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Final Architecture Design Studio Project 2024

A Design Of

Mental Health Care with Resort in Bantul with Multi-Sensory Approach for Treating Mental Health Issues

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INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE



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International Undergraduate Program in Architecture
Final Architecture Design Studio

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2024

Program Sarjana Internasional Arsitektur
Studio Akhir Desain Arsitektur

Perancangan Pelayanan Kesehatan Mental Disertai Resort di Bantul dengan Pendekatan Multisensori untuk Penanganan Masalah Kesehatan Mental

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2024



Authentication Sheet

Final Architecture Design Studio entitled:

A Design of Mental Health Care with Resort in Bantul with Multi-Sensory Approach for Treating Mental Health Issues

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Multisensori untuk Penanganan Masalah Kesehatan Mental*

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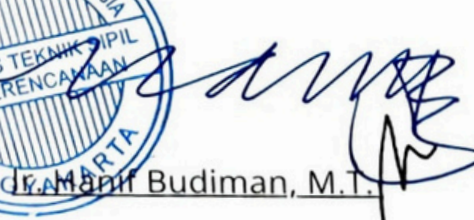
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Preface

Assalammu'alaikum Wr. Wb.

All praise and gratitude to Allah SWT for His mercy and love, allowing the Author to persevere and complete her education at the Department of Architecture at the Islamic University of Indonesia. The Author acknowledges that this project's journey would not have been possible without the support and assistance of numerous parties and individuals. Therefore, the Author wishes to offer her heartfelt appreciation and gratitude to:

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The believes that there is always room for improvement and growth. She acknowledges that both the preparation and the final design report are not flawless. Therefore, she is open to any constructive criticism and suggestions, hoping they will guide her on a better path in her future endeavors.

Wassalammu'alaikum wr. wb.

Yogyakarta, December 16th 2024



Sharfina Utami Widyasari

Originality Statement

As the Author of this book, I, Sharfina Utami Widyasari, declare that all parts of this work except those mentioned in reference are the Author's original work. The ideas and processes involved in the writing and development of this final project were created by the Author, considering the supervisor's and examiners' input. The completed project has been submitted to the Department of Architecture at the Islamic University of Indonesia for educational use and publication, with the intellectual property rights retained by the Author.

Yogyakarta, 16th December 2024



Handwritten signature of Sharfina Utami Widyasari.

Sharfina Utami Widyasari

Abstract

Yogyakarta has experienced many natural disasters, namely earthquakes, volcanic eruption, and there are also fire incidents, landslides, flood, potential for tsunami, and so on. Major natural disaster such as the 5,9M earthquake in 2006 and volcanic eruption in 2010 has taken many lives as well as infrastructure of the city. The broken houses are able to be built again, but nothing could bring back the deceased victims. Natural disasters have many negative impacts to victims' psychology, and it is found that female, late teenagers, middle-aged adults and elderly have the highest likelihood of experiencing mental health effects. If not treated properly, this might escalate to prolonged grief or mental health issues. Thus, the typology of Mental Health Care with Resort is introduced in order to accommodate the needs of victims and survivors affected with mental health issues. It is then combined with multi-sensory approach as an important part of the healing process. The health care will provide suitable medical care, as well as group supports and communal spaces to encourage socialization and improve well-being. The multi-sensory approach consisting of 4 senses, namely, visual, olfactory, tactile and auditory. The site will be located on Yogyakarta, and in order to design appropriate Health Care, review of precedents, paper, and other relevant sources should be considered.

Keywords : health care, mental health care, mental health issues, resort, multi-sensory, psychology

Abstrak

Yogyakarta telah mengalami banyak bencana alam, yaitu gempa bumi, letusan gunung berapi, dan juga kebakaran, tanah longsor, banjir, potensi tsunami, dan sebagainya. Bencana alam besar seperti gempa bumi 5,9 SR tahun 2006 dan letusan gunung berapi tahun 2010 telah merenggut banyak nyawa serta infrastruktur kota. Rumah-rumah yang hancur dapat dibangun kembali, tetapi tidak ada yang dapat mengembalikan korban yang meninggal. Bencana alam memiliki banyak dampak negatif terhadap psikologi korban, dan ditemukan bahwa perempuan, remaja akhir, dewasa setengah baya dan orang tua memiliki kemungkinan tertinggi mengalami dampak kesehatan mental. Jika tidak ditangani dengan benar, ini mungkin meningkat menjadi kesedihan yang berkepanjangan atau penyakit mental. Oleh karena itu, tipologi Perawatan Kesehatan Mental dengan Resor diperkenalkan untuk mengakomodasi kebutuhan korban dan penyintas yang terkena masalah kesehatan mental. Kemudian dikombinasikan dengan pendekatan multi-sensori sebagai bagian penting dari proses penyembuhan. Perawatan kesehatan akan memberikan perawatan medis yang sesuai, serta dukungan kelompok dan ruang komunal untuk mendorong sosialisasi dan meningkatkan kesejahteraan. Pendekatan multisensori yang terdiri dari 4 indera, yaitu penglihatan, penciuman, perabaan dan pendengaran. Lokasi penelitian akan berada di Yogyakarta, dan untuk merancang Pelayanan Kesehatan yang tepat, perlu dipertimbangkan tinjauan preseden, makalah, dan sumber relevan lainnya.

Kata kunci: pelayanan kesehatan, pelayanan kesehatan mental, isu kesehatan mental, resor, multisensori, psikologi

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01

Introduction

Special Region of Yogyakarta

Yogyakarta is vulnerable to natural disasters because of its proximity to the Pacific Ring of Fire. The 2006 earthquake, 2010 volcanic eruption, and more major natural disaster have taken many lives as well as damaging infrastructure, which in result, gave victims negative mental disturbance for short or long-term. The horror of the disaster still remembered to this day.

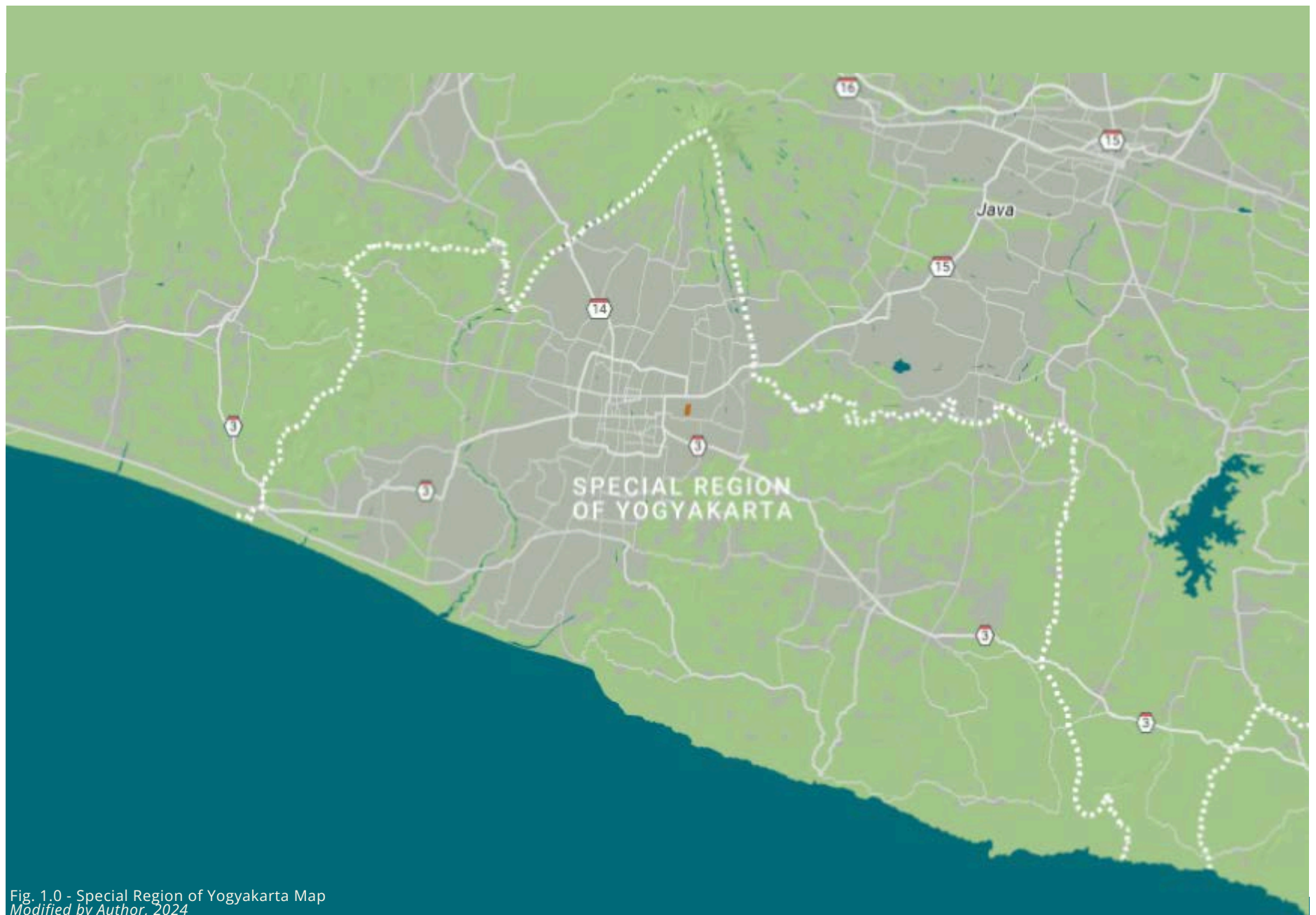


Fig. 1.0 - Special Region of Yogyakarta Map
Modified by Author, 2024

Design Premise

Since Indonesia was hit by the Covid-19 pandemic in 2019, facilities are upgraded to enhance mental health. There had been many natural disasters in Yogyakarta such as earthquakes and volcanic eruption, that take a toll on the mental health of victims and survivors, where it's not properly taken care of and often neglected. The natural disaster has leave traumatic experiences through many aspects. As a result, the most common mental disorders such as depression and anxiety are expected to increase.

The health care center with resort is created to help and accommodate individuals in seeking treatments for their mental health needs, by integrating sensory and nature to support their healing process, but also creates a safe, comfortable and supportive environments to improve their well-being.



Fig. 1.1 - Yogyakarta People Mourning
Google, 2024

Yogyakarta's Natural Disaster and its Impact on Mental Health

Disaster Effect to Mental Health

Arifin (et.al., 2022) said that **natural disaster causes losses in terms of material, physical, psychological, economic and environmental** caused by nature so that it requires help or assistance from people outside the disaster area.

Keya (et.al., 2023) concluded that mental health issues are prevalent worldwide, with a **17% increase after disasters**. Stressors include witnessing disasters, prior-traumatic experiences, income level, unemployment, medical issues, damage to homes, and evacuation and relocation, increasing the risk of mental health issues.



Fig 1.7 - Naning, one of the victims in Merapi eruption, 2010
Suarajogja.id, 2020



Fig 1.8 - TKPJM Inauguration
Jogjapro, 2023

Yogyakarta Government Action

On December of 2023, Yogyakarta Government established the *Tim Pelaksana Kesehatan Jiwa Masyarakat* (TKPJM) in accordance with *Perwal* No. 68 of 2018's mandate on Regional Action Plans (RAD) for Mental Health and Drugs, and also *Perda* 13 of 2022 concerning Implementation of Mental Health.

Natural Disaster Effect on Mental Health

According to Bureau of Emergency Preparedness & Response of New York State Office of Mental Health, the greater the scope, intensity and/or duration of a disaster the more traumatic impact it gave the survivors.

The phases of emotional response when disaster struck is as follows :

- **Pre-impact:** disaster with warning enable people to get ready, but in many cases in Indonesia there is no early warning.
- **Impact:** increased alertness, panic, anything related to this event will be related to their recovery.
- **Post-impact:** reactions after everything that happened will come out, whether its neutral, positive or negative.

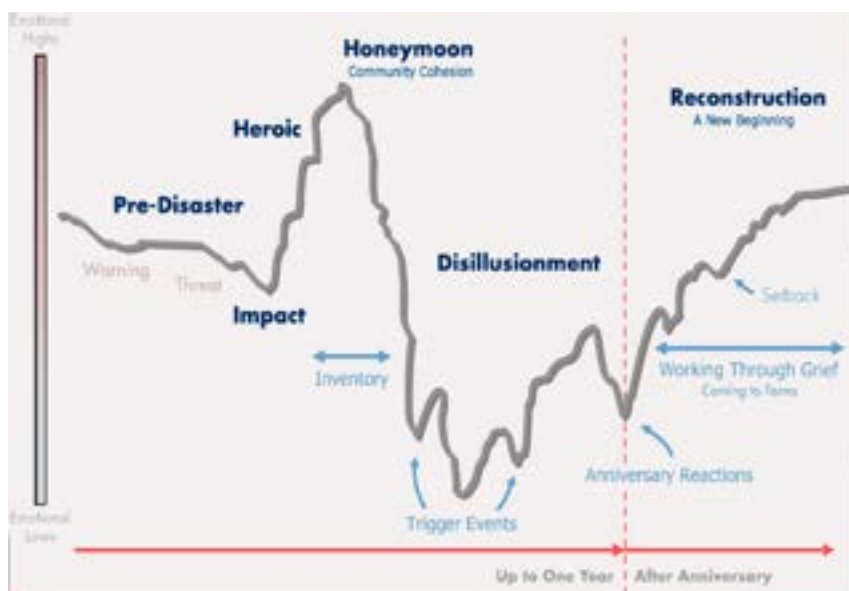


Fig. 1.9 - Phases of Emotional Response in Disaster
<http://www.urmc.rochester.edu/>

Waktu	Lokasi	Dampak terhadap Produk (Dua)					Dampak terhadap Bangunan, Lahan dan Fasilitas Umum					
		Meninggal	Luka-luka	Hilang	Menderita	Mengungsi	Rusak Berat (Bauk)	Rusak Ringan (Bauk)	Fasilitas Kerusakan (Bauk)	Fasilitas Rusak (Bauk)	Jalan Rusak (Km)	Lahan Rusak (Ha)
27-03-2006	Rendani (DIY)	4.143	12.026	0	0	462.804	76.622	10.818	94	907	0	0
12-02-1902	Flora Timur (NTT)	2.300	2.300	0	0	0	0	18.000	0	0	0	0
27-03-2006	Klaten (Jateng)	1.840	18.127	0	0	718.788	52.277	63.619	101	290	0	0
10-12-1974	Wanurejo (Jateng)	727	0	0	0	0	2.200	0	0	0	0	300
28-03-2003	Solo (Jateng)	683	3.277	1	0	12.342	24.710	0	66	520	1.000	1.941
16-09-2009	Tanah Datar (Sulbar)	666	25	0	0	0	17.771	36.100	346	171	190	0
12-09-1976	Balukang (Bali)	442	342	0	0	0	77	0	0	226	0	0
05-09-1926	Padang Panjang (Sulbar)	427	0	0	0	0	2.381	0	0	0	0	0
16-09-2009	Kota Padang (Sulbar)	381	1.202	2	0	0	17.587	78.891	21	3.347	30	0
12-01-1991	Aryapura (Papua)	306	0	1.000	2.482	0	0	0	0	0	0	0

Sumber: Data dan Informasi Bencana Indonesia, BNPB (<http://dibi.bnpb.go.id>)

Table 1.0 - top 10 earthquakes in Indonesia according to the highest number of fatalities
<http://dibi.bnpb.go.id>

This response is similar to study conducted on tsunami victims in Aceh (Taufik, 2005) with 3 periods emerged as a result of the disaster (Perry, 1999):

- **Impact period** (when a disaster occurs), the victim experiences denial, the disaster occurs so quickly
- **Recoil period** (a few days after the disaster), coping process:
 - Focused coping (Aldwin and Riverson, 1987) is oriented towards emotions, running away from problems, blaming oneself.
 - Problem focused coping = problem oriented, considering problem solving, asking for other's help or opinion.
- **Post-traumatic** (can be throughout a person's life) PTSD symptoms can persist and victims often struggle to forget traumatic events that resulted in pressure, physiological or psychological disorders.

Natural Disaster Effect on Mental Health

Quoting Achmad (2006), based on the results of observations and interviews with victims of the 2006 earthquake in Yogyakarta, they generally had the following psychological conditions:

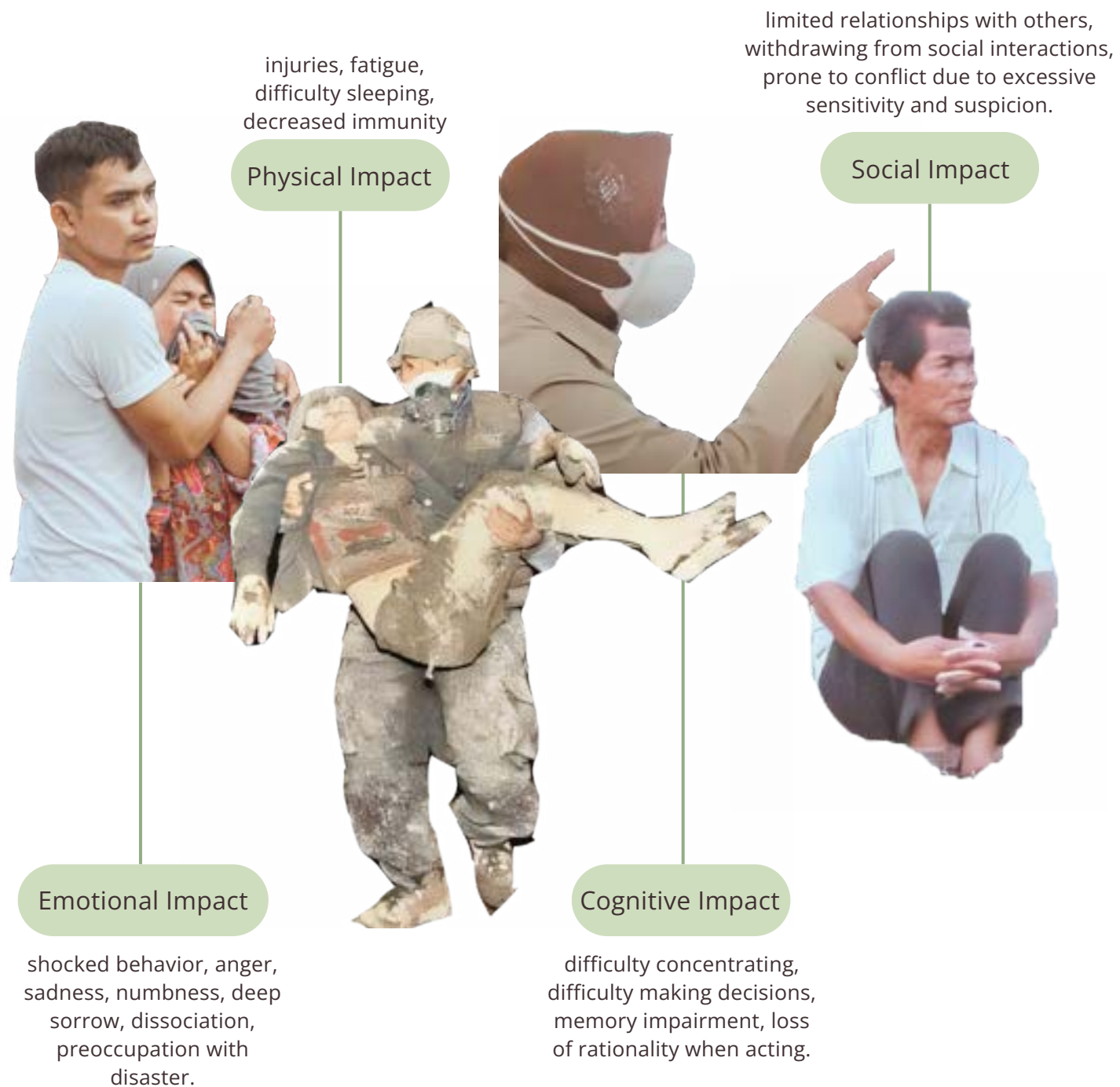


Fig. 1.10 - Natural Disaster Effect on Mental Health
Modified by Author, 2024

Prevalence of Mental Health Linked to Natural Disaster

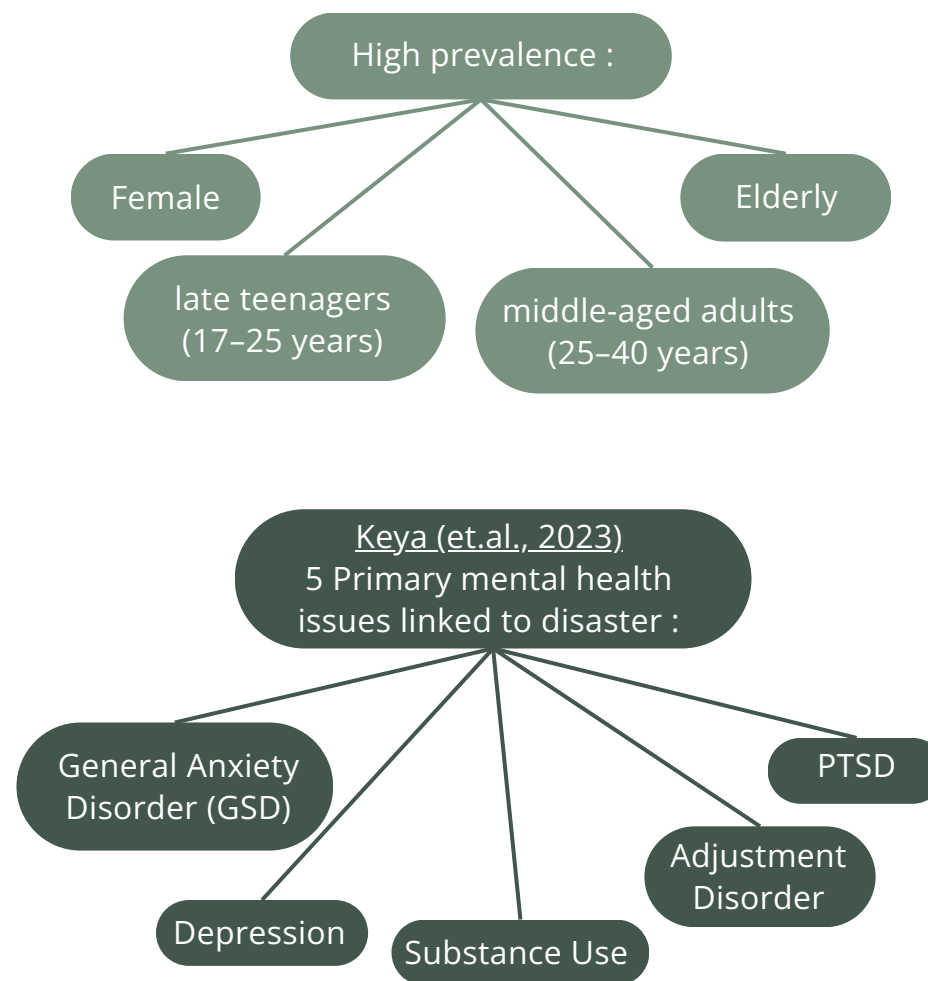


Fig. 1.11 - Prevalence of Mental Health
Author, 2024

DIY Development Plan

Source	Content
<i>Rencana Kerja Dinkes Kabupaten Bantul, 2022</i>	Management of health services for severe <i>ODGJ</i> has not been fulfilled in Kasih, Sewon, Piyungan, Pleret, Dlingo, Kretek , Bantul due to lack of community participation, and sufferers/families are embarrassed to be visited.
<i>Rancangan Peraturan Daerah (Raperda) Kesehatan Jiwa DIY, 2022</i>	<ul style="list-style-type: none"> • <i>DPRD DIY</i> encourages clinical psychologists to provide health facilities for <i>ODGJ</i> and <i>ODMK</i> in every health center. • Regulates preventive, promotive, curative and rehabilitative matters for <i>ODGJ</i> and <i>ODMK</i> • Educate the public regarding understanding of mental health • Provide health services through community health centers and hospitals.
<i>UU No.18 tahun 2014 tentang Kesehatan Jiwa</i>	<ul style="list-style-type: none"> • Mental health services for JKN-KIS participants including <i>ODMK</i> and <i>ODGJ</i>, but health problems due to drug and/or alcohol dependence and suicide are still among the conditions that cannot be covered by National Health Insurance.
<i>Rencana Kerja Perangkat Daerah Kabupaten Bantul 2023 & DIY Dinkes 2024</i>	Management of Health Services for <i>ODMK</i>
<i>Rencana Strategis DIY 2023-2026, Dinkes</i>	<ul style="list-style-type: none"> • health services are limited in the southern region • strengthening primary health care and hospital • <i>Riskesdas Kemenkes RI</i> stated that DIY has a high prevalence of mental health problems and therefore the management of routine care and treatment is still a challenge in DIY.
<i>Rencana Strategis DIY 2022-2027, Dinkes</i>	<ul style="list-style-type: none"> • mental health screening for 15 years and up • Management of Health Services for <i>ODMK</i>
<i>Perwal No. 68 of 2018 on Regional Action Plans (RAD) for Mental Health and Drugs, Perda 13 of 2022 concerning Implementation of Mental Health.</i>	established the <i>Tim Pelaksana Kesehatan Jiwa Masyarakat (TKPJM)</i>

Table 1.1 - DIY Development Plan
Compiled by Author, 2024

Mental Health Urgency in Yogyakarta

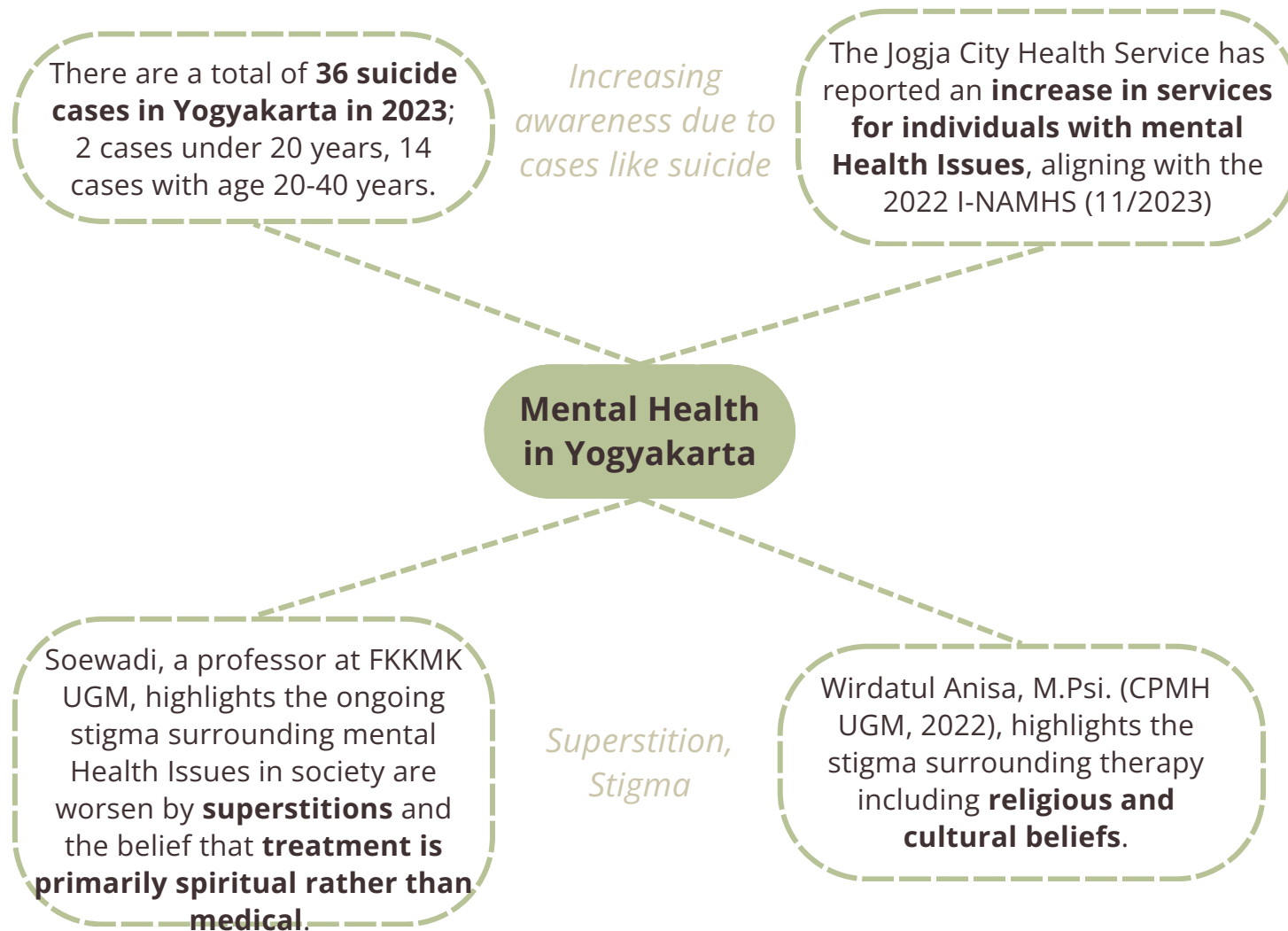


Fig. 1.12 - Yogyakarta Mental Health Urgency
Author, 2024

What is Mental Health Issues?

- Mental, behavioral, or emotional disorder
- Vary in impact, ranging from no impairment to mild, moderate, and even severe impairment

(National Institute of Mental Health, 2021)

A mental disorder shares the same qualities as a mental illness but is used in reference to the Mental Health Act to describe the particular symptoms a person has (cab.org.nz)

Mental illness, also called mental health disorders, refers to a wide range of mental health conditions — disorders that affect your mood, thinking and behavior, including depression, anxiety, schizophrenia, eating disorders, and addictive behaviors (MayoClinic.org)

illness - an unhealthy experience that cannot be given a clear diagnosis, symptoms vary from one person and another.

disorder - a condition of the body or mind not functioning as usual, usually a collection of several symptoms that disrupt a person's bodily and mental functioning (for example, major depression due to a collection of symptoms experienced for at least 2 weeks)



Fig 1.13 - Symptoms of mental health issues
NAMI, 2018

Based on *UU Kesehatan Jiwa no.18 year 2014*:

ODMK

Orang Dengan Masalah Kejiwaan are people who have problems in physical, mental, social, growth & development and/quality of life, so they are at risk of experiencing mental disorders (prevalence: 15-30%)

- feeling discomfort in living daily life
- tried to find a solution but have not succeeded in solving the problem
- leads to unhealthy/unproductive/addictive escapist behavior
- Complaints/concerns arise from people around us
- have just experienced a traumatic event.

ODGJ

Orang Dengan Gangguan Jiwa are people who experience disturbances in thoughts, feelings & behavior, manifested in a collection of symptoms (syndromes) and/there are significant changes in behavior, causing difficulties and suffering in carrying out their functions as human beings. (prevalence: 1 person/mile or about 1%)

- feeling of discomfort, unproductiveness, constant confusion
- continuous drastic mood changes
- ideas, thoughts or actions of hurting yourself and/or others arise
- actions arise that deviate from social norms and habits
- Many other people feel uncomfortable with him

if the above symptoms persist for more than 2 weeks

- there is an inconsistency between the person's thoughts, feelings and actions
- there are false beliefs, hallucinations of the five senses

if the symptoms above appear continuously within 6 months

- psychiatrists for medical approach
- psychologists for counseling and psychotherapy approaches in helping clients/patients find alternative solutions to their mental problems, helping to restructure the personality and interaction patterns of clients/patients

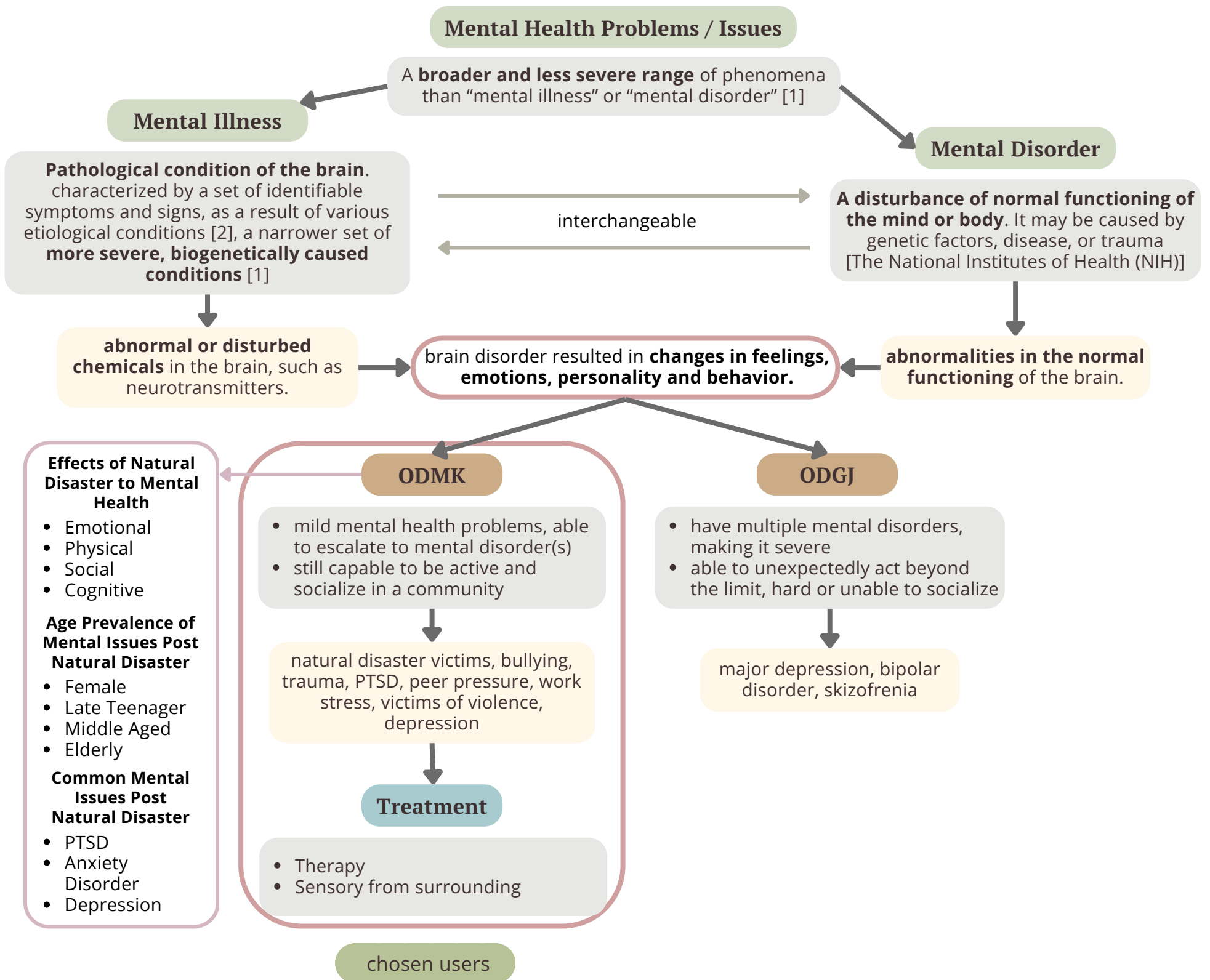


Fig 1.14 - Table about Mental Health Issues
Author, 2024

Prevalence Mental Health Issues in Victims of Natural Disasters

Anxiety Disorders

experience **excessive fear or worry** about a specific situation or about a broad range of everyday situations in an **extended period** – at least several months. Usually they avoid the situations that make them anxious (WHO, 2023)

Depression

Involves a **depressed mood (feeling sad, irritable, empty) or loss of pleasure or interest in activities**, last most of the day, nearly every day, for at least two weeks. (WHO, 2023)

Post Traumatic Stress Disorder

mental health condition that develops in some people who have **experienced or witnessed a traumatic or frightening event** (WHO, 2023)

Adjustment Disorder

group of symptoms, such as stress, feeling sad or hopeless, and physical symptoms that can **occur after a stressful life event** (*medlineplus.gov*)

Major Depressive Disorder

more-severe form of depression. Can occur from grief that lasts more than 2 months, persistent feelings of guilt, preoccupation with thoughts about death, feeling worthless, inability to perform daily activities (JAMA, 2005)

Substance Use Disorder

affects a person's brain and behavior, leading to their **inability to control their use of substances** like legal or illegal drugs, alcohol, or medications (NIMH)

Therapy for Mental Health Issues

Therapy is given from medical professionals, namely psychologist and psychiatrist. Psychologists are not qualified to diagnose mental Health Issues in patients, but receiving counseling on the symptoms they experience, such as issues at work, with family relationships, romantically, or with addictions. Meanwhile, psychiatrists are able to diagnose mental Health Issues based on the symptoms and are usually taking care of a more complicated mental disease. They may also give medication to the patient if needed (Mitra Keluarga Hospital)

Lotzin (et.al., 2023) concluded that **self-help programs** are beneficial in lowering psychological distress and/or subclinical PTSD symptoms, while **psychosocial support programs and brief psychotherapy** therapies that addressed disasters or other extreme stressors were the most common types of effective interventions.



Mental Health Issues and Therapy Given

Mental Disorder	Symptoms	Therapy
Anxiety Disorders	<ul style="list-style-type: none"> • trouble concentrating or making decisions • feeling irritable, tense, restless • nausea or abdominal distress • sweating, trembling, shaking • difficulty in sleeping • sense of impending danger, panic, doom 	<ul style="list-style-type: none"> • psychotherapy with cognitive-behavioral therapy (CBT) • stress management skill / mindfulness • medications • healthy habits
Depression	<ul style="list-style-type: none"> • poor concentration • excessive guilt or low self-worth • hopelessness about future • thoughts about suicide • disrupted sleep • changes in appetite or weight • feeling very tired or low in energy 	<ul style="list-style-type: none"> • behavioral activation • CBT • interpersonal psychotherapy • problem solving therapy • medication • group / peer / family therapy • healthy habit
Post-Traumatic Stress Disorder (PTSD)	<ul style="list-style-type: none"> • negative changes in mood (trouble remembering traumatic event; feeling of fear, anger, guilt or shame; social isolation) • re-experiencing (flashbacks, recurring memories or dreams, distorted thoughts about the event) • avoidance (staying away from anything related to event, avoiding thoughts or feelings related to event) • changes in physical reactions (irritability, insomnia, difficulty concentrating, tense, headaches or other types of physical pain) 	<ul style="list-style-type: none"> • psychotherapy (talking therapy) • medication • healthy habit • support group • group / peer / family therapy
Adjustment Disorder	<ul style="list-style-type: none"> • excessive sadness and hopelessness • shaking, trembling • worried, difficulty in concentrating • withdrawing, loss of interest • behave impulsively • suicidal thoughts or attempt • insomnia, headache, heart beating fast 	<ul style="list-style-type: none"> • psychotherapy • CBT • group / peer / family therapy • medication
Substance Use Disorder	<ul style="list-style-type: none"> • using larger amounts of substances or in longer periods than planned • craving to use drugs or alcohol • develop tolerance to drugs • fearful, anxious, paranoid • mood swings, instability 	<ul style="list-style-type: none"> • Behavioral therapies (CBT/talk therapy, DBT/mindfulness therapy, ACT/community-based, TC/long-term residential treatment, CM/healthy behavior) • medication

Table 1.2 - Mental Health Issues and Therapy Given
Compiled by Author, 2024

Psychiatric Emergencies

Are acute disturbances in thought, behavior, mood, or social relationship that require immediate intervention as defined by the patient, family, or social unit to save the patient and/or others from imminent danger (National Institutes of Health).

A mental health crisis is when a person's behavior puts them at risk of hurting themselves or others, prevent them from being able to care for themselves or function in a community (National Alliance on Mental Health Issues).

Major emergencies	Minor emergencies
Suicidal patients	Grief reaction
Agitated and violent patients	Rape
	Disaster
Medical emergencies in psychiatry	Panic attack
Deliriums due to life threatening conditions	
Neuroleptic malignant syndrome	
Serotonin syndrome	
Overdosages of common psychiatric medications	
Overdosages and withdrawal from addicting substances	

Fig 1.15 - List of Psychiatric Emergencies
S Sudarsanan, et al., 2004

Health Care Center

A health care center is one of a network of clinics staffed by a group of general practitioners and nurses providing healthcare services to people in a certain area (Wikipedia). Characteristics of a health care :

- Offer a short and long-term support or therapies.
- People coming voluntarily and have more freedom on what they want to do or continue in their therapy.
- The space includes but not limited to:
 - individual, group or family therapy, support groups, intensive inpatient/outpatient care, partial hospitalization, psychiatric medications.
 - Inpatient treatments for:
 - need constant medical supervision.
 - relatively severe, long-term symptoms
 - Outpatient treatments for:
 - mild to moderate symptoms
 - solid support system
 - ability to function outside of the treatment environment.

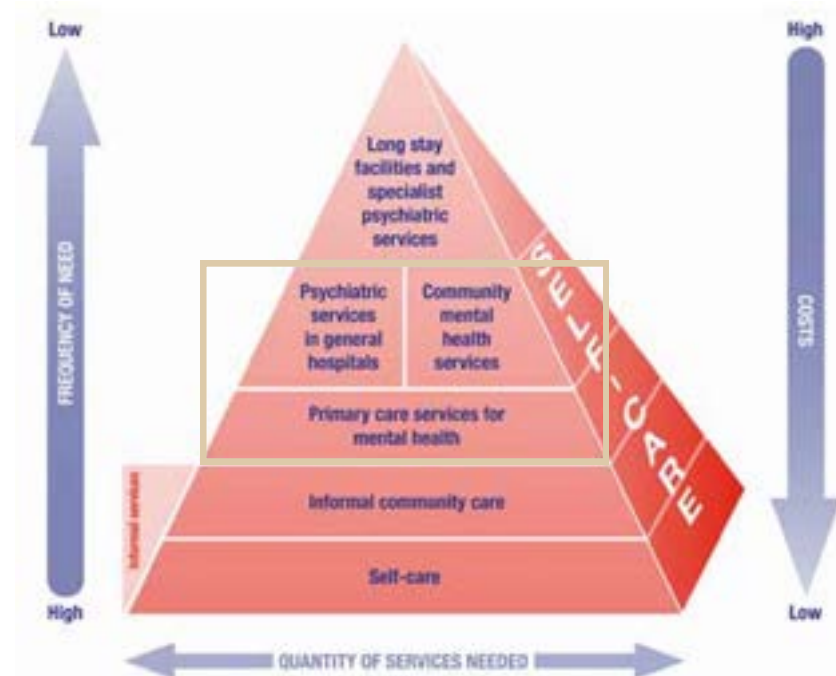


Fig 1.16 - Integrating mental health into primary care
World Health Organization, 2008

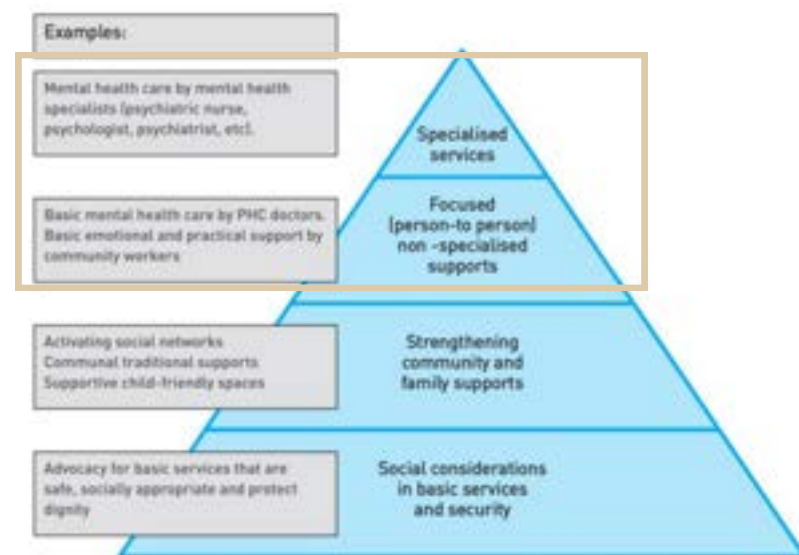


Fig 1.17 - Intervention Pyramid
Mental Health and Substance Use
Unit Department of Emergency Preparedness and
Disaster Relief, 2016

02

**Problem
Formulation**

Problematique

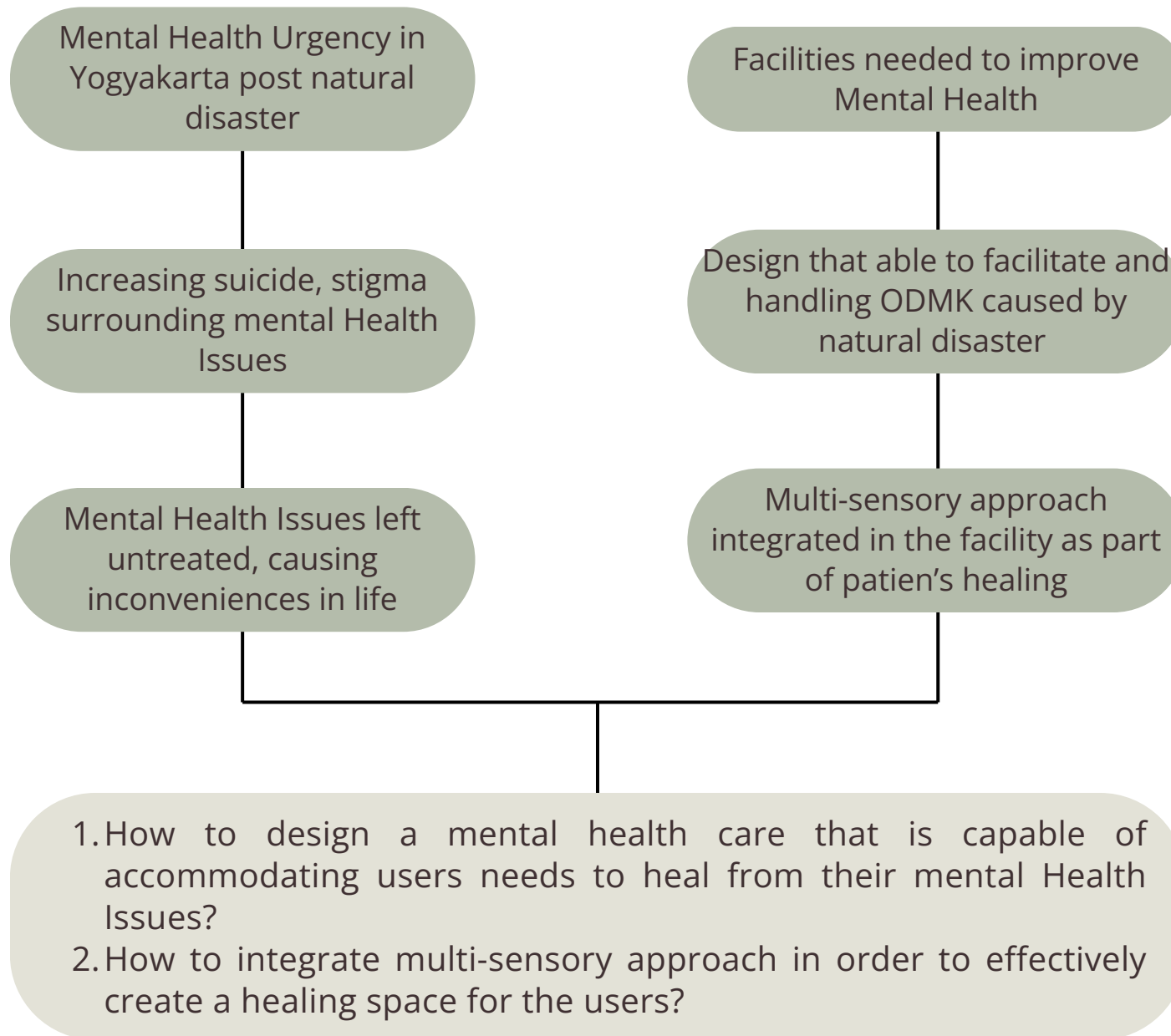


Fig. 2.0 - Problematique
Author, 2024

Problem Statement

General Problem

How to design a mental health care center that able to accommodate users needs in healing their mental Health Issues?

Specific Problem

- 1.How to design a mental health care that is capable of accommodating users needs to heal from their mental Health Issues?
- 2.How to integrate multi-sensory approach in order to effectively create a healing space for the users?

Synthesis

Designing a mental health care center using multi-sensory approach in order to create an accommodation that is able to give the users improved mental health, supporting community activities, promote social and healthy life.

Limitations

- The study focuses limited to the design of a mental health care in Yogyakarta
- The study focuses limited on how multi-sensory design is used in healthcare design typologies.
- The study excludes components such as financial constraints.

Issues

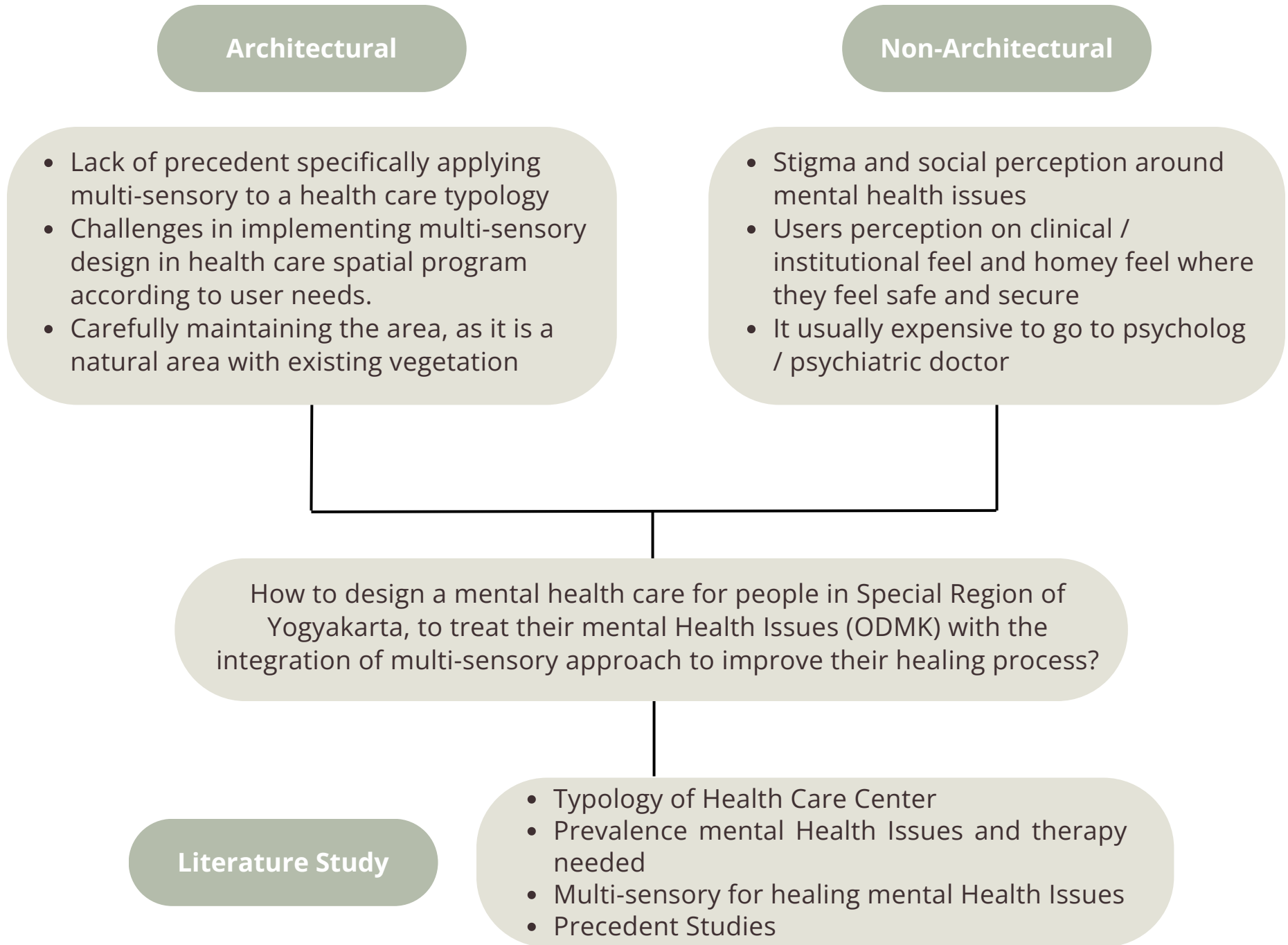


Fig. 2.1 - Issues
Author, 2024

Design Process Framework

This Multi Sensory Design approach are Taken From 'Multi-Sensory Design' by Hendrik N.J. Schifferstein (2011).

- selecting the target expression
 - The expected effect or response the architect want to achieve for future users, and determining what kind of things needed in order to achieve it.
- conceptual exploration
 - have an understanding of the expected effect or response through association and from other people
- sensory exploration
 - understanding sensory properties of objects in term of visual, smell, feel, sound its making, and its taste
- sensory analysis
 - Determining physical properties that evoke the desired expression

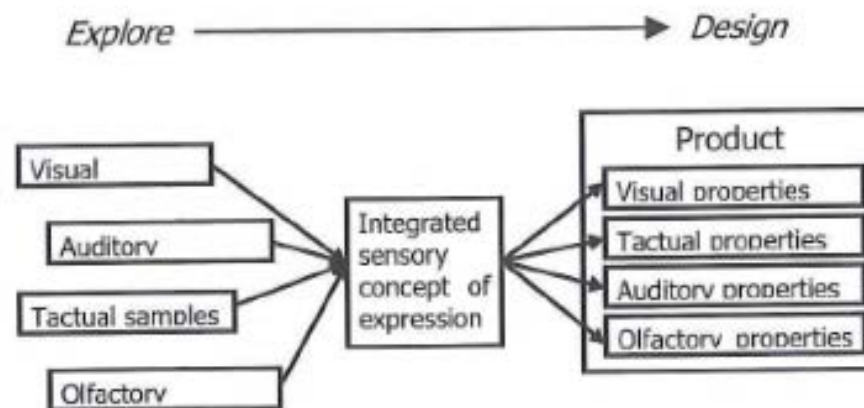


Fig. 2.2 - Multi Sensory Design Approach
Hendrik N.J. Schifferstein, 2011

Excellency, Originality and Novelty

Title Description	Concept	Difference
Pusat Terapi Gangguan Perkembangan Anak di Yogyakarta (Tri Martani, 2003)	Applying sensory integration therapy to therapy center typology.	Different building typology and users target, approach is sensory based but not multi-sensory
Nguter Jamu Factory in Sukoharjo : A Multisensory Spatial Experience (Naufal Rizqita, 2021)	a re-educational jamu factory with spaces that can induces and heightened certain senses, while enabling education and commercial means.	Different building typology and aims of approach, in this case is for jamu making process and its implementation for visitors
Mental Rehabilitation Center in West Nusa Tenggara through Salutogenic Approach (Itsnatani Humaira, 2022)	Using the principles of salutogenic architecture (comprehensibility, manageability and meaningfulness) for a mental rehibition center.	Different approach and typology
Perancangan Mental Health Center Remaja dengan Pendekatan Healing Environment Architecture di Magelang (Arya Naufal S., 2023)	A mental health center for teenager, that provides counseling and rehabilitation, with the environment adapted to heal the users.	Different approach, different user target, different project location. This project focusing on the use of color and each therapy on how they able to heal certain issues. The building typology also adapting from 3 steps of psychology, which differ from the author.

