

# Design Of Elderly Living Space in Yogyakarta *with Deafspace Approach*

THE DESIGN OF LIVING SPACE FOR ELDERLY IN YOGYAKARTA WITH DEAFSPACE APPROACH

***Kemala Fitri Adelia***  
***17512022***

***Supervisor : Dr. Ir. Revianto Budi Santosa, M.Arch.***



# FADS

FINAL ARCHITECTURE DESIGN STUDIO 2021

## Design Of Elderly Living Space In Yogyakarta

With Deafspace Approach

*Supervisor*

Dr. Ir. Revianto Budi Santosa, M.Arch.

Kemala Fitri Adelia

17512022



Department of Architecture  
Faculty of Civil Engineering and Planning  
Universitas Islam Indonesia



## AUTHENTICATION SHEET

Final Architecture Design Studio Entitled:

### Design Of Elderly Living Space In Yogyakarta With Deafspace Approach

Student's Full Name : Kemala Fitri Adelia

Student's Identification Number : 17512022

Has been evaluated and agreed on : Yogyakarta, 21 July 2021

Supervisor

Jury 1

Jury 2

Dr. Ir. Revianto Budi Santosa,  
M.Arch.

Dr-Ing. Putu Ayu P. Agustiananda,  
S.T., M.A

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

Acknowledge By :

Head of Architecture Undergraduated Program



Assist.Prof. Dr. Yulianto P. Prihatmaji, S.T., M.T., IPM., IAI.

## FOREWORD

Praise and gratitude to Allah SWT who has given the grace and love, so that the author can complete in studying at the Department of Architecture, Islamic University of Indonesia with completed my final project entitled Design Of Elderly Living Space in Yogyakarta With Deafspace Approach.

The author realizes during the process of making this Project have received so many helps and supports from many parties. In this occasion, I would like to thanks to:

1. Allah SWT with all the blessing and the guide so in the process it is always find the convenience and the guidance to finish this project.
2. For my family, for always give me an endless support and energy to do the Final Project that always encourage me to finish what I started.
3. Dr. Ir. Reviando Budi Santosa, M.Arch. as supervisor lecturer in Final Architectural Design Studio who always has given time, knowledge, criticism, suggestions, and extra patience so that the author can do better in working on the Final Project.
4. Dr-Ing. Putu Ayu P. Agustiananda., ST., MA and Prof. Noor Cholis Idham, S.T., M.Arch., Ph.D., IAI as the Jury lecturers during the Final Architecture Design Studio who have provided criticism and suggestions, so that this Final Project can be an even better work.
5. All the lecturers and staffs in Department of Architecture Islamic University of Indonesia who has guided the me and provided knowledge that could be useful for the me while I was a student at UII.
6. Andewi Rizkya and Farras Rana, for being my bestfriend since we child, that always support me and encourage me to finish the Project and the one that give me inspiration to do this Project.
7. Friends in Architecture 2017; Galih Indraswari, Aulia Wahyu, Rasyid Dewangga, Nela Dwianti, Rafif Fachriza, Kirana Nandang, Abraham Risyad, Adelia Bunayya, and Kemal Adro, who always support each other in completing the Final Undergraduate Project

The author is fully aware that this work not so close from the word perfect, therefore all constructive criticism and suggestions for the perfection of this undergraduate final project are highly expected. Hopefully this final project can also be useful for the author as well as for all of us.

Yogyakarta, Juli 9th 2021

Author,



Kemala Fitri Adelia



## STATEMENT SHEET

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I, the undersigned below :

Student's Full Name : Kemala Fitri Adelia

Student's Identification Number : 17512022

Study Program : Department of Architecture

Faculty : Civil Engineering and Planning

Final Architectural Design Studio Entitled : **Design Of Elderly Living Space In Yogyakarta With Deafspace Approach**

I solemnly state that this Final Architectural Design Studio report that I wrote is truly my own work, not expropriation of other people's writings or thoughts that I acknowledge as the result of my own writings or thoughts.

If in the future it is proven or can be proven that this Final Architectural Design Studio product is a plagiarism, I am willing to accept sanctions for such actions.

Yogyakarta, Juli 9th 2021  
Who makes the statement,



Kemala Fitri Adelia



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# ● **DESIGN PREMISE**

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# design premise

## deafspace approach



DeafSpace is an architectural approach that is primarily influenced by deaf people's specific ways of living and inhabiting space. The modern concept of deaf space utilizes the five principal concepts: sensory reach, space and proximity, mobility and proximity, light and color, and acoustics

With deafspace approach, the living space can provide the facility that the elderly helped with their decreasing of senses they have.

## elderly living space



The purpose of this project is to create an elderly living space that provide the facilities that the elderly need in their activity based on the interactive approach. Each elderly have a different personality and behaviour to live together. Behaviour and personality can became the factor to consider about making a space to live in. The activity that elderly will do also affect the need of space inside the living space.



## design premise

As a human, we need a place for living and it is one of the important needs. Therefore we need a place called home as a shelter and protect us from the rain and heat or other danger that exist outside. A place for lived in or often we called as a home should be designed with consideration or the space needs of the occupant of the house. The space that is designed is mostly using the average dimension standard of humans and usually, it is not quite compatible with elderly people's dimension standard of living. Through this project, it is expected to create a living space for elderly that have fulfill the standard of the elderly's movement and mobility with universal design as the base for the designing the space.

As we got older, the function of the senses are decreasing. Beside it is seen from the movement and mobility aspect, the things that need to be improve in the living space is for the facilities that provide the support for elderly that have hearing impairment and low vision. Since in the common retirement house are lacking the facilities that support hearing impairment and low vision. So for the focus design of the elderly living space are on the provide the facilities that support elderly that have hearing impairment and low vision.

With deafspace approach, the living space can provide the facility that the elderly helped with their decreasing of senses they have. . By using this approach, it is expected to have an elderly living space beside completed with the facilities that is elderly needs, also it can be feel the homey vibe in the living space.



**DESIGN PROBLEM STUDY**

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# design problem study

In Indonesia, the living space for the elderly are rarely can be found. Because of the limitation of the amount of the living space in Indonesia, the quality of the retirement house is often get neglected it makes the room or the space inside the retirement house some of it do not fulfill the standard for elderly people. Also due to limitation of living space for elderly, sometimes make the activity inside of the living space is not optimal. The facility of the elderly house also some of it are still improvised.

No.	Province	Average people in 2010-2035 (population)	Average projection of the people between 60 and above in 2010 – 2035 (population)	Average projection of the people between 60 and above in 2010 – 2035 (%)
1	DI Yogyakarta	3.943.717	624.290	15,83

Source : BPS Indonesia, 2013,

Based on the data of BPS Indonesia data, the average projection of elderly people (60 above) in Yogyakarta in 2010 - 2035 are about 624.290 people. from the database, it is known that the average percentage of the elderly are 15,83%. While the percentage of elderly people in Indonesia is 11,24%. so it can be conclude that the percentage of the elderly people in DIY is higher than the average elderly people in Indonesia. With the development of the number of elderly people in DIY, so the needs of elderly living is increased.

From the data, i believe that the needs of the elderly living in the future will be increase. Thus, i want to create an elderly living that is can fulfill the needs of the elderly with the facilities that is seen from the behavior of the occupant by using the Interactive Architectural Approach.



## design problem study

This final architectural design studio project are adopted from Breadth on Place Making Class which is discuss about Ideal Living Space to Fulfill Elderly Activity in Retirement House. In this paper, it is discuss about the evaluation standard of minimum space that elderly needs to do their activity in retirement house. From this paper, it can be learn about the evaluation about the size of space in living house. The paper of Ideal Living Space to Fulfill Elderly Activity in Retirement House can be the source of designing the elderly living space in this project.





**DESIGN STUDY  
PRELIMINARY ESSAY**

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# design study preliminary essay

## 1. Elderly Living Space / Retirement Home

Living space for elderly or we call it as Retirement Home is a place where older people live together and are cared for; a house that is designed for the needs of older people (Source: Cambridge Dictionary). The occupant of the retirement home usually lived by people that is 60 or above, the average age of the people that lived in retirement home are about 63 (according to Statistic Brain).



Activity in Panti Lansia Santa Monika – Boro

Source: google.com

Elderly living space is became the choices of the elderly people because of some factors, one of them is the family that is working and can not taking care of the elderly people. Retirement house became the option when the elderly people need to be socialized with the other by having a new experience and there are people that is taking care of the elderly people at the same time.



Activity in Panti Wreda Hanna, Bintaran – Yogyakarta

Source: google.com

# design study preliminary essay

## 2. Deafspace Approach

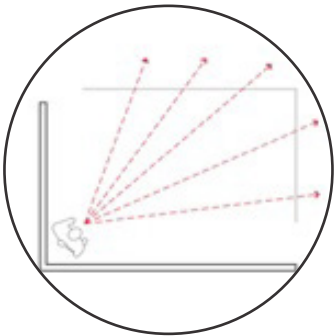
DeafSpace is a design concept informed largely by deaf people's unique methods of living and occupying space. Buildings, schools, corridors, furniture, and other architectural arrangements and technology should all be designed to support hearing impaired people and their way of life. The modern concept of deaf space utilizes the five principal concepts: sensory reach, space and proximity, mobility and proximity, light and color, and acoustics.

The DeafSpace idea seeks deaf people's expertise to help create a more compassionate environment, not only for deaf people, but for society as a whole.



# design study preliminary essay

## Deafspace Concept



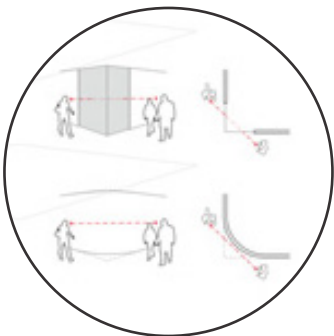
### Sensory Reach.

Deaf individuals utilize their acute awareness of visual and tactile cues such as shadow movements and vibrations, as well as subtle changes in the expression/position of others around them, to “read” events in their environment that aren’t always evident to hearing people. It is discussed in this idea how spatial awareness may be broadened by environmental and social factors.



### Space and Proximity.

Individuals must stand at a distance to observe the signer’s facial expression and the entire dimension of the signer’s “signing space” in order to maintain clear visual communication. It’s a debate concerning how proximity and distance impact communication and spatial awareness. This basic dimension of the distance between persons has an impact on the overall architecture of furniture and architectural spaces.



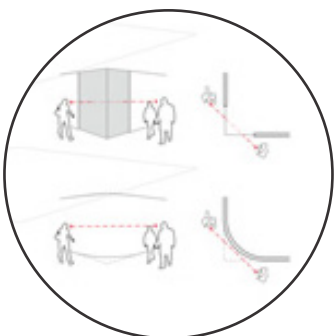
### Mobility and Proximity.

For clear visual communication, those who use sign language must keep a large distance. It is also necessary for them to be aware of their surroundings when communicating and traveling together. The appropriate layout of circulation and gathering areas allows vocalists to move freely around the room. The key connections and distances that allow vocalists to traverse across space unhindered are discussed in this idea.



### Light and Color

This idea discusses how material and environmental characteristics facilitate communication and navigation. Electric lighting fixtures and architectural elements that control sunshine hours can be set up to provide a gentle, mellow glow. To focus on signal language and promote visual wayfinding, color can be utilized to analyze pores and skin tone.

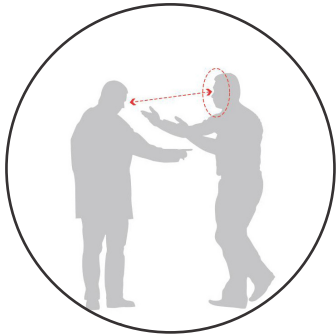


### Acoustics

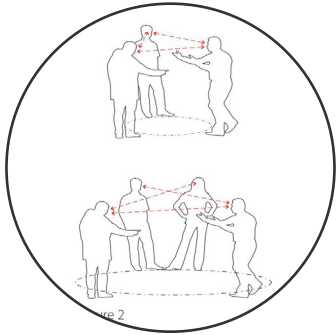
The significance of managing acoustics and other disruptions will be discussed at this point. For those who use assistive equipment, reverberation generated by sound waves reflected by hard building surfaces can be particularly irritating, if not unpleasant. Reverberation and other forms of background noise should be minimized in spaces.

# design study preliminary essay

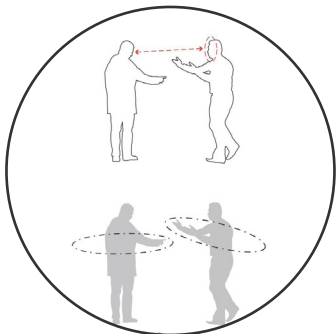
## 1. Space and Proximity Guideline



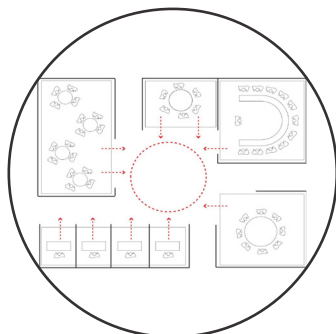
Touch is an important element of Deaf people's language, and they rely on incredibly delicate face and body gestures to communicate.



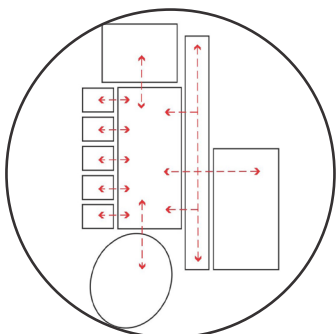
All communication needs the absence of visual obstacles across space in order to establish and sustain eye contact with others.



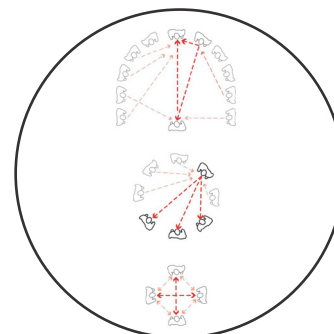
The requirement for more ample space surrounding individuals arises from the necessity for room around the arms in order to sign comfortably (referred to as a person's "signing range").



Openings in buildings allowed people to observe their coworkers at work and in social situations. When appropriate, transparent walls and doors, big unobstructed apertures, and sliding wall panels should be used to visually link circulation and social spaces.



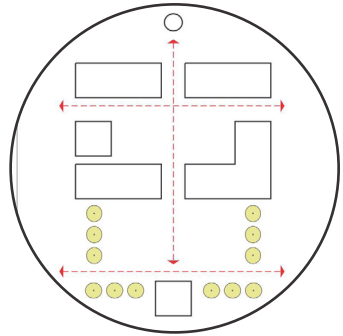
Collaborative spaces should be near high-density areas. By allowing for visual and tactile interaction, these sorts of applications can help energize collective spaces.



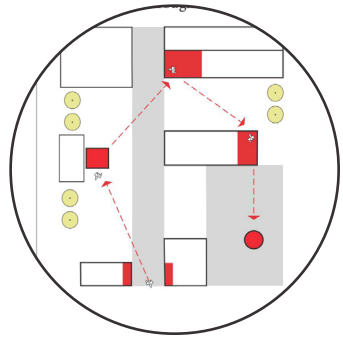
If touching is required throughout the discussion, it must be barrier-free to allow for rapid crossing. a need to take a step back from signing people in order to broaden one's vision and see signing in its whole, as well as the other person's facial expressions

# design study preliminary essay

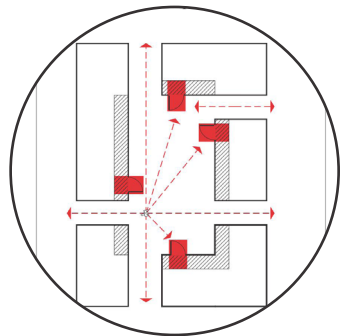
## 2. Sensory Reach Guideline



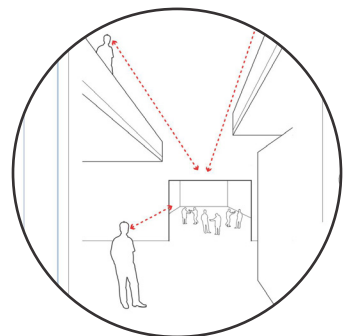
View corridors play an important role in wayfinding and serve as primary circulation routes. Landscaping, building location and massing should serve to reinforce and define major view corridors throughout the area.



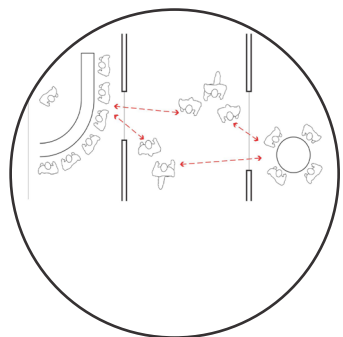
Important destinations or landmarks should be directly visible to help deaf individuals orient themselves.



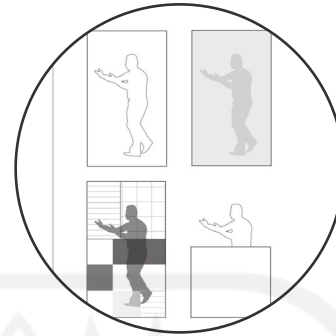
Primary entrances located that they are highly visible from decision points along major area circulation and from open spaces.



Major destination points visible from multiple places. When entering a building or public space, immediately apparent and their access unobstructed. Circulation routes and layouts should be clear and intuitive.



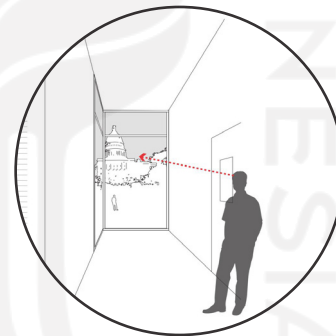
In hallways, corridors and other movement space, it is desirable to provide transparency into adjacent spaces, allowing visual access to the activities taking place throughout the building.



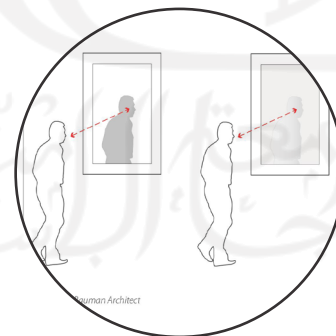
Openings between interior and exterior spaces designed to provide flexibility in the level of privacy whenever possible. Materials thematically as architectural element in conjunction with way-finding strategies.



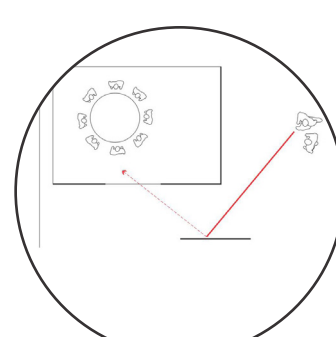
Glazed entrances also aid in way-finding by allowing views into major lobby spaces. At night time, glazed entrances act as lanterns making building entrances legible from afar



Placing windows at the end of building corridors reduces the sense of confinement and provides a sense of openness and connection to the outdoors.



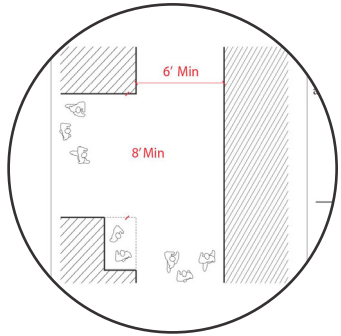
Reflective surfaces are important for extending sensory reach to understanding of the surrounding environment. Use materials that have the appropriate degree of reflectivity can create undesired conditions such as glare and visual clutter.



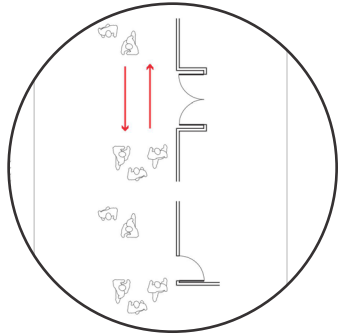
Reflective surfaces used to aid deaf individuals in perceiving their environment and the activities occurring within surrounding spaces.

# design study preliminary essay

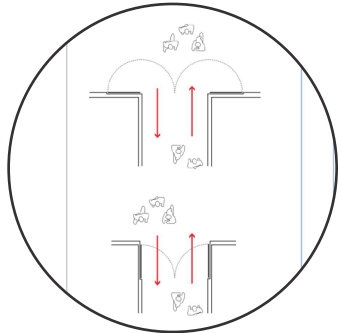
## 3. Mobility & Proximity Guideline



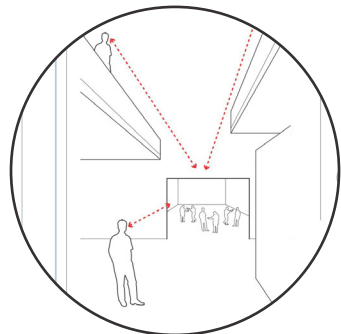
Primary corridors must be at least 8 feet wide, while minor corridors must be at least 6 feet wide. Conversation nodes placed outside of the route flow are provided via corridors.



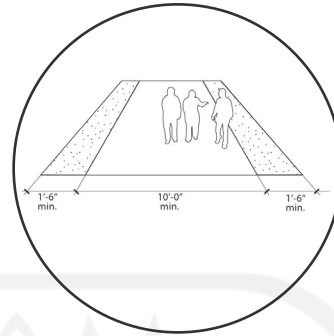
Swinging doors should not obstruct traffic movement. When authorized by regulation, doors should swing into the neighboring room; otherwise, a vestibule should be constructed to prevent the door from swinging into the corridor.



