

TETEMUAN

Thermal Comfort oriented resort design through the adaptation of Sasak Architecture principle in Lombok

Muhammad Erlangga Yubi Agfarizky
22512030

Supervisor:
Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI

FINAL ARCHITECTURE DESIGN STUDIO

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Perancangan Resor Berorientasi pada Kenyamanan Termal melalui
Adaptasi Prinsip Arsitektur Sasak di Lombok

Muhammad Erlangga Yubi Agfarizky
22512030

Pembimbing:
Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI

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UNIVERSITAS ISLAM INDONESIA

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Thermal Comfort oriented resort design through the adaptation of Sasak Architecture principle in Lombok

Nama Lengkap Mahasiswa : **Muhammad Erlangga Yubi Agfarizky**
Student's Full Name

Nomor Induk Mahasiswa : **22512030**
Students Identification Number

Telah diuji dan disetujui pada : **Yogyakarta, 4 Agustus 2026**
Examined and Approved on

Pembimbing Supervisor	**Penguji 1** Examiner 1	**Penguji 2** Examiner 2
Prof. Noor Cholis Idham, S.T., M. Arch., Ph.D., IAI	**Johanita Anggia Rini, S.T., M.T., Ph.D.**	**Ir. Hanif Budiman, M.T., Ph.D.**

Diketahui Oleh/*Acknowledge by*
Ketua Program Studi S1 Arsitektur
Head of Undergraduate Program in Architecture

Arif Budi Sholihah, S.T., M.Sc., Ph.D

Statement
of Authenticity

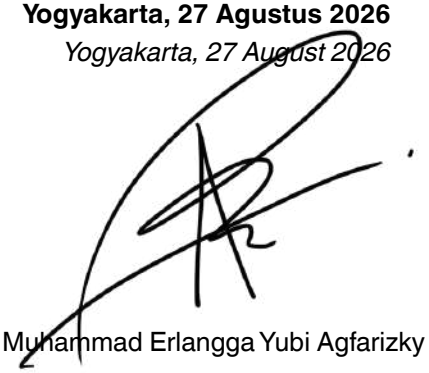
I, the undersigned below:

Name	: Muhammad Erlangga Yubi Agfarizky
Student Number	: 22512030
Study Program	: International Undergraduate Program in Architecture
Faculty	: Faculty of Engineering Design Innovation
Title	: Thermal Comfort oriented resort design through the adaptation of Sasak Architecture principle in Lombok

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I sincerely declare that this statement is true and submit it to the Department of Architecture at the Islamic University of Indonesia to be used for educational and
publication purposes.

Yogyakarta, 27 Agustus 2026
Yogyakarta, 27 August 2026



Muhammad Erlangga Yubi Agfarizky

Foreword

Praise and gratitude are due to Allah SWT for His mercy, blessings, and guidance throughout the completion of this project. May peace and blessings always be upon the Prophet Muhammad SAW, who has brought guidance and mercy to his followers.

The author would also like to express sincere gratitude to Allah SWT, the Prophet Muhammad SAW, family, and close friends for their continuous prayers, support, encouragement, and strength throughout the process. Their invaluable support has enabled the author to complete the Final Architecture Project entitled “Thermal Comfort oriented resort design through the adaptation of Sasak Architecture principle in Lombok”

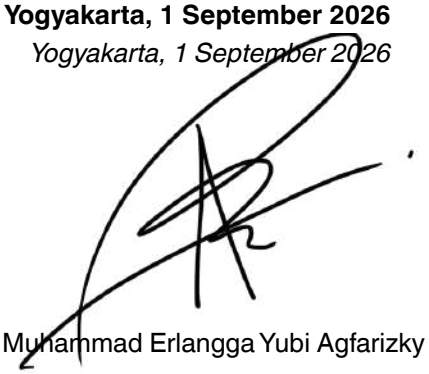
Through this opportunity, the author would like to sincerely express gratitude to everyone who has generously provided assistance, support, guidance, and encouragement throughout the entire process, all of which have been invaluable in helping the author complete this project and achieve this degree.

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9. To my beloved car, thank you for faithfully accompanying me throughout my journey, from junior high school and high school to university, and for safely carrying me through countless journeys until the day I finally earned my bachelor's degree.
10. Finally, to the three albums that accompanied me throughout countless hours of working on this project: Graduation by Kanye West, Days Before Rodeo by Travis Scott, and Blonde by Frank Ocean. Thank you for providing the soundtrack to this journey and for helping me stay inspired and motivated through the long days and nights of completing this project.

For all the assistance, kindness, and dedication given throughout this journey, I sincerely hope that every good deed will be rewarded many times over by Allah SWT. As the author, I am aware that this project is far from perfect and still has room for improvement. I hope that this Final Architecture Design Studio (FADS) project can serve as a reflection to continuously learn and improve, while also providing useful insights and inspiration for future readers exploring similar contexts and design approaches.

Yogyakarta, 1 September 2026

Yogyakarta, 1 September 2026



Muhammad Erlangga Yubi Agfarizky

ABSTRACT

This final project proposes the design of Tetemuan Resort in Selong Belanak, Lombok, focusing on thermal comfort through the adaptation of Sasak architectural principles. The design integrates local building and spatial concepts with passive cooling strategies such as building orientation, clustered massing, wind pockets, shading, vegetation, and natural ventilation. A layered spatial layout is applied to create a transition between public, communal, and private areas while maintaining privacy and user comfort. Computational Fluid Dynamics (CFD) simulation is used to evaluate wind flow and assess the environmental performance of the proposed design. The project demonstrates how local architectural principles can be adapted into a contemporary resort design while responding to the tropical climate and enhancing thermal comfort.

ABSTRAK

Proyek akhir ini mengusulkan perancangan Tetemuan Resort di Selong Belanak, Lombok, dengan fokus pada kenyamanan termal melalui adaptasi prinsip-prinsip arsitektur Sasak. Perancangan mengintegrasikan konsep bangunan dan tata ruang lokal dengan strategi pendinginan pasif seperti orientasi bangunan, massa bangunan berkelompok, wind pocket, peneduhan, vegetasi, dan ventilasi alami. Tata ruang berlapis diterapkan untuk menciptakan transisi antara area publik, komunal, dan privat dengan tetap mempertahankan privasi serta kenyamanan pengguna. Simulasi Computational Fluid Dynamics (CFD) digunakan untuk mengevaluasi aliran angin dan menilai performa lingkungan dari rancangan yang diusulkan. Proyek ini menunjukkan bagaimana prinsip arsitektur lokal dapat diadaptasi ke dalam desain resor kontemporer dengan merespons iklim tropis serta meningkatkan kenyamanan termal.

TABLE OF CONTENT

CHAPTER 1: Introduction..... 9
1.1 Design Premise..... 10
1.2 Background..... 11
1.2.1 Resort Development in Lombok..... 12
1.2.2 Local Lombok Architecture..... 13
1.2.3 Thermal Comfort Design Approach..... 14
1.2.4 Thermal Comfort Approach on Resort..... 15
1.2.5 Sasak Architecture Implementation..... 16
1.3 Problem Statement and Objective..... 17
1.4 Design Method..... 18
1.5 Design Framework..... 19
1.6 Literature Review, Originality, & Novelty..... 24

CHAPTER 2 : Design Study & Analysis..... 25
2.1 Lombok Island..... 26
2.2 Passive Thermal Comfort Design..... 27
2.2.1 Passive Design Theory..... 27
2.2.2 Thermal Comfort Theory in Design..... 28
2.2.3 Thermal Comfort Standart..... 29
2.2.4 Heat Movement..... 30
2.2.4.1 Conduction..... 30
2.2.4.2 Convection..... 30
2.2.4.3 Radiation..... 30
2.3 Sasak Tribe..... 32
2.3.1 Sasak Tribe Culture..... 32
2.3.2 Sasak Architecture..... 33
2.3.3 Sasak Spatial Design..... 34
2.3.4 Sasak Building..... 37
2.3.4.1 Bale Tani..... 37
2.3.4.2 Bale Lumbung..... 42
2.3.4.3 Berugaq..... 44
2.4 Resort..... 46
2.4.1 Resort Hotel Definition..... 46
2.4.2 Resort Type and Standart..... 47
2.5 Precedents..... 50
2.5.1 Aman Puri..... 50
2.5.2 Alila Manggis..... 51
2.6 Room Type and Standart..... 52
2.6.1Standart Room..... 52
2.6.2 Deluxe Room..... 52
2.6.3 Private Villa..... 52
2.6.4 Family Villa..... 52
2.7 Materiality..... 53
2.8 Site Location & Analysis..... 54
2.8.2 Accessibility..... 55
2.8.3 Climate Data..... 56
2.8.4 Topography Data..... 60
2.8.5 Site Regulation..... 61

CHAPTER 3: Design Concept..... 62
Design Concept Focus..... 63
3.1 Main Idea..... 63
3.2 Site Development..... 64
3.2.1 Site Development According to Site Usage Regulation..... 64
3.2.2 Site Zoning..... 65
3.2.3 Space Arrangement..... 68
3.2.4 Site Development Landscape Concept to Respond Climate Data..... 69
3.2.5 Site Development Landscape Concept to Respond Sasak Principle..... 70
3.3 Property Size Usage..... 71
3.3.1 Property Size Concept According to Regulation Needs..... 71
3.3.2 Property Size Concpet According Zoning Category..... 73
3.4 Building Form..... 74
3.4.1 Building Form Concept According to Zoning Building Orientation..... 74
3.4.2 Building Form Concept According to Climate Respond..... 75
3.4.3 Building Form Concept According to CFD and Dialux Analysis..... 77
3.4.4 Building Form Concept According to Sasak for Passive Cooling..... 78
3.5 Spatial Design and Layout..... 79
3.5.1 Spatial Design Concept According to Climate Analysis..... 80
3.5.2 Spatial Design Concpet According to Sasak Principle..... 83
3.5.3 Spatial Design Concept According to Site Location..... 85
3.6 Landscaping..... 86
3.6.1 Green Space Landscaping Concept According to Climate Data..... 86
3.7 Building Structure..... 87
3.7.1 Building Structure Concept According to Climate & Room Function..... 87
3.7.2 Building Structure Concpet According to Adaptation from Sasak..... 88
3.8 Building Envelope..... 89
3.9 Building Material..... 90

TABLE OF CONTENT

CHAPTER 4: Design Result & Proof.....91
4.1 Final Massing 92
4.1.1 Final Massing by Concept aspects.....92
4.1.2 Final Massing According To CFD simulation Result.....93
4.1.3 Final Massing According to Dialux Simulation Result.....94
4.2 Master Plan..... 95
4.3 Site Plan..... 96
4.3.1 Entrance Circulation..... 96
4.3.2 Resort's Guest Circulation.....97
4.4 Floor Plan..... 98
4.5 Section.....100
4.6 Elevation.....103

CHAPTER 5: Design Evaluation.....104
5.1 Comprehensive Evaluation Design Notes.....105
5.2 Design Improvement.....106
5.2.1 New Design Development Simulation.....106
5.2.2 The Change in the Mass Site Planning.....110
5.2.3 Spatial Design Concept According to Sasak Principle.....111
5.2.4 The Change in the Building Shape.....112
5.2.5 Design According to Sasak Principle for Passive Cooling.....114
5.2.6 Structure Concept According to Climate and Sasak Principle.....115
5.2.7 Villa Development Concept.....116
5.2.8 Main Idea Relevance.....117
5.3 Final Design Development.....120
5.3.1 Situation Plan.....120
5.3.2 Site Usage.....121
5.3.3 Block Plan.....122
5.3.4 Site Plan.....123
5.3.5 Building Plan.....125
5.3.6 Elevation.....131
5.3.7 Site Section.....138
5.3.8 Section.....139
5.3.9 Foundation Plan & Detail.....145
5.3.10 Air Flow & Natural Ventilation Private Villa 146
5.3.11 Air Flow & Natural Ventilation Guest Villa.....147
5.3.12 Roof Design.....148
5.3.13 Facade Design.....149
5.3.14 Roof Design Detail.....150
5.3.15 Detail Barrier Free.....151
5.3.16 Difable Villa Access.....152
5.3.17 Transportation Circulation.....153
5.3.18 Schematic Drawing.....154
5.3.19 Guest Transportation.....158
5.3.20 Private Villa View.....159
5.3.21 Problem Solving.....160
5.3.22 Passive Design Scheme.....161
5.3.23 Landscape Design.....163
5.3.24 Exterior Visualization.....164
5.3.25 Interior Visualization.....166
Reference.....168

CHAPTER 6: Final Design Evaluation.....169
6.1 Final Evaluation Design Notes.....170
6.2 Passive Design Scheme & Cross Ventilation.....171
6.3 Cluster Concept.....172
6.4 Villa Level.....174
6.5 Villa Orientation.....175
6.6 BOH Facilities.....176
6.7 Clean Water Distribution.....177
6.8 Black Water Distribution.....178
6.9 Villa Disabled Access.....179
6.10 Building Material.....180
6.11 Structure Design and Concept.....181

CHAPTER 7: PRODUCT ATTACTHEMENT.....182
7.1 Plagiarism Letter.....183
7.2 Apreb.....184
7.3 Maquette.....185

1 Introduction

DESIGN PREMISE

Lombok is one of the islands experiencing rapid tourism growth and holds significant potential. The increasing number of visitors has encouraged the development of accommodation facilities, especially hotels and resorts. However, among the many developments in Lombok, only a few truly implement and introduce the values of the local architecture, namely Sasak architecture, in a meaningful way.

Most existing resorts tend to adopt only the visual aspects such as roof forms and building appearances, without understanding the underlying principles behind them. In fact, Sasak architecture embodies highly relevant principles, ranging from climate responsive passive thermal design to structural systems that are efficient and adaptive to environmental conditions. Therefore, it is important to integrate the principles of Sasak architecture along with its local values into accommodation design, particularly resort hotels, not only to achieve comfort but also to introduce Lombok's cultural identity to visitors.







BACKGROUND ISSUE

Designing a Comfort oriented Resort in Lombok with a Vernacular based adaptive architecture approach with the aim of creating comfortable residences and highlighting the principles of local life values of the Sasak Community on Lombok Island. Comfort is one of the main elements that needs to be considered in designing buildings and spaces. Therefore, this project focuses on one type of comfort, namely thermal comfort. Thermal comfort is a condition when a person feels satisfied with the temperature of the surrounding environment, in the sense of not feeling too hot or too cold. To create a good environment, thermal comfort has become an important focus in various studies (Zhao, Lian, & Lai, 2021). The thermal environment is one of the main factors that influences the level of thermal comfort, and has a direct impact on the productivity of occupants in a building (Bueno, Xavier, & Broday, 2021). Thermal comfort can also influence a person's perception and level of satisfaction with the building and environment they occupy. Especially in buildings with intensive activities involving users and workers, such as resorts, the thermal aspect is a very important factor in supporting staff performance and productivity. According to Bueno, Xavier, and Broday, individuals tend to work more productively when they are in thermally comfortable conditions. Therefore, design that is able to provide optimal thermal comfort is the key to creating a building environment that is not only comfortable, but also supports the activities and performance of its users. Apart from thermal comfort, this resort project also aims to implement the values of the architectural principles of local Sasak architecture.

Resort hotels are a type of hotel accommodation which are generally located in or near tourist areas and provide lodging, recreation and relaxation facilities (Boekoesoe, Syukri, & Djailani, 2023). In Lombok, resorts are one of the business segments that is growing rapidly. However, there are not many resorts that really highlight Sasak architectural principles in depth. The Sasak people themselves integrate their lifestyle patterns into building design and spatial planning. Unfortunately, most resorts currently tend to only adopt aesthetic aspects, such as the shape of the roof and the appearance of the building, without implementing the principles or patterns of life of the Sasak community as a whole.

Sasak architecture is an interesting cultural value and deserves to be explored further. Various distinctive elements such as the shape of the house, the layout of the village, as well as the design of the harvest storage barn known as Lumbung Sasak, reflect strong local wisdom. Traditional architecture itself is the result of architectural thinking that takes into account the context of location and environment, is passed down from generation to generation, and is full of religious, cultural and symbolic values (Susilo & Umniati, 2021). Therefore, this project aims to implement Sasak architectural values into building design and regional planning more comprehensively.

Source: Pinterest.com

RESORT DEVELOPMENT IN LOMBOK

The development of resorts in Lombok is taking place very rapidly, driven not only by the presence of investors and international brands, but also by the government's strategy which is actively directing the growth of the tourism sector. In 2023, the government is targeting an increase in the number of accommodations in the Super Priority Tourism Destination Mandalika, West Nusa Tenggara, by 20 to 30 percent in 2024 in line with the accelerated development of the area (Tourism For Us, 2023). This trend is clearly visible in the Mandalika area which is experiencing a surge in resort development, with a focus on five-star luxury resorts and ecotourism concepts, in line with its position as a leading tourist destination. This growth was also reinforced by the influx of large-scale investment, including projects worth around IDR 2.1 trillion in the Tanjung Aan area (Inside Lombok, 2025). This condition shows that Lombok is not only growing in quantity, but also opens up great opportunities to present a design approach that is more contextual, sustainable and rooted in local identity.

NUMBER OF ACCOMMODATIONS IN LOMBOK

BY BADAN PUSAT STATISTIK PROVINSI NUSA TENGGARA BARAT

REGENCY/CITY	Number of Available Accommodations in Star-Rated Hotels	Number of Available Rooms in Star-Rated Hotels	Number of Available Beds in Star-Rated Hotels
WEST LOMBOK	34	2.710	3.332
CENTRAL LOMBOK	17	1.812	2.167
EAST LOMBOK	3	174	184
NORTH LOMBOK	74	5.485	5.836
MATARAM CITY	32	2.818	4.386
TOTAL	**160**	**12.999**	**15.905**

Updated: February 13th 2026

Based on data from the West Nusa Tenggara Province Central Statistics Agency, the number of accommodation in Lombok was recorded at 160 units. The distribution shows that North Lombok has the largest number of accommodations with 72 units, while East Lombok has the least amount, namely only 3 units.

Source: Badan Pusat Statistik Provinsi NTB, 2026.

SASAK ARCHITECTURE

Lombok has a local tribe, namely the Sasak tribe, which has very interesting architectural values. Sasak architecture reflects a deep integration between environmental responsiveness, cultural values, and daily living patterns. Rather than being driven purely by visual expression, it is shaped by climate, social structure, and available local materials, resulting in buildings that are both functional and meaningful.

The main elements in this architecture include traditional buildings such as Bale Tani (residential house), Berugak (open hall), and Lumbung (rice barn). These buildings generally use natural materials such as bamboo, wood, thatched roofs, and earth, which are not only environmentally friendly but also support thermal comfort through passive strategies such as natural ventilation, heat protection, and lightweight construction.

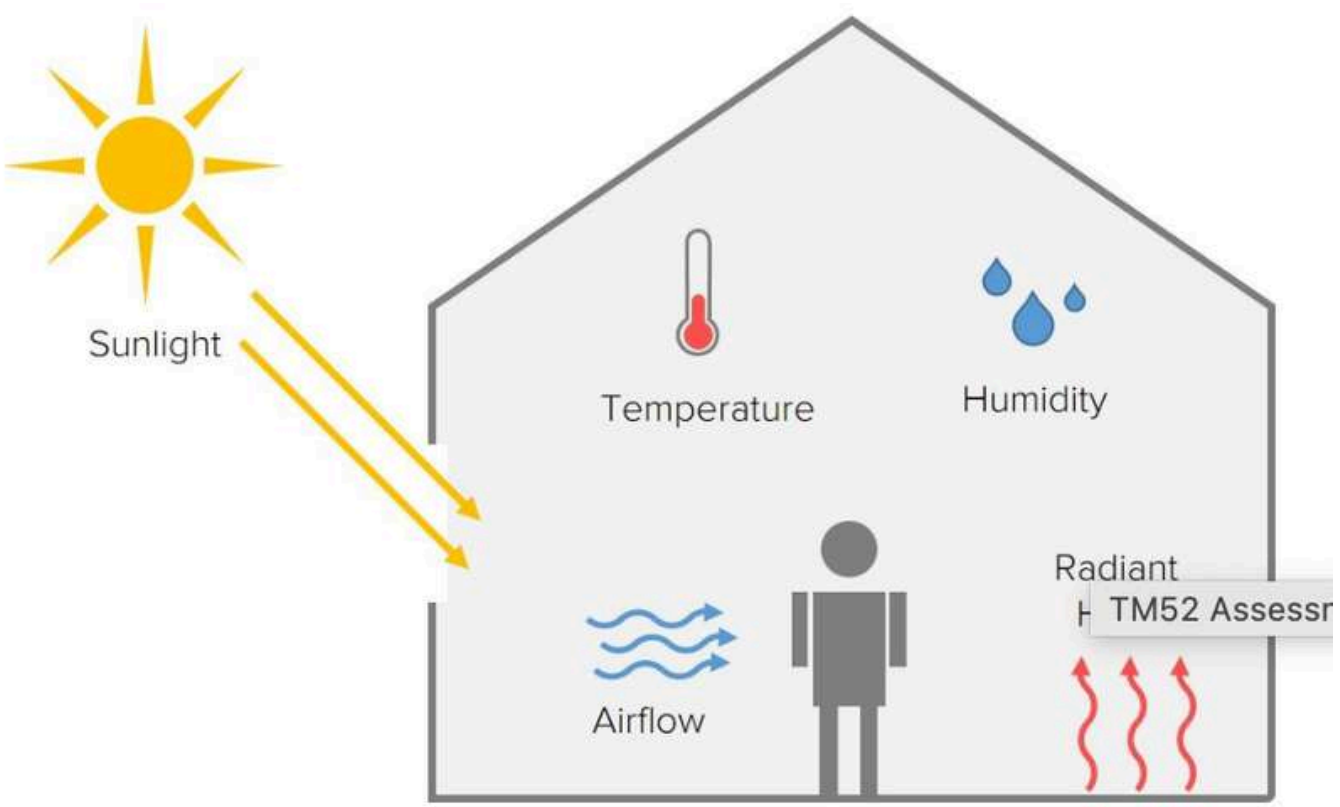
Spatially, Sasak architecture emphasizes openness and communal life. Activities not only take place within closed spaces, but also extend to semi-open spaces and outdoor spaces, creating a unified relationship between the building and the environment. This approach allows for optimal air circulation and a comfort experience that is more adaptive to Lombok's tropical climate.

Overall, Lombok's local architecture shows that comfort, sustainability and cultural identity can be achieved through a holistic design approach, which is able to respond to human needs as well as environmental conditions in a balanced way.

PASSIVE THERMAL COMFORT APPROACH AS DESIGN APPROACH

Thermal comfort is a psychological condition that reflects a person's level of subjective satisfaction with the surrounding thermal environment (ASHRAE Standard, 2020). In an effort to achieve thermal comfort, a thermal index has been developed as an indicator that takes into account parameters that have been proven to be influential, such as metabolic rate, type of clothing, air temperature, wind speed and humidity (Sugini, 2004).

To achieve and meet thermal comfort parameters, passive cooling design can also be done. The basic principles of passive design in a humid tropical climate like Indonesia include shading, cooling, humidification and natural ventilation (Nugroho, 2019). Shading is related to controlling solar heat radiation that hits a building through orientation, roof shape, and building envelope materials. Natural ventilation functions to regulate the entry of heat from outside while removing heat from inside the building through the thickness, type and material of the walls. Humidification relates to regulating humidity to remain comfortable, for example by raising the floor to prevent the accumulation of water vapor in the room. Meanwhile, cooling is related to creating optimal wind flow and speed to balance air temperature and humidity, which is achieved through the size, position and type of openings as well as the orientation of the building towards the local wind direction (Nugroho, 2024).



Source: Green Gauge

PASSIVE THERMAL COMFORT APPROACH ON RESORT

Thermal comfort in resorts has a very important role in determining guest satisfaction, with various studies showing that thermal discomfort contributes to more than 35% of negative hotel reviews, thus confirming the large influence of indoor environmental quality on user experience (Alhaj, 2021). In this project, a passive thermal comfort design approach was chosen by considering the climatic and geographical conditions of Lombok, which has a tropical climate, and is supported by the local wisdom of the Sasak people who have long applied similar principles in their residences and barns through passive cooling and cross-ventilation strategies, demonstrating that climate-responsive design can effectively create comfort without a high reliance on mechanical systems.

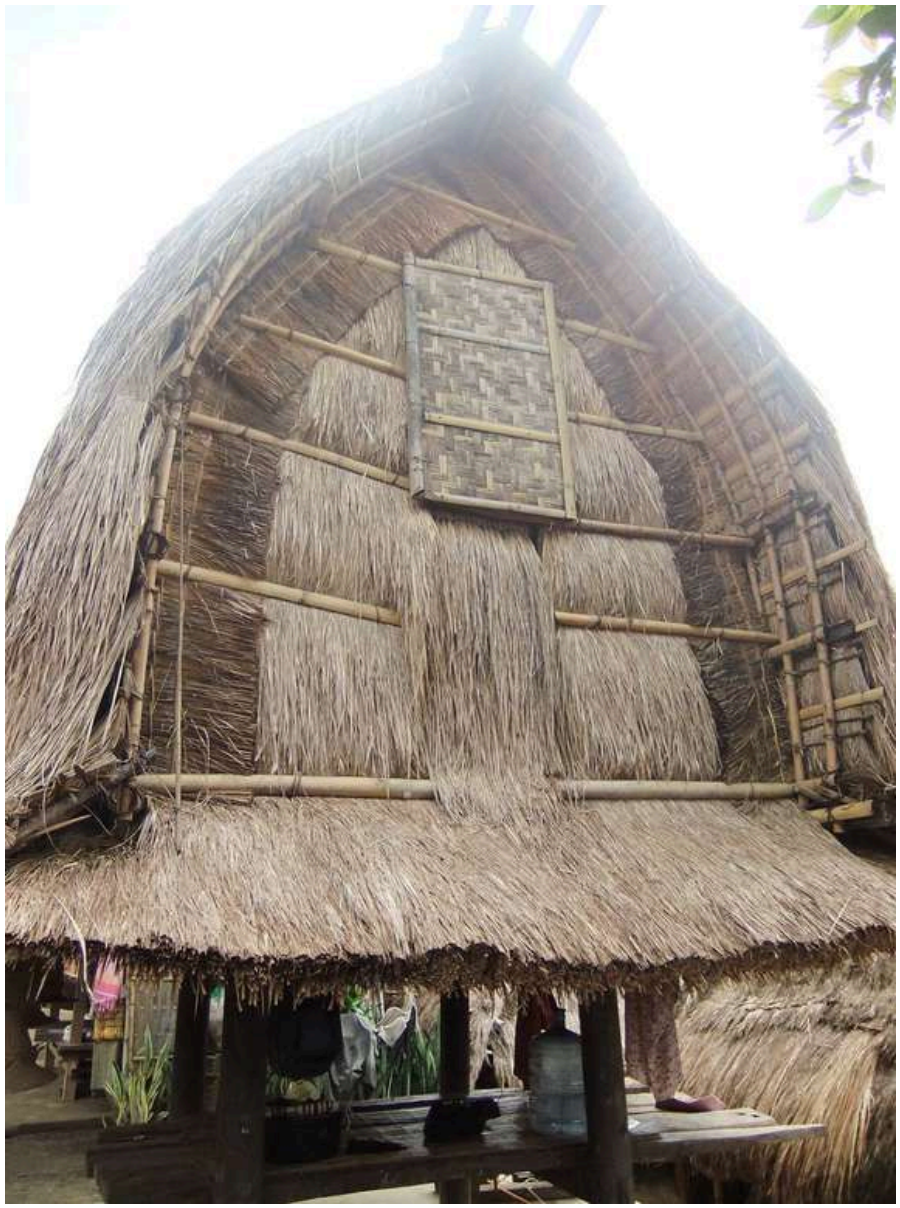
Source: Badan Pusat Statistik Provinsi NTB, 2026.

SASAK ARCHITECTURE IMPLEMENTATION

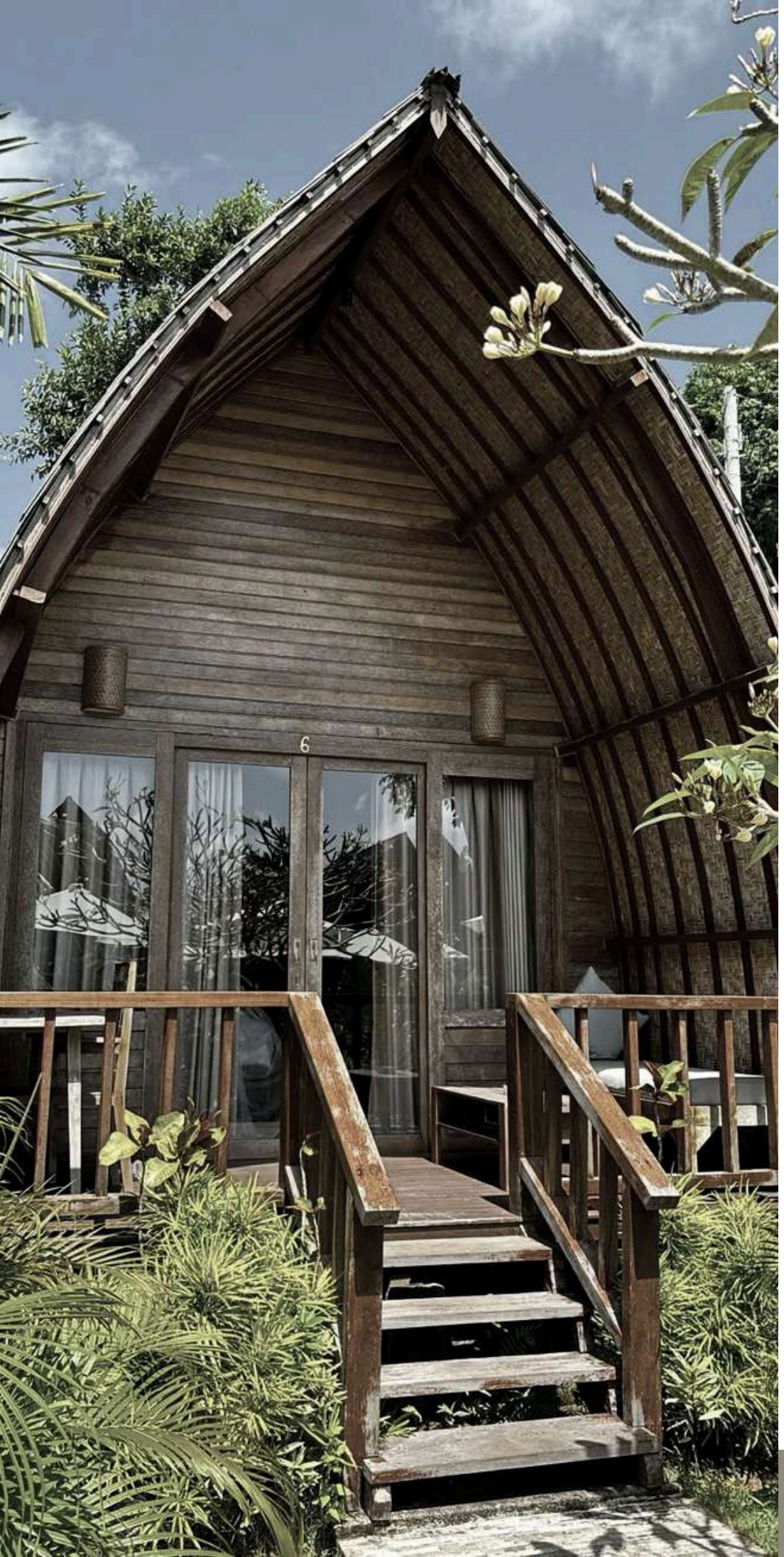
Sasak architecture has various unique principles that were formed through adaptation to environmental conditions and the cultural habits of its people. These principles are reflected in spatial arrangements, building types, and distinctive and contextual structural systems. The Sasak settlement pattern shows a close relationship between function, social activities and the environment, where space is not only understood as a physical container, but also as a representation of the cultural values and way of life of the people. This approach makes Sasak architecture not just aesthetically oriented, but rather an integrated system between humans, buildings and nature. Therefore, these principles have great potential to be adapted in resort design that not only emphasizes visual aspects, but also spatial experience and sustainability.

In addition, the Sasak people have long implemented passive design strategies as a response to the tropical climate. Implementing cross ventilation in rice barns functions to maintain air circulation so that humidity remains stable and the quality of the harvest is maintained. In residential buildings such as Bale Tani, the use of high roofs and spacious interiors allows hot air to move up and out of the space, thus creating naturally cooler conditions. This shows that Sasak architecture has developed an effective natural cooling system without relying on modern technology, as well as being a clear example of how climate-responsive design can improve thermal comfort in a sustainable manner.

More broadly, Indonesian architecture is knowledge passed down from generation to generation in designing spaces that are in harmony with geoclimatic conditions. Even though it has undergone various changes over time, efforts to preserve it are still carried out by integrating local cultural values into contemporary architectural design (Fasya & Arfianti, 2025). Therefore, it is hoped that the Teteman Resort project can be an effort to preserve and introduce local cultural values to tourists, both domestic and foreign, amidst the rapid development of tourism in Lombok.



Source: Midori



PROBLEM STATEMENT & OBJECTIVE

Most **resorts in Lombok** tend to adopt local architecture **only** at a **visual level, such as mimicking roof forms and building silhouettes**, resulting in designs that appear contextual but lack deeper cultural meaning. This approach often **reduces Sasak architecture to a stylistic reference rather than a system of living that is rooted in daily practices, environmental adaptation, and social structure.** As a result, aspects such as thermal comfort are often addressed through mechanical systems rather than through building, spatial and environmental design strategies.

In contrast, **this project** moves beyond visual imitation by reinterpreting **how local communities live, move, and gather as the foundation for spatial design.** The patterns of daily life such as communal interactions, transitional spaces, and the relationship between private and shared areas are translated into a new spatial system for the resort. At the same time, principles of thermal comfort found in Sasak architecture such as natural ventilation, shading, material selection, and spatial layering are integrated to create a passive and climate-responsive environment. By combining cultural patterns with thermal strategies, the design aims to produce a resort that is not only visually representative, but also environmentally adaptive, comfortable, and rooted in local intelligence.

Source: Pinterest.com

DESIGN METHOD

1 *PROBLEM IDENTIFICATION*

Problem Identification: This stage aims to identify the main issues that form the basis of the design. In the context of Lombok, the rapid development of resorts has not been balanced with the in-depth application of local Sasak architectural principles, and there is still a high dependence on mechanical cooling systems. This problem is a starting point for formulating a design approach that is more contextual, sustainable and climate responsive.

2 *RESEACH OBJECTIVE*

Research Objective: At this stage, the main objectives of the design are determined. The focus is to integrate Sasak architectural principles into the resort design while optimizing thermal comfort through passive strategies. This goal guides every design decision to remain consistent with local values and environmental performance.

3 *DATA COLLECTION*

Data Collection: Data collection is carried out to obtain relevant information as a basis for analysis. Primary data includes site conditions such as climate, wind direction, solar intensity and topography. Meanwhile, secondary data includes literature studies regarding thermal comfort, Sasak architecture, and applicable standards. This stage ensures that the design is based on valid and contextual data.

4 *DATA ANALYSIS*

Data Analysis: The data that has been collected is then analyzed to understand the condition and potential of the site. The analysis includes climatic aspects such as wind movement, temperature and humidity, as well as architectural analysis such as spatial patterns and passive strategies in Sasak architecture. The results of this analysis become the basis for formulating appropriate design concepts.

5 *CONCEPT DEVELOPMENT*

Concept Development: This stage is the process of formulating the main idea which will become the basis for the design. The concept was developed by combining the lifestyle of the Sasak people with a thermal comfort approach. The result is a design idea that not only adopts form, but also translates space values and systems into a resort context.

6 *DESIGN STRATEGY*

Design Strategy: This stage is the process of formulating the main idea which will become the basis for the design. The concept was developed by combining the lifestyle of the Sasak people with a thermal comfort approach. The result is a design idea that not only adopts form, but also translates space values and systems into a resort context.

7 *SIMULATION & EVALUATION*

Simulation & Evaluation: At this stage, design performance testing is carried out through simulations such as CFD (Computational Fluid Dynamics) and sun path analysis. CFD is used to analyze air flow, wind speed, and heat distribution in buildings, while sun path analysis helps understand the movement of the sun to determine building orientation, shading strategies, and control heat radiation. The results of this evaluation ensure that the resulting design is climate responsive and able to achieve optimal thermal comfort.

8 *DESIGN OUTPUT*

Design Output: At this stage, design performance testing is carried out through simulations such as CFD (Computational Fluid Dynamics) and sun path analysis. CFD is used to analyze air flow, wind speed, and heat distribution in buildings, while sun path analysis helps understand the movement of the sun to determine building orientation, shading strategies, and control heat radiation. The results of this evaluation ensure that the resulting design is climate responsive and able to achieve optimal thermal comfort.

Source: Pinterest.com

BACKGROUND

The resort is designed based on the principles of Sasak architecture combined with a thermal comfort approach, aiming to both introduce and preserve local cultural values. Despite Lombok's rapid growth as a major tourist destination and the significant increase in visitors, the integration of local identity remains limited. In particular, Sasak architecture, which embodies deep and unique principles, is often underrepresented. While some resorts and hotels attempt to adopt elements of Sasak architecture, most implementations remain superficial, focusing primarily on visual aspects rather than fully integrating its underlying spatial, cultural, and environmental principles.

ARCHITECTURAL ISSUE

- Many resorts only adopt visual elements such as roof forms and materials without translating the spatial system, living patterns, and cultural values of Sasak architecture into the overall design.
- There is also a lack of climate-responsive design, as resorts still rely heavily on air conditioning and mechanical systems instead of optimizing passive thermal strategies such as cross ventilation, building orientation, and shading.
- In addition, local structural systems and materials, which are lightweight, flexible, and adaptive, are not yet optimally utilized in modern architectural design.

NON-ARCHITECTURAL ISSUE

- Globalization of Resort Design. The presence of international brands brings global design approaches that often overlook local context and cultural identity.
- Tourism Growth vs Cultural Identity. Tourism development in Lombok tends to focus more on economic growth rather than the preservation of local cultural values.
- Lack of Awareness of Local Value

GENERAL ISSUE

How to design a resort in Lombok that integrates Sasak architectural principles with a passive thermal comfort approach, responds effectively to the tropical climate, and utilizes locally sourced building materials.

SPECIFIC ISSUE

How can Sasak architectural principles be translated beyond visual elements into spatial systems, cultural patterns, and architectural logic within resort design?

- Spatial Design
- Local Value and Culture

How can passive thermal design strategies such as cross ventilation, shading, and building orientation be effectively applied to achieve thermal comfort in Lombok's tropical climate?

- Comfort
- Orientation
- Cross Ventilation

How can locally sourced materials and traditional structural systems be adapted into modern resort design while maintaining performance, sustainability, and authenticity?

- Local Material
- Structure
- Performance

APPROACH

PASSIVE THERMAL COMFORT DESIGN

METHOD

DESIGN SIMULATION ANALYSIS USING CFD AND SUN PATH ANALYSIS

VARIABLE

COMMON VARIABLE:
CONTEXT & IDENTITY

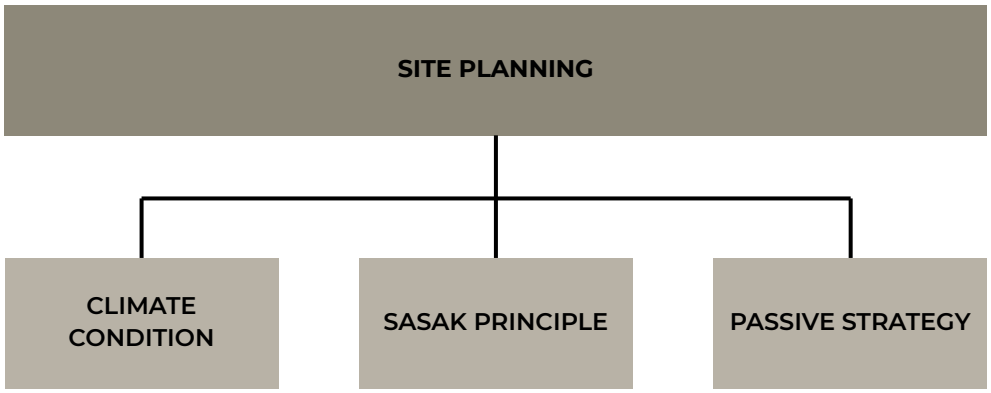
SPECIFIC VARIABLE:
USER & COMFORT

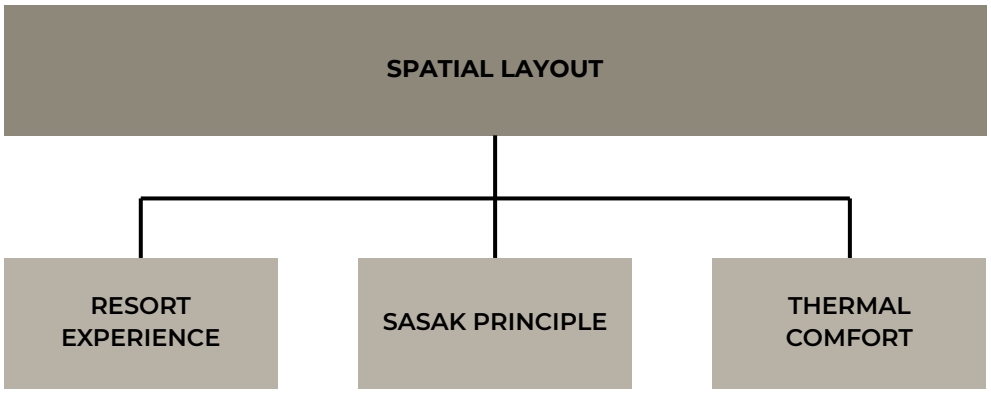
DETAIL VARIABLE:
ARCHITECTURAL SYSTEM

Source: Author, 2026

OBJECT	SASAK BASED CLIMATE RESPONSIVE RESORT WITH THERMAL COMFORT					
VARIABLE	COMMON VARIABLE **CONTEXT & IDENTITY** LOMBOK TOURISM GROWTH CLIMATE CONDITION TROPICAL, HOT - HUMID, WINDY		SPECIFIC VARIABLE **USER & COMFORT** RESORT EXPERIENCE PRIVACY, SOCIAL, LEISURE, SERVICE THERMAL COMFORT GUEST & STAFF		DETAIL VARIABLE **ARCHITECTURAL SYSTEM** SPATIAL CONFIGURATION CLUSTER, TRANSITION, HIERARCHY PASSIVE ENVIRONMENT STRATEGY VENTILATION, SHADING, VEGETATION MATERIAL LOCAL MATERIAL, ROOF, SHADING	
PARAMETERS/ CRITERIA	**A** CLIMATE CONDITION HEAT, HUMIDITY SOLAR RADIATION WIND DIRECTION	**B** RESORT EXPERIENCE PRIVACY INTERACTION JOURNEY VIEW & CONNECTION	**C** SASAK PRINCIPLE GATHERING SPATIAL HIERARCHY MOVEMENT PATTERN	**D** THERMAL COMFORT AIRFLOW TEMPERATURE HUMIDITY	**E** PASSIVE STRATEGY VENTILATION SHADING VEGETATION	**F** LOCAL MATERIAL WOOD, BRICK, STONE, ROOFING
ARCHITECTURE ASPECT	**1** SITE PLANNING ORIENTATION ZONING LANDSCAPE & VEGETATION WIND & SUN RESPONSE	**2** SPATIAL LAYOUT CLUSTER CONFIGURATION PUBLIC - SEMI - PRIVATE COURTYARD & TRANSITION SPACE HIERARCHY	**3** BUILDING FORM MASSING ROOF FORM ELEVATION CLIMATE RESPONSE	**4** CIRCULATION & EXPERIENCE FLOW SEQUENCE THRESOLD & TRANSITION OUTDOOR - INDOOR FLOW	**5** STRUCTURE & MATERIAL LOCAL MATERIAL STRUCTURE SYSTEM DURABILITY	**6** ENVELOPE SYSTEM ROOF CONSTRUCTION WALL & OPENING DESIGN SHADING VENTILATION STRATEGY
CONNECTIONS	1 - A, C, E	2 - B, C, D	3 - A, D, E, F	4 - B, C , D	5 - C, D, E, F	6 - D, E ,F
DESIGN CONCEPT	ADAPTIVE THERMAL COMFORT THROUGH SASAK ARCHITECTURE PRINCIPLES					
DESIGN & MODELLING	SITE PLAN	FLOOR PLAN	SECTION	ELEVATION	DETAIL	AXONOMETRIC
DESIGN & MODELLING	CFD WIND SIMULATION			SUN PATH ANALYSIS		
FINAL RESULT	CLIMATE RESPONSIVE RESORT WITH PASSIVE THERMAL COMFORT AND CULTURAL INTEGRATION					

Source: Author, 2026





Climate Condition

Wind-Oriented Site Planning

- Building placement follows prevailing wind directions.

Solar Responsive Zoning

- Functions are arranged based on sun exposure throughout the day.

Climate Buffer Landscape

- Vegetation used as protection from heat, wind, and glare.

Topography-Driven Planning

- Layout responds to natural landform and drainage patterns.

Environmental Site Response

- Planning minimizes disturbance to existing natural conditions.

Sasak Principle

Village-Inspired Settlement Pattern

- Site organized like a contemporary Sasak village.

Central Gathering Space

- A communal courtyard or bale acts as the heart of the development.

Hierarchy of Zones

- Public, semi-public, and private zones follow traditional spatial hierarchy.

Cultural Landscape Structure

- Open spaces support social interaction and community activities.

Passive Strategy

Wind Corridor Planning

- Open spaces positioned to channel natural airflow across the site.

Shaded Landscape Network

- Different site zones are planned to maximize thermal comfort naturally.

Landscape as Environmental Infrastructure

- Vegetation becomes part of the cooling and shading strategy, not just aesthetics.

Resort Experience

Journey Before Destination

- The path to each villa becomes part of the experience.

Layered Privacy

- Clear transition from public to semi-private to private spaces.

Discovery Space

- Views and spaces are revealed gradually.

View-Oriented Layout

- Spatial arrangement is driven by key views and visual connections.

Sasak Principle

Village Cluster

- Layout inspired by the spatial organization of a Sasak village.

Courtyard Gathering

- Shared courtyards become social hubs.

Spatial Hierarchy

- Spaces arranged according to cultural levels of privacy.

Organic Arrangement

- Buildings positioned in a natural, non-rigid pattern.

Thermal Comfort

Wind Pocket Courtyard

- Courtyards capture and distribute natural airflow.

Cross Ventilation Layout

- Building spacing creates wind corridors.

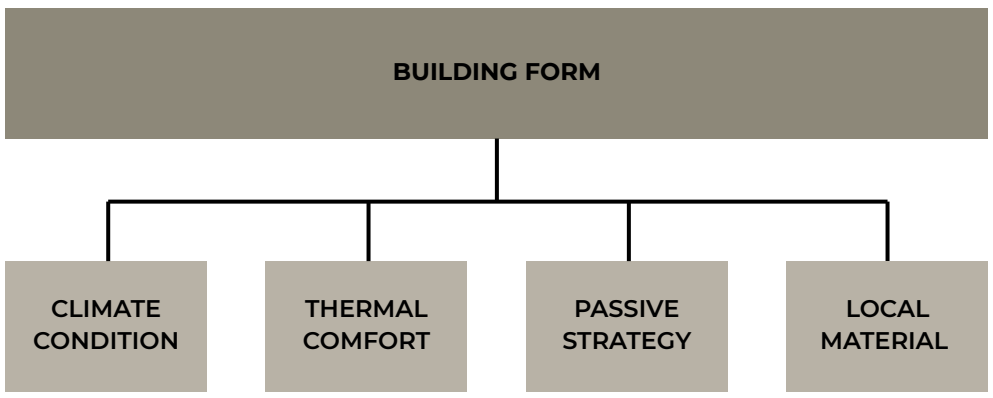
Shaded Transition Spaces

- Verandas and covered walkways provide thermal buffering.

Microclimate Clusters

- Each cluster creates its own comfortable microclimate.

Source: Author, 2026



Climate Condition
Wind-Shaped Form
- Building massing responds to prevailing wind directions.

Elevated Building
- Raised floor systems improve airflow underneath.

Climate-Adaptive Massing
- Building geometry is shaped by local climate conditions.

Thermal Comfort
Ventilated Roof Form
- Roof design promotes heat exhaust and airflow.

High Volume Interior
- High ceilings improve thermal comfort.

Airflow-Oriented Form
- Building shape encourages natural ventilation.

Passive Strategy
Deep Overhang Roof
- Large roof overhangs provide shading.

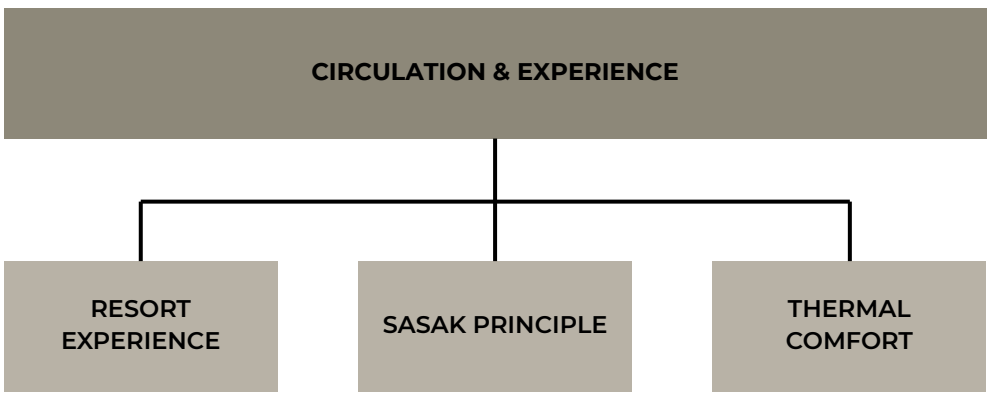
Vegetation-Integrated Form
- Building form works together with landscape.

Self-Shading Massing
- Architectural form creates its own shaded areas.

Local Material
Material-Driven Form
- Form emerges from the logic of local materials.

Contemporary Vernacular Form
- Modern interpretation of traditional architecture.

Stone Base, Timber Upper Structure
- Combines thermal mass and lightweight construction.



Resort Experience
Storytelling Journey
- Movement through the resort unfolds as a sequence of experiences.

View Reveal
- Views are revealed progressively along the path.

Slow Resort Movement
- Encourages guests to slow down and engage with the environment.

Sasak Principle
Village Pathway
- Circulation inspired by Sasak village pathways.

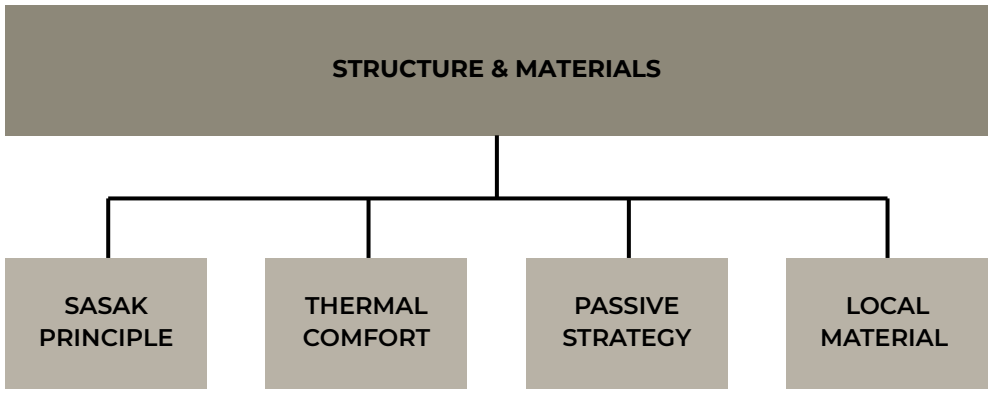
Community Nodes
- Social gathering points placed along circulation routes.

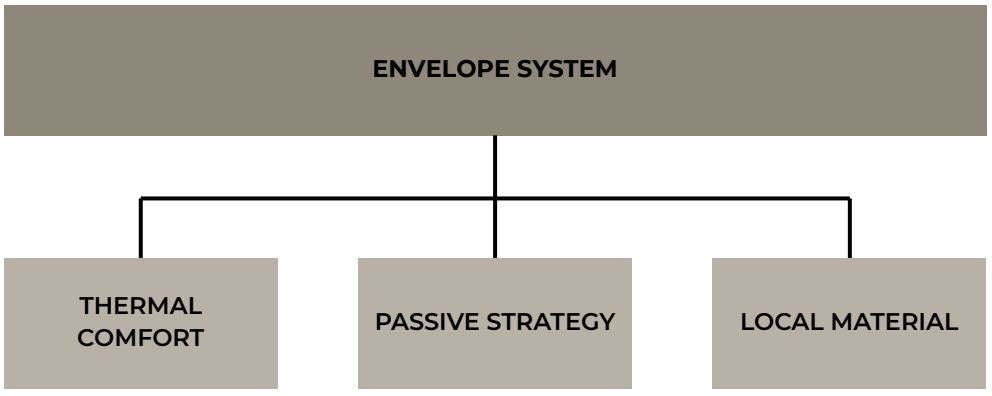
Bale Network
- Traditional bale-inspired spaces become orientation points.

Thermal Comfort
Shaded Walkways
- Pedestrian routes remain protected from direct sun.

Breezeway Circulation
- Pathways aligned with prevailing winds.

Source: Author, 2026





Sasak Principle
Traditional Structural Logic
- Contemporary adaptation of local building techniques.

Community Craftsmanship
- Incorporates local construction knowledge and skills.

Bale-Inspired Structure
- Structural systems inspired by traditional Sasak bale architecture.

Thermal Comfort
Thermal Mass Strategy
- Stone and masonry stabilize indoor temperatures.

Breathable Structure
- Construction allows natural airflow through the building.

Lightweight Upper Structure
- Reduces heat retention in upper building elements.

Climate-Responsive Materials
- Materials selected based on thermal performance.

Passive Strategy
Ventilated Wall System
- Wall assemblies support airflow and cooling.

Adaptive Shading Structure
- Structural elements provide passive shading.

Passive Structural Layer
- Structure functions as part of the environmental strategy.

Local Material
Local Craft Construction
- Prioritizes locally sourced materials and craftsmanship.

Material Authenticity
- Materials are expressed honestly and naturally.

Regional Identity
- Material palette reflects the character of the region.

Thermal Comfort
Breathing Envelope
- Facade systems allow natural airflow.

Heat Reduction Skin
- Building envelope minimizes solar heat gain.

Ventilated Facade
- Air cavities improve thermal performance.

Passive Strategy
Double-Skin Facade
- Secondary layer improves shading and ventilation.

Vegetation Screen
- Greenery functions as a living facade.

Passive Cooling Envelope
- Building skin actively contributes to cooling.

Local Material
Timber Screen System
- Timber louvers and screens provide shading and identity.

Stone Facade Expression
- Local stone becomes a defining architectural element.

Natural Texture Envelope
- Celebrates the tactile qualities of local materials.

Contemporary Vernacular Skin
- Modern facade design rooted in local material culture.

Source: Author, 2026

LITERATURE REVIEW

Nugroho, Hermawan, and Hendriani (2023) designed a resort in Temanggung with a thermal comfort approach as one of the two main approaches used. This research applies several methods, namely literature study, comparative study, field observation, and analysis. In the thermal comfort approach, the main focus is directed at selecting the right materials to achieve optimal thermal performance.

Furthermore, Hotel La Vie of Dix Pièces by Fangjian Xingshe emphasizes a passive cooling design approach as a response to the hot and humid climate in Xiamen (Chan, 2025). This design utilizes natural ventilation as the main strategy to reduce room temperature while improving air quality in the building. To reduce heat due to solar radiation, various elements such as shading devices, double-glazed insulated windows, deeper facades, closed circulation paths, as well as landscape processing including water pools are implemented to create a more comfortable microclimate. All of these passive strategies work in an integrated manner to reduce the building's cooling load before using mechanical systems, thus becoming the basis for energy efficiency efforts.

In another study, similar to research on resorts in Temanggung, Belum Rainforest Resort also focused on material selection to achieve thermal comfort. Belum Rainforest Resort shows the effective application of natural materials in creating comfortable thermal conditions (Hussain, 2014). This research examines various natural materials available around the location and their application in various spaces within the resort, to find out whether the right combination of materials can complement each other to create optimal thermal comfort.

From the studies above regarding resort design that focuses on thermal comfort, there is a gap which will later become research for development. Namely designing a resort with a thermal comfort approach with a passive design that is also inspired by or implements existing local architecture. So it doesn't only focus on Materiality and Passive cooling design, but also introduces and preserves existing local architectural values.

ORIGINALITY AND NOVELTY

TITLE	AUTHOR YEAR	APPROACH	LOCATION	SIMMILIARITY	DIFFERENTIATE
RESORT AREA WITH REGIONALISM ARCHITECTURAL APPROACH AND THERMAL COMFORT IN KLEDUNG TEMANGGUNG	Nugroho, Hermawan, and Hendriani (2023)	Thermal Comfort	Temanggung, Indonesia	Focuses on achieving thermal comfort in resort design through the strategic selection of materials.	Did not implementing local architecture principle to the building design
Global Alliance for Buildings and Construction. Case Study: La vie Of Dix pieces Hotel Resort, Kulangsu Island.	Chan, Y. (2025)	Passive Cooling	Kulangsu Island, China	Focusing on Passive cooling design system to reach Thermal Comfort in Resort Design	The design does not prioritize material selection and lacks the integration of local architectural principles.
Application of Natural Materials in Building Design to Achieve Thermal Comfort in Belum Rainforest Resort, Pulau Banding	Hussain, S.D.B.S. (2014)	Thermal Comfort	Pulau Banding, Malaysia	Focusing on Thermal Comfort aspect in Resort design using Selected Materials with deep research	The design does not incorporate local architectural principles into the overall building design approach.
THERMAL COMFORT ORIENTED RESORT DESIGN THROUGH THE ADAPTION OF SASAK ARCHITECTURE PRINCIPLE IN LOMBOK	Agfarizky, M.E.Y. (2026)	Passive Thermal Comfort	Lombok, Indonesia	Focusing on Thermal Comfort through Passive Design and Material Selection	Adopting and Implementing the Value and Principle of Local Architecture

2 DESIGN STUDY & ANALYSIS



LOMBOK ISLAND, WEST NUSA TENGGARA, INDONESIA

8.3° LS – 8.9° LS. 115.8° BT – 116.7° BT.

Lombok is an island located in West Nusa Tenggara Province, Indonesia, and is part of the Nusa Tenggara Islands group. This island is to the east of Bali, separated by the Lombok Strait, and to the west of Sumbawa. Geographically, Lombok has an area of around 4,725 km² with diverse topography, ranging from coastal areas, hills, to mountains, which is dominated by Mount Rinjani as one of the highest volcanoes in Indonesia. The climate in Lombok is classified as tropical with relatively warm temperatures throughout the year, and is influenced by monsoon winds which form a pattern of rainy and dry seasons. With its rich natural conditions and diverse landscape, Lombok has great potential as a tourism destination, especially in developing resort areas based on natural beauty and local culture.

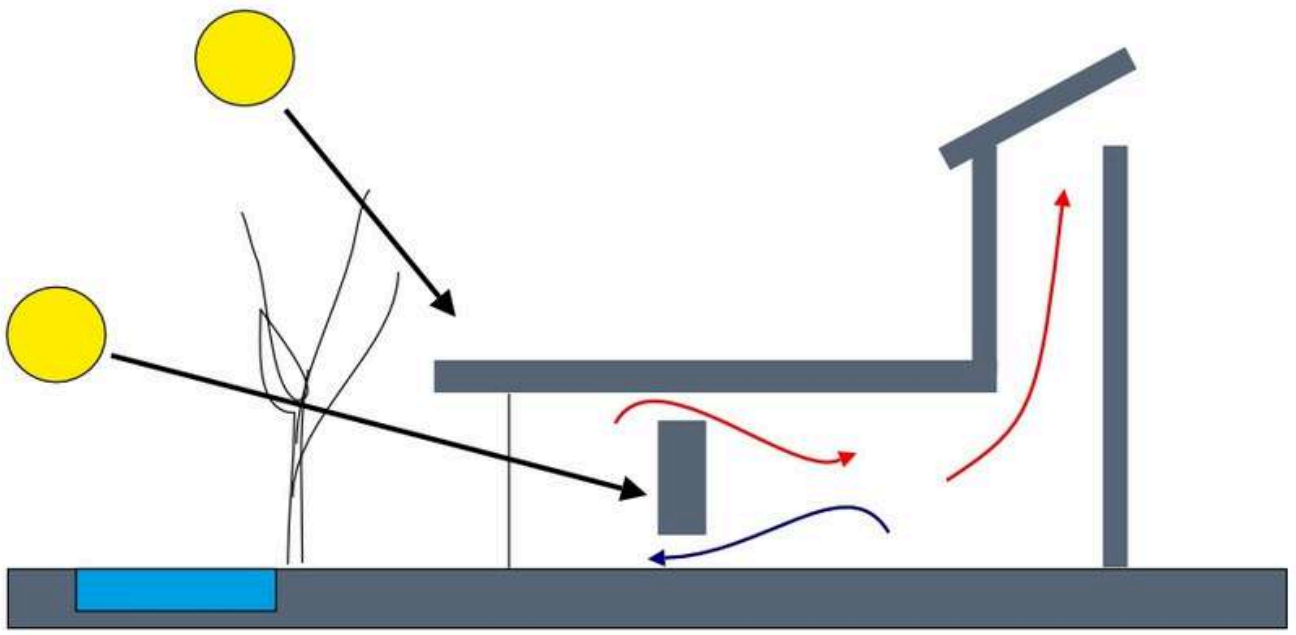
Source: SNI

2.2 PASSIVE THERMAL COMFORT DESIGN

Passive thermal comfort design is an architectural approach that achieves comfortable indoor temperatures by exploiting a building's form, materials, and relationship to climate without relying on mechanical cooling or heating systems. Passive thermal comfort design utilizes climate-responsive strategies such as optimal building orientation, building envelope insulation, natural ventilation, and solar radiation control to improve indoor thermal conditions, while reducing dependence on mechanical heating and cooling systems, so that occupant comfort is increased and energy requirements can be reduced (Rana, 2021). By utilizing site-specific climate data and local materials, passive thermal comfort design aims to reduce overheating in the warm season and minimize heat loss in cooler periods, thereby creating more stable indoor conditions and more efficient energy consumption (Bema, Ozarisoy, 2024). In tropical and hot humid climates, passive thermal comfort strategies such as cross ventilation, high-ceilinged spaces and evaporative cooling elements can help reduce overheating and increase perceived comfort, while aligning with low-energy building principles (Sulistiawan, Putra, Ashsabariah, Kusumanigrini, Desramahendra, 2023).

2.2.1 PASSIVE DESIGN THEORY

Passive design is a building design approach that utilizes natural conditions such as climate, sun, wind and the surrounding environment to create indoor comfort without relying on mechanical systems such as air conditioning or heating. In simple terms, passive design means designing a building to be naturally comfortable through design decisions from the start. Passive design theory views buildings as an integrated system that is responsive to climate, where orientation, building mass, building envelope, and natural energy flows are processed from the early design stages to achieve thermal comfort and energy efficiency with minimal dependence on mechanical systems (Kokatnur et al, 2025). Recent research shows that a combination of passive design elements such as increased insulation, optimization of glass openings, solar radiation control, and natural ventilation can reduce cooling loads and increase indoor thermal comfort by lowering interior temperatures by several degrees Celsius (Ungureanu, 2020).

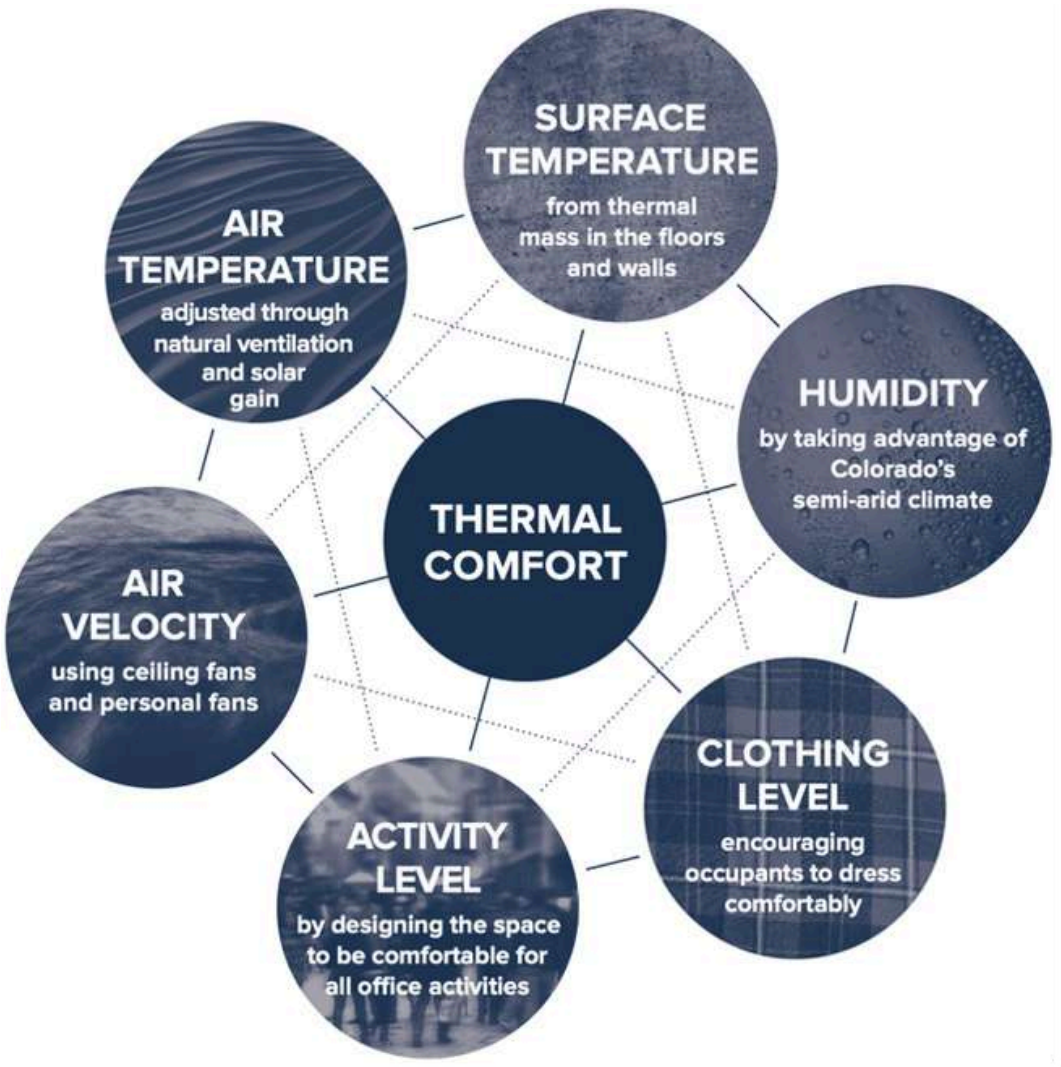


Passive Building Design
Source: Designing Building,2022

THERMAL COMFORT THEORY IN DESIGN

One of the main purposes of a building is to provide comfort, and it impairs neither the health nor performance of the user (D Dear, 2004). To ensure the building occupant's well-being, thermal comfort is part of indoor environmental quality that should be considered (Alias, Kassim, 2023). That's why today thermal comfort has become one of the study fields that often receives attention by researchers due to its importance.

There are some variables that mempengaruhi thermal comfort. Penelitian ekstensif oleh American Society of Heating, Refrigerating and Air-Conditioning Engineers dan Center for the Built Environment di University of California Berkeley menemukan enam variabel yang dapat memprediksi kenyamanan termal seseorang (McClurg, 2016).



Thermal Comfort Variable
Source: McClurg, 2016.

Once these determining variables are known, the process of determining a person's level of thermal comfort becomes more focused, so that it can help in identifying aspects that need to be focused on to achieve thermal comfort in a building.

THERMAL COMFORT STANDART

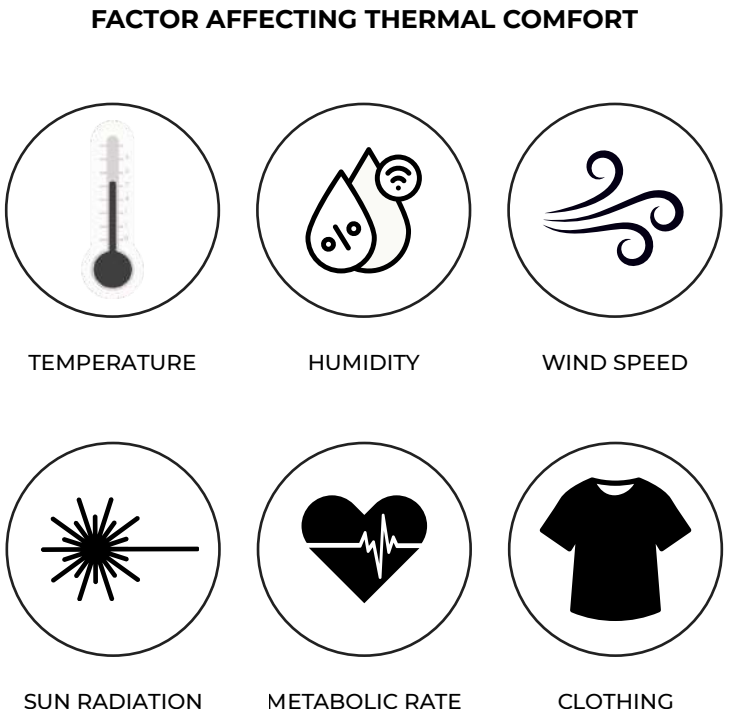
There are various sources that set thermal comfort standards as a reference in creating comfortable space conditions for building occupants. In modern building design, thermal comfort is regulated through international standards such as ISO 7730 and ASHRAE 55. These two standards explain the limits of indoor environmental conditions that are still acceptable for most occupants through the PMV-PPD model approach and the adaptive comfort model. The PMV-PPD model is used to predict thermal sensation and the level of occupant dissatisfaction with certain thermal conditions, while the adaptive comfort model considers humans' ability to adapt to the surrounding climate conditions.

In Indonesia, building thermal comfort standards are also regulated in SNI 03-6572-2001 which states that comfortable conditions in buildings can be achieved at a maximum temperature of 27.1°C, with a relative humidity level of between 40–60% and air speed ranging from 0.15–0.25 m/s. Apart from that, through the Effective Temperature approach, the comfortable temperature range for residents is in the range of 20.5°C to 27.1°C. These parameters show that thermal comfort is not only influenced by air temperature, but also by humidity, air movement, and the interaction of the thermal environment as a whole.

These standards are important guidelines in the building design process because they can help architects and designers understand environmental conditions that can support occupant comfort. By knowing the comfort limits for each thermal variable, design strategies can be directed more precisely, either through regulating natural ventilation, selecting materials, building orientation, controlling solar radiation, or processing the shape and space of the building. Therefore, each variable in thermal comfort has certain standards that can be used as a reference in creating buildings that are comfortable, energy efficient and responsive to local climate conditions.

SNI Standart:

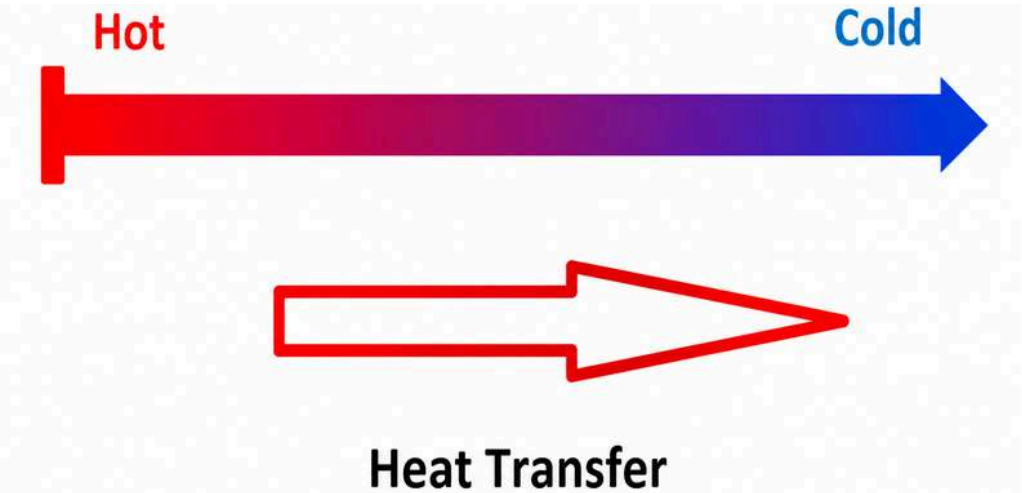
- Air temperature: 22.5°C – 26°C
- Relative humidity: 40% – 60%
- Air velocity: 0.15 – 0.25 m/s (to maintain comfort without causing discomfort)



Factor Affecting Thermal Comfort
Source: Author, 2026

Source: Standart Nasional Indonesia

2.2.4 HEAT MOVEMENT



Heat Movement
Source: Nail Heat Transfer (AWCI, n.d.).