Table 2.0 - Excellency, Originality and Novelty
Author, 2024

03

**Design
Problem
Study**

SITE CONTEXT

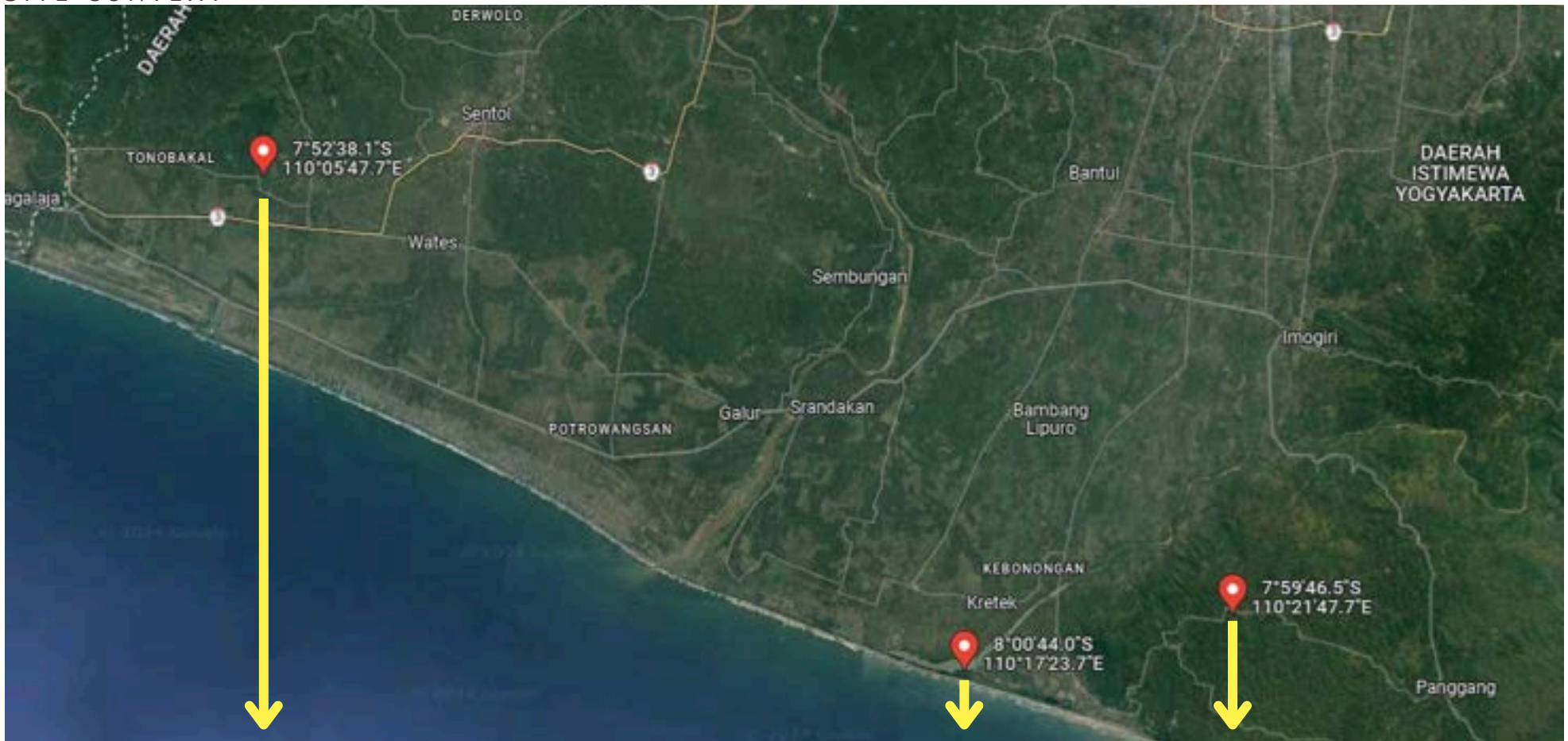


Fig. 3.0 - Part of Yogyakarta Map
Google Maps, 2024

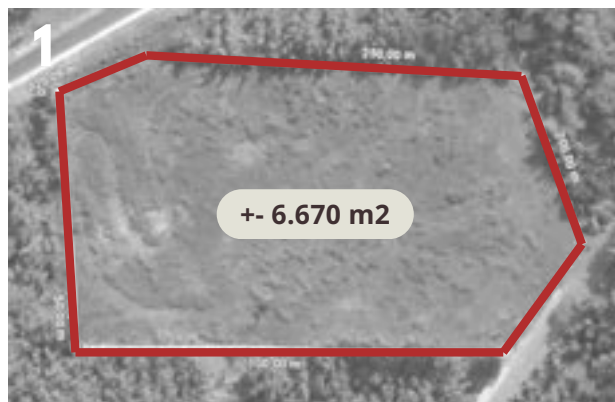


Fig. 3.1 - Site Candidate 1
Modified by Author, 2024



Fig. 3.2 - Site Candidate 2
Modified by Author, 2024

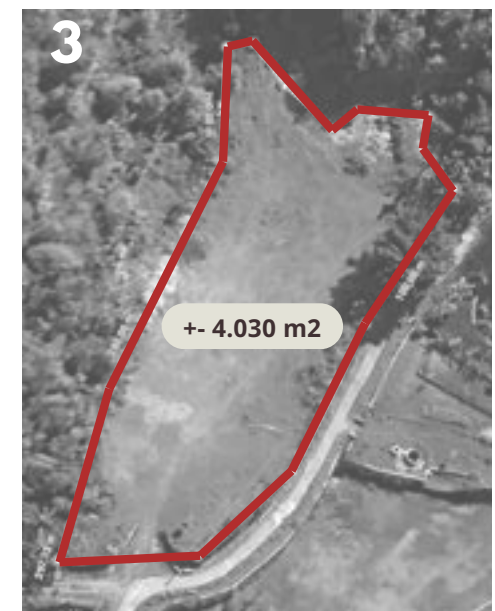


Fig. 3.3 - Site Candidate 3
Modified by Author, 2024

Kulonprogo

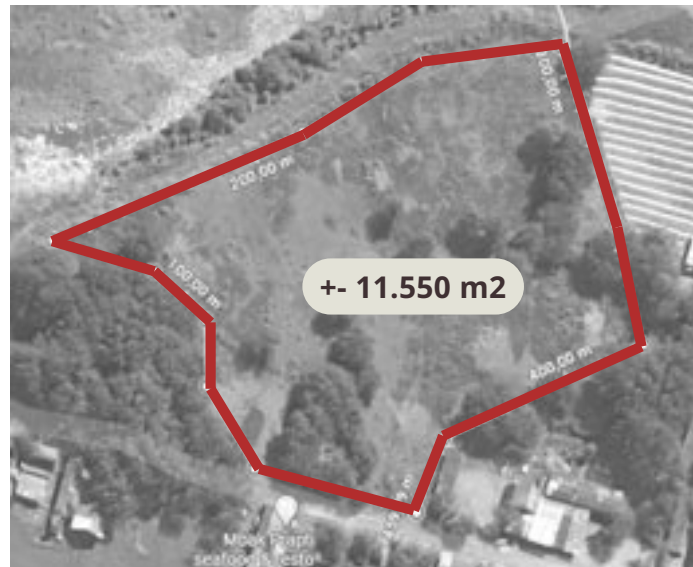
- 1 hour ride from Yogyakarta
- 5 minutes to closest hospital
- accessible by car, motorcycle
- area for residential
- surrounded by trees and plantation
- small river to the north

Bantul

- 1 hour ride from Yogyakarta
- 18 minutes to closest hospital
- accessible by car, motorcycle
- area for residential
- Pantai Depok area, near Gumuk Pasir
- overlooking estuary of Opak River

Gunung Kidul

- 1 hour ride from Yogyakarta
- 25 minutes to closest hospital
- village land
- accessible by car, motorcycle
- in front of reservoir
- surrounded by hills and forest



- 1 hour ride from Yogyakarta
- 18 minutes to closest hospital
- accessible by car, motorcycle
- area for residential
- Pantai Depok area, near Gumuk Pasir
- overlooking estuary of Opak River

CONCLUSION

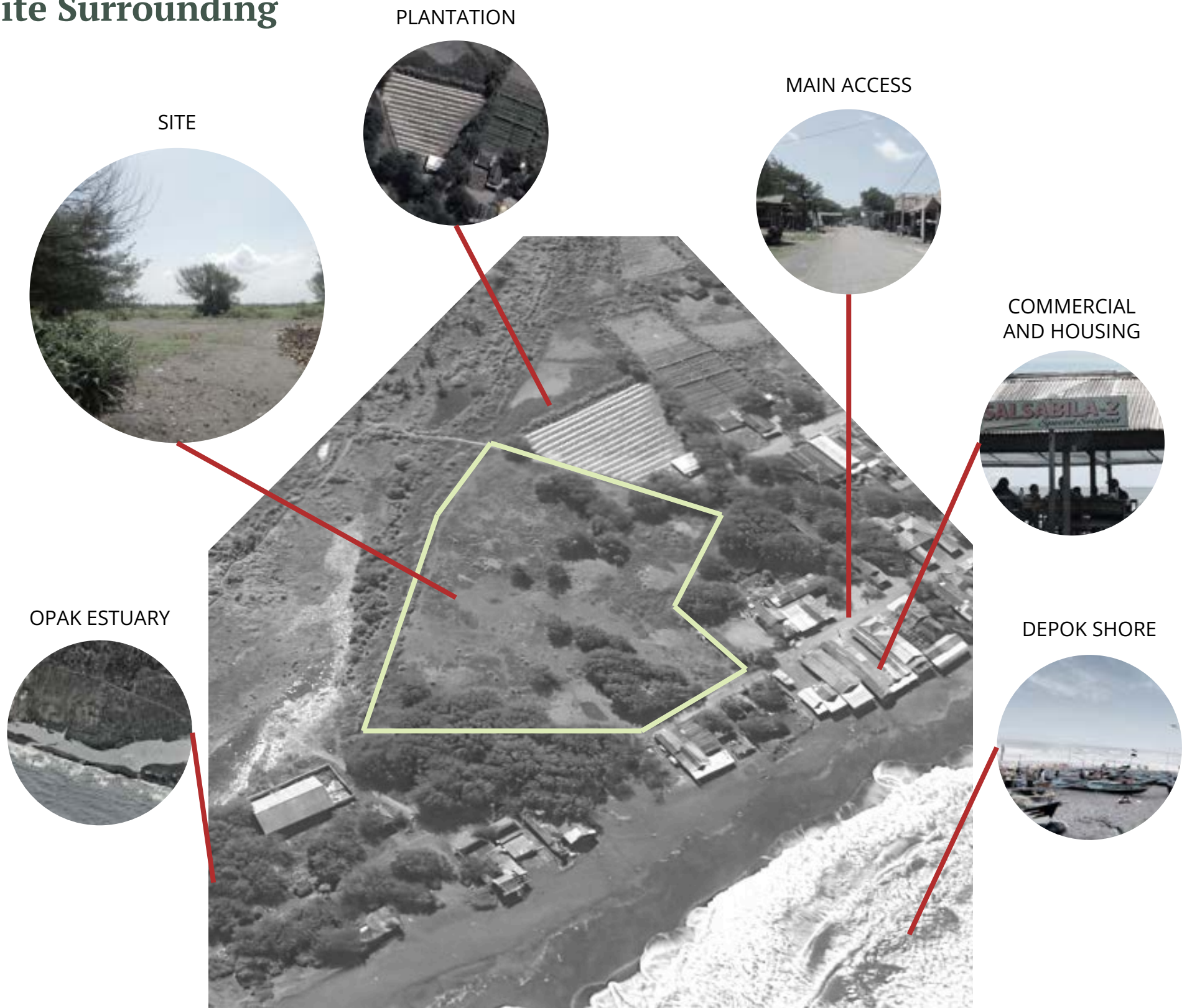
SITE 2

- Site surrounded by most **natural elements and have direct access** to it
- Main attractions from nature come from the **beach and estuary**
- **Easy vehicle access** with motorcycle or car for navigating and in case of emergencies
- **Sufficient land area** for clinic and resort compared from other sites
- Surrounded with **restaurants and/or small stores** within walking distance
- **Central of Fish Market**, able to eat fresh fish and prepared on the spot, while other sites does not have this specialties from the surrounding.
- Sites is close to **residential area or public spaces**, increasing surveillance for the user if they want to hurt themselves outside the facilities.

Fig. 3.4 - Chosen Site
Author, 2024

SITE CONTEXT

Site Surrounding



Pantai, Parangtritis, Kec. Kretek,
Kabupaten Bantul, Daerah Istimewa
Yogyakarta

+ - 11.500 m2
-8.0122190, 110.2899140

Fig. 3.5 - Site Surrounding
Author, 2024

SITE CONTEXT

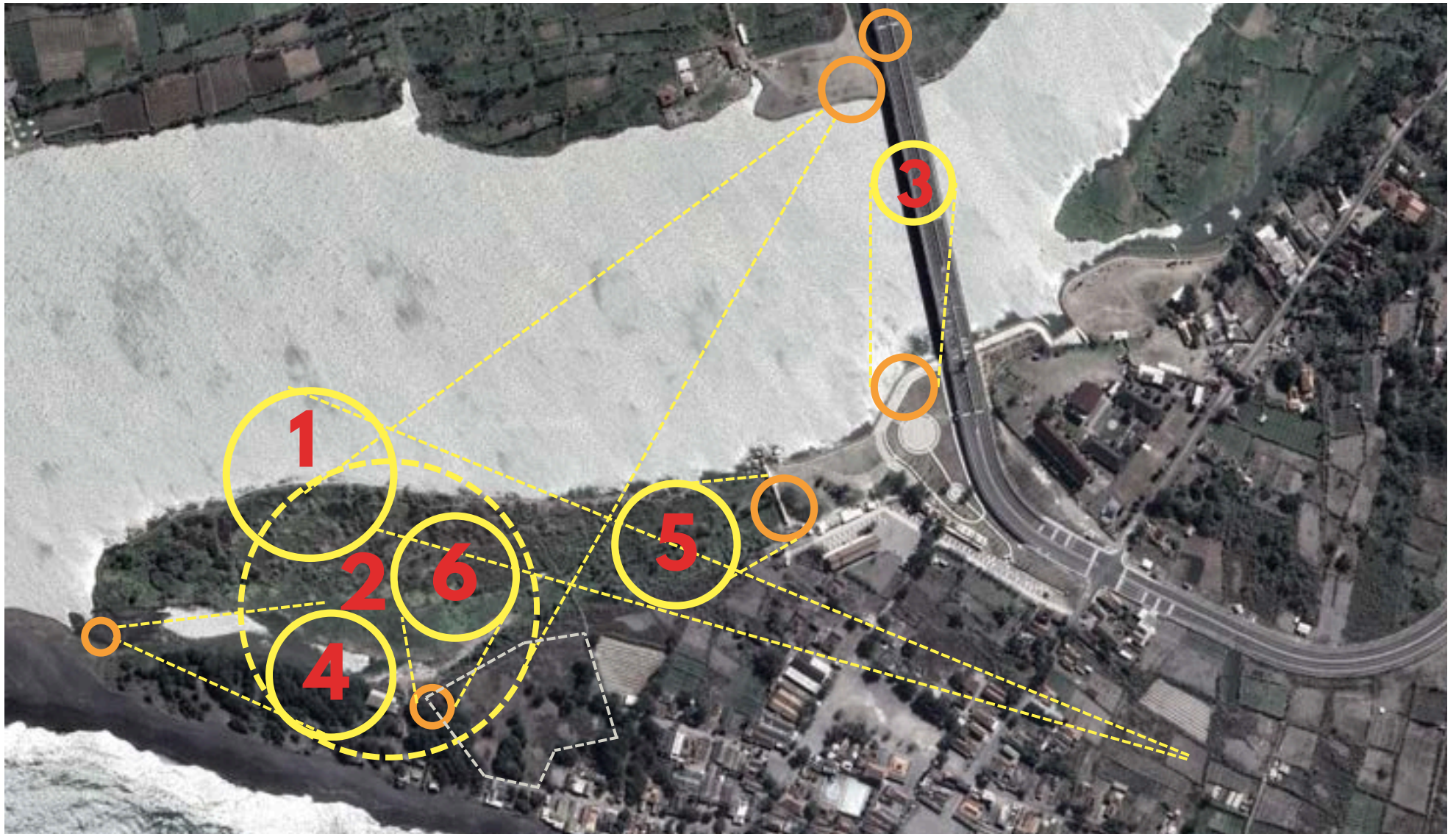
Site Surrounding



Opak River and Opak Estuary on the horizon, seen from nearby landmark



Main road connecting above Opak River



Empty green land right by the river

Fig. 3.6 - Site Surrounding
Author, 2024

Site Surrounding

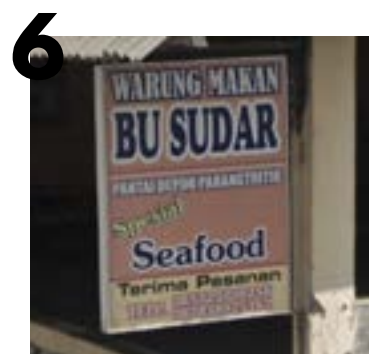
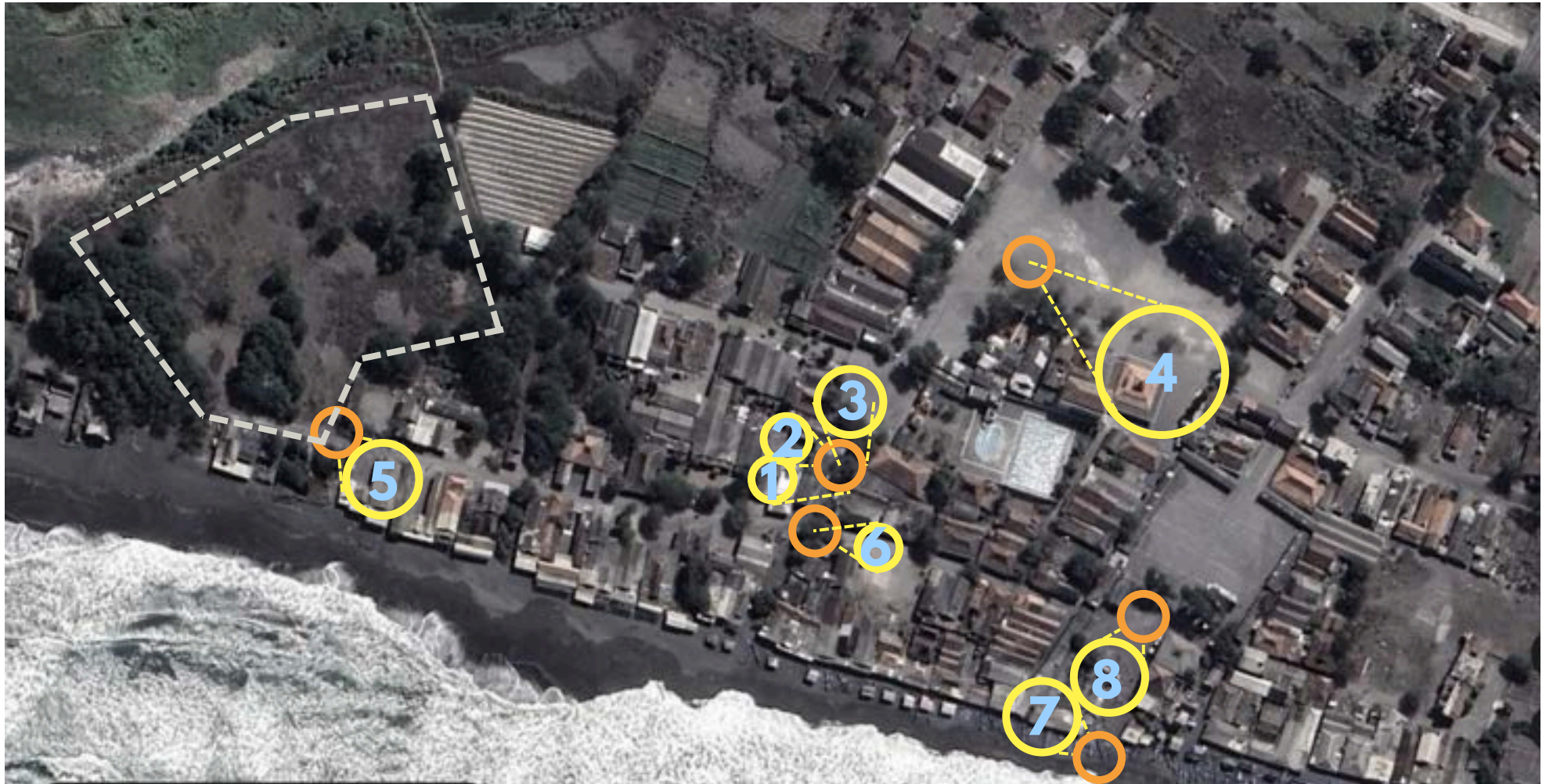


Fig. 3.7 - Site Surrounding
Author, 2024

View and Vista



Fig. 3.8 - Site View and Vista
Author, 2024

Vegetation in Pantai Depok



Katang - katang
(*Ipomoea pes-caprae*)



Cemara Udang
(*Casuarina equisetifolia*)



Kersen / Talok
(*Muntingia calabura*)



Kelapa
(*Cocos nucifera*)



Waru Laut
(*Hibiscus tiliaceus*)



Srikaya
(*Annona squamosa*)



Trembesi
(*Samanea saman*)

Fig. 3.9 - Vegetation in Pantai Depok
Google, 2024

Vegetation for Sensory Stimuli

Smell Sensory



Sereh
Mosquito Repellent



Lavender
*Mosquito Repellent
Calming smell*



Eucalyptus
*Mosquito Repellent
Calming smell*



Melati
Calming smell, traditional



Kamboja
Calming smell, traditional

Fig. 3.10 - Vegetation for Sensory Stimuli
Google, 2024

SWOT Analysis

STRENGTHS

1. Surrounded with **nature and tourism attraction**
 - a. Depok Shore
 - b. Opak Estuary
 - c. Cypress Street
 - d. Gumuk Pasir
2. Depok Beach as **Fish Market as tourism attraction**
3. Close with **main road** (Samas-Parangtritis) providing access to amenities

WEAKNESSES

1. Site is **very close to the beach and river**
2. Need to **arrange program for both clinic and resort** in one area
3. Street in between the site and the beach, **limiting direct access to the beach**

OPPORTUNITIES

1. **Direct views and access to nature** for the users
2. **Suitable space for resort and clinic** as a means of healing in nature
3. **Increasing tourism** in Depok Beach, since there are no resort built there
4. Providing **facilities for both tourists and local people**

THREATS

1. **Tsunami, Flood**
2. **Land Erosion**
3. Possibilities for the **view to be blocked by other building** in the future



Fig 3.11 - 5 Sensory in a human body

Multi-sensory therapy is an activity which takes place in a dedicated room where patients experience a range of unpatterned **visual (sight), auditory (hearing), olfactory (smell), gustatory (taste) and tactile (touch) stimuli** (Baker et al, 1997).

The **benefits** of using multi-sensory therapy which have been reported include:

- **positive changes in behaviour** (Hutchinson & Haggard, 1991; Long & Haig, 1992),
- **improved task concentration** (Ashby et al, 1995; Lindsay et al, 1997),
- increase in a variety of skills such as **awareness of self, social interaction, communication, exploration**, and manipulation of stimuli (Houghton et al, 1998),
- **relaxation** (Slevin & McClelland, 1999),
- reduction in stereotypic self-stimulatory behaviours and an increase in adaptive behaviours such as **exploratory behaviour or initiating contact with others** (Shapiro et al, 1997)

Multi-Sensory Treatment for Patients with Mental Health Issues



- Signage and wayfinding
- Visual aesthetic (colors, furniture, sculptures, artworks)
- Patterns, repeating shapes
- Windows and daylight
- Privacy glass



- Differentiates area between enclosed and open space
- Sound barriers
- Auditory distractions / acoustic materials
- Background music, wind, opening, water, and so on



- Opening for fresh air
- Calming smell from the garden
- Services area from public area
- Pleasant smell from canteen or cafe



- Materials, furniture, flooring, walls
- braille, signage
- art and sculpture
- book, magazines
- reading space
- children play area

Specific Design Consideration for people with Mental Illness

The Biopsychosocial (BPS) Model

The biopsychosocial model of wellness and medicine examines how the three aspects – biological, psychological and social – occupy roles in relative health or disease.

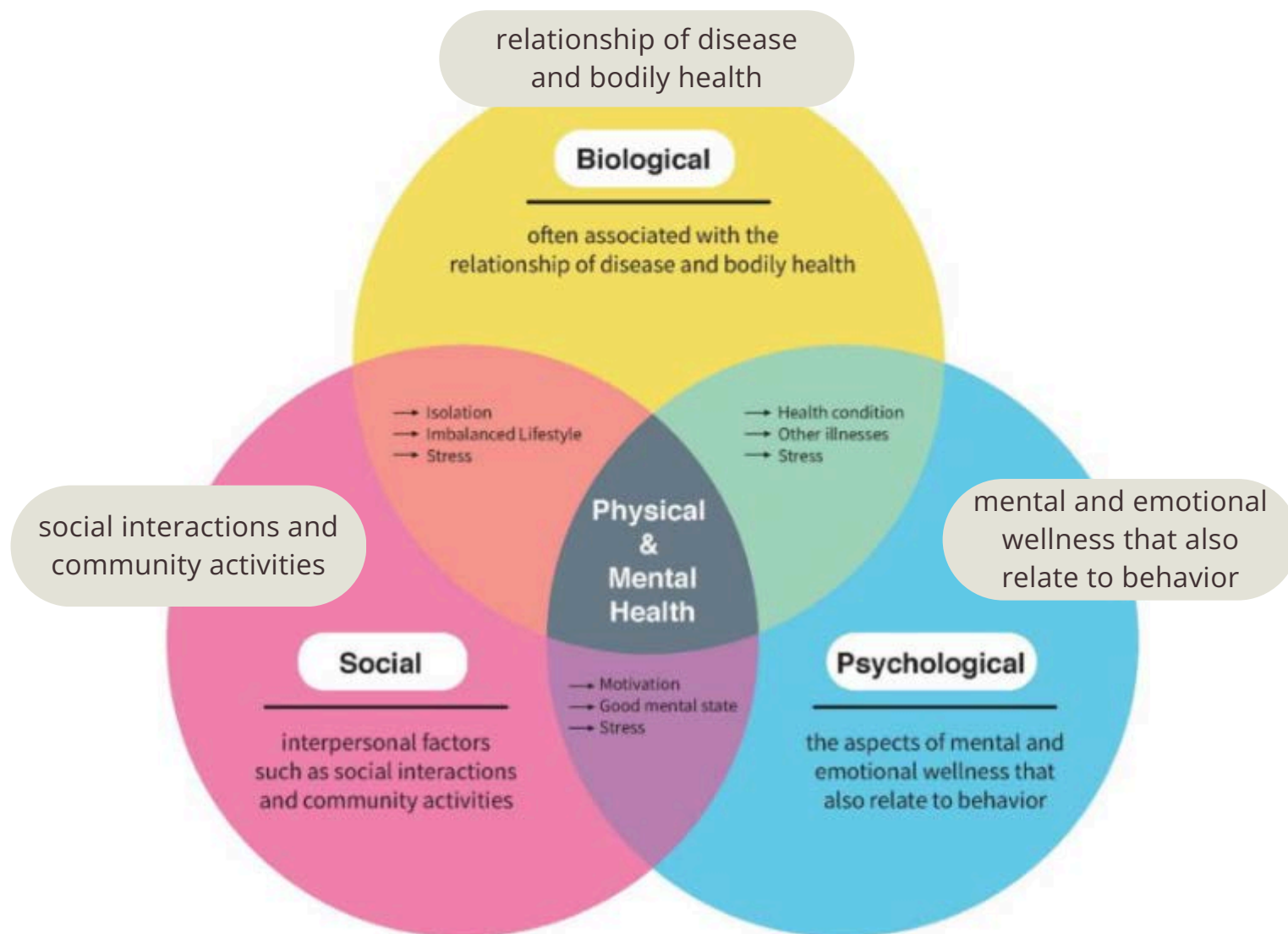


Fig. 3.12 - The Biopsychosocial Model
Washington University School in Medicine

Specific Design Consideration for people with Mental Health Issues

Anti-Ligature Design

- lower the risk of self-harm or suicide by individuals who are at risk of these behaviours
- Ligature: Anything that binds or ties (chains, linen, clothing, cords, tubing, etc.)
- Ligature point: Anything that could be used to attach or secure a ligature (shower rails, coat hooks, water pipes, curtain rails, etc.)



Contour Heating Products Ltd

Potential Ligatures & Ligature Points	Potential Risk Control
Bedsteads	Should be appropriate to the environment
Brackets, picture rails, ventilation grilles, ducts	Brackets: remove, box in or chase into wall Grilles: perforations should be a maximum of 3mm in diameter.
Coat Hook	Remove all hooks behind doors, in wardrobes, etc.
Curtain Rails	Collapsible rails and safety track
Curtain Tracking	Avoid gaps in fixed tracking
Curtain Wires	Avoid use of curtain wires
Doors (frames, handles)	Careful consideration of design
Electrical Wiring	Should be 'chased' into wall or fitted flush to wall
Exposed Pipework	Consider height and accessibility
Hinges	Consider types of hinges and gaps between doors and frames
Light Switch Cords	Should not be nylon. Consider solid pull cords or infrared automatic switches. Consider anti-ligature switch covers
Patient's lockers/wardrobes	Remove hanging rails
Radiators	Consider boxing in with appropriate covers
Wardrobes	Consider design (handles, internal hooks, door closing etc.)
Window & Window Opening	Consider handles, trickle vents, hinges
Window & Door Weatherproof Seals	Consider ligature points
Sink Taps, Plugs	Consider ligature points

*Table from [Nottinghamshire Healthcare NHS Ligature Risk Reduction Policy](#)

Table 3.0 - Potential Ligature and Risk Control
Nottinghamshire Healthcare NHS

Therapy with Multi-Sensory




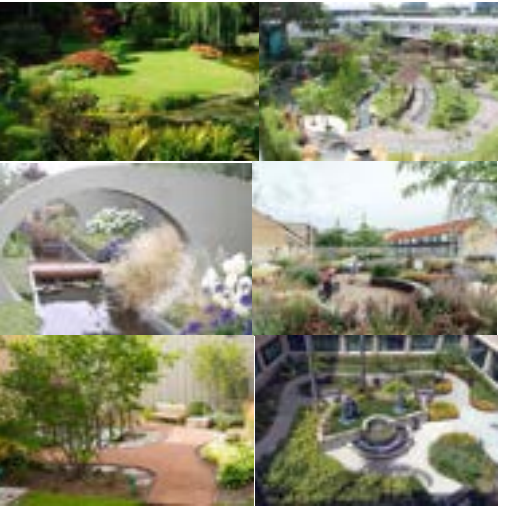
Therapy	Example	Requirements	Multi-Sensory
Therapy Rooms and Counseling / consultation room		<ul style="list-style-type: none"> • comfort and inviting, clients should be able to relax and open up • Windows and nature • Privacy in sound and visual seclusion from outside • Using natural light or soft artificial lighting with warm undertone • Minimal distraction to focus • Barrier-free design with clear layout • thermal comfort • Provided with seating and table 	<ul style="list-style-type: none"> • <u>Visual</u> - appropriate calming color • <u>Tactile</u> - different materials (wood, concrete, brick, gravel, etc.) • <u>Auditory</u> - rustling leaves, water droplets • <u>Scent</u> - flowers, room freshener
Exam Rooms		<ul style="list-style-type: none"> • bed • handwashing fixture • accommodation for written or electronic documentation • seating 	<ul style="list-style-type: none"> • <u>Visual</u> - appropriate calming, clean color • <u>Tactile</u> - combination between institutional and natural • <u>Scent</u> - soft calming scent that is not distracting with the examination
Treatment Rooms		<ul style="list-style-type: none"> • examination lighting • work counter • handwashing fixture • cabinets, medication storage • can be single or multi-bed with cubicles 	<ul style="list-style-type: none"> • <u>Visual</u> - appropriate calming, clean color • <u>Tactile</u> - combination between institutional and natural • <u>Scent</u> - soft calming scent that is not distracting with the examination
Sensory Garden		<ul style="list-style-type: none"> • Using different kinds of flowers and vegetation textures for color and texture diversity • mixed materials for pathways and seating spaces (gravels, sand, grass, etc) • sound from water, trees, birds • Plants with pleasant aromas (lavender, melati, kamboja, etc) • plants with fruits (jambu, lemon, mangga, etc) 	<ul style="list-style-type: none"> • <u>Visual</u> - different kinds of vegetation, contrast with pathways • <u>Tactile</u> - different kinds of vegetations, mixed pathways materials or seating spaces • <u>Auditory</u> - rustling leaves, water droplets, birds • <u>Scent</u> - flowers • <u>Taste</u> - provides trees with fruits (mango, apple, etc)



Table 3.1 - Therapy with Multi Sensory
Author, 2024

Activity Diagram for Patients



Fig. 3.13 - Activity Diagram Patient
Author, 2024

Activity Diagram for Staffs

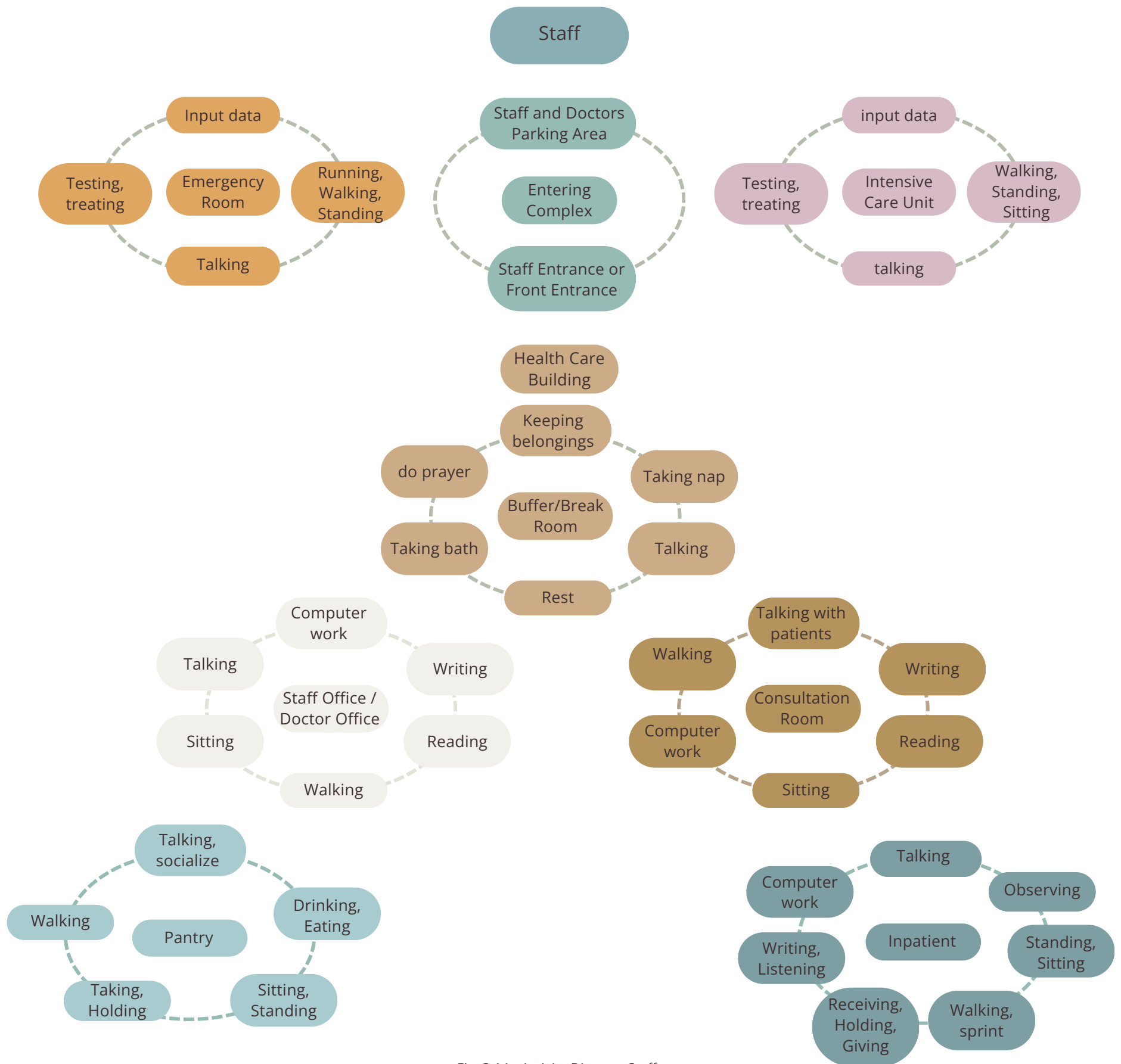


Fig. 3.14 - Activity Diagram Staffs
Author, 2024

Mental Health Care Center Typology

Mental Health Care Center Zoning and Room Needs	
Public Zones	<ul style="list-style-type: none"> • Waiting Spaces • Toilets
Staff Zones	<ul style="list-style-type: none"> • Offices • Lockers and Rest Area • Toilets and Bathroom • Offices • Administration • Managerial • Resources
Staff and Patients	<ul style="list-style-type: none"> • Consultation Room • Treatment Room • Therapy / Group Therapy • Physiotherapy • Workshops
Patients	<ul style="list-style-type: none"> • Dining Area, Canteen • Store • Hall (area to socialize) • Coffee Shop • Art, craft, pottery room • TV Lounge

According to National Library of Medicine, Health Care Center provides services by general practitioners, dentists, community nurses, pharmacists and midwives; while outpatient means someone who goes for a consultation, and leaves within three hours of the start of consultation.

According to Collins Dictionary, Mental Health Care are services to treat mental illnesses and the improvement of mental health in people with mental disorders or problems.

Ten Fundamental Components of Recovery based on VHA Handbook are:

1. Self-direction
2. Individualized and person-centered
3. Empowerment
4. Holistic
5. Achievement of full potential
6. Strength-based
7. Peer support
8. Respect
9. Responsibility
10. Hope

Source: VHA Handbook 1160.01, Uniform Mental Health Services in VA Medical Centers and Clinics, Statement on Mental Health Recovery; National Consensus (<http://mentalhealth.samhsa.gov/publications/allpubs/sma05-4129>)

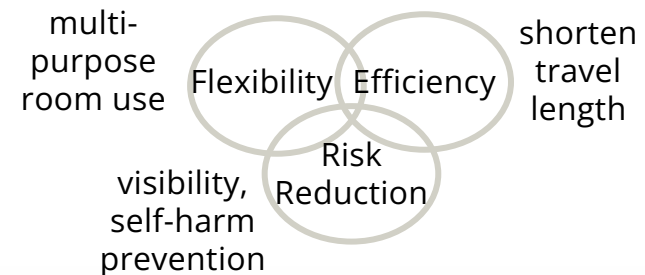


Table 3.2 - Mental Health Care Center Zoning and Room Needs
Author, 2024

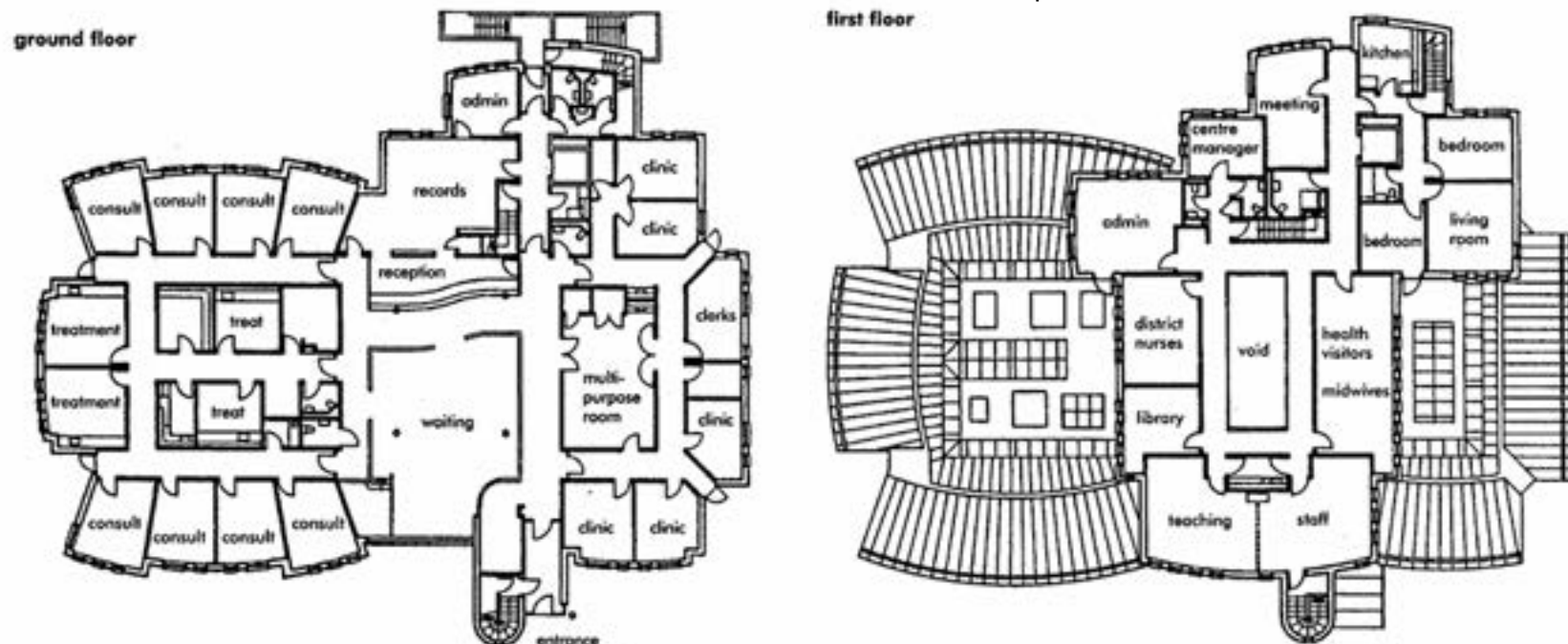


Fig. 3.15 - The Fairfield Centre (primary care), Charlton, London
Arch: Peerless & Noble Architects

Resort Typology

Customers Attributes of Hotel Choice (Kim D. et.al, 2013)		
Cognitive Attributes (Functional)	<ul style="list-style-type: none"> • Value for Money (Price) • Accessibility • Quality of Services • Facilities 	<ul style="list-style-type: none"> • Food Quality • Brand Name, Loyalty Program, Hotel Reputation • Staff's Responsiveness • Fitness Center, Swimming Pool, Parking Area
Affective Attributes (Emotional)	<ul style="list-style-type: none"> • Comfortability • Safety and Security • Experiences 	<ul style="list-style-type: none"> • Relaxed, Content, Pampered, Satisfied, Pleased, Trust • Welcome, Secure
Sensory Attributes (Sensational)	<ul style="list-style-type: none"> • Room Quality • View to Surrounding • Ambience and Uniqueness • Amenities 	<ul style="list-style-type: none"> • Visual : Lighting, Furnishing, Cleanliness, Sign, Symbol, Scenery • Smell : Ambient Scent (perfume, nature, etc) • Sound : Background Noise, Lobby Music, Nature • Touch : Comfort of bed and it's contents, temperature

Table 3.3 - Customers Attributes of Hotel Choice
Kim D. et.al, 2013

Kim D. (2011) : Consumer Choice of Hotel Experiences: The Effects of Cognitive, Affective, and Sensory Attributes

Kim D., Perdue R.R (2013) : The effects of cognitive, affective, and sensory attributes on hotel choice, International Journal of Hospitality (<https://doi.org/10.1016/j.ijhm.2013.05.012>)

According to Oxford Languages, Resort is a place that is a popular destination for vacations or recreation, whilst Hotel is an establishment providing accommodations, meals, and other services for travelers and tourists. Abdelsalam A.H (2020) further explained that most hotels are located in urban areas and used for resting, while resorts are located near natural attractions such as sea and forest and used for long-term vacation.

Kim D. et.al. (2013) explained that for a customer to choose for a hotel, it is affected by 3 aspects, namely cognitive, affective and sensory attributes. All of these attributes are complimenting each other for a customer to decides their overall experience.

Based on The Architect's Handbook (Pickard Q., 2005), a hotel must include the following:

- Guest Rooms
- Circulation and Services
- Lobby
- Lounge, Bars
- Coffee Shop, Shops
- Main & Specialty Restaurant
- Pre-function Area
- Function Rooms
- Pool
- Fitness
- Administration
- Kitchens
- Garbage areas
- Housekeeping, Laundry
- Engineer, Control
- Lockers, Canteen

typical provisions	500 room ★★★ city-centre hotel	200 room ★★ suburban hotel
guest rooms and suites	32	25
circulation, services, etc.	12	7.5
total residential areas	44.0 71.0%	32.5 72.2%
lobby with lounge area	1.0	1.0
shops	0.2 1.9%	0.1 2.4%
coffee shop	0.8	0.8
main restaurant	0.7	
speciality restaurant	0.4	0.7
lounges, bars	1.1	0.8
circulation, cloaks etc.	0.6 5.8%	0.6 6.7%
pre-function area, foyer	0.5	
ballroom/banquet hall	1.5	
conference/function rooms*	1.2 6.3%	1.3 2.9%
leisure pool areas*	0.6	
club facilities/fitness room*	0.6 1.9%	0.4 0.9%
front office, administration*	1.6 2.6%	1.4 3.1%
main and satellite kitchens	1.1	0.8
stores, circulation, etc.*	0.5	0.2
receiving/garbage areas*	0.3	0.3
general stores*	0.4	0.4
housekeeping, laundry*	1.2	1.4
engineer, stores, equipment*	1.8	1.3
employee/control/personnel*	0.2	0.1
changing, lockers, canteen*	1.0 10.5%	0.8 11.8%
total built area	62.0 100%	45.0 100%
* gross areas, including circulation and ancillary areas		

Table 3.4 - Typical provision for hotel
Pickard, Q. (2005), the architect's handbook

Sensory Experience

Peter Zumthor always incorporates sensory experience in his works, and he incorporates it through these :

- Embracing sensory experiences (visual, tactile, auditory, gustatory, olfactory)
- Material Selection
- Craftsmanship
- Harmony with the Environment
- Space Narrative
- Simplicity and Minimalism

<https://bhys.medium.com>

In order to create a healing, rehabilitative, calm environment in the resort and mental health care, nature becomes an important part, as well as the feeling of freedom and not constrained.

DIMENSIONS OF SENSORY EXPERIENCE

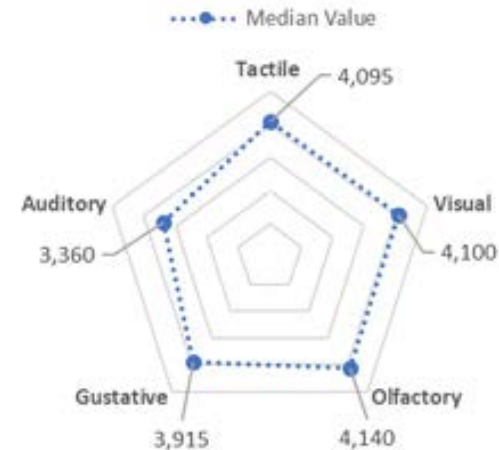


Fig. 3.16 - Impact of Sensory Experience on Budget Hotel Room
Wirakusuma R.M., et.al (2021)

Sensory Experience for Healing		
Resort	Visual	<ul style="list-style-type: none"> • view to nature, while still be able to go out directly • positioned opening not only for air circulation but framing what the users will focusing on seeing and not distracted by others • Material incorporates warm and natural colors to better connect with nature
	Tactile	<ul style="list-style-type: none"> • usage of natural stones in the bathroom • barefoot in the grass
	Auditory	<ul style="list-style-type: none"> • the sound of the wave crashing to the beach, water incorporates calming attributes • using a sound proof materials for in between the outside and interior to minimize unwanted neighboring sounds
Mental Health Care	Visual	<ul style="list-style-type: none"> • direct view to garden and surrounding trees, while also able to directly interact, provides grounding for the patients • usage of warm colors on the building to differentiate from corporate feeling (cold, concrete, etc)
	Tactile	<ul style="list-style-type: none"> • sensory garden area, where people can go barefoot, touch vegetations, planting, walking on water or stones, can be applied individually or in group depends on the therapy
	Auditory	<ul style="list-style-type: none"> • the sound of nearby beach, incorporates water fountains, to add calmness and more grounding for the patients.

Table 3.5 - Sensory Experience for Healing
Author, 2024

Maggie's Leeds Centre

Typology Precedent

HEALTHCARE CENTER
•HAREHILLS, UNITED KINGDOM
Architects: Heatherwick Studio
Area: 462 m²
Year: 2020

Problem : How to make a healthcare that able to make people feel better?

- Solution :
- Creating a comfortable thermal with using timber and porous materials (lime plaster) to maintain humidity
 - Natural ventilation through building's form and orientation on site
 - Encourage visitor's participation in the greenery care
 - Natural materials, soft and warm lighting, spaces for social interaction and individual needs, tactile materials

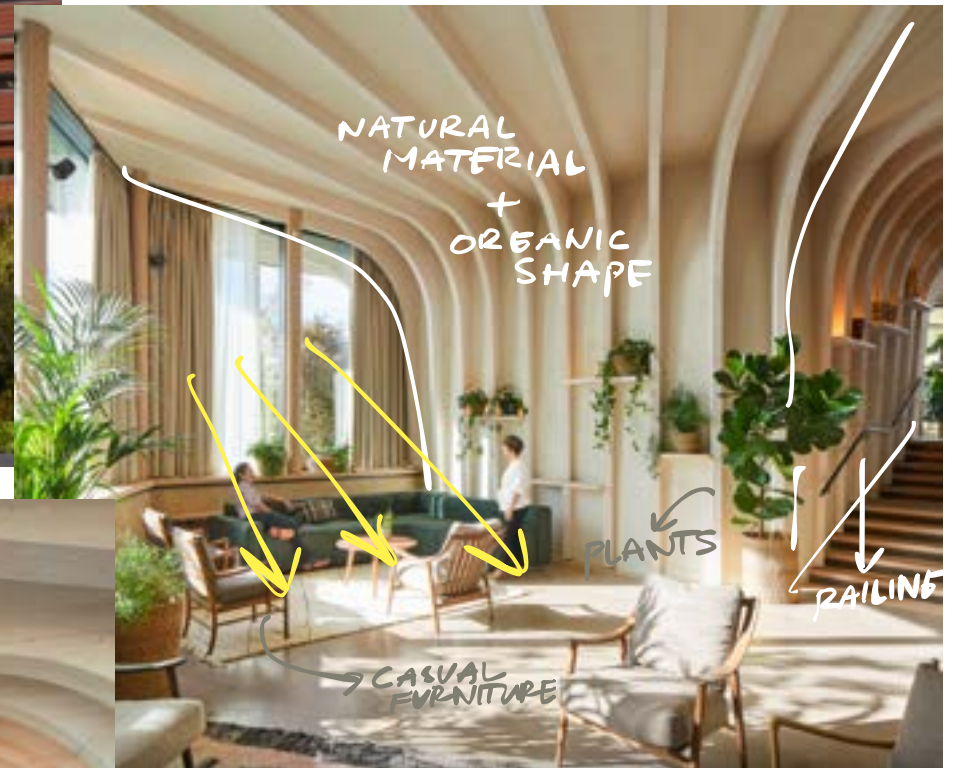


Fig. 3.17 - Maggie's Leeds Centre
Archdaily, 2024; Modified by Author

1
Integrate Nature

2
Thermal Comfort

3
Natural Materials

4
Users Participation

5
Tactile (wood texture, brick floor)
Visual (warm color, daylight, greenery)
Smell (plants)

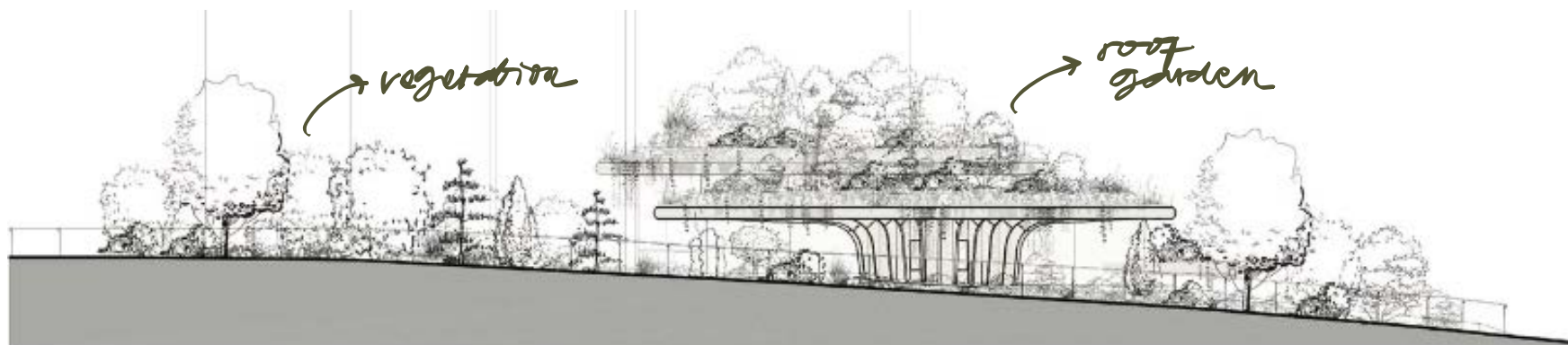
Maggie's Leeds Centre

Typolo

HEALTHCARE CENTER
•HAREHILLS, UNITED KINGDOM
Architects: Heatherwick Studio
Area: 462 m²
Year: 2020



Fig. 3.18 - Maggie's Leeds Centre
Archdaily, 2024; Modified by Author



PAMS Healthcare Hub, Newman

Typology Precedent

Problem : How to make a primary health care facility that gave wellness to the community?

