

ANATOLIAN REGIONAL MODERNISM

*A Proposal for Regional Residential Prototypes for
Black Sea, Cappadocia and Aegea*

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis.

This is a true copy of the thesis, including any required final revisions,
as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

Located at the convergence point of European and Asian continents, Anatolia has been a melting pot of cultures, peoples and architecture. Travelling through the land, one can witness a wide spectrum of history on display, from pre-historic Gobeklitepe to the legendary city of Troy, grid-planned Miletus to affluent Roman capital of Ephesus, early monastic Christian settlements to the apex of Islamic architecture in works of Sinan.

Despite this wealth of culture or perhaps partially as a result of it, Anatolia suffers a form of confusion around cultural identity. Exacerbated by the necessary but equally rapid and strict modernization of the young Turkish Republic of 1920's; disruptions and gaps in the continuity of Anatolian culture are all too evident, especially in the built environment. It could be argued that the well-meaning but sternly applied modernism of this era led to a questionable level of success, as rural masses moved into their minimalist apartments without necessarily adapting the life-style changes that come with it. The discord between the maintained cultural life and the daily life proposed by the built environment comes into high contrast when apartment dwellers would take over the pavement to air wool blankets or enclose modern balconies to dry spices and pickle vegetables. This clash is observed and encapsulated by Paul Ricoeur in *History and Truth* as follows:

“The phenomenon of universalization, while being an advancement of mankind, at the same time constitutes a sort of subtle destruction, not only of traditional cultures, which might not be an irreparable wrong, but also of nucleus on the basis of which we interpret life, what I shall call in advance the ethical and mythical nucleus of mankind.”

In this context, Anatolian Regional Modernism is a study of Anatolian culture, architectural typologies and tectonics, from archeological and vernacular evidence to anchoring academic work of Sedad Hakki Eldem. This research guides site visits to three Anatolian regions, Black Sea, Cappadocia and Aegea. The academic research and first-hand experience are then translated into architectural form in three residential prototype proposals for the three regions. The goal of these proposals is to suggest a methodology that shares a common architectural logic based on unique Anatolian characteristics while optimizing each prototype for their local climate, materials and culture in a “Critical Regionalist” fashion.

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Photograph by architect Cengiz Bektas, SALT Research.

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INTRODUCTION

This thesis is a study of Anatolian culture, architectural typologies and tectonics, supported by site visits to Black Sea, Cappadocia and Aegean Regions. Findings are culminated into a proposal of three residential prototypes for the respective regions, each including a core design and suggested density/type variations. Goal of this proposal is to formulate a contemporary architectural language that corresponds to the cultural framework of each region while maintaining legibility in a “Critical Regionalist” sense.

The proposed designs are intended as suggestions to what a culturally representative architectural approach could look like in the three distinct Anatolian regions. Each project and their variations are envisioned as prototypes that demonstrate the typological findings based on the academic and field research phases. In this regard, this thesis project is focused on formulating an interpretative approach based on traditional architectural tectonics, presented through the conceptual designs.

This document is organized in five parts. First chapter includes a general overview, description of methodology and a summary of resources. Next three chapters present visual documentation from the site visits, observations and analysis of findings, demonstrated through proposed regional prototype designs. Finally, unifying and distinguishing elements of the proposals are highlighted and reflected upon in the conclusion.

METHODOLOGY AND OVERVIEW

The project methodology consists three main parts:

- 1) Academic Research
- 2) Field Research & Personal Observations
- 3) Design Proposal

ACADEMIC RESEARCH

The research phase includes the study of a wide range of subjects, from understanding the modernization period in Anatolia and the world, to an analysis of pioneering efforts in regionalism and finally a study of contemporary precedents that were able to formulate comparable architectural compositions successfully.

A breakdown of the key research points are as follows:

Works of Tzonis and Lefaivre and Suha Ozkan's categorization of regionalism types were essential sources in establishing a foundational approach adopted in this project.

Ekrem Akurgal's writings on *Anatolian Civilizations* was studied to establish a baseline cultural understanding of the Anatolian geography and its' cultures. This provided valuable insight towards understanding the morphological relationship between cultural life and the built environment throughout many ages and civilizations in Anatolia.

Early modern architecture era was studied through the works of pioneering architects such as Le Corbusier. *Voyage D'Orient* and Max Vogt's analysis of Le Corbusier where he outlines potential design influences of the architect were essential in understanding the transition from traditional to modern forms in architecture.

Sibel Bozdogan's comprehensive works on architectural history and modernization in Turkey were key in understanding modernization era in Anatolia and helped greatly in identifying some of the underlying issues around cultural identity, urbanism and architecture that the project takes on.

Works of Sedad Hakki Eldem on the *Turkish House* and the survey documents created by his students throughout the 20th century play an anchoring role in the research phase. The readings of Eldem helped establish an understanding of

the planning logic and morphology of the residential types in different parts of Anatolia. His vernacular translations, contextual and unique regional projects laid the groundwork that this project builds upon. This study was further reinforced with readings of Dogan Kuban and Cengiz Bektas on the history of the traditional *Turkish House* and *Wood Frame Construction in Anatolia*.

Finally, modern and contemporary examples of contextual and regionalist projects were studied through multi-media resources (architects websites, interviews and blogs). Sedad Eldems' Zeyrek Social Insurance Complex and residential projects in Istanbul were taken as early reference points, building up to the contemporary projects of Han Tumertekin and Emre Arolat as impactful precedents.

The research phase was crucial in setting up the necessary context that guided the field research and design proposal phases of this thesis, however this document focuses on demonstrating the architectural tectonics and morphology findings and will not cover the entire body of research in full depth.

FIELD RESEARCH & PERSONAL OBSERVATIONS

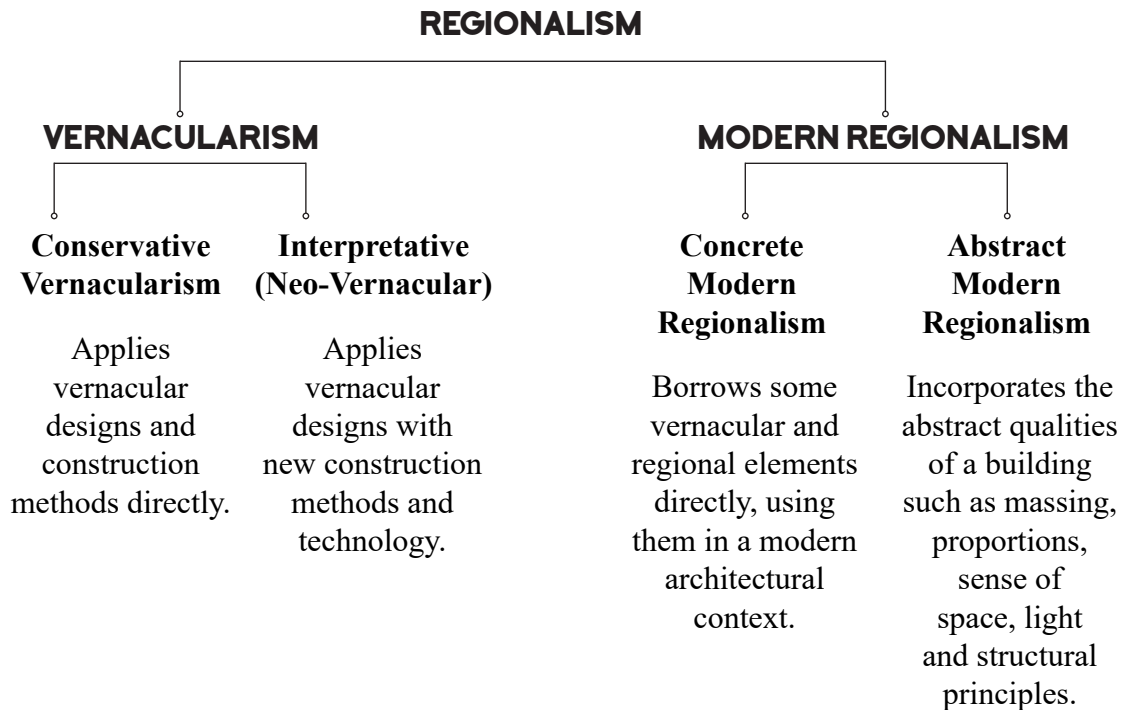
The second part of the project consists research trips to the three regions, Black Sea, Cappadocia and Aegean. This field work included documentation of geography, vernacular architecture, materials, traditions and lifestyle in each region. This phase was crucial in understanding how the distinct climactic and cultural factors affected the built environment and the architectural tradition in each region. Combined with the academic research, the observations from this phase are used to construct the morphological narrative of Anatolian architectural archetypes. This phase was crucial in understanding the daily lives of the local populations in each region. Daily rituals, modes of communication, various spatial choices and arrangements were observed and used to inform design decisions made in the proposal section.

DESIGN PROPOSAL

Last but not least, sets of architectural drawings, renderings and physical models for the proposed designs and their variations are created. The designs embody and interpret the findings from the previous two phases of the thesis in architectural form. Each design considers scalability and density concerns that are relevant to the current urban disposition. In this regard, the design exercise aims to achieve more than a static building proposal but to set up a series of guiding principles, modular techniques and architectural language that can be modified in an organic manner while maintaining driving design principles and cultural dialogue with the regions they are located in. Thus, the designs presented in this document are conceptual, intended to demonstrate the design approach derived from the thesis research.

ARCHITECTURAL APPROACH

The design language developed in this thesis is built upon principles of regionalism as categorized by Suha Ozkan and *Critical Regionalism* as defined by Tzonis and Lefaivre. The final approach falls in between "Abstract Modern Regionalism" and "Critical Regionalism", drawing influence from contextual approach established by Sedad Hakki Eldem and the contemporary architects practicing in Anatolia.



BLACK SEA

Observations, Analysis and Design Proposal



Figure 2.1 Black Sea Region of Anatolia.

Named after the tumultuous Black Sea, this region is characterized by its mountainous geography and lush vegetation. The northern winds carry humidity from Black Sea inland where it is trapped by the Northern Anatolian Mountain Range. This creates a unique microclimate condition on the northern side of the mountain range. The change in climate is sharp as one travels between the two sides of the mountain range, marking the transition between Black Sea and Central Anatolian regions very clearly.



Figure 2.2 Black Sea texture and environments. © İlhan Gokay Ozdemir.

Due to these microclimatic factors, Black Sea region is subject to heavy rainfall throughout the year, high levels of humidity maintain year-round vegetation cover. Winters are mild with occasional snow fall. The climate is semi-tropical at the lower altitudes, but this quickly gives way to a more alpine climate as one travels up the mountains. It is often referred to as “a place you can find all hues of green”.

Climatic diversity is also reflected in the daily lives of Black Sea locals; it is not uncommon for the local population to move between different accommodations to spend different seasons. Typically, the summers are spent at alpine meadows (“yayla” in Turkish) to escape the trapped humidity and heat of the valleys. The higher altitudes are also preferred for grazing of animals, since this is quite difficult to do on the steeper valley parts.



Figure 2.3 Black Sea mountain villages. © İlhan Gökay Özdemir.



Figure 2.4 Black Sea coast. Coastal areas are densely urbanized as a result of geographical limitations for construction. Gorele, Giresun, Turkey. © Ilhan Gokay Ozdemir



Figure 2.5 Black Sea valley villages. Turkelli village, Giresun, Turkey. © Ilhan Gokay Ozdemir.

DENSITY & URBANIZATION

Flat land is extremely rare and seen as a commodity in the Black Sea Region. This pushes urban density to the narrow coastal parts where the topography is more agreeable for construction and can be extended by artificially filling in the sea. However, this is a point of contention and poses serious risks in the future due to the turbulent nature of the Black Sea. Modern highways were only recently built, and seafaring used to be the main method of travel to this region. The highways connecting the region run along the coastline, penetrating Central Anatolia only through a limited number of mountain passes. As a result, Black Sea Region is relatively isolated, both internally and externally. There are many small pockets of populations, but they are separated due to limited availability of flat land, different altitude preferences and the mountain ranges running east-west as well as valleys running north-south.

In this light, urbanization in Black Sea Region can be read in three stages:

- Dense urban centers at the coast,
- Sporadic agricultural settlements along the valleys,
- Concentrated alpine settlements with a focus on animal husbandry.

Originally the three different settlement types of the Black Sea Region manifest themselves with specific typologies that are optimized to their conditions, however this programmatic distinction has been gradually eroding away as speculative and profit driven construction started to take over the region. Vertical densification methods, typically reserved for urban environments and stable ground, has started to bleed into the valley parts of the Black Sea. Perhaps due to the challenging site conditions, a vertical multiplication of traditional base buildings is taking place, concrete and brick structures soaring through the dense greenery.

This phenomenon is partially explained by land inheritance in the region. As families grow and inherit their land to the next generation, larger plots of land are divided into narrow strips, from a ridge down a steep hill to the low running valley rivers. The steep landscape leaves only a tiny portion of the site viable for construction, and as this is further shrunk by inheritance patterns, the easiest method for densification is considered to build up, very much to the dismay of a lot of the residents in these villages. This was a major complaint of the local people and was in stark conflict with the tectonics of the traditional Black Sea housing types, which are single story houses with stone foundations, used as storage or shelter for animals. The design proposal in this chapter will offer alternative density options as a response to this issue, focusing on the valley type houses and ways to reconcile density requirements with a more sensitive contextual approach.



Figure 2.6 Yayla (Kulakkaya), Giresun. Yaylas are high altitude meadows, typically cooler temperature and ideal for grazing animals. They are used seasonally, usually during summers. © Ilhan Gokay Ozdemir.



Figure 2.7 Blue Lake, Giresun. Black Sea valleys are steep, often with rapid running rivers at the lowest point. This poses serious limitations to building methods and accessibility. © Ilhan Gokay Ozdemir.



Figure 2.8 Unauthorized seven-storey construction on a river bed, Rize. Turkey, 2018.
Image from news media.



Figure 2.9 Nine-Storey apartment building in Trabzon. Turkey. This extreme example of misfit architecture in Black Sea Region sparked political debate on zoning and construction laws in 2020. Image from news media.



Figure 2.10 Serender in Akkoy, Giresun. Structure was reinforced with concrete pillars on a later renovation. Original structure would consist wood pilings capped with round stone stoppers. © Ilhan Gokay Ozdemir.



Figure 2.11 Serender in Akkoy, Giresun. Space under the Serender is commonly used to store dry firewood or crops. © Ilhan Gokay Ozdemir.

SERENDER AS AN ARCHETYPE

Hidden under the green canopy of lush alpine forests, Black Sea region reveals a unique architectural archetype, “*Serender*”. These elevated wooden sheds can be found across the Black Sea mountain ranges. They usually consist of a single enclosed space and a covered entrance, always elevated a few meters off the ground on stilts. These structural members are typically capped with round, polished stone discs to prevent access to critters and snakes to the platform above. Simple ladders are used for access. The empty space underneath a *serender* is used to store crops or firewood since the elevated structure provides protection from rain, which is crucial considering the humid climate of the Black Sea region.



Figure 2.12 Serender in Akkoy, Giresun. Balcony area of the Serender overlooking the valley.
© İlhan Gokay Ozdemir.

Serenders today are regarded by most people as merely traditional structures to store food, however a closer look reveals that their use may not have been limited to just this.

Figures 2.13 and 2.14 present close-up photographs of decorative details on a *serender*, taken at a mountain village in Giresun. The attention to detail and craftsmanship seen in this example suggests that this structure was important enough to warrant such high level of decorative investment, not typically seen in pragmatic structures such as storage sheds.

Moreover, considering the remote location and primarily agriculturally oriented economy of mountain villages, building an elevated wooden storage shed with a balcony and decorations just for storage doesn't seem economically viable in the historical architectural context.

Anecdotes by local village elders also provide insight on commonly overlooked alternative uses of *serenders* in the region. These include functions such as private accommodation for guests, summer pavilions (due to cooling effect of the elevated platform) and even as a comfortable space for women to go into labor.



Figure 2.13 Serender in Akkoy, Giresun. Carved decorations on the side wall. © Ilhan Gokay Ozdemir.



Figure 2.14 Serender in Akkoy, Giresun. Carved decorations on the entrance aedicule. © İlhan Gökay Özdemir.

Considering the architectural tectonics and conversations with the local people of the Black Sea region, it is evident that *Serender* as a building archetype is not given adequate attention and credit for its role in architectural morphology in Anatolia. It can be argued that some of the key architectural qualities put forward by this simple structure extend across Black Sea coast and into Balkans, possibly influencing formal architectural principles adopted over time in constructing the urban fabric of larger metropolitan cities such as Istanbul or Edirne. This also makes sense from a climatic and geographical perspective, since Marmara and Balkans exhibit similar climatic features and are more accessible to the Black Sea coast than Central Anatolia is to the coast, due to the impassable mountain ranges running parallel to it.

Furthermore, traditional Turkish house as defined by Sedad Hakki Eldem shares significant commonalities with the *serender*. In both cases, ground level is not inhabited and is reserved for practical functions such as storage, barns, kitchens or just garden space. Typically, the “Main Floor” is always considered to be the upper level, manifesting itself as the platform in a *serender*. This platform is often surrounded with a covered balcony on one or two sides, which is reminiscent of a *Hayat Space* in a traditional house, that is a covered exterior space, used for internal traffic and social functions. In both cases, access to the enclosed space is provided through this covered exterior “balcony-like” interstitial space.

Lastly, the iconic *cikma* (projection) type buildings, commonly seen in historical quarters of Turkish cities could be traced back to the Black Sea vernacular, since elevated wooden structures with projections (such as the *serender*) are characteristic to the Black Sea Region, wildly differing from ashlar masonry tradition of Central and Eastern Anatolia, adobe vernacular to the south or the masonry/stucco houses of the Aegean.

Finally, *serender* offers an important vernacular precedent in terms of architectural tectonics in Anatolia. It provides further insight on *Hayat-type* houses and adds an articulated step between the Asian *Yurt* and the Turkish house in terms of programming logic and morphology. For these reasons, *serender* is regarded as a primary architectural archetype and precedent regarding tectonics and programming in this paper.



Figure 2.15 Serender in Kars. Original round stoppers can be seen at just below the platform. Undearneath is used for dry storage. © Ilhan Gokay Ozdemir.

UTILITARIAN VERNACULAR

Another vernacular type found in Black Sea is small mixed material huts (Fig. 2.17 & 2.18) that are primarily used as temporary shelters, particularly useful during laborious harvest time or for shepherds who travel great distances. These structures are built on stone foundations and topped with wooden walls and roof. The low ceiling-height of such structures emphasize their temporary nature, while the lack of expensive materials or decorations suggest a perfunctory role and intention.

Figure 2.16 shows a structure used for beekeeping in the region. Natural honey production is a significant economic endeavor and functional structures such as this one gives us insight on how the vernacular tradition integrates and influences every day, practical solutions to life in the Black Sea region. Similarly, wooden bridges, water mills, communal wells and ovens were historically built with simple and practical means, following vernacular traditions.

Modern energy and economic infrastructure have recently been built up in the region, putting it into a transformation state and sparking environmental concerns in the local populations. This paper's perspective on the issue is that every structure built in the region should respect the challenging geographical conditions. Unique climate of the region and the practical applications of the vernacular in the region could be an ideal starting point, rather than isolated engineering solutions.



Figure 2.16 Hive node. A simple structure protecting bee hives from the elements. Eastern Black Sea mountains. © İlhan Gokay Ozdemir.



Figure 2.17 Simple shelter overlooking a valley. Eastern Black Sea Mountains. © Ilhan Gokay Ozdemir.



Figure 2.18 Simple shelter overlooking a valley. Stone foundations are used to achieve a level. Eastern Black Sea Mountains. © Ilhan Gokay Ozdemir.



Figure 2.19 Water mill. These small mills were built and used communally by surrounding villages to process their harvests, primarily to grind corn. Eastern Black Sea Mountains. © İlhan Gökay Özdemir.



Figure 2.20 Traditional and modern bridges juxtaposed. A concrete bridge was built to accommodate vehicular traffic whereas the Ottoman-style masonry bridges are still used by pedestrians. Eastern Black Sea Mountains. © İlhan Gökay Özdemir.



Figure 2.21 Wooden bridge over waterfall and concrete base. Eastern Black Sea Mountains.
© Ilhan Gokay Ozdemir.



Figure 2.22 Steel bridge. This image is a reminder of the constant struggle against nature in Black Sea Region, infrastructure upkeep is a constant requirement through centuries. Original masonry bridge was repaired with a steel addition. Eastern Black Sea Mountains. © Ilhan Gokay Ozdemir.



Figure 2.23 Exterior communal oven. Akkoy, Giresun. © Ilhan Gokay Ozdemir.



Figure 2.24 Exterior communal oven. Turkelli, Giresun. © Ilhan Gokay Ozdemir.

COMMUNAL OVENS

Like the watermills and wells, communal fire ovens are an important part of the vernacular tradition in the Black Sea Region. Figures 2.23 and 2.24 depict two such ovens encountered at a village in rural Giresun. These are often built out of masonry and include a shallow eave to offer some protection from rainfall.

Such ovens are used by the whole neighborhood, often establishing a social cooperative medium alongside its main function. Fire is kept alive throughout the day at active ovens, so people can efficiently use them without an individual set-up every time. Ovens bring people together by encouraging sharing of food with others, either socially or charitably for those in need. Charity and cooperation are considered to be an important aspect of a strong community, especially in the countryside, however it is considered impolite to donate directly. Thus, indirect methods are derived through the built environment, such as commissioning or contributing towards building of public fountains, ovens, collection boxes etc. where those in need can be accommodated anonymously. In the case of communal ovens, people leave extra loaves of bread around the oven with the intention to help those in need.

Through their social and utilitarian roles, ovens create focal points in typical Black Sea villages. Making and sharing of food are celebrated and seen as a societal forces that bring people together, manifesting geography and culture through cuisine. It is possible to identify a place through different types of bread sold at their bakeries, since every region has developed their characteristics based on local ingredients and traditions. In the case of Black Sea, corn bread is characteristic to the region, since wheat flour is not readily available in the mountainous region. In this context, the oven can be seen as a factory of culture, manifesting the geography in a culinary format and creating an anchor point where the community can bond and interact.

Unfortunately, these traditions are on the brink of extinction, with the advent of standardized economy and architecture reaching into the culturally preserved rural Black Sea. A better alternative is needed against the complete overhaul of rural communities into misplaced extensions of larger urban cores, which completely sterilizes and disconnects the place from its cultural nuance and continuity. With this regard, the design proposal attempts to integrate the described cultural characteristics into an acceptable contemporary composition, accommodating the expected needs of modern life and the rich heritage of the region. As a result, communal ovens will be given a second life as the “central hearth” of the main social space in the Black Sea house proposal, in an attempt to embody the spirit of the original.

ANCHORING WALLS

Another striking pattern in Black Sea houses is the mixed materiality of cliff-side houses. Due to the challenging terrain, most structures are built on ridges, projecting out towards the valleys and supported by posts where needed. In order to anchor these structures to the ridge, a multi material approach is adopted where a thick masonry wall (either ashlar or field stone, depending on availability) is established on the ridge side whereas the projecting part is kept light by using wood frame construction. The frame is sometimes filled in with smaller rocks to provide a higher thermal mass and insulation value to the walls. These can be finished with another layer of fine wood strips or left exposed depending on the financial status of the house owner. White stucco finishes are also common in more prosperous households.

Figures 2.25 and 2.26 shows masonry and wood frame portions of the same house. This example is roofed with sheet metal, suggesting a later renovation to the original structure. The finish material has completely fallen off, allowing us to see what the wood frame structure looks like without any filling or cladding. The stone used for the anchoring structure is also used to create a retaining wall parallel to the access path to the house. This sort of double materiality is also observed in urban houses of Giresun (Figure 2.33) although an anchoring wall is not needed in the urban situation. Conversations with the locals suggested that this might be done as a precaution to prevailing winds from a specific direction, implying the masonry wall would be more resistant. However, it is also a likely influence of the valley-style building methods on the urban fabric through masonry tradition practiced in the region.

Other dialogues with the homeowners revealed insights about how the valley vernacular was constructed before modern construction methods were introduced. One anecdote outlined the building process, where the builder would travel up and down between the ridge and the river running at the bottom of the valley, collecting large river stones. It should be noted that this is extremely laborious, since there are no paved paths and the valleys are extremely steep. These river stones would be used to establish the anchoring wall and a small interior oven which the rest of the structure would be built around with wood. With this in mind, it should be emphasized that masonry walls used to be limited by availability and thus are not consistently observed in all buildings of similar types in Black Sea region. This may also be used to explain the lack of masonry elements in residential buildings across Istanbul and the Balkans, which are arguably rooted in Black Sea vernacular.



Figure 2.25 Mountain house with stone anchoring wall. Akkoy, Giresun. © Ilhan Gokay Ozdemir.



Figure 2.26 Mountain house projecting off the anchoring wall. Akkoy, Giresun. © Ilhan Gokay Ozdemir.



Figure 2.27 Black Sea yayla settlement. © Ilhan Gokay Ozdemir.



Figure 2.28 Black Sea yayla house. Kulakkaya Yaylasi, Giresun. © Ilhan Gokay Ozdemir.

YAYLA - SEASONAL STRUCTURES

Changes in building methods are observed as one travels up the mountain ranges in the Black Sea region. The high-altitude plateau areas are called *yayla* in Turkish and the buildings at this higher altitude are generally referred to simply as “*yayla houses*”. *Yayla* is generally used to describe an ideal plateau for animal grazing and offers cooler weather conditions due to the high altitudes. As mentioned before, rural populations move between their valley and *yayla* houses based on the seasons to take advantages of the differences between the two distinct environments.

High altitudes generally mean lower humidity and lower temperatures which is reflected in the built environment. Houses in the higher altitudes are often entrenched into the landscape (Figure 2.27), in contrast to the elevated *serender* of the valley, this might be due to the fact that *yaylas* lack the dense vegetation of valleys and are subjected to much stronger winds. They are usually built over a stone foundation/basement with light wood framing which is filled in with smaller stones to provide insulation (Figure 2.28). Weather can change rapidly in the *yayla*, a sunny day can give way to heavy mist in a matter of minutes. As a result, *yayla* house vernacular is not as interested establishing balconies or views to the outside but focuses more on protection from the elements. These structures were originally intended as mainly utilitarian shelters, thus employ no elaborate decorations.

Despite its utilitarian origins, the perception of *yayla* and its attached building types have been subject to change with the increasing touristic appeal to such locations in recent years. In any case, the unique adaptations observed in these locations depict the adaptability of vernacular tradition of Black Sea to different materials, climate and geographical conditions.



Figure 2.29 Gradually evolving mountain house. Evidence of an older house can be seen on the left. A larger house with modern materials was built over an older smaller structure. Akkoy, Giresun. © Ilhan Gokay Ozdemir.



Figure 2.30 Renovated valley house. Structure was modernized with modern construction materials while keeping the original structure and proportions intact. Turkelli Koyu, Giresun. © Ilhan Gokay Ozdemir.

IN-TRANSITU MODERNISM

Status quo of construction in Black Sea region is an interesting one. The region is (in)famous for its construction developers who are known to be extremely practical in face of the most challenging conditions. Perhaps as a result of the difficult terrain and logistical problems, Black Sea people have developed a bold, almost reckless outlook towards construction of new structures. Images of buildings that seem to defy gravity commonly show up in national media, creating an uneasy awe about how a cantilever can be supported with a single column or how someone can build a nine story building on a tiny sloping plot (Figure 2.8).

In any case, it can be observed that the region is in a state of transition where traditional methods and materials are almost completely abandoned for the allure of stronger and cheaper materials such as concrete for structure and sheet metal for cladding. Compounded with lax building codes and lack of inspections, this has made way for a chaotic manifestation of modern architecture in the region. The new construction in Black Sea region looks as if someone sourced the hallmark materials of modernism, concrete, steel and glass, and employed them at the most basic way possible to create somewhat of a structure. In this regard, most buildings resemble a collage, built on traditional skeletons but with a completely alien palette of tools and materials. This could be interpreted as an organic application of modern materials or as a complete disregard for locality in construction, depending on where one looks at the situation. Either way, it is clear that structures here are constantly transforming and adapting to innumerable factors acting on them at any given time and cannot be classified in a static manner.

It is the outlook of this paper that architecture in Black Sea has great potential if a consistent form of modernism, matured with traditional interpretations, is applied to new construction. Such an approach would require a concern for environmental factors, social and traditional values as well as the economic and material realities of the region.



Figure 2.31 Renovated urban house. Giresun. © Ilhan Gokay Ozdemir.



Figure 2.32 Renovated urban house. Giresun. © Ilhan Gokay Ozdemir.

URBAN RENEWAL & HERITAGE TYPOOLOGY

Preservation of traditional structures have been problematic in many cities across Anatolia. This is partially due to difficulty of the maintaining wooden structures, their susceptibility to fires, economic pressures, and lack of crafts people who can undertake such tasks. There has been a strong push through the last decade to establish historical districts and renovate historically significant buildings with government sponsorships and as a result, a limited number of unique structures have been saved from disappearing despite the loss of many others over the last century.

This problem of continuity in Turkish architectural heritage was highlighted by many architects; there were even surveys done by Sedad Eldem and his students during 1950's to document such disappearing structures. As a result, traditional structures today are either isolated to historical districts or a limited number of published surveys. Most cities are taken over by the apartment blocks and are completely disconnected from the architectural heritage of their respective region.

As informative as they can be, these renovations don't accomplish much in terms of bridging the gap between their embodied traditions and the modern building methods in rapidly growing cities. This is where a contemporary design approach that is also informed by architectural heritage can start to establish a dialogue between the two, strengthening the identity of a place.



Figure 2.33 Urban house without recent renovations. Giresun. © Ilhan Gokay Ozdemir.



Figure 2.34 Renovated urban house. Masonry wall is reminiscent of anchoring walls employed in valley type houses. Giresun. © İlhan Gokay Ozdemir.



Figure 2.35 Renovated urban house. Wood strip cladding is another alternative to the stucco finish, however less common. Giresun. © Ilhan Gokay Ozdemir.



Figure 2.36 Black Sea Kosk, perspective rendering. Digital collage on photo.

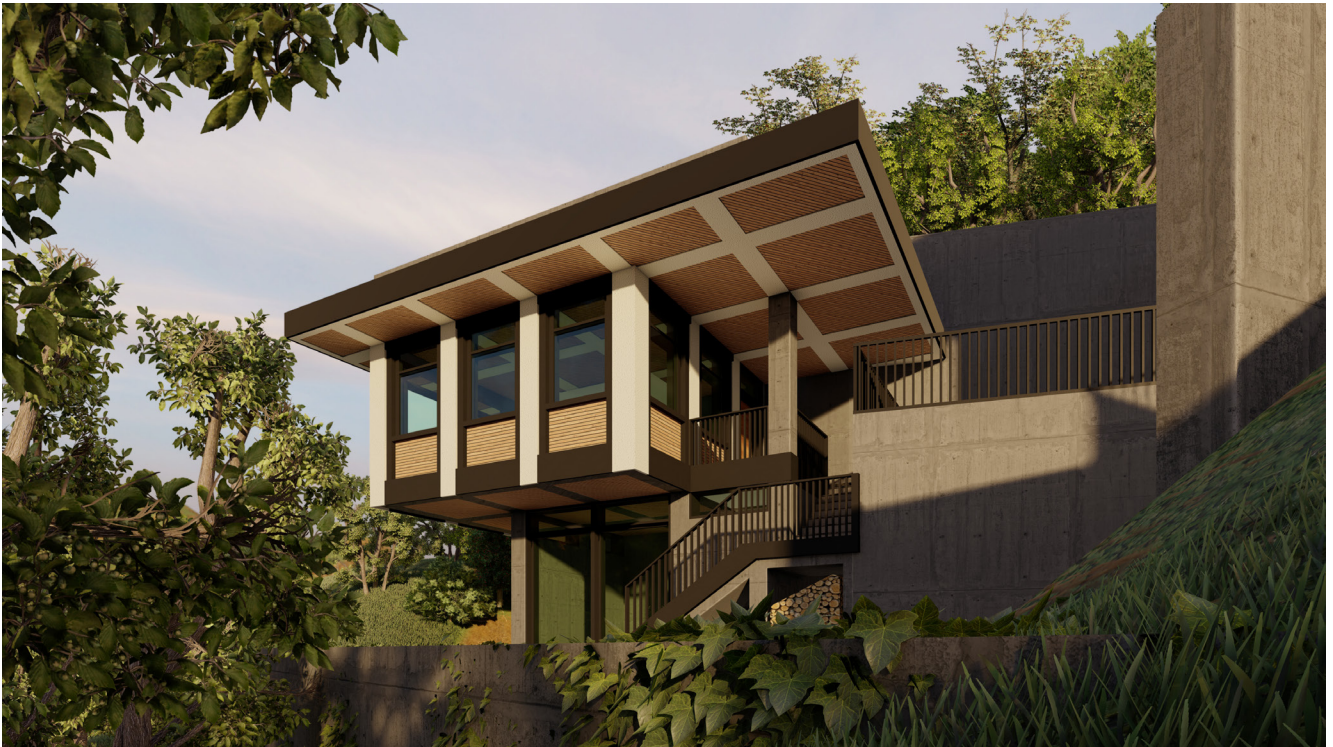


Figure 2.37 Black Sea Kosk within a larger compound. Perspective rendering.

DESIGN PROPOSAL

BLACK SEA KOSK

Drawing from the vernacular and traditional structures of the Black Sea, this project proposal adopts a scalable modular design approach. The smallest of the three proposed options, the Black Sea Kosk is a two level structure, inspired by the *serender* and traditional houses of Black Sea valleys.

Kosk is the etymological root for the English word *kiosk* which represents a room that is open to three or all sides, often used in gardens. In the context of Turkish house tradition, *kosk* refers to an interstitial seating area that is open on sides, often overlooking the garden around it.