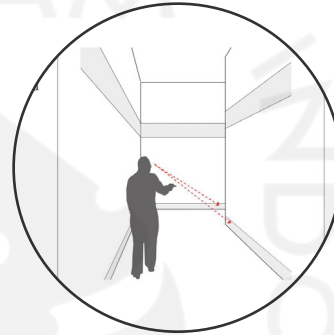
When feasible, utilize doors that open with a grip. During a signed conversation, these are separated from traffic flow and allow for continuous travel.



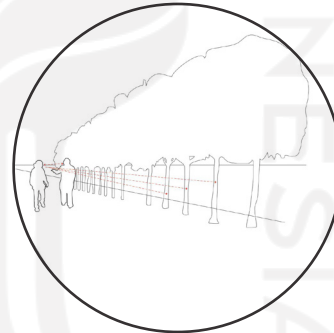
Major destination locations may be seen from a variety of angles. When entering a building or public place, they are immediately visible and have unrestricted access. The routes and layouts of the circulation system should be simple and straightforward.



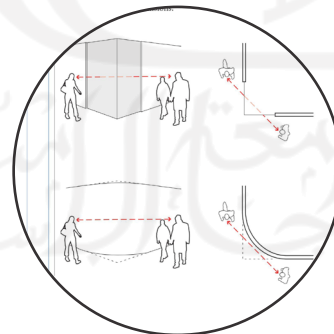
Sidewalks and walkways should be at least 10 feet wide to allow many groups to easily pass each other. Placed along walkways, textured edges on the ground plane can offer subtle hints about the existence of edges.



Traditional floor bases, chair rails, picture rails, or horizontal expose joints should be incorporated into circulation space design to establish a distinct and continuous visual foundation.



Landscape elements are used along key paths to provide a recognizable and consistent visual reference. The rhythmic arrangement of trees and light standards conforms to pedestrian cadence.



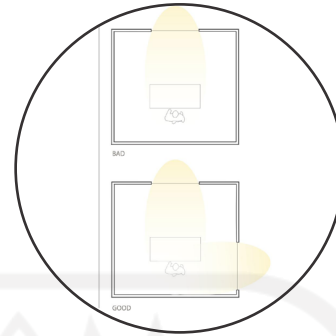
Easier, or "soft" corners, allow pedestrians to notice and avoid accidents.

# design study preliminary essay

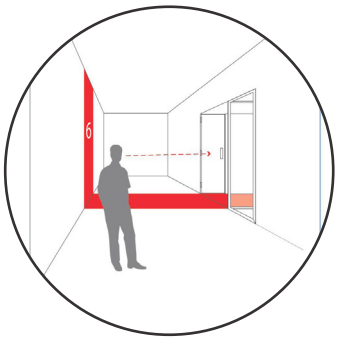
## 4. Light and Color Guideline



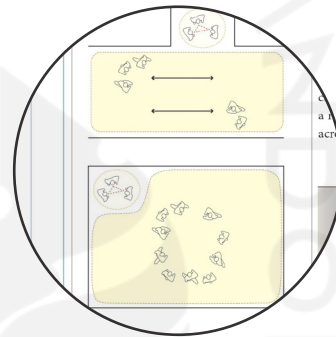
Darker colors on smaller surfaces can produce an intimate sensation that stems from a sense of being engulfed.



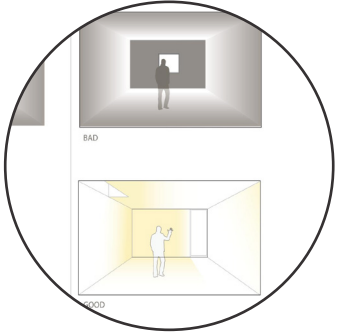
Multiple sources of daylight should be used to balance the amount of daylight in a particular location. A second source of light, such as a skylight or transom, can help to balance light levels, decrease eye strain, and improve visual communication.



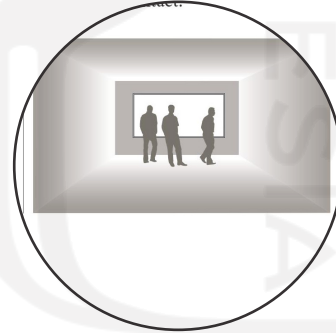
Color is utilized to provide a basic visual orientation that is easy to traverse. Color is utilized regularly to indicate large thresholds, vertical shifts, sidewalk boundaries, and other conditions that would typically prompt a stop.



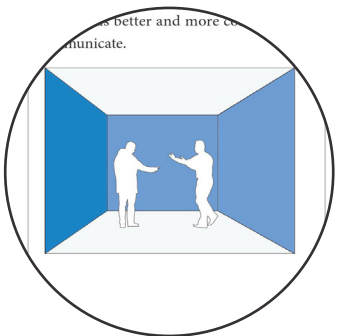
Outside of the flow of traffic or next to primary gathering areas, light is employed to generate eddies. For smaller parties and talks, it can offer a more personal lighting atmosphere.



Windows and skylights should not be placed in the center of rooms, but rather at a position that allows natural light to wash the walls, floor, and ceiling surfaces.



High contrast between person and environment is caused by bright windows behind individuals or focal points in areas, making it harder to read facial emotions and make eye contact.

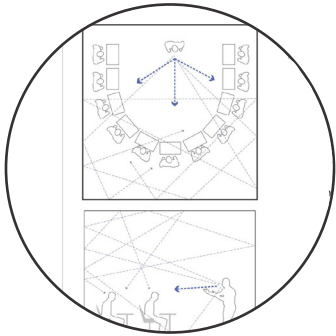


Visual clarity is important for deaf and hard of hearing people, therefore backdrops should be contrasting and complementary to skin tones. Most skin tones are contrasted by blues and greens. Blues and greens visually soothe a room by minimizing overstimulation of the eyes and creating a relaxing backdrop for movement. Deaf and hard of hearing people will be able to converse more effectively and comfortably if surfaces are painted blue or green.

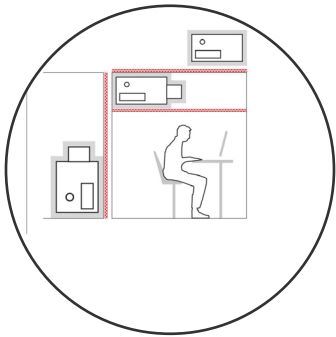
# design study preliminary essay

## 5. Acoustic Guideline

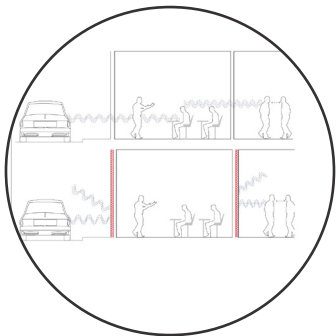
To avoid distractions for individuals with cochlear implants and hearing aids, rooms should be acoustically quiet with little background noise. Distracting background noise can come from a variety of sources, including the hum of mechanical equipment, traffic outside the building, and talk or footfall in a nearby hallway. Individuals utilizing these gadgets may become isolated and unable to properly interact and engage if background noise is not regulated.



Problematic situations arise when late repeated arrivals of the speech and other background noises are amplified. It might be distracting and make communication difficult to understand. Speech intelligibility necessitates little reverberation.



Services Rooms that can create sounds, such as electrical, water, and others, should be carefully dampened to minimize disruptive sound transmission and segregated from building structural systems.



To minimize sound interference from nearby communal and circulation areas, insulation and other sound dampening measures should be employed.



# design study preliminary essay

## 3. Low Vision

### A. Light, Glare, and Contrast

Sufficient light must come from sources that are regulated to prevent glare, and things must be recognizable through shading, shadows, colors, textures, and contrast for those with limited vision. It is give a verifiable design guideline to know the correct quantity of light for the range of visual capabilities.

### B. Site and Landscaping

#### a. Approaches to the Site and Building

It must be accessible as defined by the Americans with Disabilities Act. Bollards and other barriers must be visible in all lighting situations; pavement and other surfaces must not be too reflecting; and curbs, steps, and other changes in walking surface levels must be clearly marked.

#### b. Building Orientation

The volume and penetration of direct sunlight into the eyes of the tenant will be reduced by minimizing exposure from east and west direct sun. Reduce glare and heat in inhabited building areas by avoiding wide expanses of reflecting pavement or other surfaces that might reflect glare.

#### c. Site Circulation

Steps and stairs should have edges and nosing that contrast with the pavement and are high enough to prevent tripping. Walkways should feature vestibules or other transition areas from lower to higher floors, and a big glass area facing the courtyards should be readily differentiated from the entry. Street furniture should be limited to the edges of the route and intended to contrast with the surrounding environment. It must also be visible in all lighting situations. The lighting on the site must not be dazzling to the occupier. The sign must be free of glare from the lighting fixtures.

### C. Architectural and Interior

The interior must be visible, with enough contrast to distinguish objects and minimal glare from natural and artificial light.

Unless there is enough contrast and light to identify them from the surroundings, the circulation area must be clear of dangerous projections. The stair, steps, and ramp are clearly visible thanks to the use of contrasting colors and values, as well as railings on both sides and in the middle of the stairs.

In terms of color, contrast, or form, the door must stand out from the surrounding environment. The hardware must be visible so that the user is aware of the door swings. Texture or patterns on the floor should not hide level changes or create a trapping danger.

The paper towel dispensers in public restrooms must contrast aesthetically with the surroundings. The furnishings should be visibly distinct from the surrounding surfaces. Window glare is reduced by using shade devices.



# design study preliminary essay

## 5. Behavioural Design for Elderly

According to a journal article on the facilities required in a retirement house, There are three aspects of behavioural change for the aged in terms of behavior. There are three types of aspects: physical, psychological, and social.

### 3.1. Aspects of the Physical

In this regard, there is a reduction in the senses' function:

- Decreased visual ability
- Decreased hearing ability
- Decreased sense ability
- Decreased motoric ability
- Memory Lost

### 3.2. Aspects of the Psychological

Changes in behavior can have an impact on the psychological system, leading to an increase in emotional sensitivity. There are five types of elderly personalities, according to the journal of "Masalah Psikososial Pada Lanjut Usia":

- Construction Personality: Consistently calm, with few fluctuations.
- Independent Personality: It is prone to post-power syndrome, particularly when the older period is devoid of activities that might provide otonom.
- Dependent personality: It is usually shaped by one's familial life. When the elderly have a happy household, there is no volatility in their senior phase. However, if anything tragic occurred before to entering the elderly phase, such as the death of a family member or a negative event, they are more likely to experience sadness or loneliness during the senior phase.
- Hostility personality : When the elderly are dissatisfied with their lives, they have numerous desires that must be met at the same time without taking into account their requirements, resulting in a poor economic situation.
- Self-Hate Personality: In general, the elderly suffer because their behavior is difficult to help or because they make it difficult for others.

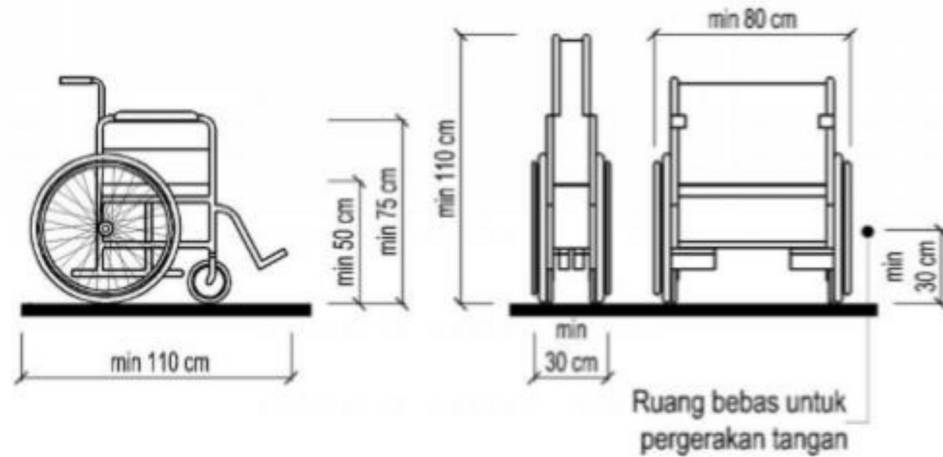
### 3.3. Aspects of the Social

- They are drawn to persons who have the same personality, frequency, or whom they can converse with.
- They prefer to socialize in groups.

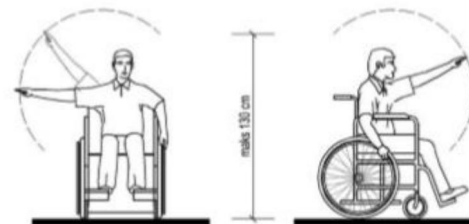
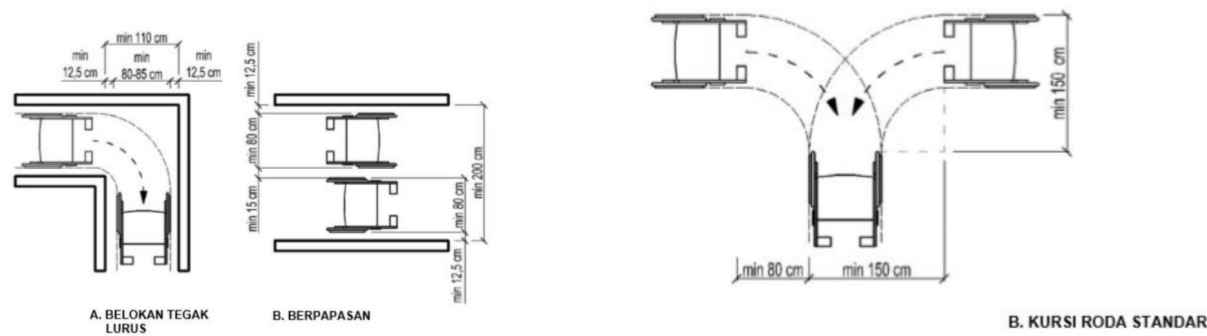
# design study preliminary essay

## 6. Regulation of Accessibility

### 1. Min. need of space for difable person (wheelchair)



GAMBAR A-6  
UKURAN KURSI RODA



GAMBAR A-9  
RATA-RATA BATAS JANGKAUAN  
PENGGUNA KURSI RODA

### 2. Parking Area (difabel)

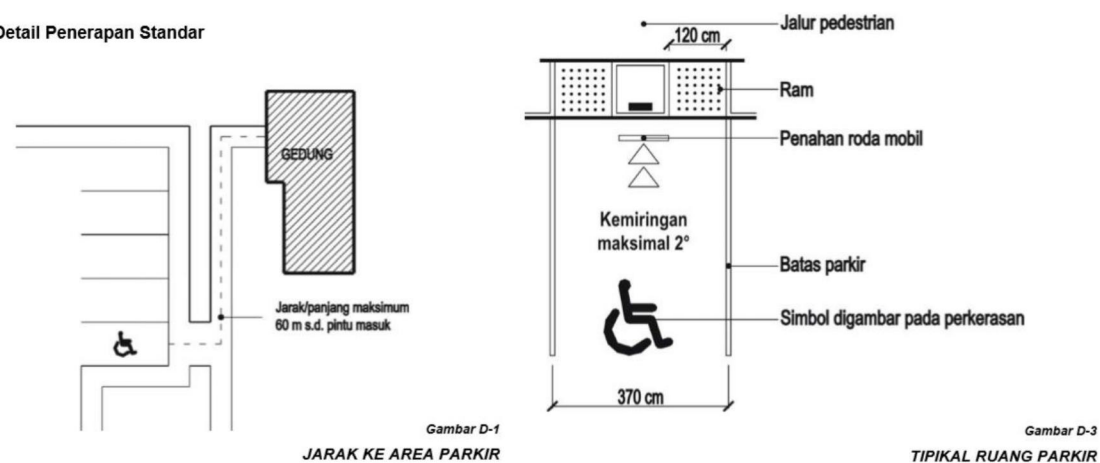
- From entrance max.60 m
- Have a difable symbol
- Parking area have a width 370cm for a single parking or 620cm for doble parking and already connected to the ramp that access to other facilities.

# design study preliminary essay

Tabel jumlah tempat parkir yang aksesibel yang harus disediakan pada setiap pelataran parkir umum:

JUMLAH TEMPAT PARKIR YANG TERSEDIA	JUMLAH TEMPAT PARKIR YANG AKSESIBEL
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2% dari total
1001-dst	20 (+1 untuk setiap ratusan)

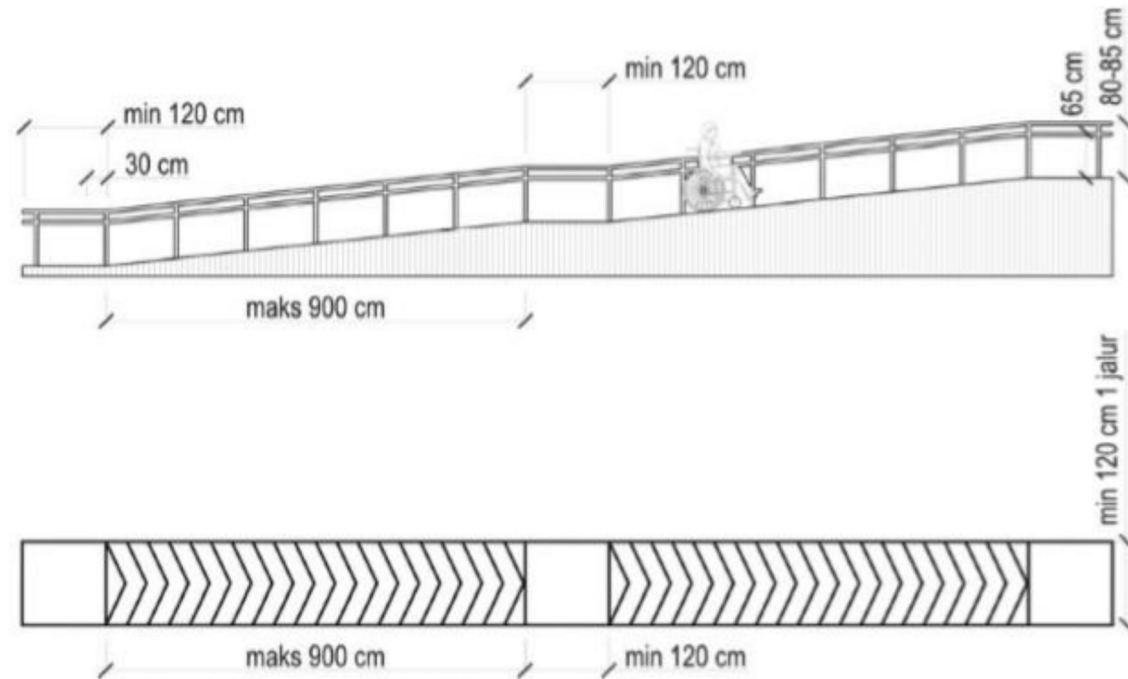
### 3. Ukuran dan Detail Penerapan Standar