In building research, heat movement usually refers to how heat flows through and around the building envelope via conduction, convection, and radiation, and how that flow affects energy use, indoor climate, and comfort. The first step in understanding heat transfer is to first know what heat is. In this context, heat can be understood as energy in motion. This movement is triggered by a temperature difference in an element. Heat transfer then occurs from areas of higher temperature to areas of lower temperature (AWCI, 2025).

2.2.4.1 CONDUCTION

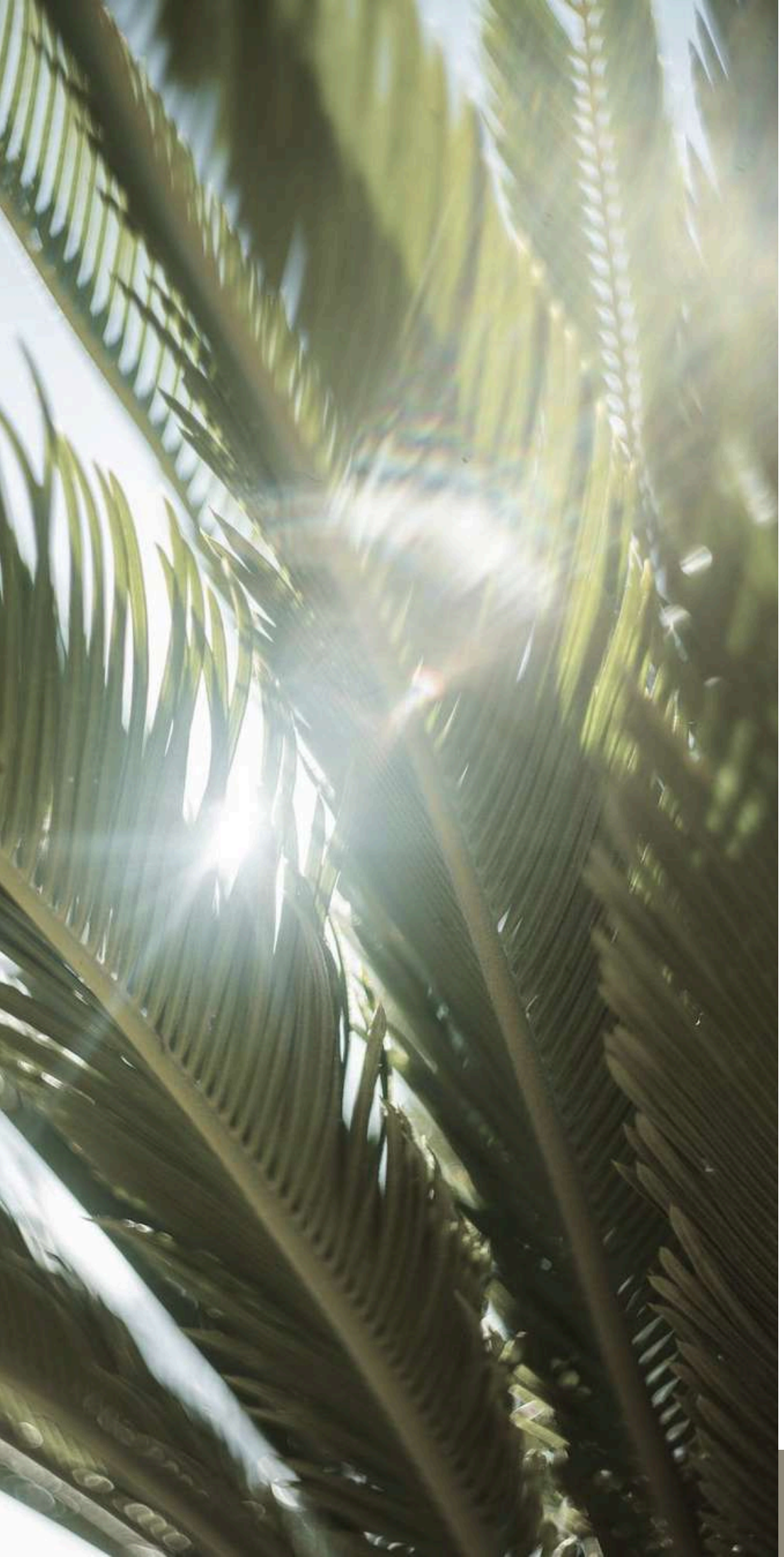
Conduction is the process of heat transfer through solid materials such as walls, roofs and glass from the side with a higher temperature to the side with a lower temperature. Materials with low thermal conductivity or good insulation capabilities can slow down the heat flow thereby reducing heat gain and loss in the building envelope. Thermal conductivity itself is the ability of a material to conduct heat (OTM, 2023). Based on The Engineering ToolBox, thermal conductivity data on various common materials such as metals, gases and building materials is important information for engineers, architects and designers in understanding heat transfer mechanisms and designing effective insulation systems.

2.2.4.2 CONVECTION

Convection involves the transfer of heat carried by air movement, both inside the building such as natural stratification and ventilation, and outside the building such as wind-induced heat exchange on facades and roofs, which greatly influences how quickly heat is gained or released through the building envelope (AWCI, n.d.). There are two types of convection. Forced convection occurs when fluid moves relative to a heat transfer surface, usually caused by a device such as a fan, blower, or pump. In buildings, this condition generally occurs due to wind flowing along the outer walls or roof. Free convection occurs when fluid flow is completely caused by buoyancy due to temperature differences. This phenomenon usually occurs in narrow air spaces and on inner wall surfaces (Philadelphia University, n.d.).

2.2.4.3 RADIATION

Radiation transfers heat via electromagnetic waves. In the context of buildings, this includes solar radiation entering through openings such as windows as well as radiant heat exchange between building surfaces and occupants, which directly influences perceived thermal comfort. Examples of thermal radiation in buildings include solar heat entering through glass windows and heating the space inside the building, the roof or wall surface absorbing solar radiation and then radiating heat back into the surrounding environment, as well as human body heat emitted to surrounding surfaces. In everyday life, the warm sensation felt when standing in the sun is also an example of thermal radiation.



HEAT MOVEMENT

CONDUCTION

- Heat moves through solid materials

CONVECTION

- Heat is transferred through moving air or fluid
- Warm air rises, cool air sinks

RADIATION

- Heat travels as waves (no medium needed)

DESIGN STRATEGIES

CONDUCTION

- Shading
- Orientation
- Vegetation

CONVECTION

- Material Selection
- Insulation

RADIATION

- Cross Ventilation
- Opening

Source: Bruno van der kraan

2.3 SASAK TRIBE

The Sasak tribe is an ethnic group that lives on the island of Lombok and uses the Sasak language as an everyday language in their people's lives. The core identity of the Sasak people is a combination of Islamic religion and customs which is understood as the embodiment of religious teachings in everyday life, and is formed through the influence of history, living environment, production system, social structure, language, art, and political and power dynamics (Wahyudin, 2017).

2.3.1 SASAK TRIBE CULTURE

The cultural values of the Sasak people consist of three layers, namely basic or philosophical values, moral values, and applicable symbols, which include the tidih value to form a proper, obedient, diligent, well-behaved and pious person, the maliq value as a prohibition, the merang value as the spirit of doing good, as well as social practices such as sangkep or deliberation as an effort to build the common good (Wahyudin, 2018). These values continue to be passed down and implemented between generations, and are reflected in the way people celebrate various life events through various traditional ceremonies. The Sasak people have various types of traditional ceremonies for events such as birth and marriage, the implementation of which consists of several sequential ritual stages. The culture of the Sasak people is a reflection of the social behavior of the community which is manifested through human work, belief systems, traditions and traditional ceremonies (Mahadika & Satria, 2021). Based on various studies, deliberation habits, implementation of traditional ceremonies, and other communal activities also influence aspects of architectural planning, both in spatial arrangement and building form.





Image Source: Wikipedia, Gerbang Wisata.

SASAK ARCHITECTURE

Sasak architecture embodies designs and values with deep meaning and purpose. It goes beyond visual expression, integrating functional requirements into a design approach that has been refined and passed down through generations. Traditional architectural buildings can serve as references, as they are able to adapt effectively to their surrounding natural conditions while utilizing energy resources in an appropriate and efficient manner (Padmasari, Hariyadi, 2023).

Sasak architecture is an interesting cultural value and deserves to be explored further. Various distinctive elements such as the shape of the house, the layout of the village, as well as the design of the harvest storage barn known as Lumbung Sasak, reflect strong local wisdom. Traditional architecture itself is the result of architectural thinking that takes into account the context of location and environment, is passed down from generation to generation, and is full of religious, cultural and symbolic values (Susilo & Umniati, 2021). Therefore, this project aims to implement Sasak architectural values into building design and regional planning more comprehensively.





Image Source: Thrilling Travel, Pinterest.com

SASAK SPATIAL DESIGN

One of the unique architectural values produced by the Sasak people is their spatial planning system. The mass layout patterns of Sasak architecture on Lombok Island are divided into two types, namely patterns on contoured land or hills and patterns on flat land (Saptaningtyas, Paturusi, Dwijendra, & Putra, 2023). Traditional architectural design is very unique because the character value can be seen not only from the shape of the building but also the spatial planning of the built area. Traditional settlements reflect the lifestyle and value system adopted by the community, which is realized through spatial arrangement, hierarchical structure of buildings, and orientation towards sacred elements in the surrounding environment (Tristanto, Nopianti, Sari, 2025). Tristanto, Nopianti, and Sari also said that the traditional settlements of the Sasak community show the application of a grid pattern with buildings arranged in parallel rows, thereby forming an orderly settlement structure and supporting easier monitoring and communal interaction.



















A - **Rumah adat Beburung, Desa Madayin.**

B - **Rumah adat Segenter, desa segenter, kecamatan bayan.**

C - **Rumah adat Sade, Desa Sade.**

D - Rumah adat Limbungan Timur

E - Rumah adat Limbungan Barat

F - Rumah adat Beleq Sembalun

G - Rumah adat Semaru

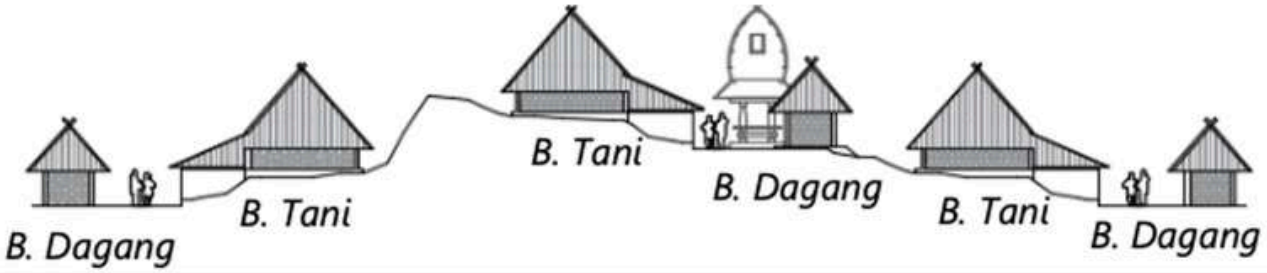
H - Rumah adat Beleq Gumantar

I - Rumah adat desa Gumantar

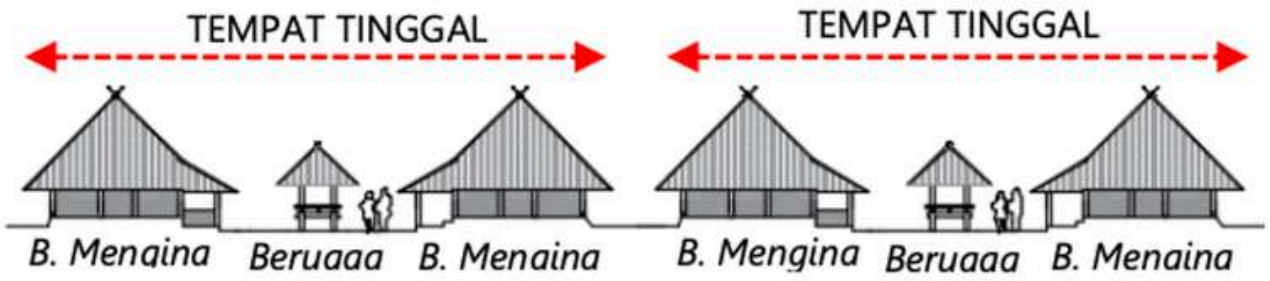
Image Source: Gatot AS

SASAK VILLAGE SPATIAL DESIGN

Pola penataan massa bangunan di rumah adat Sade



Pola penataan massa bangunan di rumah adat Senaru

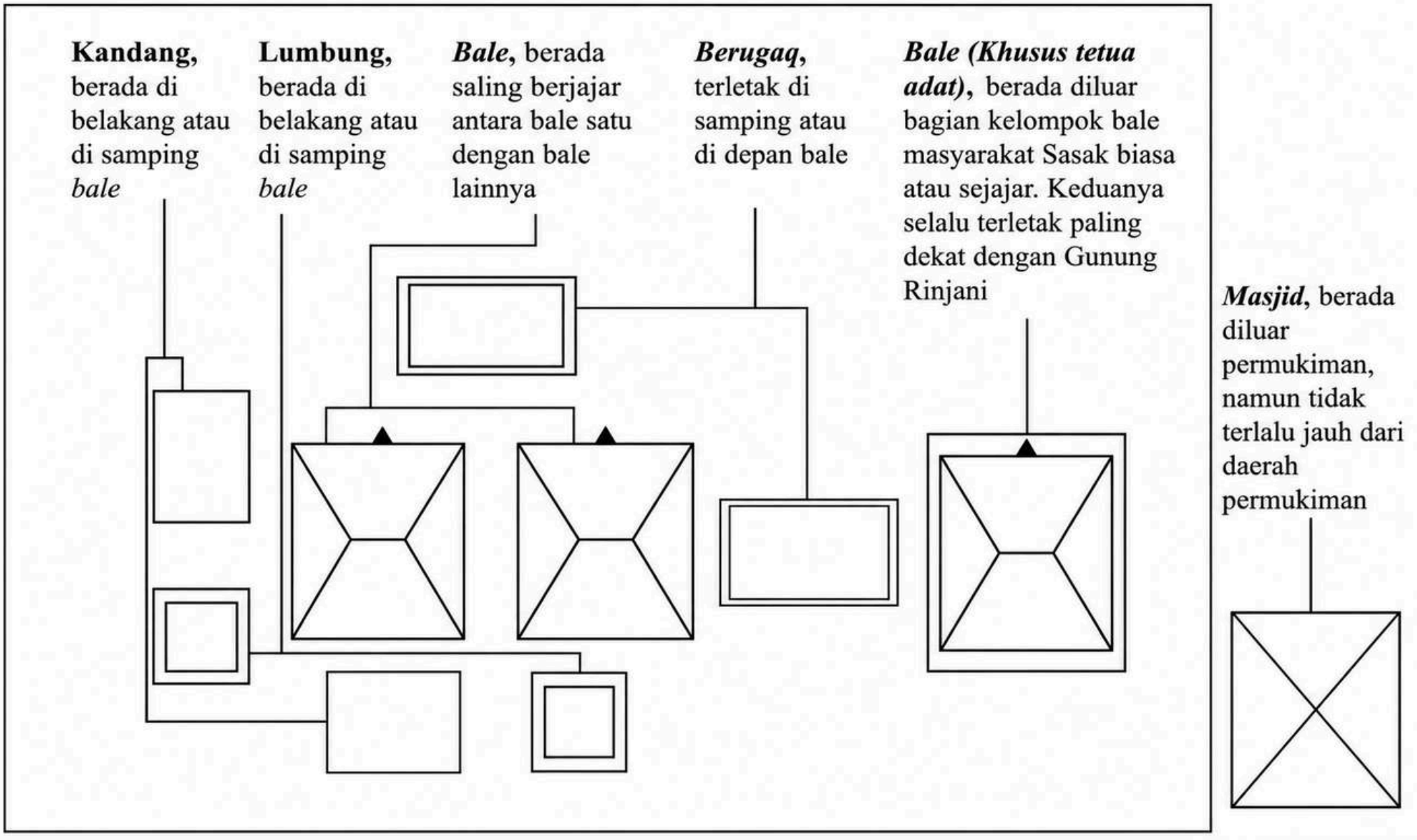


Pola tatanan massa di rumah adat Limbungan Barat dan Timur



Pola susunan massa rumah adat desa Beleq Gumantar





BUILDING	FUNCTION	SPATIAL LAYOUT
Bale	Living House	Arranged in a linear sequence between one bale and the others.
Berugaq	Community Building for Gathering	Located beside every five houses or positioned in front of the central bale.
Lumbung	Crop Storage	Located behind or beside the bale.

Image and Tabel Source: Gatot AS

2.3.4.1 BALE TANI



Bale Tani is a traditional house of the Sasak people on Lombok Island which is characterized by simple vernacular forms, the use of natural materials, and a design that is responsive to the climate. These buildings are generally constructed using bamboo, wood, thatched roofs and earthen floors, reflecting the use of local materials and traditional construction techniques. The Bale Tani spatial layout is designed to support the community's daily activities while maintaining a close relationship with communal social and cultural values. The architecture of Bale Tani symbolizes a microcosm of life, namely the relationship between God, ancestors and fellow humans. This is reflected in the shape of the Bale Tani roof which rises at the back, decreases in the middle, and is flatter at the bottom. This form describes the relationship between humans and God, where humans must surrender to God, while God gives love to all His creatures fairly and evenly (Kanina, Subiyantoro, 2019). Architecturally, this building has a roof with overhangs that are wide enough to provide protection from the sun's heat, limited openings to reduce excess heat, and natural ventilation that helps maintain indoor thermal comfort in tropical climates.

One of the building is called Bale Tani. Bale Tani is a traditional house of Sasak people for them to sleep, cooking, and store their stuff or belonging (O Widilestariningtyas, 2006). Bale Tani memiliki roof, rising at the back, then going down in the middle and flat at the bottom and on the plan, the Bale Tani room is divided into a sesangkok (the middle room), and on the inside, it is divided into Bale Dalem (inner room). People entering the house will face a sesangkok (living room). You must climb three steps from Sesangkok to the inside (Bale Dalem). These steps mean life goes through three processes: birth, life, and death (Saptaningtyas, Paturusi, Dwijendra, Putra, 2023). Building materials for Bale Tani are materials taken from around the environment. The clay floor is covered with buffalo dung which provides warmth, especially at night (because the air is quite cold). The walls use bamboo in the form of woven, which functions for air circulation so that the room temperature inside the building is quite comfortable. The roof uses reeds with a reasonably thick arrangement. The thickness of the thatch roof is approximately 15 – 20 cm so that it can reduce the sun's heat during the day. (Saptaningtyas, Paturusi, Dwijendra, Putra, 2023).

The arrangement of Bale Tani in the settlement also reflects the communal lifestyle and social structure of the Sasak community. In the floor plan, the interior of Bale Tani is divided into Sesangkok as the central space and Bale Dalem as the inner space. When entering the house, someone will first be in the sesangkok area which functions as a reception room or living room. To get to the inside of the house or Bale Dalem, residents must climb three stairs which symbolize the three processes of life, namely birth, life and death, which is also known as the Wetu Telu concept. Inside Bale Dalem, the space is divided into a kitchen area on the left side and a family storage room on the right side called Dalem Bale. Bale Dalem is private and intended specifically for women, which shows that family members, especially women, have a valued and protected role in the life of Sasak society (Saptaningtyas, Paturusi, Dwijendra, Putra, 2023).

Image Source: Thrilling Travel



Image Source: Saptaningtyas, Paturusi, Dwijendra, & Putra, 2023

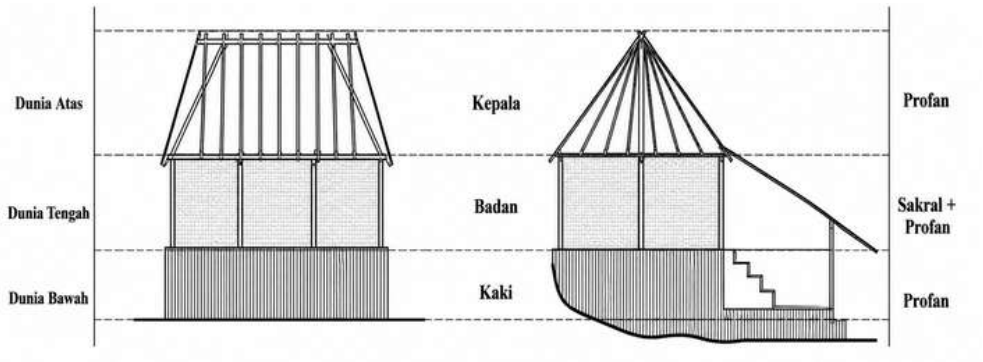


Image Source: Saptaningtyas, Paturusi, Dwijendra, & Putra, 2023

BUILDING TYPOLOGY

The division of functions in the vertical spatial hierarchy of Bale Tani can be divided into three levels, namely the lower part which is profane, the middle part which has both profane and sacred properties, and the upper part which is related to spiritual aspects. This division reflects the cosmological view in Sasak traditional architecture, where the lower part is interpreted as a human living space, the middle part as an activity and residential area, while the upper part is seen as a symbol of the sky or a connection with spiritual aspects and holiness (ditayupani2, 2025).

BUILDING PLAN AND SECTION

The interior of the Bale Tani is divided into two main areas: Bale Dalem and Bale Luar. Bale Dalem is the women's area and consists of a bedroom, a birthing room located on the right side of the building when viewed from the entrance, and a kitchen area on the left. Above the bedroom is a storage area for family heirlooms. The Bale Dalem's location on a higher level than the public space demonstrates respect for women's roles in Sasak society. Meanwhile, the public space within the residence, the sesangkok, or family room, which can also function as a living room, is included in the Bale Luar.



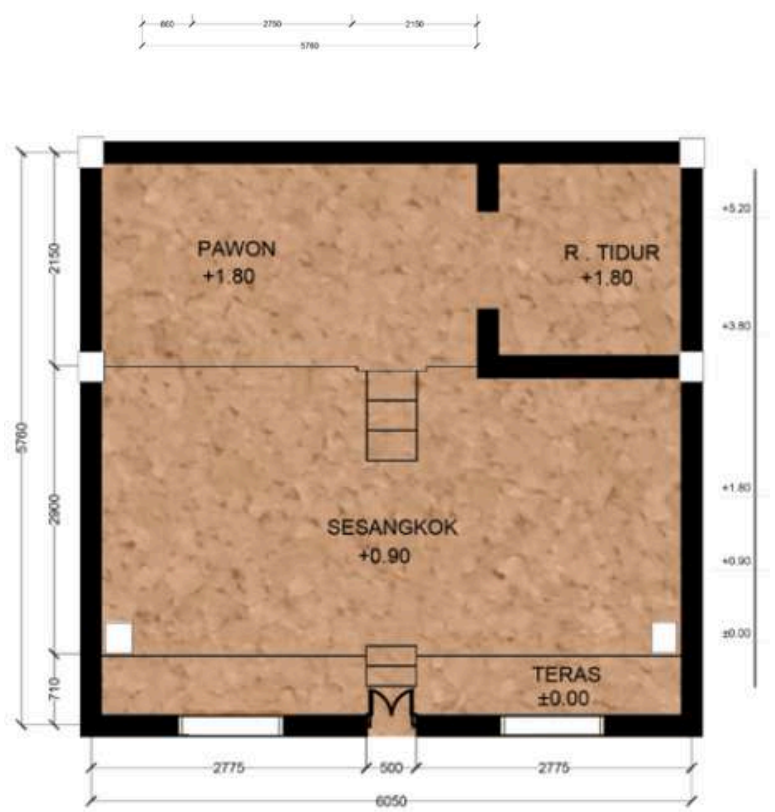
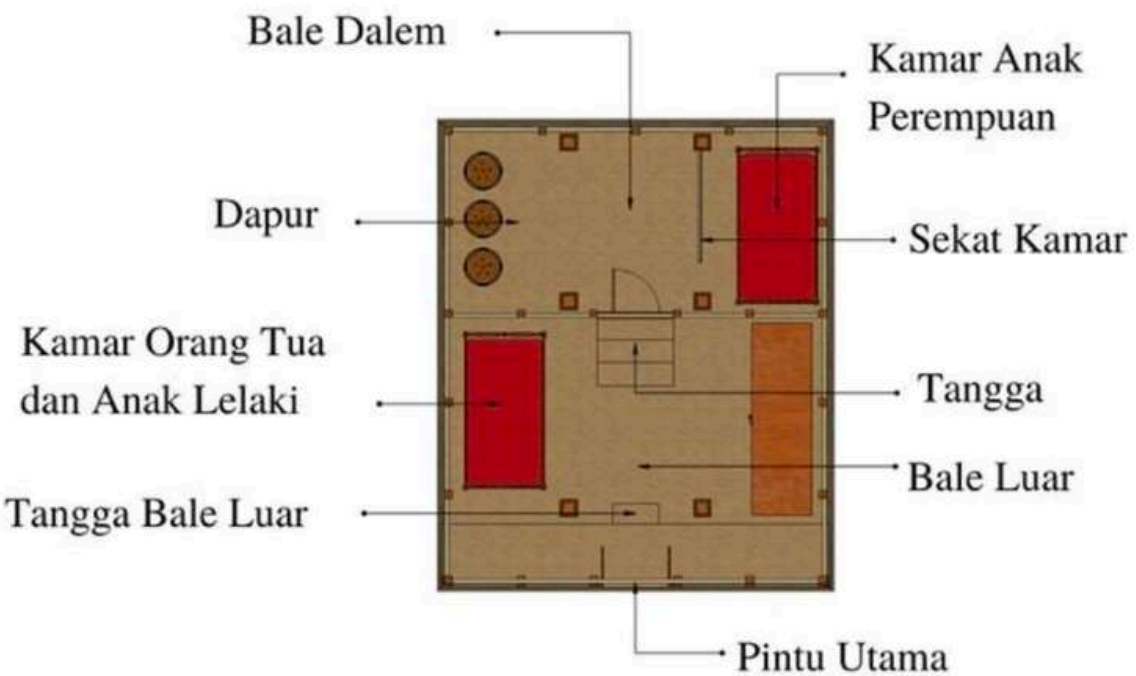


Image Source: Saptaningtyas, Paturusi, Dwijendra, & Putra, 2023

BUILDING PLAN AND AXONOMETRY



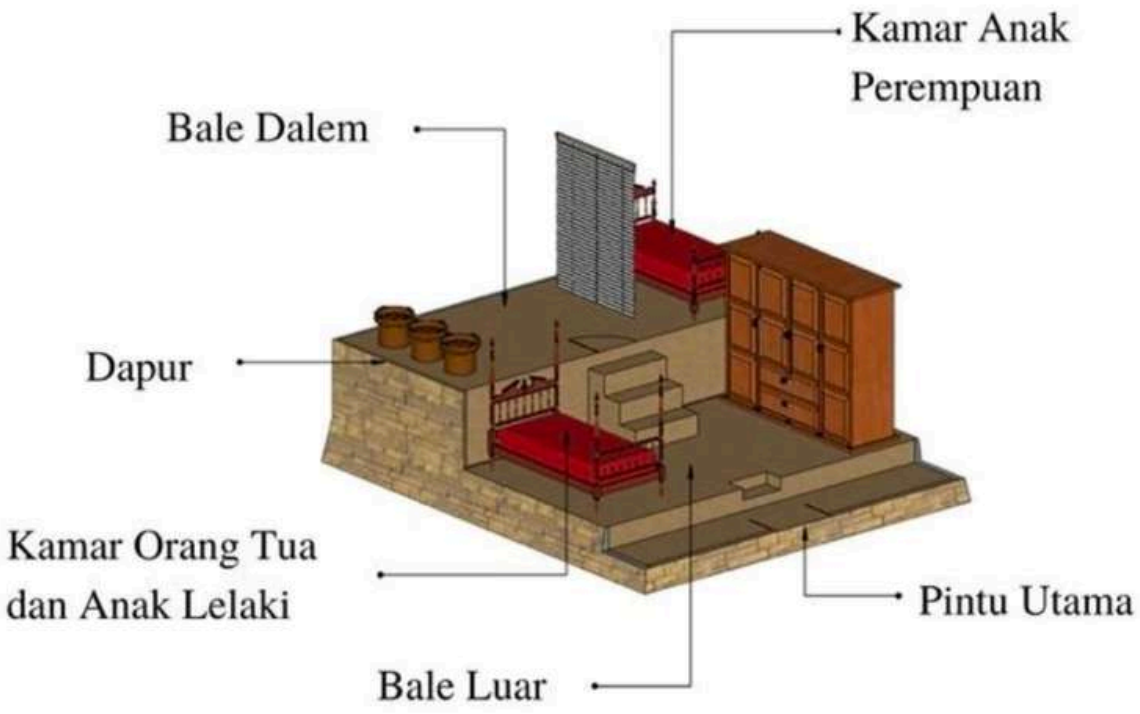


Image Source: Denah dan Tingkatan Bale Tani (Labib, 2023)

STRUCTURE

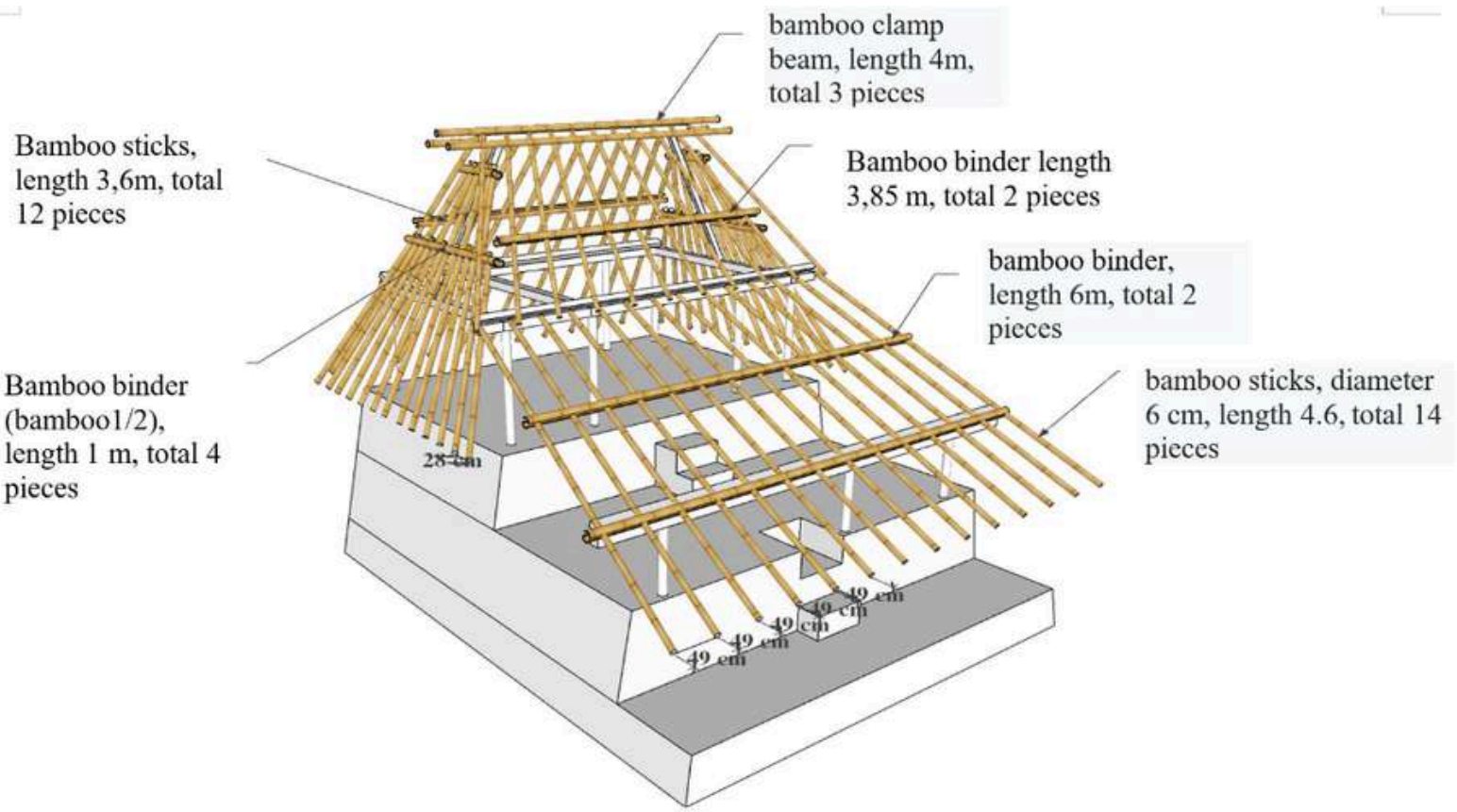


Image Source: Bale Tani Construction (Gazalba dan Saptaningtyas, 2023)



Image Source: Material Dinding Bale Tani (Source: Google)



Image Source: Material Dinding Bale Tani (Source: Google)

MATERIALITY

Bale Tani's building materials generally come from the surrounding environment, utilizing local resources. The dirt floor is covered with buffalo dung, which helps keep the space warm, especially at night when the air temperature gets cooler. The Bale Tani floor uses a mixture of soil, tree sap, clay, and straw ash, which is then coated with water and buffalo dung. The use of buffalo dung on the floor is based on the Sasak people's belief that the material can repel insects and protect the home's occupants from magical disturbances. The clay on the floor is layered to a certain height, and to prevent cracks, the floor is periodically re-coated with buffalo dung.

In determining floor area, the Sasak people of Sade Village still use traditional calculations such as sedepa and sesata (Kaninan, Subiyantoro, 2019). The walls of the building use woven bamboo, which functions to support air circulation so that the room temperature remains comfortable, while the roof uses reeds arranged thickly enough to provide protection against heat and weather. The thickness of the alang-alang roof ranges from 15–20 cm so that it can reduce heat from the sun during the day (Saptaningtyas, Paturusi, Dwijendra, & Putra, 2023).



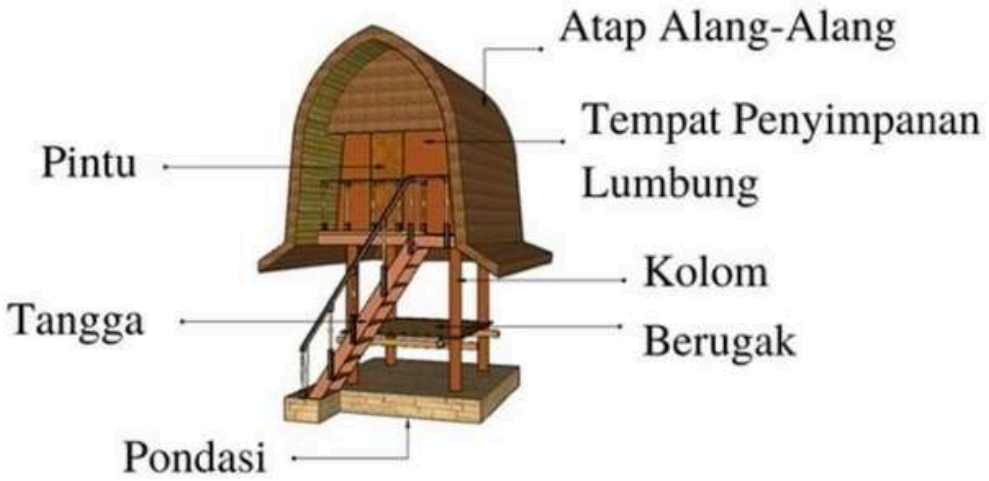
BALE LUMBUNG

The Sasak indigenous people have a Bale Lumbung Padi (rice barn) that serves as a storage area for their rice harvest and is also used in traditional rituals. The community's harvest is stored inside a traditional barn designed to utilize environmentally friendly principles and local materials (Iqbal, 2023). The Bale Lumbung's gambrel-shaped roof, resembling a barn, is larger than the building's body and columns. The upper portion is used for rice storage, while the lower portion serves as a berugak, a sitting and gathering area for the Sasak people (Labib, 2023).

The Sasak community barn is square in shape with a stilt house model supported by four pillars and has an area of about 3.2 meters, while the rice storage area is at the very top with a height of about 3 meters for easy access while preventing animals such as rats from entering the barn, while the lower part of the building is used as a sitting and gathering area for the community; this building also uses woven bamboo walls and is equipped with sliding doors to store the harvest into the barn (Tristanto, 2022).

Image Source: Bale Lumbung (Source: https://www.instagram.com/p/CpFlABRv-tv/





MATERIAL AND STRUCTURE

Lumbung Padi is one of the iconic elements that characterizes Sasak architecture. This building is raised on pillars using typical Austronesian construction techniques. Four main pillars support a pair of crossbeams at the top, which then form the basis for the frame and roof structure, with leaning bamboo rafters forming the support system (Widilestariningtyas, 2006). Widilestariningtyas juga mengatakan, Access to the barn is very limited, only through a small square opening located high above the end of the sopi-sopi, as a place to store the rice harvest. To protect the contents of the barn from rodent attacks, large wooden plates called jelepereng are installed at the top of the supporting poles. This element functions as a barrier, so that mice and other animals cannot reach the storage space.

The Bale Lumbung Padi (rice barn) has a distinctive architecture with the use of natural materials such as wood, bamboo, and thatched roofs that reflect the traditional character of the Sasak people (Iqbal, 2023). The Bale Lumbung has a towering shape with a height of about 4 meters and uses the concept of a stilt house with an elevation of 1.5–2 meters from the ground, while the shape of the roof resembles a mountain that is a characteristic of traditional Sasak architecture. Initially, this building only had one door and one window because the layout of the room was a single room, but as it developed, the Bale Lumbung was also used as a place for shops or for sitting and gathering for the local community. Its iconic roof shape and strong visual character were then widely adapted in resort facade designs, especially on the island of Lombok (Anurkarim and Prasetyo, 2023). Anurkarim and Prasetyo also stated that the Bale Lumbung only has one door at the front of the building. To reach the door, a wooden ladder is used which is usually stored beside the building and the use of dry straw as the roof of the Bale Lumbung, which is the remaining agricultural produce of the local community.

Image Source: Contruction Bale Lumbung (Iqbal, 2023)

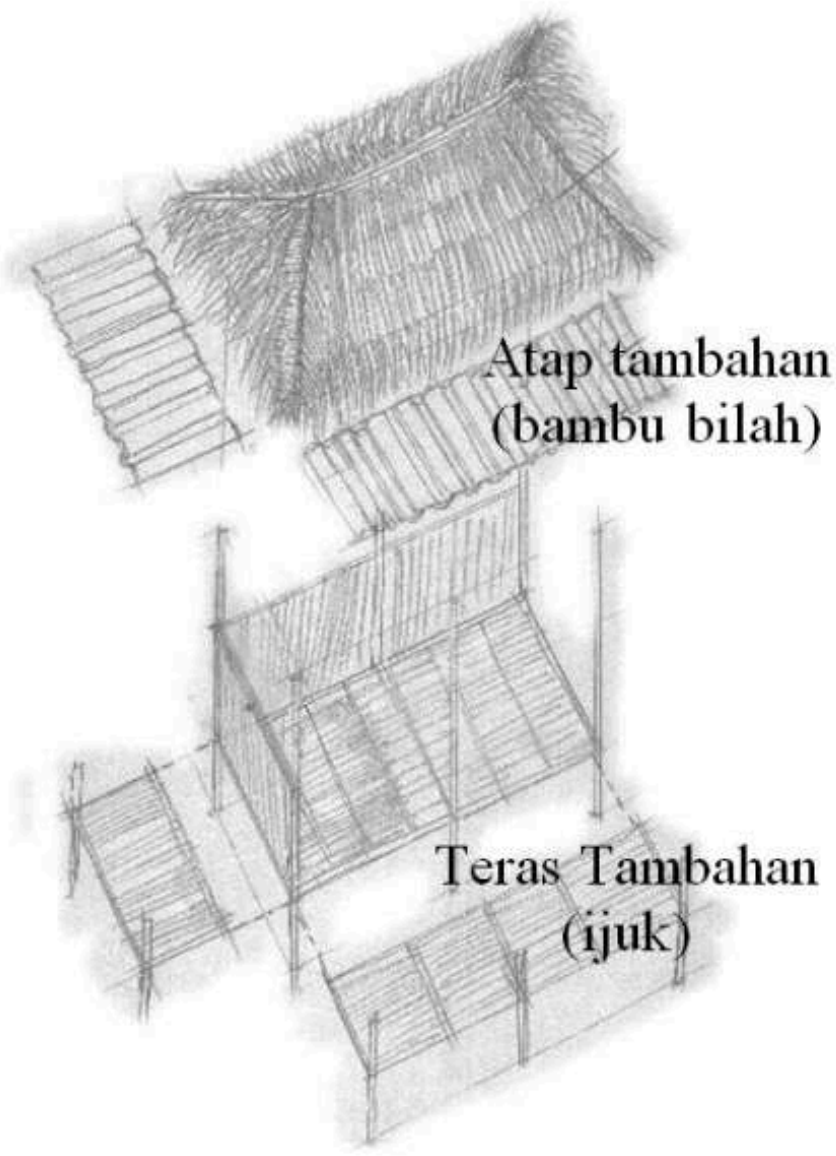




2.3.4.3 BERUGAQ

Bale Berugaq is an equilateral rectangle without walls surrounding it (Pujianto and Gunawan, 2017). There are four pillars, among which there is a floor made of woven bamboo slats with spun rope or wooden planks or with a height of 40 cm to 50 cm above the ground. Sekepat is at the front of Bale Jajar or Bale Tani. The function of this building is as a place to receive guests and is used as a place to receive young men who want to propose to the homeowner's daughter (Kanina, Subiyantoro, 2019). Berugaq functions as a place to receive guests, Gathering after Farming and other. All rectangular berugaq shapes have shield roofs with varying dimensions (Pujianto and Gunawan, 2017).

Image Source: Dokumentasi Ekespedisi Arjau 2007)



TYPOLOGY

Bale Berugaq is an equilateral rectangle without walls surrounding it (Pujianto and Gunawan, 2017). There are four pillars, among which there is a floor made of woven bamboo slats with spun rope or wooden planks or with a height of 40 cm to 50 cm above the ground. Sekepat is at the front of Bale Jajar or Bale Tani. The function of this building is as a place to receive guests and is used as a place to receive young men who want to propose to the homeowner's daughter (Kanina, Subiyantoro, 2019). Berugaq functions as a place to receive guests, Gathering after Farming and other. All rectangular berugaq shapes have shield roofs with varying dimensions (Pujianto and Gunawan, 2017).

MATERIAL AND STRUCTURE

The primary structural material used in all berugaqs is wood. Four or six planed wooden slats, planed to form a hexagon, serve as the main columns of the berugaq. These columns are connected using a simple dowel pattern. Each wooden column rests on a stone that serves as the berugaq's foundation. The floor of the berugaq is a plane of bamboo slats raised 80 cm above the ground for comfortable seating. The roof is typically covered with palm fiber (Pujianto and Gunawan, 2017).

Image Source: Exploded Axonometry Berugaq (Pujianto and Gunawan, 2017)



RESORT HOTEL DEFINITION

Resort hotels are a type of hotel accommodation which are generally located in or near tourist areas and provide lodging, recreation and relaxation facilities (Boekoesoe, Syukri, & Djailani, 2023). A resort is a tourist area designed to provide a comprehensive experience of rest, recreation and comfort, which is different from conventional hotels. Apart from providing accommodation facilities, the resort is also equipped with a restaurant, spa, swimming pool, sports facilities and various entertainment options in one integrated area. There are various types of resorts such as wellness resorts, spa resorts, eco resorts, and family resorts that are tailored to the needs and motivations of each tourist (Fluidra, n.d.) Resort hotels are places for vacation and recreation that are built in locations with beautiful natural views, such as mountains, hills, beaches, or lakes. Resorts also provide various facilities and areas to support various activities, such as sports, health activities such as yoga, conventions, religious activities, and business needs (Astarini, 2021).

Image Source: Aman.com

RESORT TYPE AND STANDART

Dased said that, For a lodging property to be considered a resort, certain minimum qualifications must also be met. He also determined that there are several types of resorts, namely Destination Resort, Intermediate Resort, Intermediate-Access Resort, and Specialized Resort.

Standart to be a Resort:

- Provide one signature amenity or anchor attribute.
- Provide five secondary recreation/leisure/entertainment experiences.
- Provide one full-service food & beverage outlet.
- Bed-base must include short-term or overnight lodging.
- Minimum of 25 rooms or other accommodations (exception to minimum for prop-erties with two signature amenity/anchor attributes).
- Emphasize a leisure or retreat-environment experience.

After there is this standard, now there is also a new term associated with this definition and in determining property inclusion. These key terminologies include:

Signature Amenities
Signature amenities are the main facilities or attractions that become the identity of a resort, such as beaches, mountains, spas, golf, marinas, casinos or water parks, and for artificial facilities, these amenities must be complete or full-service in order to be categorized as signature amenities.

Anchor Attribute
Anchor attribute is a special theme that connects various supporting facilities and activities in a resort to form the main identity or signature amenity, which is supported by a minimum of five recreation, entertainment or activity experiences with the same theme, such as family, couples, education, tropical or ranch.

Recreation/leisure/entertainment experiences (RLE-E)
Recreation, leisure and entertainment experience (RLE-E) is a supporting facility in a resort that functions to increase the quality of guest experience through various recreational and entertainment activities, such as sports, games or children's activities. Even though it is not the main facility, this element plays an important role in creating an appropriate resort atmosphere and providing a variety of activities for visitors, as well as being a supporting factor in assessing a property as a resort along with food and beverage facilities.

Full-Service
In this context, full-service is defined as a property that provides a variety of facilities and services to meet the needs and desires of visitors, including a variety of amenities and activities, restaurants that serve a minimum of two meals per day, as well as a more complete level of service such as concierge or room service.

RESORT CLASSIFICATION

Destination Resort
This type of property is considered the most complete form of resort because it is the main reason tourists visit a destination and has a high standard of service. The resort provides most of the facilities and needs of visitors during their stay, including access to extensive recreation and entertainment areas. These properties are also generally equipped with facilities for business activities or meetings and meet the minimum resort requirements with the addition of:
• Four signature or anchor amenities
• Fifteen or more unique recreational, entertainment and supporting leisure activities
• Three or more food and beverage outlets
• Spa, health or wellness facilities
• Several shopping areas
• Wide range of accommodation options

Intermediate Resort
This property can be the main reason tourists visit a destination, although visitors can also have other motivations while in the area. Resorts generally provide fairly large recreation and leisure areas and are located far from main population centers. Its characteristics are almost the same as a destination resort, but it has a more limited range of signature or anchor amenities. This property meets the resort's minimum requirements with the addition of:
• Two signature or anchor amenities
• Ten or more unique supporting recreation, entertainment and leisure activities
• Two or more food and beverage outlets

Intermediate-Access Resort
This type of resort is generally located in tourist areas or areas with high population density and is often close to other resorts. The property provides access to major geographic attractions such as beaches or mountain areas. Resorts may not be the main attraction for visitors, but they still offer adequate recreation, leisure and entertainment experiences during their stay. This property must meet the resort's minimum requirements in addition to:
• Two signature or anchor amenities
• Ten or more unique supporting recreation, entertainment and leisure activities
• Two or more food and beverage outlets
• Have direct access to external recreation or leisure facilities

Specialized Resort
These properties can be found in various locations and offer experiences that focus on one particular signature amenity or anchor attribute. Visitor experiences are usually designed around these key facilities or themes and are generally smaller in scale. This resort can be the main attraction of a destination or a complement to existing tourist destinations. The property must meet the resort's minimum requirements in the form of:
• Has one signature amenity or anchor attribute
• Providing five supporting recreation, entertainment and leisure activities
• Has one full service food and beverage outlet
• Providing short-term or overnight accommodation
• Minimum of 25 rooms or other form of accommodation, except for properties with two signature or anchor amenities
• Emphasize the leisure experience or retreat atmosphere for visitors

RESORT STANDART

In Indonesia's latest regulations, there is no specific definition of "minimum resort" like the international classification, but through Minister of Tourism Regulation No. 6 of 2025 there are minimum standards that must be met by hotel and resort businesses in order to operate and obtain a Tourism Business Standard Certificate. These minimum standards include:

- provision of accommodation or overnight facilities
- guest service facilities
- security, health and safety systems
- public areas and supporting facilities
- operational management
- as well as recreation or leisure facilities that support the tourist experience

According to Kompas.com, in Indonesia, the provisions for the minimum number of star hotel rooms which are often used as a reference come from the old classification of the Directorate General of Tourism and Minister of Tourism and Postal Decree No. Kep-22/U/VI/1978. Although the latest standards emphasize the quality of service and facilities, this classification of number of rooms is still widely used in academic studies, hotel planning, and resort architectural references.

- 1 star: minimum 15 standard rooms
- 2 stars: minimum 20 standard rooms
- 3 stars: minimum 30 standard rooms
- 4 stars: minimum 50 standard rooms
- 5 stars: minimum 100 standard rooms

In resort design there are no definite standards regarding the number of rooms because there are no universal rules that are fixed. The number and size of resort rooms really depends on the hotel classification, target market, operator brand, site conditions, as well as the positioning and concept of the resort being adopted.



AMAN PURI

Aman Puri Amanpuri is the first resort of the Aman Resorts chain which opened in 1988 in Phuket, Thailand, and was designed by architect Ed Tuttle. The design background for Amanpuri departs from the philosophy of creating a "place of peace", which later became the main identity of the Aman brand. This resort was designed with an architectural approach that places tranquility, privacy, connection with nature, and spatial experience as the main design elements (Romeyn, 2018).

Amanpuri's design concept is heavily inspired by traditional Thai architecture, especially the architectural style of the Ayutthaya kingdom, which is translated into a modern and minimalist form. Elements such as the steep roof typical of Thai pavilions, the use of natural wood, stone, open spaces, and the arrangement of the mass of pavilions spread among coconut trees are designed to blend with the natural landscape without dominating the surrounding environment.

Amanpuri's site planning also emphasizes the principle of low-density resort, where the buildings are spread out and have high privacy. The building structure follows the natural contours of the peninsula and maintains existing vegetation so that the architecture feels like it “grew from nature.” This philosophy then became the basis for Aman Resorts' global design approach, namely architecture that recedes into nature or architecture that blends in and does not overpower the landscape.

Image Source: Aman.com



ALILA MANGGIS

Alila Manggis is a strong precedent for tropical resorts in implementing passive design because its design is very responsive to Bali's tropical climate and utilizes natural architectural strategies to create thermal comfort without a large reliance on mechanical systems. This resort was designed with a tropical regionalism approach that combines modern architectural principles with the local environmental context. A contemporary interpretation of traditional Balinese architecture is harmoniously combined with modern facilities to create a comfortable atmosphere in harmony with the natural environment (hyatt.com, n.d.). The Passive Design Strategy used is:

- Building orientation: The mass of the building is arranged to maximize natural wind flow and minimize exposure to direct solar heat, especially from the east and west.
- Cross Ventilation: The layout of rooms and openings allows for cross ventilation so that air can flow naturally through rooms and public areas to help reduce room temperature.
- Shading System: The use of overhangs, balconies, vegetation and shading elements helps reduce solar heat gain on walls and building openings.
- Landscape Integration: Tropical vegetation and open spaces are used to create a cooler microclimate while strengthening the visual connection with nature.
- Natural Materials: The use of local materials with thermal characteristics suitable for tropical climates helps maintain room temperature stability and strengthens regional identity.

Image Source: hyatt.com

2.6.1 STANDARD ROOM

Standard Room is a basic room type in a resort which is designed to provide ultimate comfort for guests with good space efficiency. In tropical resorts, a standard room not only functions as a place to sleep, but also as a resting space connected to nature through natural lighting, cross ventilation, and transition areas such as a balcony or terrace. This room is usually intended for 2 people with the main facilities being a sleeping area, bathroom, wardrobe, small work desk and light sitting area. In tropical resort design, room orientation is very important to get the best view and natural wind flow to support thermal comfort. The standard size of a resort room is in the range of 38–50 sqm including the balcony or terrace area.

2.6.2 DELUXE ROOM

Deluxe Room is a development of the Standard Room with a larger room size, more complete facilities, and a more premium room experience. In resorts, this type of room is usually placed in an area with better view quality, such as facing the sea, mountains or main garden. Deluxe Rooms generally have additional sitting areas, larger bathrooms, and larger terraces to enhance guests' relaxation experience. In tropical resorts, Deluxe Rooms are designed to maximize natural lighting, cross ventilation and indoor-outdoor connections to create passive thermal comfort. The size of Deluxe Rooms at resorts generally ranges from 50-65 sqm.

2.6.3 PRIVATE VILLA

Private Pool Villa is a type of premium resort accommodation that emphasizes privacy, exclusivity and an immersive tropical experience. This type usually combines indoor and outdoor space through a courtyard, private pool, sun deck, semi-open bathroom and private garden. In tropical resort architecture, villas are often designed using a pavilion concept to increase natural ventilation and reduce heat gain. Local materials such as wood, natural stone, bamboo and terracotta are widely used to strengthen regional identity and create an eco-luxury atmosphere. The size of a Private Pool Villa in tropical resorts is generally in the range of 120-220 sqm depending on the facilities and level of exclusivity.

2.6.4 FAMILY VILLA

Family Villa is a type of resort accommodation designed for families or small groups with the need for larger shared spaces. This type usually has more than one bedroom, a shared family room, pantry or dining area, as well as a larger outdoor area for family activities. In resort design, Family Villas are often placed in quieter zones but still close to public facilities such as swimming pools or playgrounds. The spatial arrangement of a Family Villa must be able to create a balance between the privacy of each family member and communal interaction. The size of Family Villas at resorts generally ranges from 220-400 sqm depending on the number of rooms and supporting facilities provided.

LOCAL MATERIAL



Bricks and Block
Brick and brick are the most common building materials used for wall construction in Lombok. Traditional clay bricks, hollow blocks, and cement bricks are widely applied in residential and commercial building projects (Yasmina, 2025).

- Clay Bricks: Made from locally sourced clay, these bricks are affordable and durable but require a longer installation time.
- Cement Blocks: A popular alternative due to their strength and cost-efficiency, ideal for load bearing walls.



Concrete
Concrete is a material that is widely used for foundations, main building structures, and floors. This material is easy to find in Lombok and can be produced directly at the project site using a mixture of sand, cement, gravel and water. Reinforced concrete combined with steel reinforcement is also commonly used to provide structural strength and support to buildings.

Natural Stone
Lombok has an abundant supply of natural stone, making it a popular material used for walls, paving and decorative building elements. Types of stone such as andesite, limestone and river stone are often used for both structural and aesthetic needs (Yasmina, 2025).

- Andesite Stone: Strong and durable, commonly used for exterior cladding and pathways.
- Limestone: Ideal for walls and flooring due to its natural look and affordability.



Bamboo
Bamboo is an environmentally friendly, affordable and highly sustainable material that is commonly used in Lombok. This material is often applied to roof elements, interior partitions, and decorative building elements. Bamboo is known to be flexible and resistant to deformation, making it a good choice for earthquake-prone areas such as Lombok.



Timber and Wood
Wood is a material that is widely used in Lombok for structural elements, roofs, floors and decorative finishing. Local types of wood such as teak, mahogany and coconut wood are often chosen because they have good durability and are resistant to pests.

- Teak Wood: Highly durable and resistant to termites, ideal for outdoor furniture and construction in Lombok.
- Coconut Wood: Affordable and sustainable, often used for interior features.



Roofing Material
Clay Roof Tiles
These are traditional and common in residential construction in Lombok.

Metal Roofing Sheets
Durable and lightweight, often used in commercial projects.

Thatched Roof (Alang-Alang):
A popular, eco-friendly option, though it requires more maintenance.

Image Source: brickcart.in, alleghenyfront,org, The Home Depot, Facebook.com, ceilingsupplycompany.com, syntethicthatch.in



SELONG BELANAK,

WEST PRAYA, CENTRAL LOMBOK, WEST NUSA TENGGARA

The design site for this resort is in Selong Belanak Village, West Praya District, Central Lombok Regency, Lombok Island. This area is known as one of the developing coastal tourist destinations in Lombok with a tropical natural character that is still relatively natural and has strong landscape quality. Selong Belanak is a tourism area in the southern part of Central Lombok, located in Selong Belanak Village and has strong tourism potential, especially marine tourism, with the main attraction being the natural beauty of the coast which is supported by local social and cultural potential (Sriwi and Hulfa, 2019). Selong Belanak has a natural landscape in the form of a white sandy coastline, green hills, areas of tropical vegetation, and panoramic sea views that open towards the Indian Ocean. The geographical conditions of the area which are dominated by coastal breezes, tropical sunlight and hilly topography provide great potential for the development of resorts based on passive design and thermal comfort through optimizing natural ventilation, building orientation and integration with the natural landscape.

Apart from its natural potential, the Selong Belanak area also has a strong connection with the culture of the Sasak people as the main local culture on Lombok Island. The life of the local community still maintains communal values, traditional spatial patterns, as well as Sasak vernacular architectural elements that are adaptive to the tropical climate. Elements such as berugak as a space for social interaction, the use of natural local materials, and settlement patterns that are responsive to the environment are potential design approaches that can be interpreted into resort design. The presence of this local culture provides a strong contextual identity so that the resort not only functions as a tourist facility, but also as a space that is able to present a more authentic experience of Lombok's unique architecture and culture.

As a tourist area that continues to develop, Selong Belanak has great potential for resort development that prioritizes a balance between tourist comfort, preserving the tropical environment, and strengthening local identity. Therefore, a resort design approach that is responsive to the climate, utilizes natural potential, and integrates Sasak architectural and cultural principles is important to create a spatial experience that is sustainable, contextual, and has unique regional character.

Image Source: Google Maps & Google

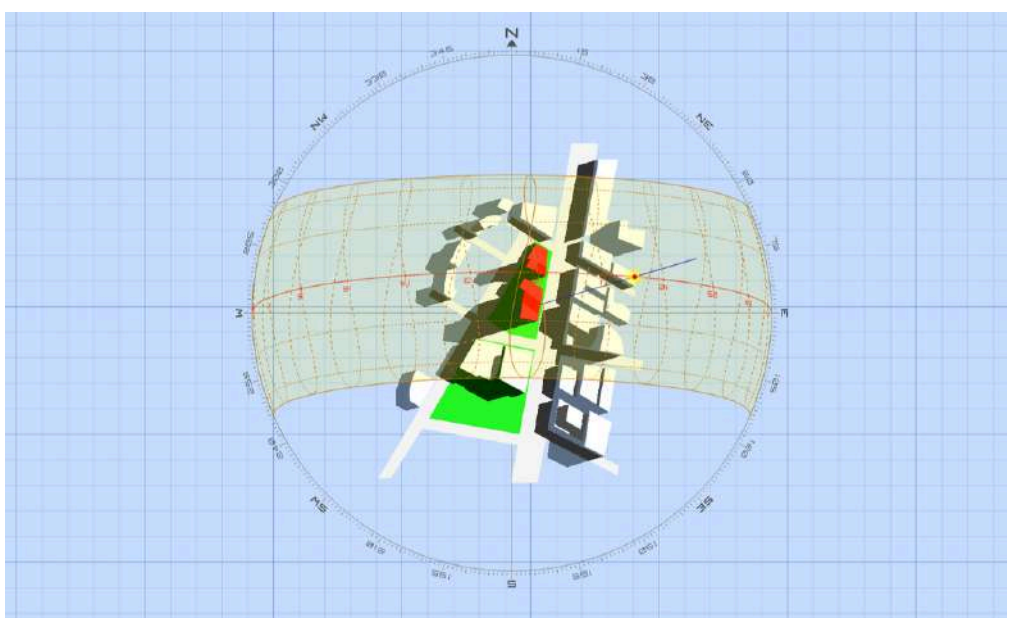


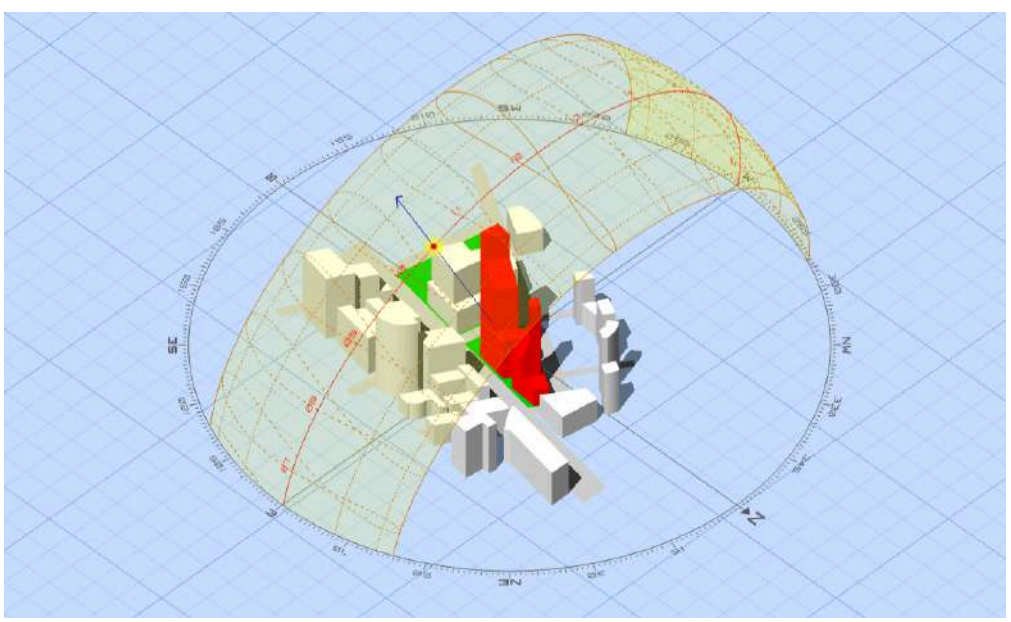
SELONG BELANAK ROAD

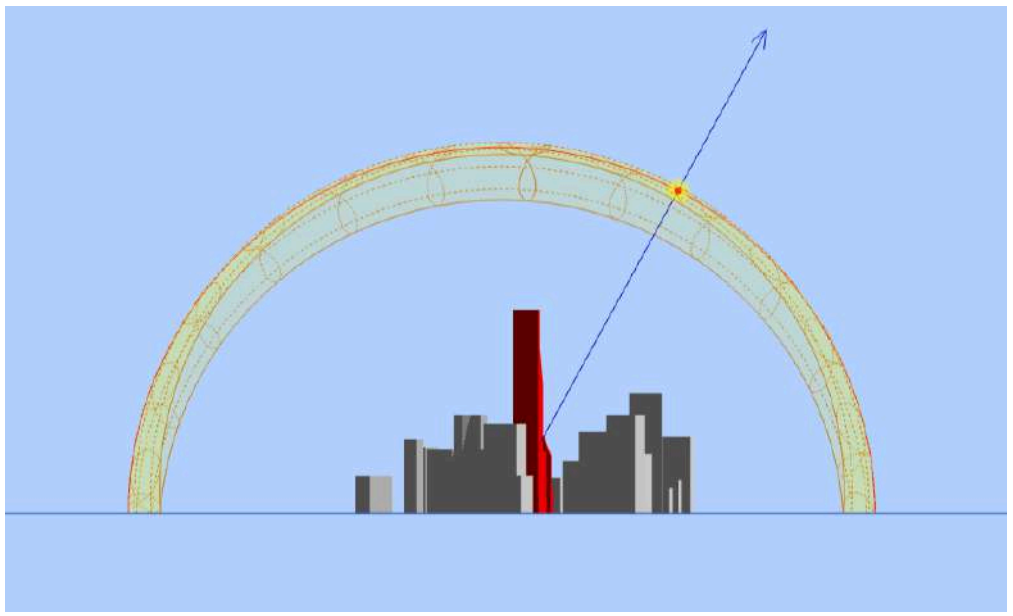
The main access to the resort site is via Jalan Selong Belanak which is the main connecting route to the southern coastal area of Central Lombok. This road has an important role in supporting movement between coastal tourist areas in the southern part of Lombok Island, including connectivity from the Kuta Mandalika area to coastal areas towards West Lombok. The existence of this route provides good accessibility for tourists and service vehicles to the resort area. Apart from functioning as the main circulation of the tourist area, this road corridor also offers a travel experience with panoramic views of the coast, tropical hills and natural landscapes typical of Lombok, thus supporting the potential for resort development oriented towards travel experiences and tropical landscapes.

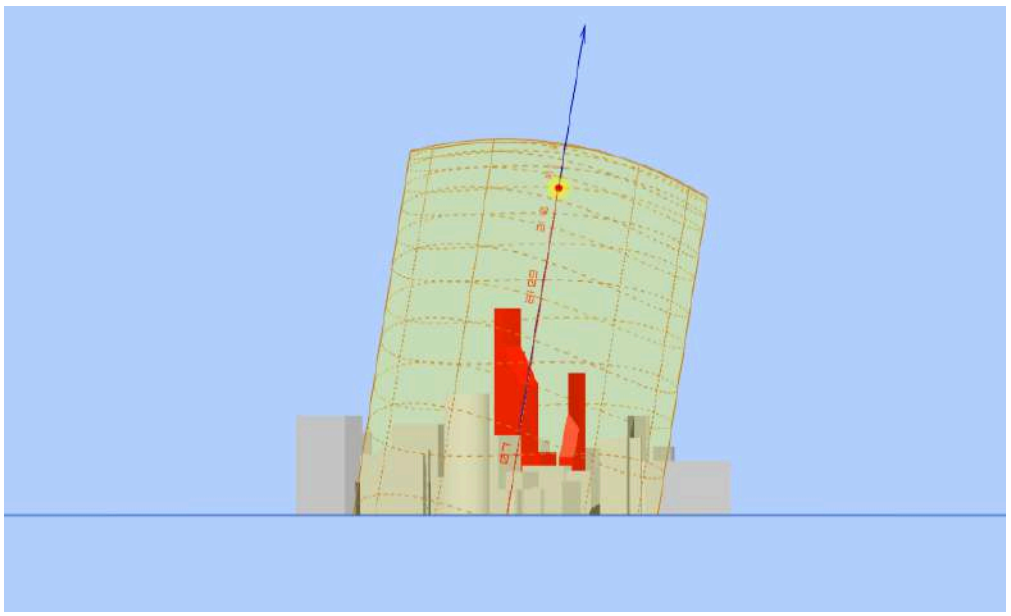
Image Source: Google Earth

SUN PATH









TEMPERATURE



The air temperature in Lombok is quite hot because it is in a tropical region crossed by the equator. The average daily temperature in this area can reach around 30-38 degrees Celsius, especially during the day and in the dry season. These climatic conditions mean that the Lombok area has quite high exposure to solar heat throughout the year and is one of the main characteristics of the tropical environment in the site area.

DESIGN STRATEGY:

SPATIAL STRATEGY:

- Use an open space pattern to increase natural air flow.
- Create a strong connection between indoor and outdoor spaces.
- Using semi-open spaces such as verandas, courtyards, pavilions and terraces as thermal transition areas.
- Arrange the mass of the building loosely to create a wind corridor and increase ventilation of the area.
- Minimize areas of closed spaces that have the potential to store excess heat.
- Place public areas and outdoor activities in zones that get the best air flow.
- Optimizing spatial orientation towards the dominant wind direction.

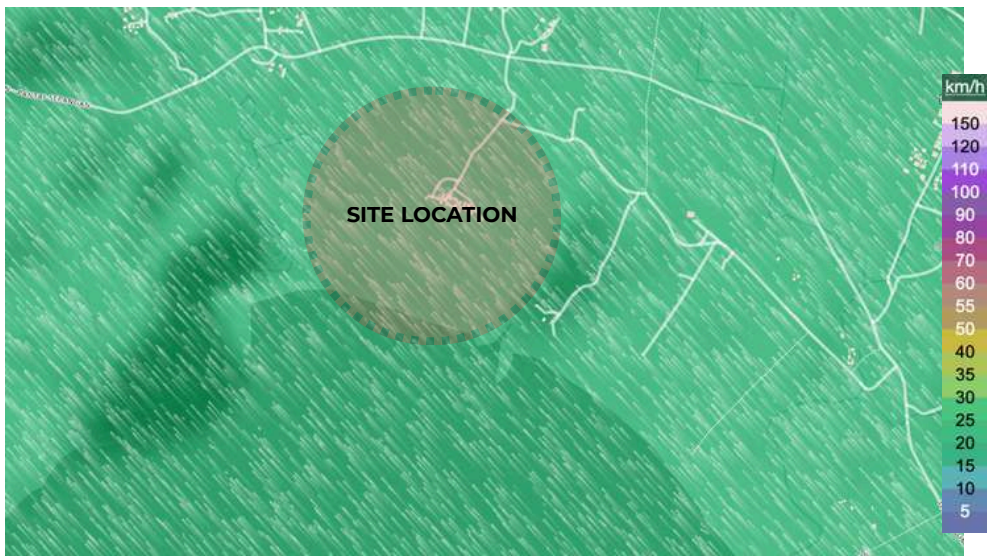
BUILDING STRATEGY:

- Orient the building to reduce exposure to direct solar heat.
- Using shading devices such as overhangs, secondary skin, grilles, and sun shading.
- Implement cross ventilation through openings on two sides of the building.
- Using high ceilings to help release hot air.
- Using a ventilated roof to reduce heat gain.
- Minimize the use of excessive glass on the side exposed to direct sunlight.
- Use large openings to increase natural lighting and ventilation.
- Design thinner or elongated building shapes so that cross ventilation is more effective.

LANDSCAPE & MICROCLIMATE STRATEGY:
Landscape and Microclimate Strategy
Using vegetation as natural shading.
Plant shade trees around buildings and pedestrian paths.
Uses water elements to help passive evaporative cooling.
Maintaining green areas to reduce the temperature of the surrounding environment.
Reduce the use of hard surfaces that absorb high heat.
Integrate the landscape with the area's natural ventilation system.

Image Source: Meteoblue.com

WIND DIRECTION



Wind speed in the site area generally moves to the northwest, originating from the southeast with an average speed ranging between 2-3 km/hour. This condition is influenced by the wind patterns of coastal areas and the tropical climate on Lombok Island which allows for fairly consistent wind flows throughout the year.

The wind speed in the site area is quite high so it can affect user comfort, especially in open areas. To achieve a more optimal level of thermal comfort, the wind speed needs to be slightly reduced so that the air flow received is not too strong but is still able to provide a natural cooling effect on the resort environment.

DESIGN STRATEGY:

SPATIAL STRATEGY:
- Orient the building according to the direction of the dominant wind.
- Form a wind corridor between buildings to facilitate air flow.
- Avoid placing building masses too tightly together so as not to block wind circulation.
- Place semi-open areas in zones with the best wind flow potential.
- Using a cluster or pavilion pattern to help distribute the wind evenly.
- Adjust the orientation of the main room to the natural wind direction of the area.

BUILDING STRATEGY:
- Using cross ventilation through openings on two sides of the building.
- Place windows and openings on the incoming and outgoing sides of the wind.
- Uses large openings to increase natural air exchange.
- Use top ventilation or clerestory to help release hot air.
- Optimize high ceilings for better air circulation.
- Use semi-open spaces to capture natural wind flow.
- Menggunakan bentuk bangunan yang lebih tipis atau memanjang agar angin dapat melewati bangunan dengan lebih efektif.
- Menghindari bentuk massa yang terlalu masif dan tertutup.
- Menggunakan elevated building atau bangunan panggung untuk membantu aliran udara di bawah bangunan.
- Menggunakan secondary skin atau perforated façade untuk membantu filtrasi angin.

LANDSCAPE & MICROCLIMATE STRATEGY:
- Using vegetation as a wind filter to reduce excess wind gusts.
- Place shade trees in areas that receive high wind pressure.
- Using the landscape to direct wind flow towards certain areas.
- Avoid vegetation that is too dense which can inhibit natural ventilation.
- Uses water elements to help cool the air carried by the wind.

Image Source: Meteoblue.com

HUMIDITY



The air humidity level in the site area is relatively high because it is located in a tropical climate. The average air humidity in this area ranges from 70% to 90% throughout the year which is influenced by the coastal geographic conditions and tropical climate of Lombok Island. This high air humidity is one of the main climate characteristics in the Selong Belanak area which influences environmental conditions and thermal comfort in the site area.

