

SUSTAINABLE HOSPICE WITH RETREAT CENTER

A THESIS

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Architecture degree

By

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INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited with Grade "A" by NAAC
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**NOVEMBER
2021**



DEPARTMENT OF ARCHITECTURE

BONAFIDE CERTIFICATE

This is to certify that this Thesis Report is the bonafide work of Abhishek Das(37210001) who carried out the Thesis entitled "Sustainable Hospice with Retreat Center" under our supervision from July 2021 to November 2021.

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Submitted for Viva voce Examination held on 8th December 2021

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DECLARATION

I, **Abhishek das** hereby declare that the Thesis Report entitled “Sustainable Hospice with Retreat center” done by me under the guidance of **Ar.Sheetal kalamkar** (Internal Guide), **Ar.R.Ramkumar**(Internal Review Member) and **Ar. Anup George** (External Guide) Sathyabama Institute of Science and Technology is submitted in partial fulfilment of the requirements for the award of Bachelor of Architecture Degree.

A handwritten signature in blue ink, appearing to read 'Abhishek', with a stylized flourish above it.

DATE: 06/12/2021
PLACE: Chennai

SIGNATURE OF THE CANDIDATE

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **Sathyabama Institute of Science and Technology** for their kind encouragement in doing this Thesis and for completing it successfully. I am grateful to them.

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I would like to express my sincere and deep sense of gratitude to my Thesis Internal guide **Ar.Sheetal kalamkar** , Internal Review member **Ar.R.Ramkumar** and External Guide **Ar.Anup George** their guidance, suggestions and constant encouragement which paved the way for the successful completion of my Thesis work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the **Department of Architecture** who were helpful in many ways for the completion of the Thesis.

Abhishek Das

THESIS SYNOPSIS

In this research, we came to know about, Hospice care is a type of health care, where patients are taken care properly with pain, symptoms and their emotional and also spiritual needs at the end of their life.

A hospice should be a eco friendly structure and it should follow pain management, communication regarding their end of life, and the treatment for cure for illness. It also should help to maintain more comfort, quality of life and individual wishes.

This study shows the hospice needs, usually considered six months before the death of an individual patients. It is difficult time for older adults as well as for their families and loved ones. Various literature case studies has been done and found, the more comfort, quality of life, pain management, communication regarding their end of life, and the treatment for cure for illness is required and also done in the literature case studies for hospice like Indian hospice architecture and International hospice architecture for understanding various design strategies.

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CHAPTER-1

1.1 INTRODUCTION

1.1.1 WHAT IS HOSPICE ?

Hospice care is a type of health care, where patients are taken care properly with pain, symptoms and their emotional and also spiritual needs at the end of their life. Hospice is the place where, each patient is given proper comfort and quality of life by reducing pain and suffering.

ABOUT

The word hospice derives from Latin "hospitum", means place of rest and protection for the ill. The concept of hospice began evolving in Europe in 11th century. The modern hospice concept includes palliative care like incurable ill in institutions as hospitals and nursing homes, along with home care.

The main goal of hospice care is to give more comfort, quality of life and individual wishes. How comfort can be defined for each patient. This can include addressing the physical, spiritual, emotional and social needs. Hospice does not perform treatment but they do treat the illness and relieve pain and symptoms but do not include the treatments that hasten death.

End of life, usually considered six months before the death of an individual patient. It is a difficult time for older adults as well as for their families and loved ones. Many concerns can arise for the older individual during this time. There are three comfort zones identified in the literature pertain to pain management, communication regarding their end of life, and the treatment for cure for illness

1.2 NEED OF THE PROJECT

No. of hospice in kerala : 1550 units

NGO (Non Governmental Organization) : 450 UNITS

Cancer patients in kerala : 35000 roughly

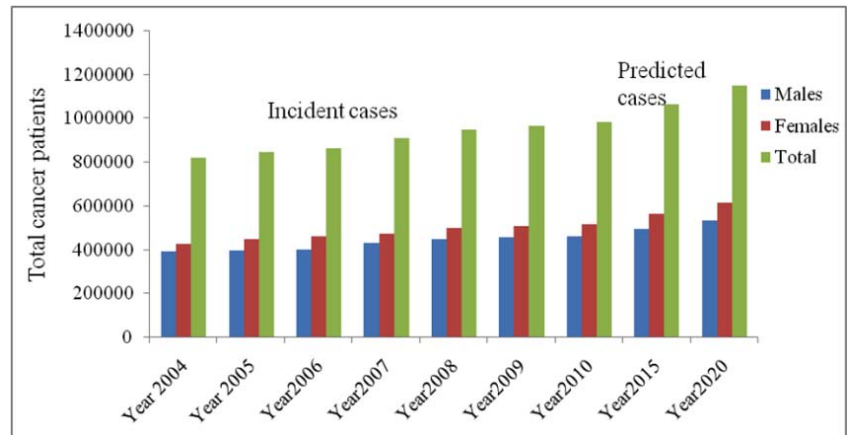


Figure 1.1 : cancer patient cases

According to kerala the number of cancer patients are increasing day by day, but the number of hospice center is less so the number of death has been increased because of less number of hospice center.

A hospice is a building, In which architecture should be suitable for the palliative care and should focus on the functionalities and the senses like air, water, sound, colour and the materials.