Black Sea Kosk is a minimal structure with a single residential room, overlooking the valley. Residential functions are reserved to the upper floor while the practical functions such as the kitchen and different types of storage spaces are located on the lower level, following the program hierarchy seen in traditional houses in the region.

A deep concrete retaining wall functions as the structural anchoring point for the whole building and allows it to project out towards the valley. Green roof blends the *kosk* with the lush vegetation around it while providing some space to plant vegetables for household consumption if desired.

The main entrance of the building is located on the upper level and is accessed through a balcony-like platform, covered by generous canopy. This is the primary exterior social space, offering protection from the rain and wind while offering clear views to the valley and the sea. Vertical circulation is accommodated by a set of exterior stairs, clearly separating the residential programs from the more pragmatic “*tashlik*” space underneath. The main room can be supported with a small kitchenette if desired since the kitchen is located on the lower level and the two are not internally connected.

The concrete pad on the lower level acts as a platform for agricultural functions of the house and is covered by the residential portion of the structure, projecting above. This space can be used to store tools or hazelnut harvest which is the main economic driver in the region.



Figure 2.39 Wooden cladding.
Used for window modules.



Figure 2.40 Retaining/
Anchoring wall.
Inspired by traditional
houses.



Figure 2.41 Deep eaves.
Used as protection from
the elements.

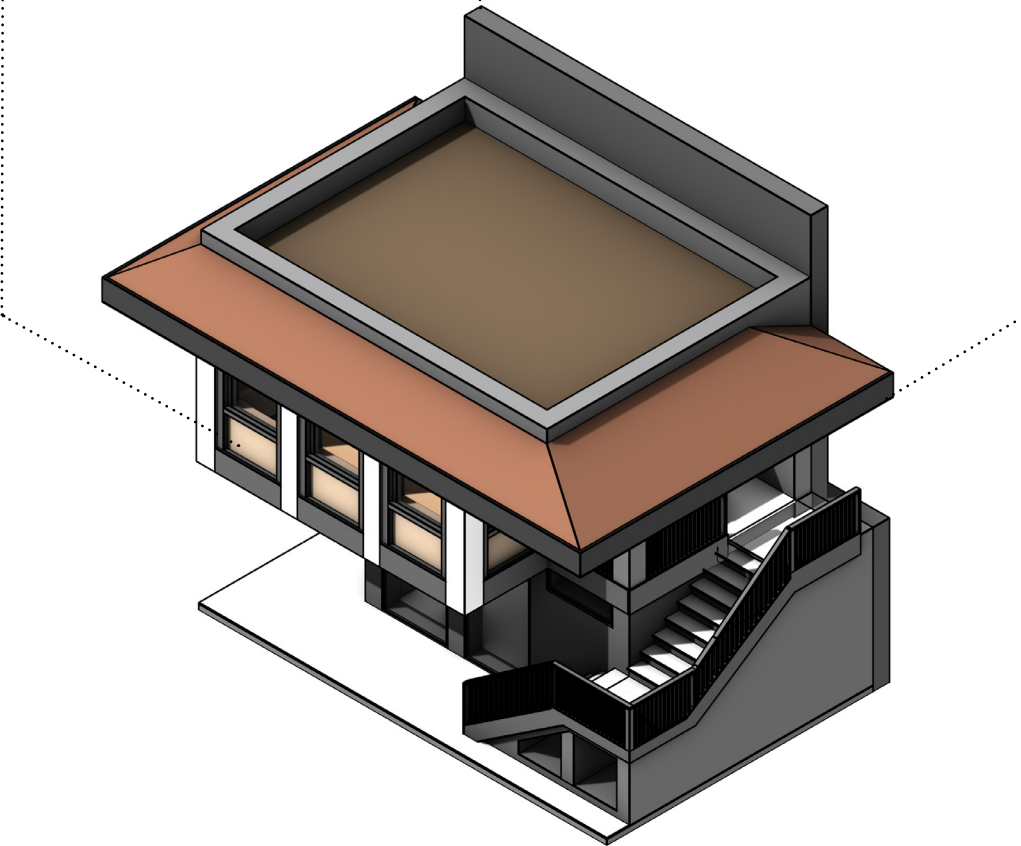


Figure 2.38 Black Sea Kosk, axonometric drawing. Precedent images above, photographs © İlhan Gokay Ozdemir.

The proposed design derives multiple programmatic and tectonic design elements from the vernacular and traditional observations. However these are interpreted to be applied with modern construction materials available in the region.

Despite the rich wood construction heritage, construction grade timber is not readily available in the region, making it prohibitively expensive to build new full wood frame construction buildings. Similarly, use of masonry is mostly limited to renovation works due to high cost and lack of reliable supply. As a result, concrete has taken over the industry as the primary construction material, not only in Black Sea region but the whole of Anatolia. Combined with the bleak design of modern apartment building proliferating everywhere over the construction boom of the last decade, heavy use of concrete has sparked a negative reaction while no realistic alternative has been available.

In this light, the design proposal maintains a structural concrete frame while integrating decorative wood finish materials for window and ceiling modules. Double glazed, aluminum window and door systems are proposed for the openings while red-painted sheet metal is used for roofing, maintaining the characteristic red against green contrast look of the regional houses in the area.



Figure 2.42 Front Elevation of the Black Sea Kosk.

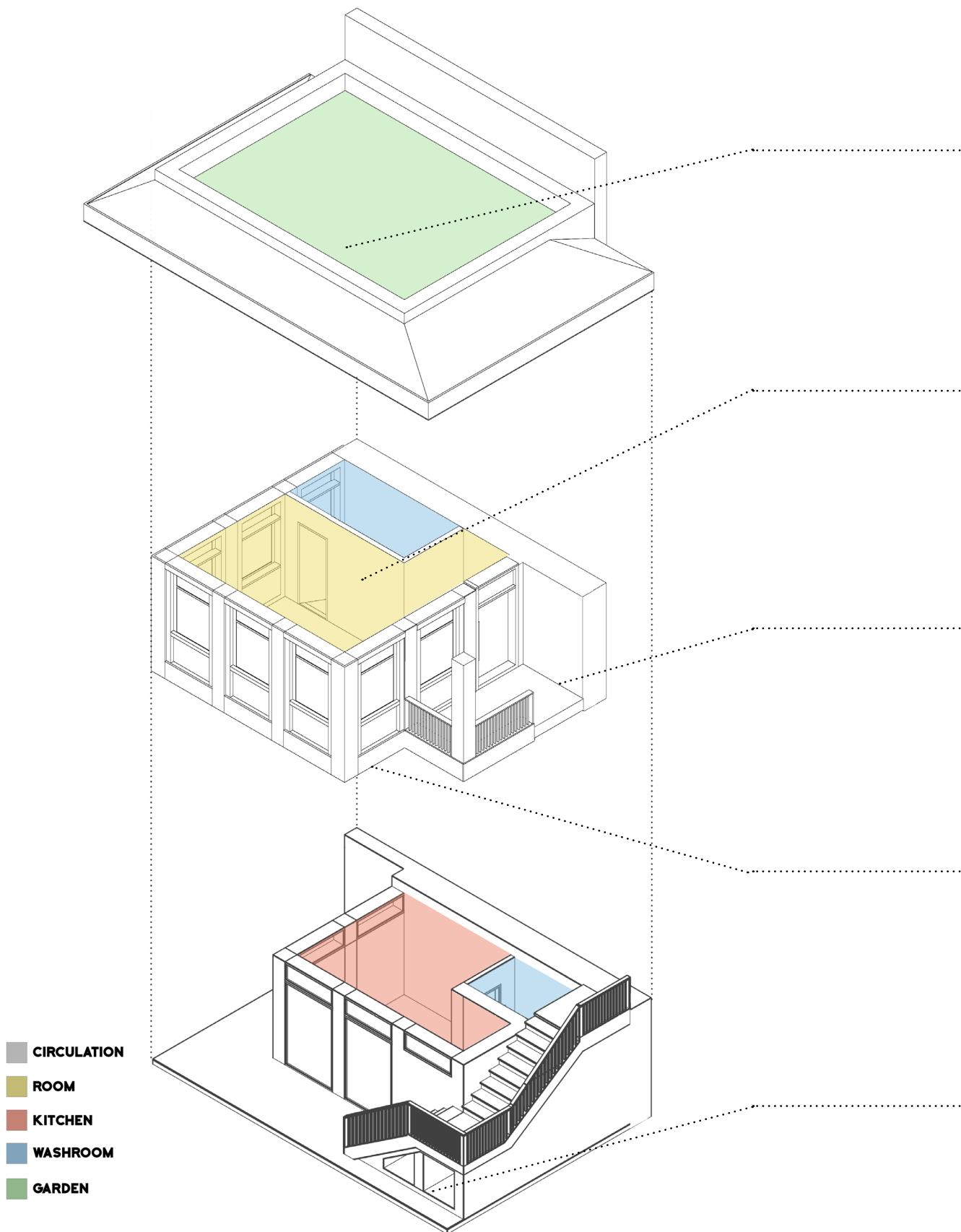


Figure 2.43 Black Sea Kosk, exploded axonometric / program drawing.



Roof is designed to allow a green roof application. This could double as a passive climate control method while providing a potential space for a small vegetable garden.



A contemporary interpretation of wood ceiling panels are used to emphasize the modular planning logic of the design.



Entrance/Balcony is the main exterior social space. People spend most of their times outside whenever the weather is agreeable.

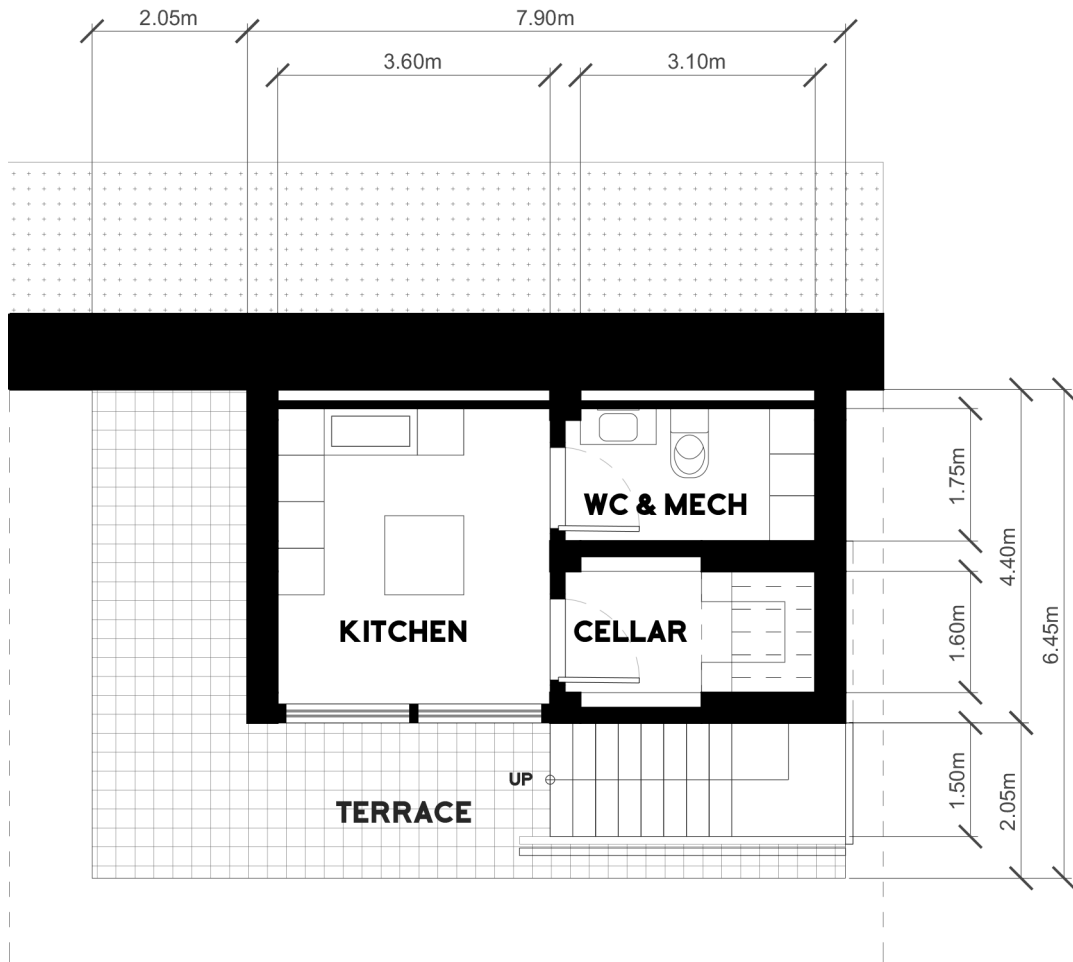


Projecting upper level provides protection from the elements to the platform underneath.



Firewood, agricultural tools and fuel can be stored dry underneath the external staircase.

Figure 2.44 Black Sea Kosk, derivations. Photographs © Ilhan Gokay Ozdemir.

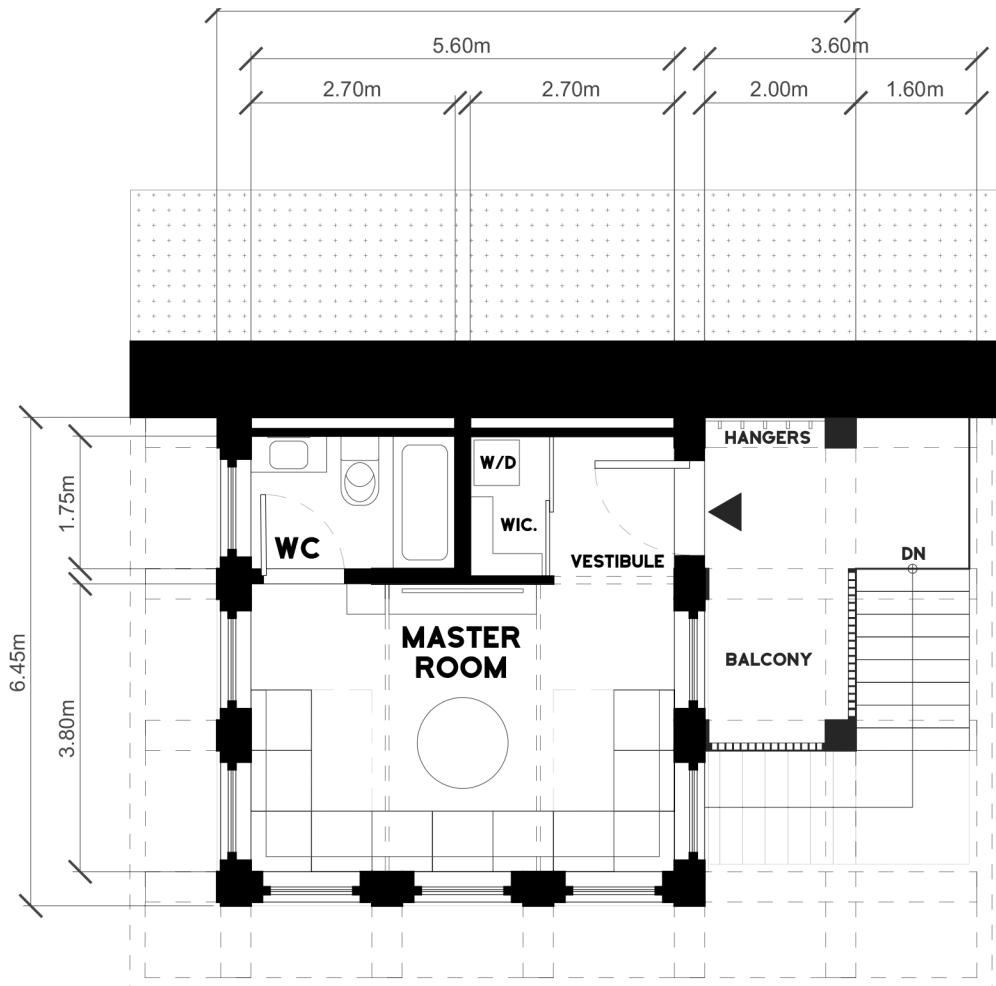


GROUND FLOOR PLAN

ENCLOSED SQM: 35.0
 OPEN SQM: 29.5
 DRAWN SCALE 1:100

TOTAL ENCLOSED SQM: 141.5
 TOTAL OPEN SQM: 128.5

Figure 2.45 Black Sea Kosk ground floor plan. Paved terrace provides a platform for agricultural functions. Practical programs such as kitchen, mechanical room and storage are located on this level.



SECOND FLOOR PLAN

ENCLOSED SQM: 41.5
 OPEN SQM: 11.8
 DRAWN SCALE 1:100

Figure 2.46 Black Sea Kosk upper floor plan. Glazed on three sides, the master room offers a bright living space during the day and converts into a bedroom at night. The room can be divided with curtains to provide two separate sleeping areas if needed. The balcony is sheltered from the prevailing winds by its strategic location on the sea side.

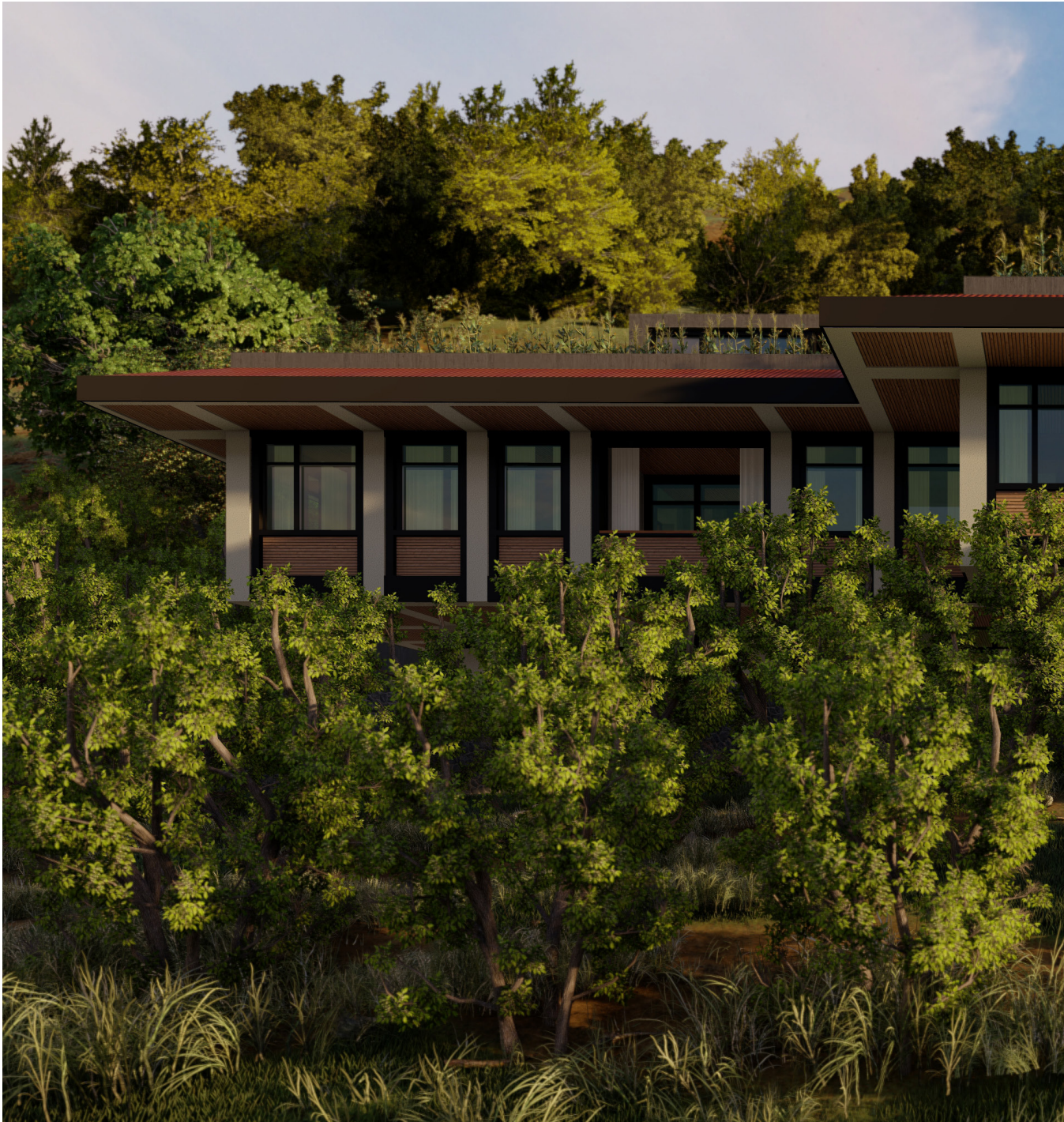
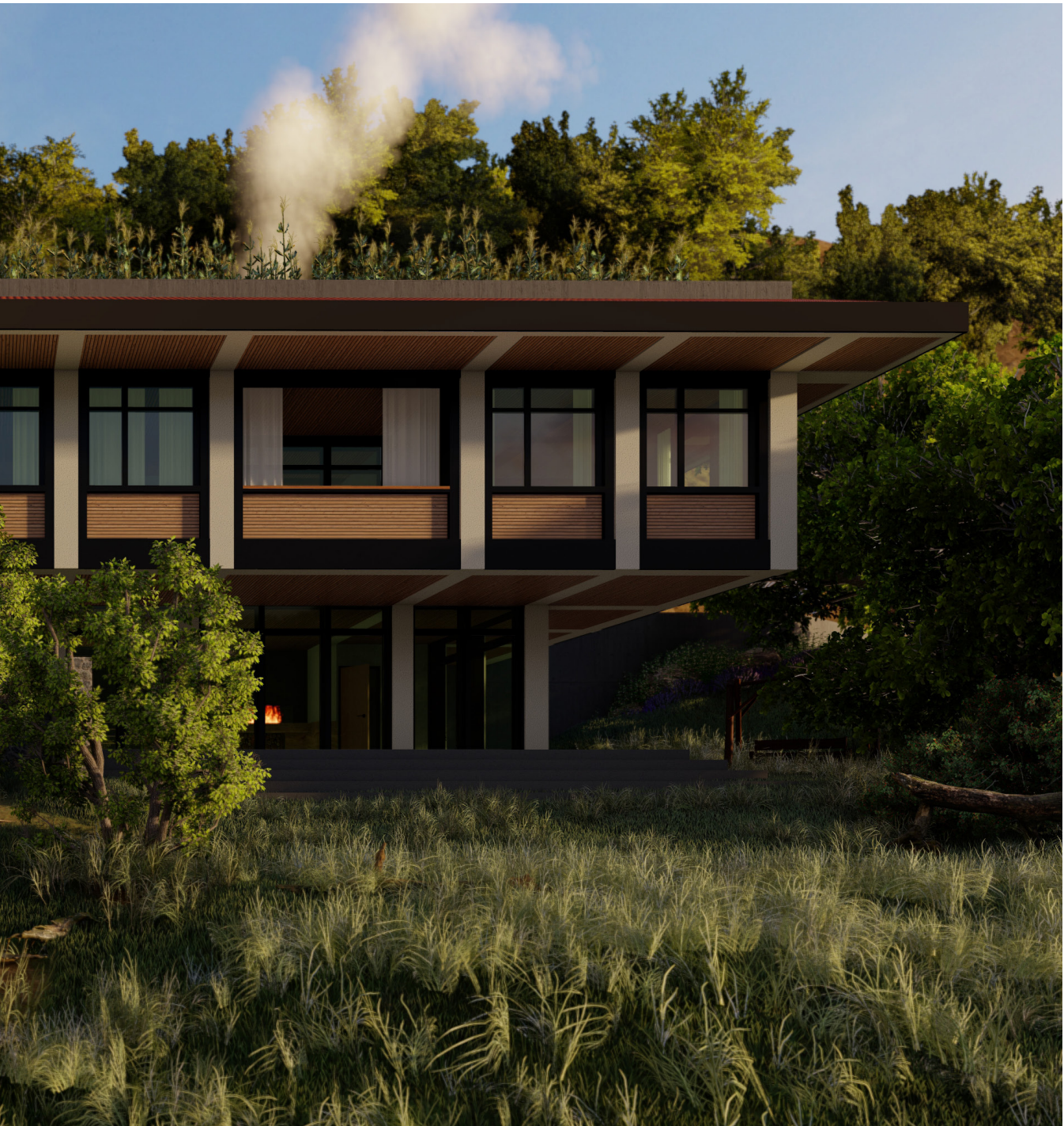


Figure 2.47 Black Sea Konak. Rendering of the larger *konak*, multi-generational family house surrounded with hazelnut orchards.



DESIGN VARIATION

BLACK SEA KONAK

A larger scale option, *konak*, offers a multi-generational residential option to the Black Sea region prototype. Based on and improving upon the same parameters of the *kosk*, Black Sea Konak is a large horizontal building, housing multiple independent rooms. It can be thought of as an apartment laid out horizontally and connected with a semi-private *hayat* space. This interstitial space can be enclosed or left open to the outside by employing large glazed doors at balcony-like spaces in between different rooms. These openings are called “*eyvan*” and they are strategically placed between rooms to create some distance between the separate rooms while providing access to the outside.

The konak type resembles a city within a city, where the rooms make up the individual units, connected by the *hayat*, the internal street of a *konak*. There is a level of independency and privacy that is established through the layout of the konak and the rooms, while the utilitarian programs such as the kitchen, circulation and mechanical systems are shared between all the units.

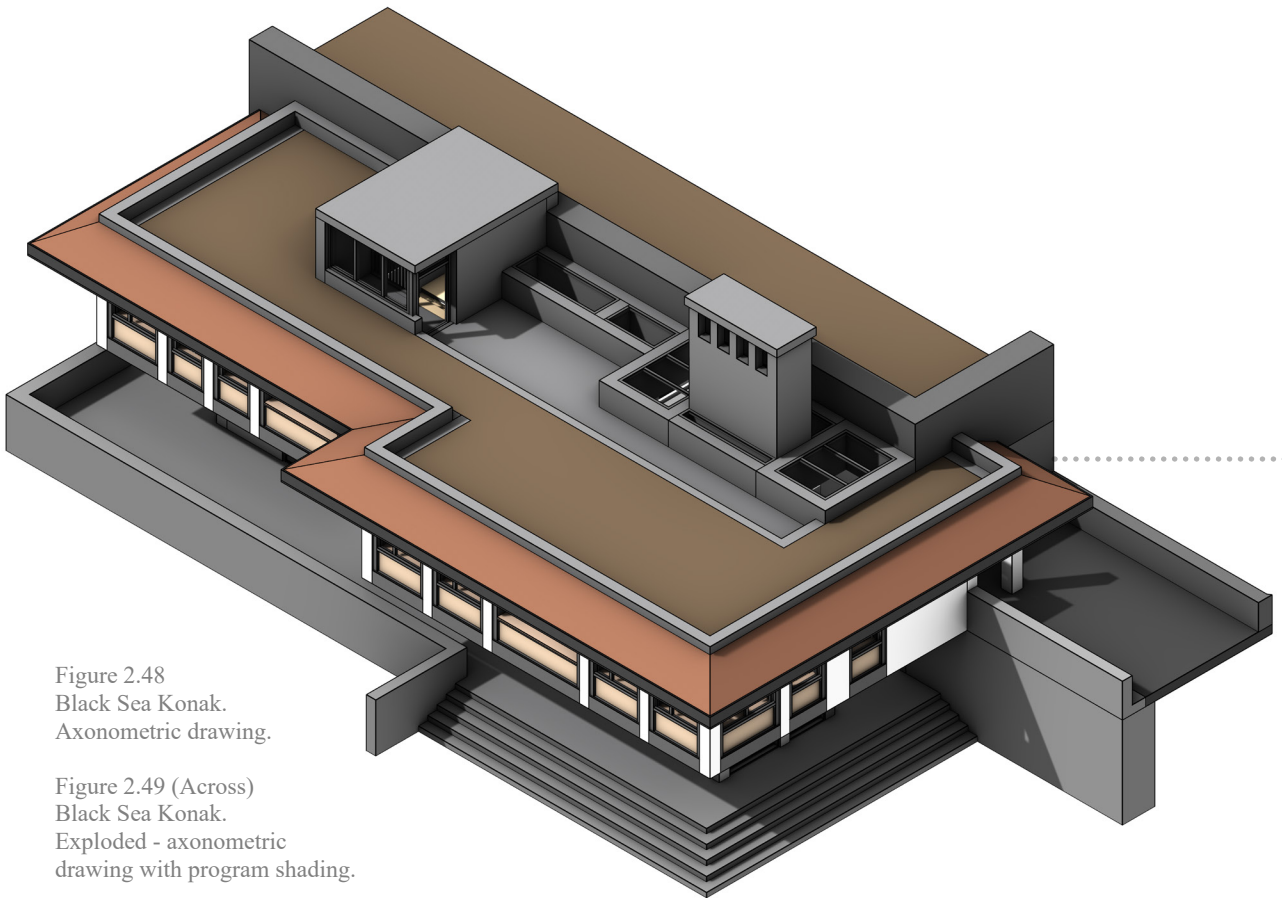
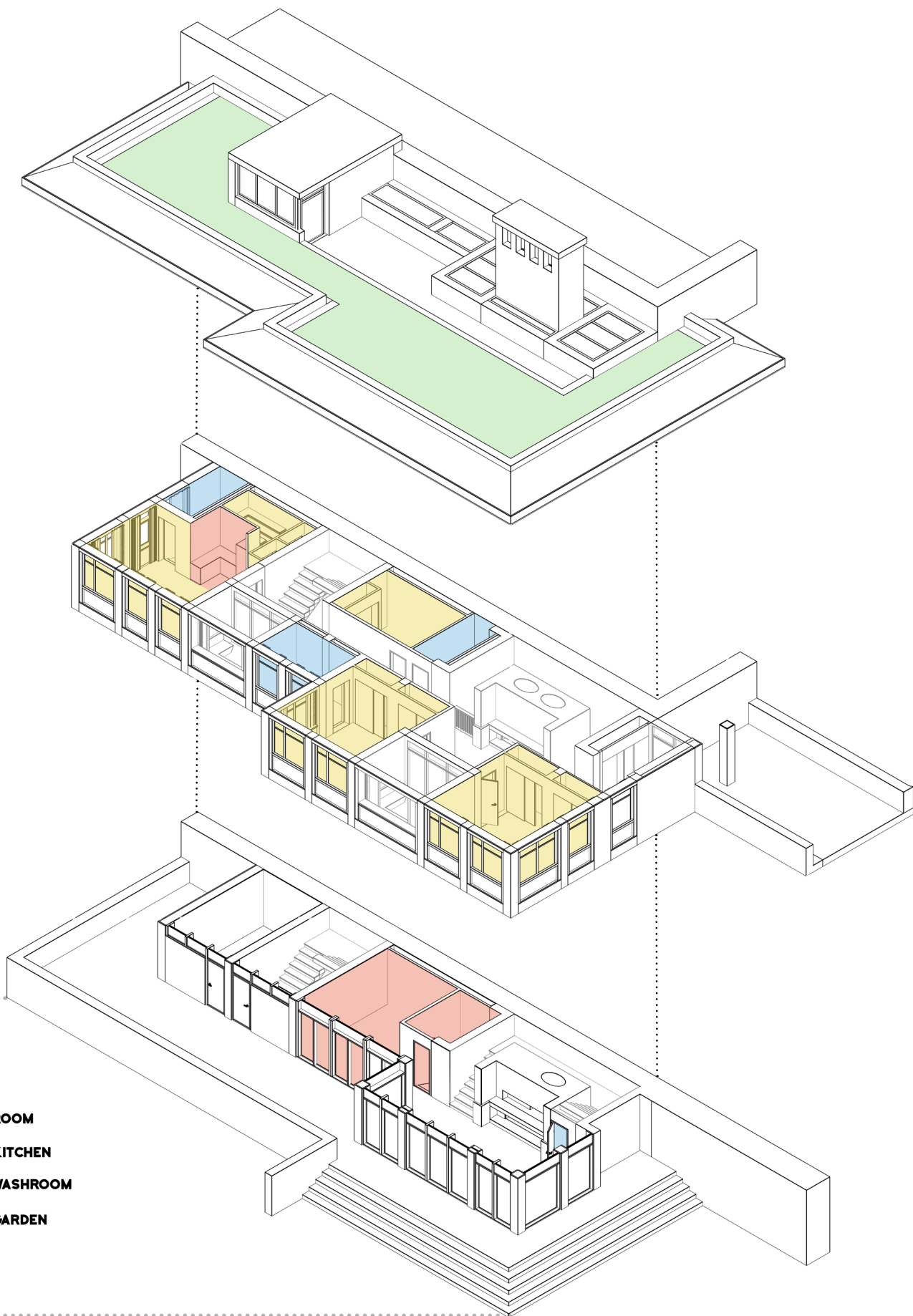
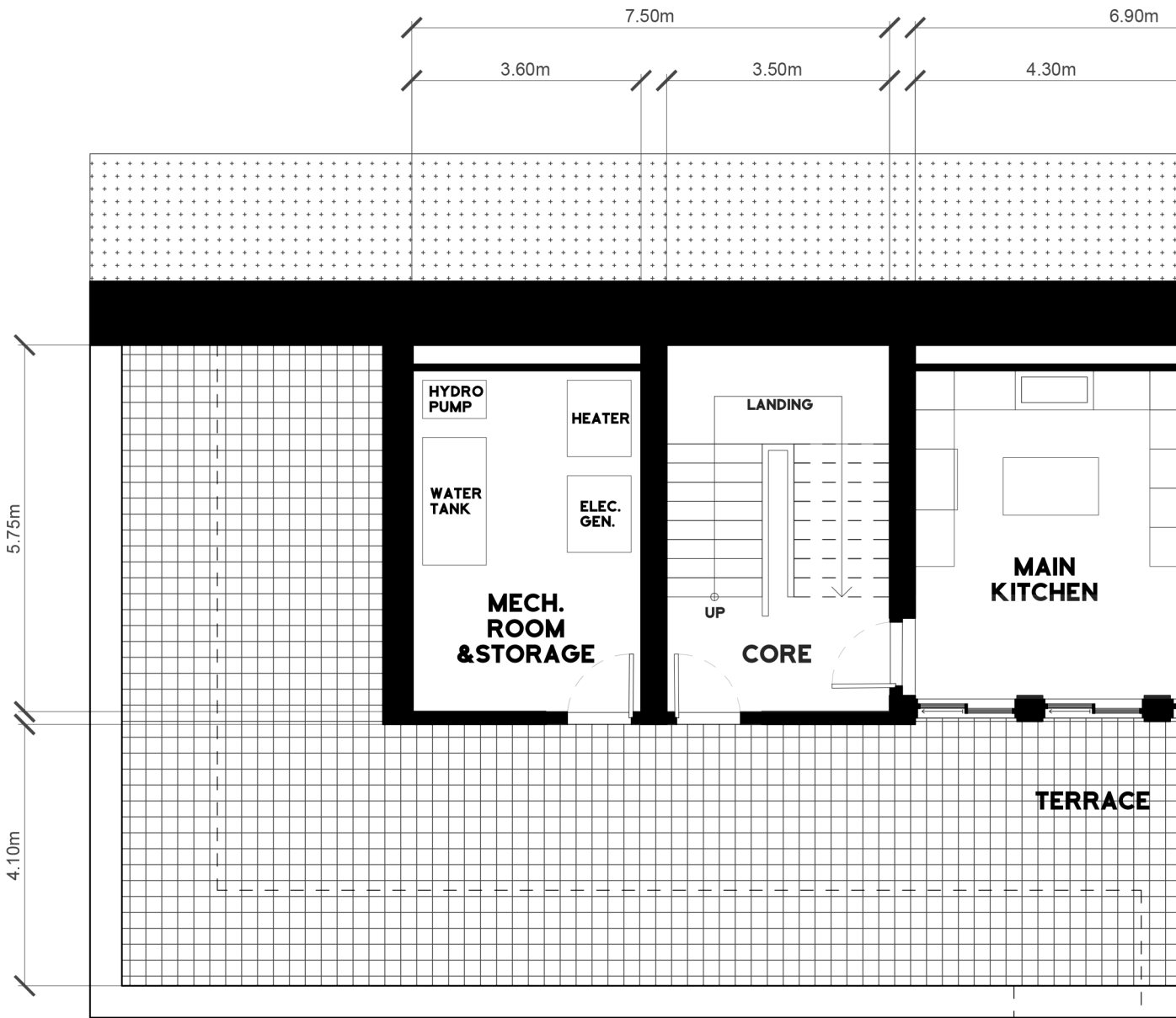


Figure 2.48
Black Sea Konak.
Axonometric drawing.