DESIGN STRATEGY:

SPATIAL STRATEGY:

- Using open and semi-open space patterns to increase natural air circulation.
- Reduce closed spaces that can trap moist air.
- Create distance between buildings so that air flow can move more optimally.
- Optimize indoor and outdoor relationships to help air exchange.
- Place the main activity areas in zones with the best natural ventilation.

BUILDING STRATEGY:

- Using a sloping roof to anticipate high rainfall in tropical climates.
- Using overhangs to protect the building from direct rain and moisture.
- Avoid building masses that are too dense so that area ventilation remains optimal.
- Using elevated floors or stilt buildings to reduce humidity from the ground surface.

LANDSCAPE & MICROCLIMATE STRATEGY:

- Using vegetation to help create a more comfortable microclimate.
- Control vegetation density so as not to create areas that are too damp.
- Maintaining green areas to help reduce the temperature of the surrounding environment.
- Optimize air flow in the landscape to reduce trapped moist air.

Image Source: Meteoblue.com

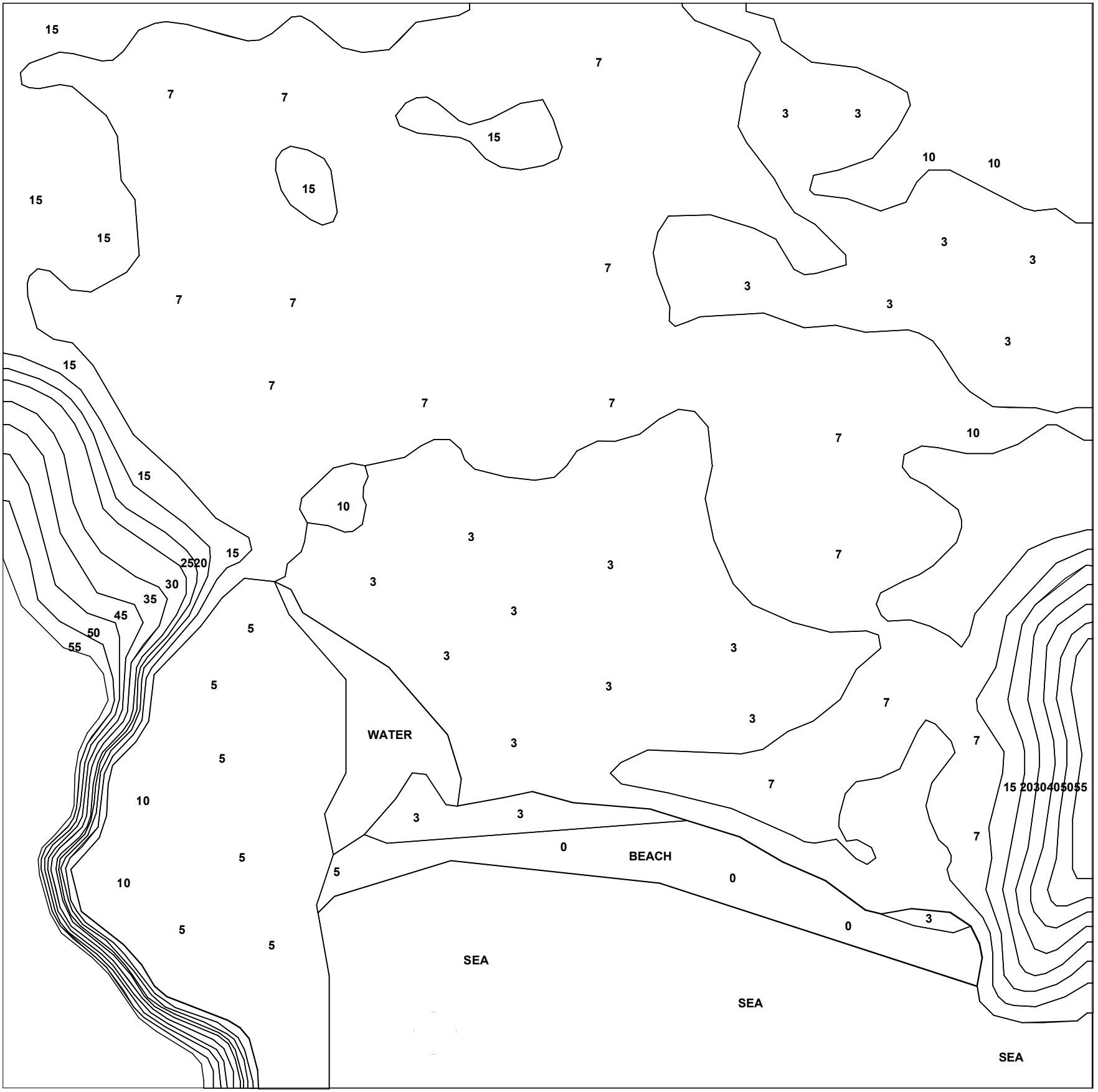
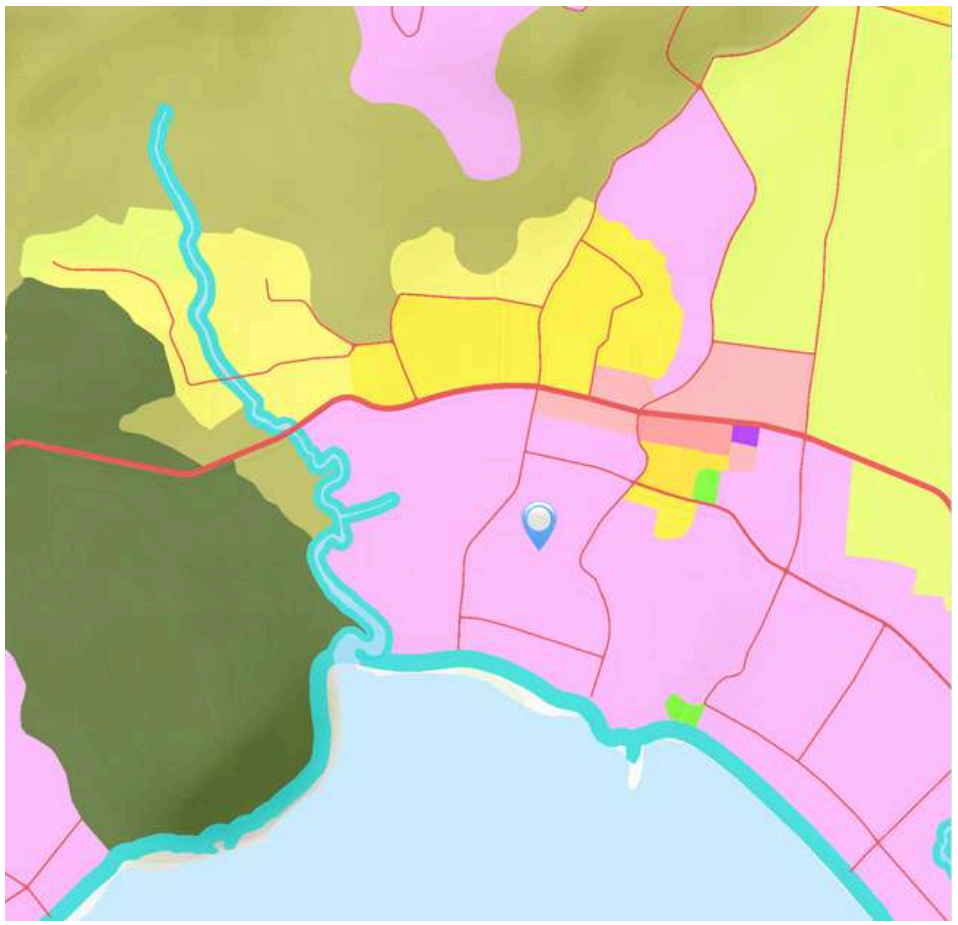


Image Source: Topoexport.com and Author, 2026



Koefisien Dasar Bangunan (%)

70

Koefisien Lantai Bangunan

2,8

Koefisien Dasar Hijau (%)

30

Kode Zona
W

Nama Zona
Zona Pariwisata

Kode Sub Zona
W

Nama Sub Zona
Pariwisata

Image Source: gistaru.atrbpn.go.id

3 DESIGN CONCEPT

RESORT WITH A THERMAL COMFORT FOCUSED APPROACH

The resort is designed with a primary focus on thermal comfort, responding to the tropical climate of Lombok through passive cooling strategies. The design utilises natural ventilation, building orientation, shading devices, vegetation, water elements, and appropriate material selection to reduce heat gain and improve the comfort of guests. Rather than relying solely on mechanical systems, the resort integrates environmental responses into its architectural design, creating spaces that are naturally cooler, more comfortable, and responsive to the local climate.

LOCAL PRINCIPLE EXPERIENCE

The resort adopts the principles of local Sasak traditions and architecture as an essential foundation for its design development and architectural philosophy. These principles are not merely applied as visual elements, but are interpreted through spatial organisation, building forms, materiality, relationships with nature, and the creation of communal experiences. By translating local architectural values into a contemporary resort environment, the design aims to provide guests with an authentic sense of place and a meaningful experience of Lombok's local identity.

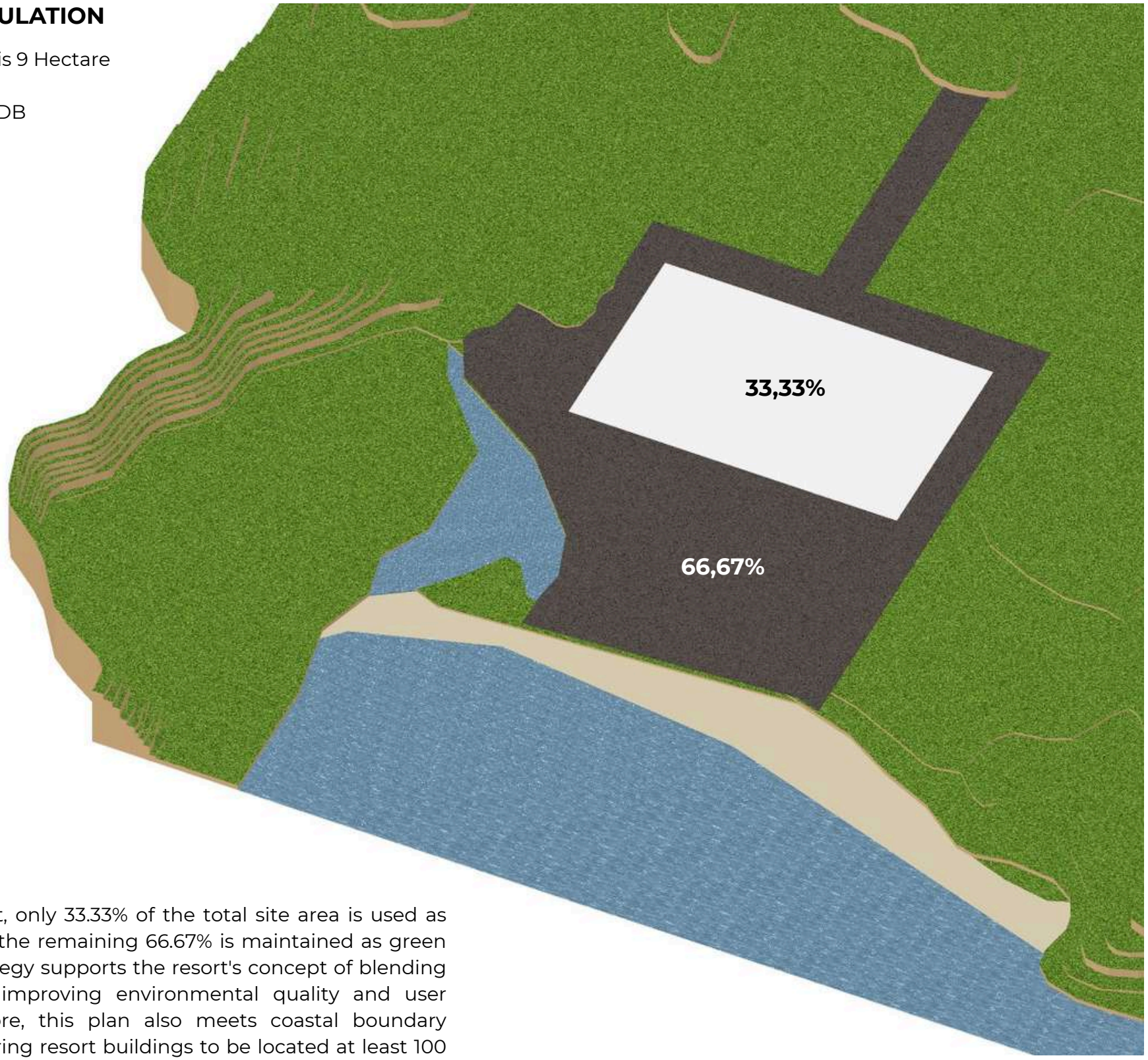
FAMILY LEISURE

The resort is designed to provide a comfortable environment for families seeking quality time and meaningful leisure experiences together. The spatial arrangement accommodates different family activities, from shared recreational spaces and communal amenities to more private areas for relaxation and bonding. Through the integration of comfort, privacy, recreation, and connection with nature, the resort creates an environment where families can enjoy their holiday while strengthening their relationships and creating shared memories.

SITE USAGE REGULATION

Total Size of the site is 9 Hectare

Regulation is 70% KDB
and 30% KDH



In this resort project, only 33.33% of the total site area is used as built-up area, while the remaining 66.67% is maintained as green landscape. This strategy supports the resort's concept of blending with nature while improving environmental quality and user comfort. Furthermore, this plan also meets coastal boundary requirements, requiring resort buildings to be located at least 100 meters from the shoreline.

Image Source: Meteoblue.com

SITE ZONING

The resort site will be divided into three main zones, namely public, semi-private and private zones in an effort to create more structured, efficient and comfortable space management for users. This zoning division aims to regulate the level of privacy, activities and circulation patterns within the resort area so as to create clearer spatial relationships between public areas, transition areas and private accommodation areas. The public zone will accommodate the main functions that are open and easily accessible such as the lobby, restaurant and reception area, while the semi-private zone functions as a transition area that accommodates shared activities for resort guests such as spas, lounges and communal areas. Meanwhile, private zones are placed in areas with a higher level of tranquility and privacy for accommodation functions such as villas and resort rooms.

Apart from achieving zoning and circulation efficiency, this area division also implements Sasak architectural values, especially in the concept of spatial planning and privacy hierarchy in their traditional settlements. In Sasak architecture, spatial patterns are arranged based on certain levels of accessibility and privacy which create gradual spatial relationships from public areas to more private areas. This approach was then adapted into resort design to create a spatial experience that is more contextual, organized and in harmony with Lombok's local cultural character.



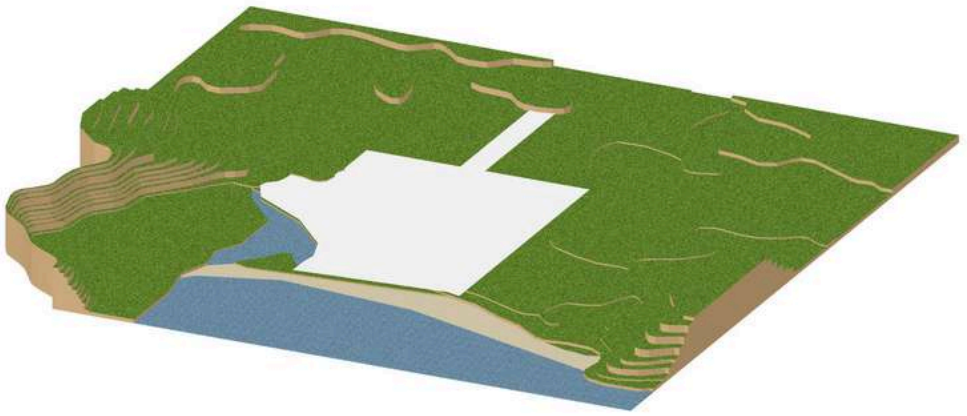


Image Source: Author, 2026

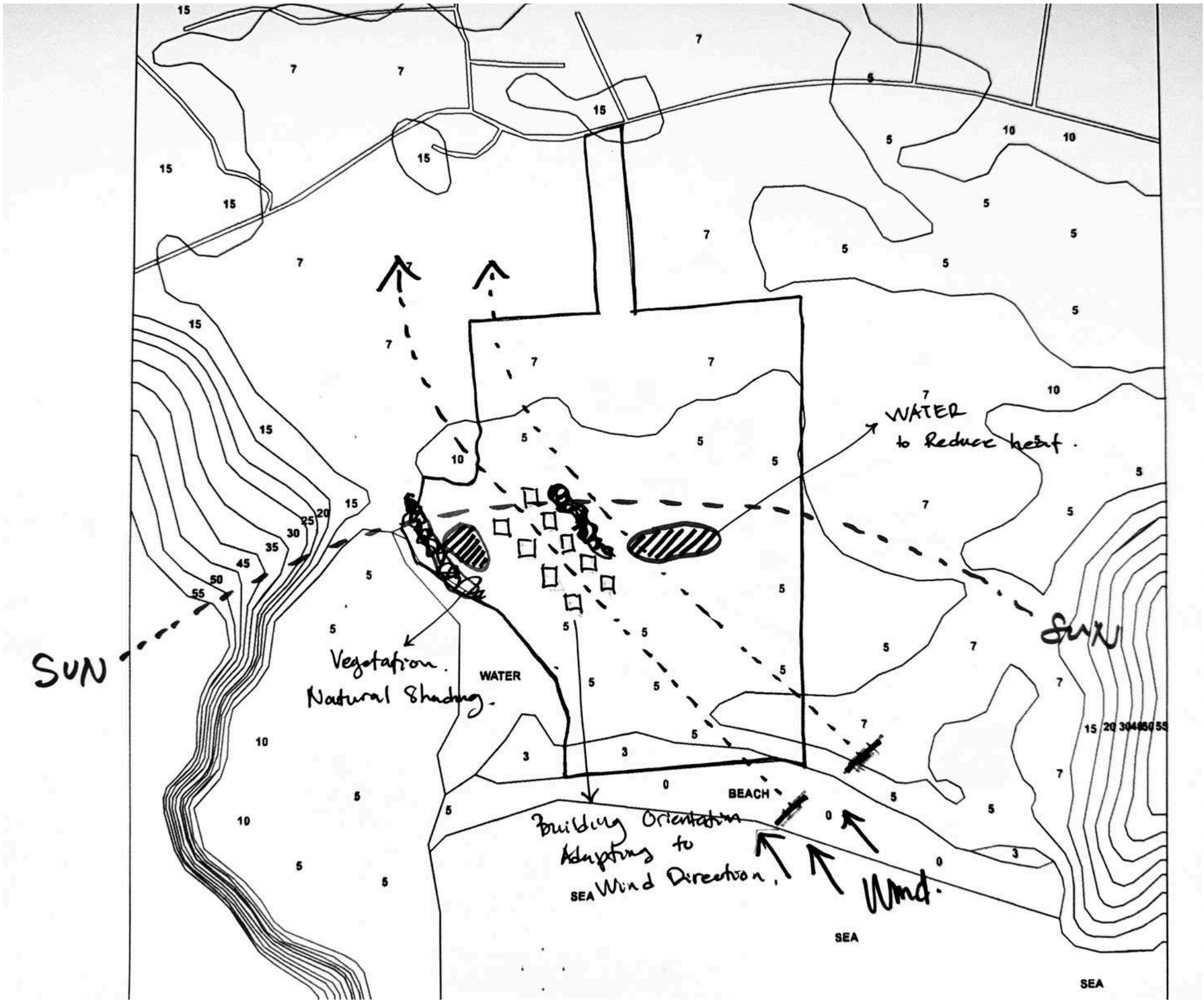


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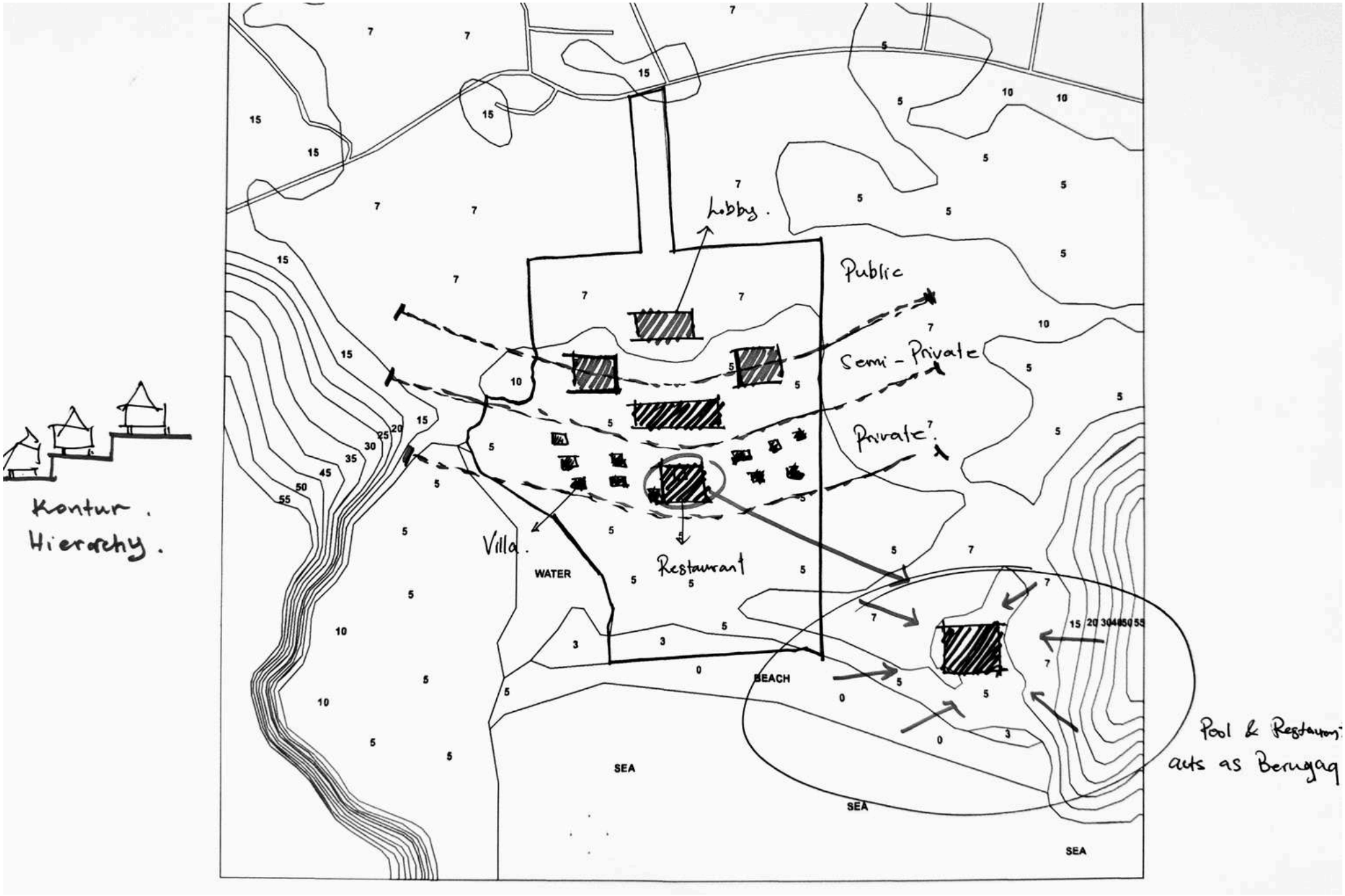
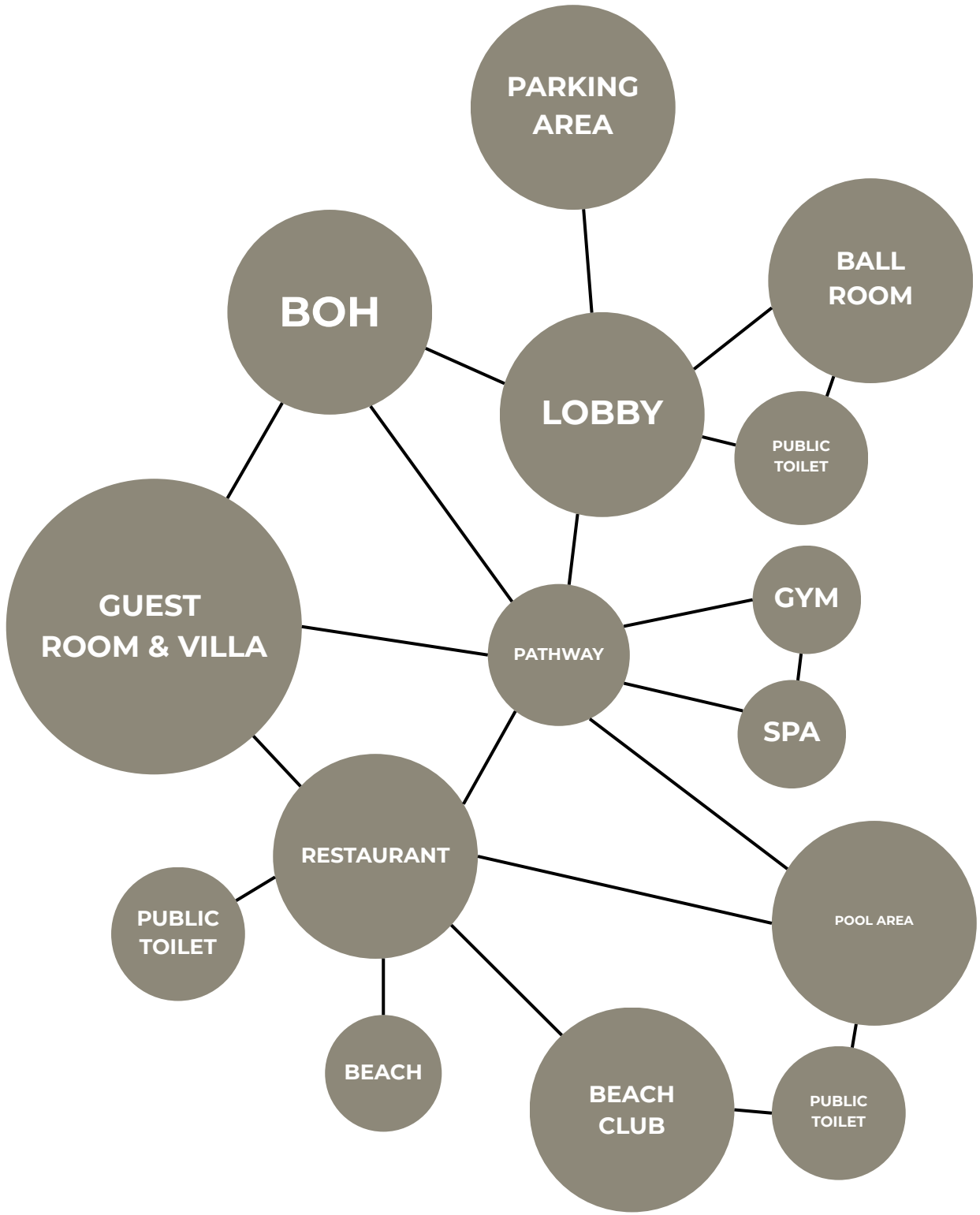


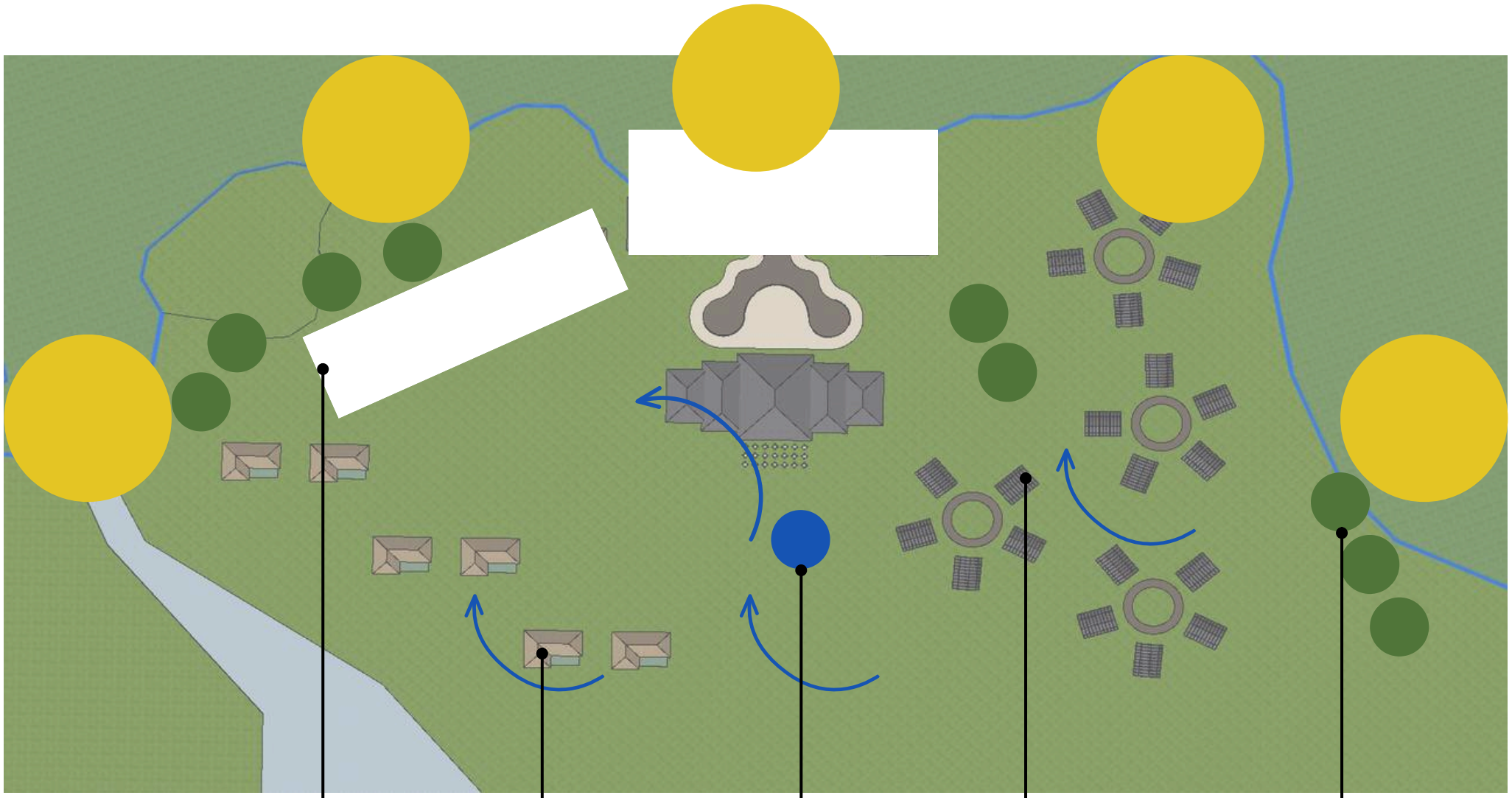
Image Source: Author, 2026



SPACE ARRANGEMENT DIAGRAM

Total Size of the site is 9 Hectare

Regulation is 70% KDB
and 30% KDH



Responsive to Sun and Wind
The building typology is shaped to minimize solar heat gain in central areas while maximizing natural ventilation by capturing prevailing winds and directing airflow through the development.

Dispersed Building Arrangement
In addition to providing privacy for the private villa areas, the dispersed building layout allows natural airflow to pass freely through the site. This approach helps maintain the existing wind movement patterns and minimizes disruption to the site's natural ventilation.

Waterways as Passive Cooling Elements
Waterways are integrated into the landscape to enhance passive cooling by creating a cooler microclimate, reducing ambient temperatures, and improving overall environmental comfort.

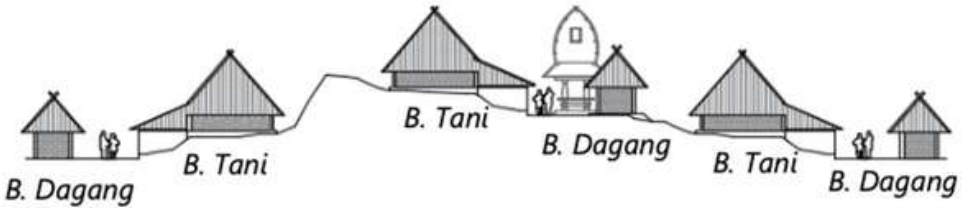
Dispersed Building Arrangement
In addition to providing privacy for the private villa areas, the dispersed building layout allows natural airflow to pass freely through the site. This approach helps maintain the existing wind movement patterns and minimizes disruption to the site's natural ventilation.

VegetatioAdditional Vegetation
Additional vegetation is introduced to provide natural shading and act as a windbreak, helping to reduce heat exposure and soften strong winds due to the site's proximity to the coastline.

Image Source: Meteoblue.com

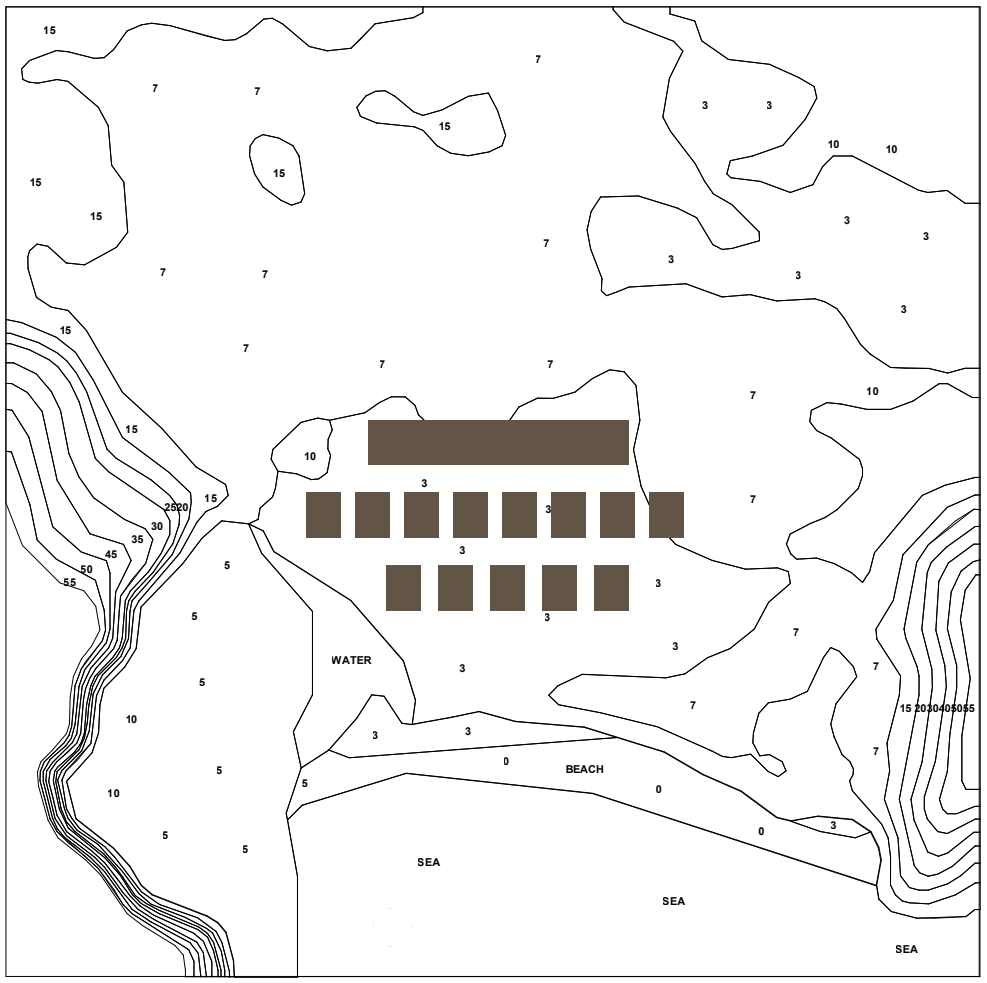
SASAK PRINCIPLE





Hierarchical Spatial Layout Inspired by Sasak Architecture
The spatial organization follows the hierarchical principles of traditional Sasak architecture, creating a clear sequence of spaces from public to semi-private and private zones. This arrangement enhances functionality, privacy, and wayfinding while maintaining a strong connection to local cultural values and spatial traditions.

SPATIAL DESIGN CONCEPT



The planning strategy focuses on creating a simple, clear, and efficient spatial arrangement that optimizes circulation and functionality throughout the development. Spaces are carefully organized to ensure ease of movement, intuitive wayfinding, and effective relationships between different functions, resulting in a layout that is both practical and user-friendly.

A strong emphasis is placed on privacy, particularly within accommodation areas, to provide guests with a comfortable and exclusive experience. To achieve this, a series of transitional spaces are introduced between public and private zones. These semi-public areas act as buffers that gradually guide users from active communal spaces into more intimate and secluded environments.

This layered spatial hierarchy not only enhances privacy but also creates a more comfortable and engaging user experience. By avoiding abrupt transitions between public and private functions, the design encourages a natural progression through the site while maintaining a sense of openness, accessibility, and spatial balance. The result is a planning approach that is efficient, culturally responsive, and capable of supporting both social interaction and personal retreat.

Image Source:

PROPERTY SIZE NEEDS & STANDARTS

LOBBY AREA			
Space	**Standard size (sqm)**	**Standard dimension (m**	**capacity (Person)**
Main Lobby Hall	80-150 sqm	10x8m - 15x10m	30 - 60
Reception Counter	15-25 sqm	3x5 m - 5x5 m	3 - 5 staff
Concierge Desk	8 - 15 sqm	2x4 m - 3x5 m	2-3 staff
Waiting lounge	40-80 sqm	5x8 m - 8x10 m	15-30 people
Luggage room	10-20 sqm	2x5 m - 4x5 m	2-4 staff
Guest Toilet	15-25 sqm	3x5 m - 5x5 m	4-8 user
Admin Office	20-40 sqm	4x5 m - 5x8 m	4-8 staff
Storage room	6-10 sqm	2x3 m - 2x5 m	
Total	**365**	**Total With Circulation**	**474,5**

ACCOMODATION			
Standart Room			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Bedroom	24 - 32 sqm	4x6 m - 4x8 m	2
Bathroom	6-10 sqm	2x3 m - 2.5x4 m	1
Balcony/Terrace	8 - 12 sqm	2x4 m - 3x4 m	2
Wardrobe Area	2-4 sqm	1x2 m - 2x2 m	2
Total Room Area	**58**	**Total With Circulation**	**75,4**
Room Qty	**40**	**Total**	**3016**
Deluxe room			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Bedroom	32 - 40 sqm	5x7 m - 5x8 m	2
Bathroom	8-12 sqm	3x3 m - 3x4 m	1
Terrace	10-15 sqm	2.5x4 m - 3x5 m	2
Lounge corner	6-10 sqm	2x3 m - 2x5 m	2
Total Room Area	**77**	**Total With Circulation**	**100,1**
Room Qty	**40**	**Total**	**4004**
Private Pool Villa			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Bedroom	35-50 sqm	5x7 m - 5x10 m	2
Bathroom	12-18 sqm	3x4 m - 4x5 m	1
Outdoor deck	20-40 sqm	4x5 m - 5x8 m	2
Pool	18-35 sqm	3x6 m 5x7 m	2
Total Villa Area	**143**	**Total With Circulation**	**185,9**
Room Qty	**20**	**Total**	**3718**
Familly Villa			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Master bedroom	30-40 sqm	5x6 m - 5x8 m	2
Twin bedroom	25-35 sqm	5x5 m - 5x7 m	2
Living room	25-40 sqm	5x5 m - 5x8 m	4
Pantry/Dining	15-25 sqm	3x5 m - 5x5 m	4
Outdoor area	50-90 sqm		4
Total Villa Area	**230**	**Total With Circulation**	**299**
Room Qty	**6**	**Total**	**1794**

FOOD & BEVERAGE			
All day dining Restaurant			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Indoor dining	120-250 sqm	10x12 m - 15x16 m	60 - 120 seats
Outdoor dining	80-150 sqm	8x10 m - 10x15 m	30 - 70 seats
Buffet area	20-40 sqm	4x5 m - 5x8 m	
Main kitchen	80-150 sqm	8x10 m - 10x15 m	15 - 30 staff
Dishwashing	15-30 sqm	3x5 m - 5x6 m	3-6 staff
Dry Storage	15-25 sqm	3x5 m - 5x5 m	
Cold Storage	8-15 sqm	2x4 m - 3x5 m	
Total Area	**660**	**Total With Circulation**	**858**
Beach Bar			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Bar counter	20-40 sqm	4x5 m - 5x8 m	
Lounge area	80-150 sqm	8x10 m - 10x15 m	
outdoor deck	100-250 sqm	10x10 m - 15x16 m	
DJ booth	8-15 sqm	2x4 m - 3x5 m	
storage	6-10 sqm	2x3 m - 2x5 m	
Total Area	**465**	**Total With Circulation**	**604,5**

WELLNESS & LEISURE			
SPA			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Reception	20-40 sqm	4x5 m - 5x8 m	
Single Treatment room	12-18 sqm	3x4 m - 3x6 m	
Couple Treatment room	20-30 sqm	4x5 m - 5x6 m	
Relaxation Lounge	30-60 sqm	5x6 m - 6x10 m	
Total Area	**148**	**Total With Circulation**	**192,4**
Gym			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Workout area	80-150 sqm	8x10 m - 10x15 m	
Yoga Area	40-80 sqm	5x8 m - 8x10 m	
Locker room	20-40 sqm	4x5 m - 5x8 m	
Total Area	**270**	**Total With Circulation**	**351**
Swimming Pool			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Main Pool	150-400 sqm	10x15 m - 15x25 m	40-100 people
Kids Pool	30-60 sqm	5x6 m - 6x10 m	10-120 children
Pool deck	100-250 sqm	varies	40-80 loungers
Total Area	**710**	**Total With Circulation**	**923**

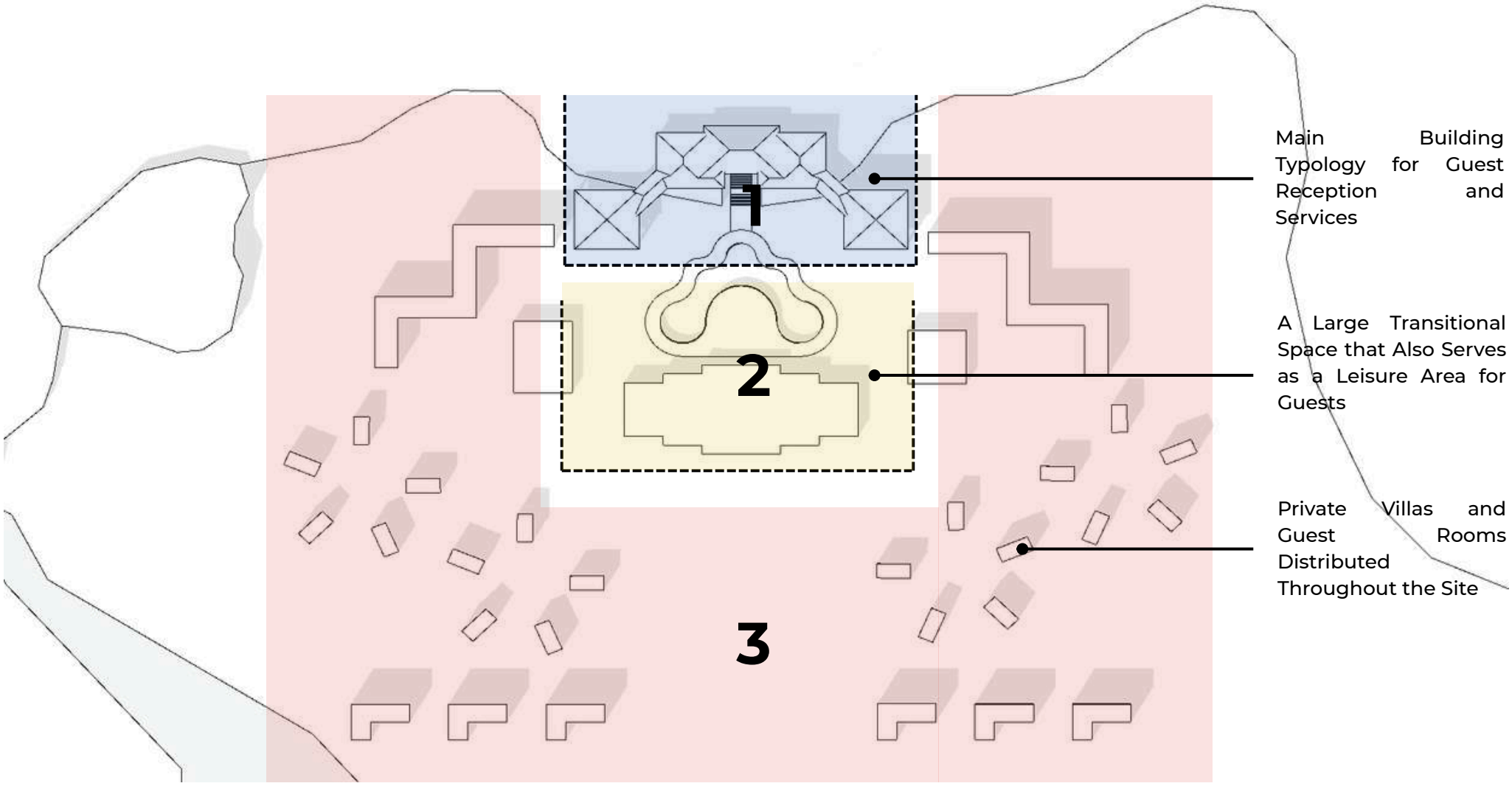
Image Source: Forma

PROPERTY SIZE STANDART

BOH			
Administration office			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
GM Office	15-25 sqm	3x5 m - 5x5 m	
Finance office	15-30 sqm	3x5 m - 5x6 m	
HR office	12-20 sqm	3x4 m - 4x5 m	
Meeting Room	20-40 sqm	4x5 m - 5x8 m	
Total Area	**115**	**Total With Circulation**	**149,5**
Staff Area			
Space	Standard size (sqm)	Standard dimension (m)	capacity (Person)
Locker room	25-50 sqm	5x5 m - 5x10 m	
staff dining	40-80 sqm	5x8 m - 8x10 m	
Staff lounge	20-40 sqm	45 m - 5x8 m	
Staff toilet & shower	20-40 sqm	4x5 m - 5x8 m	
Prayer room	15-30 sqm	3x5 m - 5x6 m	
Total Area	**240**	**Total With Circulation**	**312**
Laundry			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Washing Area	40-80 sqm	5x8 m - 8x10 m	
Drying area	30-60 sqm	5x6 m - 6x10 m	
Ironing/Folding	30-50 sqm	5x6 m - 5x10 m	
Dirty linen storage	10-20 sqm	2x5 m - 4x5 m	
Clean linen storage	15-25 sqm	3x5 m - 5x5 m	
Total Area	**235**	**Total With Circulation**	**305,5**
House keeping			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Linen storage	20-40 sqm	4x5 m - 5x8 m	
House keeping office	10-20 sqm	2x5 m - 4x5 m	
Equipment storage	10-15 sqm	2x5 m - 3x5 m	
Total Area	**75**	**Total With Circulation**	**97,5**

MECHANICAL & ENGINEERING			
Electrical Room			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Main electrical room	25-60 sqm	5x5 m - 6x10 m	
Transformer Room	20-40 sqm	4x5 m - 5x8 m	
Generator Room	40-100 sqm	5x8 m - 8x12 m	
Total Area	**200**	**Total With Circulation**	**260**
Plumbing & Water			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Pump room	15-30 sqm	3x5 m - 5x6 m	
Water tank room	20-60 sqm	varies	
STP Room	50-120 sqm	5x10 m - 10x12 m	
Total Area	**210**	**Total With Circulation**	**273**
HVAC / Mechanical			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
AC Plant Room	30-80 sqm	5x6 m - 8x10 m	
Mechanical Shaft	Depends		
Total Area	**80**	**Total With Circulation**	**104**
Waste Management			
Space	**Standard size (sqm)**	**Standard dimension (r**	**capacity (Person)**
Organic waste room	15-30 sqm	3x5 m - 5x6 m	
Recycling storage	15-25 sqm	3x5 m - 5x5 m	
Loading Area	20-40 sqm	4x5 m - 5x8 m	
Total Area	**95**	**Total With Circulation**	**123,5**

Total Space Needed
17.560



1 PUBLIC ZONE

The building is designed as the primary arrival point for guests, accommodating the lobby and key front-of-house services. Positioned as the first point of contact within the resort, it serves as a welcoming gateway and orientation space for visitors. The building adopts a larger typology compared to other structures on the site to accommodate the required capacity, operational functions, and guest services. Its scale and prominence establish a strong sense of arrival while ensuring efficient circulation and a comfortable guest experience.

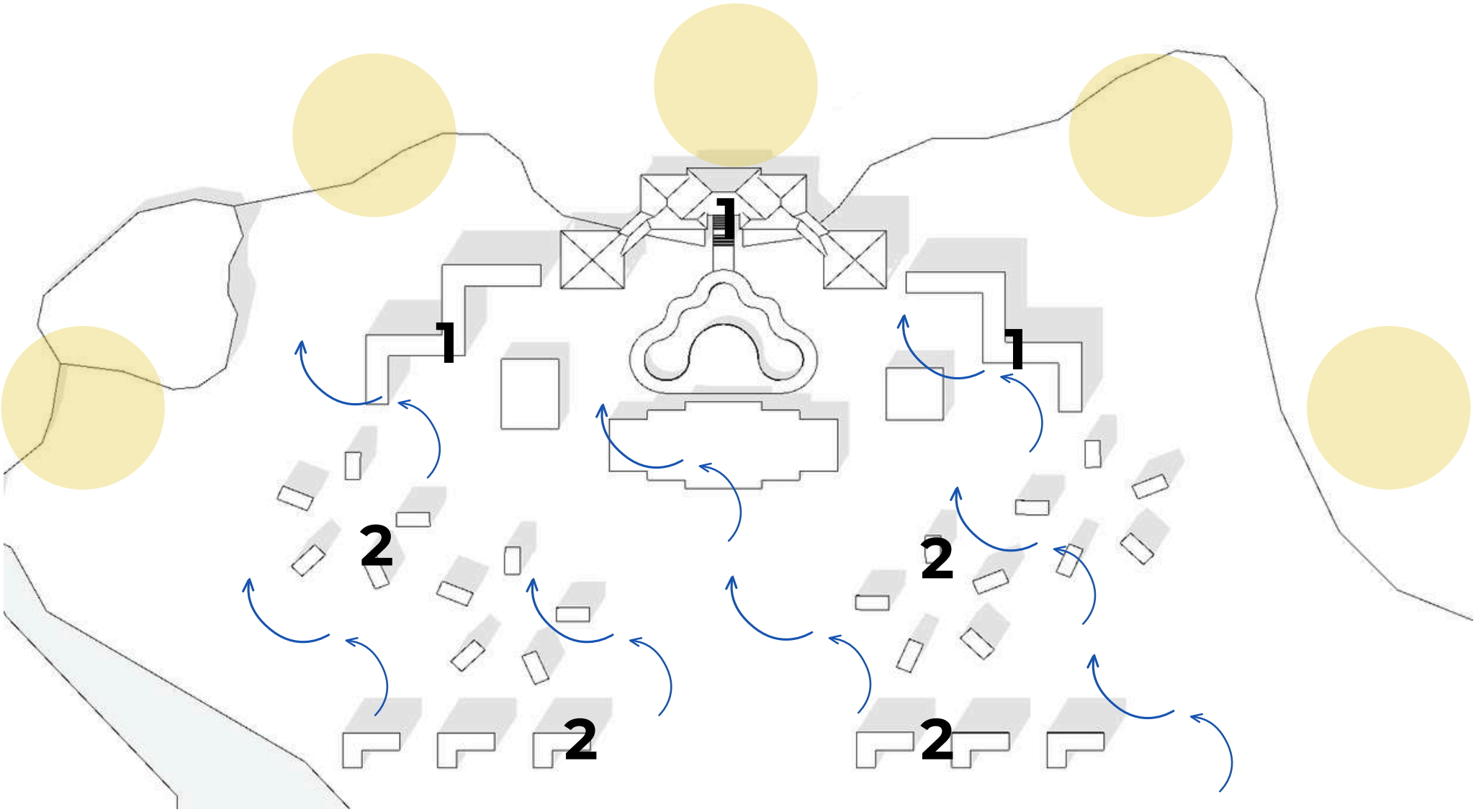
2 SEMI-PUBLIC

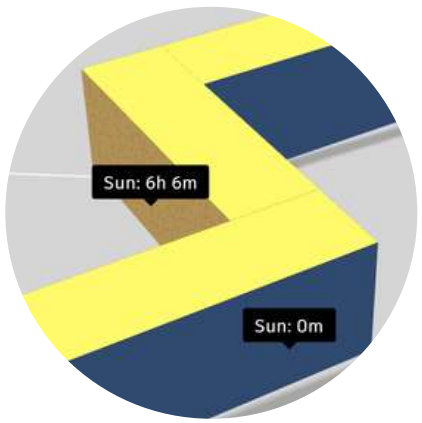
This area acts as a transition between the public and private zones of the resort, accommodating leisure facilities such as the spa, gym, and swimming pool. While certain facilities remain accessible to the public, access is limited to designated areas to maintain guest privacy and ensure a clear hierarchy of spaces.

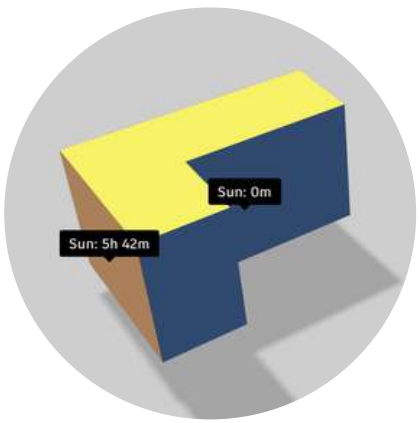
3 PRIVATE

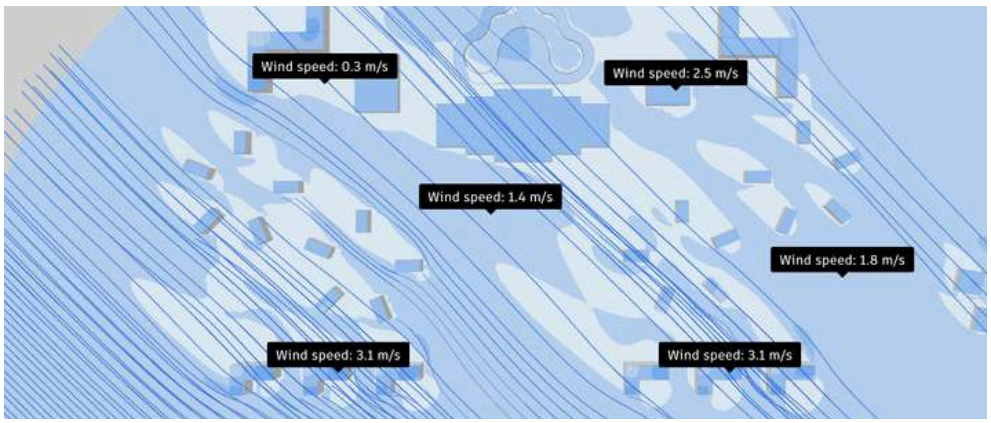
This zone is exclusively reserved for resort guests and is not accessible to the public. It comprises hotel-style accommodations with scenic views, as well as private villas designed to provide a more exclusive guest experience. The building typology is arranged in a dispersed layout to enhance privacy, minimize disturbances between units, and ensure a higher level of security and comfort for guests.

Image Source: Forma









1 ORIENTATION

This building section functions as the guest room corridor and is designed with a linear orientation opposite to the sun's path. This orientation minimizes direct solar exposure, reducing heat gain and improving thermal comfort within the building.

2 PLANNING AND SHAPE

The private villas are strategically dispersed throughout the site to maintain natural airflow and effective wind distribution across the resort. Large building masses are avoided at the front of the site, allowing wind to flow freely and reach the areas behind, improving natural ventilation and thermal comfort.

Image Source: Forma

BUILDING FORM EXPLORATION

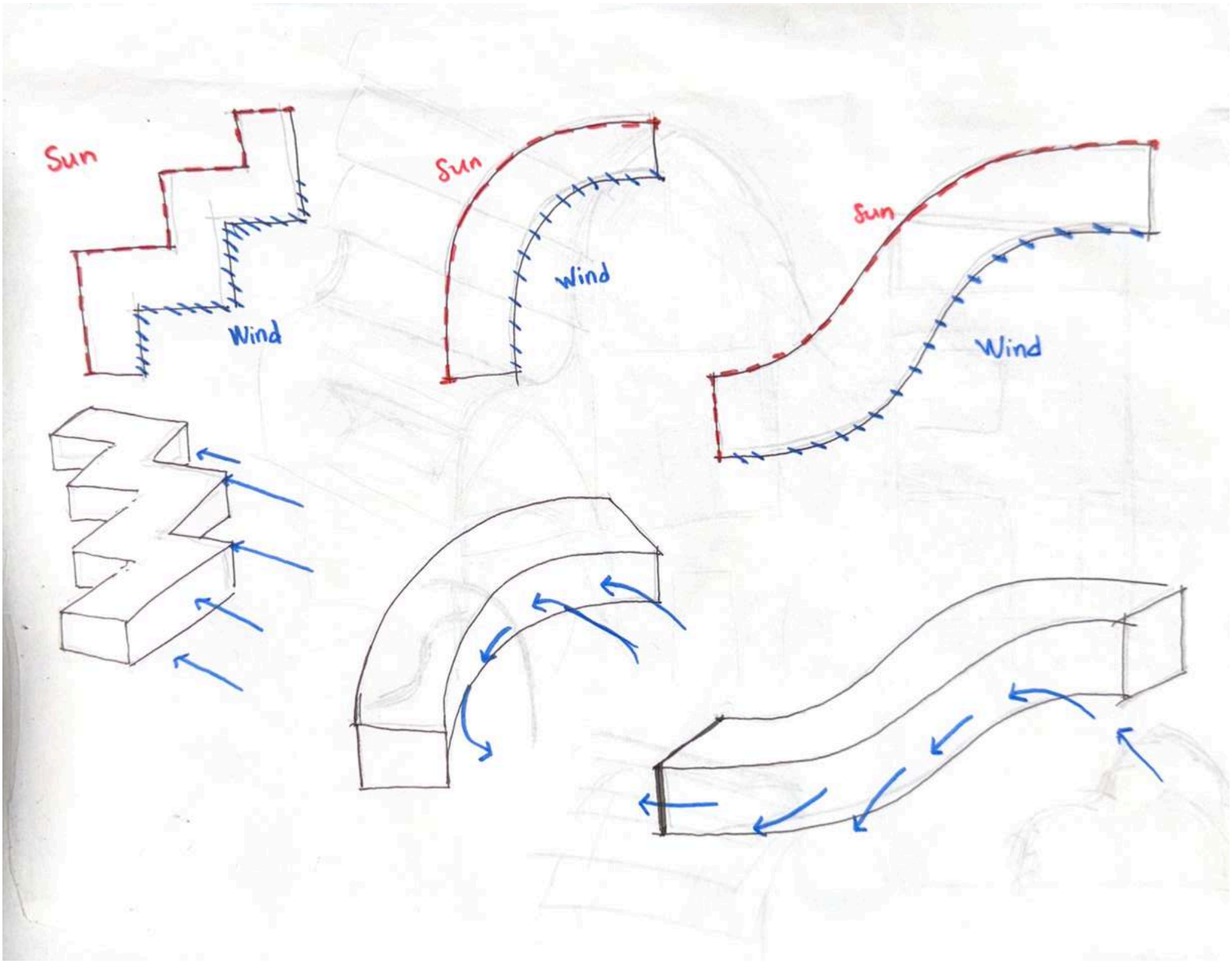
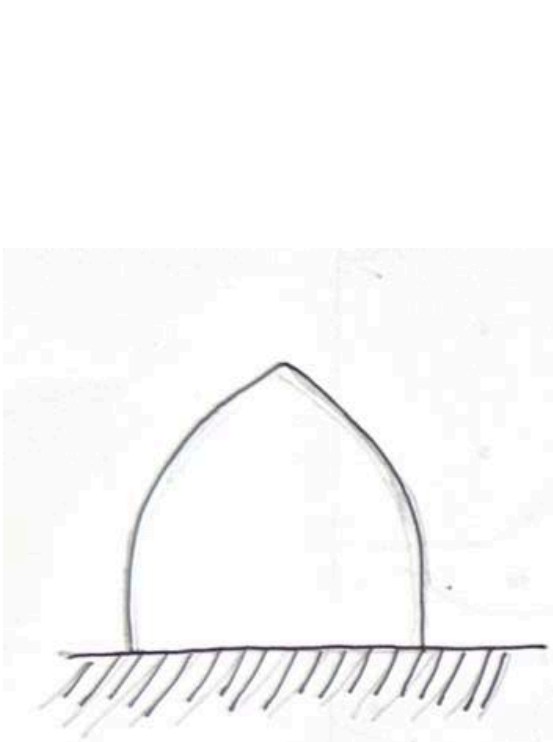
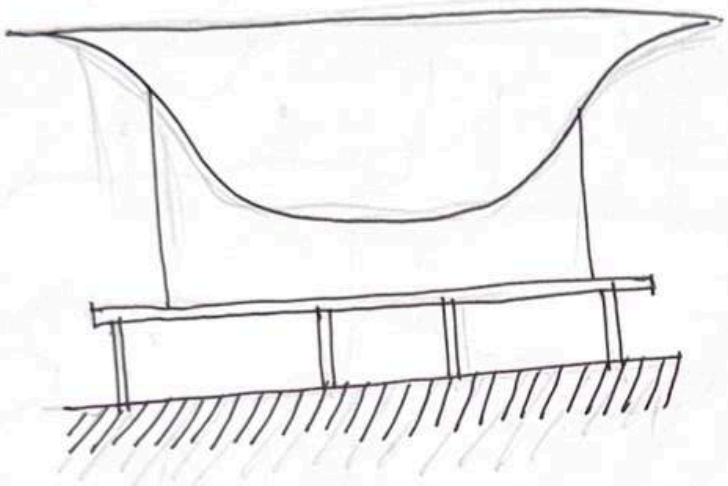
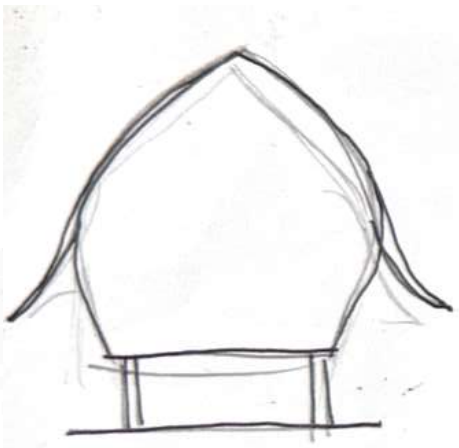


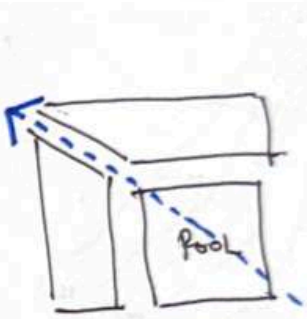
Image Source: Author, 2026

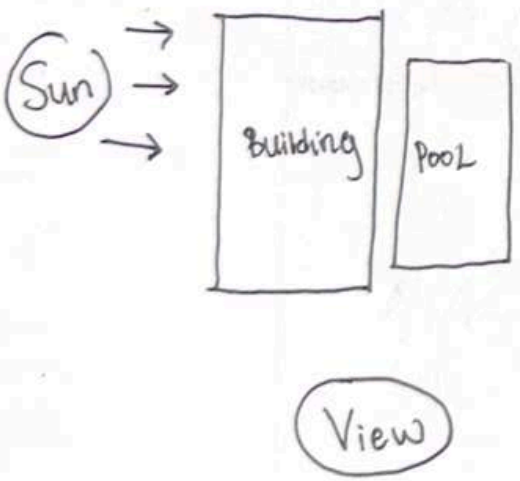
BUILDING FORM EXPLORATION

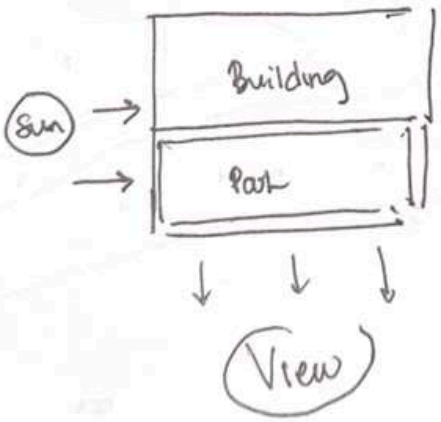


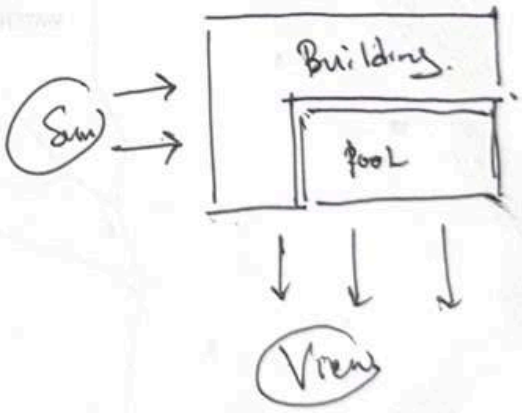








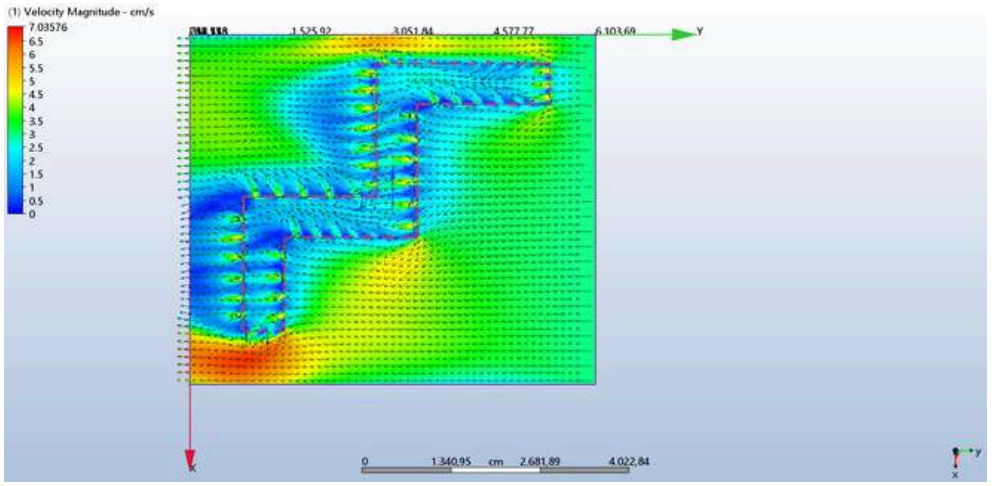




CFD SIMULATION

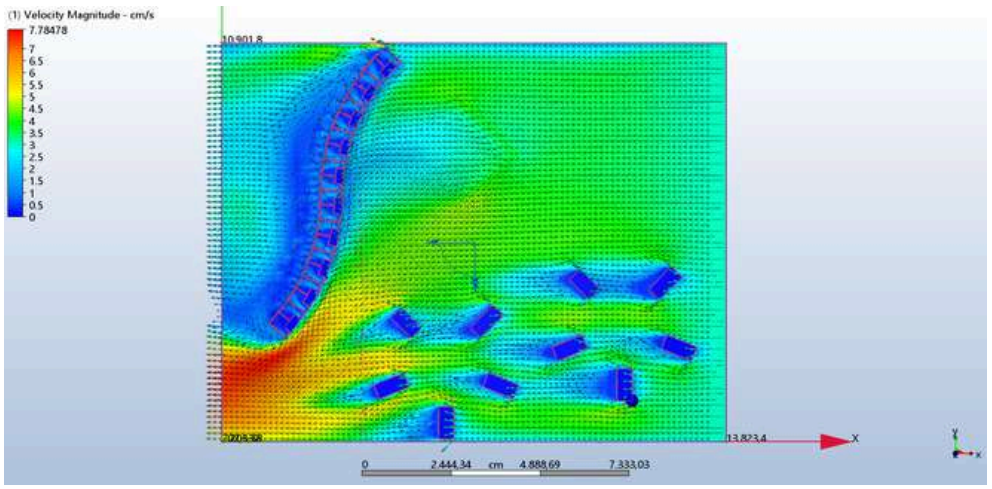
1 BEFORE

While the building form is efficient in terms of space planning, its rigid and non-fluid geometry disrupts the natural airflow across the site. As a result, wind movement becomes fragmented, creating uneven wind distribution and localized turbulence rather than allowing air to flow smoothly through the development.



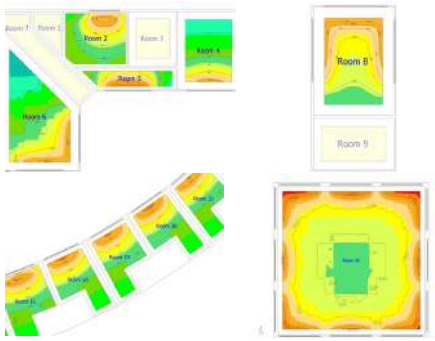
2 AFTER

The building form was refined to create a more fluid and dynamic layout that responds better to the site's wind conditions. This adjustment allows airflow to move more smoothly throughout the development, reducing turbulence and preventing wind from breaking apart within the resort area. Stronger wind currents are redirected to the outer edges of the site, helping maintain a more comfortable environment for guests.



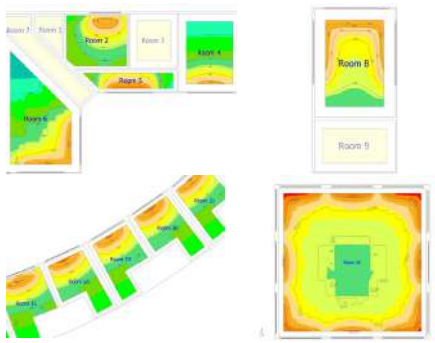
DIALUX

MARCH 21ST



JUNE 21ST

SEPT 23RD



DEC 22ND

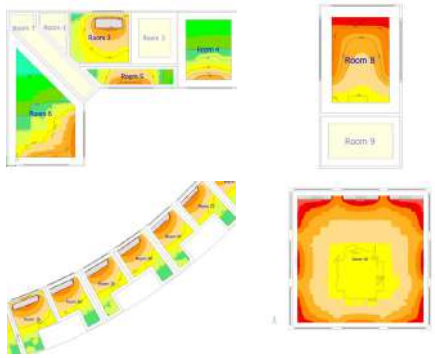
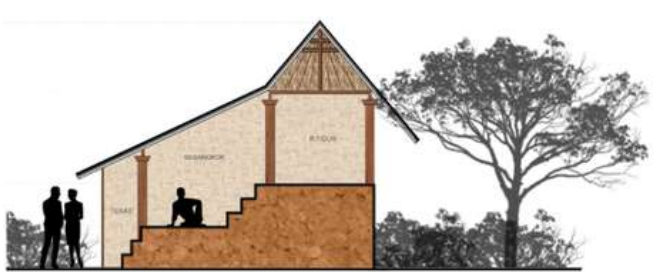


Image Source: CFD & Dialux

SASAK ARCHITECTURE



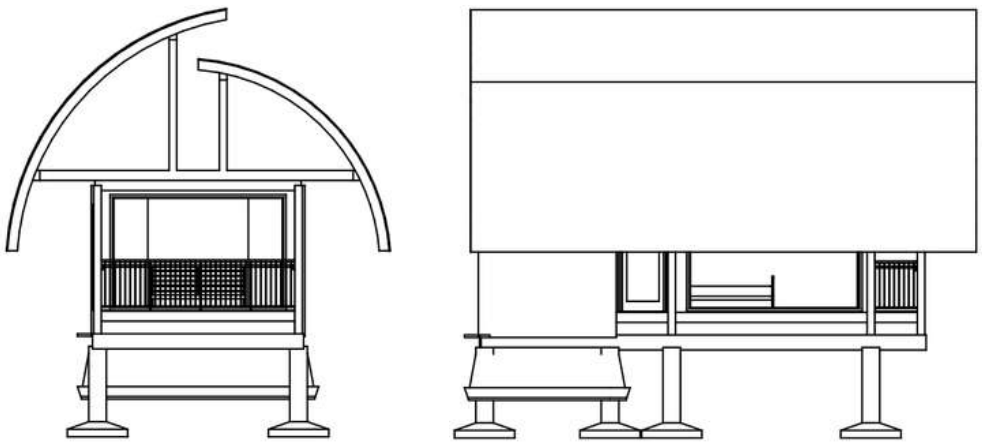






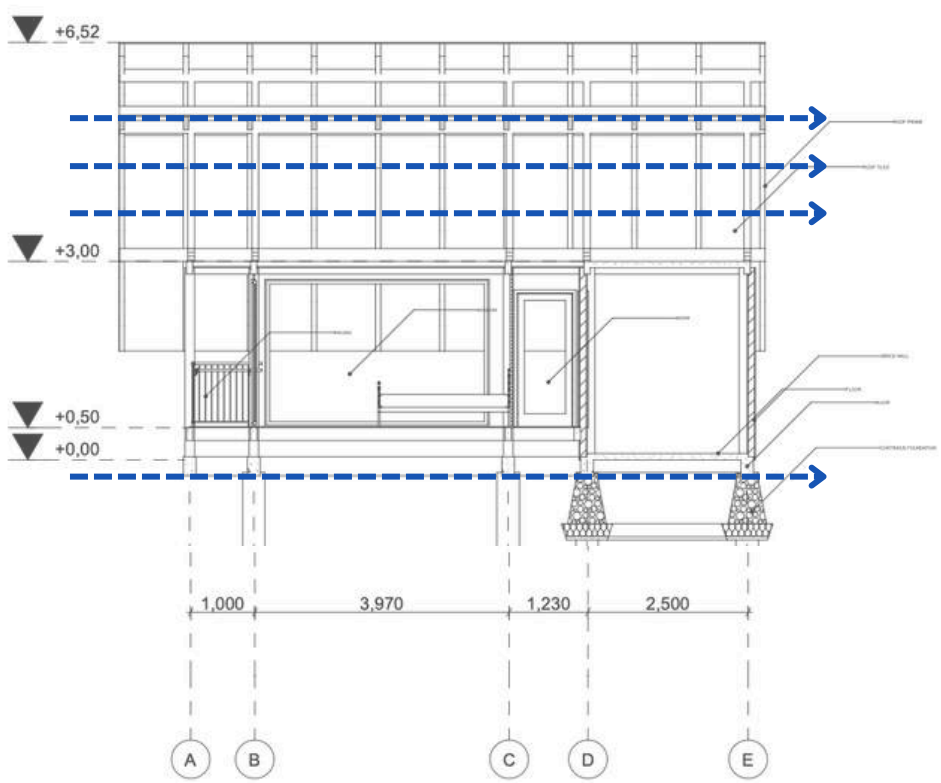
Traditional Sasak architecture demonstrates effective passive cooling strategies through the use of high ceilings and cross ventilation. These design elements promote natural airflow, improve air circulation, and help reduce indoor temperatures, creating a comfortable living environment with minimal reliance on mechanical cooling systems.