When focusing on the design concept, where the users should be highly considered on natural technical approach in indoor as well as outdoor climate. As an architect we have to focus on the design concept and energy optimized building design.

1.3 AIM

To relieve from all Physical, Mental, Emotional and spiritual of our patients and those who care for them.

1.4 OBJECTIVE

To give each patient a proper comfort and homely feel by vernacular architecture and keep them in a positive atmosphere.

CHAPTER-2

2.1 LITERATURE CASE STUDIES

2.1.1 KARUNASHRAYA HOSPICE

Location : Bangaluru
Year : 1994
Architect :Cnt Architect



Figure 2.1 : karunashraya Hospice

The main concept of the hospice is "Relation with green spaces with water and to balance between the sizes and forms of courtyard". There are several open courtyards which can be accessed by the patients. It is well maintained with all the different plants, trees, and also benches are kept for sit and relax.

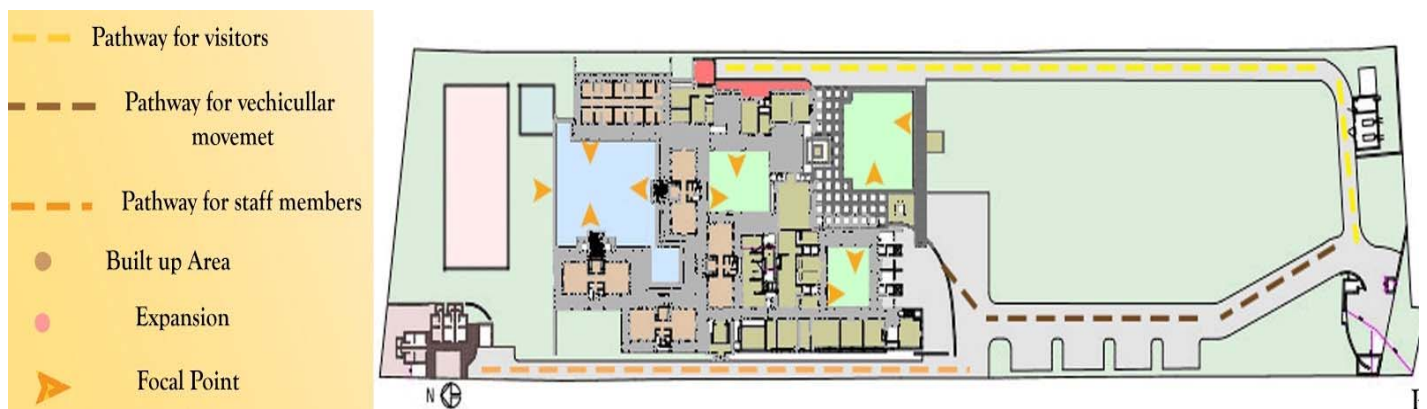
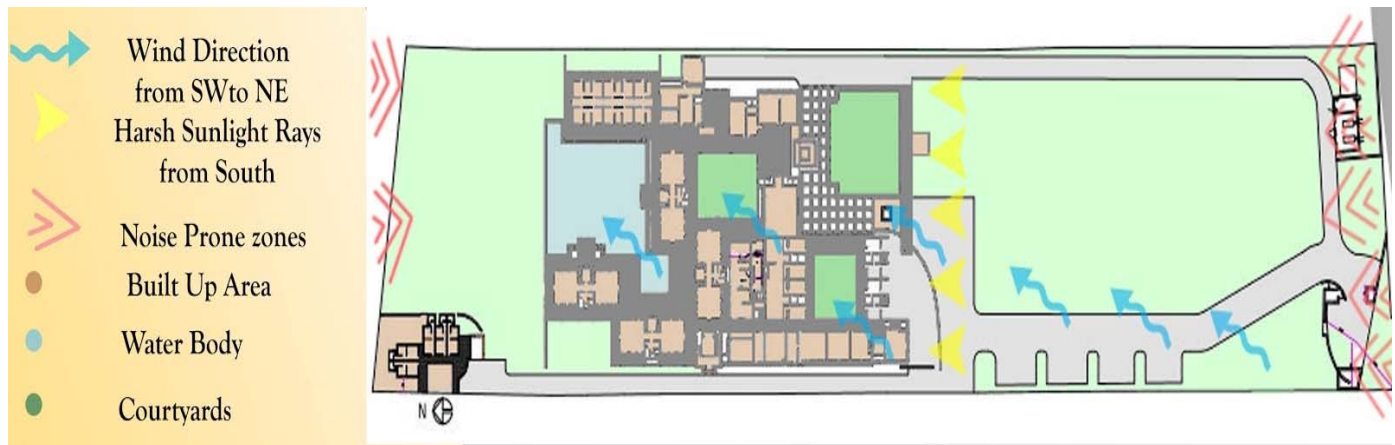
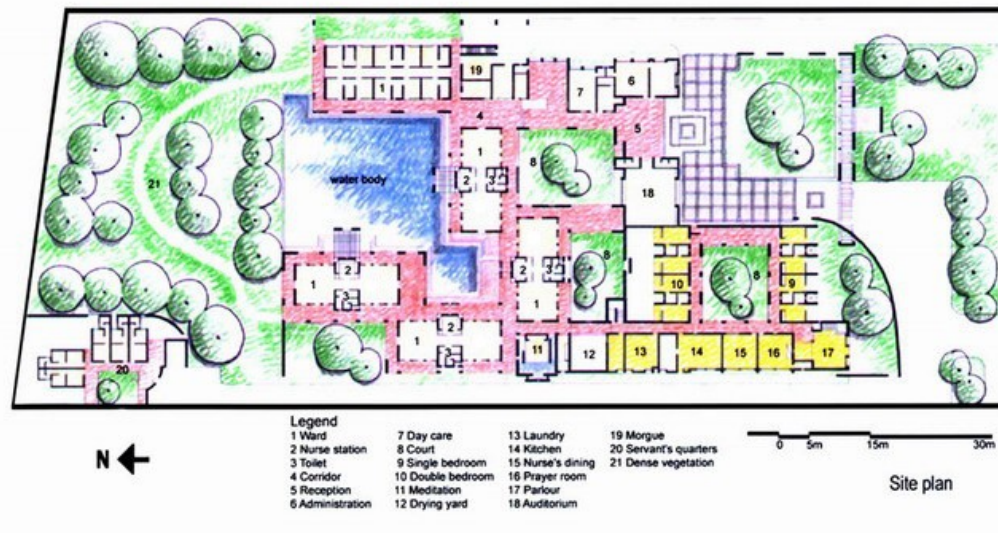
All the sound - ambience is kept simple. This is kept for the psychological comfort for the patients in the hospice.

