also situated on a hill where it nests itself into the landscape; the landscaping around the building also makes the building sit well in the landscape.



Fig.40: Almenkerk winery (Fraser, 2010)



Fig.41: Glenelly winery (Fraser, 2010)

Glenelly aspires to blend into the landscape completely by using pigmented concrete that blends with the terrain of the surrounding area. Also situated on a hillside it has a flat roof that is planted with vines that, in time, would take all the way down to the ground, covering the building in a veil that would change with the landscape through the different seasons of the year (Fraser, 2010). The building submits to the landscape and in time will be married to it completely.

Landscape Inspiration

The last way in which one could approach the modern wine cellar is to draw inspiration from the landscape. Taking a close look at the landscape and its qualities to make conclusions that is neither direct nor too abstracted, so that any addition would not only complement the landscape but also add to the existing fabric, using the formations and contours on site as its inspiration for the route that the wine could take in its process. The specific conditions on site can provide many technical and conceptual solutions, adding what is lacking in certain situations or contributing to the existing fabric. This can be described a gentle touch of admiration but also with sincerity. To build as if the building becomes an extension of the landscape.

Conclusion

This chapter explores all the different practical and conceptual ways in which one can approach designing and building the modern wine cellar in the context of South Africa. Working with Critical Regionalism guides one in certain ways towards a solution in a specific situation, and some of these buildings definitely embody such approaches. Some approaches resonate with critical regionalism on numerous levels: some choose to be modern, some use the traditional building styles, some incorporate the site, and some embrace the landscape. These are all good qualities that also form part of a critical regionalist approach. These are also the ones that are more architecturally attractive and sound than the others that used other driving forces for their designs. Thus, the critical regionalist approach is the best way to approach a project such as a winery in the Cape, because the qualities which regionalism addresses, and the qualities which are needed from a winery, are one in the same, and that will form the basis on which the project is based.



Fig.42: Drawing of mountains surrounding the site (Author, 2022).

Theoretical standpoint

How can a balance between the influence of the landscape of the Cape and the identity of built heritage of the wineries of the region be synthesized to embody the specific place in the designing of a new winery, just like a bottle of wine epitomizes the soil from which it originates ?

Critical regionalism

"A True constructive regionalism would respond to local colours, materials, and customs. It would embrace traditions and transform tradition. It would be wed to its setting, in either the rural or urban landscape. It would foster craft and push the limits of technology. It would speak to the individual search within the universal." (Lefaivre & Tzonis, 2003).

Appropriateness to project

A critical regionalist approach is chosen for the making of a contemporary wine cellar in the Cape Winelands. The reason this field of theory has been chosen is because it is the one that would fit the best in the setting and for the project as well. The region is famous for its wine and wine culture as well as its built history surrounding the original wine farmsteads. With a place with such rich history and tradition, critical regionalism has the ample qualities and characteristics that would suit the continuous development thereof. Continuing the traditions while critically reviewing new technologies and techniques that wasn't previously available, while also looking at the process of defamiliarization (which is synonymous with critical regionalism), can elevate the existing built tradition and culture to new and exiting resolutions.

Defining regionalism

Critical regionalism is an architectural model that must always remain critical of itself. It has universal qualities, not any preboud styles or notions that it must adhere to . It is free to filter through influences that are appropriate and cast out any ideals that would allow for its integrity to be compromised (Lefaivre & Tzonis, 2003). The architect has the freedom of variation and creative inventiveness with the approach of critical regionalism, although regard must be taken of the environment and nature of the project that could include climate, topography, plant life, traditional practices, cultures, and the spirit of the place. If critical regionalism can be striped to its core, it would be the resonance of place that has taken form in structure. Critical regionalism tries to create buildings that are appropriate to their time and place as an alternative to modernisation and globalization, which also free of any historical styles or traditions. What matters most is that of the current situation and conditions of contemporary cultures as, well as making the most of local and global resources.



Fig.43: Cape Dutch homestead (Goldblatt & Margaret Clarke, 1981).

Characteristics of Critical regionalism

Critical regionalism will never be a checklist with certain criteria or principles that have to be adhered to in order for it to be classified as critical regionalism. No two places are exactly the same and architectural response should never be so. The poetics of regionalism draws from its broader and specific context with certain characteristics that allow for multiple resolutions and appropriate responses within the field (Lefaivre & Tzonis, 2003).

Critical Regionalism responds specifically to the site and the existing layered context and meaning that is present on the site. The building should be integrated into the site, becoming one, embedded into the character of the place. The appropriateness of place-making is of particular emphasis, especially meaningful place.

The sensible use of materials that is specific to the region and understanding the traits and the qualities that are present with the use of such materials is important. With specific materials comes certain constraints and workability that can have a big impact on a design. This specific use of materials would allow a building to either appear alienated or integrated with its surroundings.



Fig.44: Cape Dutch home in the context of the landscape (Goldblatt & Margaret Clarke, 1981).

A deep understanding of the specific environmental constraints and possibilities that would aid the design outcomes is necessary (Canizaro, 2007). When knowing the environmental constraints one can design and avoid outcomes that are not favourable. The opposite when knowing the possibilities, one can design with the qualities and use it to the advantage of the building.

Regions have typologies that have been part of the built fabric of the region for a long time. These typologies exist with all the other things that needs to be taken into consideration when designing. The responsibility of critical regionalism is to continuously develop on these existing typologies by abstracting or defamiliarizing through new materials and technologies that may not have been available in the past (Canizaro, 2007).

Critical Regionalism recognizes culture and tradition and must be handled with due respect, keeping identities intact by not allowing development to compromise its integrity; adding to the existing values and traditions while respecting that of the past.

Identity in regionalism

Critical Regionalism must maintain and develop identity of past generations to ensure that they remain true to themselves in the continuous process of development. Critical Regionalism must remain

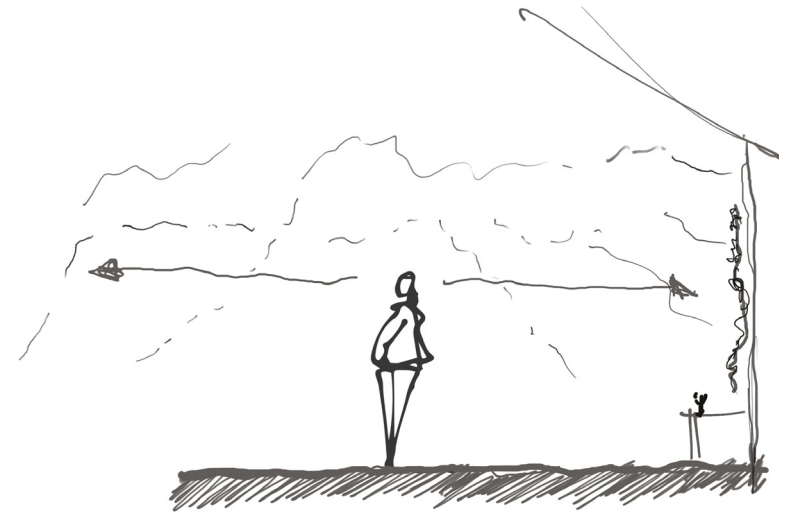


Fig.45: Identifying with built surroundings and the landscape (Author, 2022).



Fig.46: Form giving that relates to context (Author, 2022).

critical and can never become a standardized set of point or rules to follow, even when the characteristics of Critical regionalism are appropriately applied to a specific region (Atkins, 2008). The global community develops and changes continuously which influences regional identity. The purpose of Critical regionalism is to help develop regional identity alongside global identity. This means that Critical regionalism can never be a standardized set of rules because it is directly linked to global identity. Vernacularism can be limiting unless it develops with the times; it can't remain entirely conservative or historic. Vernacularism can be used as a stepping stone for developing a language of contemporary architecture which has its origins in the building tradition of a specific culture. Contemporary architecture can act as a filter for vernacularism to see which functional, technological, material, climatic and constructional elements to let through to create an architecture that can be described as Critical Regionalism. The poetics of a culture can be dematerialized and abstracted and then used within new buildings to maintain the same feelings and qualities of the culture within new buildings. Critical Regionalist design methods allow for cultural interpretation and cultural embodiment that results in the maintaining and developing of identity.

Cape Dutch

Cape Dutch, the style synonymous with South African architecture, is the predominant historic style in the Cape winelands. The history thereof is quite well known of the settlers that brought the building techniques and styles with them from Europe. When they started building in the new environment the context was much different from that of Europe and what began as patterns and rules of design transformed over time into practical solutions for the new environment seeing that the materials available were very different from what they were used to.

The use of materials directly from the environment allowed for a better climatic response to the region. The use of sun-dried bricks or stones resulted in thick walls that helped with the extreme heat of the summers in the Cape (Atkins, 2008). The shortage of tall indigenous trees only allowed for the span of the buildings to be roughly 6.5 meters that directly affected the plans of the buildings. This restricting element made the buildings develop letter-shaped plans like T or H as they continuously built on over the years. The “werf” as it is called in Afrikaans also developed with all the functionalities of the farm, which is also a predominant feature of Cape Dutch architecture on the farmlands. The whitewashed walls of the homesteads also capture the sculptural light qualities of the landscape along with the ornateness of the gables in relation to the sculptural mountains of the surroundings, makes the buildings embody the qualities of the landscape. Superficially it is still European but the way it was adapted with local materials and the way it started to respond to the environment, was made to fit into the character of the place (Atkins, 2008). Cape Dutch architecture resultingly became a trans regional style that embodies something of the environment and something of the heritage from where it comes from.



Fig.47: Tradition Cape Dutch home (Goldblatt & Margaret Clarke, 1981)



Fig.48: Modern interpretation of Cape Dutch home (Author, 2022)

Approaches

There are many ways in which one can approach critical regionalism within the constantly adapting and changing circumstances of the modern world. Two main categories of working methods have been identified by Vincent Canizaro, namely culture and environment, and technology and environment (Canizaro, 2007).

The method of culture and environment tries to fuse modernity and tradition; it adapts culture and tradition, but it has to be done in a sensitive manner, otherwise the risk of identity loss is large. The one way in which this can be achieved is with heritage transformations. This creates a continuum between the past and the present, by the method of defamiliarization and abstraction (Canizaro, 2007). By transforming heritage in this moment the atmosphere and principles remains intact, thus preserving the culture and the heritage that is abstracted.

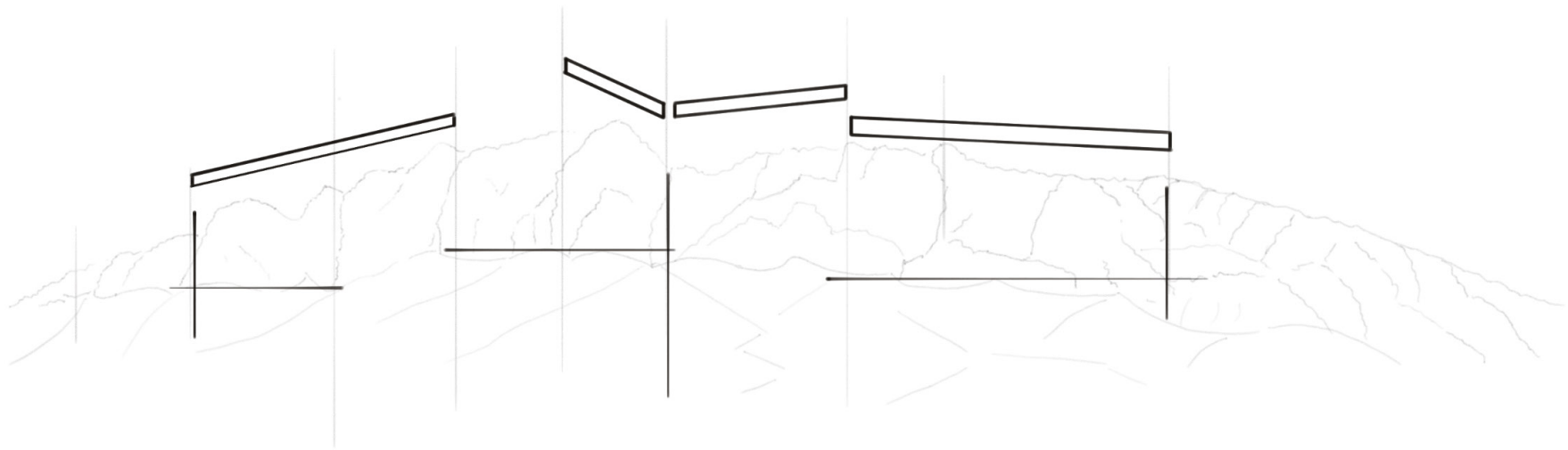


Fig.49: Form giving that relates to context (Author, 2022).

It directly works with the tangible aspect of heritage. Another method is cultural synthesis, which analyses cultural spaces and systems that does not necessarily have designated built traditions but can still be used as conceptual ideas to design ample space for such traditions. These cultural elements are used as stepping stones to create modern dwelling spaces within a culture without risking the loss of identity (Atkins, 2008).

The method of technology and environment focuses much more directly on the site and the spirit of the place than other aspects (Canizaro, 2007). It would engage comprehensively with the site, exploring all of its qualities and understanding it fully to be able to enhance it. This method can be applied in two ways, namely stereotomic and tectonic. The stereotomic inserts itself in the landscape heavily; it incorporates the environment in the building materials and the construction but does not, however, allow the environment to fully encapsulate the interior. In a way the stereotomic asserts dominance on the site while also respecting the environment. The tectonic on the other hand does the opposite. It is not heavy at all and try to be as light as it possibly can and invites the environment into the interior, sometimes merging the line of where the thresholds of the building are (Atkins, 2008). These approaches are mostly linked to the type of landscape they are situated in, for instance the cosmic landscape is linked with stereotomic, and the romantic landscape is linked with the tectonic. The classical landscape embodies aspects of both.

5.

Precedent studies

- **Murcutt and the Landscape**
- **Dornier Winery**
- **Martins' Lane Winery**



Murcutt and the landscape

As an example of a critical regionalist approach

The work of Glenn Murcutt is well known throughout the architectural world for developing an Australian architecture that is specifically adapted to the Australian climate and context. He looked at a given situation and the surrounding context to inform him in the design process. For instance the pioneers of the Australian bush had adopted certain practical building techniques which he adopts and contemporize in his buildings. However, his buildings do not only draw inspiration from the regions' built history but from the regions' natural features as well. This makes his buildings a true reflection of the identity and character of the places in which they are built.

The main reason for studying the works of Murcutt is his approach towards nature and landscape, and how he uses these elements within his designs. He analyses natural phenomena to derive practical and aesthetical solutions for his designs. His work does not mimic the natural forms of nature, it replies in conversation with nature's elements. He learns the lessons of the landscape and the rules that govern nature and draws parallels between them and those that should rule architecture. He uses the example



Fig.50: Glenn Murcutt Simpson-Lee house (Fromonot, 1995),

of a plant that is specifically adapted to the terrain it is in; that it could not function when situated elsewhere. The same argument can be made of architecture. There is a definite need for architecture to, in this way, adapt specifically to its situation and environment.

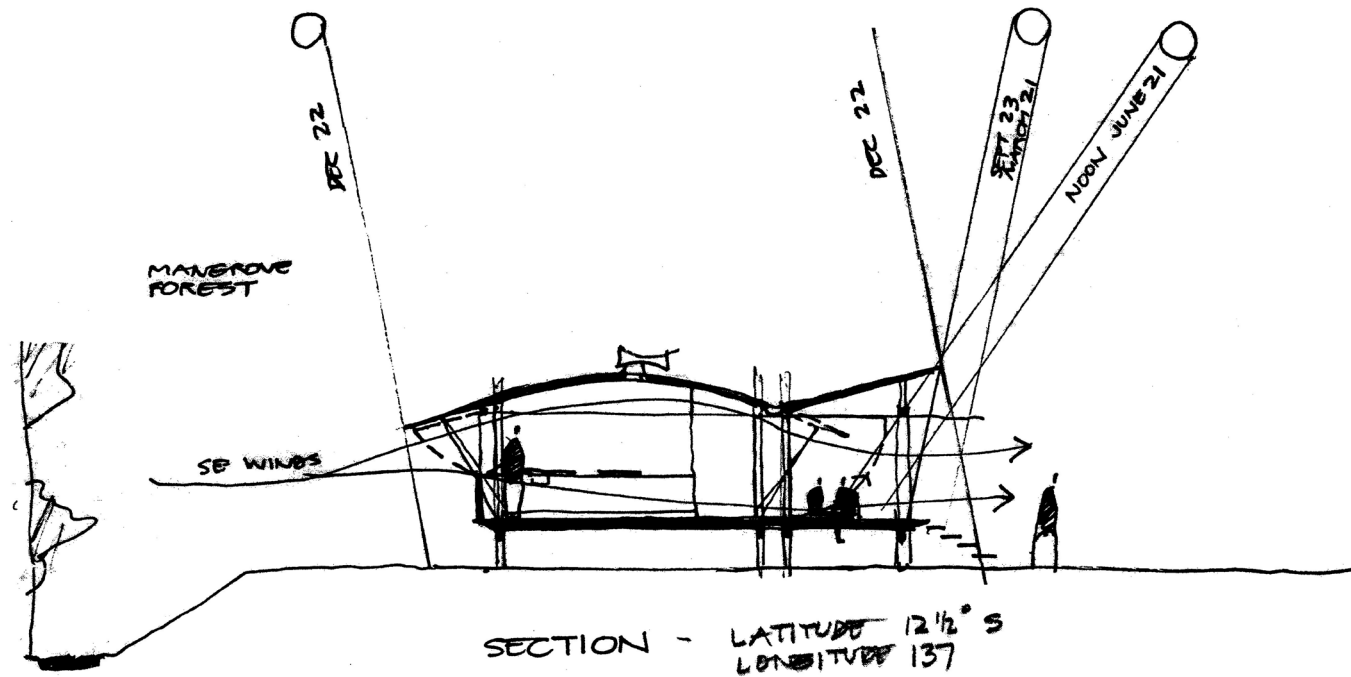


Fig.51: Glen murcutt explorative drawing (Fromonot, 1995).

Another important aspect of Murcutt's work is the way he uses dematerialization in and toward the thresholds and extremities of his buildings. His buildings peel away at the edges to let the natural environment in progressively to enrich the experience of the threshold. The phenomena of different elements meeting (for example land, building and water), also strengthens his methods of threshold and betweenness of some of his spaces. He draws from the landscape the tools he needs for designing appropriately. He tries to formalize the site's characteristics and transmit them into the interior of the building. The landscape informs him, with literal information and clues for the resolution of his buildings. The building is in sync with the environment and communicates with the interior. All the natural elements are taken into account when designing: the path of the sun, direction of the wind, the quality of light and even scents. This is all carefully considered and investigated as to how and where to incorporate within a design. These natural elements become aspects for technical, architectural, and aesthetic uses within the bounds of the specific character of the place. Light is often used as an element that unifies spaces within his buildings.

Conclusion

All of his techniques and processes come down to the simple notion that place should be revealed by the architecture, and that is the aim of this design process. Murcutt finds the perfect balance between appropriate technologies and the use of natural elements, both literal and abstract, in his buildings to embody a true critical regionalist architecture.

Dornier Winery: Johan Malherbe

Environment and context

The farm is situated in the Cape Winelands near Stellenbosch. The site has a rich history with the original farmsteads main building being designed by Herbert Baker. There is beautiful scenery all around and with an innovative and original design it is an adequate precedent to look at.



Fig.52: Dornier main facade reflected over water roof (Dornier, 2022: Online).

Site planning

The orientation of the building is tilted on a 45-degree angle to the east following the same orientation of the original heritage structure on the site. The visitors arrive on the northwestern side of the site from where they can either go the restaurant at the main building or to the cellar (Fraser, 2010).

Utilizes slope of site for the roof which houses a meter depth pool of water that reflects the rest of the building. The presence of the water on the roof gives the illusion that building is much smaller than it is because the sites slope down to where it meets the water. When viewed from the side the concrete base of the building is revealed where all the cellar functions are

housed which is not accessible to the public which enters on the first floor where all of the visitors' areas are situated. There is a heritage building present on the site, but the cellar is separated by a large lawn and the water of the roof, which resonate with the surroundings. The building also picks up on the axis with original entrance and gable of the farm with its own roof feature. The farm utilizes red bricks as a paving element on the roads and the walkways throughout the farm which makes the first floor of the building, which is predominantly red face brick, harmonize with its surrounding elements (Fraser, 2010).



Fig.53: Aerial foto of Dornier winery (Dornier, 2022: Online).

Circulation and user behavior

The approach of the building can happen from either the parking or the main building. The visitor's entrance is on the southeastern side of the first floor which one approaches on a walkway along a tree line and the water feature on the ground floors roof. Once one enters and passes through the reception, an open plaza is revealed and the surrounding mountains are framed.

The building has two floors, but the first floor only covers a small part of the ground floor because the water feature cover a large part of the roof of the ground floor. The fermentation hall is the only double volume space in the building as a result of the large fermentation tanks that can be accessed from the first floor as well.

The public spaces all live out onto a plaza formed on the first floor which frames the surrounding scenery where one can indulge in tastings that has been produced in the cellar below.

There is a clear separation of visitors and the workers and services with the levels, service yards and entrances of both. The process of wine making, and the visitors experience happen in the same building but is completely separated,

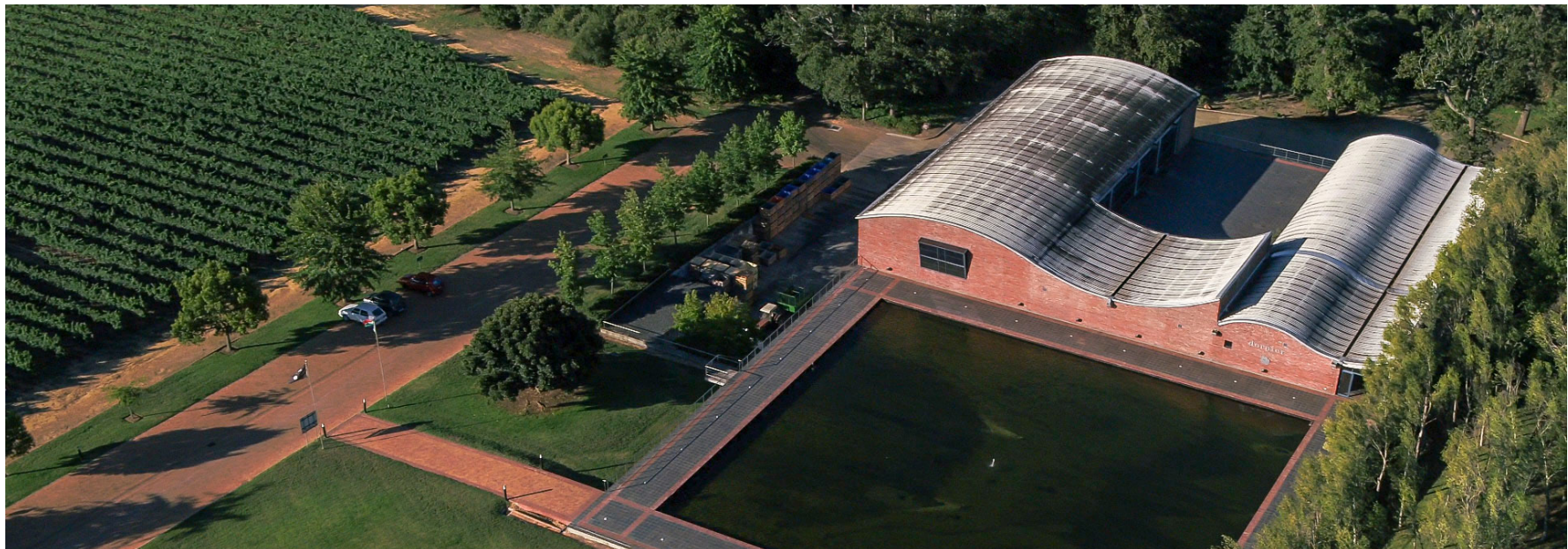


Fig.54: Aerial foto of dornier winery (Dornier, 2022: Online).

except for the private tasting room which is located on the ground floor at the edge of the maturation cellar to provide views of the rows and rows of barrels.

Form and function

The most predominant feature of the Dornier is the roofs of the building. There are two roofs that contrast each other extremely, the roof of the first floor is elegantly curved as an abstraction of the sculptural Cape Dutch gable as well as to resonate with the surrounding mountains. The curved roof consists out of steel beams, lattice and corrugated iron sheeting which provides the ability for the roof to curve the way that it does. This curved roof also uses this visual language directly that links to the existing building on site which has a sculptural Cape Dutch gable. All the pristine functions are located on the first floor within the sculptural roof.

The roof of the ground floor does not only allow the curved roof to flourish but helps it to do so with the water feature on top of the ground floor roof by reflecting the roof and facade onto the water. For the visitors of both the original and new building the water feature truly provides a serene atmosphere. The water also acts as a cooling element for the maturation cellar that is situated underneath which needs to be strictly temperature controlled for the exact conditions needed for the maturation process.

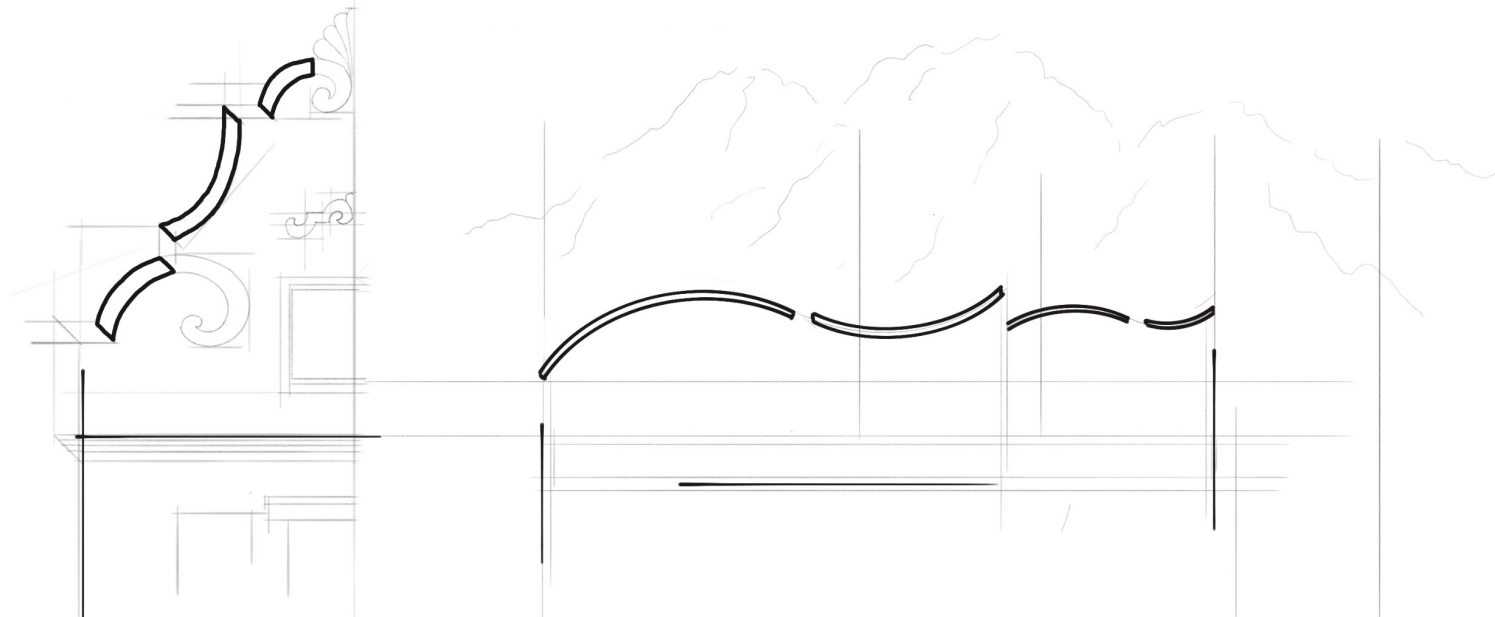


Fig.55: Dornier roof inspiration sketch (Author, 2022).

The ground floor operates separately from the first floor, the slope of the site allows for all the necessary circulation on the ground floor in and around the cellar for it to function properly without disturbing that of the first floor.

All the cellar functions are however housed on one floor which means that the wine must be pumped throughout the process of its making. The other method that can be used is that of a gravitational system which uses much less energy than that of electrical pumping the wine through the process (Fraser, 2010).

Structural

The structure of the building is clearly divided between the two functions of the building. The ground floor which houses all the cellar functions are almost entirely made of concrete and the first floor the facades are red face brick with the curved corrugated iron roof (Fraser, 2010). The two different material uses of the building correlate with the two different functions, the concrete is used because of its temperature controlling elements and the lighter red bricks are used to house the social aspects of the building.



Fig.56: Dornier fermentation hall (Fraser, 2010)

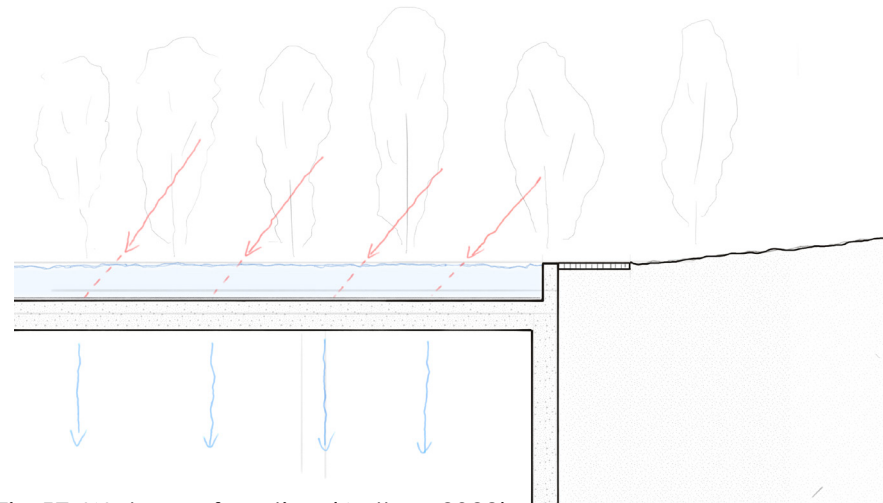


Fig.57: Water roof section (Author, 2022).

Conclusion

The building embodies what a modern wine cellar can achieve while also remaining true to the heritage from where the wine industry in the Cape originates. The use of an abstracted Cape Dutch roof makes it truly unique as well as integrating the building with the surrounding mountains. The use of materials is not connected with Cape Dutch but are still in tune with its surroundings, the late afternoon sun that captures the qualities of the red brick facade as it is reflected over the water feature while also being in conversation with the same light revealing the sculptural qualities of the mountains in the backdrop. The building also uses innovative methods, the use of water on the roof to act as a cooling element which would decrease the use of energy for cooling significantly, as well as using the slope of the site to separate the functional with the social aspect of the project. The building is essentially a factory, but it does not appear to be one, which is a difficult task especially with the size needed for the project. In essence it is a well thought out project that finds balance between old and new, functional and social, aesthetical and practical.