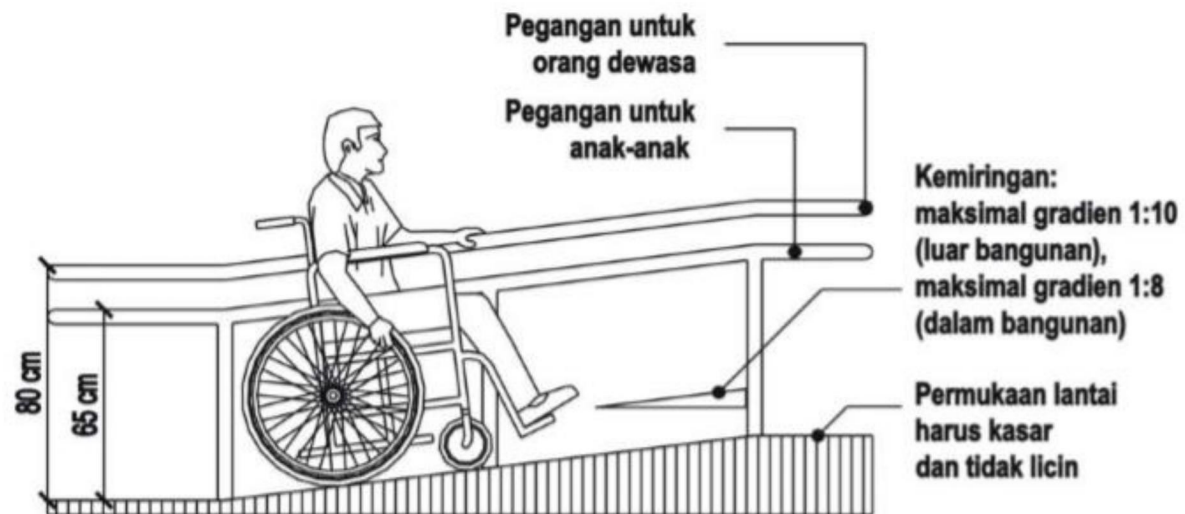


# design study preliminary essay

## 3. Ramp



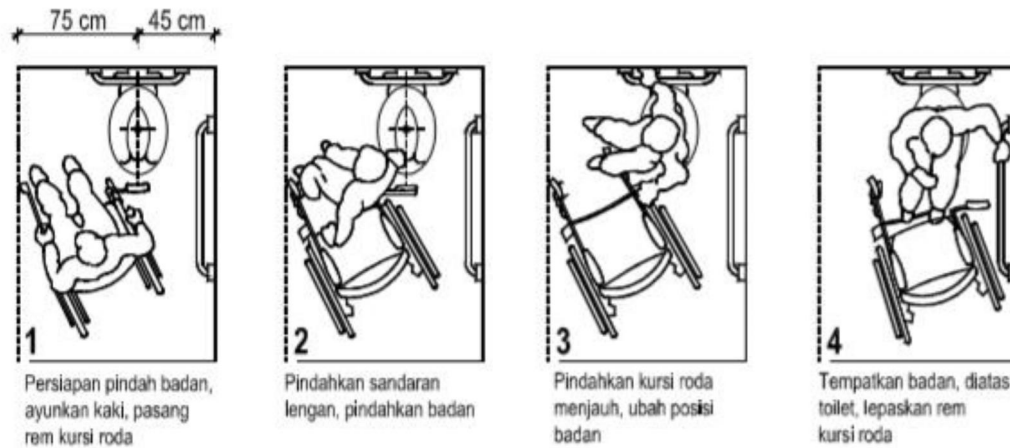
Gambar F-3  
**KEMIRINGAN RAM**



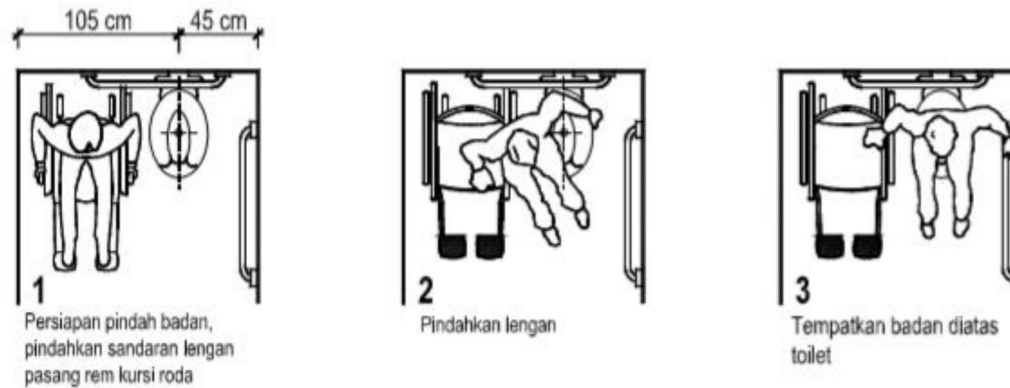
Gambar F-4  
**HANDRAIL**

# design study preliminary essay

## 4. Toilet

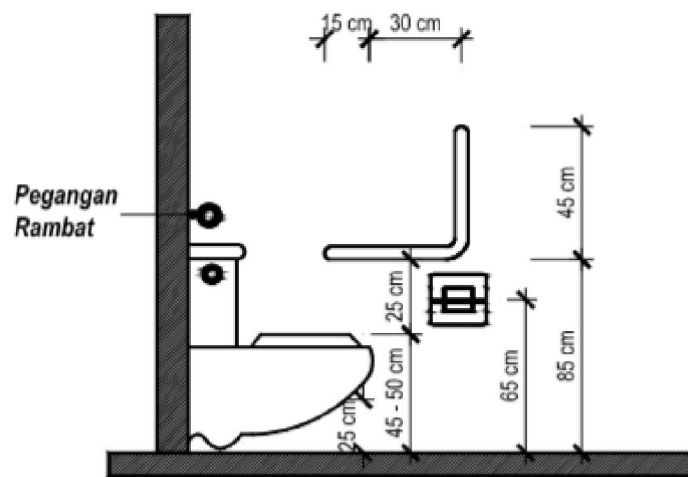


### A. PENDEKATAN DIAGONAL



### B. PENDEKATAN SAMPING

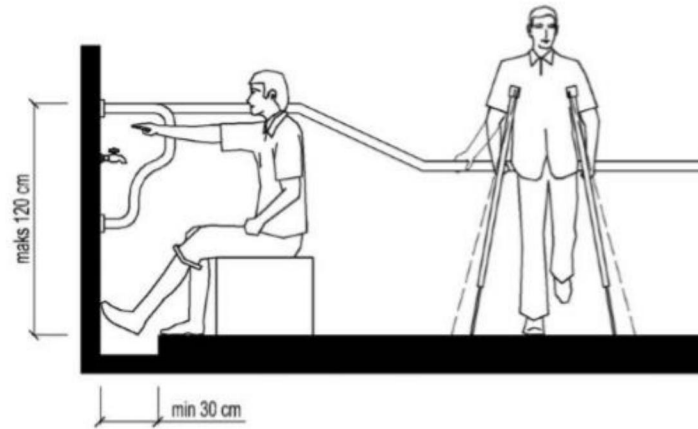
**GAMBAR J-1**  
**ANALISA RUANG GERAK**  
**PADA RUANG TOILET**



**GAMBAR J-2**  
**TINGGI PERLETAKAN KLOSET**

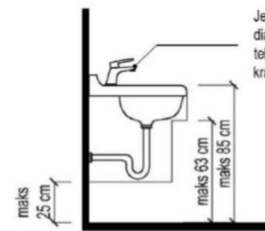


# design study preliminary essay



GAMBAR J-6

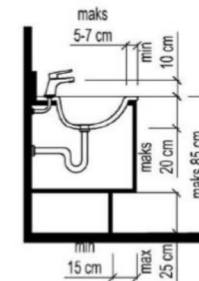
## KRAN WUDHU BAGI PENYANDANG CACAT



GAMBAR L-2

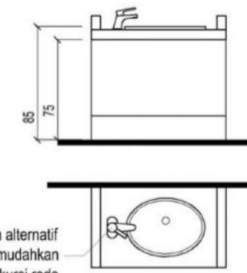
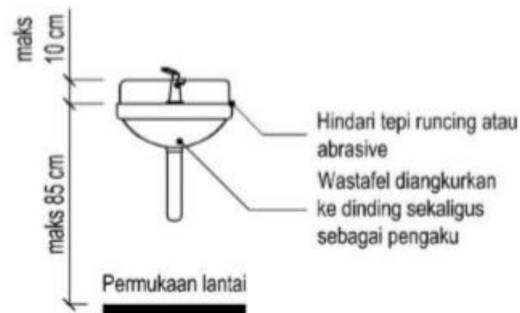
### KETINGGIAN WASTAFEL WASTAFEL

Jenis kran yang dianjurkan adalah jenis tekan dan engkol, bukan kran putar yang licin



GAMBAR L-3

### TIPE WASTAFEL DENGAN PENUTUP BAWAH

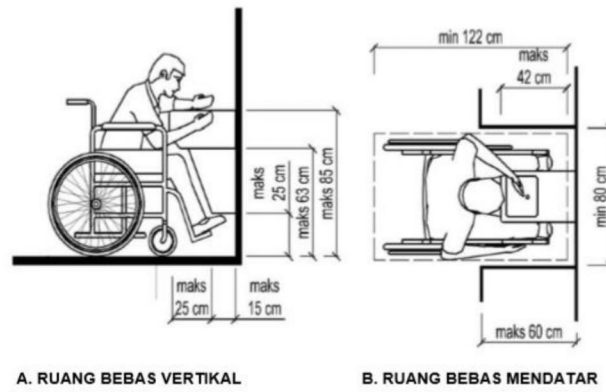


Penempatan kran alternatif di samping, memudahkan dijangkau dari kursi roda

GAMBAR L-4

### PERLETAKAN KRAN

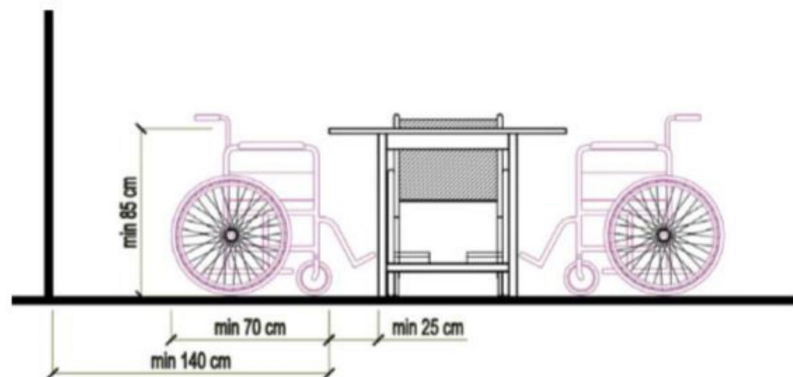
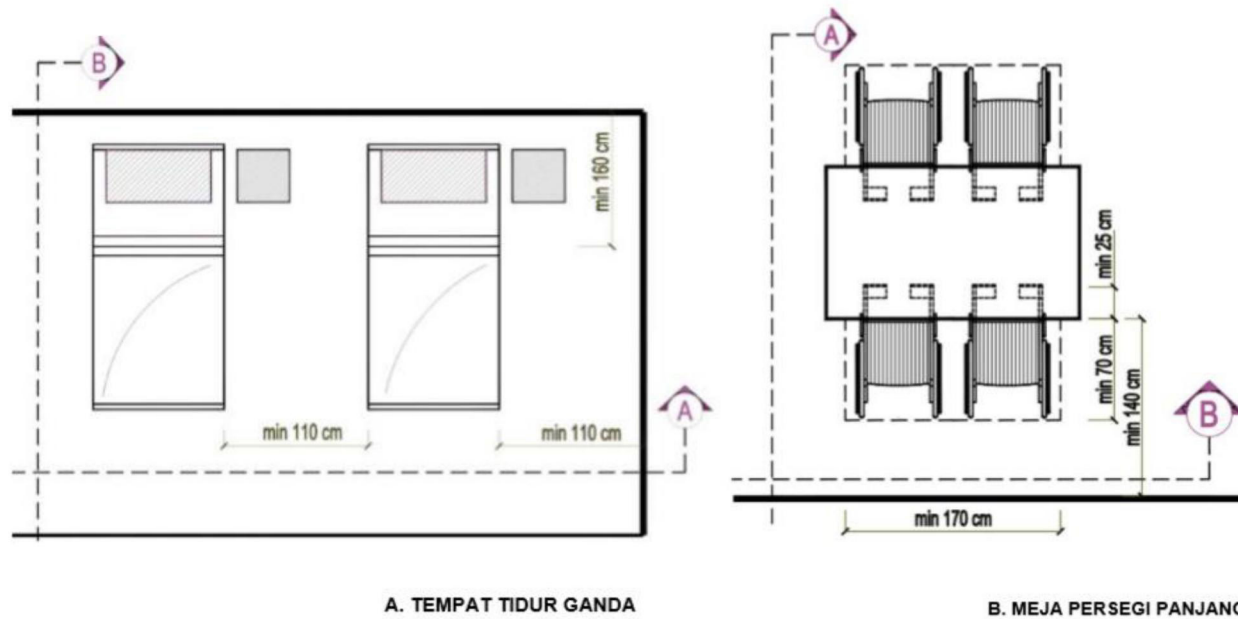
# design study preliminary essay



GAMBAR L-5

RUANG BEBAS AREA WASTAFEL

5. Tools, gathering, etc.



C. POTONGAN A - A'

# design study preliminary essay

## 7. Regulation about Welfare of the Elderly (Perwal no.38 Tahun 2019)

In Perwal np.38 Tahun 2019 Pasal 4, it is stated that the Welfare of the Elderly have a purpose to :

- realizing a healthy, independent, productive, prosperous and dignified elderly
- provide social protection and social assistance to the elderly
- establish elderly and dementia friendly areas to be safe and comfortable in carrying out the activities that want to be done
- realizing Yogyakarta as an Elderly Friendly City

For the Right and the Obligation of the elderly, it is stated in Perwal no.38 Tahun 2019 Pasal 5, that is:

(1) Elderly Rights include availability of:

- religious and mental spiritual services
- health services
- employment opportunities services
- education and training services
- ease of accessibility
- elderly-friendly open space
- elderly friendly transportation
- housing and residential areas that are elderly friendly
- respect and social inclusion
- social participation
- civilization participation
- communication and information
- community support and social services
- ease in legal services and assistance
- social protection
- protection from threats and acts of violence; and/or
- social assistance

(2) Elderly Obligation are to participate in guiding, practicing, transmitting, bequeathing and providing transparency to the next generation in all aspects of public life, nation and state.

Based on the regulation, the point that have to be focus is how to provide the facilities to fulfill the needs or the right of the elderly while providing the need to carry out its obligatoin.







# precedent essay

## 1. Nursing Home Passivhaus / CSO arquitectura (2019) Camarzana De Tera, Spain

The project was created in response to a need to enlarge a nursing home in Camarzana de Tera (Zamora). Small warm home-like areas are produced, as opposed to the vast, chilly hospital-like spaces that are prevalent in this sort of structure. The objective is for inhabitants to feel at ease (with the option of bringing their own furniture), with the use of wood and light, big windows to the south, and transparency to bring the essence of the courtyards into the interior.



Source : <https://www.archdaily.com/938691/nursing-home-passivhaus-cso-arquitectura>

From that project, it can be learn for the space that can be used as the reference of the bedroom space or the outdoor area. Since the morning sunlight is good for increasing the immune system, it can be design the bedroom with the seating area that is connected with the outdoor area for chilling or just sunbathing.

The outdoor area that have a seating area can be the space for gathering and do some activity that can be done in the area.





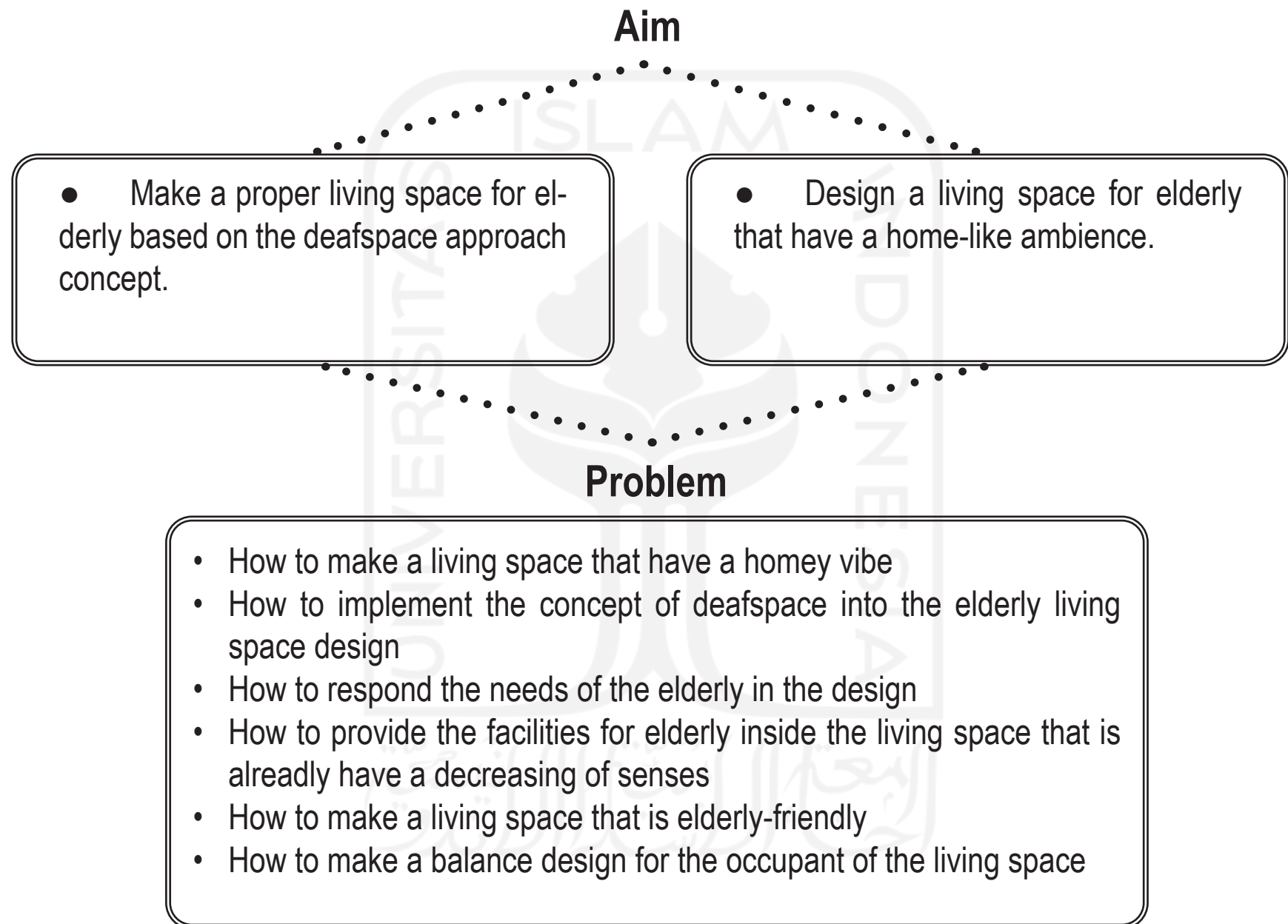




# PROBLEMATIQUE

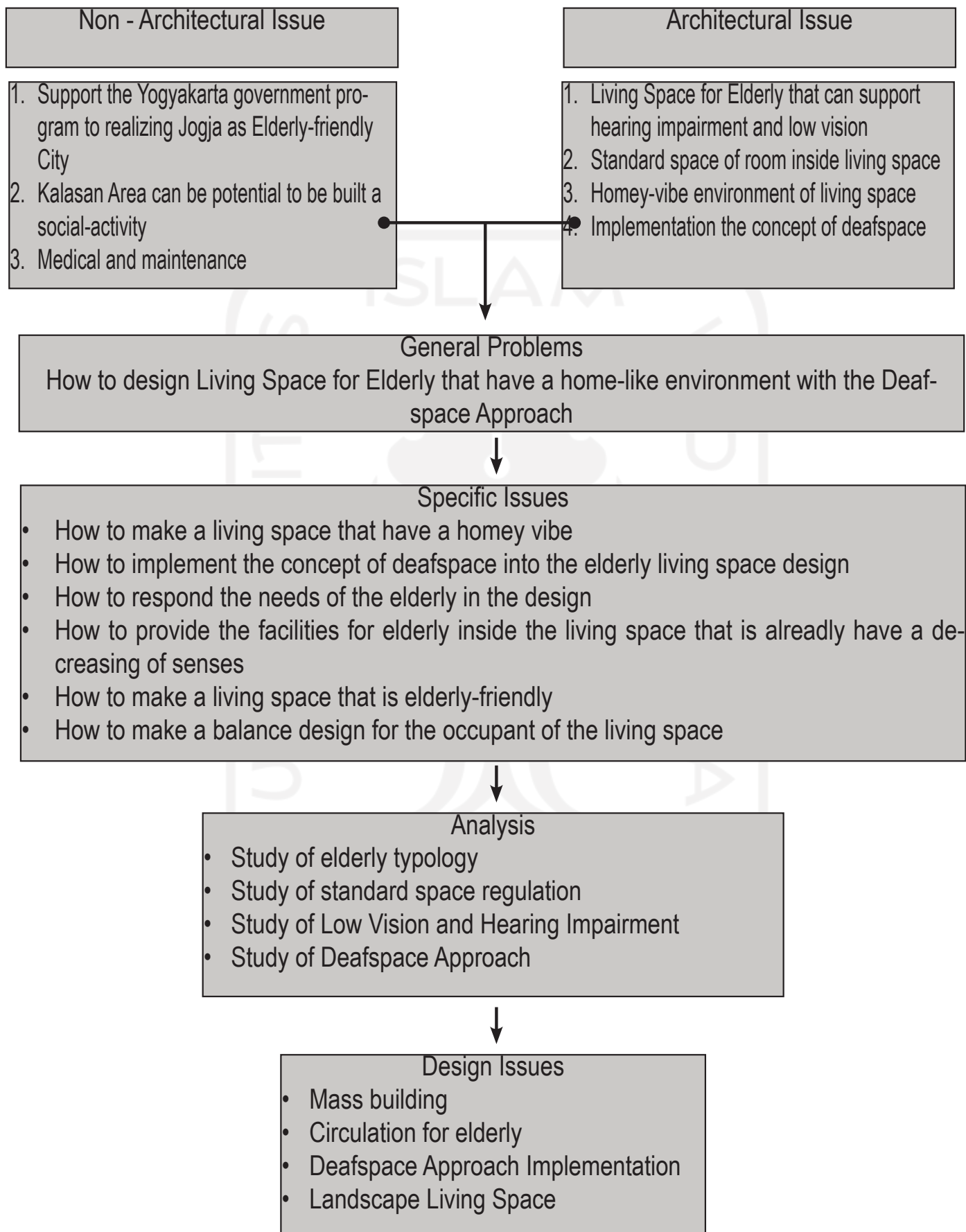
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# problematique





# problematique





# DESIGN METHODS

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## design methods

The research method for this project is done by a literature study by enhancing the theory that is relevant to the research. The material selection for this research is based on the elderly needs. Beside that, it learnt about the regulation of the space and the Deafspace itself to be applied in the design. The selection of theories will be studied correlates with the elderly living space and be implemented in the design.