All the courtyards are used for different activities. The main use of water body and courtyard are used for proper ventilation and also for used for interaction space.



Figure 2.2 : water body

There are 5 wards and each ward has 12 beds with a common washroom. It is arranged in such a way that each bed gets the view towards the waterbody.



2.1.2 URBAN HOSPICE(MODERN HOSPICE)

Location : Denmark

Year

: 1994

Architect : Nord Architects



Figure : 2.6 :Urban Hospice

The design main aim was to provide a peaceful environment, where the hospice is surrounded by housing and historic buildings. The main form and concept were heavily influenced by the site condition and also the neighbouring build context.

The main idea was to create warm and protective atmosphere. The hospice is designed in curved and rectilinear elements that allow the lighting and ventilation to access all around the courtyard and the other spaces.



Figure 2.7 : Exterior Houses



Figure 2.8 : Open space

The entrance is shaded by several trees and the entry to the building is designed elegantly with trees, bushes and flowers.

The relaxation area involves courtyard inside and it is surrounded by trees and plants.



Figure 2.9 : Interior courtyard

The building has recreational activities including games, watching T.V , newspaper etc.The hospice is given quality rich materials to give warm and tactile look.They have used solar energy to all the wards and also exterior.



Figure 2.10 : First

floor plan

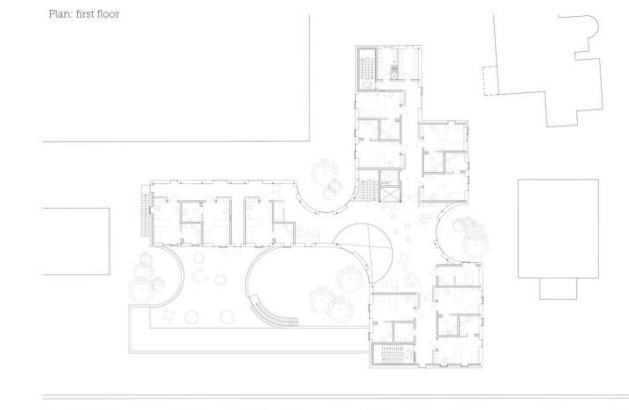


Figure 2.11 :Second floor plan

2.1.3 Benziger Hospice Home

Location : Thiruvananthapuram
Year : 2020
Architect : Srijit Srinivas



Figure 2.12: Benziger Hospice Home

The main concept was to create a peaceful environment in an Semi-Urban Area and Lighting and Shadows plays major role here. It is designed for the brick Lovers.



Figure 2.13 : wooden door

The entry to the building itself makes a homely feel by keeping wooden door that is actually used in houses. Inbuilt brick seating is used in courtyard and also creates high oxygenating plants.



Figure 2.14 : Lighting And Shadows

They have used natural texture and colour of brick to enhance the space, and to interplay of light and shadows.