- Solution :
- Rammed earth creates connection to the place, sustainable, tactile, absorbs rain.
 - Blending the building with the nature with minimum barrier
 - Central open space for air circulation and daylight
 - use of natural materials to differentiate with institutional feel

HEALTHCARE CENTER

•NEWMAN, AUSTRALIA

Architects: Kaunitz Yeung Architecture

Area: 970 m²

Year: 2020

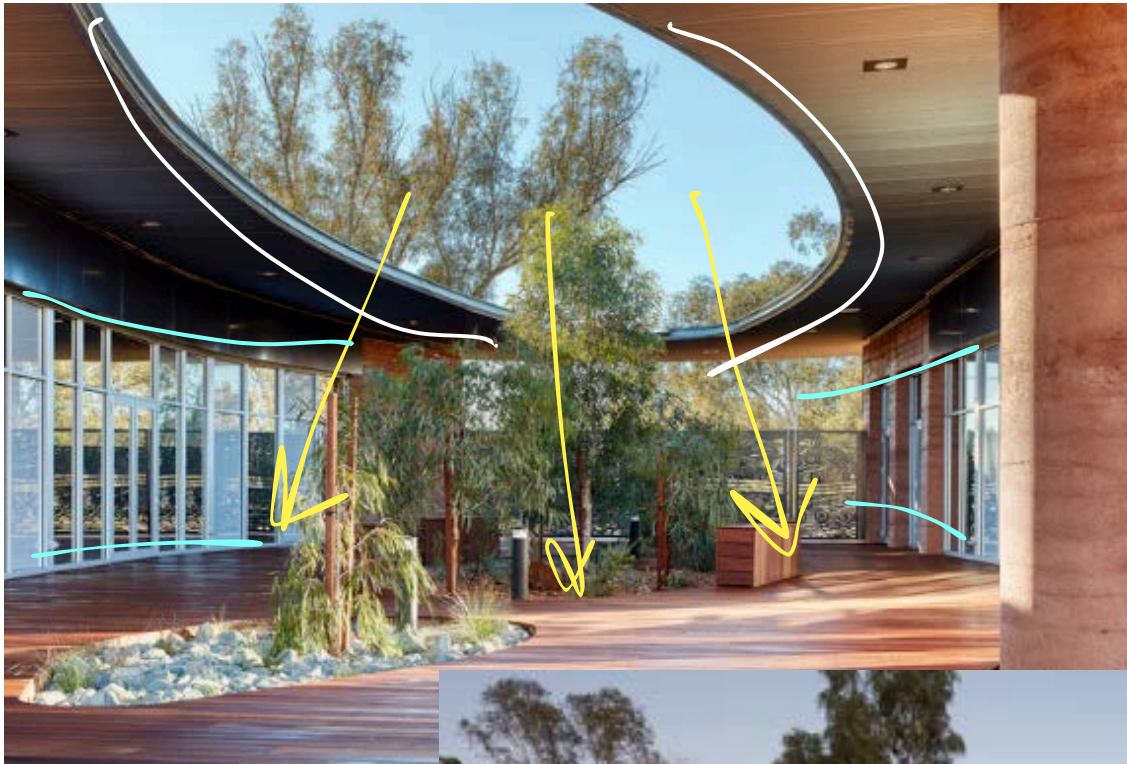


Fig. 3.19 - PAMS Healthcare Hub
Archdaily, 2024; Modified by Author

1
Using
existing
materials

2
Blend with
nature

3
Warm color

4
Tactile (wood texture,
brick floor)
Visual (warm color,
daylight, greenery)
Smell (plants)

PAMS Healthcare Hub, Newman

Typology Precedent

HEALTHCARE CENTER
•NEWMAN, AUSTRALIA
Architects: Kaunitz Yeung Architecture
Area: 970 m²
Year: 2020

1. COURTYARD
2. WAITING AREA
3. MEDICATION ROOM
4. RECEPTION
5. CLINIC MANAGER OFFICE
6. W.C
7. CORRIDOR
8. HEARING BOOTH
9. DIRTY UTILITY
10. ADMIN
11. CLEAN UTILITY
12. CONSULT ROOM
13. CLINICAL STORE
14. TREATMENT ROOM
15. DENTAL TREATMENT
16. DENTAL UTILITY ROOM
17. COUNSELLING ROOM
18. OFFICE
19. MEETING ROOM
20. STAFF ROOM
21. STORE
- RENAL READY ROOM



Fig. 3.20 - PAMS Healthcare Hub
Archdaily, 2024; Modified by Author

Ballarat Community Primary Care Centre

HEALTHCARE CENTER
LUCAS, AUSTRALIA
Architects: DesignInc
Area: 2850 m²
Year: 2014

Typology Precedent

Problem : How to make a healthcare design that is healthy, sustainable, and stimulates community interaction

- Solution :
- continuous corridor for air circulation, skylight for natural lighting, incorporate contact with nature
 - using local materials (brick, recycled timber, etc) and warm undertone to differentiate with clinical feel
 - creating a pedestrian walkways inside a building, creating communal space



Fig. 3.21 - Ballarat Community Primary Care Centre
Archdaily, 2024; Modified by Author

1
Integrate
Nature

2
Warm
Color

3
Continuous
Corridor

4
Natural
Lighting
from Roof

5
Tactile (wood texture,
brick floor)
Visual (warm color,
daylight, greenery)
Smell (plants)

6
Communal
Corridor

Ballarat Community Primary Care Centre

Typology Precedent

HEALTHCARE CENTER
LUCAS, AUSTRALIA
Architects: DesignInc
Area: 2850 m²
Year: 2014



Ground Floor

Fig. 3.22 - Ballarat Community Primary Care Centre
Archdaily, 2024; Modified by Author

DESIGN TYPOLOGY & PRECEDENT ESSAY

Tara Villa - IDIN Architects - Thailand

5.900 m²

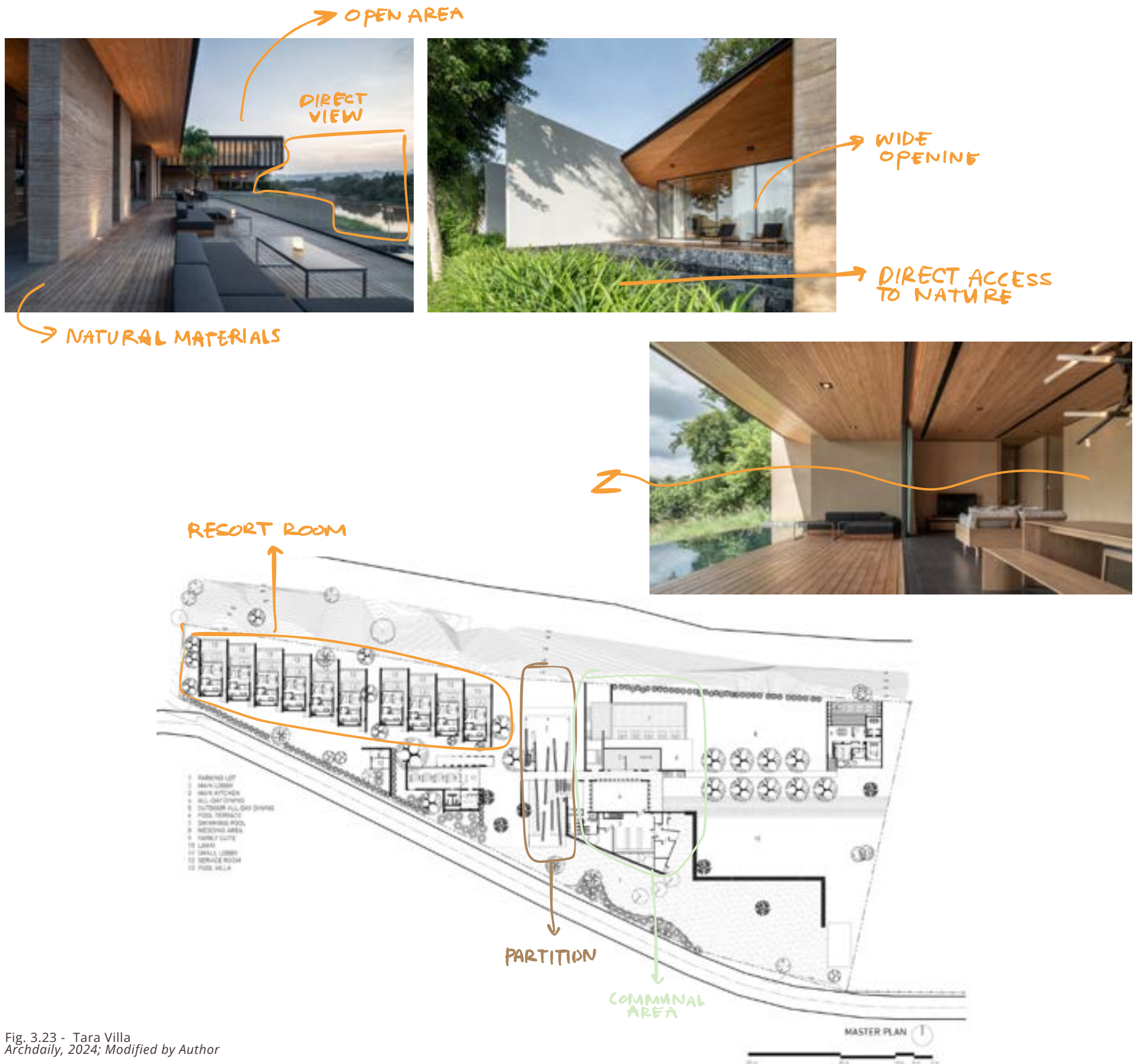


Fig. 3.23 - Tara Villa
Archdaily, 2024; Modified by Author

Cala Blanca Bali House - Biombo Architects - Indonesia

280 m2



NATURAL MATERIALS

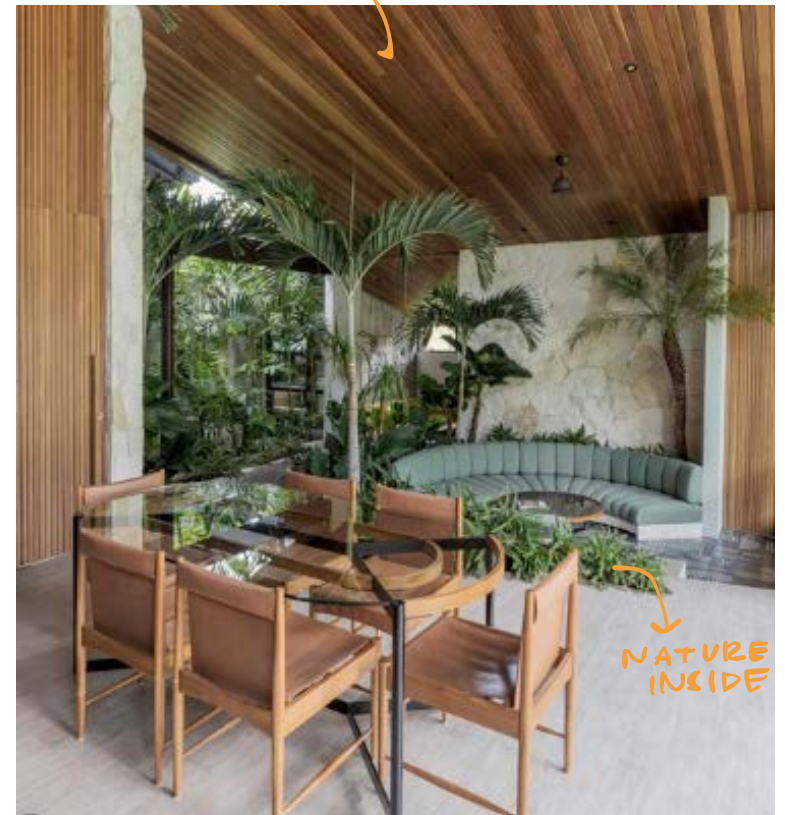


Fig. 3.24 - Cala Blanca Bali House
Archdaily, 2024; Modified by Author

Pistohiekka Resort / Studio Puisto

Area : 715 m²

Location : Puumala, Finland



- Contrast between dark materials of the building, to shift the focus to the view and the surrounding
- Centralized arrangement, focusing the view
- Direct access to nature
- incorporating nature through materials and opening

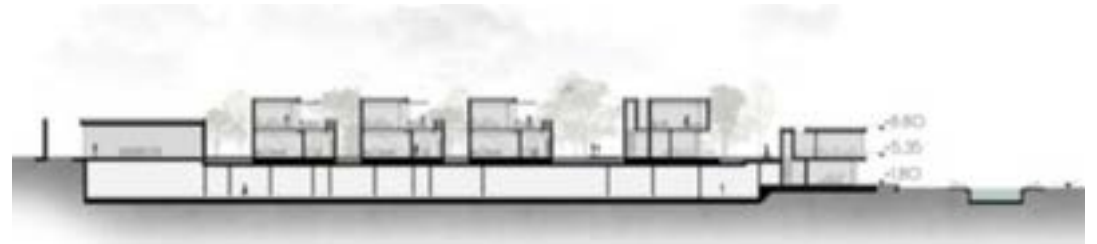
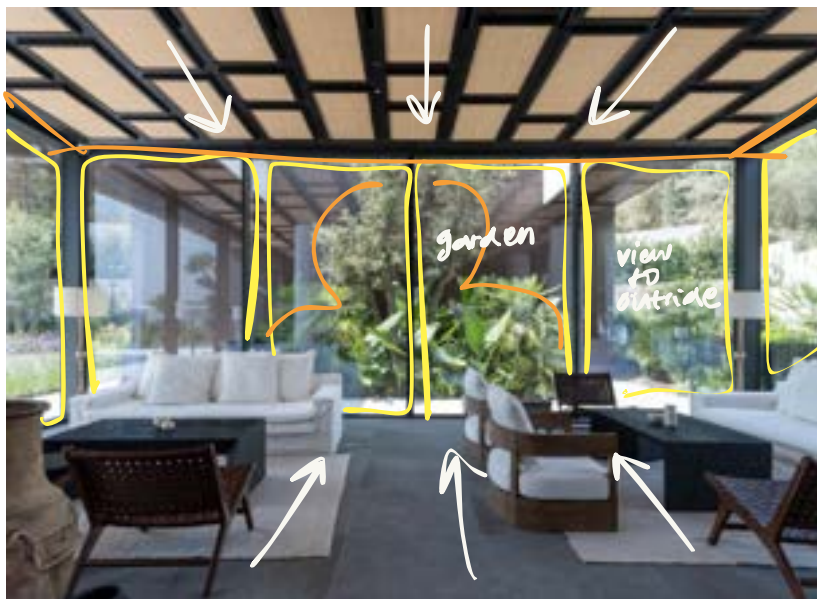
Fig. 3.25 - Pistohiekka Resort
Archdaily, 2024; Modified by Author

DESIGN TYPOLOGY & PRECEDENT ESSAY

CAJA Resort / GEOMIM + GEO_ID

Area : 1070 m2

Location : Bodrum, Turkey



- Reception
- Restaurant
- Service entrance
- Carpark entrance
- Fitness
- Spa
- Technical Room
- Offices
- Staff area
- Carpark
- Entrance
- Living room
- Kitchen
- Bathroom
- Master Bedroom
- Bathroom
- GF Terrace
- First floor terrace
- Laundry room
- Hall

- Differentiate between services area (lounge, pool, beach, resto, fitness, spa) and accommodation (rooms) so it became a more private zone
- Underground plinth for services (technical room, staff rooms, service connections)
- taking neutral color for the building, differentiating with the lush green garden and surrounding hill area

Fig. 3.26 - CAJA Resort
Archdaily, 2024; Modified by Author

The Oreum Restaurant

Sensory Precedent - Visual, Olfactory, Tactile

RESTAURANT, GOYANG-SI, SOUTH KOREA

Architects: Dajoo Architect

Area: 2629 m²

Year: 2023

Problem : How to create an atmosphere integrated with nature to make the users experiences diverse emotions and comfort

- Solution :
- 1st floor = imitating the feel of being in a field of reeds, wall and furniture are matched in color (warm)
 - 2nd floor - imitating the feel of being in a cave, with sound of water droplets falling and using path on gravels, dark color (cool)
 - 3rd floor - white space as if the users in a mountain, with clouds and mist. Sounds emitting from the ceiling pearls like a rustling sounds



Fig. 3.27 - The Oreum Restaurant
Archdaily, 2024; Modified by Author

ATG Kindergarten and Nursery

Sensory Precedent - Visual, Olfactory, Tactile

KINDERGARTEN, DAY CARE

• TOKAMACHI, JAPAN

Architects: HIBINOSEKKEI, Kids Design Labo, Youji no Shiro

Area: 924 m²

Year: 2021

Problem: How to integrate traditional event "Honyara-do" to a space (where everyone gathers, eat, play, enjoy, learn, regardless of the season)

Solution:

- grass slides to use in the summer and become a sledding when snow falls
- a different kind of play area with different texture, nature (water, sand, timber, and so on)



Fig. 3.28 - ATG Kindergarten and Nursery
Archdaily, 2024; Modified by Author

Stilt House Precedents

Temporary Dormitories / a.gor.a Architects

Thailand / 72 m² / 2012 / dormitories for refugees and immigrants

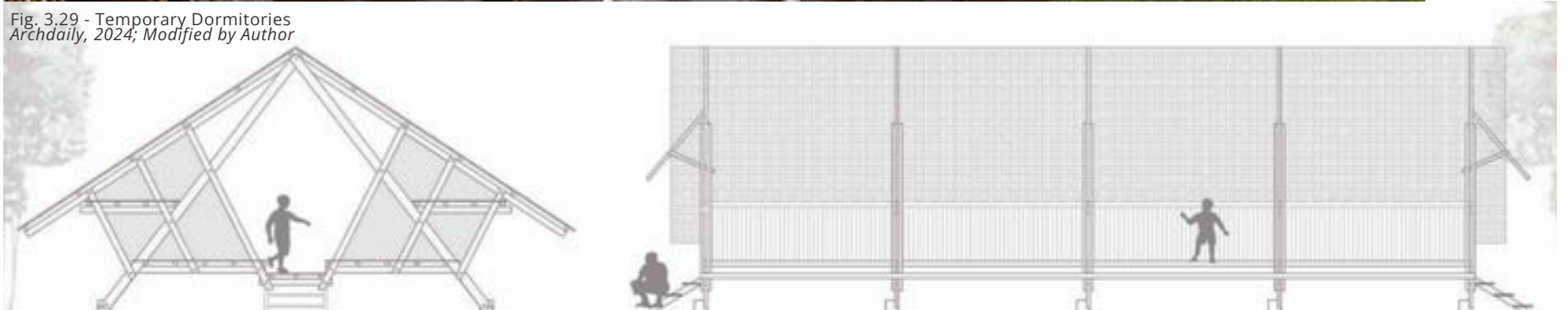


recycled timber

bamboo and thatch



Fig. 3.29 - Temporary Dormitories
Archdaily, 2024; Modified by Author



Stilt House Precedents

Temporary Classroom / a.gor.a Architects

Thailand / 70 m² / 2015 / learning space for immigrants

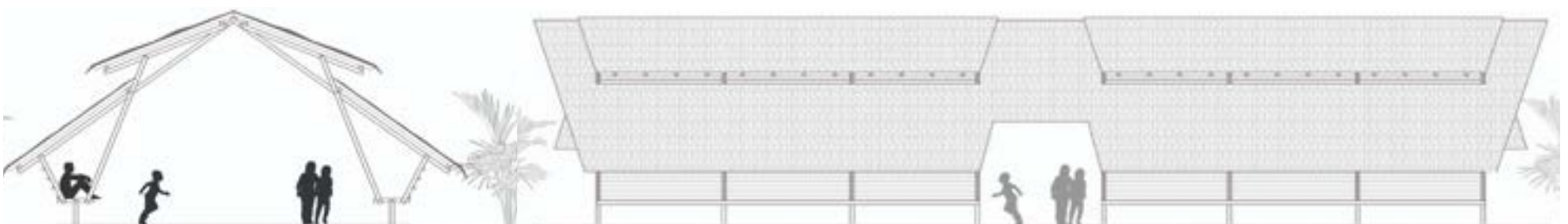


Fig. 3.30 - Temporary Classroom
Archdaily, 2024; Modified by Author

eucalyptus

thatch

steel



Stilt House Precedents

The Waterfall that Went Silent Installation / Umeå School of Architecture

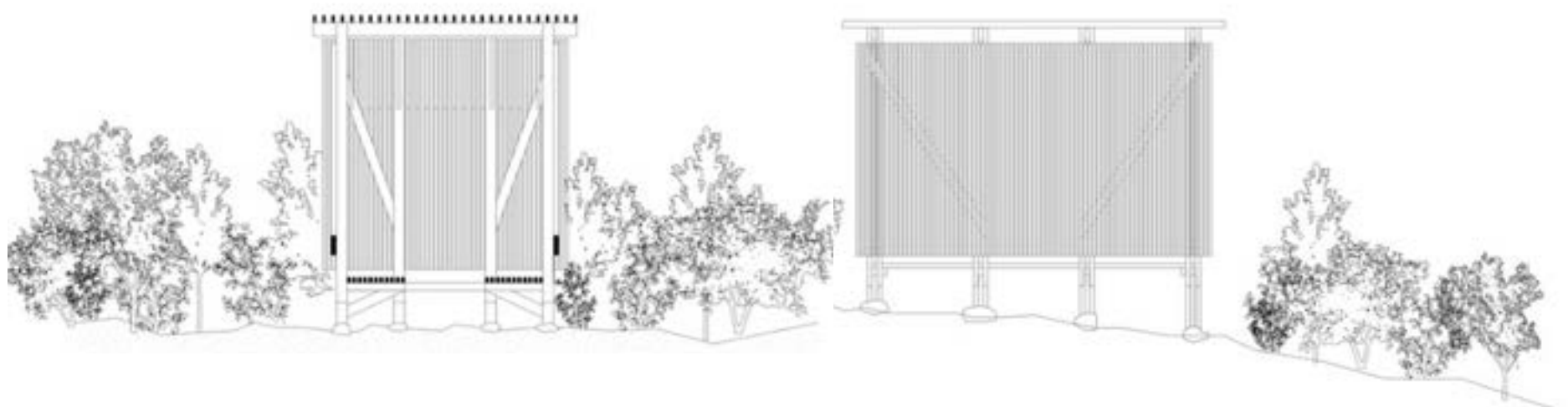
Sweden / 10 m2 / 2023 / sound installation for reflection



timber

stones

Fig. 3.31 - The Waterfall that Went Silent
Archdaily, 2024; Modified by Author



Healing Garden and Memorial of the Maritime Sanatorium of Viña del Mar

Sensory Precedent - Visual, Olfactory, Tactile

HEALING GARDEN AND MEMORIAL
VALPARAISO, CHILE
Fundacion Cosmos
Year: 2019
Area: 1.300 m2

Problem : How to create a therapeutic garden as a healing space, and as a memorial area

- Solution :
- pomegranate and lavender plants for hands-on exploration (optimal sensory treatments for patients)
 - space for workshops and horticultural therapy (sewing and harvesting plants)
 - emotional healing area, with verbena, pepper trees, soapbark; separating from the main garden
 - birdhouse to attract birds, enhancing the garden experience



Fig. 3.32 - Healing Garden and Memorial
Archdaily, 2024

Building Structure

❌ Sunken



✅ House on stilts



Fig. 3.33 - Tsunami Resistant Building
Andhita Pradipta, 2022

- forces related to water pressure, buoyancy, water flow and wave height, debris impact, scouring and fire

- constructed concrete, masonry and heavy steel frame buildings

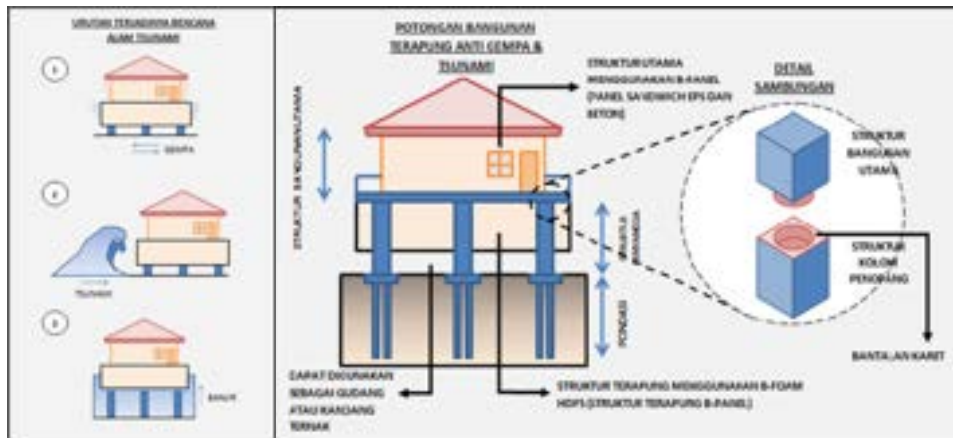
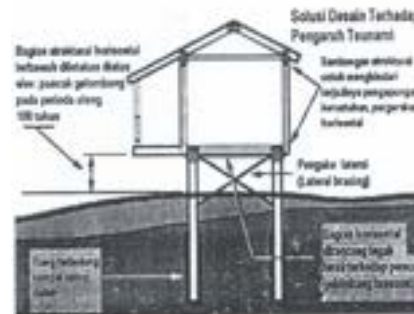
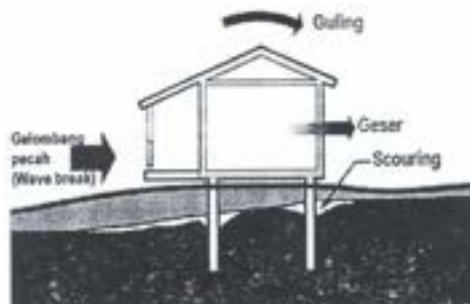


Fig. 3.34 - Floating House B-panel, accessed 2024

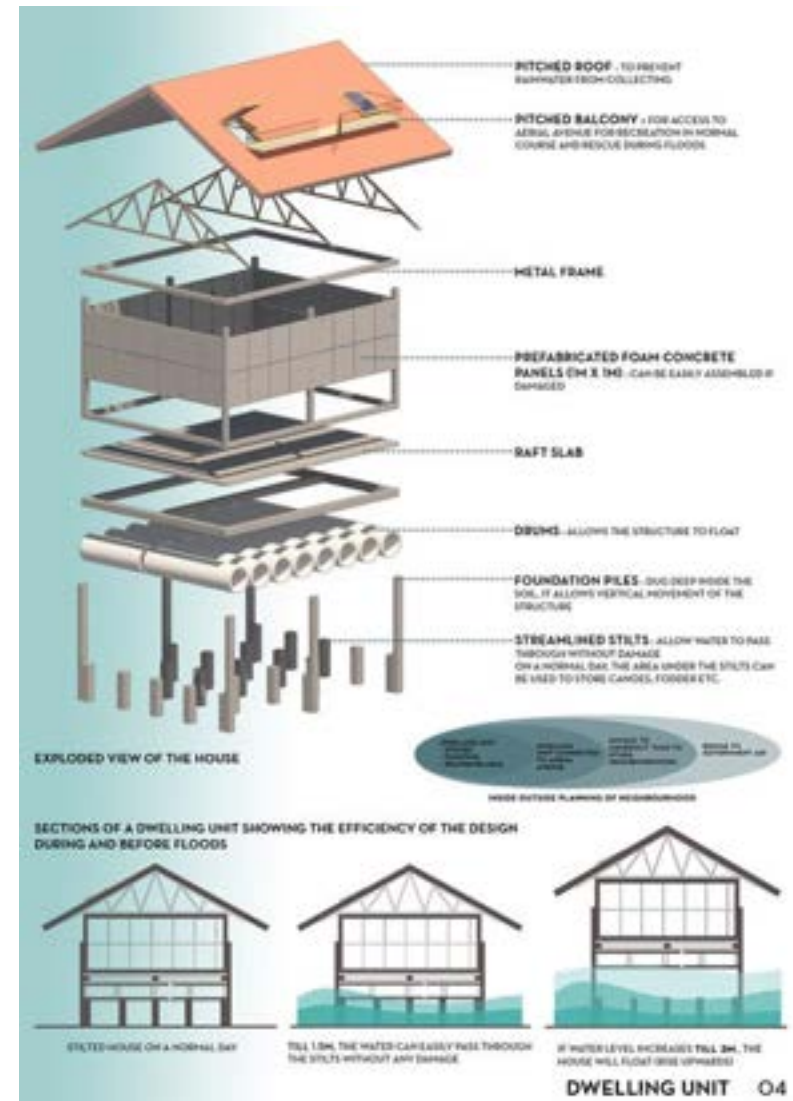


Fig. 3.35 - Floating Dwelling Unit
uni.xyz, accessed 2024

<https://andhitapradipta.github.io/ternate-tsunami/tsunami-resistant-building-design-manual.html#dm-foundation>
<http://www.b-panel.com/stage-floating-house-earthquake-tsunami/?lang=id>
<https://uni.xyz/projects/symbiosis-desc-the-design-proposes-self->

Landscape with elevated structure references



Fig. 3.36 - Landscape with Elevated Structure
behance.net, accessed 2024



rendering of the Ohana mental health facility in Monterey, Calif., that is being constructed with cross-laminated timber in modules that can be assembled off site.
BBJ



04

**Design
Explorations**

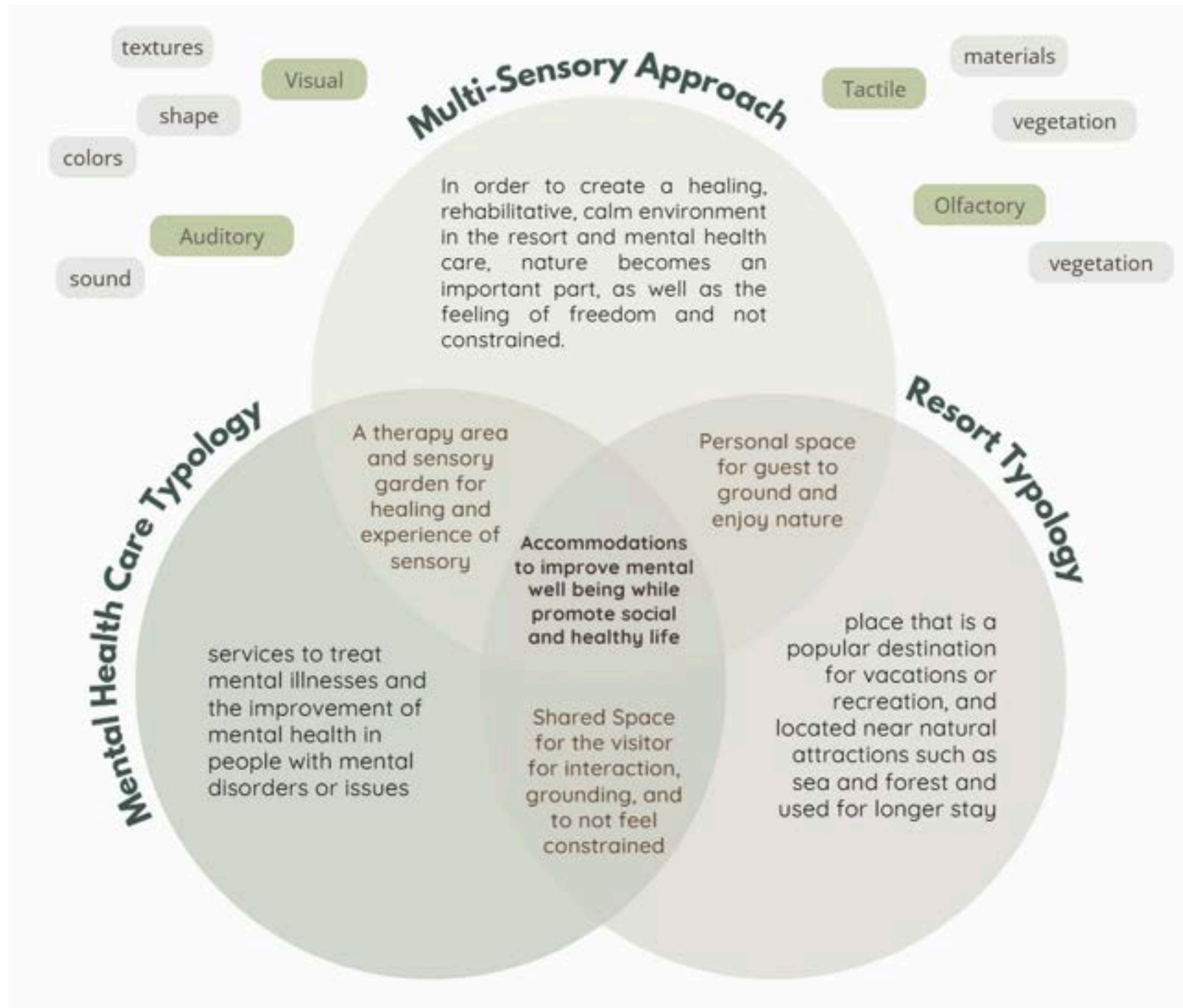


Fig. 4.0 - Project Correlation Diagram
Author, 2024

Early Area Concepting

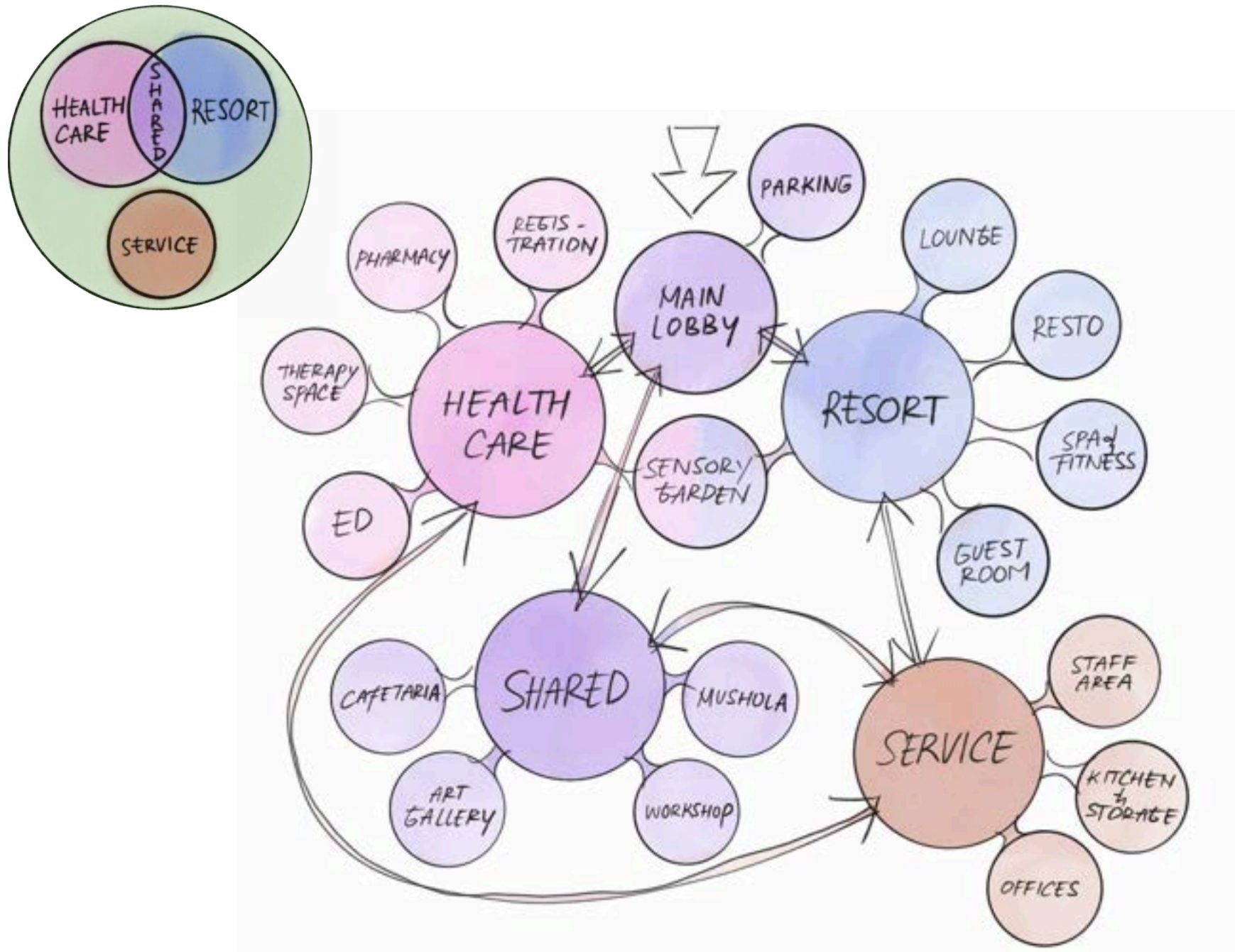


Fig. 4.1 - Early Area concepting
Author, 2024

EARLY CONCEPT SKETCHES

Building Massing

The massing of the facilities are following the previous mentioned concept about balance from Yin and Yang, and also the flow of water. It is now then combined with Panta Depok characteristics as a fishing beach for fishermen.

Lobby Area Massing

The design for the main lobby and respective lobby (Mental Health Clinic, Shared Space, and Resort) is combining between the flow of water and the basic shape of a fishing boat.

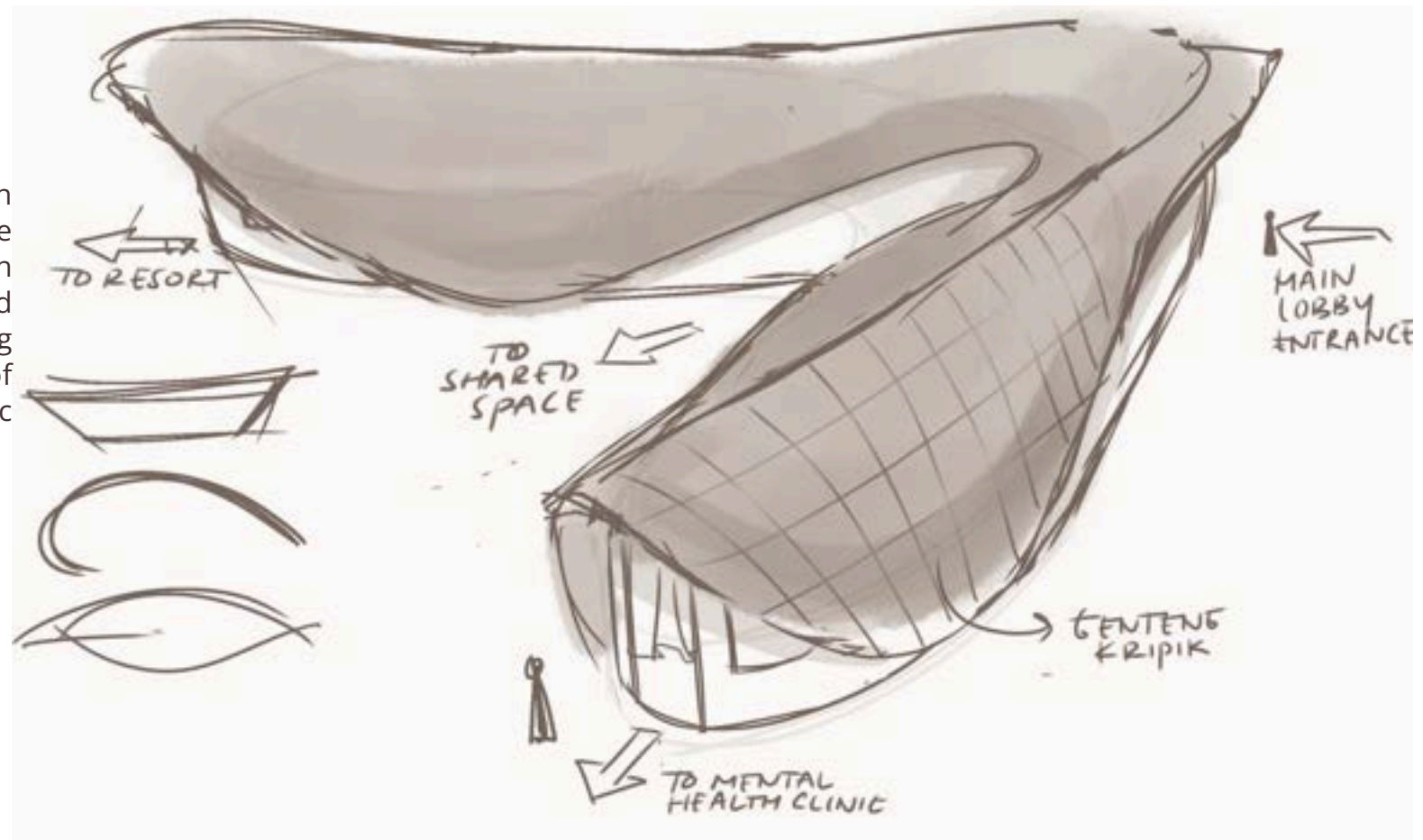
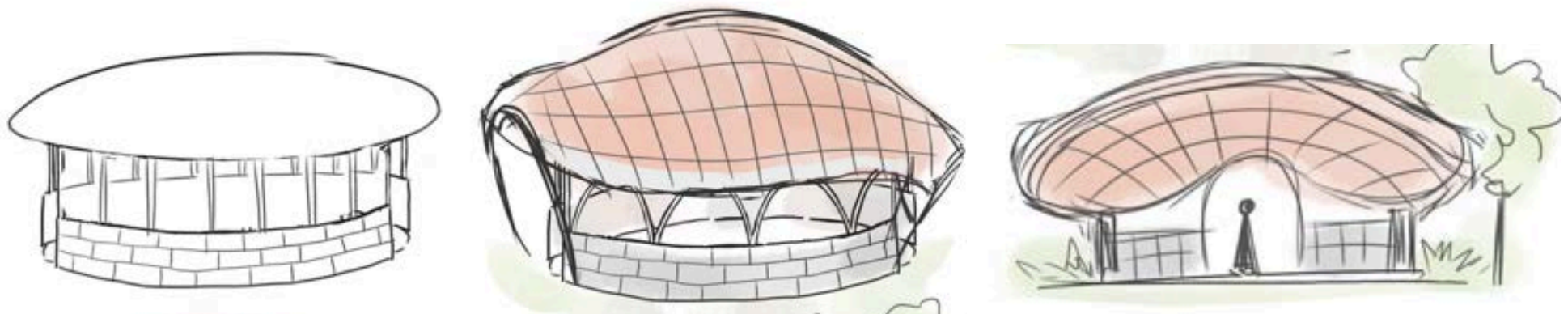


Fig. 4.2 - Lobby Area Massing Sketch
Author, 2024

Exercise Therapy Space Massing



The initial concept was taken from the zoning shape, but the straight column that repeated along the wall looks like prison bars.

The opening shape is changed to a simplified wave, combined with beach sand dune shape for the roof, then the two are combined.

From the section, the inner ceiling is following the shape of the roof, creating a spacious area and natural ventilation.

Fig. 4.3 - Exercise Therapy Massing Sketch
Author, 2024

Mental Health Clinic Sensory Garden Concept

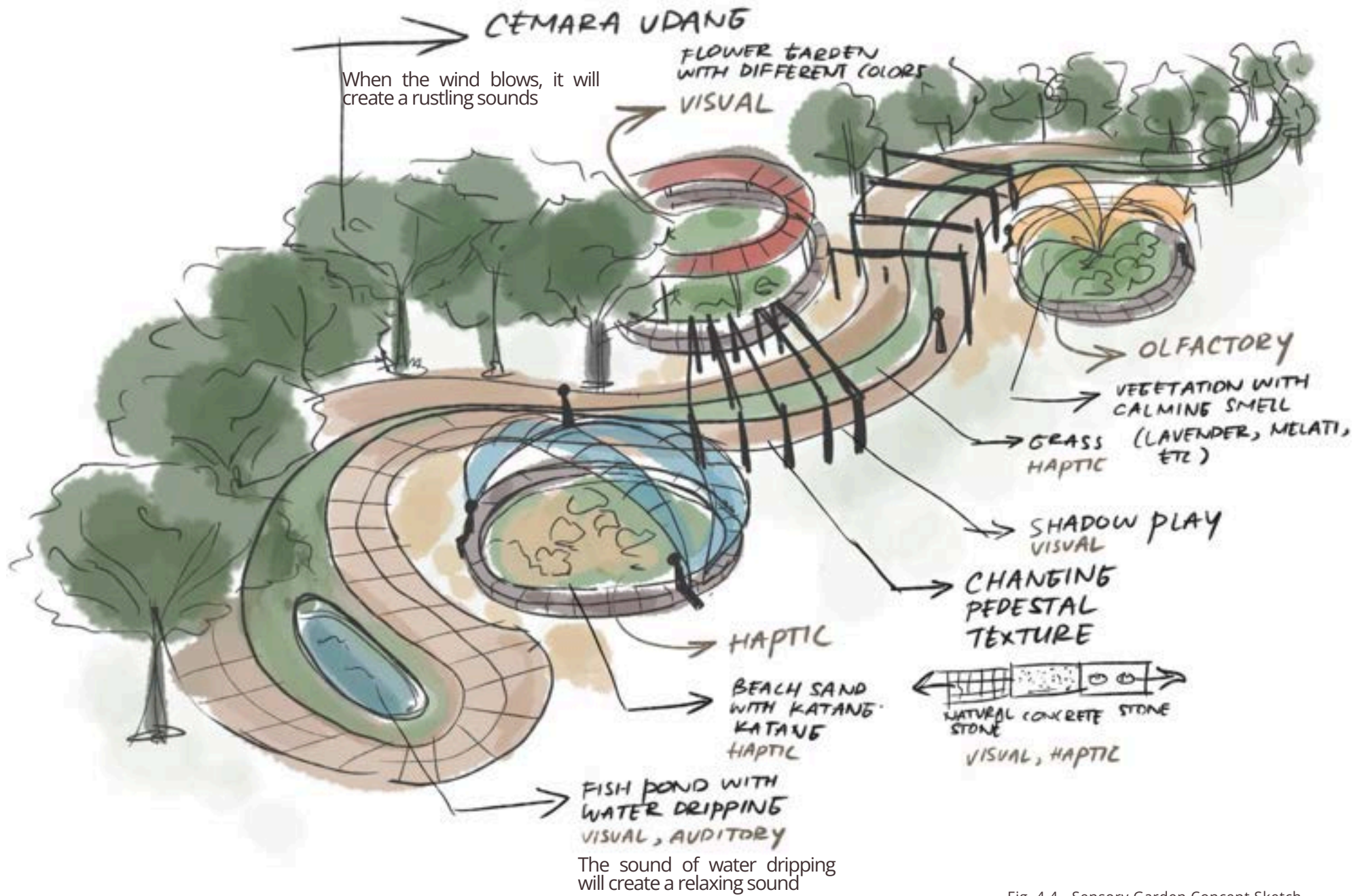


Fig. 4.4 - Sensory Garden Concept Sketch
Author, 2024

EARLY CONCEPT SKETCHES

Resort Sunken Pedestal for Service

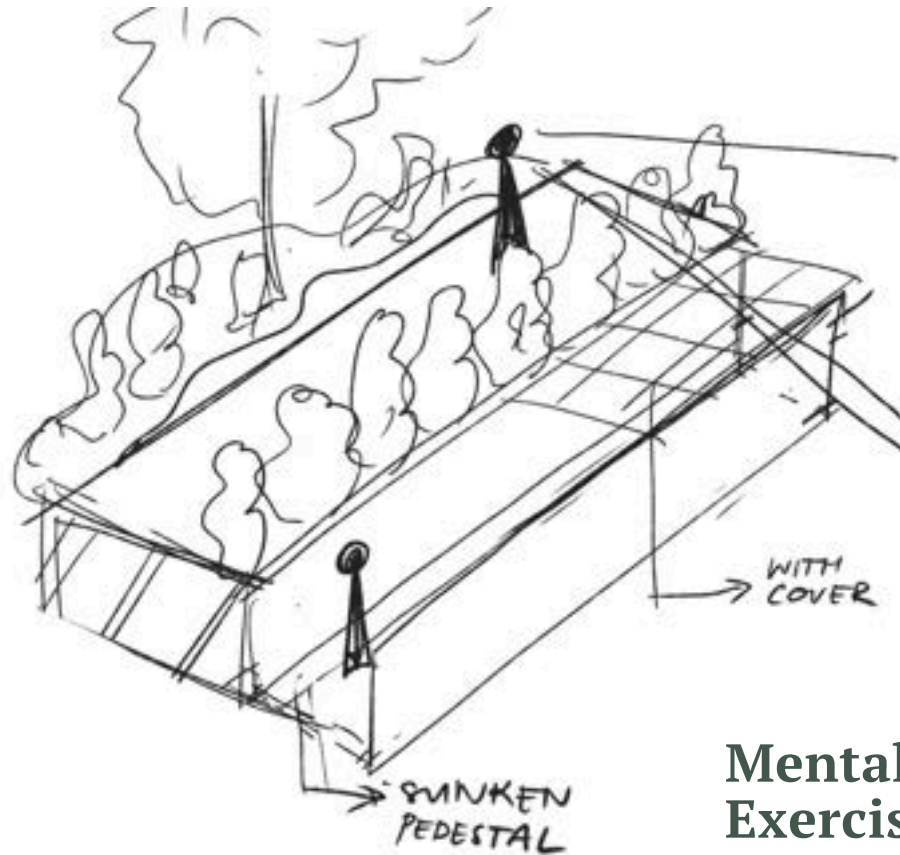


Fig. 4.5 - Sunken Pedestal Sketch
Author, 2024

Mental Health Clinic Exercise Therapy Space

Flowy cloth
(***haptic, visual, auditory***)

Natural stone or
conblock from waste
(***haptic sensory***)

Wood floor
(***haptic, visual sensory***)



Fig. 4.6 - Exercise Therapy Sketch
Author, 2024

EARLY CONCEPT SKETCHES

Resort Guest Room Back Garden (Opak View)

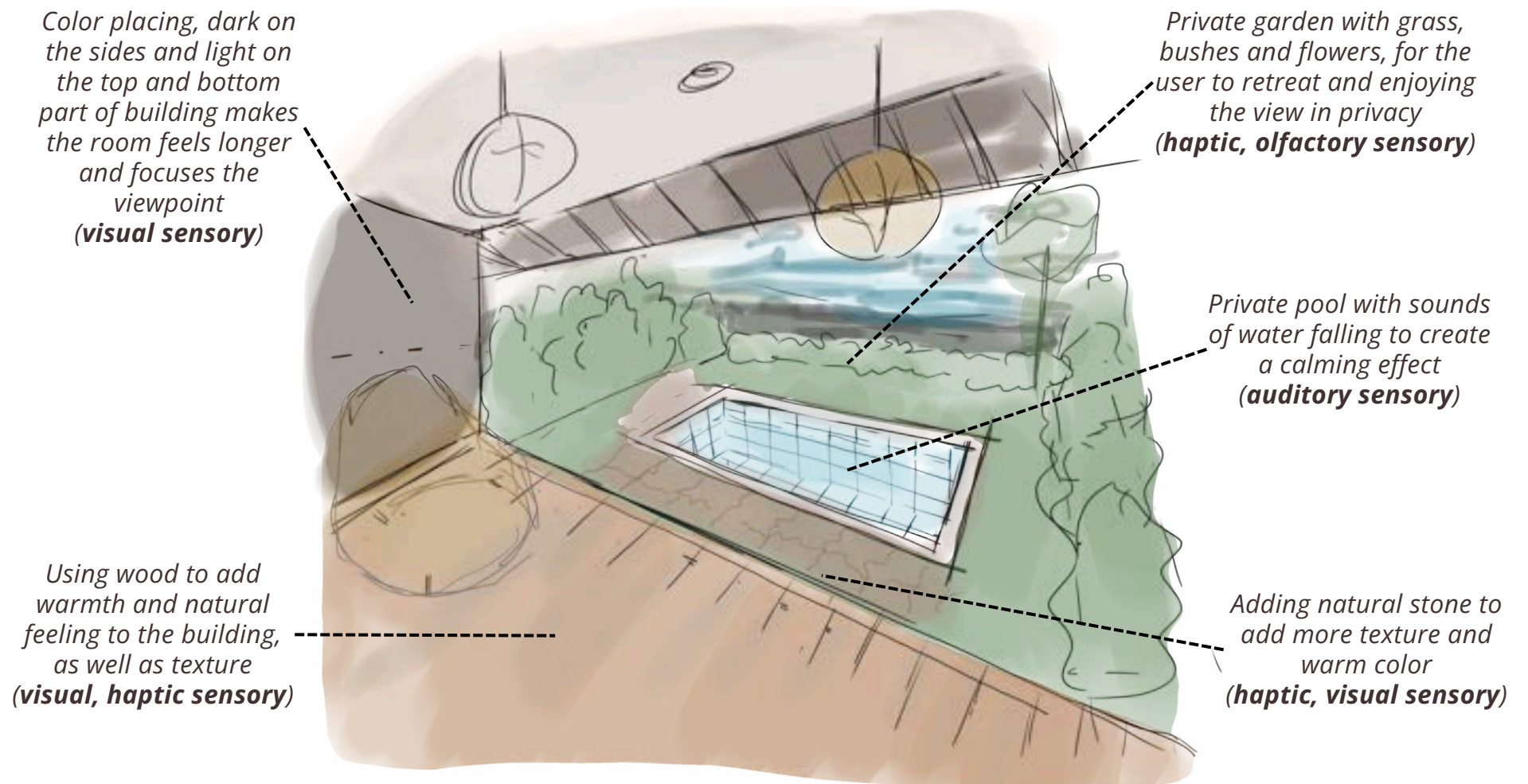


Fig. 4.7 - Guest Room Back Garden Sketch
Author, 2024

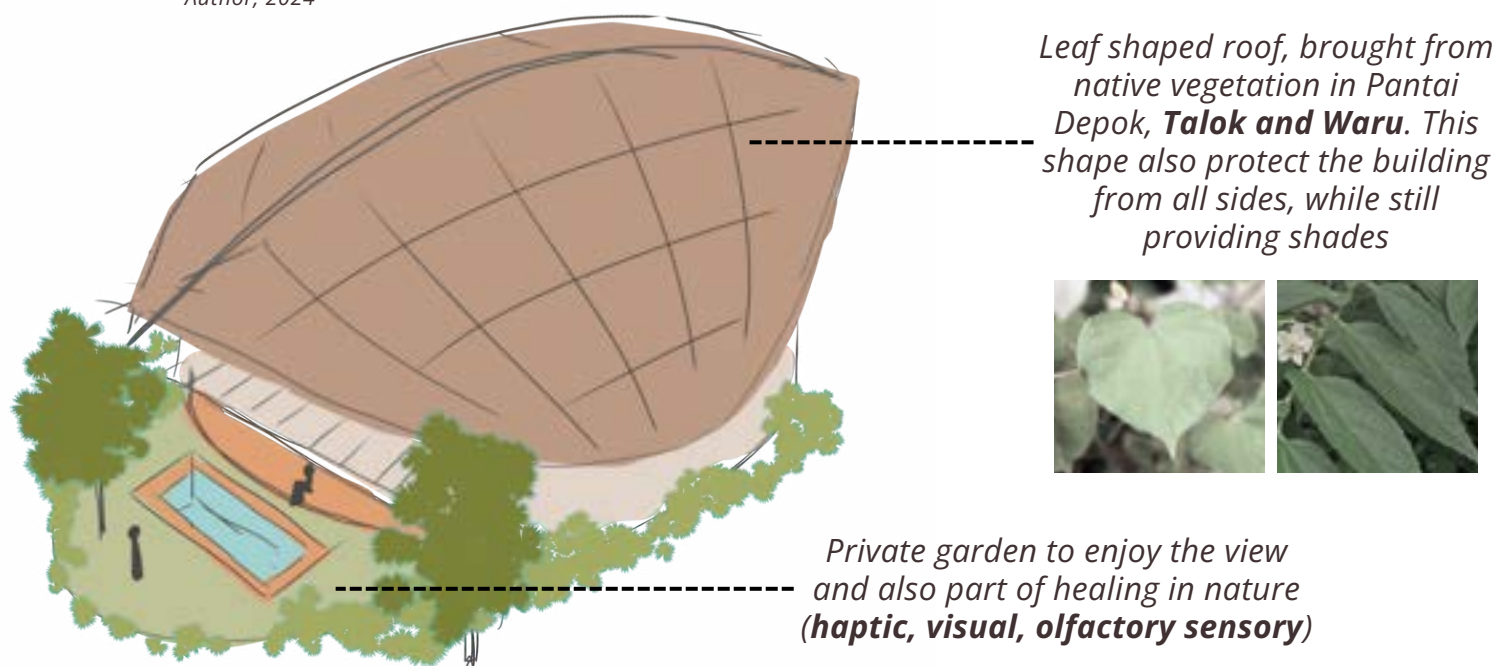


Fig. 4.8 - Guest Room Massing Sketch
Author, 2024

EARLY CONCEPT SKETCHES

Mental Health Clinic Therapy Space

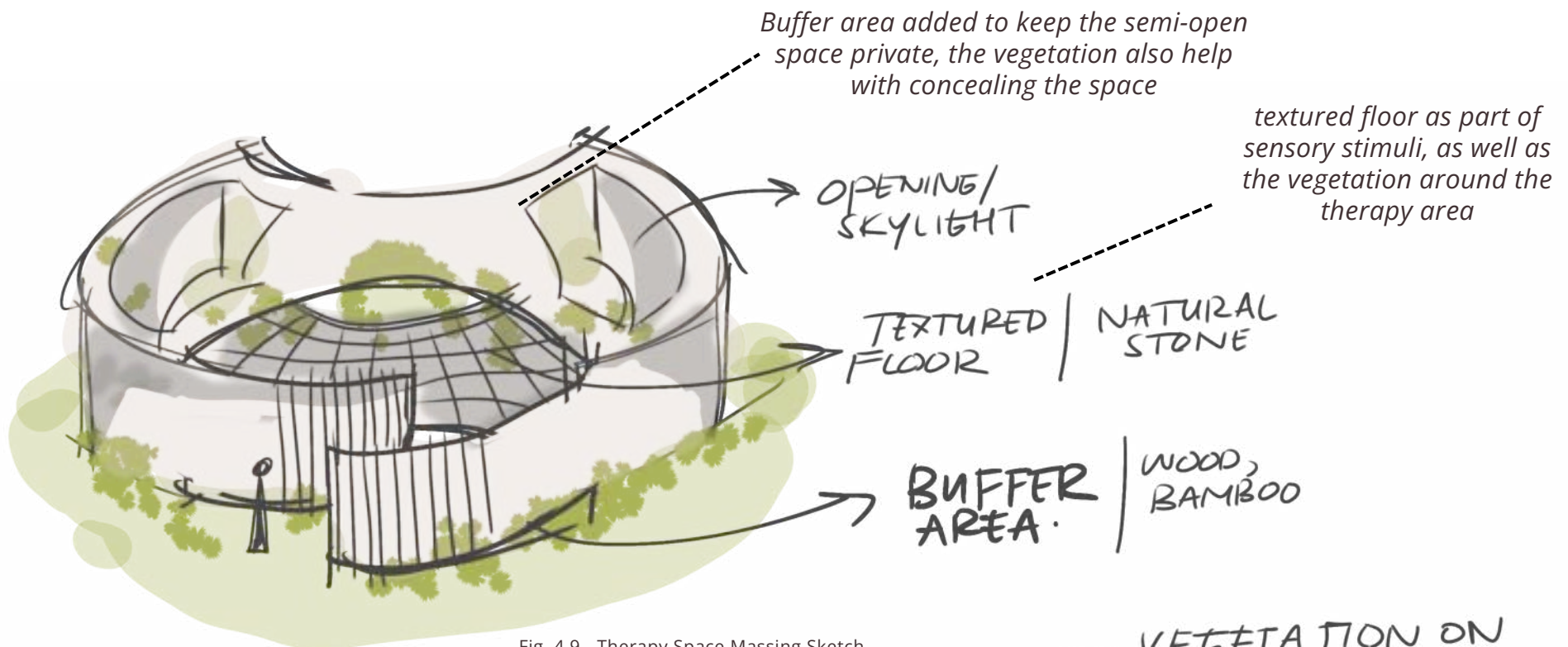


Fig. 4.9 - Therapy Space Massing Sketch
Author, 2024

The consultation area is semi-open space, with opening on both sides, ensuring natural ventilation and natural lighting