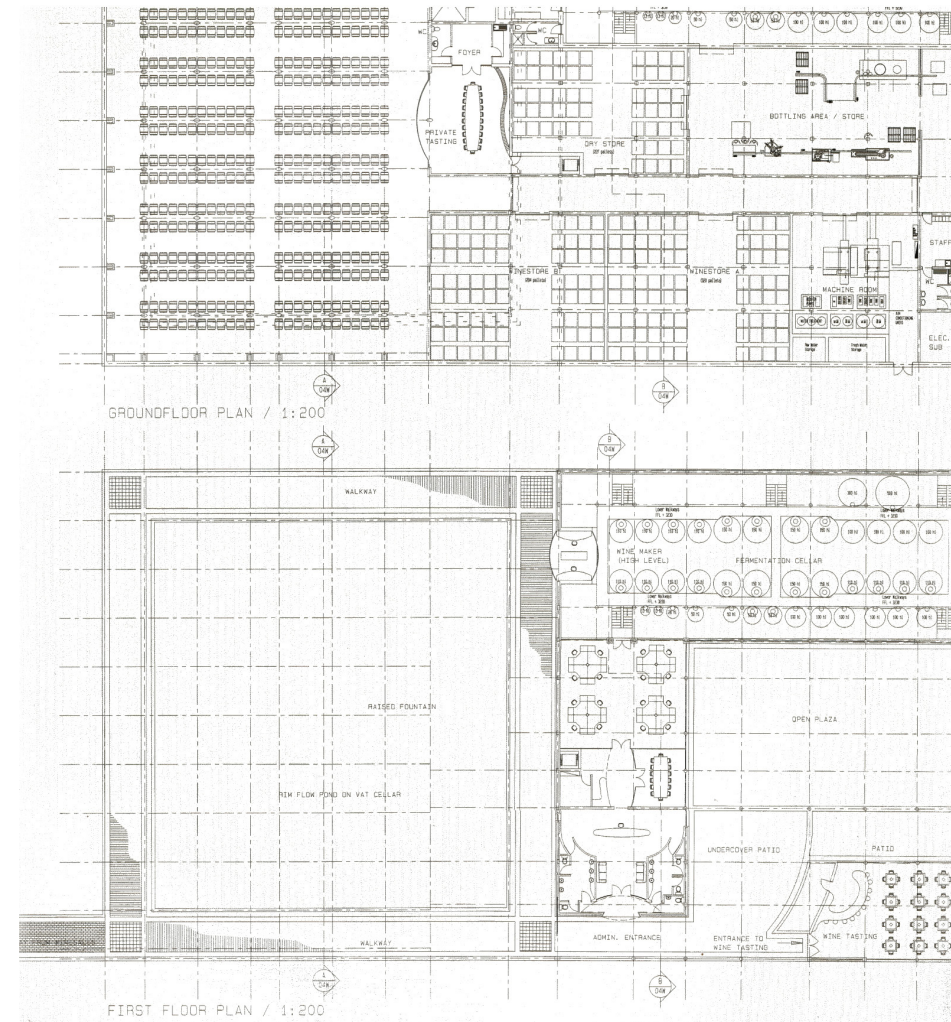


Fig.58: Dornier floor plan (Fraser, 2010)

Martins' Lane winery: Tom Kundig

Environment and context

This winery is situated in the hillsides of the Canadian province of British Colombia next to the Okanagan Lake. The area and the surrounding landscape are one of the main inspirations of the formgiving and topological response of the architecture of the winery. Seamless hillsides that slope down into the lake is a prominent feature of the surroundings while there are also prominent diagonals of the lake and the elegant peaks of the surrounding mountains. These two forms of the landscape are a prominent driving force within the design (Kundig, 2018).



Fig.59: Martins'lane winery (ArchDaily, 2018: Online)

Form and function

The building consists of two main masses, the one follows the slope of the hill, and the other contrasts this by not sloping down but rather keeping a diagonal form which cantilevers alongside the other mass which slopes down. The two different masses have two different functions, the slope of the hill provides the winery with the opportunity to make use of a gravity flow system of wine production (Kundig, 2018). The gravity driven production of the wine requires several levels, which is related to the different stages of wine production, with each stage of the process happening on a different level.

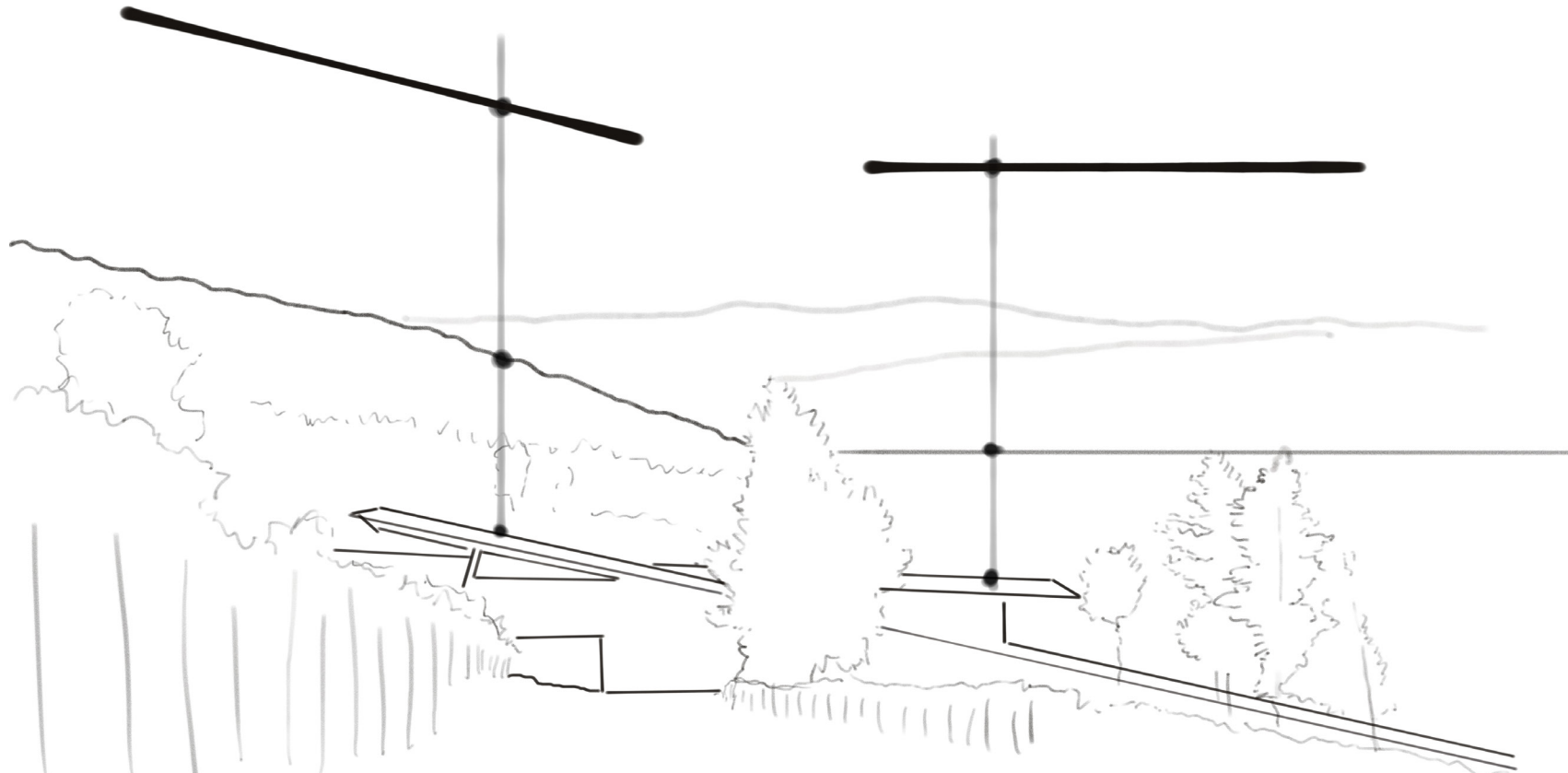


Fig.60: Martins'lane explorative roof sketch (Author, 2022).

The design emphasis is the process of wine making, which is also directly related to the site conditions. Martin's Lane's functional spaces are laid out in a stair-step fashion, starting with the grape-receiving area at the top and moving downhill via the fermentation and settling rooms, the bottling room above ground, and ultimately the underground barrel storage section. The winery's office, wine lab, and visitors spaces including a tasting room, a dining room, and visiting walkways are weaved into the manufacturing sections across the entire building. These rooms provide close-up views of the production process. The centre of the design permits an extensive line of clerestory windows here, boosting the amount of natural light that enters the working spaces and providing stunning views of the surrounding vineyards and environment (Kundig, 2018).

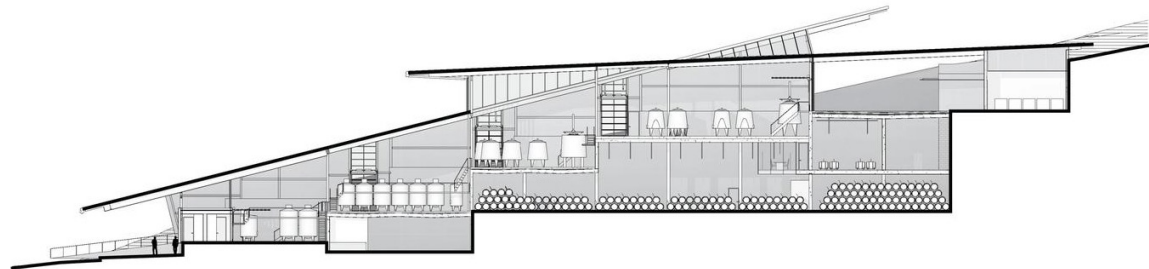


Fig.61: Martins'lane gravitational process section (ArchDaily, 2018: Online)



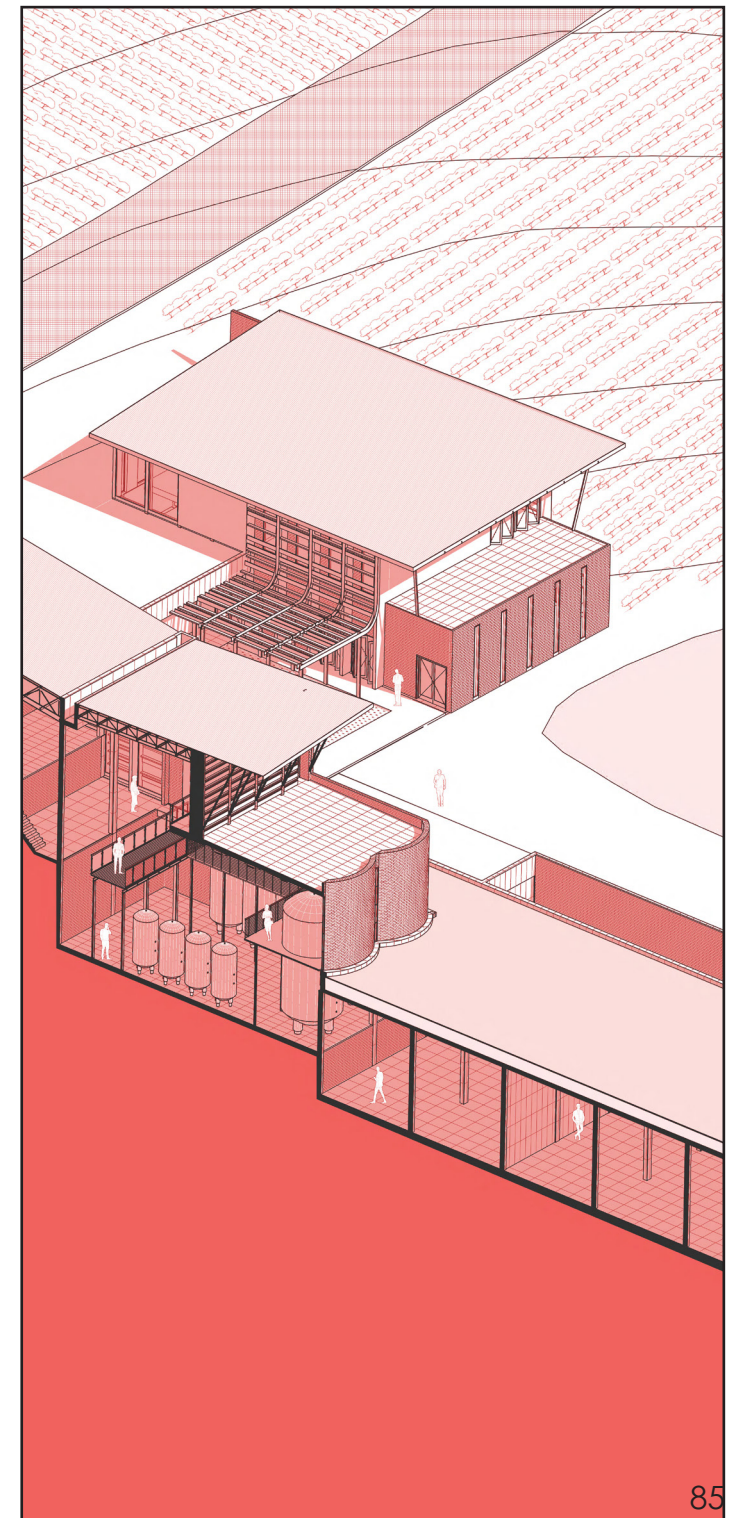
Fig.62: Martins lane cellar (ArchDaily, 2018: Online)

During guided tours, guests enter the building through a roughly formed concrete tunnel and proceed to a private tasting room that views out into the barrel storage area and is highlighted by a glass and perforated steel wall. A bigger tasting room and guest experience area with perforated steel on the exterior and pure steel inside is reached through a spiral steel stairway that was specially designed and made. The staircase's design was influenced by both the Fibonacci sequence, which depicts the growth of grapevines, and stainless-steel wine industry filtration machinery. Interior features, like the structure itself, describe the painstaking wine-making method that the winery has been attempting to perfect for decades.

6.

Design development

- **Touchstone**
- **Concepts**
- **Site Development**
- **Plan Development**
- **Section Development**
- **Model Development**
- **Technical Development**



Touchstone

The touchstone explores the idea of the old and new and what binds it as a whole entity and not separate elements. This idea is what the project aims to address, the cohesion of multiple inputs (landscape, process and function, heritage and site). The building needs to address all of these elements together, as one element, to be successful.



Fig.63: Touchstone (Author, 2022).

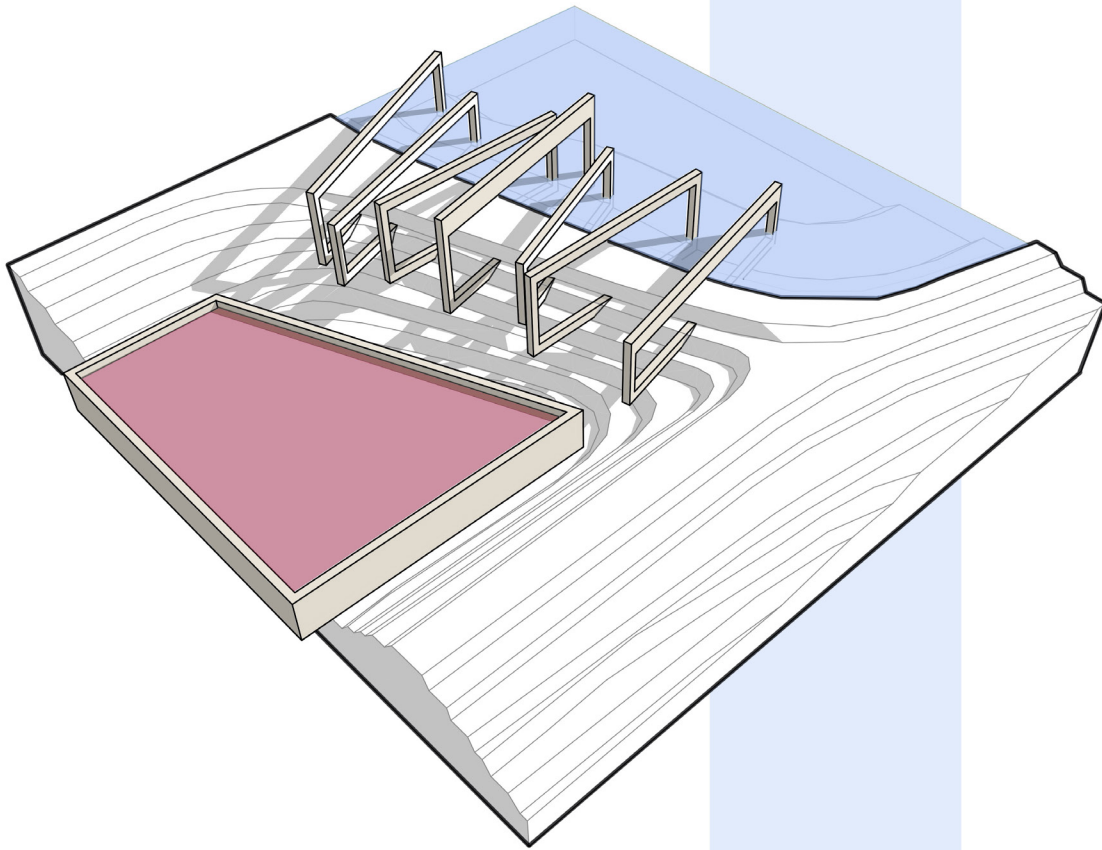
Wine and vineyards has become one with the landscape in the Cape. In this project the appropriate program of an winery in terms of the landscape forms the base of the response. The adapting to the site and the unique situation of the site is addressed with the program, without disturbing the site. These various elements has to be in balance as well as act together, and that is what the touchstone conveys.



Fig.64: Touchstone (Author, 2022).

Concepts

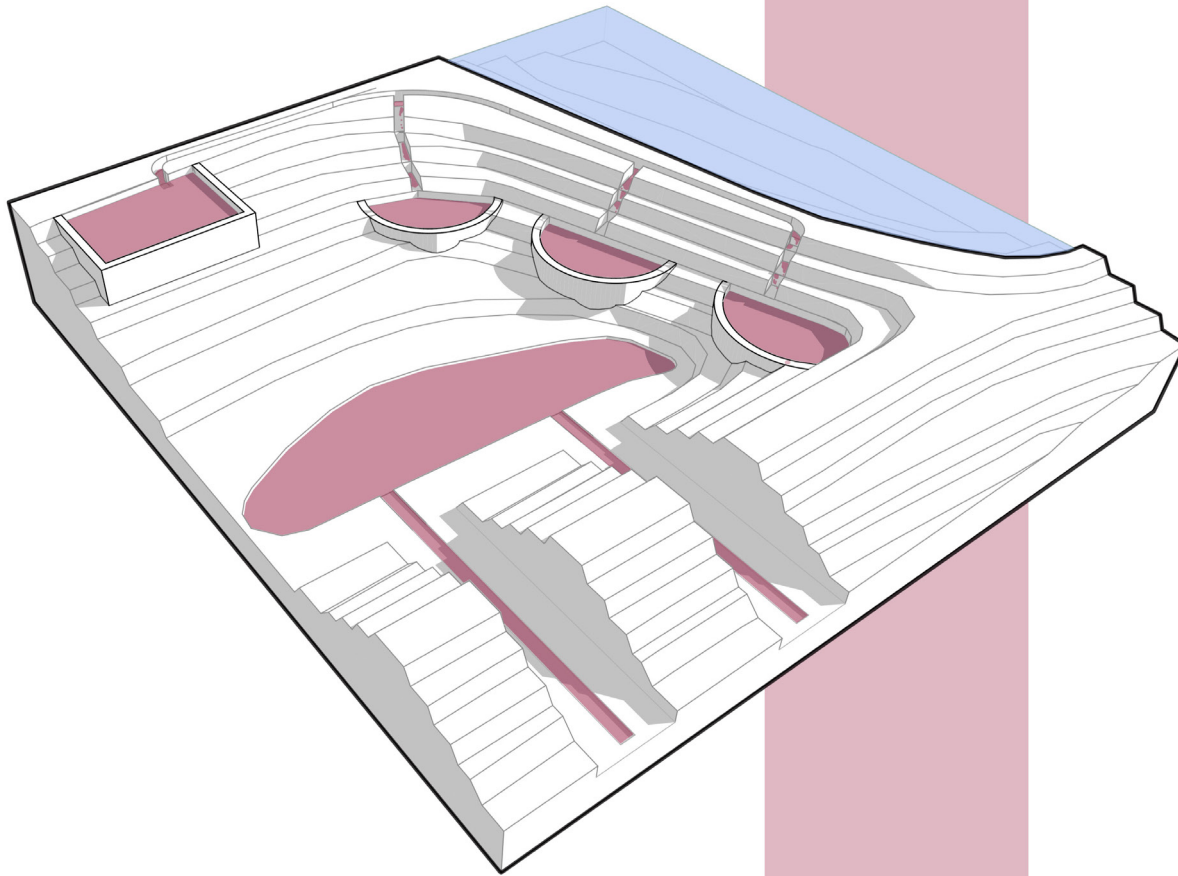
Reveal



Place should be revealed by the Architecture. This statement is at the core of the project and aims to provide an experience that is true to the character of the place. The concept of reveal can be brought fourth through the various edges and thresholds in the project as well as the different natural elements present on the site as well. The way in which visual connections are made through different details in which the landscape and the surroundings are revealed to the user, are important moments in the project. Reveal would happen from outside to inside and the same the other way around, both revealing different things at different moment in the building.

Fig.65: Reveal concept (Author, 2022).

Process



The Process of wine making is all over the world dependent on the same processes, routes and functions, the question then is how can the process of site be uniquely be adapted the specific site and situation and how can the process benefit from the given site to make for a easy and functional element of the building. Furthermore the element of process can and should be experienced by all the users of the building, so the integration with other functions and the culture of the wine industry can also be of great benefit.

Fig.66: Process concept (Author, 2022).

Site Development



The building responds to the same orientation as the two dams against which it is built. The wine production process happens from east to west while the visitors' experience is from north to south.



The axis of the building also runs along the eastern side of the two dams, connecting various public and private parts of the building.

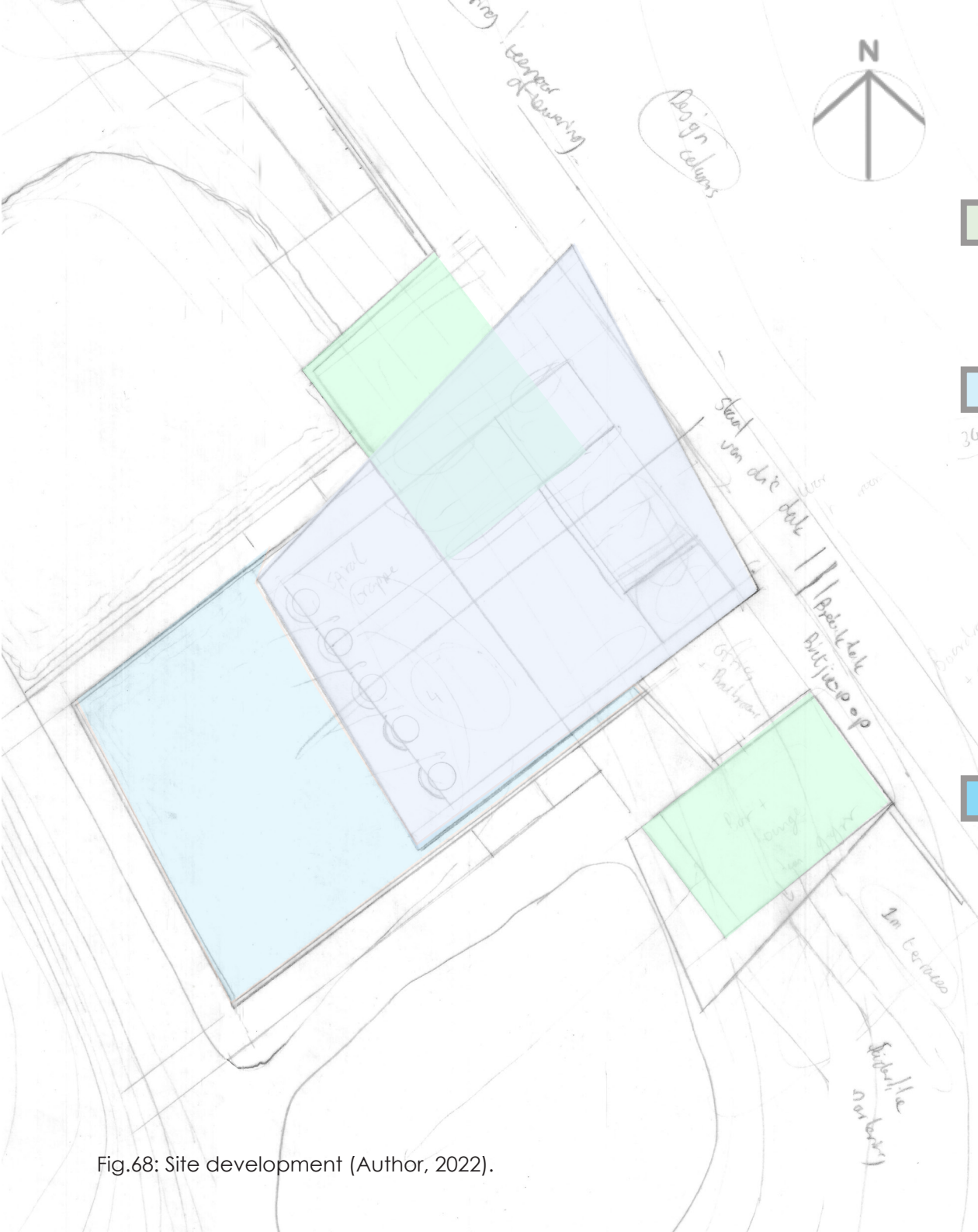


Services are approached from the eastern side seeing as the most predominant views (which coincides with the most lived spaces) are to the north, west and the south.



The parking of the building is separated into two parts, making access to the different social spaces easier. The southern social space will be utilized for private functions and tastings, thus needing its own parking as well.

Fig.67: Site development (Author, 2022).



■ The social aspects of the design are located to the north and to the south of the building with the wine process running through the middle, connected by the axis.

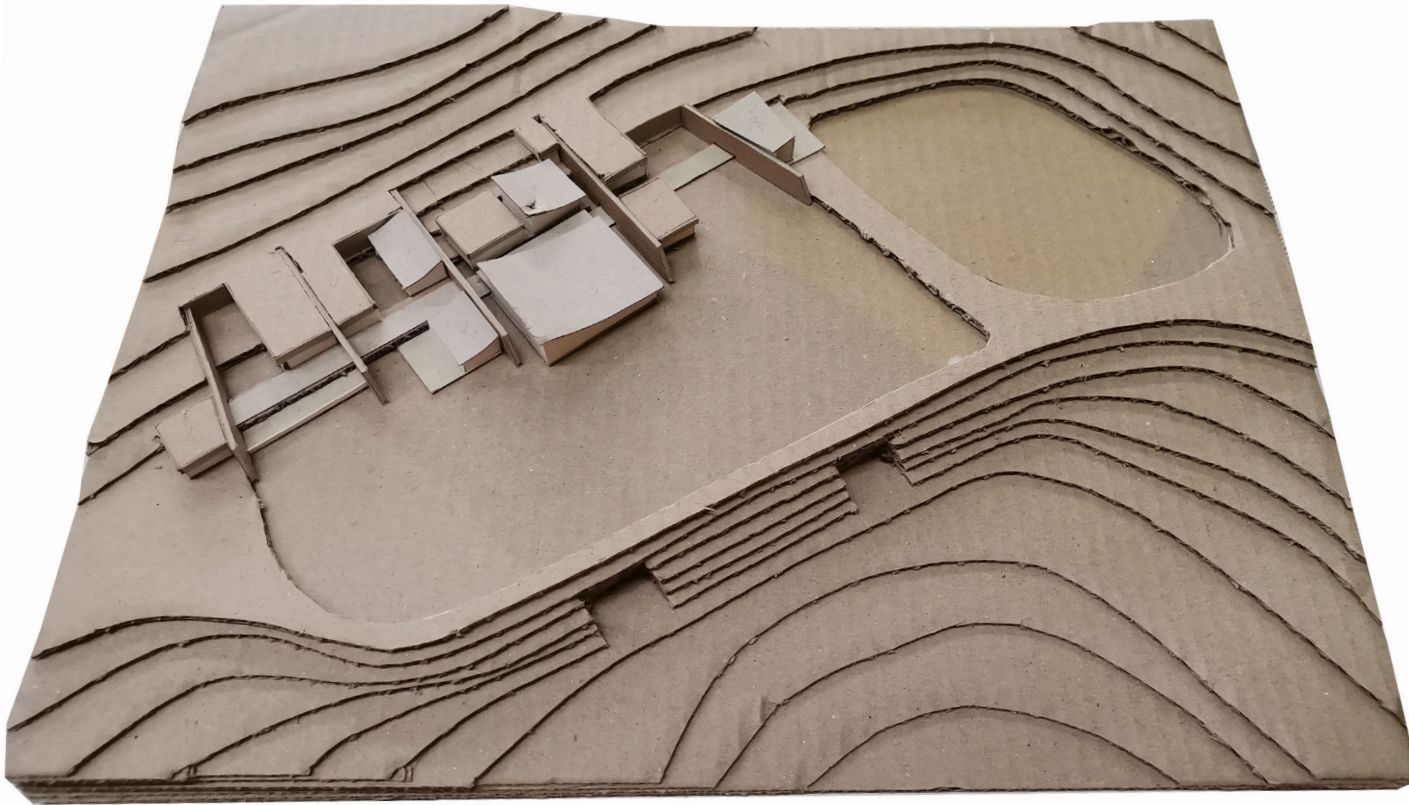
■ The roof over the central part of the building is quite large, so the idea is to split the roof into two parts. This was first investigated over the two different functions which is the restaurant and the cellar, but this resulted in complicated connections. It was then implemented over the central axis of the building which worked better.

Planted roofs is also added to allow for nature and the site to be incorporated within the structure and the identity of the building.

■ There is a water roof on top of the basement area that provides cooling as well as a visual experience.

Fig.68: Site development (Author, 2022).

Model Development



The initial development of the project lead the design to have separate buildings within the site for each of the function connected by the axis.

Planted and curved roofs were used to capture the essence of the landscape that includes the site as well as the surrounding mountains. These separate buildings with their separate roofs however created a fragmented massing of the building and this idea was abandoned.

This model also had the basement of the cellar completely under water which was also abandoned because of technical difficulties, as well because it hid the structure entirely.

Fig.69: First developing model (Author, 2022).

The separate functions of the building are combined under larger roof structures to create a cohesive building while also keeping the planted roof system as well as the corrugated roofs. The corrugated roofs are no longer curved because it resembled the roof of the Dornier winery too much. The roofs are however still derived from the surrounding mountains.

The cellar basement are no longer kept entirely under water and the side circulation areas are now open to allow natural light and ventilation, as well as clearly defining the structure.

The building is also slightly moved southwards, this creates an additional water reserve to the north which will be used for irrigation of the planted area of the building as well as for the use of the cellar. The southern dam would still be used for the irrigation of the surrounding orchards.