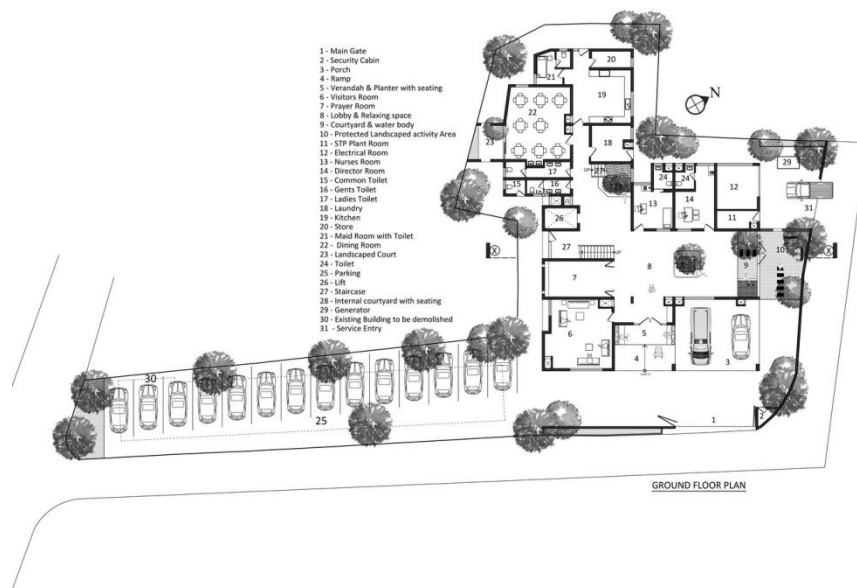


Figure 2.15 : Ground Floor plan

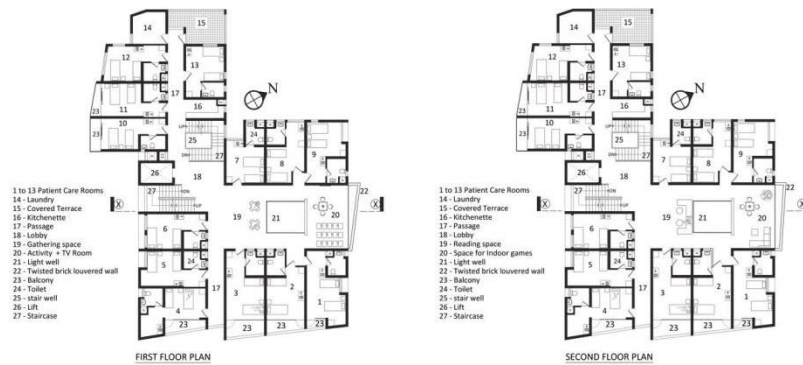


Figure 2.16 : First Floor plan and Second Floor plan

All the patients care suites are all located on the First and Second Floors with each room having space for one patients. A common space has been provided on every floor, with an activity room and recreational room.

CHAPTER - 3

3.1 DATA COLLECTION AND STANDARDS

STANDARDS		
PUBLIC	SEMI-PUBLIC	PRIVATE
PORCH : 8M X 10M = 80 SQM RECEPTION : 2M X 1.8M = 3.6 SQM LOBBY SPACE : 20M X 10M = SQM TOILET : 1.5M X 2M = 3 SQM PRAYER HALL : 5M X 10M = 50 SQM STAIRCASE : 1.2M WIDE LIFT : 1M X 2.4M = 2.4 SQM PARKING ; CAR : 5M X 3X =15 SQM (NO. 40) BIKES : 1M X 1.5M = 1.5 SQM (NO. 50) AMBULANCE : 4M X 8M = 40SQM (NO. 5)	STP : 5M X 8M = 40 SQM ELECTRICAL ROOM : 5M X 8M = 40 SQM GENERATOR ROOM : 4M X 5M = 20 SQM NURSE ROOM : 2.2M X 3M = 6.6 SQM NURSE TOILET : 1.5M X 2M = 3 SQM LIBRARY : 5M X 3M = 15 SQM	KITCHEN : 8M X 5M = 40 SQM (25 BEDS) MAID ROOM : 2.5M X 3M = 5 SQM SERVANT QUARTERS : 2.5M X 3M = 7.5 SQM PATIENTS ROOMS: TOILET : 2.3M X 2.2M = 5.06SQM DOUBLE BED ROOM : 7M X 3M = 21 SQM SINGLE BED ROOMS : 5M X 3M = 15SQM THERAPY ROOM : 10M X 8M = 80 SQM BALCONY : 3M X 1.5 = 4.5 SQM WARD : 5M X 8M = 40 SQM (NO. OF BEDS = 8)

Table 3.1 : Standards

FSI : 2%

OSR : 10 %

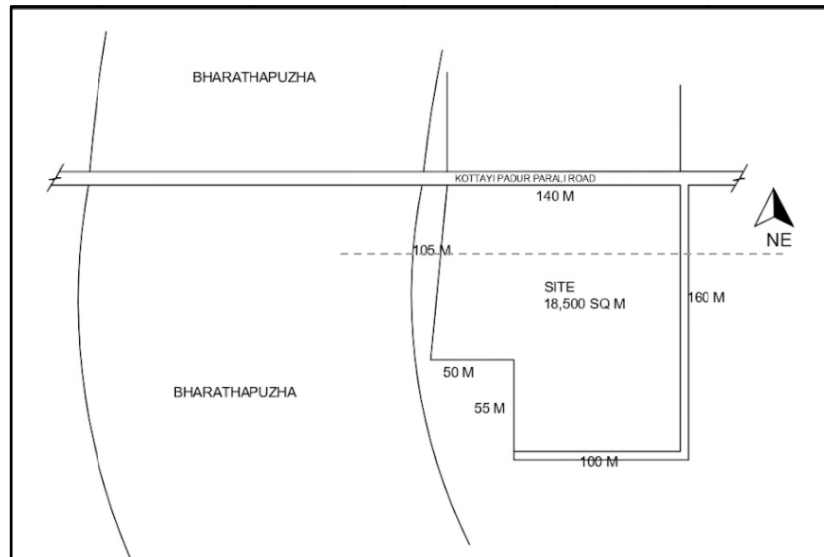
MAX HEIGHT : 42 M

GROUND COVERAGE : 40%

SET BACK : 6 M

CHAPTER - 4

4.1 SITE STUDY AND ANALYSIS



Site Plan

BRODER SITE CONTEXT :