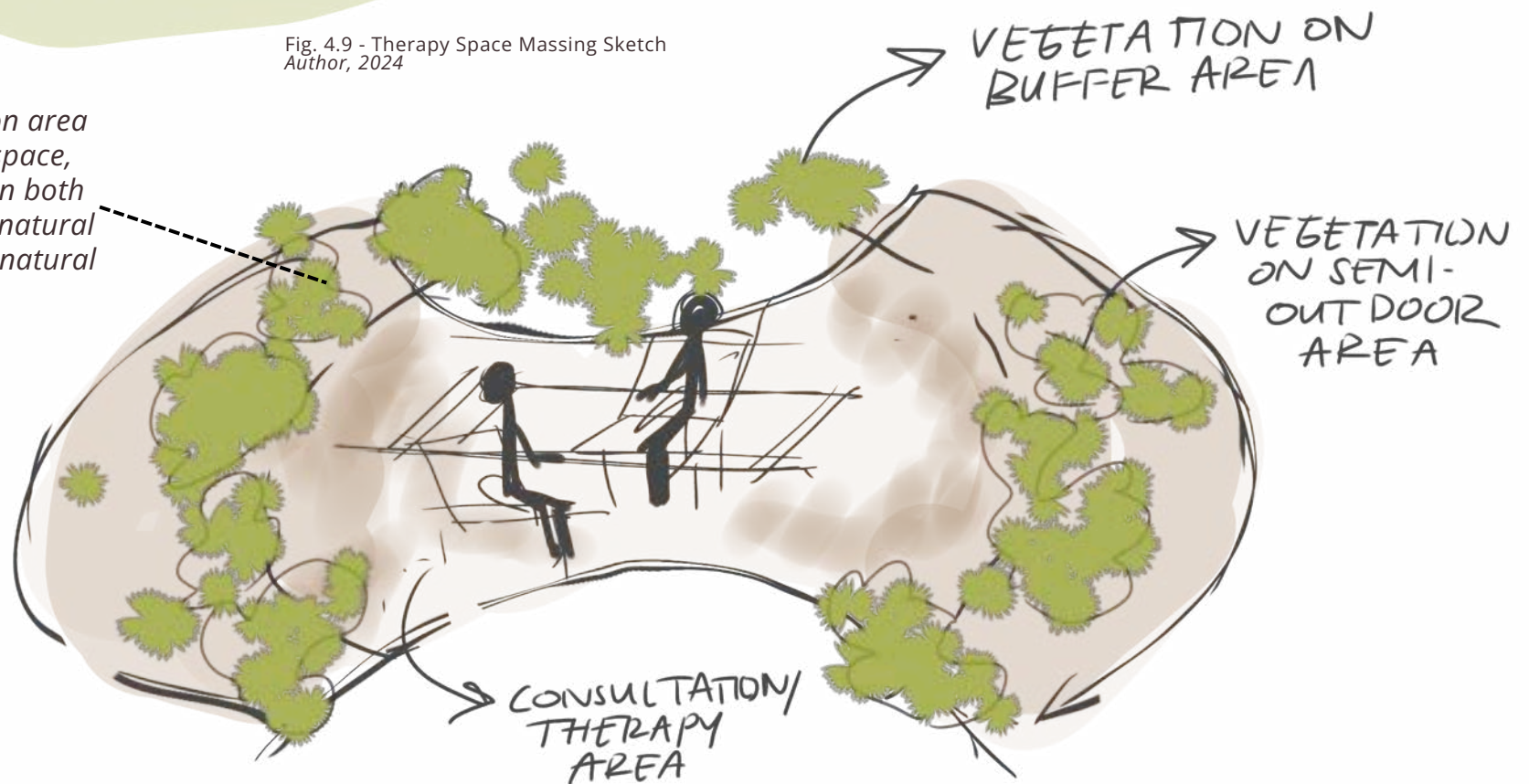
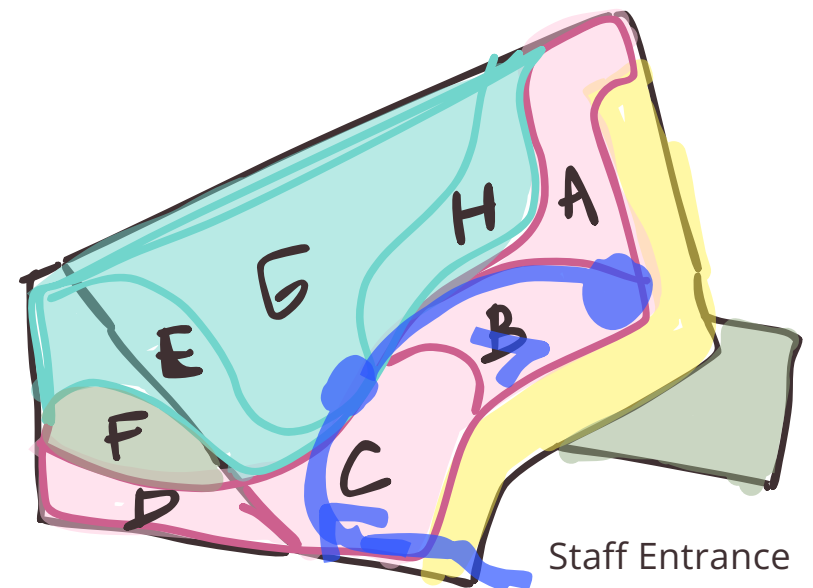
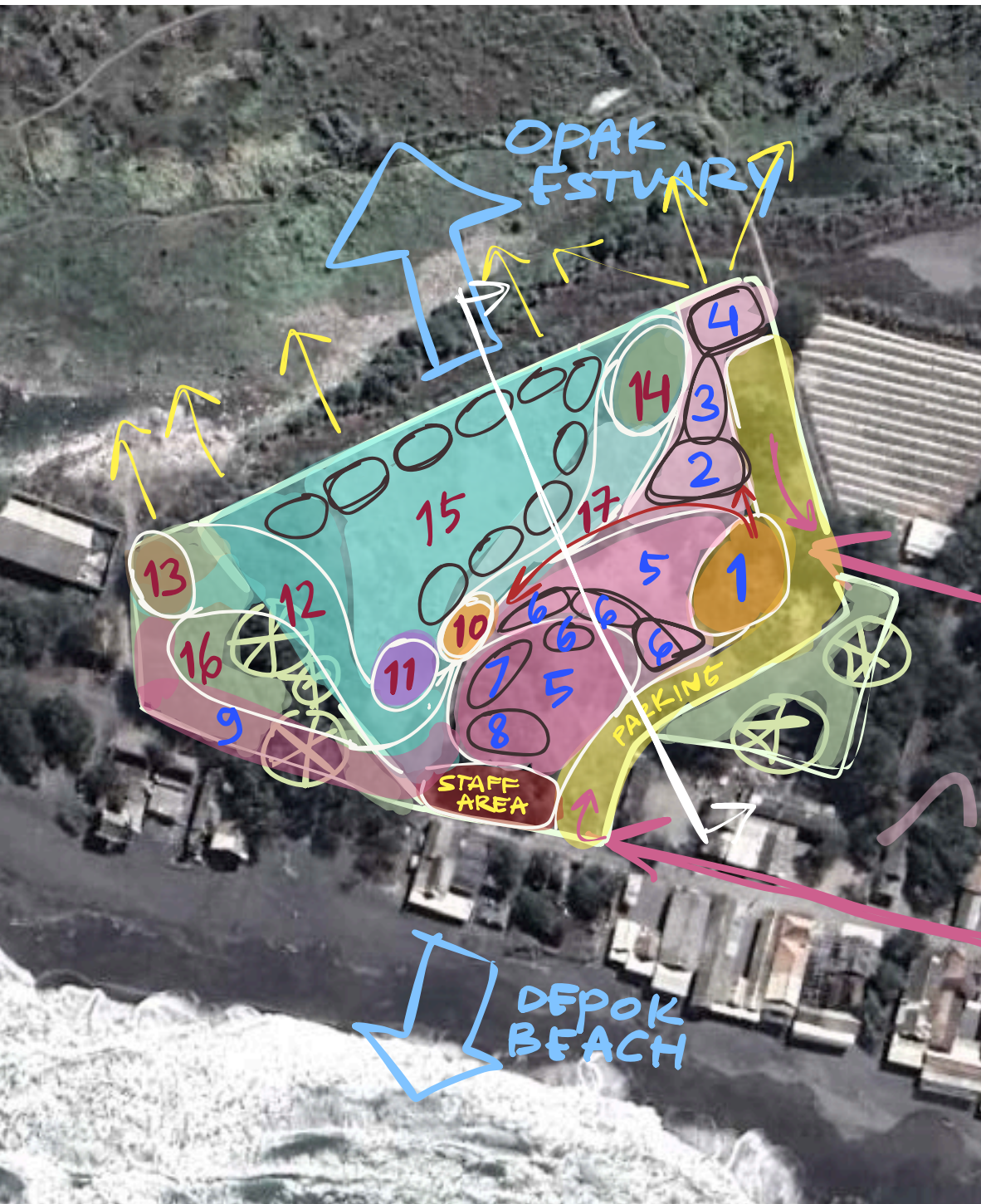


Fig. 4.10 - Therapy Space Interior Sketch
Author, 2024



- A. Indoor Area
- B. Semi-Outdoor
- C. Outdoor
- D. Forest Trail
- E. Receptionist and Resto
- F. Forest Trail
- G. Guest Room
- H. Sensory Garden

Fig. 4.11 - 1st Figurative Design
Author, 2024

HEALTHCARE

- 1. Entrance Hall
- 2. Registration, Waiting Area
- 3. Mushola, Toilets
- 4. Garden (Opak View)
- 5. Sensory Garden
- 6. Consultation and Therapy area
- 7. Group therapy
- 8. Restaurant
- 9. Forest sensory garden

RESORT

- 10. Receptionist
- 11. Lounge
- 12. Restaurant
- 13. Fitness
- 14. Spa
- 15. Guest Room (Deluxe and Suite)
- 16. Forest Trail
- 17. Sensory Garden

**Figurative
Design**

Resort in Bantul with Main Entrance (Lobby)

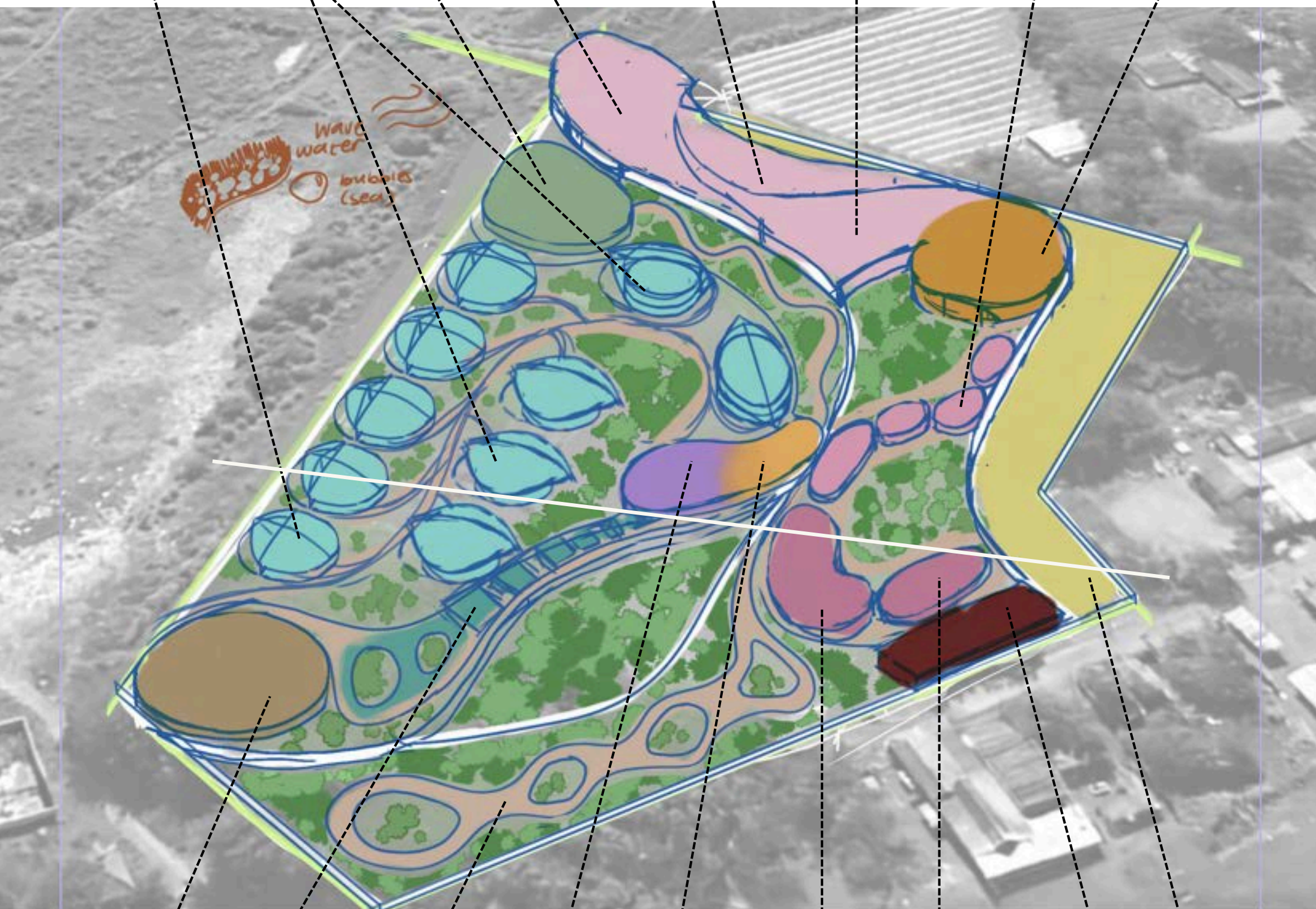
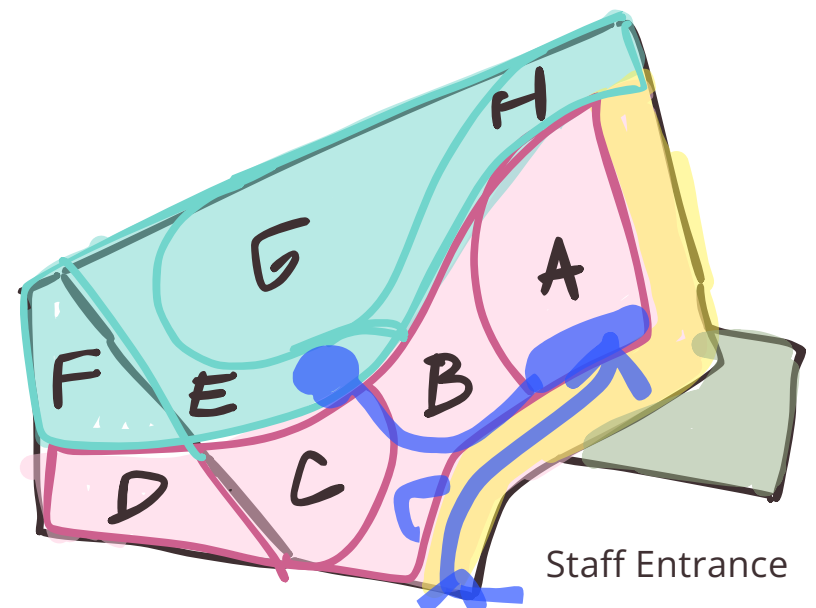
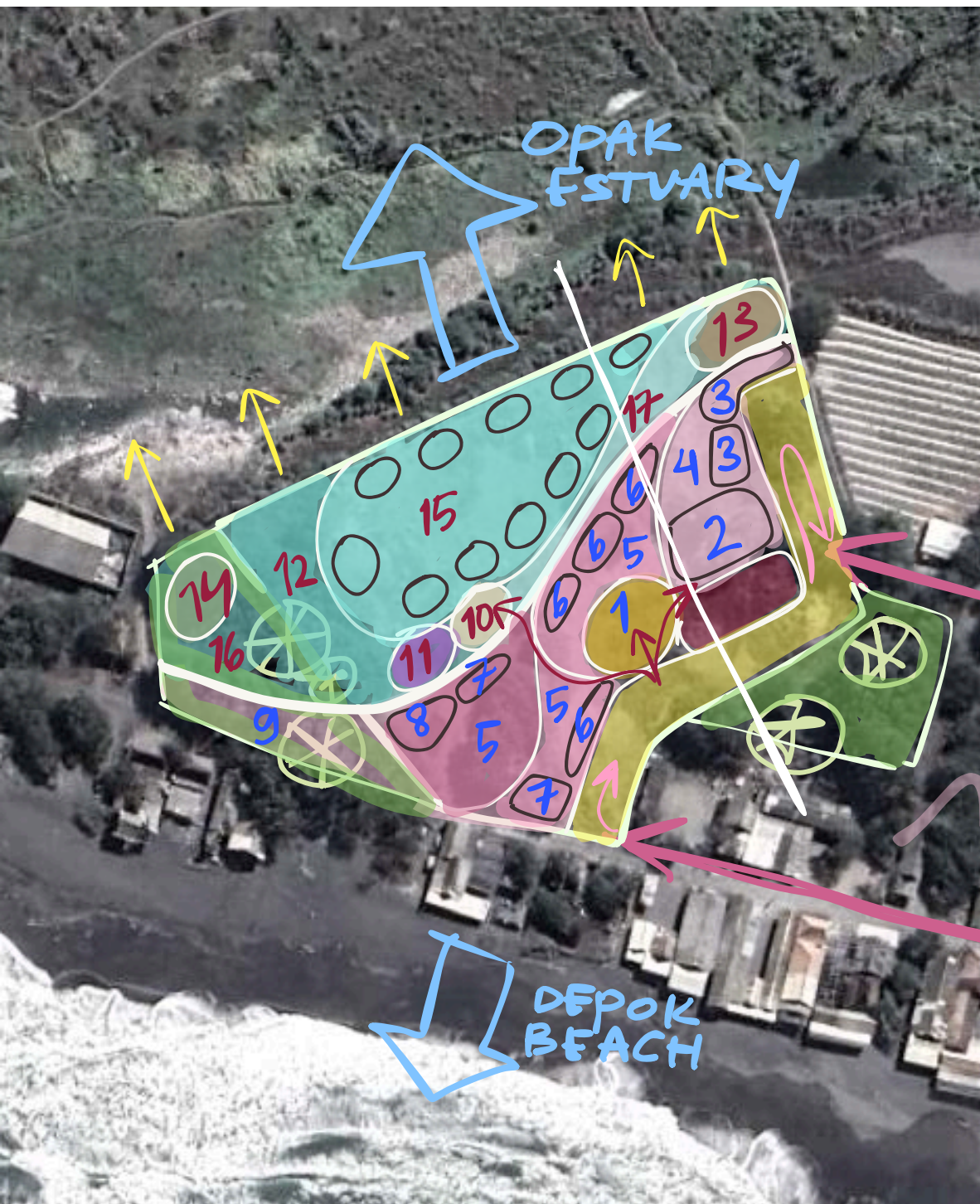


Fig. 4.12 - 1st Figurative Design
Author, 2024

Guest Rooms (Opak View) Guest Rooms (Opak & Beach View) Gym & Fitness Center Semi-indoor garden (Opak View) Mushola & Toilets Registration & Waiting Area Consultation & Therapy Rooms Main Entrance (Lobby)
 Spa & Therapy Restaurants (indoor, semi-outdoor, outdoor) Forest Trail Lounge Resort Lobby (Receptionist) Restaurant Group Therapy Staff Area Parking Area, Vehicle entrance





- | | |
|-----------------|---------------------------|
| A. Indoor Area | E. Receptionist and Resto |
| B. Semi-Outdoor | F. Forest Trail |
| C. Outdoor | G. Guest Room |
| D. Forest Trail | H. Sensory Garden |

Fig. 4.13 - 2nd Figurative Design
Author, 2024

HEALTHCARE

1. Entrance Hall
2. Registration, Waiting Area
3. Mushola, Toilets
4. Garden (Opak View)
5. Sensory Garden
6. Consultation and Therapy area
7. Group therapy
8. Restaurant
9. Forest sensory garden

RESORT

10. Receptionist
11. Lounge
12. Restaurant
13. Fitness
14. Spa
15. Guest Room (Deluxe and Suite)
16. Forest Trail
17. Sensory Garden

**Figurative
Design**

Guest Rooms
(Opak View)

Guest Rooms (Opak &
Beach View)

Spa &
Therapy

Consultation &
Therapy Rooms

Mushrooms &
Toilets

Registration &
Waiting Area

Main
Entrance
(Lobby)

Staff
Area

A Design of Mental Health Care with
Multi-Sensory Approach for Treatment of Mental Health Issues

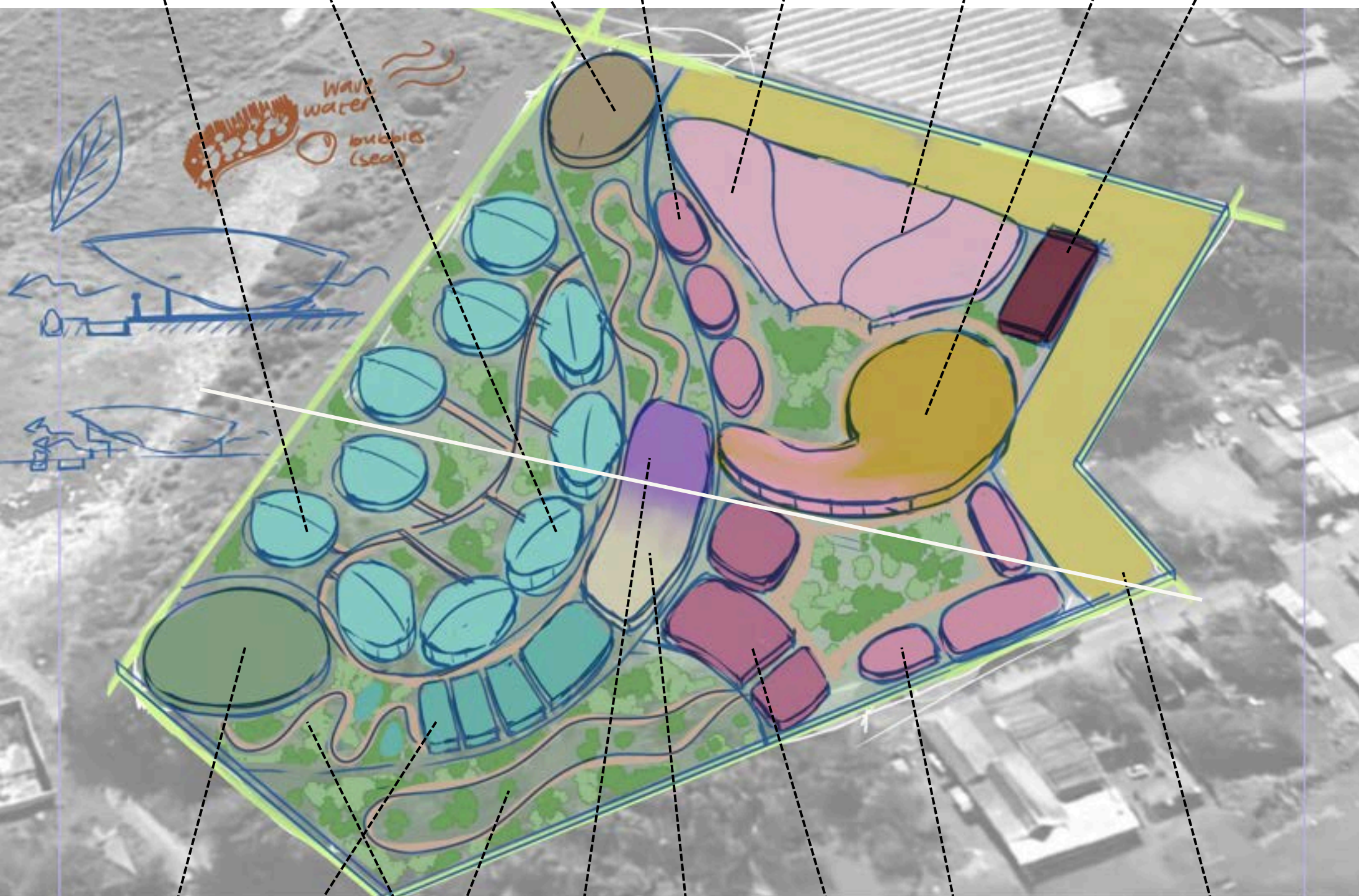


Fig. 4.14 - 2nd Figurative Design
Author, 2024

Gym &
Fitness
Center

Restaurants
(indoor, semi-
outdoor, outdoor)

Forest Trail

Lounge

Resort Lobby
(Receptionist)

Restaurant

Group
Therapy

Parking Area,
Vehicle entrance



1ST DESIGN EXPLORATION

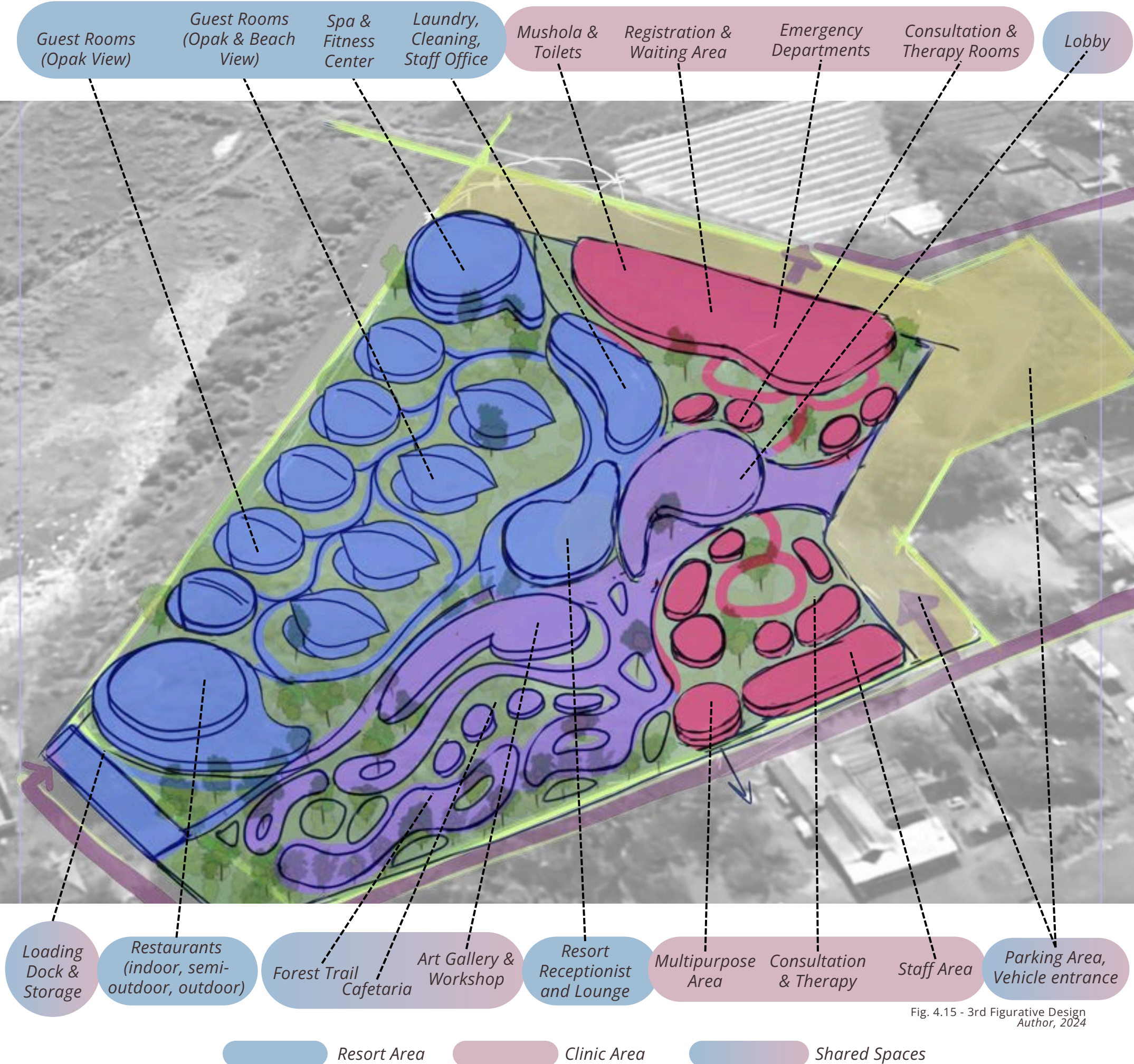


Fig. 4.15 - 3rd Figurative Design
Author, 2024

Resort Area Clinic Area Shared Spaces

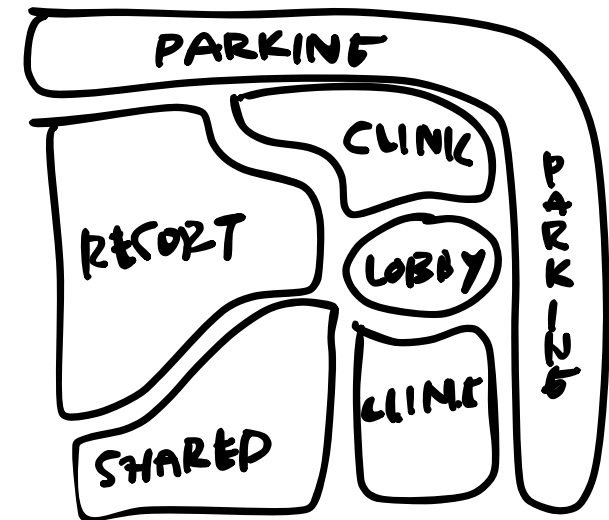
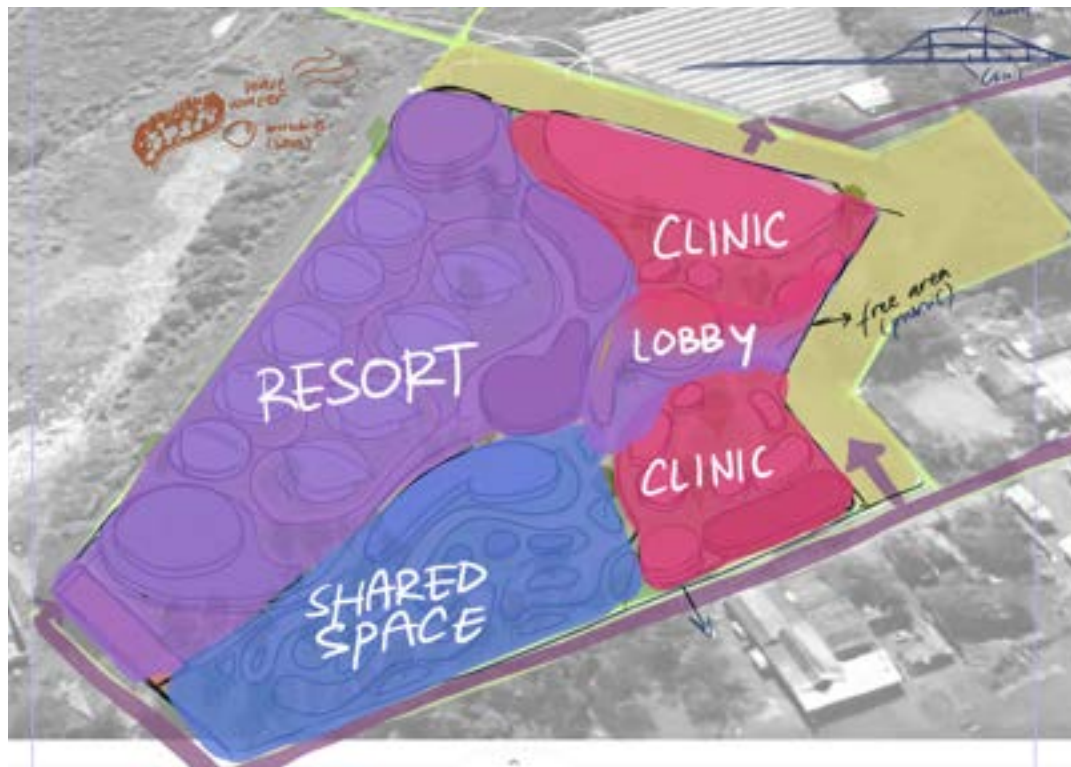


Fig. 4.16 - Area Arrangement
Author, 2024

The separation between each area is separated from the middle to out of the site. The clinic area is separated to 2 areas due to the lobby needs, where it connects people from outside to either the clinic or the resort. The shared space are located in between the clinic and the resort.



Fig. 4.17 - Continuous Roof
Author, 2024

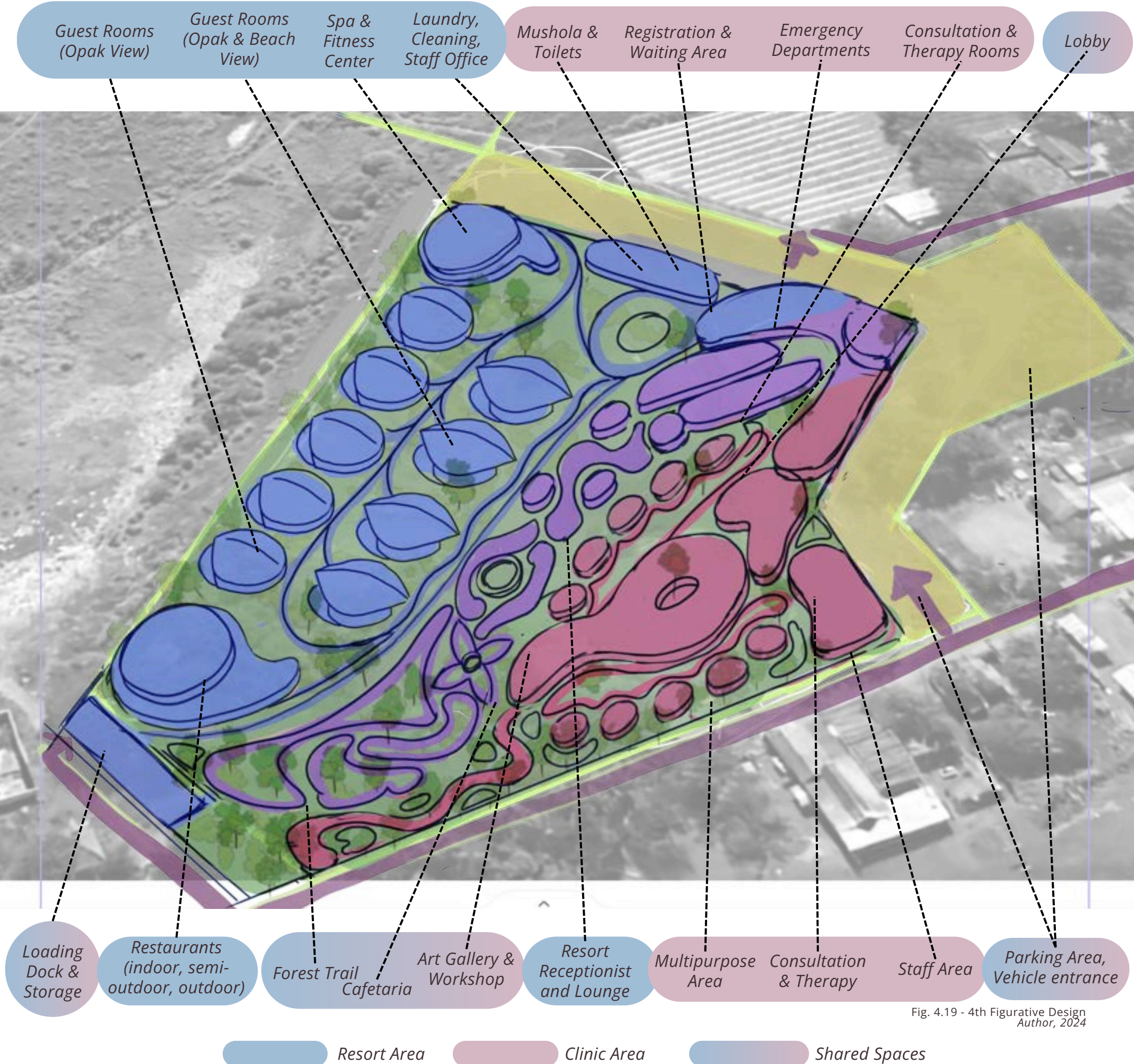
Each building spaces will be connected with continuous roof, for both the flow and users access in between the building area.



Fig. 4.18 - Visitor and Staff Circulation
Author, 2024

The visitor enters from the parking area to the lobby, and to their needs (clinic or resort). The staff's area located near the entrance, and for the resort office located in the middle of the site, right by the main lobby.

1ST DESIGN EXPLORATION



Guest Rooms (Opak View)

Guest Rooms (Opak & Beach View)

Spa & Fitness Center

Laundry, Cleaning, Staff Office

Mushola & Toilets

Registration & Waiting Area

Emergency Departments

Consultation & Therapy Rooms

Lobby

Loading Dock & Storage

Restaurants (indoor, semi-outdoor, outdoor)

Forest Trail Cafeteria

Art Gallery & Workshop

Resort Receptionist and Lounge

Multipurpose Area

Consultation & Therapy

Staff Area

Parking Area, Vehicle entrance

Fig. 4.19 - 4th Figurative Design Author, 2024

Resort Area Clinic Area Shared Spaces

1ST DESIGN EXPLORATION

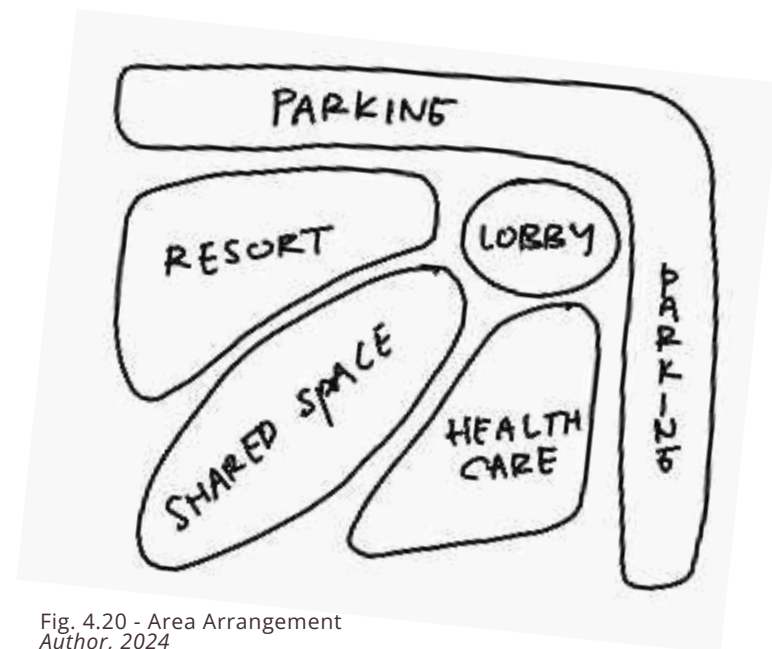
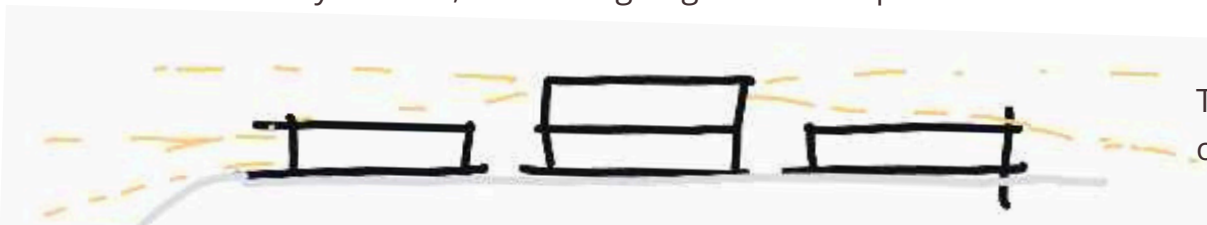


Fig. 4.20 - Area Arrangement
Author, 2024

The separation between each area is separated to 3 area from the top to the bottom. This creates a distinct separation in between area. The visitor can access each area from the main lobby in front, and then going to their respective needs.



The suite resort area have 2 floors, and can overlook both Opak Estuary and Pantai Depok.



Fig. 4.21 - Continuous Roof
Author, 2024

Each building spaces will be connected with continuous roof, for both the flow and users access in between the building area.



Fig. 4.22 - Visitor and Staff Circulation
Author, 2024

The visitor enters from the parking area to the lobby, and to their needs (clinic or resort). The staff's area located together with the lobby, and for the resort office located right by the main lobby.

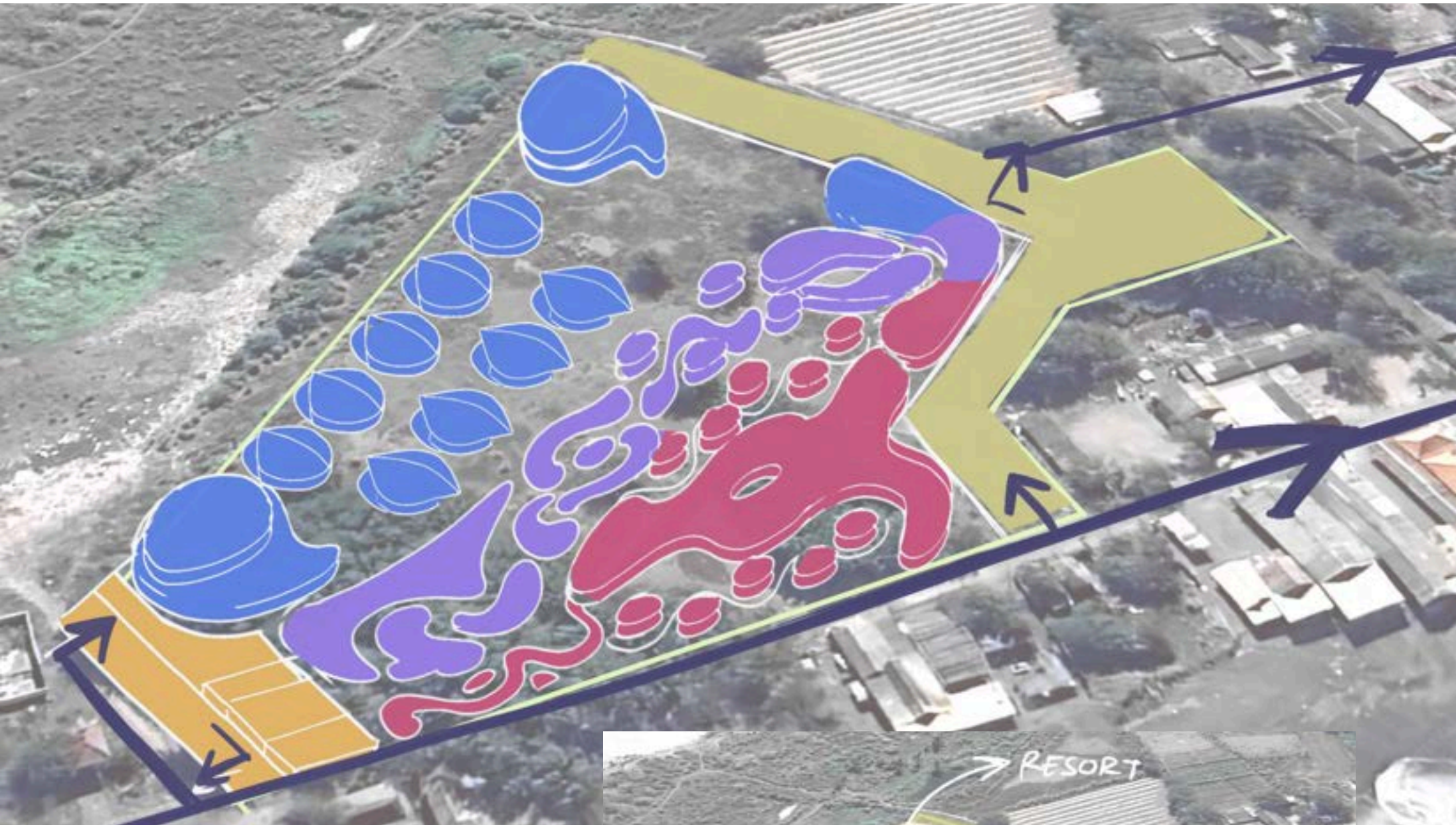


Fig. 4.23 - 4th Figurative Design
Author, 2024

The separation between each area is separated to 3 area from the top to the bottom. This creates a distinct separation in between area. The visitor can access each area from the main lobby in front, and then going to their respective needs.



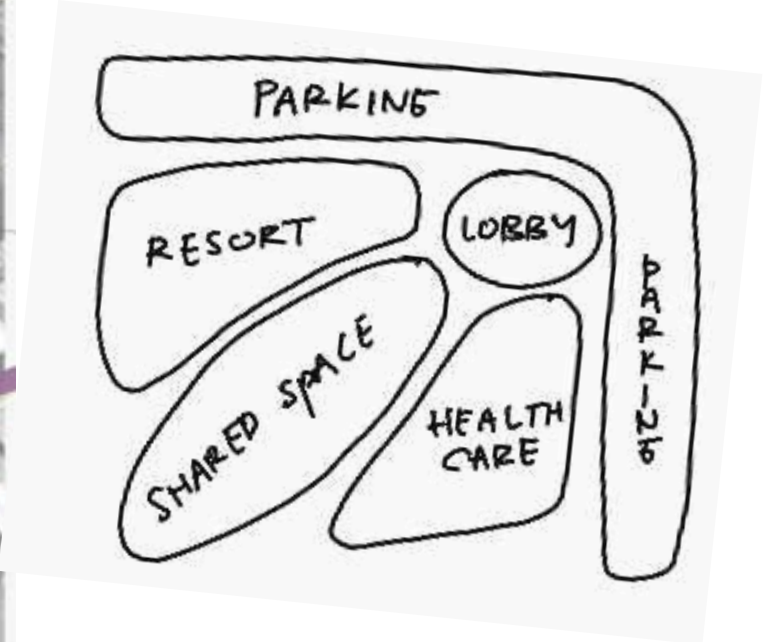


Fig. 4.24 - Visitor and Staff Circulation
Author, 2024

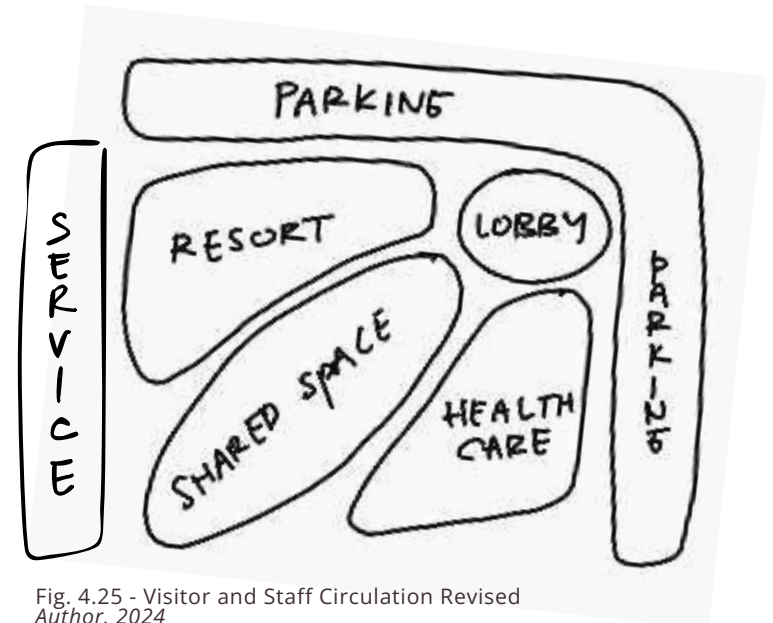
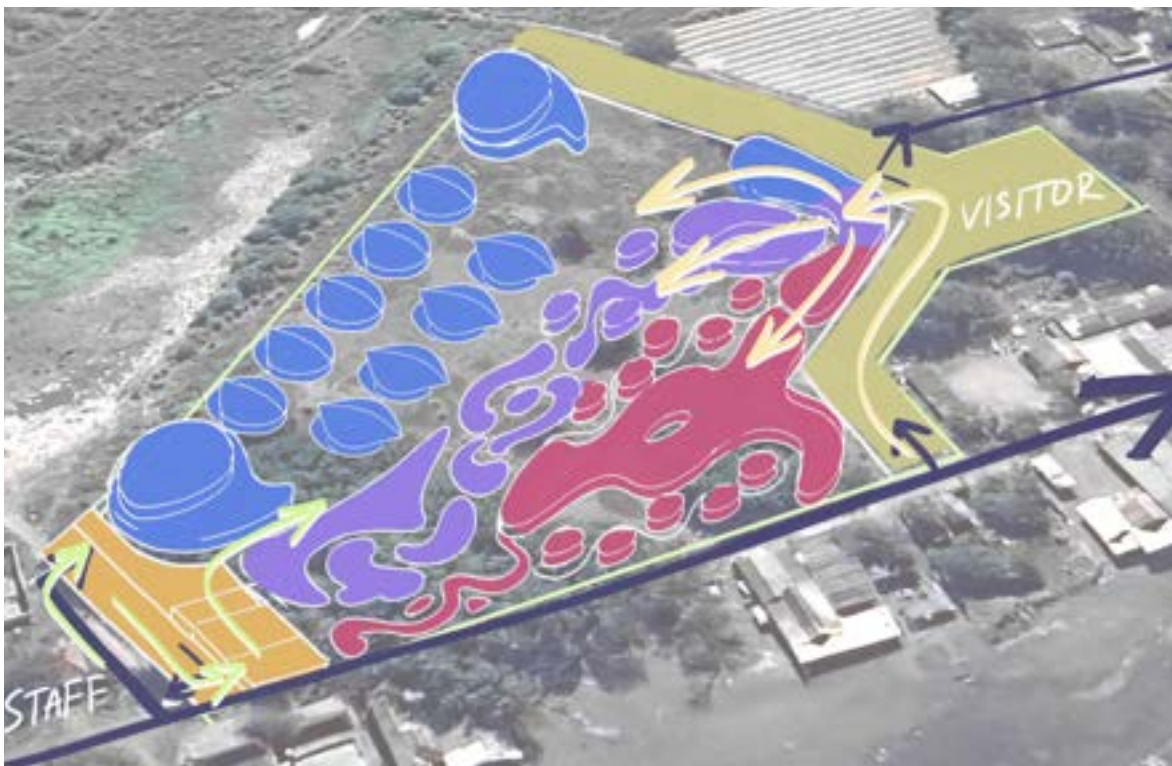


Fig. 4.25 - Visitor and Staff Circulation Revised
Author, 2024

The changes made is putting all the service area in one separated space. The visitor's and staff's entrance are separated, the visitor's will enter from the main lobby, while the staff will enter from the service entrance from the back.