# **EXCELLENCY, ORIGINALITY, NOVELTY**

---



## **excellency, originality, novelty**

1. Title : Panti Wreda Lansia Terlantar Dengan Pendekatan Pada Tata Ruang Yang Memberdayakan di Yogyakarta

Author : Fiona Purwanto

University : Universitas Atma Jaya Yogyakarta

Year : 2019

Approach : Arsitektur Organik

Problems : design of the retirement home in the city of Yogyakarta that can give homey vibe through the spatial in the inside and outside and also visual processing with organic architecture approach.

2. Title : Panti Anak Terlantar dan Lansia Di Yogyakarta

Author : Ira Asiani

University : Universitas Islam Indonesia

Year : 1999

Approach : Plan and design a social service home especially for homeless child and elderly people that have a comfort, safety and solidarity aspect, either it is in circulation and spatial layout.

Problems : Create a environment that accommodate the homeless child and homeless elderly people that is facilities and a service that can accommodate the activity for them, that can develop their creativity also can give a space that suitable for elderly.



# DESIGN HYPOTHESIS

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# design hypothesis

## Background

User of the Design Problem :

1. Elderly ( 60 above )
  - that needs support from other
  - have a (decreasing senses / disabilities) in hearing and vision
2. Nurses
  - Responsible for elderly health and safety

## Non-Architectural Problem Review

- needs of space or room for elderly
- needs of space or room to support activity in living space
- activity of services
- medical and maintenance

## Architectural Problem Review

Theories that support the design process

- Standard space of room inside living space
- Standard to fulfill deafspace

## analysis

### 1. Need of space for Eldery

- Consideration :

The basic need of space in living space

- Concept :

A space inside living space that is comfortable for elderly, can move freely, in accordance with universal design and standard of space.

Have a space that can support the activity for people that having hearing impairment

- Consideration from Concept :

Standard of space, to fulfill the support for hearing impairment, Safety of the space

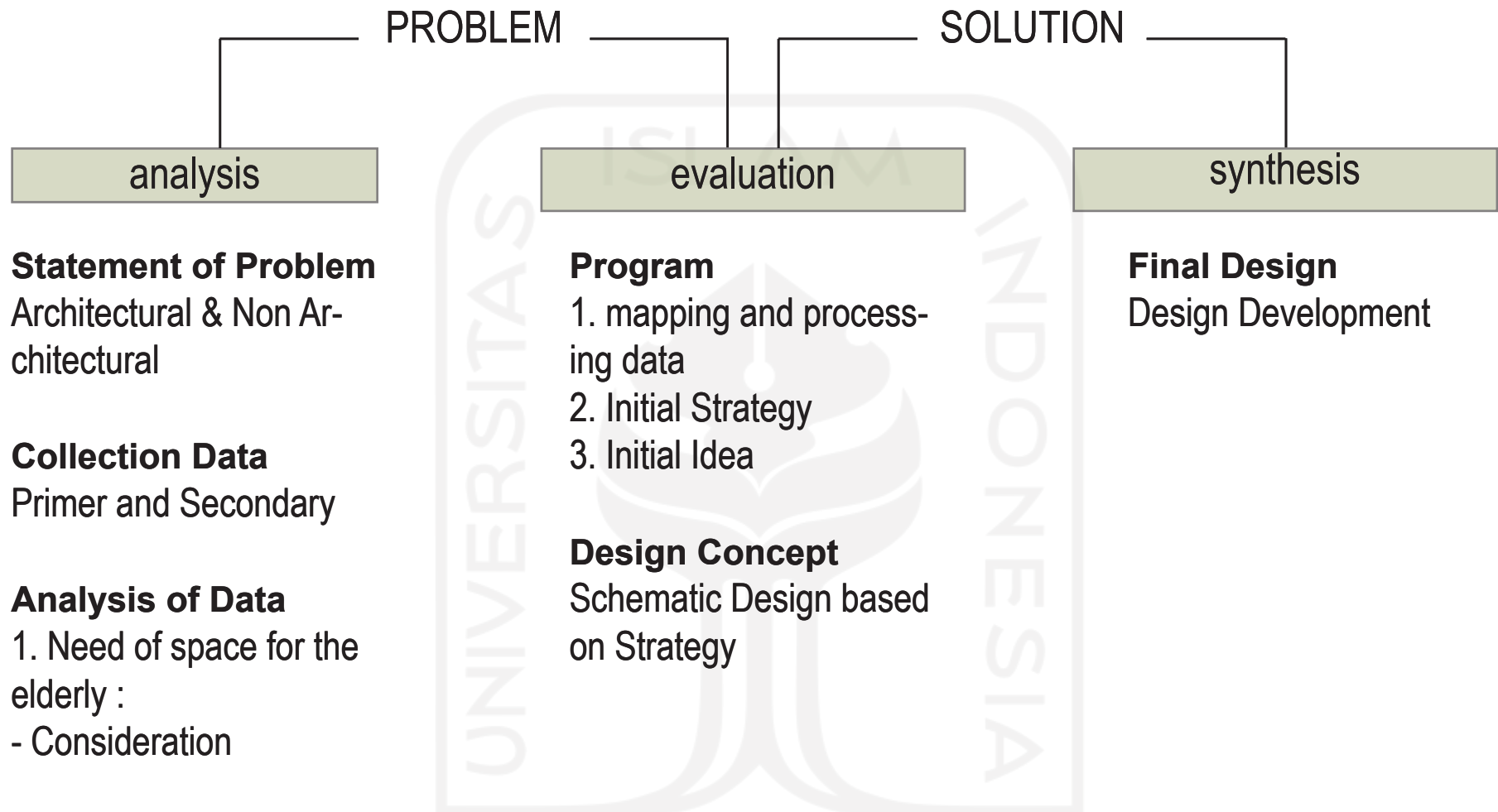
### 2. Need of space for others

- Consideration : Coordination in living space

- Concept :

# design hypothesis

## Design Process Diagram



## design hypothesis

no	Kabupaten/ Kota	Jumlah Penduduk (Jiwa)	Jumlah Penduduk Lansia (Jiwa)	Persentase Penduduk Lansia (%)
1	Kulonprogo	388.869	57.203	14,71
2	Bantul	911.503	102.635	11,26
3	Gunungkidul	675.382	93.540	13,85
4	<b>Sleman</b>	<b>1.093.110</b>	<b>124.177</b>	<b>11,36</b>
5	<b>Yogyakarta</b>	<b>388.627</b>	<b>42.399</b>	<b>10,91</b>

Source : BPS Indonesia 2013

For site selection of the Elderly Living Space, it have a few consideration.

The basis and consideration for selecting the site, From the data of the amount of elderly in DIY, in Sleman it have the greatest number of elderly. So the site will be located in Sleman Area.

Since it is for elderly, the main point is to choosing the site that is near the public services such as hospital to have a fast respond to the emergency situation. Another consideration is to choose the site that still have a green area and have a not too crowded area. Base on those consideration, I'm choosing the Kalasan Area as the site of elderly living space. Since in Kalasan area it still have many green area and it is not too crowded. And in kalasan area it have 2 near hospital, that are Panti Rini Hospital and RSPDHI.





# design hypothesis

Jalan Cangkringan, Tirtomartani, Kalasan, Sleman Yogyakarta.

- ① Site Location
- ② Paddy Field
- ③ Residential Area
- ④ Restaurant
- ⑤ Factory
- ⑥ Mart
- ⑦ Hospital (RS Pantj Rini & RS PDHI)

The location of the site is 1,2 km from Pantj Rini Hospital and 1,2 km from RS PDHI. In this area, it still have a plenty of green area that is paddy field. In around of the site it have paddy field and residential.







# design hypothesis



**Regulation Activity of the Site**  
Source : RDTR Interaktif Gistaru ATRBPN

The picture besides explain about the activity that is allow in the site. Based on the data of RDTR Gistaru ATRBPN, the activity for living space are include as the Limited Activity.



**Regulation Building Placement of the Site**  
Source : RDTR Interaktif Gistaru ATRBPN

The picture besides explain about the building placement or the building area. Based on the data of RDTR Gistaru ATRBPN, It is stated that the KTB is 70%, and the setback is 5m.



**Regulation Intensity of the Site**  
Source : RDTR Interaktif Gistaru ATRBPN

The picture besides explain about the Intensity of the space. Based on the data of RDTR Gistaru ATRBPN, It is stated that the BCR is 60%, the FAR is 1, and the GCR is 28%.

# design hypothesis

The surrounding of the site the majority is the residential and paddy field, the rest of it there is a factory in the north of the site. In the north and west area, it have a plenty area of paddy field. While in the south side, there is a residential area with the majority is house with 1 level. In the east area, it have some commercial facility such as store and restaurant.

The access to the site it is entering to the small road, about 4 m wide from the main road of Jalan Cangkringan it have about 10 m wide. Because the site is in the village area, it is not a crowded area. Beside it is in the village area, it have a stalemate access.

From the site situation, it can be conclude that in the south and west side it need a design of the facade building, since it it near the road it can be the identity of the building or the welcoming sign to the living space. Beforehand ofcourse it is already process by the setback of the building so it is not too close to the road.

Also in the east area, it need a boundaries between the site and the empty land and the residential.



- : Paddy Field
- : Site Area
- : Empty Land
- : Restaurant
- : Factory

Site Surrounding of Elderly Living Space  
Source : Writer's analysis



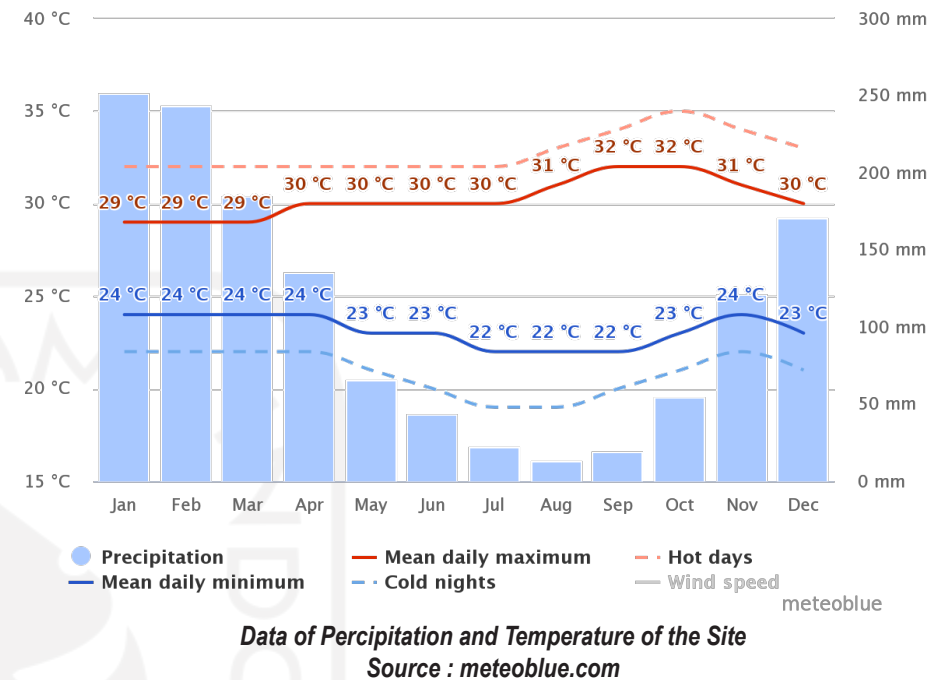
Site Response for Elderly Living Space  
Source : Writer's analysis



# design hypothesis

## Average Temperature and Precipitation

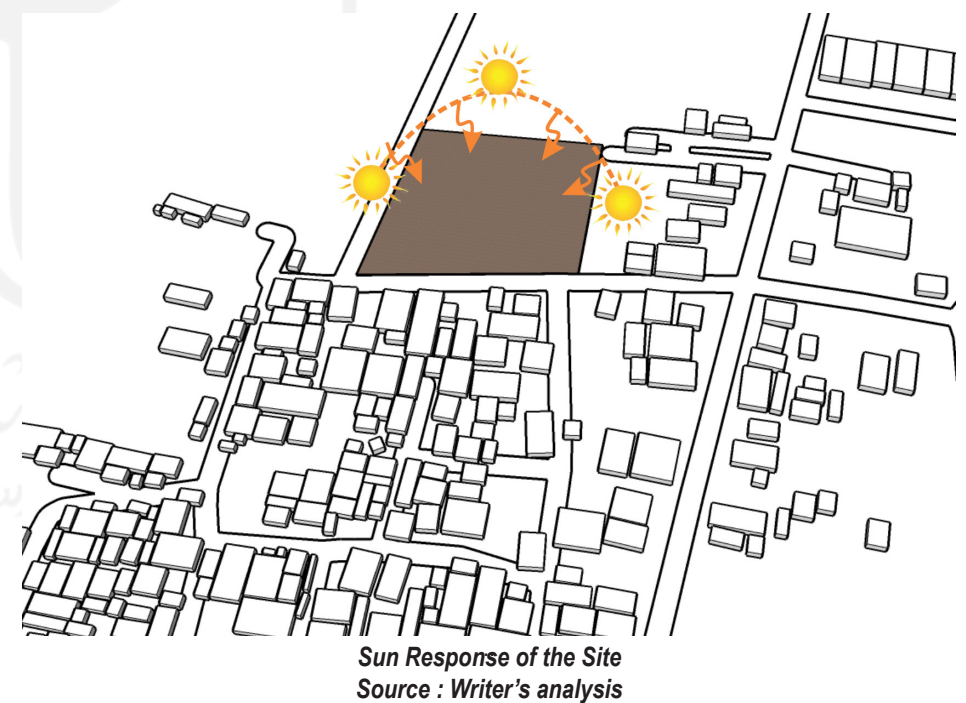
The “average daily maximum” (solid red line) for each month for Kalasan depicts the highest temperature on a day. Similarly, the “average daily minimum” (solid blue line) depicts the average daily minimum temperature. Hot days and cold nights (dashed red and blue lines) depict the most popular day and coldest night of each month during the last 30 years.



## Response of the sunlight

From the site, it have enough exposure from the sun, wether it is from east side or west side. On the west side, it have a maximum exposure due to the west side there have no houses or building that can reduce the exposure. The west side are fully paddy field.

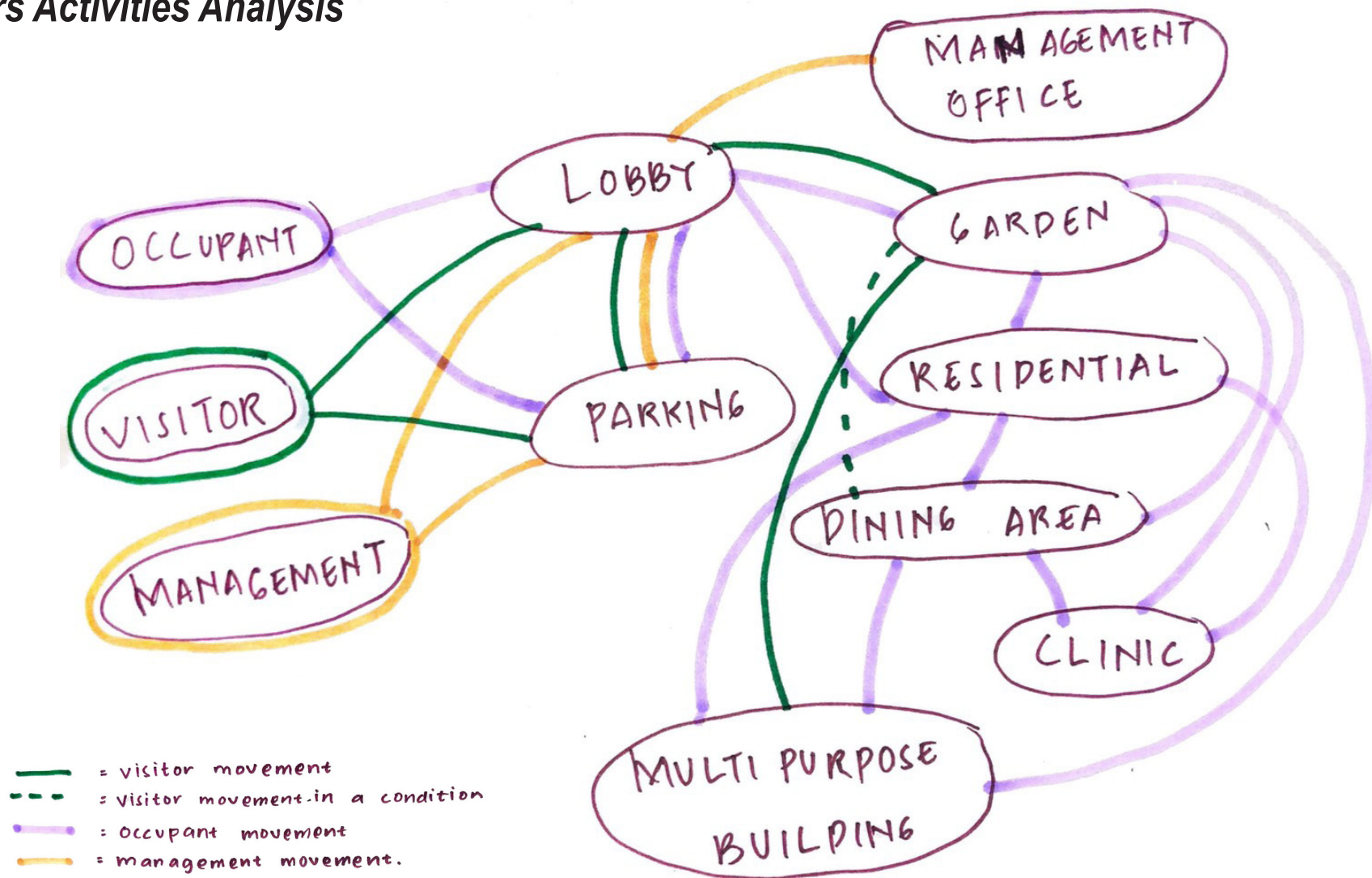
From that condition, it have to have a good management to reduce the sunlight from the west side, that will not too glare for the occupant, yet it can be a view to the occupant.





# design hypothesis

## Users Activities Analysis



User's Movement Inside Living Space  
Source : Writer's Analysis

البعثة الإسلامية الأندلسية





# design hypothesis

## *Space Requirement Analysis*

# Management Office

<b>Activity</b>	<b>Space Type</b>	<b>Characteristic</b>
Meeting for the administrator	Meeting room / office	Private
Work	Office	Private
Get a snack or beverage	Pantry	Private

1. The office is for the administration of the living space. It is provided the space for work and for meeting.
2. The office occupied with pantry to have a snack or beverage such a tea or coffee that is self-service.



# design hypothesis

## Space Requirement Analysis

# Residential Mass

Activity	Space Type	Characteristic
Sleeping, Take a rest	Bedroom	Private
Reading	Bedroom	Private
Watching TV	Bedroom	Private

- 1. Elderly can take a rest or sleep in their bedroom. One bedroom consist of 3 bed equipped with place for reading, watching TV, and 1 toilet. The view from bedroom directly to the garden area.

# design hypothesis

## Space Requirement Analysis

# Clinic

<b>Activity</b>	<b>Space Type</b>	<b>Characteristic</b>
Health Examination	Clinic	Private
First Aid	Clinic	Private
Emergency Pickup (Ambulance)	Clinic	Private

1. The purpose of clinic are for get a treatment for elderly if needed. In the clinic it have a doctor and the nurse who is on guard in case emergency situation happened in the living space.
2. Each month, the elderly have the health examination to get check up of their health.