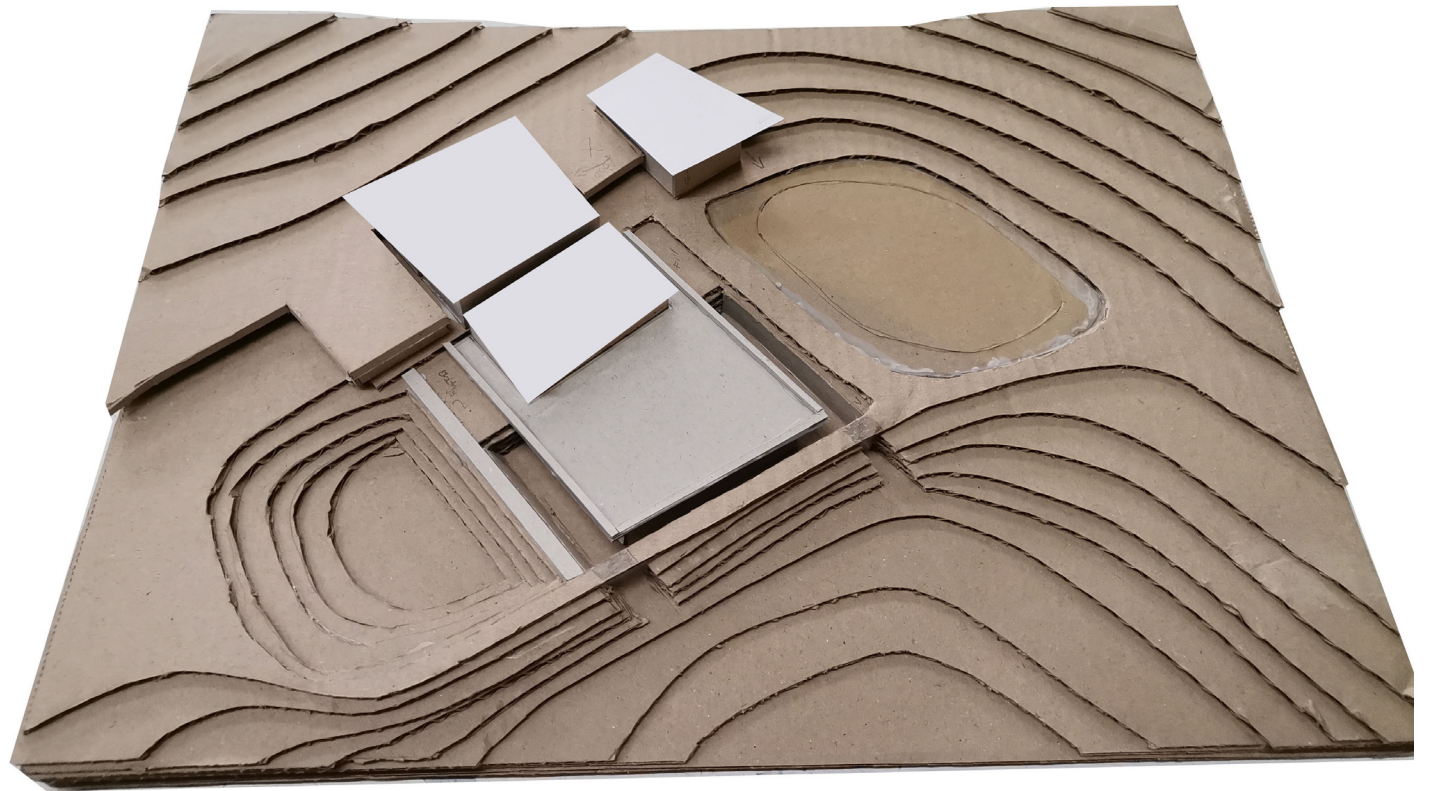


Fig.70: Last developing model (Author, 2022).

Plan Development - Ground floor

Reveal and process is the two main concepts that is used in the project. The process of the wine making will dictate parts of the form of the building. By embracing this the process is revealed through the architecture. An example of this is the curved walls where the large fermentation tanks are positioned showing the process.

The cellar is an important space in any winery, it is one of the largest spaces and thus holds the opportunity to be expressed by the architecture.

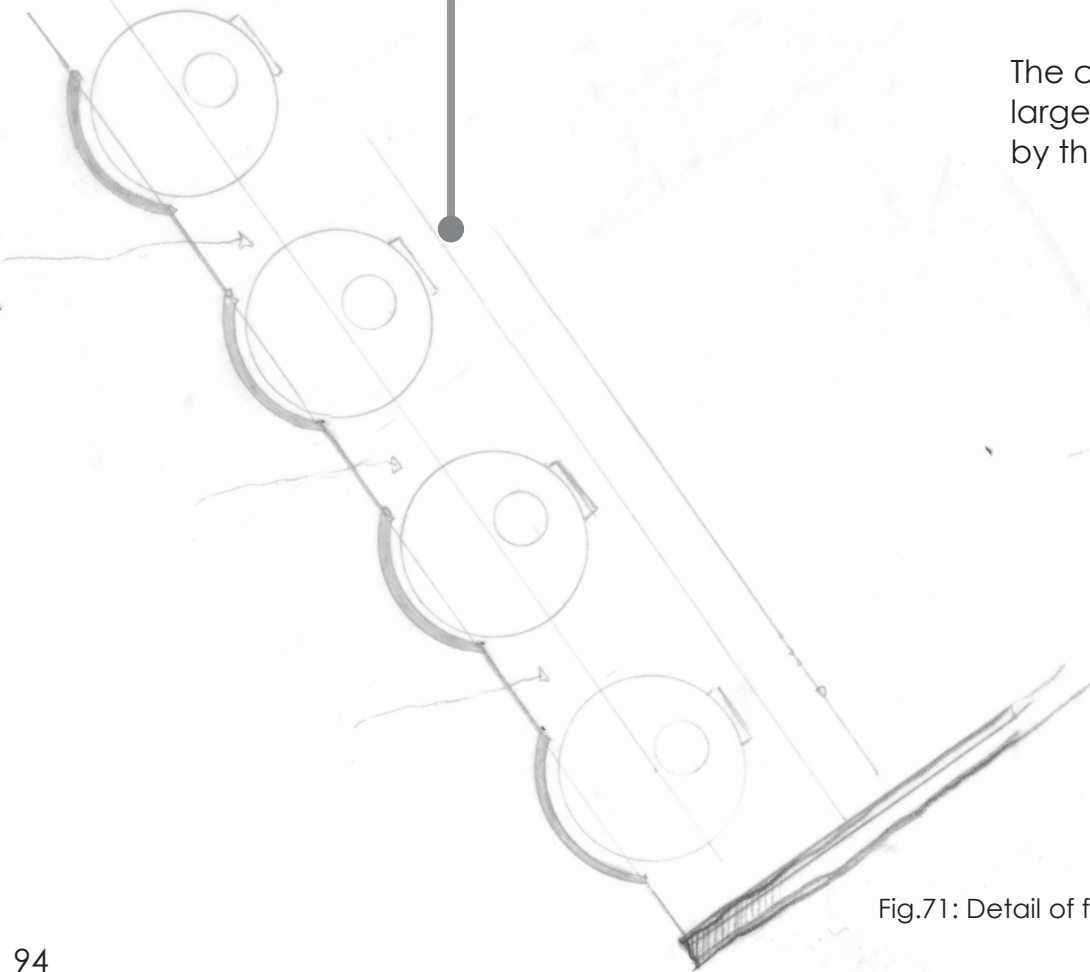


Fig.71: Detail of fermentation hall curved wall (Author, 2022).



The wine library will house all of the different types of wines that will be produced by the winery as well as the different wines that are produced by the Wellington wineries company of which this winery will form part of.

The offices are strategically located to be near the cellar functions as well as near the wine library and the circulation into the basement cellar so that all of these parts of the building can be easily accessed.

The southern socializing area would mostly be used for tastings and pairings of wine with certain foods. The space is also intend to serve as a private tasting location, or for the use of private events.

Fig.72: Ground floor plan (Author, 2022).

Plan Development - First floor

The restaurant is on the first floor, it has both inside and outside seating available. The outside having a view towards the town whereas the inside seating would have selected views of the fermentation cellar.

There is a double volume space over the fermentation cellar that allows for views from within the restaurant. The double volume also enhances the feeling of the cellar as one of the more important spaces within the building. The double volume also provides the opportunity for more natural light to enter the space, further enhancing its' poetic capacity.

The southern building on the first floor provides views of the stunning surrounding mountains and a outside space to the west while also including a bar which makes it the ideal spot on the site that can be utilized for sundown drinks and socializing.

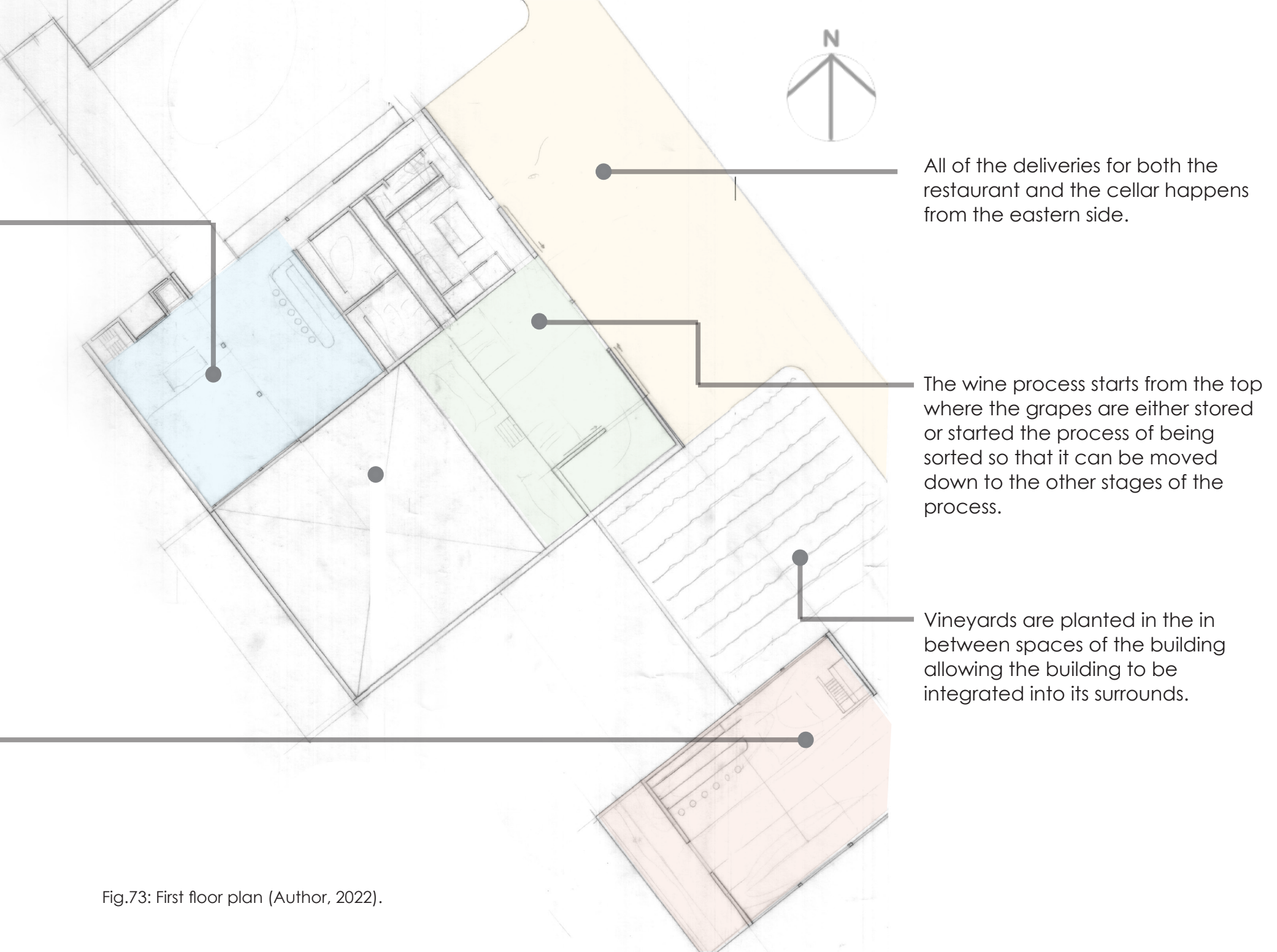


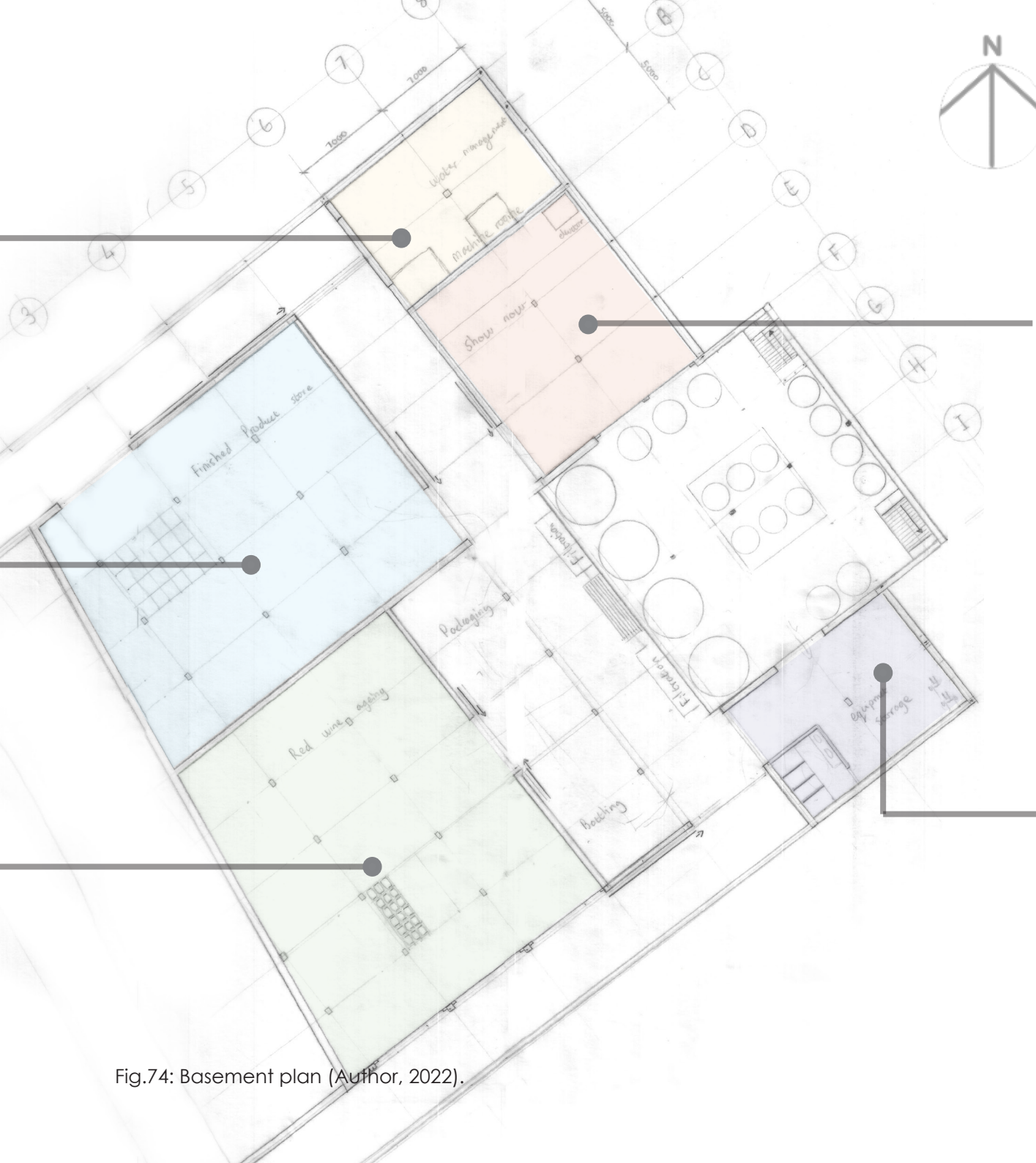
Fig.73: First floor plan (Author, 2022).

Plan Development - Basement

Water management forms an integral part of the building because of the water roof system that is implemented. This also requires the filtration of the water from the additional reservoir that is formed for the use of the building and the planted areas near the building.

The finished product store is located in the most western part of the cellar seeing that it is the end of the process of wine making and so that it can easily be loaded and transported seeing that it is closest to the exit.

The aging cellar is another important part of the cellar. This is where the various wines are aged before they are bottled.



The show cellar is both a practical and social part of the building. It will be used to age wines as well as act as a space which tastings can be held or any other social event that is required. The space with all the wooden barrels are very poetic and is a opportunity for the building to showcase its wine without the visitors being in the way of the factory.

Waste management and additional storage is another necessity for the cellar. These functions are tucked away in the corner but also have quick access to the fermentation all as well as the central circulation of the basement.

Fig.74: Basement plan (Author, 2022).

Section Development

The first section exploring the use of the empty dam as well as the sloping site down into the empty dam. The theme of integrating the landscape within the building to allow the building and the landscape to become one was the main driver in this section.

The mountain influence can't yet be seen in this section as it is more focused on implementing the gravity flow process.

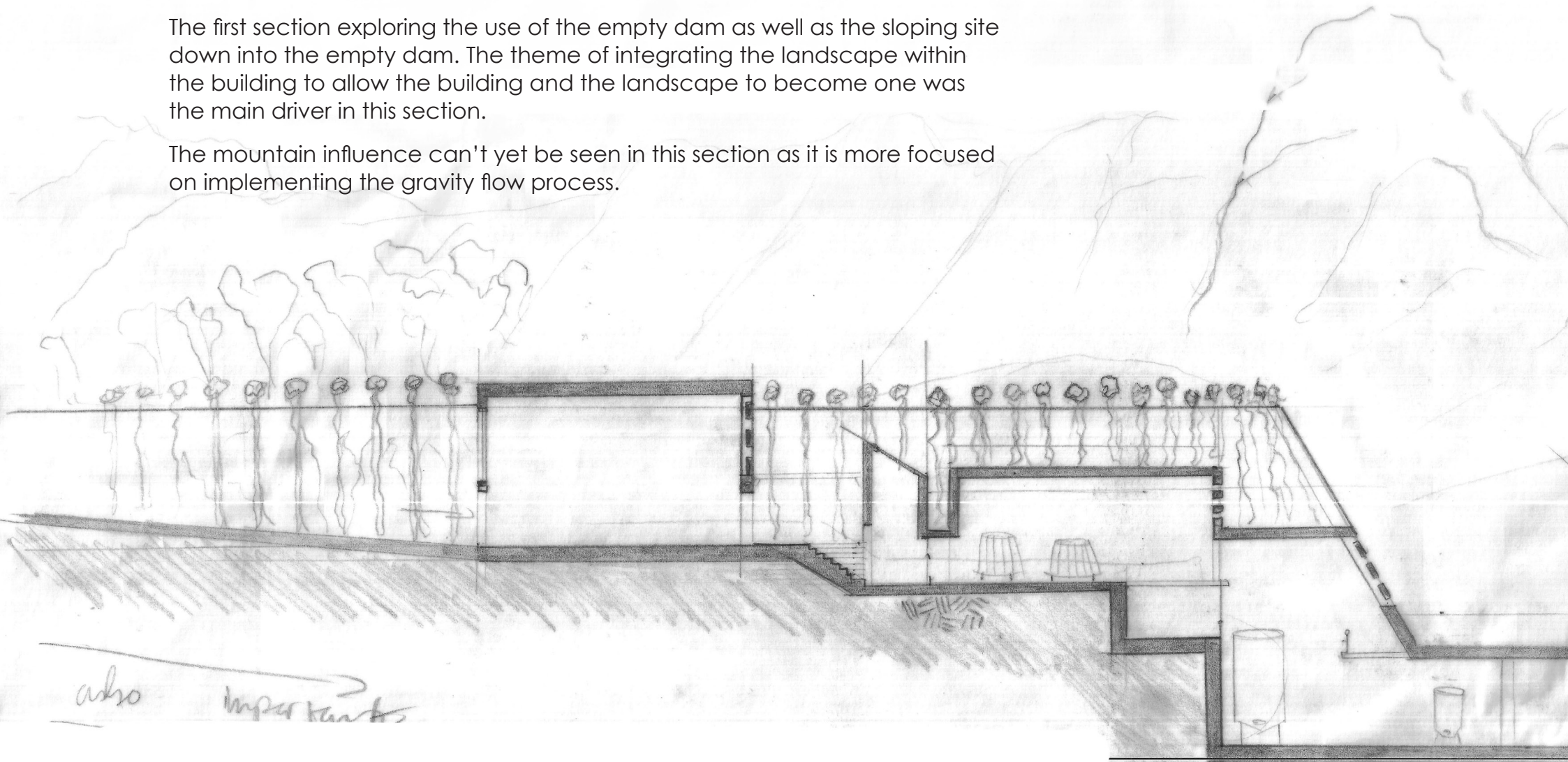


Fig.75: First section (Author, 2022).

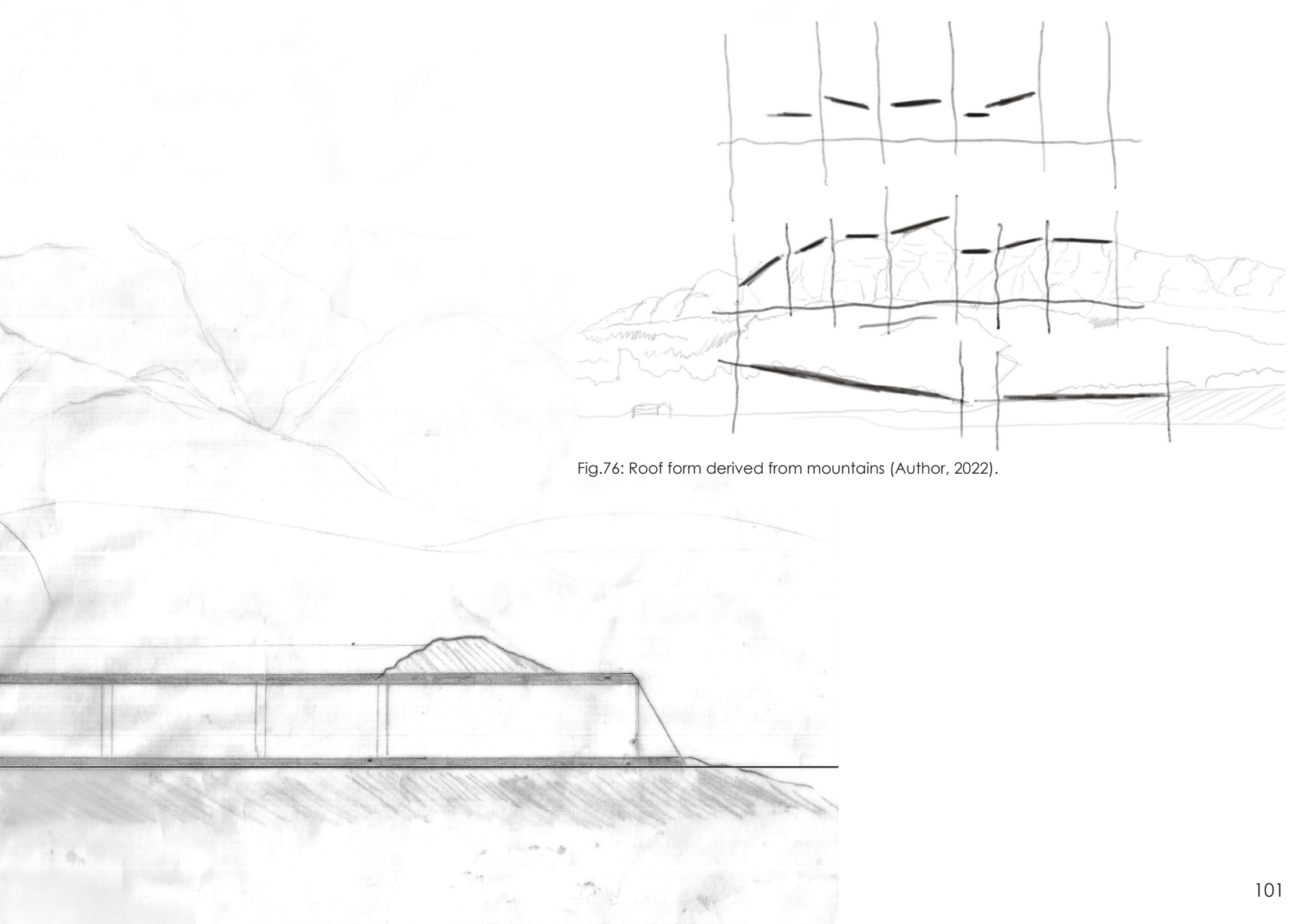


Fig.76: Roof form derived from mountains (Author, 2022).

The stepped section allowing for the gravitational wine process is now more or less fixed in the design. The roof however is something that changed a lot throughout the design process, here its slopes along with the slope of the site. It is separated into two structures that both slope in the same direction but at different angles, there is also a height difference to allow for natural light to enter.

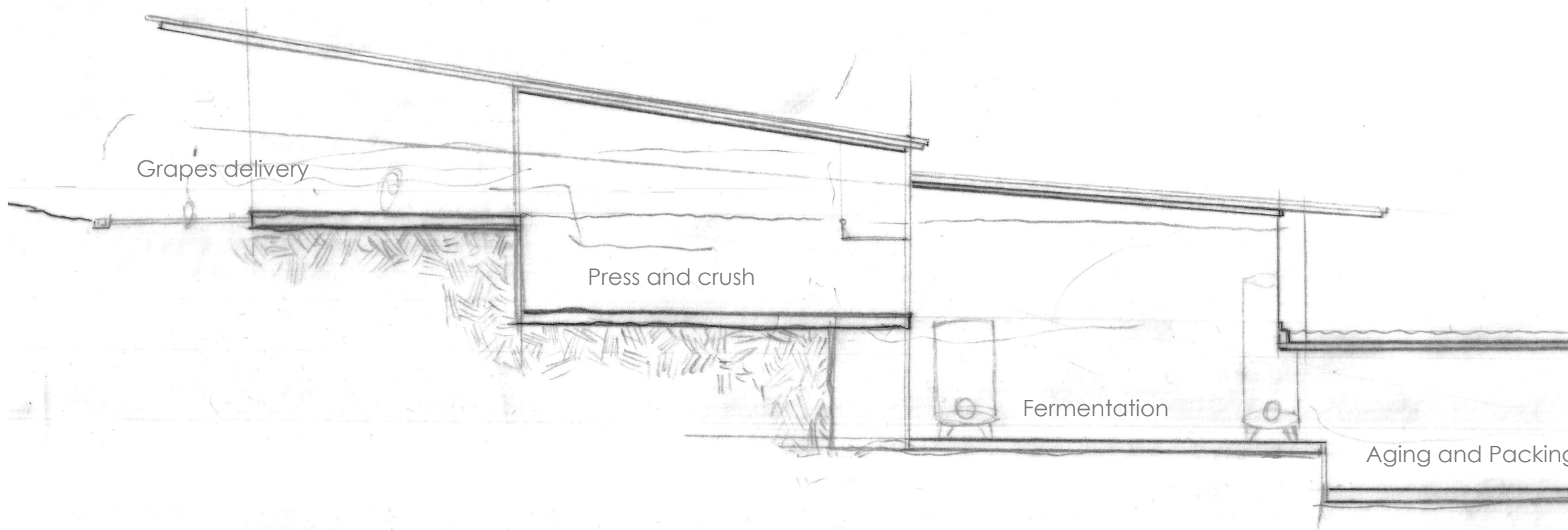


Fig.77: Section through process (Author, 2022).

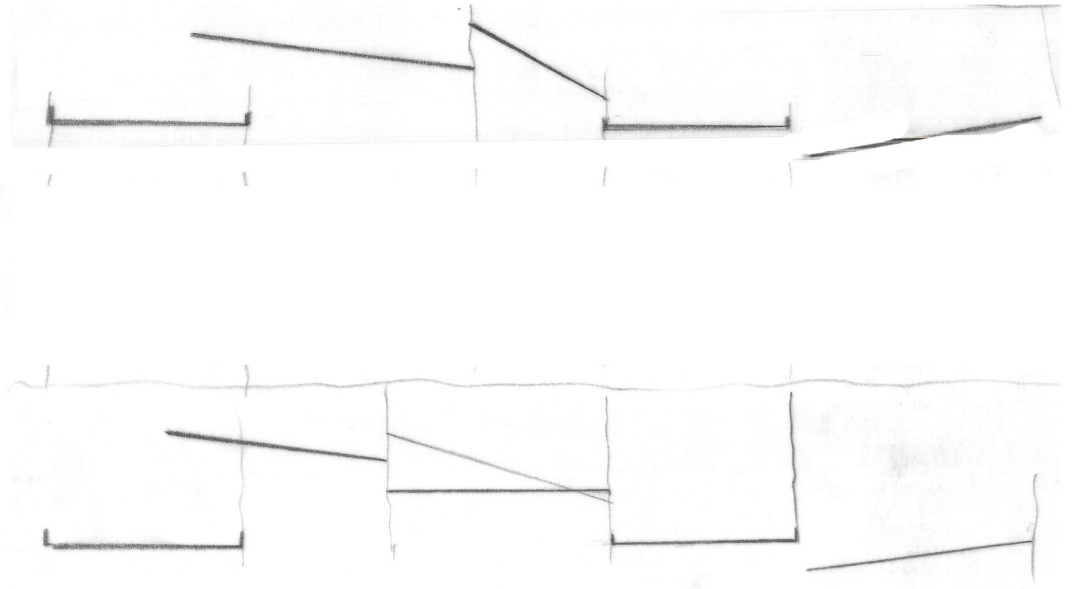
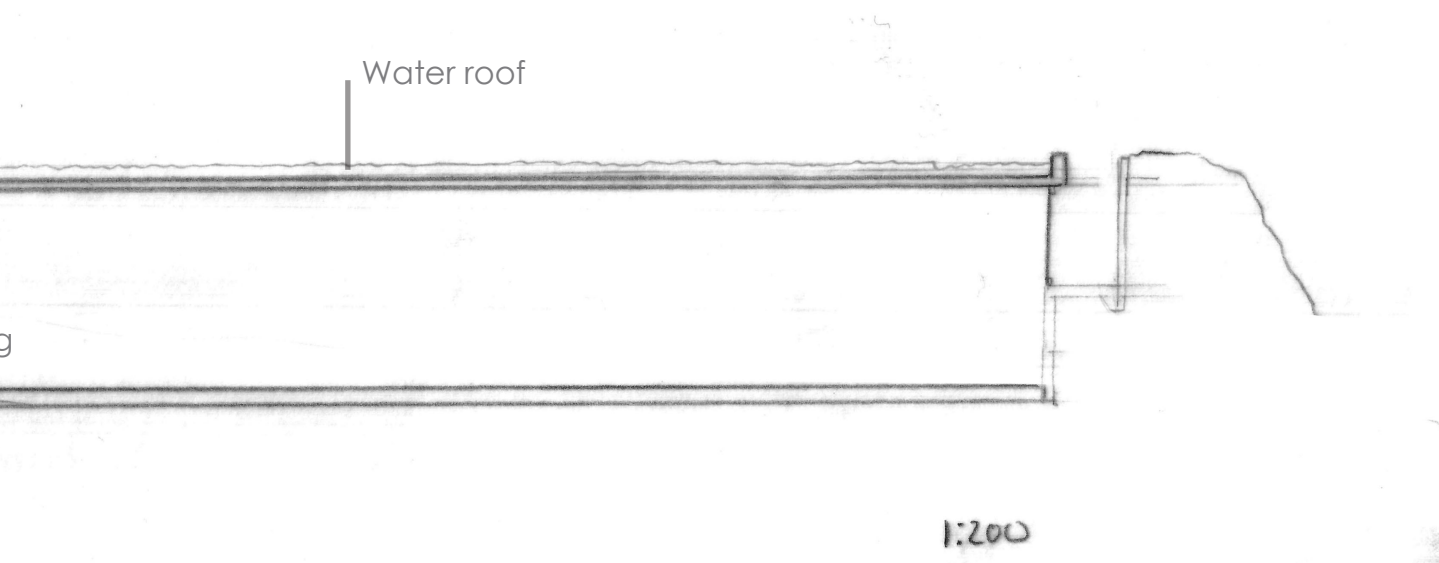


Fig.78: Development of roofs (Author, 2022).