1st Massing Concept



Fig. 4.26 - 1st Massing Concept 3D
Author, 2024

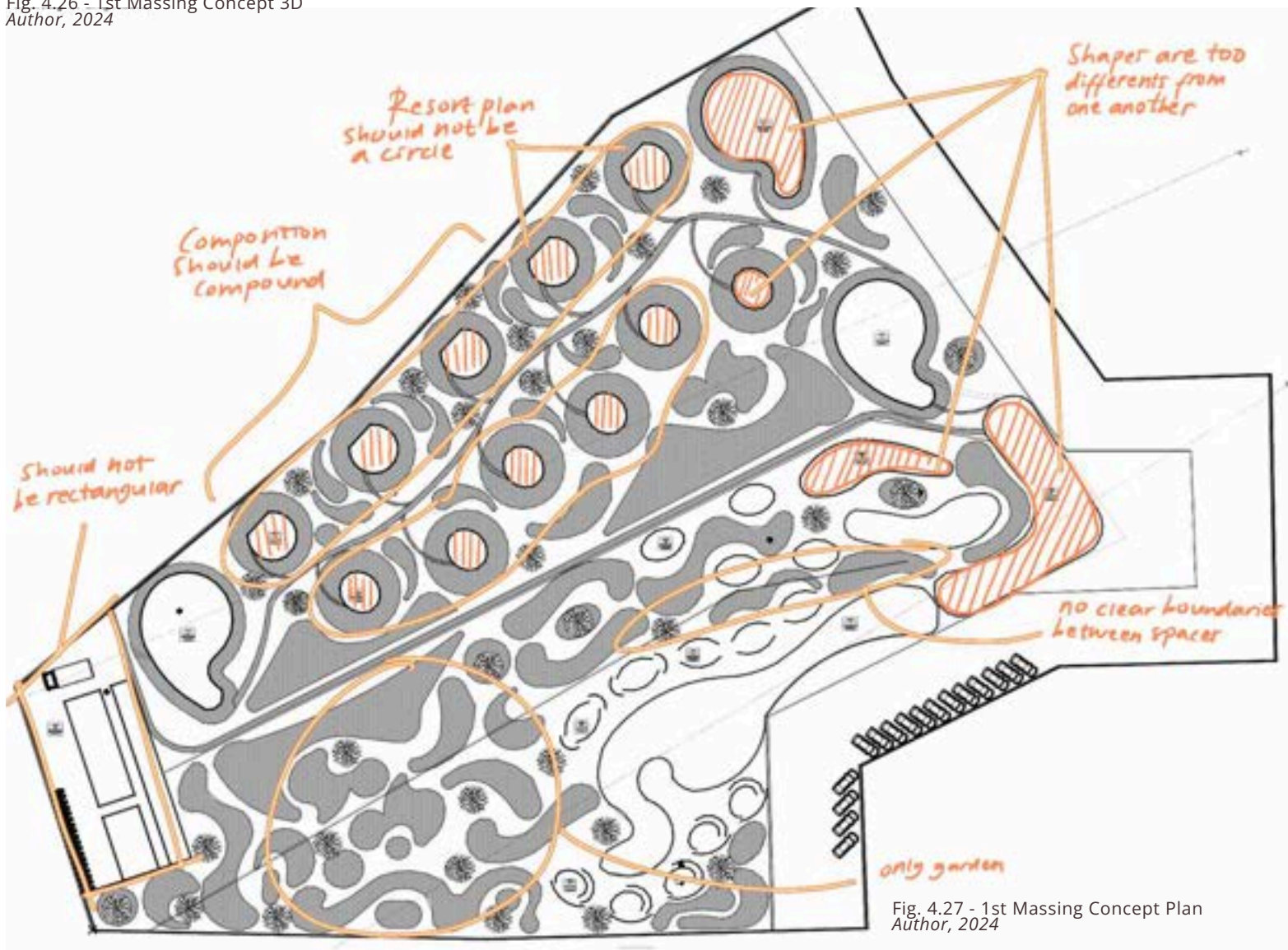


Fig. 4.27 - 1st Massing Concept Plan
Author, 2024

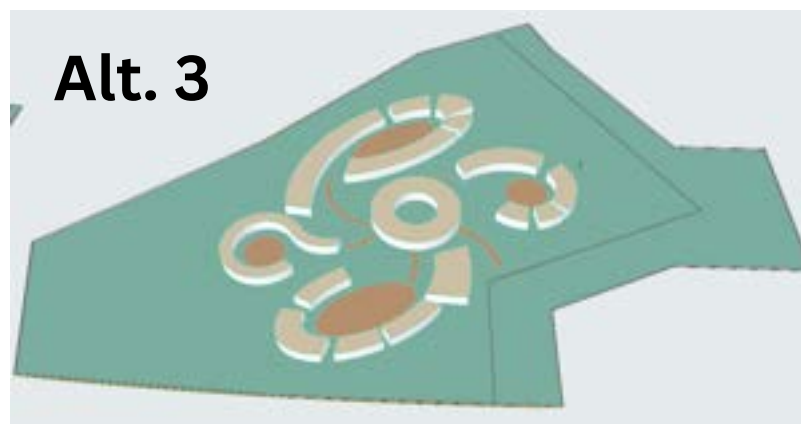
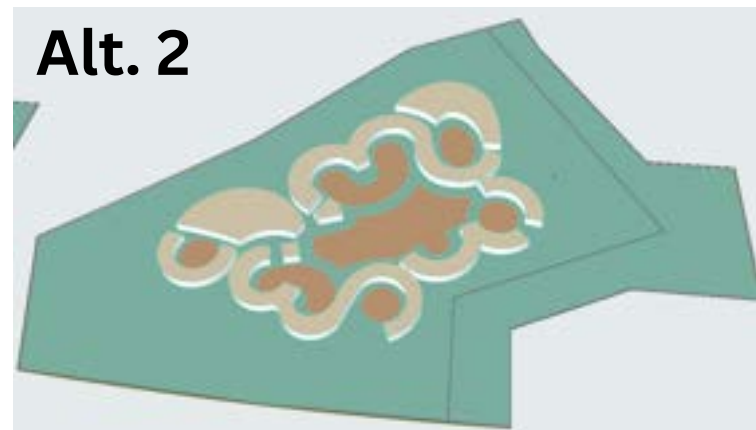
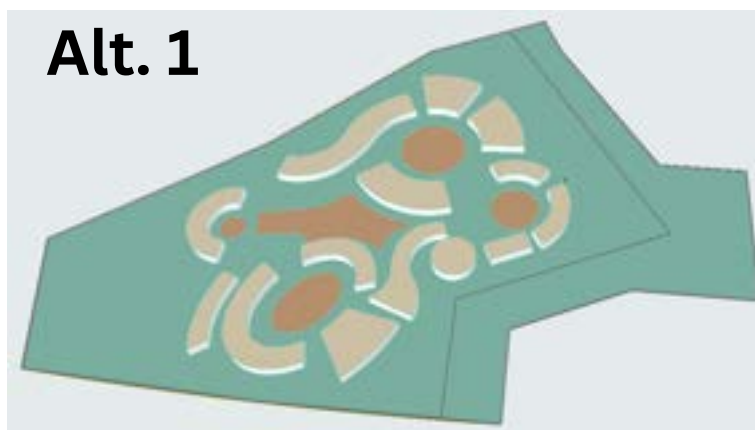


Fig. 4.28 - Plan Arrangement Alternatives 1-3
Author, 2024

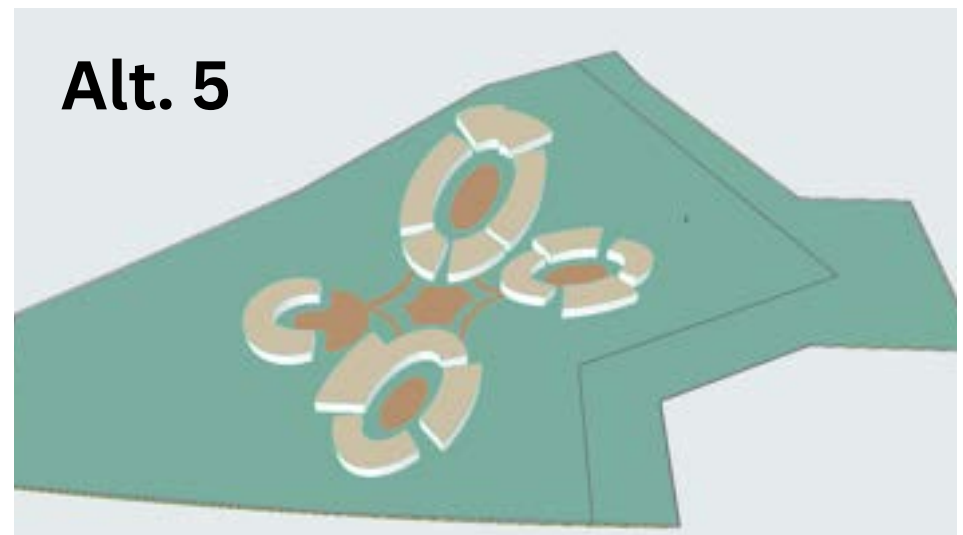
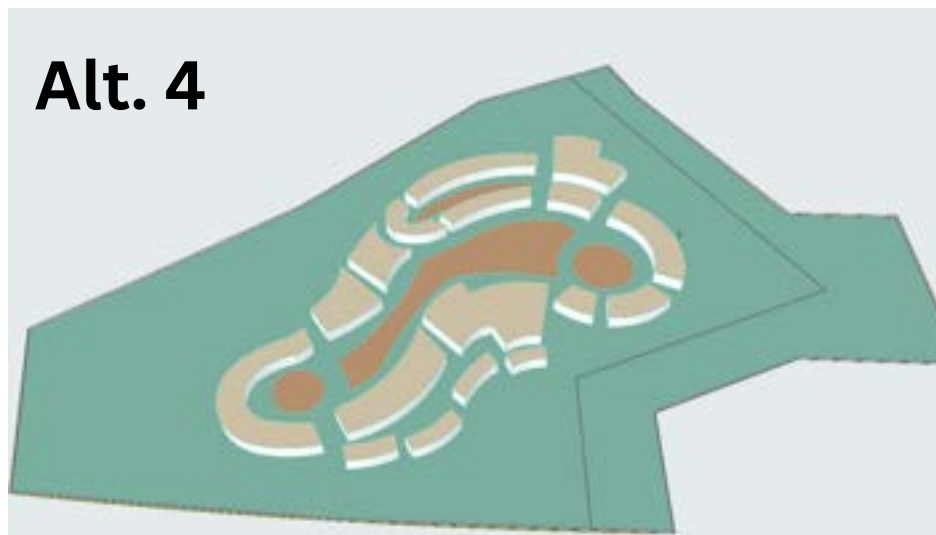
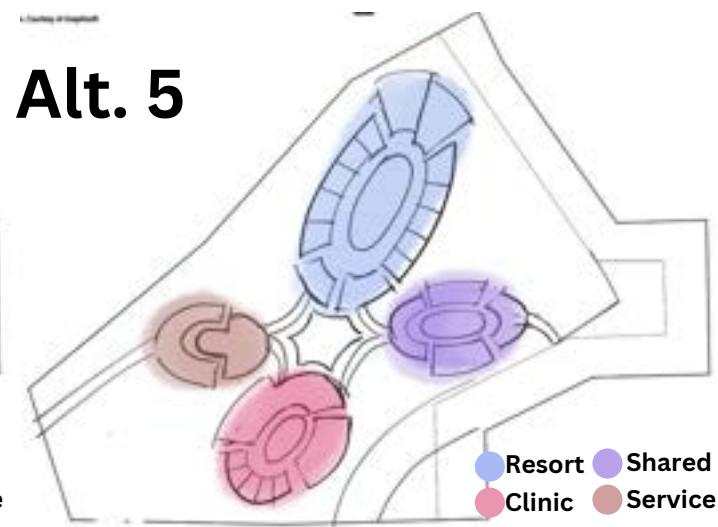
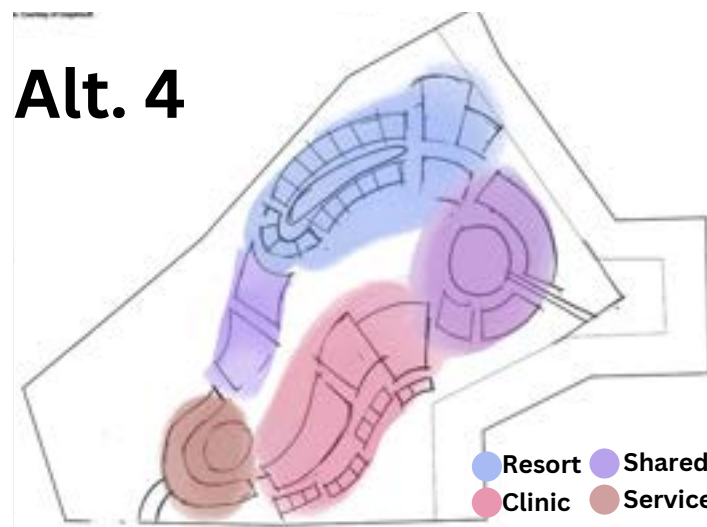


Fig. 4.29 - Plan Arrangement Alternatives 4-5
Author, 2024

Chosen Massing Alternative

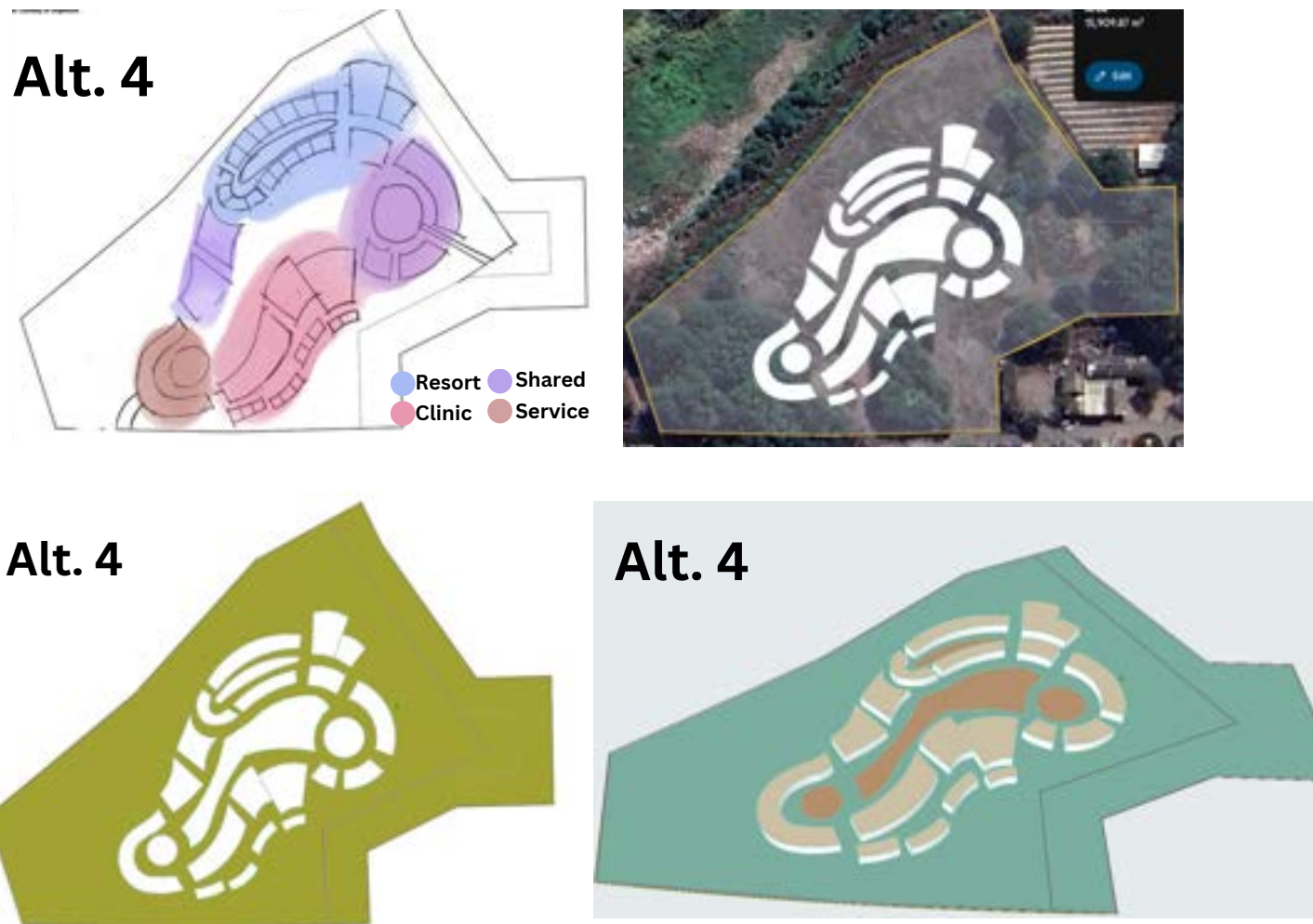


Fig. 4.30 - Chosen Massing, Alternative 4
Author, 2024

Reasons :

- the masses are more concentrated in one space, not separated. So the access for both services and visitor will be easier, as well as minimizing unnecessary walking distance
- The shape of the building are more similar, with most being rectangular, but with the organic flow, thus makes it easier to separate it for each room needs
- The center of the massing as a shared space, and it is located right in between the health care and resort
- The visitor and service access is also separated clearly
- The massing for the resort guest room as a compound, creating a more distinct boundary.
- The emergency department has its own entrance and parking area

3D Massing



Fig. 4.31 - Alternative 4 Mass 3D Arrangement
Author, 2024

Area Analysis and Existing

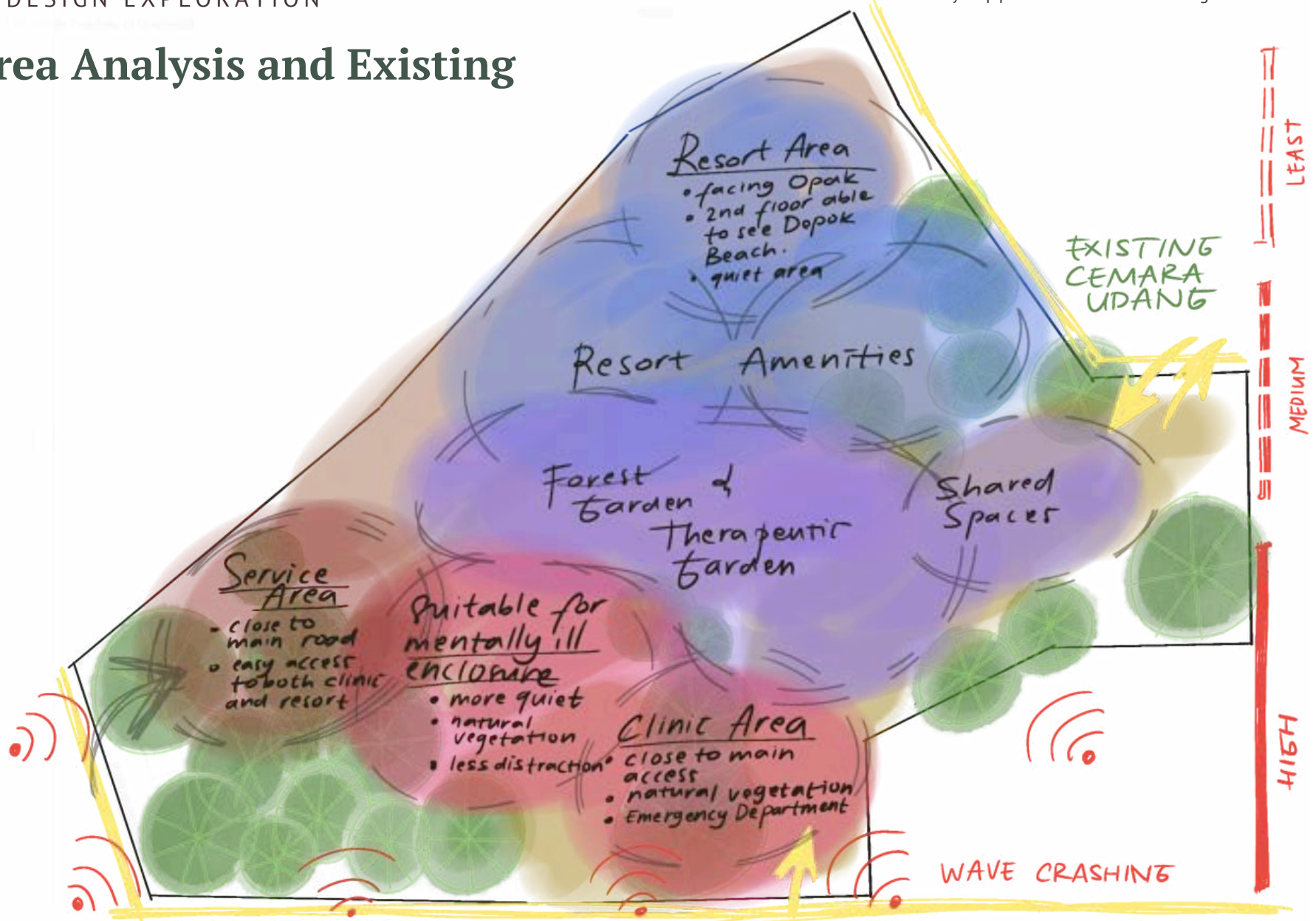


Fig. 4.32 - Site Analysis
Author, 2024

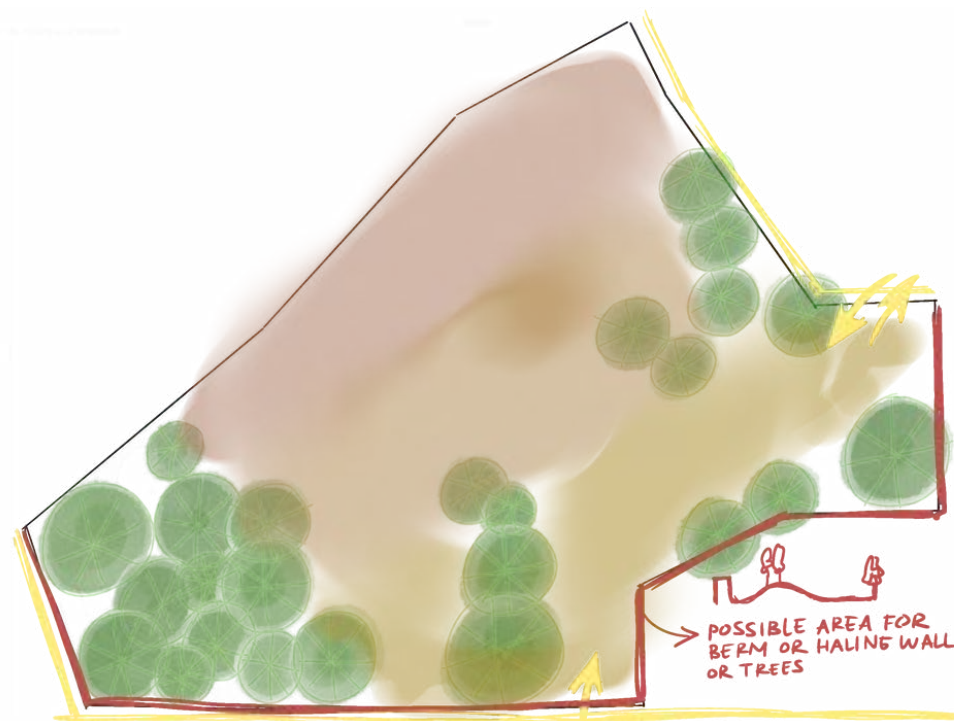


Fig. 4.33 - Site Analysis
Author, 2024

3RD DESIGN EXPLORATION

Possible Zoning

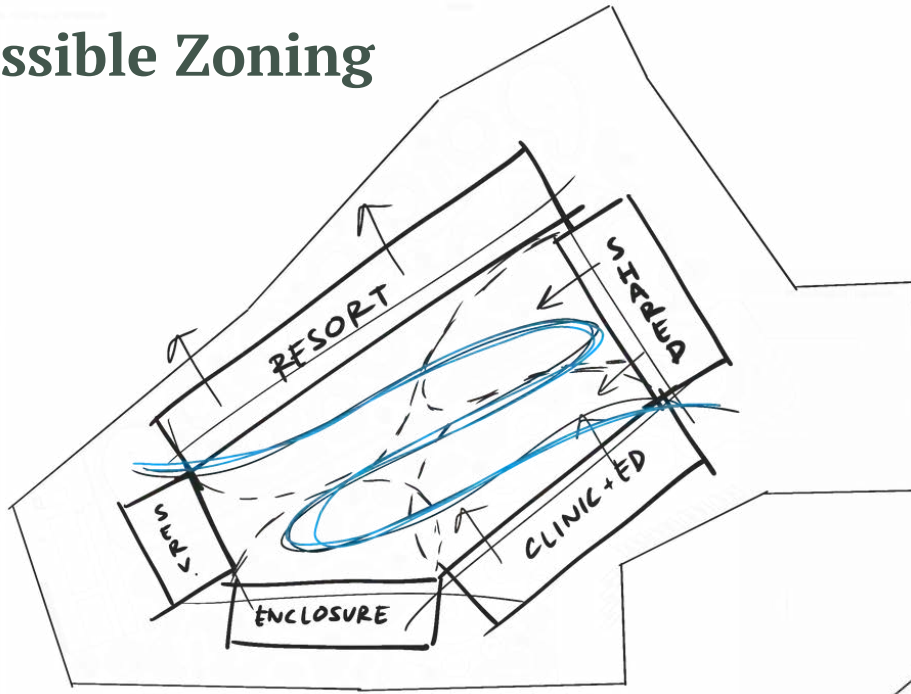


Fig. 4.34 - Zoning Sketch 1
Author, 2024

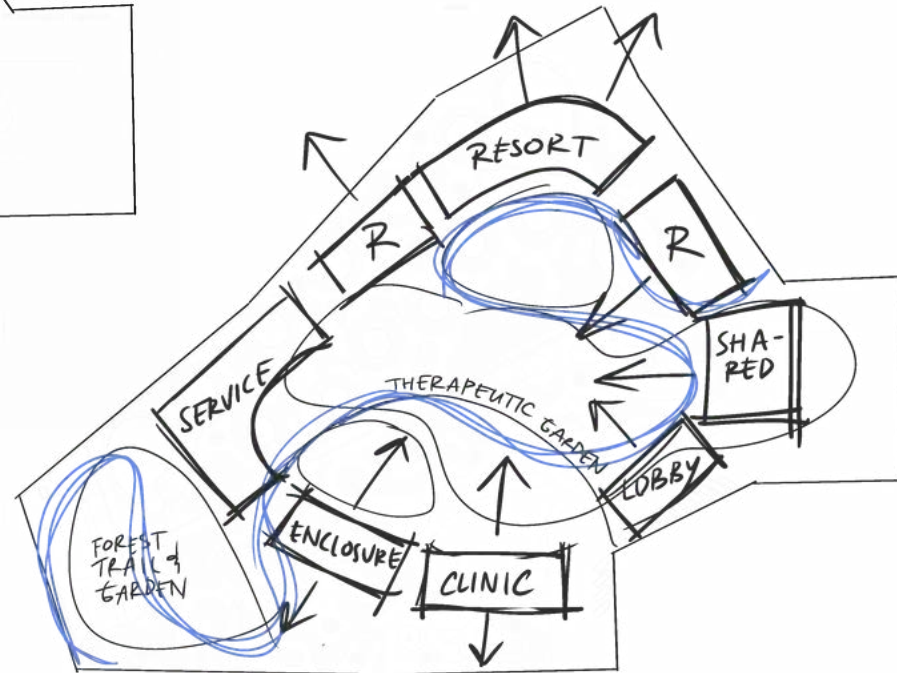


Fig. 4.35 - Zoning Sketch 2
Author, 2024

4TH DESIGN EXPLORATION



Fig. 4.36 - 4th Design Exploration 3D
Author, 2024

05

**Design
Development**

Space and Sizes Requirements

Function	Zoning	Space	Standard	Capacity	Quantity	Circulation	
Main Entrance	Public	Main Lobby	1,6 m2 / person	137	1	40%	
		Receptionist	15% Lobby	21	1	40%	
		Seating Space	2 m2 / person	27	1	30%	
		Drop Off / Pick Up	11,5 m2 / car, 1,5 m2 / motorbike 1,5 m2 / person	4, 30, 30	1		
Mental Health Clinic	Public	Lobby	1,6 m2 / person	60	1	40%	
		Lounge (Waiting Area)	2 m2 / person	17	1	40%	
		Lavatory	urinoir 1 m2, WC 3 m2, wash basin 1,5 m2 1,5 m2 / person			20%	
		Cashier	0,8 m2 / person		1	30%	
		Pharmacy	0,8 m2 / person		1	30%	
	Clinical	Registration Area	1,5 m2 / person		1	30%	
		Emergency Department	1,8 m2 / person	104	1	60%	
		Therapy/Consultation Room	1,8 m2 / person	14	10	30%	
		Enclosure	1,8 m2 / person			40%	
		Private	Doctor Room	1,5 m2 / person			20%
Nursery	1,5 m2 / person				30%		
Front Office	1,5 m2 / person			1	20%		
Resort	Public	Lobby	1,6 m2 / person	75	1	40%	
		Lounge	2 m2 / person	25	1	40%	
		Restaurant	1,8 m2 / person	135	1	40%	
		Lavatory	urinoir 1 m2, WC 3 m2, wash basin 1,5 m2 1,5 m2 / person			20%	
	Semi-Public	Spa and Fitness	1,5 m2 / person	38	1	40%	
	Private	Guest Room	2 m2 / person*	5	10	40%	
		Service Lane	1,5 m2 / person		1	20%	
		Front Office	1,5 m2 / person		1	20%	
Shared Space	Public	Kitchen	1 m2 / person		1	30%	
		Ticketing	0,8 m2 / person		1	20%	
		Art Gallery	1,5 m2 / person		1	30%	
		Souvenir Shop	1,5 m2 / person		1	30%	
		Cafeteria	1,3 m2 / person		1	30%	
	Semi-Public	Musholla	1,2 m2 / person	25	1	30%	
		Lavatory	urinoir 1 m2, WC 3 m2, wash basin 1,5 m2			20%	
Amenities and Service	Public	Workshop Space	1,8 m2 / person	20	1	40%	
		Workshop Storage	1,4 m2 / person	5	1	20%	
	Private	Visitor Parking Space	11,5 m2 / car, 1,5 m2 motorbike			1	40%
		Loading Dock	16 m2 / truck	4	1	50%	
		MEE Room	Genset 4 m2 / generator, control panel 4 m2 / machinery, telephone panel 9 m2 / panel	2	1	20%	
		Pompa dan Tandon	25 m2 / tandon	2	1	20%	
		Security Room	1,5 m2 / person	2	1	20%	
		Staff Parking Space	11,5 m2 / car, 1,5 m2 / motorbike			1	30%
		Staff Room and Locker	1,5 m2 / person			1	20%
		Staff Office	1,5 m2 / person			1	20%
		Staff Lavatory	urinoir 1 m2, WC 3 m2, wash basin 1,5 m2				20%
		Laundry	1,4 m2 / person	4	1	20%	
		House Keeping	1,4 m2 / person	2	1	20%	
Warehouse	3 m2 / person	2	1	20%			
Storage F&B	1,4 m2 / person	2	1	20%			
Garbage Disposal	10,5 m2 / trash bin	2	1	30%			

Table 5.0 - Spaces and Sizes Requirements
Author, 2024

Sensory Stimuli Level

The Mental Health Care and Resort facilities focuses on multi-sensory experiences, thus the facilities needs arrangement of spaces focusing on sensory stimulation.

Resort and Mental Health Clinic Visitor

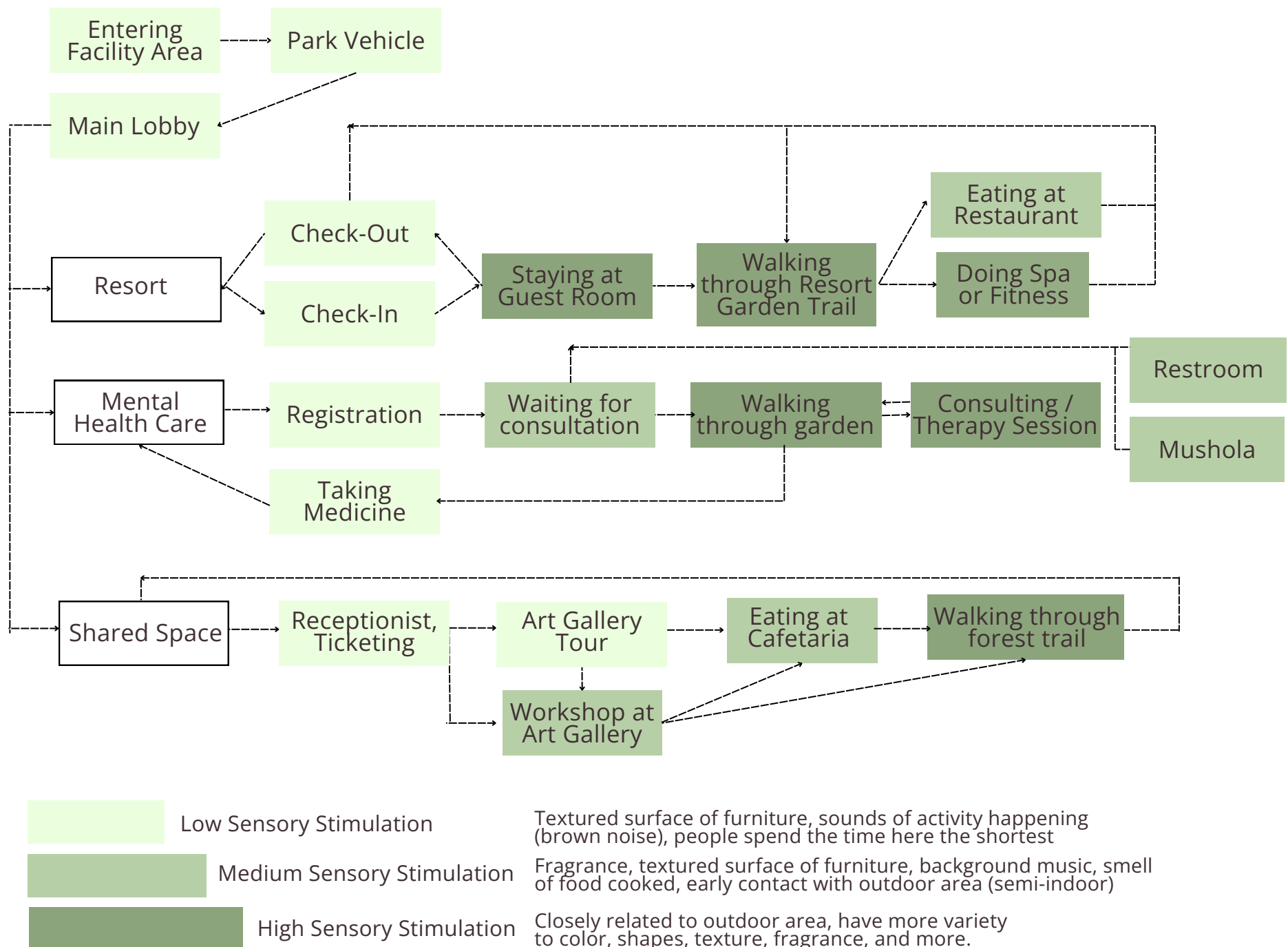


Fig. 5.0 - Sensory Stimuli Level
Author, 2024

Depok Beach Masterplan

Pemkab Bantul Bekerjasama dengan UGM Rancang Masterplan Pantai Depok, Ini Gambarannya

Tayang: Senin, 14 November 2022 15:25 WIB

Dari itu semua, pihaknya fokus mengembangkan sempadan pantai sepanjang 200 meter berdasarkan PERDA DIY No. 16 Tahun 2011 tentang Rencana Zonasi Wilayah Pesisir dan Pulau-Pulau Kecil Provinsi Daerah Istimewa Yogyakarta Tahun 2011-2030.

"Di dalam sempadan itu masih diperbolehkan aktivitas, tetapi tidak diperbolehkan bangunan permanen. Dari aturan tadi kita mencoba kembangkan zona-zonanya," capnya.

Fig. 5.1 - Depok Beach Masterplan
Jogja Tribun News, 2022

Regulations

- (4) Parameter setiap jenis ancaman bencana sebagaimana dimaksud pada ayat (3) terdiri atas ancaman:
- gempa, diukur dari kekuatan gempa;
 - tsunami, diukur dari tinggi gelombang dari muka air laut sebelum tsunami datang dan tinggi genangan pada lokasi dengan jarak 100 (seratus) meter dari titik pasang tertinggi ke arah darat;
 - erosi atau abrasi, diukur dari perubahan garis pantai karena angkutan sedimen menyusur pantai (*long shore transport*) dan perubahan garis pantai karena angkutan sedimen tegak lurus pantai (*cross shore transport*) dengan memperhitungkan kenaikan muka air laut (*sea level rise*);
 - badai, diukur dari kondisi angin; dan
 - banjir dari laut, diukur dari laju kenaikan muka air laut.

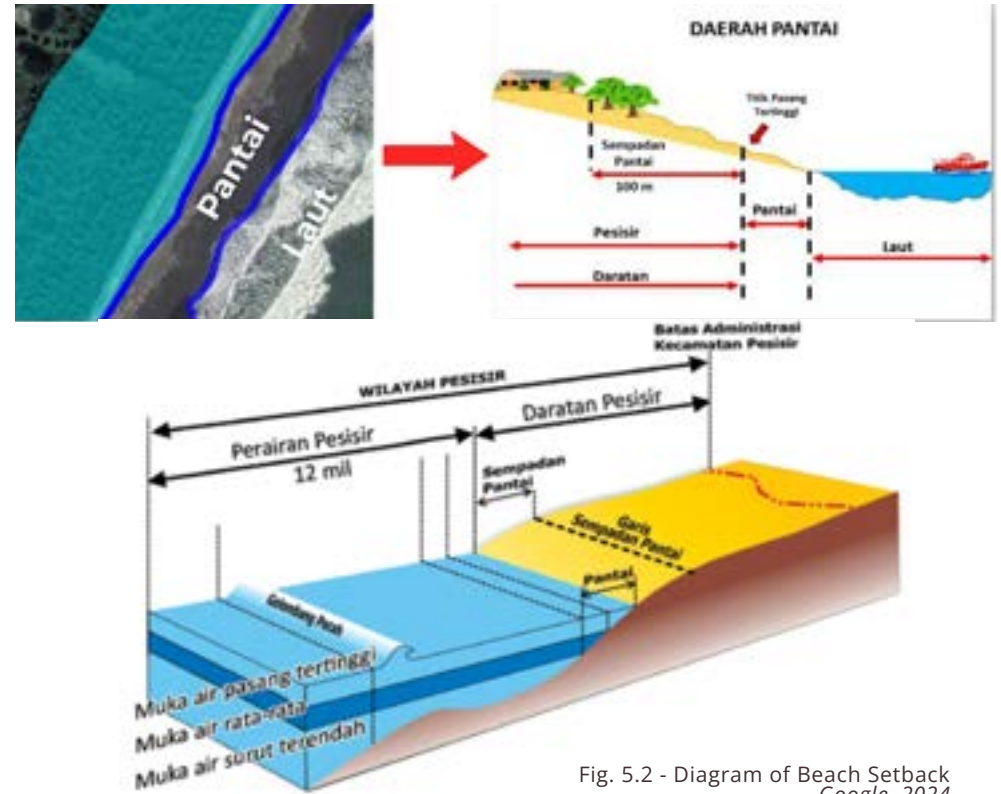


Fig. 5.2 - Diagram of Beach Setback
Google, 2024

2. Kawasan sempadan pantai:

- ketentuan intensitas pemanfaatan ruang yang terdiri atas:
 - KDB maksimal 20% (dua puluh perseratus);
 - KLB maksimal 0,8 (nol koma delapan); dan
 - KDH minimal 80% (delapan puluh perseratus).
- ketentuan tata bangunan yang terdiri atas:
 - TB maksimal 10 (sepuluh) meter;
 - GSB minimal 0,5 (nol koma lima) dikali rumija ditambah 1 (satu) meter; dan
 - Konstruksi bangunan tahan gempa dan tsunami mengikuti Standar Nasional Indonesia yang berlaku.
- menyediakan rambu dan jalur evakuasi;
- menyediakan vegetasi yang bisa meminimalisir dampak bencana;

Site Area = 15.000 m²

KDB = $20/100 \times 15.000 = 3.000 \text{ m}^2$

both previous and current design is already fulfilling this 3.000 m² area

KLB = $15.000 \times 0.8 = 12.000 \text{ m}^2$

BUPATI BANTUL
DAERAH ISTIMEWA YOGYAKARTA
PERATURAN BUPATI BANTUL
NOMOR 7 TAHUN 2024

TENTANG
RENCANA DETAIL TATA RUANG WILAYAH PERENCANAAN PANTAI SELATAN
TAHUN 2024 - 2044

BUPATI BANTUL
PERATURAN DAERAH KABUPATEN BANTUL
NOMOR 05 TAHUN 2011
TENTANG
BANGUNAN GEDUNG
DENGAN RAHMAT TUHAN YANG MAHA ESA
BUPATI BANTUL,

(3) Penetapan garis sempadan sungai tidak bertanggung di dalam kawasan perkotaan didasarkan pada kriteria :

- sungai yang mempunyai kedalaman tidak lebih dari 3 (tiga) meter, sempadan ditetapkan sekurang-kurangnya 10 (sepuluh) meter dihitung dari tepi sungai pada waktu ditetapkan;
- sungai yang mempunyai kedalaman lebih dari 3 (tiga) meter sampai dengan 20 (dua puluh) meter, sempadan ditetapkan sekurang-kurangnya 15 (lima belas) meter dihitung dari tepi sungai pada waktu ditetapkan;
- sungai yang mempunyai kedalaman lebih dari 20 (dua puluh) meter, sempadan ditetapkan sekurang-kurangnya 30 (tiga puluh) meter dihitung dari tepi sungai pada waktu ditetapkan; dan
- sungai tidak bertanggung yang berbatasan dengan jalan, sempadannya adalah tepi bahu jalan yang bersangkutan dengan ketentuan konstruksi dan penggunaan jalan harus menjamin bagi kelestarian dan keamanan sungai serta bangunan sungai.

(4) Untuk sungai yang terpengaruh pada pasang surut air laut, garis sempadan ditetapkan paling sedikit 100 (seratus) meter dari tepi sungai, dan berfungsi sebagai jalur hijau.

Setback from Opak and Depok Beach



shortest length perpendicular from Opak river bank



Length from highest tide (assumption) of Depok Beach



Fig. 5.3 - Buildable Area
Author, 2024

Fixed Site



The site will still be 15.000 m², and area for building will be around 5.000 m², with the KDB of 3.000 m².

Fig. 5.4 - Setback from Beach
Author, 2024

Sketch Ideas for Pathway

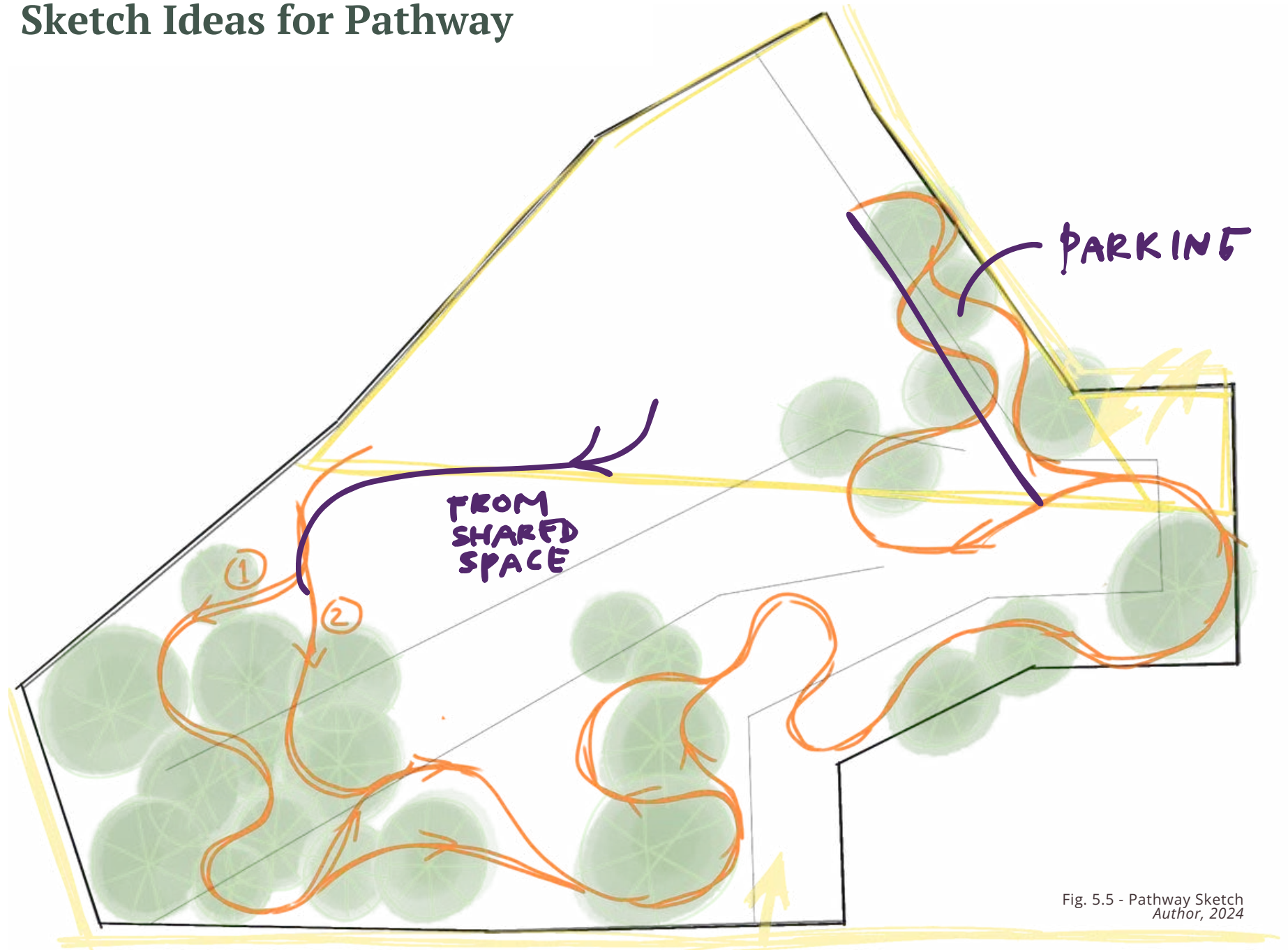
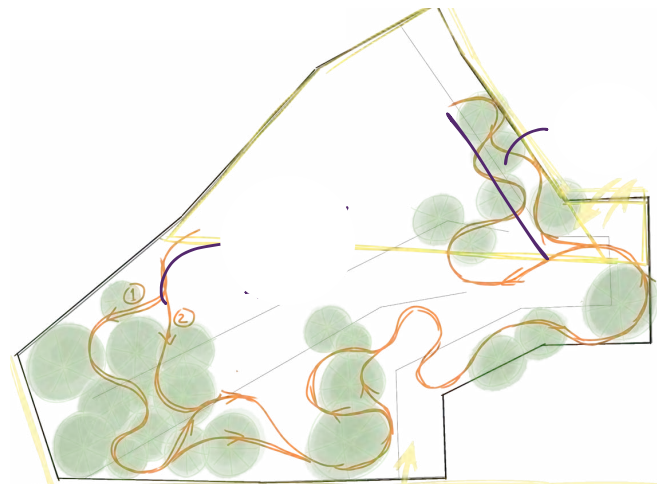


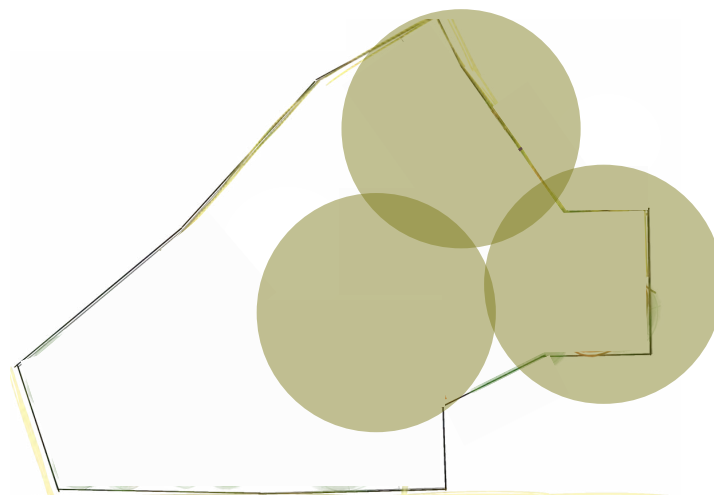
Fig. 5.5 - Pathway Sketch
Author, 2024

The pathway are created following the existing vegetation, connecting one to each other. And it is also created from where the program is.

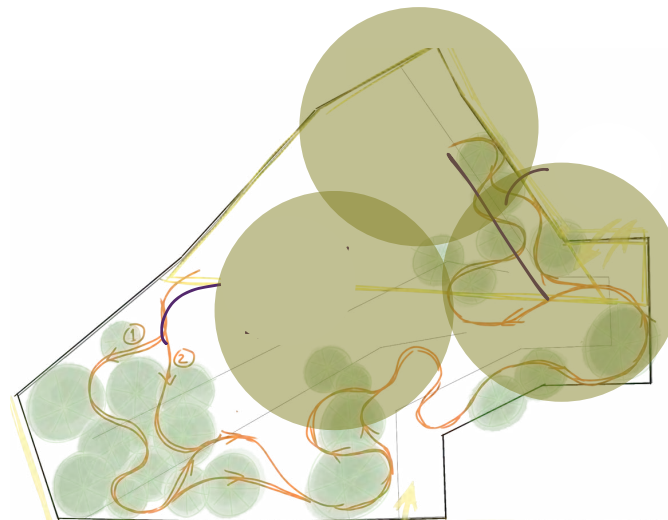
Masses Placement



Creating a continuous line to shape the shared space and garden, following the flow by the existing trees



Creating a separation in between zone based on public, semi public, and private



Combining the two and creating space in between them

Fig. 5.6 - Masses Placement
Author, 2024

Zoning

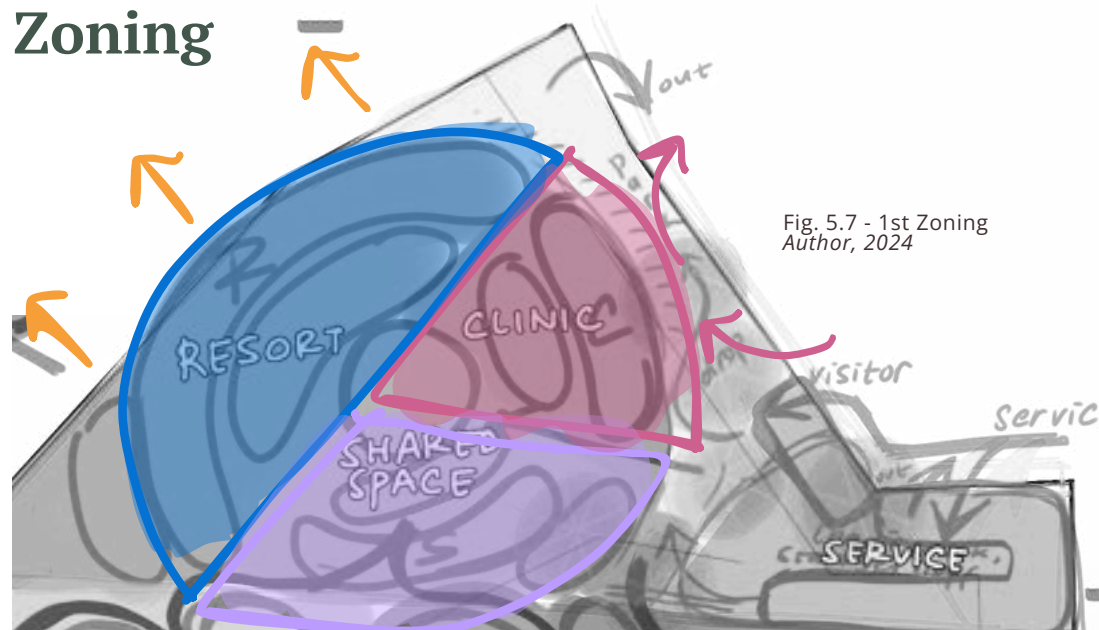


Fig. 5.7 - 1st Zoning
Author, 2024

From the basic circle, I separate each area into 3 parts, for Resort, Clinic, and Shared Space.

- Resort = facing the opak estuary, able to see the beach
- Clinic = near the main entrance, easier access
- Shared Space = in between resort and clinic

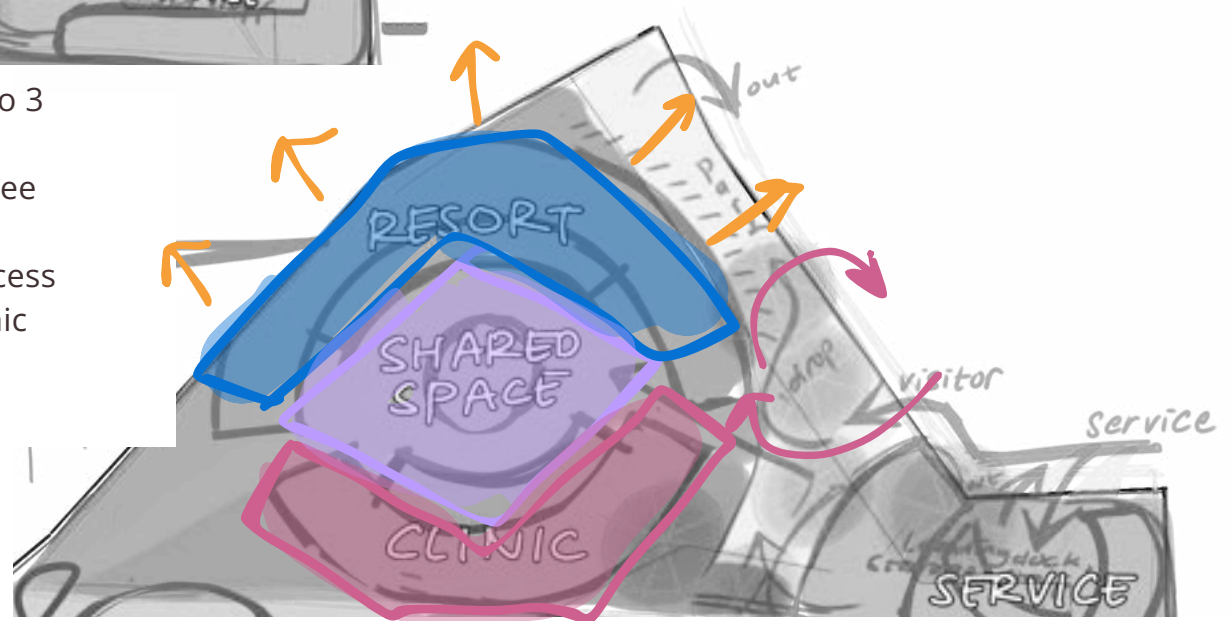


Fig. 5.8 - 2nd Zoning
Author, 2024

This arrangement also still the same, but separating the area from the side, not the center

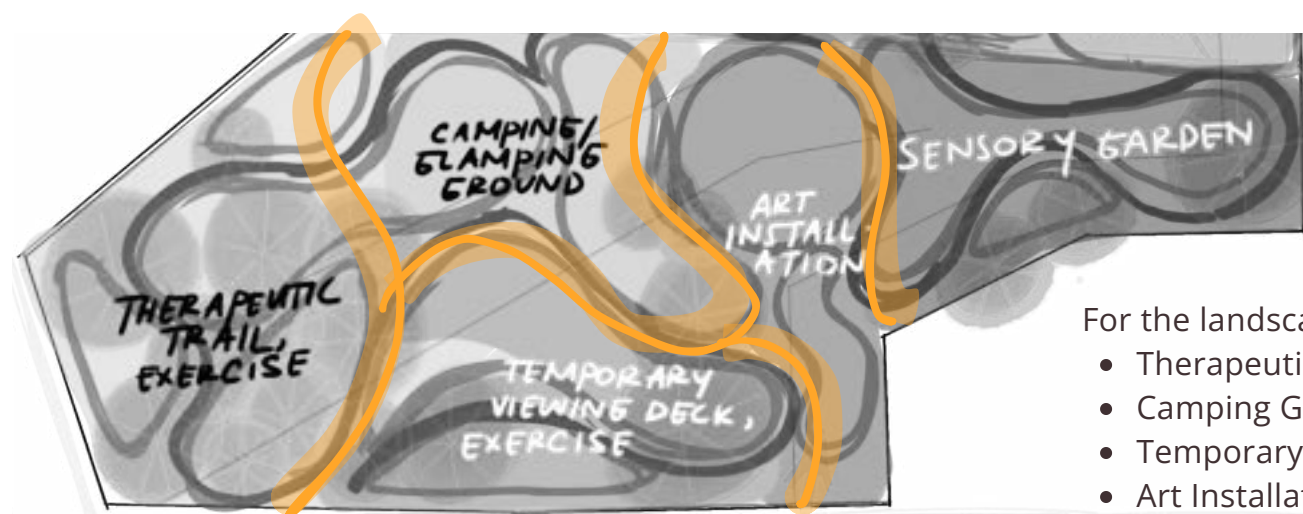


Fig. 5.9 - Landscape Arrangement
Author, 2024

For the landscape, I separate it into a 5 area

- Therapeutic Trail and exercise area
- Camping Ground
- Temporary Viewing Deck
- Art Installation
- Sensory Garden

ale. Courtesy of Graphisoft.

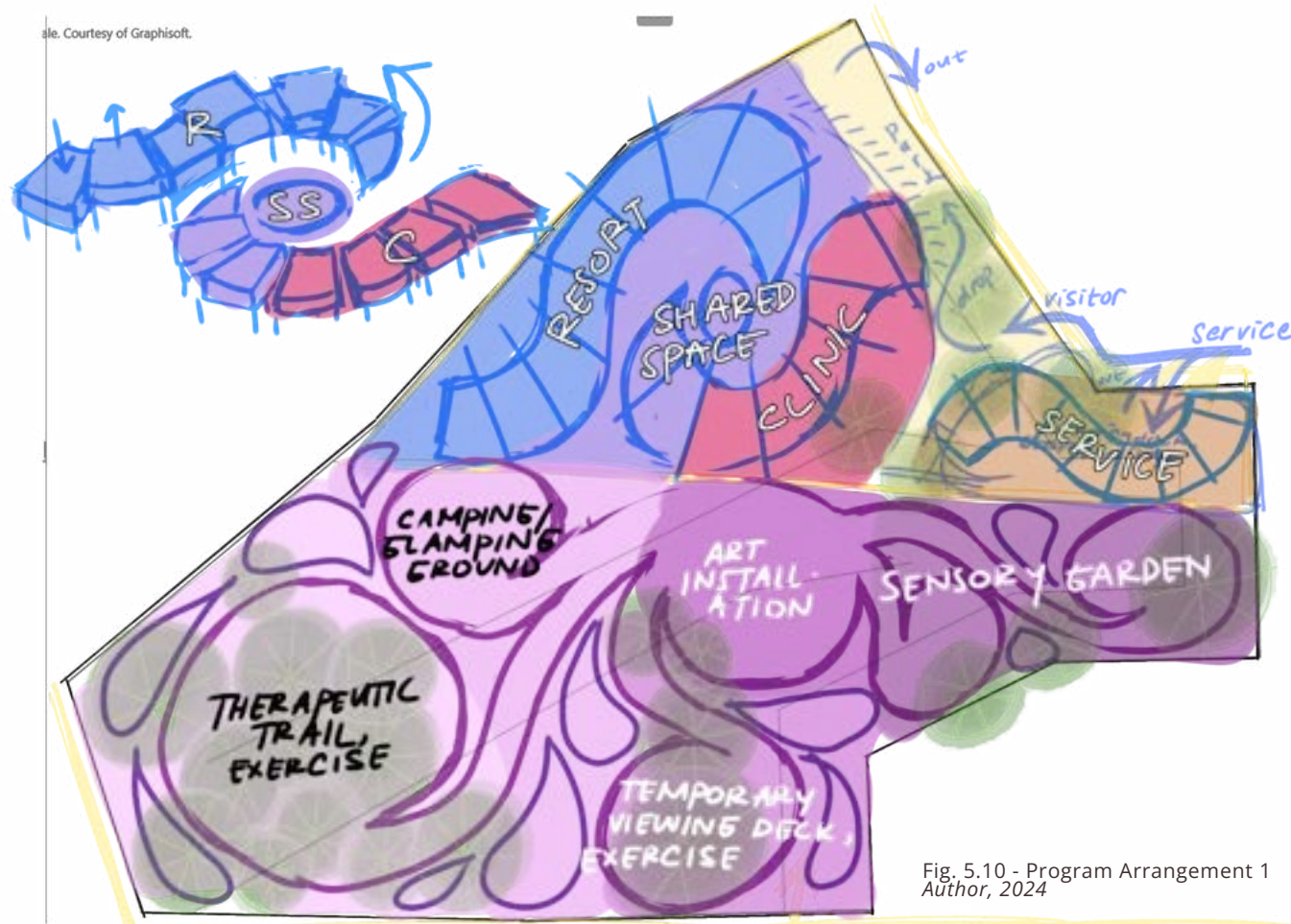


Fig. 5.10 - Program Arrangement 1
Author, 2024

Program Arrangement 5 Landscape 2

ale. Courtesy of Graphisoft.