ROOF DESIGN



Inspired by the traditional Lumbung Padi of Sasak architecture, the private villa reinterprets its distinctive thatched roof form into a contemporary design, preserving the identity and cultural values of Lombok's local architecture.

PASSIVE COOLING DESIGN

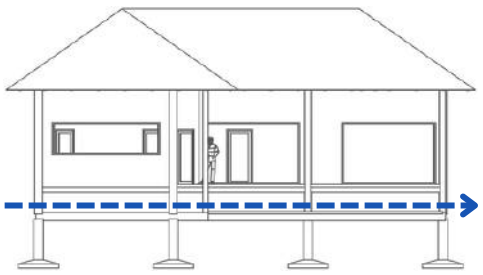


CROSS VENTILATION

Similar to the traditional Lumbung Padi, the building features a high ceiling and an elongated form that promotes effective cross ventilation. These passive design strategies enhance natural airflow and thermal comfort, making them well suited to Lombok's tropical climate.

ELEVATED FLOOR

Elevated floors are incorporated to allow air circulation beneath the building, serving as a passive cooling strategy. This helps reduce heat transfer from the ground and improves thermal comfort by promoting natural cooling from below.



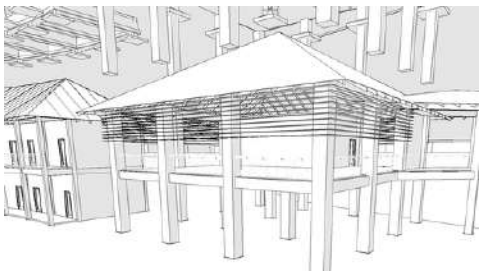


Image Source: Author,2026

SPATIAL DESIGN EXPLORATION

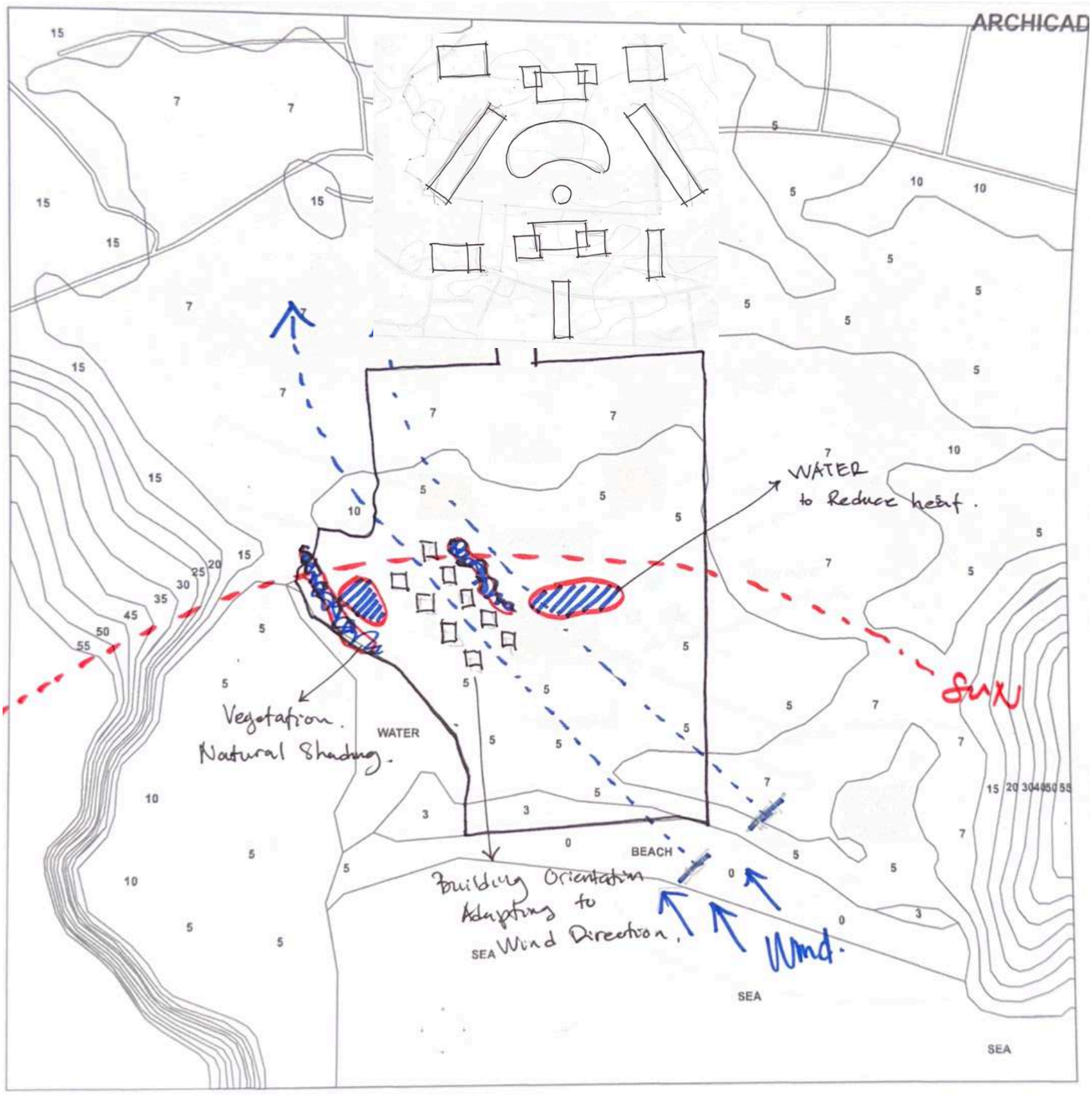
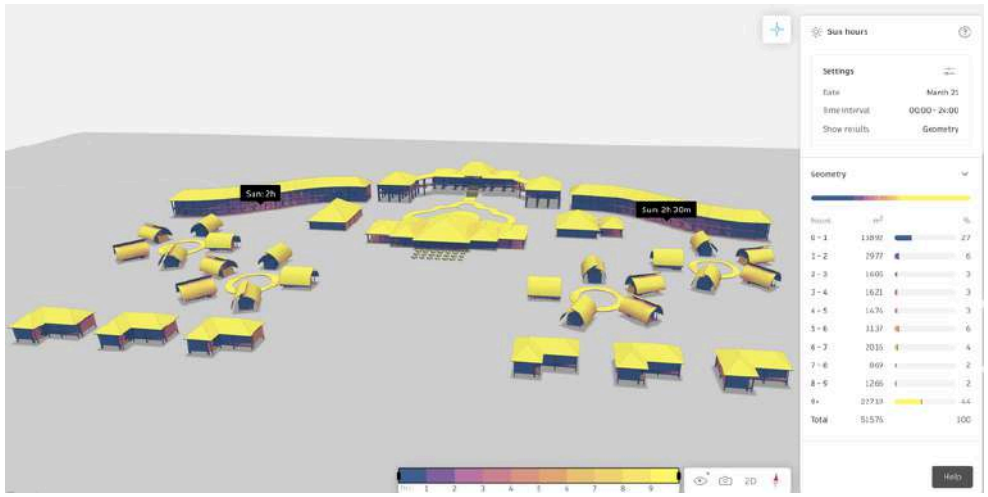


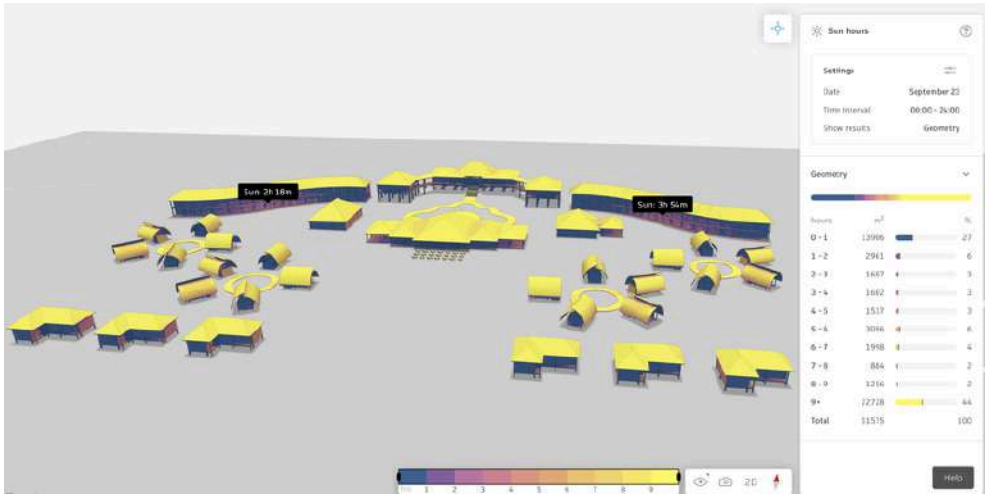
Image Source: Author,2026

RADIATION ANALYSIS USING FORMA

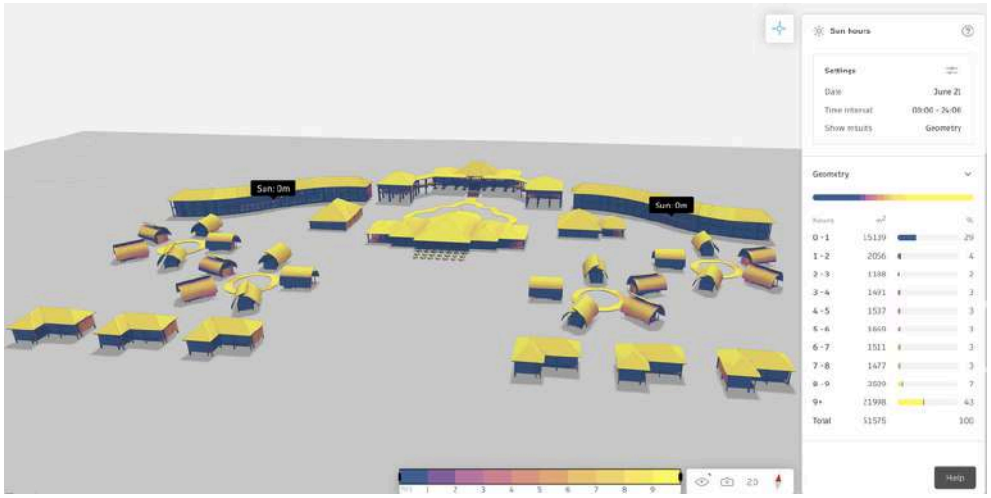
March 21st



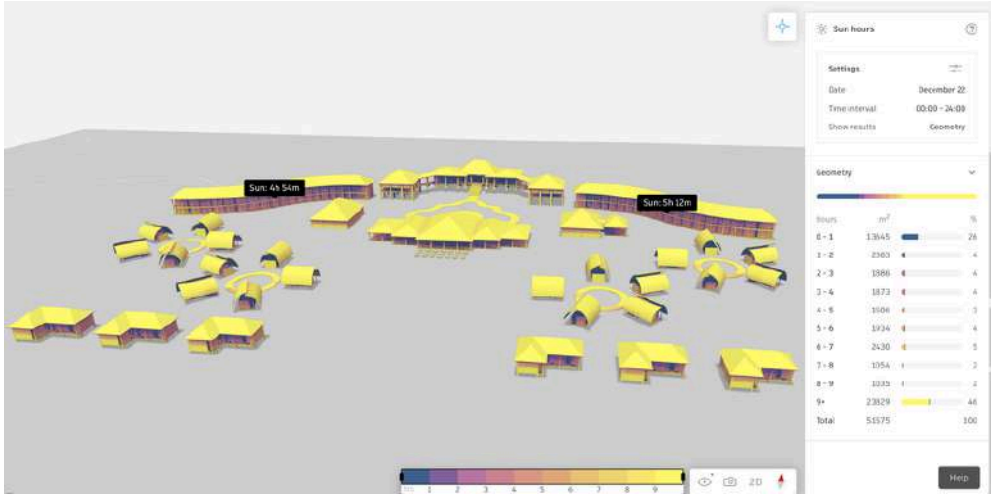
September 21st



June 21st



December 21st



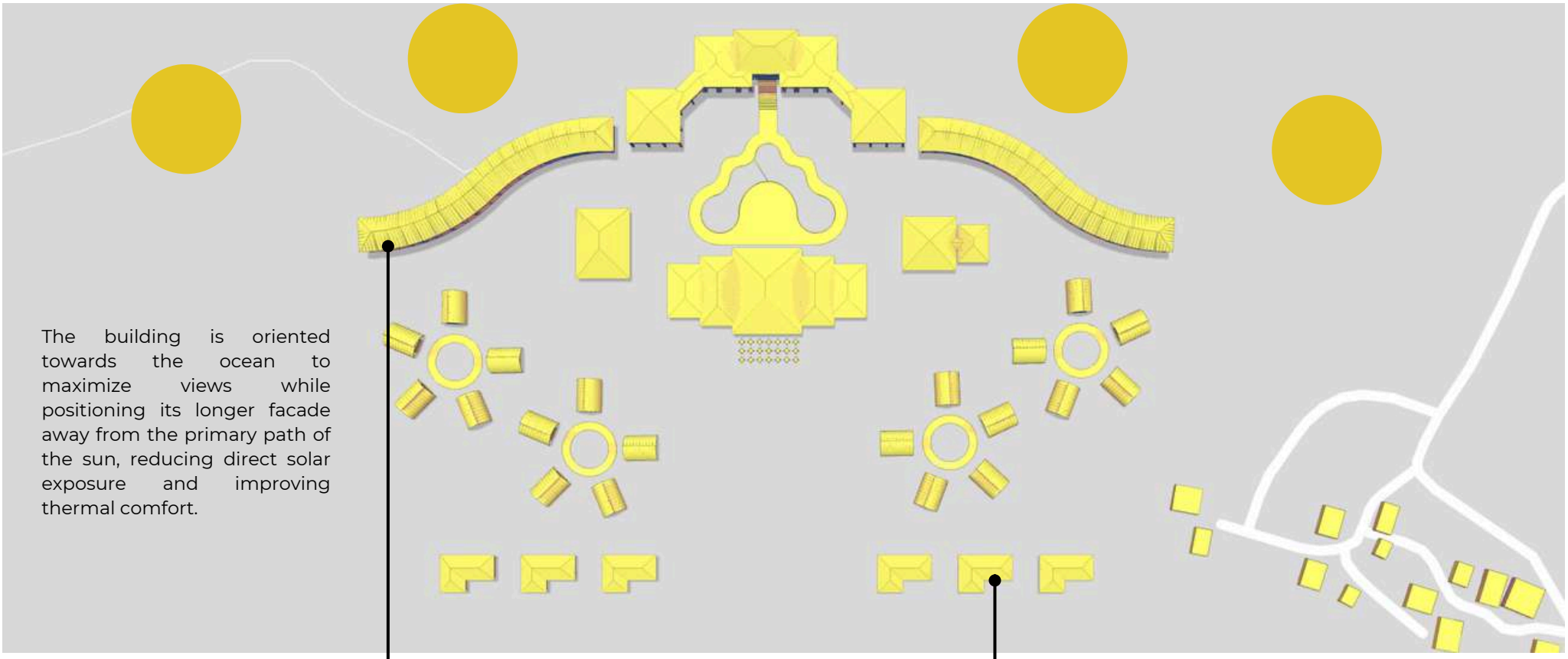
Based on the results of the Sun Radiation analysis using the Autodesk Forma application, the designed building form has been able to reduce excessive solar radiation exposure in most areas of the building. In March, June, and September, areas receiving the highest solar exposure were only exposed to direct radiation for an average of 2–3 hours per day, thus remaining relatively safe and comfortable for occupants.

The analysis also showed that in June, direct solar radiation did not reach the main openings, which are most susceptible to heat, thus minimizing the potential for room temperature increases due to solar exposure. Meanwhile, December was the period with the highest levels of solar radiation exposure, with the most exposed areas receiving direct solar radiation for an average of 4–5 hours per day.

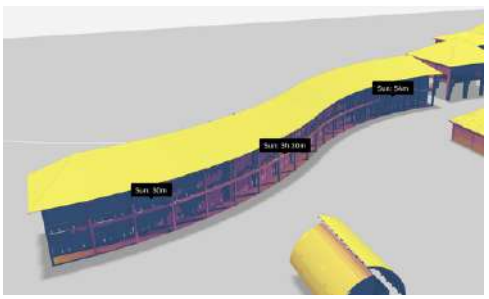
Based on these findings, the implementation of climate-responsive building envelope strategies and facade designs is necessary to control solar heat entry into the building. Elements such as shading devices, secondary skins, overhangs, and optimized openings can be used to improve thermal comfort while maintaining the quality of natural lighting within the space.

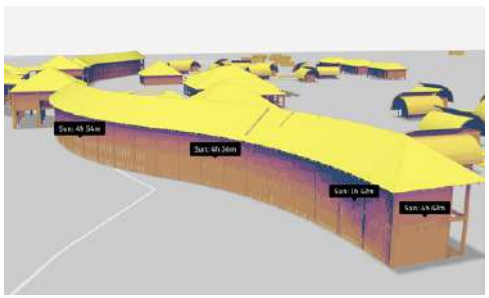
Image Source: Forma

SPATIAL PALNNING ACCORDING TO RADIATION ANALYSIS

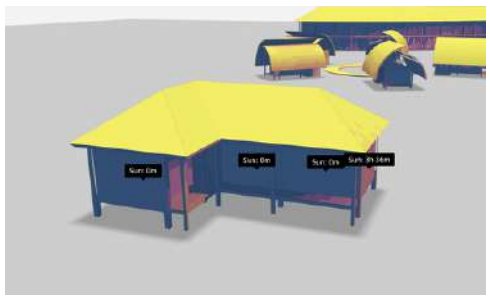


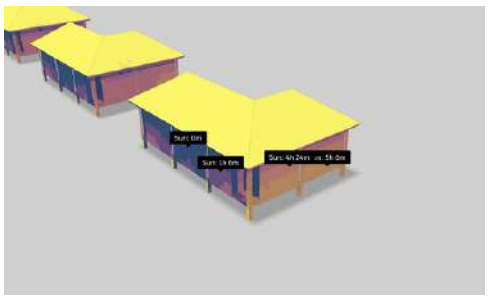
The building is oriented towards the ocean to maximize views while positioning its longer facade away from the primary path of the sun, reducing direct solar exposure and improving thermal comfort.





The analysis shows that the front of the building receives significantly less solar exposure compared to the rear façade, resulting in a lower duration of direct sunlight throughout the day.

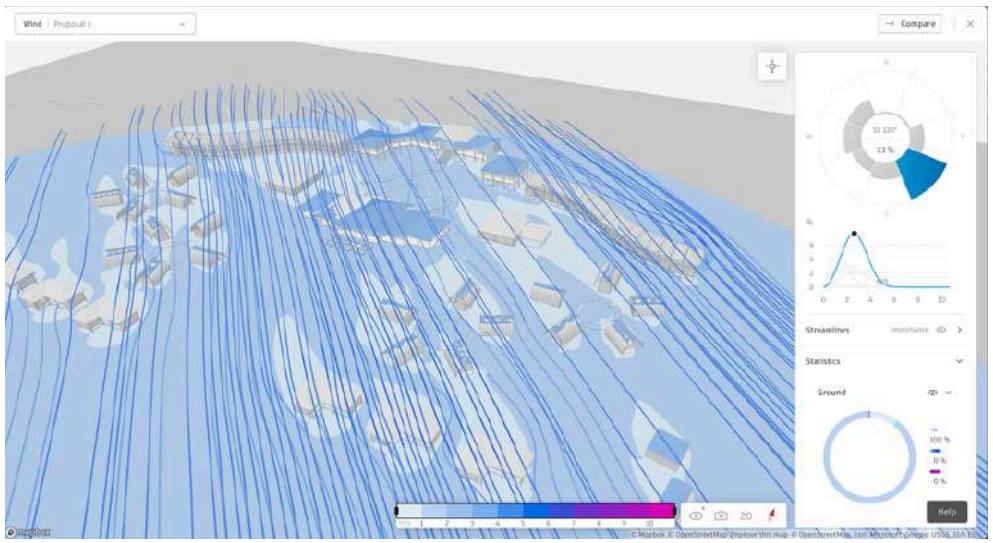




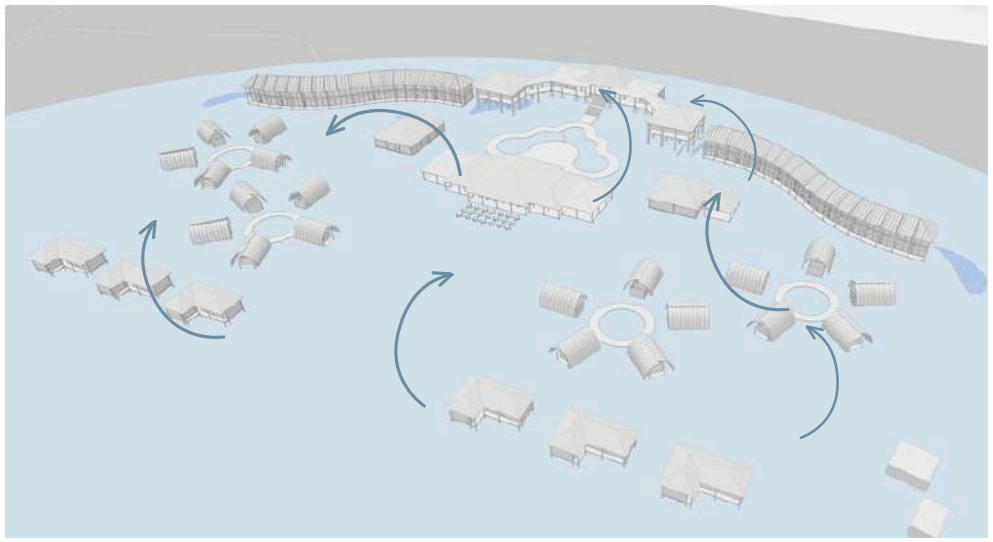
The analysis shows that the front of the building receives significantly less solar exposure than the rear façade. In response, the private villas are designed with openings oriented away from direct morning sunlight and instead positioned towards the afternoon sun, helping to improve daylight quality while reducing excessive heat gain during the early hours of the day.

Image Source: Forma

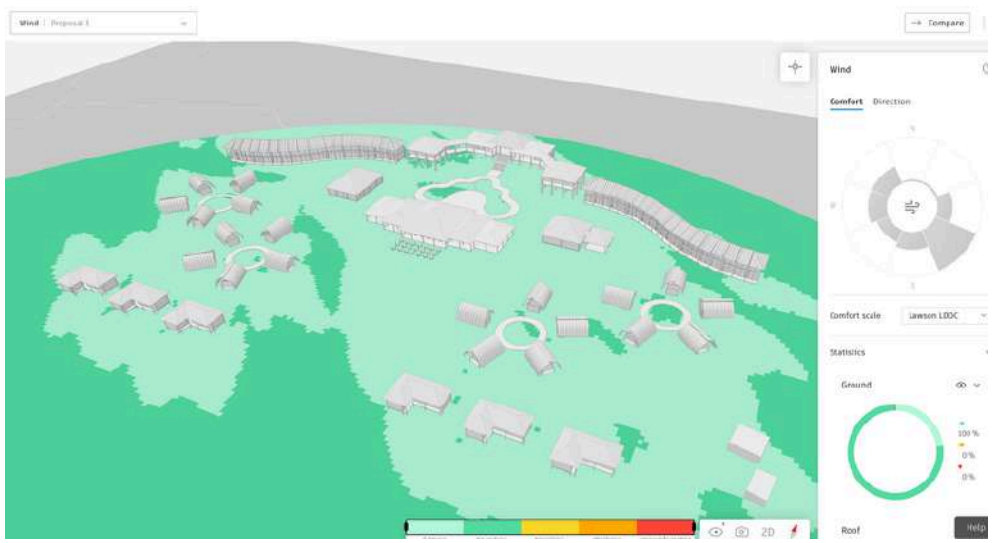
WIND DIRECTION



The dominant wind direction with the highest speed is toward the northwest. Despite the highest speed, these wind conditions are still within a comfortable range for occupants. Therefore, the building design employs a dispersed layout to maintain natural airflow without causing excessive wind acceleration. This strategy allows for more even wind distribution throughout the area, thus maintaining occupant thermal comfort.

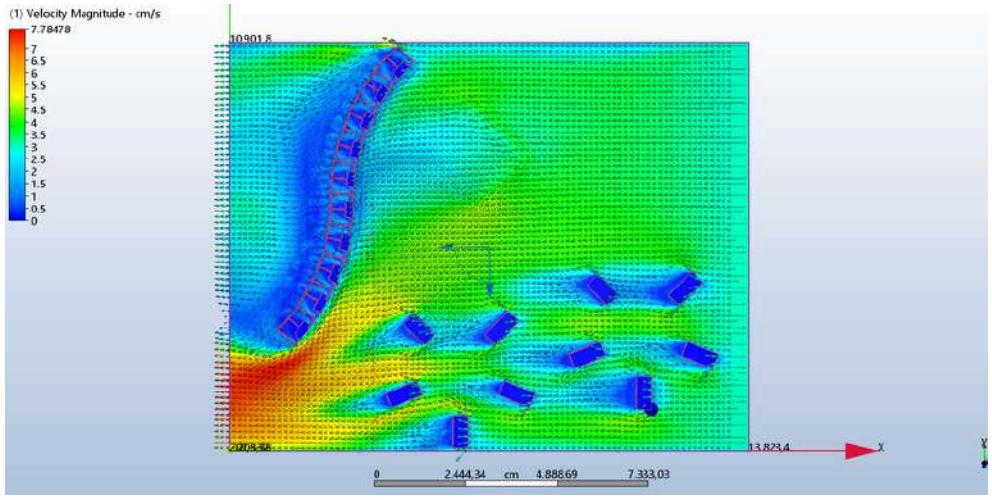


Wind can flow naturally through the building's mass through a massing arrangement that doesn't obstruct air movement. Furthermore, the design adopts organic forms that help passively direct and channel wind, increasing the effectiveness of natural ventilation and creating a more comfortable environment for occupants.



The comfort level evaluation results indicate that the final site planning design maintains a comfortable environment for users. This was achieved by utilizing existing natural wind flow patterns and developing a spatial layout that responds to dominant wind directions. The placement of the building mass and outdoor spaces, which follows local wind characteristics, allows for optimal air circulation, thus supporting natural ventilation and enhancing thermal comfort both inside and around the building.

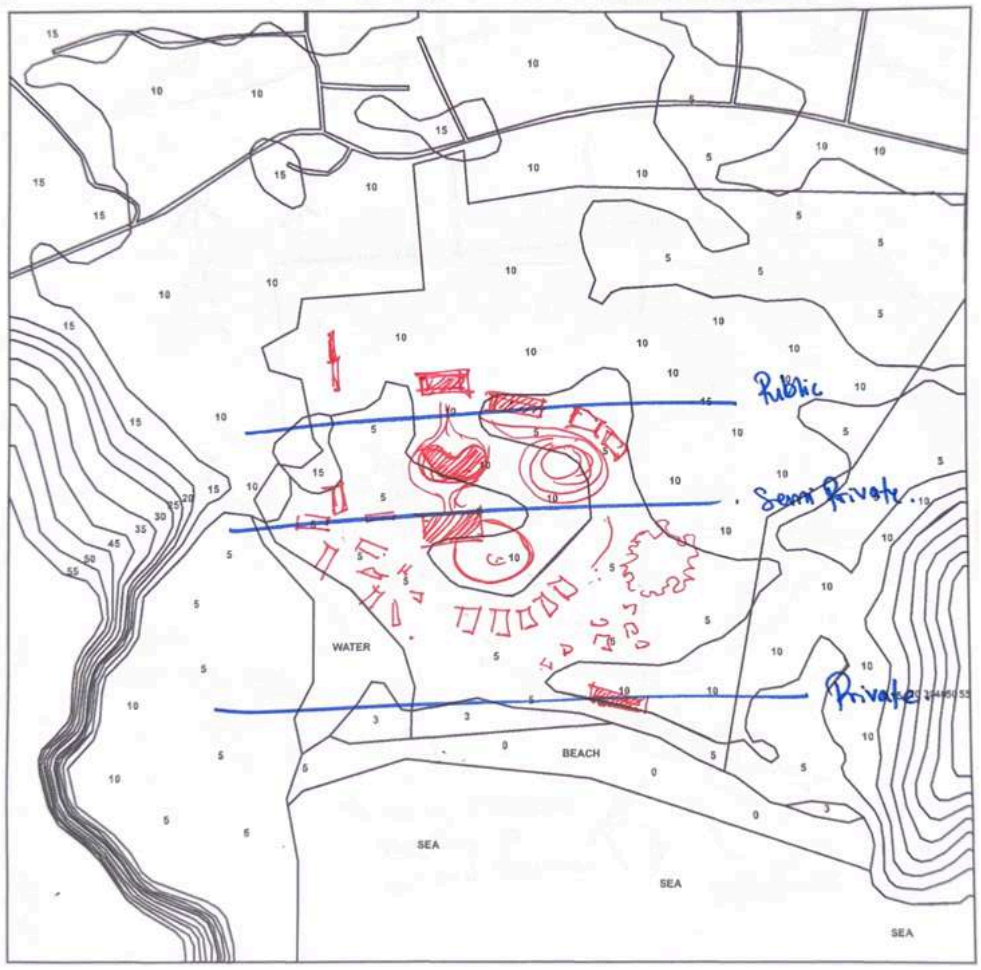
CFD SIMULATION

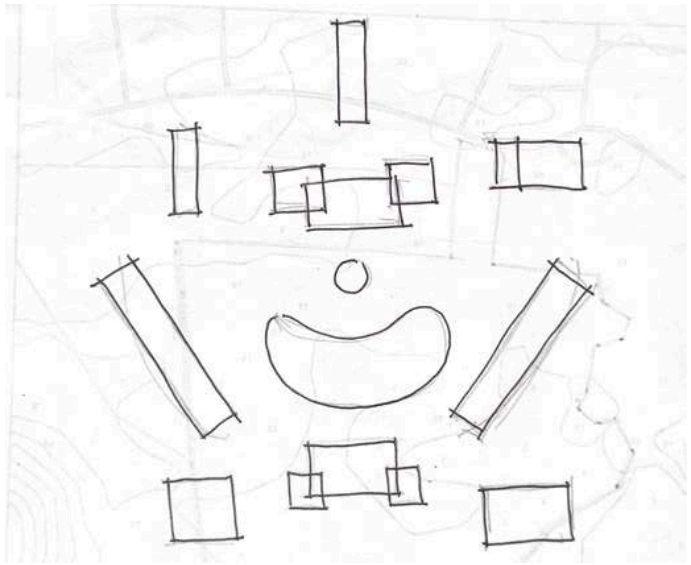


The CFD simulation shows that the resort, including the redesigned villa typology and private villas, achieves comfortable wind speeds throughout the site, contributing to a pleasant outdoor environment and improved natural ventilation.

Image Source: Forma & CFD

SPATIAL DESIGN EXPLORATION





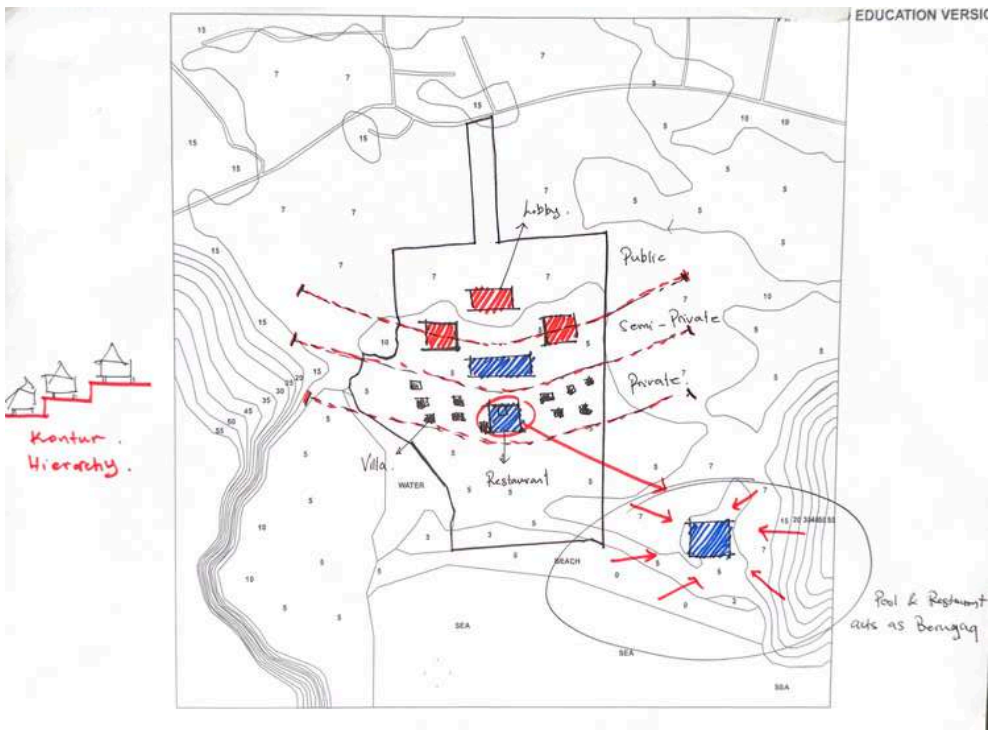
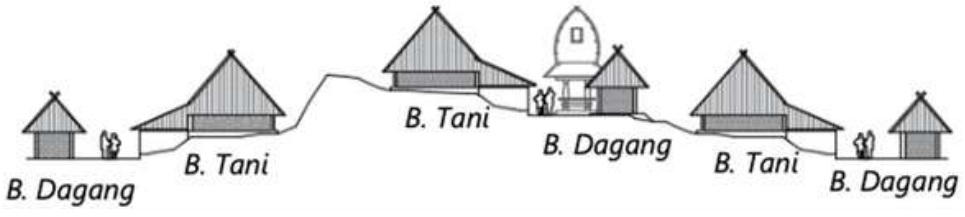


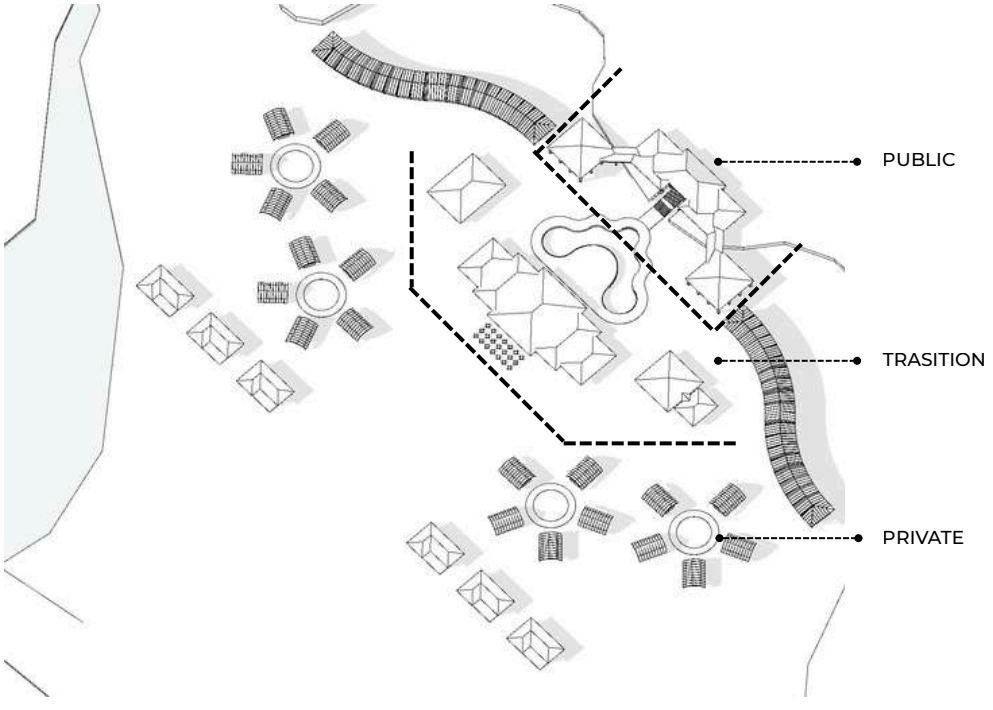
Image Source: Author,2026

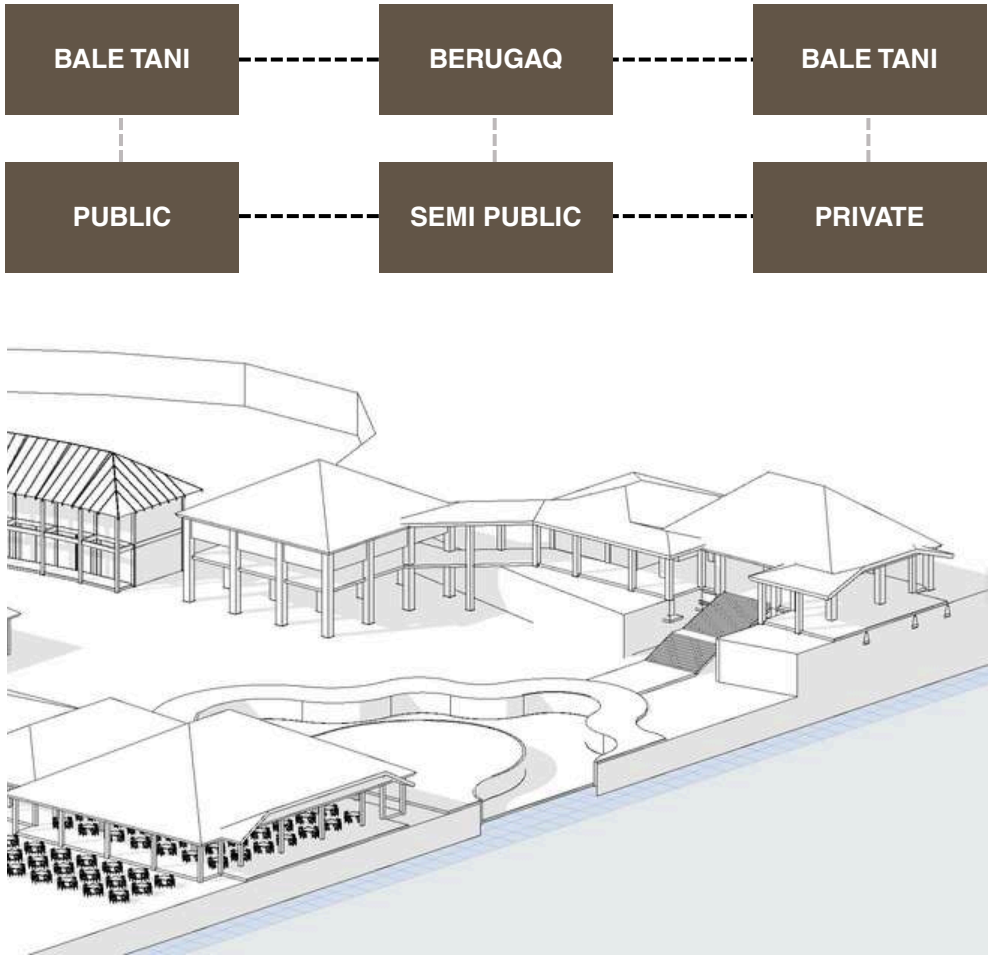
SASAK PRINCIPLE IMPLEMENTATION

Building mass arrangement in the Sade traditional house

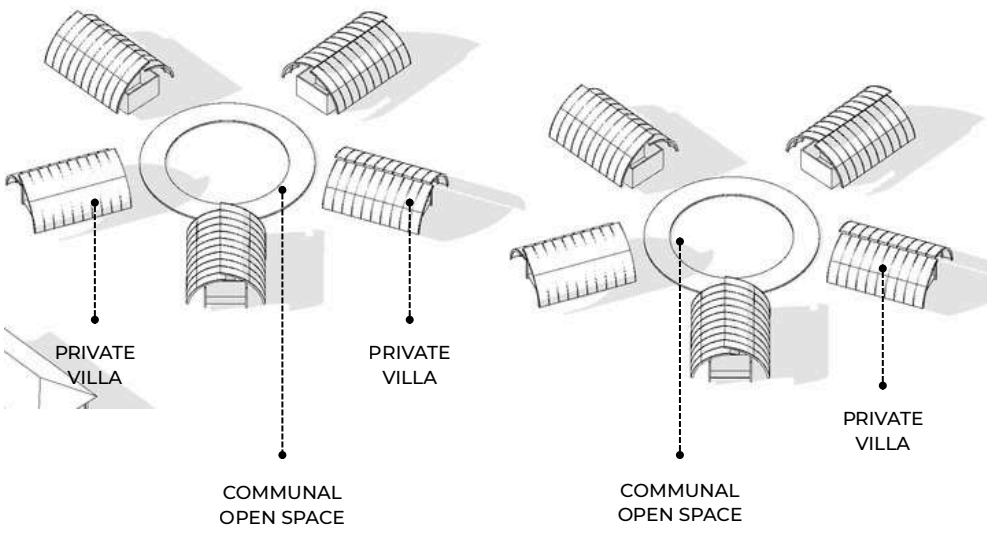


The contoured site conditions support the application of the spatial planning principles of the Sasak Traditional Village to the resort design. In traditional Sasak spatial planning, areas at lower contours are generally occupied by berugaq (trading halls) or trade halls, which serve as spaces for interaction and social activities. This principle was then adapted into the resort design by placing transitional spaces or buildings within these areas, serving as a link between public and private zones. This approach not only maintains local cultural values but also creates a clearer and more comfortable spatial hierarchy for users.





Berugaq Transformation



The concept of a berugaq in a resort area has been transformed into a communal open space that can be used for activities such as campfires, socializing, and various other shared activities. This transformation aims to maintain the berugaq's original essence and function as a space for gathering, interaction, and strengthening social ties among users, while adapting it to the needs and spatial experiences of a modern resort.

Image Source: Author,2026

SELONG BELANAK BEACH AREA

Resort Facing the Sea to get the best View

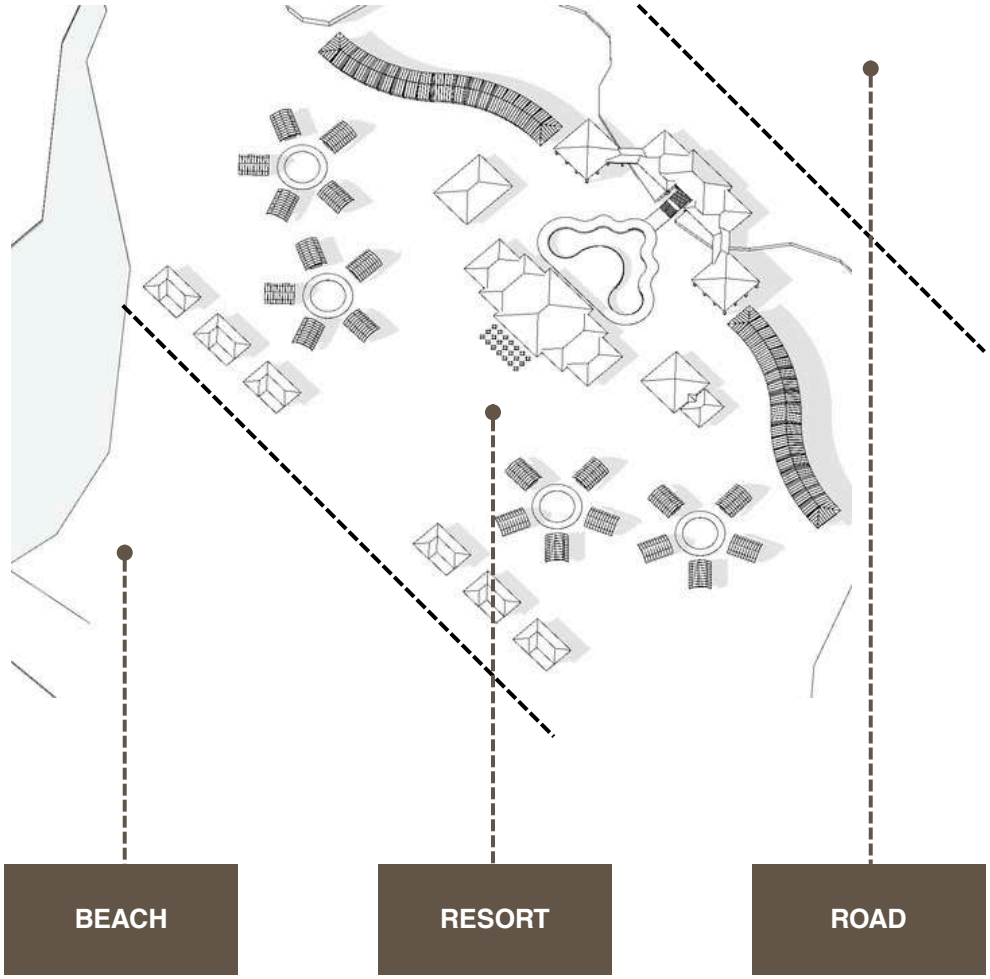


Image Source: Author,2026

3.6.1 GREEN SPACE LANDSCAPING CONCEPT OF GREEN SPACE ACCORDING TO CLIMATE DATA AT OPEN SPACE

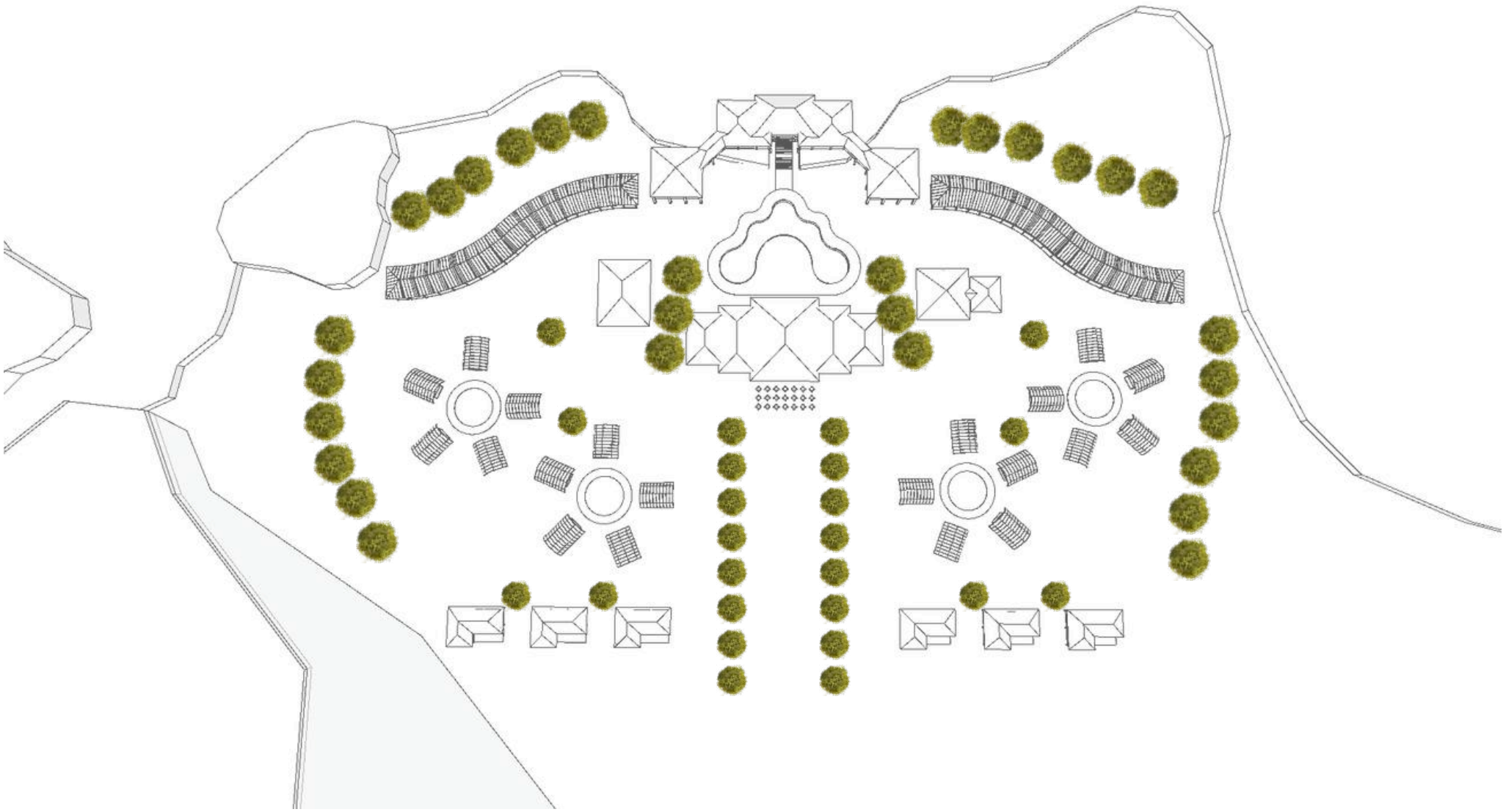
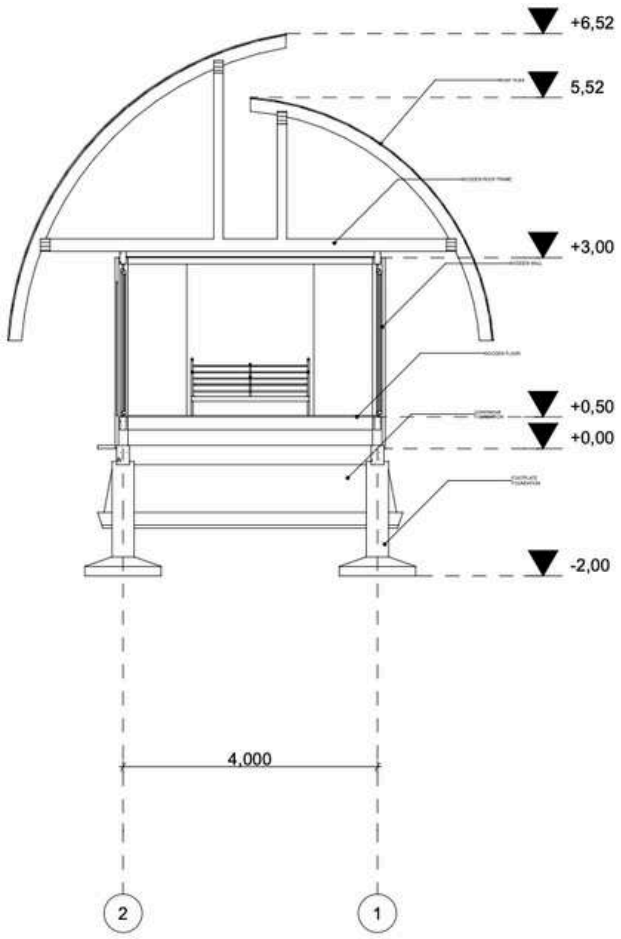
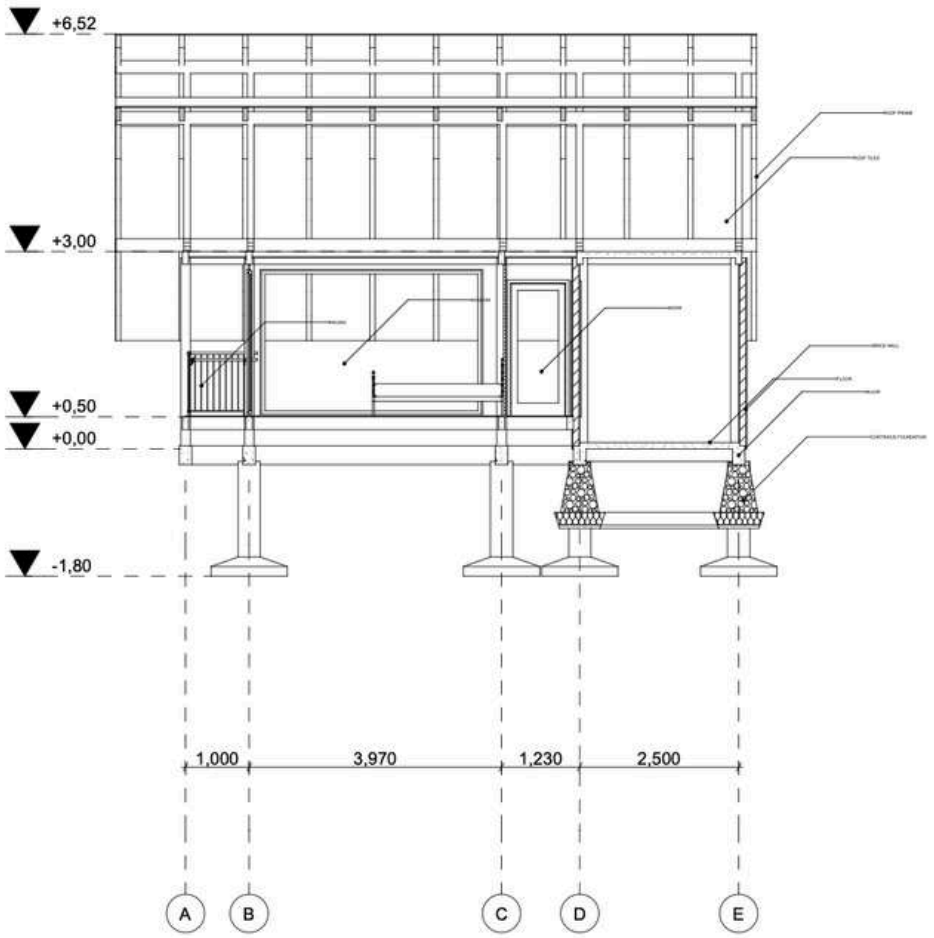


Image Source: Author with Archicad





Elevated Structure as Passive Cooling
The elevated structure allows air to circulate beneath the building, creating a passive cooling effect that reduces heat transfer from the ground. This strategy improves thermal comfort and enhances natural ventilation throughout the building.

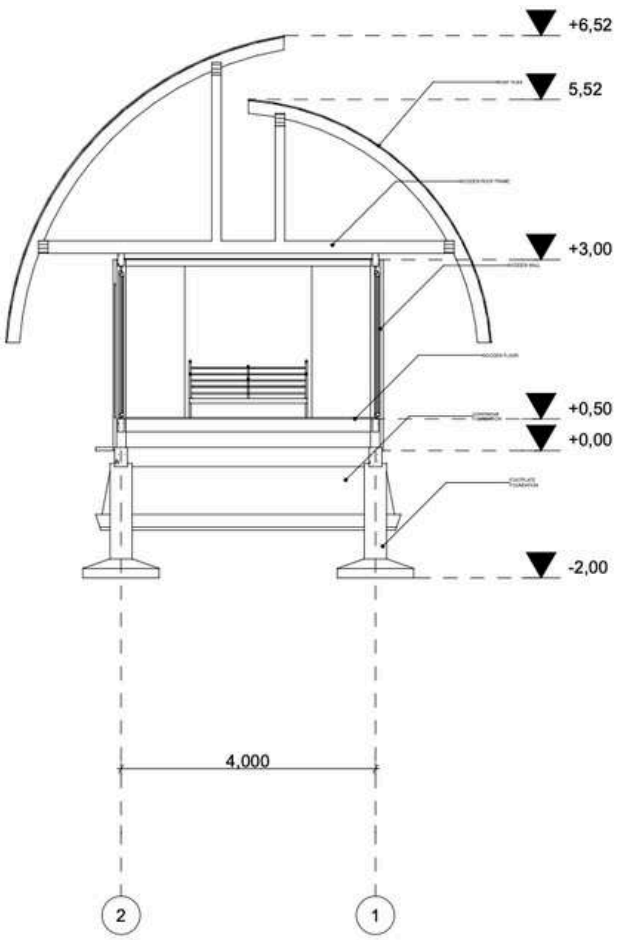
High Ceiling for Heat Dissipation
The high ceiling creates a larger air volume and allows warm air to rise above the occupied zone. This improves indoor comfort and reduces heat accumulation, making the building more suitable for Lombok's tropical climate.

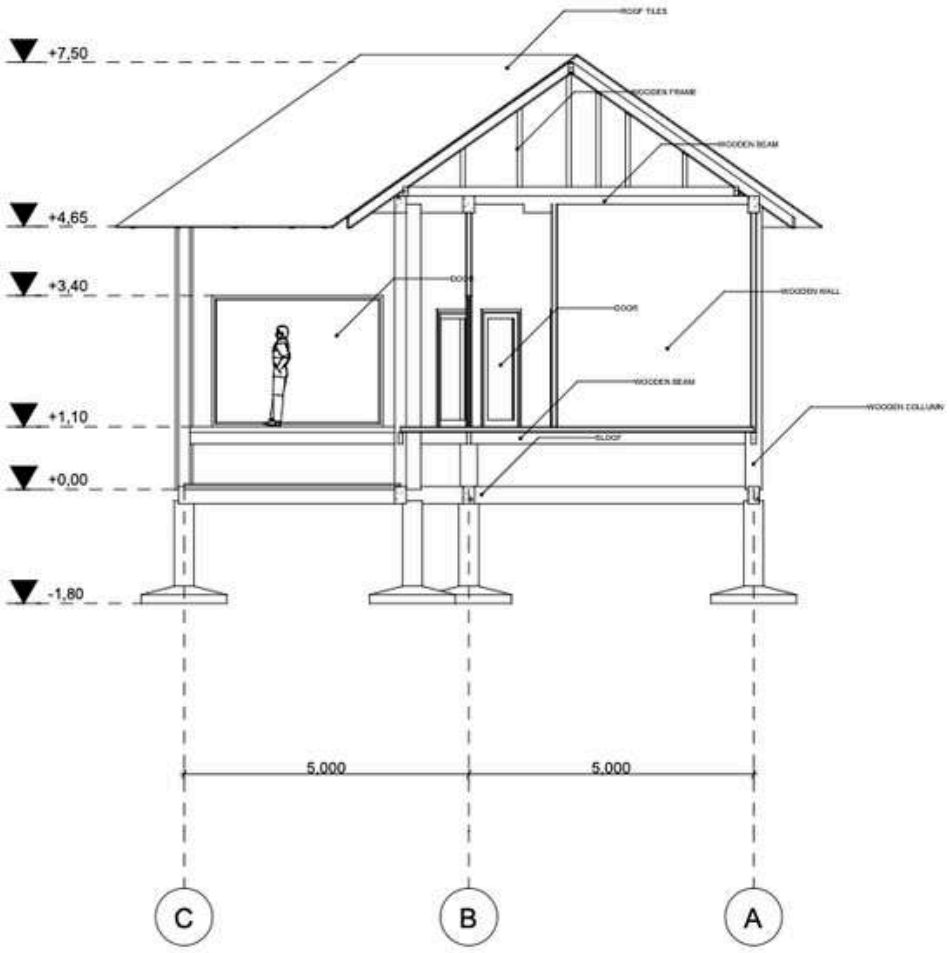
Roof Form Supporting Ventilation
The curved roof form increases internal volume and supports natural air movement within the building. Combined with high-level openings, it encourages hot air to escape and improves overall ventilation performance.

Lightweight Elevated Floor
The raised floor system minimizes direct ground contact, reducing heat transfer and allowing continuous airflow beneath the structure as part of the passive cooling strategy.

Reduced Ground Impact
The use of isolated footings minimizes site disturbance and allows the natural topography and airflow patterns to be preserved, supporting a more environmentally responsive design.

Image Source: Authour with Archicad





Elevated Floor Inspired by Traditional Sasak Houses
Inspired by traditional Sasak houses, the building is elevated above the ground to promote air circulation beneath the floor. This passive cooling strategy helps reduce heat transfer from the ground while improving indoor thermal comfort in Lombok's tropical climate.

High Ceiling for Natural Cooling
Similar to traditional Sasak architecture, the building incorporates high ceilings to improve natural ventilation. The increased interior volume allows warm air to rise above the occupied zone, creating a cooler and more comfortable indoor environment.

Roof Form as a Contemporary Interpretation of Sasak Architecture
The roof design is inspired by the traditional Sasak Lumbung. Its elevated and curved form creates a larger internal air volume, supporting natural airflow and passive cooling while preserving the identity of Lombok's local architecture.

Cross Ventilation Principle
Following the passive design principles found in traditional Sasak buildings, openings are arranged to encourage cross ventilation. This allows prevailing winds to pass through the building naturally, reducing heat buildup and dependence on mechanical cooling systems.

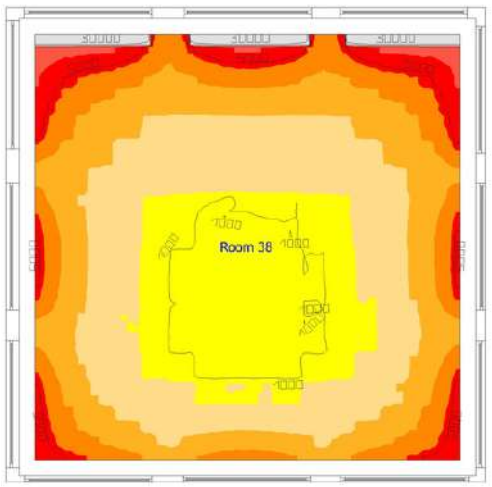
Lightweight and Climate-Responsive Structure
Traditional Sasak architecture is characterized by lightweight structures that respond efficiently to the local climate. This principle is adapted through an elevated structural system and open building configuration that maximize airflow and environmental comfort.

Building Relationship with Nature
Inspired by the harmonious relationship between Sasak architecture and its environment, the structure is designed to work with natural elements rather than resist them. Wind, sunlight, and topography are integrated into the design process to enhance comfort through passive means.

Image Source: Authour with Archicad

SOLAR RADIATION ANALYSIS & RESPONSE

Ballroom

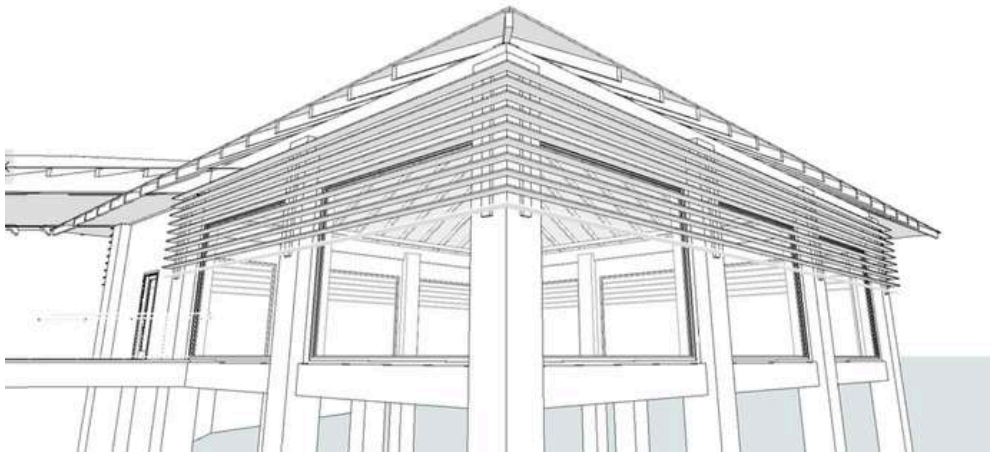




From The simulation results indicate that several parts of the building are exposed to excessive sunlight and solar radiation. As shown in the DIALux analysis, daylight levels are significantly higher than required, contributing to increased indoor temperatures and reduced thermal comfort.

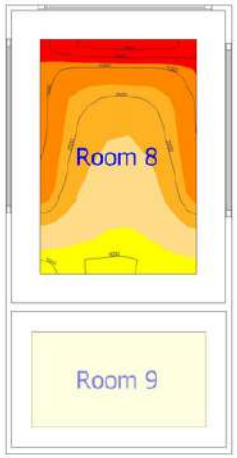
Similarly, the Forma solar radiation analysis reveals that the building receives an average of 4–7 hours of direct sunlight exposure per day. These findings highlight the need for an envelope design strategy to reduce solar heat gain, improve thermal performance, and enhance the overall energy efficiency of the building.

Envelope Design

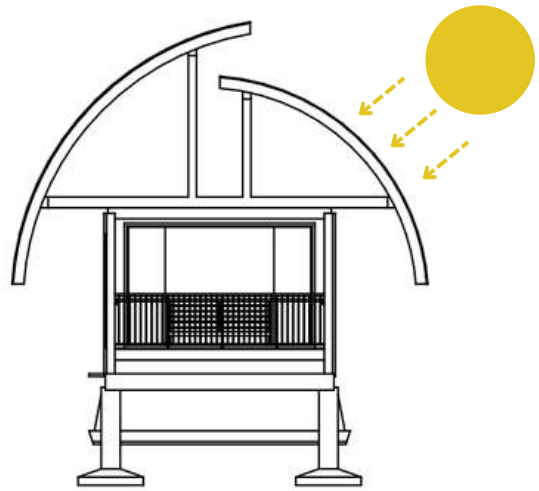


A simple and efficient envelope design is implemented to reduce solar heat gain while maintaining views and material efficiency. Inspired by the principles of Sasak architecture, the envelope enhances thermal comfort and environmental performance without compromising the visual character of the resort.

Private Villa

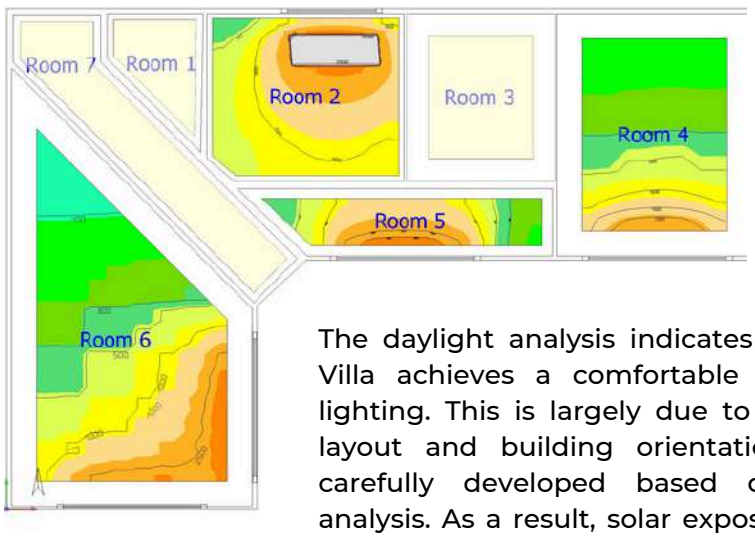


Without Roof Design



The daylight analysis shows that the openings surrounding the private villa receive excessive levels of natural light, with lux values exceeding the comfortable range for occupants. In response, an extended roof form is introduced to function as a shading envelope, reducing direct solar exposure and minimizing heat gain. The roof design is inspired by the traditional Bale Lumbung of Sasak architecture, combining climate-responsive performance with the preservation of local architectural identity.

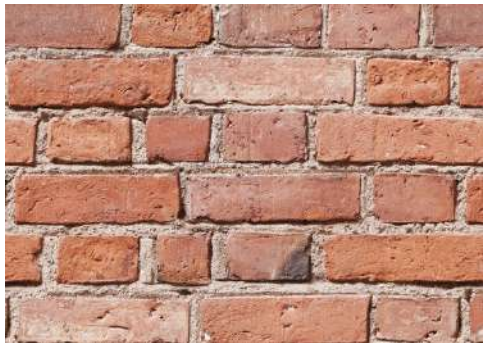
Family Villa



The daylight analysis indicates that the Family Villa achieves a comfortable level of natural lighting. This is largely due to its well-planned layout and building orientation, which were carefully developed based on the climate analysis. As a result, solar exposure is effectively controlled, eliminating the need for additional shading devices while still maintaining good thermal and visual comfort.

BUILDING MATERIAL






The resort adopts a palette of natural earth-tone materials to harmonize with the surrounding environment and reflect the local character of the site. This approach strengthens the connection between the architecture and its context while creating a warm, authentic, and visually cohesive atmosphere.

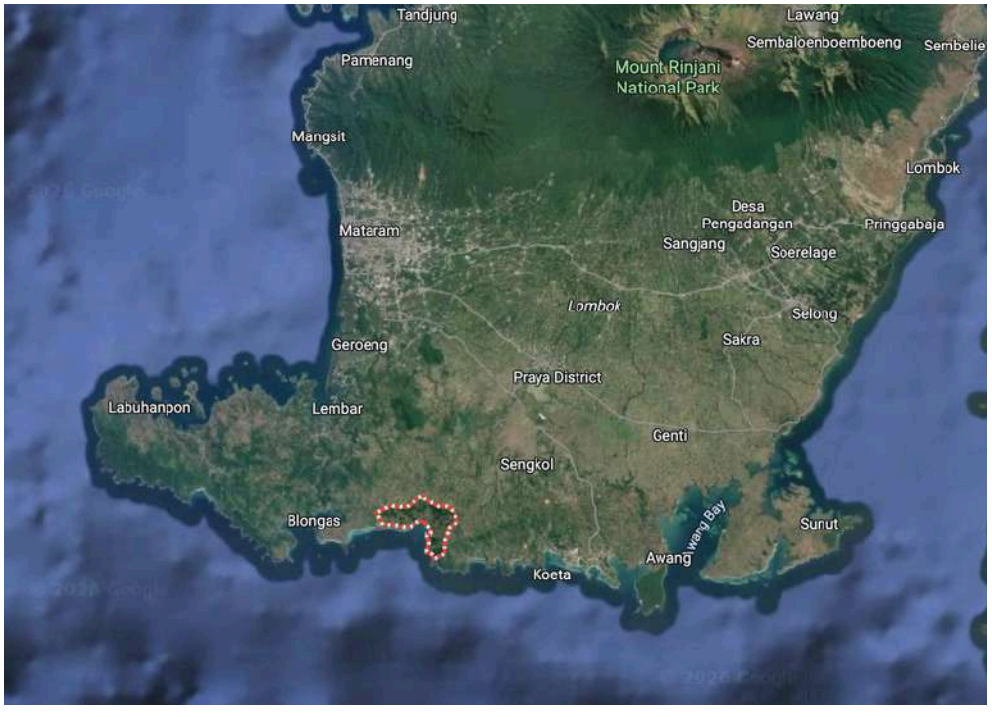
Natural Stone
Natural stone will be a dominant material throughout the resort, taking advantage of Lombok's rich local stone resources. Its use enhances durability, strengthens the connection to the surrounding landscape, and reflects the region's natural character.