Figure 2.49 (Across)
Black Sea Konak.
Exploded - axonometric
drawing with program shading.



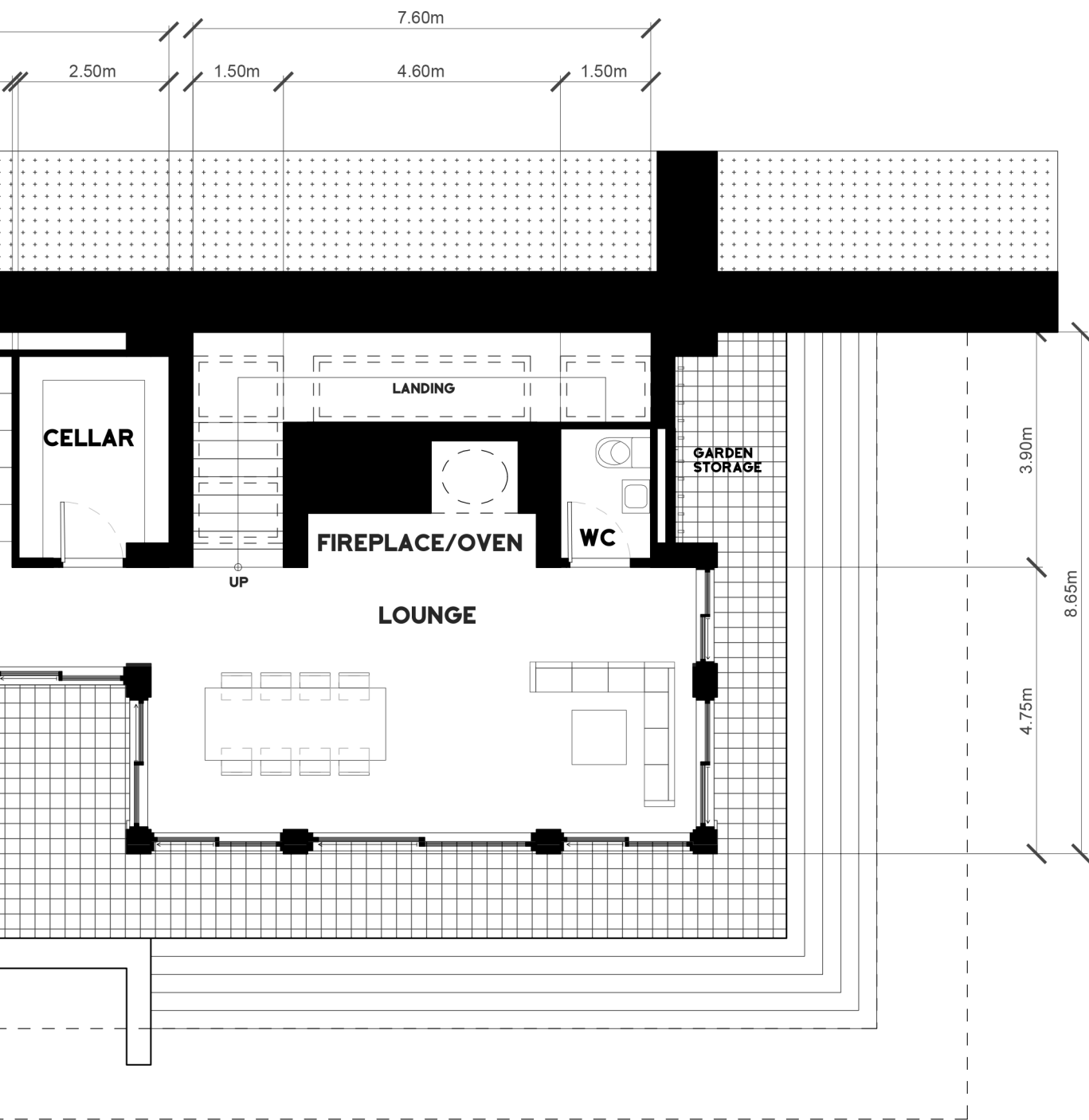
- ROOM
- KITCHEN
- WASHROOM
- GARDEN



BLACK SEA KONAK GROUND FLOOR PLAN

ENCLOSED SQM: 168.8 TOTAL ENCLOSED SQM: 141.5
OPEN SQM: 128.6 TOTAL OPEN SQM: 128.5
DRAWN SCALE 1:100

Figure 2.50 Black Sea Konak, ground floor plan. Ground floor plan of the *konak* shares the same planning logic with the smaller *kosk*. Ground floor is reserved for kitchen, storage and mechanical functions. A lounge with three glazed sides is introduced. This is intended as an extension of the garden into the house with operable glazed panels. An interior hearth that doubles as a fire oven is located in the center, representing the traditional communal oven.



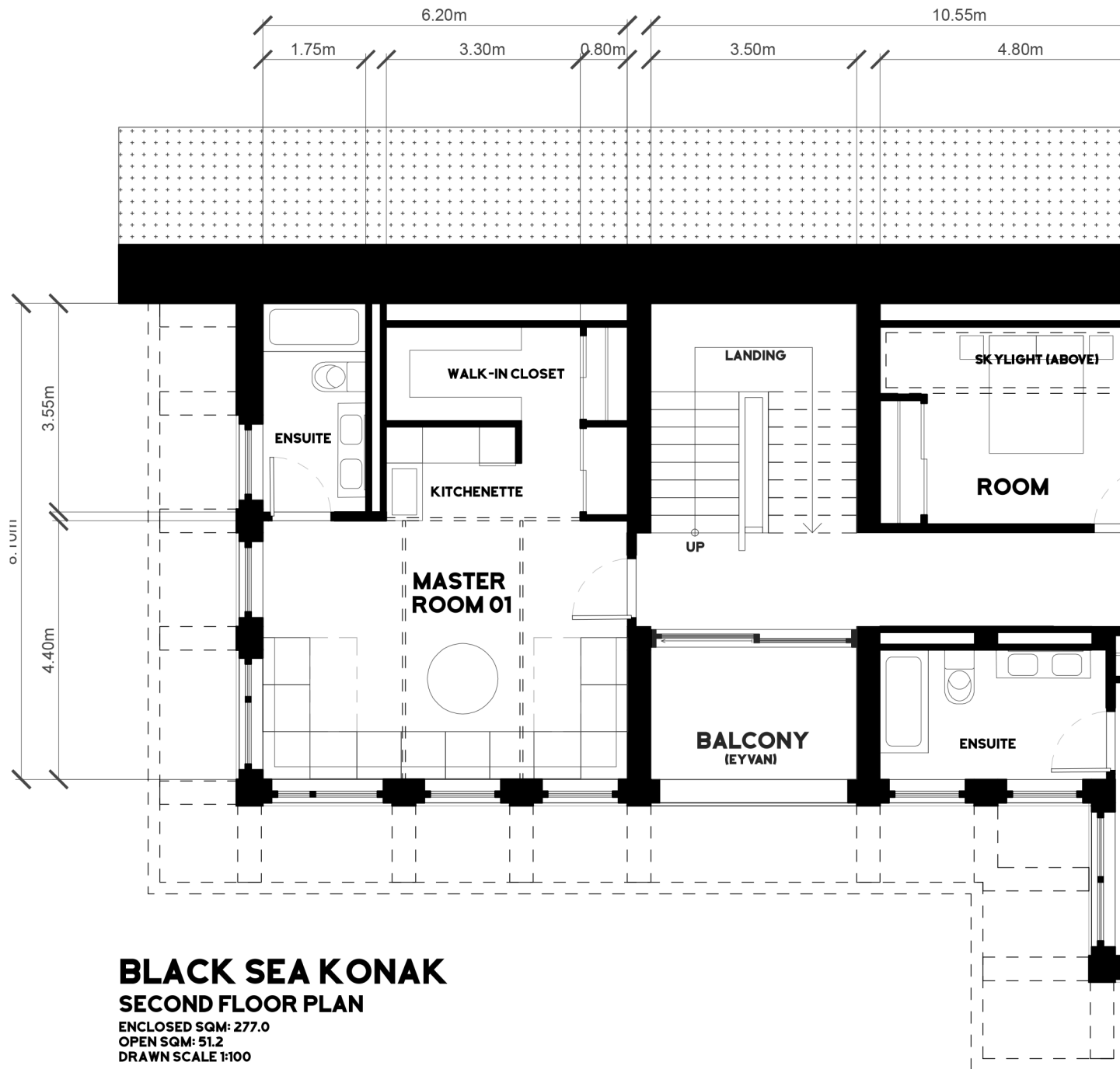
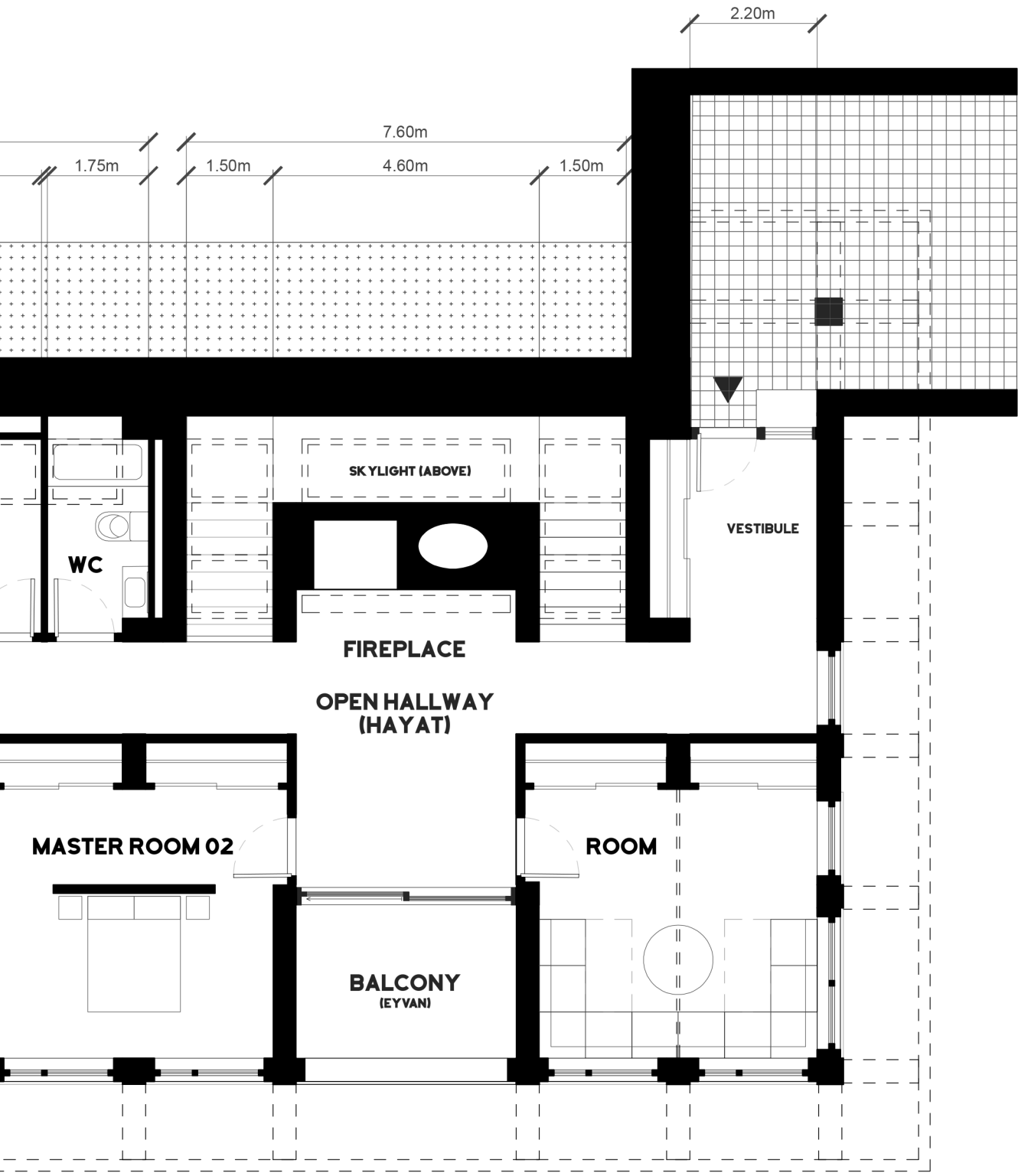


Figure 2.51 Black Sea Konak, upper floor plan. Upper level of the *konak* offers four flexible rooms which can be converted between living spaces to sleeping quarters on demand. Two ensuites and one common washroom is provided for maximum independency of the rooms from each other. Each room can be considered a small apartment, sharing circulation and social spaces (*Hayat*), making up the large *konak*. Rooms are private and *Hayat* is the social space of the *konak*, acting as the glue that brings these independent rooms together, like an internal street.



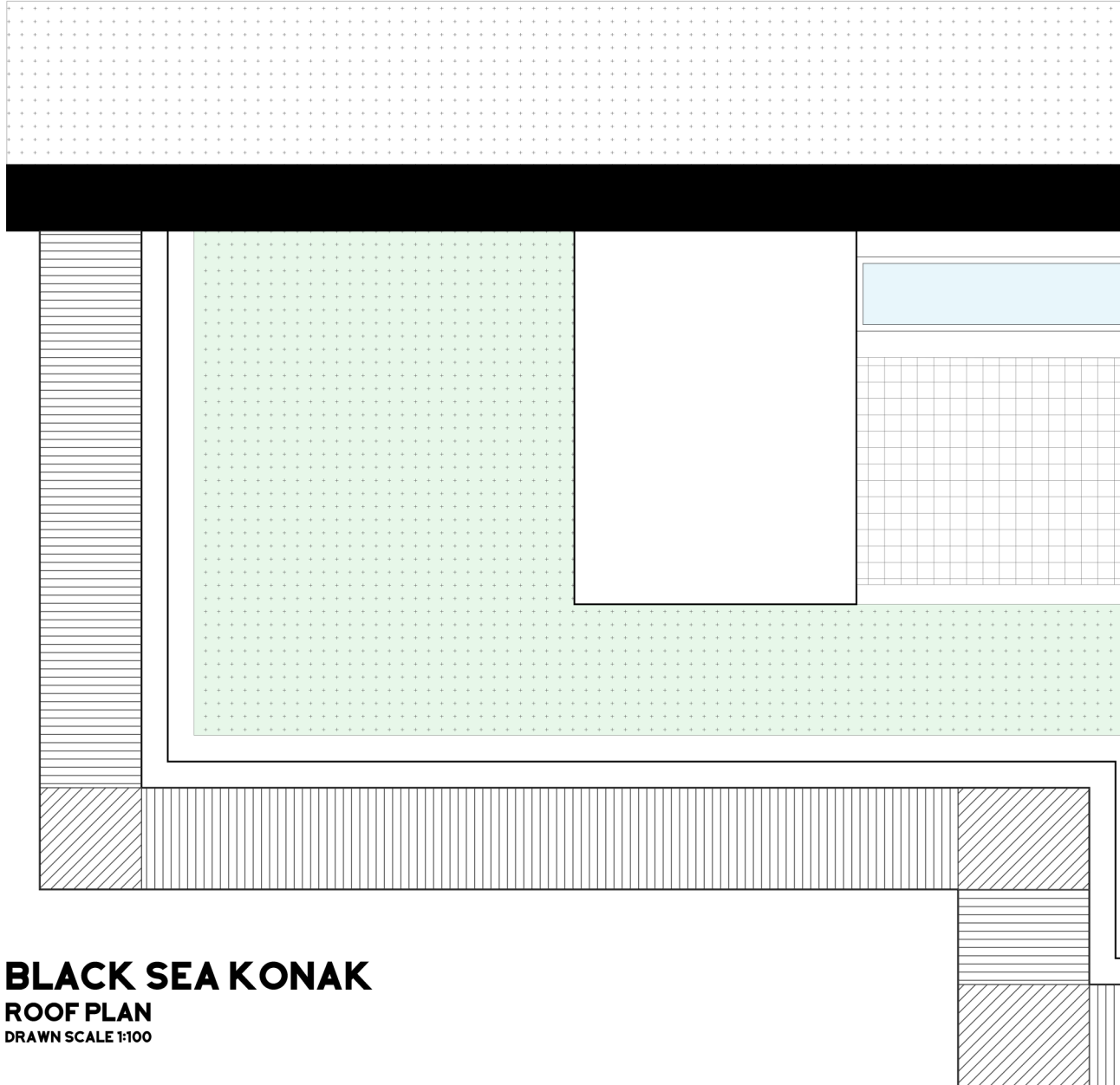
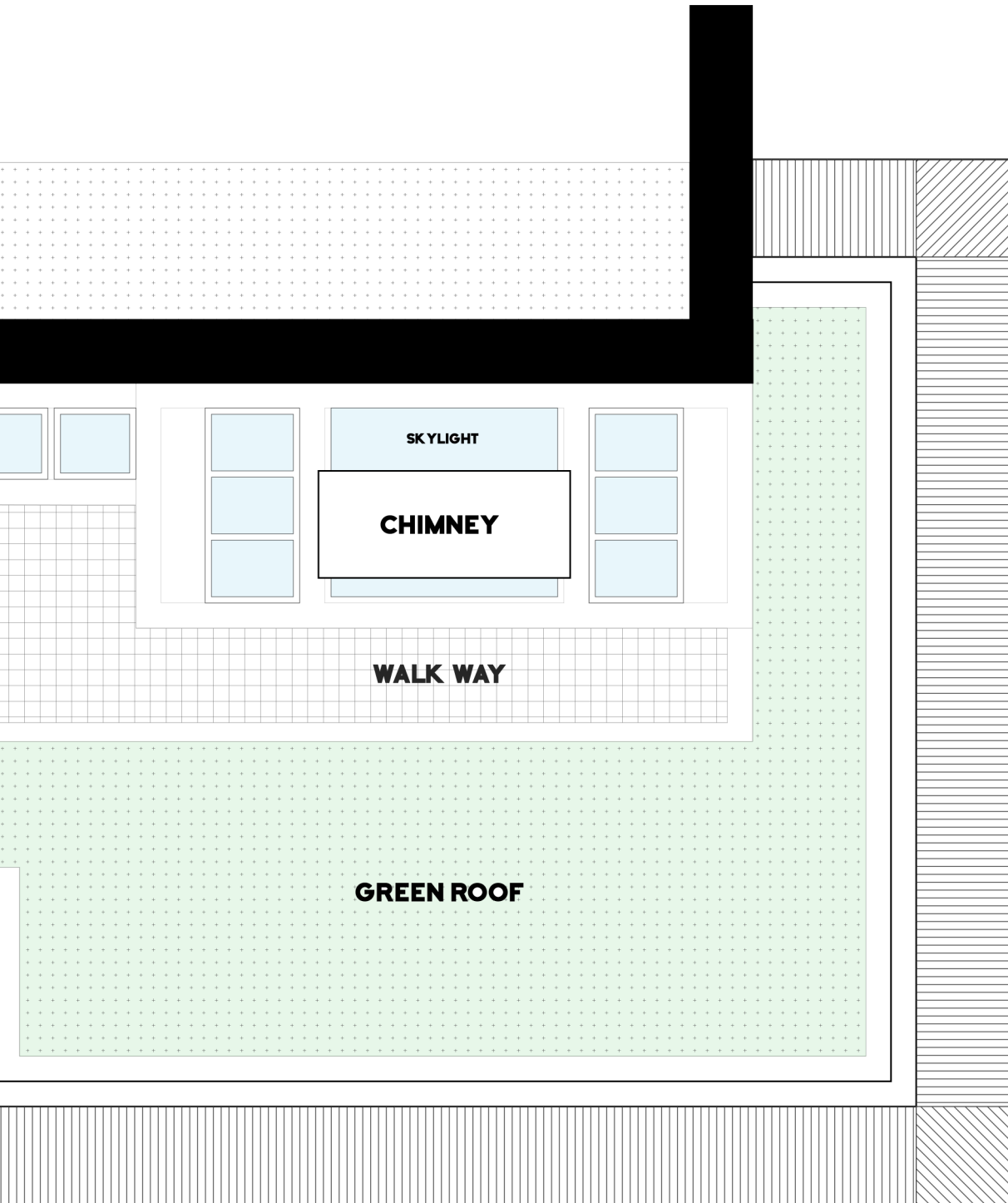
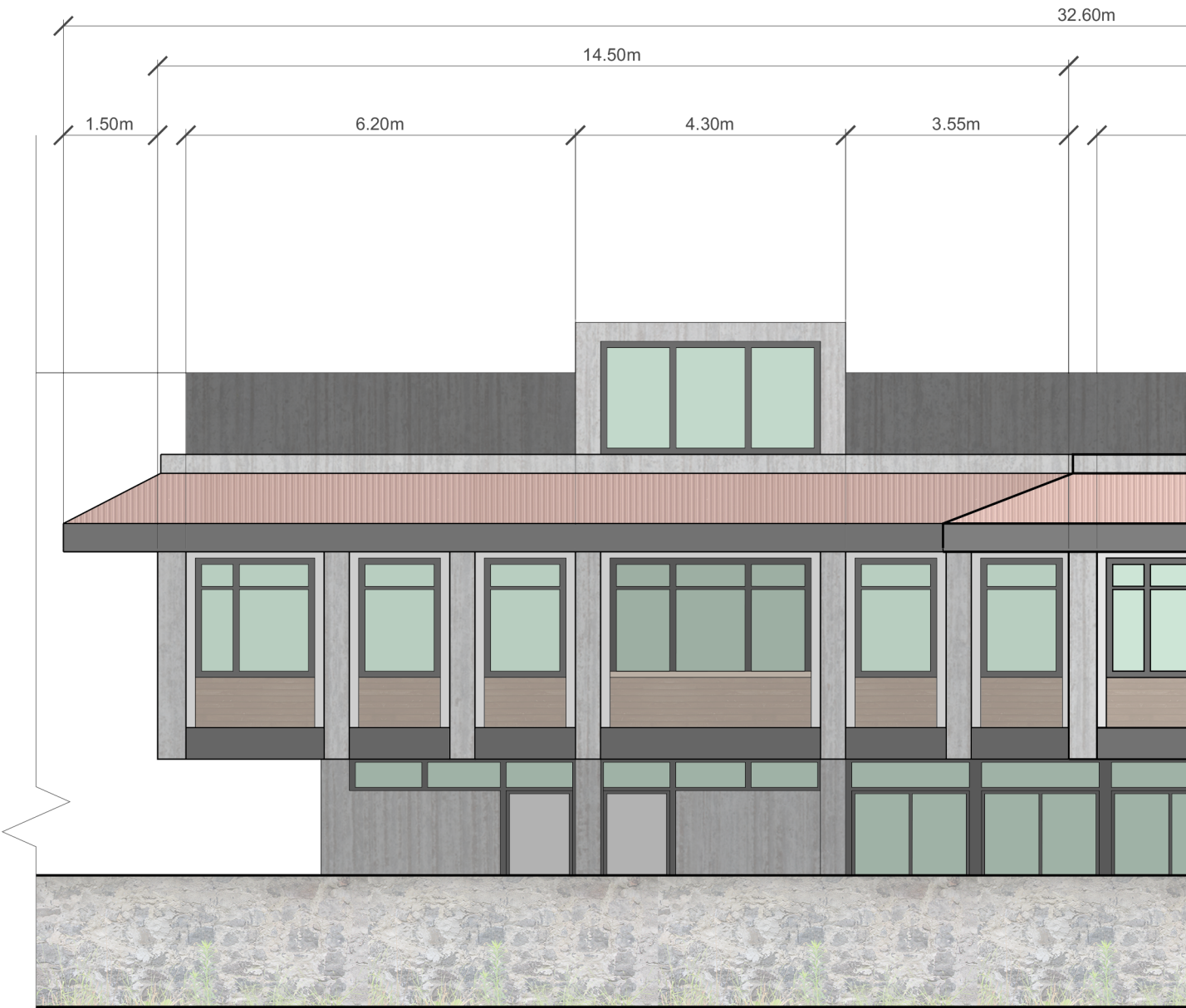


Figure 2.52 Black Sea Konak, roof plan. The large roof of the *konak* allows a large roof garden, accessible through stairs from the *hayat*. Flat land is extremely rare in the mountainous region and the building takes advantage of its roof in this regard. This creates an easily accessible space, ideal for a vegetable or hobby garden. Skylights provide day light to the rooms and staircase on the deep end of the *konak*, where the building anchors to the ridge, thus preventing regular windows.





BLACK SEA KONAK
FRONT ELEVATION
 DRAWN SCALE 1:100

Figure 2.53 Black Sea Konak, elevation.
 Material choices from *kosk* are maintained in the *konak* iteration. Main structure is composed of concrete framing members and slabs while the interiors are detailed with wood panels and stucco finish. Painted sheet metal is used for roofing to maintain characteristic look of the regional houses.

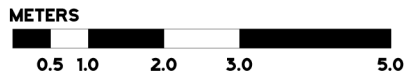
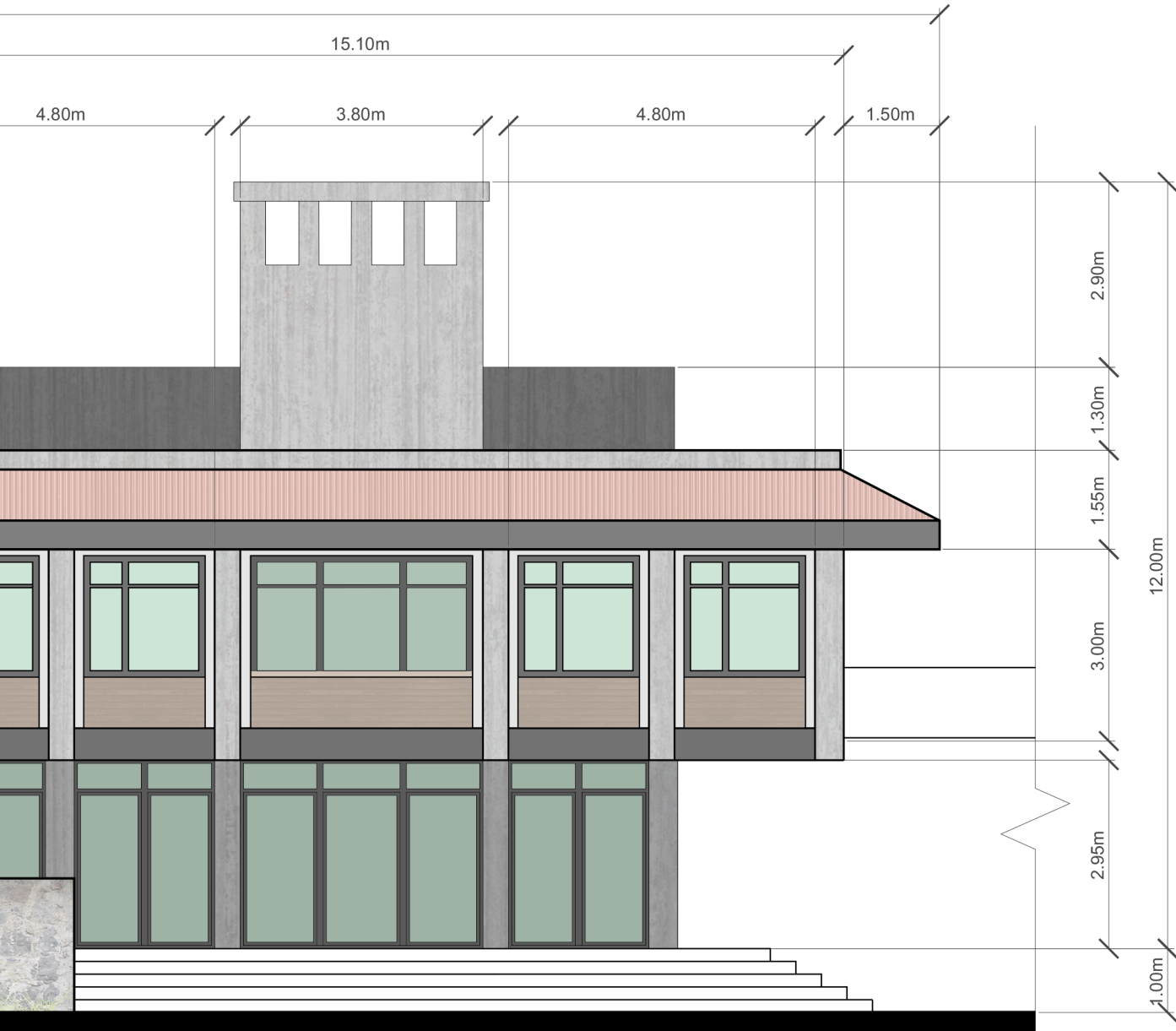




Figure 2.54
Black Sea Compound, exterior social space. People spend most of their time outside when the weather allows it, enjoying the nature and views that surround them. Rendering.



Figure 2.55
Black Sea Konak, roof garden. The green roof can be used to produce vegetables for household consumption. This is an important feature since flat land is very rare in the region and most available land is converted to plant large scale agricultural products, mainly hazelnuts. Rendering.

Another way to read the *konak* is as a structure that brings a family settlement under one roof. The valley houses of Black Sea are often clustered in groups of four or more houses, usually belonging to different members of a larger family. *Konak* is an efficient building type that can bring these clusters together, allowing communal use of some spaces while maintaining privacy for each family within the cluster.

Konak is an important part of this design proposal and is developed as an antidote to a problem that was communicated by many residents of this region. It is an alternative to densification of the rural Black Sea, which often happens vertically. Many residents of rural villages complained about mid-rise apartment buildings going up in their neighborhoods, breaking up the organic urban patterns of such places and creating serious eyesores. This project aims to propose an alternative approach to densification in rural zones, a horizontal alternative to vertical construction.



Figure 2.56
Black Sea Konak, lounge. This large indoor social space can be opened up to the surrounding orchards, effectively bringing the garden indoors. It is located adjacent to the central kitchen and serves mainly as a dining area. The hearth is located on the center point of this space and embodies the vernacular communal ovens often seen in Black Sea mountains. It represents the fire that brings people together besides its functional role as a wood oven.



Figure 2.57

Black Sea Compound. This iteration is a combination of the *kosk* and *konak* types, scaled up to a small neighbourhood size. It is an attempt at demonstrating how a consistent modular architectural approach could work in the context. A compound could include a number of different sized *kosks* and *konaks*, built within the same logical framework but customized to the personal preferences of each household. These buildings would be connected through exterior platforms and gardens, emerging together from the landscape in an organic manner. Perspective rendering.