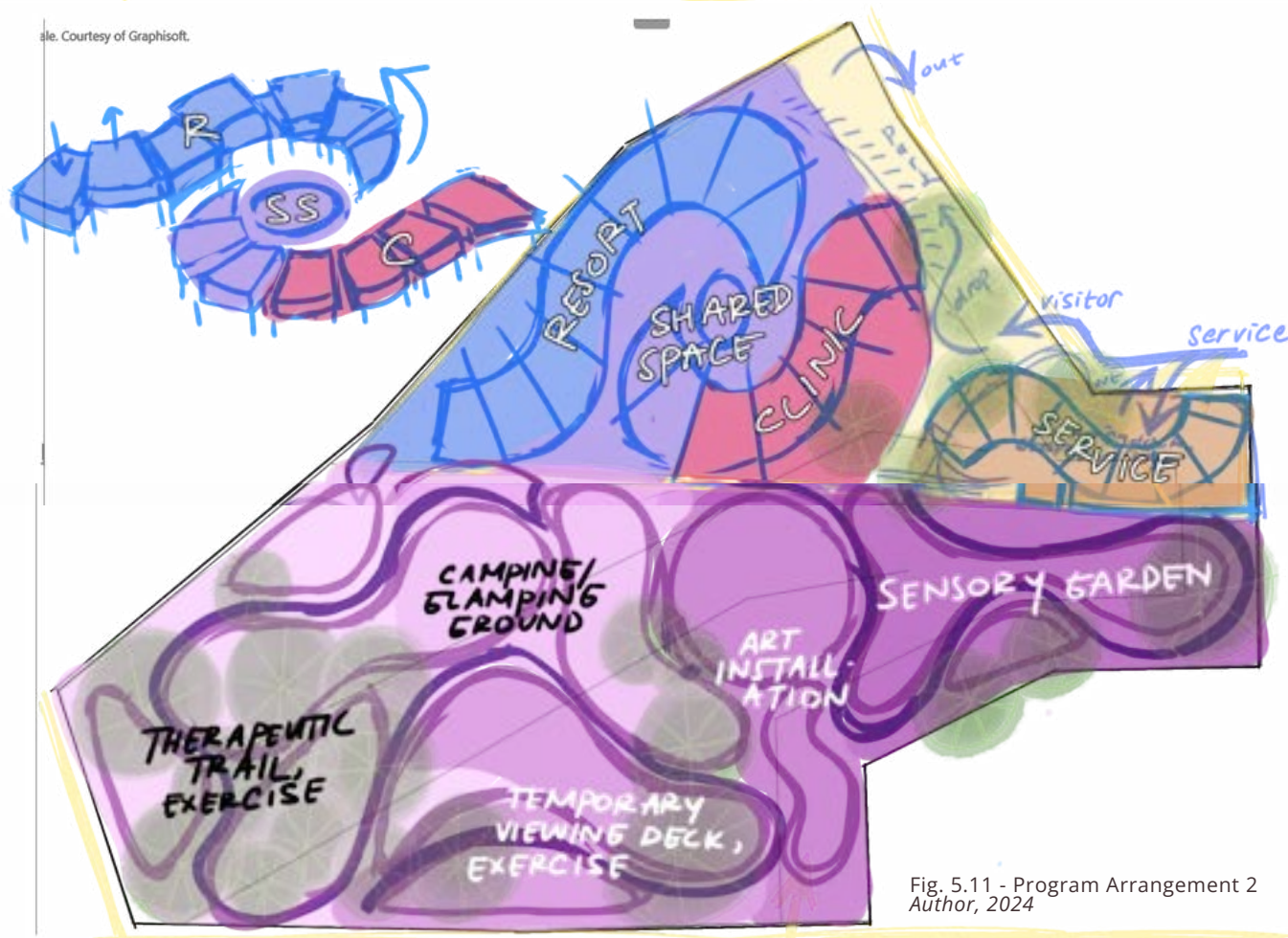
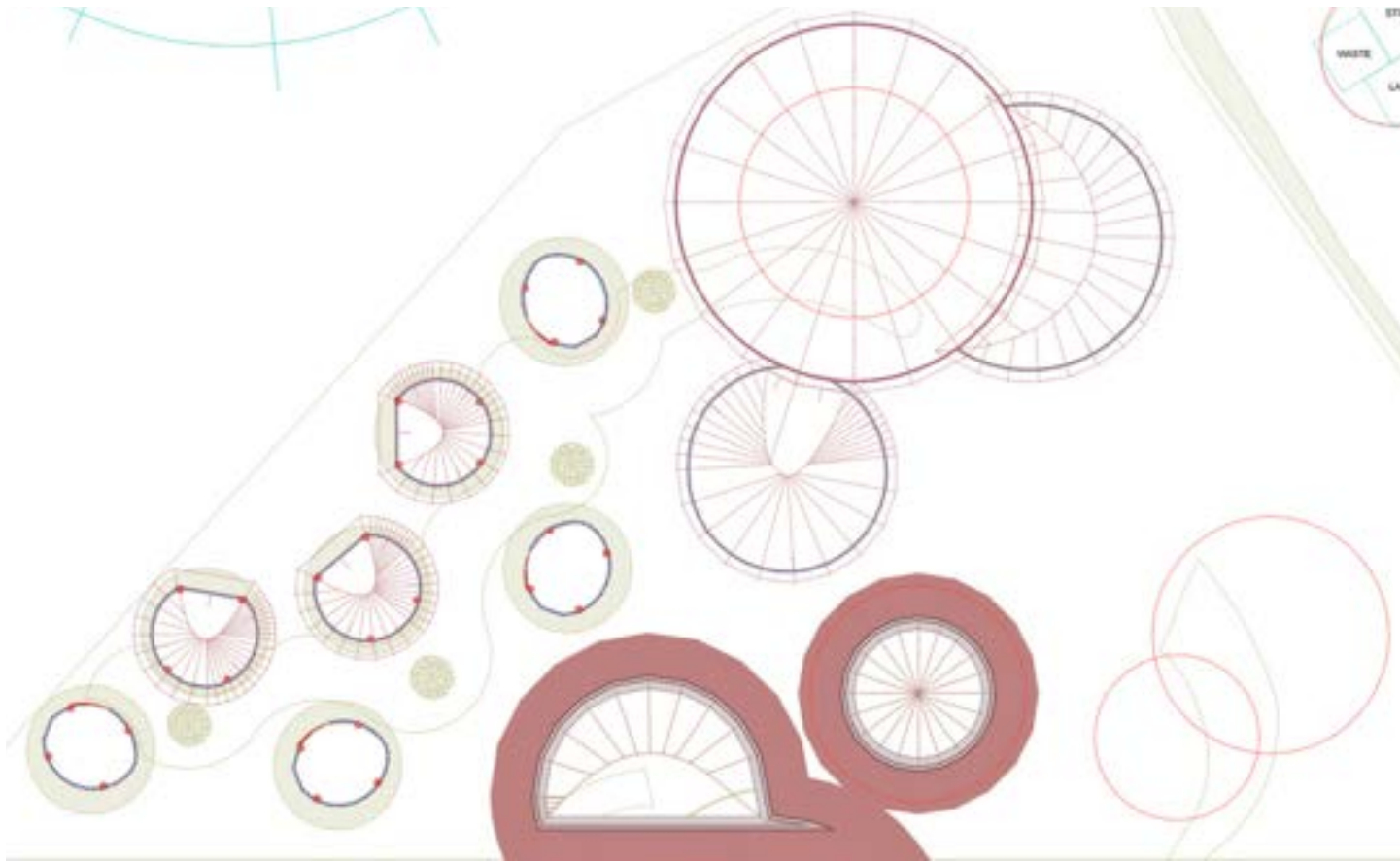


Fig. 5.11 - Program Arrangement 2
Author, 2024

Program Arrangement 5 Landscape 1

Arrangement Comparison



previous building arrangement



current building arrangement

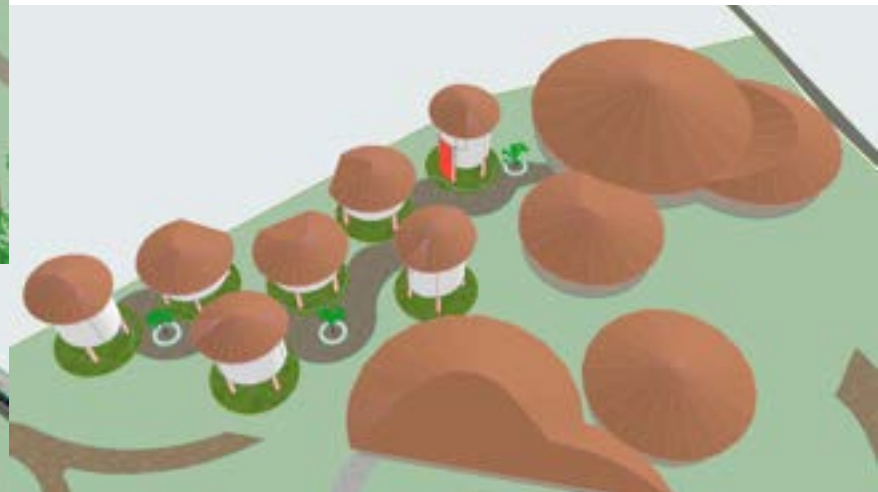


Fig. 5.12 - Comparison of Building Arrangement in 3D
Author, 2024

Arrangement 01

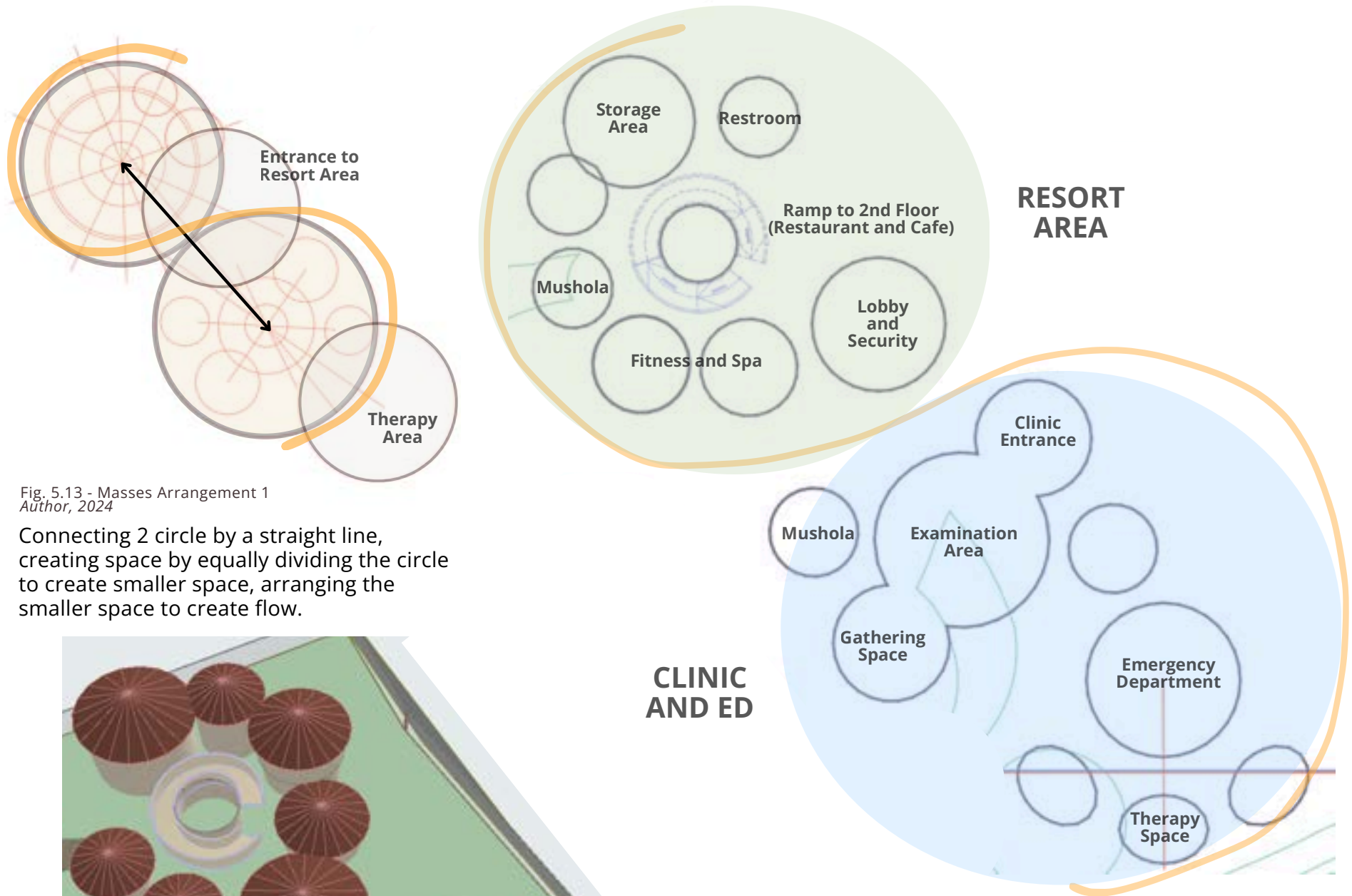


Fig. 5.13 - Masses Arrangement 1
Author, 2024

Connecting 2 circle by a straight line, creating space by equally dividing the circle to create smaller space, arranging the smaller space to create flow.

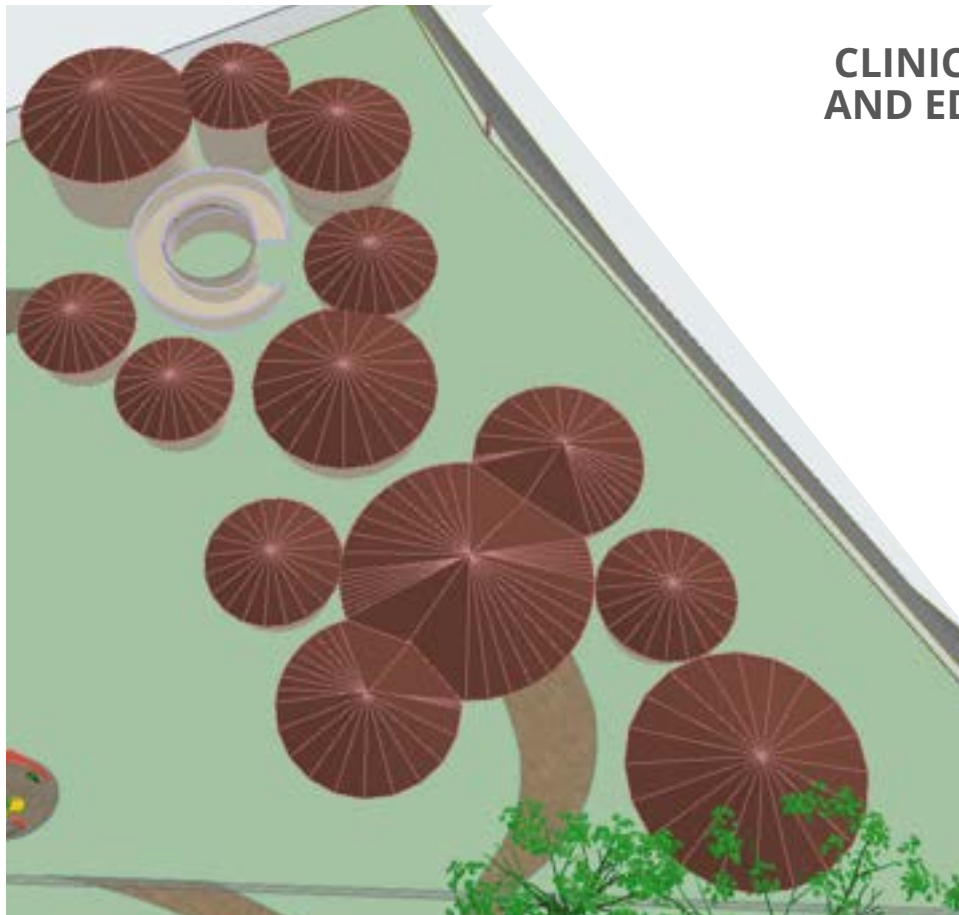


Fig. 5.15 - Masses Arrangement 1 3D
Author, 2024

Fig. 5.14 - Masses Arrangement 1 Zoomed
Author, 2024

Arrangement 02

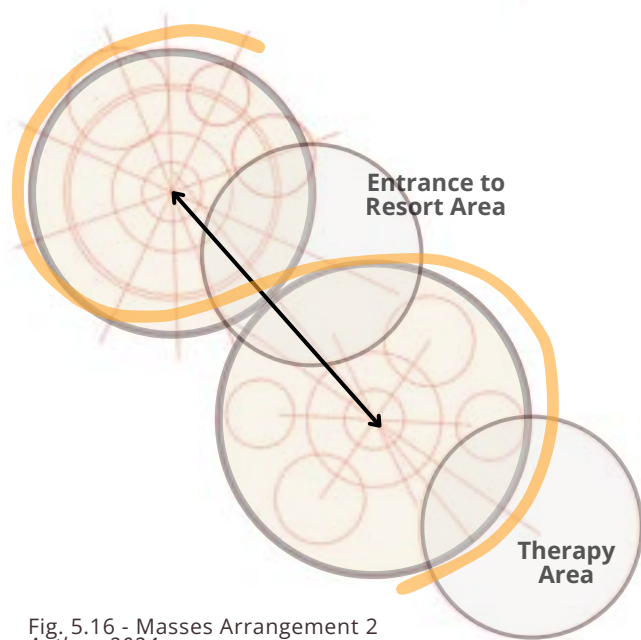


Fig. 5.16 - Masses Arrangement 2
Author, 2024

Connecting 2 circle by a straight line, creating space by equally dividing the circle to create smaller space, arranging the smaller space to create flow.

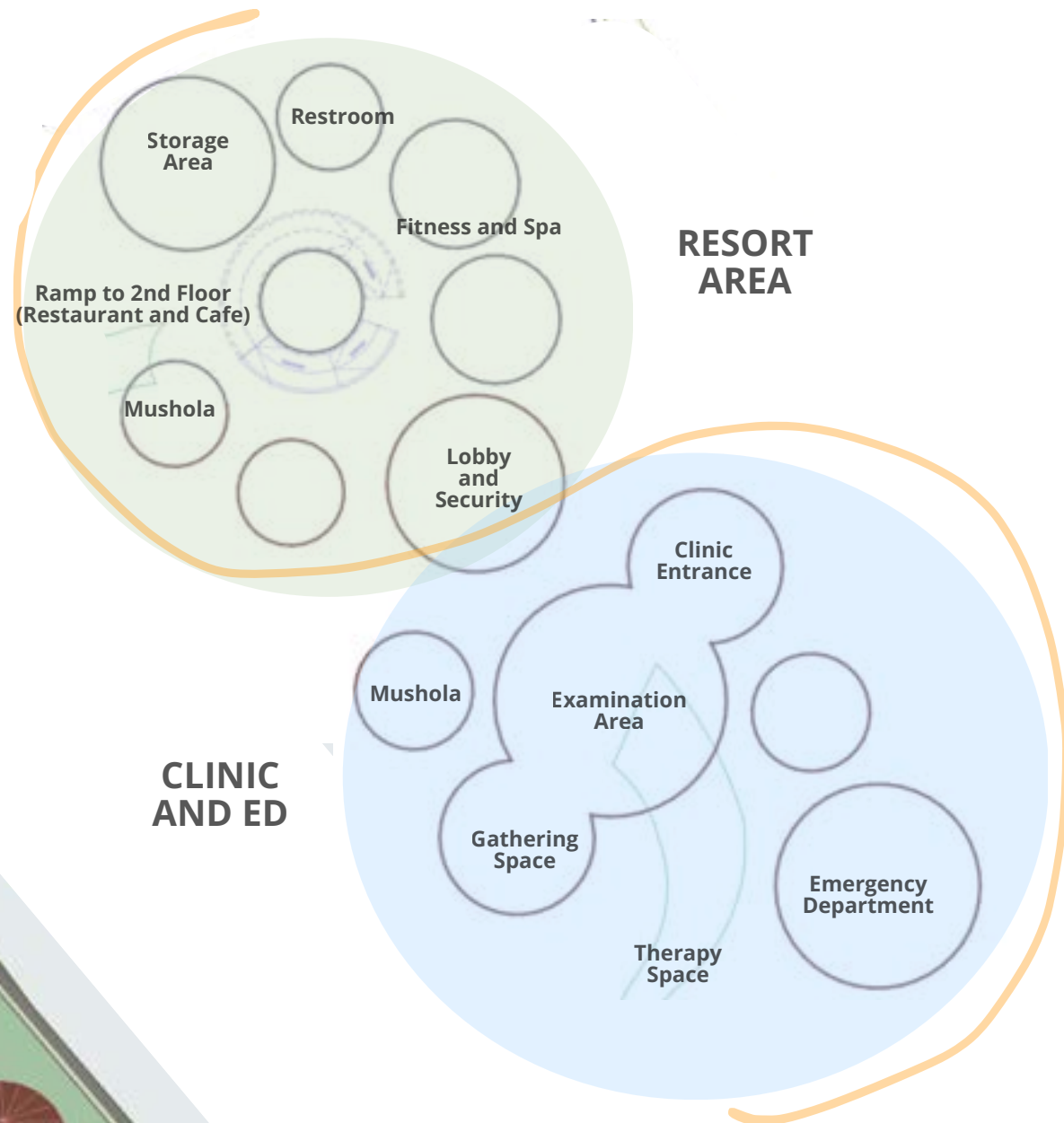


Fig. 5.17 - Masses Arrangement 2 Zoomed
Author, 2024

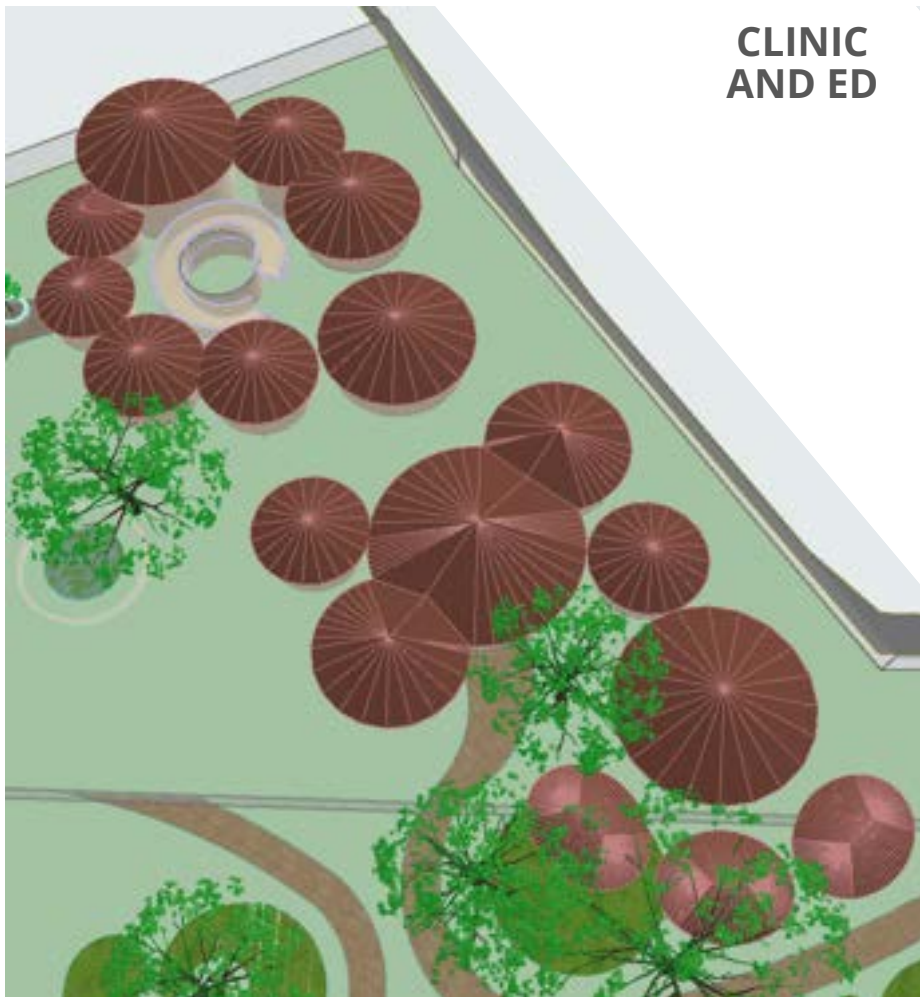


Fig. 5.18 - Masses Arrangement 2 3D
Author, 2024

Guest Room Analysis

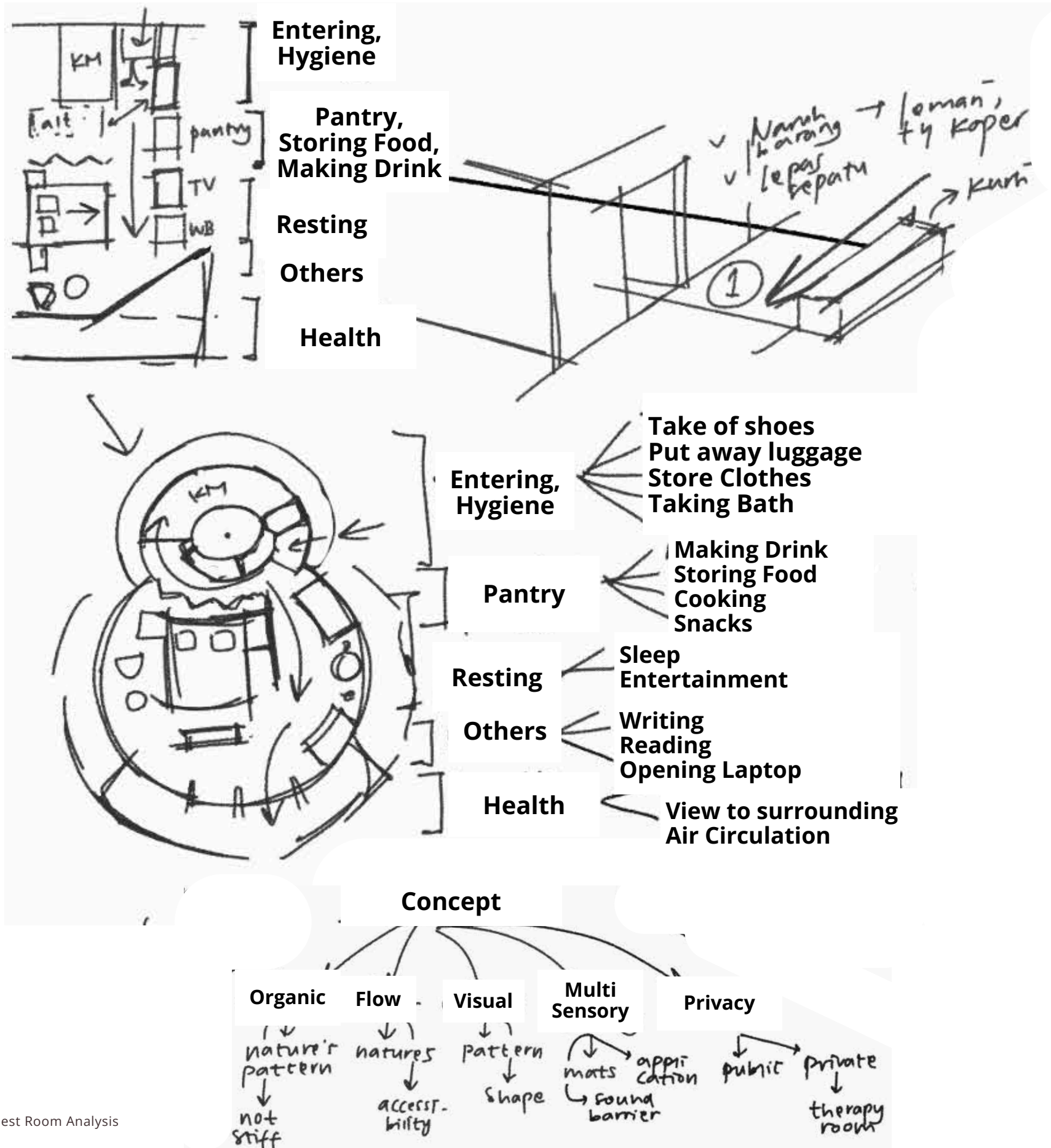
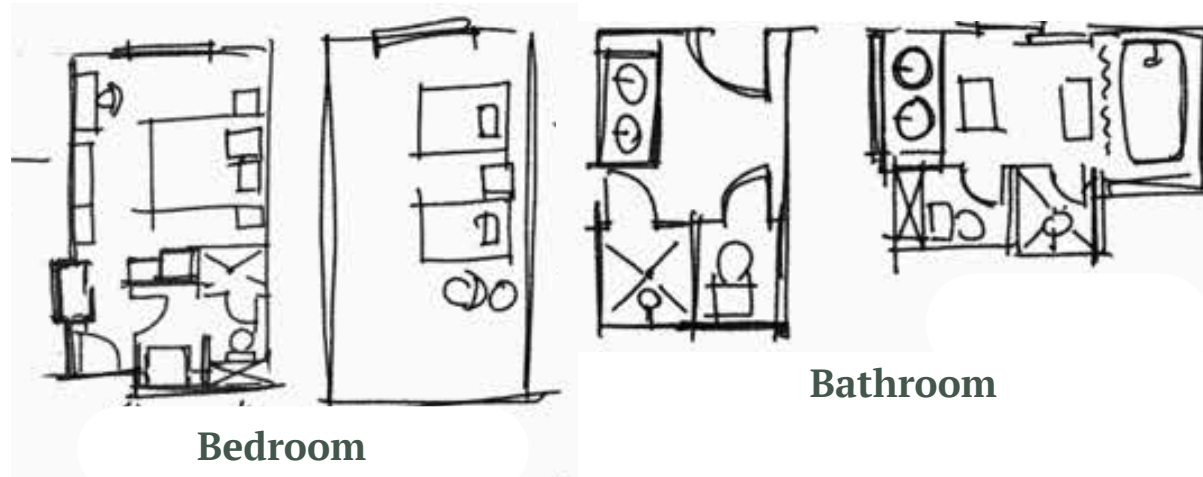
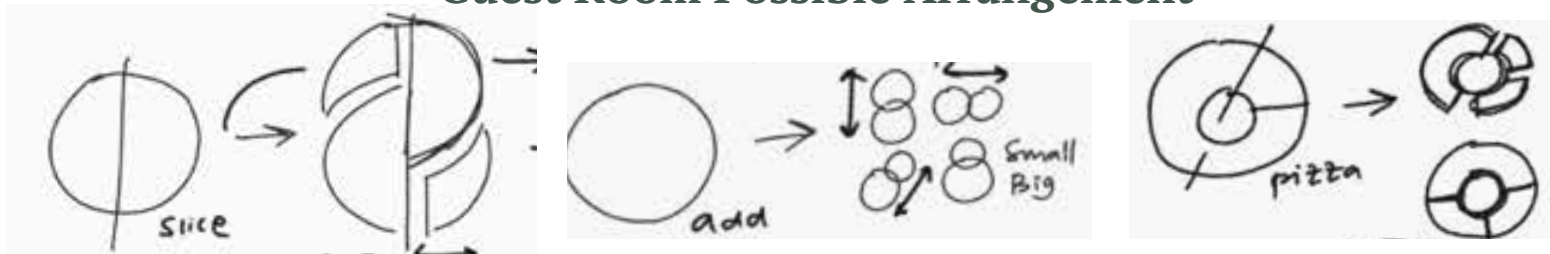


Fig. 5.19 - Guest Room Analysis
Author, 2024

Guest Room Arrangement



Guest Room Possible Arrangement



Sketch Arrangement

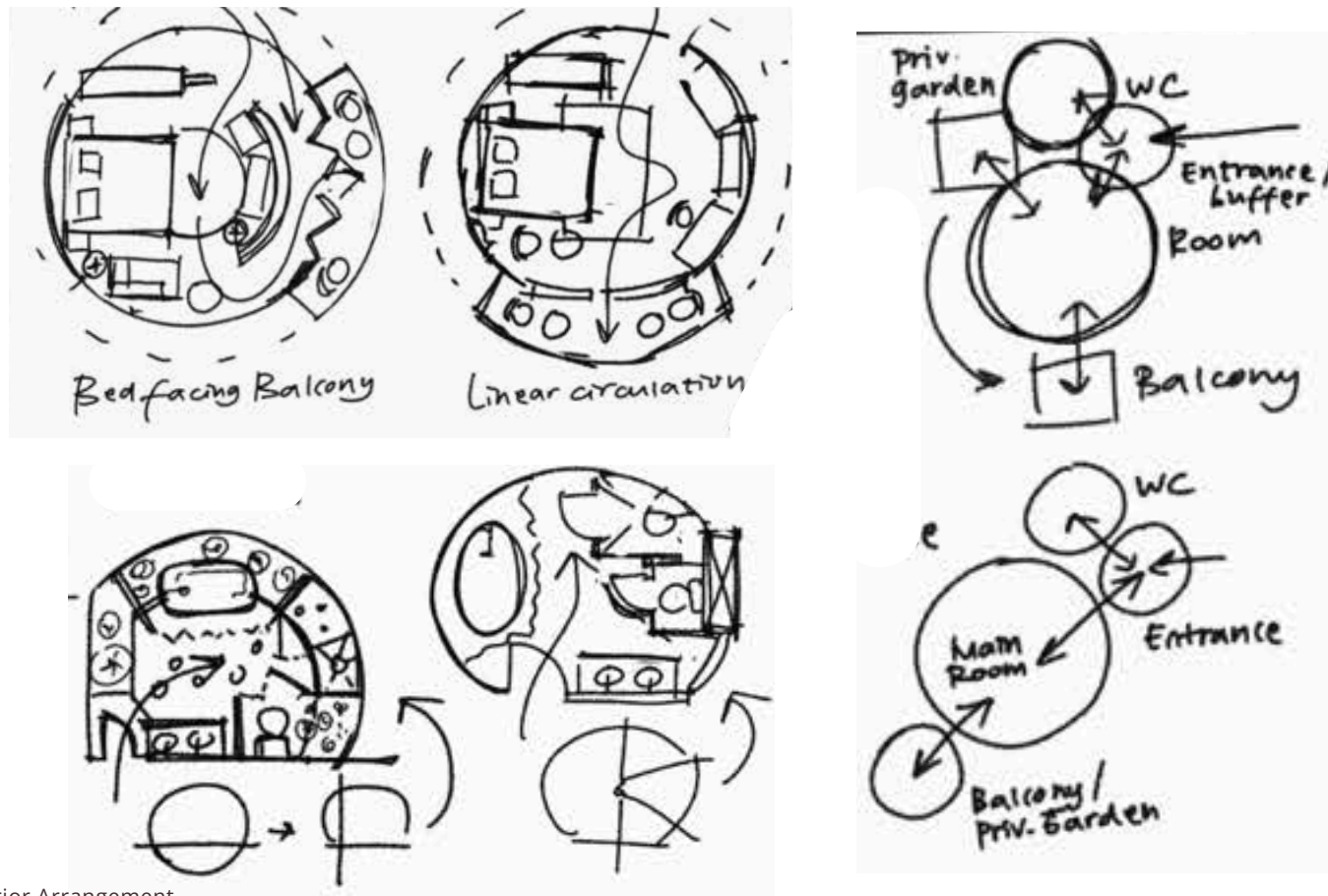


Fig. 5.20 - Guest Room Interior Arrangement
Author, 2024

Early Guest Room Interior Arrangement

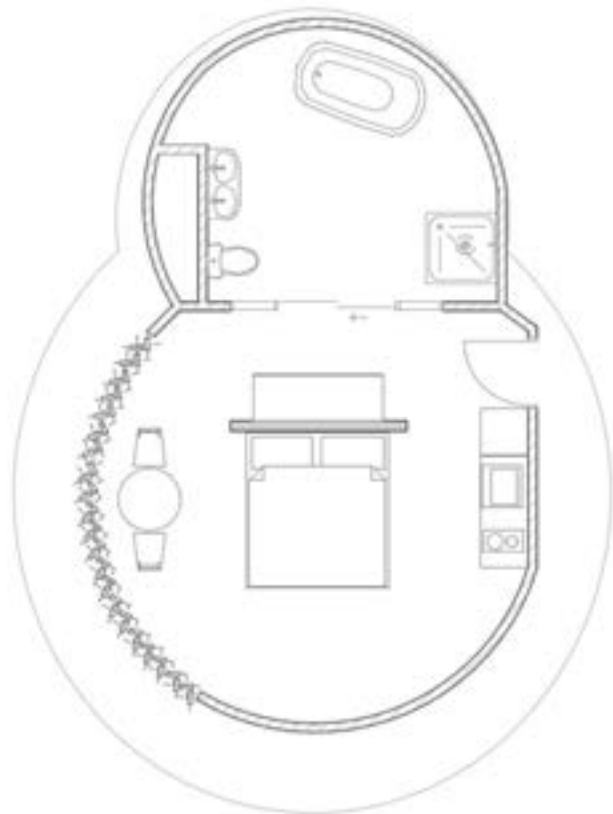


Fig. 5.21 - Early Guest Room Arrangement Plan
Author, 2024

Current Guest Room Arrangement

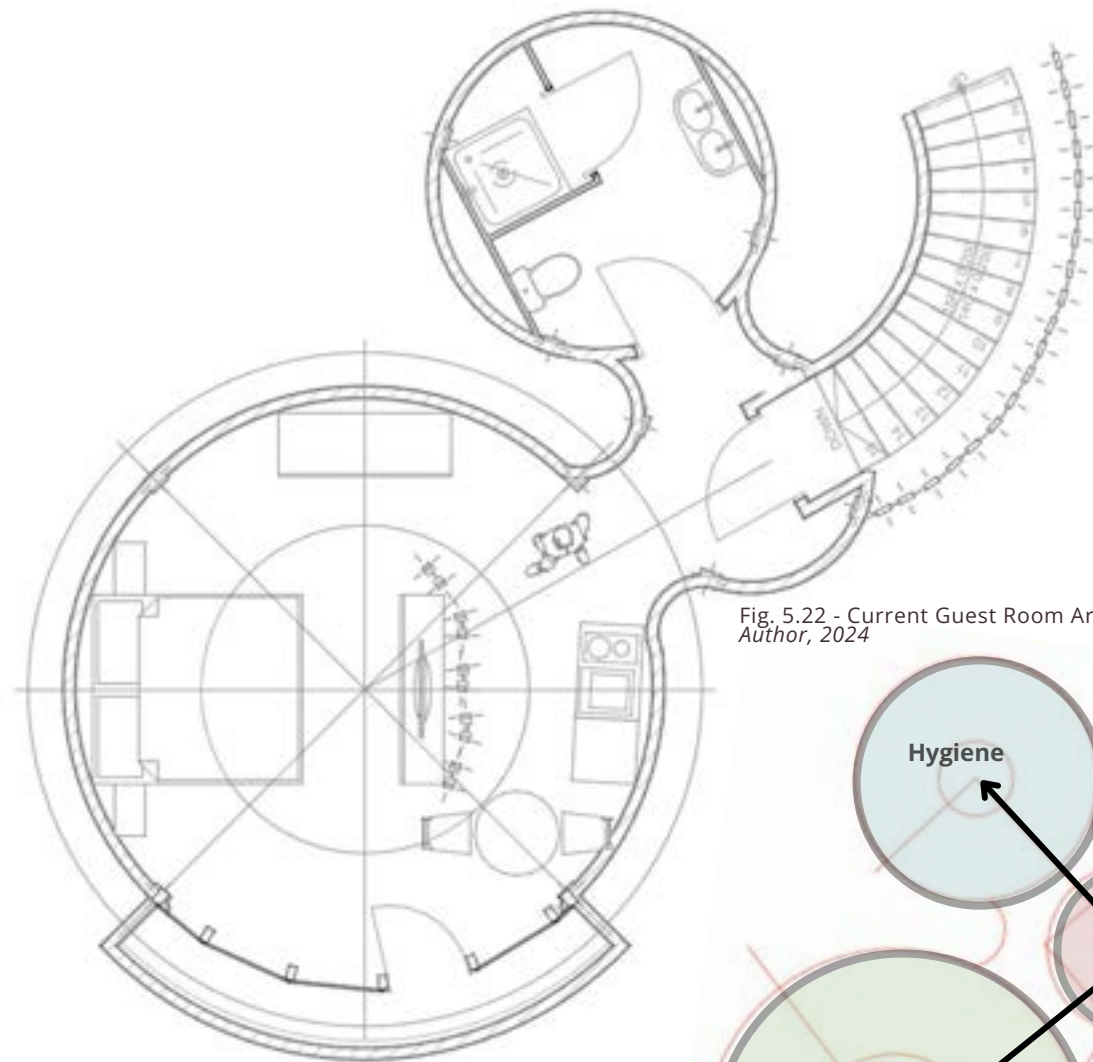
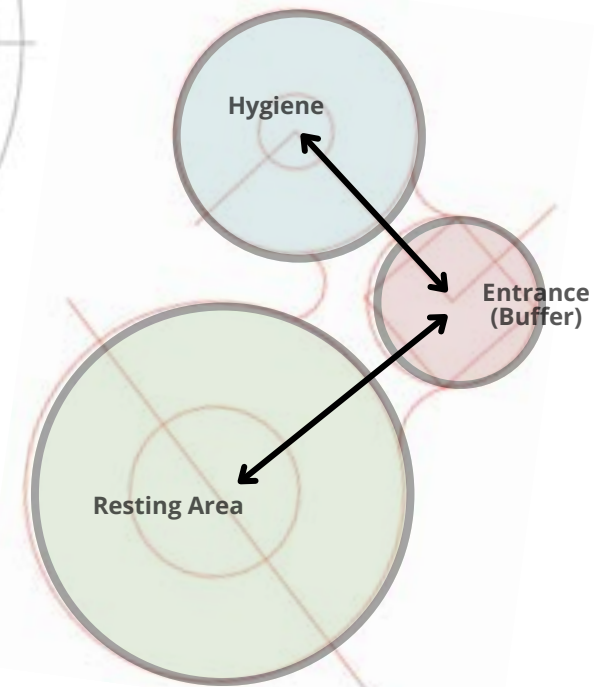


Fig. 5.22 - Current Guest Room Arrangement Plan
Author, 2024



Connecting between 3 circle with a straight line to create a symmetrical and cohesive flow