Wood
Inspired by traditional Sasak architecture, wood is used as one of the primary materials in the resort. It adds warmth, authenticity, and a strong connection to the local architectural heritage.

Brick
Brick and masonry walls are incorporated in selected areas to improve construction efficiency while maintaining a natural and timeless architectural expression.

Thatch Roof
The resort features thatch roofing inspired by traditional Lombok and Sasak architecture. Beyond its cultural significance, the material provides a distinctive identity and contributes to passive cooling by reducing heat gain within the buildings.

LOCAL MATERIAL AVAILABILITY



Lombok has a wide range of locally available construction materials distributed across different regions of the island. The relatively short distances between cities and production areas facilitate efficient transportation and sourcing, reducing logistical challenges while supporting the use of local materials throughout the resort development.

Natural Stone



Wood



Bricks

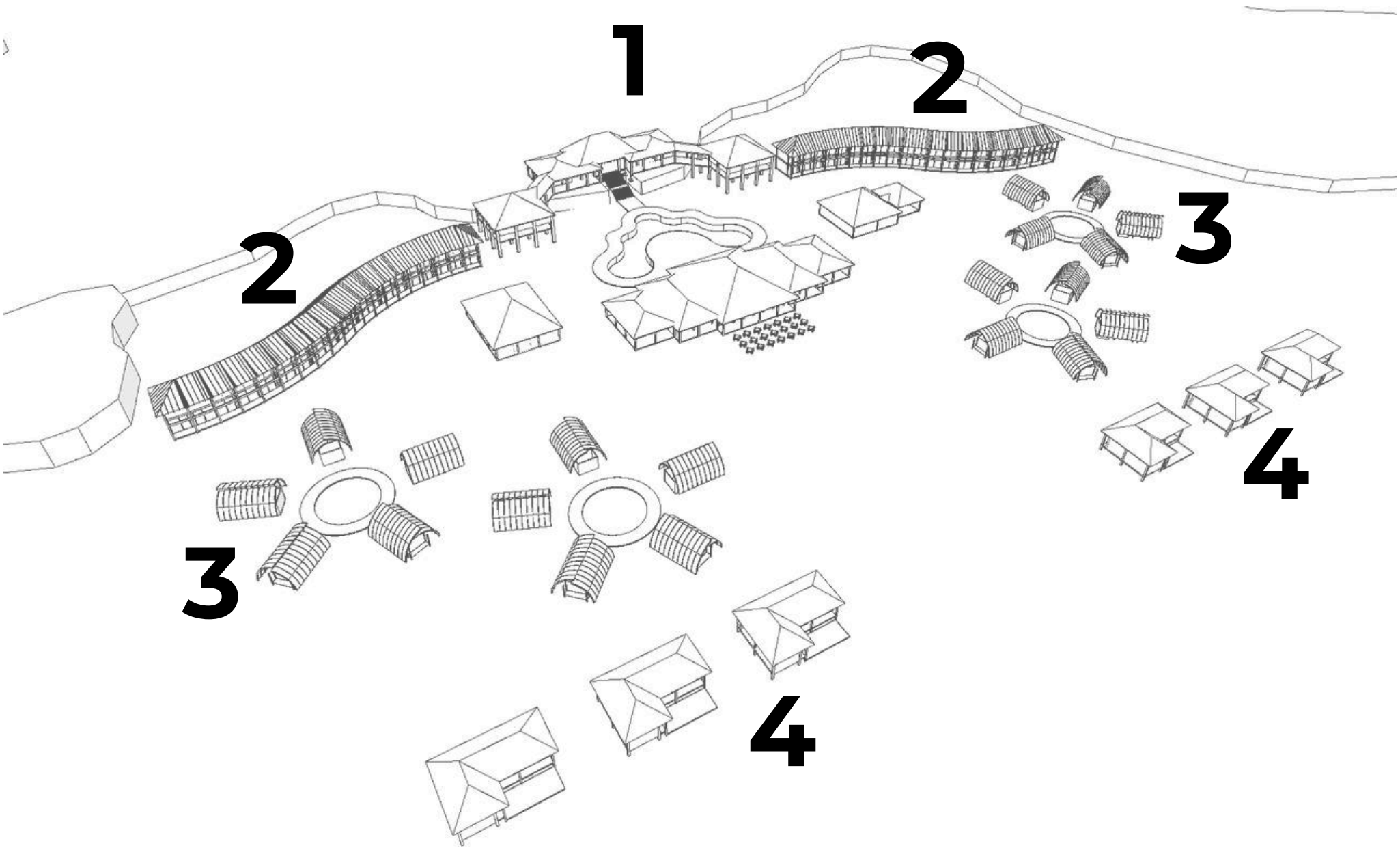


Thatch Roof



Image Source: stone-world.es, magnific.com, miltonandking.com, Dreamstime.com, Google Maps

4 DESIGN RESULT & PROOF



1 LOBBY

Based on functional requirements, environmental analysis, and Sasak architectural principles, the building adopts a massive typology and is positioned across two contour levels, responding to the site's natural topography while maintaining efficient circulation and spatial organization.

2 STANDART & DELUXE ROOM

Based on the environmental analysis, the building adopts an organic form and is oriented away from the primary sun path. This strategy helps reduce direct solar exposure, minimize heat gain, and improve overall thermal comfort within the resort.

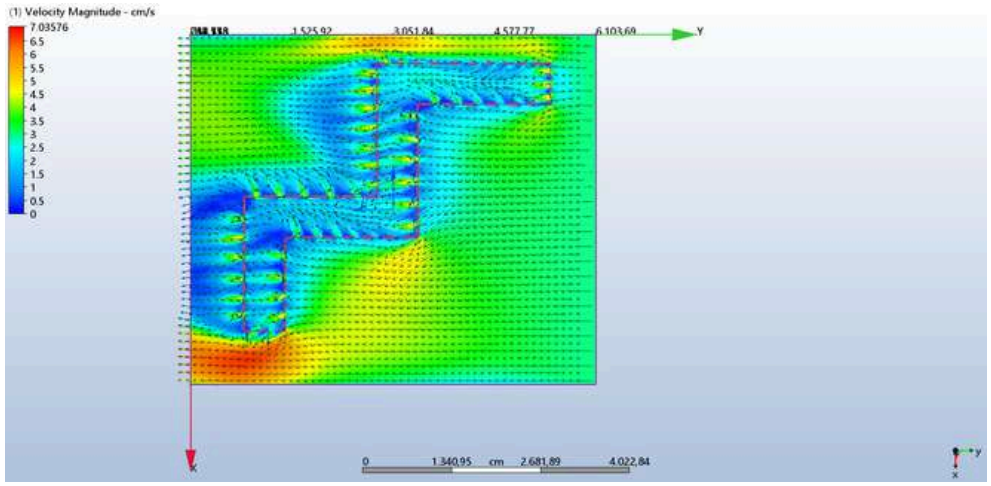
3 PRIVATE VILLA

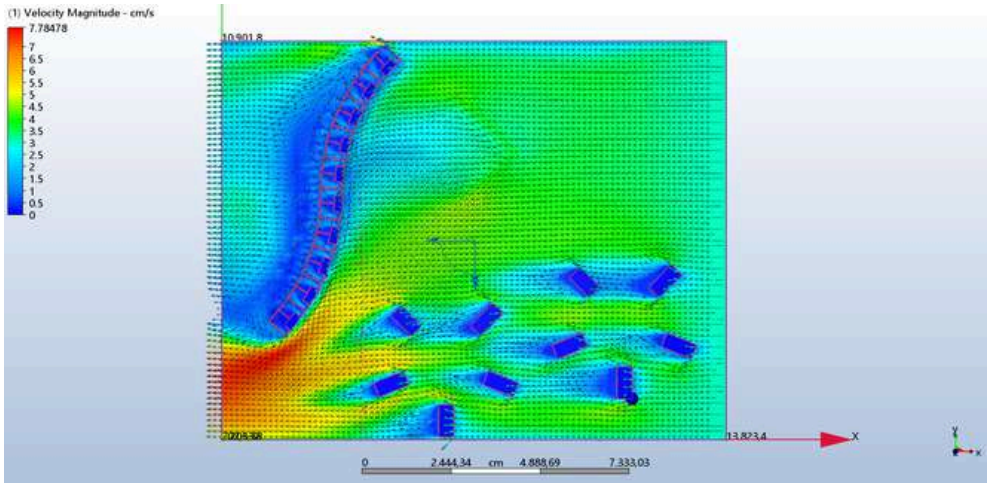
Inspired by the Sasak tradition of gathering in a berugaq, the villas are arranged around shared communal spaces. The building form also draws inspiration from traditional Sasak architecture, reinforcing Lombok's local identity while maintaining privacy and comfort.

4 FAMILY VILLA

The Family Villa is designed based on climate analysis, site views, and the principles of Sasak architecture. The building incorporates cross ventilation to maximize natural airflow, enhancing thermal comfort while maintaining a strong connection to the surrounding environment.

Image Source: Author, 2026





1 BEFORE

While the building form is efficient in terms of space planning, its rigid and non-fluid geometry disrupts the natural airflow across the site. As a result, wind movement becomes fragmented, creating uneven wind distribution and localized turbulence rather than allowing air to flow smoothly through the development.

2 AFTER

The building form was refined to create a more fluid and dynamic layout that responds better to the site's wind conditions. This adjustment allows airflow to move more smoothly throughout the development, reducing turbulence and preventing wind from breaking apart within the resort area. Stronger wind currents are redirected to the outer edges of the site, helping maintain a more comfortable environment for guests.

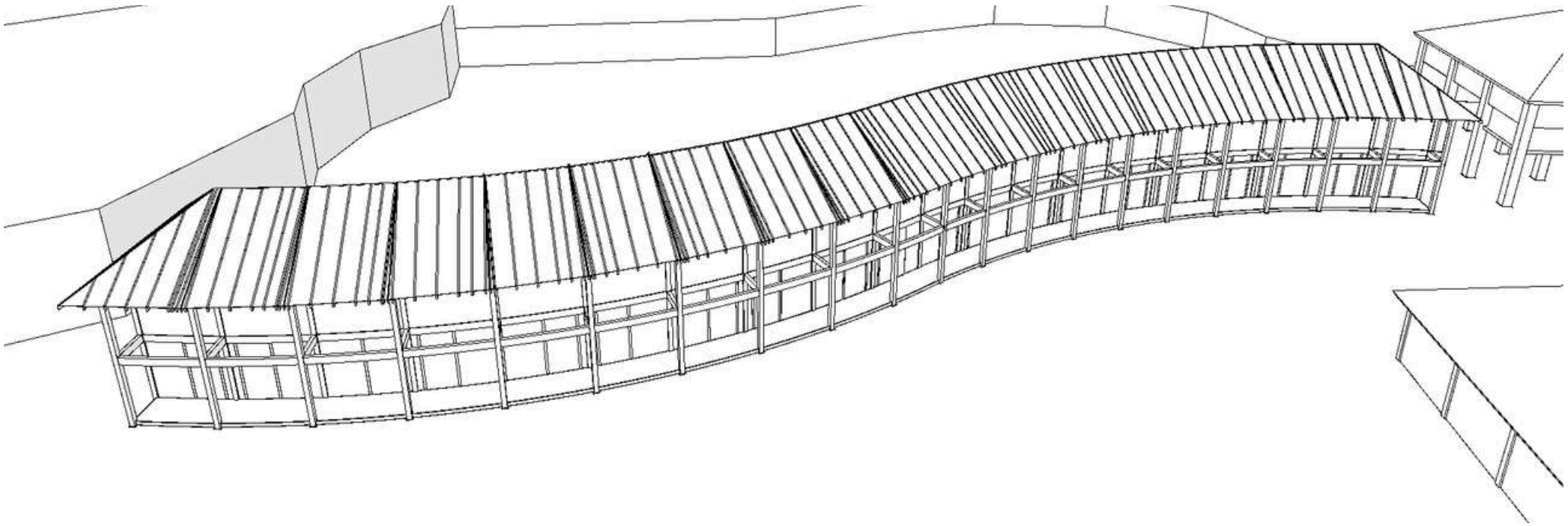
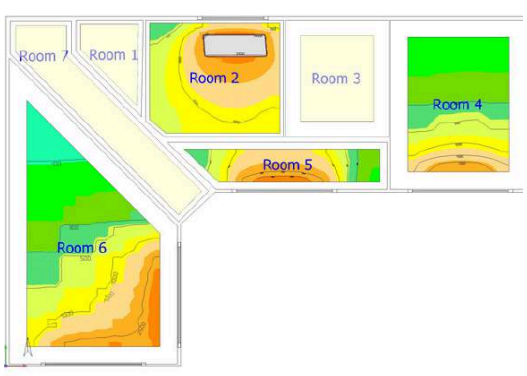
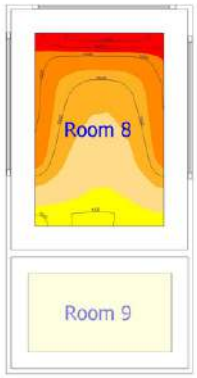


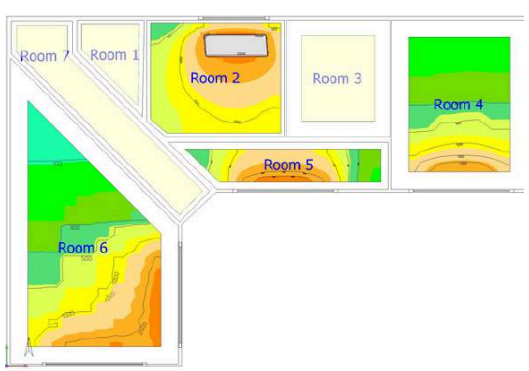
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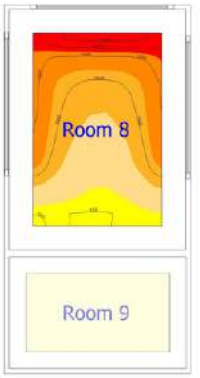
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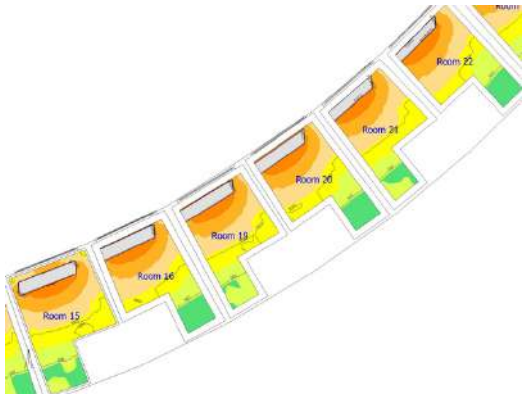
Peak Solar Radiation Period. September and December

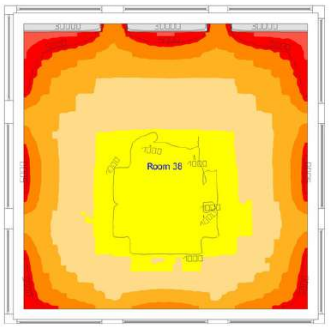


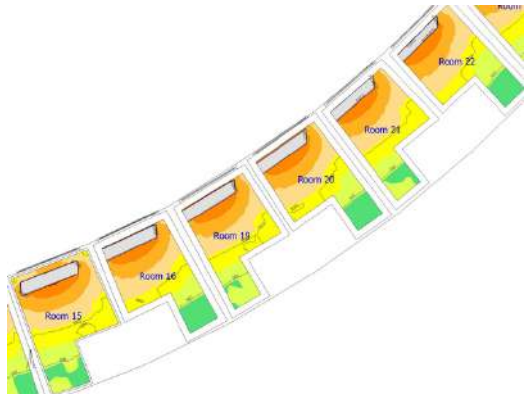


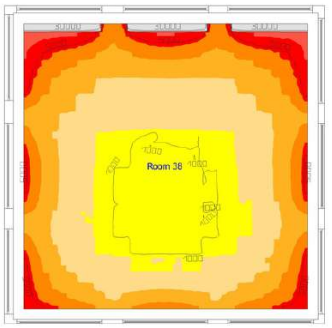




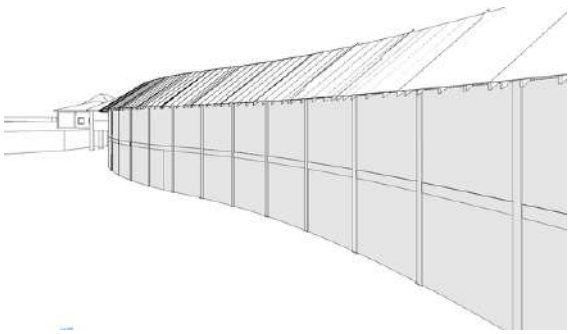




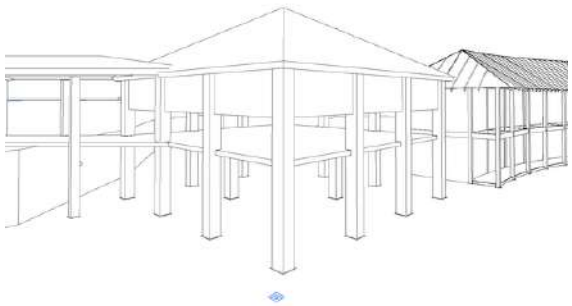




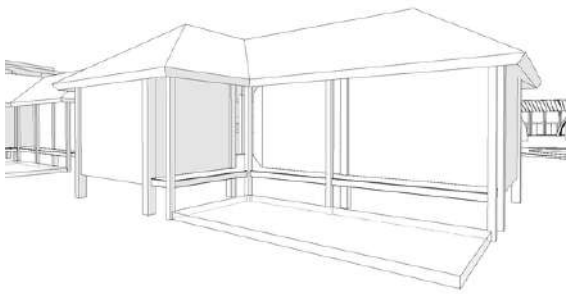
BUILDING DESIGN



Roof shading and an envelope system are added to the rear façade of the building to reduce solar radiation, minimize heat gain, and improve overall thermal comfort.



An envelope system is added to the ballroom glazing, as this area receives the highest level of solar radiation. The envelope helps reduce heat gain, improve thermal comfort, and enhance the building's overall environmental performance.

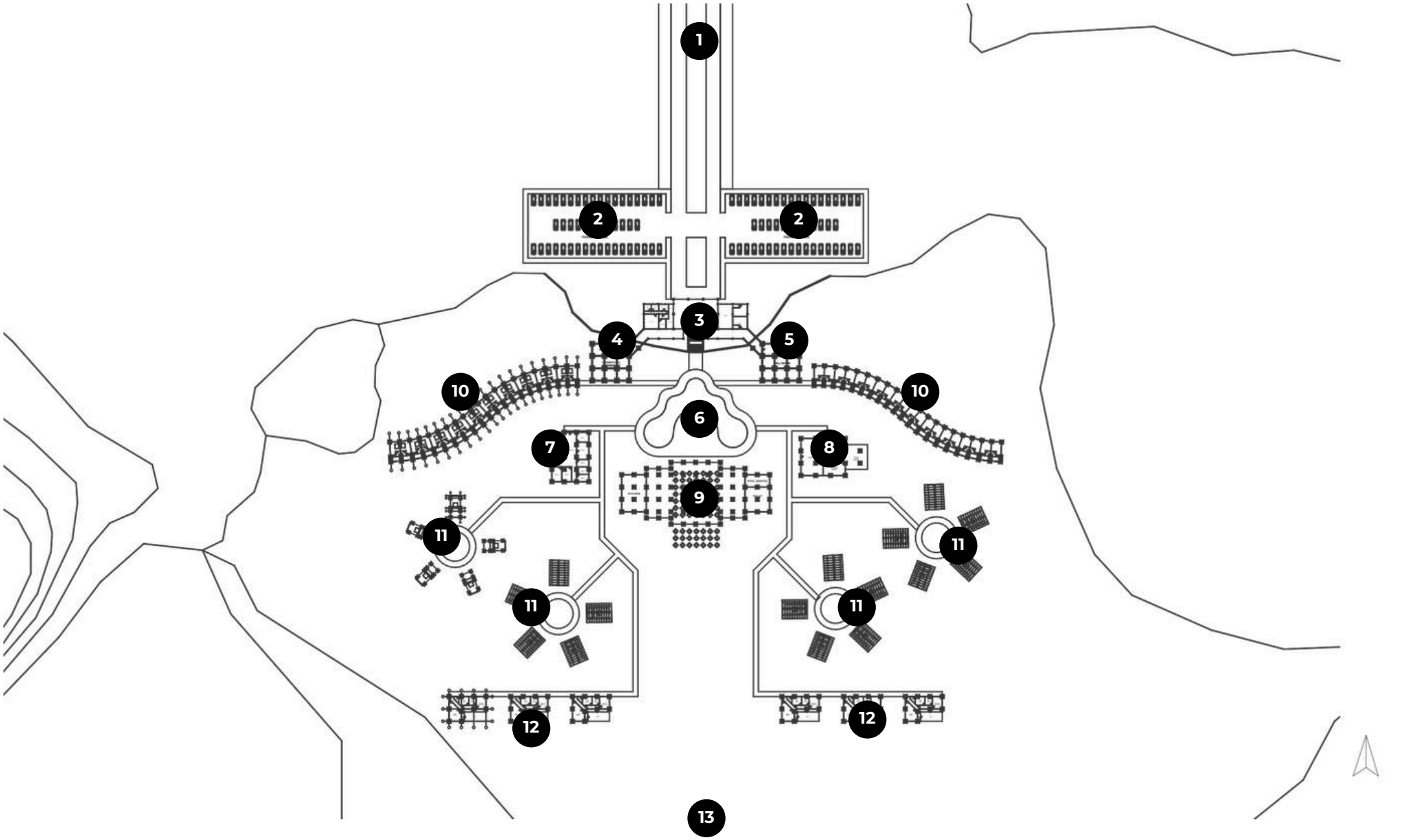


The addition of roof shading and corridor decks provides indirect shading to the building, reducing direct solar exposure and helping improve thermal comfort throughout the interior spaces.



An extended roof design is introduced to function as both a shading device and an envelope element. This strategy reduces direct solar exposure, minimizes heat gain, and improves the building's overall thermal performance.

Image Source: Author, 2026



1. **ENTRANCE**
2. **PARKING AREA**
3. **LOBBY**
4. **COMMERCIAL AREA**
5. **BALLROOM**
6. **POOL**
7. **SPA**
8. **GYM & YOGA**
9. **RESTAURANT & POOL SERVICE**
10. **STANDART & DELUXE ROOM**
11. **PRIVATE VILLA**
12. **FAMILY VILLA**
13. **BEACH**

Image Source: Author, 2026

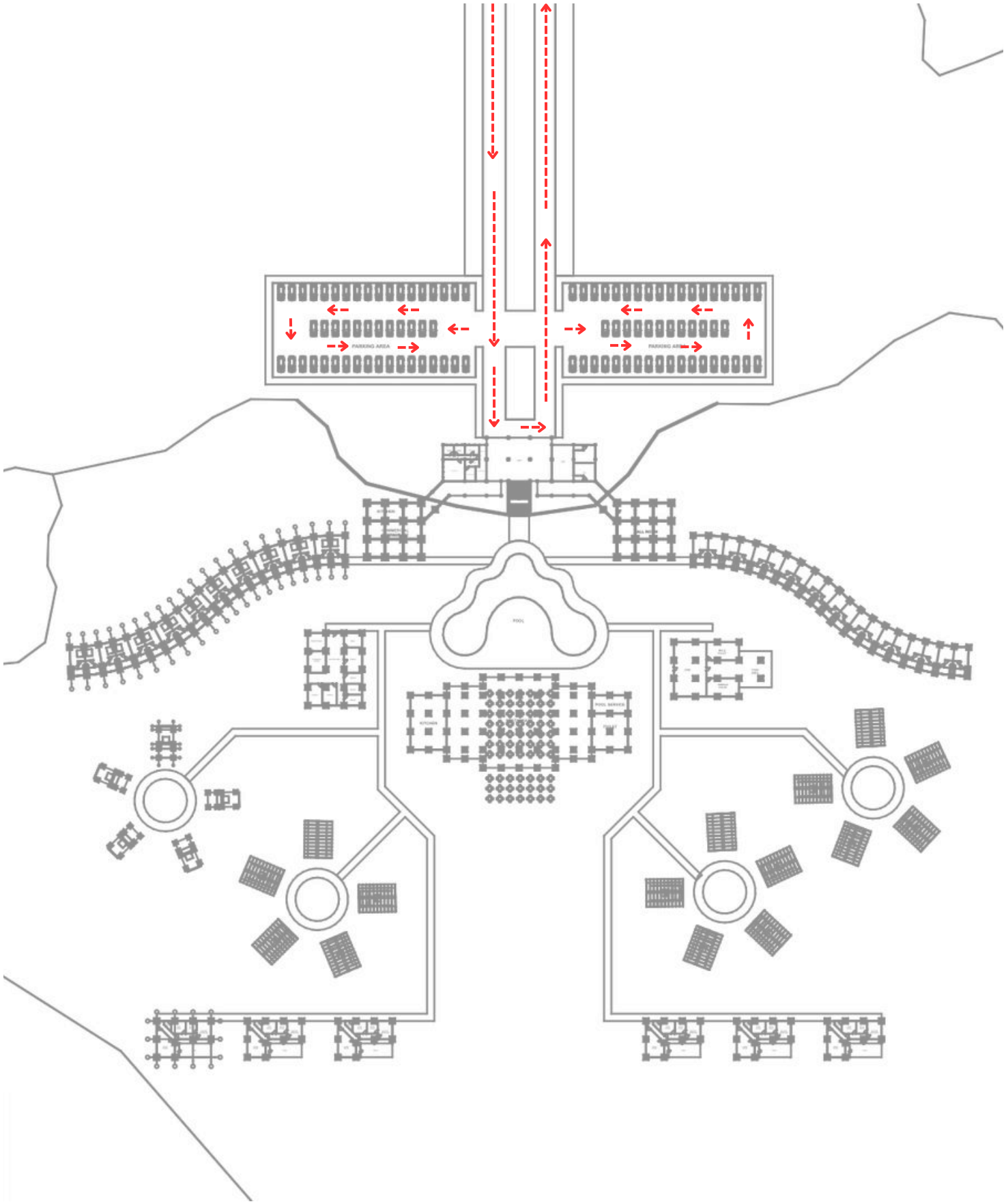


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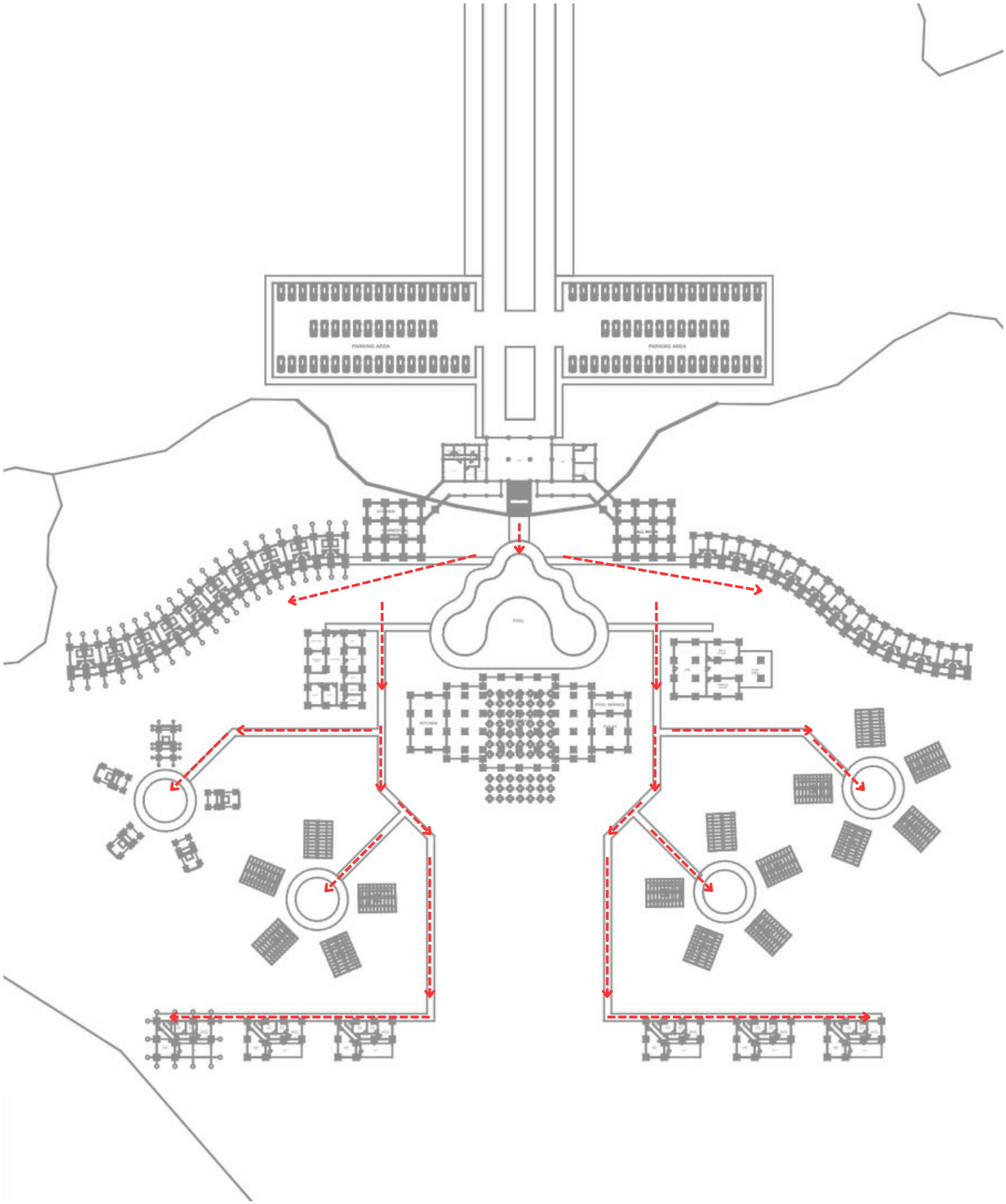
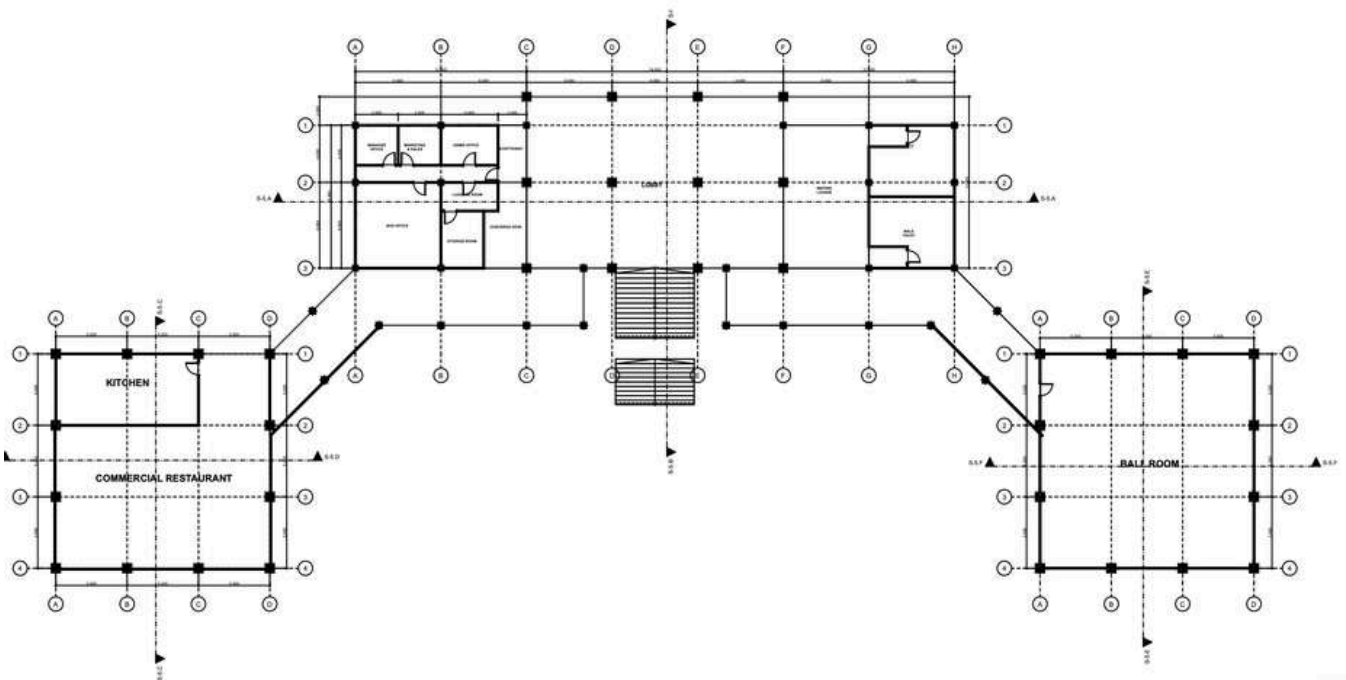


Image Source: Author, 2026

LOBBY & BALLROOM



STANDART & DELUXE ROOM

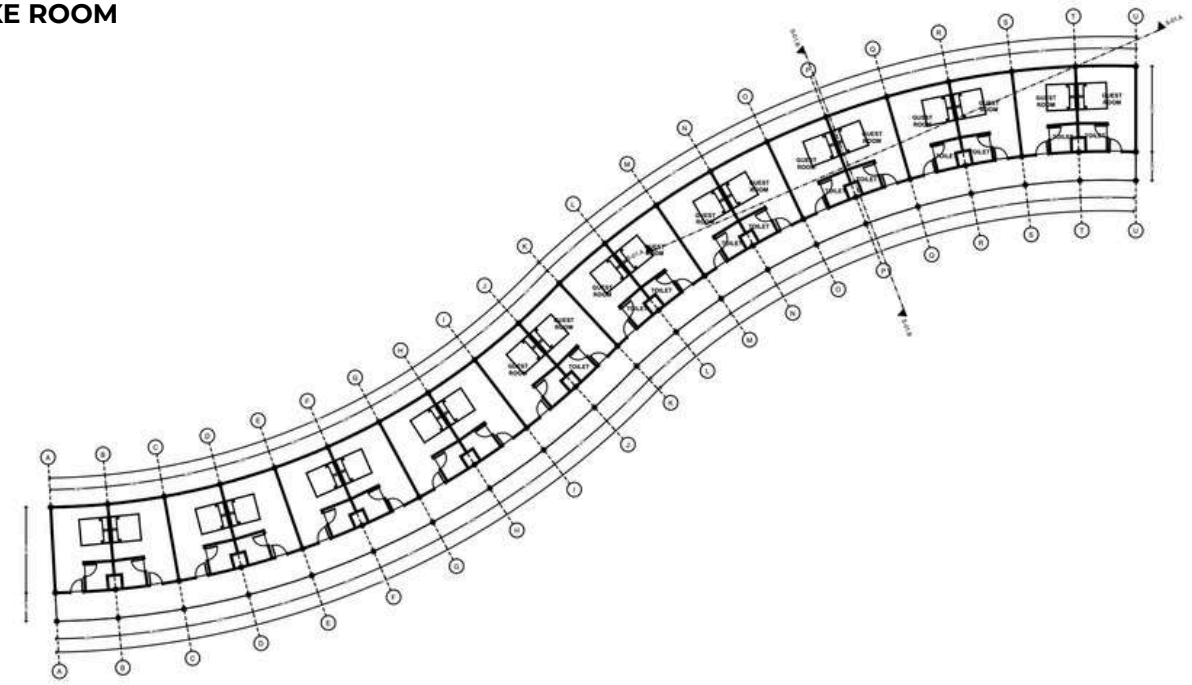
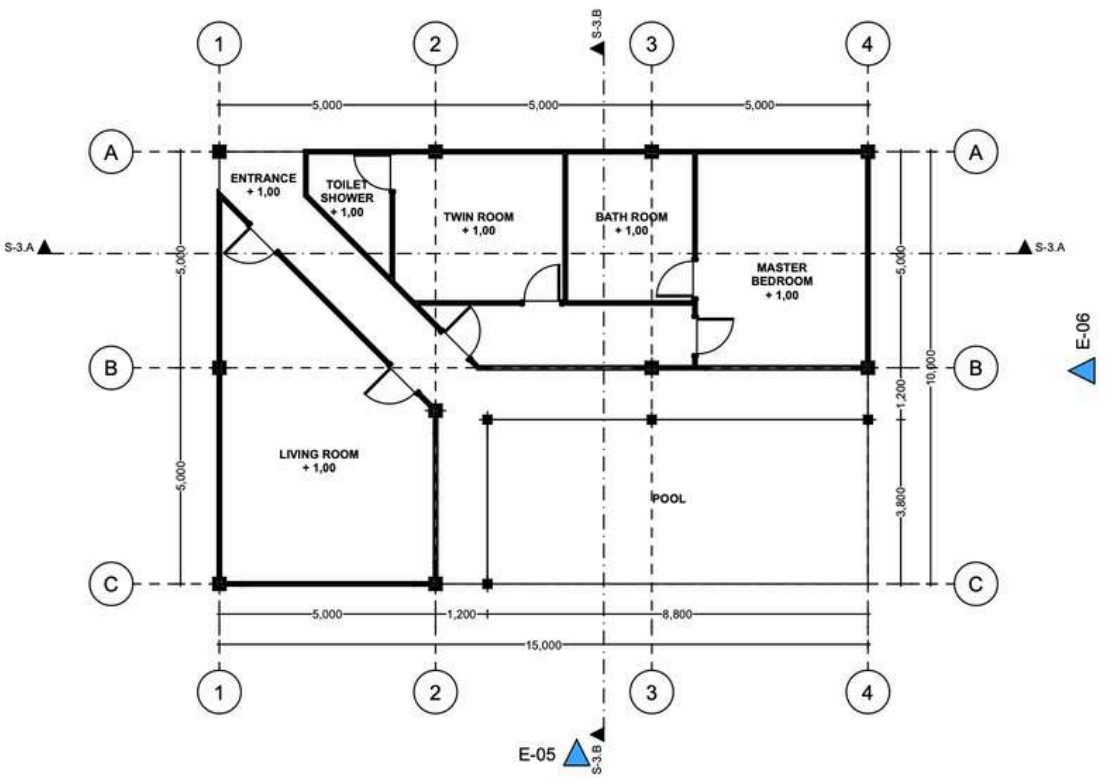


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PRIVATE VILLA



FAMILY VILLA

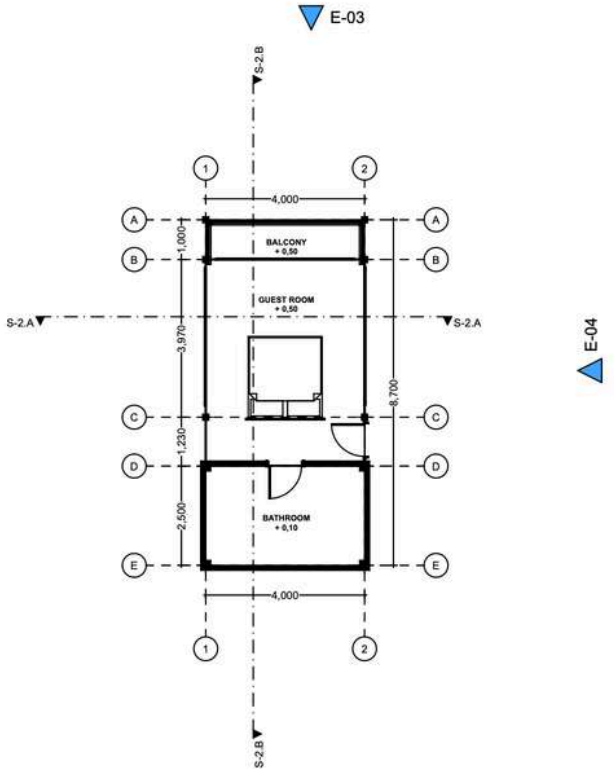
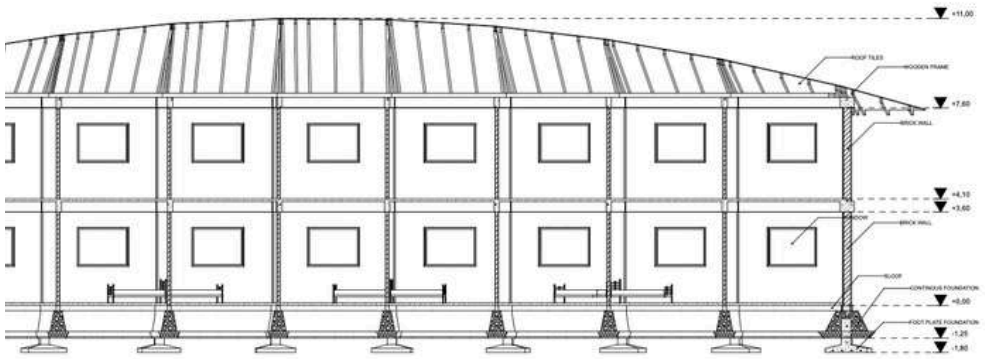
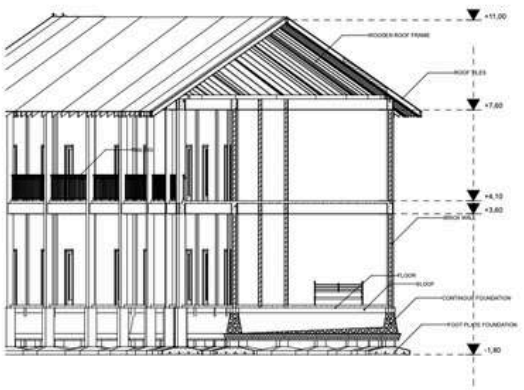


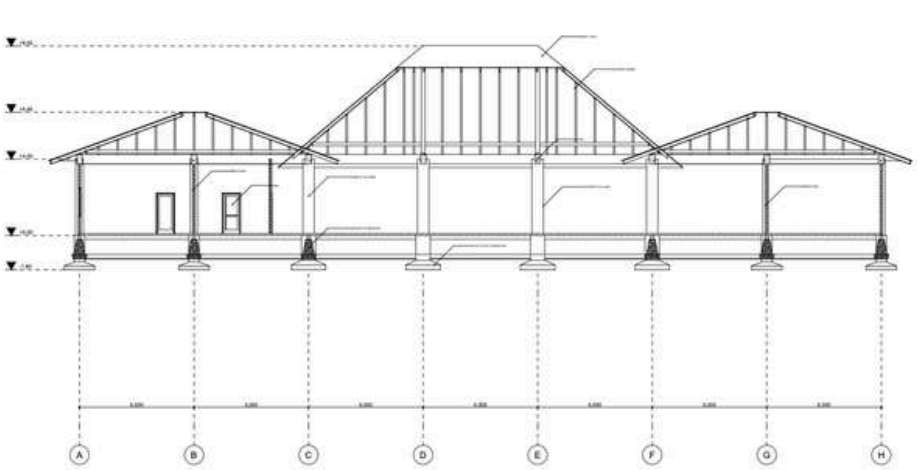
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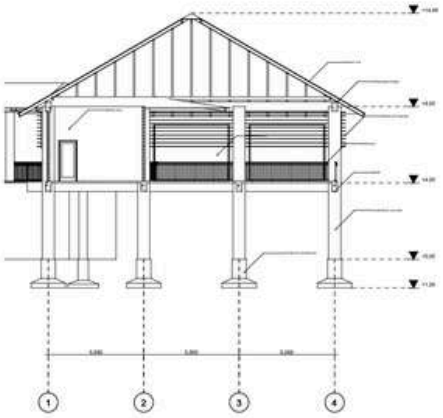
STANDART & DELUXE ROOM



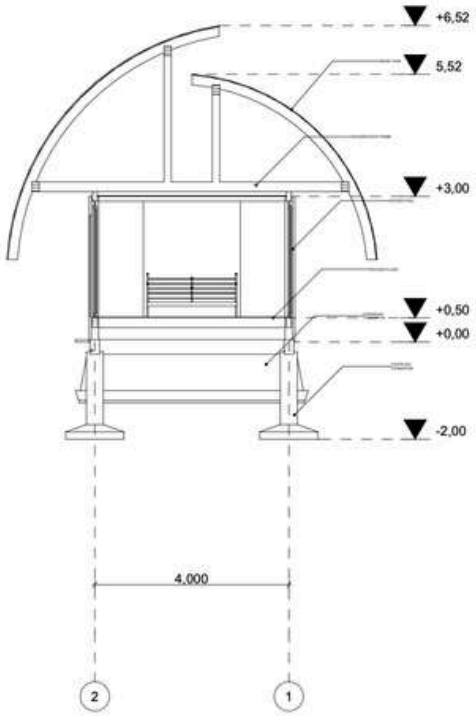


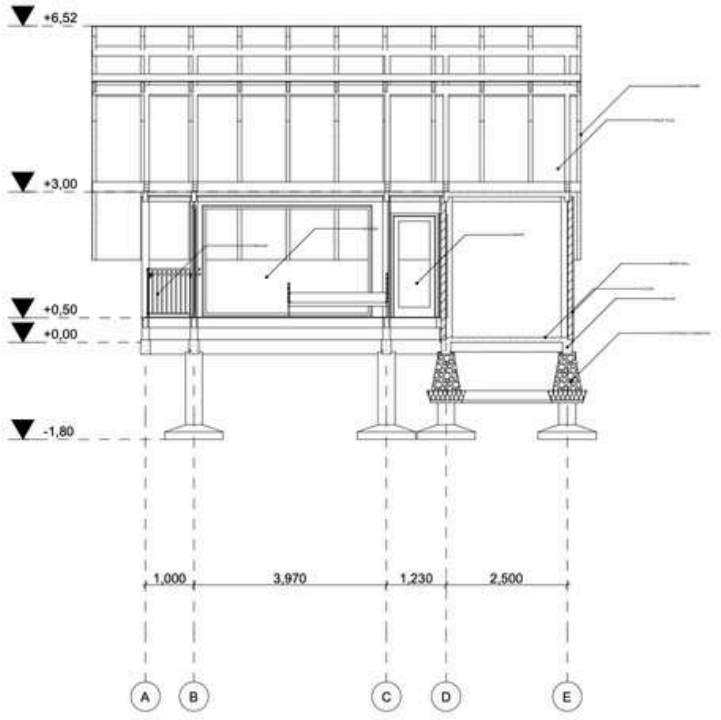
LOBBY & BALLROOM



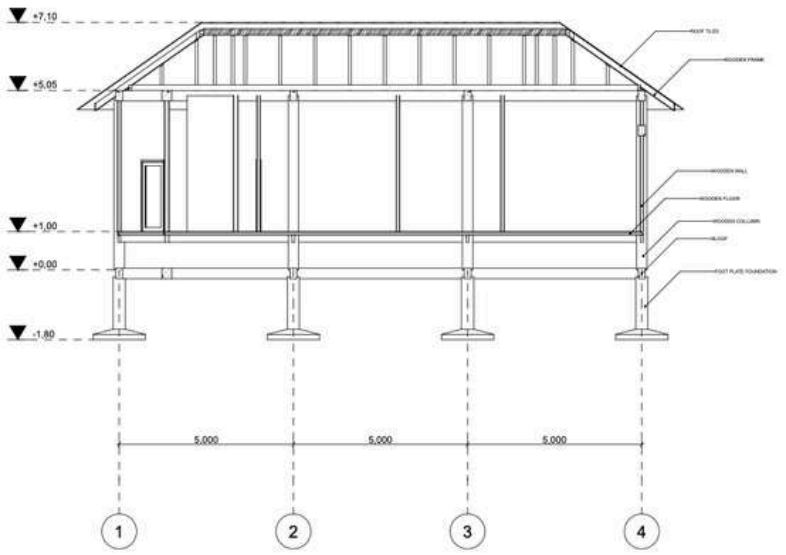


FAMILY VILLA





PRIVATE VILLA



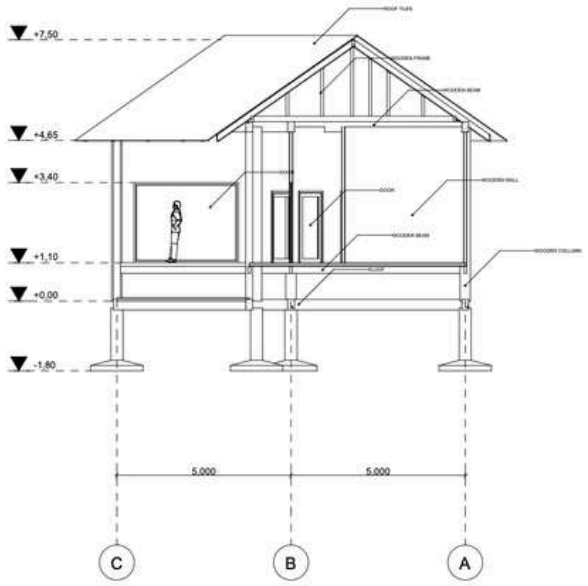
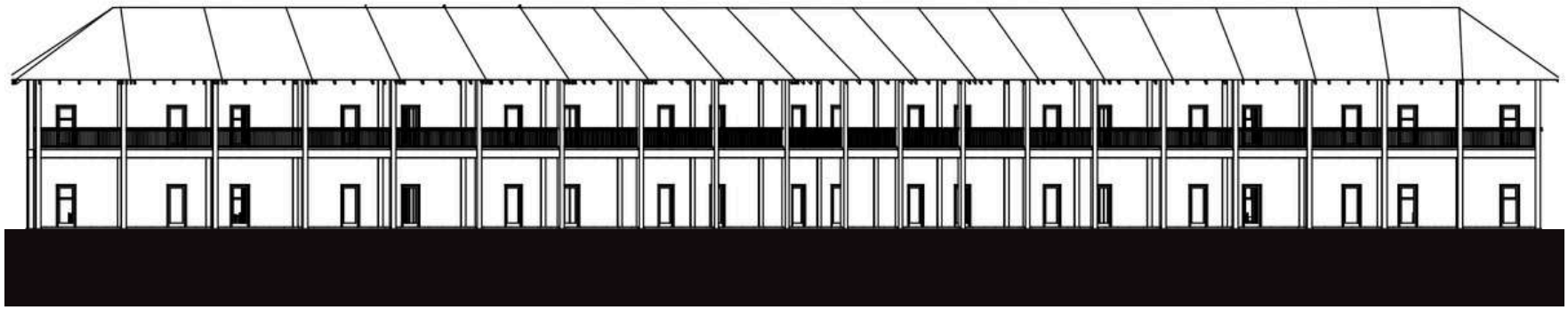


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STANDART & DELUXE ROOM



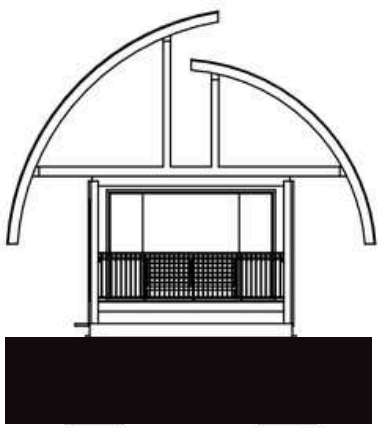
LOBBY & BALLROOM

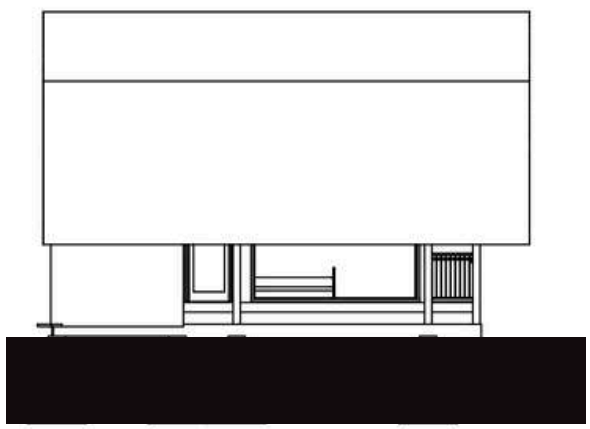






PRIVATE VILLA





FAMILY VILLA



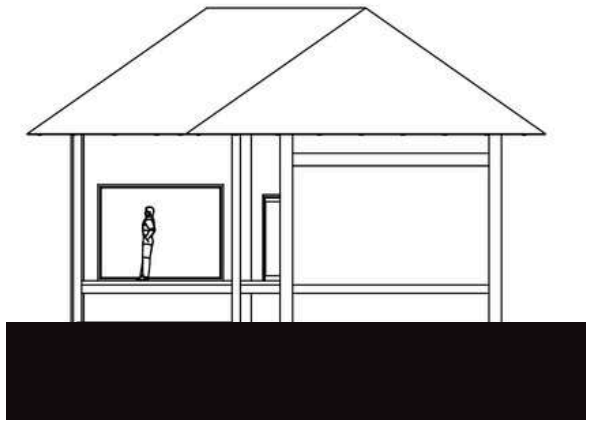


Image Source: Author, 2026

5 DESIGN EVALUATION

DESIGN EVALUATION

1 PROF. NOOR CHOLIS IDHAM, S.T., M. ARCH., PH.D., IAI

The conceptual design requires a more detailed explanation, particularly regarding the configuration and development of the site. View quality should be treated as one of the primary considerations in the resort design, with strategies developed to provide every accommodation unit with a fair and meaningful view. The current villa configuration should be reconsidered in relation to privacy, views, circulation, orientation, and overall spatial quality. If the star-shaped layout is maintained, the design should clearly demonstrate how passive cooling strategies can be applied to the configuration. Each building should also be designed with its own passive cooling strategy. By reconsidering the overall configuration based on these considerations, a more effective arrangement may be developed. Furthermore, the standard of a four-star villa should be clearly defined and reconsidered in relation to its facilities, spatial quality, privacy, and guest experience. Finally, the building coverage area should be calculated and evaluated in relation to the price and category of each accommodation unit to ensure that the size, quality, view, privacy, and facilities provided are proportional to the value offered to guests.

2 JOHANITA ANGGIA RINI, S.T., M.T., PH.D.

The relationship between passive cooling strategies and the use of air conditioning needs to be clarified, particularly in terms of how thermal comfort is achieved when mechanical cooling is available. The design should clearly identify where natural ventilation and cross ventilation are implemented and explain whether these strategies are intended to reduce dependence on air conditioning or function as supplementary strategies. The purpose and role of digital simulation should also be clarified, with Forma potentially being more relevant than CFD when analyzing building orientation, building surfaces, and the building envelope. In addition, the connection between the resort and the beach should be further considered to ensure that all guests, including those staying in the cheapest room category, can still enjoy meaningful access to the beach. The purpose of windows facing the parking area should be reconsidered, while the relationship between the star-shaped form and Sasak architectural principles should be explained more clearly. The layouts of the more expensive room categories should also be carefully reconsidered to maximize view quality and provide an experience appropriate to their higher price.

3 IR. HANIF BUDIMAN, M.T., PH.D.

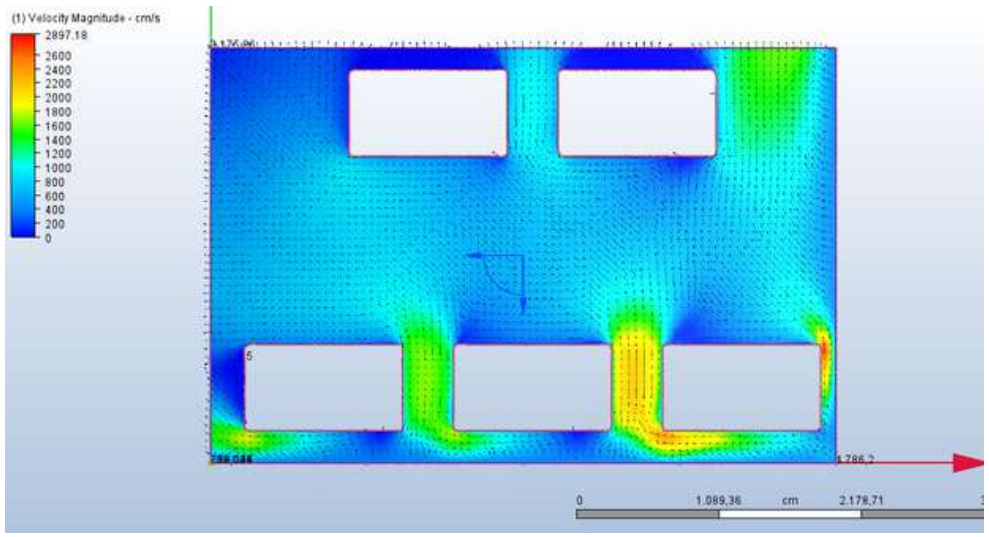
The design needs to further clarify how guest comfort is achieved and evaluated, particularly in relation to the surrounding community, the interior arrangement of each villa, and the overall spatial layout of the resort. The relationship between the thermal analysis and the master plan should be explained more clearly, including how the principle of adapting each building is applied to the final configuration. The role of the sumbu should also be further defined in relation to the composition and hierarchy of the resort. In addition, the design should demonstrate how the resort fulfills the standards of a four-star hotel by identifying the required guest facilities, back-of-house areas, and service spaces. The diagrams should include more specific spaces according to each building typology, while the circulation system should clarify the separation between guest and staff circulation. The resort should also consider the provision of entertainment performances, cultural events, or other activities that can enhance the overall guest experience.

Image Source: Author, 2026



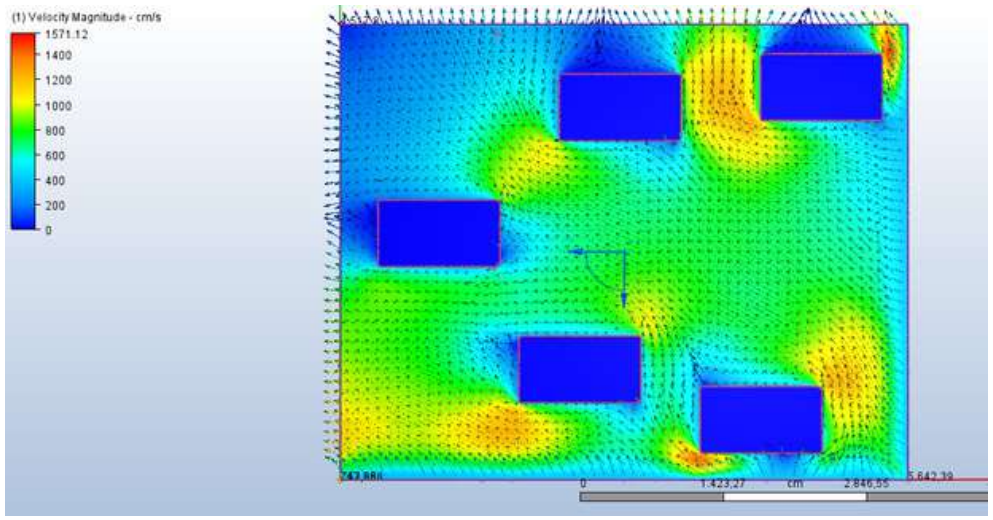
PRIVATE VILLA CLUSTER ARRANGEMENT AS A PASSIVE WIND RESPONSIVE DESIGN STRATEGY

The cluster arrangement is designed as a passive design strategy to capture and channel prevailing winds, creating a cooler environment within the cluster. The organic arrangement also allows airflow to spread naturally throughout the resort accommodation area, improving overall thermal comfort.



1 BEFORE

The cluster arrangement of the buildings provides a more efficient and organized site plan layout. However, this arrangement is less organic and restricts the natural movement of wind between the buildings. Therefore, the cluster arrangement should be further refined to improve airflow and enhance the overall passive cooling performance of the site.



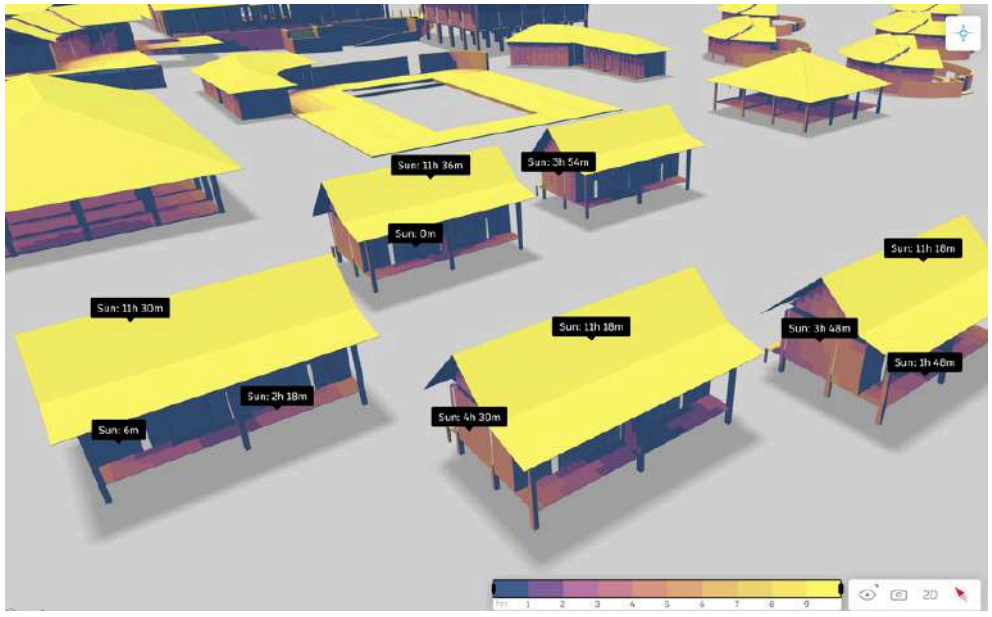
2 AFTER

After exploring various massing arrangements, it was concluded that a cluster configuration can function as a passive design strategy by creating wind pockets. This can be observed in the wind analysis, where the areas within the cluster pockets show greener wind-flow values, indicating improved airflow and a more comfortable microclimate.

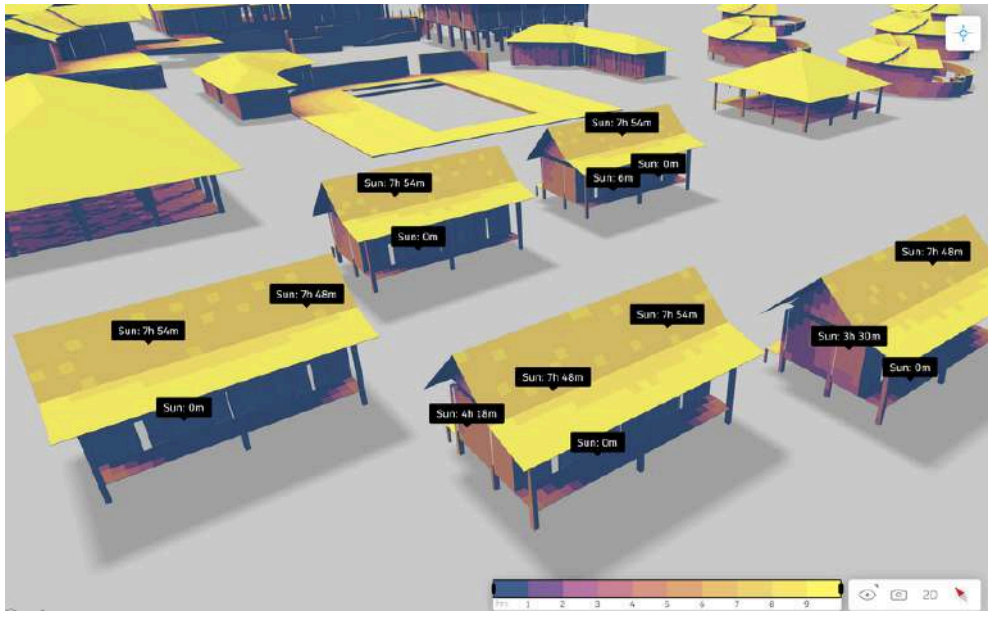
Image Source: Author, 2026

FORMA SIMULATION

MARCH 20TH



JUNE 21ST



SEPTEMBER 22ND



DECEMBER 21ST



The Forma simulation indicates that the Guest Villa is positioned within a safe range of solar radiation exposure, resulting in a more comfortable thermal environment. The Private Villa also incorporates a roof-shading strategy inspired by traditional Sasak architecture. The combination of roof shading and high ceilings functions as a passive design strategy by reducing direct solar heat gain and allowing hot air to rise and escape, thereby improving thermal comfort within the building.

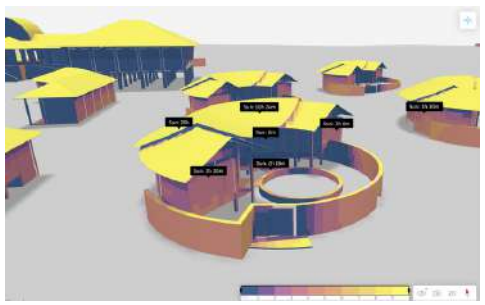
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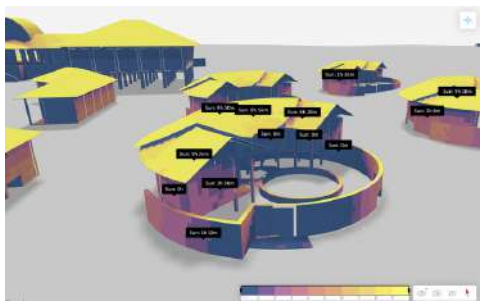


FORMA SIMULATION

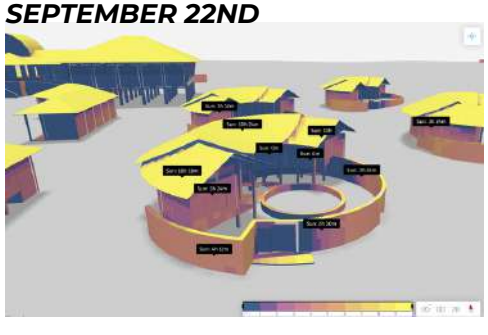
MARCH 20TH



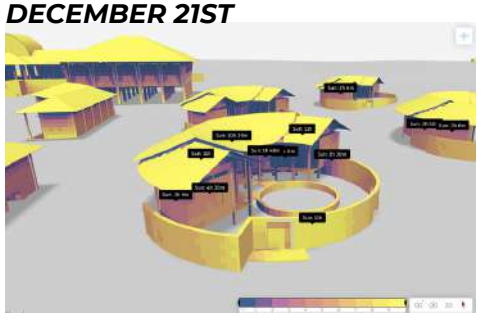
JUNE 21ST



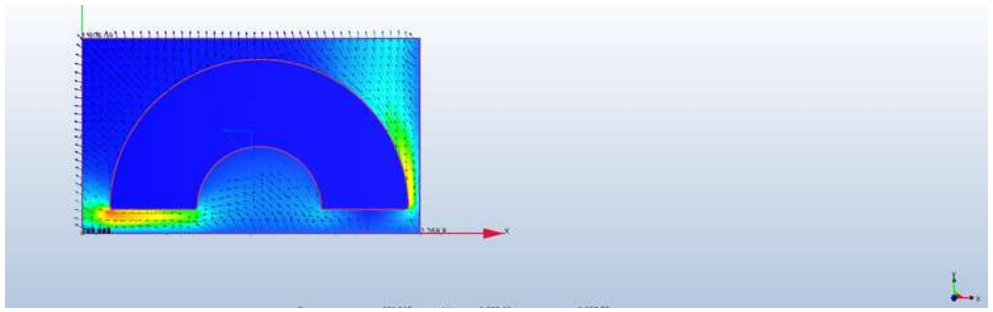
SEPTEMBER 22ND

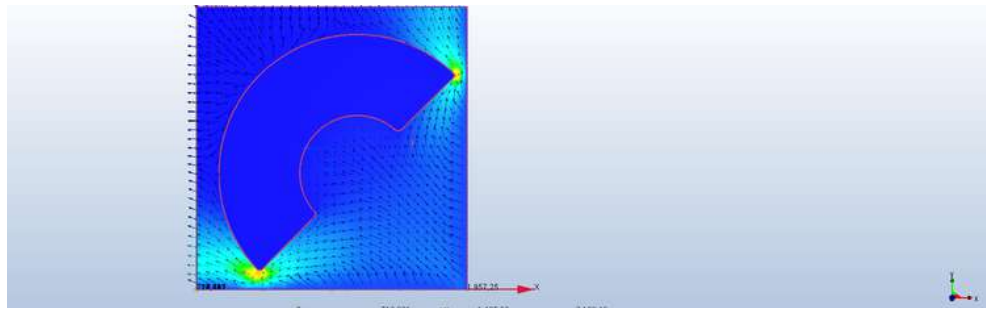


DECEMBER 21ST



CFD SIMULATION





WIND DIRECTION

The Private Villa building orientation is strategically arranged to respond to the prevailing wind direction. The buildings are positioned to maximise natural ventilation, while openings in the boundary walls allow wind to pass through the villa area. This approach helps maintain airflow and supports the overall passive cooling strategy of the design.

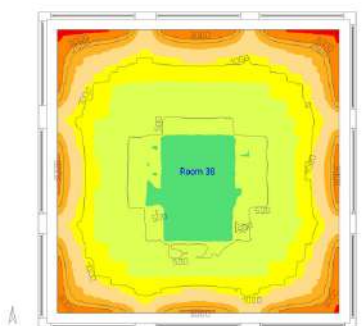
SUN RADIATION

In response to solar exposure, the Private Villa buildings are oriented away from the direct path of the sun to reduce excessive solar heat gain. Based on the Forma analysis, the building surfaces with larger openings remain within a safe range of solar radiation intensity, allowing thermal comfort to be achieved despite the increased amount of openings. This orientation and façade strategy help minimise excessive solar heat gain and contribute to improved thermal comfort within the villa.

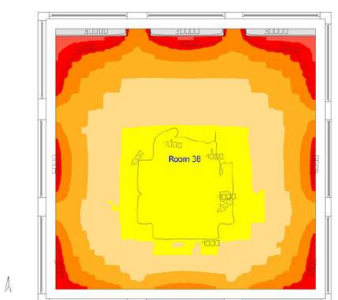
Image Source: Author, 2026

BALLROOM FACADE DESIGN RADIATION ANALYSIS USING DIALUX & FORMA

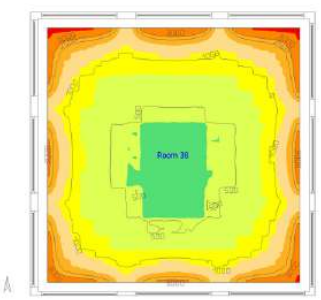
March 21st



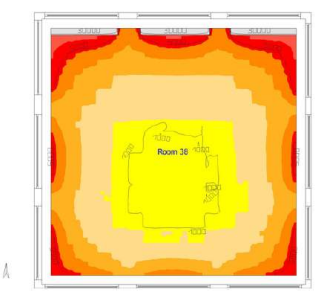
June 21st



September 21st

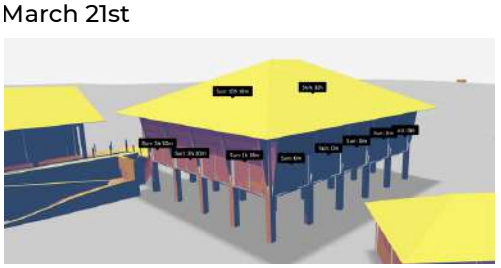


December 21st

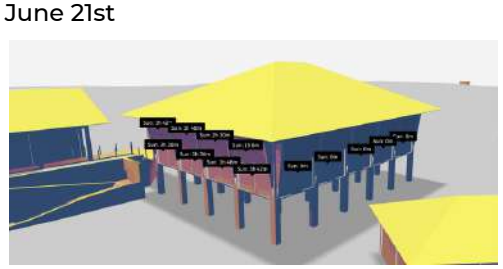


The room-level solar radiation analysis shows that the ballroom windows are still exposed to relatively high solar radiation. As a result, the thermal comfort in this area has not yet reached the desired level.

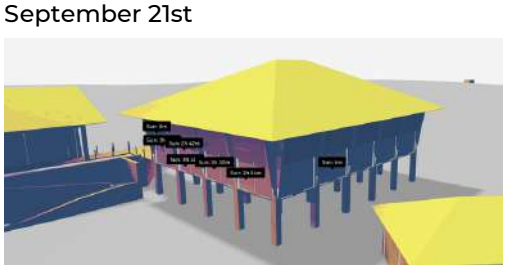
March 21st



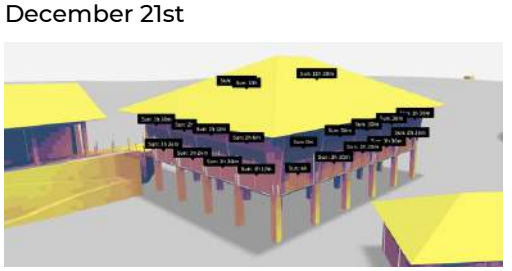
June 21st



September 21st



December 21st



Therefore, we introduced a roof design with integrated shading, along with a façade envelope that also functions as a shading device to reduce solar heat gain.