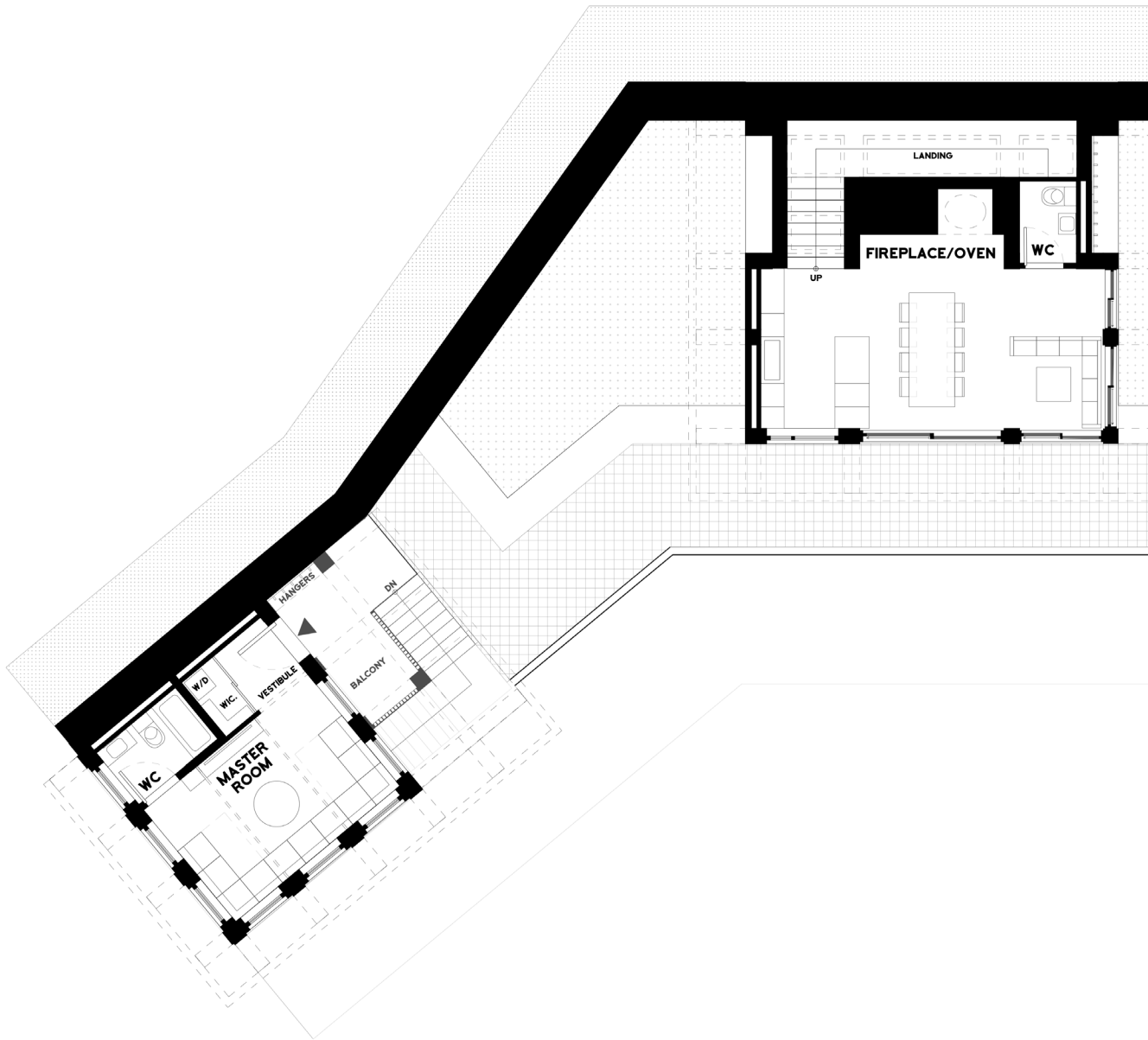


Figure 2.58
Black Sea Compound, plan drawing.

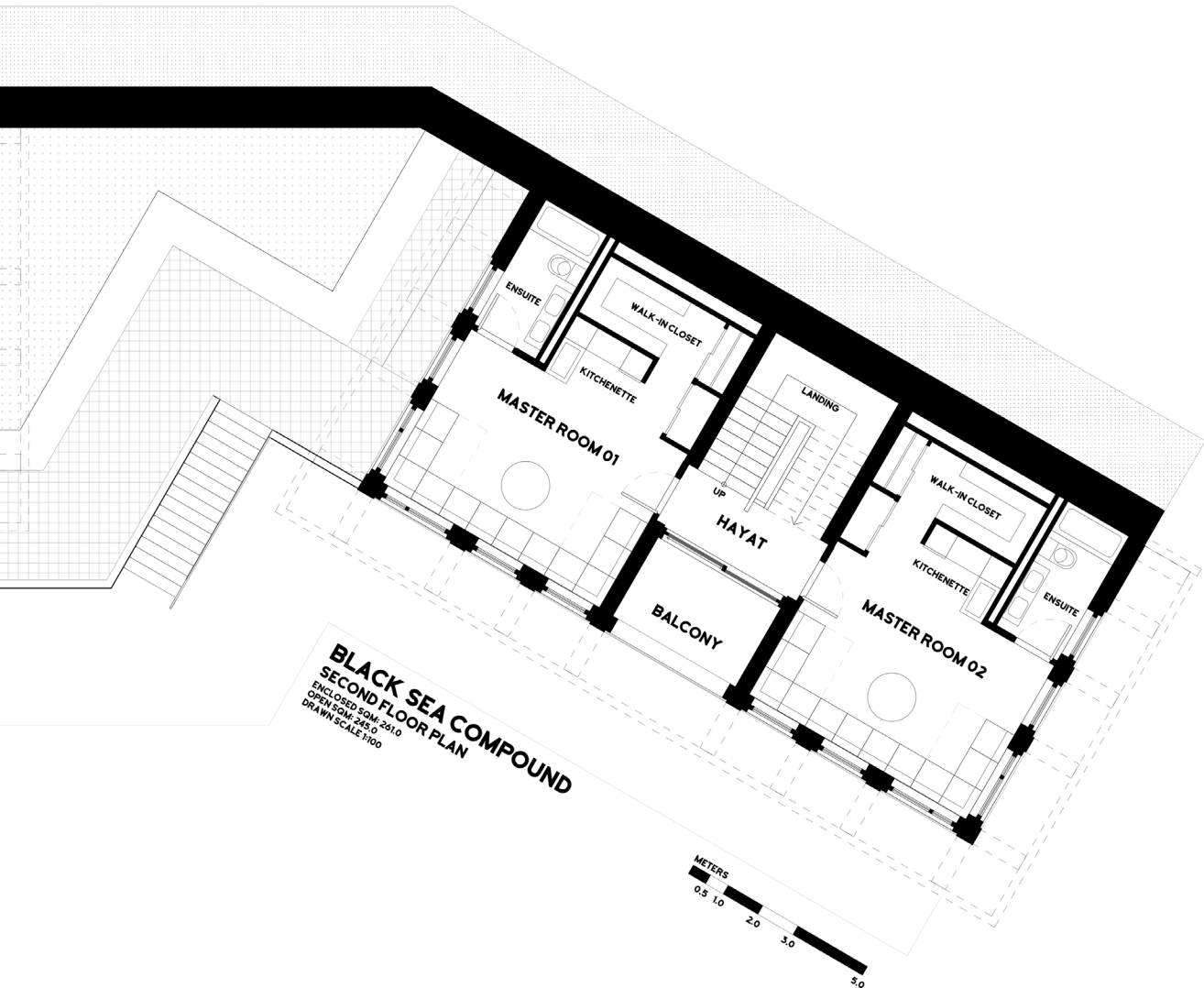




Figure 2.59 Black Sea Konak 3D printed model. 1:100.

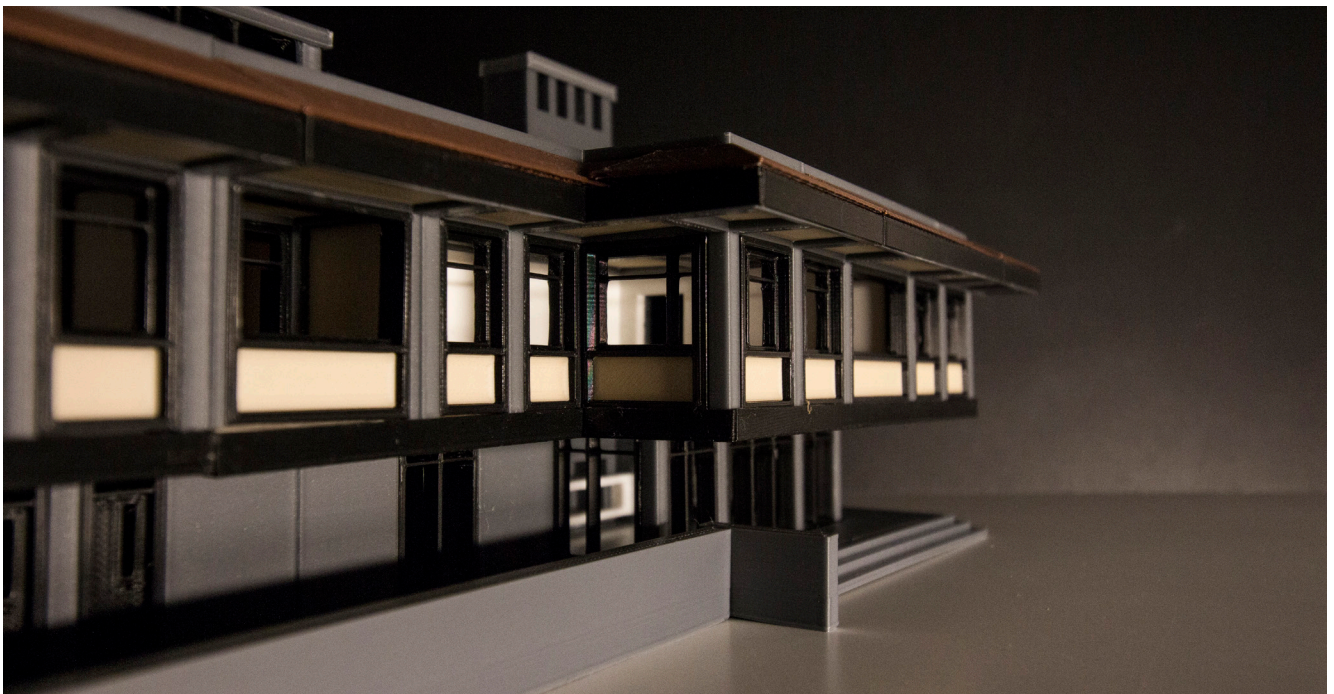


Figure 2.60 Black Sea Konak 3D printed model. 1:100.

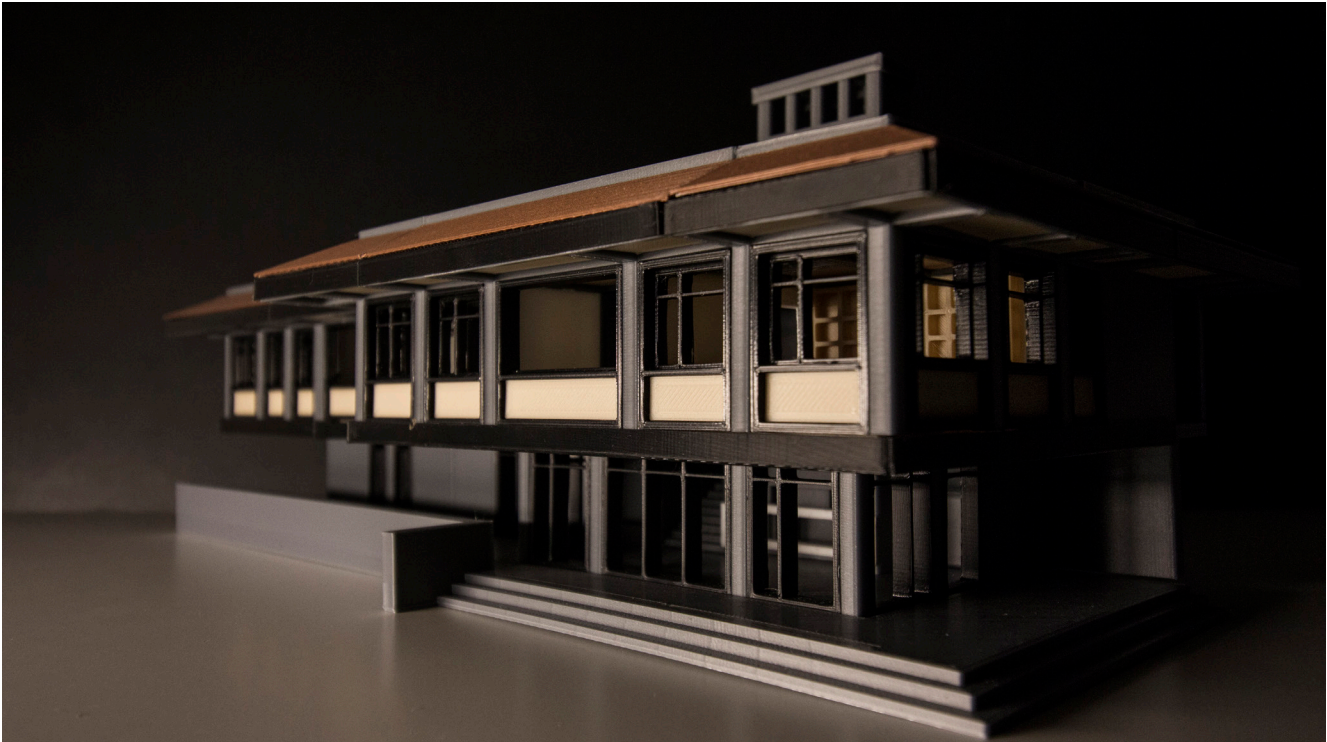


Figure 2.61 Black Sea Konak 3D printed model. 1:100.



Figure 2.62 Black Sea Konak 3D printed model. 1:100.

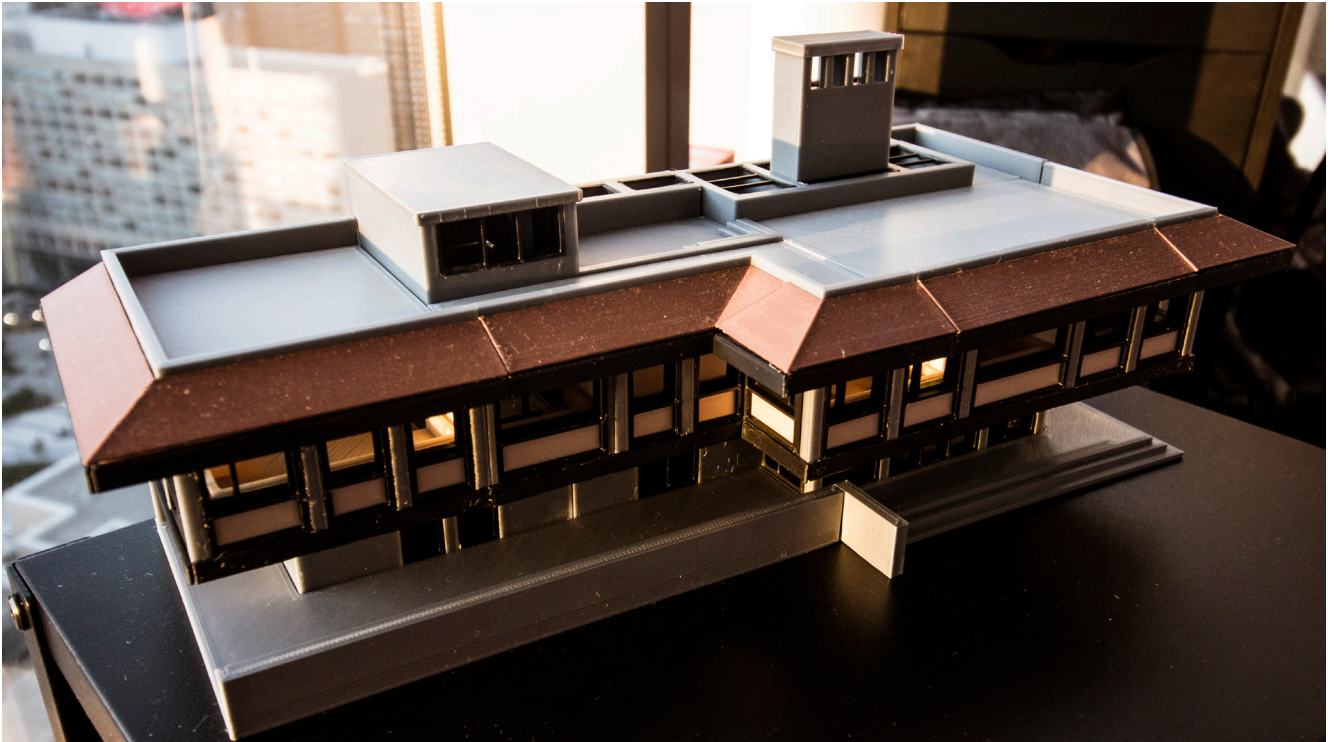


Figure 2.63 Black Sea Konak 3D printed model. 1:100.



Figure 2.64 Black Sea Konak 3D printed model. 1:100.



Figure 2.65 Black Sea Konak 3D printed model. 1:100.

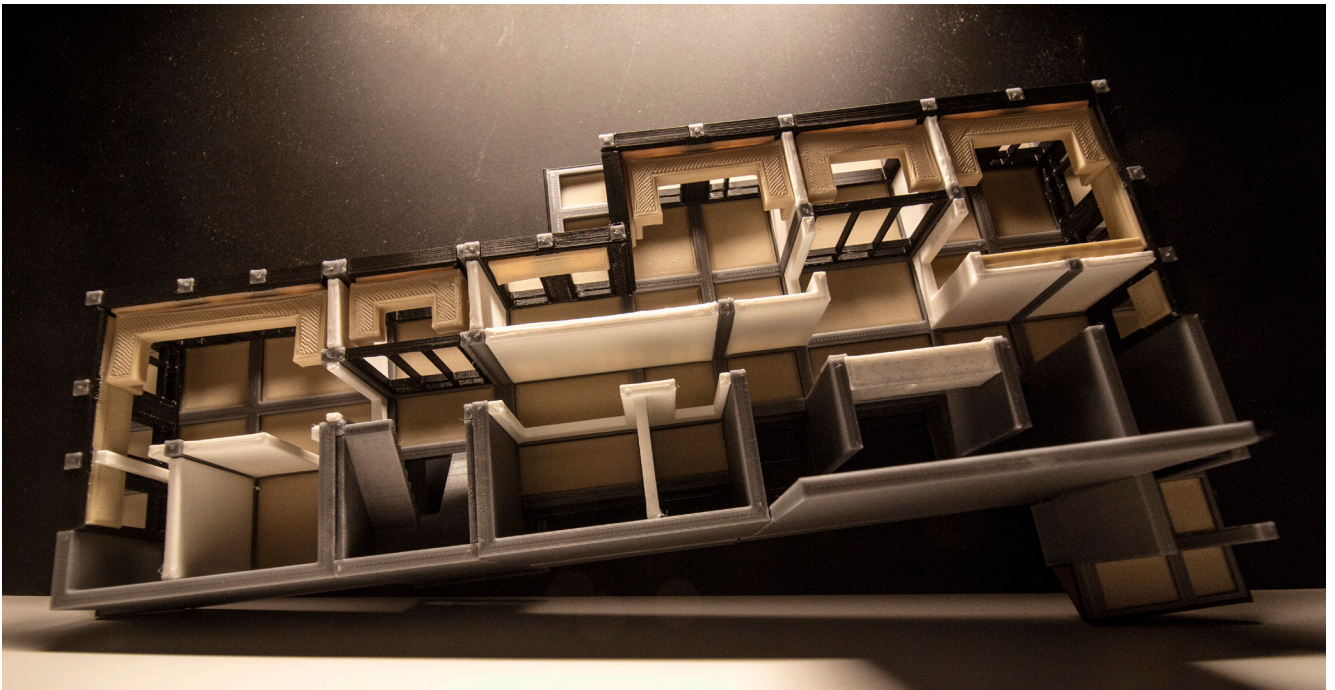


Figure 2.66 Black Sea Konak 3D printed model. 1:100.

CAPPADOCIA

Observations,, Analysis and Design Proposal



Figure 3.1 Cappadocia in Central Anatolia.

Cappadocia, “the land of fine horses”¹, is a central Anatolian region famous for its unique landscape and vernacular. At a thousand meters altitude, it is a vast plateau with hot and arid climate. Strong winds erode and shape the volcanic rock that gives the region its characteristic landscape. The soft volcanic rock is easy to work with which manifests itself in the elaborate masonry tradition alongside carved-in dwellings and underground cities in the surrounding areas. The soil is appropriate for farming if worked but natural vegetation is mostly limited to grassland and small trees. Lush oasis conditions can be found where valleys are carved into the soft rocky landscape by rivers.

¹ Ancient name of a province and kingdom of Asia Minor, roughly corresponding to modern Turkey, from Greek *Kappadokía*, perhaps ultimately from Persian *Hvaspadakhim* «land of fine horses.» <https://www.etymonline.com/word/cappadocia>



Figure 3.2 Cappadocia texture and environments. © Ilhan Gokay Ozdemir.

Cappadocian landscape is imbued with awe-inspiring scenery, history and myth. What looks like a cliff may reveal a large carved in apartment-like structure or an unassuming mound may lead to a temple underneath. The wind sculpted “fairy chimneys” takes the imaginative traveler to a realm of fantasy while innumerable caves leading to underground cities offer reveries of bygone eras. Perhaps the most appealing quality of the Cappadocian landscape is the revelation of incredible sights, hidden behind unassuming plains and hills, such as the lush oasis of “Ihlara Valley” (figure 3.3).



Figure 3.3 Ihlara Valley in Central Anatolia. © İlhan Gokay Özdemir.



Figure 3.4 Cappadocia vernacular palette. © İlhan Gokay Ozdemir.

VERNACULAR

Climatic and geological characteristics have a substantial influence on the vernacular and building traditions of the region. Passive thermal strategies can be observed all around the historical quarters of Cappadocian cities, these include use of high thermal mass materials, shaded exterior rooms, carved in or underground rooms and cellars (figure 3.4).

Carved structures are particularly effective during the searing hot summers and the temperature change is very evident when one steps into such a structure. The high thermal mass still serves the occupants during winter months, keeping the dwellings warm during snowfall or low temperatures.

Due to the nature of their vernacular, ancient Cappadocian houses are often low profile and blend into their surroundings. In many cases, they cannot be distinguished from afar and are only revealed through identification of their door or window openings. Urban structures, built much later, embody a mix of Mesopotamian and Turkish house characteristics, focused around courtyard typologies which will be analyzed further in this chapter.



Figure 3.5 A monastic compound in Cappadocia. © Ilhan Gokay Ozdemir.



Figure 3.6 Historical district, city of Urgup, Cappadocia. © Ilhan Gokay Ozdemir.



Figure 3.7 Newer urban district with modern development, city of Urgup, Cappadocia. © Ilhan Gokay Ozdemir.

URBAN FABRIC

As with many other Anatolian cities, there is a clear distinction between historical and modern districts in Cappadocia. This duality is also evident in the city of Urgup in Cappadocia, as can be seen on figures 3.6 and 3.7.

Originally, dwellings were built around curvy roads leading through a valley, surrounded with volcanic rock formations on three sides. Many cave-like dwellings are built into this rock formation and extended towards the valley in the center (figure 3.6). Neighborhoods are established organically in this context and don't follow a specific pattern. Beyond the climactic factors and a probable desire to reserve plains for agriculture, this form of urbanization may have been tied to strategic concerns, aiming to enable defensible fortifications which would be crucial considering the historical span of the settlement. Such districts are particularly well preserved in the case of Cappadocia due to the more durable primary materials used in the local vernacular, especially when compared to the wood construction of Black Sea region. There is also financial incentive to maintain and renovate historical structures due to touristic interest, since it's a major economic driver in the region.

On the other hand, new development in Urgup is almost completely disconnected in terms of architecture and urbanism from the historical core. Modern neighborhoods (figure 3.7) are built on a relatively strict grid layout with universal materials and planning conventions and on relatively flat ground. Such constructs lack any local identity and are almost completely isolated from the historical and geographical context of the place. This is a common symptom in most other Anatolian cities, where new construction is primarily driven by efficiency and practical factors over cultural or climatic ones. The stark difference between the old and new is particularly highlighted in a place like Urgup, due to its extremely unique vernacular and natural landscape.

As a result, it feels as if two cities exist in Urgup. One spans across ages in a timeless fashion, chaotic and full of surprises; other more machine-like, utilitarian and forgettable. One thing is certain; no one travels to the new part of the city unless they must, which is a problem in a tourism driven urban economy.

Main motivation of the Cappadocia House proposal is derived from this friction. The project goal is to find a balanced approach between these two aspects of the city, culminated into a contemporary local architectural language under the larger Anatolian Regional Modernism context. Design efforts are focused on proposing an alternative for new development rather than the alteration of historical structures since the author believes such structures should be preserved in original form. Thus, elements of this design proposal should be considered separate from the discussions around heritage architecture in the region. The proposal is inspired by the vernacular tradition and aims to influence new development, not to replace the unique historical urban fabric.



Figure 3.8 “Skirted House”. Small residence with an exterior room and elaborate masonry work. Mustafapasa, Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.9 Small masonry houses. Vertical program hierarchy is clearly reflected on the facade, living quarters are located on upper floors. Goreme, Cappadocia, Turkey. © Ilhan Gokay Ozdemir.

BUILDING TRADITION AND TYPOLOGIES

Regional cultures are dynamic and constantly evolving. Cappadocian cities demonstrate this clearly with striking diversity in the built environment. Beyond the ancient underground cities and the carved-in cave dwellings, urban Cappadocia presents elaborate masonry-built houses and mansions.

The deep roots of the local masonry tradition in the region can be traced in structure and detailing of older buildings and is still upheld by craftsman who specialize in renovation. Interestingly, even the humbler abodes fashion remarkable stone detailing, be it on windowsills or portico columns (figures 3.8, 3.9). This is another indicator to how integral masonry tradition is to the region, since it is present in all structures to some capacity, regardless of socio-economic status.



Figure 3.10 Expanded konak. Additions (on left) were made to the original Konak (on right). The entrance is through a walled off courtyard area, which may have been originally a garden. Mustafapasa, Cappadocia, Turkey.

© Ilhan Gokay Ozdemir.

It can be argued that the later era Cappadocian typologies are a hybrid between the Mesopotamian courtyard houses and the *Hayat* style Turkish houses (as defined by Sedad Eldem). Some larger *konaks* present an introverted character, hiding a vast courtyard and open spaces behind an austere street façade whereas others integrate garden walls into the superstructure (figure 3.9, 3.10), blurring the line between the building and the garden.

Furthermore, residential programs are reserved for the upper levels while practical/social functions are clustered on the ground level, similar to the program hierarchy seen in other Anatolian regions. Use of interstitial spaces and exterior rooms further enhance this blurring effect between interior and exterior spaces, suggesting a preference of outdoor habitation within walled-off private residences (figure 3.8, 3.11). Unfortunately, this unique architectural quality is absent for the most part in new development in the region, as is the case elsewhere in Anatolia (figure 3.7).



Figure 3.11 Semi-covered courtyard space. This building was converted into a hotel but the original courtyard would function as the main social space of a Cappadocian Konak. Avanos, Cappadocia, Turkey.
© Ilhan Gokay Ozdemir.



Figure 3.12 Walled-off garden house. The garden wall is part of the overall structure, making the garden a part of the house instead of a separate space. It is not clear where the garden ends and the house begins. Urgup, Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.13 Formal Konak with courtyard. This structure contains two large courtyards which acts as a social space and connects the street side with the cave rooms across it. This single structure is comparable to an apartment in terms of density. Main rooms are located on upper levels. Urgup, Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.14 Smaller Cappadocian house. The structure fashions an open circulation area instead of an enclosed hallway seen in large Konaks, which can provide insight on tectonic evolution of the type. Converted and currently used as part of a hotel. Urgup, Cappadocia, Turkey. © Ilhan Gokay Ozdemir.

MORPHOLOGY

Typical Cappadocian house undergoes multiple iterations and expansions through its lifetime, often expanding and gradually taking over garden space. Thus, garden walls can be viewed as potential markers for building walls and the gardens as a part of the house. The tectonic evolution can be further traced by juxtaposing smaller houses (figure 5.14) and larger *konaks* (5.15) where a common modular logic starts to reveal itself. The main residential body is mirrored along the circulation core, which is typically exterior but becomes enclosed as the building grows around it (figures 5.15 – 5.17). This interior hallway (*hayat*) can be left exposed to elements or completely sealed off with the addition of glazing at the end⁴⁸. Such conversions are particularly clear in structures with glazed off colonnades or arches (figure 5.16) since these elements are typically reserved for covered exterior spaces as is the case of *Skirted House*, shown on figure 5.8.

However, this doesn't mean every *konak* has to go through the same morphological process since the morphological variations would eventually be established as tradition over time and dictate programmatic logic in new construction instead of organic evolution of the typology. This scaling effect can be compounded with multiple circulatory apparatus to create complexes beyond the *konak*, typically seen in urban areas with higher density.



Figure 3.15 Konak with two symmetrical wings and an ornate central hallway. Urgup, Cappadocia, Turkey.
© Ilhan Gokay Ozdemir.

⁴⁸ Refer to figure 5.18 for an interior view of the enclosed *Hayat* (hallway).

The programing logic of traditional Cappadocia *Konak* is clearly displayed on its façade. Upper level corners are typically reserved for *Main Rooms* which take advantage of this location with a series of large windows that run along the whole length of its walls to create well lit, high-ceiling rooms that can be easily cooled by cross-ventilation. The hallways are centrally located and capped with a balcony or full height glazing while practical spaces (such as kitchens or storage) can be distinguished by their smaller openings used for ventilation and minimal daylighting. In three-story *Konaks*, the upper floor would be used during summer while the middle floor would be optimized for winter use and would fashion different ceiling heights and window sizes to fit their intended seasonal roles. In the case of larger *Konaks*, the hallway often leads to a courtyard at the back of the primary building that is completely separated from the street side (figure 3.13).



Figure 3.16 Cappadocian Konak. The structure is strictly symmetrical and the programs are clearly legible. Central hallway seems to have been enclosed in a later renovation. Converted to a hotel. Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.17 Konak with two symmetrical wings and an open hallway in the center. Converted to a hotel. Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.18 *Hayat*, hallway between two rooms. The unfinished walls and floor suggests that the space was not originally built as an interior and may have been closed off at a later stage.
Cappadocia, Turkey. © İlhan Gokay Ozdemir.

INTERIOR SPACES

Types of interior spaces of the traditional Cappadocian house can be categorized under three main groups;

Oda. Rooms are called “oda” in Turkish, however the meaning differs between the two languages. *Oda* functions as a flexible living space that can be converted to fit different roles. It can be interpreted as the “private living unit” that can be used to eat, relax, sleep etc. Formal *oda* has two sub-spaces, *seki* and *seki-alti*, which represent the served and servant spaces within the room. The served spaces are sometimes separated by a single-step elevation difference whereas the servant spaces have lower ceiling height and due to overhead storage for bedding and other required items for different functions. Furniture, storage and heaters are always built-in, and a water closet may be included in *seki-alti* if there is enough space. *Odas* can be further categorized based on size, comfort and location within the house. One such example is *basoda*, a title given to the most prestigious room in a household. Views, air flow, temperature and decorations are some of the determining factors of prestige between different rooms.

Hayat. Also referred to as *sofa*, *hayat* defines to the connective tissue that is the main circulation and social space on the upper floor of a house. The original *hayat* is external, with some protection from the elements. However, closed-off variations can be found in denser urban neighbourhoods. *Hayat* can be described as the internal street of the house, connecting different *odas* together while offering some light seating for social encounters within a large family house. It can include a variety of sub-spaces such as staircases, *eyvan* (*exterior rooms between odas*), *kosk* (*exterior room open to three sides*).

Tashlik and supporting programs. *Tashlik* is the name typically given to the ground level of a traditional house in Anatolia. It implies an exterior space, roughly translated as “stoneyard” in English. Generally, ground levels are reserved for kitchen, storage, stables and similar programs which may be considered too unkempt for upper levels. *Tashlik* is a practical workspace that can get dirty and cleaned by washing if needed, cooling the house in the meantime. This can be observed by looking at the first few steps of staircases that are typically stone or marble and the rest of the flight would be built with wood which is done to prevent water damage to wood construction from washing.



Figure 3.19 *Hayat*. Internal windows on one side suggest that this space may have been built as a covered exterior space originally. Modern heating was added but the traditional floor seating is kept. Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.20 Kitchen. Located on the ground level, this kitchen has minimal windows and has access to an adjacent cellar. Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.21 Main room. This building was turned into a museum, thus the room doesn't depict an active household but represent elements of the traditional *basoda*. Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.22 Traditional room. Representative of an active household. Such an *oda* can be converted to serve as living room, dining room, bedroom or guest room based on user needs. Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.23 Storage wall of the room on 3.21. Furniture and storage spaces are typically structurally integrated to the room. Closed cabinets are used to keep all the necessary items required for different functions of the room, such as bedding, pillows, clothing etc. Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.24 Storage wall of a room. Elaborate cabinets provide households a place to display their wealth and prized possessions. These functional walls may also include painted panels depicting the family story in some cases. Cappadocia, Turkey. © İlhan Gokay Ozdemir.

ALCOVES, SHADING AS UTILITY

A unique feature of Cappadocian cities is the alcoves that serve as shaded rest points with public water fountains. Shading is truly crucial in the region since the weather can get unbearably hot and dry during summers, so it is not uncommon to see such alcoves in central parts of the city. These can be commissioned by government bodies as well as with private initiative, since providing shelter and water is considered a permanent form of charity in the local culture. Alcoves can also be found inside courtyard houses, where they function as an outdoor vestibule or seating area for the individual rooms (figure 3.27). This provides further insight on how *konaks* function as little cities within a city, with its own circulation and architectural elements that are comparable to the urban condition outside. Trees and ivy vines are also commonly used in tandem with water features to cool down exterior living spaces, emphasizing the important role of outdoor spaces in the region. Ultimately, almost all aspects of daily life take place outdoors whereas interiors are reserved for resting or inclement weather conditions.