# design hypothesis

## Space Requirement Analysis

# Dining Area

Activity	Space Type	Characteristic
Eating	Dining	Semi-Private
Chatter	Dining	Semi-Private

1. The purpose of Dining area is a place for elderly and occupant to have a meal.
2. For elderly, since the individual of elderly have a different kind of meal (diet and control of some nutrition needed for individual), the meal are already packed for each individual.
3. Other occupant (management, nurse, services) have a different kind of meal that can be pick by their self

# design hypothesis

## Space Requirement Analysis

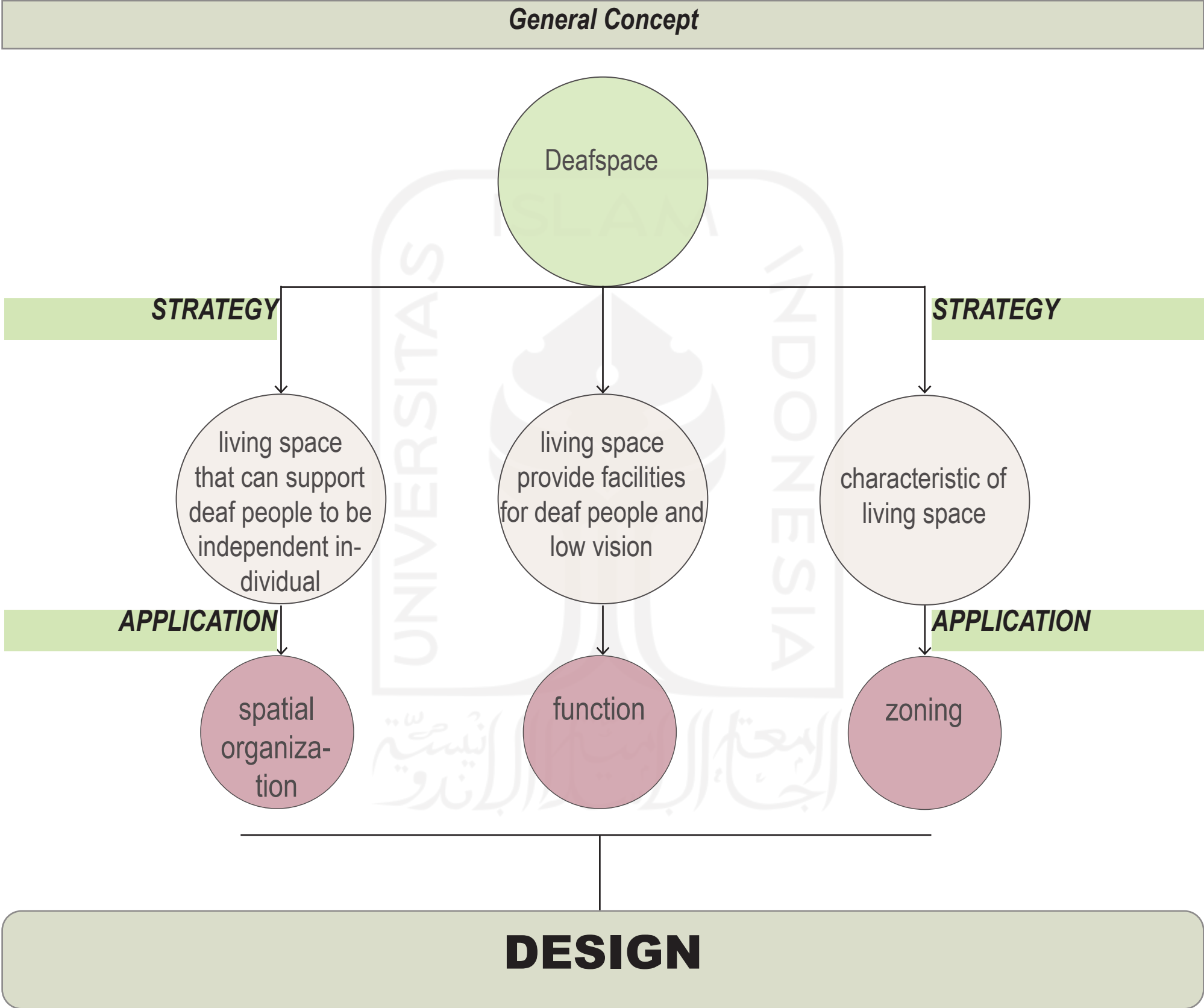
# Multi-Purpose Building

Activity	Space Type	Characteristic
Sharing Session / Story Telling	Multi-purpose building ( Auditorium)	Semi-Private
Workshop	Multi-purpose building ( Auditorium)	Semi-Private
Performance or Gathering from Outside (Guest)	Multi-purpose building ( Auditorium)	Semi-Private

1. Sharing session will be held to deeper understanding with each other of elderly and the nurses. Each experience that they have, can give a lesson learn and can develop their quality of communication with each other.
2. Workshop will be held depend on the event that they want to do in there. For example they can have a workshop about learning sign language, do knitting, and play some little games.
3. Performance or gathering from the outside, sometime certain community have visit the living space to share their time and make the elderly happier because they still can communicate with other person from the outside of living space so they meet a new people from every event.

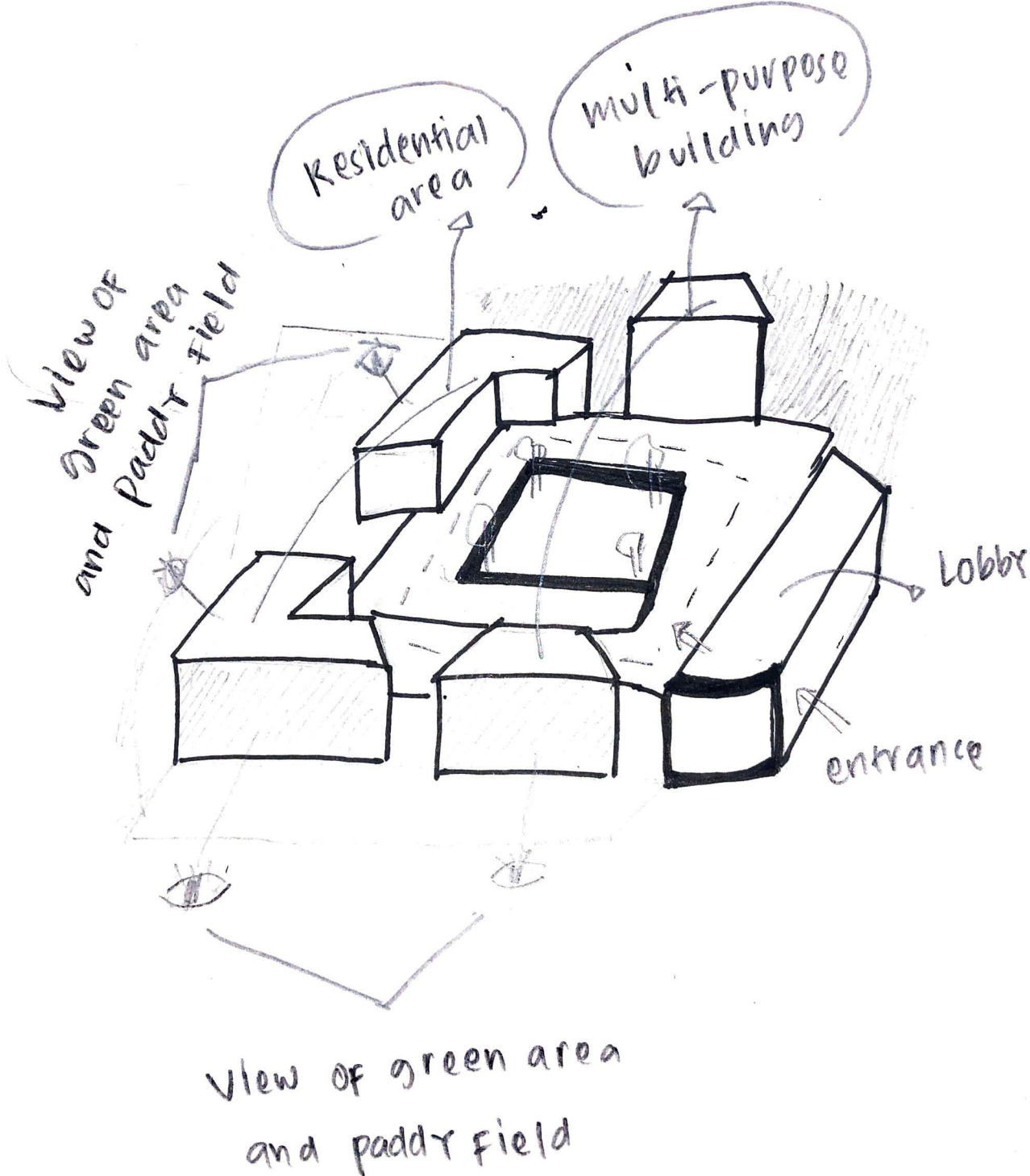
This kind of activity are held in multi-purpose building that the arrangement of the room will be adjust with the event that will be held inside without demolish the concept of gathering for deafspace.

# design hypothesis



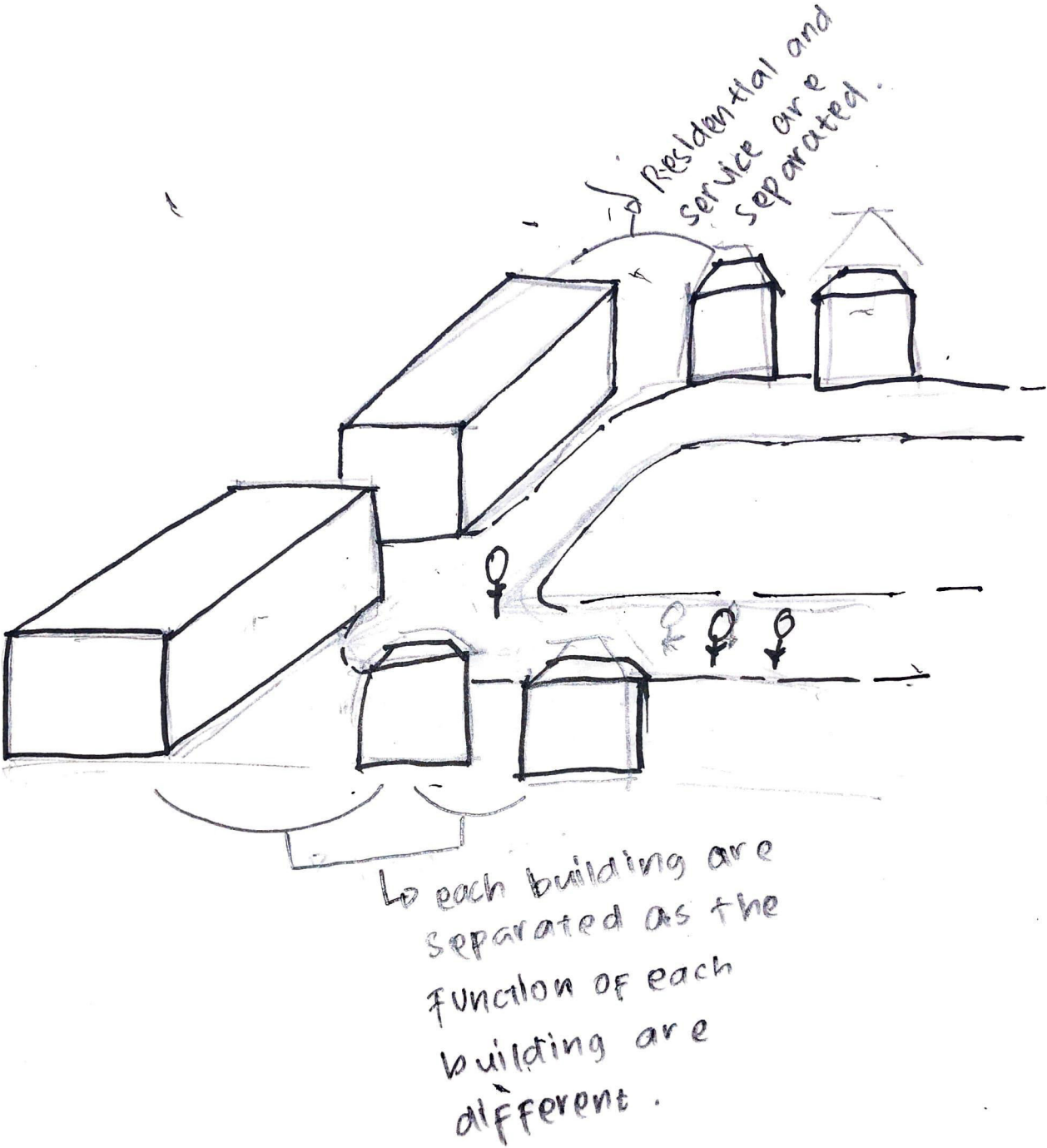






Perspective of siteplan concept  
Source : writer analysis



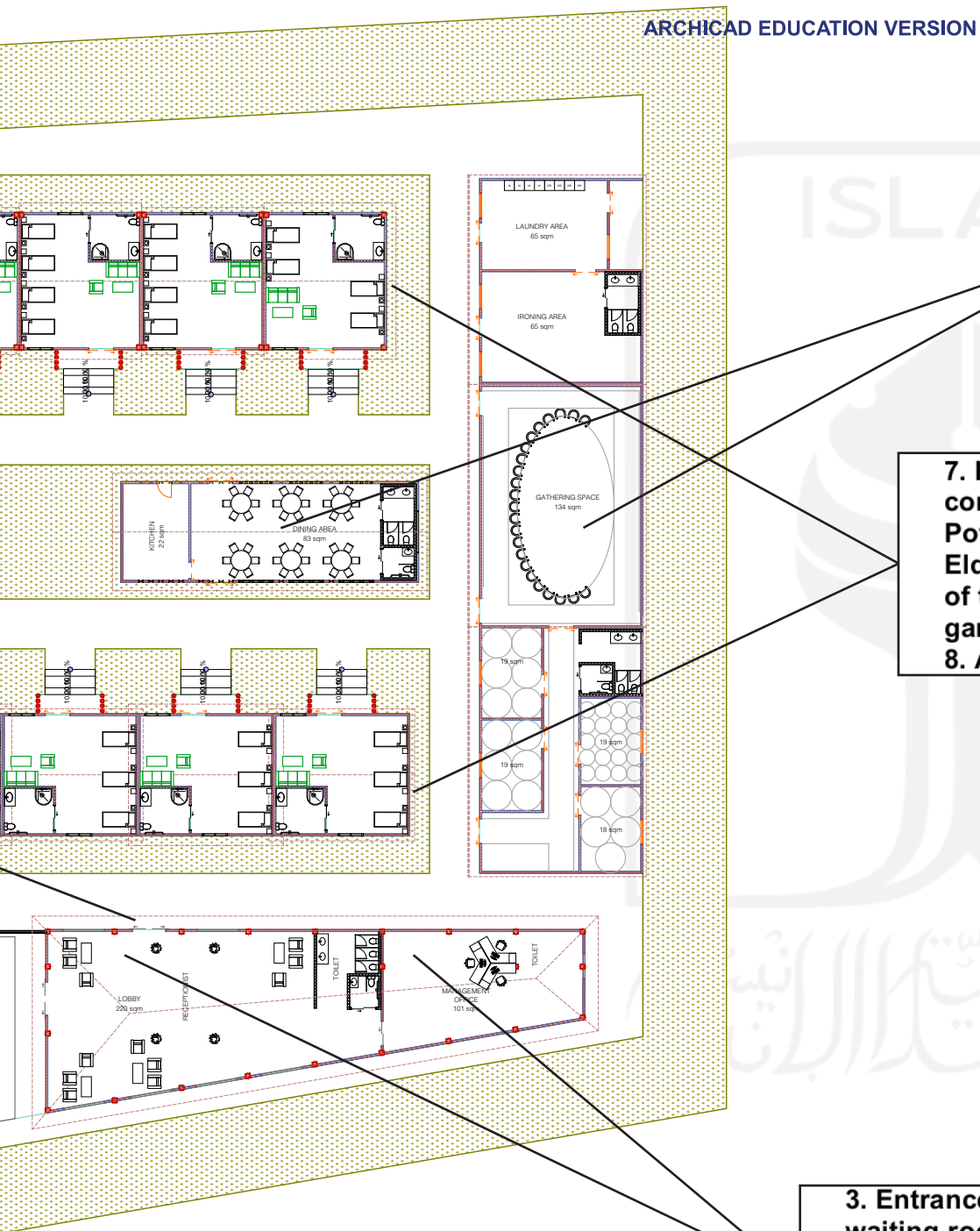


Perspective of siteplan concept  
Source : writer analysis









**10. Dining Area for elderly. It have a view in the north side that have paddy field.**  
**11. Multipurpose Building tat utilize as the sharing room, workshop, and so on.**

**7. Residential Area for Elderly, In each bedroom, it consist of 3 person. The north side is for Non Potential-Elderly, The south side for Potential-Elderly. The Residential Area located in the middle of the garden to enhance the ambience of the garden that utilize as the view from the room.**  
**8. Access to the Supporting Area and Garden Area**

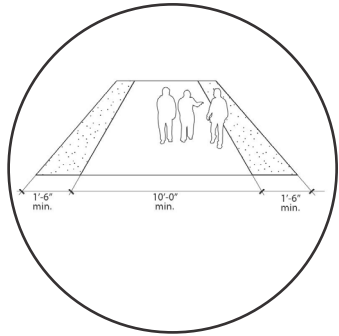
**3. Entrance to the Lobby. In the Lobby there have waiting room or seating area to waiting for the person or to be pick-up. And it have receptionist to asking the information.**  
**4. Management office for the yayasan office and it ave pantry to grab a drink or some snacks.**





# design hypothesis

Deafspace Guideline:



Sidewalks and walkways should be at least 10 feet wide to allow many groups to easily pass each other. Placed along walkways, textured edges on the ground plane can offer subtle hints about the existence of edges.



Pathway in the inside of Living Space  
Source: google.com

From the guideline of the deafspace approach, the pathway have to have a wide at least 10 feet or around 3 meters. The pathway have 3 meter wide which is disable-friendly for the wheelchair user.

The reason to have a 3 meter wide also it is more easier for them to walk in a group or to see each other body language if they use sign language for the way they communicate for each other.

For easier the occupant to use this pathway, it should be made with the flat surface of pathway to easier the wheelchair-person to acces this pathway and to avoid an unexpected event for elderly like tripping, falling, and so on since the elderly have a decreasing ability of vision.

The material of pathway is made from concrete block. The reason is conblock more environmental-friendly rather than asphalt, yet it have a flat surface so it doesnt bother the wheelchair user to go through the pathway.

# design ideas

## *Residential*

The room for elderly inside the residential, it is consist of bedroom, medical room, and gathering space. The bedroom consist of 2 people with 1 nurse for Non Potential Elderly. Bedroom for Potential Elderly consist of 2 people, with 1 nurse is for 4 elderly. The ambience of bedroom it have a green area outside of the room to refresh their psychology.

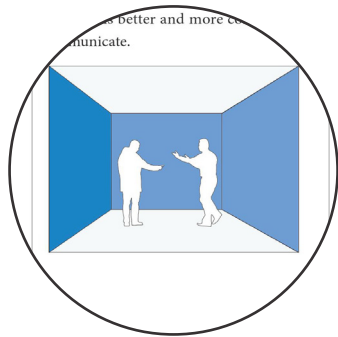


*Ambience of Bedroom*  
Source: [google.com](https://www.google.com)

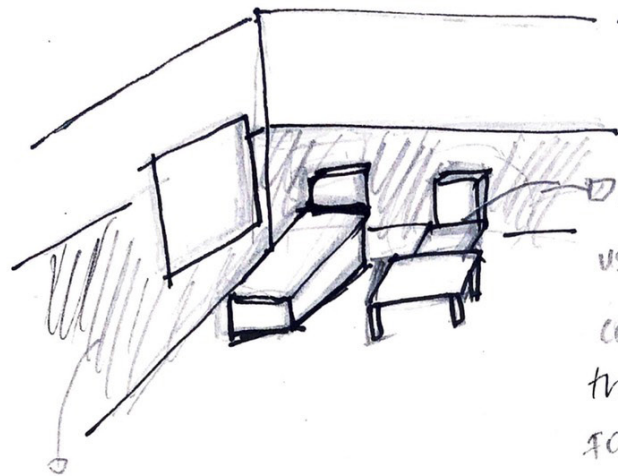
Application of the Deafspace Approach have to coherence with the guideline that already attach in above. Have to Consider about the Color of the interior and the organization of interior, and the material that will be use. It must be acoustical friendly that will not disturb the elderly.

# design ideas

## Deafspace Guideline:



Visual clarity is important for deaf and hard of hearing people, therefore backdrops should be contrasting and complementary to skin tones. Most skin tones are contrasted by blues and greens. Blues and greens visually soothe a room by minimizing overstimulation of the eyes and creating a relaxing backdrop for movement. Deaf and hard of hearing people will be able to converse more effectively and comfortably if surfaces are painted blue or green.



the interior using a contrast color to define the things, both for deaf and low vision (blue / green)

the color of wall should be contrast so it will easier the deaf people to communicate with each other while for low vision it make easier to recognize things.

(blue / green)

Implementation guideline to the design  
Source : writer analysis



Alternative Arrangement of Bedroom  
Source : writer analysis



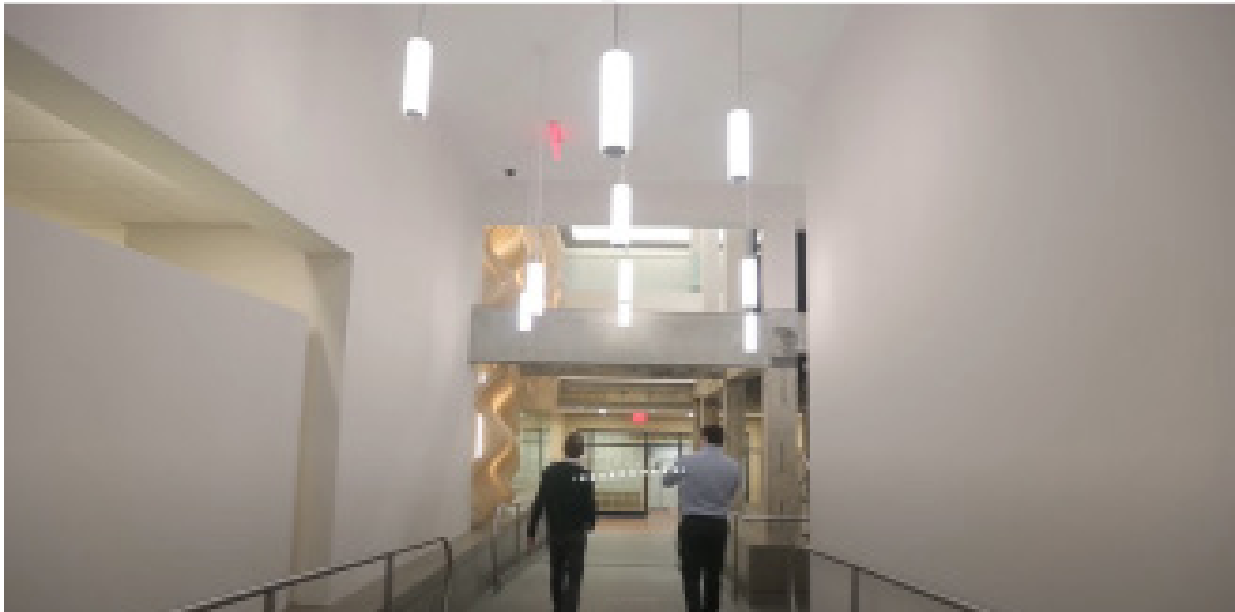
Alternative Arrangement of Bedroom  
Source : writer analysis



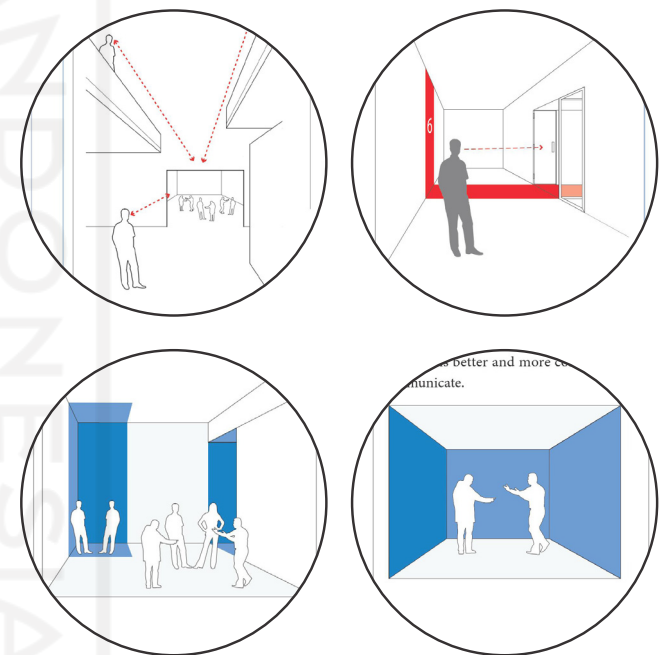
# design ideas

## Lobby

Lobby area eventhough it is for public area which not all of the people that come to the lobby have hearing impairment problem or low vision, but this is the living space with Deafspace Approach, it should be equipped with the facilities that support the Deafspace Approach.