HOSPITALS :

AYUR MITHRA HOSPITAL- 0.35km

GOVERNMENT HOSPITAL- 0 .60 km

CHC HOSPITAL- 1.8 km

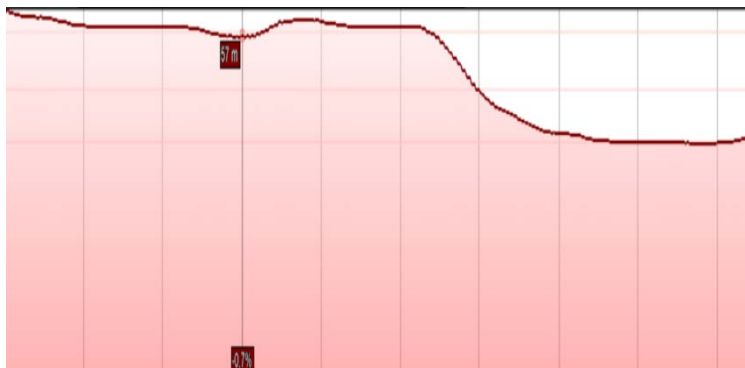
VM HOSPITAL - 3.3 km

LOCATION : PALAKKAD, NEAR
BHARATHAPUZHA

AREA : 18,800 SQM

SOIL TYPE : LATERITE SOIL

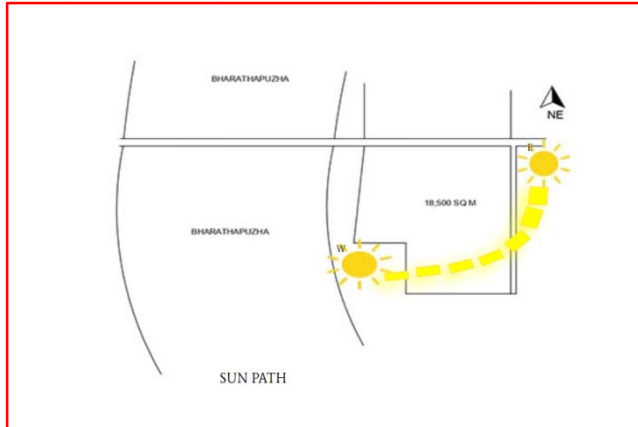
SURROUNDINGS : RESIDENTIAL ZONE



SITE SECTION :

SITE HEIGHT FROM RIVER
EDGE : 5.36 M

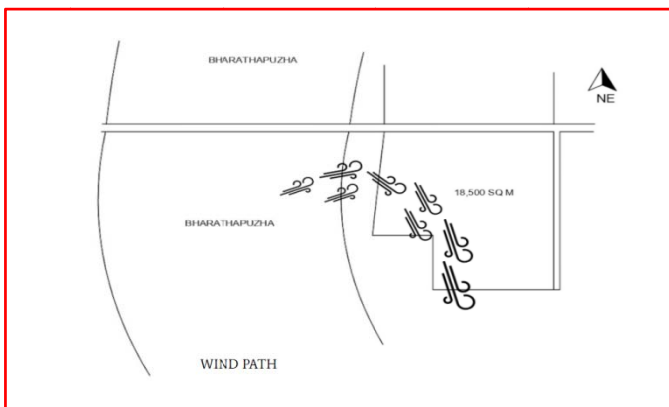
WIDTH OF RIVER : 200 M



Sun Path

TEMPERATURE :

The average annual temperature in Palakkad is 25.9 °C | 78.6 °F.
In a year, the rainfall is 1216 mm | 47.9 inch.



Wind Path

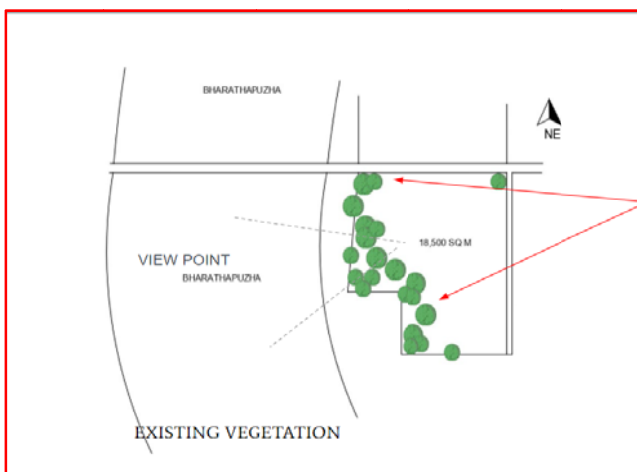
WIND :