Figure 3.25 Elevated seating area with trellis. Doubles as a shaded public water fountain (underneath). Shaded alcoves provide a break from the searing sun. Coupled with fountains, alcoves are a welcome street utility for the urban dwellers. Government building in Urgup, Cappadocia, Turkey. © İlhan Gökay Özdemir.



Figure 3.26 Alcove with water fountain. The reservoir is an appropriate height for seating. These fountains also functions as a water source for the surrounding buildings. Urgup, Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.27 Internal alcove of a Konak. Alcoves are used as an outdoor seating space within larger residential complexes, usually located in front of private rooms. Urgup, Cappadocia, Turkey. © Ilhan Gokay Ozdemir.



Figure 3.28 Tree from a walled garden shading the street. Urgup, Cappadocia, Turkey.
© Ilhan Gokay Ozdemir.



Figure 3.29 Dense ivy vines help keep the building cool. Urgup, Cappadocia, Turkey.
© Ilhan Gokay Ozdemir.



Figure 3.30 Cappadocia townhouses, street view. Digital rendering.



Figure 3.31 Cappadocia townhouses, street view. Digital rendering.

DESIGN PROPOSAL

CAPPADOCIA TOWNHOUSES

Design proposal for the Cappadocian house concept aims to establish an interpretive contemporary architectural vision that draws inspiration from the regional urban fabric without directly imitating it.

Core architectural principles and traditions observed in the region are encapsulated and presented in a new form, intended to demonstrate an alternative architectural approach to the status quo of placeless apartment typology that has been taking over Anatolia. Thus, it should be noted that the proposed designs are suggestions for new development, not restoration or replacement of the historic urban fabric.

In this context, the main driving principles of the Cappadocian house are:

- Integration of a shaded garden/courtyard as an outdoor living space,
- Use of covered exterior circulation apparatus for internal traffic,
- Semi-independent room design with layouts based on the traditional room style,
- Metabolizing street alcoves to create a flexible shaded space on the street side.
- Scalable modularity and adaptability to different levels of density.

Furthermore, the concept is presented in three variations to test and demonstrate different density options as well as the modularity of the design. These variations range from a single-family size townhouse to multigenerational *konak* adaptations of the concept. Exploration of different density options was crucial in responding to the main argument against culturally sensitive design; that it cannot provide the density demand of new development. By designing for scalability, the project hopes to outline an alternative approach to the question of densification.

In terms of construction methodology, the proposal maintains modern standards. The structure is composed of a concrete framing system finished with masonry cladding sourced from local quarries. Garden walls are laid with ashlar masonry blocks, matching the material context. Traditional masonry is not employed at a structural level due to prohibitive costs and lack of masonry specialists in the current construction market. It should be noted that the project focus is on re-integration of regional program characteristics in a contemporary sense rather than a discussion of construction methodology.



Figure 3.33 Main room projects over out on the street-side to establish views along the street. This helps the room catch better light and air circulation while providing some shade at the street level.



Figure 3.34 Facade rhythm is inspired by traditional dwellings of the region. Angled panels are used underneath windows to catch shade instead of traditional decorative carvings. Street alcove is transformed into a shaded vestibule, large enough for parking.



Figure 3.35 Trellis to create surface area for ivy growth to provide shading over semi-paved courtyard. Unpaved portion reserved for internal garden.

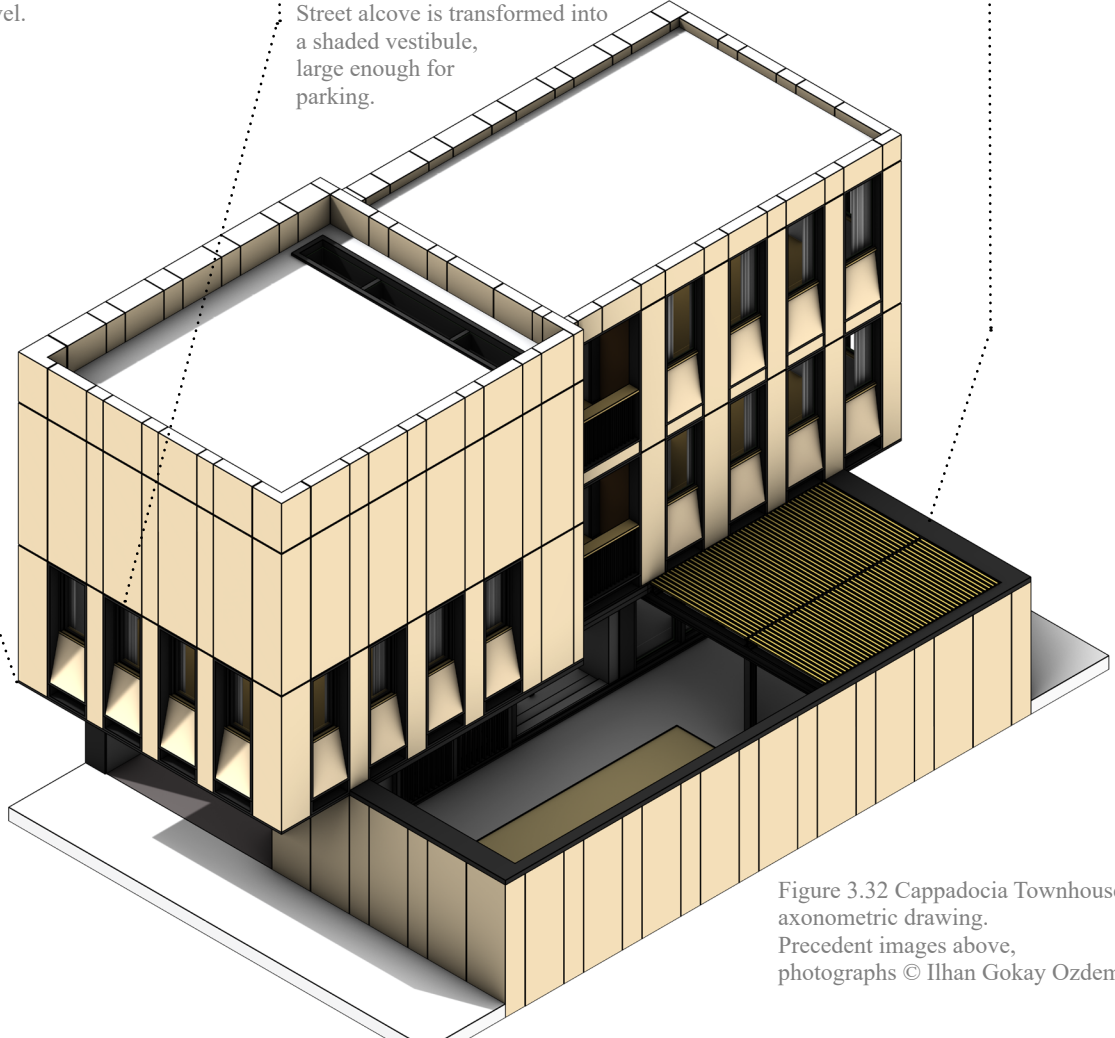


Figure 3.32 Cappadocia Townhouse, axonometric drawing. Precedent images above, photographs © Ilhan Gokay Ozdemir.

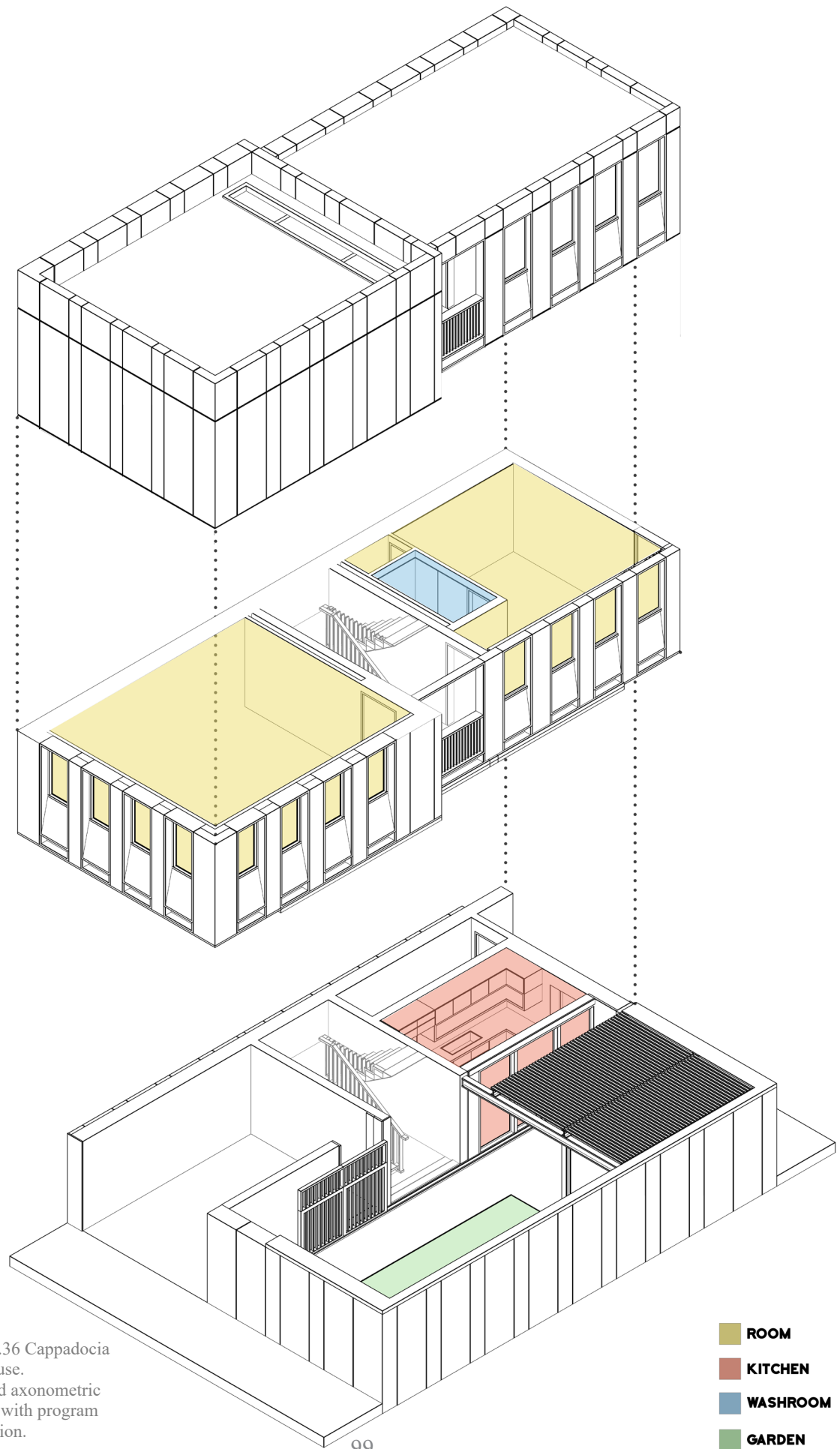
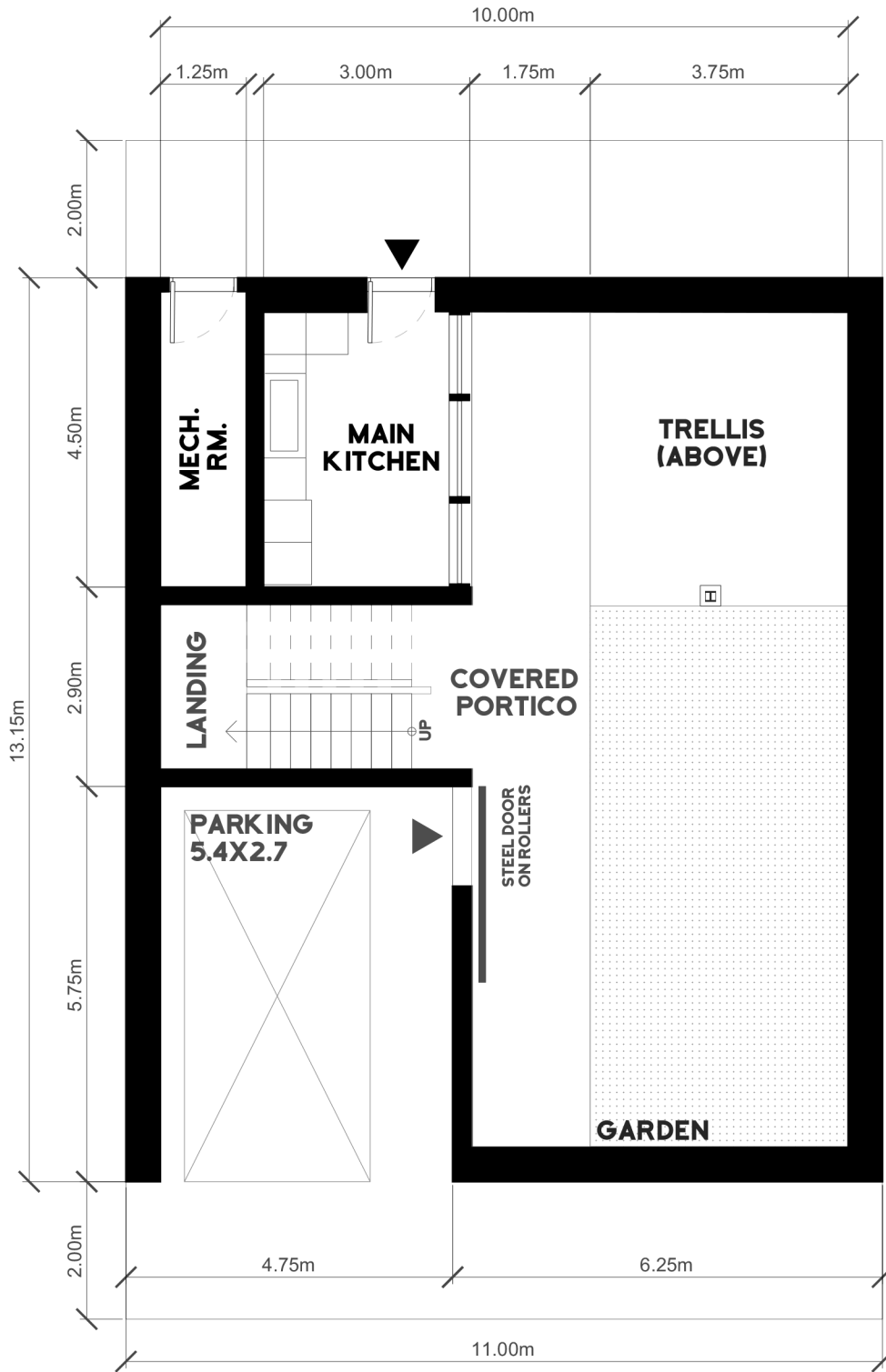


Figure 3.36 Cappadocia
Townhouse.
Exploded axonometric
drawing with program
information.

- ROOM
- KITCHEN
- WASHROOM
- GARDEN

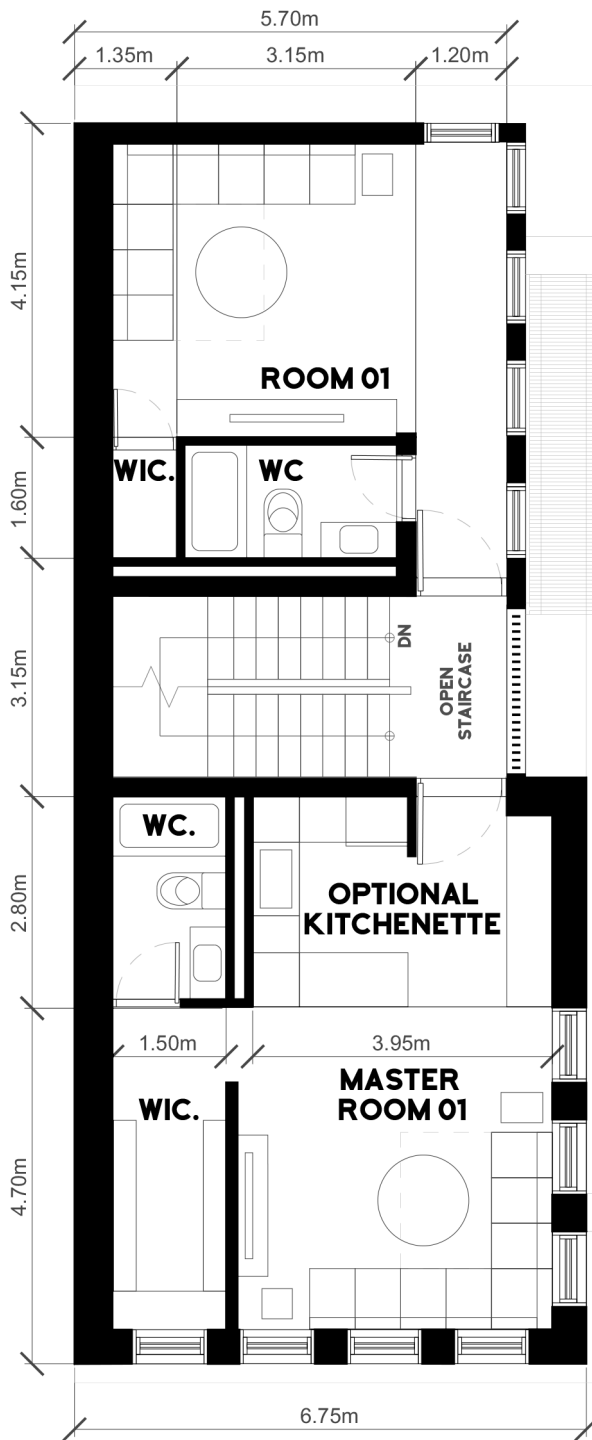


GROUND FLOOR PLAN

ENCLOSED SQM: 17.5
 OPEN SQM: 102.5
 DRAWN SCALE 1:100

TOTAL ENCLOSED SQM: 141.5
 TOTAL OPEN SQM: 128.5

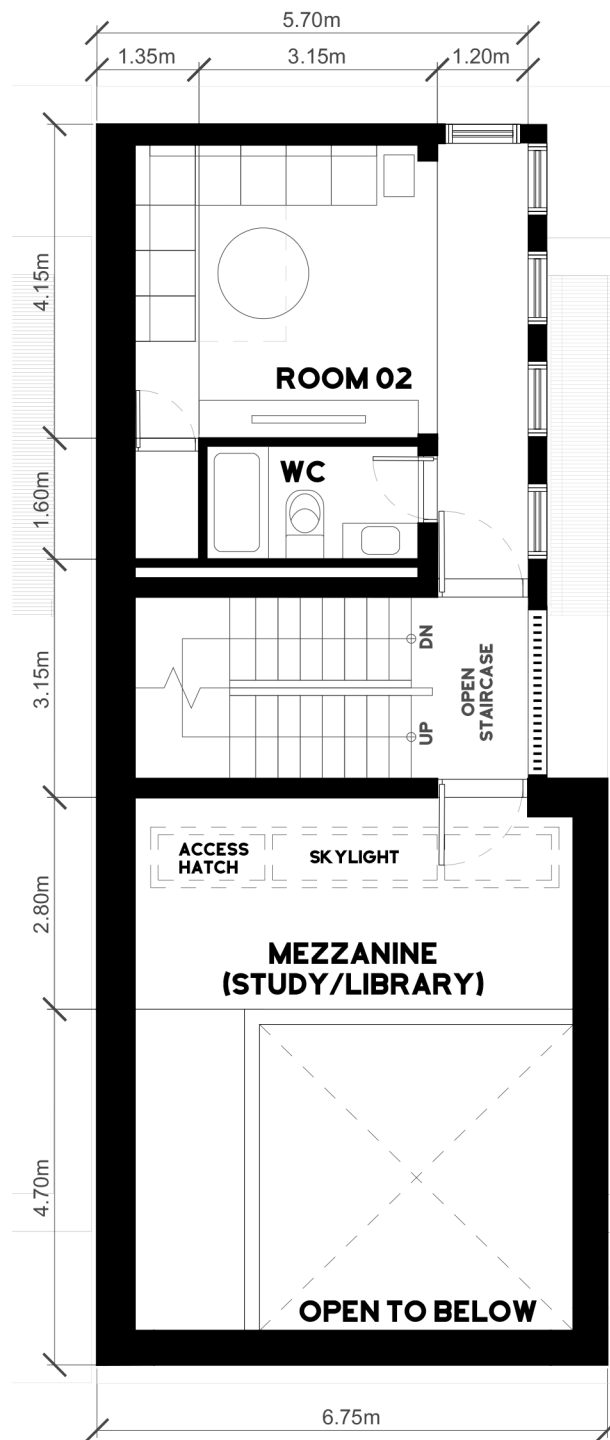
Figure 3.37 Ground floor plan. The open ground floor serves as a private outdoor living space, primarily used for social events and eating. The street alcove is re-imagined as a flexible vestibule space and can be used for parking if needed.



SECOND FLOOR PLAN

ENCLOSED SQM: 70.0
 OPEN SQM: 15.0
 DRAWN SCALE 1:100

Figure 3.38 Second floor plan. Second level accommodates independent rooms with ensuite washrooms and storage. They are separated by the staircase and a small exterior corridor. Building envelope is established at room level. The rooms can be converted between different residential functions based on user needs.



THIRD FLOOR PLAN

ENCLOSED SQM: 54.0
 OPEN SQM: 13.0
 DRAWN SCALE 1:100

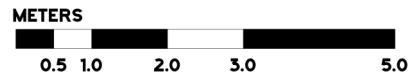
Figure 3.39 Third floor plan. Top level consists of a mezzanine that overlooks the main room below as well as another flexible room with an ensuite. Skylights provide daylight to the mezzanine.



CAPPADOCIA TOWNHOUSES FRONT ELEVATION

DRAWN SCALE 1:100

Figure 3.40 Front Elevation. Local volcanic stone is used in a polished cladding form on the building facade whereas the garden wall is built with ashlar masonry blocks cut from the same material. Ivy vines are allowed to grow on the garden wall and the facade as extensions of the garden.





CAPPADOCIA TOWNHOUSE

SIDE ELEVATION

DRAWN SCALE 1:100

Figure 3.41 Side elevation. Faces the garden/courtyard space. Rooms and the the open circulation core overlook the garden. When grouped together with other townhouses, the side elevation faces a plain masonry clad wall with no openings. The shade created by this adjacency is by design and helps keep building cool. The design is introverted in this sense and only the main room has direct views of the external surroundings.





Figure 3.42 Cappadocia townhouses, street view.
The garden/courtyard dimensions can be adjusted to lot size.
Digital rendering, photo-collage.



DESIGN VARIATION

CAPPADOCIA TWIN-HOUSES

Building on the base Cappadocia Townhouse concept; the first density variation for the project is the “Twin-houses”. This variation is primarily about the way how multiple units can be clustered and combined and doesn’t require major changes to the architectural programing proposed for the base concept.

Twin-house variation allows for larger interior gardens since the outdoor space is not as limited by the proximity to adjacent units. This variation can be imagined as a larger standalone structure, ideal for the suburban locations whereas the townhouse type is optimized for denser urban environments. It can also be read as a potential growth pattern for the townhouse concept, where the building can evolve to meet expanding family needs without undermining the driving design principles (i.e. not taking over the garden space or adding new floors onto an existing structure).



CAPPADOCIA TWIN-HOUSES

FRONT ELEVATION

DRAWN SCALE 1:100

METERS

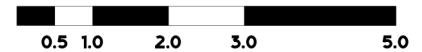
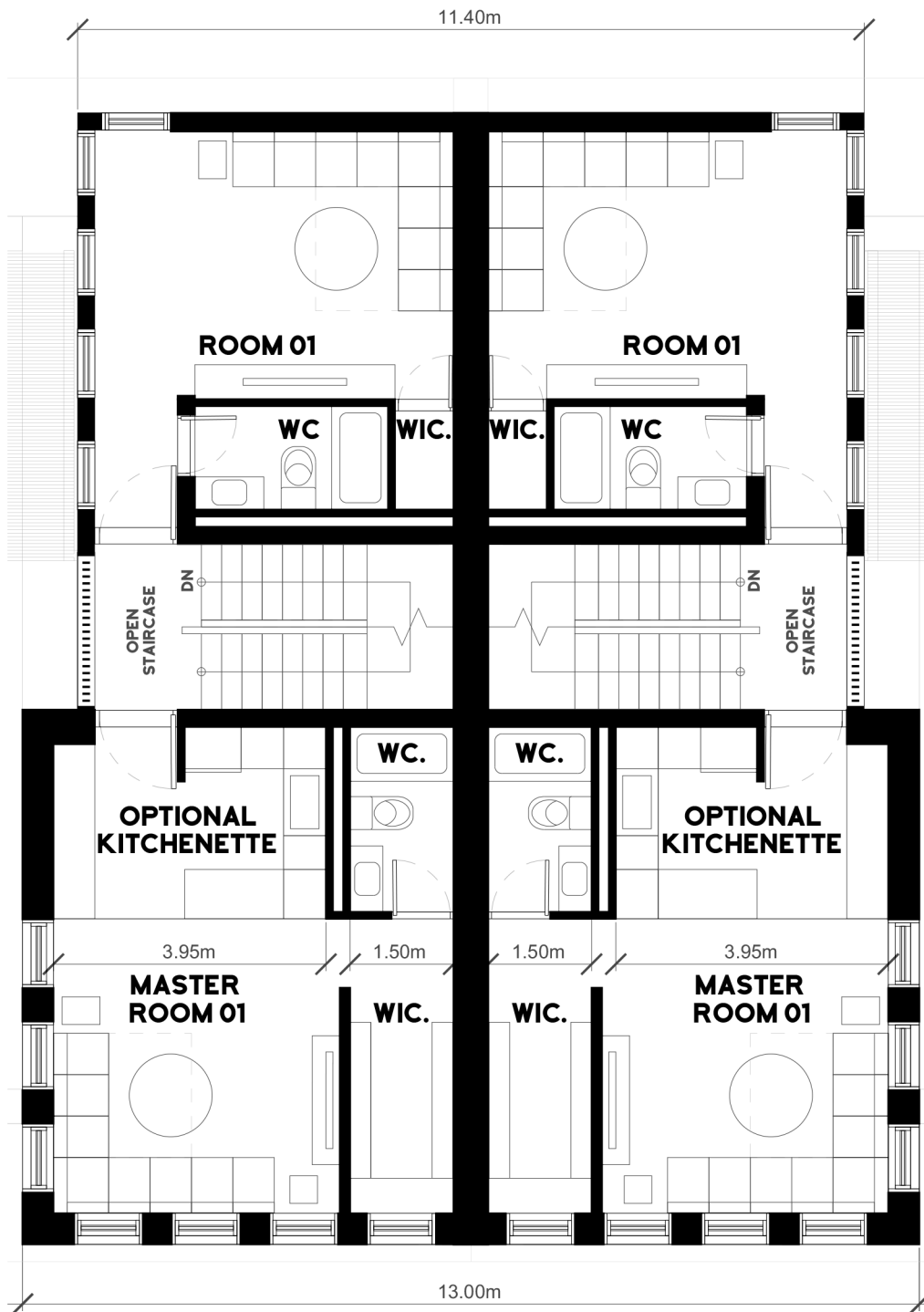


Figure 3.43 Cappadocia twin-houses front elevation. The design distances itself from the street by limiting openings on street level but opens up to it on the residential level through a series of large windows projecting over the entrance alcove. Transition between public/private spaces is gradual, flowing from street to garden/courtyard, to *Hayat* (exterior hallways) and finally to *Oda* (private rooms).



SECOND FLOOR PLAN

ENCLOSED SQM: 54.0 (PER UNIT)

OPEN SQM: 13.0 (PER UNIT)

DRAWN SCALE 1:100

Figure 3.44 Cappadocia Twin-House, residential floor plan.

The house is mirrored alongside its main structural wall to create a larger unified structure. This converts the solid exterior wall into an internal structural one. This layout allows for use as two independent but adjoining dwellings as well as a larger family house that is connected through the circulation core and its hallway extensions.

DESIGN VARIATION

CAPPADOCIA KONAK

Final variation of the design concept is the Cappadocia Konak. Inspired by the multigenerational *Konak* typology prevalent in Central Anatolia, Cappadocia Konak is a large structure that culminates influences from Mesopotamian courtyard and Turkish *Hayat* house typologies, applied through a regionally modernist perspective. This variation is an alternative to apartment building typology and is comparable in size and scale.

Konak design revolves around a central courtyard, the primary social space with shared kitchen and dining areas. Garden is integrated to the courtyard, with unpaved areas reserved for vegetation. All rooms face the courtyard, separated by a covered open hallway. Street access is provided through the courtyard and residential levels are accessed through multiple staircases located at the covered parts of the courtyard. The building inherits the symmetrical characteristic of the traditional konaks, with central circulation cores separating residential wings.



CAPPADOCIA KONAK
FRONT ELEVATION

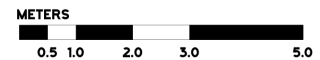
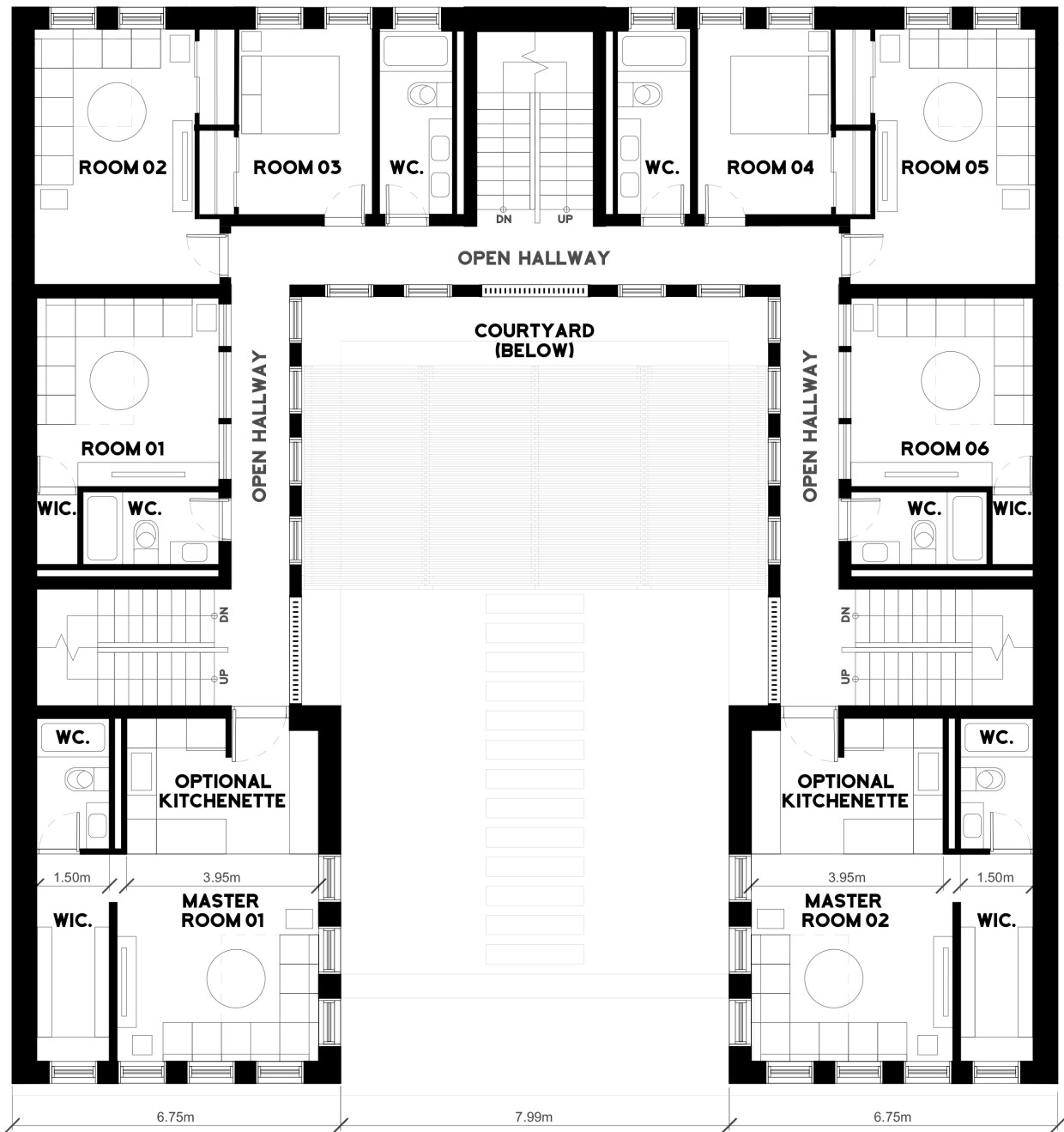


Figure 3.45 Cappadocia Konak front elevation. Design maintains the material and proportional values of the earlier variations while offering large urban building alternative inspired by the local typologies.



SECOND FLOOR PLAN

ENCLOSED SQM: 210.0
OPEN SQM: 71.2

Figure 3.46 Cappadocia konak second floor plan. Rooms of the Cappadocia Konak are designed to be semi-independent. Ensuite washrooms and storage spaces are provided for most rooms while kitchen and social spaces are shared. The structure can be inhabited by a large multigenerational family or multiple households with minor changes to the access points. The individuality of the flexible living spaces also allows for hospitality or rental use.