*Ambience Lobby*  
Source: google.com



*Deafspace Guideline*  
Source: google.com

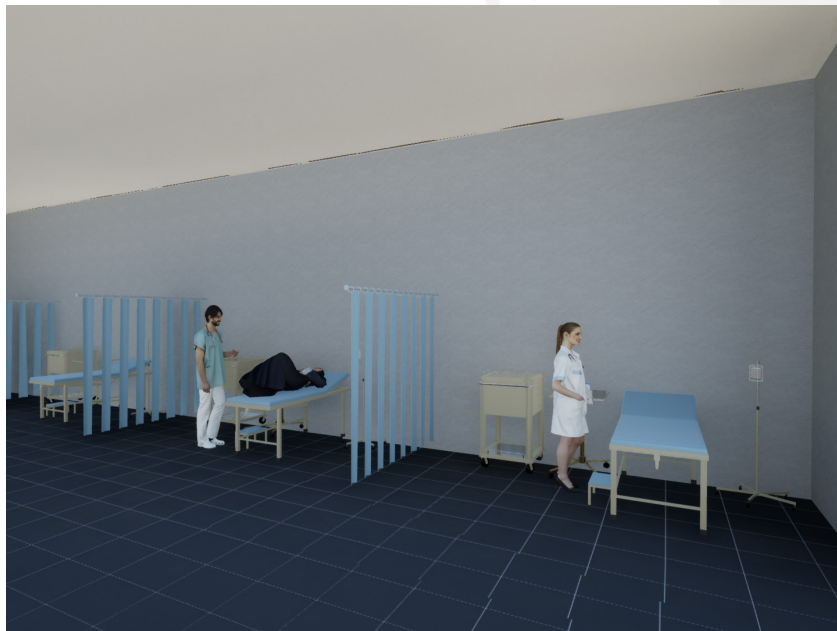
Major destination locations may be seen from a variety of angles. When entering a building or public place, they are immediately visible and have unrestricted access. The routes and layouts of the circulation system should be simple and straightforward. Visual clarity is important for deaf and hard of hearing people, therefore backdrops should be contrasting and complementary to skin tones. Most skin tones are contrasted by blues and greens. Blues and greens visually soothe a room by minimizing overstimulation of the eyes and creating a relaxing backdrop for movement. Deaf and hard of hearing people will be able to converse more effectively and comfortably if surfaces are painted blue or green.



# design ideas

## *Clinic*

In the living space especially for elderly, to have a Clinic is a must things to do. The clinic is critical to have an emergency situation or condition so it can be handled fastly. When the situation can not be handled in the Clinic, it have an access for the ambulance to get through and to pick up the patient that will be deliver to the nearest hosiptal. The clinic is used for handling the emergency situation, and or to check the heathl of the elderly regularly.



*Clinic of Living Space*  
Source: writer analysis



*Access for Ambulance*  
Source: writer analysis



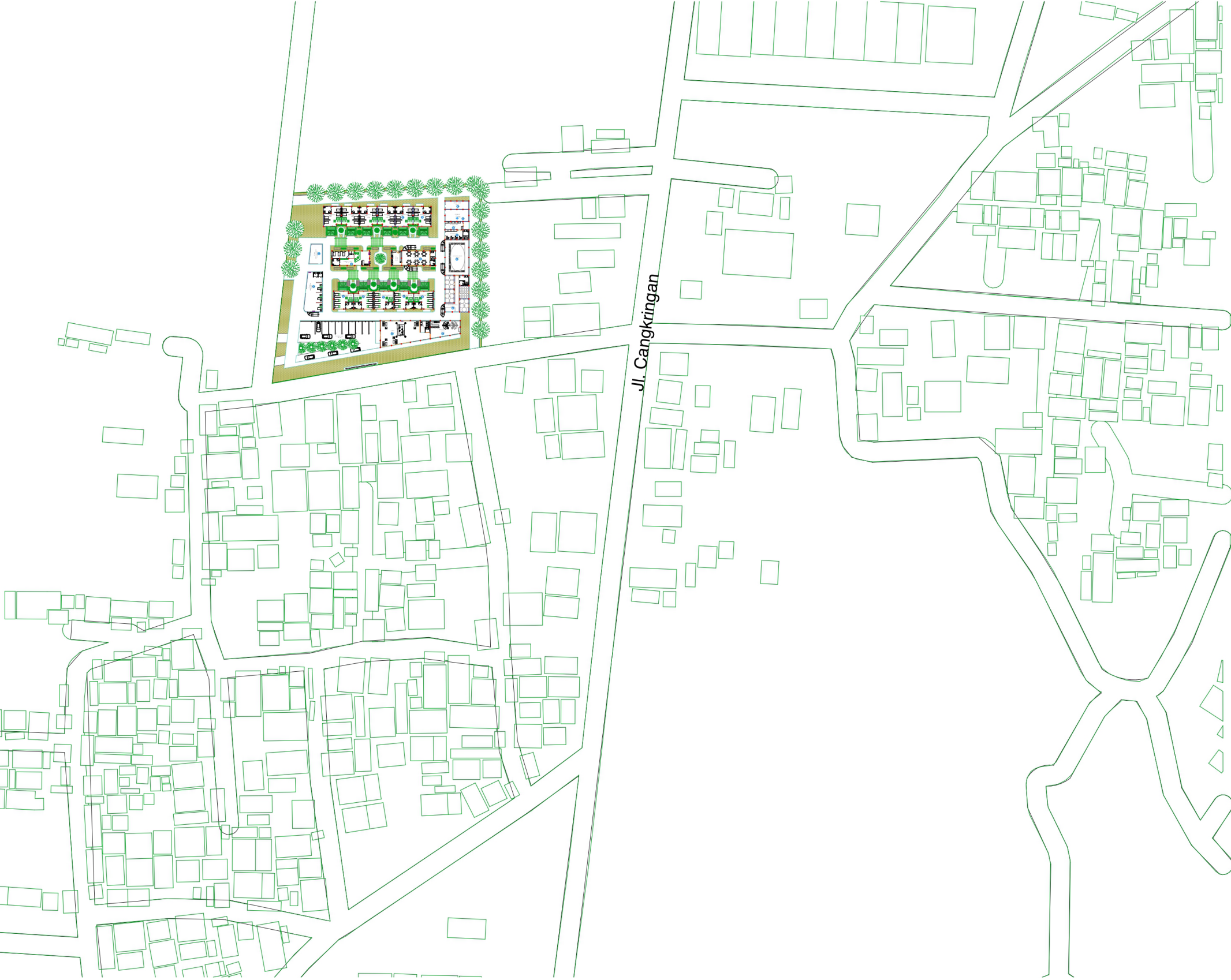
# DESIGN RESULT

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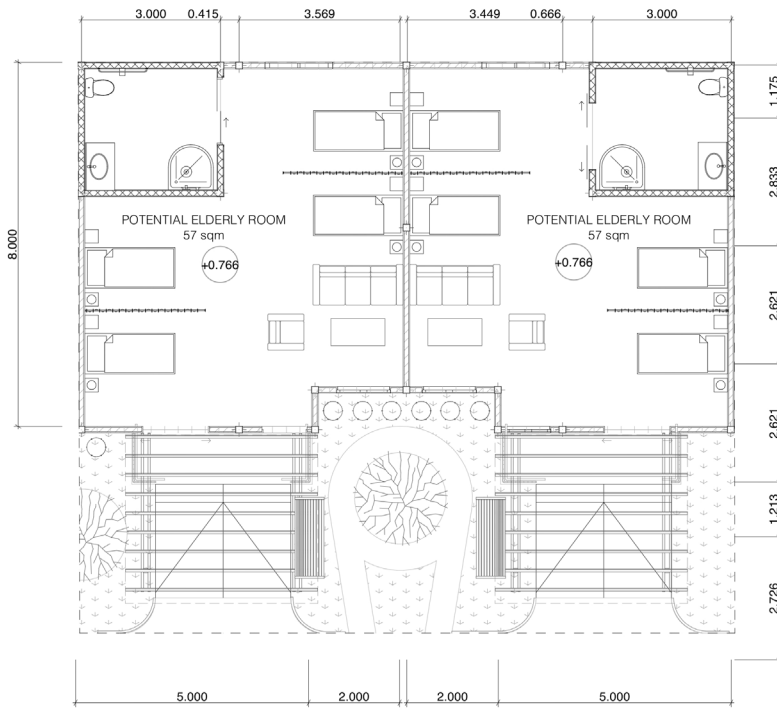
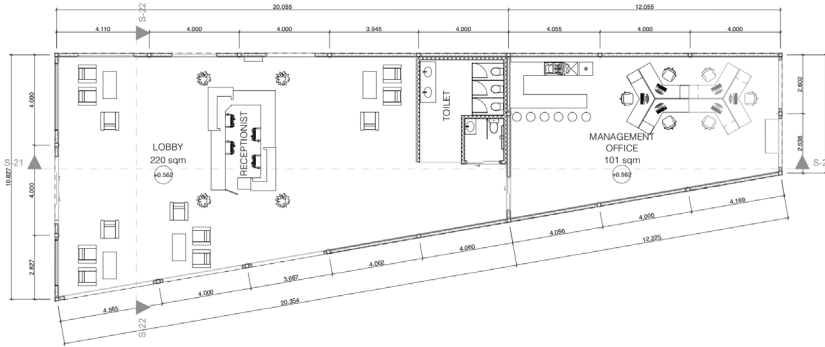
# SITUATION