Sketches trying to incorporate mountain influences within the roof structure as well as the elevation of the building.



The introduction of a box gutter was implemented with an truss roof structure to allow it to span a greater length.

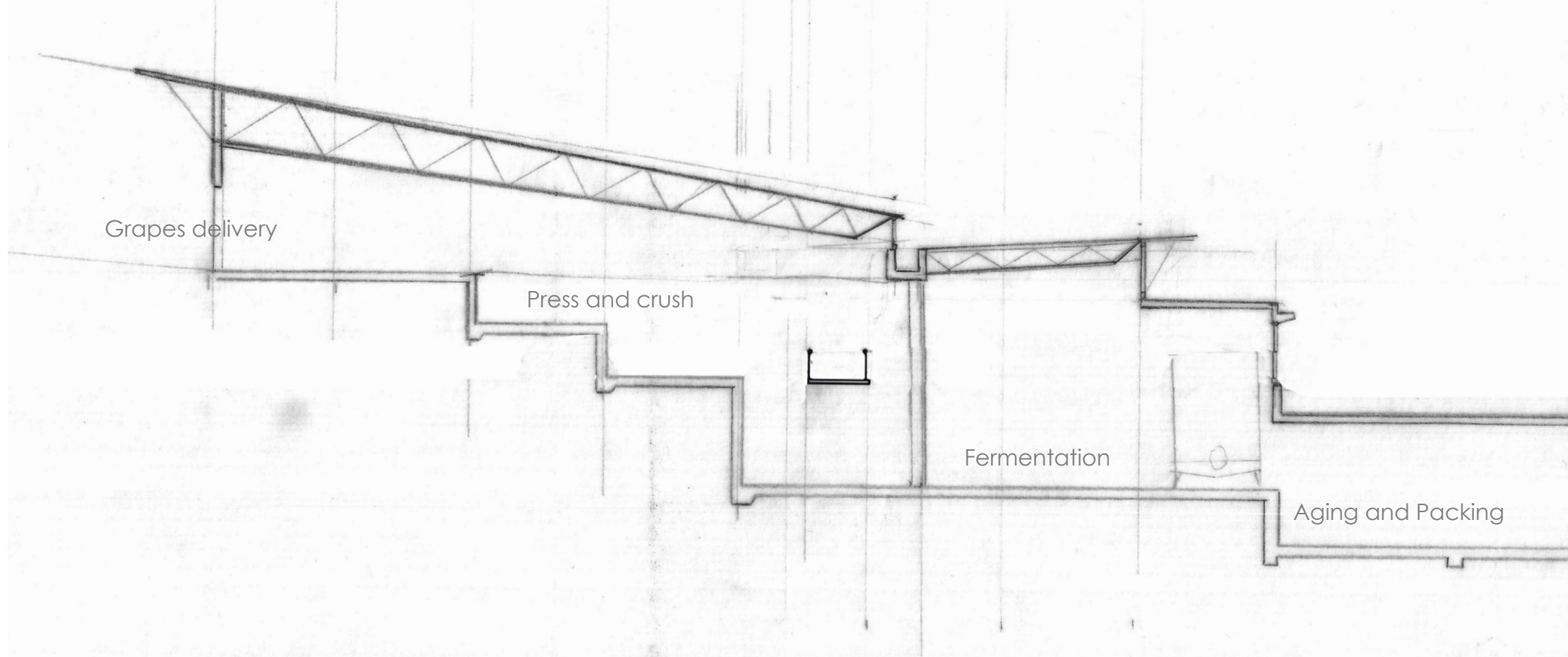


Fig.79: Section through process (Author, 2022).

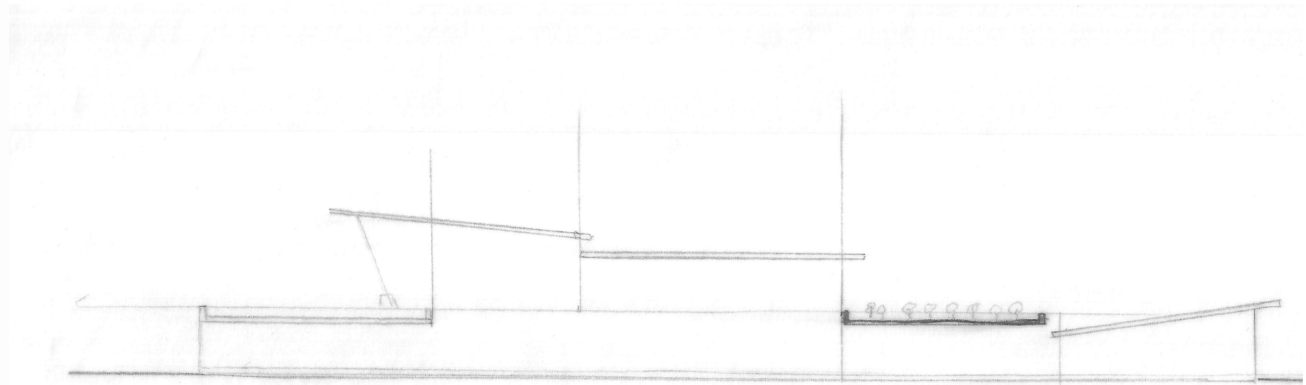
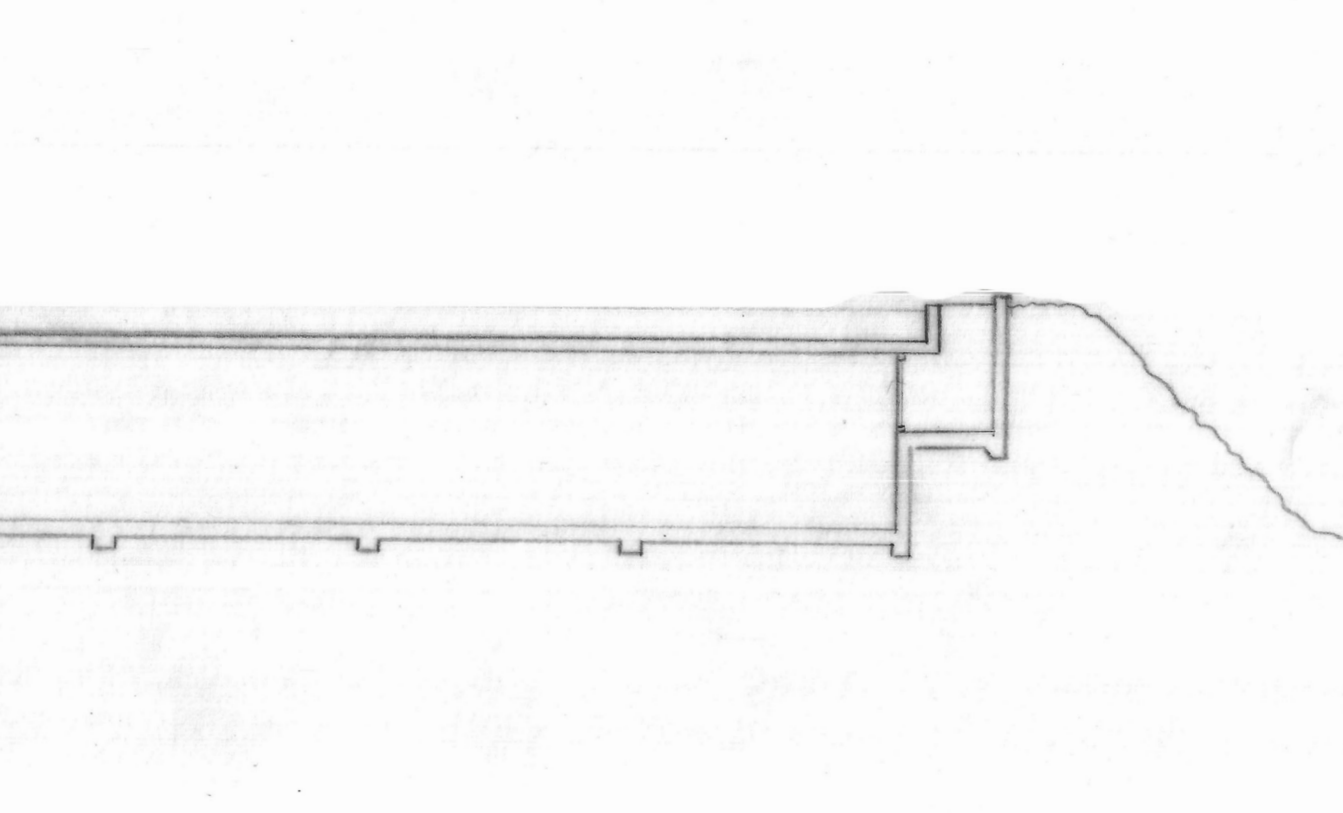


Fig.80: Development of roofs (Author, 2022).

The exploration of different heights and roof pitches to create an dynamic elevation and section that reflects the dynamic of the mountains is explored.



Axonometric Development



Fig.81: Axonometric drawing (Midyear) (Author, 2022).

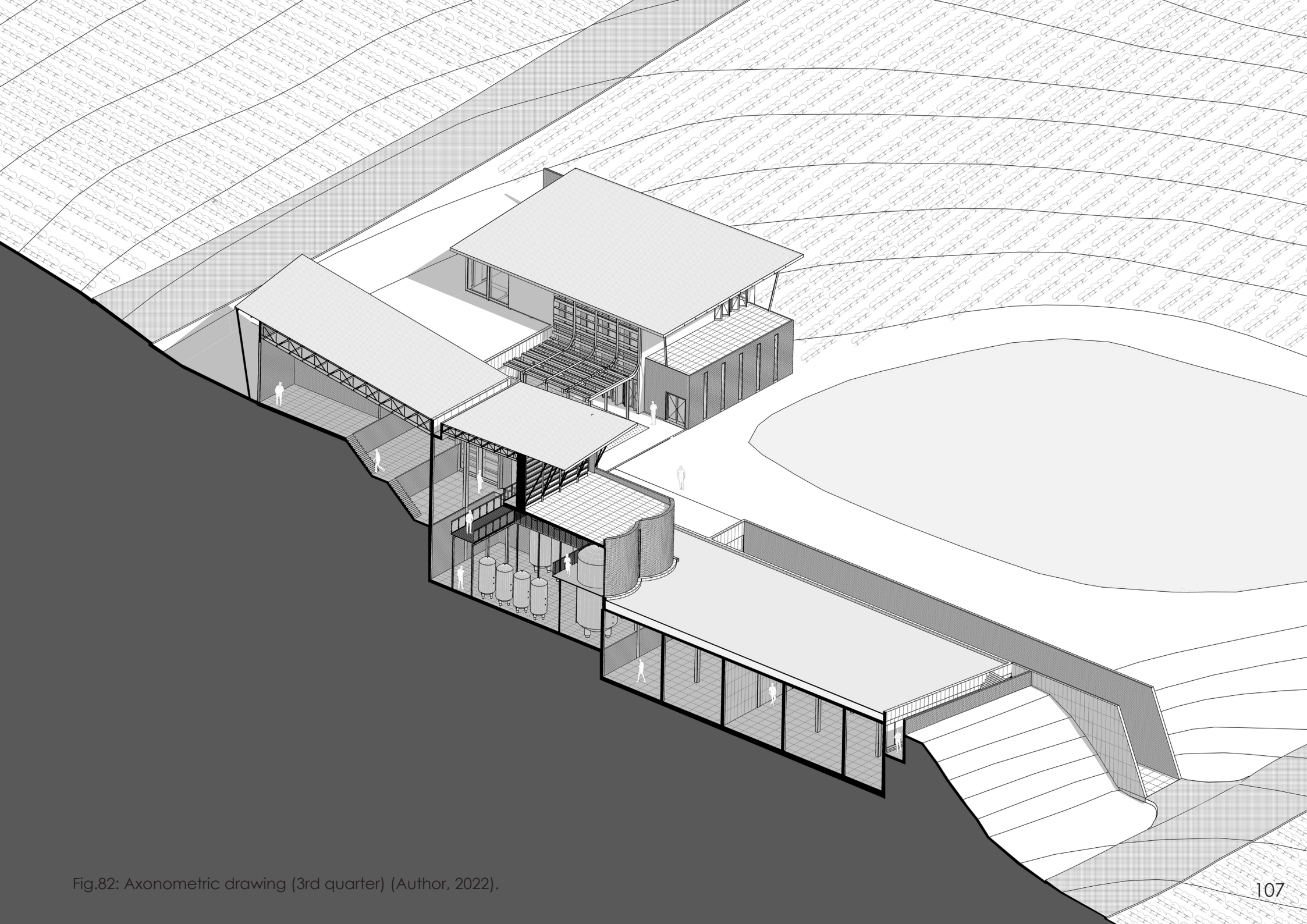


Fig.82: Axonometric drawing (3rd quarter) (Author, 2022).

Courtyard

The courtyard in the Cape Dutch homestead is formed by the letter shaped plan, which was systematically applied as the houses were expanded. These letter shaped plans formed courtyards that is used for various different functions. These spaces are in-between spaces of the main function of the home which forms chance encounters seeing that it is usually connected with the 'stoep' area which is a important space in South African architecture. These courtyards are a lot of the times filled with plant life as well as facing outward to the surrounding landscape, thus forming connections to the surroundings.

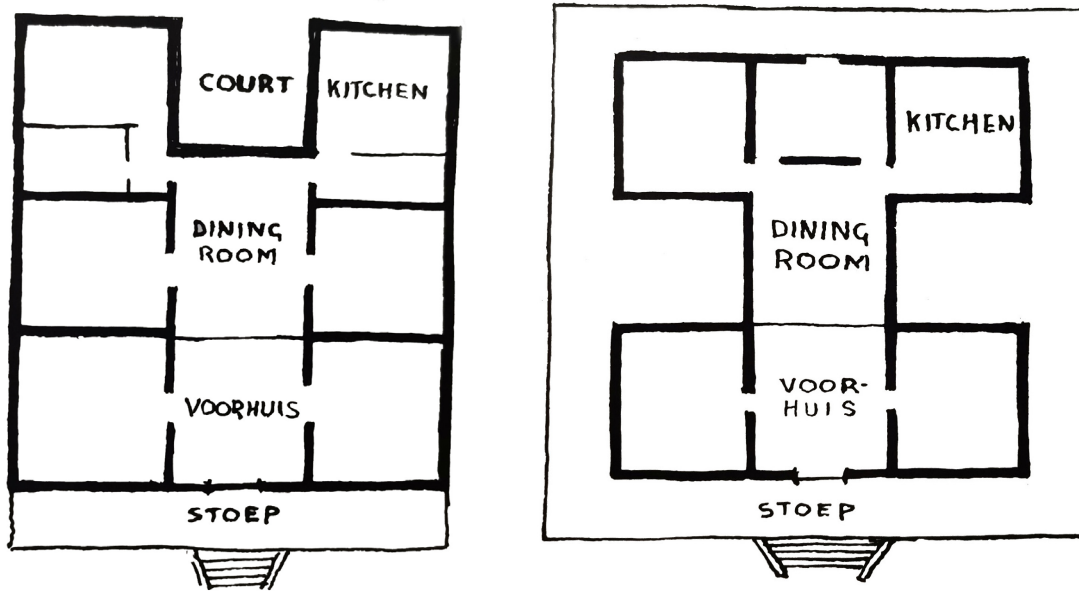


Fig.83: Example of letter shaped plans (Goldblatt & Margaret Clarke, 1981)



Fig.84: Photo of letter shaped plan courtyard (Goldblatt & Margaret Clarke, 1981)

Water with the presence of a small vineyard forming the connection with the landscape and the surroundings.

Seating space where tastings and wine pairings can be enjoyed in the atmosphere that is created by the courtyard.

Walkway that surrounds the courtyard creating a stoep.

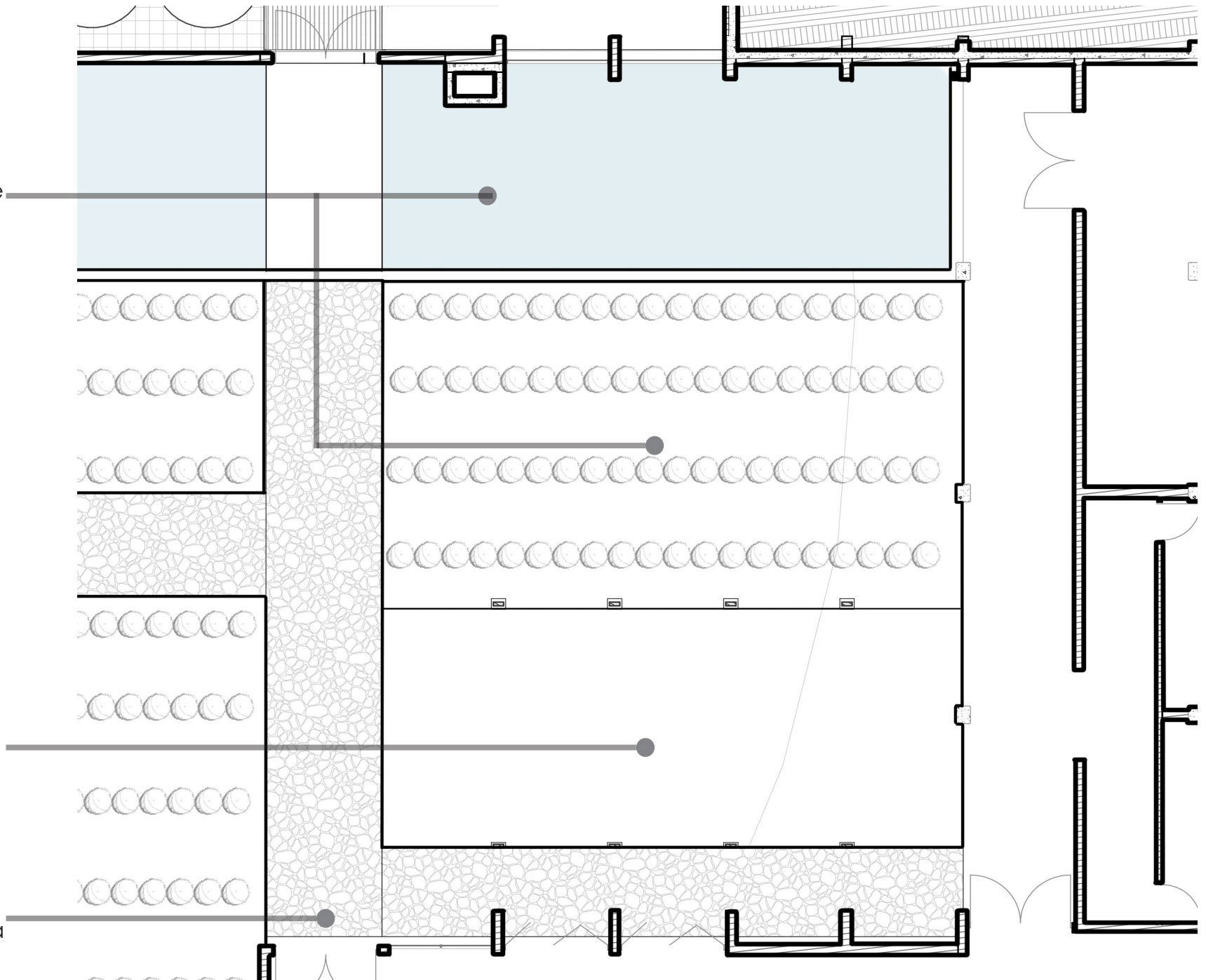


Fig.85: Partial plan of the influence of the letter shaped plan (Author, 2022).

Facade Development

The facade of Cape Dutch architecture has its roots in European Architecture, that was adapted to the materials that was available at the time as well as the site restrictions and opportunities. Being rooted in the European influence it is strongly geometrical and symmetrical. This geometrical approach to the facade provides the opportunity for the placement of windows, doors and columns. This results in a busy, but interactive facade that keeps the viewer engaged with the building. This is the aim of developing the facade of the modern winery.

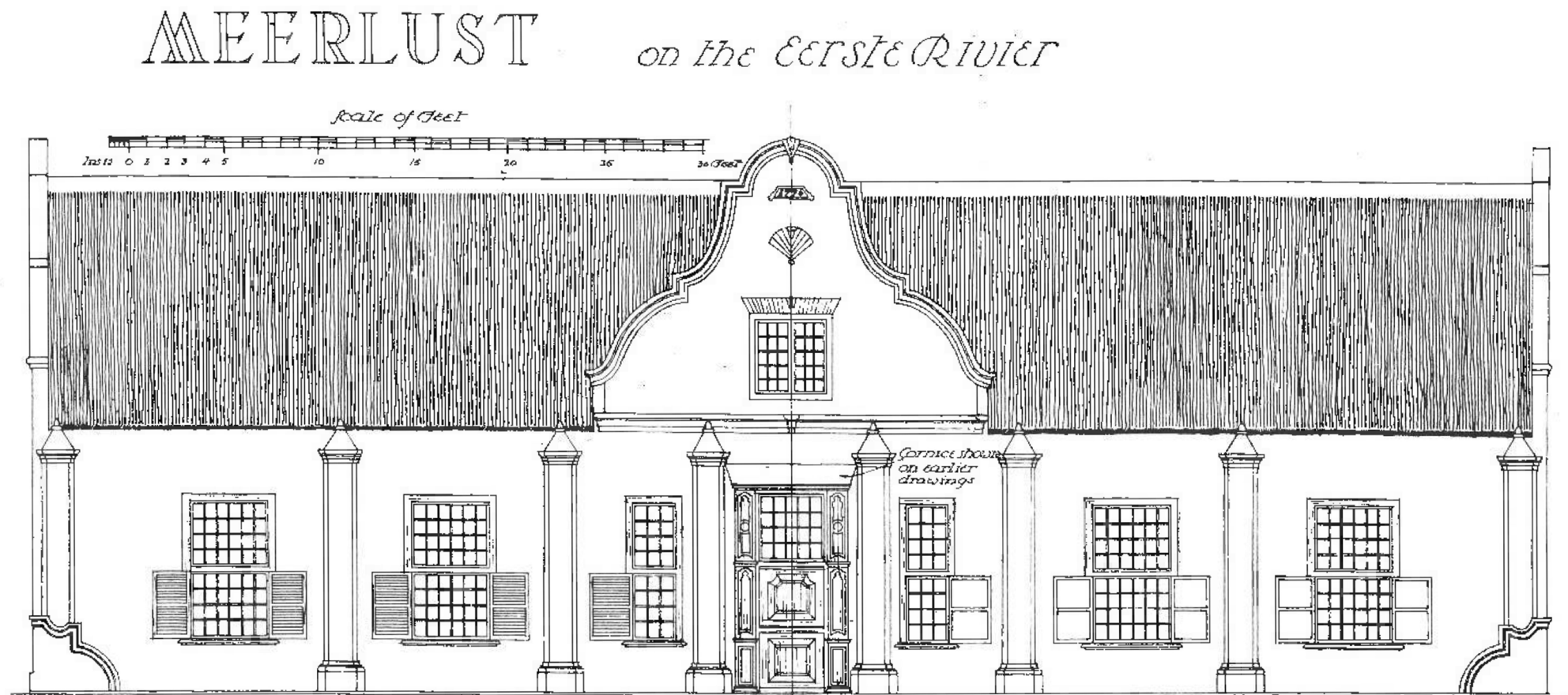


Fig.86: Meerlust elevation (Goldblatt & Margaret Clarke, 1981)

The influence of the geometry is however present in the design of the building. An five meter grid system is applied, which is used to structure the physical appearance of the building. The use of different materials within the grid gives the facade a geometrical quality. Keeping the viewer engaged is important, therefore having two different main materials (clay face brick and white plastered walls), helps the facade to appear more attractive.

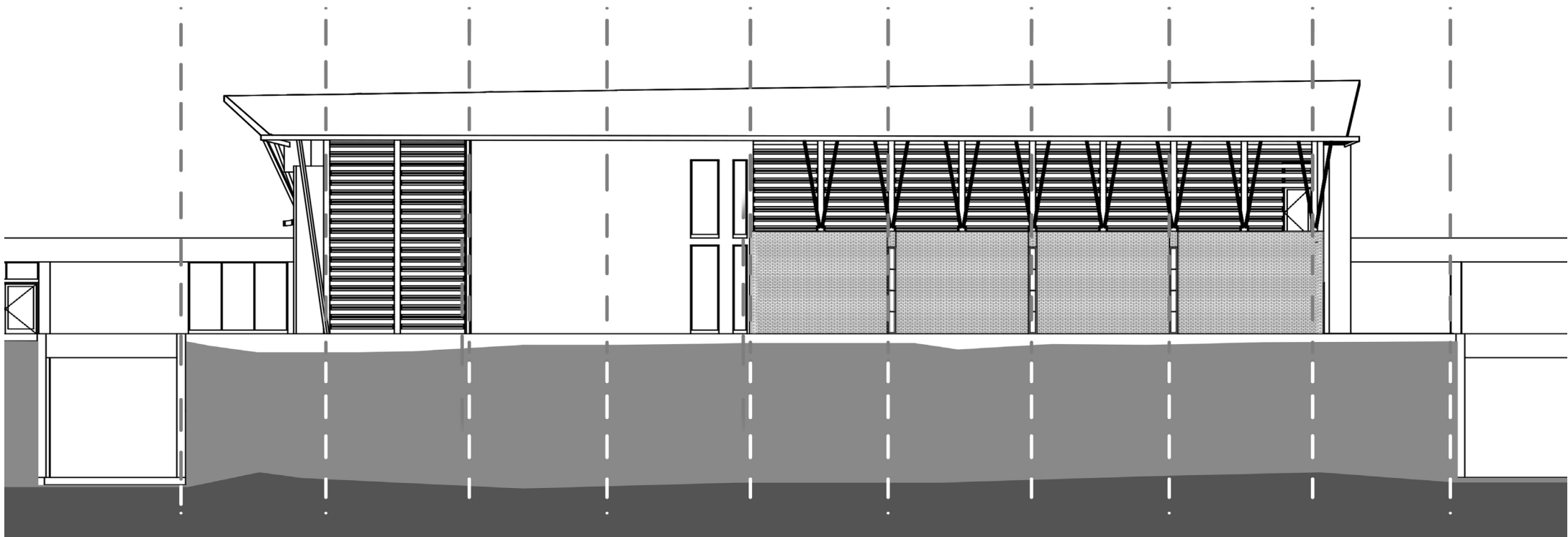


Fig.87: Facade development (Author, 2022).

Technical Development- Wine Process

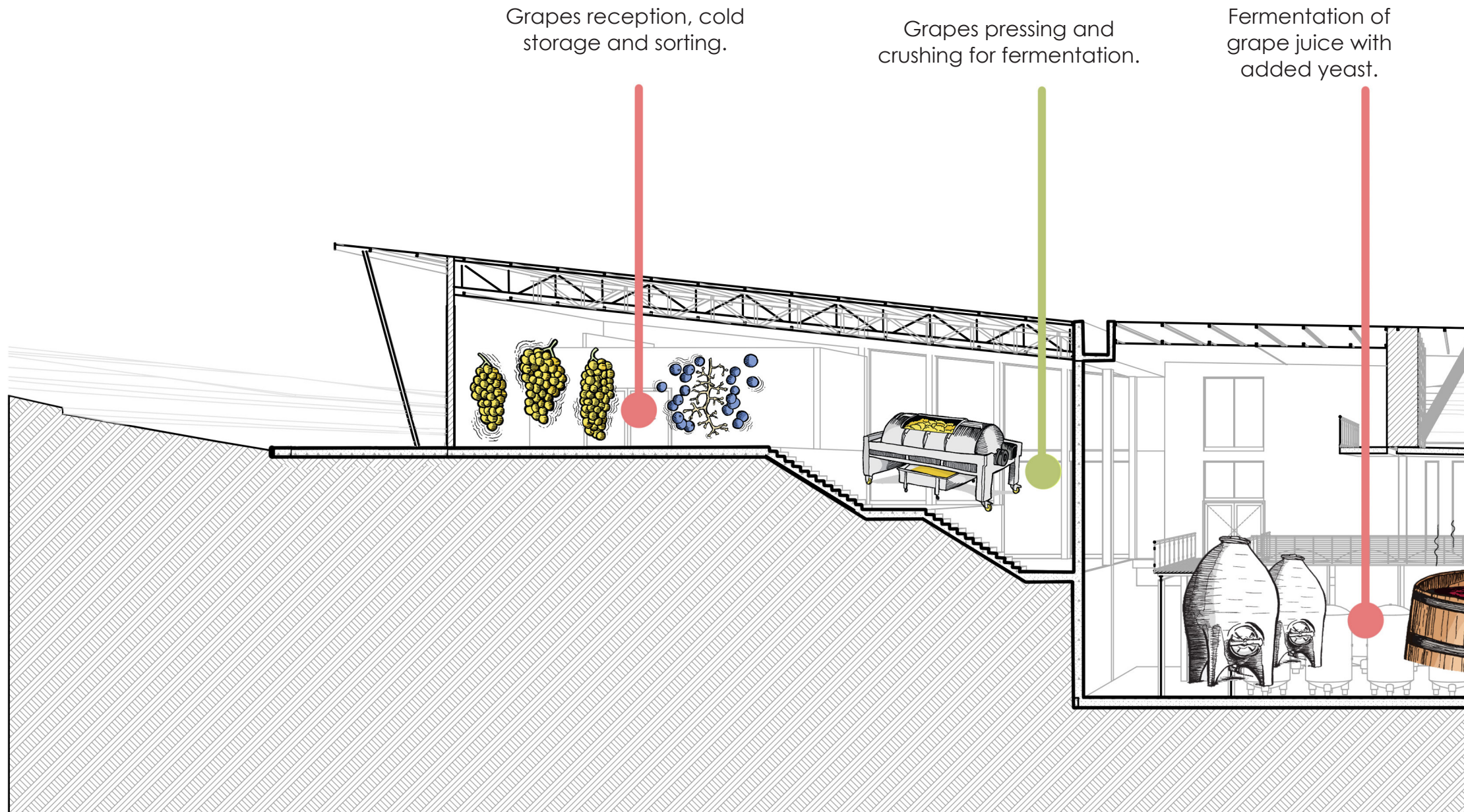
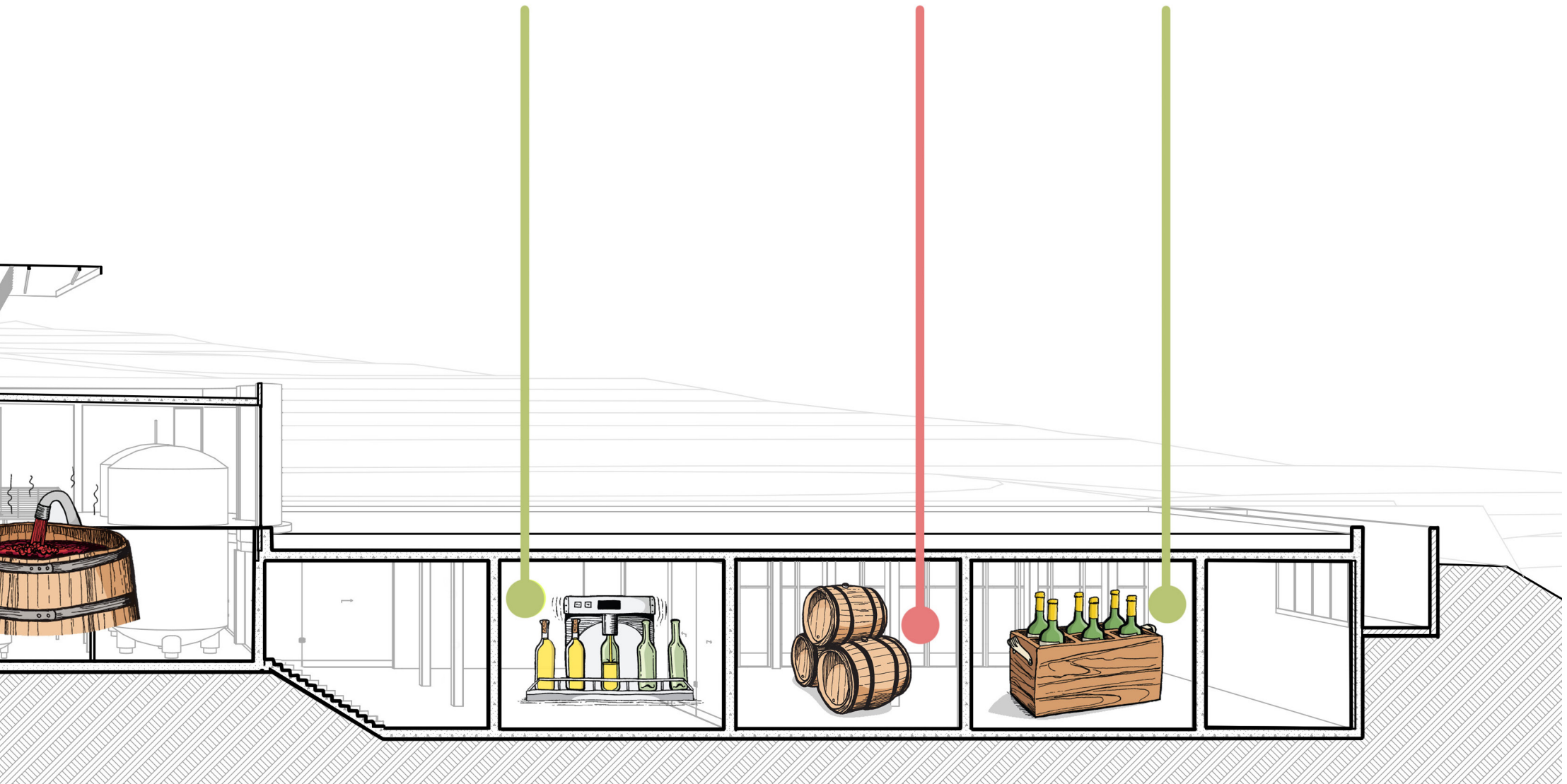


Fig.88: Wine process throughout the building stepped section (Author, 2022).