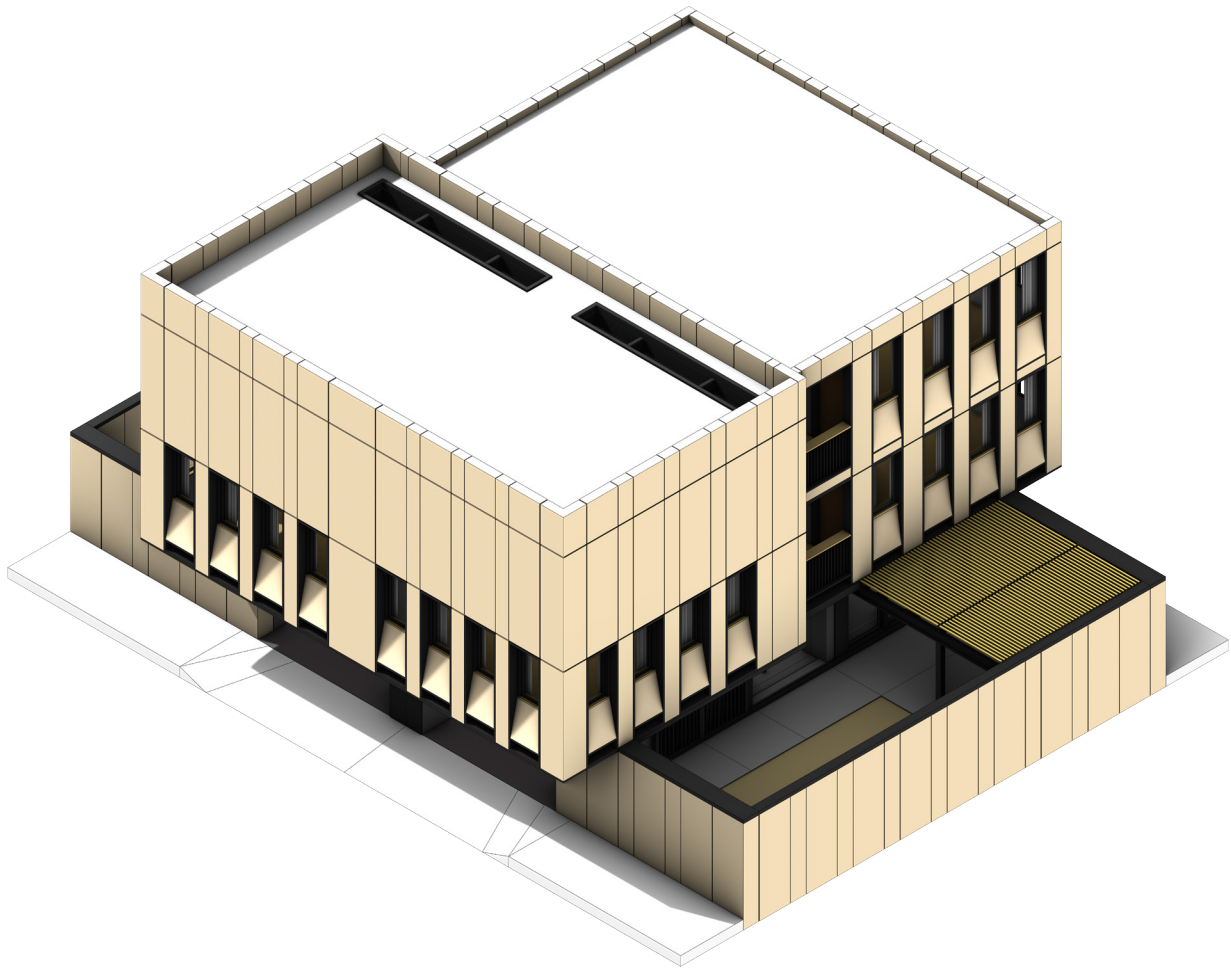


Figure 3.47 Cappadocia twin-house. Can be set up as two separate or one larger dwelling. Axonometric view.

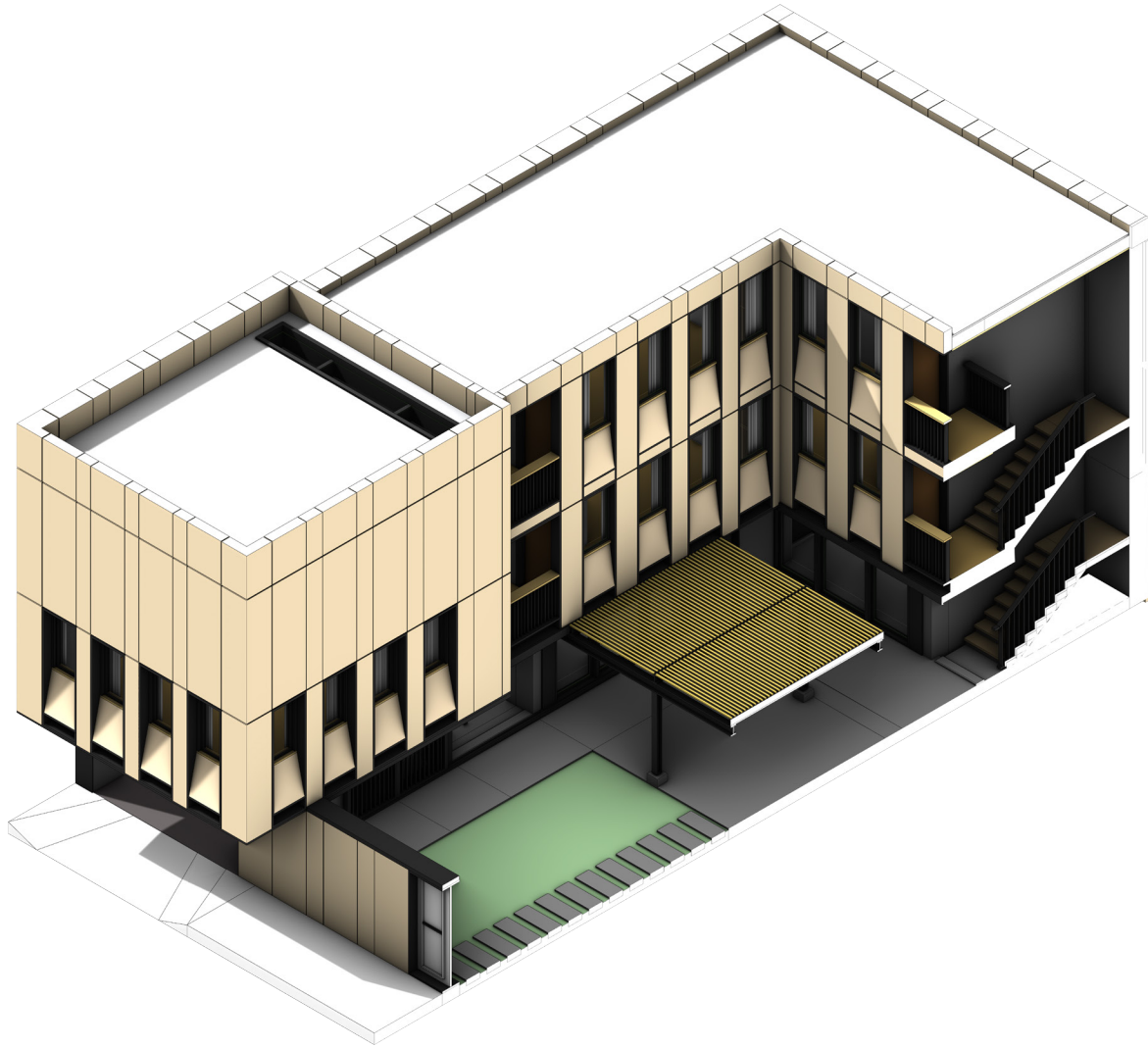


Figure 3.48 Cappadocia konak. Large residential structure with central courtyard. Rooms are connected with an external hallway. Axonometric section view.



Figure 3.49 Cappadocia konak, front perspective view. Digital rendering.
The konak is composed of a U-shaped structure with a central courtyard/garden. Konak variation is similar to the townhouse variation in terms of street presence, although it can accommodate many more inhabitants.





Figure 3.50 Sectional perspective view. Depicting the courtyard space for the Cappadocia Townhouse. Outdoor programs take up approximately half the building footprint. Digital rendering.



Figure 3.51 Garden/courtyard. It is regarded as the primary social/living area with direct access to the main kitchen space. Shade is created by trellis, ivy vines and building adjacencies. Digital rendering.

OUTDOOR LIVING

Outdoor spaces make up a significant portion of a dwellings in Cappadocia. High temperatures influence daily life, forcing people to seek shelter from the searing sun, either in cool caves or under the shade of trees and ivy-covered trellis. Naturally, the claustrophobic caves carved into the soft tufa rock are not as appealing to spend the whole day in, especially compared to gardens and courtyards under poplar and cypress shade. As a result, shaded outdoor areas take on a critical role as the primary social spaces in Cappadocia.

Cappadocia townhouse proposal embodies this quality by reserving approximately half the site footprint for outdoor programs. The enclosed portion of the ground floor is less than five meters deep while the garden takes up more than six meters depth, manifesting the importance of the garden in architectural terms.

Acting as the main social space for the design, the courtyard/garden should be regarded as a direct extension of the house and not a separate entity. This is emphasized with the material continuity between the residential block and the garden walls as well as the division of the project site to equal volumes for interior and exterior portions. The location of the main kitchen on the ground level, adjacent to the courtyard, also expresses the priority given to the outdoor living spaces.

The important role of private outdoor spaces can be clearly seen in local traditional precedents in the region; however, this is a quality lost for the most part in new development which only increases its importance as a design element in this proposal. Walled-off, exterior use of ground floors (as *tashlik*) is a common typological feature in other Anatolian regions, but it is particularly highlighted in the case of Cappadocia through climatic factors and as an evolutionary step of the local courtyard tradition.



Figure 3.53 View of the konak courtyard from the central staircase. Hallways connecting the rooms are open to the outside and building envelope is established at the room level. Digital rendering.



Figure 3.54 View of the main room seating area. Windows run the whole length of the double height room. It can be set up with traditional integrated or modern furniture. Modern option is shown. Digital rendering.



Figure 3.55 View of the kitchenette in the main room. Mezzanine level above the kitchen. Wood accents are used to emulate materiality of traditional houses of the region, paintable gypsum surfaces used on lower portions.

ROOM DESIGN

Unique characteristics of traditional room design in Anatolia were influential in establishing the planning logic for the proposal. These were analyzed and interpreted as guiding principles and can be categorized as the following:

- Independent rooms,
 - Rooms are designed to maximize independency from other parts of the building. This includes dedicated washrooms and storage for each room. Kitchenettes are included for larger rooms. Room independency allows for multi-generational and multi-family occupation of the houses. On the other hand, this also means that the house can be sectioned off and rooms rented out if needed.
- Public/Private Space
 - Considering the open nature of the Anatolian houses with their gardens and external circulation apparatus, the interior space can be identified as the “private” parts of the house. The balance of public/private had been a key factor of residential design in larger Anatolia for centuries and can be clearly read in historic buildings. It can be as simple as separation of residential programs from social ones on different floors and can go as far as having a separate entrance and circulation core for the household and guests within the same house.
- Flexible room design,
 - Rooms are laid out in a way to allow conversion between different residential programs. Their functions can be activated on a daily, seasonal or on-demand basis. For example, a room can be used as a living room during the day and be converted into a bedroom at night.
- Integrated furniture,
 - Furniture is perceived as part of architecture in traditional Anatolian houses. Majority of residences built before the mid-19th, when European furniture became available through trade century, included built-in seating, sleeping and storage apparatus. Interestingly, even today the Turkish word for furniture is “*mobilya*”, from French “*mobilier*”, highlighting the paradigm shift from integrated furniture to “mobile” furniture. This was considered and provided as an option to room design in architectural plans, however detailed integrated furniture design is beyond the scope of this project and would warrant a much more specialized study of the topic.



Figure 3.56 Cappadocia townhouse 3D printed model. 1:100.



Figure 3.57 Cappadocia townhouse 3D printed model. 1:100.



Figure 3.58 Cappadocia townhouse 3D printed model. 1:100.



Figure 3.59 Cappadocia townhouse 3D printed model. 1:100.



Figure 3.60 Cappadocia townhouse 3D printed model. 1:100.



Figure 3.61 Cappadocia townhouse 3D printed model. 1:100.

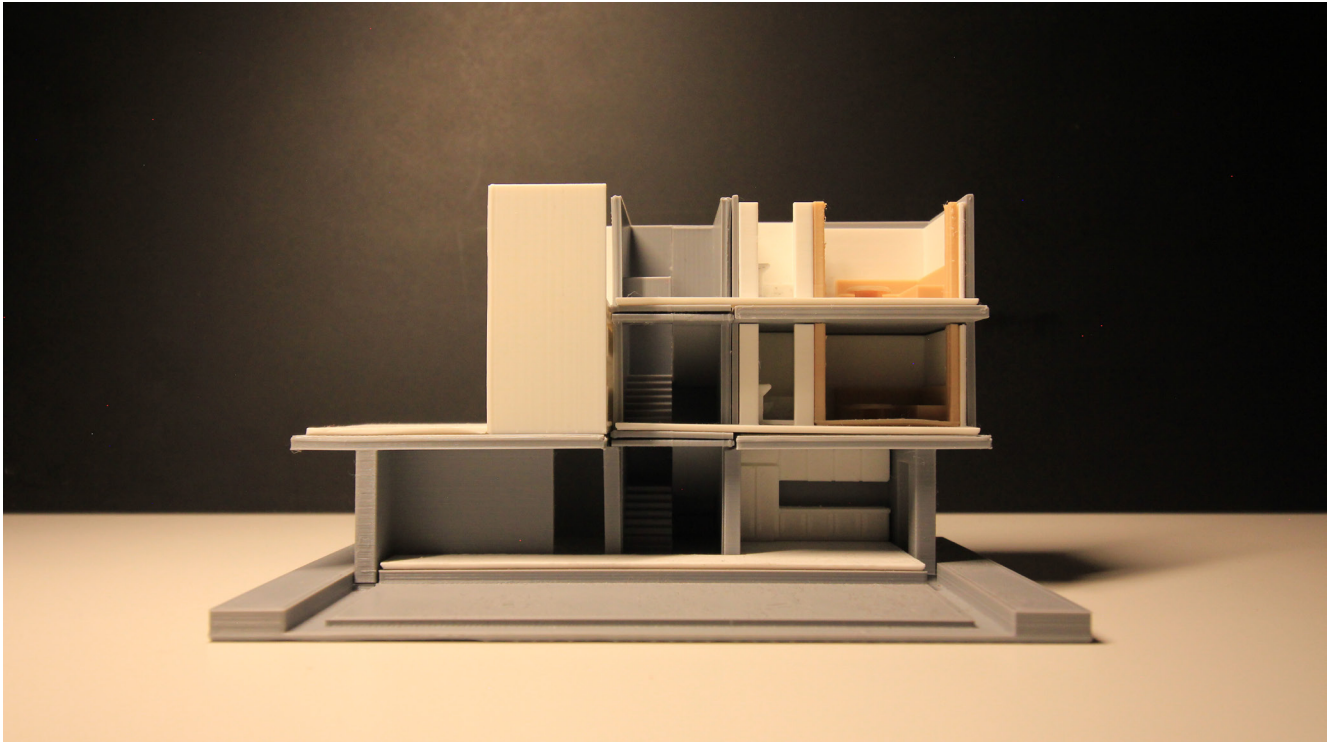


Figure 3.62 Cappadocia townhouse 3D printed model. 1:100.



Figure 3.63 Cappadocia townhouse 3D printed model. 1:100.

AEGEA

Observations,, Analysis and Design Proposal



Figure 4.1 Aegean Region of Anatolia.

The pictorial Aegean region makes up the western coastline of the Anatolian Peninsula. It is home to many important cities of antiquity and classical era, such as Troy, Ephesus, Pergamon and Miletus. The Aegean coast is located between two parallel major fault lines, one running across the Black Sea mountain ranges to the north and the other along the mighty Taurus mountains to the south. As a result of the tectonic pressures acting on it, the Aegean coastal profile is characteristically complex with a multitude of gulfs and coves. Its hinterland typically consists mountain ranges running perpendicular to the coast, creating pockets of land and restricting land travel on the north-south axis. Major rivers run between these mountain ranges, forming delta plains which are ideal for agricultural activities. The perpendicular orientation of the mountains to the sea is a differentiating geographical feature, since it allows the coastal climate to reach further inland. This climatic effect is particularly evident when comparing Aegean region to Black Sea or Mediterranean regions which are both defined by mountain ranges running parallel to the coastline.



Figure 4.2 Various Aegean textures and environments. Photographs © Ilhan Gokay Ozdemir.

The Aegean landscape is framed by the deep blue of the sea and sky. The cold Black Sea and the warm Mediterranean converge here, making the Aegean coast an ideal destination for maritime tourism with its cool and clear waters. The rocky and saline soil limits the vegetation to more durable species, such as olive, brutia-pine and shrubs. An exception to this is the Meander river deltas which allow agricultural growth on the nutrient rich soil that accumulated on them over centuries. Furthermore, the region contains high quality marble and limestone deposits that have been quarried since antiquity. Discovery of the Roman city of “Aphrodisias” with its specialized sculptor schools highlight the historical importance of the region in this regard. Alongside these characteristic aspects, Aegean region also features a robust industrial and trade infrastructure through its ports, connecting Anatolia to the global economic network.



Figure 4.3 Typical landscape characteristics of the Aegean coast. The rocky red soil is often planted with olive trees. Photograph © İlhan Gökay Özdemir.



Figure 4.4 Various Aegean vernacular examples. Photographs © İlhan Gökay Özdemir

VERNACULAR

Reflecting the central location of Anatolia as a melting pot of cultures, the Aegean vernacular manifests itself in a similar eclectic way. Elements of a wide range of architectural typologies such as the Greek *megaron*, Mesopotamian courtyards, Roman classical and Turkish garden houses come together to form a unique and diverse architectural tradition in the region. Random ashlar masonry construction finished with layers of thick white stucco makes up the most identifiable Aegean vernacular type (figure 4.5) although exposed masonry and light wood frame structures can also be found throughout the region. City of Assos (Behramkale, figure 4.4, bottom half) demonstrates its unique textures with exclusive use of local volcanic stone whereas the historical quarter of the inland city of Milas exhibits wood frame structures with projections.

Material choice and resulting typologies show a strong climatic correlation. Based on the anecdotal descriptions of locals, thick white stucco finish is used to minimize heat absorption of the buildings whereas bright blue accents around openings scare off unwanted critters such as scorpions. The prevalent use of stucco layers in the coastal areas as opposed to inland towns also makes sense architecturally as a response to higher humidity levels that can have a detrimental effect on exposed masonry or wood construction. Vernacular architecture is embraced in some Aegean cities and completely disregarded in others. This allows us to easily juxtapose adjacent cities to evaluate effectiveness of their distinct approaches.



Figure 4.5 Traditional Bodrum house with a large orchard and wall . Photograph by architect Cengiz Bektas, SALT Research.



Figure 4.6 Low density coastal residential area, outskirts of Bodrum, Mugla, Turkey. Photograph © Ilhan Gokay Ozdemir.



Figure 4.7 New residential development (summer houses, *yazlik*), outskirts of Bodrum, Mugla, Turkey. Photograph © Ilhan Gokay Ozdemir.

MARITIME URBANISM AND ROLE OF TOURISM

Aegean towns present us with diverse modes of urbanism, likely as a result of relatively high isolation and varying economic factors on different parts of the region.

Differences in the urban fabric is most evident between coastal and inland towns. This is partially due to practical climatic adaptations, but the primary differentiator seems to be the tourism driven development along the coast.

Aegean region is a popular spot for domestic and international maritime tourism. The southern parts attract mass tourism with large scale luxury resorts, airport access and all-inclusive vacation packages, appealing to European tourists. In contrast, the northern Aegean coast is preferred by white-collar urbanites of Istanbul looking to get away from the chaotic megapolis to tranquil boutique resorts. In between these two extremes is the most common type preferred by the middle-class, summer houses (*yazlik* in Turkish). These three levels of “touristic development” dominate growth pattern and urban fabric of coastal towns in the Aegean region, strongly contrasting them with the cities further inland.

However, a much more fascinating relationship between urbanism, tourism and culture is revealed when these coastal towns are juxtaposed and compared based on their unique characteristics in relation to their touristic/economic success. Although they share a lot of the same geographic qualities, some cities stand out as significantly more desirable, popular and livable than others. Although identifying the components that create this difference could warrant a whole in-depth study of the subject, a comparison of the adjacent cities Bodrum and Didim provide a good starting point in demonstrating this phenomenon.



Figure 4.8 Grand Temple of Apollo, modern city fabric on the background. Didim, Mugla, Turkey.
Photograph © Ilhan Gokay Ozdemir.



Figure 4.9 Urban fabric of the coastal city of Didim (near ancient Miletus). Photograph
© Ilhan Gokay Ozdemir.

The two maritime cities share a lot in terms of geography, climate and culture. Bodrum is located over ancient Halicarnassus and Didim is about twenty kilometers south of ancient Miletus. Despite their equally rich architectural heritage and stunning landscape, their public perception is almost completely different due to stark differences in their modern urban characters.

Bodrum was popularized as a travel destination in the 1970's and strict preservation and by-laws enforcing regional typologies were put in place. This was a great success and Bodrum has become a center of tourism, entertainment and culture that can attract people primarily through its unique architectural and urban character. The urban character of the city became highly recognizable and effective that "Bodrum house" (original type shown on figure 6.5) was adapted as a term in the language to describe white stucco cubic houses in general.

On the other hand, central Didim is crowded with typical concrete frame apartments. Suffering from mediocrity, these high-density blocks are packed closely and wall off the narrow streets to a claustrophobic effect (figure 6.9). Building placement and orientation typically follows site boundaries without much regard to context or adjacent structures. There is no unique typology present and the city fails to convey a sense of place. The urban experience is a chaotic blur, a common symptom of the development frenzy witnessed in many other cities in Anatolia, exacerbated by reckless policy measures and lax building code enforcement. As a result, Didim falls short of its potential to be an appealing coastal town, especially when compared to the neighboring Bodrum. The city fails to connect with the landscape, its archeological wealth or the local tradition and is not regarded as a necessary destination but as a budget alternative to more popular summer towns.

It is abundantly clear that the architectural and urban identity plays a big role in creating values that makes a city socially and economically stronger. In this light, part of the goal of this thesis is to emphasize the important role of architectural and urban identity in creating successful cities and to start a conversation around it through the proposal of regional architectural prototypes. In this regard, the Aegean house prototype can be considered as a hypothetical study of what a unique modern Didim house could be like.



Figure 4.10 Bodrum houses by the sea. The repetition of the local typology gives Bodrum a strong and recognizable urban character. Photograph by Cengiz Bektas, SALT Research.



Figure 4.11 Traditional Bodrum house. Rigid geometric form, room furnaces/chimney, a small walled garden, this humble house demonstrates Bodrum typology at its fundamental level. Photograph by Cengiz Bektas, SALT Research.

BUILDING TRADITION AND TYPOLOGY

Although architectural typologies vary within the region, there are a number of common identifying tectonics unique to the Aegean. Perhaps the most striking of these is the overall cubic geometry that is prevalent in traditional houses of the region. It is easy to mistake the white platonic massing of the Aegean houses for modern-era structures although the former predates the latter significantly. It should also be noted that the traditional typology of the Aegean coast was influential on a young Pierre Jeanneret (Le Corbusier) as outlined in his “Le voyage d’Orient” and could perhaps be considered as a spiritual precedent to some of the most iconic structures of the modern movement in architecture.



Figure 4.12 Exposed masonry work of a Assos residence. Assos typology is established by the use of local volcanic stone. This texture is applied at a wide range, from furniture to superstructure, giving Assos a strong sense of place and character. Photograph from a real estate post.

Traditional Aegean house typologies may present unique geometric forms, arguably with a prophetic anticipation of the modern era tectonics, but they also share a lot of the qualities observed in the rest of Anatolia. An integral component is yet again the “walled garden”, taking over the ground floor alongside supporting programs such as kitchen and cellars. Vertical hierarchy of rooms is present, with living quarters located on the upper floor while the social functions are primarily located on the ground floor. The minimalist façades allow reading of the programs within (based on window size, location and framing type, with mostly deaf ground level walls) as is the case for traditional structures elsewhere in Anatolia. Examples of open circulation and “hayat” spaces are also common, embodying architectural practices that mark common Anatolian typological patterns. Multitude of chimneys indicate the use of separate heating furnaces in different rooms, implying the independency of rooms within the larger house. In some cases, the garden is replaced with a small central atrium, reminiscent of *megaron* or Roman villa typologies. The traditional Aegean typology is a culmination of synchronous evolution of eastern and western architectural elements and presents a balanced recipe that might be highly applicable in a modern/contemporary manner.



Figure 4.13 Traditional Bodrum house. Traces of masonry layers can be seen underneath the stucco finish. The ground level is blind to the outside whereas the upper level opens up with large windows. Photograph by Cengiz Bektas, SALT Research.



Figure 4.14 Traditional Bodrum house. Building is accessed through the walled-garden. Window sizes indicate the interior programs, living quarters fashion larger openings while practical rooms [such as the kitchen] usually have smaller window openings. Photograph by Cengiz Bektas, SALT Research.

ROLE OF THE WALLED GARDEN

Like the rest of Anatolia, gardens are often regarded as a part of a house in the Aegean building tradition. Outdoor spaces are separated from the street with full height garden walls that integrate to the main structure of a house. This pattern indicates the emphasis given to establishing levels of privacy in the traditional approach, even for outdoor spaces. This design choice is even clearer in denser urban conditions as the balance of public/private spaces becomes more crucial with increased density compared to the rural areas.

Following the morphological hypothesis for the Anatolian residential typology, the walled garden can also be considered as potential space for building extension where densification is desired. Sedad Hakki Eldem in his foundational work on the “Turkish House” provides strong insights towards understanding the role of walled gardens within the evolutionary process of such local typologies.

Walled garden as an outdoor private residential program demonstrates a unique quality of Anatolian building tradition in defining the building envelope. The distinction between indoor/outdoor spaces is relatively loose and the emphasis is instead on distinguishing public/private spaces on multiple layers.

First one of these layers is the separation of the house from the street. Anatolian houses can be considered as “heterotopias” in this regard since they often have little to no direct interaction with the street or surrounding buildings on the ground level. The transition between the street and a residence is often stark and clear. It should be noted that this doesn’t necessarily mean a transition from outdoors to indoors since the street is often accessed through a garden or courtyard.

The next layer is the semi-private ground floor which typically accommodates social programs of the house, such as the kitchen, dining and living areas. These functions are not necessarily separated into rooms but use the garden with supporting spaces revolving around it. Lastly, private spaces such as family and sleeping rooms are located on the upper floor, physically separated from the semi-private ground plane. The building envelope can be established at any of these layers; it is not tied directly to the privacy level of a given space.

Aegean and other Anatolian residential typologies should be read with this definition of space through privacy in mind. This allows for a flexible approach to building envelope where climate is agreeable without losing the overall legibility of spaces. Inspired by the traditional architectural approach, the tectonic consequences of such a paradigm shift, applied in a contemporary manner could be extremely interesting. The walled garden, an outdoor living, cooking and dining space is a manifestation of how this approach could find form in architecture.



Figure 4.15 Bodrum house. Building access is facilitated through the walled garden. Photograph by Cengiz Bektas, SALT Research.



Figure 4.16 Bodrum house. Garden wall integrates with the main building structure. Photograph by Cengiz Bektas, SALT Research.

OPEN HAYAT VARIATIONS IN THE AEGEAN VERNACULAR

Traditional Aegean architecture exhibits unique variations of the “open *hayat*” typology, combining elements from eastern and western tectonics into a rich harmony. Open *hayat* can be defined as a large exterior circulation area, directly facing the garden or wrapped around a central courtyard and is particularly viable in the pleasant Aegean climate. In more introverted variations, open *hayat* is separated from the outside by the building mass or exterior walls, allowing for more privacy in urban conditions. Rooms are accessed through the circulatory open *hayat*, establishing the building envelope. This allows the building to be adaptable, rooms can be activated or closed based on the number of family members present at a given time. Open *hayat* doubles as a shaded outdoor space for household activities (and an alternative sleeping area) when the weather is too hot to stay indoors, a critical and practical function from the pre-air conditioning era.



Figure 4.17 Open hayat Bodrum house. Outdoor circulation is covered on three sides and open on the garden side. Classical elements were re-used, probably taken from a nearby ancient site. Photograph by Cengiz Bektas, SALT Research.



Figure 4.18 A Bodrum hotel with an open hayat. Building mass and walls wrap around a central courtyard. Paved courtyards in this context can be considered as a morphological step on the traditional walled garden typology. Photograph by Cengiz Bektas, SALT Research.



Figure 4.19 An open hayat building in Bodrum. The signs and various furniture on the ground level suggest that it was used for commercial functions (butcher shop, bakery, etc.). Upper level might have been kept as residential quarters. Photograph by Cengiz Bektas, SALT Research.

DESIGN PROPOSAL

AEGEAN VILLA

Design proposal for the Aegean regions aims to harmonize and embody unique Aegean characteristics observed during the travel and research phases of this thesis. The design utilizes primary tectonic elements established in the typological analysis, demonstrated at three levels of density; Villa, Konak and Apartment. The ultimate goal of this proposal is to establish an effective architectural approach (and a prototype) that is in touch with the regional identity while re-interpreting its vernacular in a modern/contemporary sense. Aegean cities with strong urban identities, such as Bodrum and Assos are taken as model references and the proposed design in this section can be regarded as a typological suggestion for the city of Didim.

In this context, Aegean Villa is the first density variation for the region. The two-storey villa takes a cubic form, laid out on one and half meter increment square grid. A two-to-one ratio of vertical-to-horizontal openings is established (3m full height window walls with 1.5m wall and mullion spacing), representing proportional values of most traditional *konaks*. A perimeter gabion wall marks the boundaries of the open concept ground level (*tashlik*), integrating the garden into the house. The *open-hayat* is re-interpreted as a shaded breezeway wrapping around the whole structure, creating an interstitial space that the rooms can expand into when desired.

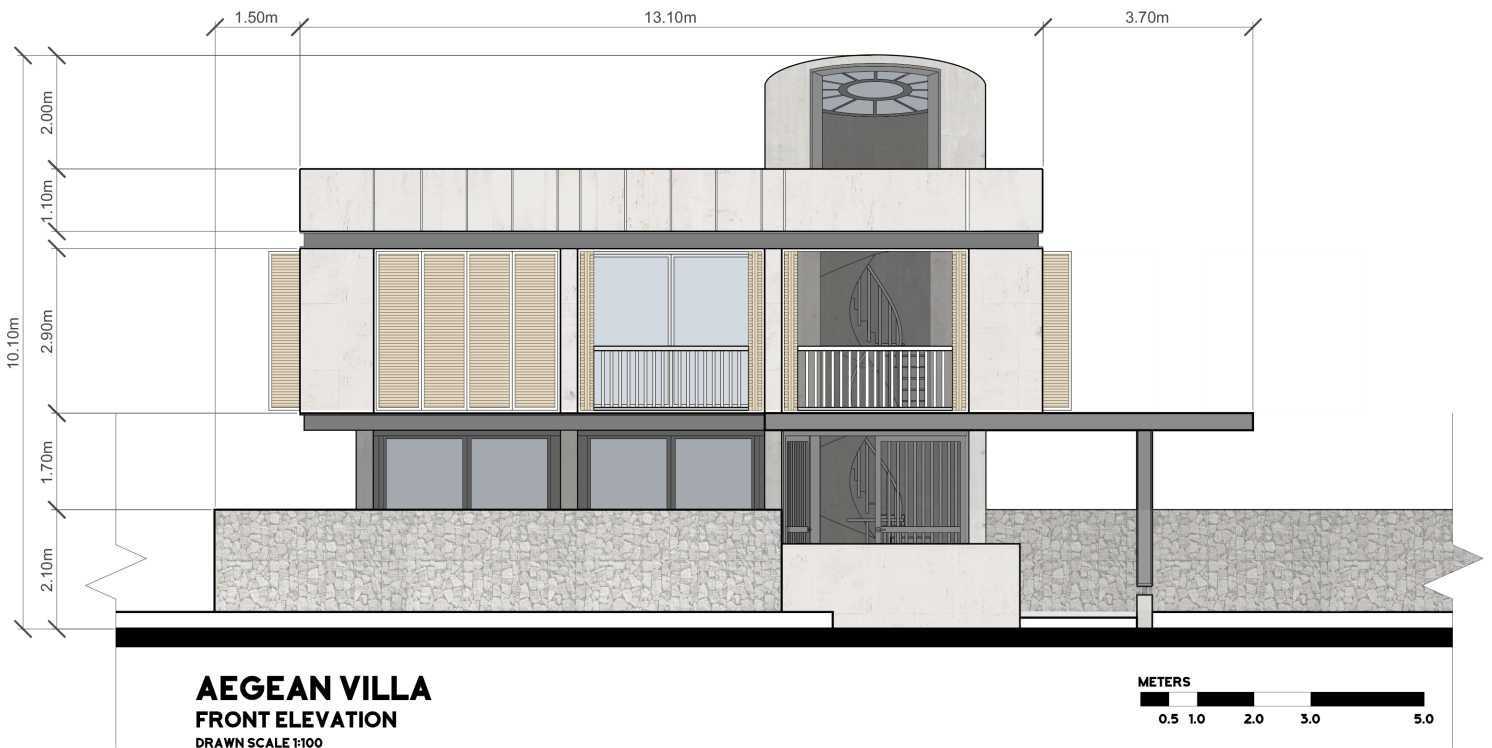


Figure 4.20 Aegean Villa elevation. Two-meter gabion on the garden perimeter provides visual privacy on the ground level. Building is elevated three steps above the garden level to allow for a transition space between garden soil and the paved interiors. Ground level can be completely opened to the outside, rendering the whole garden a part of the house.



Figure 4.21 Aegean villa as a coastal summer house. Rendering.