# SITEPLAN

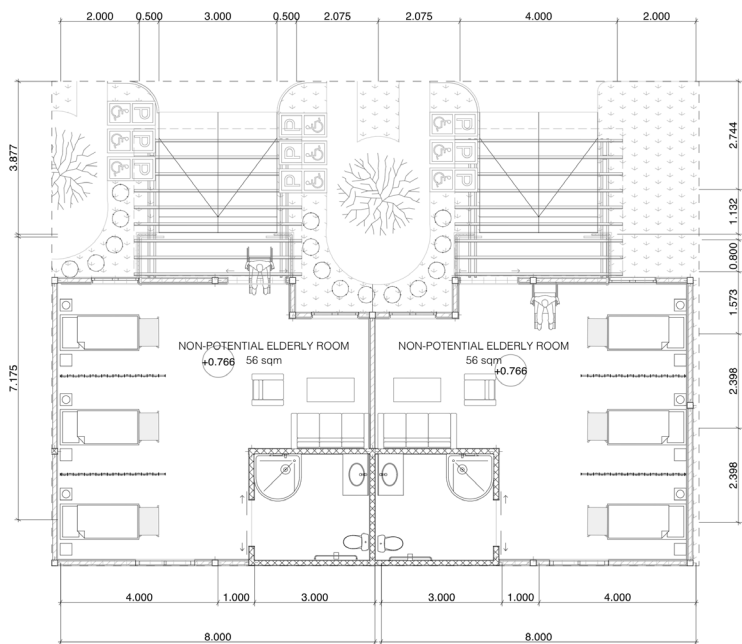


# FLOORPLAN

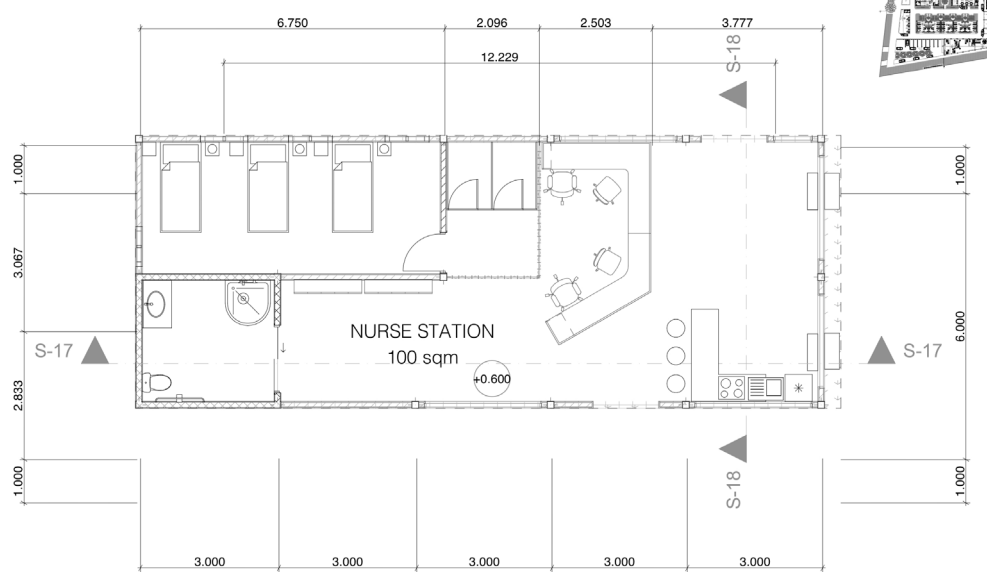


**Lobby Floorplan**

**Potential Elderly Residential Unit**

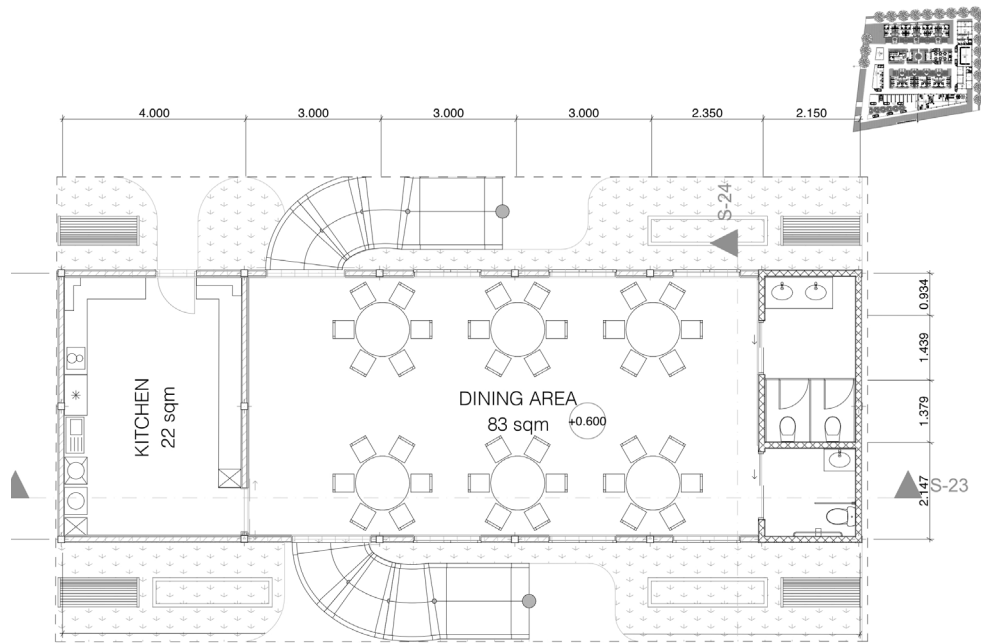


**Non-Potential Elderly Residential Unit**

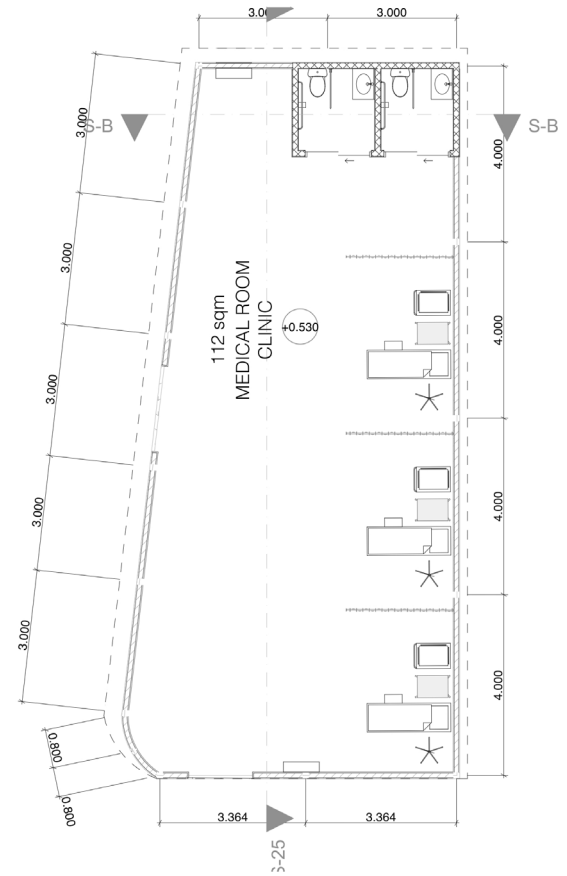


**Nurse Station**

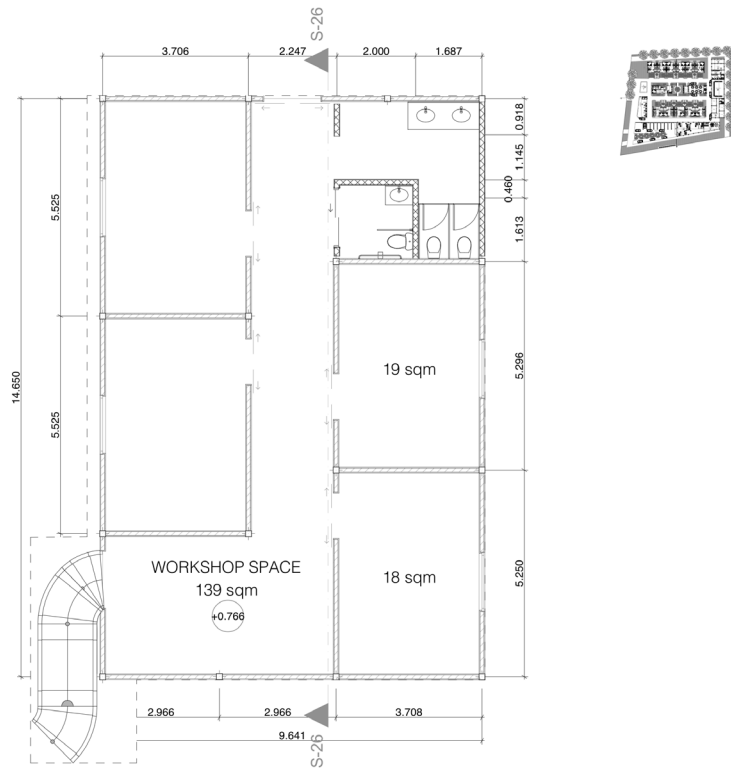
# FLOORPLAN



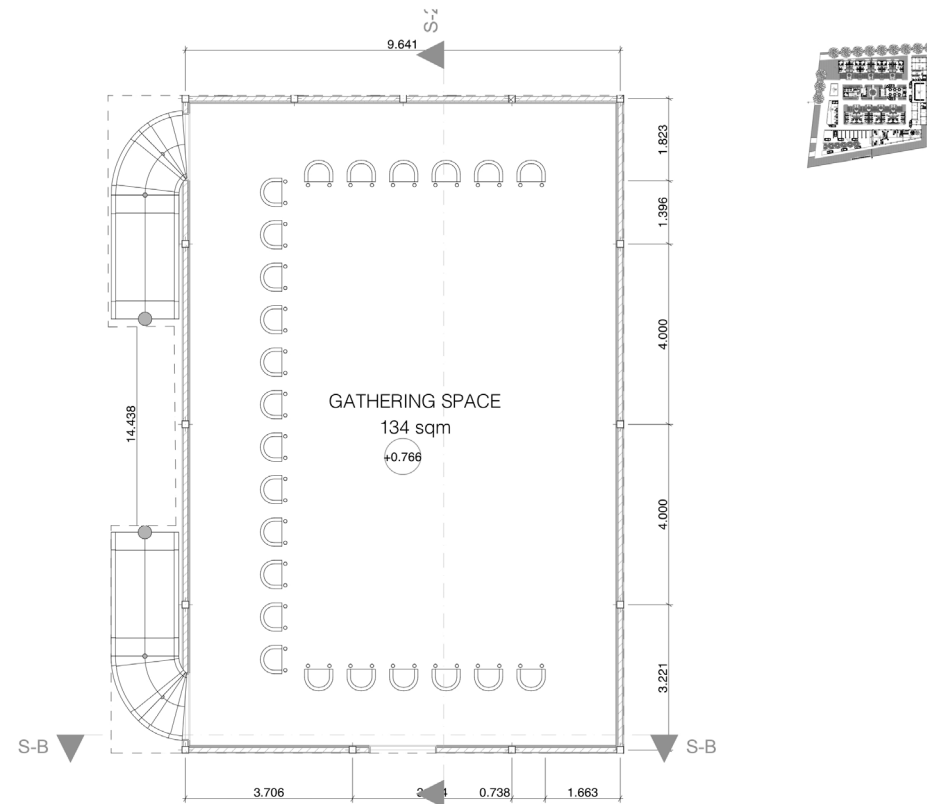
**Dining Area Floorplan**



**Clinic Floorplan**



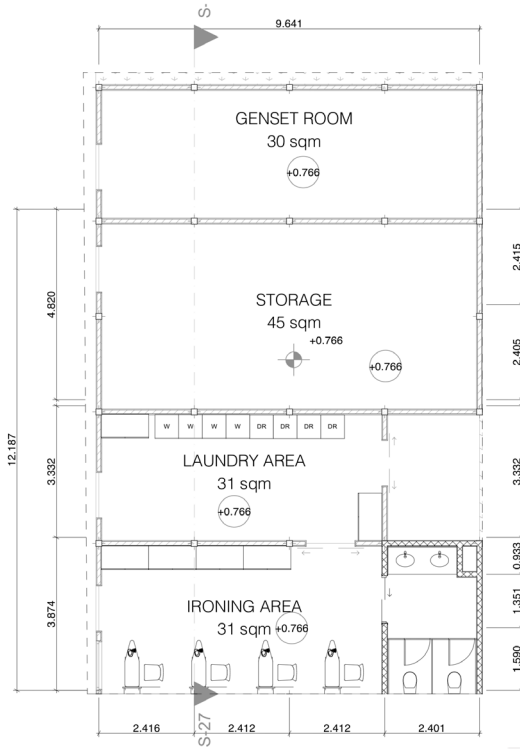
**Workshop Space Plan**



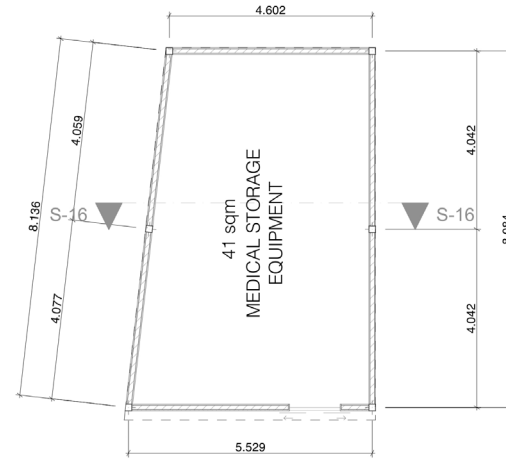
**Gathering Space Plan**

ARCHI  
DE  
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SPA  
DEA  
Dr  
I D  
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M.A.  
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# FLOORPLAN



**Service Area Plan**

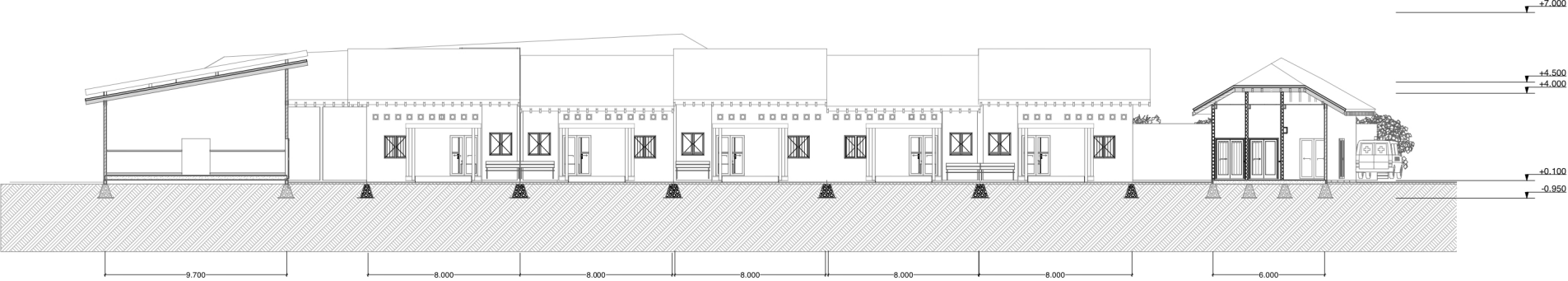
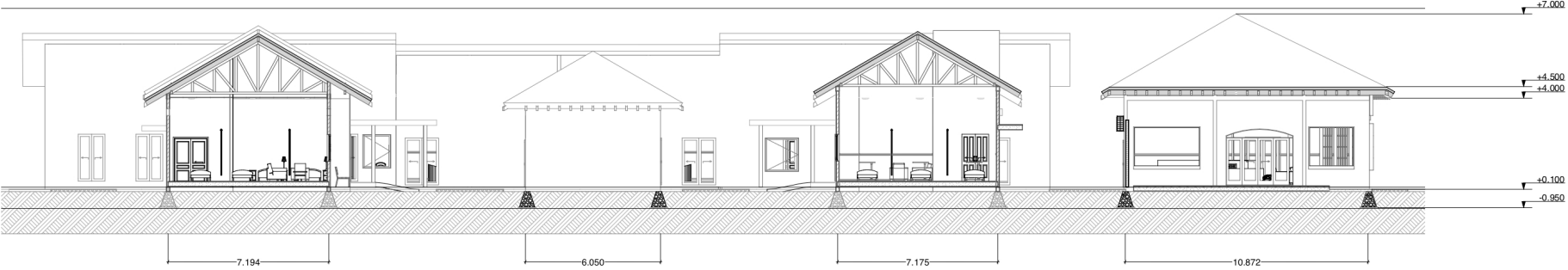


**Medical Storage Plan**

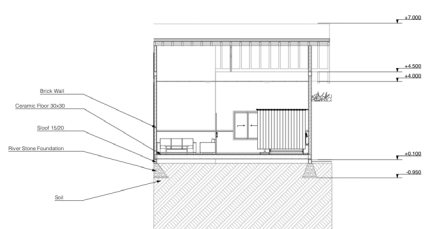
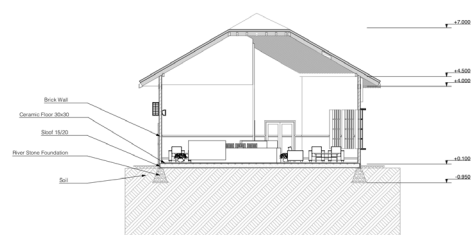
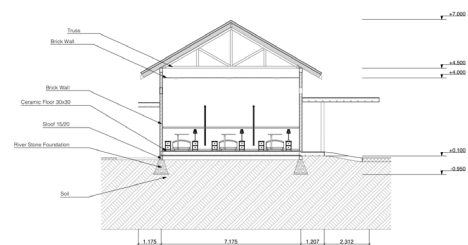
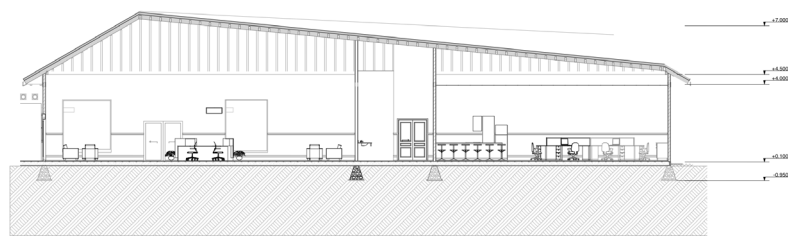




# SECTION



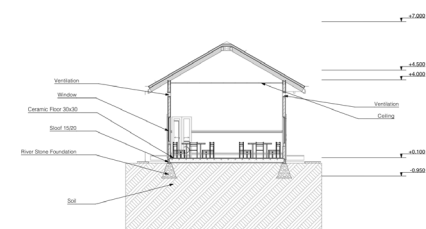
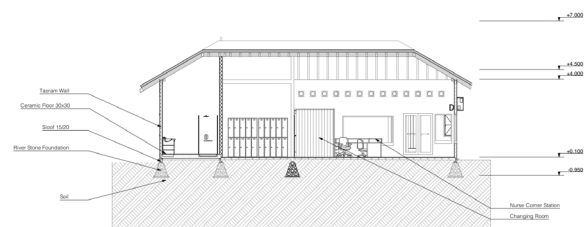
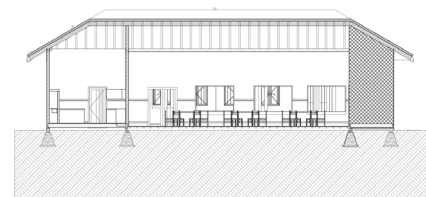
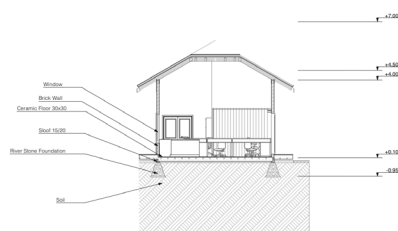
# SECTION PARTIAL



***Lobby Section***



***Residential Section***

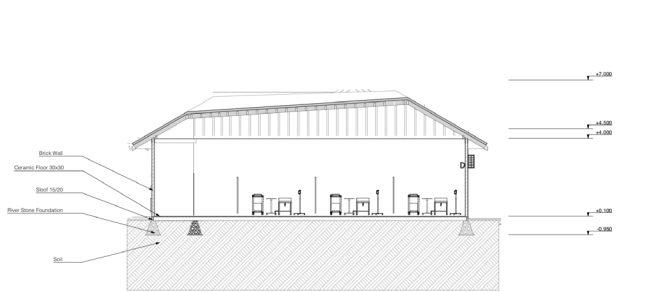


***Nurse Station Section***

***Dining Area Section***



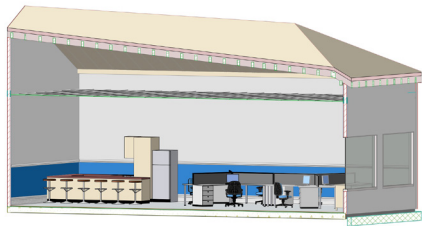
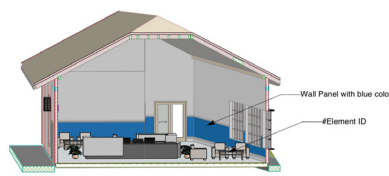
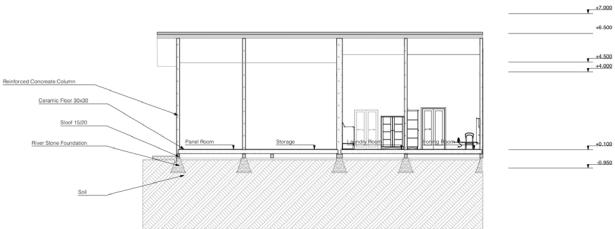
# SECTION PARTIAL



**Clinic Section**



**Gathering and Workshop Space Section**



**Interior Section**



**Service Area Section**



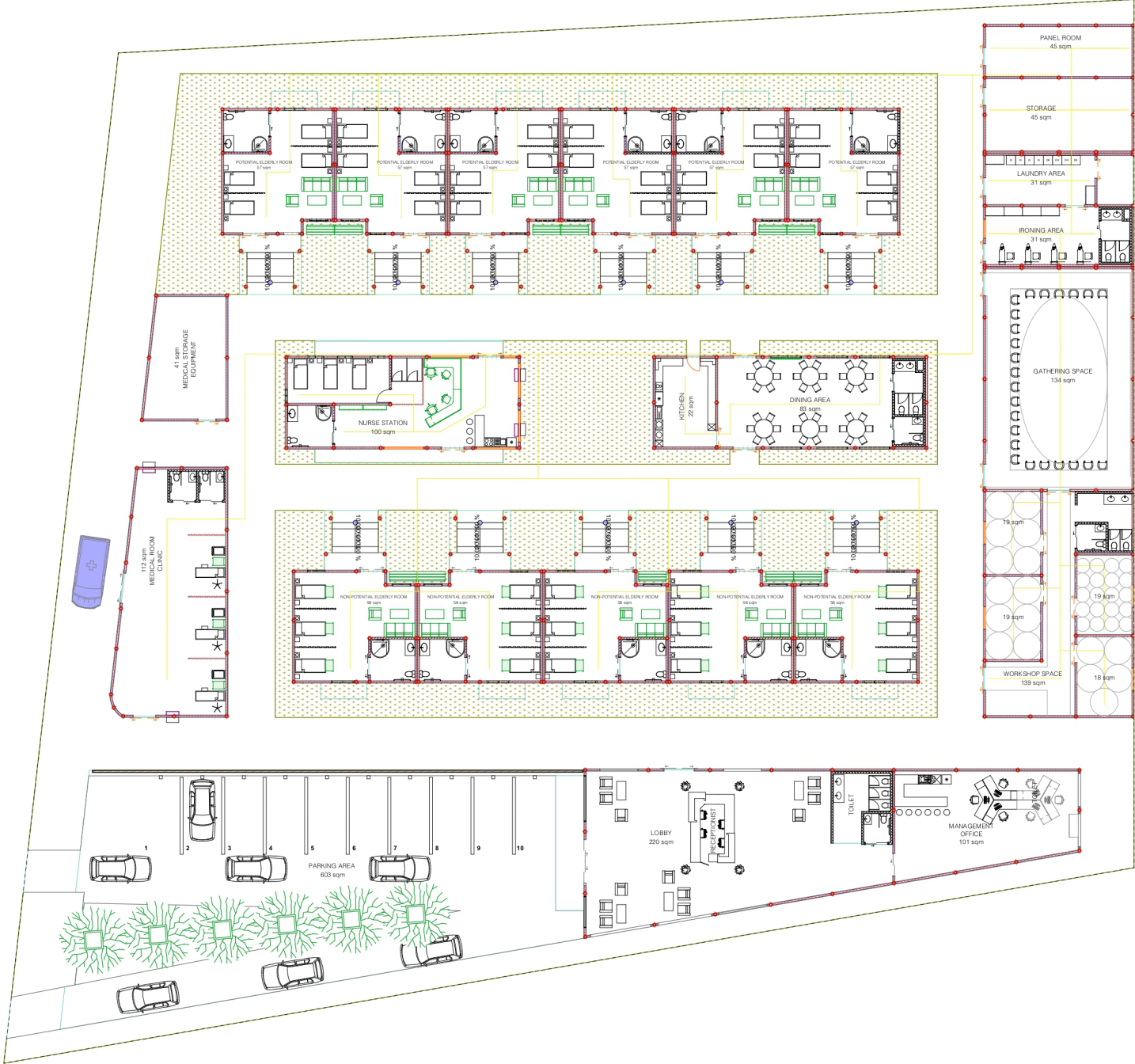
# CLEAN WATER SCHEME

A

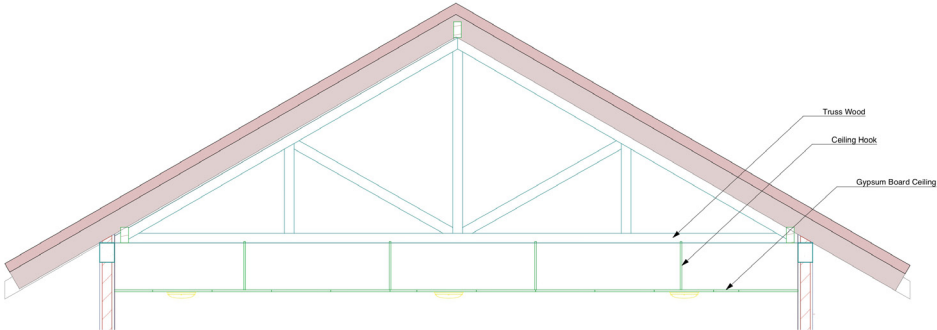


# WASTE WATER SCHEME

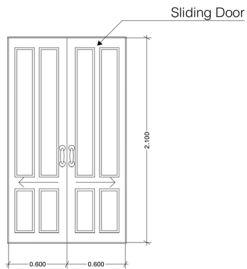
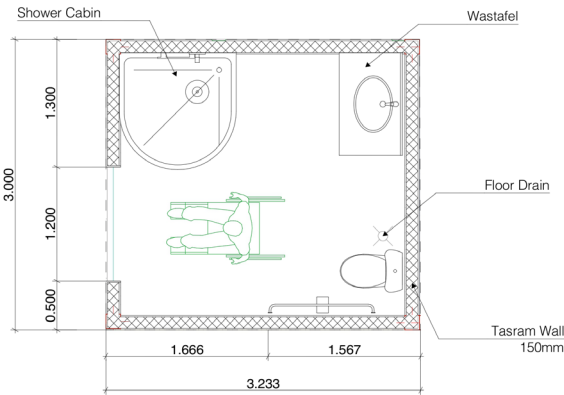
A



# DETAIL



## Roof Detail

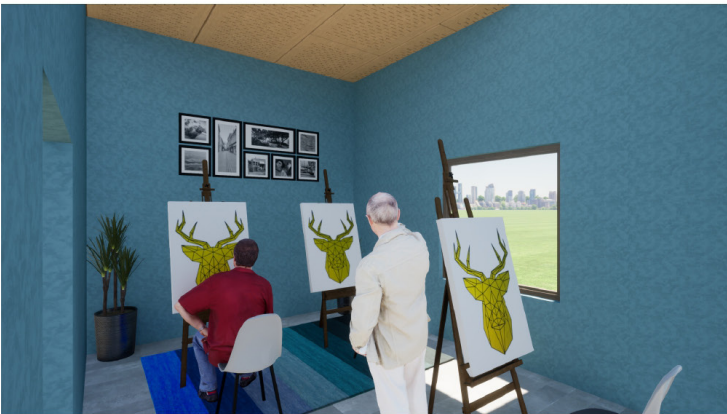


## Disabling Bathroom Detail

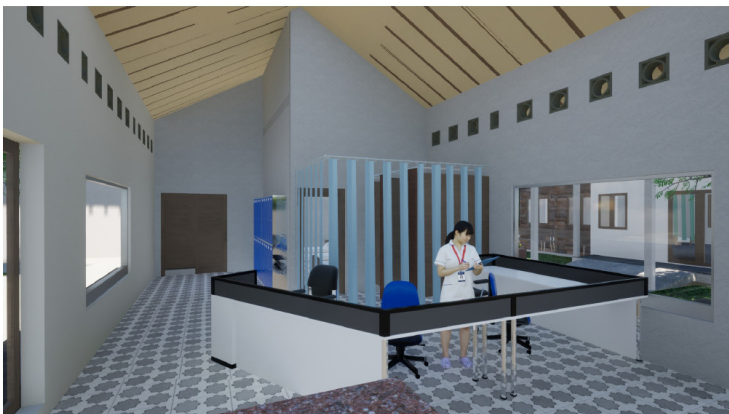
# INTERIOR PERSPECTIVE



Residential Unit Interior



Workshop and Gathering Space



Medical and Nurse Station

# EKSTERIOR PERSPECTIVE



Residential Unit Exterior



Pathway



Potential Unit Garden



Non-Potential Unit Garden







# design evaluation

1. Details that related with the need of elderly (security, visual) is not explained well.

To help the elderly to enter their unit, it have the railing to hold on or to rely on. So the elderly didnt have to be worry to walk through the ramp to enter the unit.

In the edge of pathway, it have a divider to differentiate the pathway and the edge of the pathway. the divider also to help the people with a low vision to walk and prevent them to trip to th edge of pathway.

In each of Facilities building such as dining room, gathering and workshop space, also clinic it have a ramp to easier the wheelchair user to enter the building. The ratio of the ramp is adjust with the standard from PermenPU that it has a 1:8 ratio of the slope. Also in the edge of the ramp it have a handrail to them to hold for going through the ramp.



# design evaluation

## 2. Landscape of the Garden of the unit

In the front of the unit, it have a mini garden for them to do gardening. Each in the non-potential unit and potential unit have gardening. They can do some light gardening with a pot, and have a rack to put the plant or flower that they do on their own.

For the Non-Potential Elderly garden, the rack flower are adjust with the height of the reach from the wheelchair, since the most of non-potential elderly are using wheelchair and need a more attention from the nurses. So to have a height of the rack that suitable for them can make them to do gardening more easy. For the seating area, it have a place for them to place their wheelchair in the side of the garden.



For Potential Elderly garden, it have the same style with Non-Potential Elderly garden. But the difference are in the diameter of the round-plaza and the seating area. The seating area it have a bench for them to seat and enjoy the ambience of the garden that they made by themselves. They can do a light gardening with a pot, and rest the pot in the flower rack.