AVERAGE ANNUAL WIND SPEED :
18-22 KM/HR

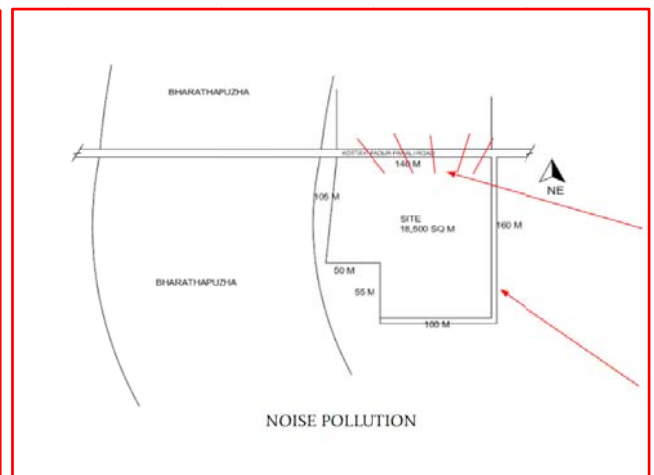
WIND DIRECTION : WEST TO
SOUTH WEST

TOTAL RAINFALL : 83 INCHES(210
CM)

JULY IS THE WETTEST
MONTH(DUE TO SOUTH-WEST
MONSOON)



Existing vegetation



Noise Pollution

SWOT ANALYSIS			
STRENGTH	WEAKNESS	OPPORTUNITIES	THREATS
* FACILITIES PROVIDED IS GOOD * COMPLETED ROAD * DRAINAGE SYSTEM * MAINTAINED LANDSCAPE * FREE FROM STRAY DOGS AND OTHERS. * LESS TRAFFIC JAM * COMPLETED LANDSCAPE THAT HAVE HIGH OPPORTUNITY TOWARDS INVESTOR. * ZONING - RESIDENTIAL AREA.	* ACTIVITY IN THE STREET IS LESS. * COMMERCIAL ACTIVITY IS LESS BECAUSE OF THE RESIDENTIAL ZONE. * GROCERIES AVAILABLE AROUND 1KM TO 2KM. * IMPORTANT ROAD SIGNS ARE NOT AVAILABLE. * MORE OPEN LAND IN LOCATED AROUND THE SITE CAN CAUSE ADVERTISEMENT.	* INVESTOR OPPORTUNITY FOR THE HOUSING BUSINESS. * COMMERCIAL OPPORTUNITY REGARDING THE EMPTY AREA AT THE STREET. * SECONDARY ROAD CAN INCREASE THE ACTIVITY IN THE STREET AREA..	* THE POPULATION OF THAT AREA NOT ENOUGH TO INCREASE THE COMMERCIAL AREA. * THE ROAD WIDTH IS LESS. * AREA IS DULL BECAUSE OF LESS ACTIVITY HAPPENING THERE. * SAFETY OF THE ROADS IN LESS (SIGN BOARDS, ETC). * LARGE OPEN AREA CAN CAUSE LARGE BUILDINGS AND COMMERCIAL ACTIVITIES.

Table 4.1 : Swot Analysis

4.2 SOIL EROSION METHOD

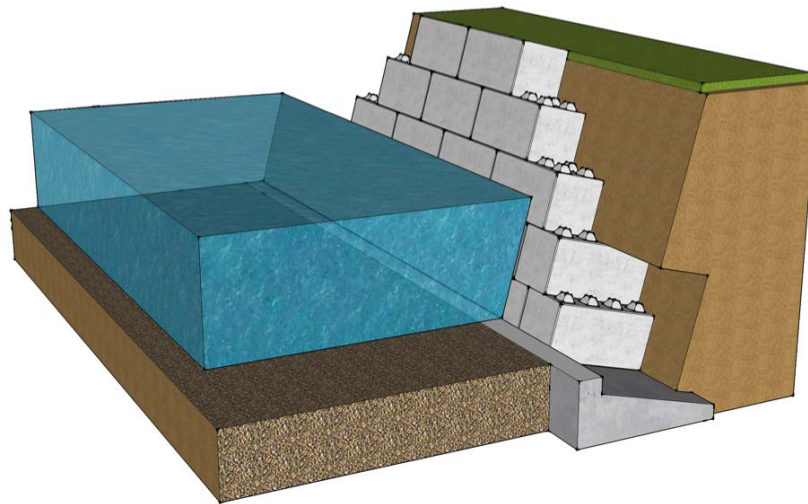


Figure 4.1 : retaining wall

A retaining wall is a structure that holds and retains soil behind it. There are many types of materials that can be used to build retaining walls like concrete blocks, poured concrete, treated timbers, rocks.

The cheapest types of retaining walls are wood and concrete blocks, then concrete and stones or bricks. Each material gives proper strength, longevity, and attractiveness.

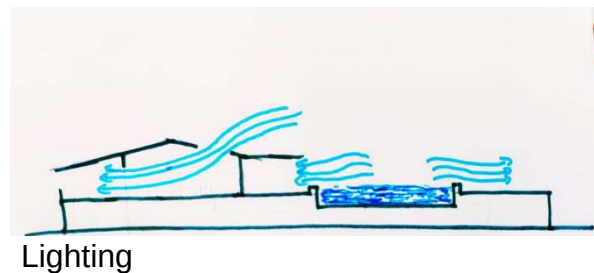
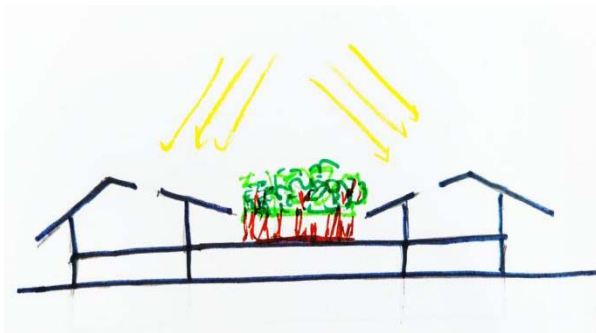
CHAPTER - 5

5.1 CONCEPT

The intention was to avoid poorly ventilated and improving the quality of the space in terms of giving value to daylight and ventilation.