The Forma simulation results indicate that the design performs effectively. The highest average daily solar exposure is approximately 3 hours and 54 minutes, which falls within an acceptable range. This demonstrates that the proposed design successfully reduces solar radiation and improves the building's environmental performance.





The envelope shading is not applied across the entire façade. It is installed only on the upper portion, while the lower section remains open to allow natural daylight to enter and to preserve the surrounding views.

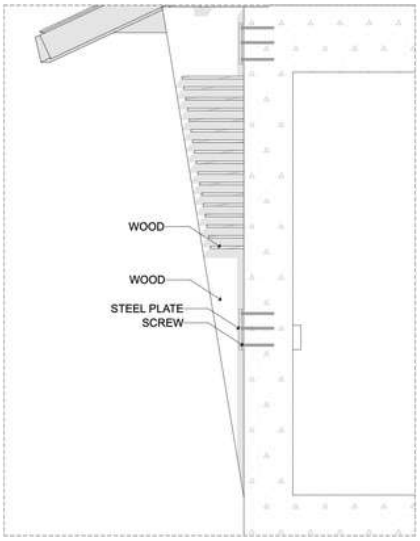


Image Source: Author, 2026

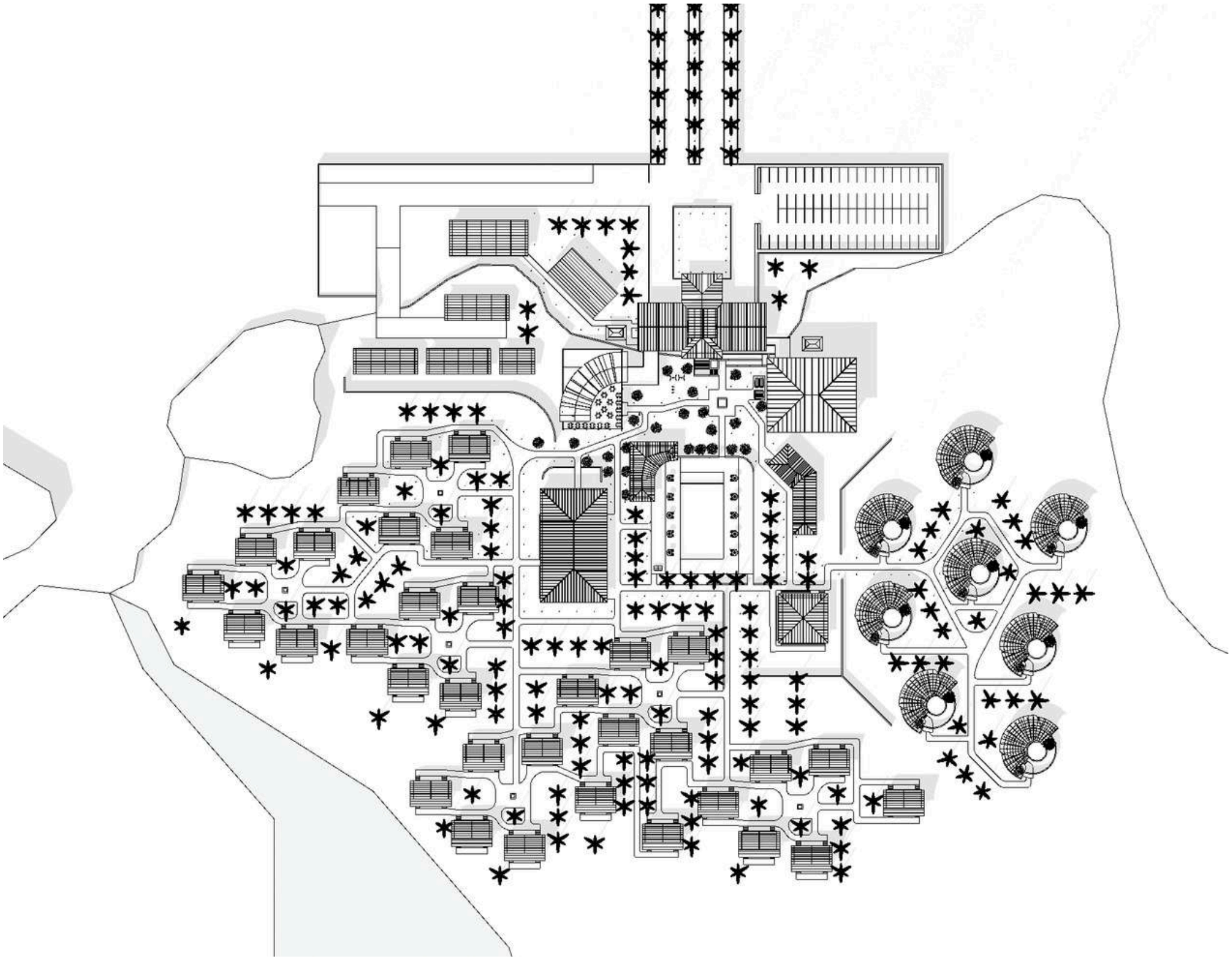
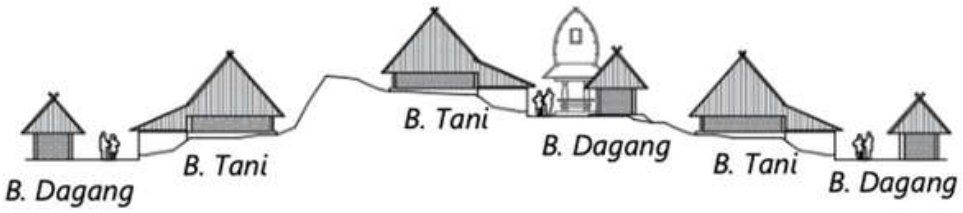
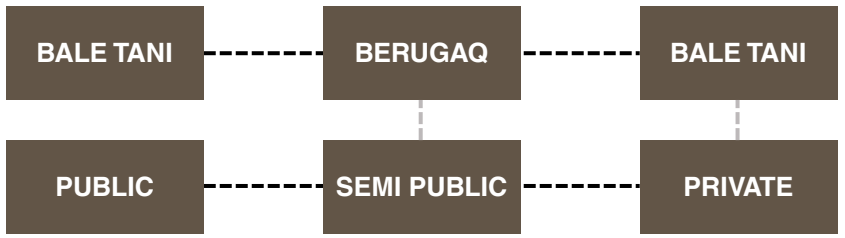


Image Source: Author, 2026

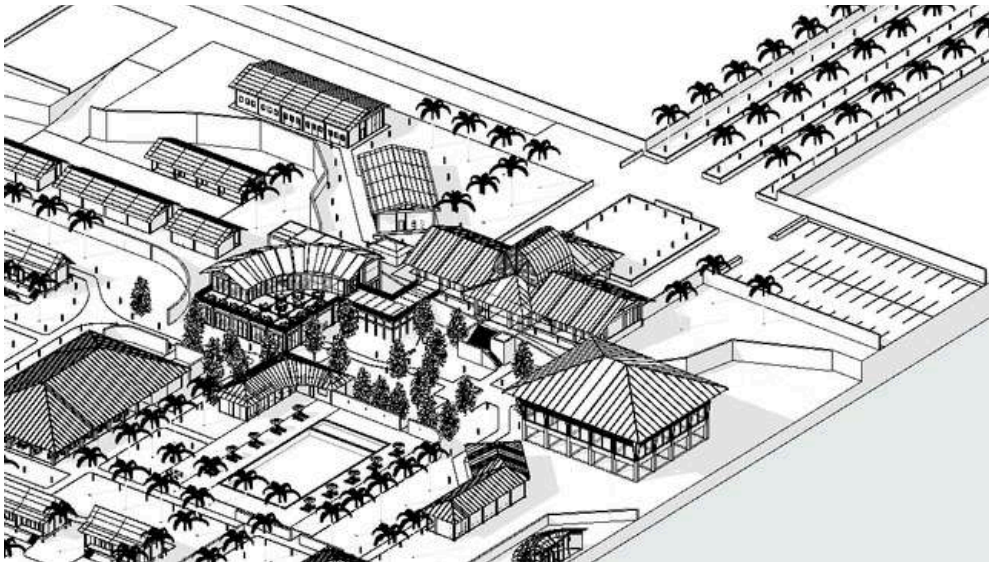
SASAK PRINCIPLE IMPLEMENTATION

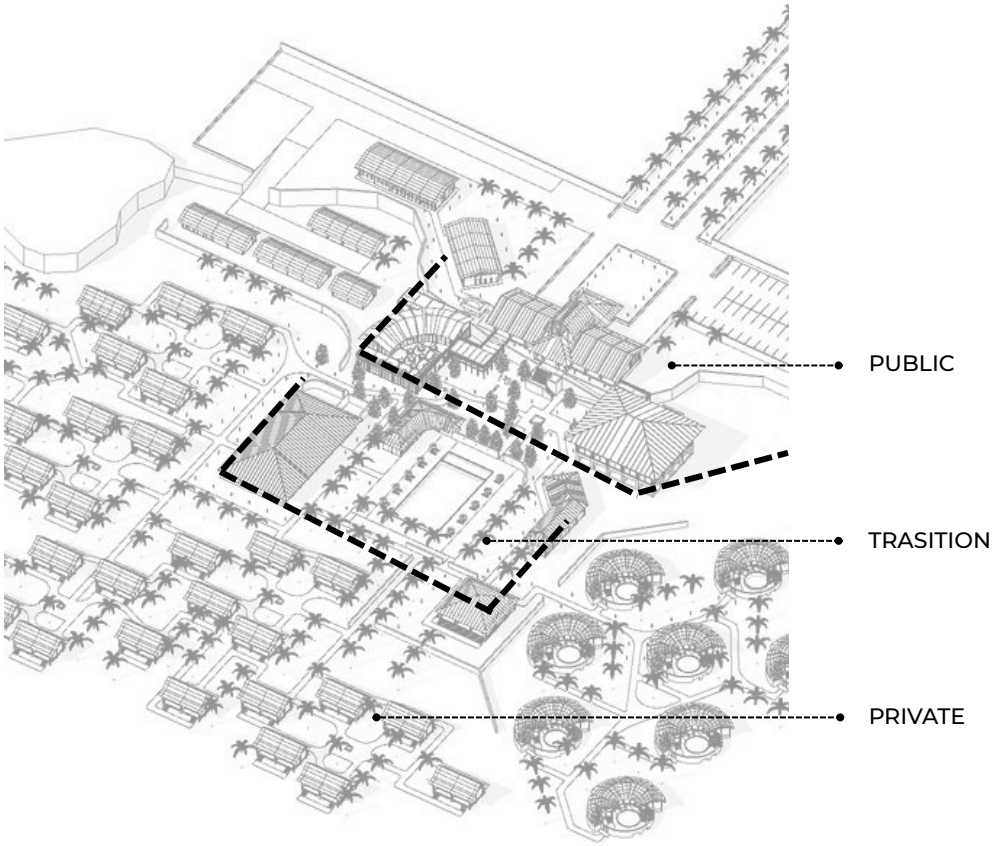
Building mass arrangement in the Sade traditional house





The contoured site conditions support the application of the spatial planning principles of the Sasak Traditional Village to the resort design. In traditional Sasak spatial planning, areas at lower contours are generally occupied by berugaq (trading halls) or trade halls, which serve as spaces for interaction and social activities. This principle was then adapted into the resort design by placing transitional spaces or buildings within these areas, serving as a link between public and private zones. This approach not only maintains local cultural values but also creates a clearer and more comfortable spatial hierarchy for users.





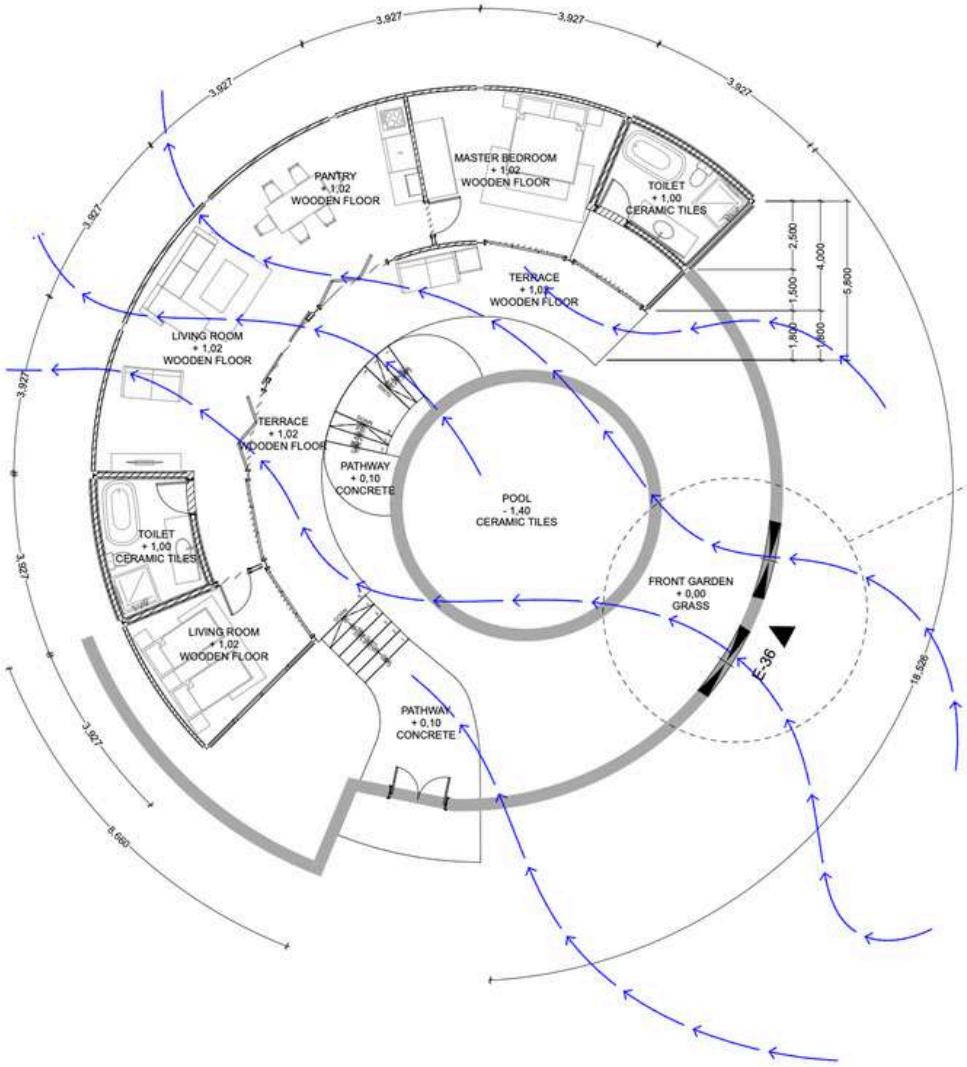


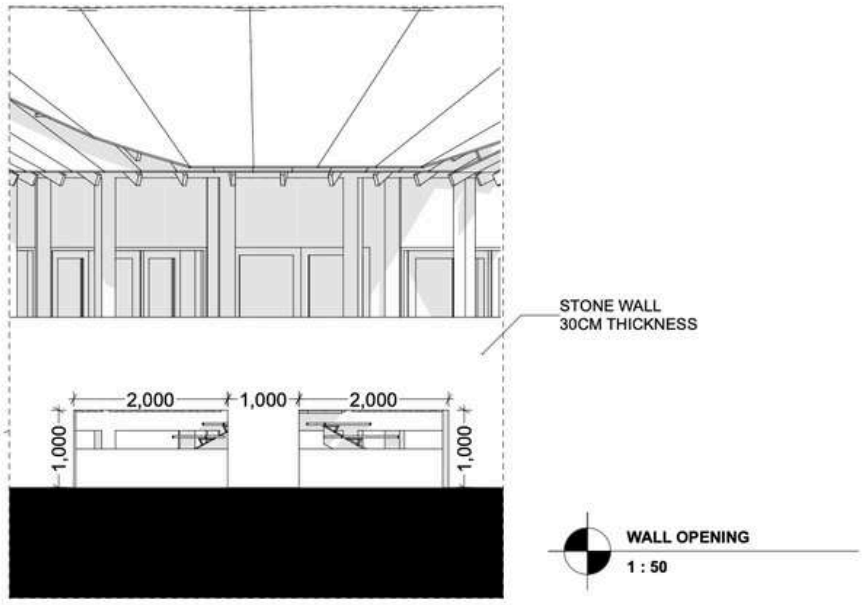












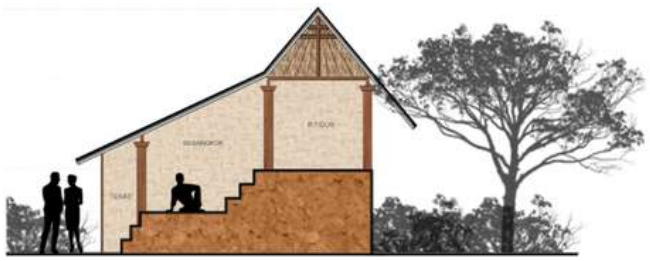
BUILDING ORIENTATION & SHAPE

The building is oriented according to the prevailing wind direction, while its massing is carefully shaped to maximise wind capture for passive cooling. To ensure privacy in the private villas, perforated hollow walls are introduced as boundary elements. This design allows air to circulate freely while maintaining visual privacy, creating a balance between thermal comfort and user privacy.

Image Source: Author, 2026

SASAK ARCHITECTURE







Traditional Sasak architecture demonstrates effective passive cooling strategies through the use of high ceilings and cross ventilation. These design elements promote natural airflow, improve air circulation, and help reduce indoor temperatures, creating a comfortable living environment with minimal reliance on mechanical cooling systems.

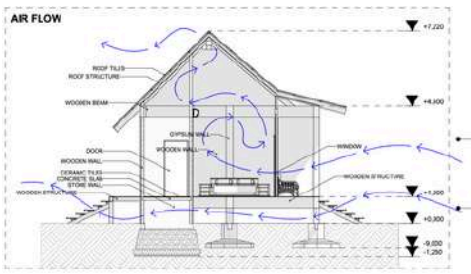
ROOF DESIGN

Inspired by the traditional Bale Tani of Sasak architecture, the private villa reinterprets its distinctive thatched roof form into a contemporary design, preserving the identity and cultural values of Lombok's local architecture.



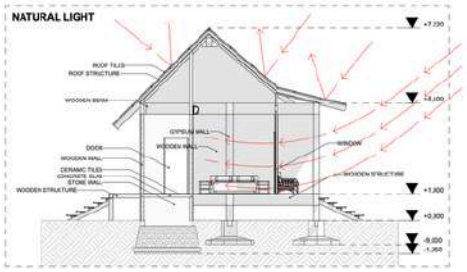


PASSIVE COOLING DESIGN



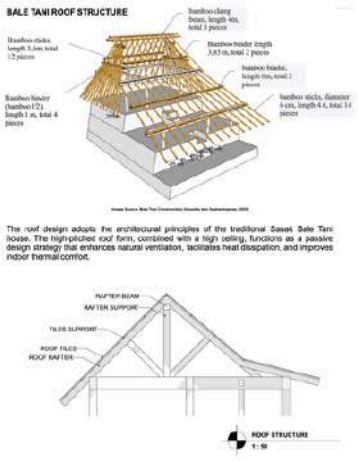
AIR FLOW CIRCULATION
The building openings are oriented according to the prevailing wind direction, enabling natural cross-ventilation, with warm air discharged through high-level ventilation openings positioned above the walls.

ELEVATED FLOOR
The elevated structure allows air to circulate beneath the building, creating a passive cooling effect that reduces heat transfer from the ground. This strategy improves thermal comfort and enhances natural ventilation throughout the building.



NATURAL LIGHTING
Natural lighting is introduced into the interior through generously sized openings, with doors and windows approximately 2 metres high, allowing ample daylight penetration into the building.





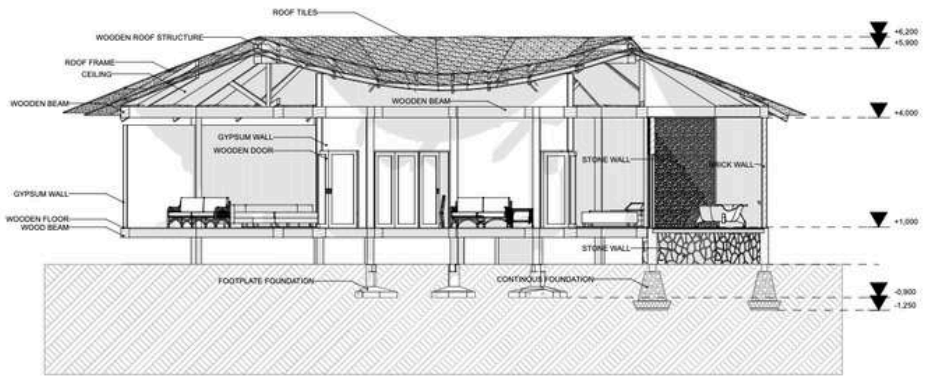
HIGH CEILING

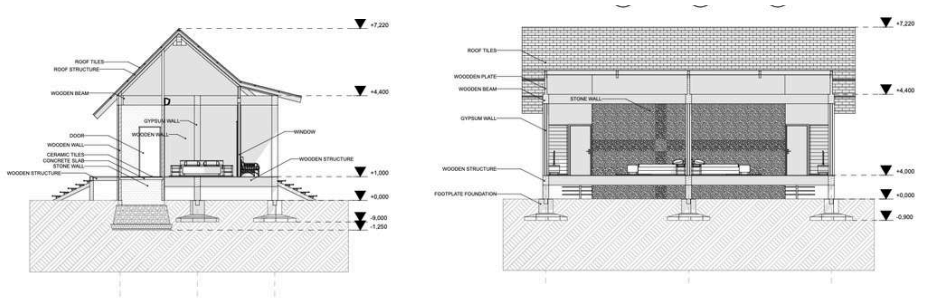
The roof structure and form are inspired by the traditional Bale Tani, the vernacular house of the Sasak people. The design incorporates a high ceiling as a passive cooling strategy, allowing warm air to rise and escape through ventilation openings at the top of the roof. This enhances natural ventilation and helps maintain indoor thermal comfort, even without the use of air conditioning.

ELEVATED FLOOR FOR CROSSING WIND

Elevated floors are incorporated to allow air circulation beneath the building, serving as a passive cooling strategy. This helps reduce heat transfer from the ground and improves thermal comfort by promoting natural cooling from below.

Image Source: Author, 2026





Elevated Structure as Passive Cooling
The elevated structure allows air to circulate beneath the building, creating a passive cooling effect that reduces heat transfer from the ground. This strategy improves thermal comfort and enhances natural ventilation throughout the building.

High Ceiling for Heat Dissipation
The high ceiling creates a larger air volume and allows warm air to rise above the occupied zone. This improves indoor comfort and reduces heat accumulation, making the building more suitable for Lombok's tropical climate.

Roof Form Supporting Ventilation
The curved roof form increases internal volume and supports natural air movement within the building. Combined with high-level openings, it encourages hot air to escape and improves overall ventilation performance.

Lightweight Elevated Floor
The raised floor system minimizes direct ground contact, reducing heat transfer and allowing continuous airflow beneath the structure as part of the passive cooling strategy.

Reduced Ground Impact
The use of isolated footings minimizes site disturbance and allows the natural topography and airflow patterns to be preserved, supporting a more environmentally responsive design.

Orientation
The building is oriented to capture the prevailing wind while facing away from the sun's path, helping to improve natural ventilation and reduce direct solar heat gain.

Elevated Floor Inspired by Traditional Sasak Houses
Inspired by traditional Sasak houses, the building is elevated above the ground to promote air circulation beneath the floor. This passive cooling strategy helps reduce heat transfer from the ground while improving indoor thermal comfort in Lombok's tropical climate.

High Ceiling for Natural Cooling
Similar to traditional Sasak architecture, the building incorporates high ceilings to improve natural ventilation. The increased interior volume allows warm air to rise above the occupied zone, creating a cooler and more comfortable indoor environment.

Roof Form as a Contemporary Interpretation of Sasak Architecture
The roof design is inspired by the traditional Sasak Lumbung. Its elevated and curved form creates a larger internal air volume, supporting natural airflow and passive cooling while preserving the identity of Lombok's local architecture.

Lightweight and Climate-Responsive Structure
Traditional Sasak architecture is characterized by lightweight structures that respond efficiently to the local climate. This principle is adapted through an elevated structural system and open building configuration that maximize airflow and environmental comfort.

Building Relationship with Nature
Inspired by the harmonious relationship between Sasak architecture and its environment, the structure is designed to work with natural elements rather than resist them. Wind, sunlight, and topography are integrated into the design process to enhance comfort through passive means.

Image Source: Author, 2026

VILLA DEVELOPMENT CONCEPT

GUEST VILLA



The resort consists of 33 guest villa buildings, with each villa accommodating two guest rooms (66 Keys total). Each villa includes two room types a King Bed room and a Twin Bed room each with its own private bathroom. This results in a total of 66 keys, with a maximum capacity of 132 adult guests.

FAMILY VILLA

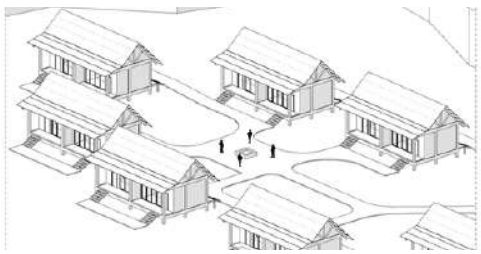


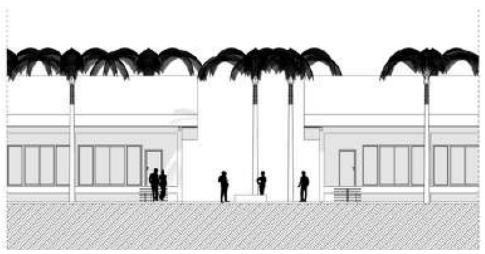
The resort includes 8 Family Villas, each featuring two bedrooms, two bathrooms, a shared living area, and a private swimming pool. Each villa is designed to accommodate 4 to 6 guests, resulting in a total maximum capacity of 48 guests.

LOCAL PRINCIPLE EXPERIENCE



The communal space is a reinterpretation of the traditional Berugaq, a structure used by the Sasak community as a shared gathering place for social interaction. Traditionally, a Berugaq serves two to three nearby houses, and in this resort, the concept has been transformed into a multifunctional communal space that encourages interaction among guests while preserving the essence of the original cultural principle.



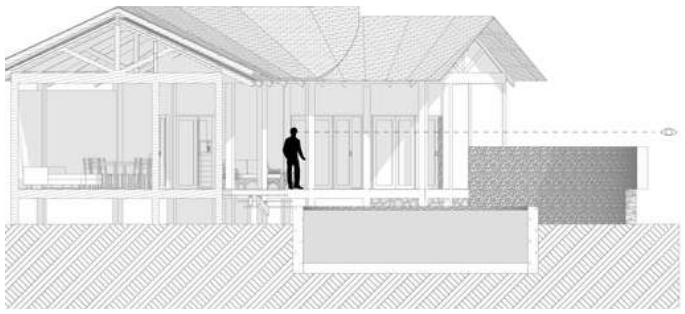


PRIVACY





The Family Villa is designed for guests seeking quality time with their families, with a strong emphasis on privacy and comfort. Each unit offers premium amenities, including a private swimming pool, spacious living areas, and enclosed boundaries that enhance privacy while creating a more exclusive and relaxing environment.



While maintaining a high level of privacy, the design also prioritises the surrounding views. The elevated platform allows guests to enjoy unobstructed views of the natural landscape without compromising their privacy.

Image Source: Author, 2026

RESORT WITH A THERMAL COMFORT FOCUSED APPROACH

ELEVATED DESIGN & WIND CLUSTER







- Elevated design and high ceilings support passive cooling by allowing natural airflow to move organically throughout the resort and improving indoor circulation and comfort.

- Wind-catching clusters are strategically arranged to enhance airflow, with simulations demonstrating increased wind velocity and improved natural ventilation.

SHADING DESIGN



Building envelope design is integrated as a shading element to reduce solar heat gain and create a more comfortable indoor environment.

BUILDING ORIENTATION







- Building orientation responds to the site's solar pattern and prevailing wind direction to optimise natural ventilation and reduce heat gain.

- Passive design strategies are integrated into the building forms and architectural details, such as wind-catching forms and perforated fences that allow airflow while maintaining villa privacy.

LOCAL PRINCIPLE EXPERIENCE

TRADITIONAL ARCHIECTURE ROOF DESIGN



The roof form is inspired by local architecture while incorporating natural lighting strategies to enhance the indoor environment and strengthen the building's connection to the local context.

LAYOUT ARRANGEMENT



The spatial arrangement is inspired by local architectural principles, transitioning gradually from public to semi-public and private spaces to create a clear hierarchy of privacy and social interaction.

TRADITIONAL ARCHIECTURE PRINCIPLE



Local architectural principles are reflected in the high-ceiling roof forms and elevated structures, inspired by traditional Sasak architecture such as the Berugaq and Lumbung Sasak, while the use of local materials further strengthens the connection to the region's cultural identity.

LOCAL COMMUNITY BEHAVIOUR



The cluster design is a transformation of the design framework inspired by the local community's social and communal lifestyle. It is designed to create shared communal spaces that encourage interaction, socialisation, and a stronger sense of community among guests.

Image Source: Author, 2026

FAMILY LEISURE









Private family villas are designed for families seeking quality time with a high level of privacy. With larger rooms and spaces, each villa can accommodate 4–6 guests. Despite the surrounding walls, the elevated design allows guests to enjoy unobstructed views above the wall line.

Image Source: Author, 2026

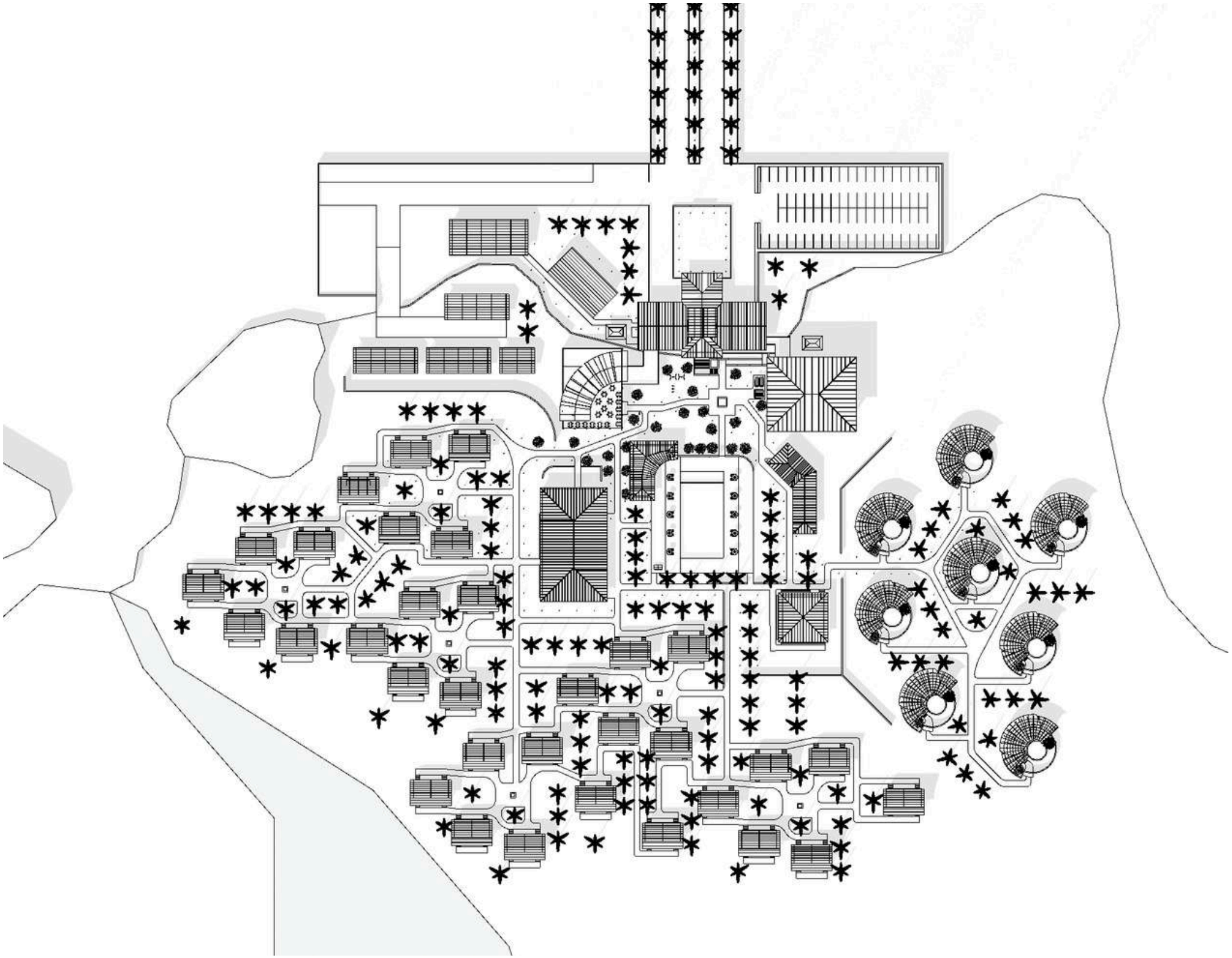


Image Source: Author, 2026

SITE REGULATION

Total Size of the site is 7 Hectare

Regulation is 70% KDB
and 30% KDH



To achieve efficient site utilisation, 70% of the total 7-hectare site is allocated for development. This corresponds to 4.9 hectares, or 49,000 m², while the remaining area is preserved for landscaping, open spaces

DEVELOPMENT USAGE

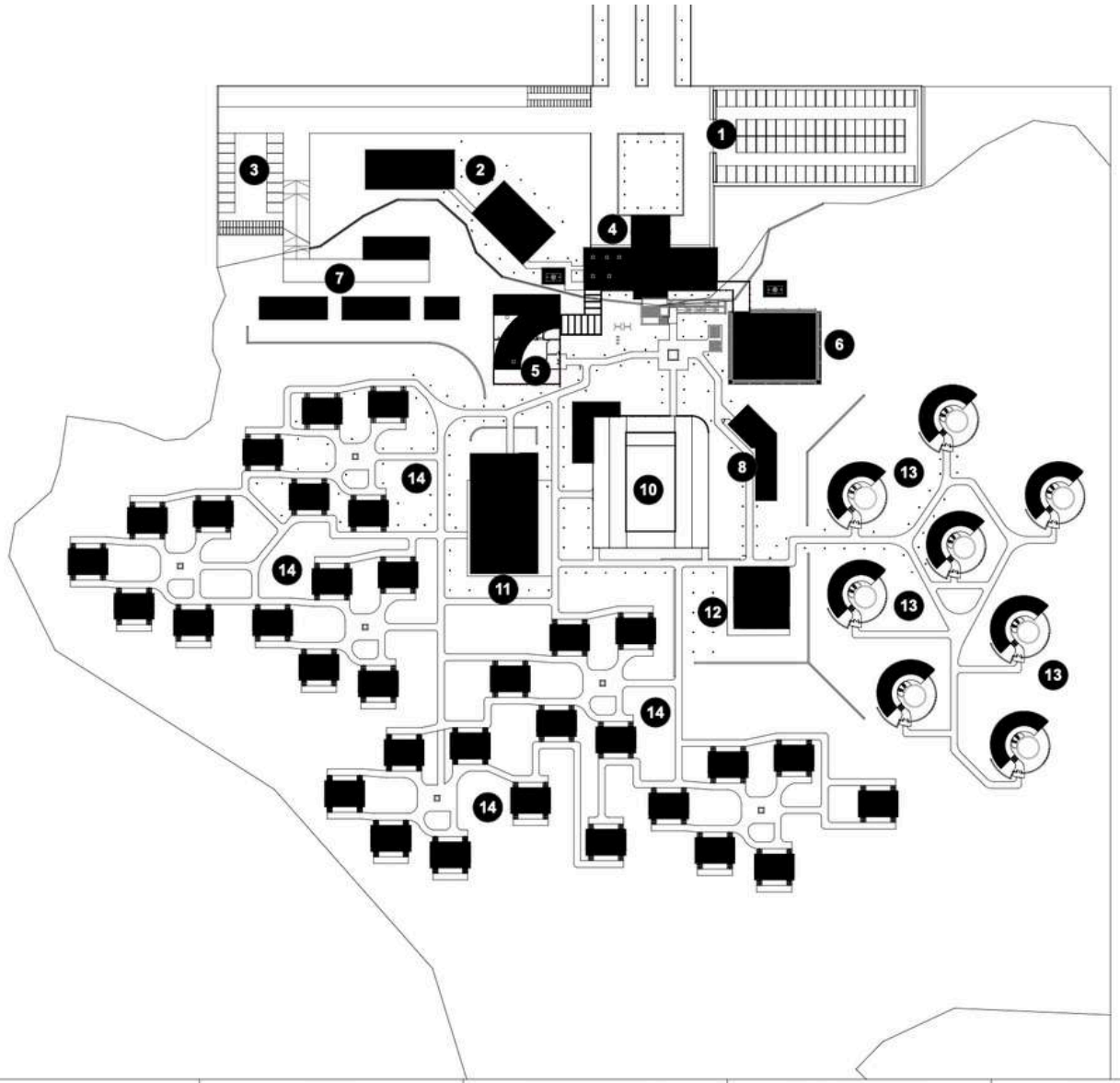
Total Size of the site is 7 Hectare

KDB Usage: 48.114 m2
KDH Usage: 21.886 m2



The final site development achieved a site utilisation of approximately 69%, which is close to the planned target, while 31% of the site is maintained as Green Open Space (KDH).

Image Source: Author, 2026

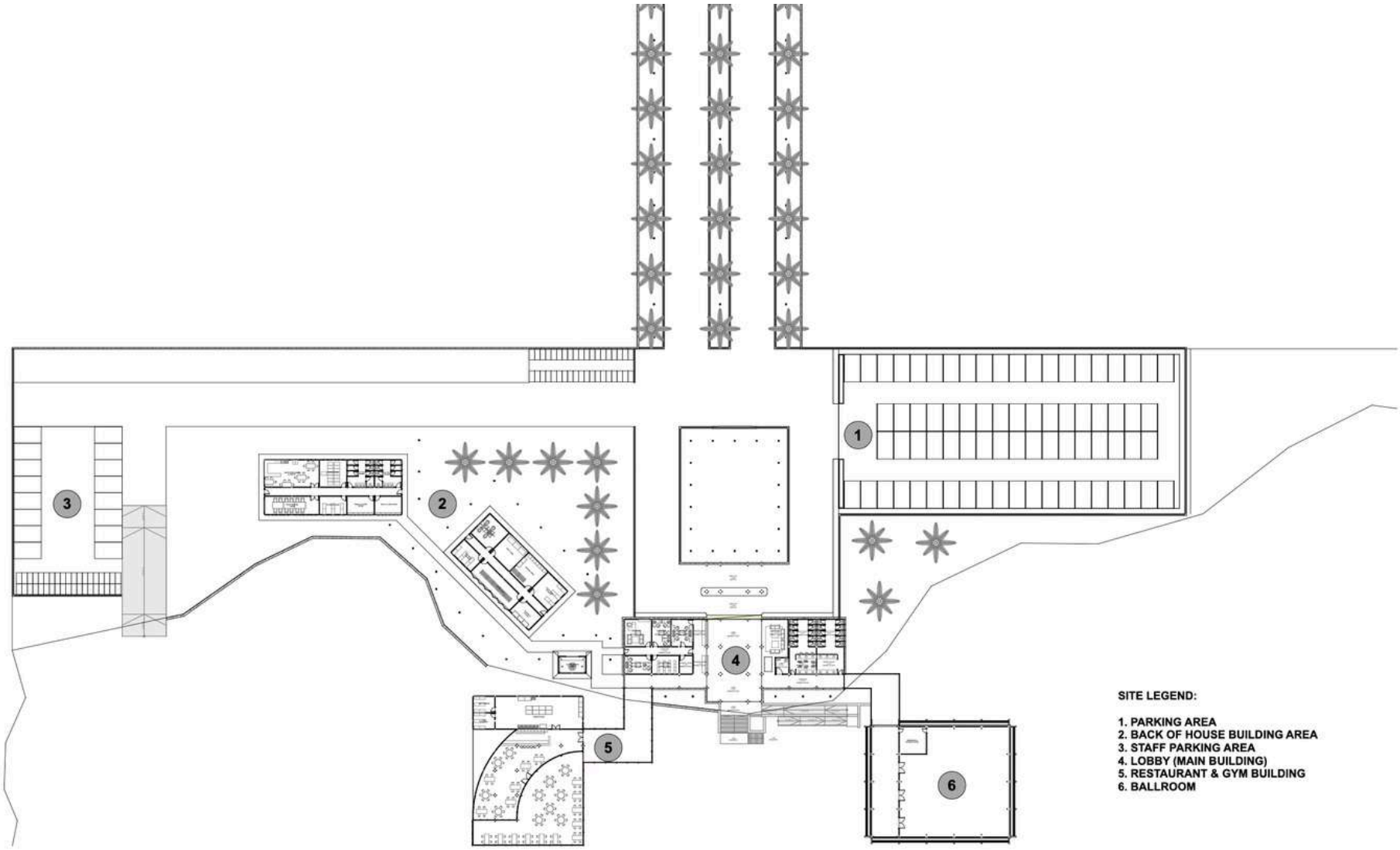


SITE LEGEND:

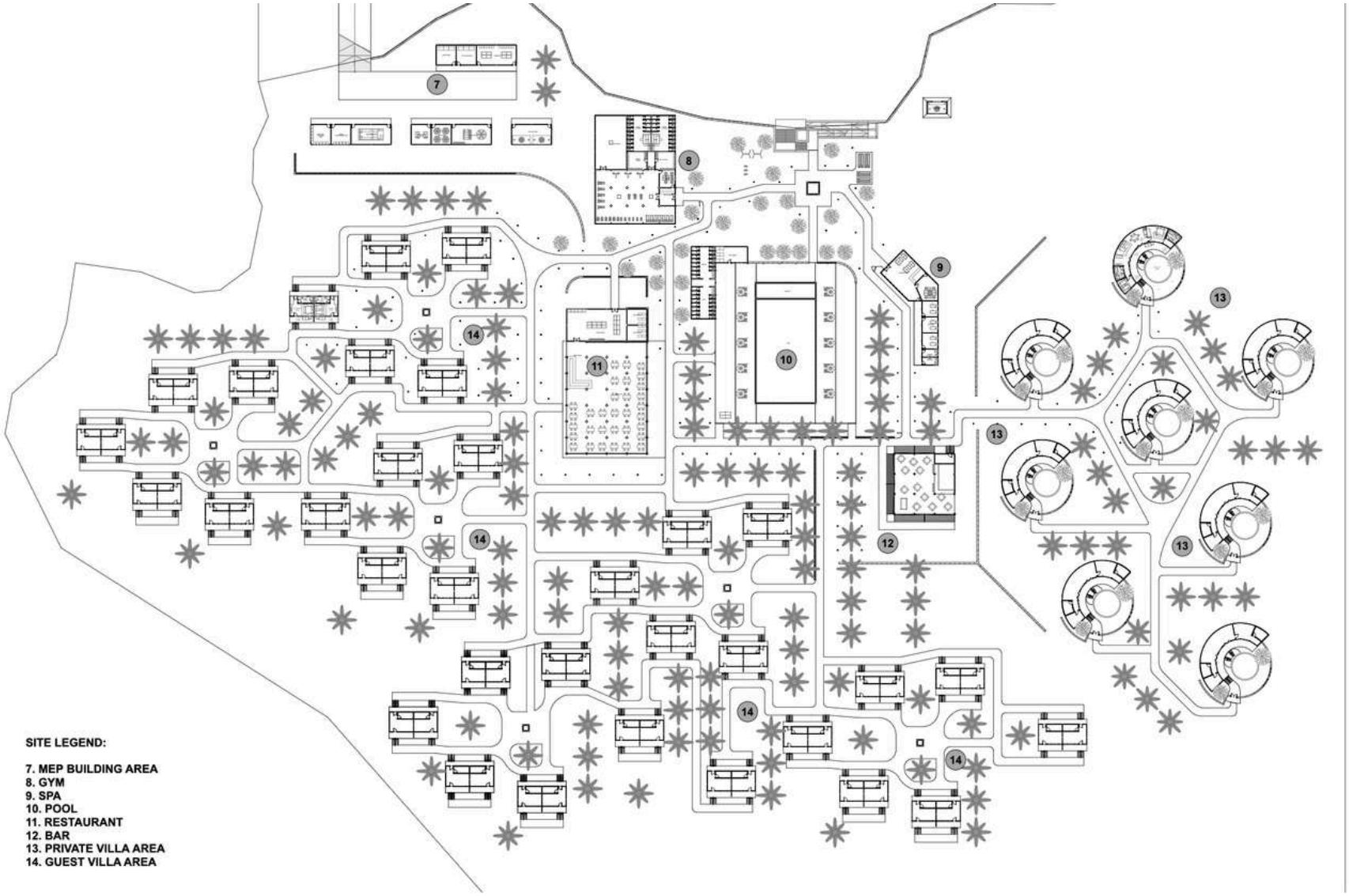
1. PARKING AREA
2. BACK OF HOUSE BUILDING AREA
3. STAFF PARKING AREA
4. LOBBY (MAIN BUILDING)
5. RESTAURANT & GYM BUILDING
6. BALLROOM
7. MEP BUILDING AREA
8. SPA
10. POOL
11. RESTAURANT
12. BAR
13. PRIVATE VILLA AREA
14. GUEST VILLA AREA

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:1000	31	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	Block Plan	2026/EVEN			

Image Source: Author, 2026

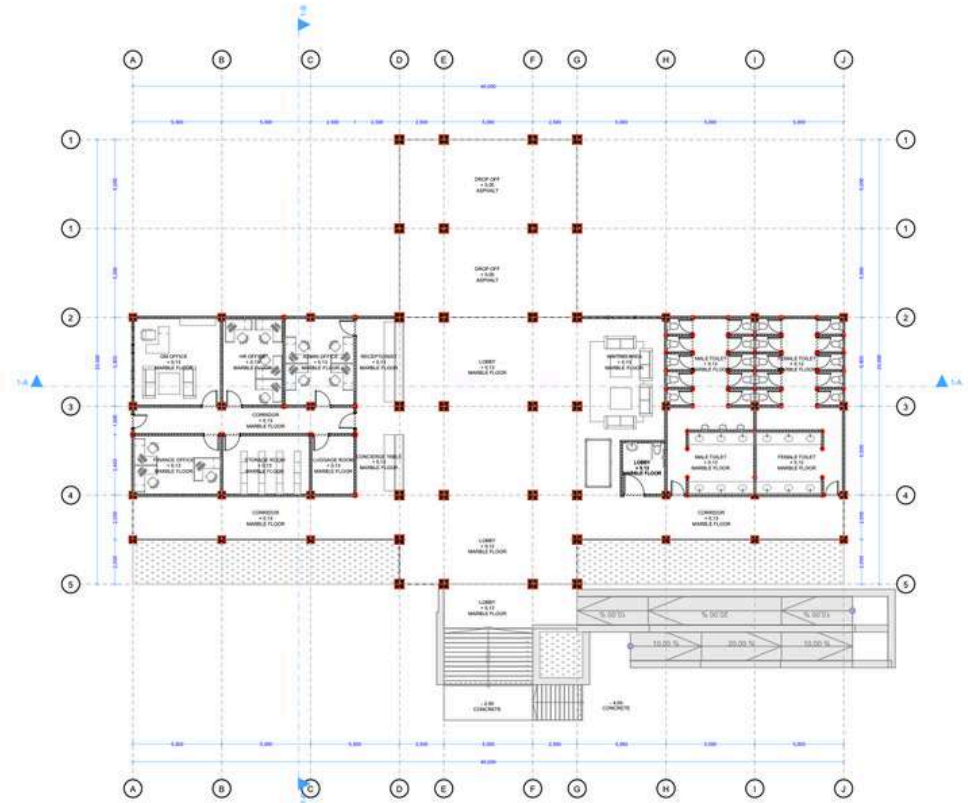


ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:500	3	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	1st Story Site Plan	2026/EVEN			

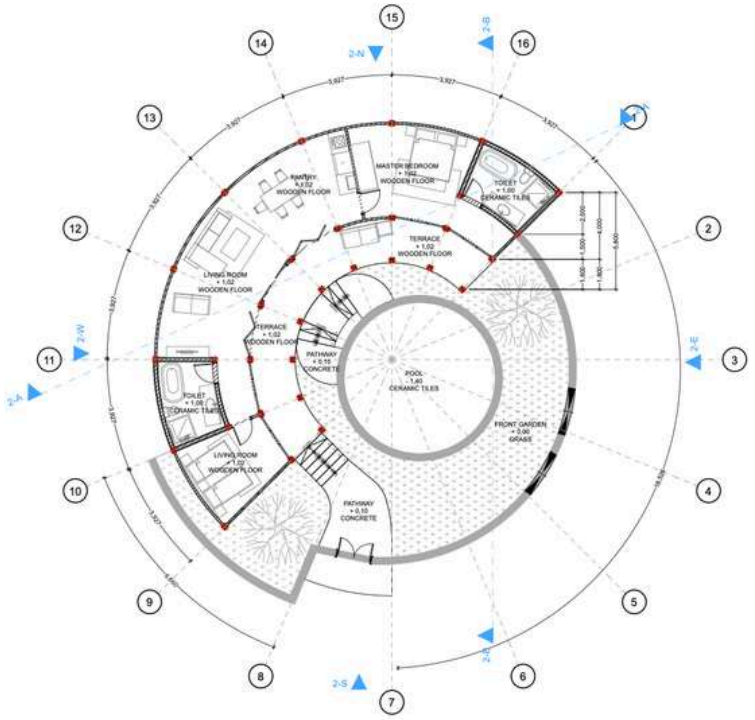


ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:700	4	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	Ground Floor Site Plan	2026/EVEN			

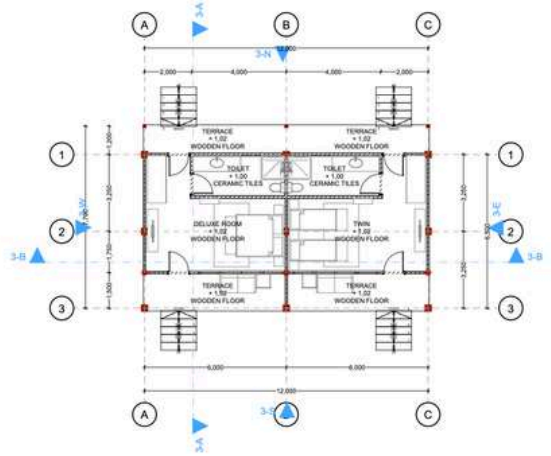
Image Source: Author, 2026



ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:200	6	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	Lobby Building Plan	2026/EVEN			

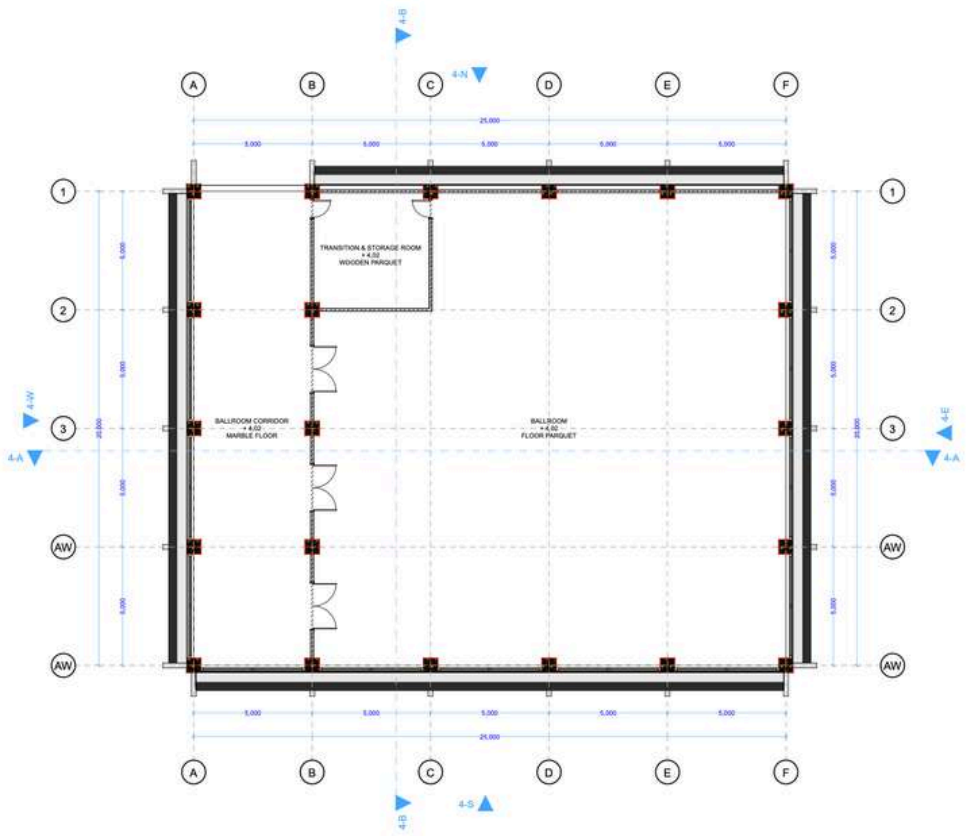


PRIVATE VILLA
1 : 150



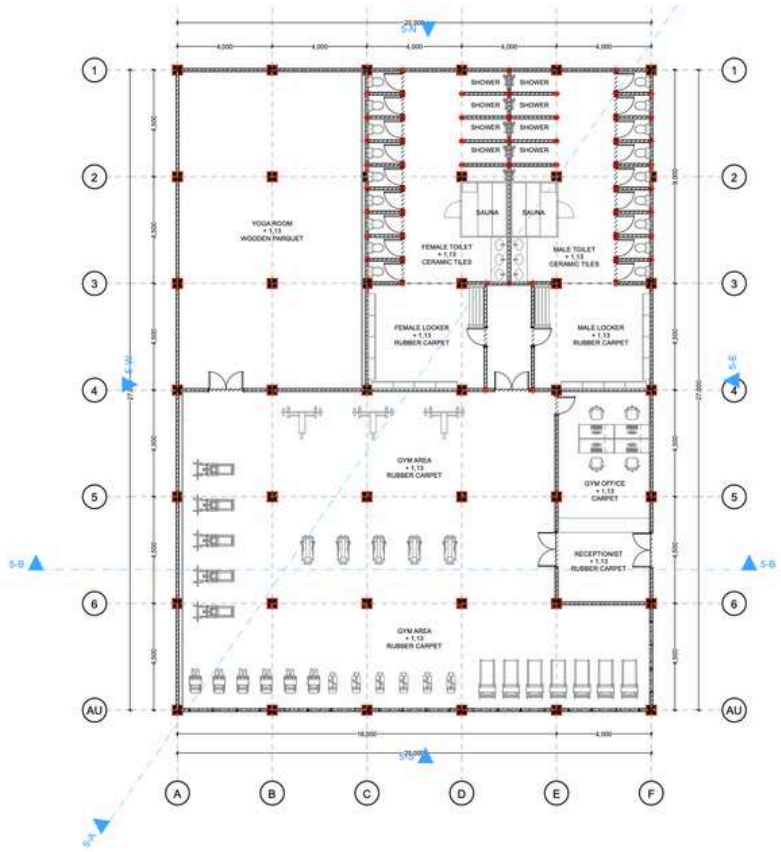
GUEST VILLA
1 : 150

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	7	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	VILLA PLAN	2026/EVEN			

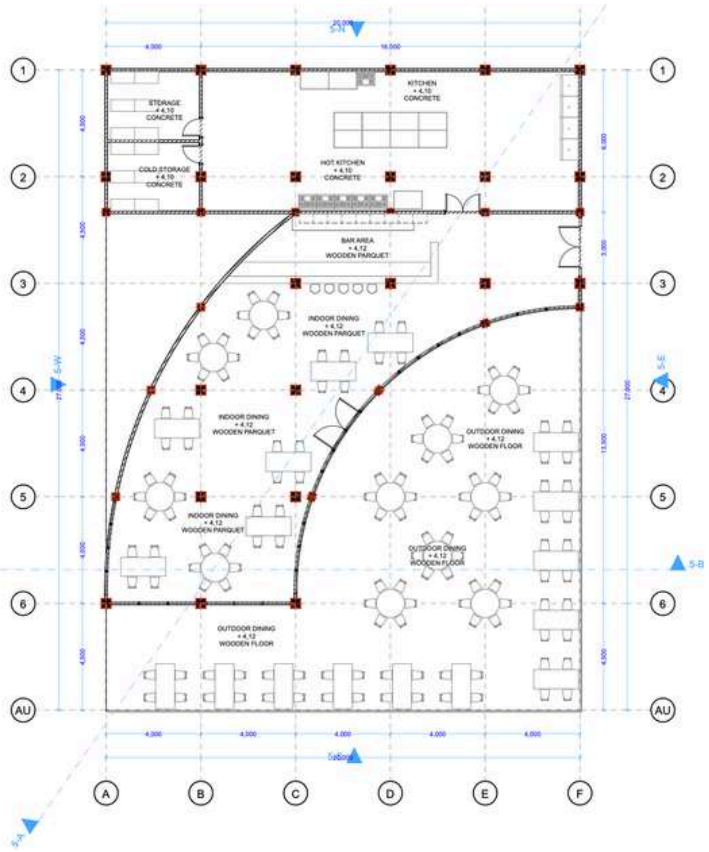


BALLROOM
1 : 150

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	8	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	BALLROOM PLAN	2026/EVEN			



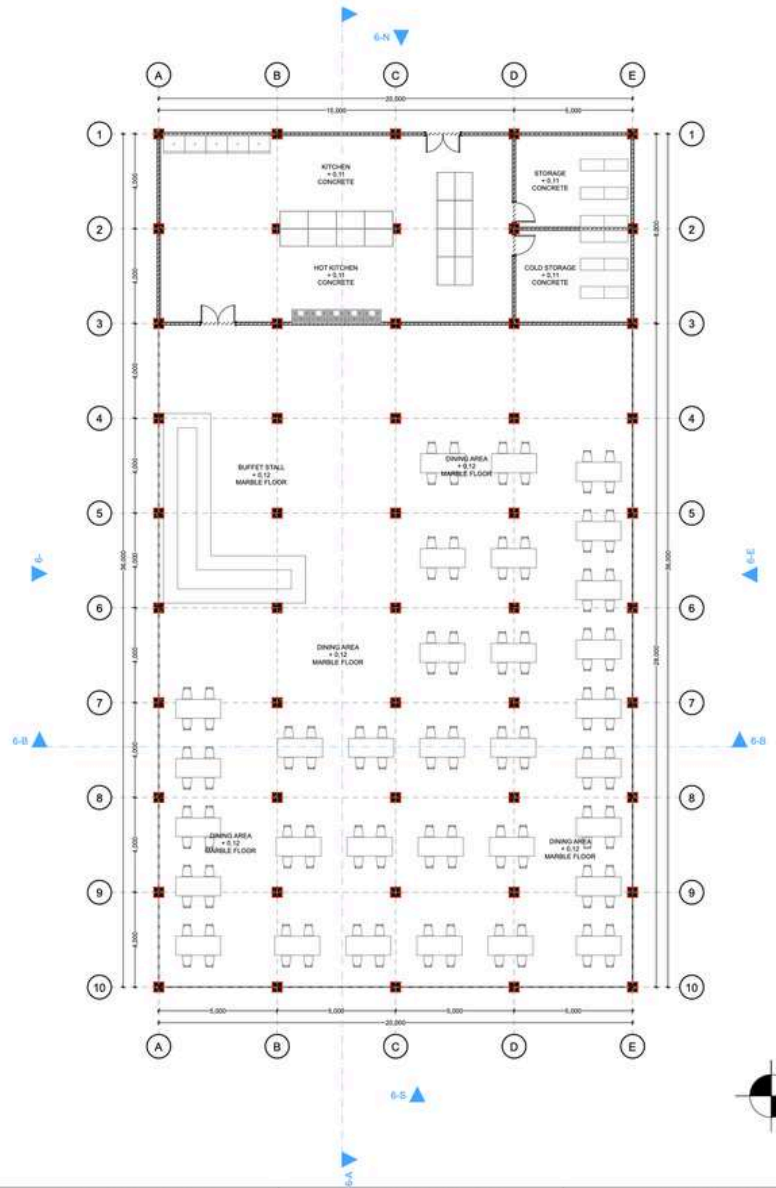
GYM Ground Floor
1 : 150



Restaurant 1st Floor
1 : 150

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	9	
FINAL ARCHITECTURE DESIGN STUDIO	**STUDENT NUMBER**	**LOCATION**	**DRAWING TITLE**	**YEAR/SEMESTER**			
	22512030	Lombok Island	RESTAURANT & GYM PLAN	2026/EVEN			

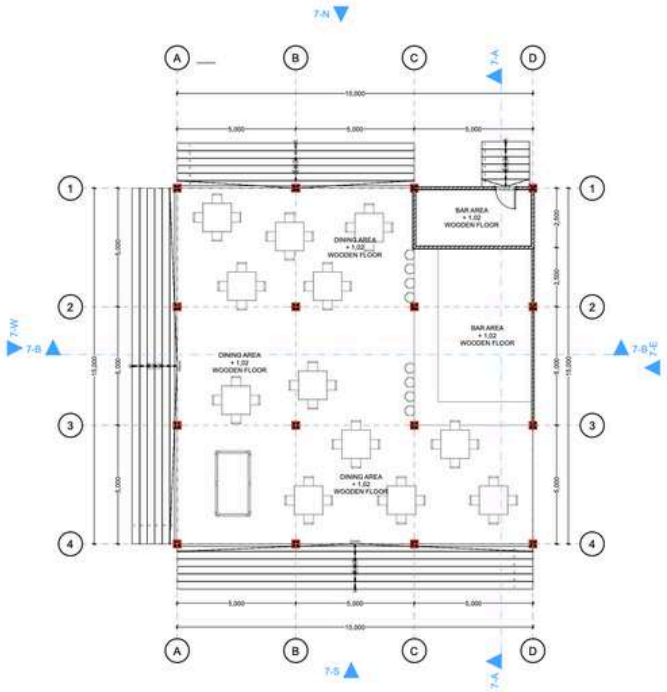
ARCHICAD EDUCATION VERSION



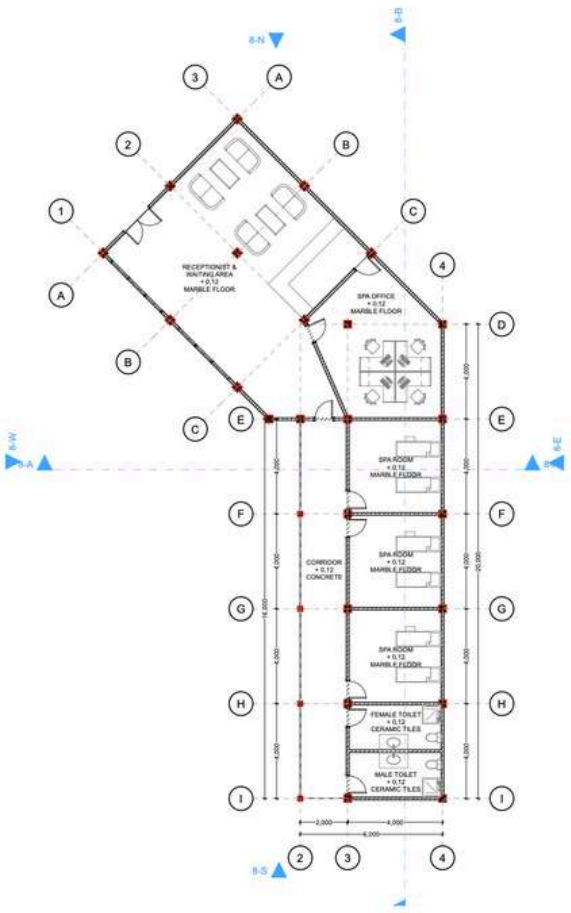
GUEST RESTAURANT
1 : 150

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	10	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	GUEST RESTAURANT PLAN	2026/EVEN			

Image Source: Author, 2026

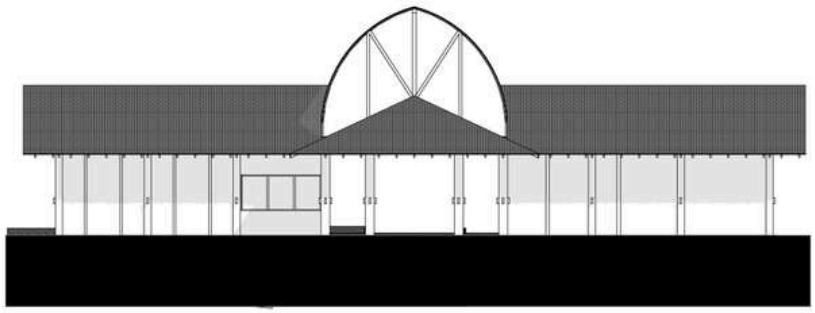


BAR PLAN
1 : 150

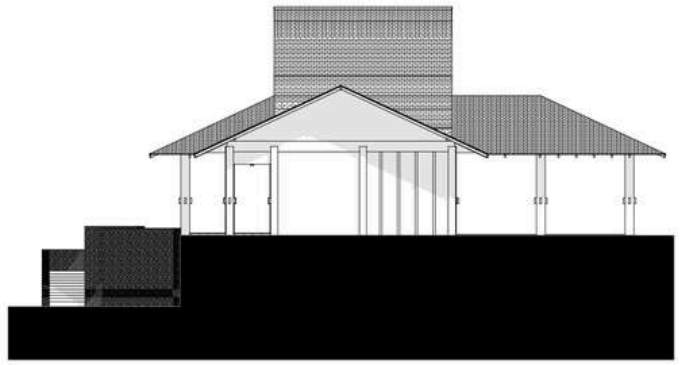


SPA PLAN
1 : 150

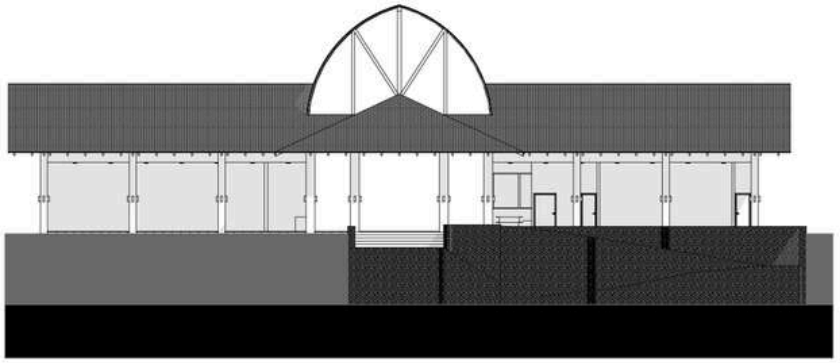
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	11	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	BAR & SPA PLAN	2026/EVEN			



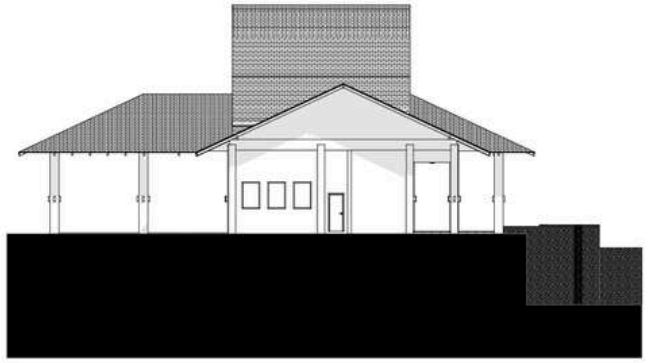
NORTH ELEVATION
1 : 200



EAST ELEVATION
1 : 200



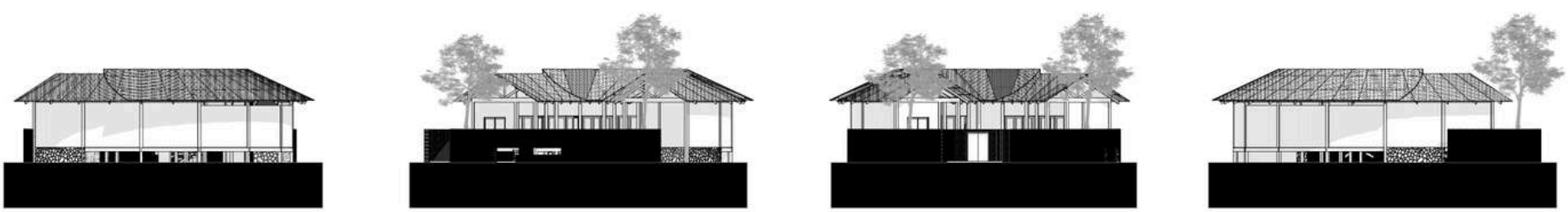
SOUTH ELEVATION
1 : 200



WEST ELEVATION
1 : 200

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:200	13	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	LOBBY ELEVATION	2026/EVEN			

PRIVATE VILLA



NORTH ELEVATION
1 : 200

EAST ELEVATION
1 : 200

SOUTH ELEVATION
1 : 200

WEST ELEVATION
1 : 200

GUEST VILLA



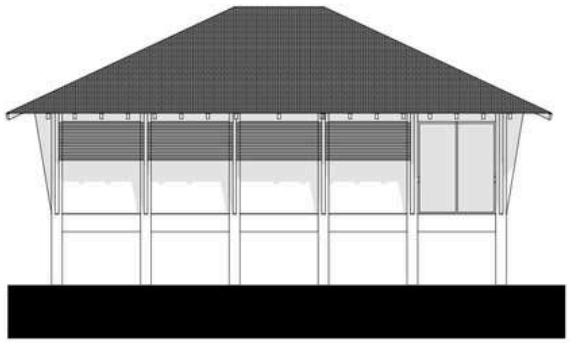
NORTH ELEVATION
1 : 150

EAST ELEVATION
1 : 150

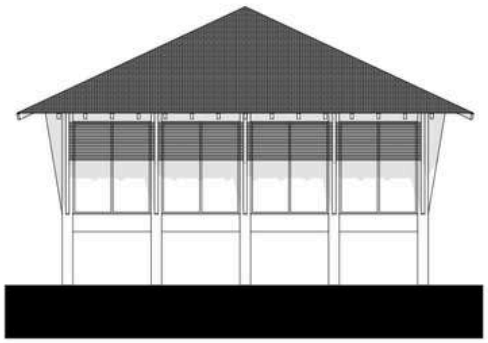
SOUTH ELEVATION
1 : 150

WEST ELEVATION
1 : 150

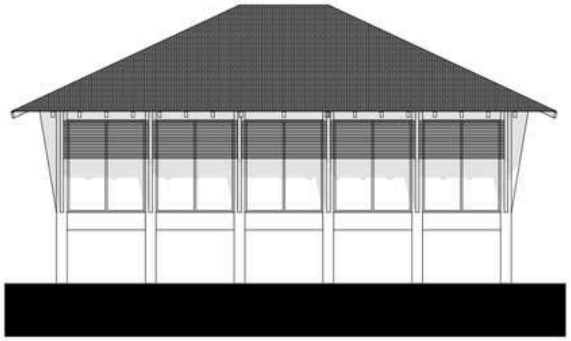
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:200, 1:150	14	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	VILLA ELEVATION	2026/EVEN			



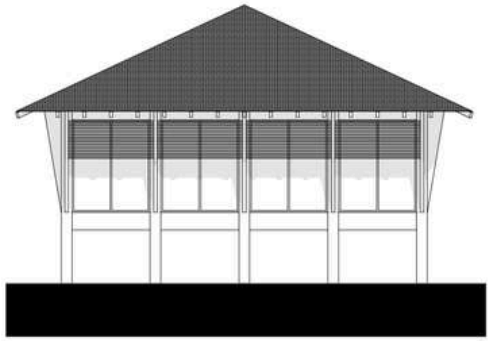
NORTH ELEVATION
1 : 200



EAST ELEVATION
1 : 200

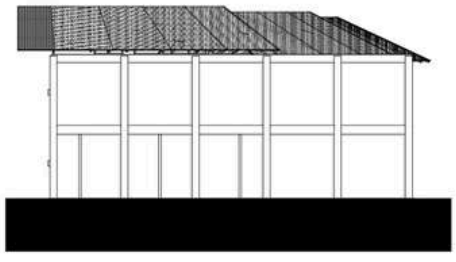


SOUTH ELEVATION
1 : 200



WEST ELEVATION
1 : 200

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:200	21	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	BALLROOM ELEVATION	2026/EVEN			