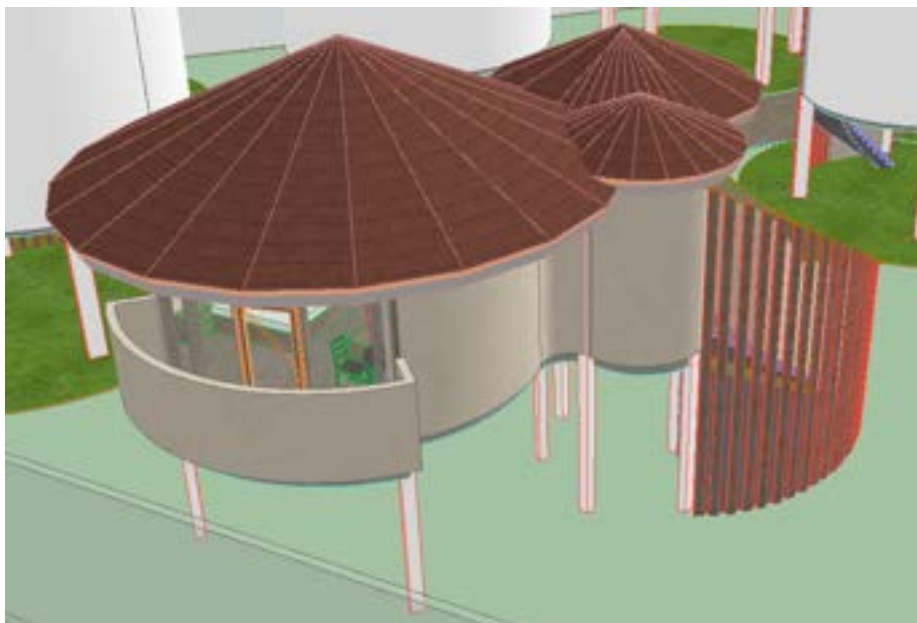


Fig. 5.23 - Guest Room 3D
Author, 2024

Flow of Masses Placement

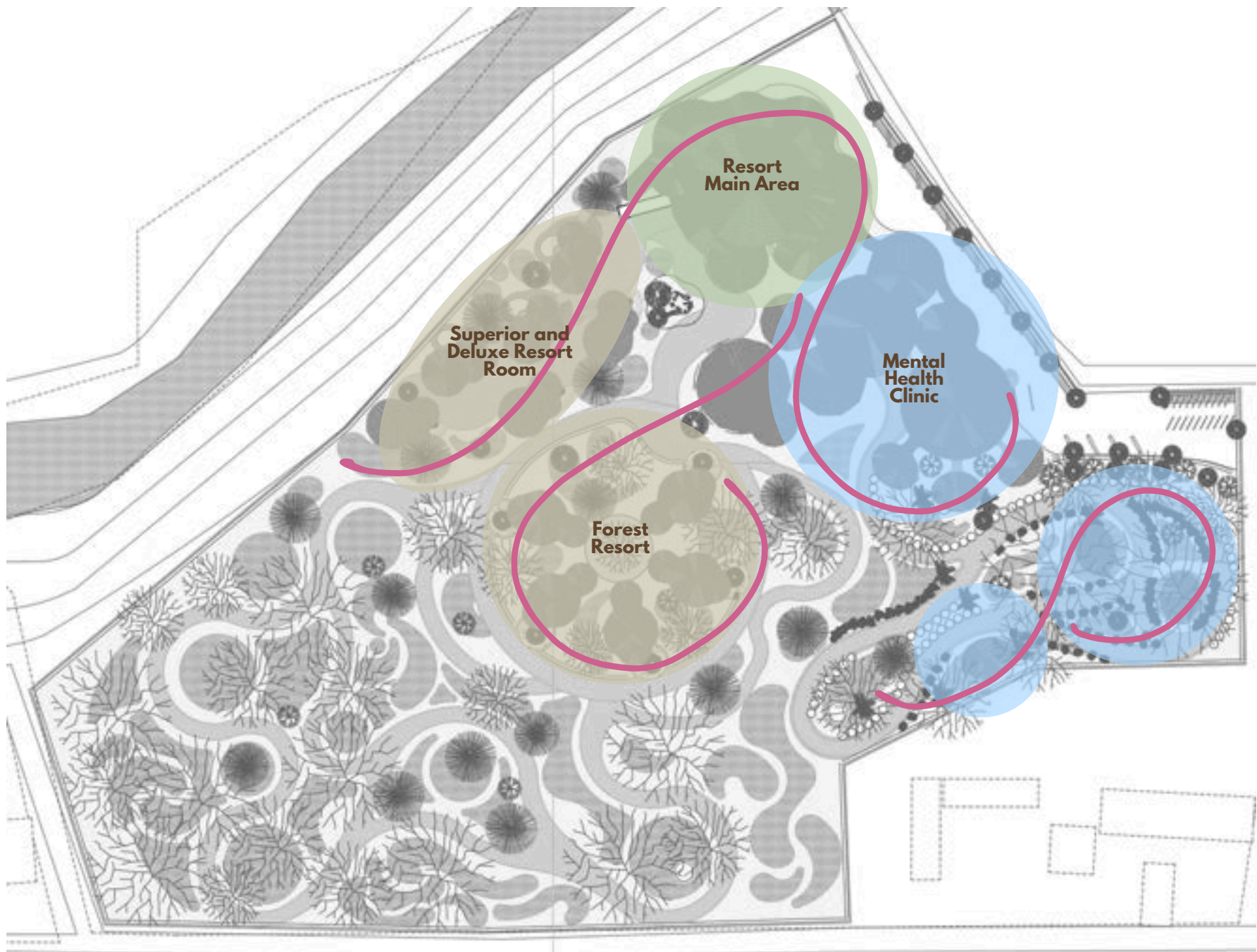


Fig. 5.24 - Flow of Masses Placement
Author, 2024

Zoning



Fig. 5.25 - Zoning
Author, 2024

Concept Area



Fig. 5.26 - Concept per Area
Author, 2024

06

**Design
Drawings**



Fig. 6.0 - Building Surrounding
Author, 2024





Fig. 6.1 - Building Site Plan
Author, 2024





Fig. 6.2 - Building Site Plan Vegetation and Access
 Author, 2024



Sensory Garden

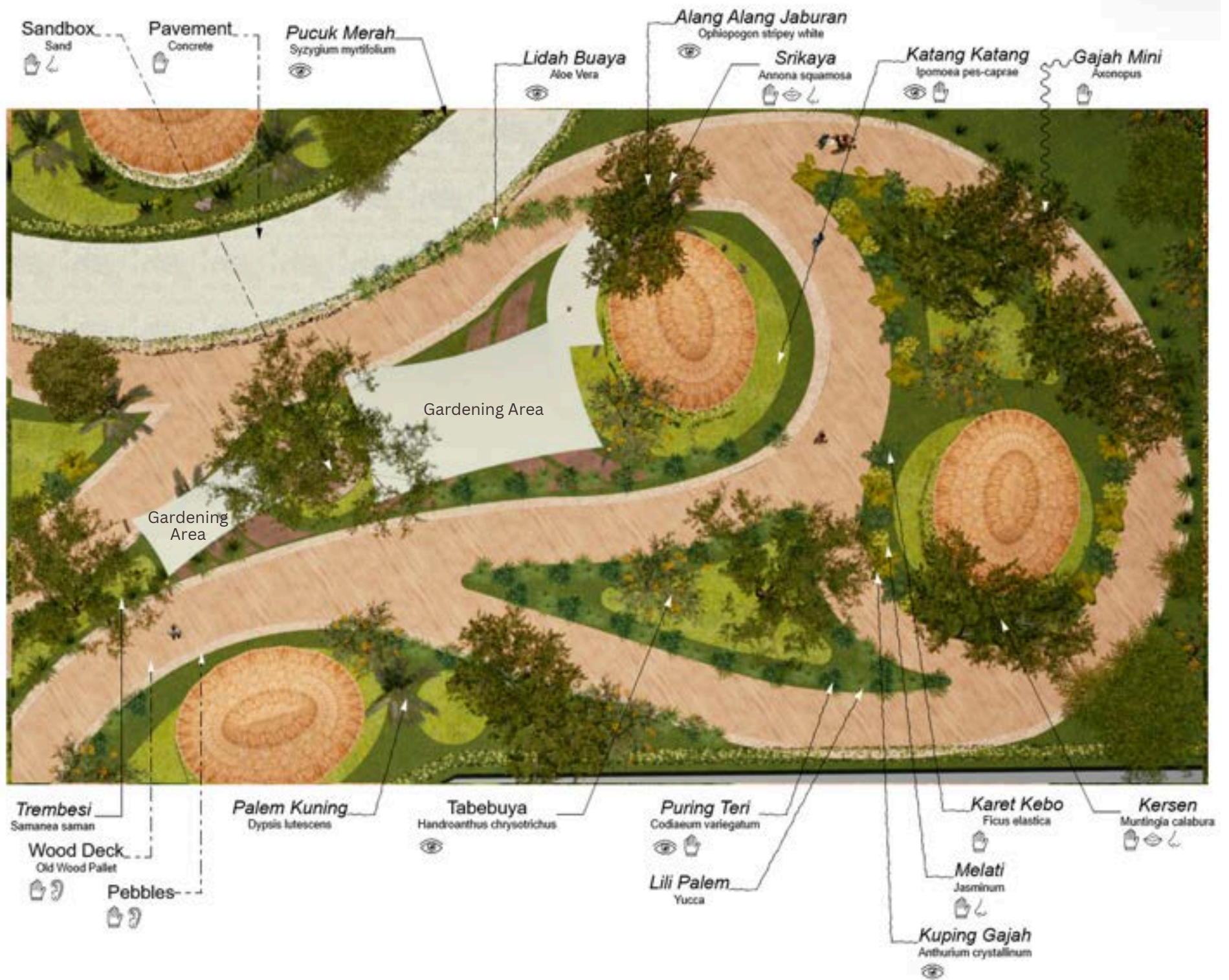


Fig. 6.3 - Building Site Plan Zoomed
Author, 2024

DESIGN DRAWING
Ground Floor Plan

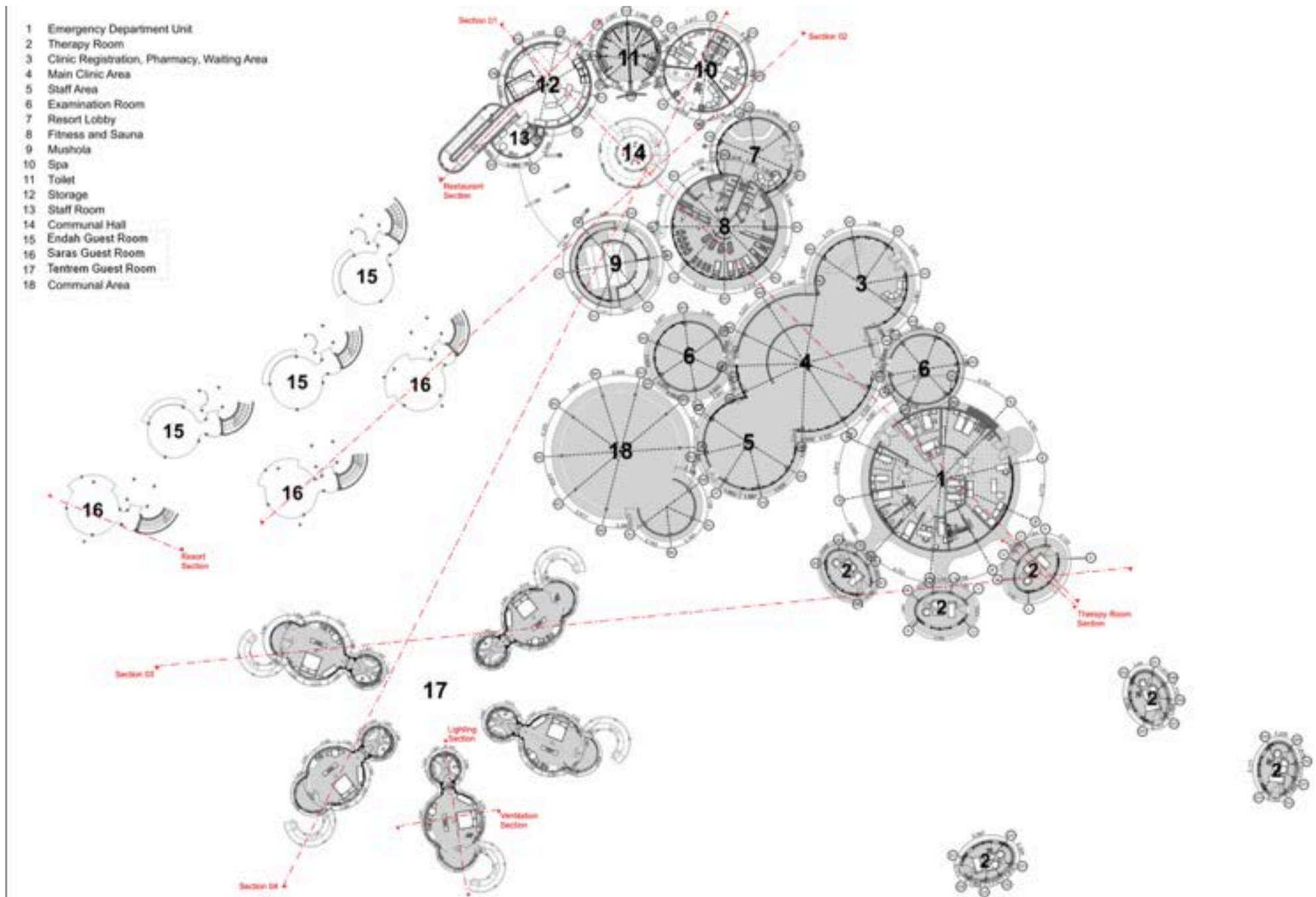


Fig. 6.4 - Ground Floor Plan
 Author, 2024



DESIGN DRAWING
1st Floor Plan

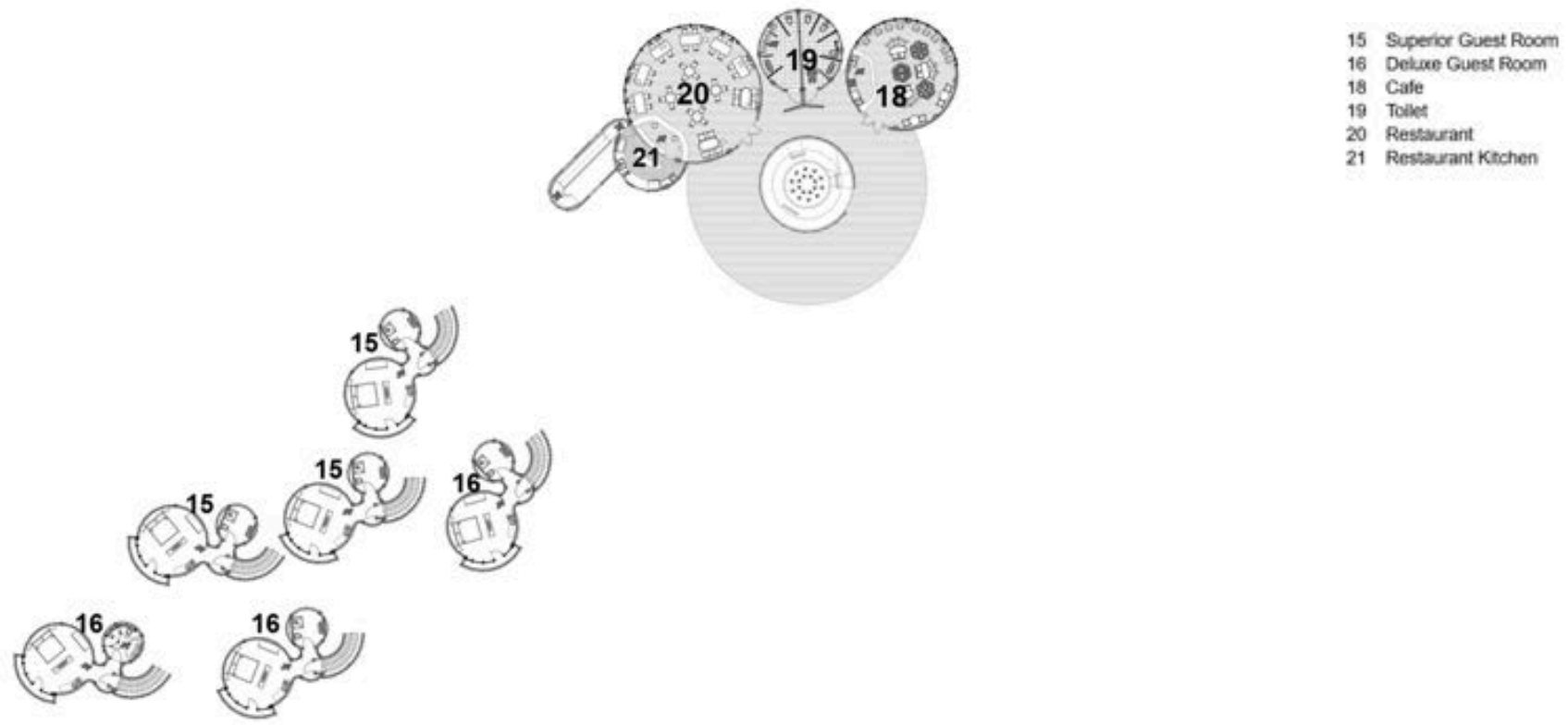


Fig. 6.5 - 1st Floor Plan
Author, 2024



Main Resort Area Ground Floor Plan

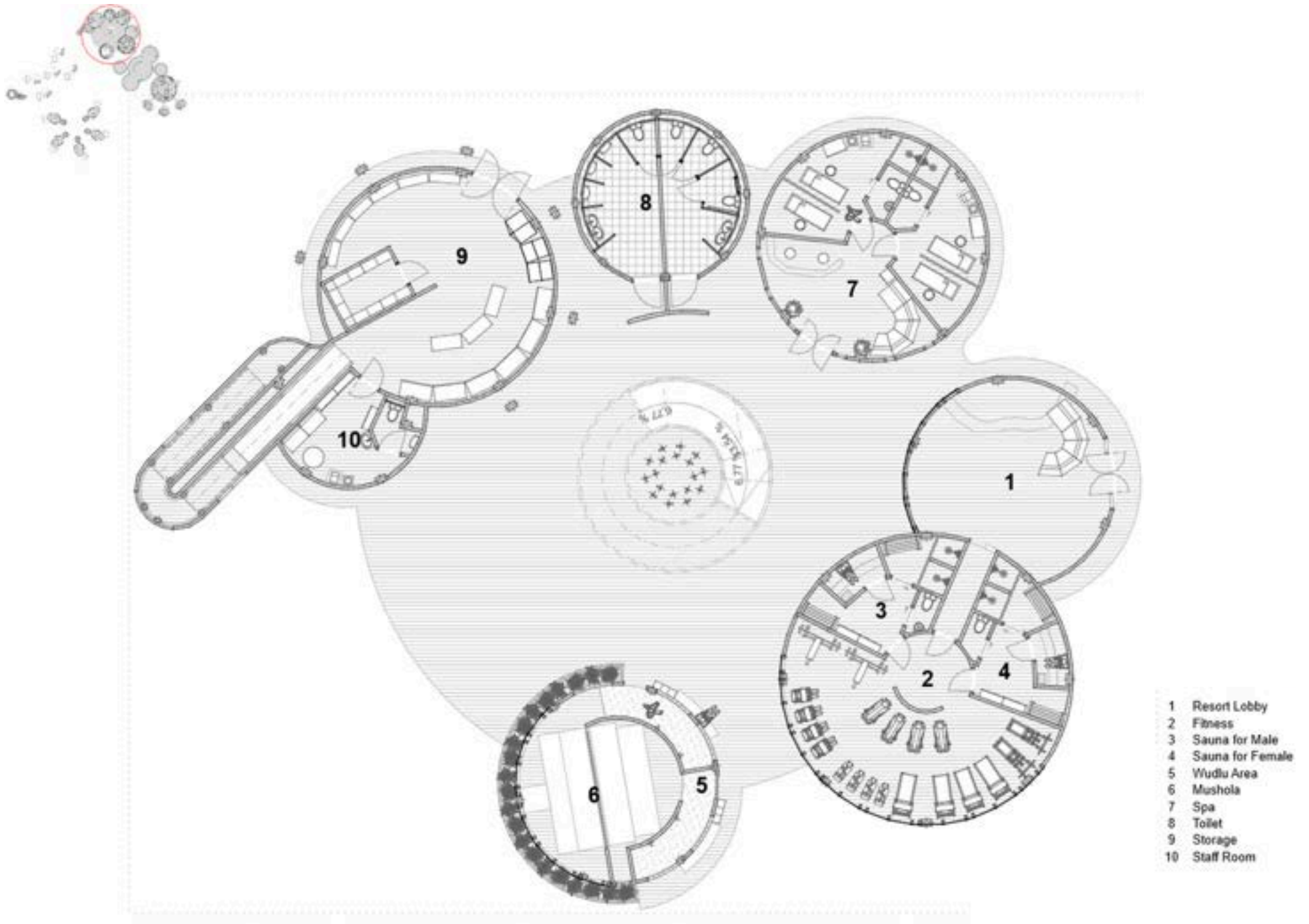


Fig. 6.i - Main Resort Area Ground Floor Plan
Author, 2024

Main Resort Area First Floor Plan

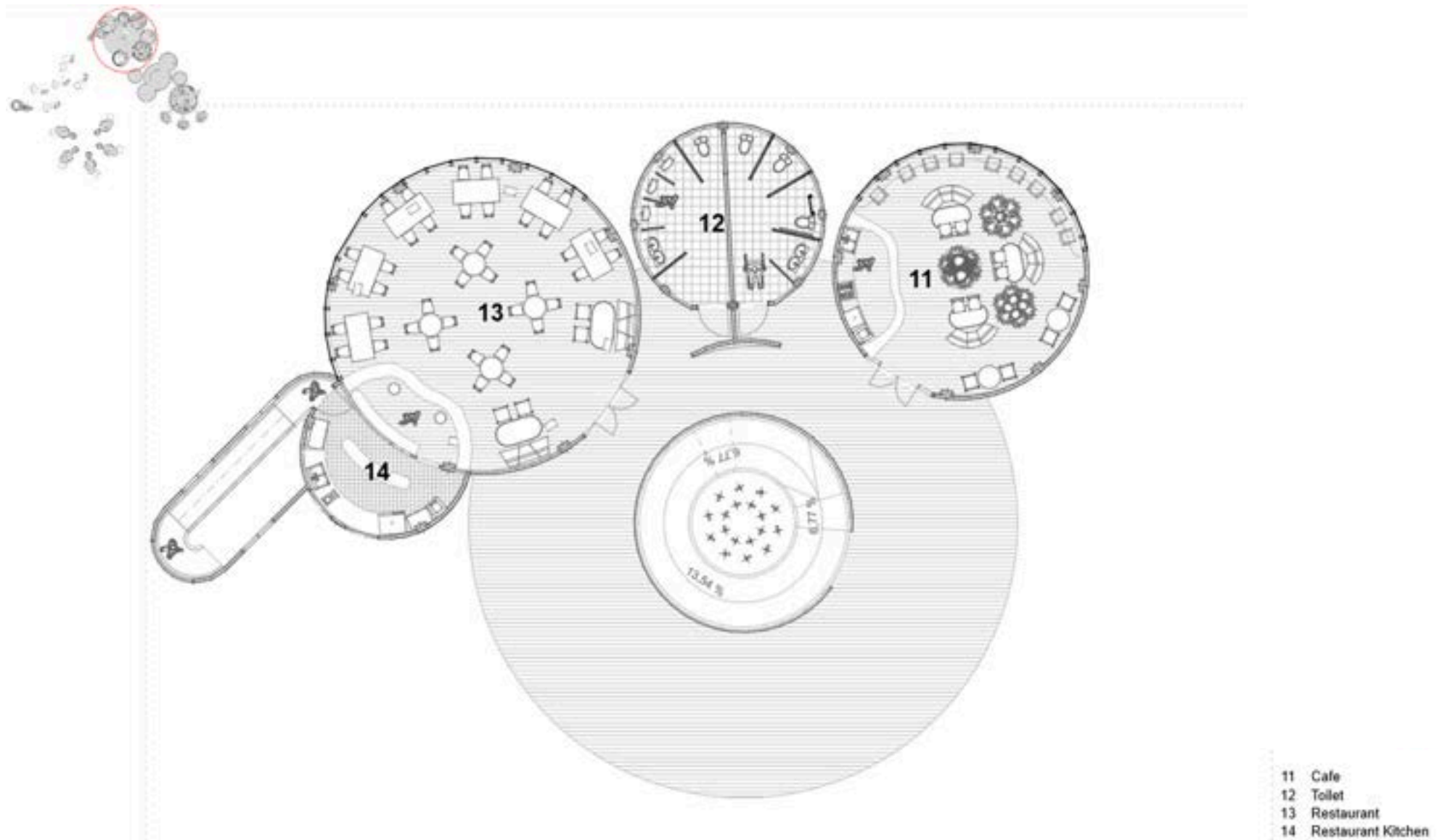


Fig. 6.ii - Main Resort Area First Floor Plan
Author, 2024

DESIGN DRAWING
Clinic Ground Floor Plan

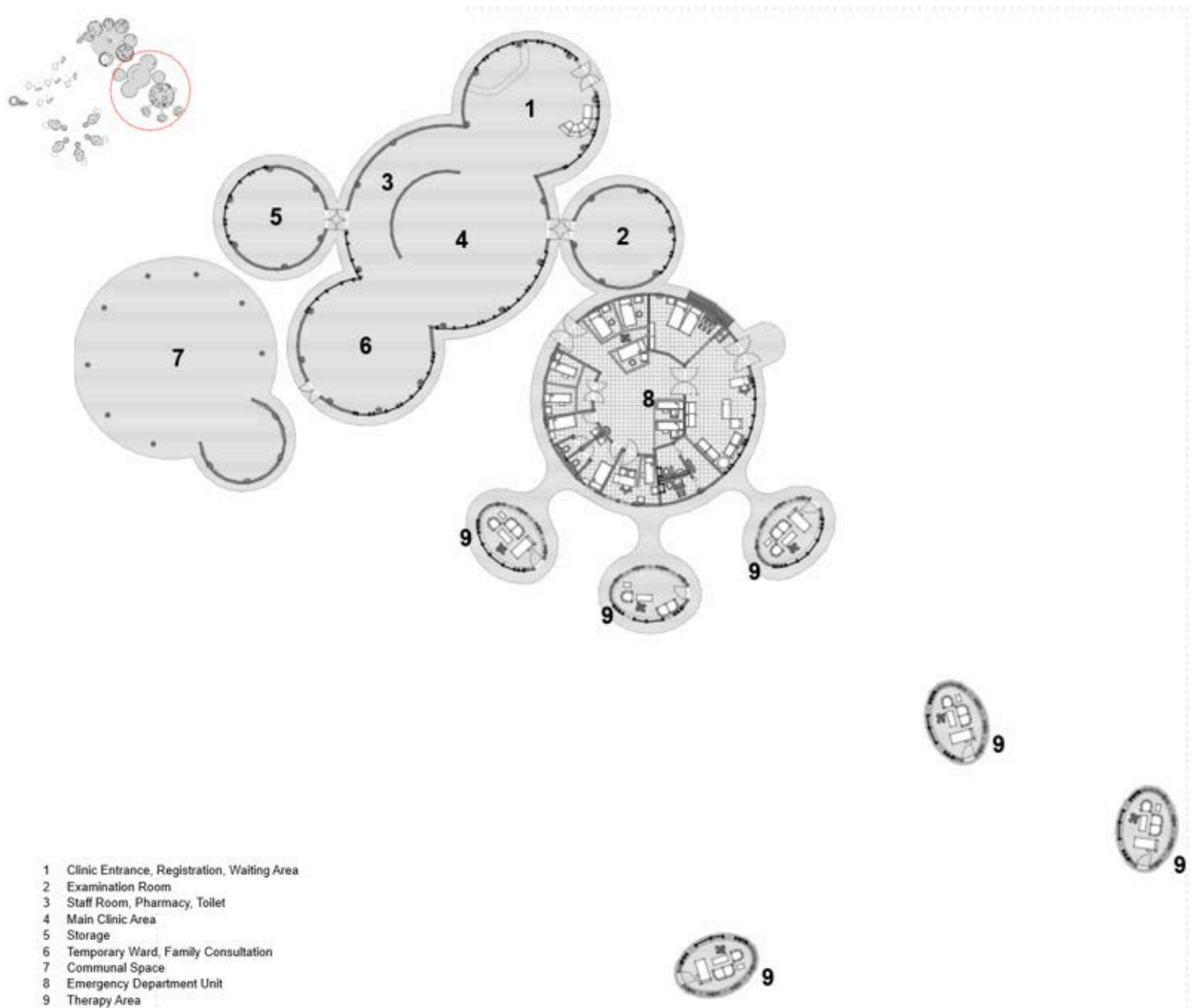


Fig. 6.iii - Clinic Ground Floor Plan
Author, 2024

Emergency Department Unit and Therapy Area

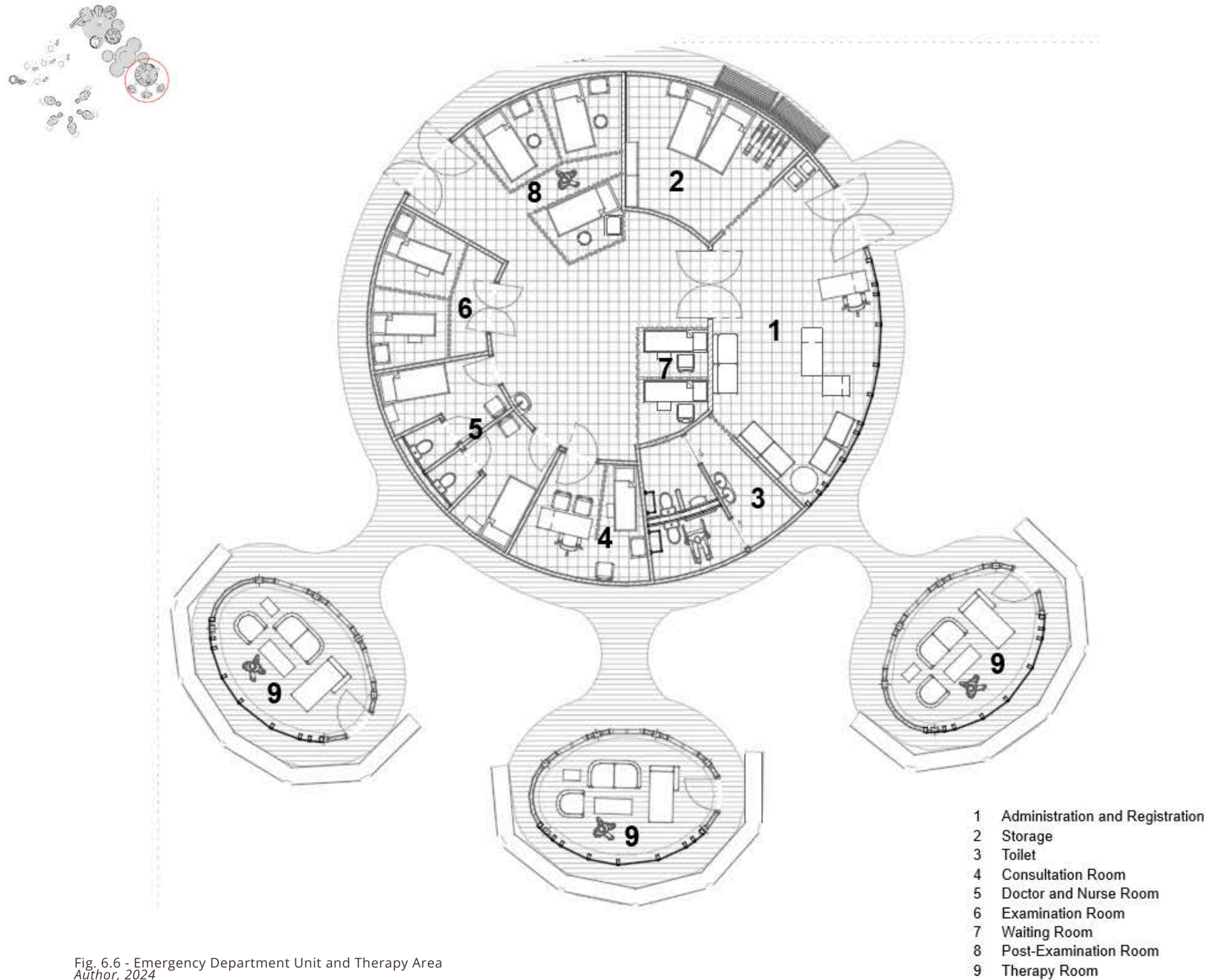


Fig. 6.6 - Emergency Department Unit and Therapy Area
 Author, 2024

DESIGN DRAWING
Therapy Area Section

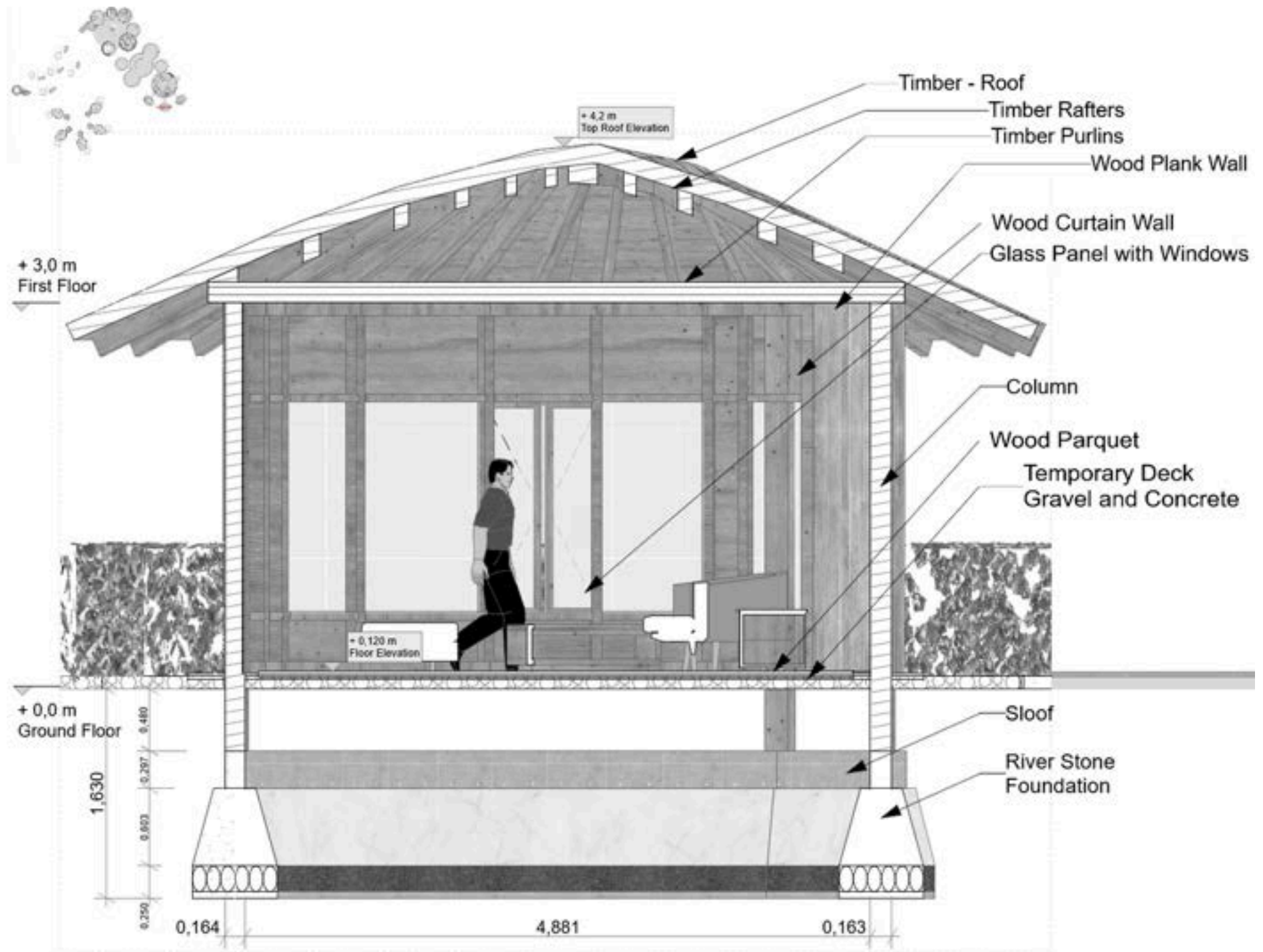


Fig. 6.7 - Unrevised Therapy Area Section Detail
Author, 2024

Saras Resort Guest Room Floor Plan

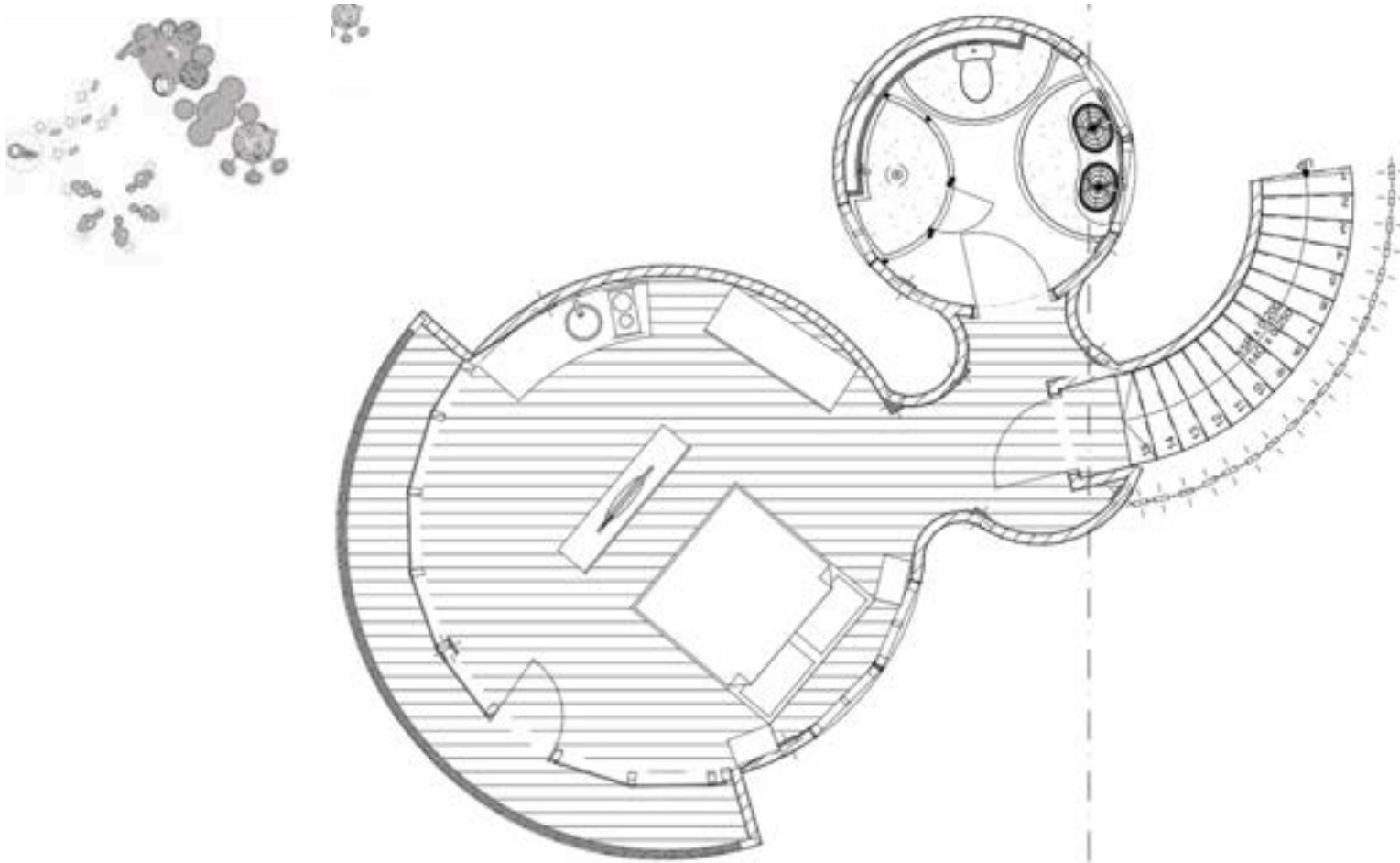


Fig. 6.8 - Saras Guest Room 1st Floor Plan
Author, 2024

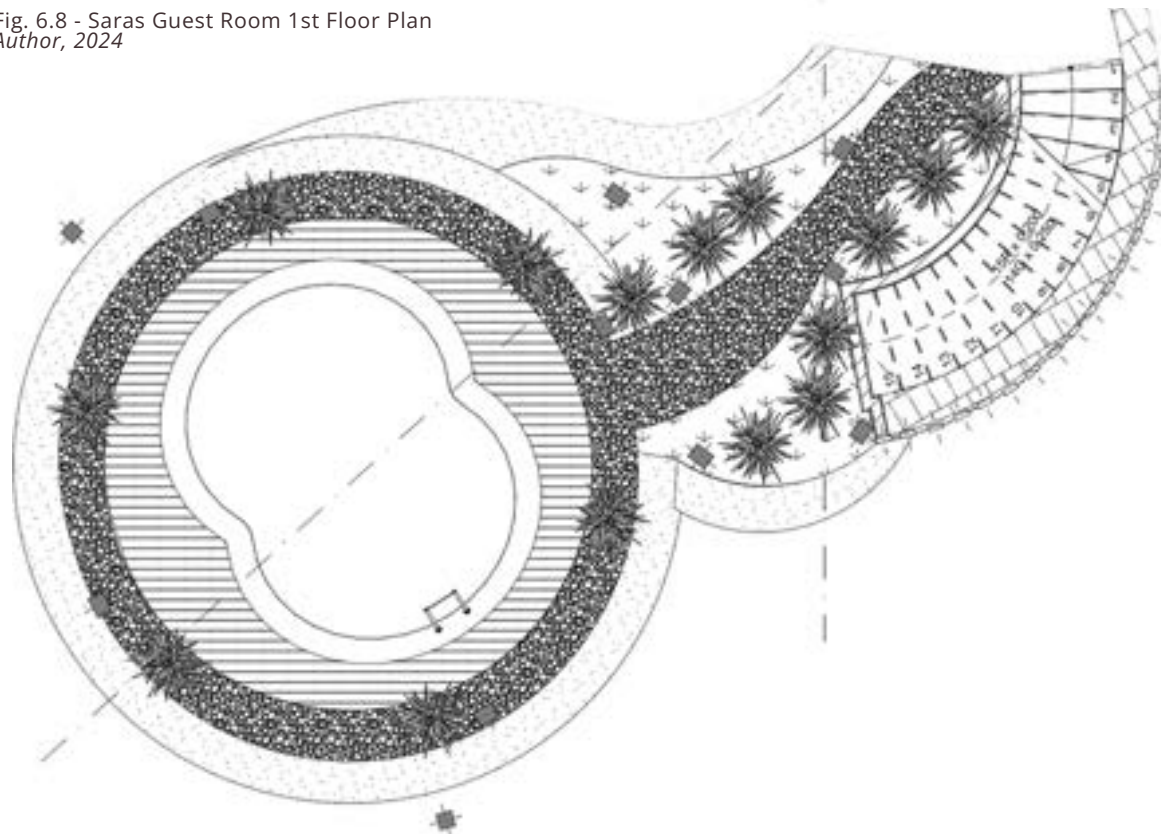


Fig. 6.9 - Saras Guest Room Ground Floor Plan
Author, 2024

DESIGN DRAWING
Saras Resort Section

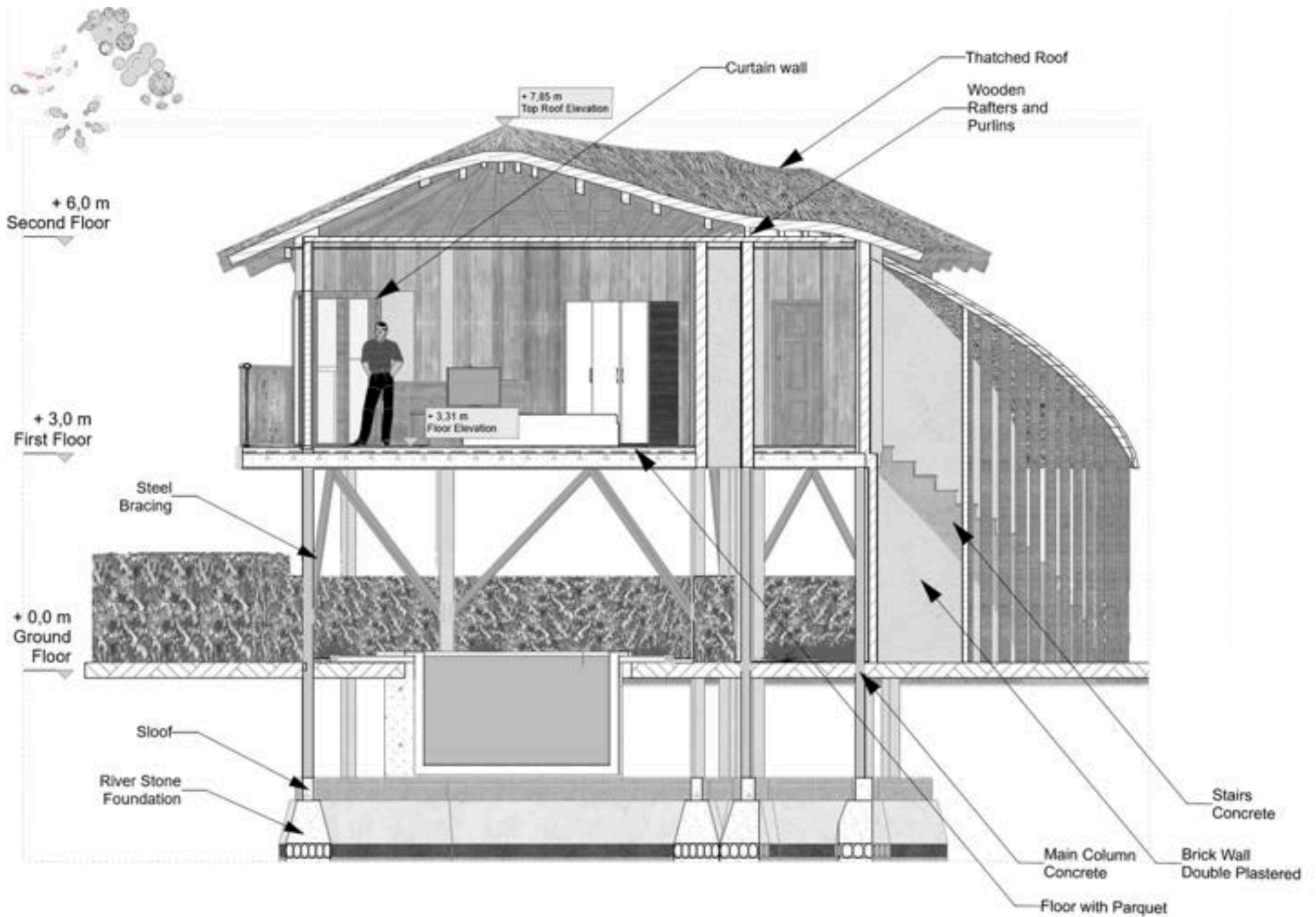
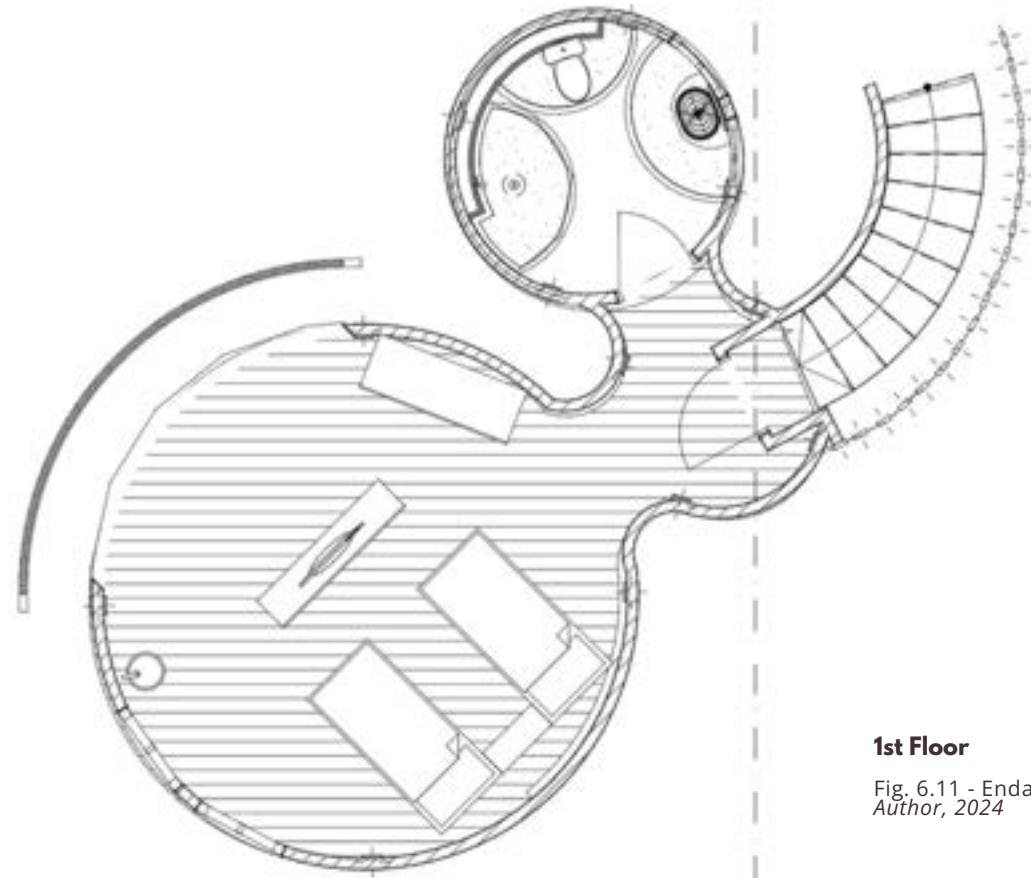


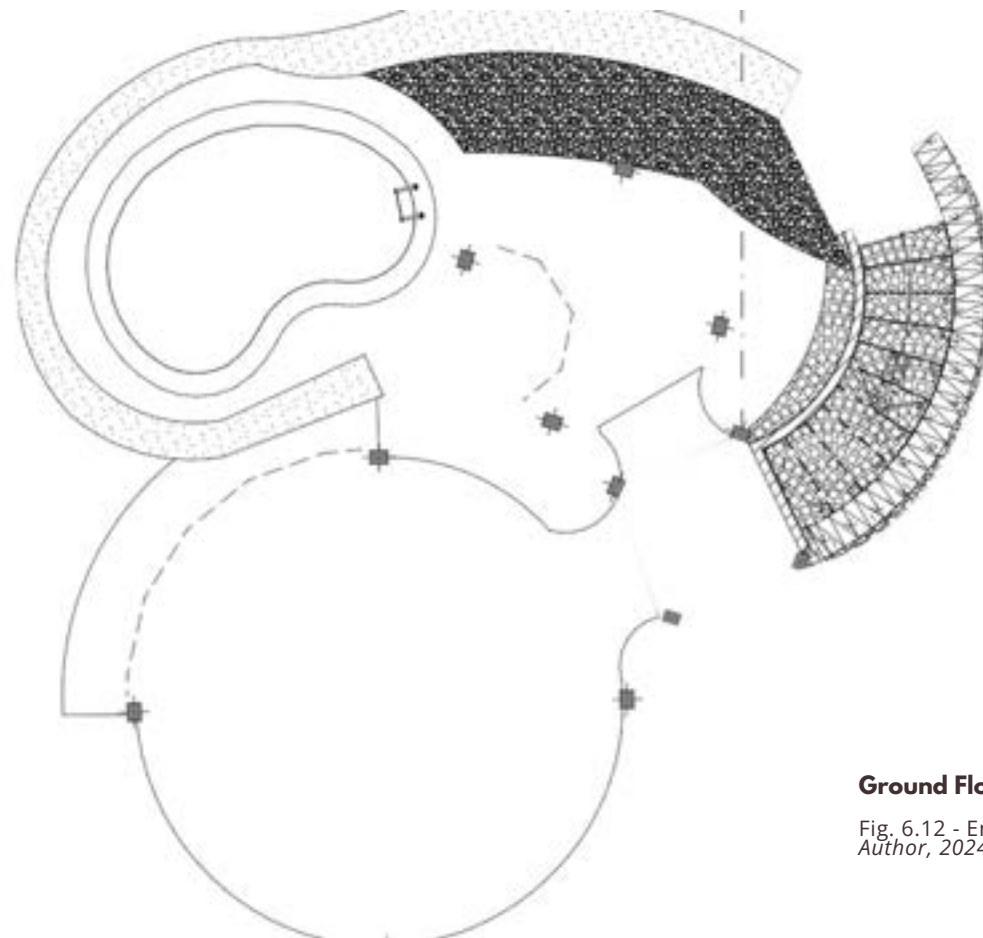
Fig. 6.10 - Saras Guest Room Section
Author, 2024