And also allowing nature to flow through out the buidling.

A conceptual building form is developed in order to accommodate of the concept



Lighting

Ventilation

5.2 STRATEGIES ACCORDING TO DIFFERENT ORIENTATIONS

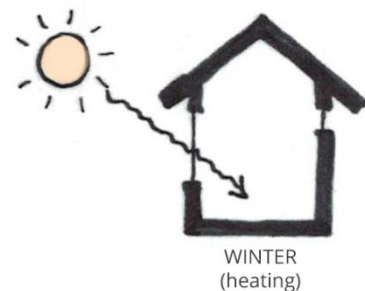
This building form will be treated differently according to different orientations. Different strategies are going to be applied and translated on the site. The main intention was to open up to the courtyard and the water body. The interaction between the 2 block and the generation of a more view leads to this kind of placement shown in

figure of site.

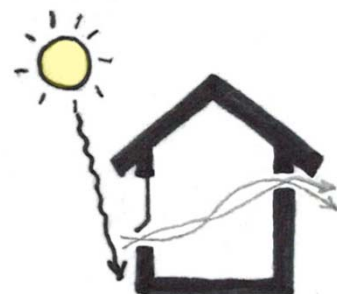
Figure 5.1 : Winter lighting

Coming to winter, in order to enhance the solar gains, glazed shutters are provided. These can be closed in winters to allow the transitional space to be warmed and more usable by the inhabitants. Coming to the summer, cross venilation is provided through open glazed shutters and heat dissipation.

DIRECT GAIN



WINTER
(heating)



SUMMER
(cooling)

Figure 5.2 : Summer Lighting

5.3 SUSTAINABLE SENSES

Pebbles

It creates a sensory feel while walking in pebbles and grass gives happiness.



Figure 5.3 : pebbles

Flowering Plants

Flowering plants in indoor and outdoor can make easily sense and feel and gives pleasant feel.



Figure 5.4 : flowers

Water body

It creates a sensory feel while hearing and touching and also gives fresh feel to the area.



Figure 5.5 : water body

Colour therapy

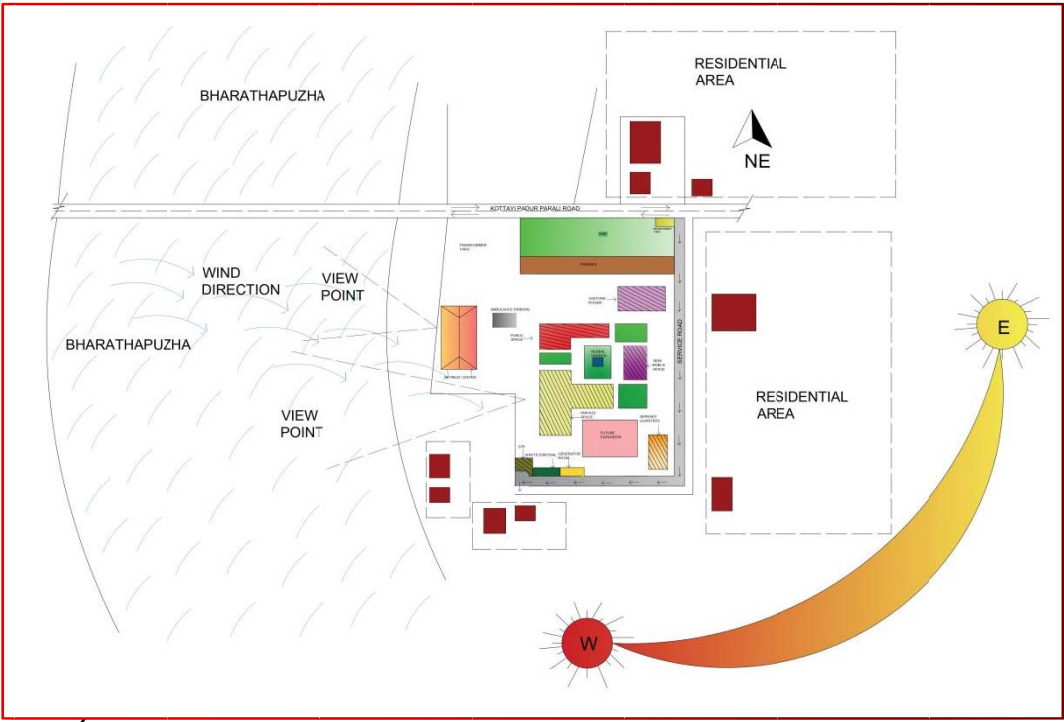
Therapy that uses color and light to treat certain mental and physical health conditions.