NORTH ELEVATION
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EAST ELEVATION
1 : 200



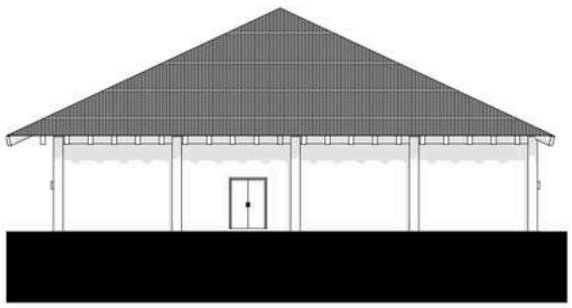
SOUTH ELEVATION
1 : 200



WEST ELEVATION
1 : 200

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:200	22	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	RESTAURANT & GYM ELEVATION	2026/EVEN			

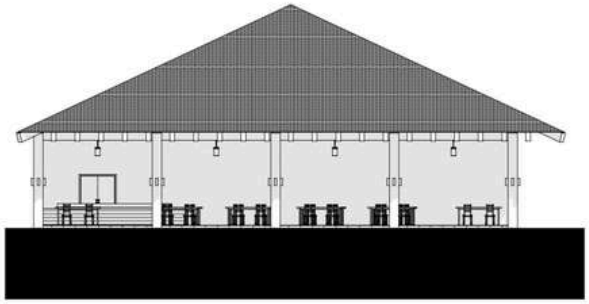
Image Source: Author, 2026



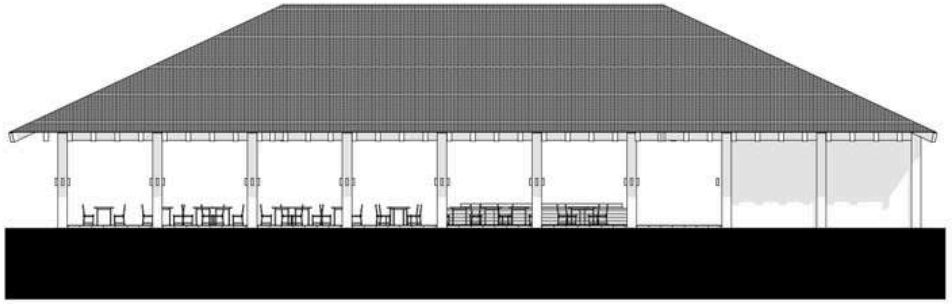
NORTH ELEVATION
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EAST ELEVATION
1 : 150

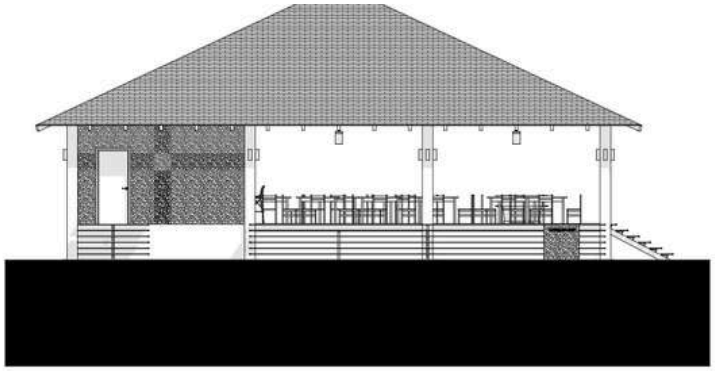


SOUTH ELEVATION
1 : 150

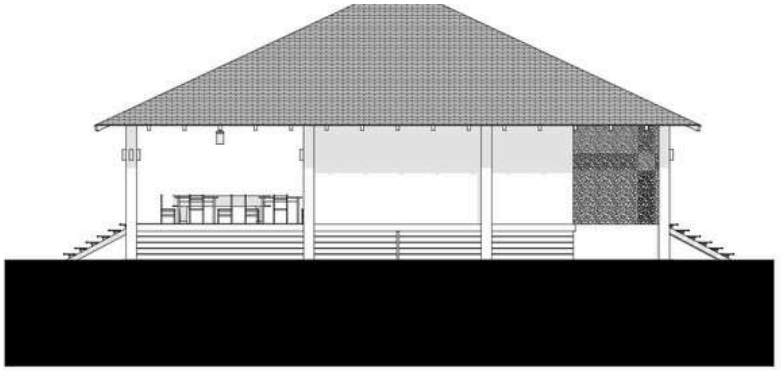


WEST ELEVATION
1 : 150

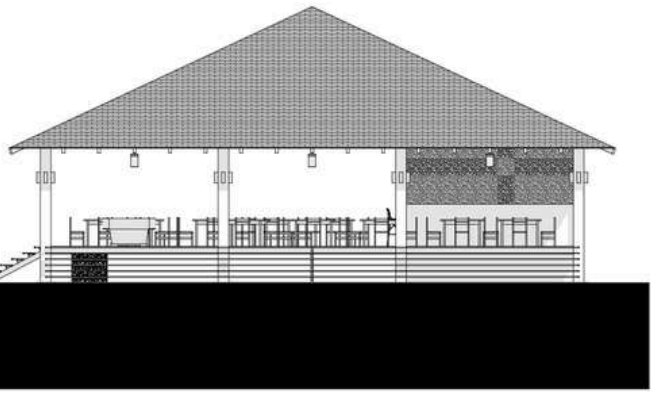
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	23	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	GUEST RESTAURANT ELEVATION	2026/EVEN			



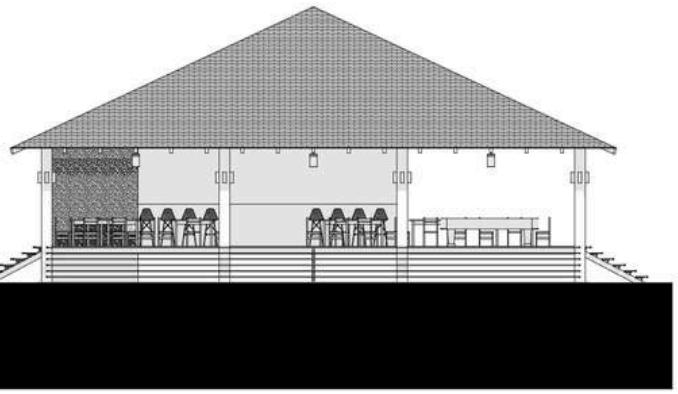
NORTH ELEVATION
1 : 100



EAST ELEVATION
1 : 100

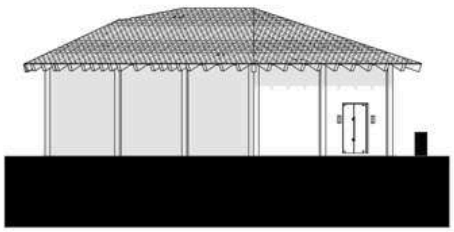


SOUTH ELEVATION
1 : 100

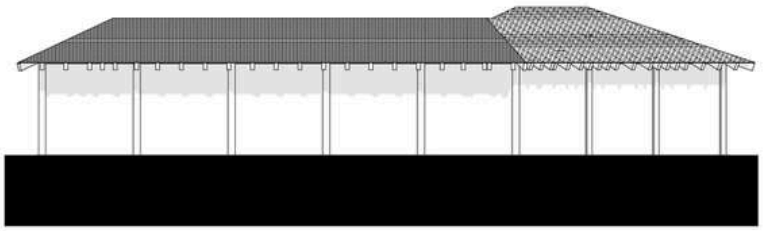


WEST ELEVATION
1 : 100

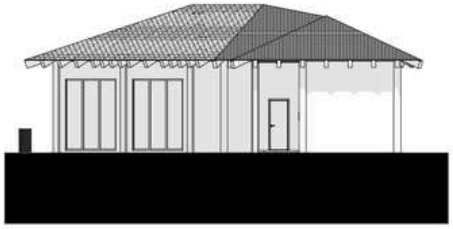
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:100	24	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	BAR ELEVATION	2026/EVEN			



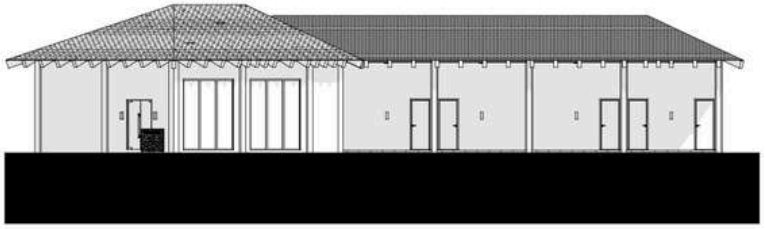
NORTH ELEVATION
1 : 150



EAST ELEVATION
1 : 150



SOUTH ELEVATION
1 : 150

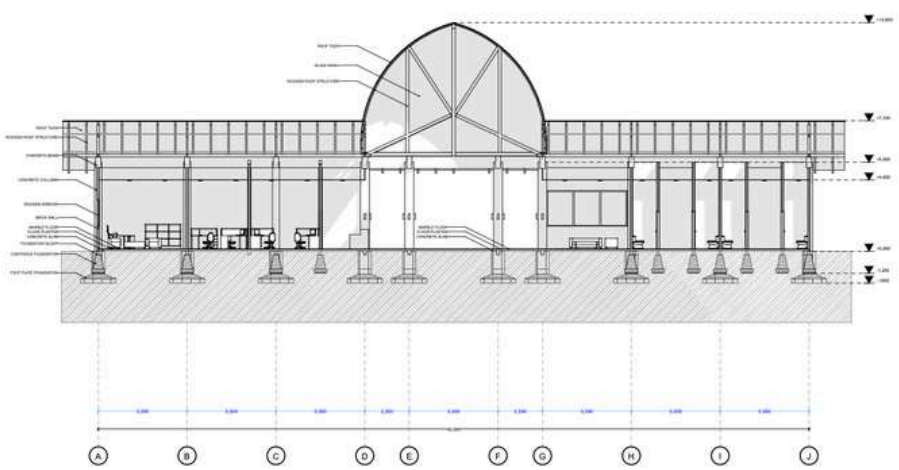


WEST ELEVATION
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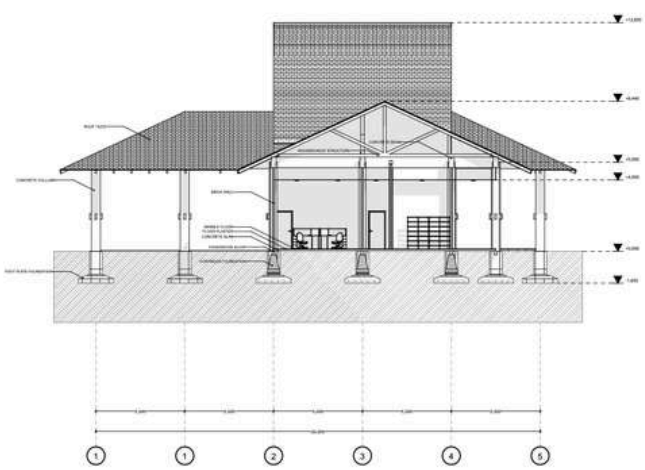
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	25	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	SPA ELEVATION	2026/EVEN			



ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:700	12	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	SITE SECTION	2026/EVEN			

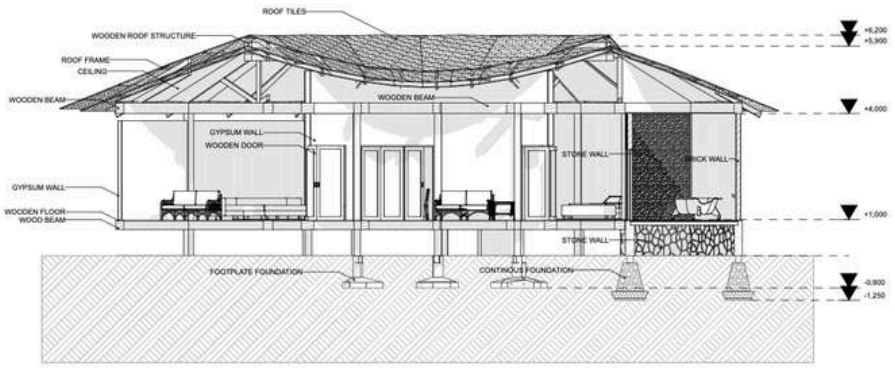


SECTION A
1 : 200

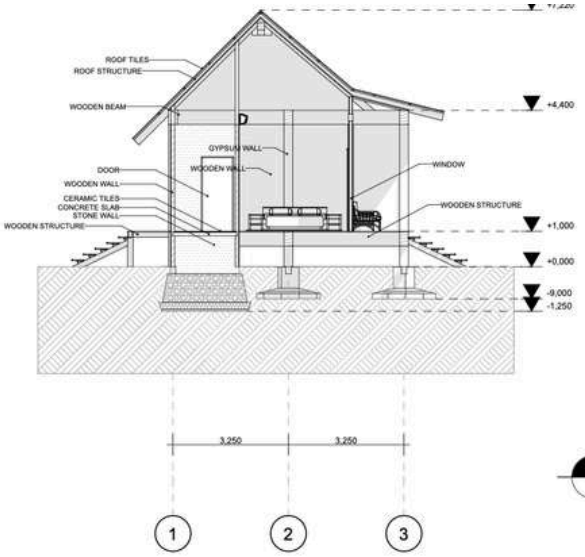


SECTION B
1 : 200

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:200	9	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	LOBBY SECTION	2026/EVEN			



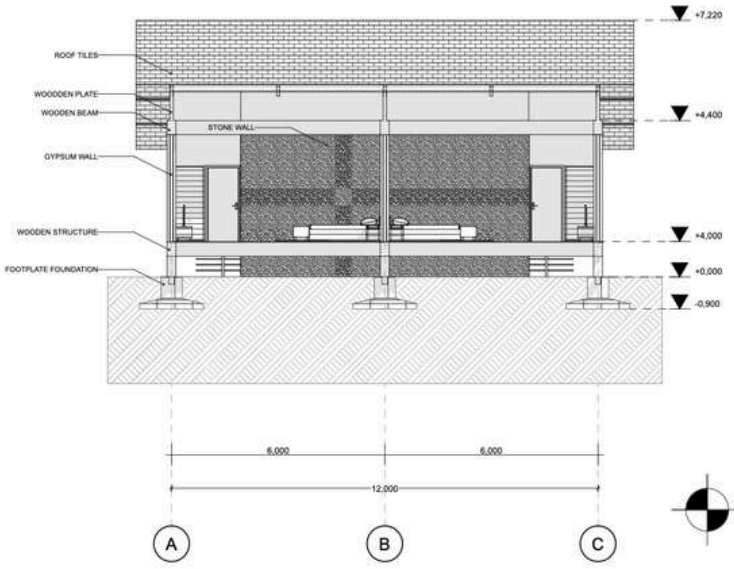
PRIVATE VILLA SECTION A
1 : 100



GUEST VILLA SECTION A
1 : 100

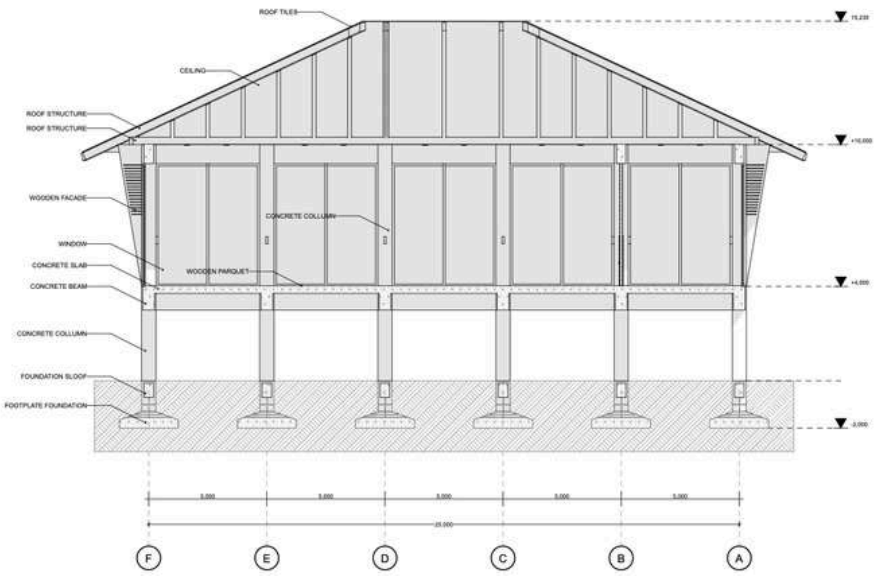


PRIVATE VILLA SECTION B
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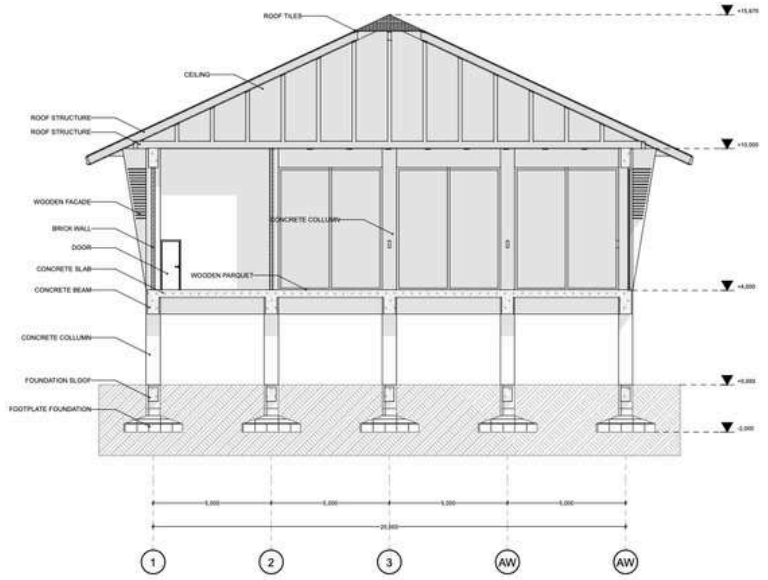


GUEST VILLA SECTION B
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ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:100	10	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	VILLA SECTION	2026/EVEN			



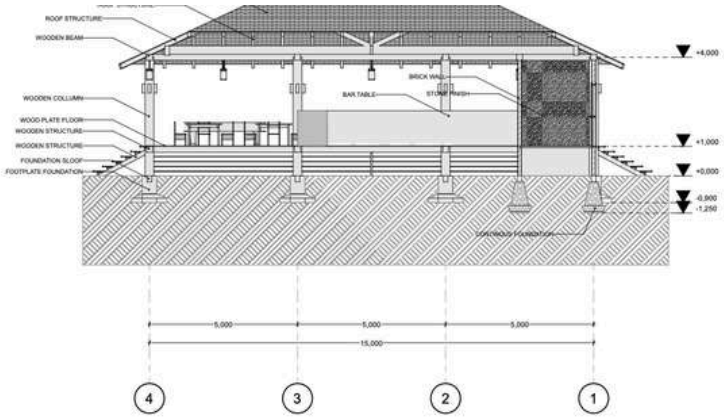
BALLROOM SECTION A
1 : 150



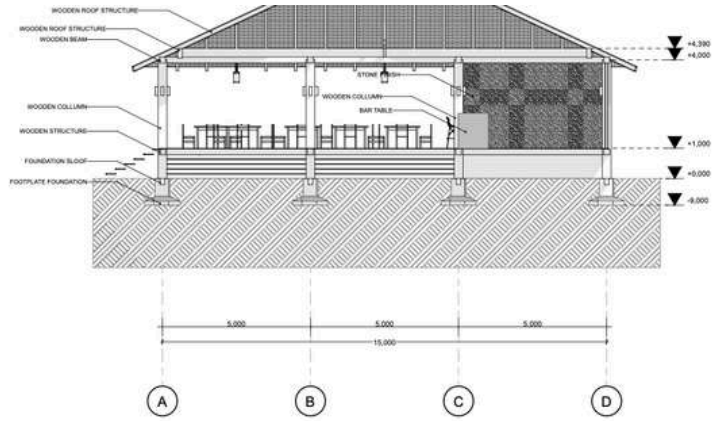
BALLROOM SECTION B
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ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	15	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	BALLROOM SECTION	2026/EVEN			

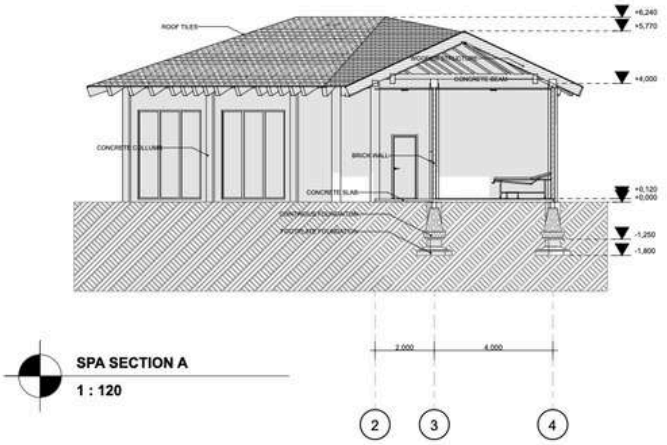
Image Source: Author, 2026



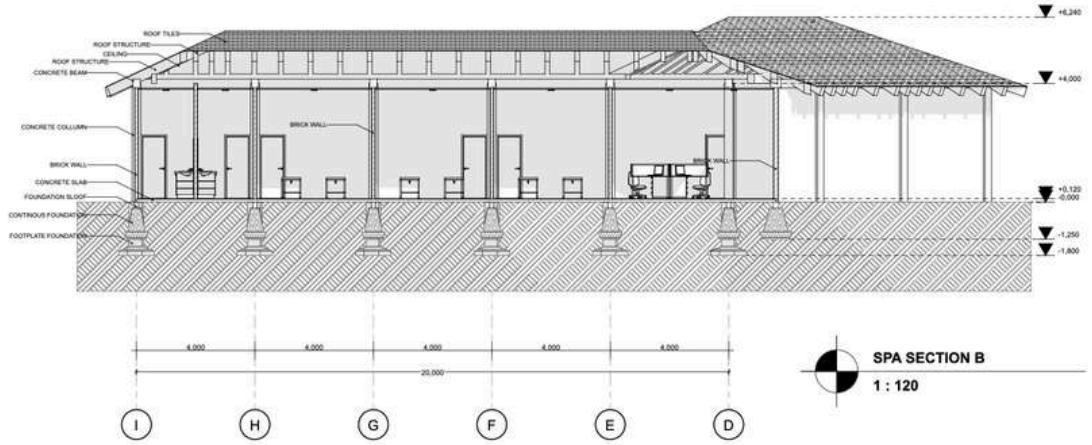
BAR SECTION A
1 : 120



BAR SECTION B
1 : 120

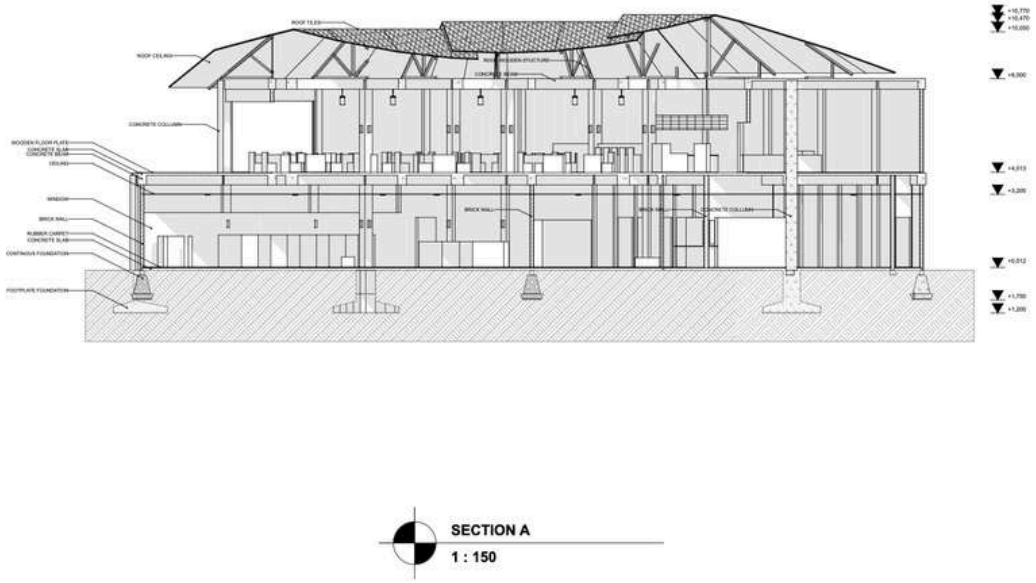


SPA SECTION A
1 : 120

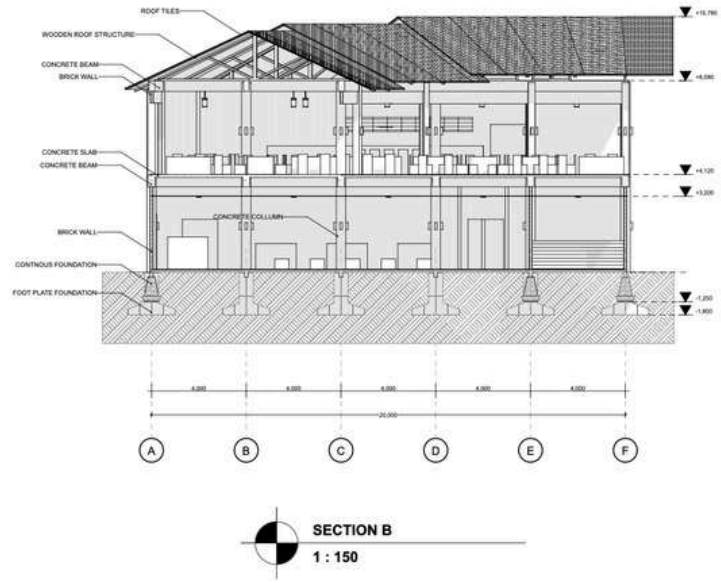


SPA SECTION B
1 : 120

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:120	18	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	Bar and Spa Section	2026/EVEN			

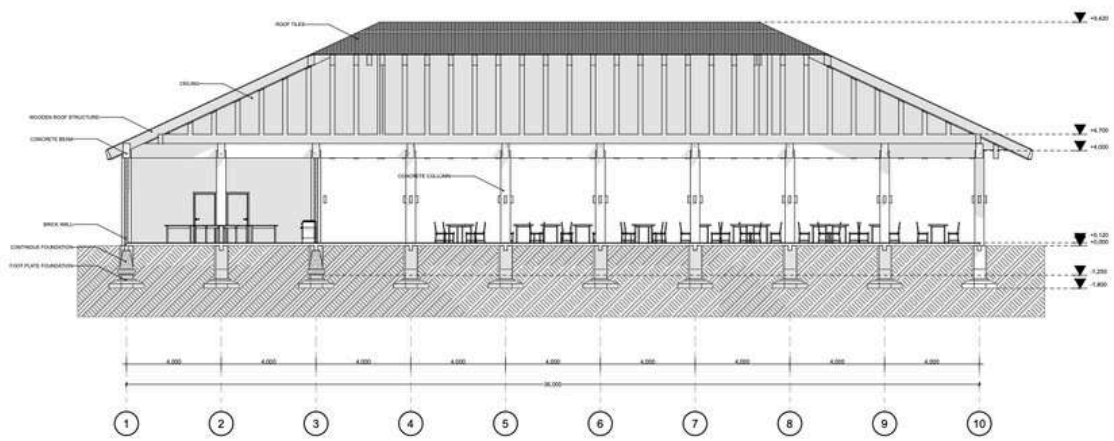


SECTION A
1 : 150

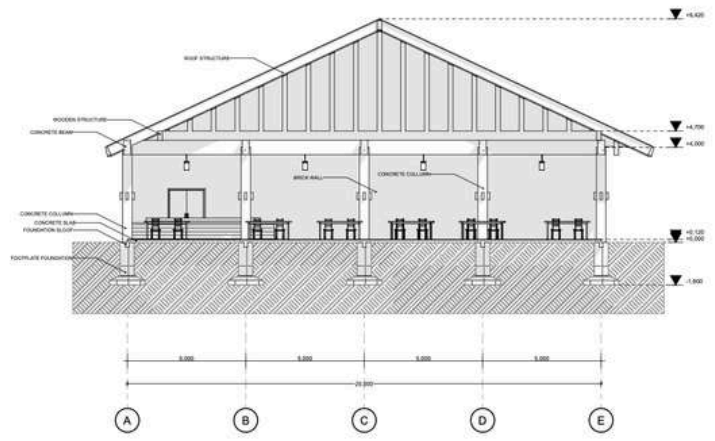


SECTION B
1 : 150

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	16	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	RESTAURANT & GYM ROOM	2026/EVEN			

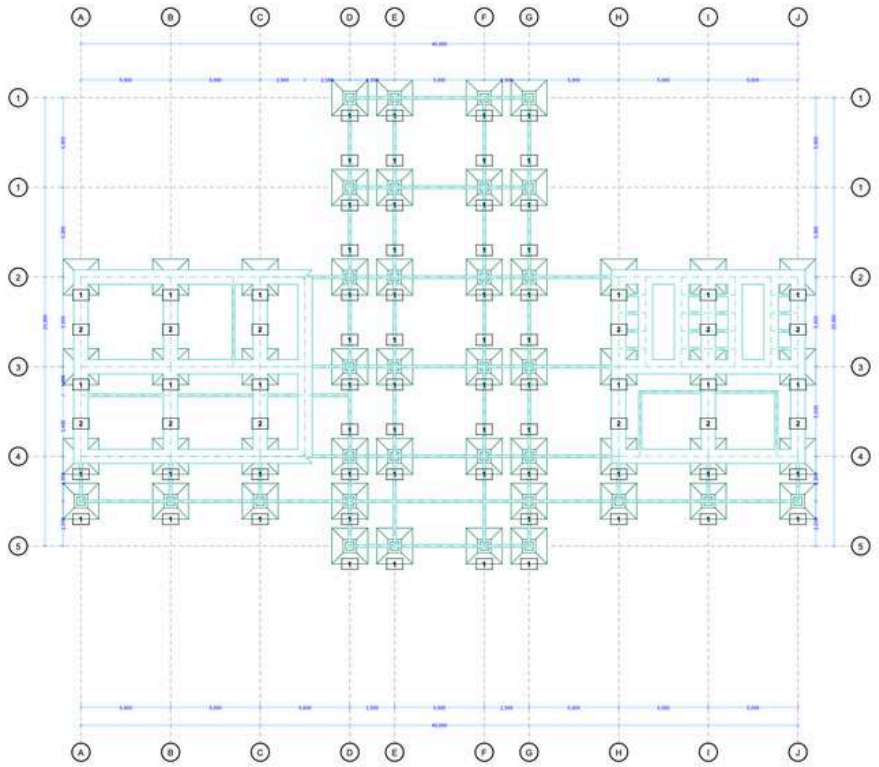


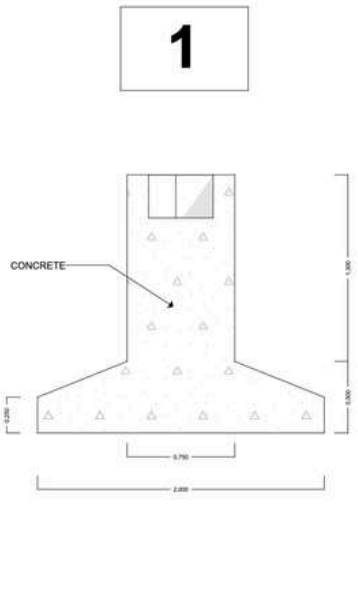
SECTION A
1 : 150

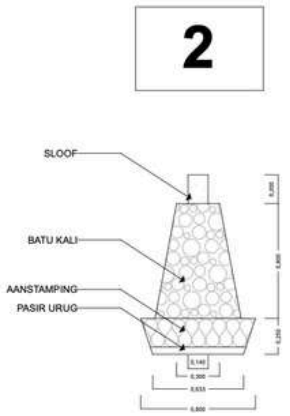


SECTION B
1 : 150

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:150	17	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	GUEST RESTAURANT SECTION	2026/EVEN			

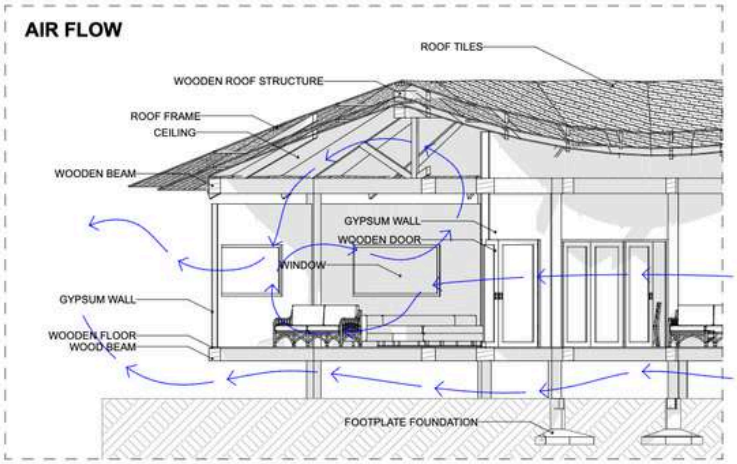


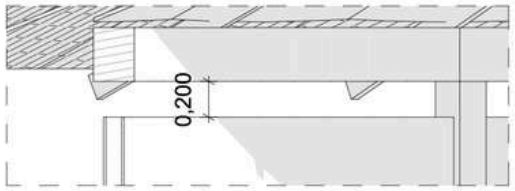




ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:200, 1:25	24	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	FOUNDATION PLAN & DETAIL	2026/EVEN			

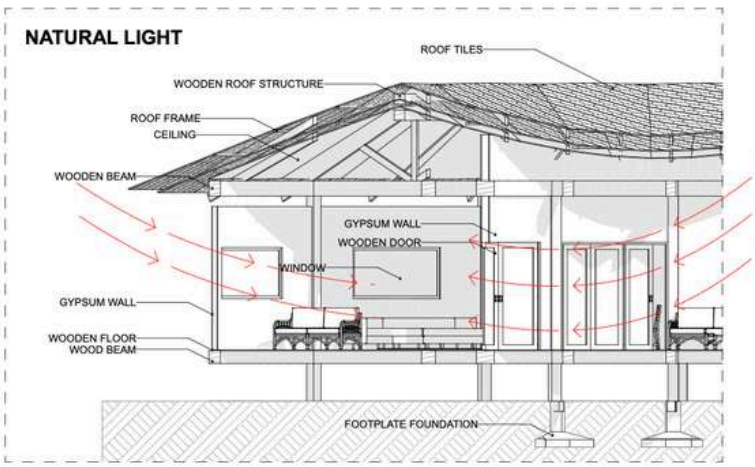
Image Source: Author, 2026





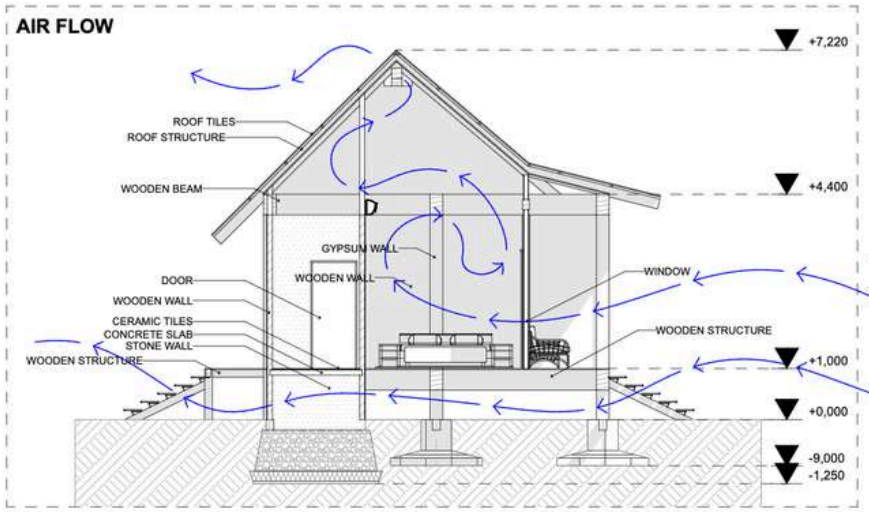
AIR FLOW CIRCULATION & CROSS VENTILARTION
The building openings are oriented according to the prevailing wind direction, enabling natural cross-ventilation, with warm air discharged through high-level ventilation openings positioned above the walls and windows on the walls.

ELEVATED FLOOR
The elevated structure allows air to circulate beneath the building, creating a passive cooling effect that reduces heat transfer from the ground. This strategy improves thermal comfort and enhances natural ventilation throughout the building.



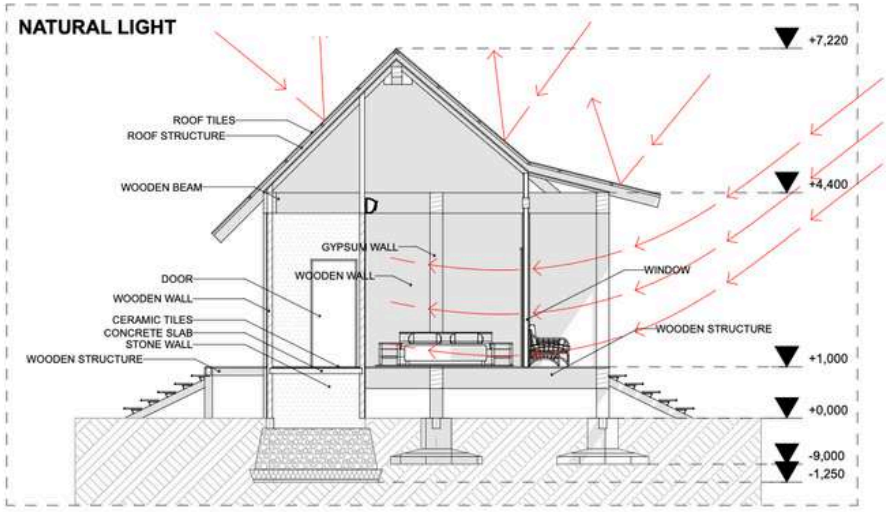
NATURAL LIGHTING
Natural lighting is introduced into the interior through generously sized openings, with doors and windows approximately 2 metres high, allowing ample daylight penetration into the building.

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:70, 1:20	25	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	Air Flow & Natural Ventilation Private Villa	2026/EVEN			



AIR FLOW CIRCULATION
The building openings are oriented according to the prevailing wind direction, enabling natural cross-ventilation, with warm air discharged through high-level ventilation openings positioned above the walls.

ELEVATED FLOOR
The elevated structure allows air to circulate beneath the building, creating a passive cooling effect that reduces heat transfer from the ground. This strategy improves thermal comfort and enhances natural ventilation throughout the building.



NATURAL LIGHTING
Natural lighting is introduced into the interior through generously sized openings, with doors and windows approximately 2 metres high, allowing ample daylight penetration into the building.

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:70	26	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	Air Flow & Natural Ventilation Guest Villa	2026/EVEN			

Image Source: Author, 2026



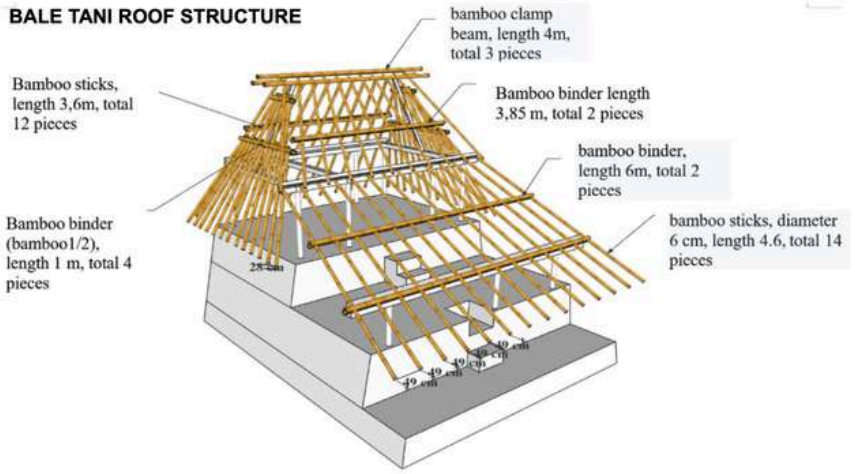
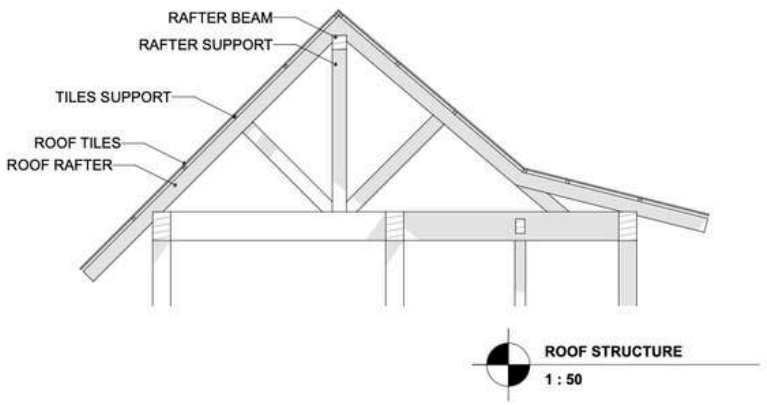


Image Source: Bale Tani Construction (Gazalba dan Saptaningtyas, 2023)

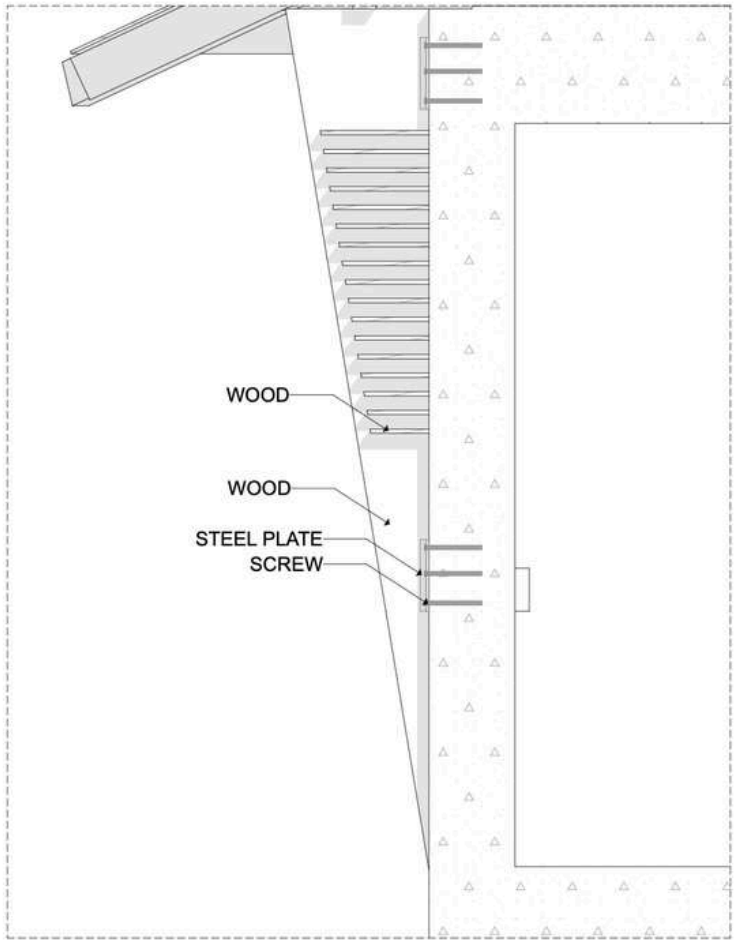
The roof design adopts the architectural principles of the traditional Sasak Bale Tani house. The high-pitched roof form, combined with a high ceiling, functions as a passive design strategy that enhances natural ventilation, facilitates heat dissipation, and improves indoor thermal comfort.



ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:1,05, 1:50	29	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	ROOF DESIGN	2026/EVEN			

Image Source: Author, 2026

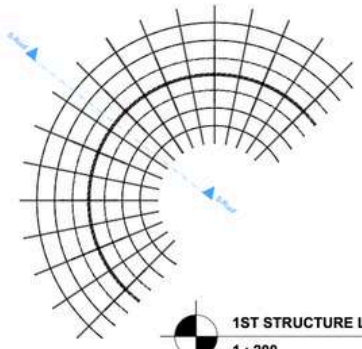




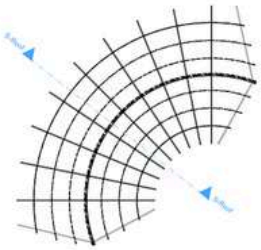
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:1,70, 1:25	35	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	FACADE DETAIL	2026/EVEN			

Image Source: Author, 2026

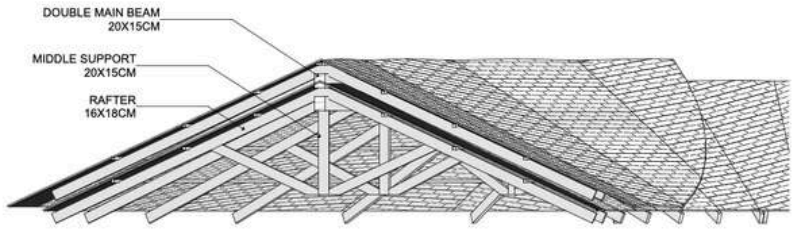




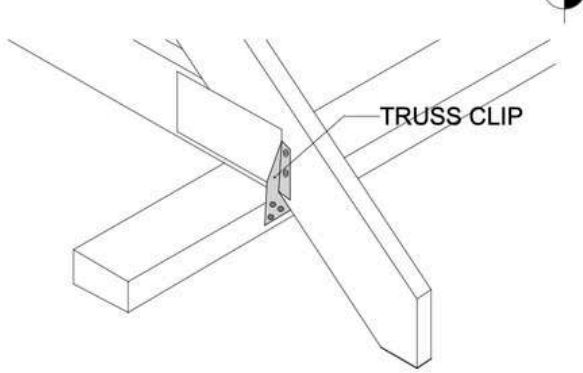
1ST STRUCTURE LAYER
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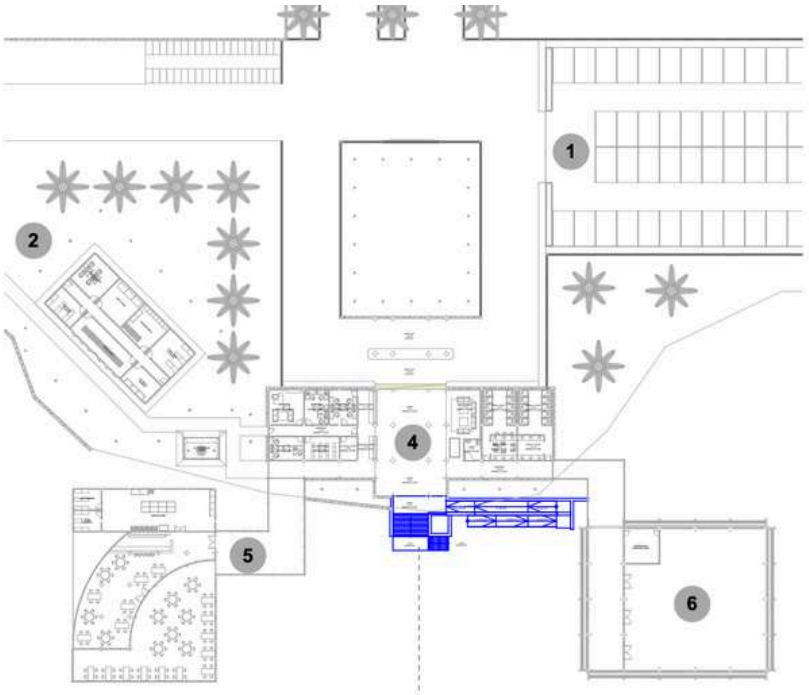
2ND STRUCTURE LAYER
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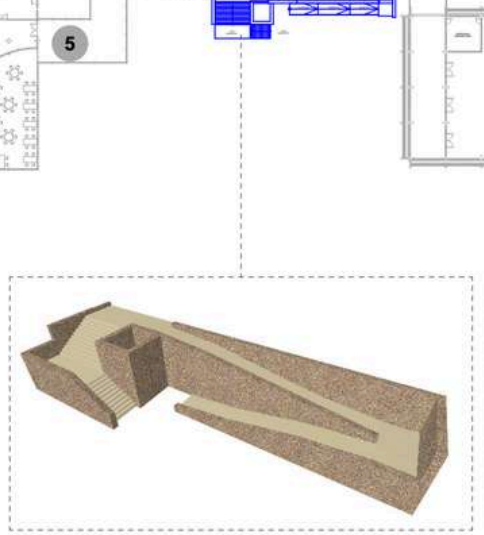


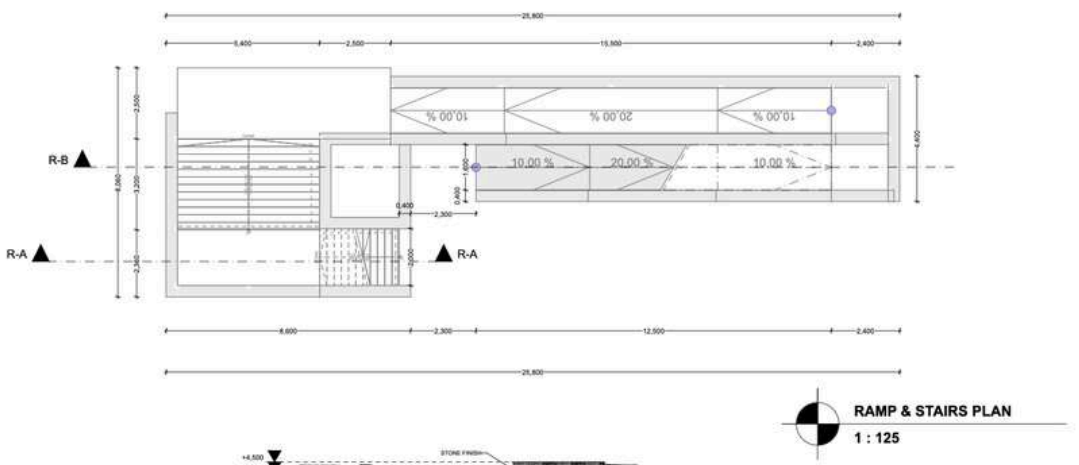
ROOF SECTION DETAIL
1 : 50



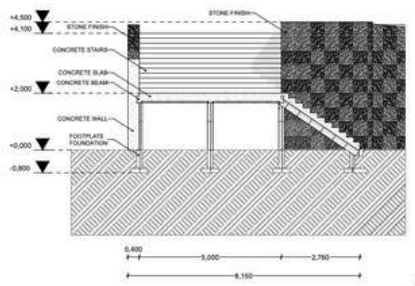
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:1, 1:50, 1:200	17	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	ROOF DETAIL	2026/EVEN			



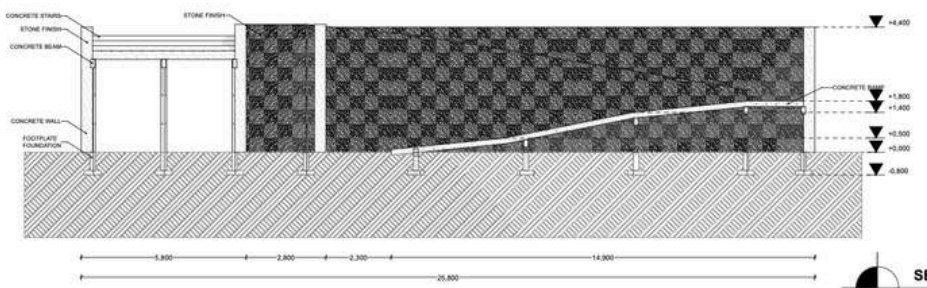




RAMP & STAIRS PLAN
1 : 125

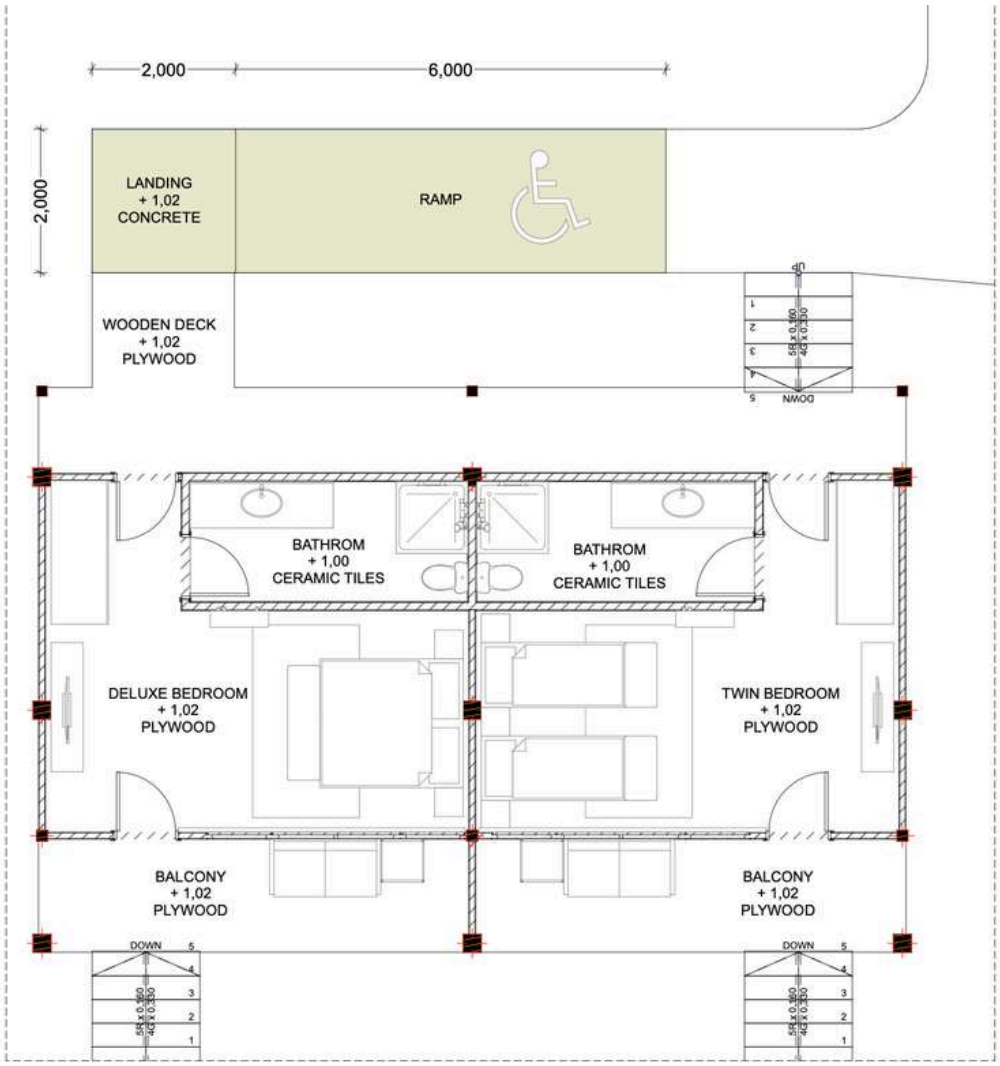


SECTION A
1 : 150

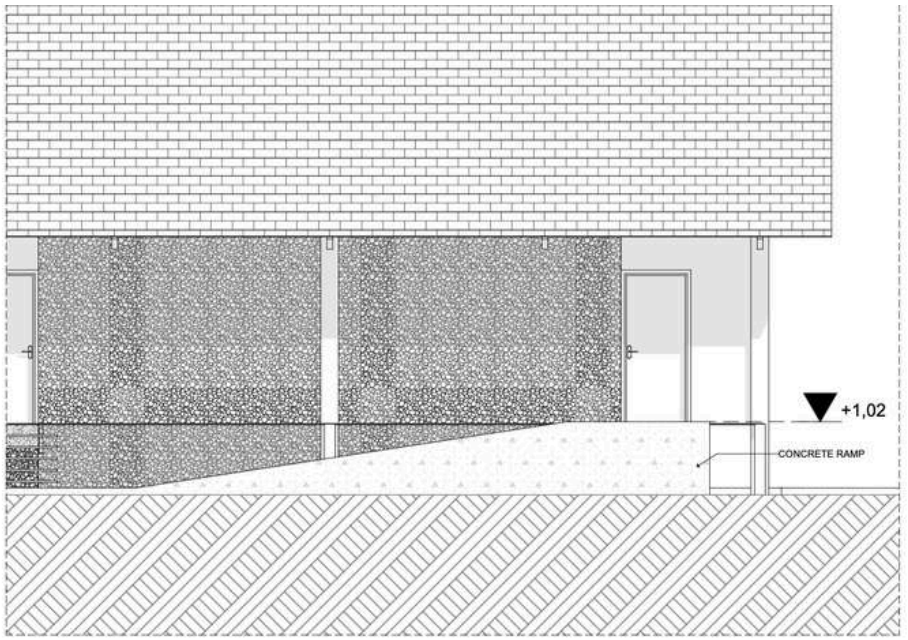


SECTION B
1 : 150

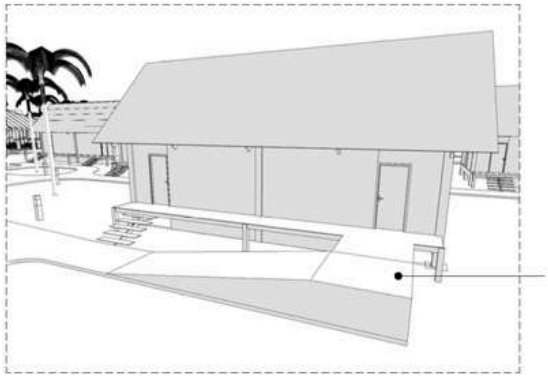
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:3,50, 1:500, 1:125	29	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	BARRIER FREE DETAIL	2026/EVEN			



VILLA RAMP PLAN
1 : 50

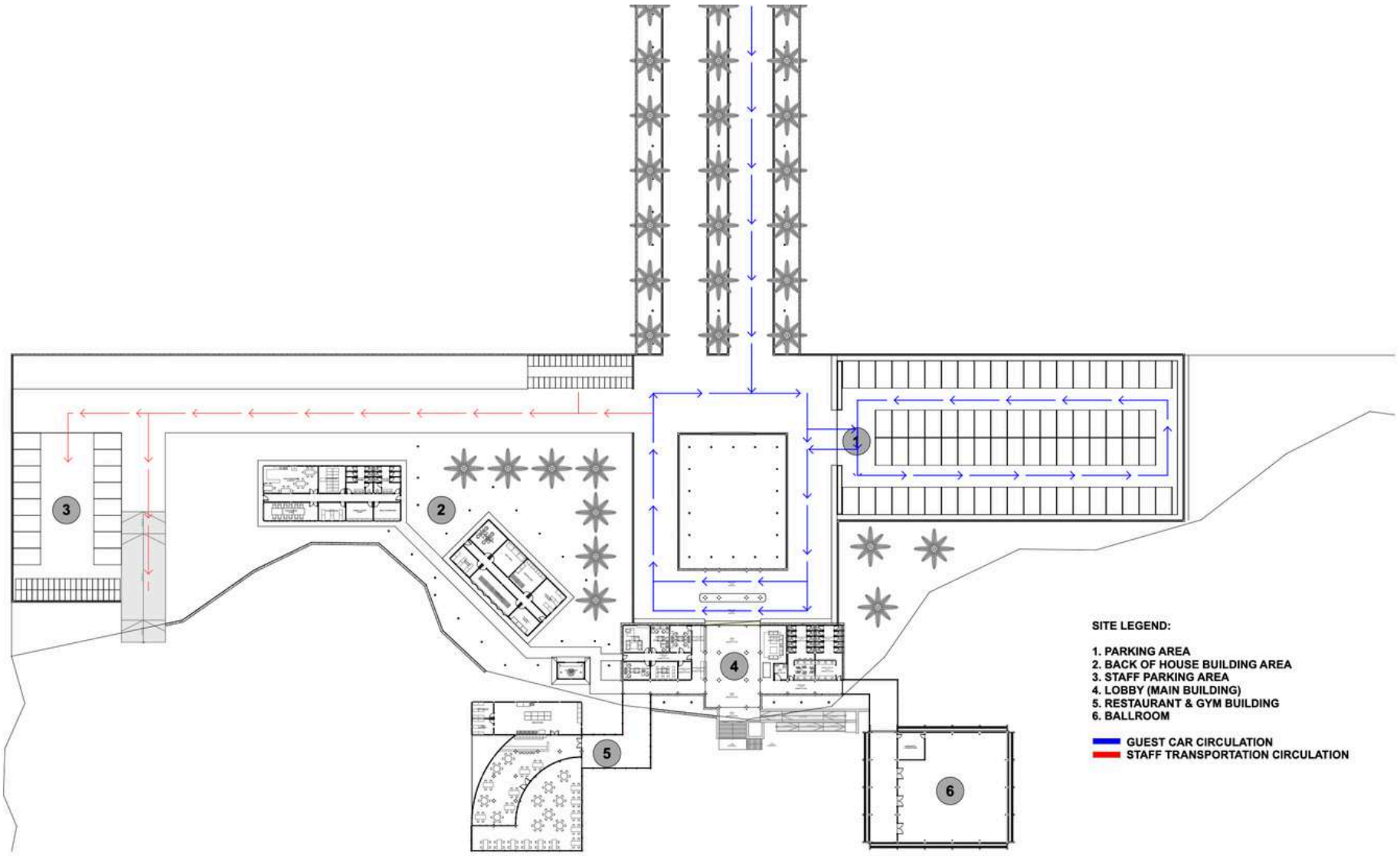


VILLA RAMP SECTION
1 : 50



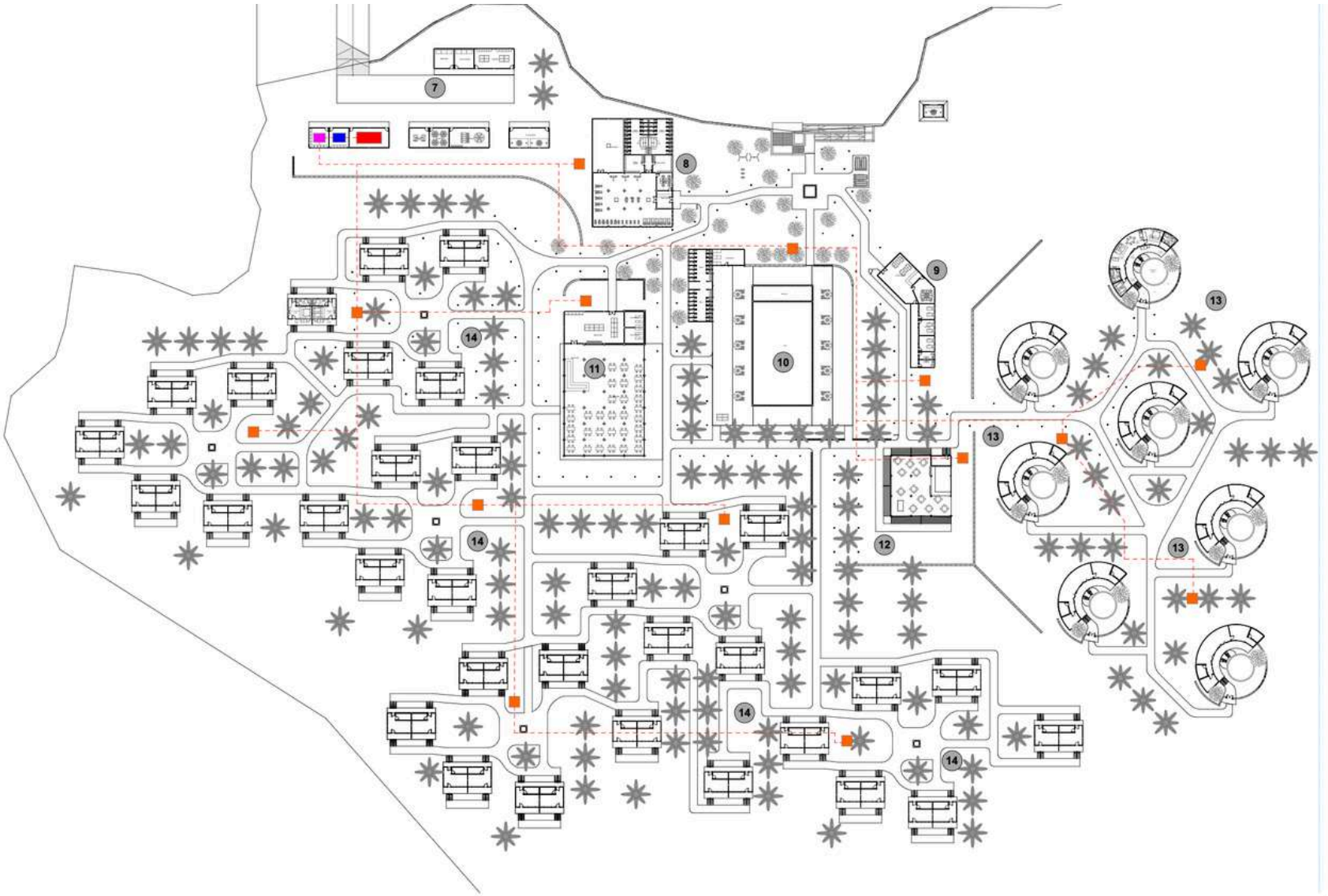
DIFABLE VILLA ACCESS
Each cluster includes one villa building equipped with a dedicated ramp to provide accessibility for guests with disabilities.