## design evaluation

In the pathway, it have a shade to prevent them from a direct sunlight. The design of the shade is not too solid or massive to give the ambience of fenceless for enjoying the nature.

In the side of pathway, it have a benches for a place to elderly to seat on. Since some unit have a different distance to the facilities buidling, to have a benches in the side of the pathway is for them to rest for awhile or just chill to enjoy the ambience in the living space.

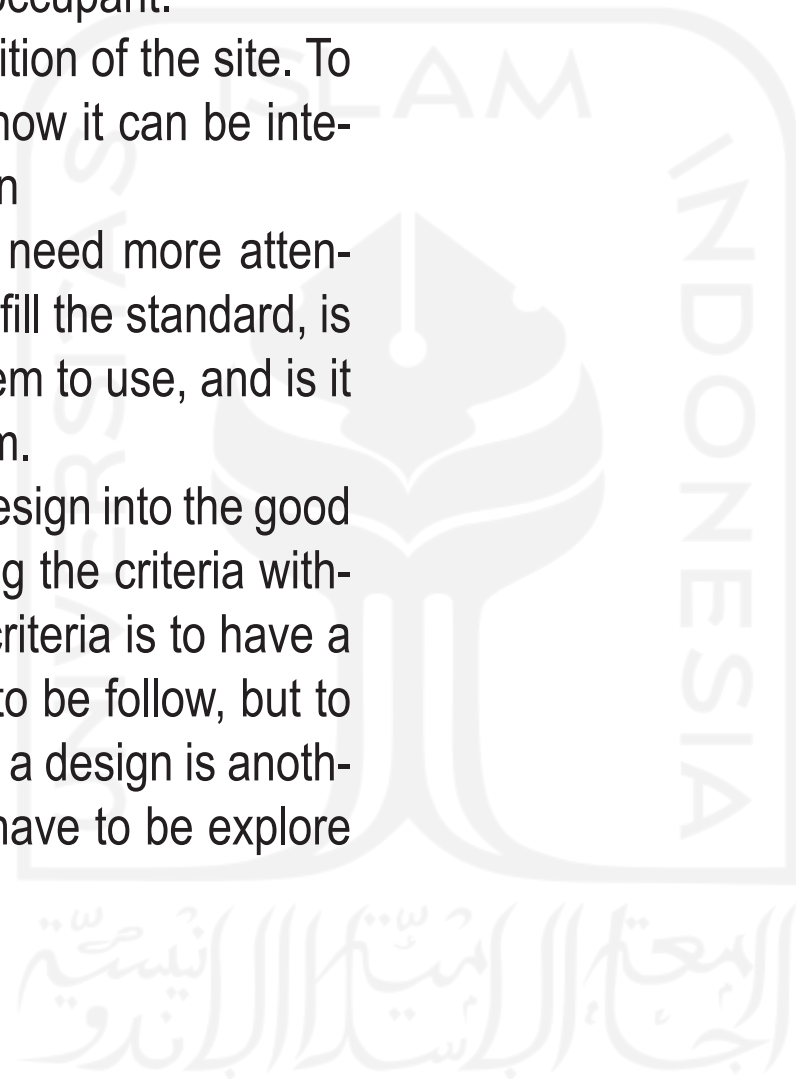


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## lesson learnt from defense evaluation

The things that I learnt from defense evaluation are:

1. Be more emphatically when do a design. Be more consider about the small details that can be affect the comfort of the occupant.
2. Deeply learn about the condition of the site. To learn the site-potential and how it can be integrate and utilize in the design
3. The details that have to be need more attention. Whether is it already fulfill the standard, is it comfortable enough for them to use, and is it already safe enough for them.
4. Integrate the criteria of the design into the good design, not only just following the criteria without any consideration. The criteria is to have a benchmark or the standard to be follow, but to enhance the criteria to make a design is another development things that have to be explore more deeply.







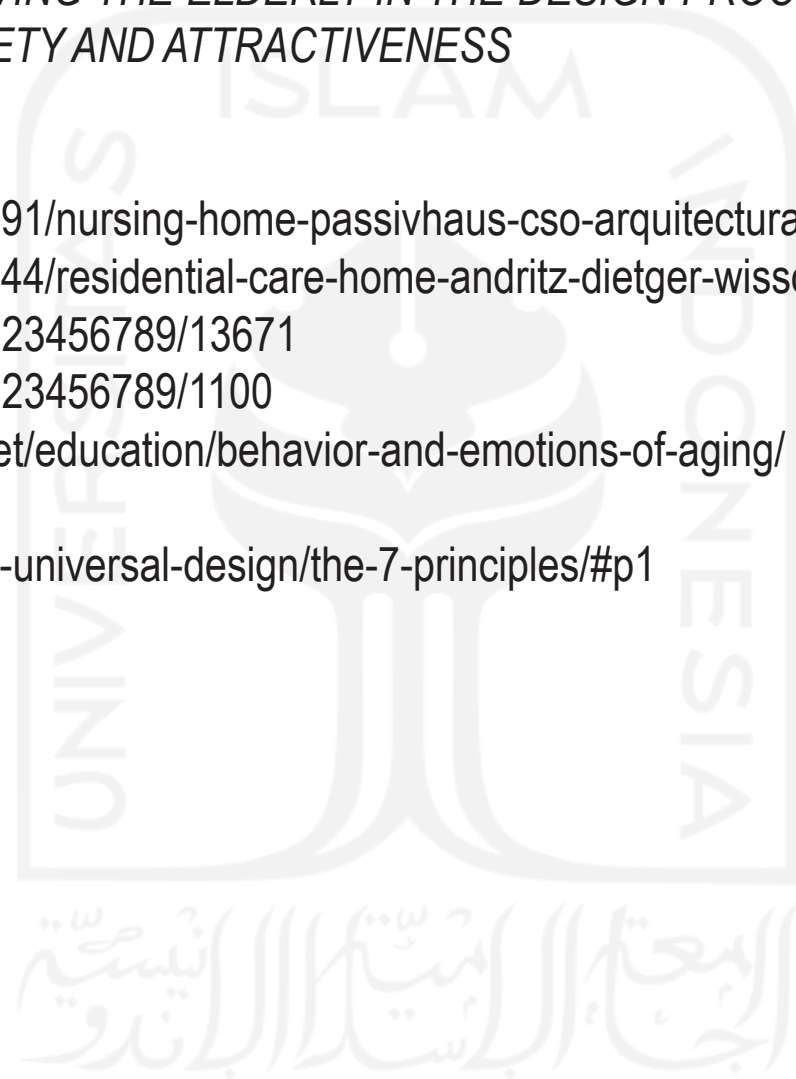
# MAIN REFERENCE

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- <https://dspace.uui.ac.id/handle/123456789/13671>
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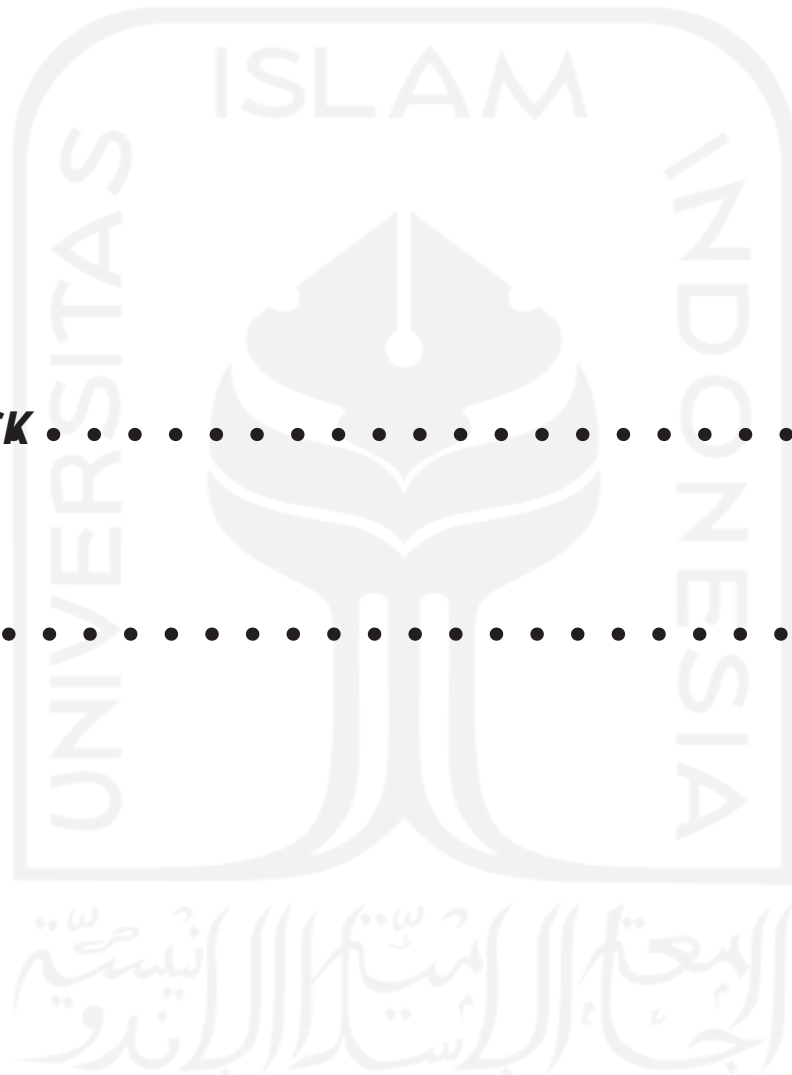


# **ATTACHMENT**

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**PLAGIARISM CHECK** ..... 114

**APREB** ..... 11



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## SURAT KETERANGAN HASIL CEK PLAGIASI

Nomor: 1614066687/Perpus./10/Dir.Perpus/VI/2021

*Bismillaahirrahmaanirrahiim*

*Assalamualaikum Wr. Wb.*

Dengan ini, menerangkan Bahwa:

Nama : Kemala Fitri Adelia  
Nomor Mahasiswa : 17512022  
Pembimbing : Dr. Ir. Revianto Budi Santosa, M.Arch.  
Fakultas / Prodi : Teknik Sipil Dan Perencanaan/ Arsitektur  
Judul Karya Ilmiah : Design Of Elderly Living Space in Yogyakarta with Deafspace Approach

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, 30 Juni 2021

Direktur



Joko S. Prianto, SIP., M.Hum

# ELDERLY LIVING SPACE IN YOGYAKARTA

THE DESIGN OF LIVING SPACE FOR ELDERLY IN YOGYAKARTA  
WITH DEAFSPACE APPROACH

## SITE CONTEXT

### BACKGROUND

A place for lived in or often we called as a home should be designed with consideration or the space needs of the occupant of the house. Through this project, it is expected to create a living space for elderly that have fulfill the standard of the elderly's movement and mobility with universal design as the base for the designing the space.

As we got older, the function of the senses are decreasing. Beside it is seen from the movement and mobility aspect, the things that need to be improve in the living space is for the facilities that provide the support for elderly that have hearing impairment and low vision. So for the focus design of the elderly living space are on the provide the facilities that support elderly that have hearing impairment and low vision.

With deafspace approach, the living space can provide the facility that the elderly helped with their decreasing of senses they have. By using this approach, it is expected to have an elderly living space beside completed with the facilities that is elderly needs, also it can be feel the homey vibe in the living space.



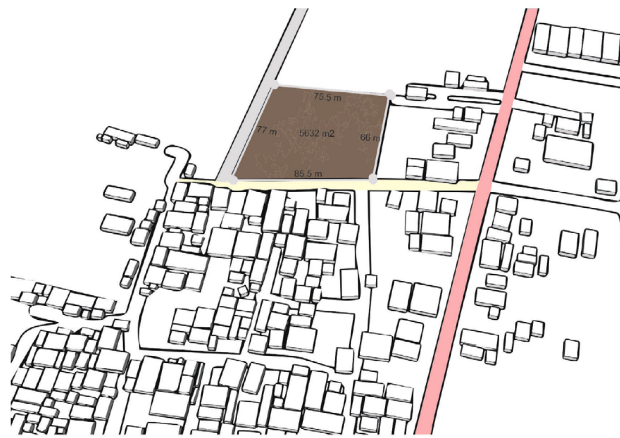
Jalan Cangkringan, Tirtomartani, Kalasan, Sleman Yogyakarta.

- ① Site Location
- ② Paddy Field
- ③ Residential Area
- ④ Restaurant
- ⑤ Factory
- ⑥ Mart
- ⑦ Hospital (RS Pantj Rini & RS PDHI)



Kemala Fitri Adella / 17512022  
Dr. Ir. Reviyanto Budi Santosa, M.Arch

## LOCATION



■ : Jl. Gangkringan  
■ :  
■ : Stalemate Road

For site selection of the Elderly Living Space, it have a few consideration.

The basis and consideration for selecting the site, From the data of the amount of elderly in DIY, in Sleman it have the greatest number of elderly. So the site will be located in Sleman Area.

Since it is for elderly, the main point is to choosing the site that is near the public services such as hospital to have a fast respond to the emergency situation. Another consideration is to choose the site that still have a green area and have a not too crowded area. Base on those consideration, I'm choosing the Kalasan Area as the site of elderly living space. Since in Kalasan area it still have many green area and it is not too crowded. And in kalasan area it have 2 near hospital, that are Panti Rini Hospital and RSPDHI.

## Site Surrounding



From the site, it have enough exposure from the sun, wether it is from east side or west side. On the west side, it have a maximum exposure due to the west side there have no houses or building that can reduce the exposure. The west side are fully paddy field.

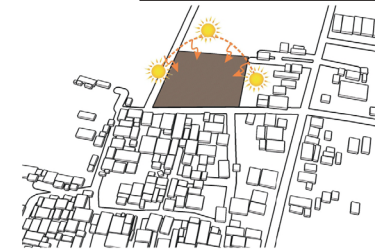
## Wind



The surrounding of the site the majority is the residential and paddy field, the rest of it there is a factory in the north of the site.

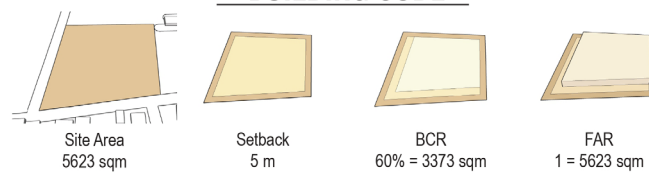
In the north and west area, it have a plenty area of paddy field. While in the south side, there is a residential area with the majority is house with 1 level. In the east area, it have some commercial facility such as store and restaurant.

## Sunlight



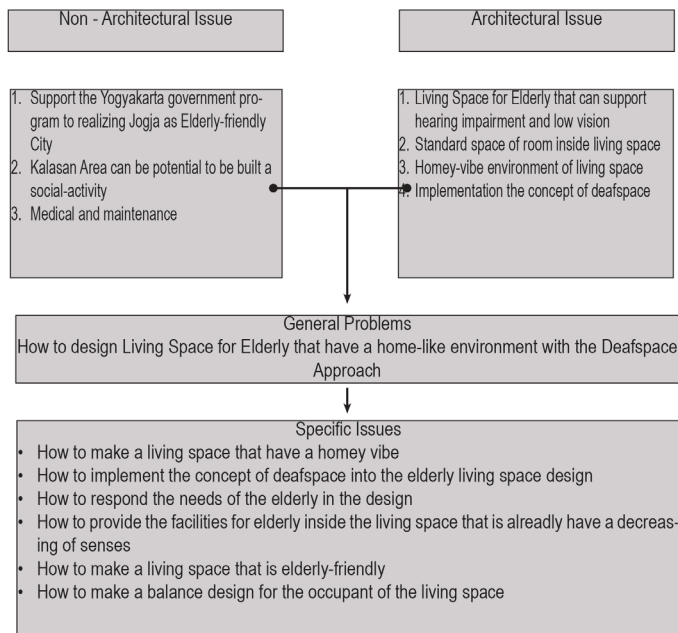
The diagram for Kalasan shows days per month, where the wind reaches certain speed. Most of the wind came from the south and the south east.

## BUILDING CODE



Kemala Fitri Adelia / 17512022  
Dr. Ir. Revianto Budi Santosa, M.Arch

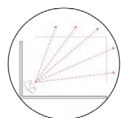
## DESIGN PROBLEMS



## DESIGN CONCEPT

### DeafSpace Approach

a design concept informed largely by deaf people's unique methods of living and occupying space. Buildings, schools, corridors, furniture, and other architectural arrangements and technology should all be designed to support hearing impaired people and their way of life. The modern concept of deaf space utilizes the five principal concepts: sensory reach, space and proximity, mobility and proximity, light and color, and acoustics. The DeafSpace idea seeks deaf people's expertise to help create a more compassionate environment, not only for deaf people, but for society as a whole.



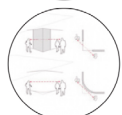
#### Sensory Reach.

Deaf individuals utilize their acute awareness of visual and tactile cues such as shadow movements and vibrations, as well as subtle changes in the expression/position of others around them, to "read" events in their environment that aren't always evident to hearing people.



#### Space and Proximity.

Individuals must stand at a distance to observe the signer's facial expression and the entire dimension of the signer's "signing space" in order to maintain clear visual communication. This basic dimension of the distance between persons has an impact on the overall architecture of furniture and architectural spaces.



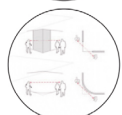
#### Mobility and Proximity.

For clear visual communication, those who use sign language must keep a large distance. It is also necessary for them to be aware of their surroundings when communicating and traveling together. The appropriate layout of circulation and gathering areas allows vocalists to move freely around the room.



#### Light and Color

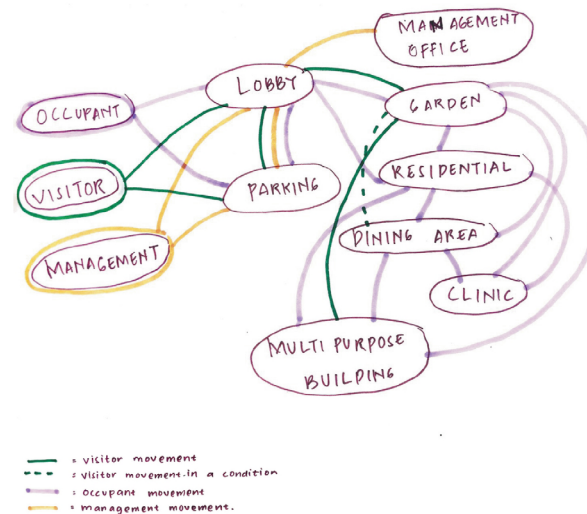
This idea discusses how material and environmental characteristics facilitate communication and navigation. To focus on signal language and promote visual way-finding, color can be utilized to analyze pores and skin tone.



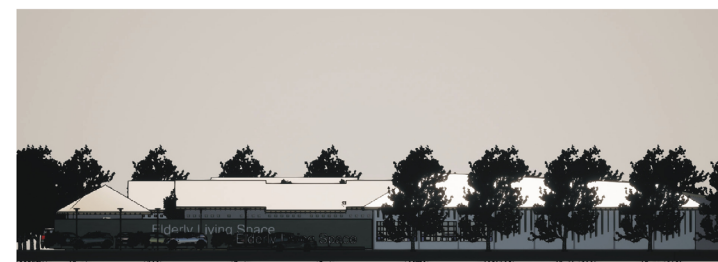
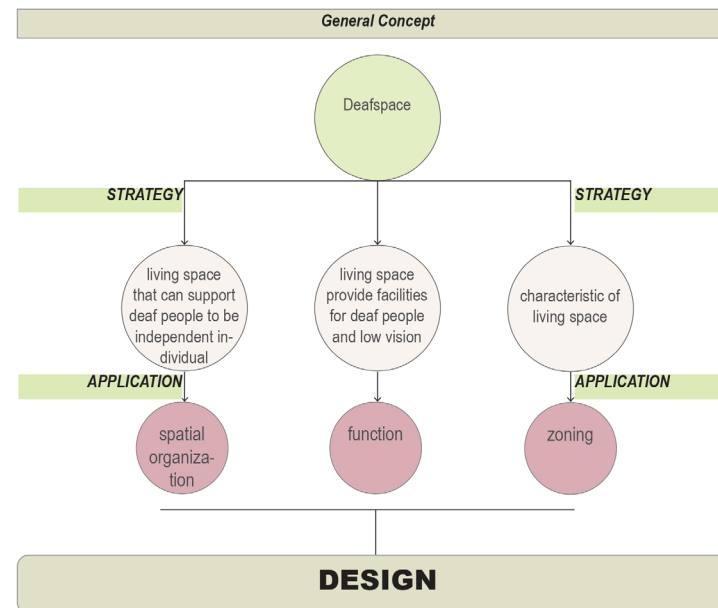
#### Acoustics

The significance of managing acoustics and other disruptions will be discussed at this point. Reverberation and other forms of background noise should be minimized in spaces.

## USER ACTIVITY



## DESIGN CONCEPT



South Elevation



West Elevation

**DESIGN RESULT**



*Bedroom Interior*



*Gathering and Workshop Space*



*Dining Area and Nurse Station*



*Unit Garden*



*Pathway and Dining Area*



*Lobby and Clinic*



*Service Area*



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**Design Of Elderly Living Space in Yogyakarta With Deafspace Approach**  
The design of living space for elderly in Yogyakarta with Deafspace Approach

**KEMALA FITRI ADELIA**  
17512022



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