Wine bottling and
packaging station.

Wine aging in oak
barrels.

Packaged wine
store ready to be
shipped.



First Floor Process



Fig.89: Wine process first floor (Author, 2022).

Ground and Basement floor Process

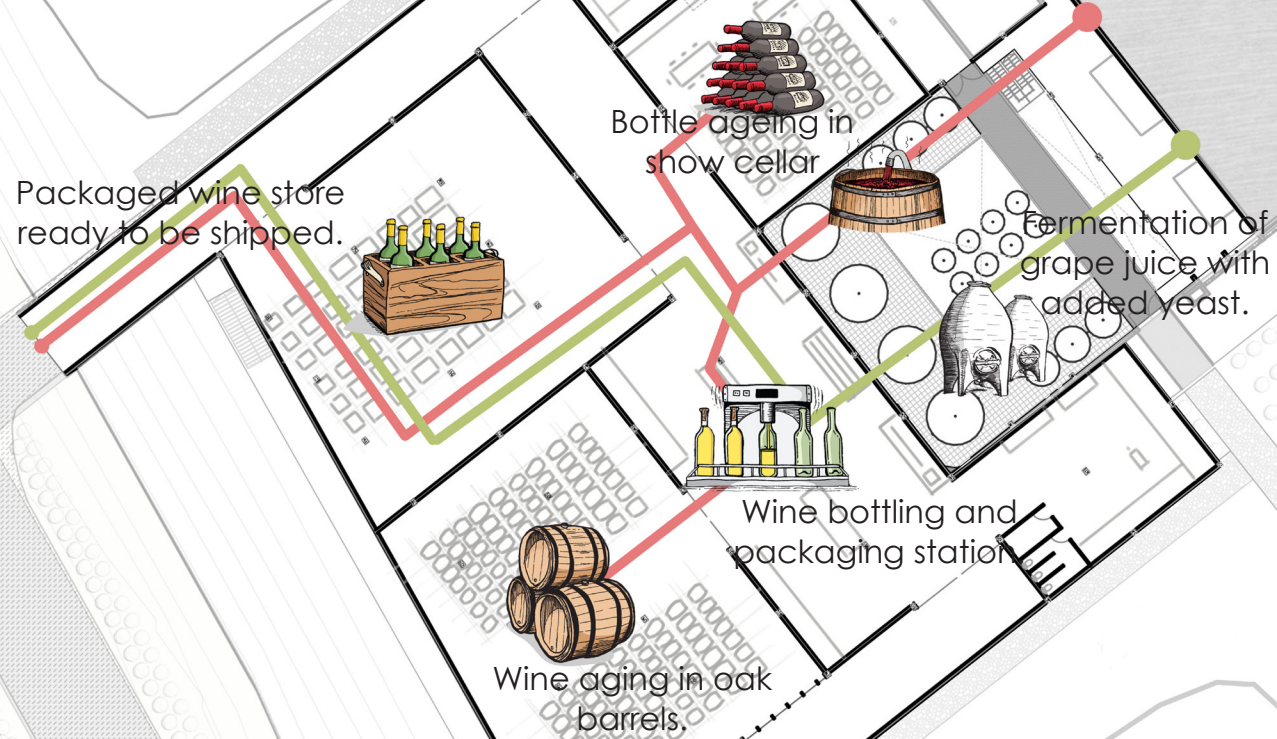


Fig.90: Wine process ground and basement plan (Author, 2022).

The Fermentation hall is perhaps one of the most important spaces in a winery because of the sheer space it requires for the fermentation tanks it becomes an hierarchical point in any winery. This hierarchical point in the building is an opportunity to create a poetic space, the large stainless steel tanks with the addition of natural light can create a visually aesthetic space. The fermentation hall is the space where the process of wine and the architecture contribute equally to the atmosphere of the space whilst also being dependent on each other, both enhances the other and together they can form an remarkable space.

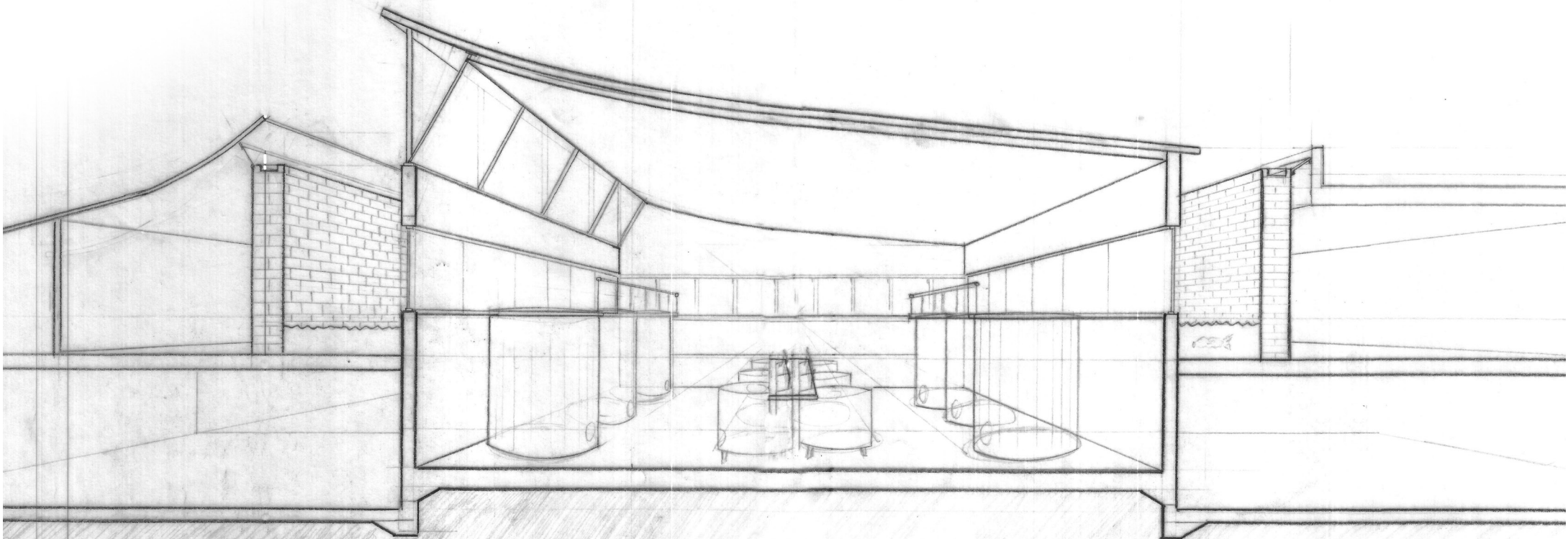


Fig.91: Perspective section of fermentation hall (Midyear) (Author, 2022).

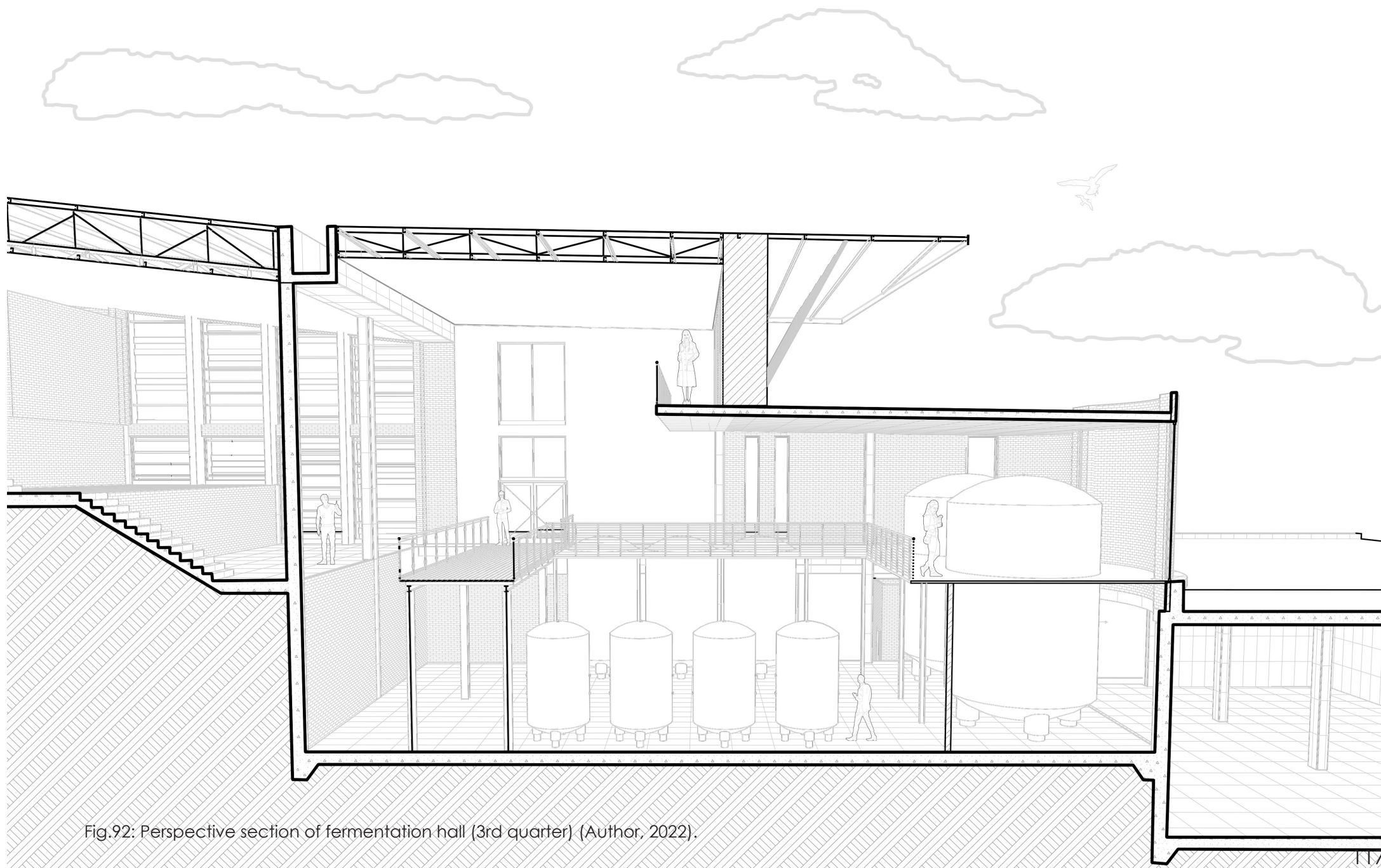
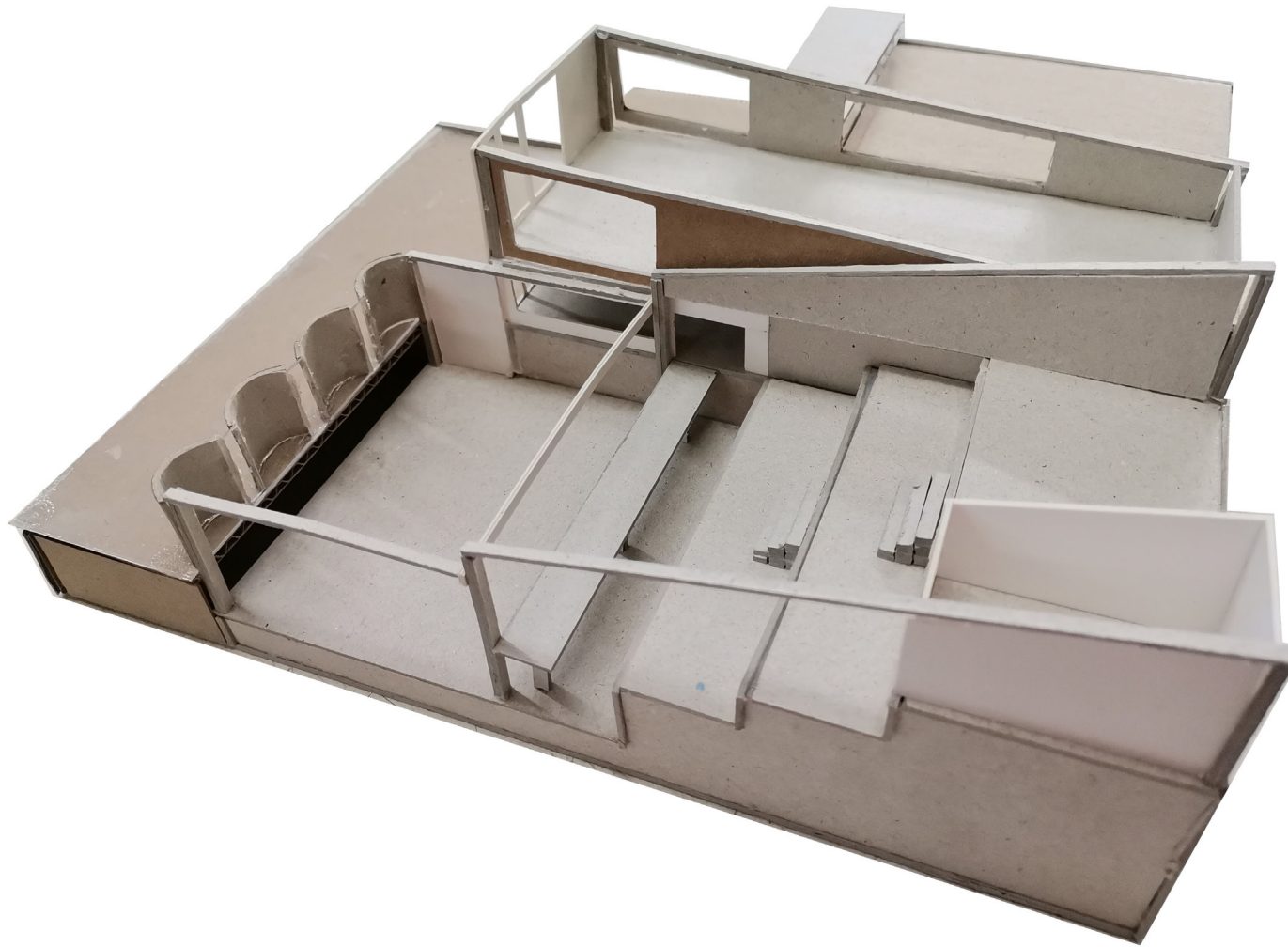


Fig.92: Perspective section of fermentation hall (3rd quarter) (Author, 2022).

Detail Model Development



This partial model explores the stepped section of the wine process as well as the roof structure of the cellar. In this model the roof structure of the wine cellar and the restaurant are separate and pitches at different angles, so where these two roofs meet there is an awkward connection that will cause problems. This prompted the resolution to have one roof system that is separated with a box gutter.

Fig.93: Model view of cellar (Author, 2022).

The materiality of the building consists out of two main materials. the first being white plastered walls that bares resemblance to that of cape Dutch architecture. This is done to remain within the built culture of the region which is prominent.

The second material is clay face brick that would resemble the clay soil of the site, as well as the rocky outcrops of the mountains in the background. These colors of the surroundings is especially prominent in the evening when the sun is getting low.

The white walls will be radiant throughout the day in the bright light, but when the day is getting late the orange colors of the landscape would radiate and the clay bricks will would merge with the landscape.

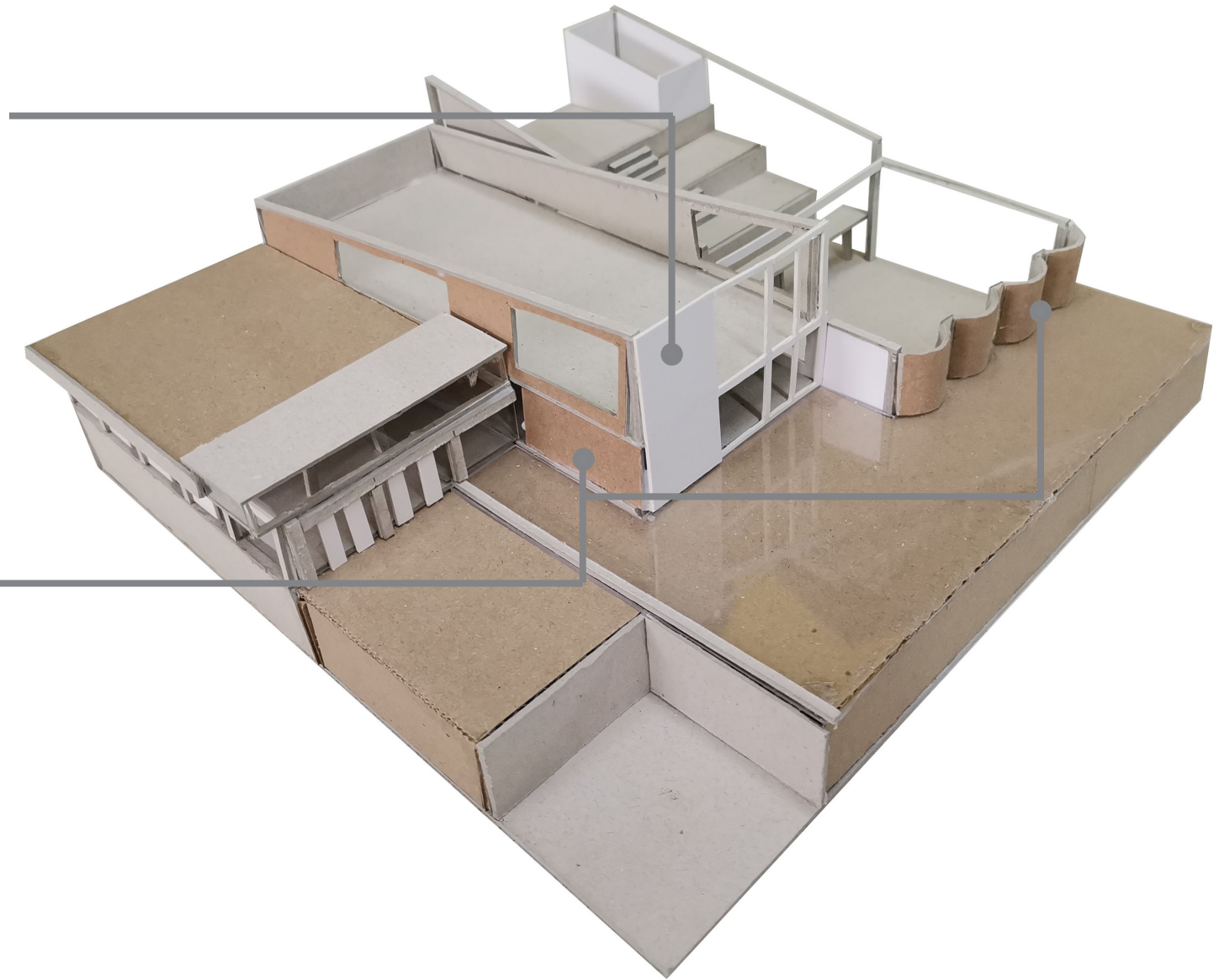


Fig.94: Model view of restaurant (Author, 2022).

Detail Development - Planted Roof

The planted roof system that is implemented throughout the building serves two purposes. The first is that it aligns with the theoretical discourse of the landscape and the building acting as two elements in cohesion to embody the larger context of the landscape.

There are numerous benefits of having a planted roof system. Firstly it helps with the cooling and the insulation of the building as well as the air quality of the building. The roofs' lifespan is also significantly increased by a planted roof, the maintenance of a planted roof is also not a lot.

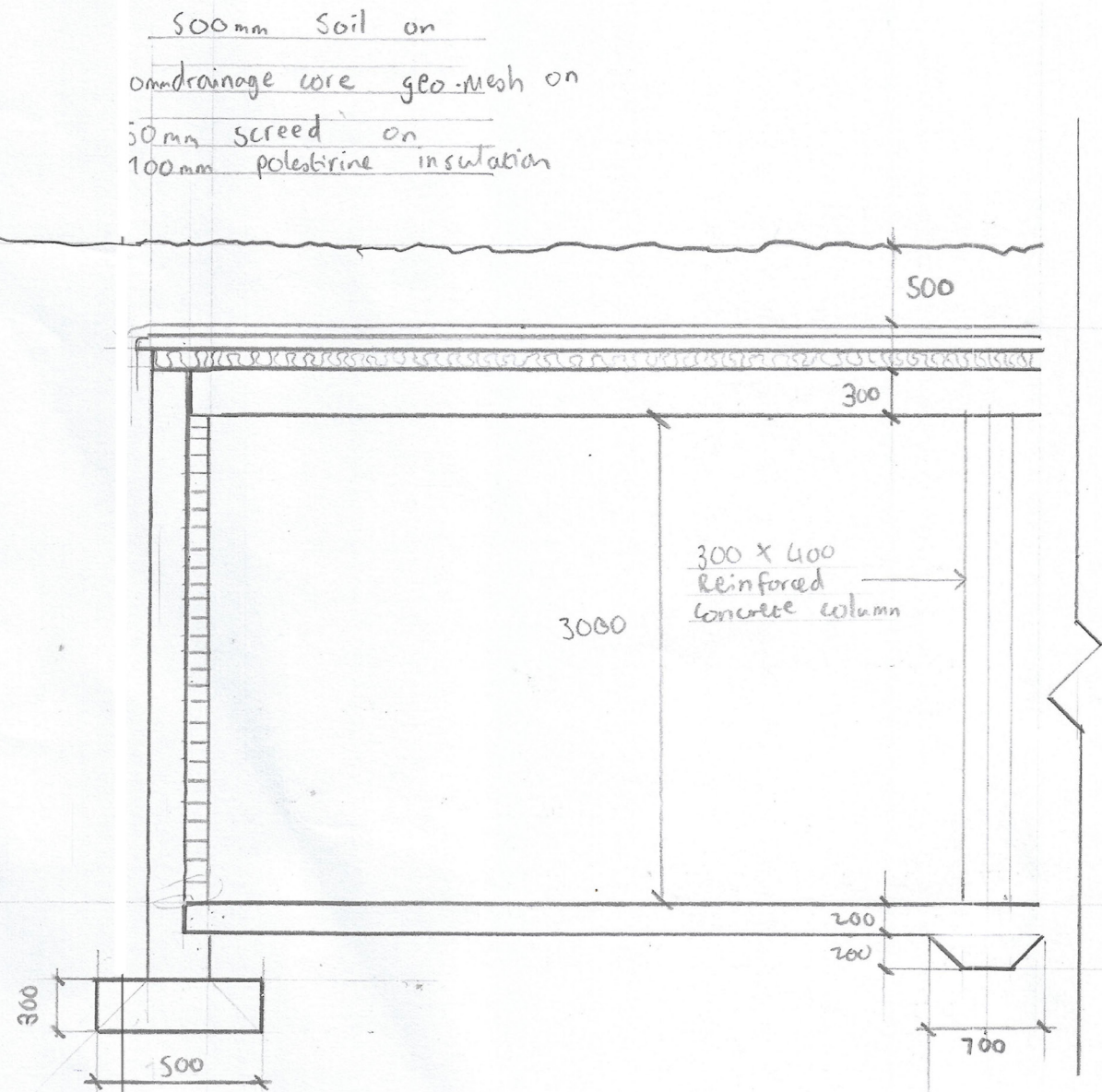


Fig.95: Detail of planted roof (Author, 2022).

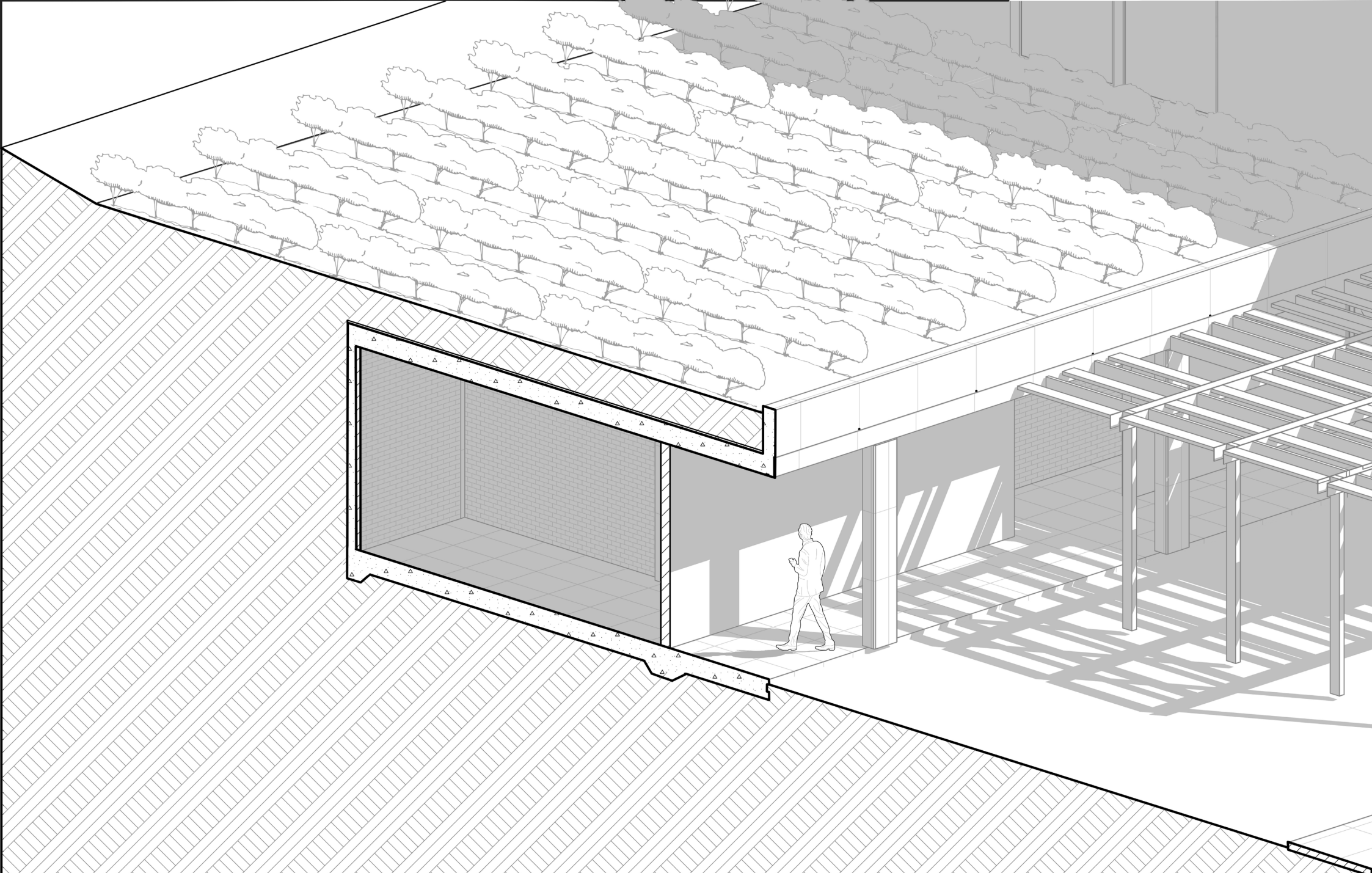


Fig.96: Axonometric of planted roof (Author, 2022).

Detail Development - Water Roof

The water roof of the basement cellar has both practical and esthetical value. The practical is that it acts as a cooling mechanism for the cellar below as well as the building seeing that the water continues into the building on the north and next to the building on the south. This allows for evaporative cooling to cool the building down.

The aesthetic value of the water roof is rooted in the waters' reflectivity. The water will reflect the building as well as the surrounding mountains and vineyards. When the building is approached its' qualities will be enhanced with the reflection.

Pad foundations is used for the basement cellar because it is built within the empty dam which has porous soil conditions. The pad foundations provides the necessary strength to the structure to ensure it is stable within the soil conditions that is present.