Figure 4.22 Aegean villa entrance. The entrance is through a covered outdoor vestibule and is located at the center of the building. Generous shading elements provide protection from the elements and the front can be used as a shaded car-port. Rendering.



Figure 4.23 Aegean villa in an olive orchard. Olive production is a leading industry in the Aegean region and the Aegean villa can be imagined as a rural orchard house in the idyllic Aegean landscape. The open living room on the upper level offers views of the beautiful orchard from a comfortable shaded area. The ground level can be adjusted to store required equipment and harvest in an easily accessible covered area. Rendering. .





Figure 4.25 The breezeway creates an interstitial space wrapped around the building, allowing for operable external shading and natural ventilation for the rooms. B2 House by Han Tumertekin Architects is a precedent for materials and concept (shown above).



Figure 4.26 Local Denizli Travertine (quarried in the region) is used for exterior cladding of the facade. Light colored stone is preferred to minimize heat absorption and the unique travertine texture is a good representation of the regions roots in antiquity/ classical eras.



Figure 4.27 Fragrant olive trees make up the primary greenery of the coastal parts of the Aegean. Olive thrives in highly saline and sandy soil of the coastline, making it a natural choice for gardens and orchards. Besides its use as an agricultural product, this elegant and timeless tree is a symbol of continuity and Aegean culture.

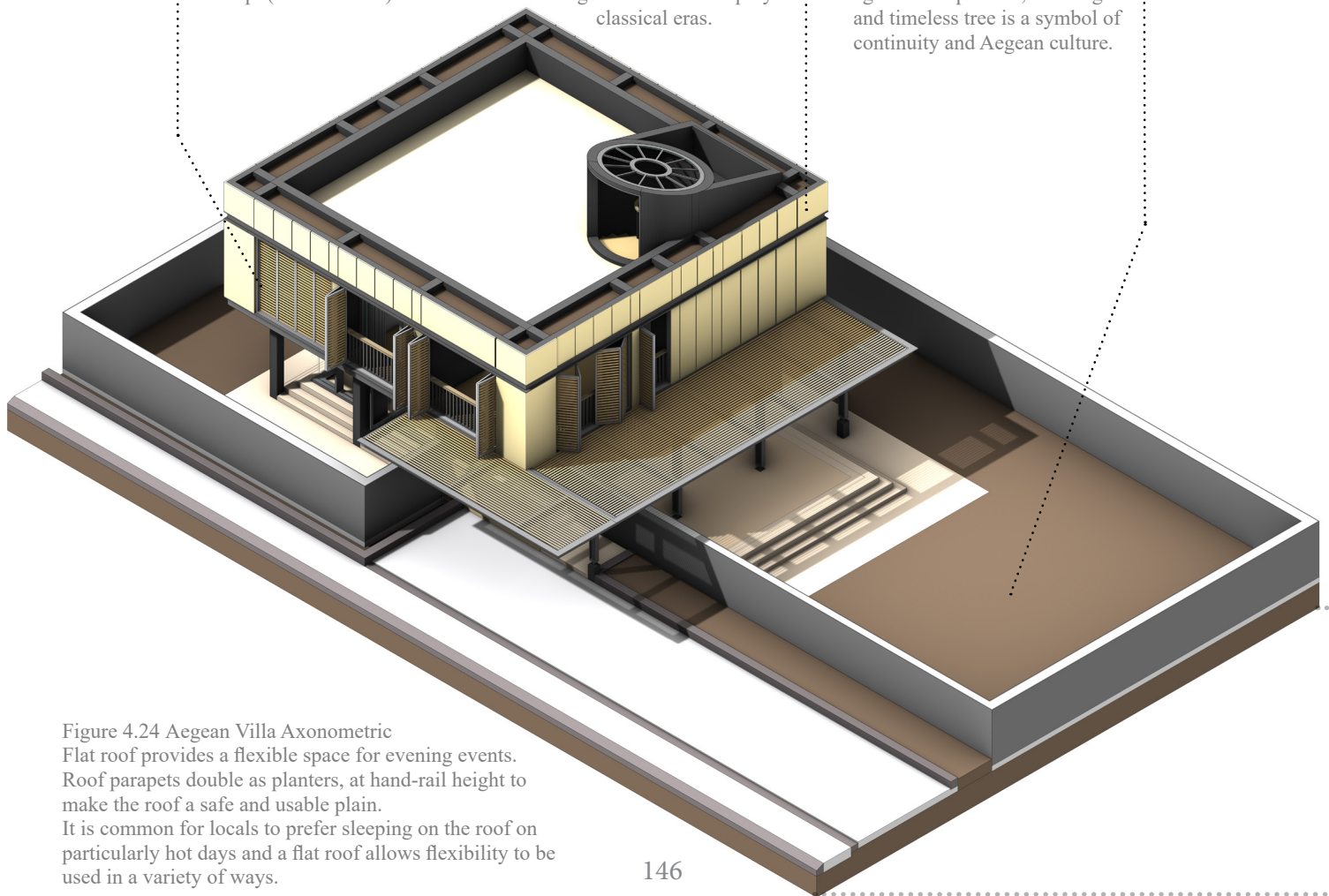


Figure 4.24 Aegean Villa Axonometric
Flat roof provides a flexible space for evening events. Roof parapets double as planters, at hand-rail height to make the roof a safe and usable plain. It is common for locals to prefer sleeping on the roof on particularly hot days and a flat roof allows flexibility to be used in a variety of ways.

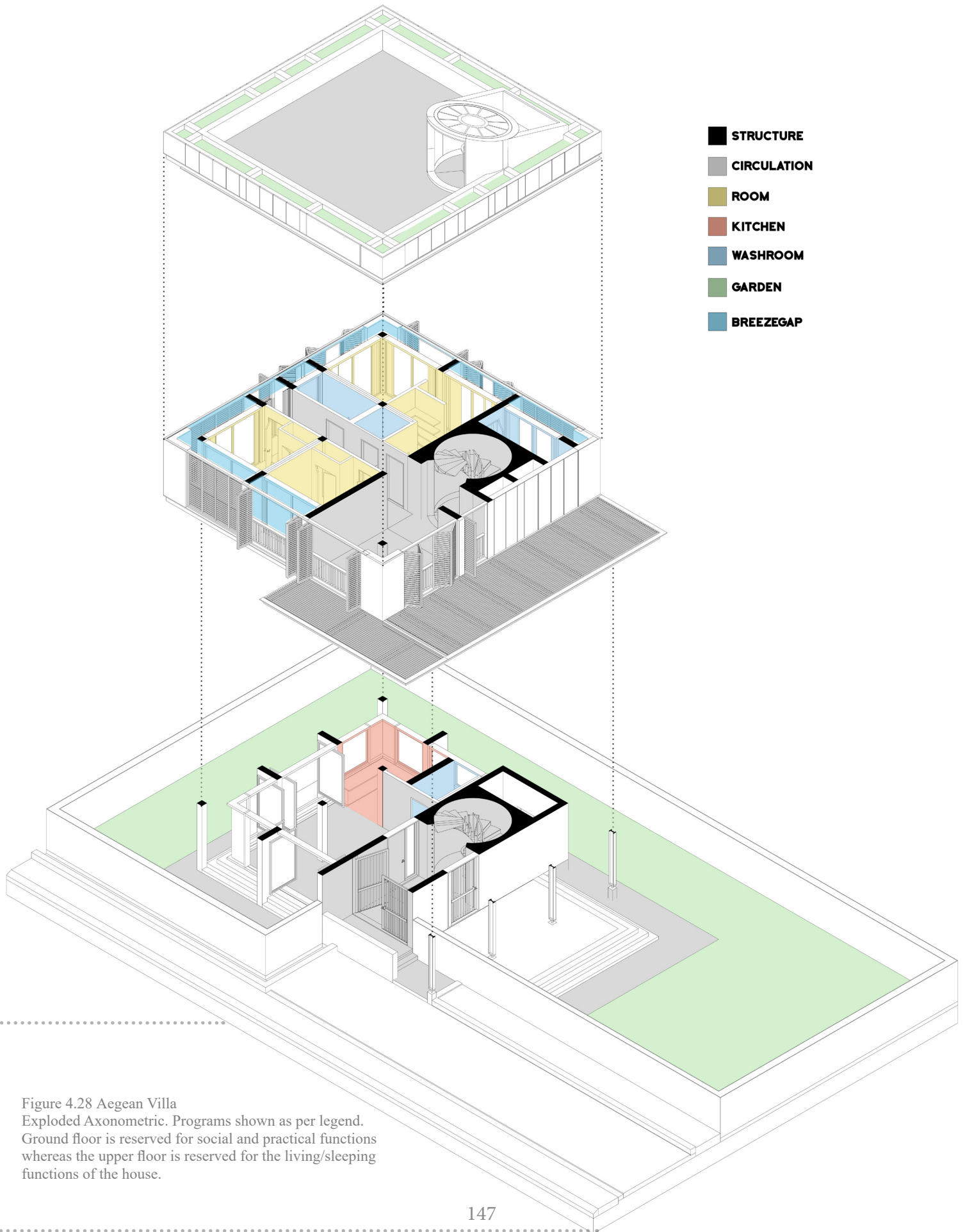
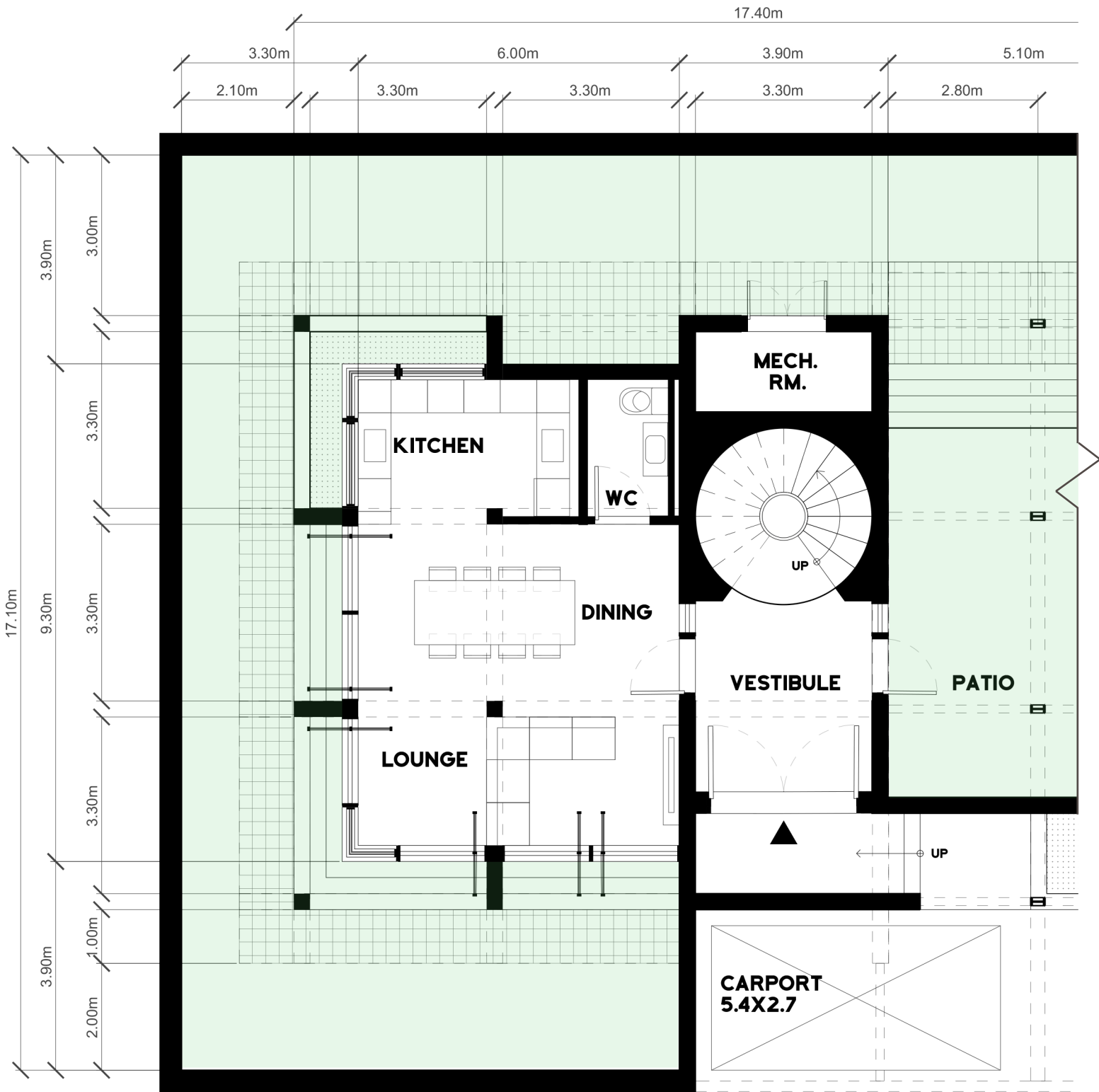


Figure 4.28 Aegean Villa
Exploded Axonometric. Programs shown as per legend.
Ground floor is reserved for social and practical functions
whereas the upper floor is reserved for the living/sleeping
functions of the house.



AEGEAN VILLA
GROUND FLOOR PLAN

ENCLOSED SQM: 68.1
 OPEN SQM: 150.6
 DRAWN SCALE 1:100

TOTAL ENCLOSED SQM: 146.9
 TOTAL OPEN SQM: 242.9 (EXCL. GARDEN)

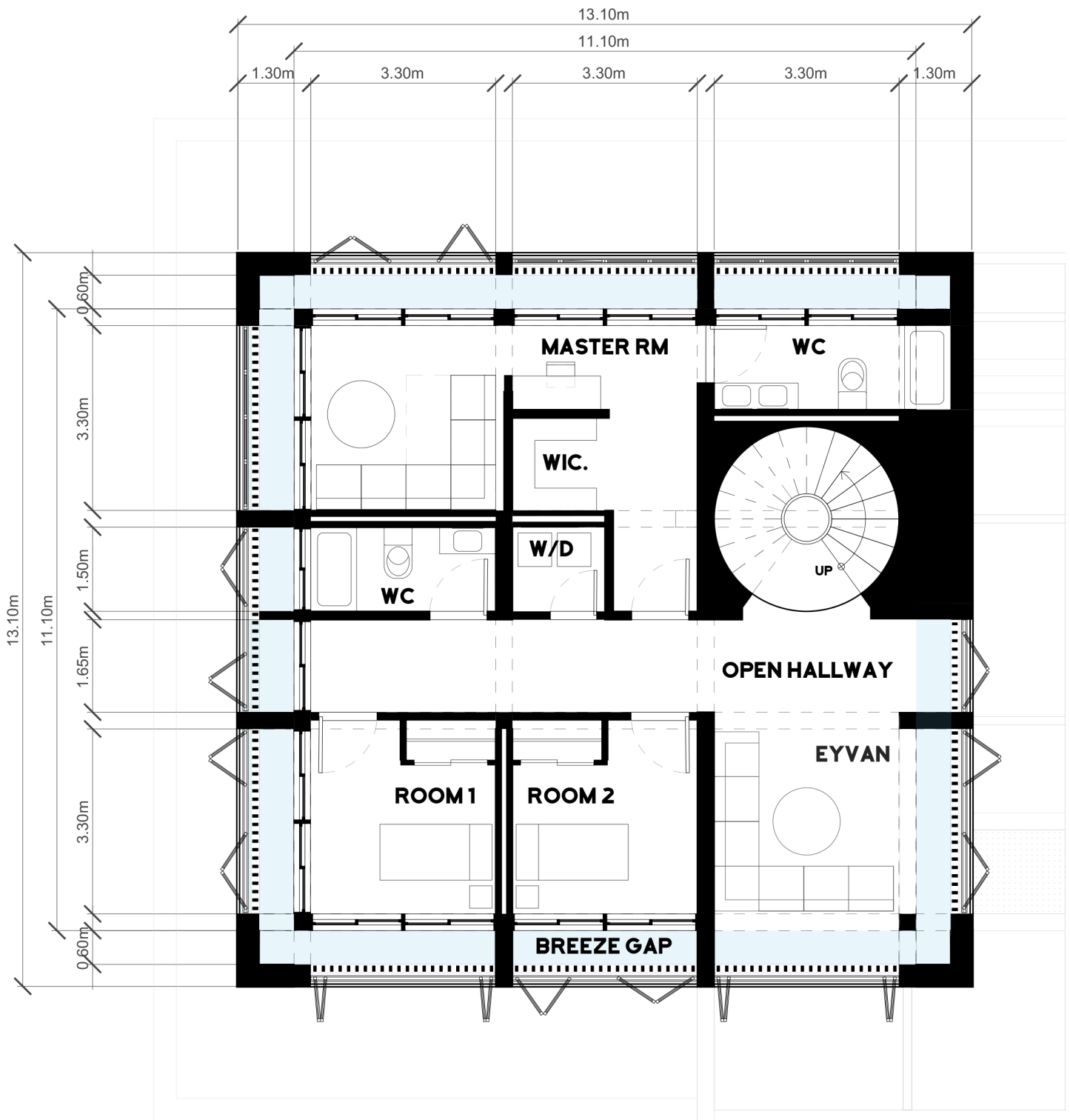
Figure 4.29

The ground level of the Aegean villa is composed of three primary elements. The perimeter wall, the garden, and an elevated platform where architectural programs are located.

The two-meter tall perimeter wall is a gabion system, filled with local field stones cleared from the project site. There are no openings or any visual connection between the two sides of the wall, just the texture of the local stone against the blue sky and the scent of olives beyond. The garden wall is a crucial element and the first layer of privacy for the building, a rough outer shell that reflects the ground that the building sits on.

Beyond the wall lies the garden, surrounding the entire building. The building is designed with varying distances between the main structure and the garden wall with some intersection points. This also influences the different parts of the garden, what is planted and how it interacts with the other two parts. The parts where the wall is closer to the building are reserved for ivy, Bougainvillea and lawn whereas the deeper parts of the garden is reserved for olive and cypress trees. The garden wall doubles as a climbing surface for the wild ivy and the elegant Bougainvillea flowers, allowing them to burst beyond the boundaries of the garden to establish the green/blue/pink look many Aegean towns are characterized with.

Finally, the ground level of the building sits about half a meter above the garden level, connected to the landscape through continuous steps wrapping around the building platform. The upper-level cantilevers out (1.2m) above, creating a shaded transition space between the garden and the house. The elevated platform also helps establishing sight lines to the outside from the platform while blocking view from the street to the inside, thus the ground level gets adequate levels of sunlight and views of the sea. The architectural programming of the ground floor is fluid and is treated as one large open garden with shaded areas rather than isolated and separated elements. This is further emphasized with the use of full height rotary glazed panels that can move out of the way completely if desired. Ground floor is regarded as the social space of the house, containing the vestibule, main kitchen, living/dining spaces and supporting garden functions. The orchard side of the building can also be used for agricultural purposes (harvesting, drying, storage and so on) if desired, so it is left open as a shaded patio.



AEGEAN VILLA
SECOND FLOOR PLAN

ENCLOSED SQM: 78.8
OPEN SQM: 92.3
DRAWN SCALE 1:100

Figure 4.30

Upper level is reserved for multi-purpose family rooms, accessed through an open hallway. The *open hayat* concept is interpreted two ways in this iteration, firstly as an open staircase/hallway making up the internal circulation of the house and secondly as a shaded breezeway wrapping around the rooms. The temperate weather of the Aegean region renders open circulation apparatus viable whereas its application as a second façade helps with passive thermal regulation and ventilation of the rooms.

In this context, the building envelope is established at the individual room level. Although protected from the elements, the connective space between the rooms are still open to the outside. The Aegean house can be imagined as a city within the city, with its streets as the *open hayat* and rooms as individual houses in a city. This is also a reflection of the societal and family structure in Anatolian culture, independent parts that make up a whole which then functions as a complete unit. Just as a family is defined through individuals, the Anatolian house is defined by its rooms (*oda*) and their interactions through the *hayat*.

At the room level, operable wooden shades along the breezeway provides high level of control over shading and privacy. In most Aegean houses, natural ventilation is desirable whereas strong daylight is avoided, thus the double façade allows for such optimization. Exterior shading panels can be closed on the outside while glazing can be open on the inside, effectively expanding the room into the breezeway.

Eyvan describes open rooms, extending from the *hayat* to provide semi-private social spaces for the family members. The main difference between an *eyvan* and an *oda* is that *eyvan* is still considered as an interstitial space and is not enclosed, thus can be accessed by everyone in the house. They are often aligned with the circulation core or located between two *oda*'s to further separate them, emphasizing their individuality. *Eyvan*'s can also be located to take advantage of favorable views which is the case in the Aegean villa iteration.

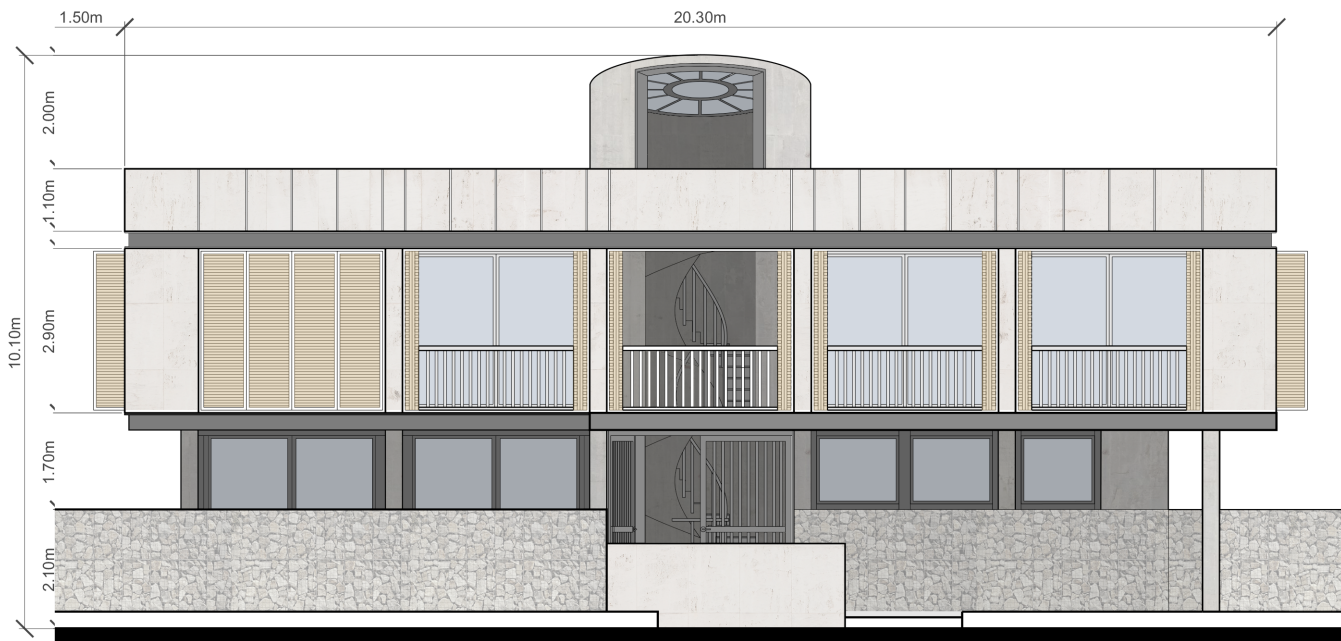
In conclusion, the Aegean villa proposal distills traditional planning elements from common Anatolian vernacular and presents them through a modern lens. The plan elements are not intended to be extraordinary but simple, practical and true to their regional environment; coming alive through the sunset zephyr carrying scent of olives through its open halls.

DESIGN VARIATION

AEGEAN KONAK

Aegean Konak is the second density variation for the region. It applies the proposed design to the traditional Turkish *Konak* typology (multi-generational house, mansion). In this iteration, the design is expanded horizontally, with symmetrical wings on the two sides of the circulation core. Ground floor follows the same principles as the villa based on the relationship with the garden and garden wall, however a new spa program is added on the second wing. The larger footprint allows for more variation in room layouts on the upper level. The main floor can be arranged to provide four completely independent master units (for multiple generations or core families of a larger family), eight smaller rooms with four washrooms or a combination of the two.

The symmetrical form is emphasized further with a cubic structural grid on display. The building grid is carried through the façade elements with attention given to sizing of cladding and shading panels. Columns and mullions compliment each other on a three-meter grid (with beams spanning six meters and a three-meter floor height) whereas operable elements and cladding panels are laid out on smaller increments of the same logic (1.5m, 0.75m respectively). Among the three regions, Aegean prototype is the most geometrically rigorous one; a tribute to the rich architectural heritage of the region, manifested in classical temples of the antiquity and the nearby city of Miletus.



AEGEAN KONAK FRONT ELEVATION

Figure 4.31 Aegean konak elevation. A cylindrical circulation core on the central axis provides access to upper level and roof. Building programs are laid out on two symmetrical wings around the core. The design adheres to a three meter grid to embody geometric order of classical temples of the Aegean region.

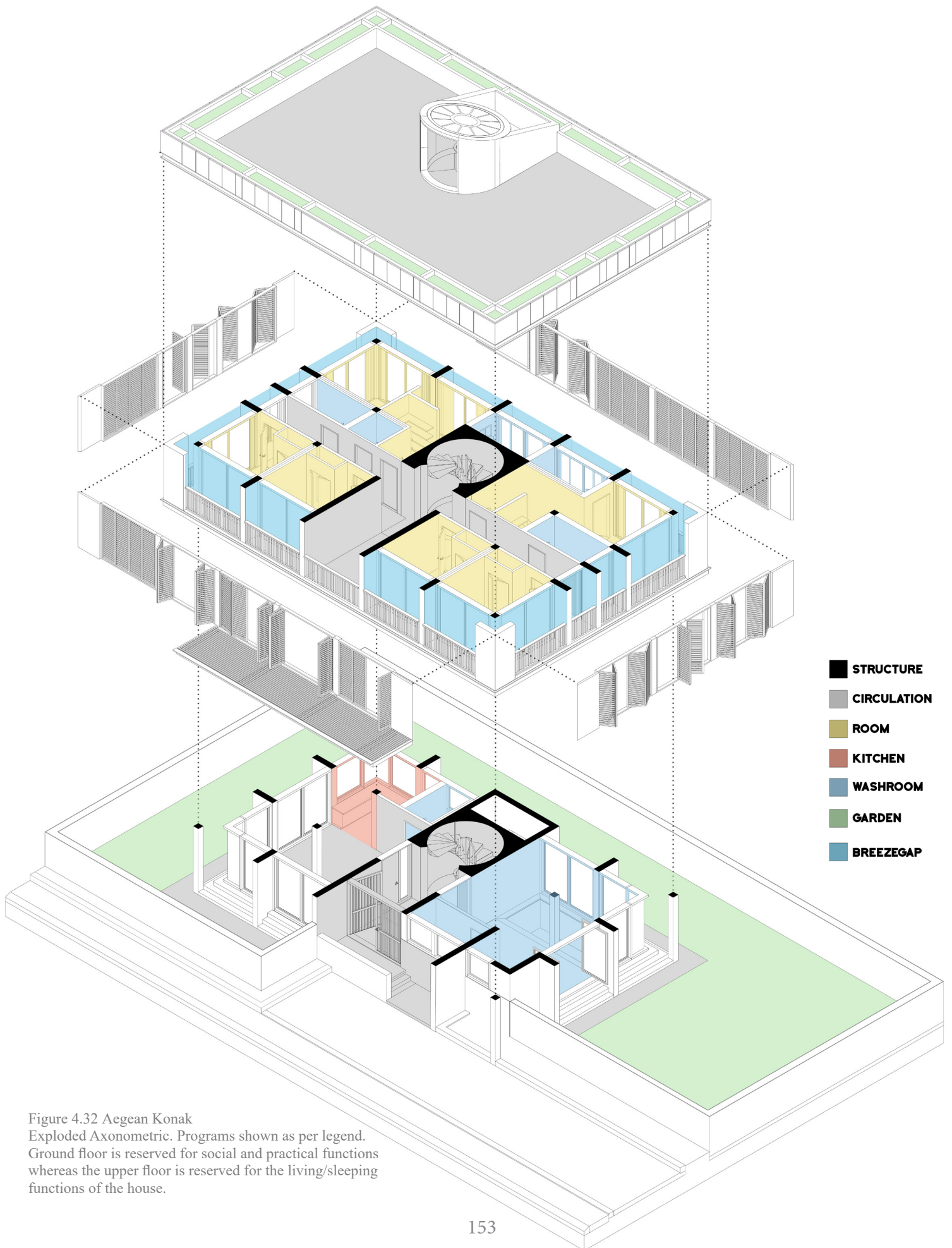
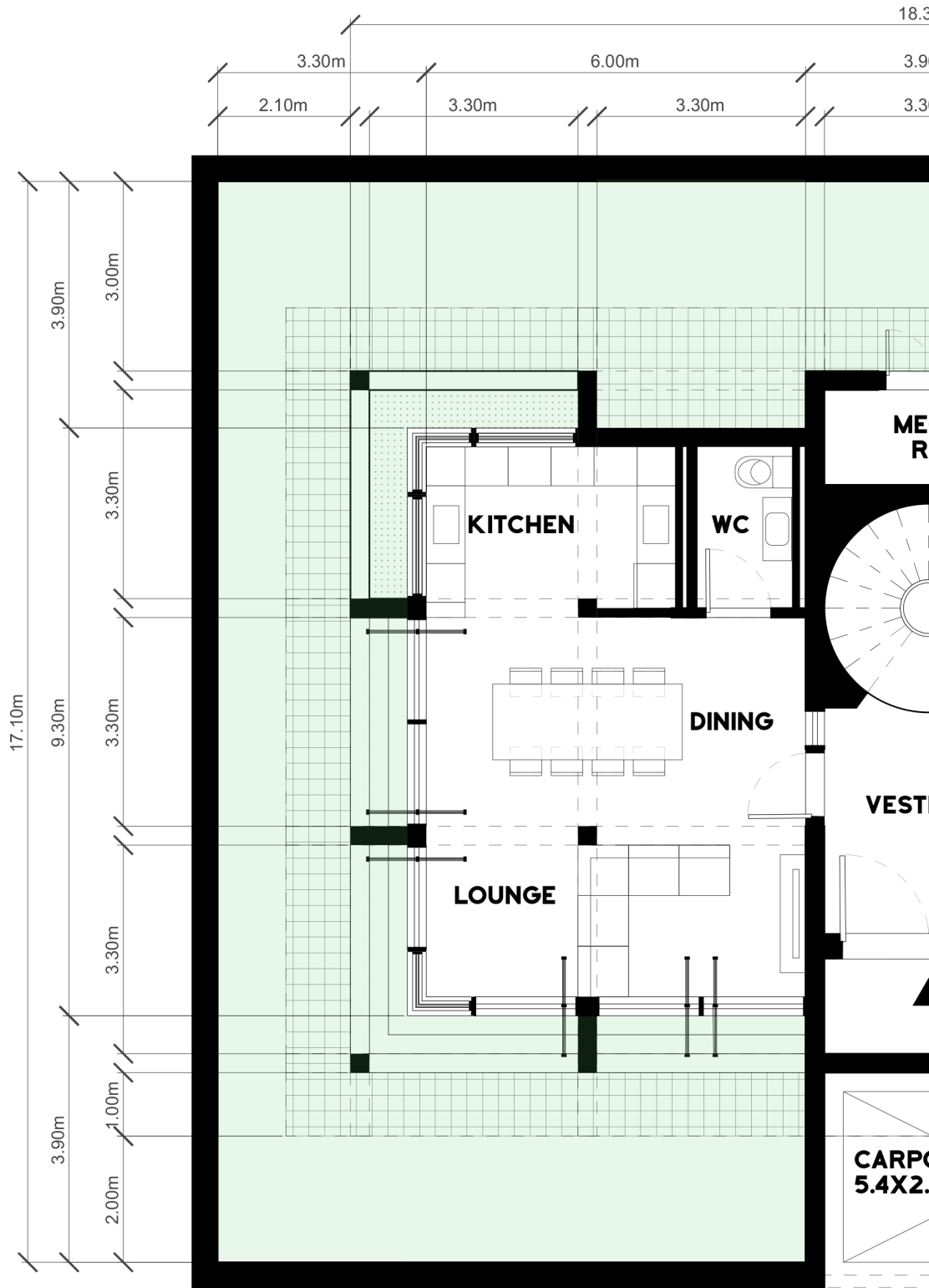


Figure 4.32 Aegean Konak
Exploded Axonometric. Programs shown as per legend.
Ground floor is reserved for social and practical functions
whereas the upper floor is reserved for the living/sleeping
functions of the house.



Figure 4.33 Aegean Konak in a street setting. The trees cast a gentle shade on the street while the vines take over the garden wall, establishing urban textures of the city. A car port is created by pulling back the garden wall near the building entrance. This shaded area provides an ideal parking spot for the habitants while avoiding street congestion due to parking. Rendering. .