Endah Resort Guest Room Floor Plan



1st Floor

Fig. 6.11 - Endah Guest Room 1st Floor Plan
Author, 2024



Ground Floor

Fig. 6.12 - Endah Guest Room Ground Floor Plan
Author, 2024

Tentrem Resort Guest Room Floor Plan

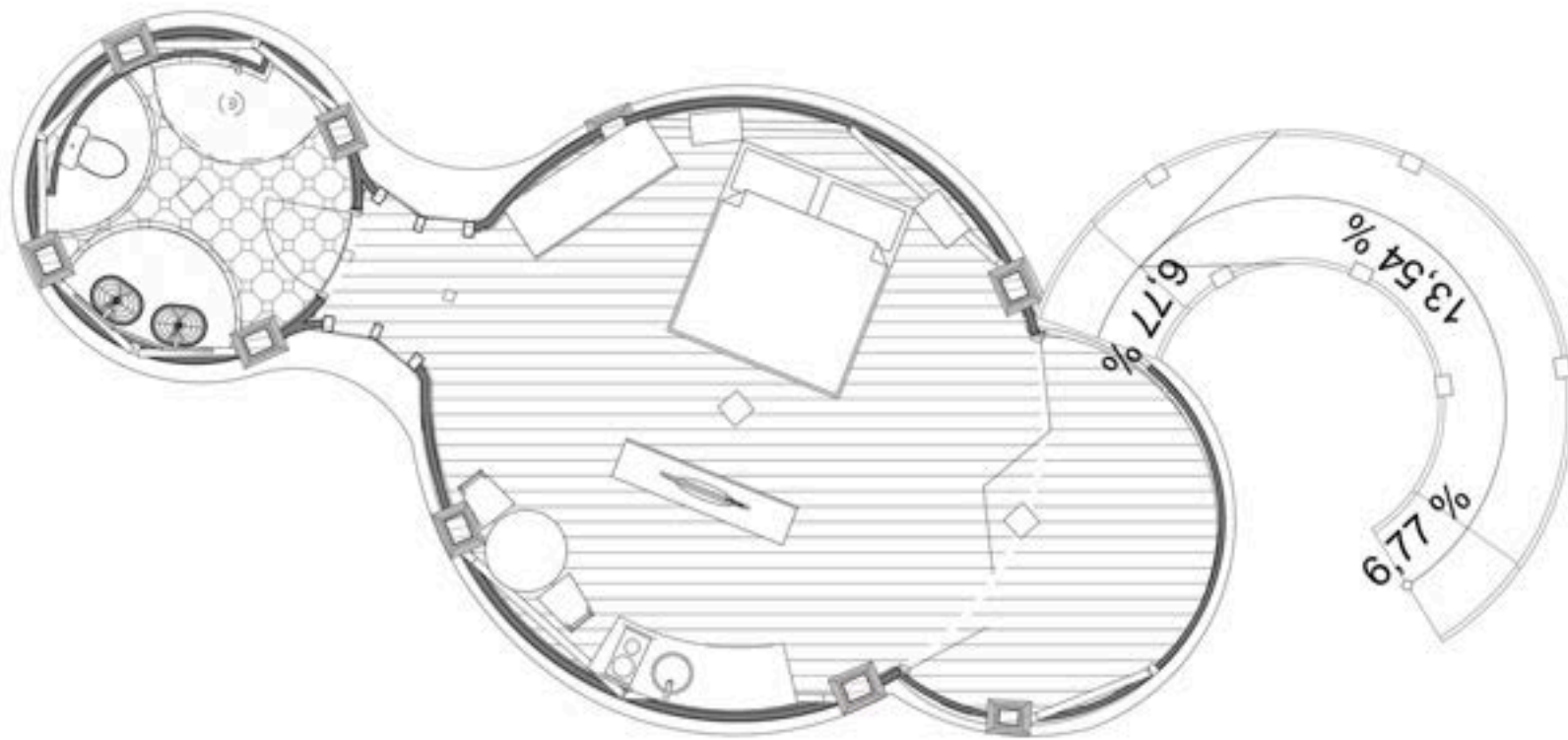


Fig. 6.13 - Tentrem Guest Room Ground Floor Plan
Author, 2024

DESIGN DRAWING
Elevation

East Elevation



Fig. 6.iv - Site East Elevation
Author, 2024

West Elevation



Fig. 6.14 - Site West Elevation
Author, 2024

North Elevation



Fig. 6.15 - Site North Elevation
Author, 2024

South Elevation



Fig. 6.v - Site South Elevation
Author, 2024

DESIGN DRAWING
Site Section



Fig. 6.16 - Site Section 01
Author, 2024



Fig. 6.17 - Site Section 02
Author, 2024



Fig. 6.18 - Site Section 03
Author, 2024



Fig. 6.vi - Site Section 04
Author, 2024

Section - Storage and Restaurant

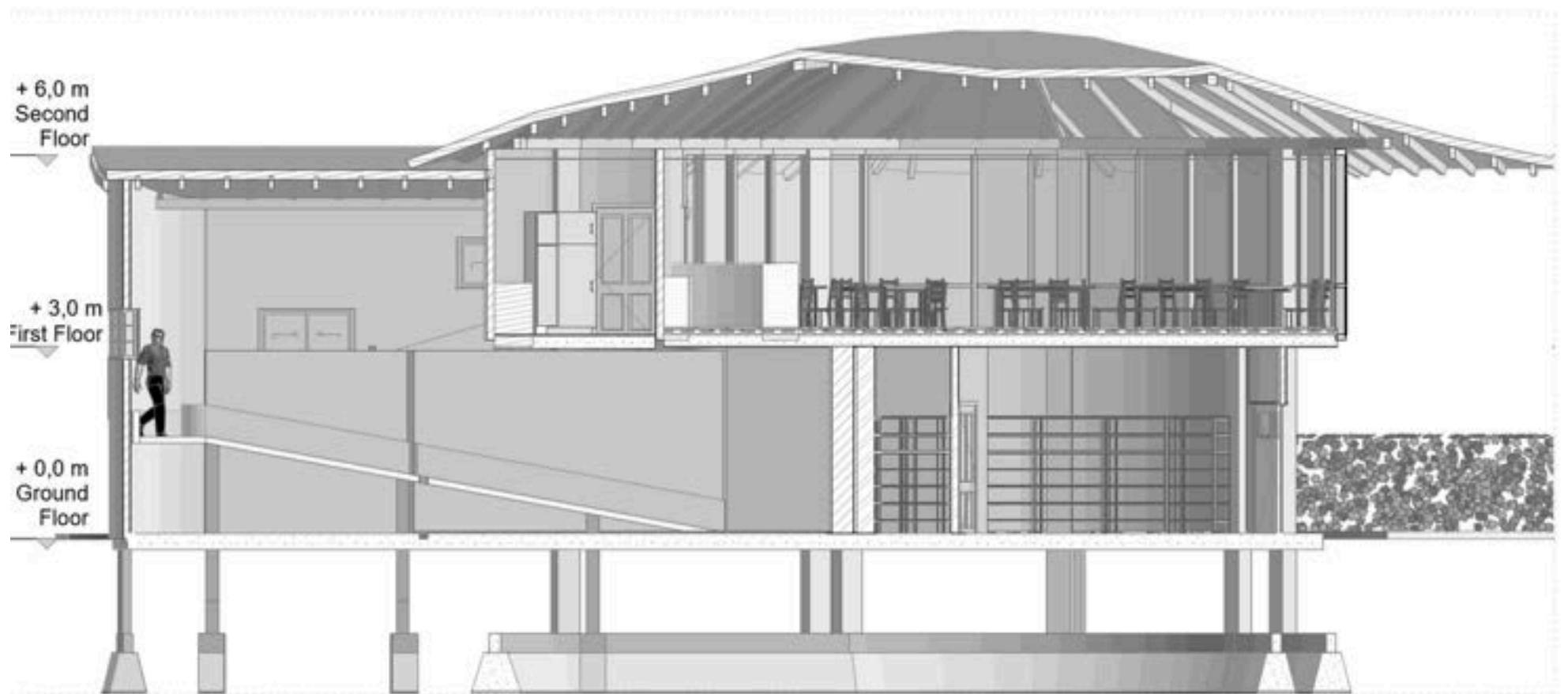


Fig. 6.19 - Storage and Restaurant Section
Author, 2024

DESIGN DRAWING
Structure Axonometric

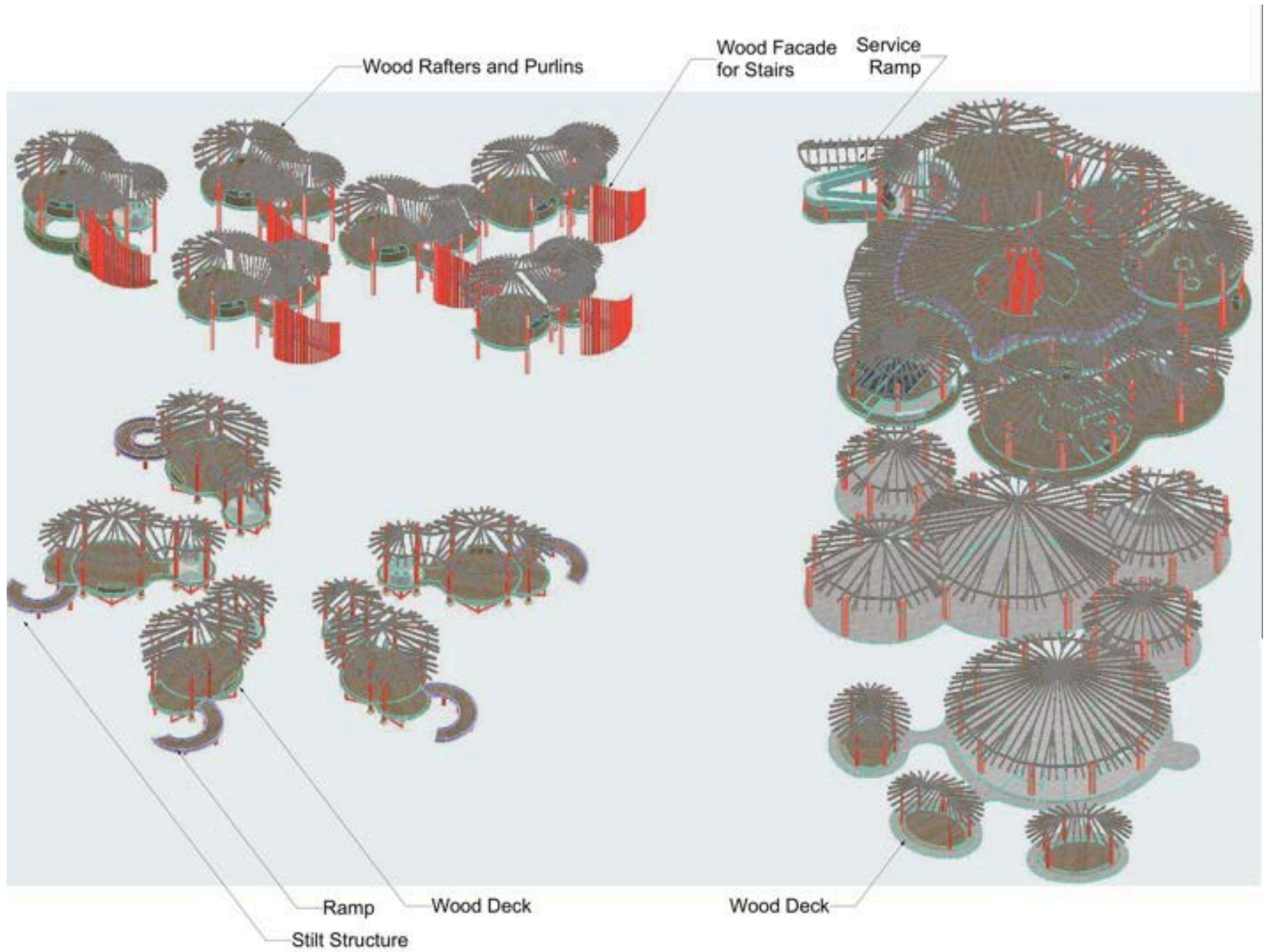


Fig. 6.20 - Structure Axonometric
Author, 2024

Tentrem Resort Exploded Axonometric

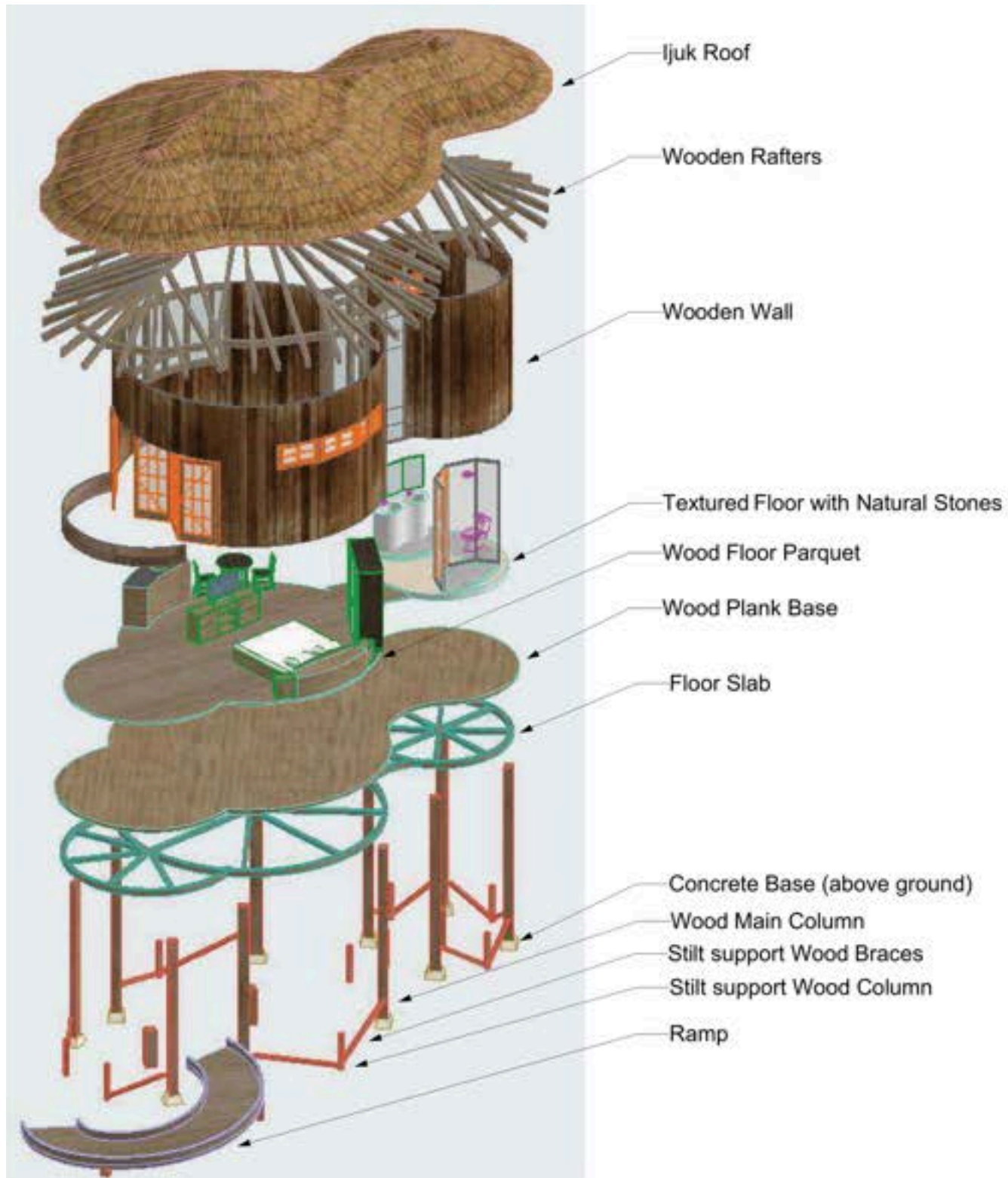


Fig. 6.21 - Unrevised Tentrem Guest Room Exploded Axonometric
Author, 2024

DESIGN DRAWING
Natural Ventilation Schematic

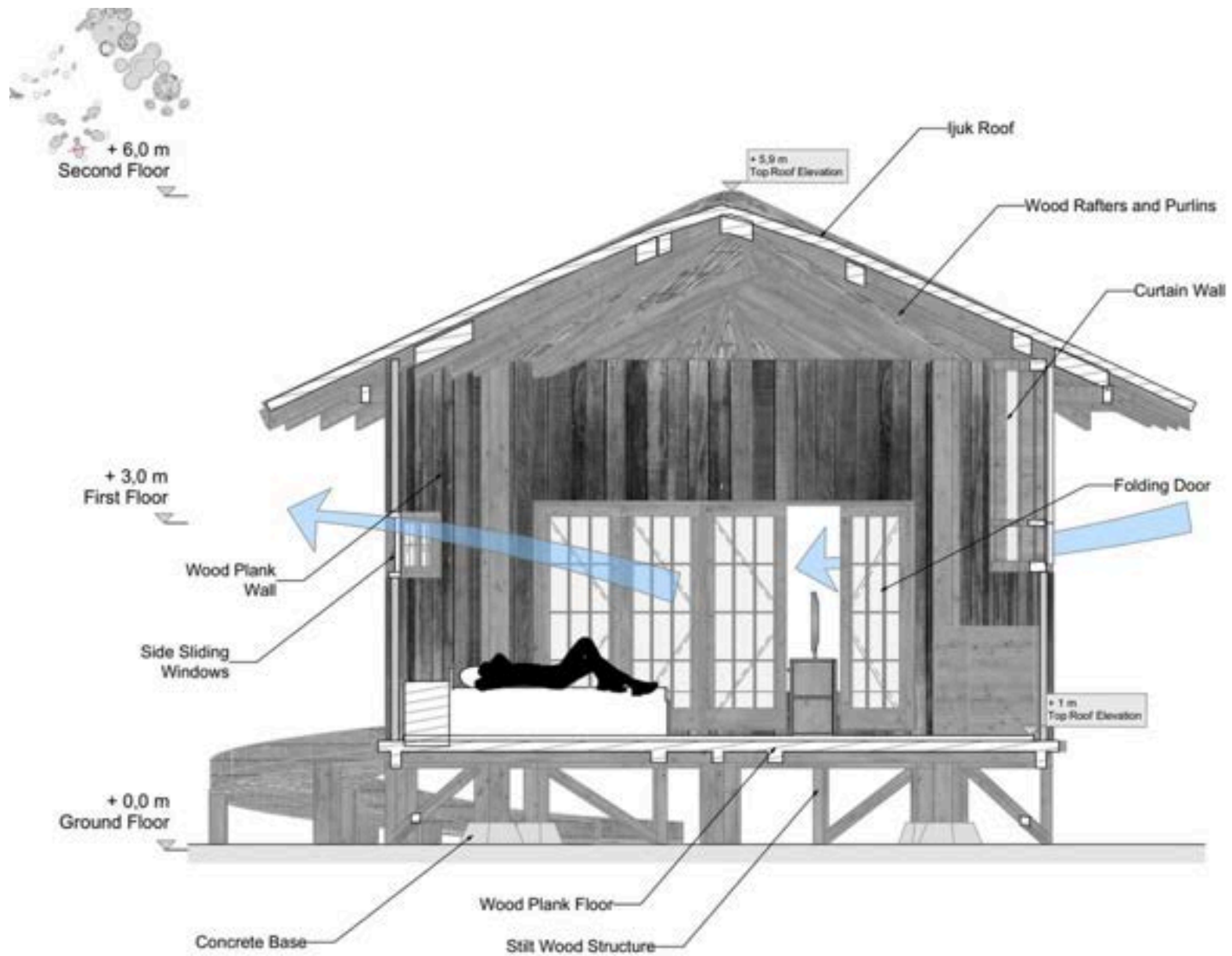


Fig. 6.22 - Natural Ventilation Schematic
Author, 2024

DESIGN DRAWING
Natural Lighting Schematic

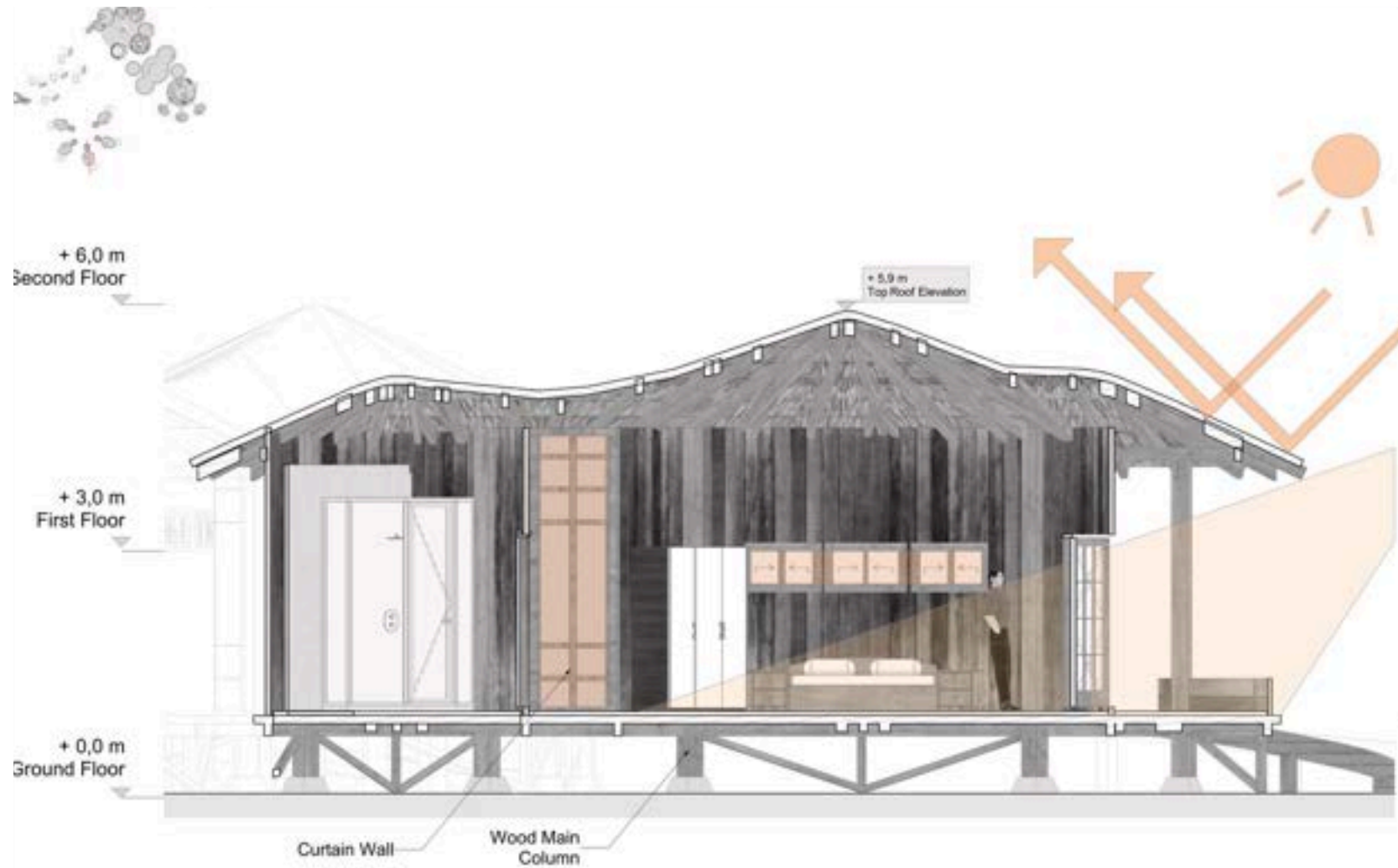


Fig. 6.23 - Natural Lighting Schematic
Author, 2024

DESIGN DRAWING
Lighting Schematic

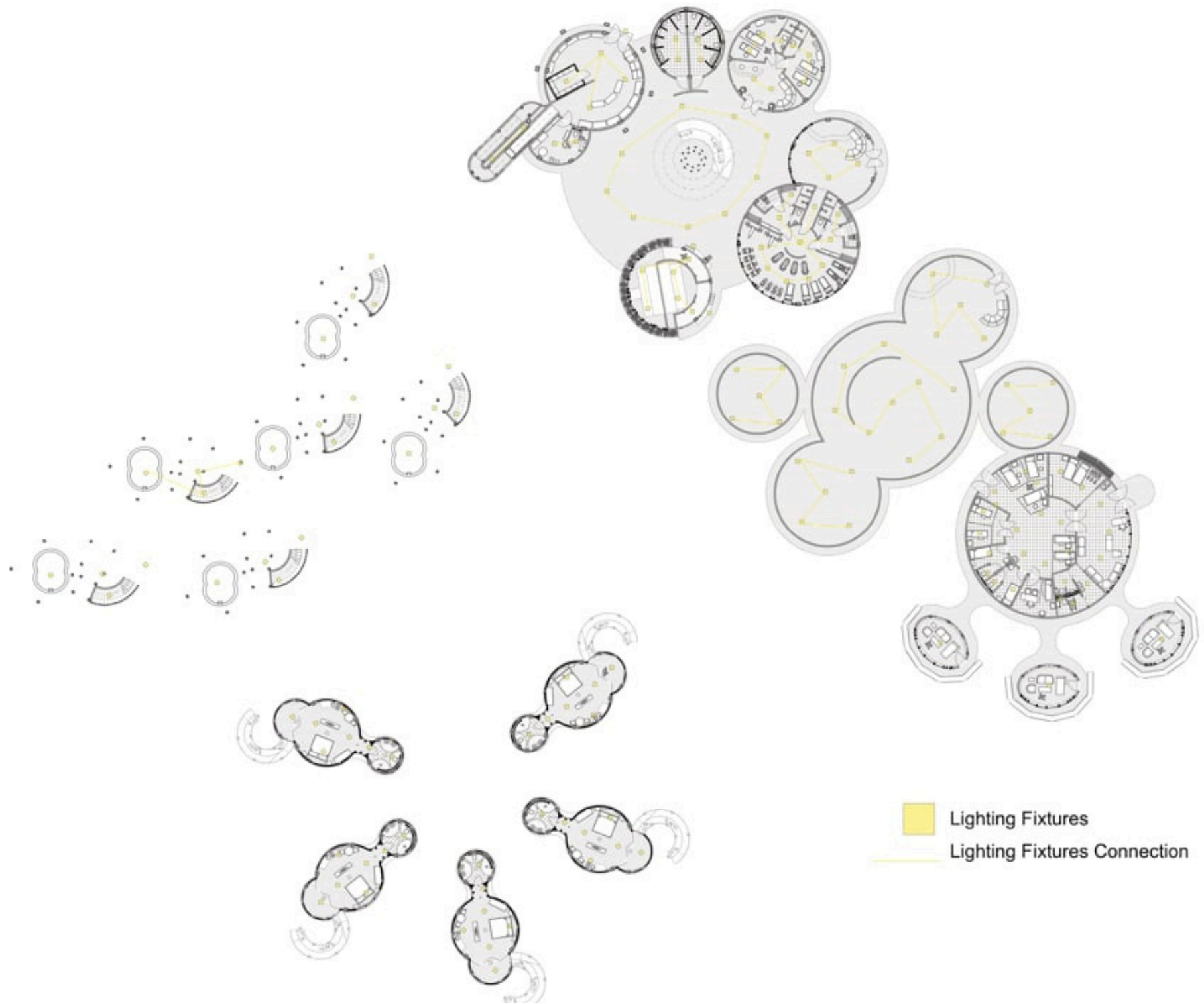


Fig. 6.24 - Lighting Schematic
Author, 2024

DESIGN DRAWING
Barrier Free Design

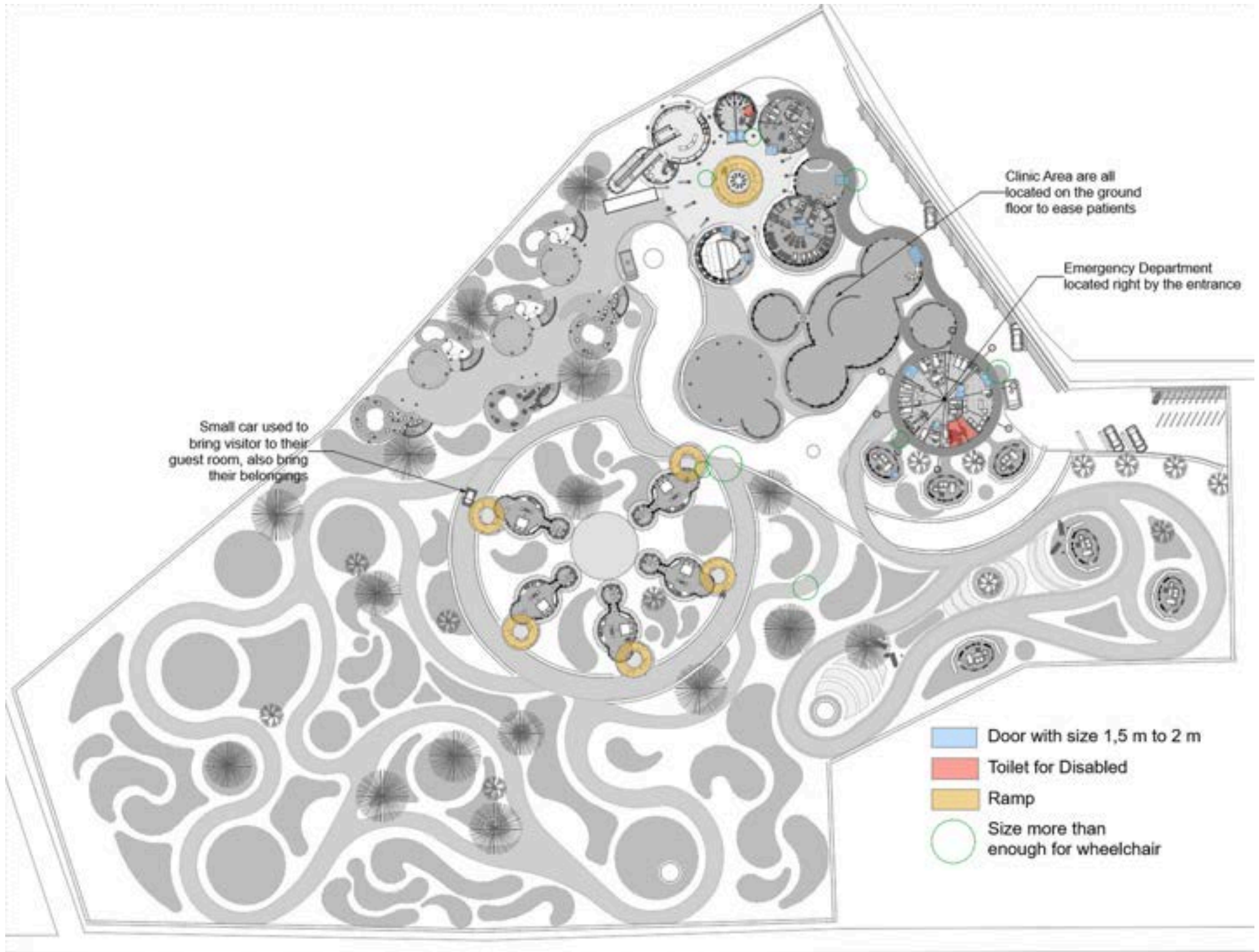


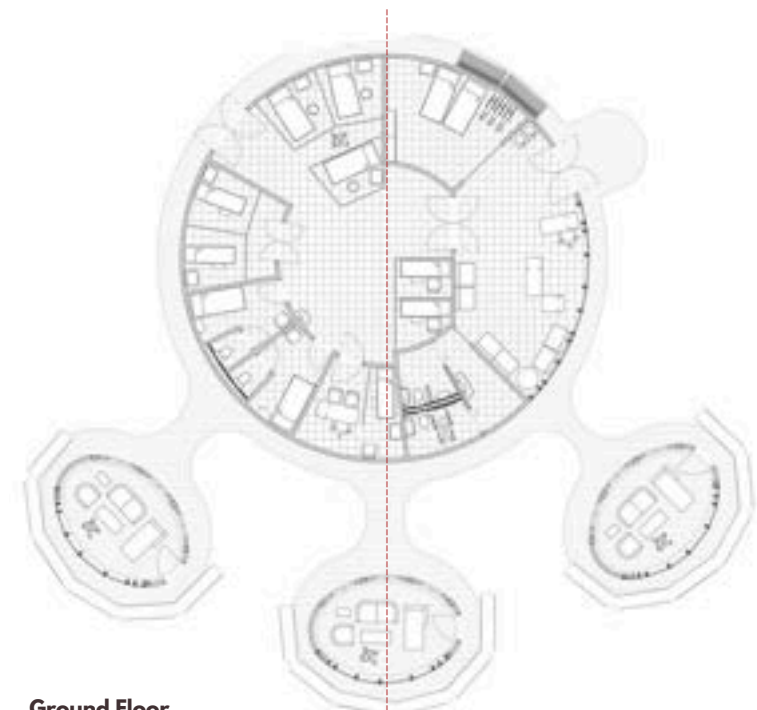
Fig. 6.25 - Barrier Free Design Schematic
Author, 2024



Emergency Department and Therapy Area



Fig. 6.26 - Therapy Area Rendering
Author, 2024



Ground Floor

Fig. 6.27 - ED and Therapy Area Plan
Author, 2024



Fig. 6.28 - Section of Therapy Area, ED and Clinic Main Building
Author, 2024

Endah Resort Guest Room



Fig. 6.29 - Resort Guest Room Rendering
Author, 2024

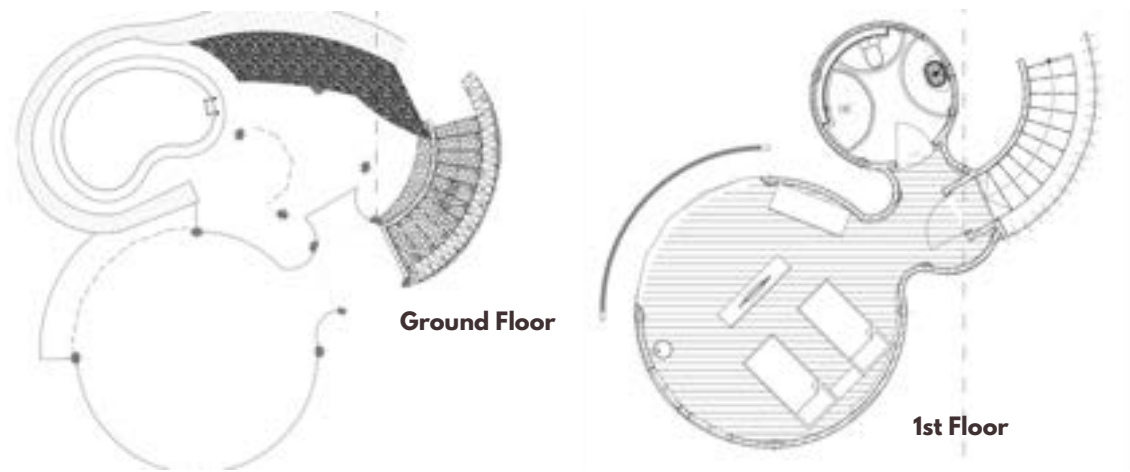
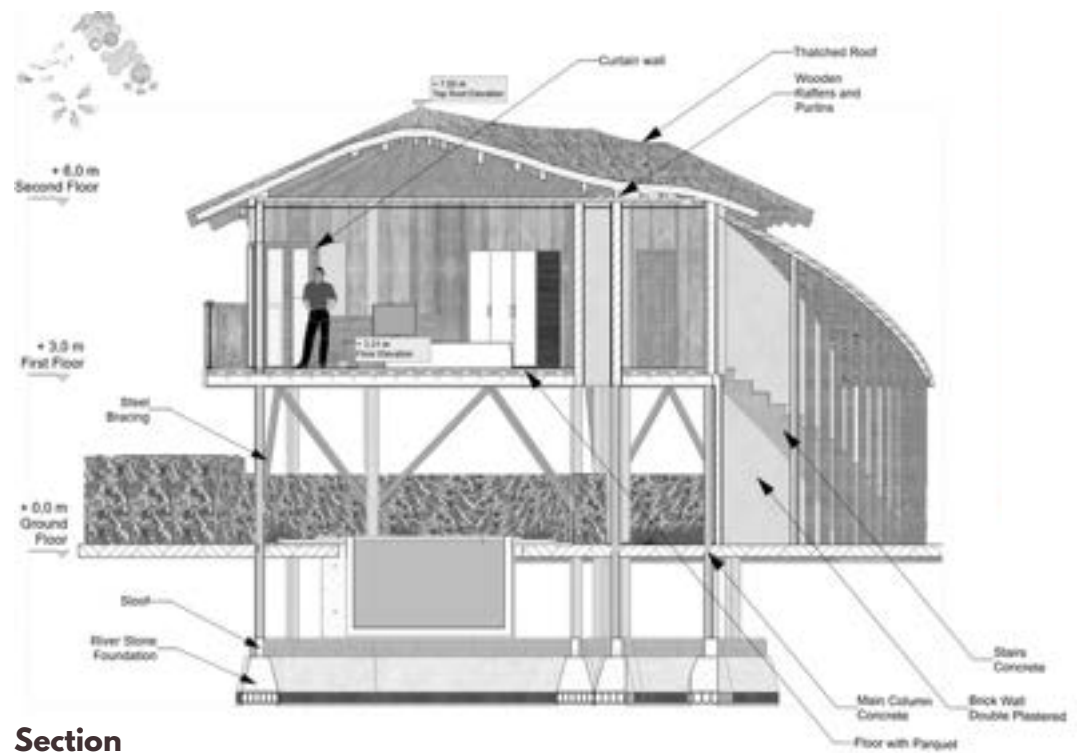


Fig. 6.30 - Endah Guest Room Plan
Author, 2024

Saras Resort Guest Room

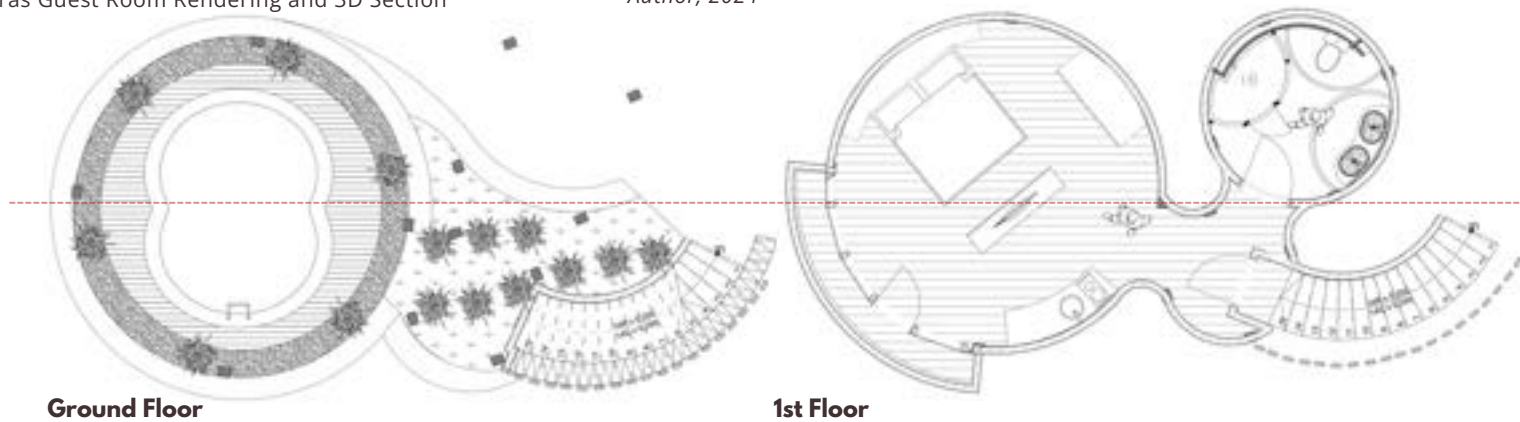


Fig. 6.31 - Saras Guest Room Rendering and 3D Section
Author, 2024



Section

Fig. 6.32 - Saras Resort Guest Room Section
Author, 2024



Ground Floor

Fig. 6.33 - Saras Guest Room Plan
Author, 2024

1st Floor

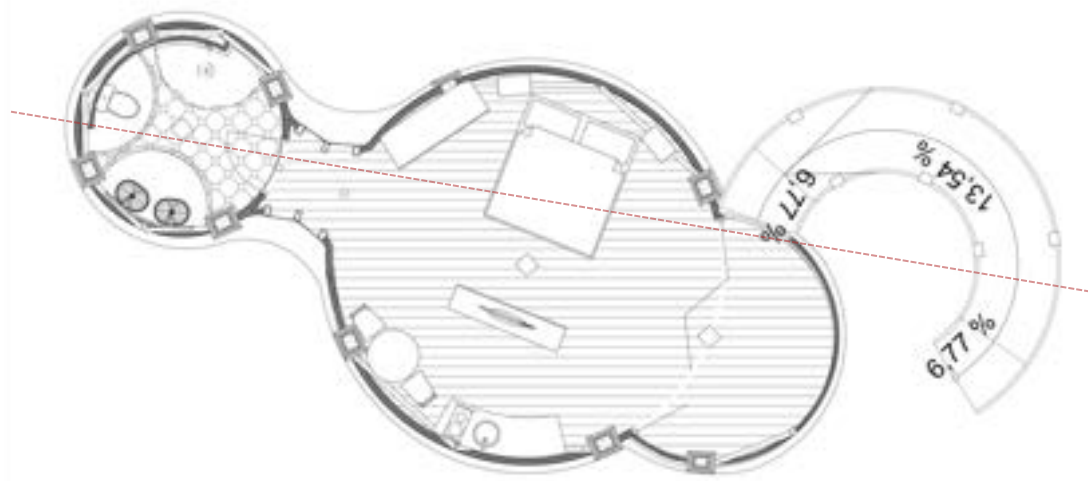
Tentrem Resort Guest Room



Fig. 6.34 - Tentrem Guest Room 3D Section
Author, 2024



Fig. 6.35 - Tentrem Guest Room Interior
Author, 2024



Ground Floor

Fig. 6.36 - Tentrem Guest Room Plan
Author, 2024

Main Resort Area

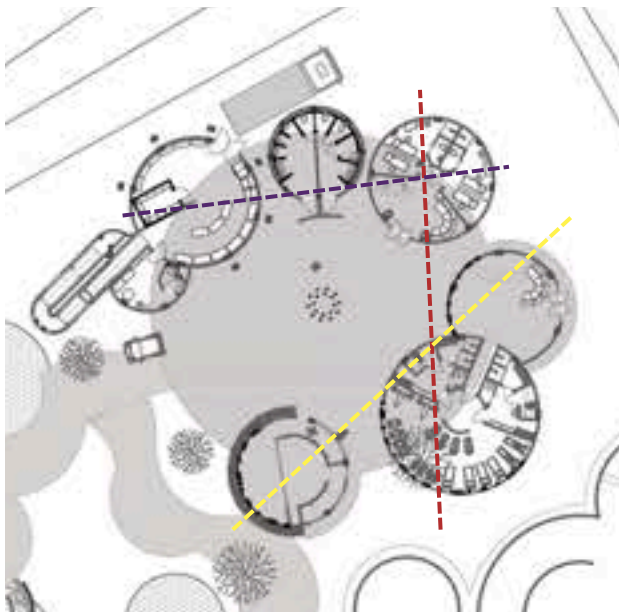


Fig. 6.37 - Main Resort Area Plan
Author, 2024



Fig. 6.38 - Main Resort Area Section 1-3
Author, 2024

DESIGN DRAWING
Exterior Rendering



Fig. 6.39 - Outdoor Exercise Area
Author, 2024



Fig. 6.40 - Parking Area and Entrance to Lobby
Author, 2024



Fig. 6.41 - Saras Resort Guest Room
Author, 2024



Fig. 6.42 - Therapy Room
Author, 2024



Fig. 6.43 - Playground
Author, 2024



Fig. 6.44 - Main Resort Area
Author, 2024

DESIGN DRAWING
Exterior Rendering



Fig. 6.45 - Sensory Garden and Therapy Area
Author, 2024



Fig. 6.46 - Main Resort 1st Floor
Author, 2024



Fig. 6.47 - Resort Guest Room Perspective
Author, 2024



Fig. 6.48 - Clinic and Sensory Garden
Author, 2024



Fig. 6.49 - Ambulance Access inside the site
Author, 2024



Fig. 6.50 - Resort Pool
Author, 2024



Fig. 6.51 - Tentrem Resort Guest Room
Author, 2024



Fig. 6.52 - Saras Resort Guest Room
Author, 2024



Fig. 6.53 - Therapy Room
Author, 2024



Fig. 6.54 - Emergency Department Lobby
Author, 2024



Fig. 6.55 - Emergency Department Main Area
Author, 2024



Fig. 6.56 - Resort Cafe
Author, 2024



Fig. 6.57 - Resort Restaurant
Author, 2024



Fig. 6.58 - Fitness Area
Author, 2024



Fig. 6.59 - Spa
Author, 2024

07

**Design
Evaluation**

1. Facility for the Patient's Family

The previous design shows the plan of the resort to be for maximum of 2 people, whereas guest with mental issues should not be left alone, due to uncertain times of when the issues will arise. It is recommended that there is a dedicated space for the family to also stay inside the resort. The revision shows that there is a space for the family members to rest and stay in the resort with the patient.

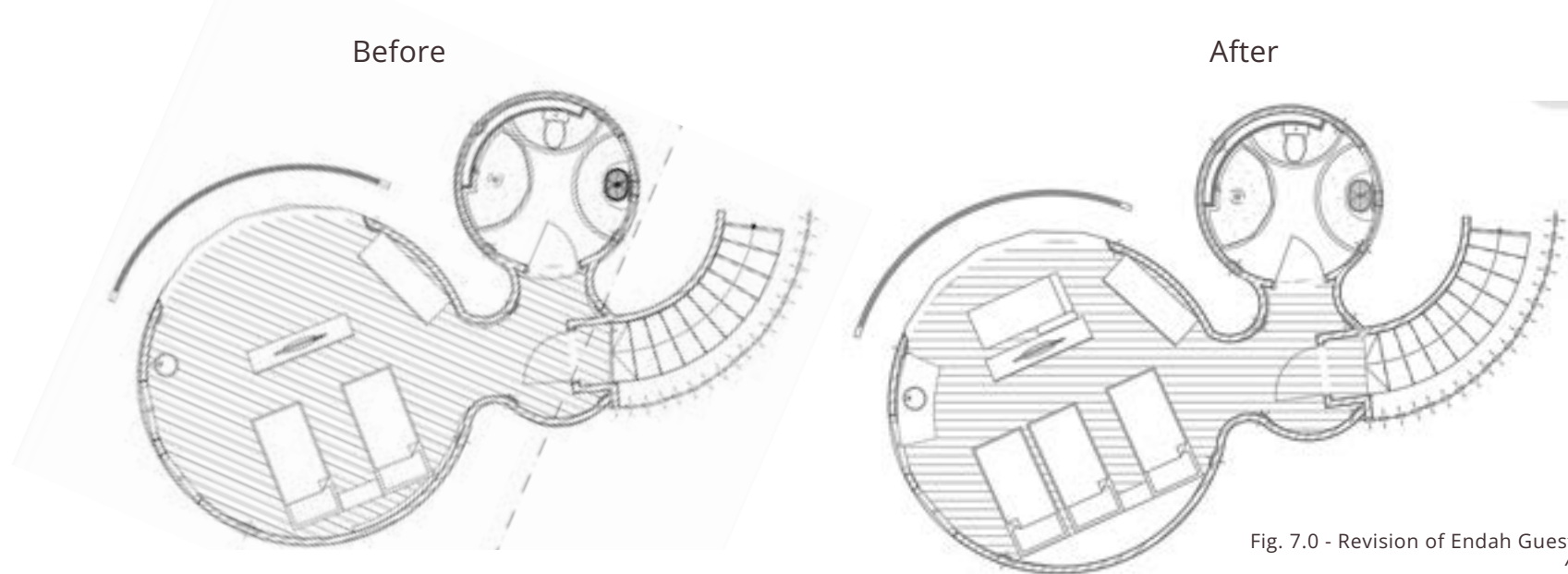


Fig. 7.0 - Revision of Endah Guest Room Plan
Author, 2024

On Endah Resort Guest Room, to accommodate more than 2 guests, it has been added an extra single bed and also a day bed, with the arrangement as can be seen in the picture above. If necessary, the day bed can be changed into another extra bed. This in total will add 2 more guests inside the resort.

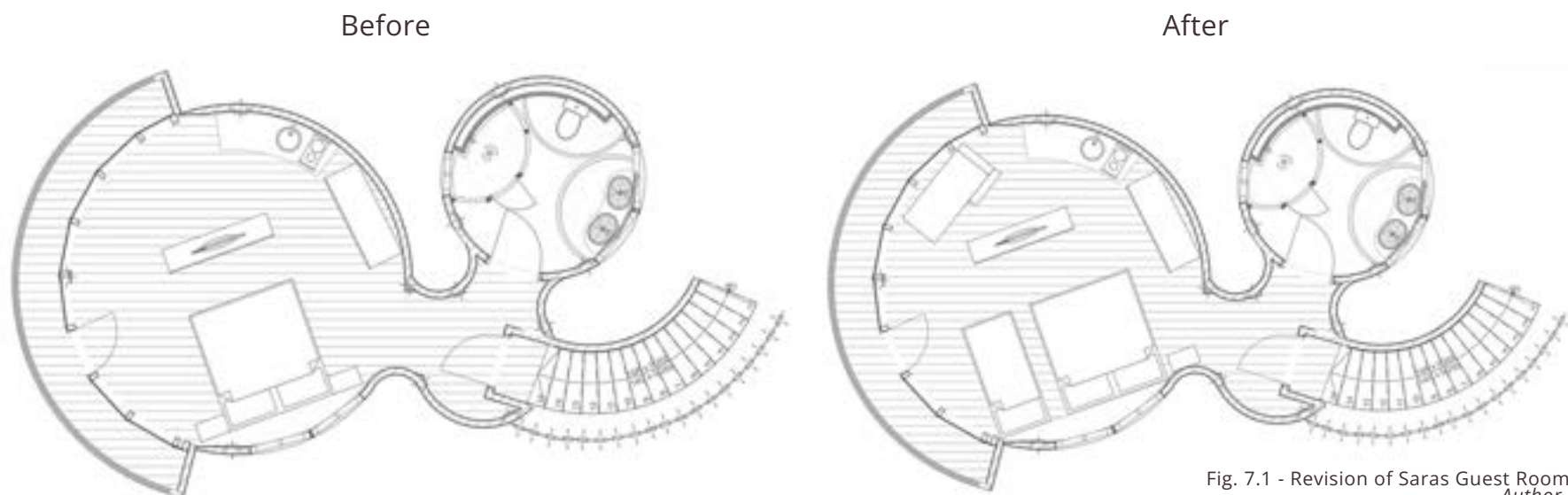


Fig. 7.1 - Revision of Saras Guest Room Plan
Author, 2024

On Saras Resort Guest Room, to accommodate more than 2-3 guests, it has been added an extra single bed and also a day bed, with the arrangement as can be seen in the picture above. If necessary, the day bed can be changed into another extra bed. In total, this will add 2 more guests inside the resort.

2. Gardening as a hands-on experience on sensory garden

The sensory garden provided by the author is mostly for visual and auditory, whereas it is best for the sensory to be tactile, in this case, a gardening area, as it is part of healing and grounding process, as well as to build a sense of belongings for the guests, thus they are able to continue looking forward for the day when the plants will grow. In response to this, the author added a gardening area in between the main pedestrian circulation and the previously existing garden.



Fig. 7.2 - Sensory Garden New Perspective
Author, 2024



Before



After

Fig. 7.3 - Revision on Sensory Garden Area
Author, 2024

The gardening area equipped with exposed soil, transparent cover to keep the visitor shaded but still provides sunlight and rainwater for the plants, and also a seating space with shade for the guests to rest after the activity. The location is easily accessible as it is located in the middle of the sensory garden, and it is also still accessible to people with disabilities. This added a real tactile, hands-on experience for the guests to heal.

3. Improving circulation and accessibility

At first, the ambulance access is only available from outside of the building premises to enter the premises, and circulates on the parking area. This is because the main concern for the author was only the access to the emergency department near the entrance of parking area. This however raised some concerns as to when the patients will stay on the resort, how can the clinic responded and bringing the patient to the emergency department if the ambulance cannot enter the site?



Fig. 7.4 - Ambulance Pathway Perspective
Author, 2024



Before



After

Fig. 7.5 - Revision on Ambulance Pathway Circulation
Author, 2024

A lane for ambulance then added to the site in order to reach patients located on the resorts area. The laneway equipped with 2 round-about in order for the ambulance to maneuver from the resort area to the side entrance of the emergency department. For pedestrian safety, the lane given a different color hardscapes to differentiate from the pedestrian pathways, and using plant hedge to create a natural barrier between the two pathways, thus children especially would not be in danger if there's suddenly an ambulance passing by. A pedestrian crossing also added from the clinic area to the sensory garden so the guests still able to reach the sensory garden safely.

4. Revising Detail

For this specific detail of therapy area, the author's shortcoming was her inability to provide correct detail information about the building structure, especially the structure below the ground, and also the material for the deck is questioned due to the smooth circular edge. The drawings for the section have been revised below.

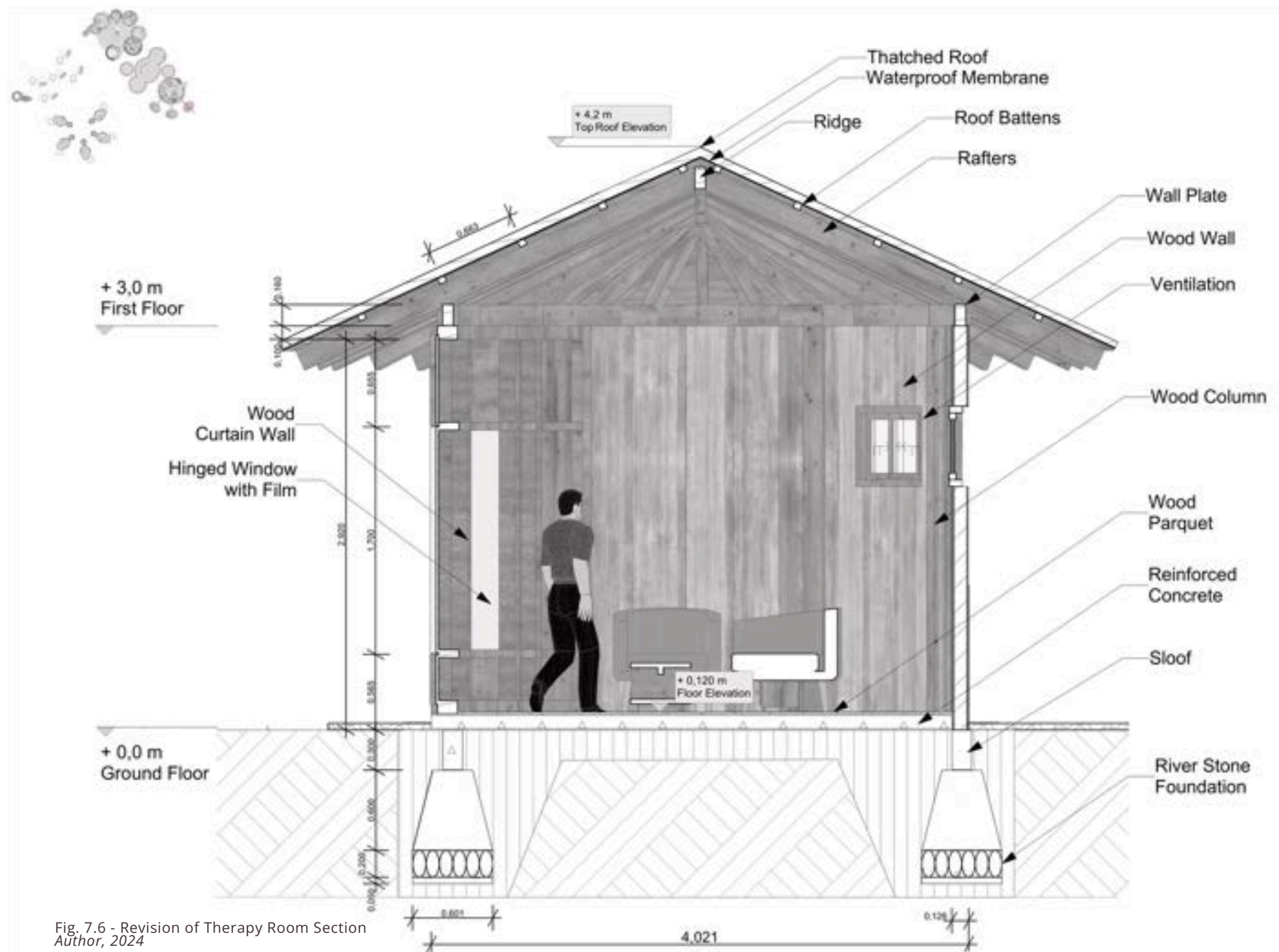
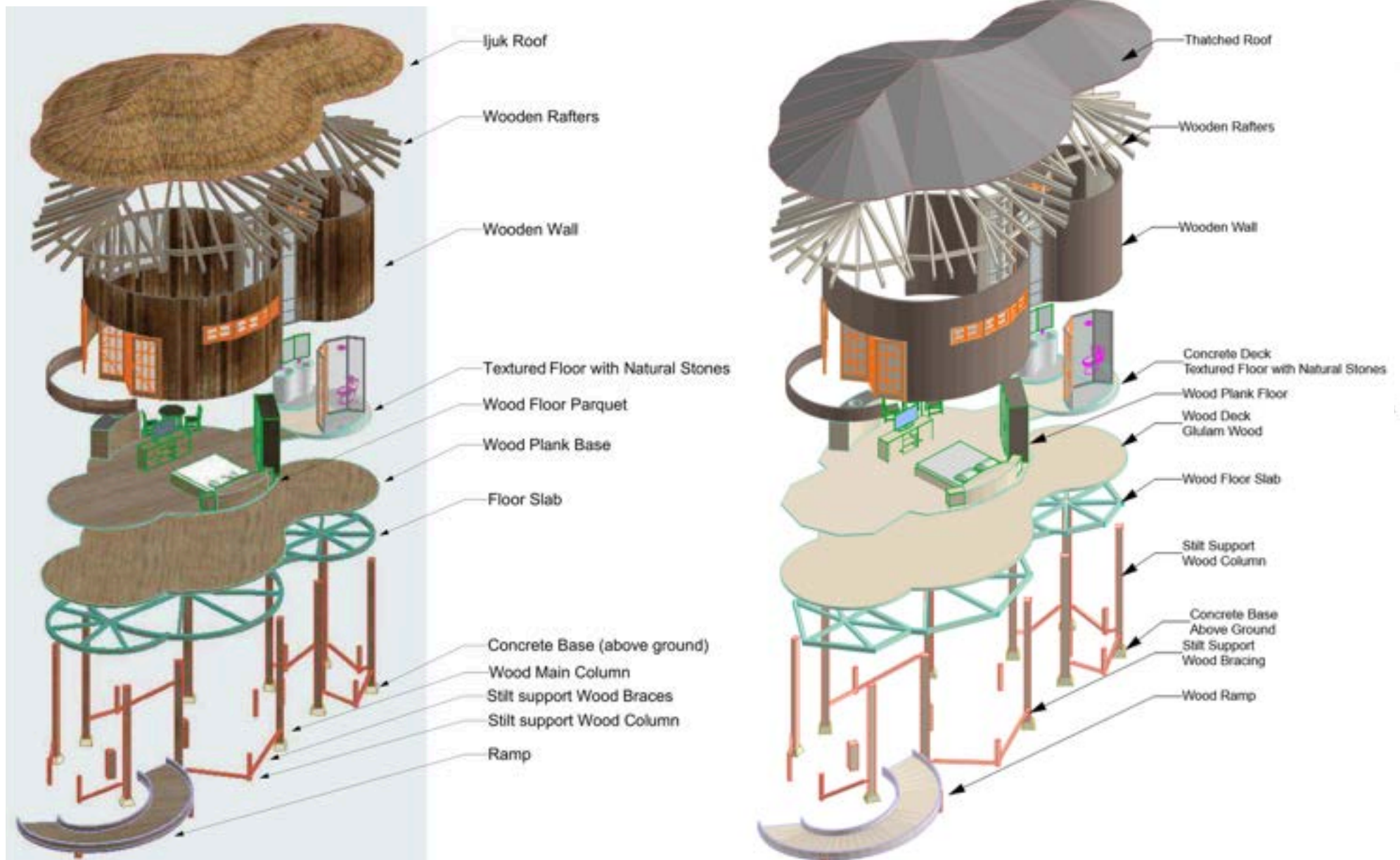


Fig. 7.6 - Revision of Therapy Room Section
Author, 2024

The author changed the position of the section cutting to better show the ventilation or any opening in the building, and also the roof shape. The author have added the structure section below the ground with continuous river rock foundation, sloof, surrounding soil, the structure of the floor with parquet, and also the roof structure.

4. Revising Detail

Other revision was about the materials and shape of the wood deck and the beam support below it. The revision by the author can be seen below. The author keep the idea of the stilt house with the wooden deck, but changed the shapes of the deck and the materials.



Before

After

Fig. 7.7 - Revision of Tentrem Guest Room Structure and Material
Author, 2024

The wood deck directly above the floor slab changed to glulam wood, where it can retain the deck smooth circular edge. The floor slab itself changed from being circular into an angled slab, to follow the constructability logic of the stilt construction. Then, the wood plank floor lose its circular smooth edge because it still uses wood plank, thus it is not possible for it to have smooth circular edge. The rest of the materials stays the same as it is already correct.

5. The duality of clinic and resort

This project originally focusing on mental health care with the addition of resort as a part of healing in an area close to nature, to cater to the current trend of “healing” (where people go to nature area to lessen their stress), and to lessen the stigma of a mental health care. However, in the process of creating this project, it went to another direction, and becomes more commercialized where it focuses more on the resort rather the mental health care. This is due to the stress and pressure that urban people have right now, and it is significantly increasing their mental health issues. It makes the guests that come here not necessarily a ‘patient’ to the mental health care, but still faces a mental health issues that’s should not taken lightly. Rather than to come to the emergency department or another intensive care unit, with a lot of stigma that’s still going on, they can spend their time in this resort to do staycation or family time, and if needed, they can come to the clinic to do a family or personal consultation with professional help about their issues and concern while staying there. The emergency department unit is also available for 24 hours, where if the guests experience a trigger and need help immediately, they can push a button on their resort to call a nurse or ambulance to bring them to the emergency department unit. This is all an integrated system that hopefully able to help people in need and to make them more aware of their own issues and how to handle them.

6. Changes in resort guest room names

It is mentioned in the final defense that the name for the resort guest rooms are not reflecting the aim of the project, and sounds more commercialized. The previous name was Superior resort guest room, Deluxe resort guest room, and Forest resort guest room. After consideration, the author will change the name of the room so it would be a better name for a resort focusing on healing their guests.

The superior guest room changed into Endah guest room; the deluxe guest room changed into Saras guest room; and lastly, the Forest guest room changed into Tentrem guest room. Endah means beauty, Saras means healthy in javanese, and Tentrem means peaceful. All these words are a manifestation for those who stays there will experience the beauty of nature and human being, to be healthy physically and mentally, and also to be at peace with their mind.



Fig. 7.8 - Guest Room Area Perspective
Author, 2024

08

Attachments

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From Page 11

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World Health Organization

National Institute of Mental Health

Siloam Hospital

Mitra Keluarga Hospital

Johns Hopkins Medicine

Dinas Kesehatan Kota Yogyakarta

Pemerintah Daerah Istimewa Yogyakarta

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Bismillaahirrahmaanirrahiim

Assalamualaikum Wr. Wb.

Dengan ini, menerangkan Bahwa:

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Judul Karya Ilmiah : Perancangan Pelayanan Kesehatan Mental Disertai Resort di Bantul dengan Pendekatan Multisensori untuk Penanganan Masalah Kesehatan Mental

Karya ilmiah yang bersangkutan di atas telah melalui proses cek plagiasi menggunakan **Turnitin** dengan hasil kemiripan (*similarity*) sebesar **3 (Tiga) %**.

Demikian Surat Keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Wassalamualaikum Wr. Wb.

Yogyakarta, 11/20/2024

Direktur



Muhammad Jamil, SIP.

Architectural Presentation Board (APREB)

Harsa Rahayu

A Design of Mental Health Clinic with Resort in Bantul with Multi-Sensory Approach for Treating Mental Health Issues

Yogyakarta has many natural disasters, but the most common are earthquakes and volcanic eruptions, which leads to significant loss of life and psychological trauma for the victims, particularly among females, late teenagers, middle-aged adults, and the elderly. To address these issues, a mental health care with resort is proposed. This facility will provide medical care, peer support, and communal spaces, employing a multi-sensory approach (visual, olfactory, tactile, auditory) to aid healing. Additionally, the resort provides a social type of healing environment integrated with the nature, that encourages socialization and outdoor activities, in order to improve their well-being.

Research Questions:
 1. How to design a mental health care center that able to accommodate users needs in healing their mental health issues?
 2. How to design a mental health care that is capable of accommodating users needs to heal from their mental health issues?
 3. How to integrate multi-sensory approach in order to effectively create a healing space for the users?

Objectives:
 Designing a mental health care center using multi-sensory approach in order to create an accommodation that is able to give the users improved mental health, supporting community activities, promote social and healthy life.

Contribution:
 • The study focuses limited to the design of a mental health care in Yogyakarta
 • The study focuses limited on how multi-sensory design is used in healthcare design typologies
 • The study excludes components such as financial constraints.

World Health Problems - Issues

Mental Illness
 • Burden and low recovery range of depression that "normal" mood or "typical" personality
 • Pathology or condition of the brain (concerned by a lot of neurobiological concepts and partly, as a result of neurobiological conditions, i.e., neurochemical imbalances, especially neural transmitters)

Mental Disorder
 • A disturbance of mental functioning of the mind of body, in any of several or several others, caused by the behavior of the mind itself
 • Alternative to the normal functioning of the mind

Brain disorder resulted in changes to feelings, emotions, personality and behavior.

Effects of Natural Disaster on Mental Health:
 • Behavioral
 • Physical
 • Emotional
 • Cognitive

Age Prevalence of Mental Issues Post-Natural Disaster:
 • Female
 • Late Teenager
 • Middle-aged
 • Elderly

Common Mental Issues Post-Natural Disaster:
 • PTSD
 • Anxiety Disorder
 • Depression

Problems/Issues:
 • Natural Disaster
 • Highly about Mental Health
 • Increasing Awareness of Mental Health
 • New way of Healing
 • Increasing Demand

Flowchart:
 - Brain disorder resulted in changes to feelings, emotions, personality and behavior.
 - This leads to **Issues** (e.g., long-term health problems, low recovery, increasing disability, poor quality of life) and **Impacts** (e.g., loss of high mental capacity, feeling a sense of hopelessness, and loss of ability to function normally).
 - These lead to **Problems/Issues** (e.g., Natural Disaster, Highly about Mental Health, Increasing Awareness of Mental Health, New way of Healing, Increasing Demand).
 - The process involves **Diagnosis** (Physical, Psychological, Behavioral, Cognitive) and **Intervention** (Medical, Psychological, Behavioral, Cognitive).
 - The final goal is **Recovery** (Physical, Psychological, Behavioral, Cognitive).

Site Plans:
 - **Site Plan:** Shows the overall layout of the resort with various zones.
 - **Site Plan (Detailed):** Shows a more detailed view of the resort buildings and landscaping.

Architectural Rendering:
 - Shows a 3D perspective view of the resort buildings, which are modern structures with large, curved, brown roofs, surrounded by lush greenery and trees.

Footer:
 - Logos for R3, ARCHITECTURUM, and Harsa Rahayu.
 - Harsa Rahayu: Design of Mental Health Care with Resort in Bantul with Multi-Sensory Approach for Treating Mental Health Issues.
 - Supervisor: Dr.-Ing. Fatah Syaifuddin, S.T., M.S.
 - Designer: Arief Budi Setiawan, S.T., M.Sc., M.Eng.
 - Prof. Dr.-Ing. Ir. H. Syaifuddin, M.Sc., M.Eng.

Fig. 8.0 - APREB 1st Page
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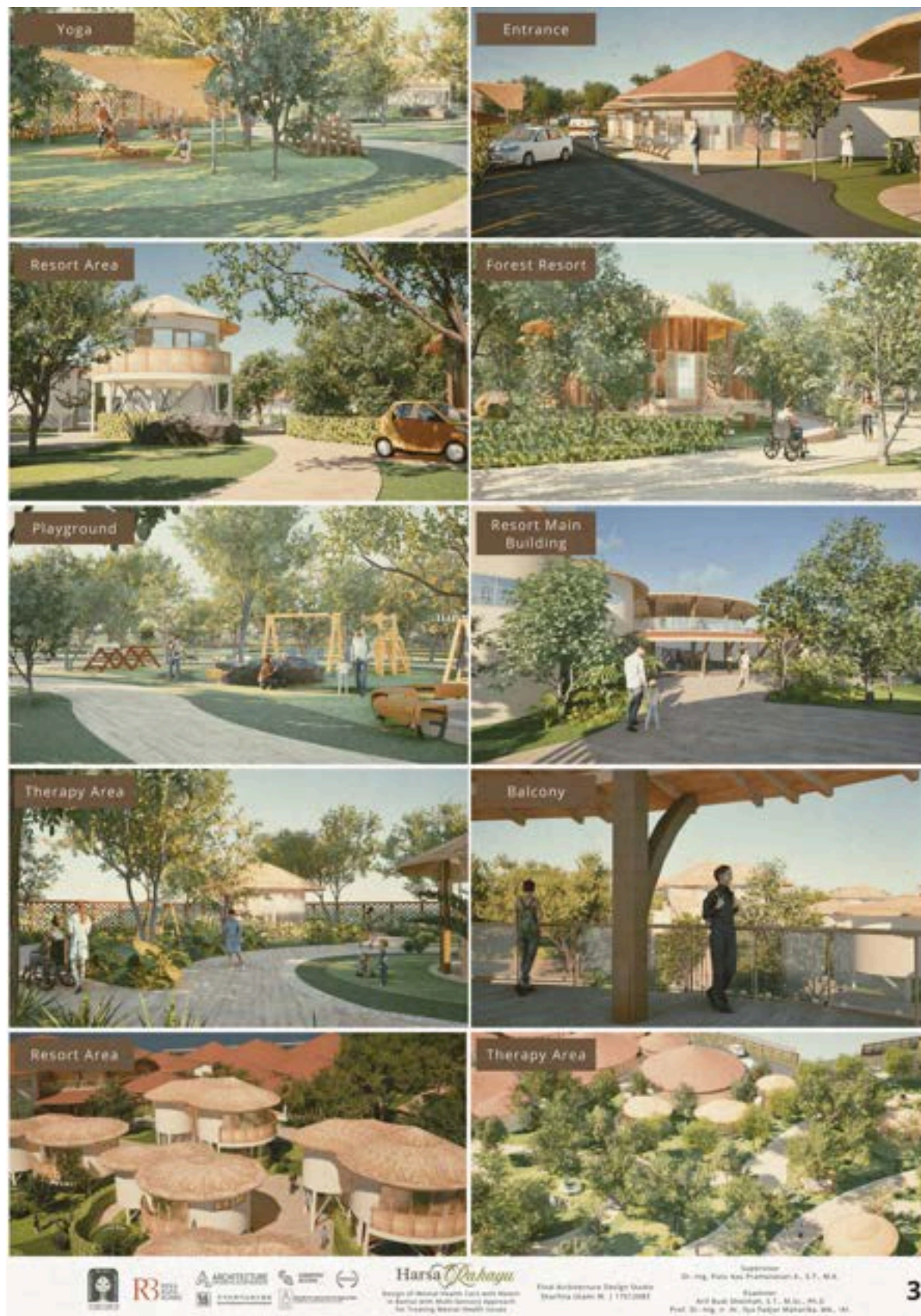


Fig. 8.2 - APREB 3rd Page
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Fig. 8.3 - APREB 4th Page
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3D Model / Maquette



Fig. 8.4 - 3D Model/Maquette Photos
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In loving memory of
Soemantoro

My very caring, humorous and cheerful grandpa. His memory continues to guide me, and everyday I will try to be better for him, so I hope he can be proud of how far I've come.

The name of this project, *Harsa Rahayu*, was inspired by my mother's name, Tri Yanti Rahayuningsih. Rahayu means prosperous and happiness, a condition that I want to be in the future.

I want to personally thank my mom, that always supports me and trying her best to understand me everyday.



This thesis was inspired from my experience with mental health issues, and my effort to become more aware on it, while trying my best to manage and heal from it. This thesis is certainly far from perfect, and it shows the journey of battles with myself and outside triggers. Despite my inability to achieve perfection, I persevere until the end.

If I can do it, so do you. Please keep going even if it seems impossible, because you're stronger than you think.



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