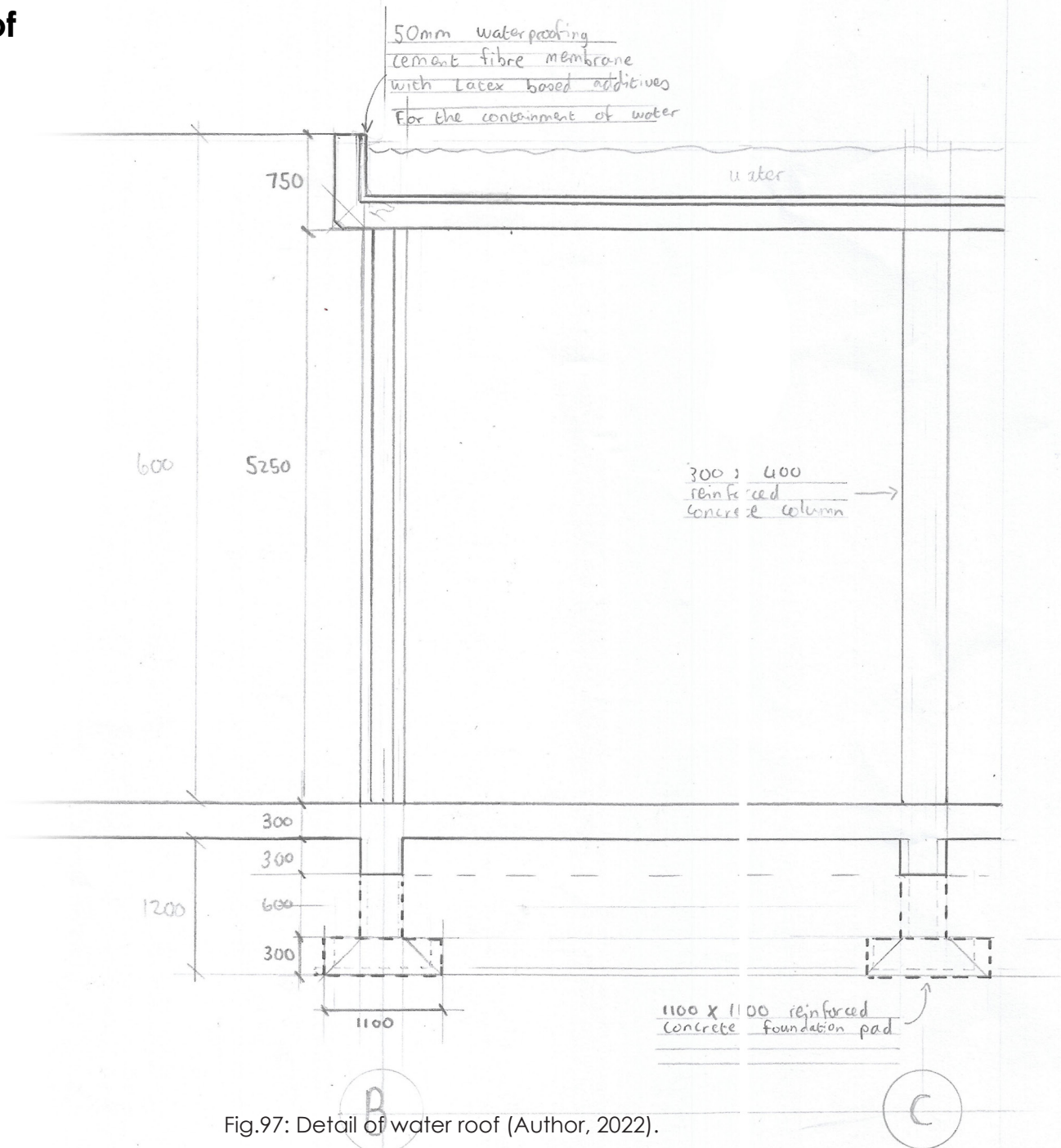


Fig.97: Detail of water roof (Author, 2022).

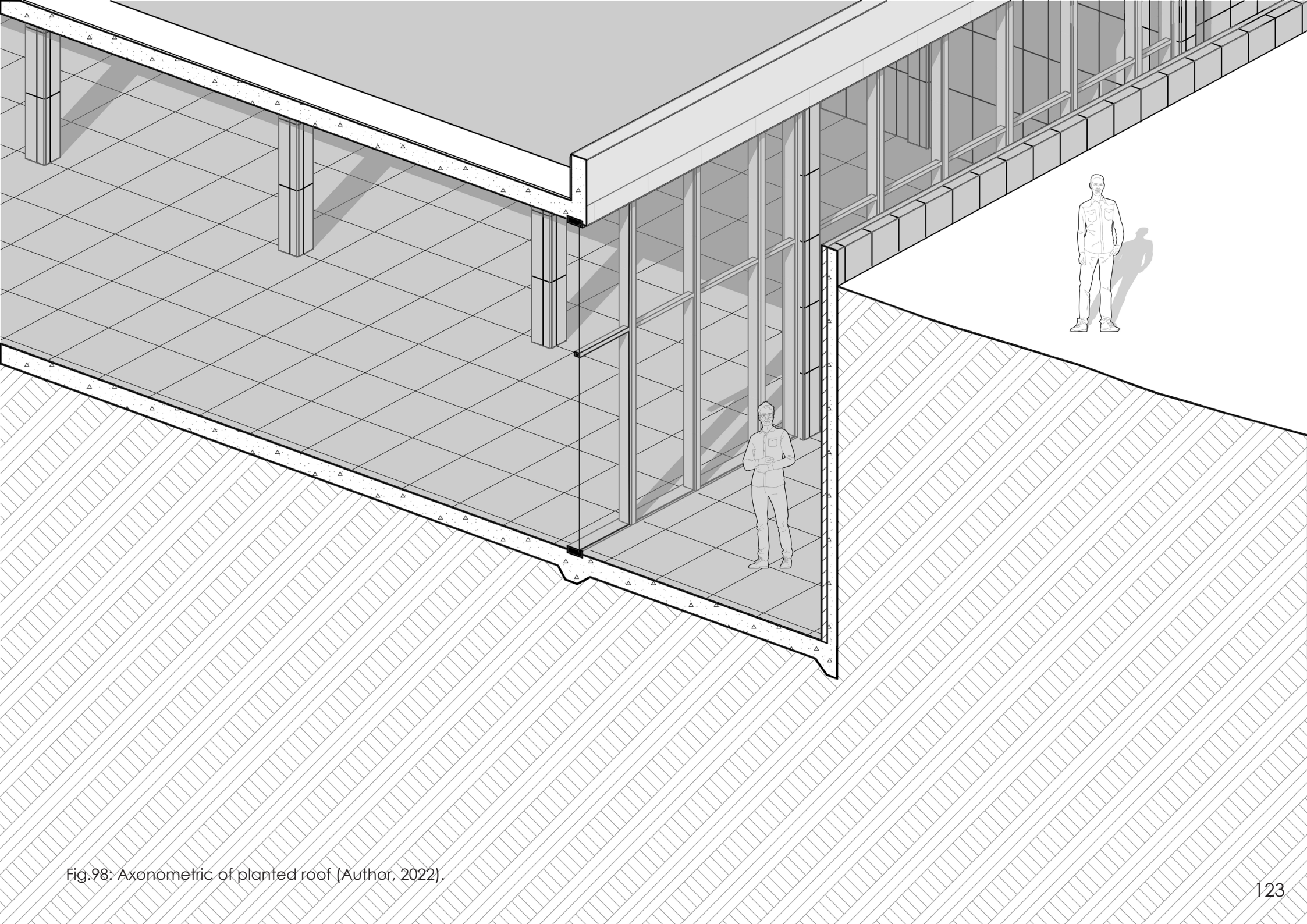


Fig.98: Axonometric of planted roof (Author, 2022).

Screen Development

The use of wooden shuttering or screens is a common trend in the Cape Winelands building tradition. Its roots however is located in the early Cape Dutch homesteads that the settlers built. Wood was a common material that was used in the construction of these homes, it was easily available, and served a practical function to keep the warm summer sun of the Cape at bay. The climate of the Cape Winelands is also well suited for the exterior use of wood which makes it desirable to use.



Fig.99: Traditional Cape Dutch home with wooden shuttering (Goldblatt & Margaret Clarke, 1981)

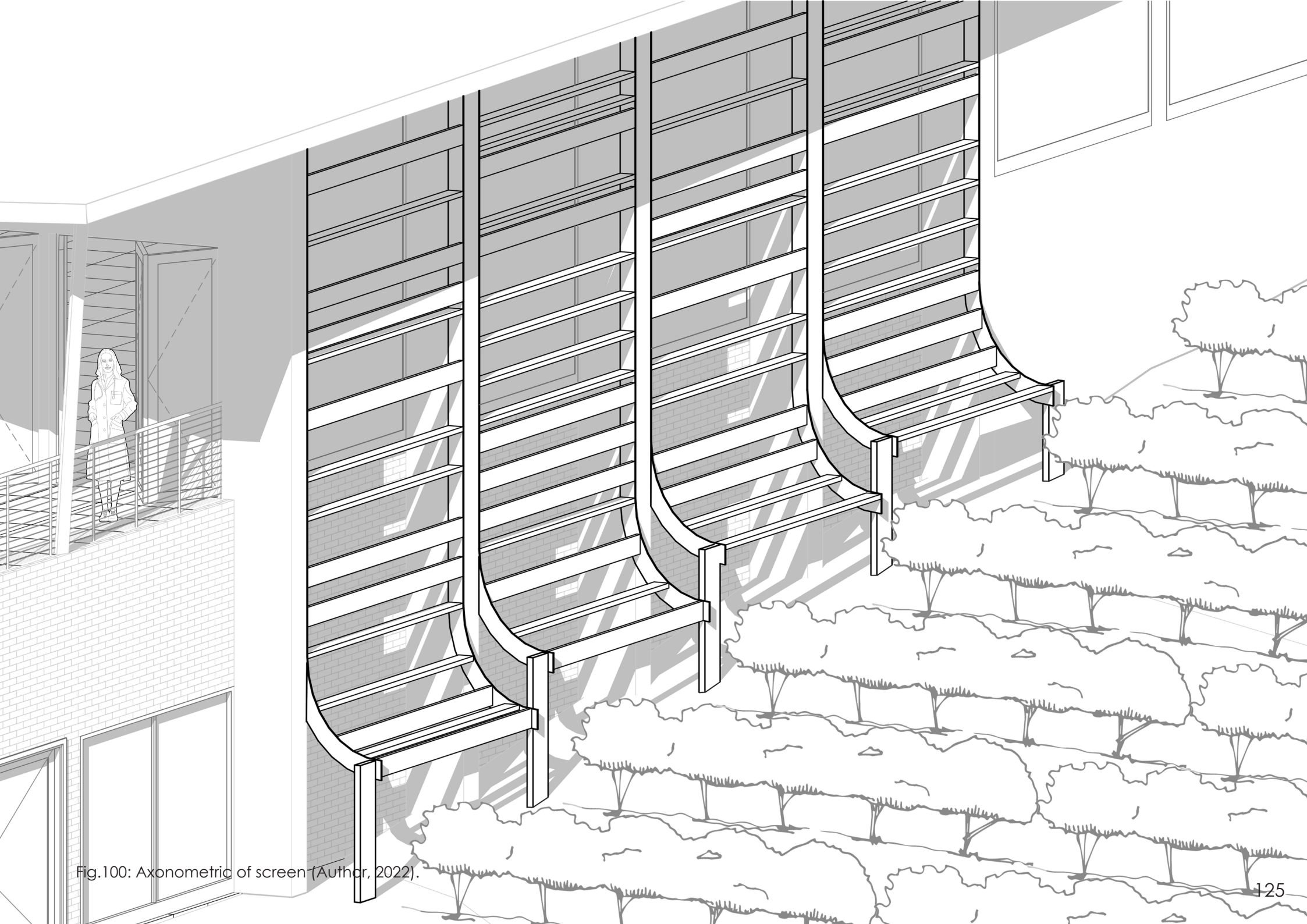


Fig.100: Axonometric of screen (Author, 2022).

Materiality



White plastered walls with a slight rough texture so that it would capture the sculpting light of the Cape landscape. It is derived from the traditional built heritage of the area.

Wooden screens and shutters is another trait of the Cape built heritage. It is suitable for use to the climate and aids the building in its solar strategy. It also forms part of the visual language of the building.

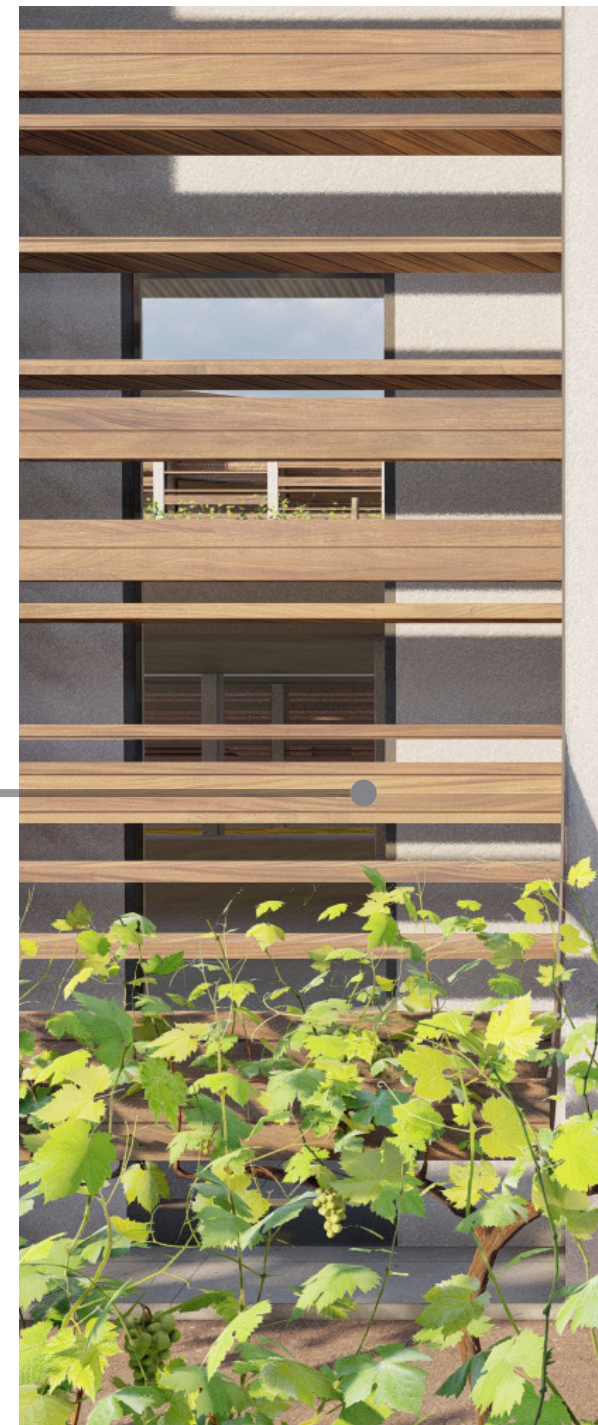


Fig.102: Render of wooden screen (Author, 2022).

Fig.101: Render of White plastered wall (Author, 2022).



Clay bricks is used along side the white plastered walls to bring contrast to the deign. Where the white walls relate to the built heritage of the area, the clay bricks directly relates to the site and the surrounding landscape. The soil of the region is predominantly clay, so the bricks would fit in with these colors.

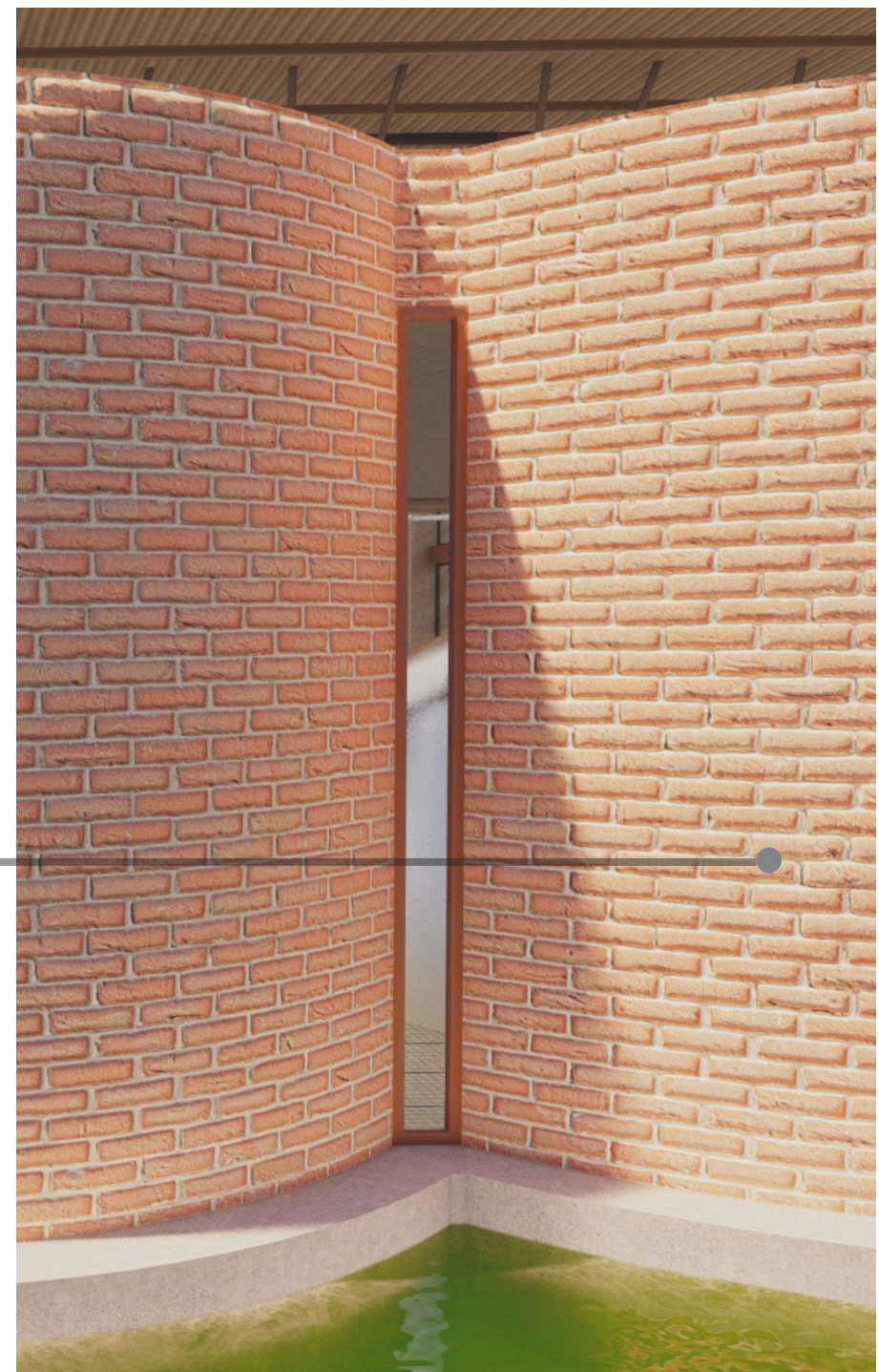


Fig.103: Render of clay bricks (Author, 2022).

7.

Final Design

- **Locality Plan**
- **Site Plan**
- **Floor Plans**
- **Sections**
- **Elevations**
- **Renders**
- **Axonometric Views**





Fig.104: Locality plan, not to scale (Author, 2022).

Site Plan

- 1- Entrance
- 2- Resturaunt
- 3- Cellar
- 4- Courtyard
- 5- Bar
- 6- Water roof over basement
- 7- Old dam
- 8- New Water reserve
- 9- Parking



Fig.105: Site plan, not to scale (Author, 2022).



Floor Plans

First Floor Plan

Scale 1:500

1- Reception

2- Resturaunt

3- Kitchen

4- Grapes Sorting

5- Cool Storage

6- Double Volume

7- Bar

8- Parking

9- Vineyards

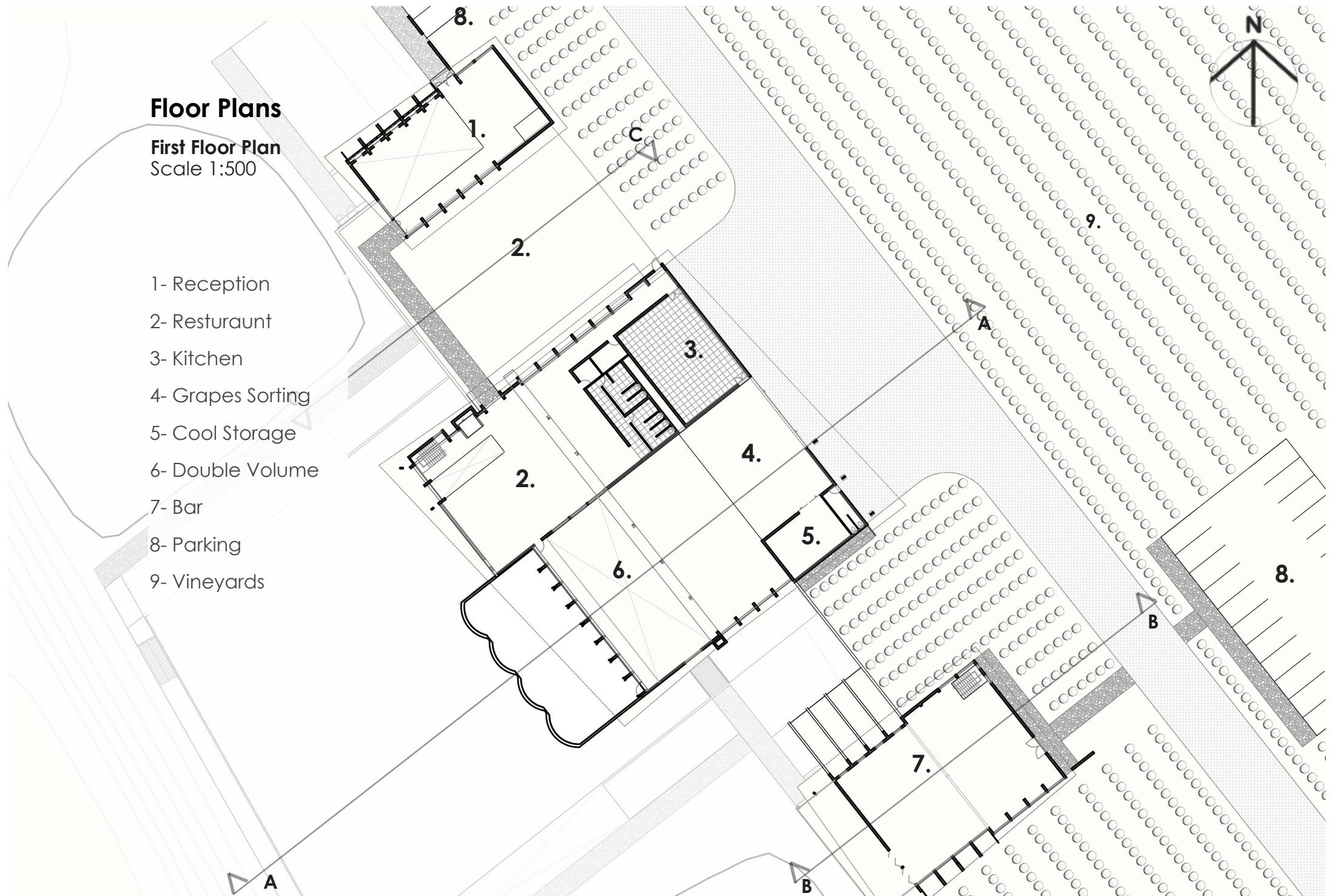


Fig.107: First floor plan (Author, 2022).

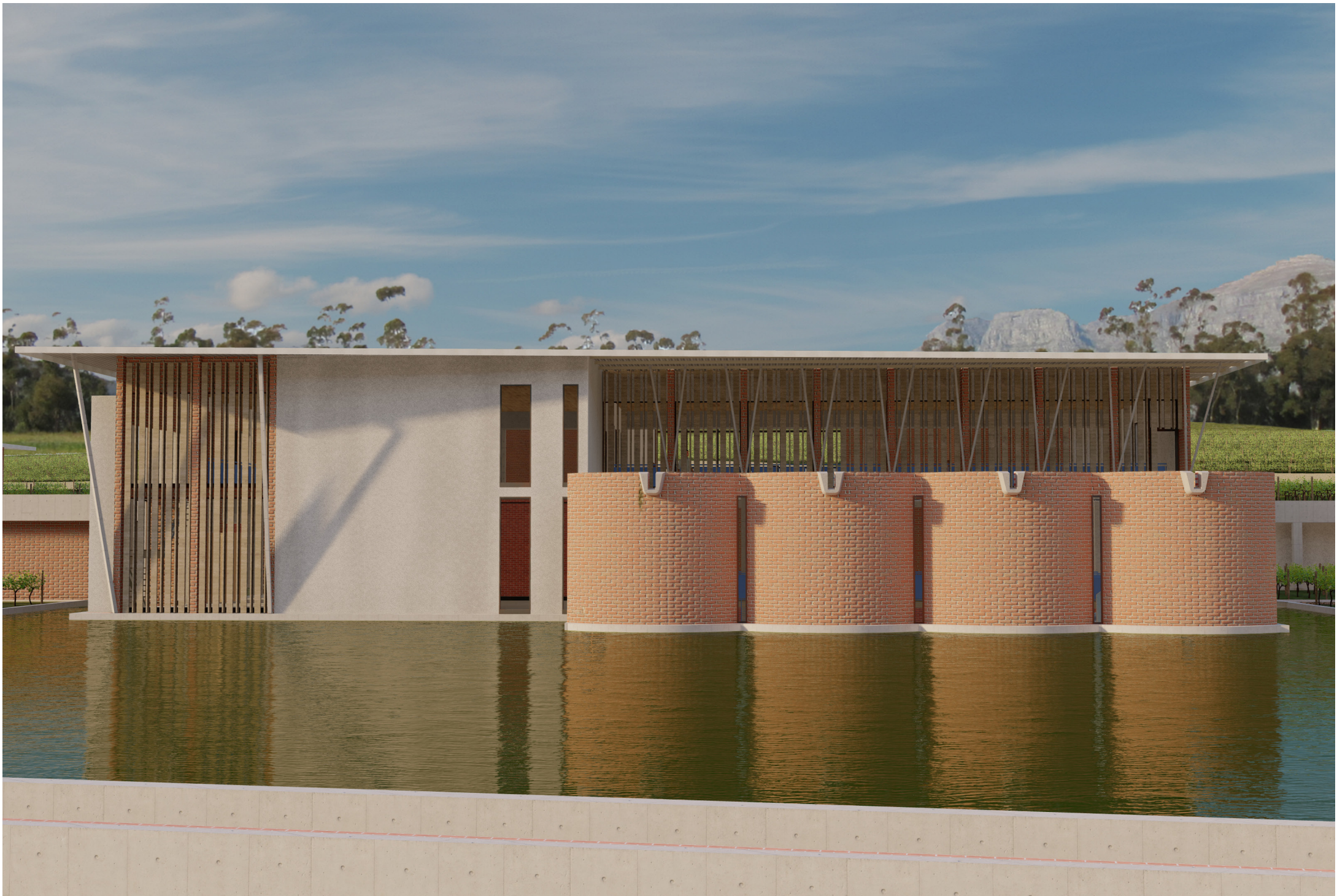


Fig.108: Render of western facade (Author, 2022).



Fig.109: Render, building in landscape (Author, 2022).



Ground Floor Plan

Scale 1:500

- 1- Tasting Garden
- 2- Wine Library
- 3- Offices and Lab
- 4- Boardroom
- 5- Fermentation Hall
- 6- Preperation Kitchen
- 7- Bathroom
- 8- Private Tasting
- 9- Courtyard



Fig.111: Ground floor plan (Author, 2022).





Fig.113: Render, western view (Author, 2022).



Fig.114: Render, cellar building (Author, 2022).

Basement Plan
Scale 1:500

- 1- Water Filtration and Machine room
- 2- Show Cellar
- 3- Finished Product Storage
- 4- Packagaing Station
- 5- Barrel Aging
- 6- Bottling Station
- 7- Storage
- 8- Circulation

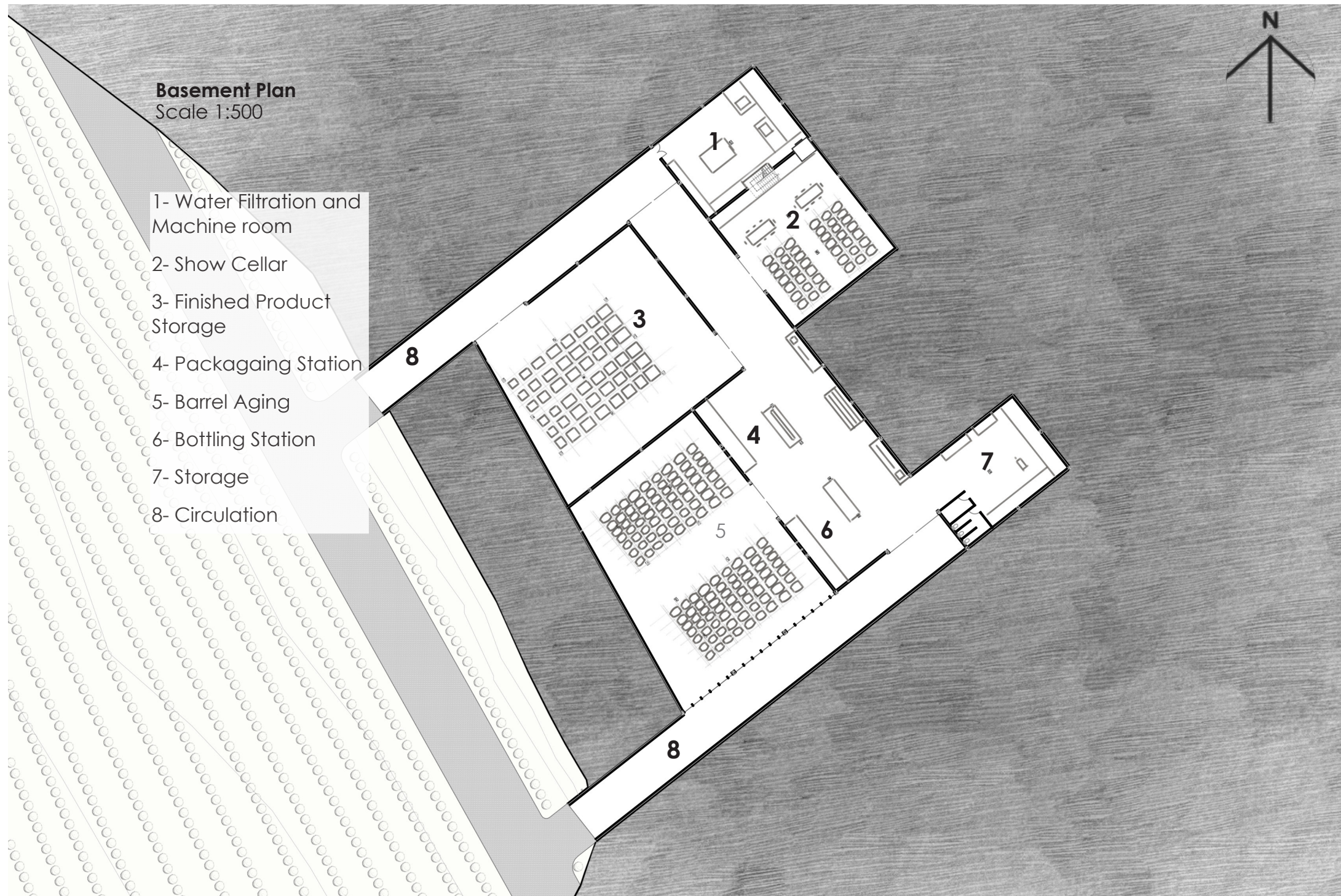


Fig.115: Basemnet plan (Author, 2022).



Fig.116: Basement circulation (Author, 2022).



Fig.117: Render, aging cellar (Author, 2022).