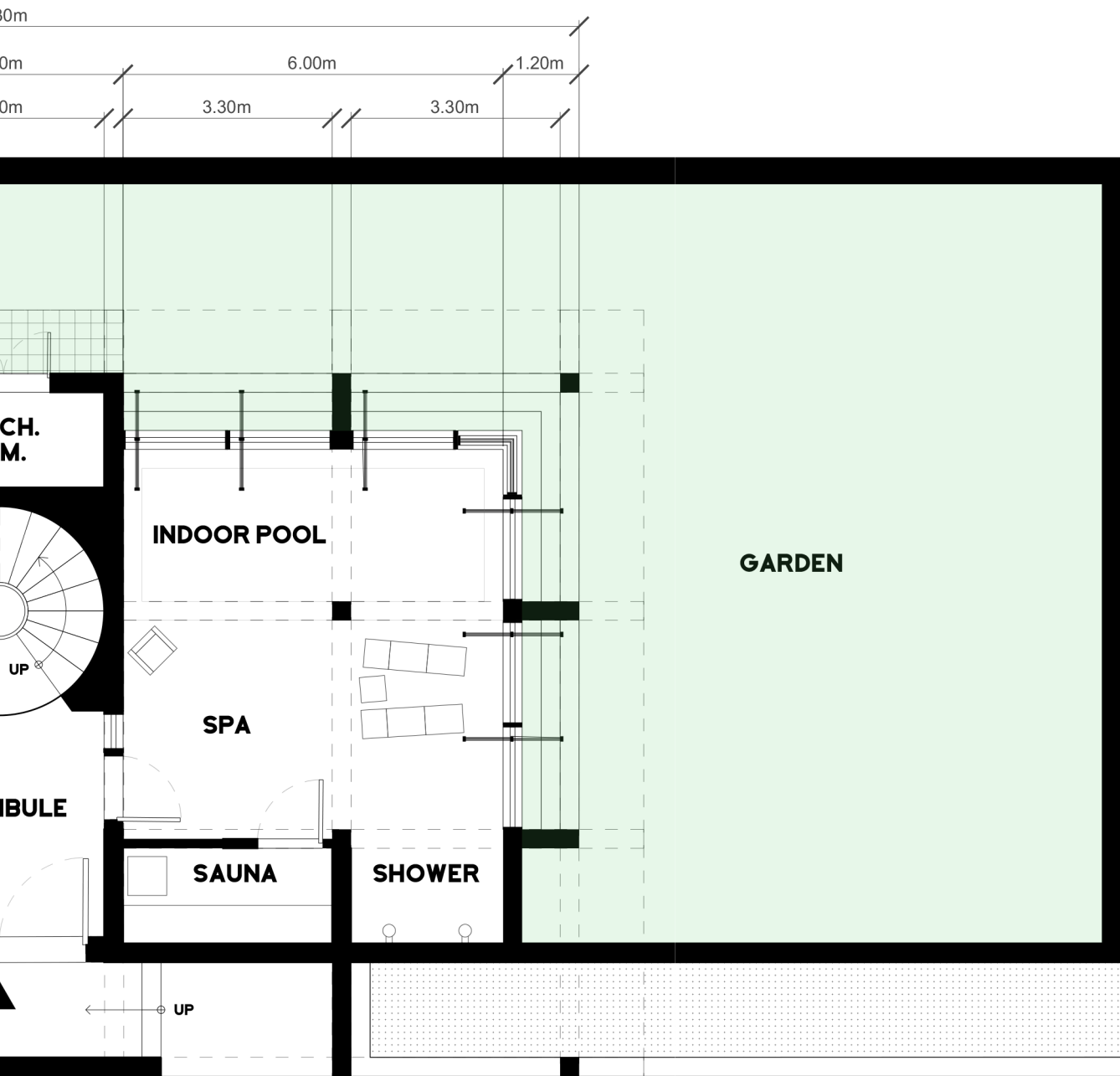
AEGEAN KONAK

GROUND FLOOR PLAN

ENCLOSED SQM: 123.3
OPEN SQM: 110.0
DRAWN SCALE 1:100

TOTAL ENCLOSED SQM: 271.8
TOTAL OPEN SQM: 228 (EXCL. GARDEN)

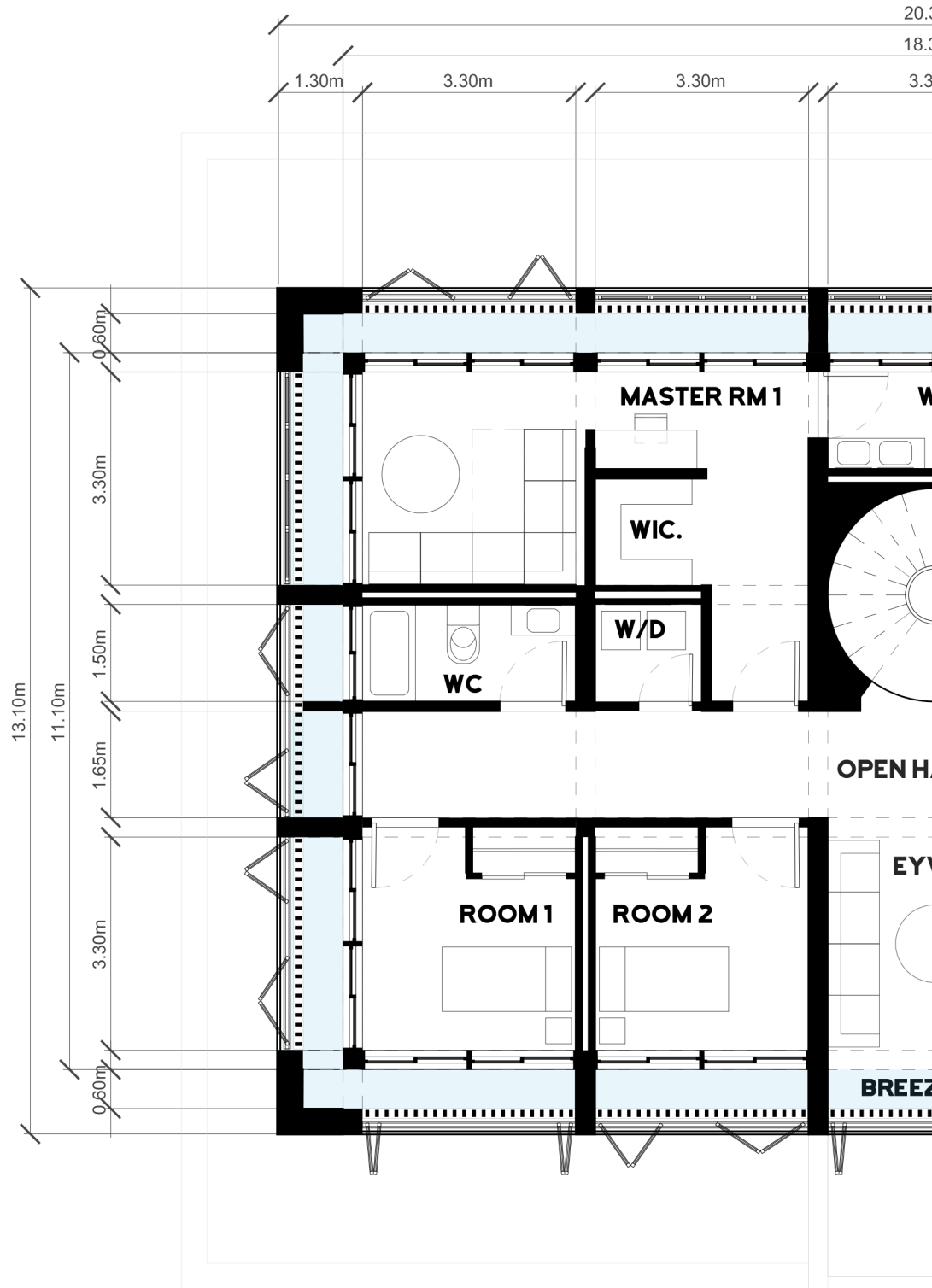
Figure 4.34



Aegean Konak follows the same design principles as the villa but with the addition of a spa on the ground floor.

Tashlik (ground floor) programs are located on an elevated platform, surrounded by the garden on all sides. The site boundaries are defined by the garden wall instead of the building walls, rendering the garden as a natural extension of the interior spaces. Elevation difference between the platform and the soil level allows for views to the outside while blocking views of the inside from the street level.

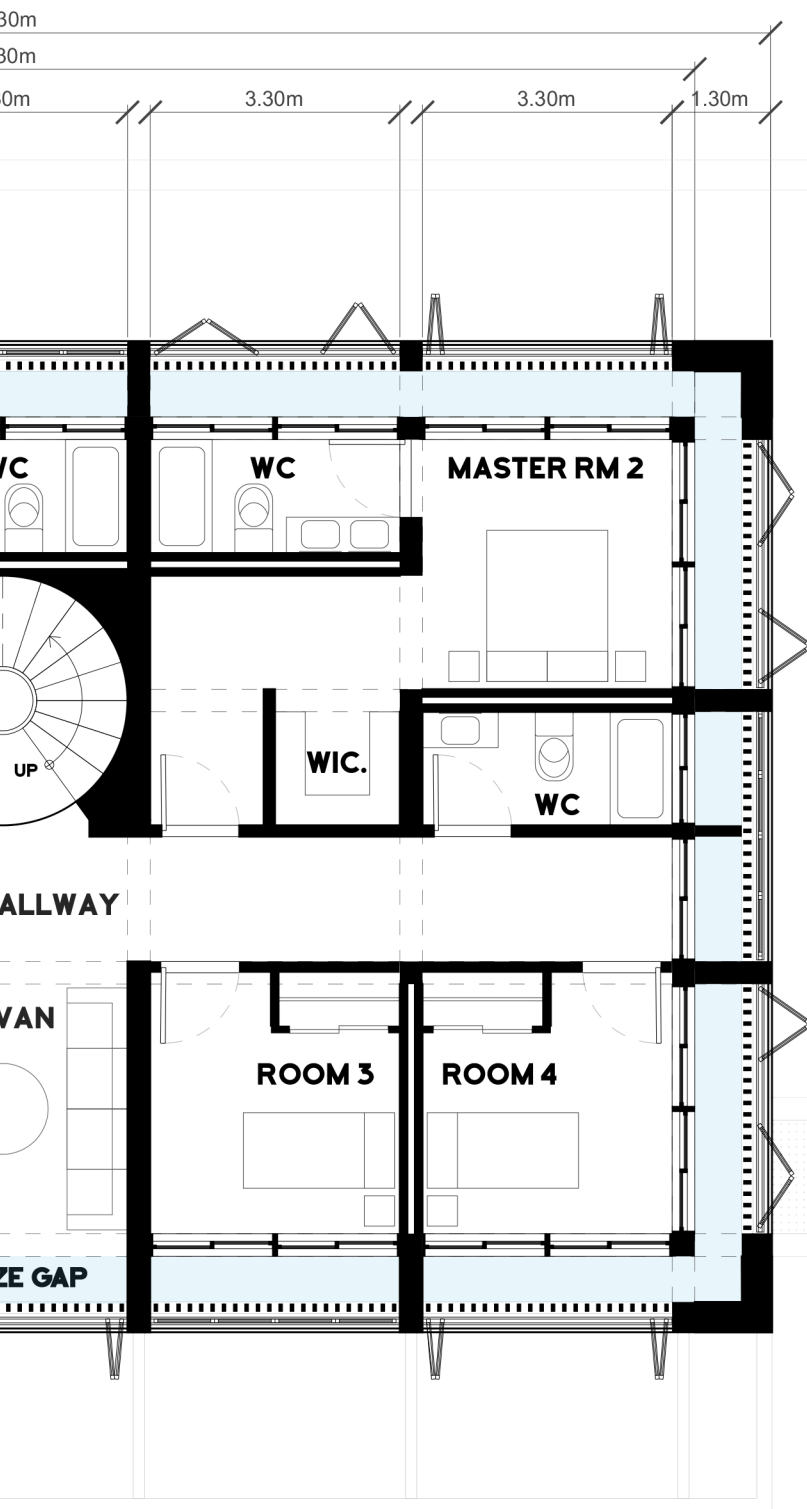
All in all, the ground floor is intended to create a fluid social space with the flexibility to completely open up to the outside, thus bringing the garden inside.



AEGEAN KONAK SECOND FLOOR PLAN

ENCLOSED SQM: 148.5
OPEN SQM: 118.0
DRAWN SCALE 1:100

Figure 4.35



Main floor of the Aegean Konak consists of two wings and a central *eyvan*, all connected through an *open hayat* (hallway). Rooms can be arranged and customized based on the specific needs of inhabitants. Flexibility through modularity is an important feature of the design and makes the proposed design approach adaptable to a range habitation types. Each wing of the Aegean Konak could be laid out to serve as a large independent master room, smaller sleeping rooms or a mix of both since the room designs are based on the same footprint and structural elements.

This also means that the structure can be easily expanded in the future without taking away main characteristics of the design. An important takeaway from the morphological study of Anatolian typologies was to consider the complete life and evolution of the house, which is reflected in the design as modularity, repeatability and scalability of the architectural elements.

DESIGN VARIATION

AEGEAN APARTMENT

The final variation, Aegean Apartment, tests the Aegean prototype at a higher density level. Mid-rise apartment is the most common building type found throughout Anatolian cities and is regarded as the default urban typology. Apartment typology in Anatolia is often severely disconnected from geographical, cultural or climatic parameters, instead represent an extremely mediocre mode of urbanization, driven by real estate speculation, straining economic conditions and populist politics. The problematic relationship between urbanites and the lackluster apartment typology in modern Anatolian cities is at a such high level that it has become a cliché for people to reminisce about the city of their youth and commonly refer to the current state of urbanism as “*beton yığılı*” (pile of concrete).

In this context, Aegean Apartment is a suggested alternative to the generic apartment typology, aiming to start a conversation around urban density and acclimatization of modern typologies to specific regions. The apartment iteration uses the same approach established through the villa and konak variations, borrowing and repeating elements from the base design. It is an exploratory iteration and an initial attempt to establish dialogue between the apartment typology and regional identity.



AEGEAN APARTMENT FRONT ELEVATION



Figure 4.36 Aegean apartment elevation.

Features such as the distinction of public and private spaces, *open hayat* as a circulatory space, and the independent room layout of the Aegean house lend themselves well to an apartment typology.

The transition between a *Konak* and an apartment could be a smooth one since the *Konak* already functions as a smaller apartment for a large family. The primary difference between the two-typologies boils down to characteristics of their inhabitants and their relationships with each other. Given the spatial similarities and applicability of the fundamental design in both typologies, a distinguishing factor can be the density of a given structure. Scale of a *Konak* is determined by the size of a family whereas the scale of an apartment is dictated by urban infrastructure and city bylaws. Thus, Aegean Apartment can be imagined as a densified version of the *Konak* with additional floors and potentially a larger footprint. Given the modularity and grid driven logic of the Aegean house design, the same tectonics used for the villa and *konak* can be extrapolated to depict the Aegean Apartment. A three-story iteration is depicted on Figure 6.38 as proof of concept, but this could be extended to higher floor count and a longer elevation based on site limitations, without losing the architectural character of the building.



Figure 4.37 Aegean apartment, depicted in a coastal town setting. Perspective rendering.



Figure 4.38 Eyvan space of the Aegean Konak, facing out from in front of the central staircase. This open room is a small social space for the family members, located between the two residential wings to space them out. Rendering.



Figure 4.39 Spa of the Aegean Konak. Spa can fully open up to the garden or sealed off to regulate desired heat & humidity levels. Considering most of the day is typically spent in the garden, the spa provides a luxurious comfort, a quick and cool escape from the hot and dry summers of the Aegean. Rendering.

MATERIALITY AND INTERIORS

Aegean house combines locally sourced modern materials with layouts inspired by traditional Anatolian architecture. Liquid applied materials such as stucco or wall-paint are avoided to preserve the authentic character of the chosen materials, further reinforcing the regional identity of the building.

Garden wall is the first point of interaction with the building. Loose field stones cleared from the building site are placed into gabion cages to make up this wall, literally embodying the site while establishing the structure in the landscape. Exposed concrete columns, beams and the gabion garden wall establish a rough organic texture for the ground level surfaces. The elevated platform that holds the ground level programs overlook the surrounding garden, offering valuable shade and thermal mass for searing summer days. Open concept kitchen, dining and lounge areas are located on one side whereas the spa, complete with a pool and sauna is located on the other. These programs can completely open up to the garden or be sealed with full height rotary glazing elements during inclement weather conditions.

In contrast, small aggregate smooth concrete, travertine and wood finishing elements are used exclusively on the upper level (*piano nobile*) to create a more refined atmosphere. Locally sourced (*denizli*) marble tiles are used for the washrooms, echoing the materiality of traditional *hamams*. Private rooms are finished with wood floors and ceilings, inset between exposed structural members. Wooden slats of the shading panels allow controlled daylighting into the rooms, inviting warm hues reflected from the wooden surfaces. The contrast between the refined wood and stone finishes against the concrete structure give the design an organic feeling, bringing it closer to the landscape surrounding it. Imbued with the scent of sea salt and olives, rooms of the Aegean house celebrate its surrounding with full height glazing on all exterior sides while maintaining their sacredness and privacy by employing the shading panels on the second façade.

On the exterior, gabion walls, travertine cladding and wood shading elements make up the identifiable exterior characteristics of the design. The proposal aims to encourage use of similar material compositions in the surrounding area in an attempt to spearhead the creation of a unique architectonic/urban character for Didim, comparable to that of neighboring Bodrum or Assos.



Figure 4.40 Aegean konak 3D printed model. 1:100.



Figure 4.41 Aegean konak. Physical 3D printed model. 1:100.

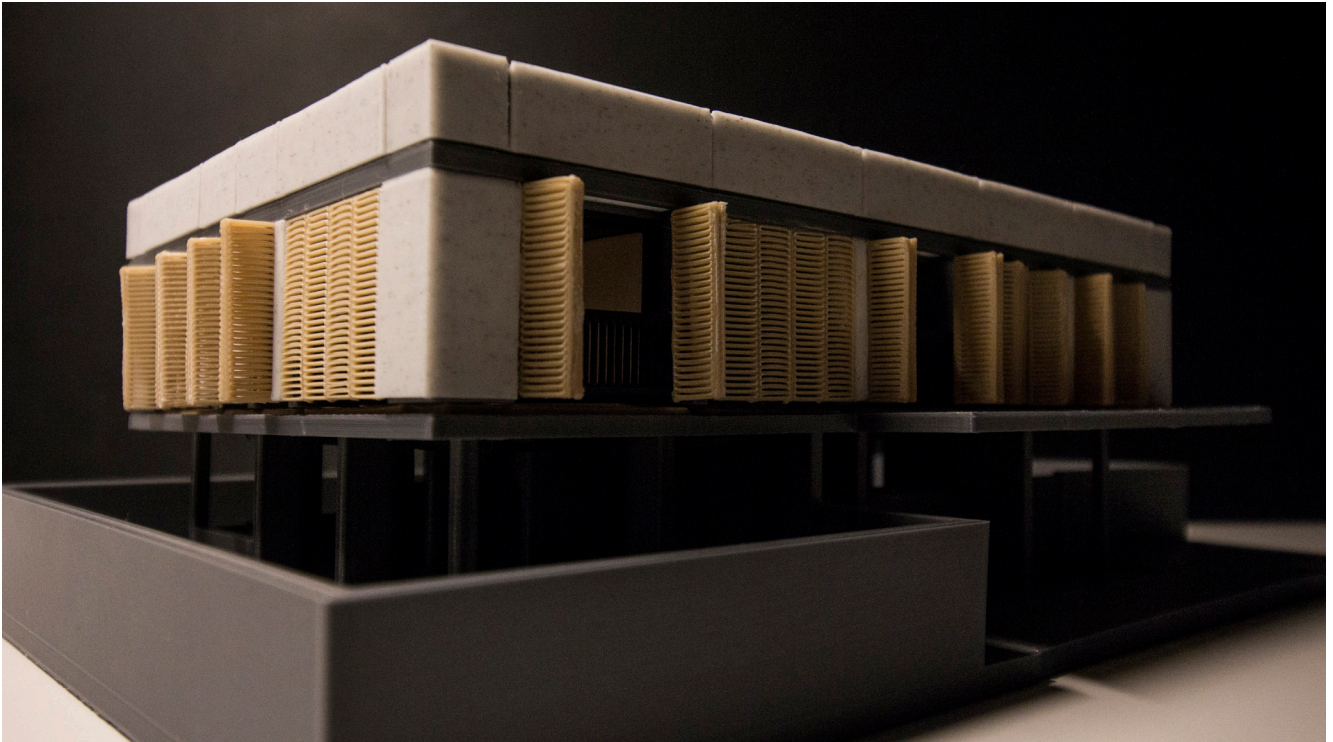


Figure 4.42 Aegean konak 3D printed model. 1:100.



Figure 4.43 Aegean konak 3D printed model. 1:100.

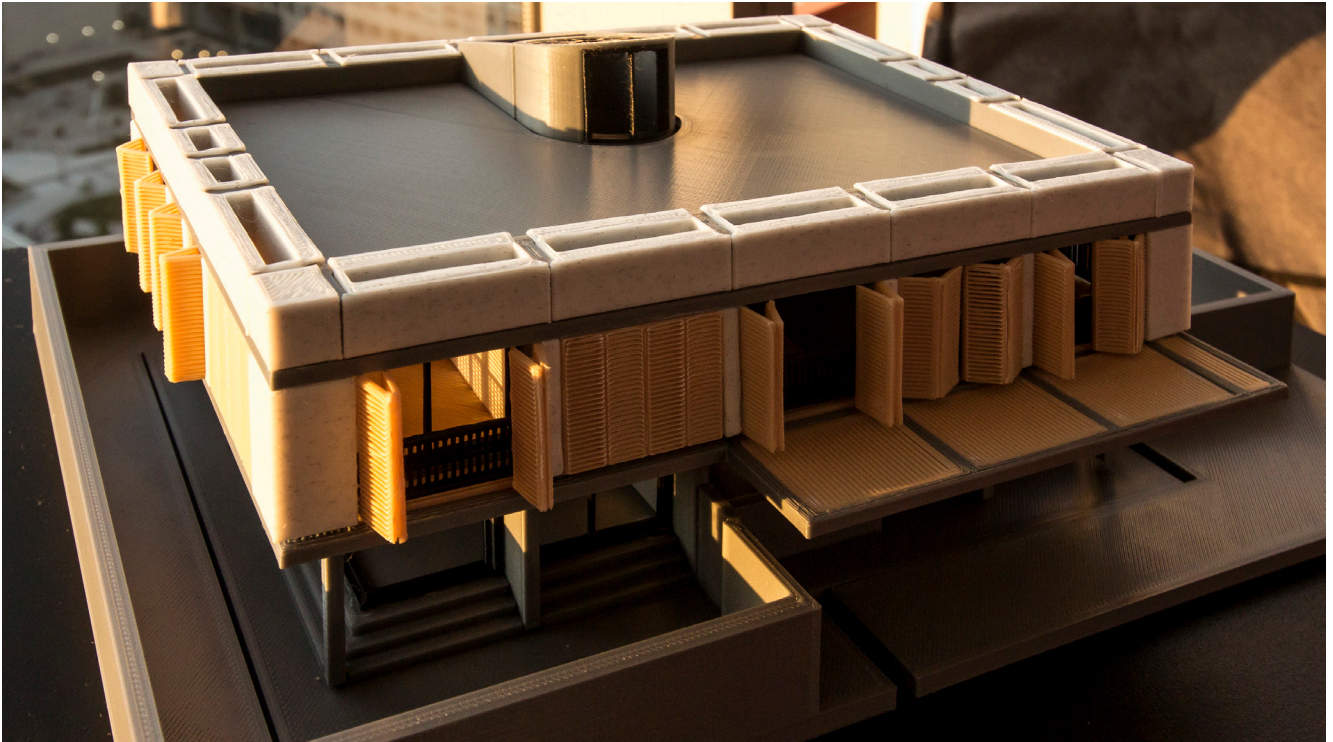


Figure 4.44 Aegean konak 3D printed model. 1:100.



Figure 4.45 Aegean konak 3D printed model. 1:100.



Figure 4.46 Aegean konak 3D printed model. 1:100.

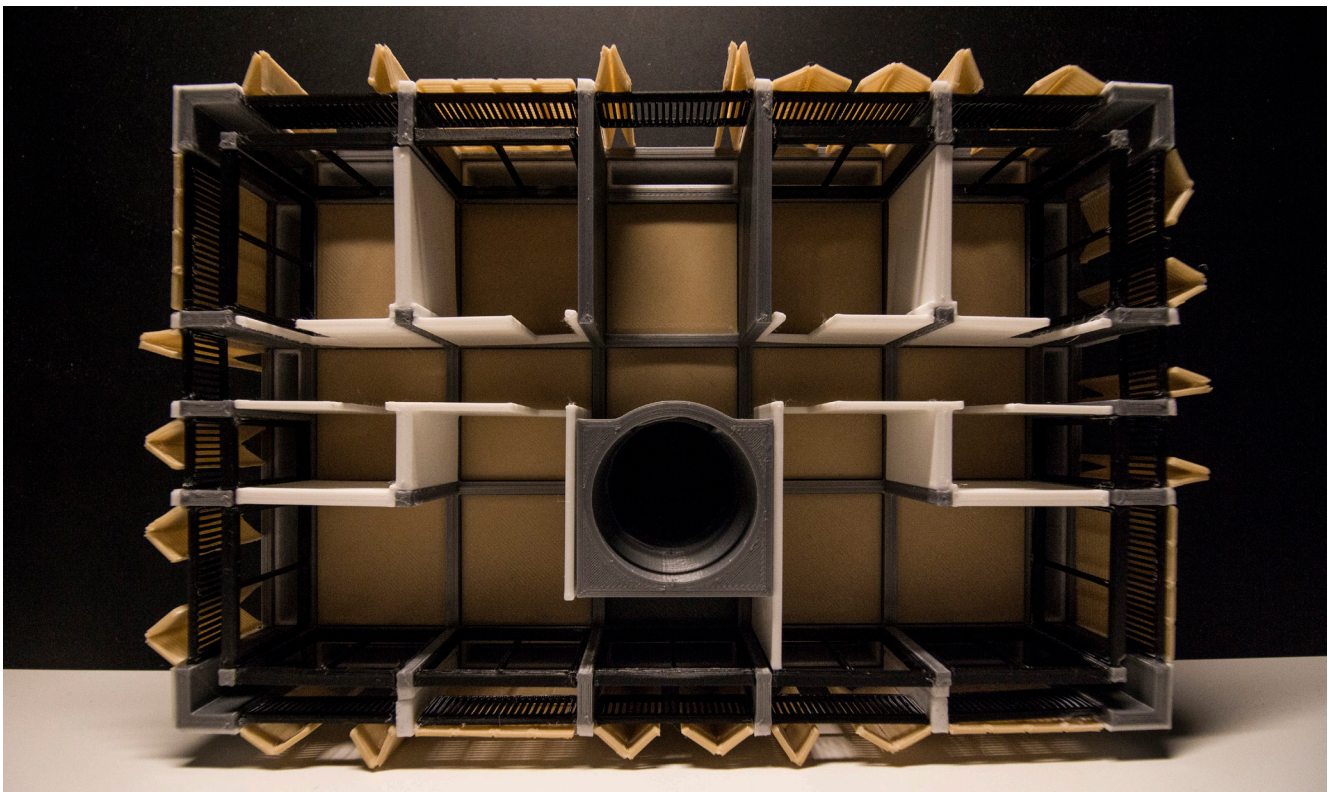


Figure 4.47 Aegean konak 3D printed model. 1:100.

CONCLUSION

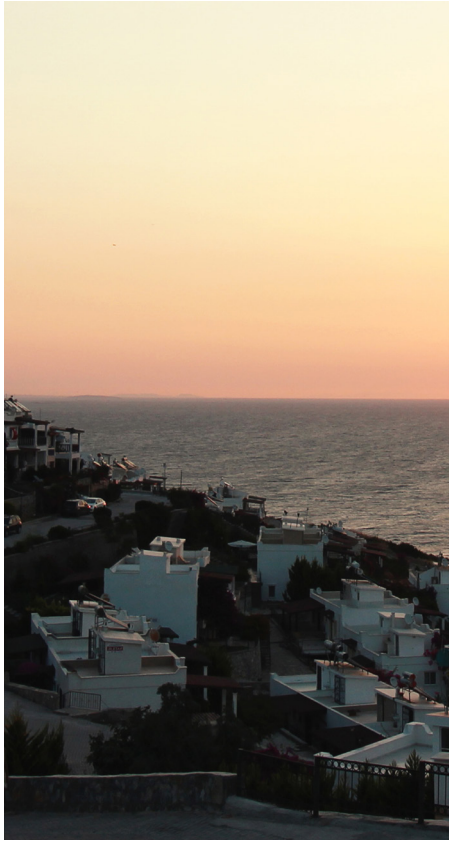


Figure 5.6 Three regions, three houses. Urban and architectural identity is an important part culture and has a significant effect on how desirable a place is for inhabitation. By reconnecting our built environment with the spirit of its place, we can leave the sterility of mass housing behind and create diverse, vibrant and characteristic cities.

Anatolia, with its rich history, diverse cultures and idyllic landscape, abounds opportunities for architectural inspiration and development. The challenge it poses is one of perception, for it is easy to miss or worse, disregard, the subtle beauty that is ingrained in this land of flux.

What seems to be a simple wooden shed, tucked away in a remote mountain village, may provide invaluable insight on archetypes that make up majestic palaces in Istanbul. Perhaps the next big leap in residential design is hidden in plain sight, along the Aegean coast and immersed in scents of olive and lavender; just like it was a century ago for a young Charles-Édouard Jeanneret.

Thus, the land calls for the designer to take on a role of a cultural archeologist, trying to put together a thousand tiny fragments to make up the mosaic that is Anatolia. Some of them are completely unique, whereas others are shared across the land. Whatever the case, it is certain that the diversity of these cultural fragments and their eventual amalgamation is what makes them special. Culture, as a constantly evolving collection of human expression, alongside geography, makes up the identity of the place, *genius loci*. It can be argued that a whole new dimension of architectural design awaits at the intersection of vernacular tradition (as an organic expression of culture in architecture) and contemporary design (employing principles of modern architecture, building and material science).

In this light, this thesis was a step towards rekindling the dialogue between traditional and modern design in Anatolia; two concepts that were deemed incompatible and strictly polarized in Turkey over the last century. Proposed residential prototypes and their variants are intended to test this attempt at bringing together the old and new to form a culturally driven approach to modern housing in each respective region.

Each proposal shares the common intention of establishing a coherent regional architectural approach. This objective is expressed using local tectonics, materials, and adaptations, reflecting unique lifestyle preferences. Thus, the designs share a planning methodology, formulated through interpretative iterations of common plan patterns while emphasizing their local accents. The design goal of the proposal phase for each region was to embody these commonalities and distinctions in architectural form. The tectonic elements utilized to achieve this goal can be summarized as the following:

- 1) Garden focus; shared across all regions.

Gardens are considered a major part of the house and treated like an outdoor living room.

- 2) *Oda* and *Hayat* concept; shared across all regions.

Plans are laid out with two primary plan elements, *Oda* (private rooms, convertible between sleeping and living functions) and *Hayat* (open circulation space that ties all *odas* together, doubles as a social space)

- 3) Vertical plan hierarchy; shared across all regions.

Ground level (*tashlik*) is always reserved for social and practical functions such as the garden, kitchen, lounge and storage, whereas, the upper level is considered the principle floor (*piano nobile*) and is reserved for *odas* and the circulatory *hayat*. *Tashlik* employs durable finishes while the principle floor would fashion refined finishes.

- 4) Multi-generational layout; shared across all regions.

Houses are designed to allow for expansion or segmentation to accommodate changing family needs and large family co-habitation. Rooms are semi-independent with dedicated washrooms. Kitchen and social spaces are shared.

- 5) *Cikma*, room projections; shared across all regions.

Upper level projections are an iconic part of Anatolian architecture and are employed on all proposed designs. These allow for improved views and ventilation for the rooms while creating shade for the *tashlik* below.

- 6) Outdoor circulation; applied in Cappadocia and Aegean prototypes.

Due to their agreeable climate, circulation spaces are covered but open to the outside in these regions. Glazing panels can be used to seal these off under extraordinary circumstances, but the primary building envelope is established at the room level. Black Sea prototype employs internal circulation due to overall colder climate of the northern region.

- 7) Garden walls; applied in Cappadocia and Aegean prototypes.

Garden walls mark the property while providing a much-desired layer of privacy for the garden. This is crucial since the garden is considered a primary living space of the household. Garden walls are not necessary in rural Black Sea since houses are only accessible from the mountain ridge, although can still be seen in denser urban centers. Use of garden walls also mean that the connection between houses and the street are minimized at the ground level.

8) Central hearth; applied the Black Sea prototype.

Based on the communal ovens of the Black Sea region, a central hearth with multiple chimneys and a functional fire-oven is proposed, serving the social spaces of the house.

9) Roof garden; applied in Aegean and Black Sea prototypes.

As a response to the rough terrain, roofs are utilized as flexible spaces and designed to allow for a vegetable/herb garden. Flat surfaces are rare and desired for agricultural tasks (such as drying), especially in the case of Black Sea region.

10) *Kafes*, shading elements; applied in the Aegean prototype.

Traditionally used on windows to provide additional privacy and shading, a modern interpretation of the iconic *kafes* is employed in the Aegean prototype. These take the form of full-height operable shading panels (wood), that form a second skin for the building around its circumscribing breezeway. The full-height glazing and shading panels can be completely opened to expand the rooms into the landscape.

11) Courtyard adaptation; applied in the Cappadocia prototype.

Cappadocia prototype is designed to adapt its garden space into a larger courtyard space depending on the massing orientation when built in multiples. When built this way, the courtyard takes central stage and acts as the primary entry point and social space for the Cappadocian house. This design option compliments the Mesopotamian roots of the Cappadocian vernacular.

These distilled elements make up the guiding architectonic principles of Anatolian Regional Modernism, as proposed by this paper. They are the primary product of the field research and firsthand interactions with the inhabitants and built environment of the three regions. Three prototypes for these three regions are designed to test these tectonic findings; in an attempt to demonstrate their potential in expressing the cultural identity of Anatolia and its regions. The level of actualization of this design goal will be left to the judgment of the reader to decide, for it is about the journey, not the destination.

It is my wish to see Anatolia flourish with all its colors.
Long it has been forgotten, pushed aside and overlooked.

It is time to start a conversation,
let the land tell its multi-millennial story,
with her own voice...

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