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:50, 1:2,20	37	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	DIFABLE VILLA ACCESS	2026/EVEN			



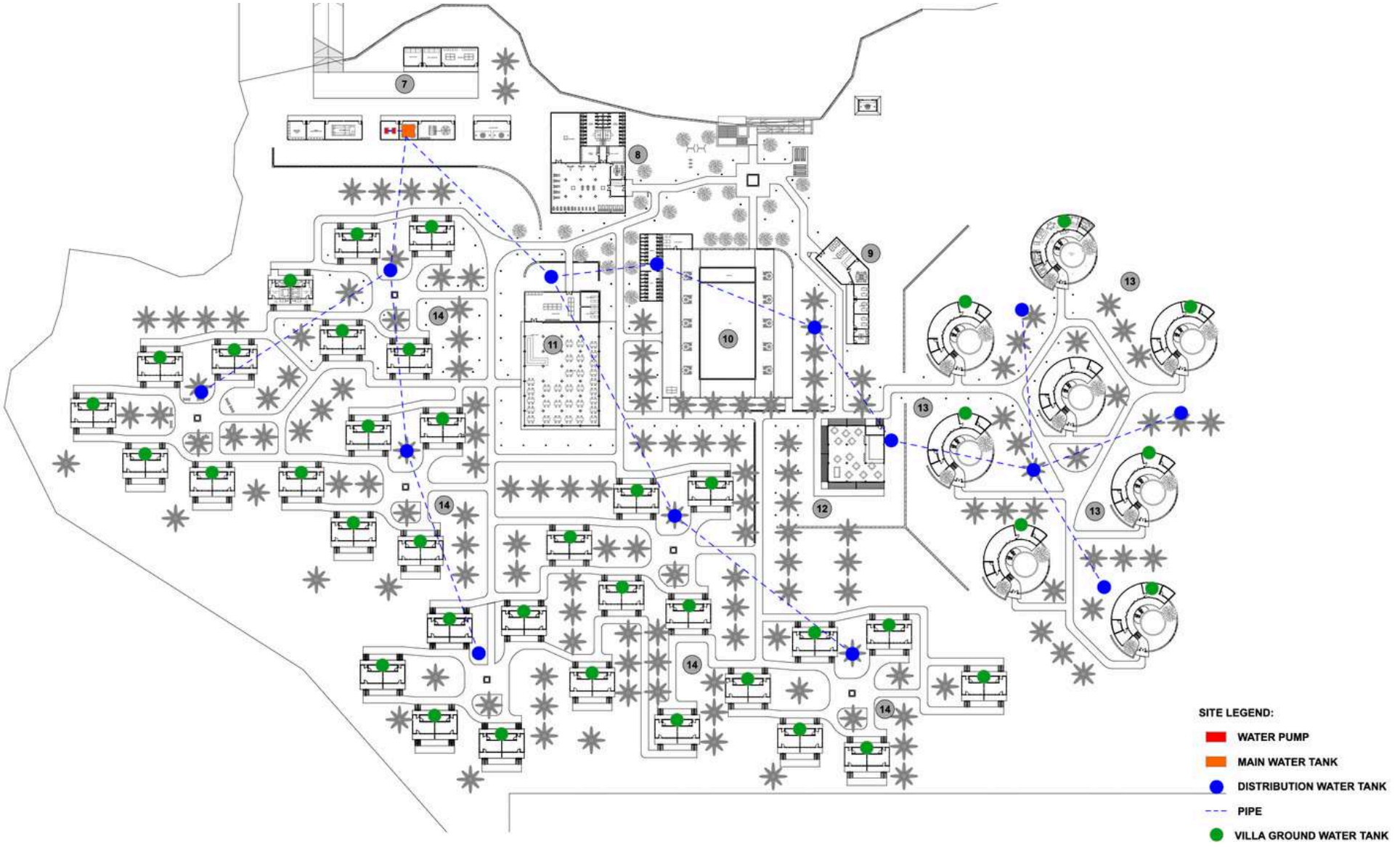
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:500	32	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	TRANSPORTATION CIRCULATION	2026/EVEN			

Image Source: Author, 2026



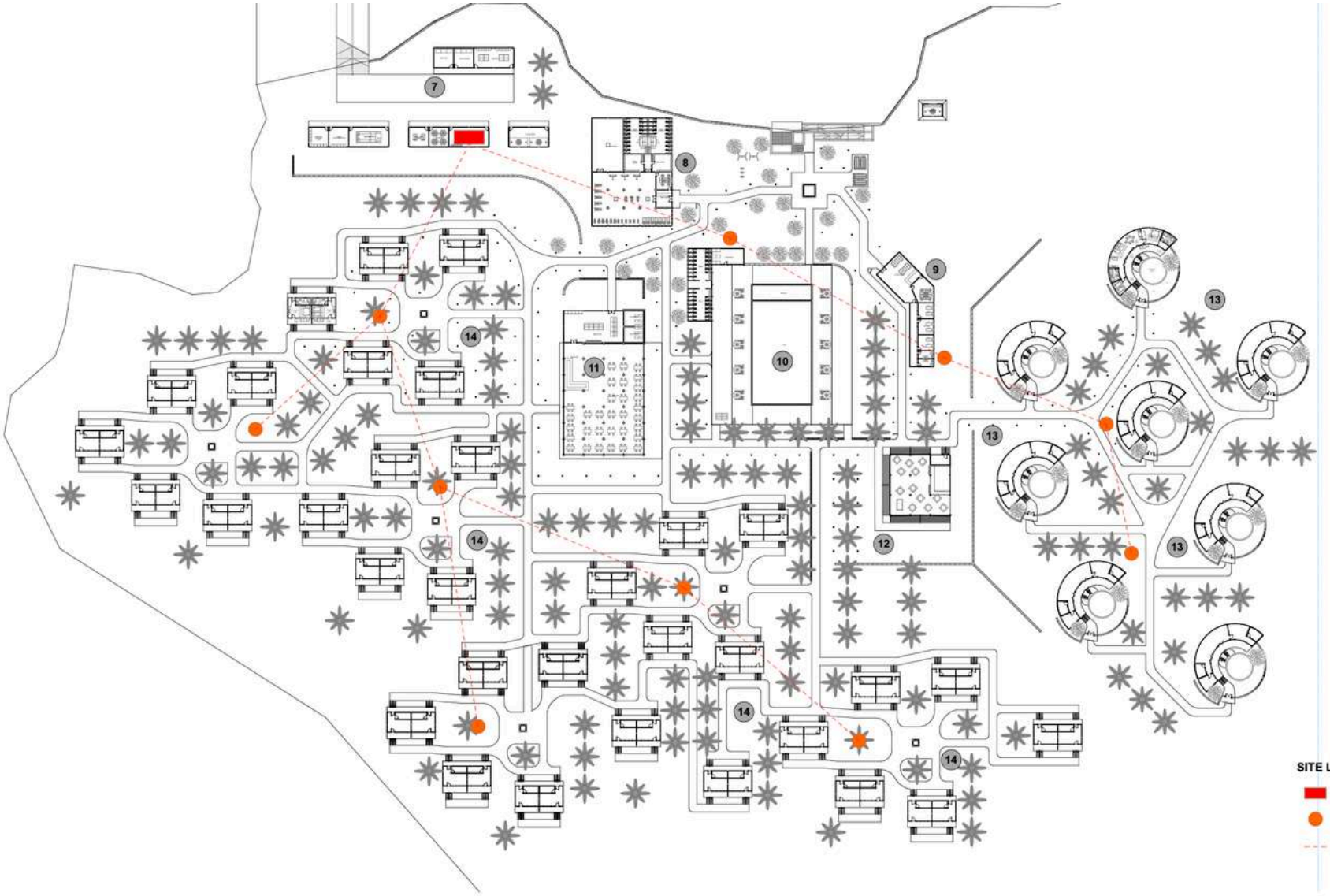
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:700	33	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	POWER DISTRIBUTION	2026/EVEN			

Image Source: Author, 2026



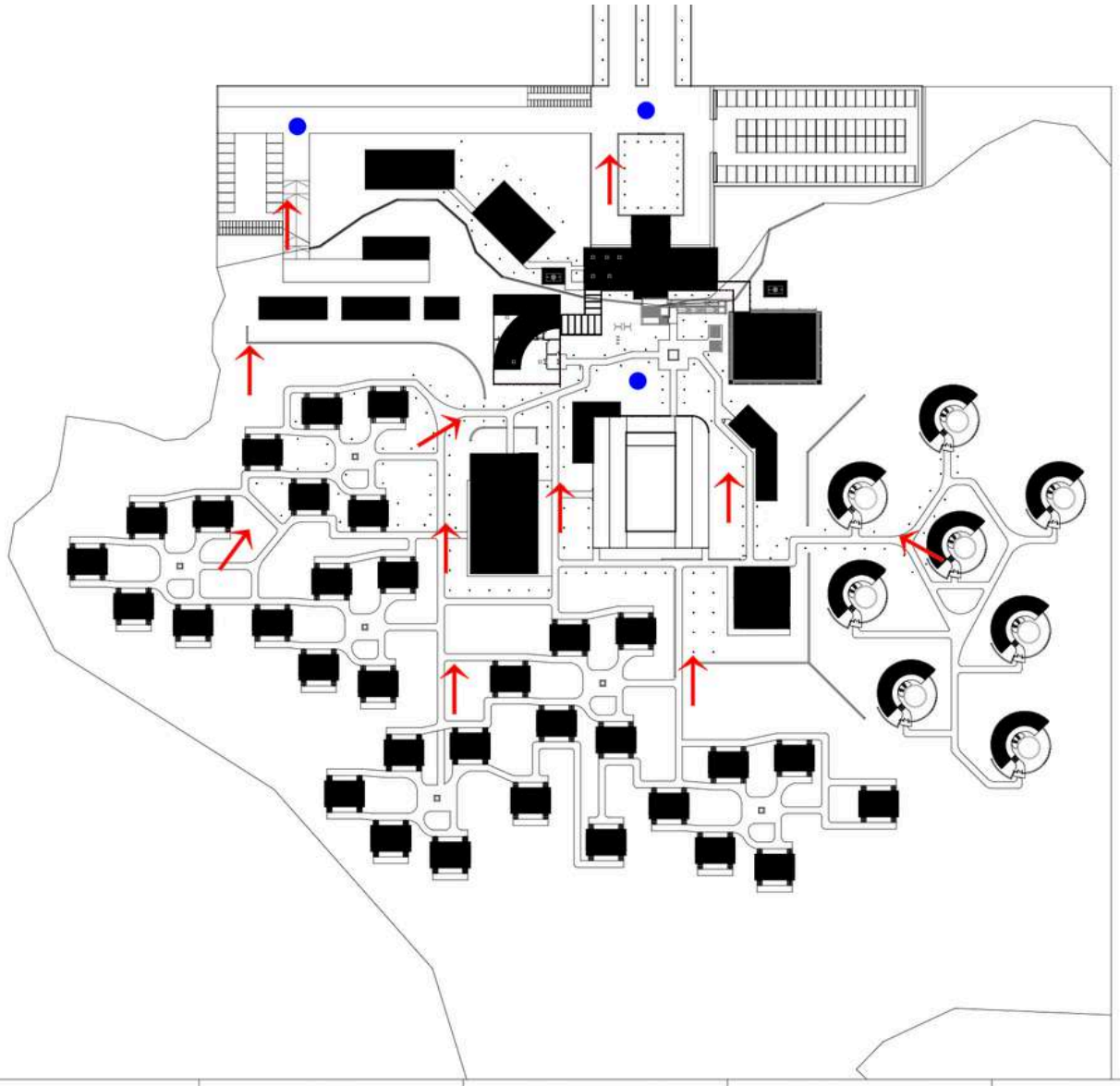
ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:700	39	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	WATER SUPPLY SCHEME	2026/EVEN			

Image Source: Author, 2026



ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:700	32	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	BLACK WATER SCHEME	2026/EVEN			

Image Source: Author, 2026

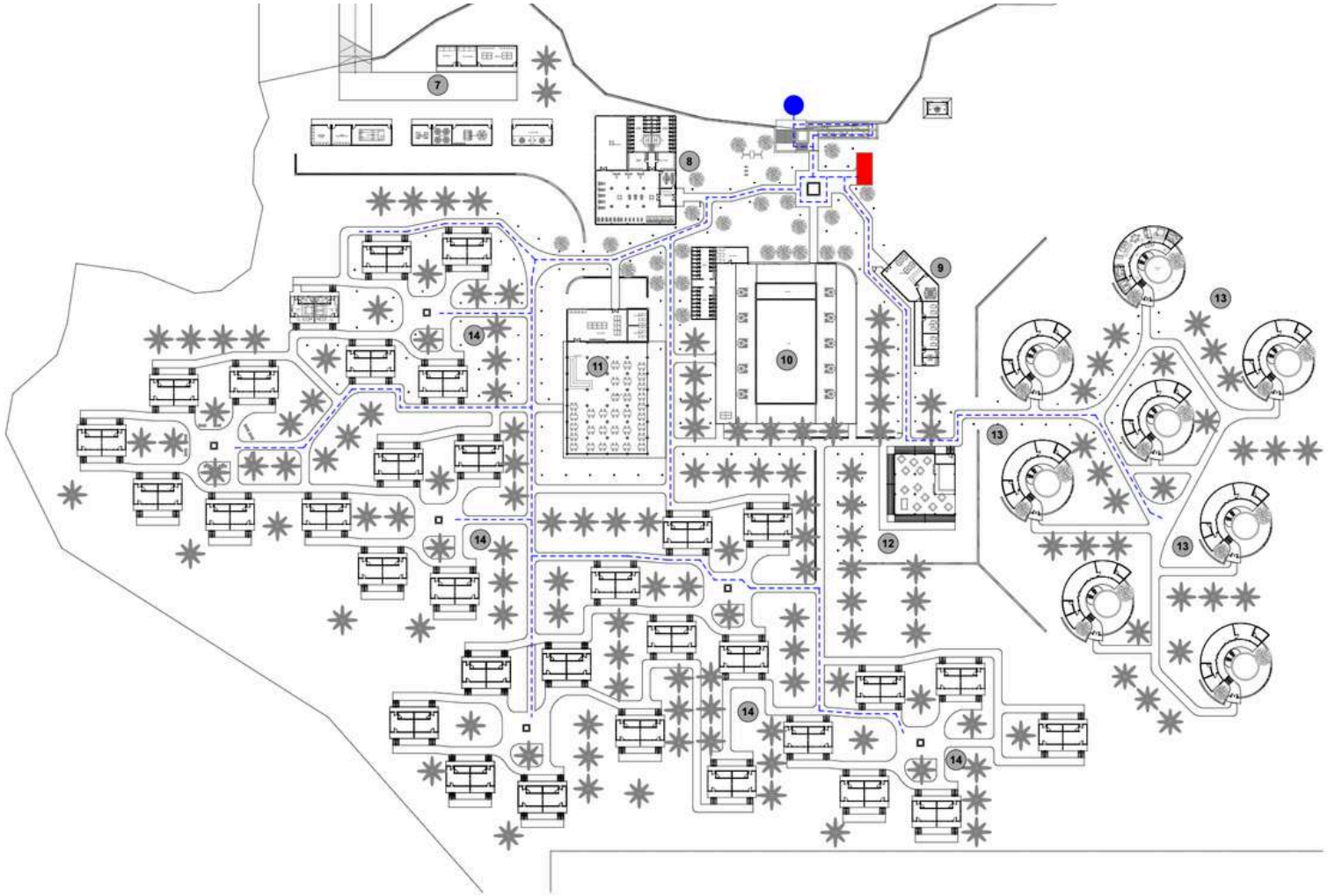


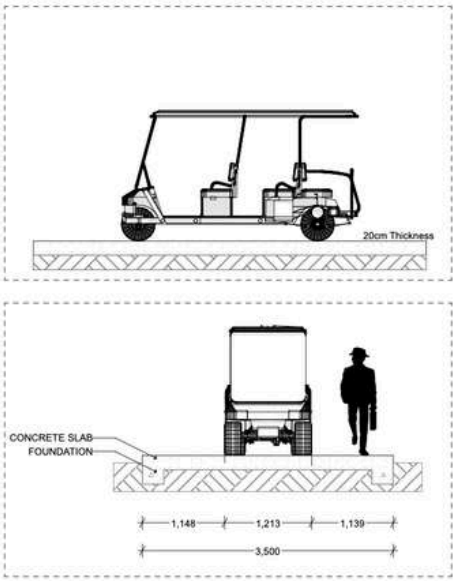
SITE LEGEND:

SAFETY POINT

EVACUATION ROUTE

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:1000	30	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	EVACUATION ROUTE	2026/EVEN			





PATHWAY SECTION
1 : 50

SITE LEGEND:
- RESORT CAR STATION
- GUEST ARRIVAL AT LOBBY
- CIRCULATION LINE

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:785,61, 1:50	43	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	GUEST TRANSPORTATION	2026/EVEN			

Image Source: Author, 2026



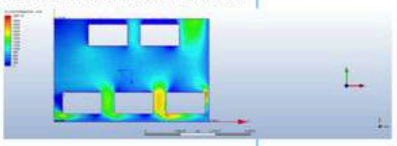
While ensuring privacy, the elevated design of the private villas preserves visual connectivity with the surrounding natural landscape, allowing guests to enjoy panoramic views without compromising seclusion.

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:50	44	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	PRIVATE VILLA VIEW	2026/EVEN			

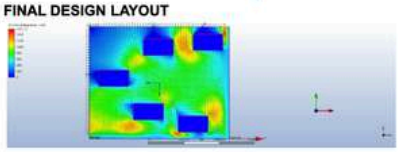
CLUSTER DESIGN



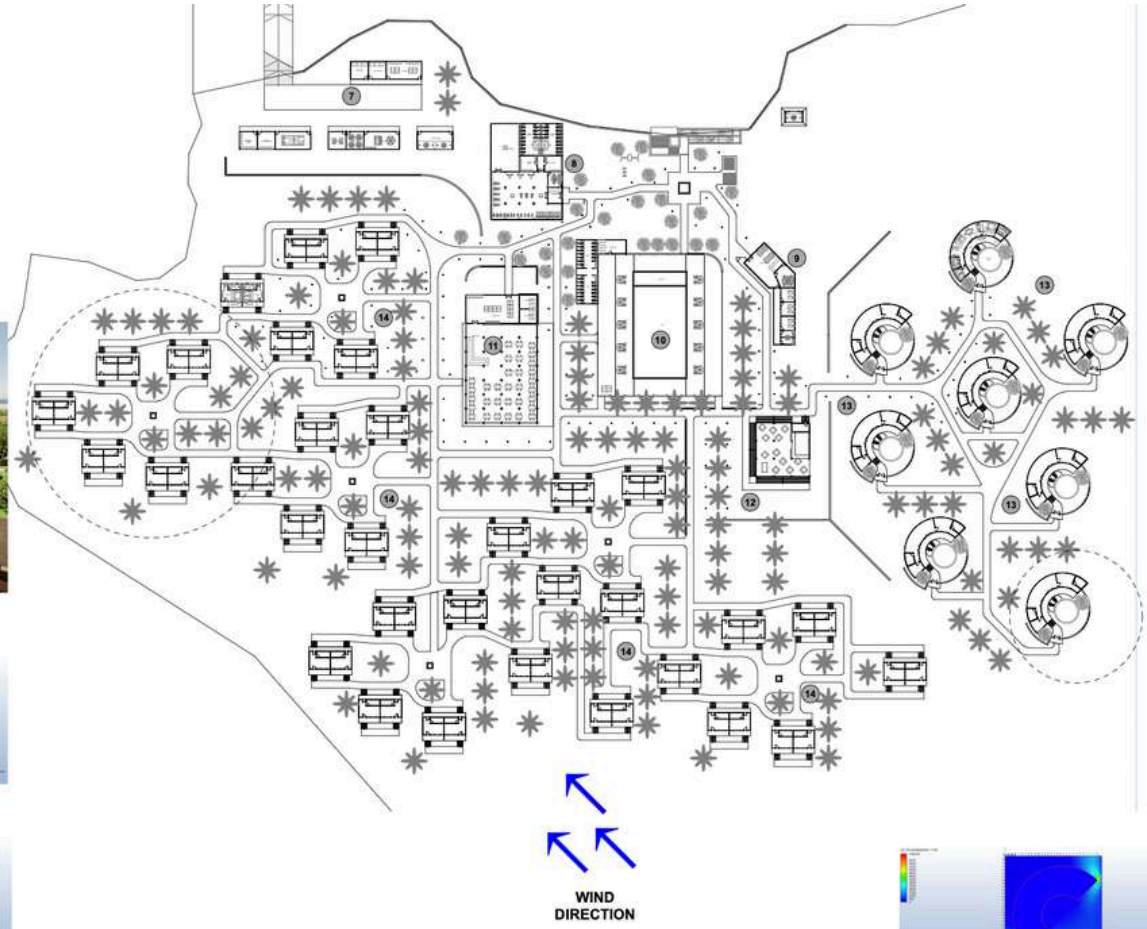
CLUSTER FIRST DESIGN LAYOUT



FINAL DESIGN LAYOUT



FINAL DESIGN SIMULATION RESULT SHOWING A BETTER WIND DISTRIBUTION ON THE CLUSTER



VILLA ORIENTATION





The Private Villa building orientation is strategically arranged to respond to the prevailing wind direction. The buildings are positioned to maximise natural ventilation, while openings in the boundary walls allow wind to pass through the villa area. This approach helps maintain airflow and supports the overall passive cooling strategy of the design.

ARCHITECTURE UNIVERSITAS ISLAM INDONESIA	NAME	PROJECT TITLE	PROJECT NAME	SUPERVISOR	SCALE	PAGE	N
	Muhammad Erlangga Yubi A.	Thermal comfort oriented Resort design through the adaption of Sasak Architecture principle in Lombok	TETEMUAN RESORT	Prof, Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI	1:1000, 1:4, 1:5	35	
FINAL ARCHITECTURE DESIGN STUDIO	STUDENT NUMBER	LOCATION	DRAWING TITLE	YEAR/SEMESTER			
	22512030	Lombok Island	PROBLEM SOLVING	2026/EVEN			

Image Source: Author, 2026



Guest Villa
- Each building contains two guest rooms, distributed across the site to maintain natural airflow between buildings.
- Every five buildings are organized into a cluster, creating pockets that capture and channel the prevailing wind for improved natural ventilation.
- The roof design is inspired by traditional Sasak architecture, incorporating locally inspired forms and materials to strengthen the resort's cultural identity.
- Buildings are oriented to minimize direct solar heat gain, enhancing indoor thermal comfort.
- Room orientation maximizes views toward the beach, allowing guests to enjoy the surrounding coastal landscape.

Parameter used:
1 - A,C,E
2 - B,C,D
3 - A,D,E,F
4 - B,C,D
5 - C,D,E,F

Transitional Area and Pathway
- The spatial transition follows the Sasak principle of hierarchy, organizing the resort into public, semi-public, and private zones to create a clear progression of spaces.
- The pathway network is intentionally designed with longer, branching routes to encourage guests to explore the resort, creating an immersive journey and allowing them to experience every key area.
- Pathways are integrated with lush vegetation, providing natural shading, improving thermal comfort, and enhancing the overall walking experience.
- The circulation system transforms movement into part of the resort experience, connecting accommodations, amenities, and landscapes while strengthening guests' sense of place.

Parameter Used:
2 - B,C,D
4 - B,C,D

- The swimming pool is centrally located to provide passive cooling and improve the surrounding microclimate.
- Leisure facilities are placed at the center to encourage social interaction, reflecting the Sasak principle of communal living.

Parameter Used:
1 - A,C,E
2 - B,C,D
4 - B,C,D

- Private Villas
- Carefully positioned in response to solar orientation and prevailing wind to maximize natural ventilation and thermal comfort.
- Designed with cross ventilation to enhance passive cooling and reduce heat gain.
- Privacy is prioritized over direct ocean views, as the villas are designed primarily for family staycations with private pools and dedicated outdoor spaces.
- Strategic orientation creates a secluded and comfortable retreat for families while maintaining a strong connection to the surrounding landscape.

Parameter Used:
3 - A,D,E,F
5 - C,D,E,F
6 - D,E,F

Image Source: Author, 2026





Image Source: Author, 2026







Image Source: Author, 2026




TETEMUAN SPA





















Image Source: Author, 2026



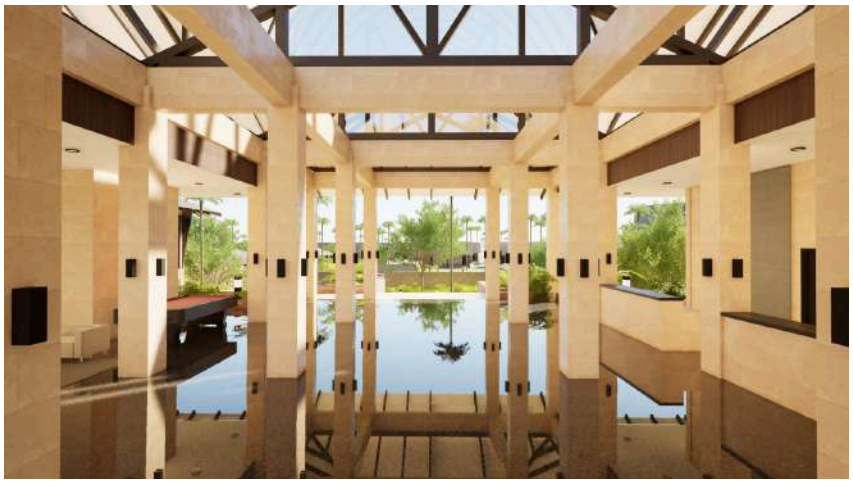






















Image Source: Author, 2026

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6 FINAL DESIGN EVALUATION

DESIGN EVALUATION

1 PROF. NOOR CHOLIS IDHAM, S.T., M. ARCH., PH.D., IAI

Provide a more detailed and stronger explanation of the communal space concept and cross-ventilation strategy, including how these concepts are integrated into the overall resort design. The explanation should clearly describe the purpose, spatial function, and user experience of the communal spaces, particularly their relationship to the Sasak Berugaq principle and cluster strategy. It should also explain how the cross-ventilation strategy is achieved through building orientation, opening placement, and airflow paths, and how these passive design approaches contribute to thermal comfort and reduce reliance on mechanical cooling.

2 JOHANITA ANGGIA RINI, S.T., M.T., PH.D.

The design should further explain the benefits and limitations of communal spaces, particularly their role in encouraging social interaction, activating the resort, and maintaining guest privacy. It should also clarify the approach to disabled-friendly villa design, including accessibility and circulation. In addition, the relationship between villa orientation and the prevailing wind direction should be explained to demonstrate consistency across different villa types and how the building form supports natural airflow.

Further explanation is also needed for the ventilation and cross-ventilation strategy, including the placement of openings and airflow paths to achieve passive cooling. The villa hierarchy and levels should be discussed in relation to ocean views, privacy, accessibility to resort facilities, and differences in villa value. Finally, the clean water and black water management systems should be clearly explained, including their distribution, collection, treatment, and integration with the overall resort infrastructure and landscape.

3 IR. HANIF BUDIMAN, M.T., PH.D.

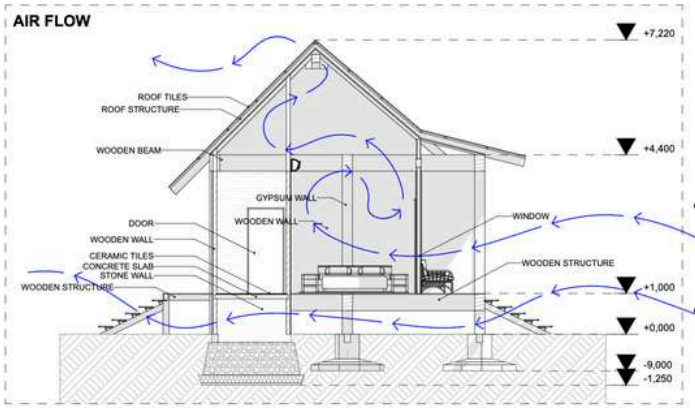
Provide a more detailed and stronger explanation of the Communal Space concept, including its activation and the supporting elements required for each activity. Add Cluster BOH Storage to support the operational system, and develop more detailed solutions to address the thermal comfort issues.

GUEST VILLA

In the Guest Villa, the main openings are positioned at the front of the building and aligned with the prevailing wind direction, allowing fresh air to enter directly into the interior.

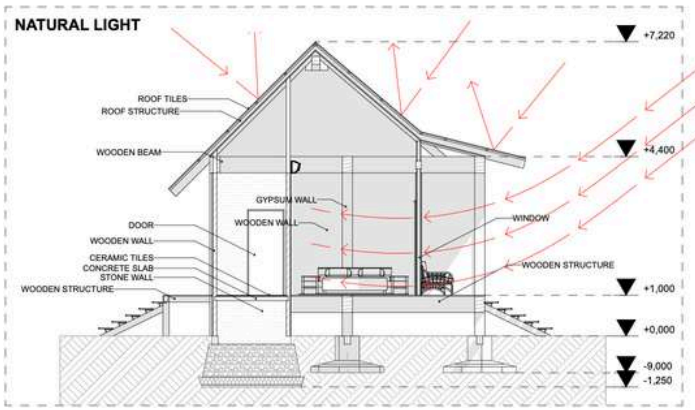
The incoming air rises toward the high ceiling, while warm air escapes through smaller ventilation openings near the roof. This creates a continuous airflow cycle that supports natural ventilation and passive cooling.

Air conditioning can be turned off when guests want to enjoy the natural sea breeze. Full-length openings along the front wall maximize airflow, allowing the villa to remain naturally ventilated while reducing reliance on mechanical cooling.



AIR FLOW CIRCULATION
The building openings are oriented according to the prevailing wind direction, enabling natural cross-ventilation, with warm air discharged through high-level ventilation openings positioned above the walls.

ELEVATED FLOOR
The elevated structure allows air to circulate beneath the building, creating a passive cooling effect that reduces heat transfer from the ground. This strategy improves thermal comfort and enhances natural ventilation throughout the building.



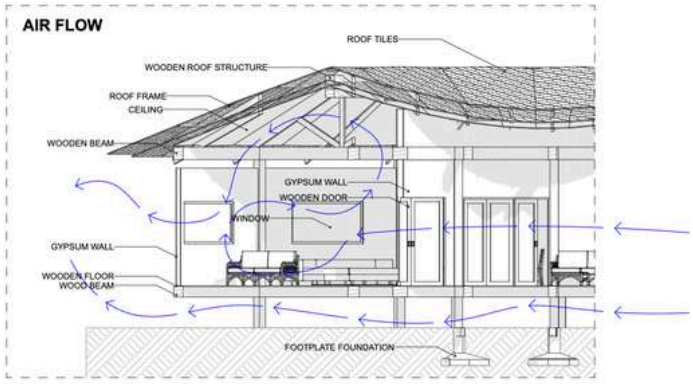
NATURAL LIGHTING
Natural lighting is introduced into the interior through generously sized openings, with doors and windows approximately 2 metres high, allowing ample daylight penetration into the building.

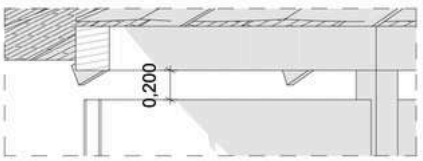
FAMILY VILLA

In the Family Villa, the main openings are positioned at the front of the villa, while the building form is oriented to capture and direct the prevailing wind into the interior.

Additional windows at the rear support cross-ventilation, allowing air to flow through the villa and continuously replace warm indoor air with fresh outdoor air.

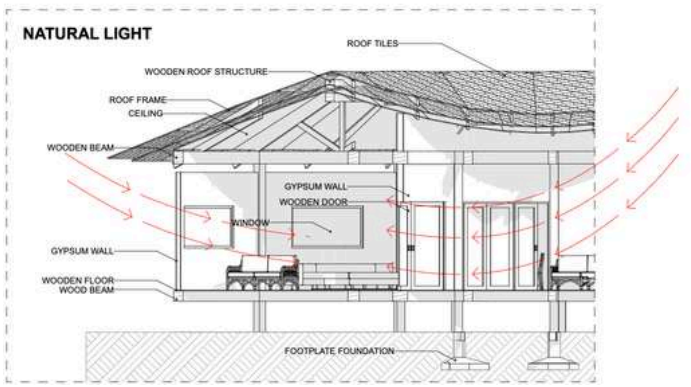
Air conditioning is provided only in the bedrooms, while the central living area relies on passive cooling. Full-length openings maximize the sea breeze and natural airflow, reducing the need for mechanical cooling.





AIR FLOW CIRCULATION & CROSS VENTILARTION
The building openings are oriented according to the prevailing wind direction, enabling natural cross-ventilation, with warm air discharged through high-level ventilation openings positioned above the walls and windows on the walls.

ELEVATED FLOOR
The elevated structure allows air to circulate beneath the building, creating a passive cooling effect that reduces heat transfer from the ground. This strategy improves thermal comfort and enhances natural ventilation throughout the building.



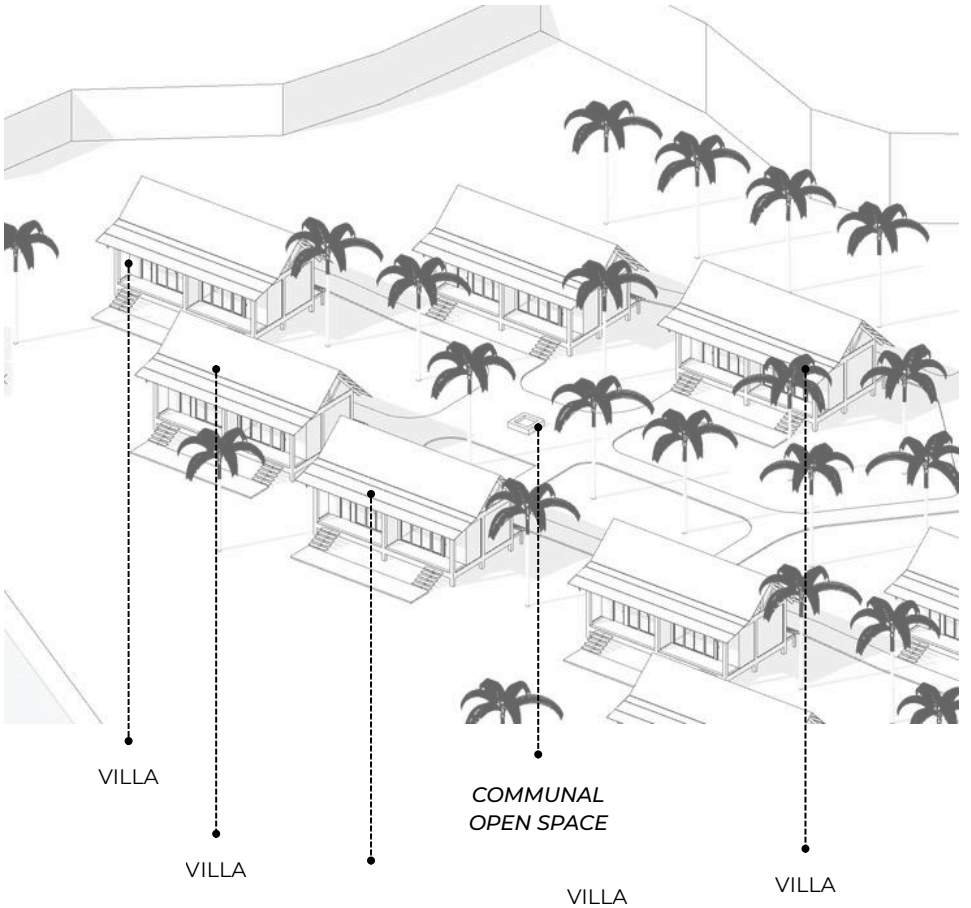
NATURAL LIGHTING
Natural lighting is introduced into the interior through generously sized openings, with doors and windows approximately 2 metres high, allowing ample daylight penetration into the building.



The concept of a berugaq in a resort area has been transformed into a communal open space that can be used for activities such as campfires, socializing, and various other shared activities. This transformation aims to maintain the berugaq's original essence and function as a space for gathering, interaction, and strengthening social ties among users, while adapting it to the needs and spatial experiences of a modern resort.

The building clusters are arranged to capture and enhance the natural wind flow. Based on the simulation results, this arrangement increases wind speed and improves natural ventilation throughout the resort.

Berugaq Transformation

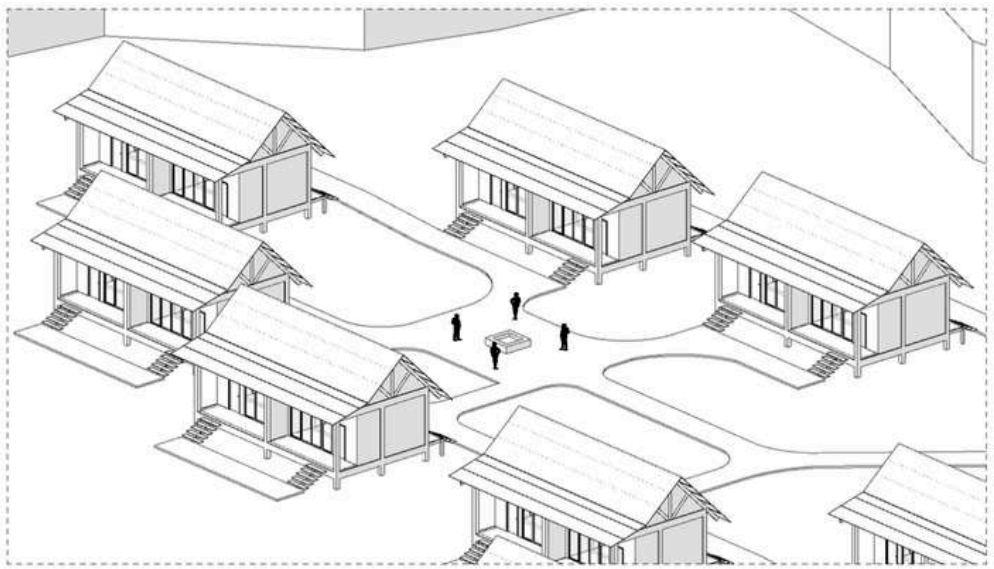


Advantages & Disadvantages

Strategy	Advantages	Disadvantages/Risks
Transformation of Berugaq	Reinterprets a local Sasak principle rather than merely copying its form; gives the cluster a strong cultural identity; creates a clear connection between local architecture and contemporary resort design.	Risk of becoming a superficial interpretation if the communal function is not clearly demonstrated; the Berugaq principle may conflict with the privacy expected in a luxury resort.
Communal Space	Encourages social interaction; creates a sense of community; provides a semi-private space between individual villas and the wider resort; gives guests an alternative outdoor space to relax.	Can reduce the feeling of exclusivity; noise and activity may disturb nearby villas; some guests may prefer complete privacy and not use the communal space.
Activation of Resort Space	Prevents circulation space from becoming purely functional; encourages guests to spend time outdoors; creates more active and memorable spaces throughout the resort; strengthens the experience of moving through the cluster.	Activity can become concentrated around the cluster; requires careful programming and management; if underused, the communal space can feel empty and unnecessary.
Wind Pocket / Passive Cooling	Creates openings for prevailing wind; improves natural air movement between buildings; reduces heat accumulation; supports passive thermal comfort; connects the building arrangement directly to the environmental strategy.	Wind performance depends on building orientation, spacing, vegetation, and seasonal conditions; excessive openness can create uncomfortable wind speeds; communal spaces may become less comfortable during periods of weak wind or unfavorable weather.

Image Source: Author, 2026

FLEXIBLE CLUSTER COMMUNAL SPACE

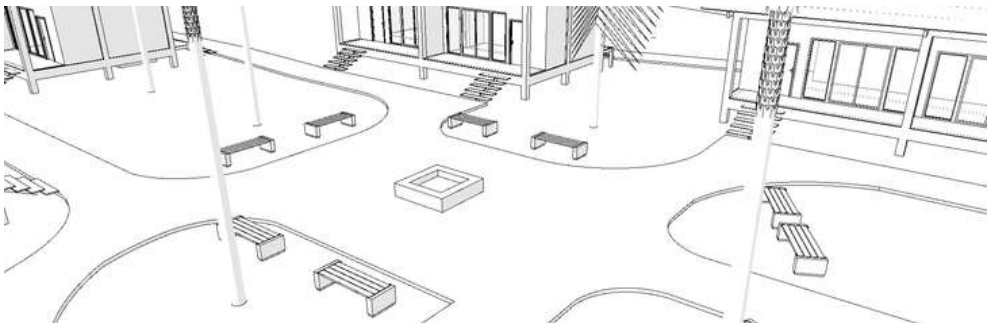


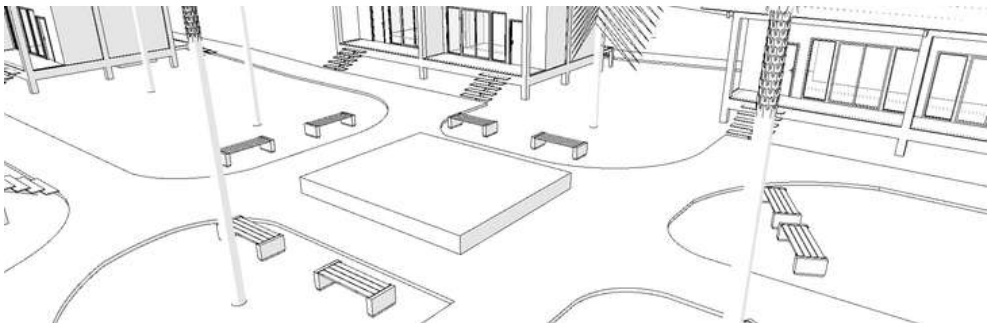


The cluster should maintain a minimal and flexible design so that the space can accommodate various types of activities and future resort activations. Therefore, a permanent amphitheater or fixed stage is not introduced, as it would define the space for a single purpose and limit its flexibility for future uses.

The existing design is intentionally maintained as an open and adaptable communal space, where chairs, seating arrangements, and temporary stages can be added or rearranged according to the specific requirements of each activation. This allows the space to transform without permanently altering its architectural character.

The cluster also functions as a circulation area for guests, while its original concept is inspired by the Sasak Berugaq as a place for socializing, gathering, and relaxing. Introducing permanent elements such as an amphitheater or fixed stage could shift the space away from this original concept. Instead, activities such as performances, BBQ gatherings, or other events can be supported through adjustable and movable furniture and temporary stage systems, as illustrated in the following images.





TRADITIONAL DANCE



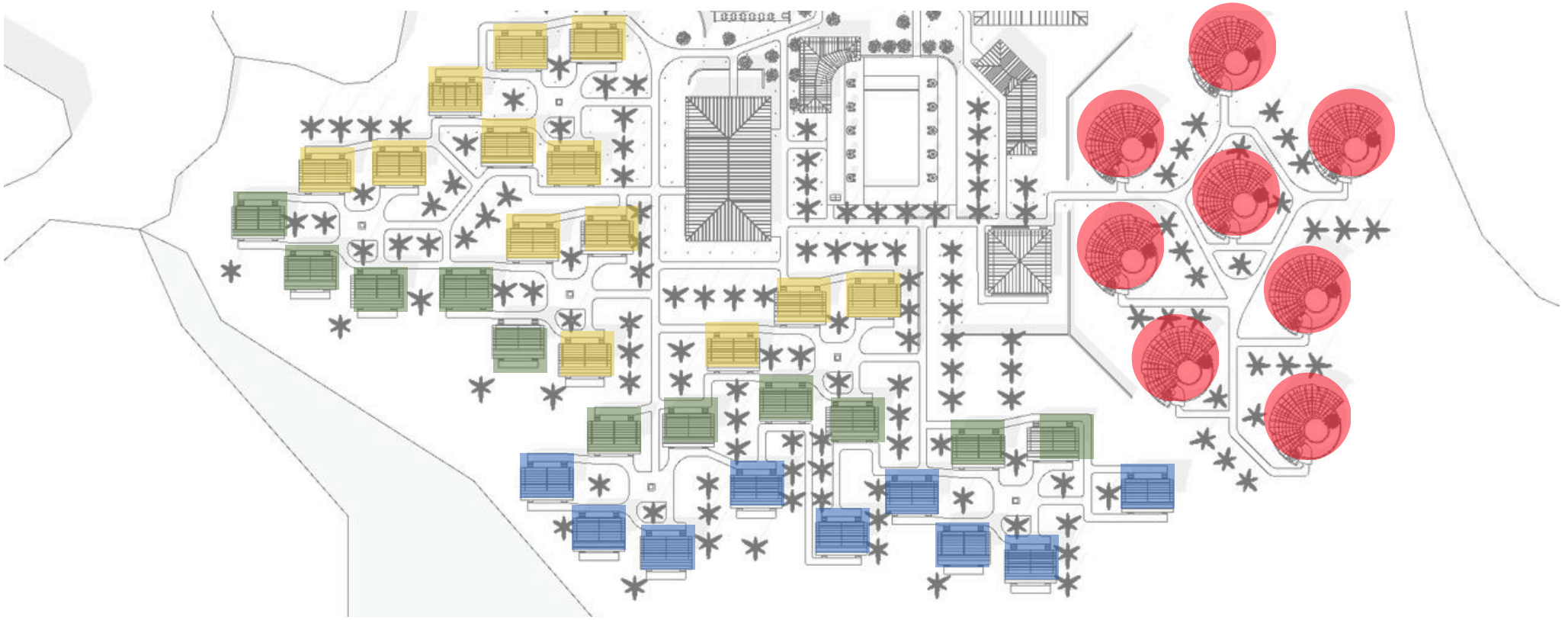
COMMUNAL SPACE



BBQ



Image Source: Author, 2026



Percentage Distribution of Total 74 Villa's room

24,3% OCEAN FRONT

29.7% GARDEN TERRACE

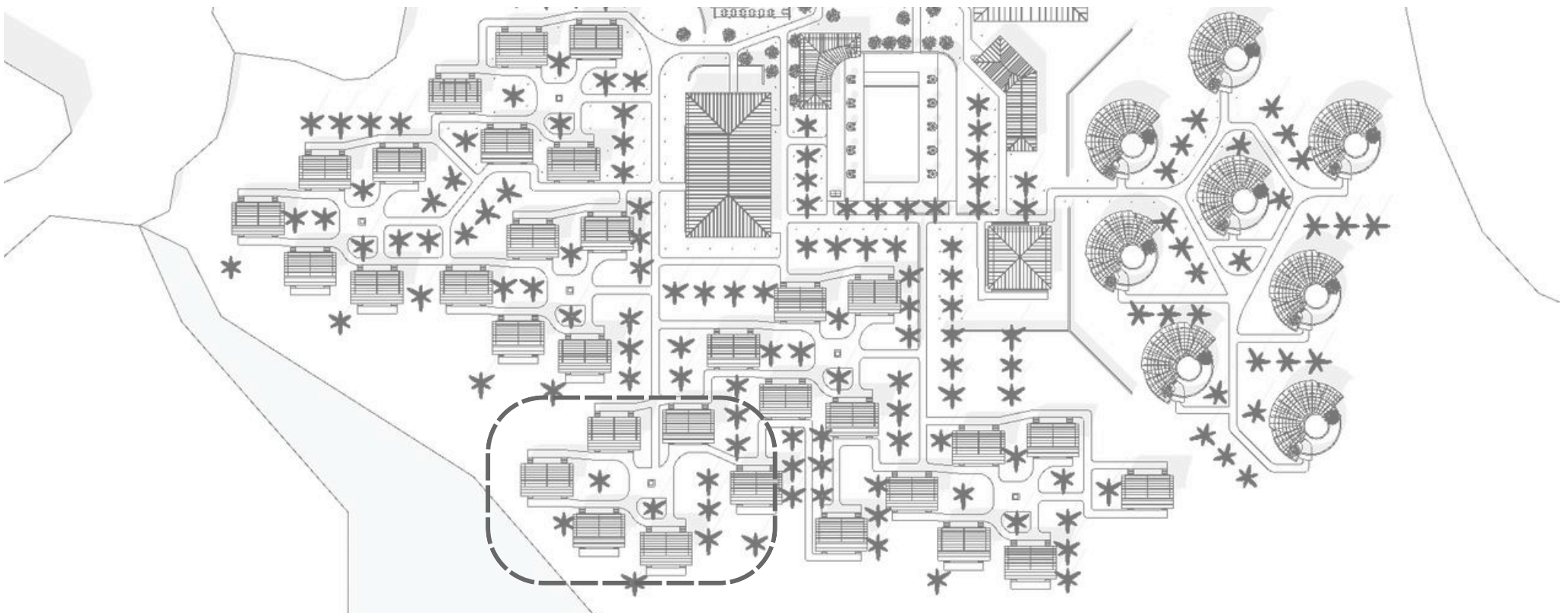
35,1% RESORT CORE

10.8% PRIVATE VILLA

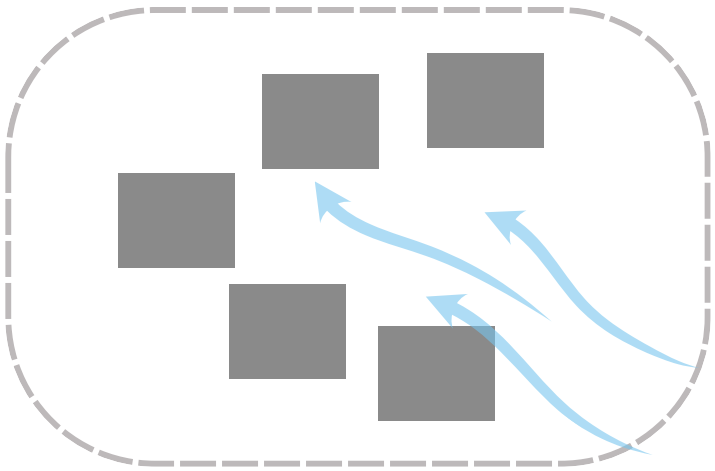
Advantages & Disadvantages

Color	Villa Level	Advantages & Disadvantages
	Ocean Front	Provides the strongest connection to the sea, with direct views, greater privacy, and a stronger sense of exclusivity. However, its position furthest from the resort core means longer access to communal spaces and facilities, with less opportunity for social interaction.
	Garden Terrace	Creates a balance between ocean views, landscape experience, privacy, and accessibility to the resort facilities. However, views may be partially filtered by the villas in front, while its intermediate position brings more activity and movement from the surrounding cluster.
	Resort Core	Provides the closest access to cluster communal spaces and resort facilities, encouraging guest interaction and activating the spaces between the villas. However, its position furthest from the sea results in reduced ocean views and a lower level of privacy compared to the outer layers.
	Private Villa	Provides a more secluded environment focused on family leisure, privacy, and quality time within a private setting. Its self-contained spaces allow families to enjoy activities such as lounging and swimming without relying on communal facilities, but this reduces interaction with the wider resort.

Image Source: Author, 2026

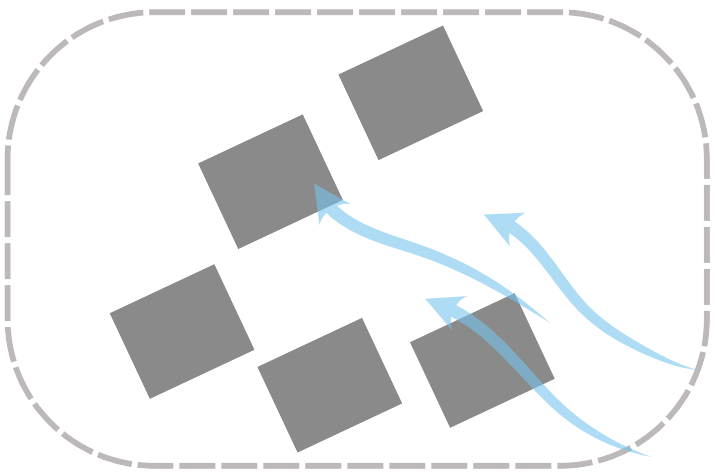


Final Design



The cluster is oriented directly toward the ocean view, maximizing the visual connection between the villas and the sea. At the same time, the arrangement and spacing between the buildings create wind pockets that allow the prevailing wind to flow through the cluster, supporting natural ventilation and passive cooling. This orientation therefore combines the ocean view, spatial experience, and thermal comfort within a single cluster strategy.

Improvement Suggestion



Rotating the building orientation allows not only the cluster as a whole to capture the prevailing wind, but also enables each individual building to receive and channel airflow through its own spaces, similar to the approach used in the Family Villa. This creates better natural ventilation throughout the cluster while supporting passive cooling at both the cluster and building scale.

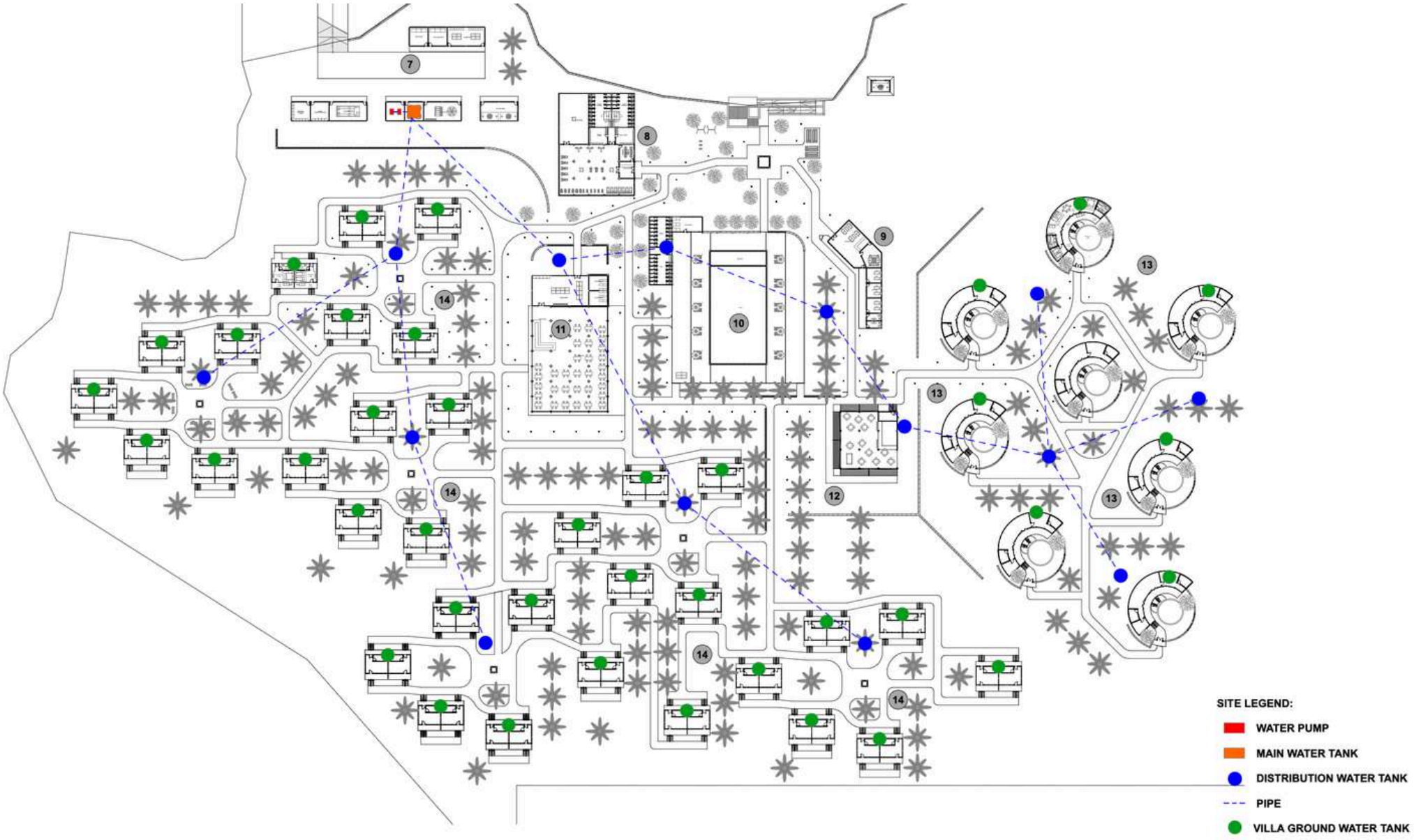


Main BOH Building

Cluster Storage

Cluster Storage Functions

- Maintenance Storage: for storing maintenance equipment, tools, and supplies needed for daily cluster operations.
- Clean Linen Storage: for storing clean towels, bed linens, and other guest-room supplies before distribution to the villas.
- Dirty Linen Holding: a temporary storage area for used linen before it is transferred to the Main BOH (Back of House) for processing and laundry.



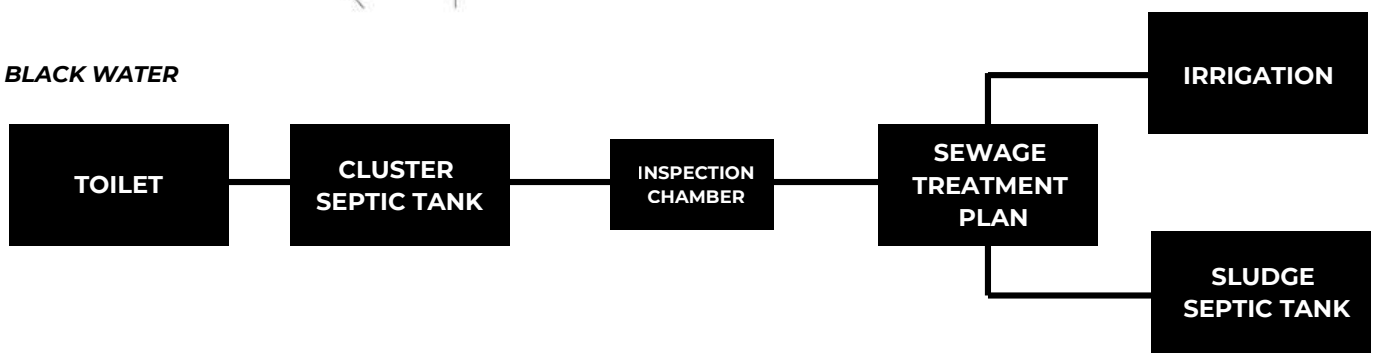
WATER DISTRIBUTION

WATER PUMP → **MAIN WATER TANK** → **CLUSTER WATER TANK** → **VILLA WATER TANK**

All tanks will be located underground to minimize their visual impact on the resort landscape. However, the pipe distribution network will inevitably pass through the landscape areas to connect the tanks with the buildings and service points. Therefore, the piping will be integrated carefully into the landscape design to minimize its visual and spatial impact.

All piping systems, including irrigation, clean water distribution, and wastewater systems, will be designed as non-permanent installations, allowing them to be adjusted, maintained, or relocated without significantly affecting the landscape and resort environment.

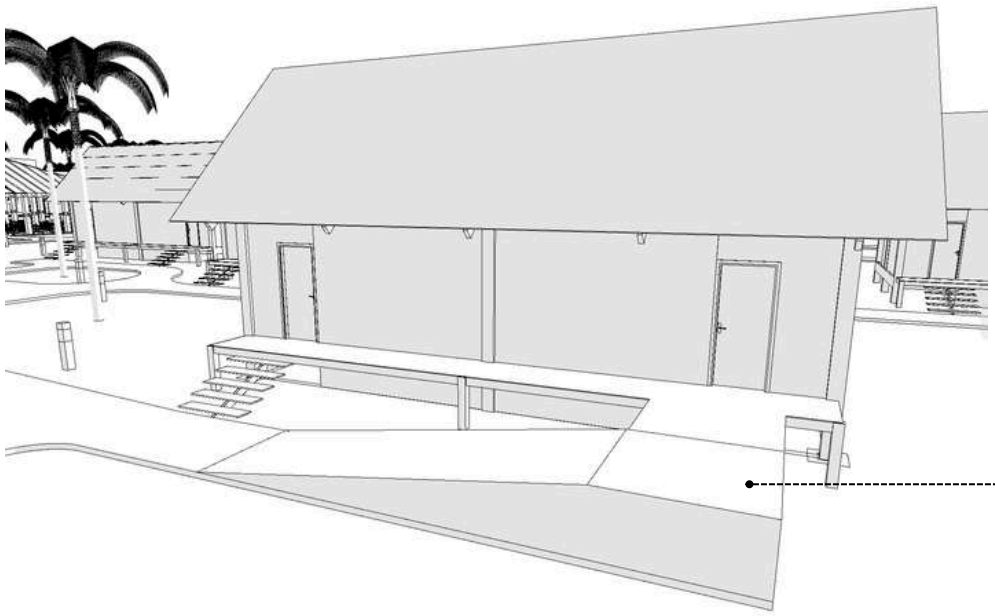




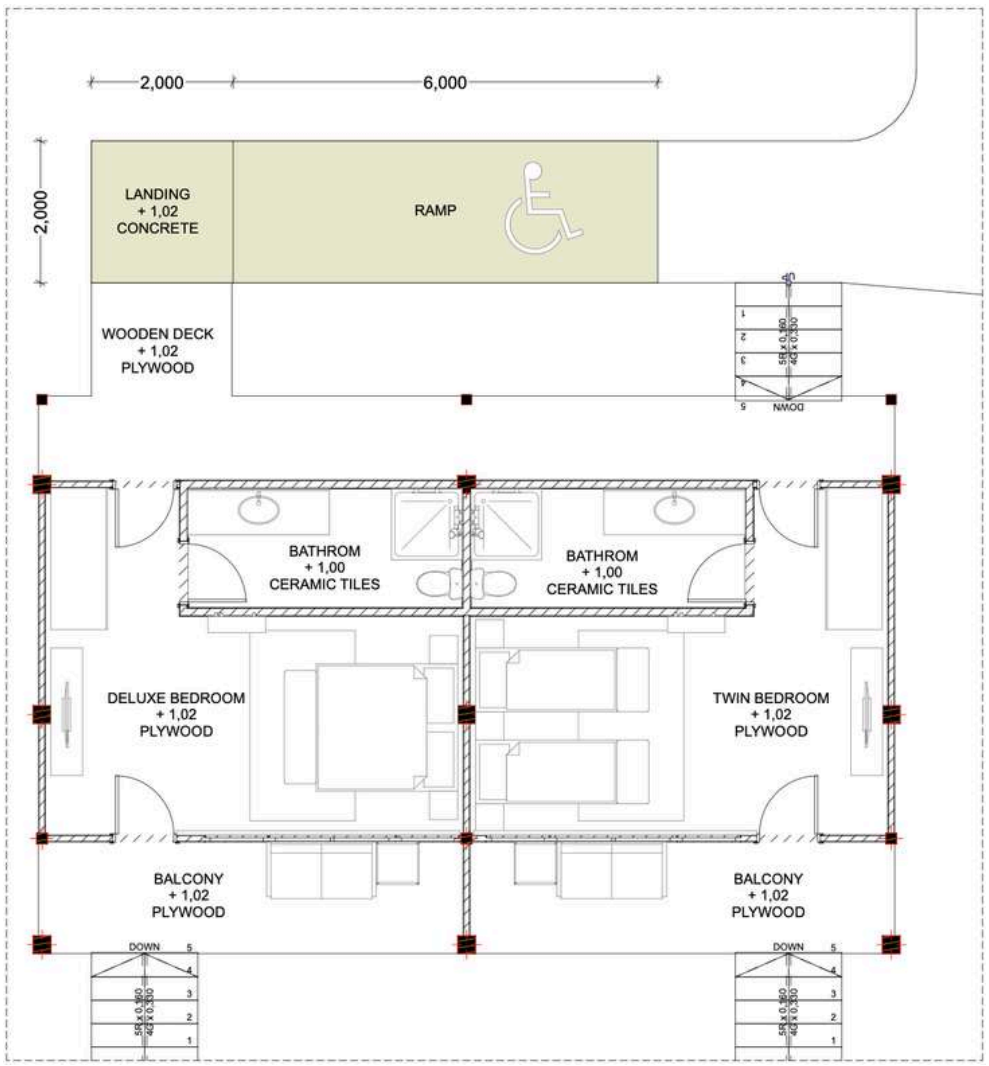
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Image Source: Author, 2026



Each cluster includes one villa building equipped with a dedicated ramp to provide accessibility for guests with disabilities.



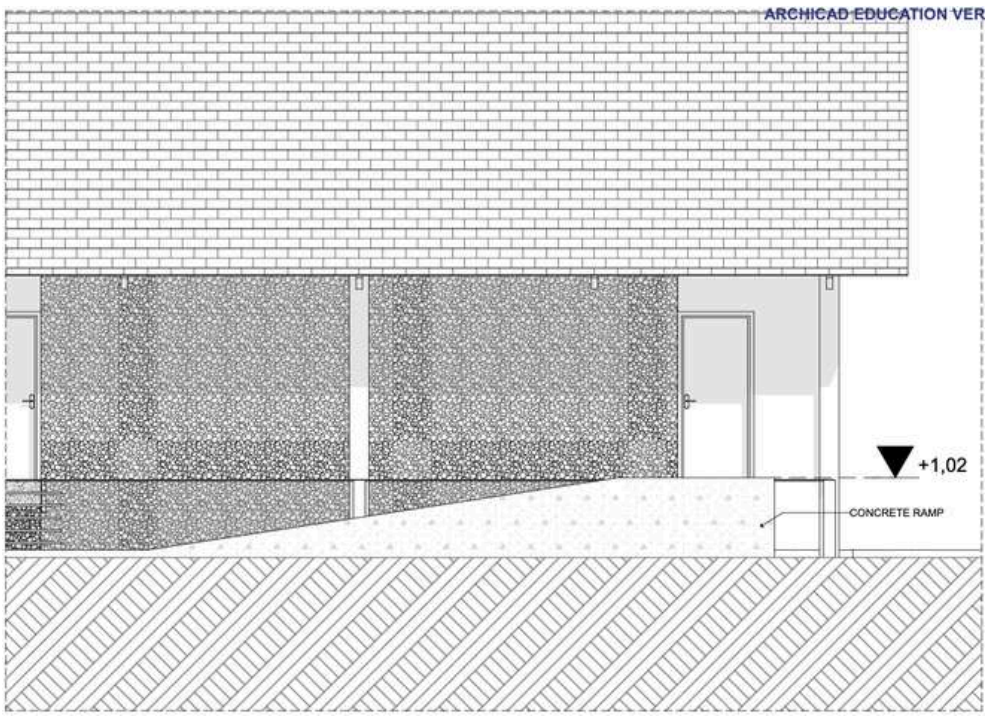


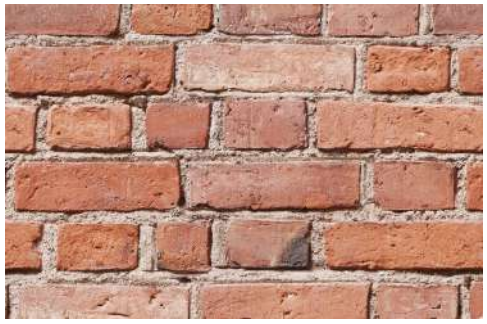
Image Source: Author, 2026

BUILDING MATERIAL CONCEPT ACCORDING TO BUILDING DESIGN CONCEPT & LOCAL MATERIAL

BUILDING MATERIAL









The resort adopts a palette of natural earth-tone materials to harmonize with the surrounding environment and reflect the local character of the site. This approach strengthens the connection between the architecture and its context while creating a warm, authentic, and visually cohesive atmosphere.

Lime Stone

Limestone is used throughout the resort due to its local availability in Lombok and the surrounding region. Its natural texture and warm earth tones enhance the resort's tropical character while creating a calm and authentic atmosphere.

Bengkirai Wood

Inspired by traditional Sasak architecture, wood is used as one of the primary materials in the resort. It adds warmth, authenticity, and a strong connection to the local architectural heritage.

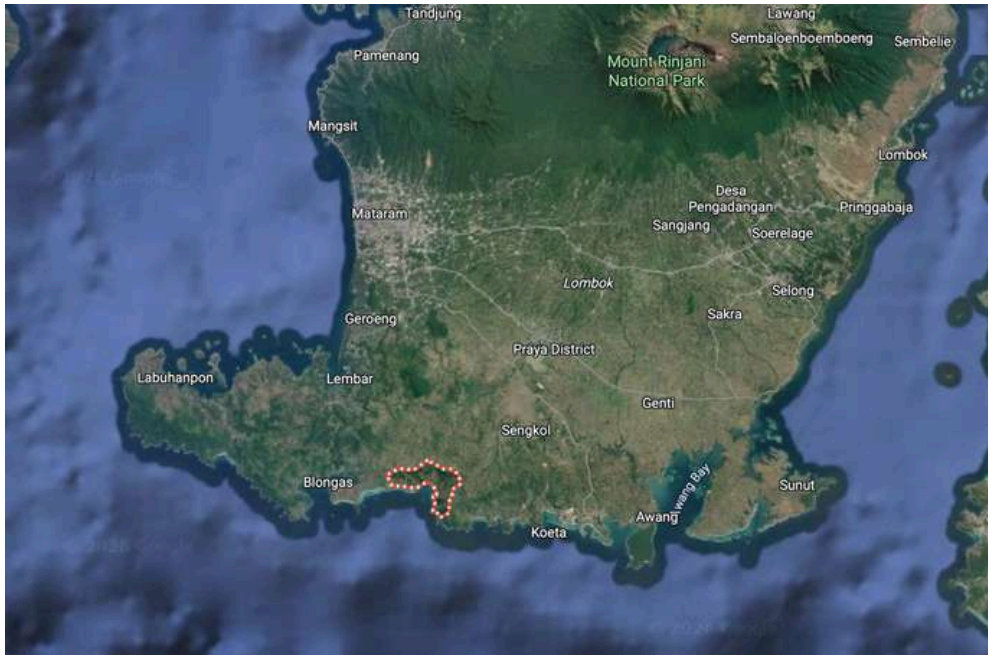
Brick

Brick and masonry walls are incorporated in selected areas to improve construction efficiency while maintaining a natural and timeless architectural expression.

Asphalt Shingles

Asphalt shingles are selected for their lightweight construction, weather resistance, and cost-effectiveness. They also provide excellent waterproofing, require minimal maintenance, and can easily adapt to complex roof forms, making them an ideal roofing material for tropical resort architecture.

LOCAL MATERIAL AVAILABILITY



Lombok has a wide range of locally available construction materials distributed across different regions of the island. The relatively short distances between cities and production areas facilitate efficient transportation and sourcing, reducing logistical challenges while supporting the use of local materials throughout the resort development.

Natural Stone



Wood



Bricks

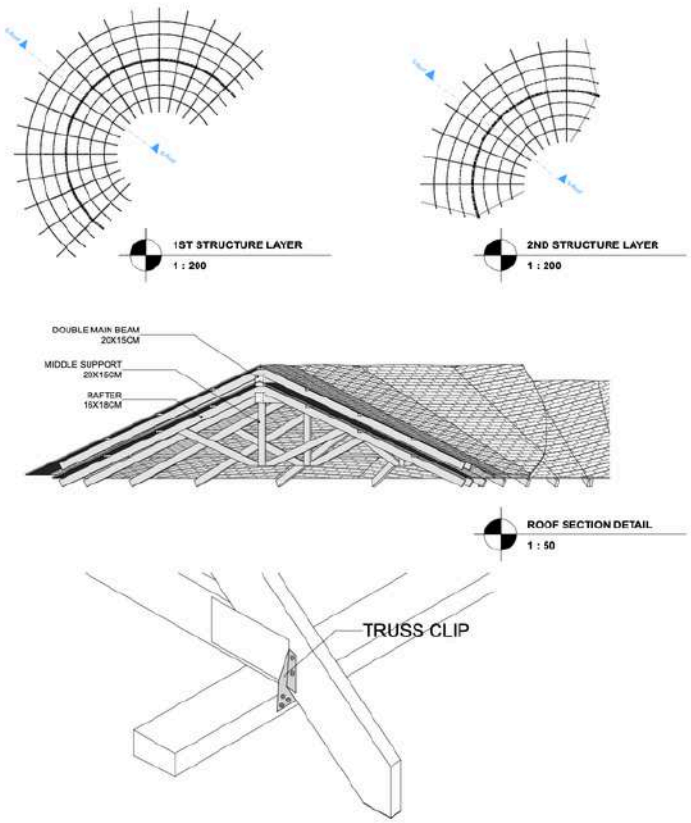


Roof Tiles



Image Source: Author, 2026







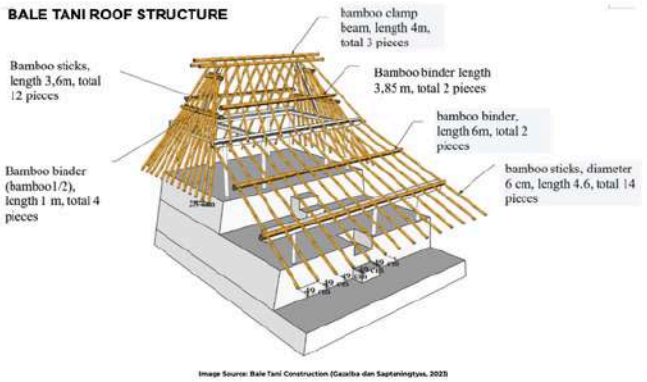


Image Source: Bale Tani Construction (Gazalba dan Saptaningtyas, 2023)

The roof design adopts the architectural principles of the traditional Sasak Bale Tani house. The high-pitched roof form, combined with a high ceiling, functions as a passive design strategy that enhances natural ventilation, facilitates heat dissipation, and improves indoor thermal comfort.

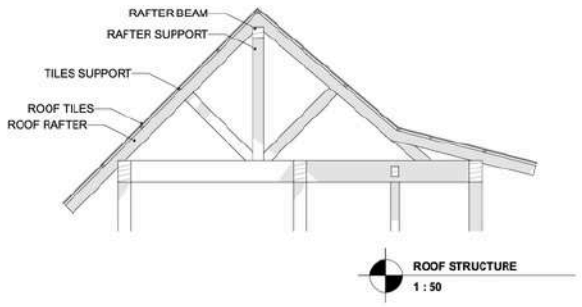
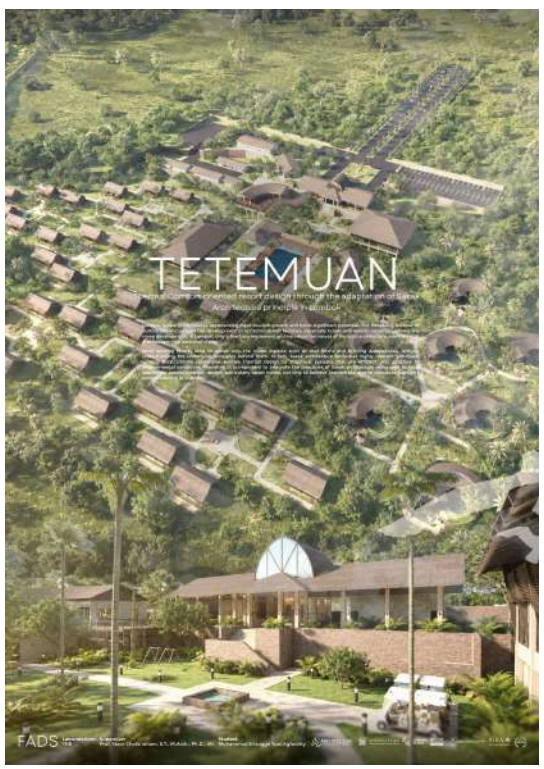
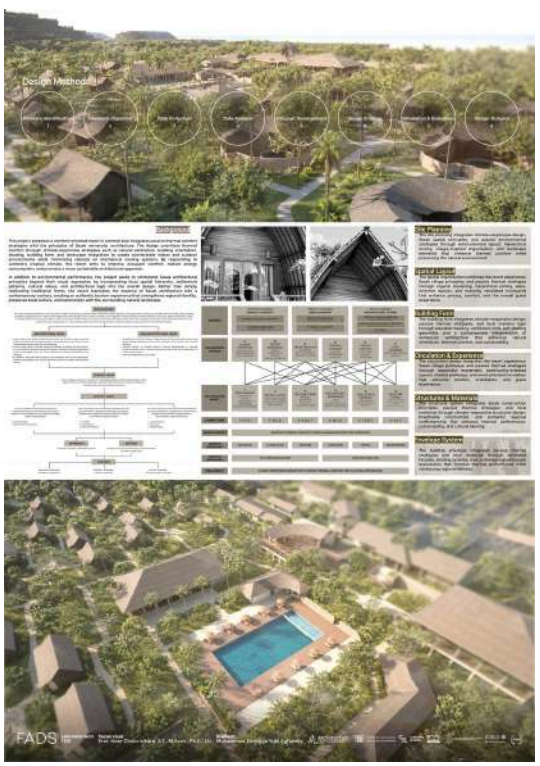


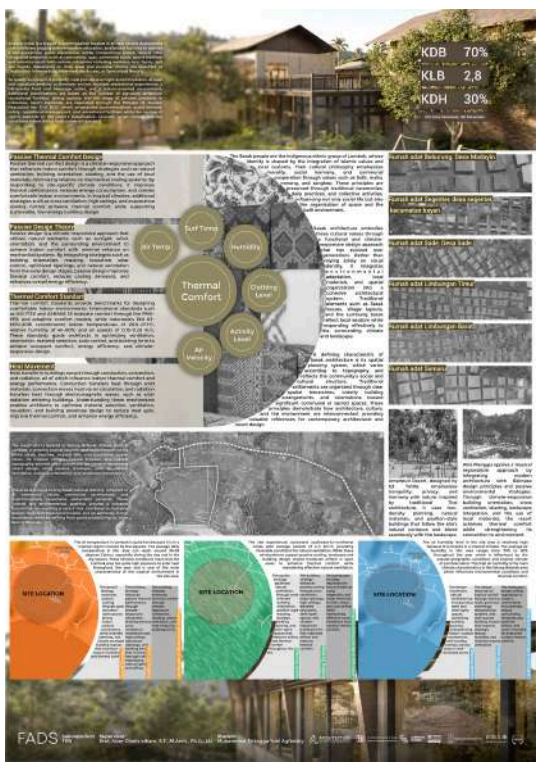
Image Source: Author, 2026

7 PRODUCT ATTACTHEMENT

7.1 PLAGIARISM CHECK LETTER









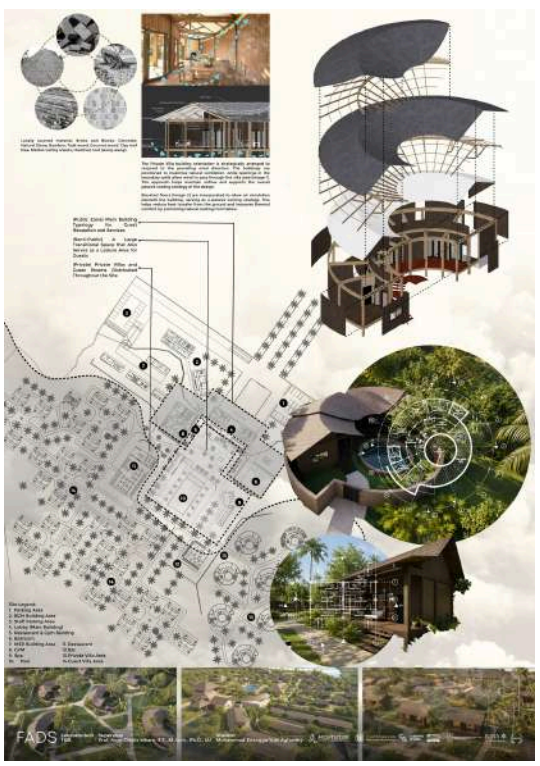




Image Source: Author, 2026