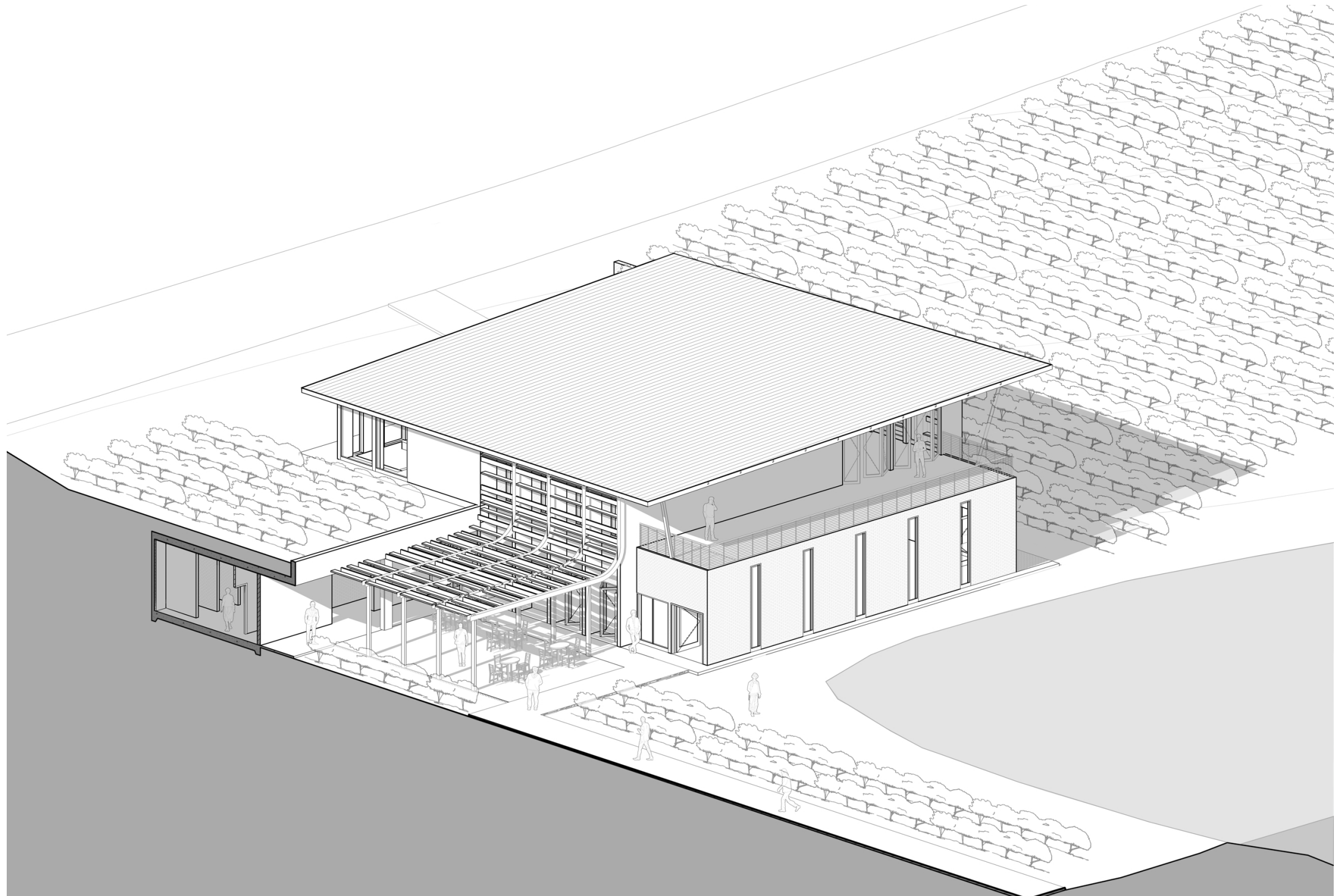
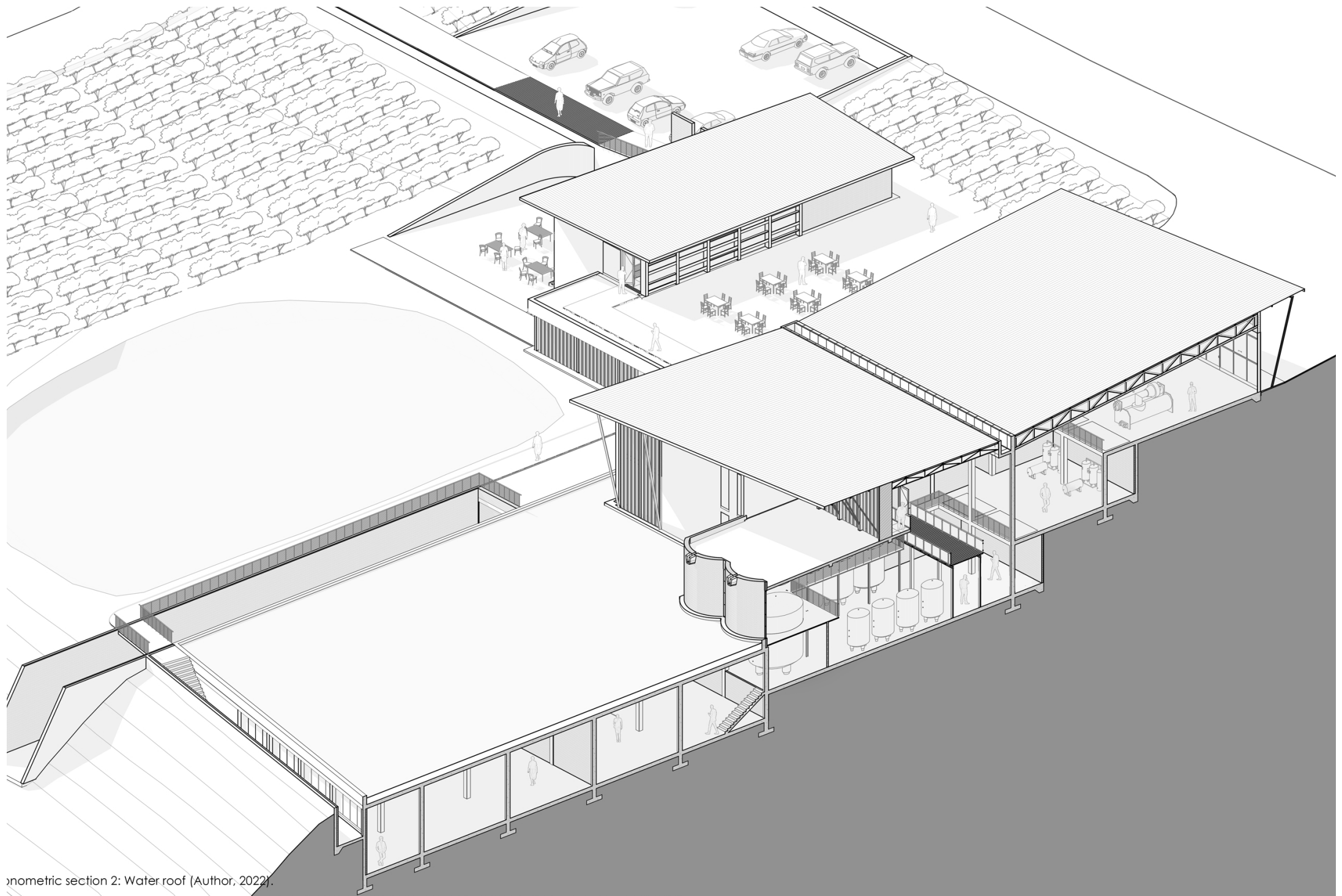


Fig.119: Section through planted roof (Author, 2022).



Fig. 120: Render, Southern building (Author, 2022).



Isometric section 2: Water roof (Author, 2022).

Fig.121: Section through cellar functions (Author, 2022).

Section

Section A-A
Scale 1:200

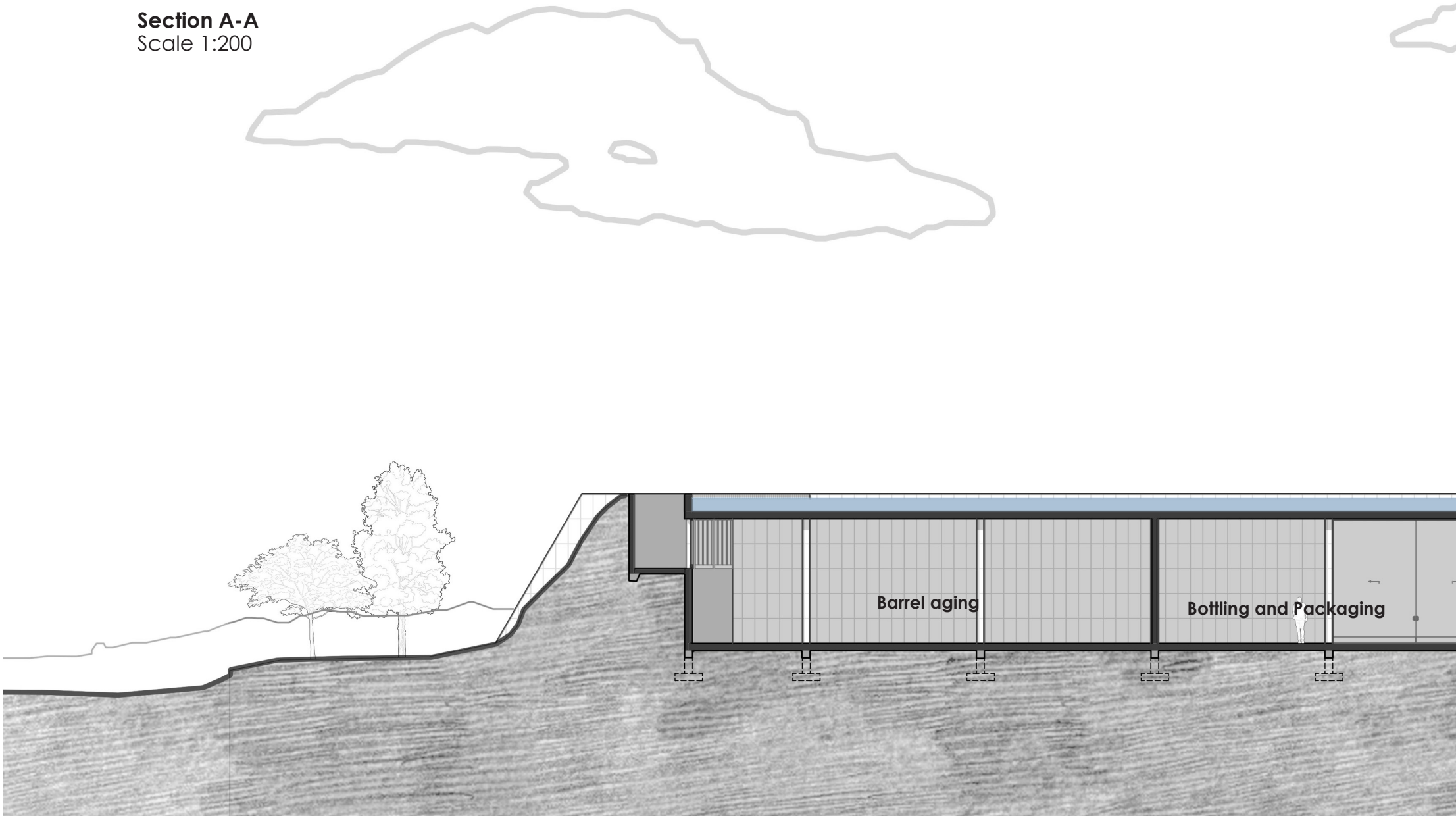


Fig.122: Section A-A (Author, 2022).

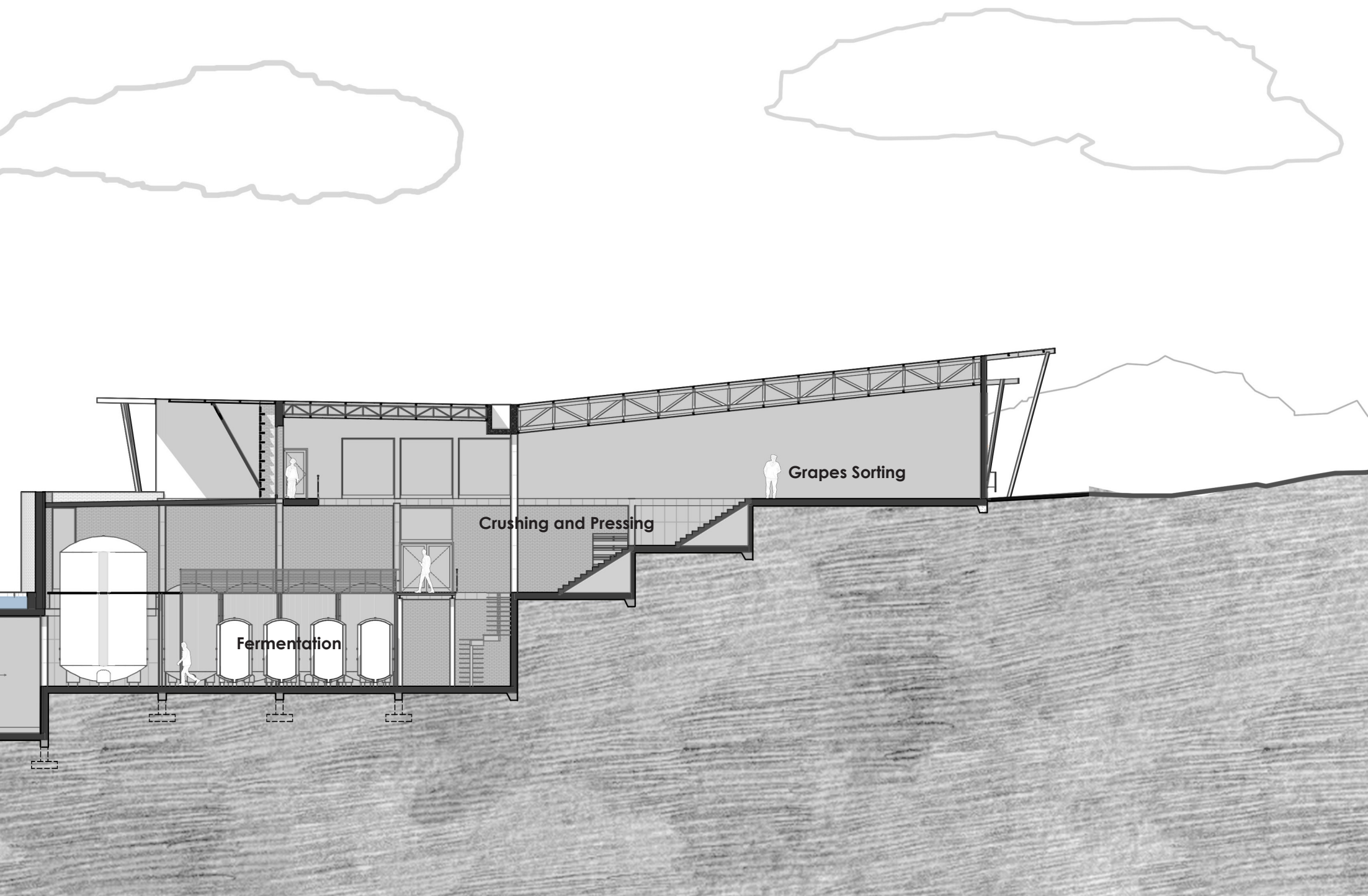




Fig.123: Render, cellar building (Author, 2022).

Axonometric Views

Entrance building

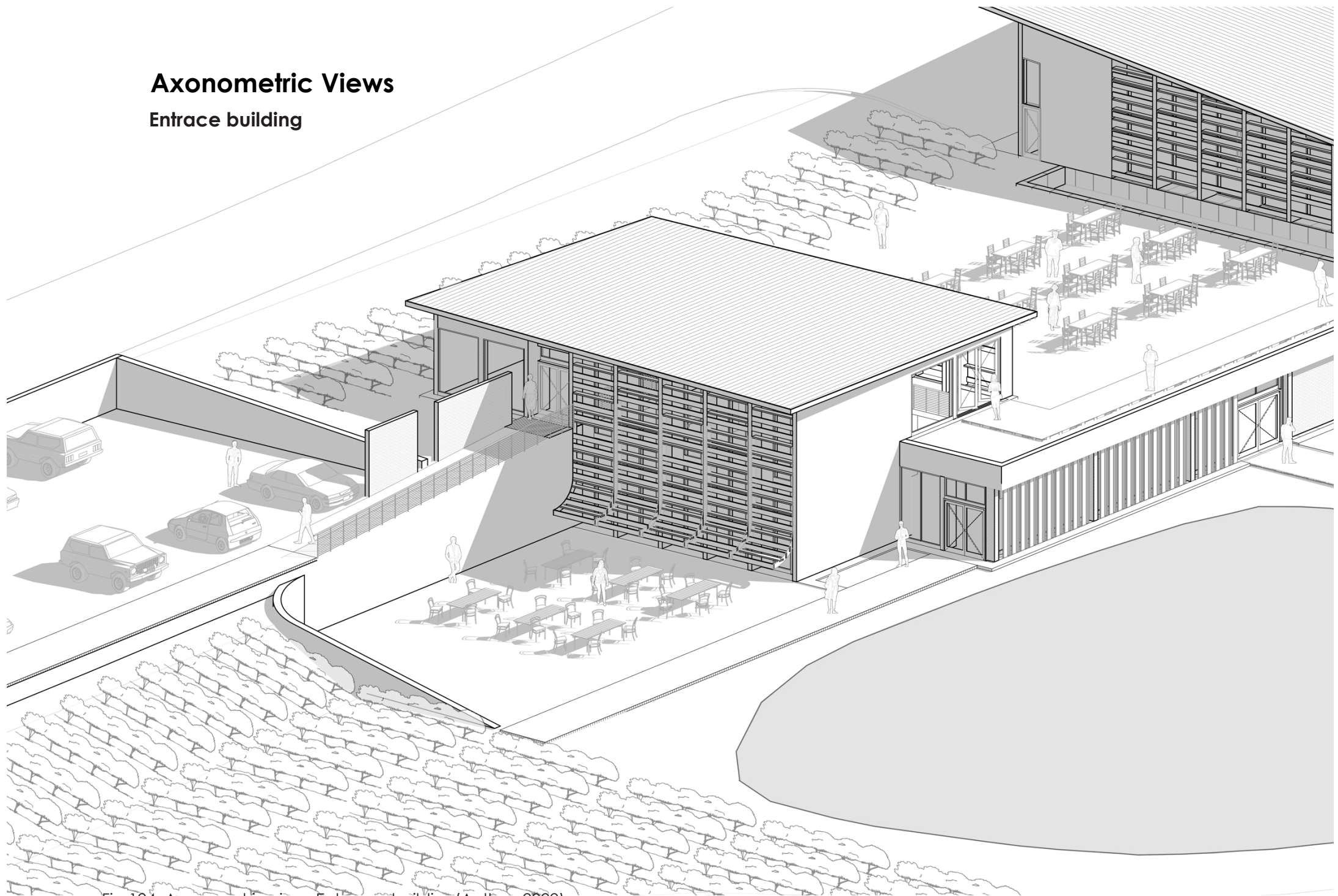


Fig.124: Axonometric view, Entrance building(Author, 2022).



Entrance and Restaurant

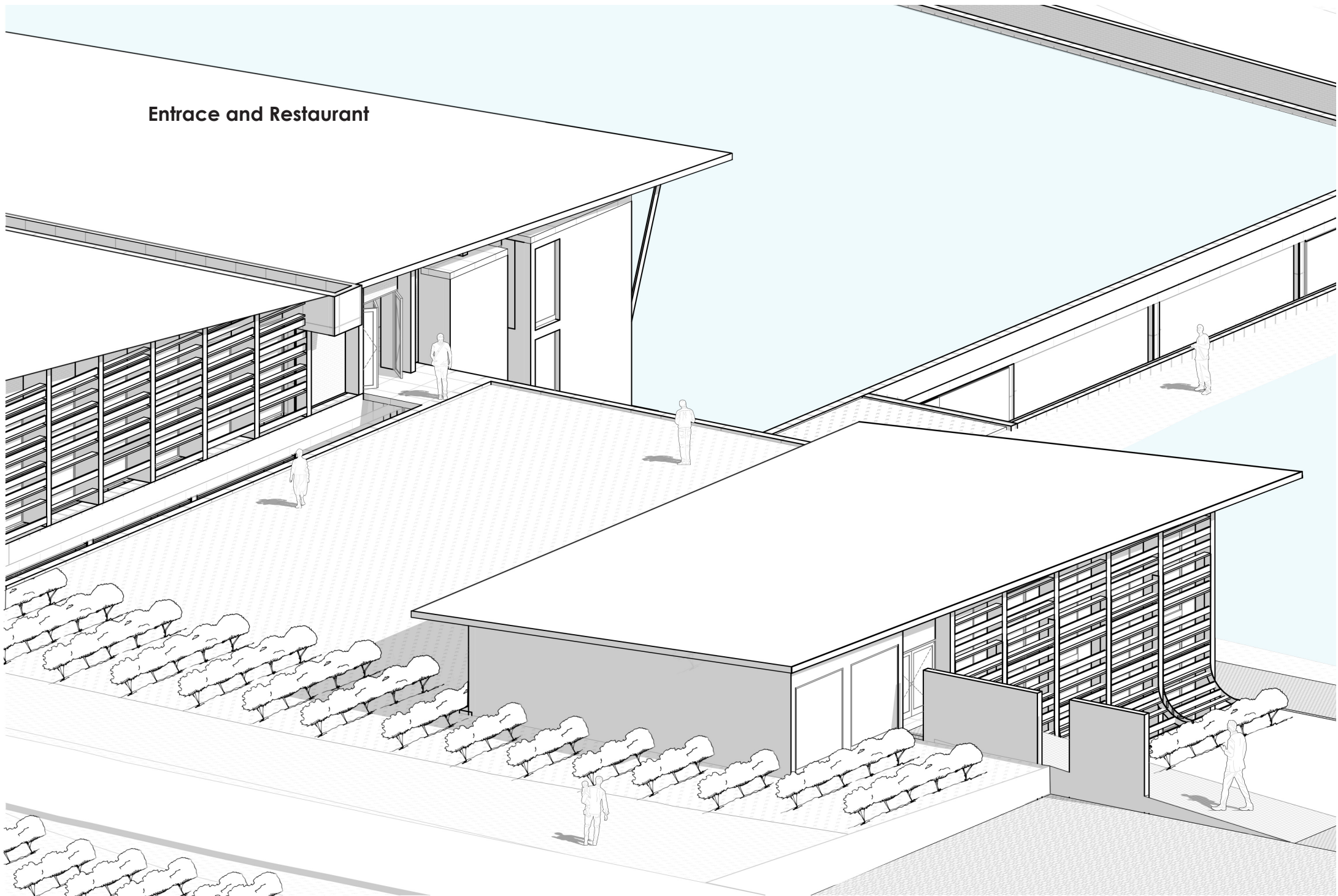


Fig.126: Axonometric view of entrance building and restaurant (Author, 2022)



Southern and Cellar Building

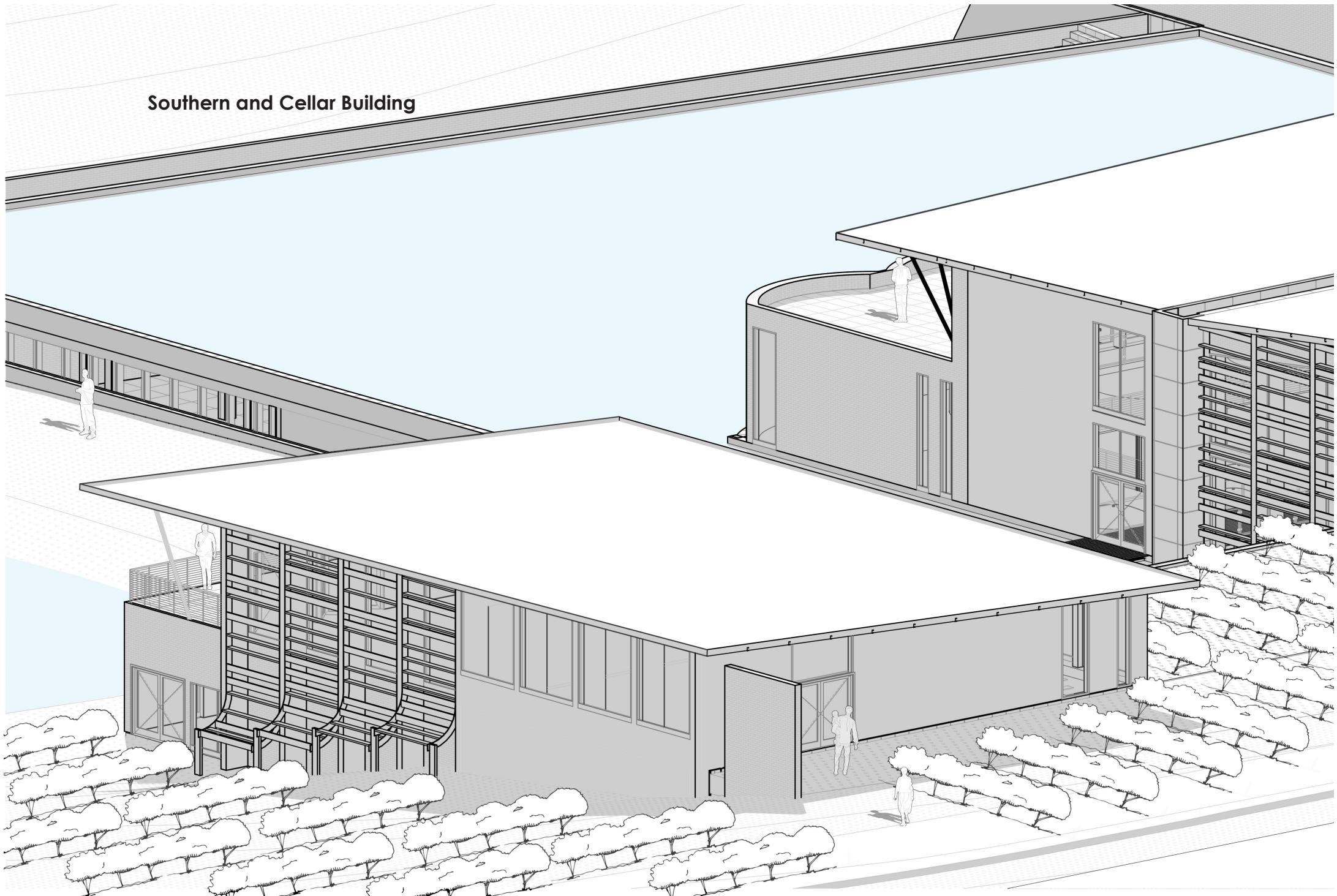


Fig.128: Axonometric view of southern building and the cellar (Author, 2022).

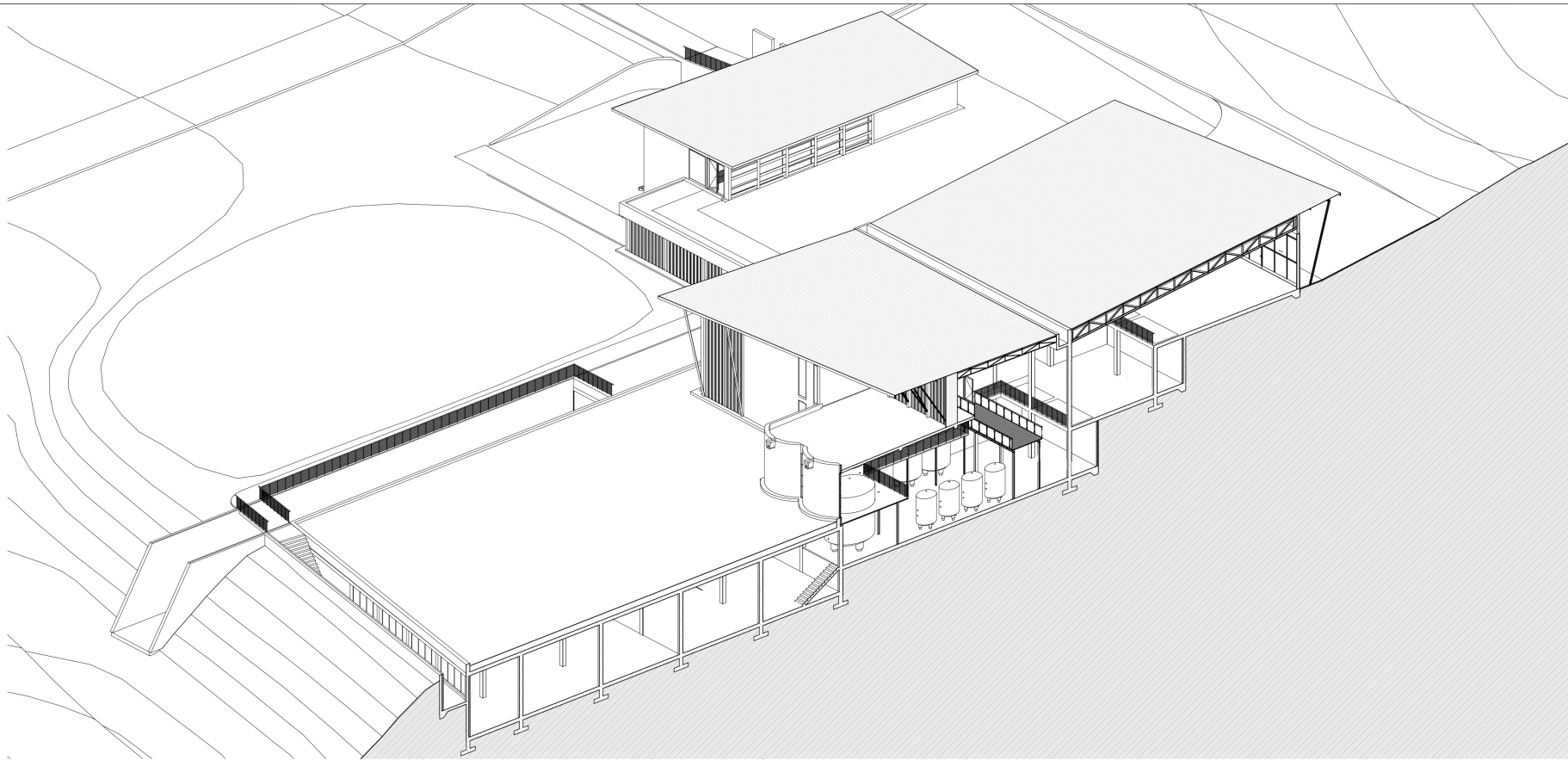




Fig.130: Render, Summer landscape (Author, 2022).

8.

Construction Documentation



Notes:

ARCHICAD EDUCATION VERSION	
	Face brick wall finish
	Rough white plaster wall finish

- Grid with double letters only applied to Basement plan (Example - AA)
- Grid with single letters only applied to ground and first floor plans (Example - A) 5m x 5m

Project Name	Wine, Landscape and Architecture
---------------------	----------------------------------

Site location
Welvarpas Farm
Perdeskoen Road
Wellington
7655

Client	Wellington Wineries
---------------	---------------------

Coordinates
Lon: 19°1'43.7"E
Lat: 33°39'11"S

Francois Viljoen

2022/10/27

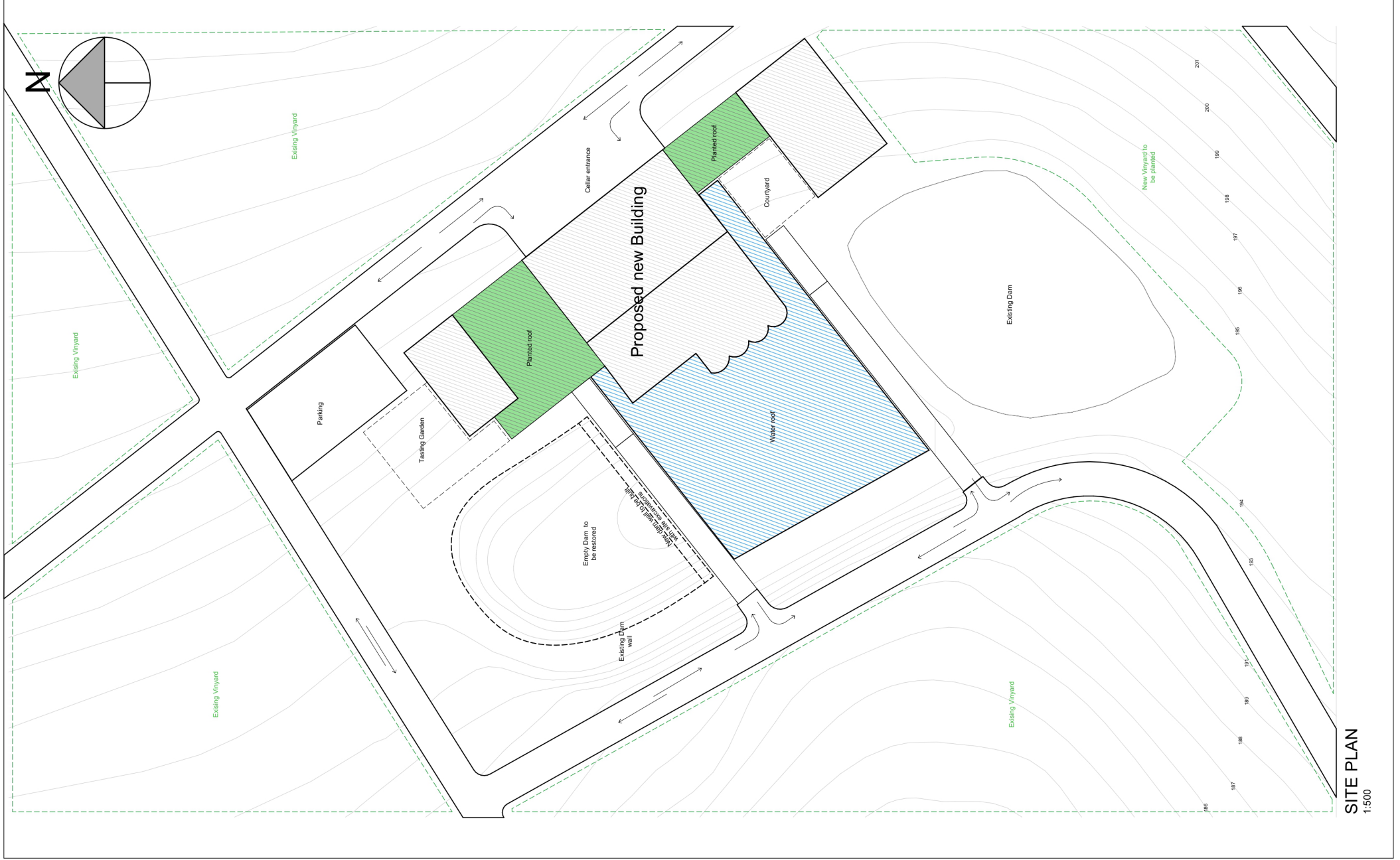
Drawing type	Sections
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Scale
not to scale

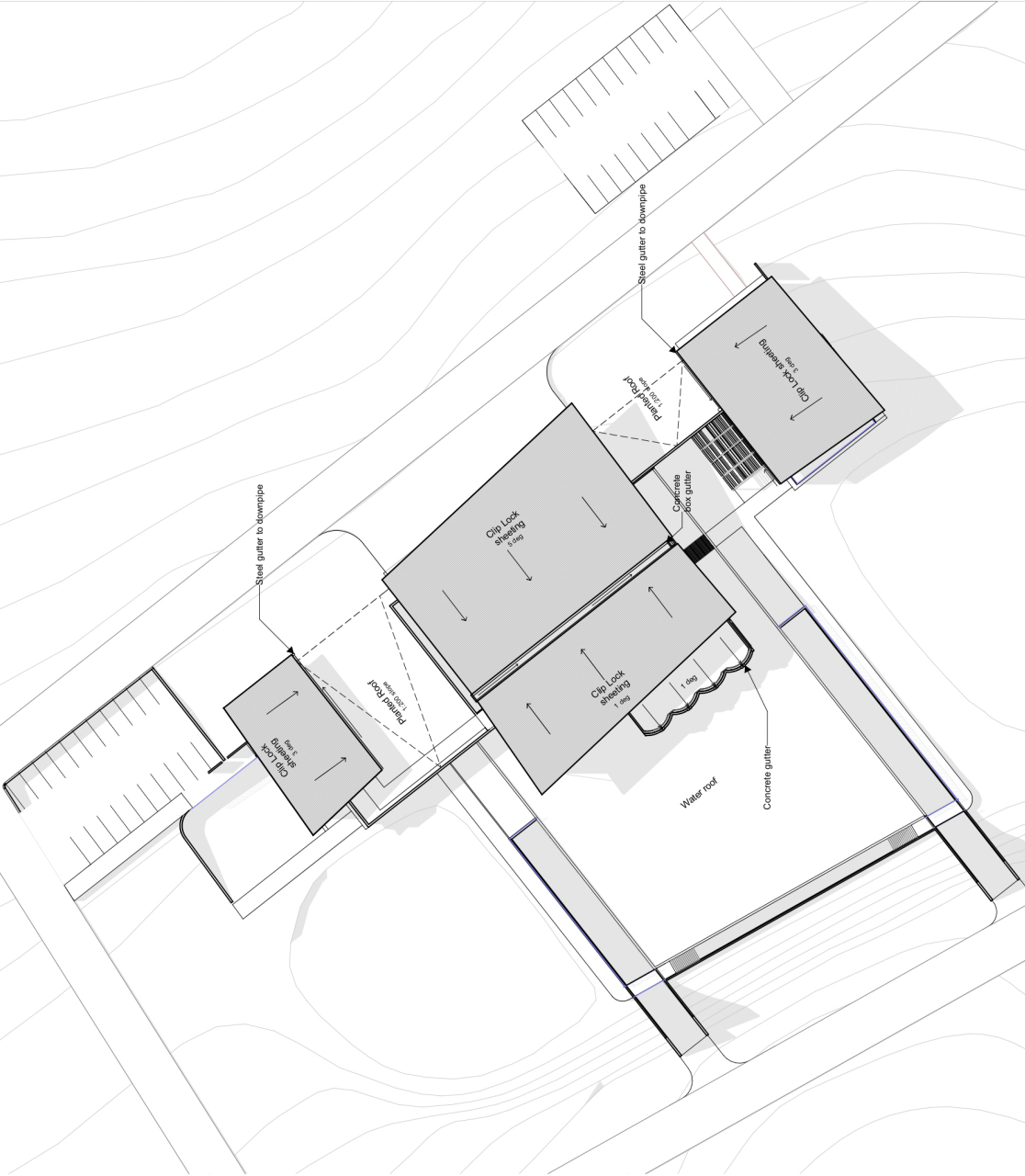
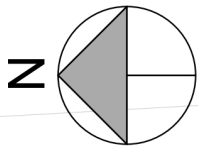
Student Number	2017076445
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Drawing number
A001

Site Plan



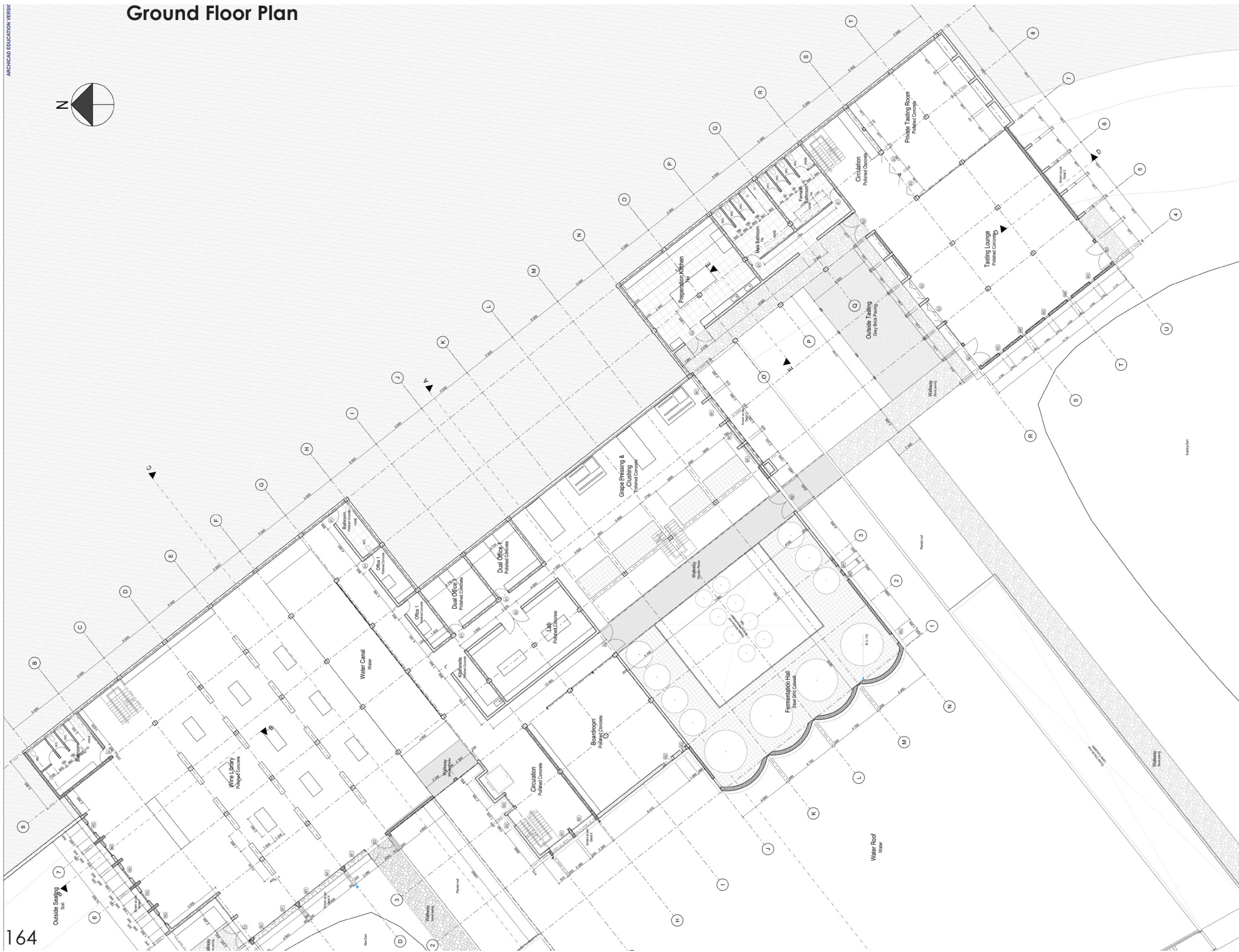
SITE PLAN
1:500





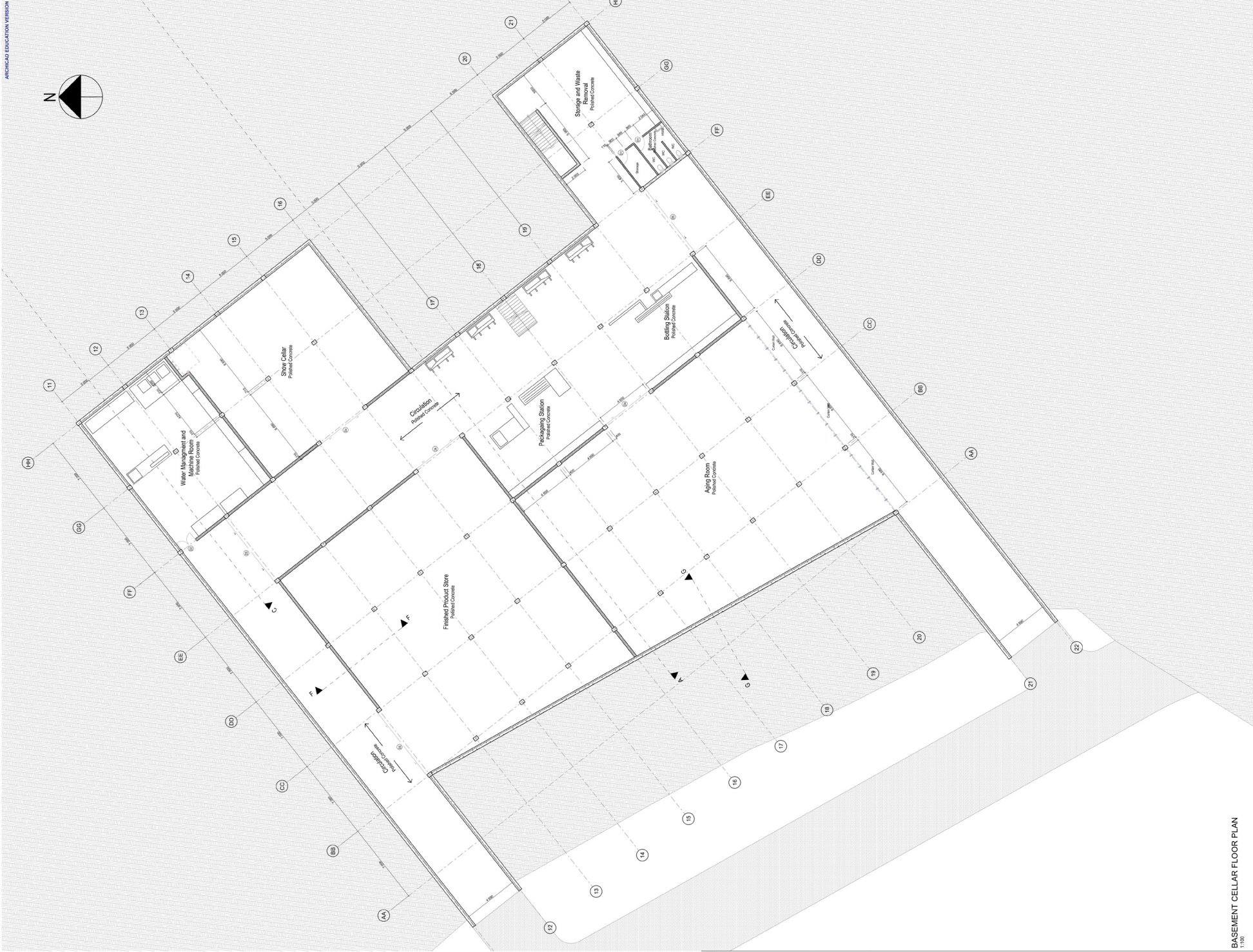
Francis Viljoen	2022/10/27	Client
Drawing year Plan	Scale 1:100	Wellington Wineries
Grid reference		Coordinates

Ground Floor Plan



Legend
 - AA
 - AA
 - AA
 - AA

ARCHICAD EDUCATION VERSION

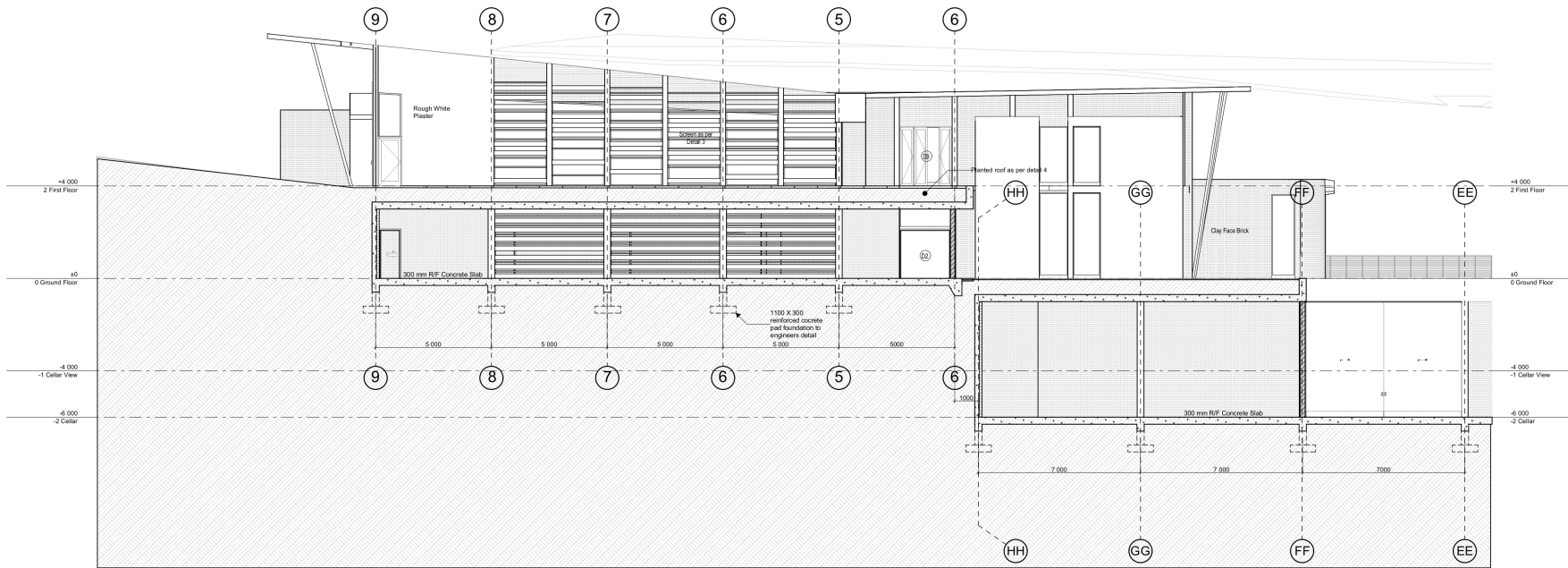


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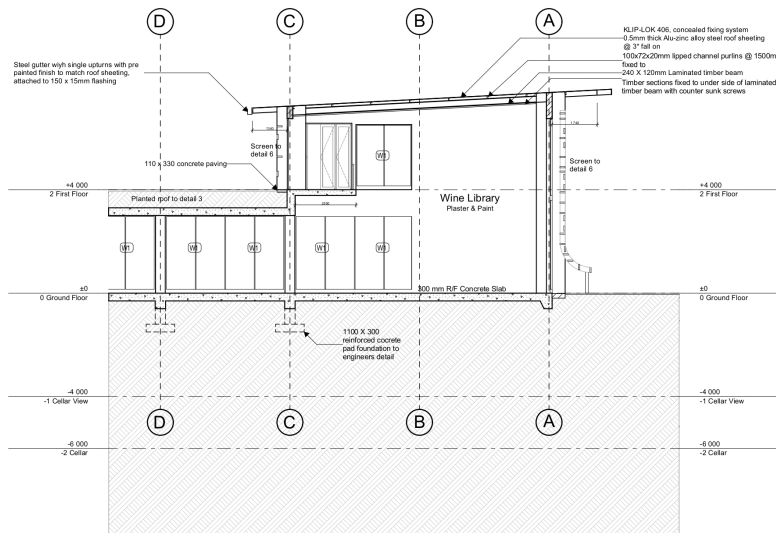
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- Grid with single letters only applied to ground and first floor plans (Example - A)

[illegible]

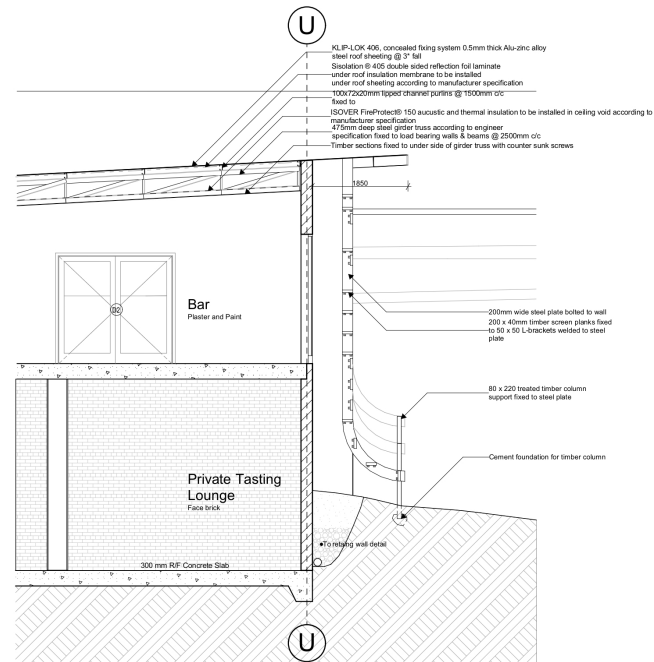
Sections



SECTION C - C
Scale 1 : 100



SECTION B - B
Scale 1 : 100



SECTION D - D
Screen & Roof detail
Scale 1 : 50

Notes:

ARCHICAD EDUCATION VERSION	
	
Face brick wall finish	Hough white plaster wall finish

- Grid with double letters only applied to Basement plan (Example - AA)
- Grid with single letters only applied to ground and first floor plans (Example - A)

5m x 5m

Project Name Wine Landscape and Architecture	
Site location Veluwepark Farm Parklaan Road Veldhoven 3855	
Client Wellington Wineries	
Coordinates Latt: 51° 14.3 'N Lon: 5° 20' 17.7 'E	
	
Francois Viljoen	2022/10/27
Drawing type Sections	Scale Mixed
Student Number 2017076445	Drawing number A008

Scale 1 : 100

 Face brick wall finish

- Grid with double letters only applied to Basement plan (Example - AA)
- Grid with single letters only applied to Ground and first floor plans (Example - A)
5m x 5m

Project Name	Wine, Landscape and Architecture
---------------------	----------------------------------

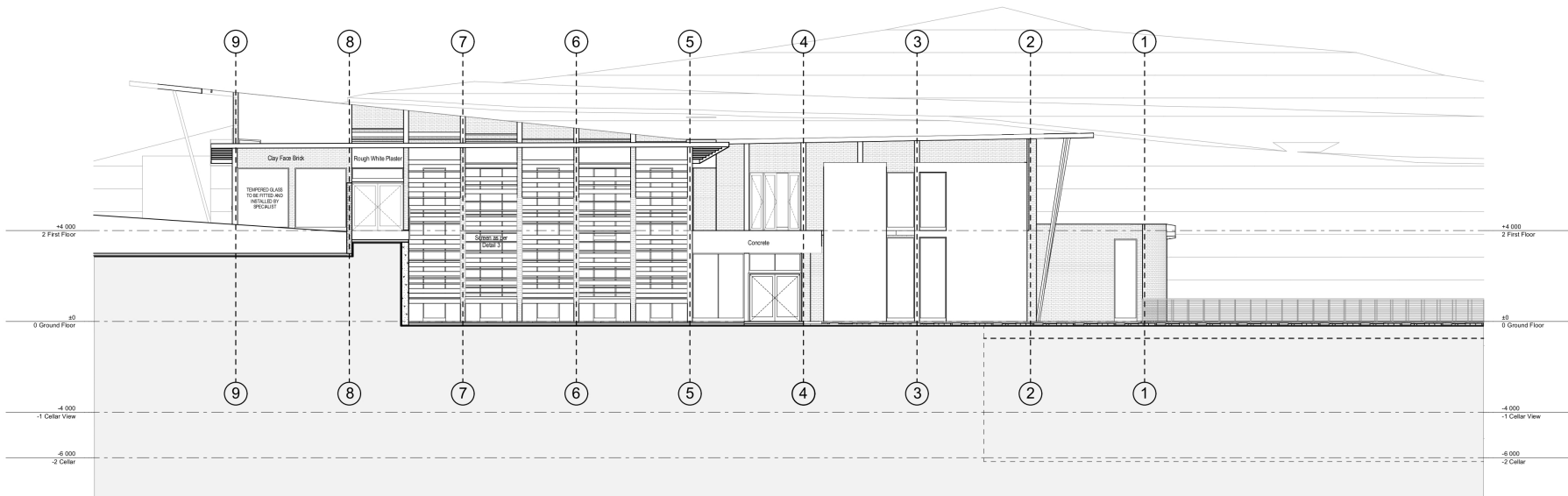
Site location
 Weharapas Farm
 Pordieskoon Road
 Wellington
 7665

Client	Wellington Wineries
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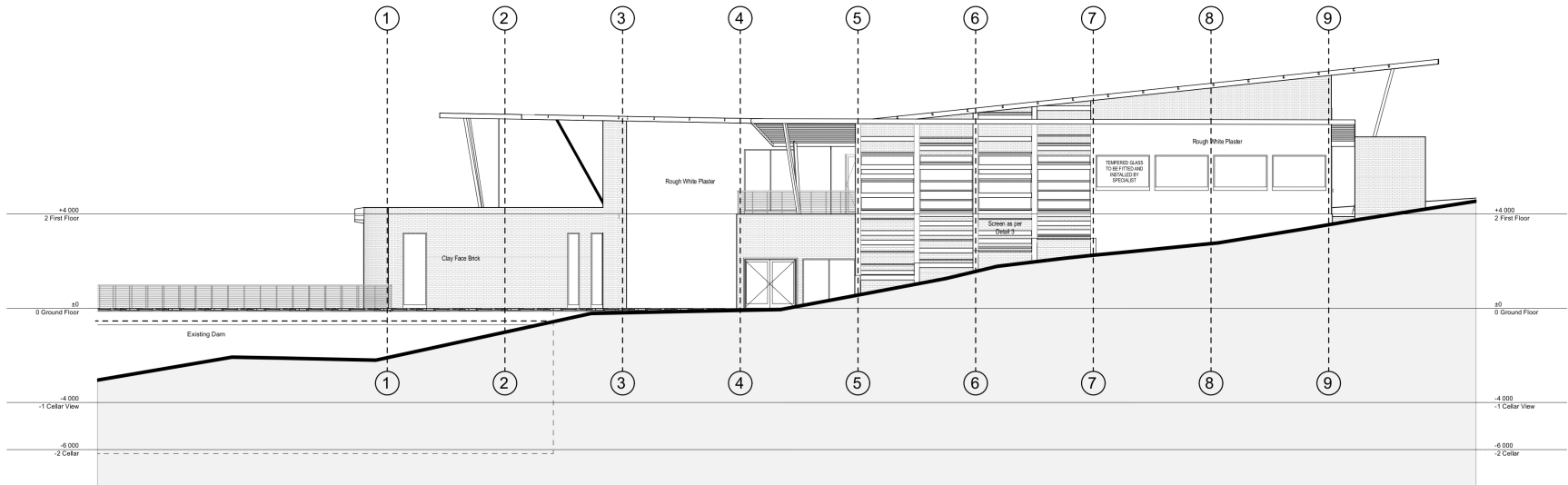
Coordinates
Lon: 19°143.7'E
Lat: 33°39'11"S

Francois Viljoen	2022/10/27
Drawing type Sections	Scale Mixed
Student Number 2017076445	Drawing number A009

Elevations



NORTH WEST ELEVATION
1:100



SOUTH EAST ELEVATION
1:100

Notes:

ARCHICAD EDUCATION VERSION	
	Face brick wall finish
	Rough white plaster wall finish

- Grid with double letters only applied to Basement plan (Example - AA)

- Grid with single letters only applied to ground and first floor plans (Example - A)
5m x 5m

Project Name

Wine, Landscape and
Architecture

Site location

Wellington
7655

Client
Wellington Wineries

Coordinates

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Lat: 33°39'11"S

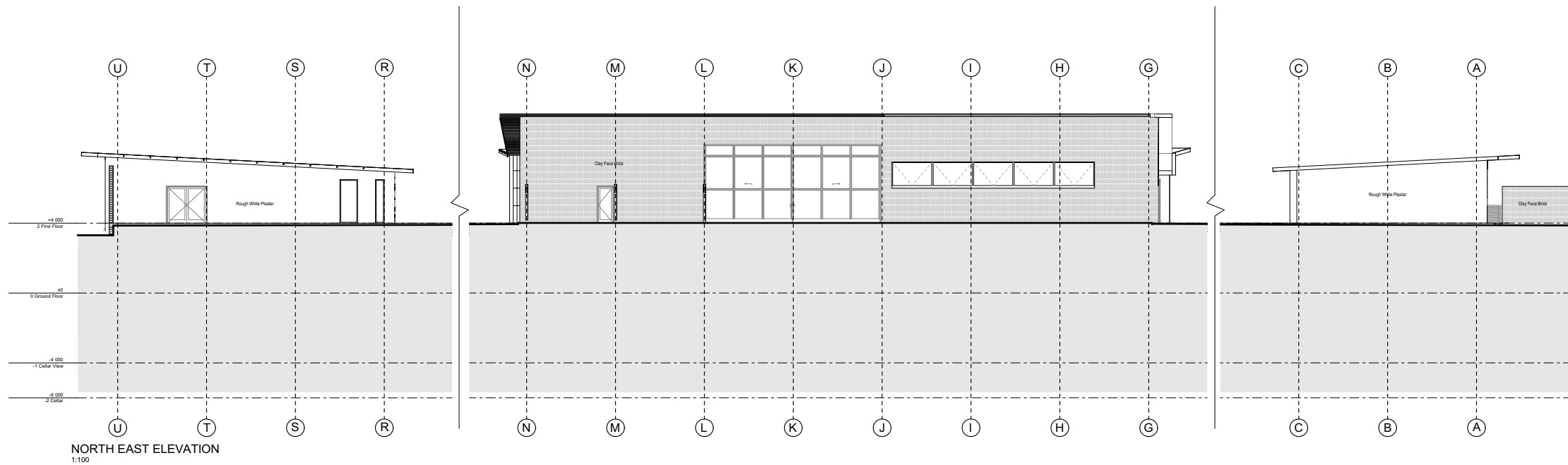
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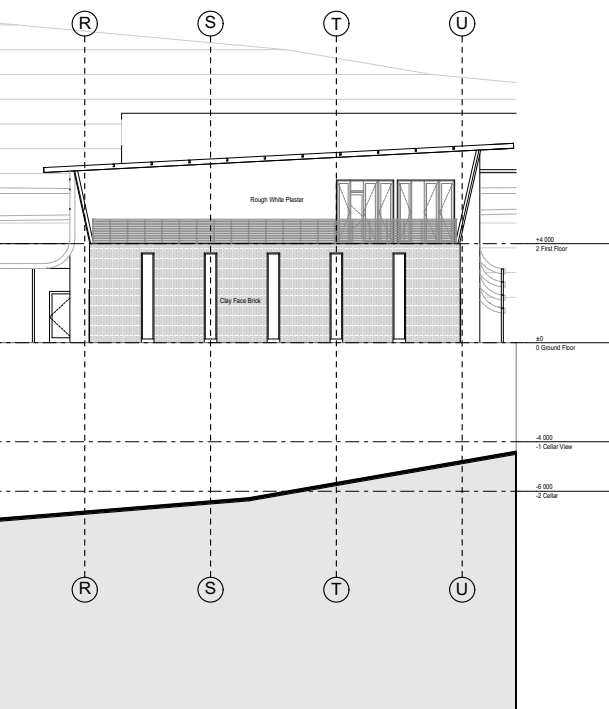
Francois Viljoen

2022/10/27

Elevation

1:100





ARCHICAD EDUCATION VERSION



 Rough white
Plaster wall
finish

- Grid with double letters only applied to Basement plan (Example - AA)
 - Grid with single letters only applied to ground and first floor plans (Example - A)
- 5m x 5m

	1:100
	Drawing number A007

Originality Report

10/13/22, 9:21 AM

Originality Report

SafeAssign Originality Report

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Francois Viljoen

Submission UUID: 26ad8c47-5aaa-9e96-8ac0-01075738a2ee

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