Red: Red is used to energize or invigorate a person who might be feeling tired or down.

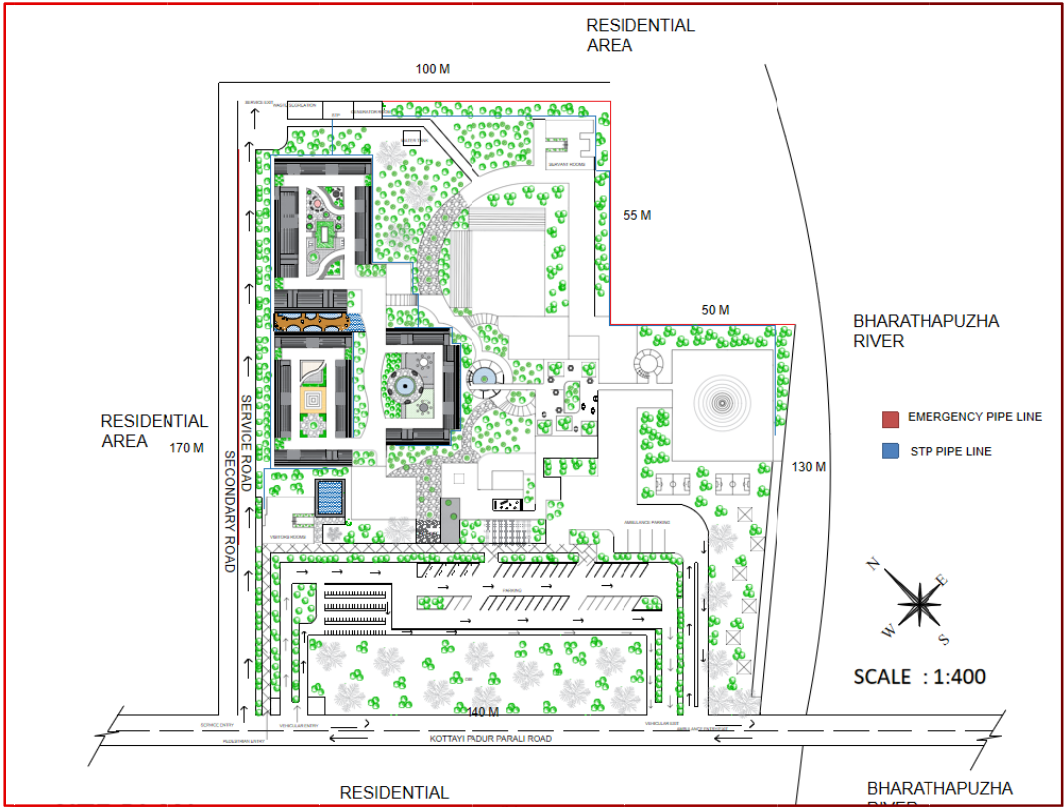
Blue: Chromatherapists use blue to treat depression and pain. ...

Green: Green is the color of nature, and according to chromatherapists, it can help relieve stress and relax a person.

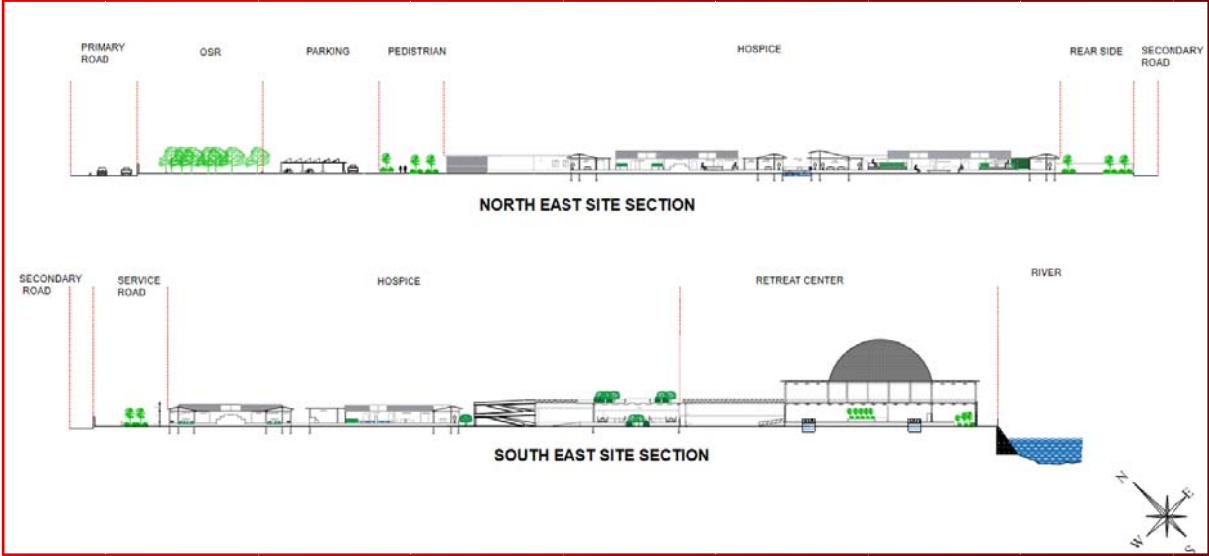
5.4 DETAIL DRAWINGS



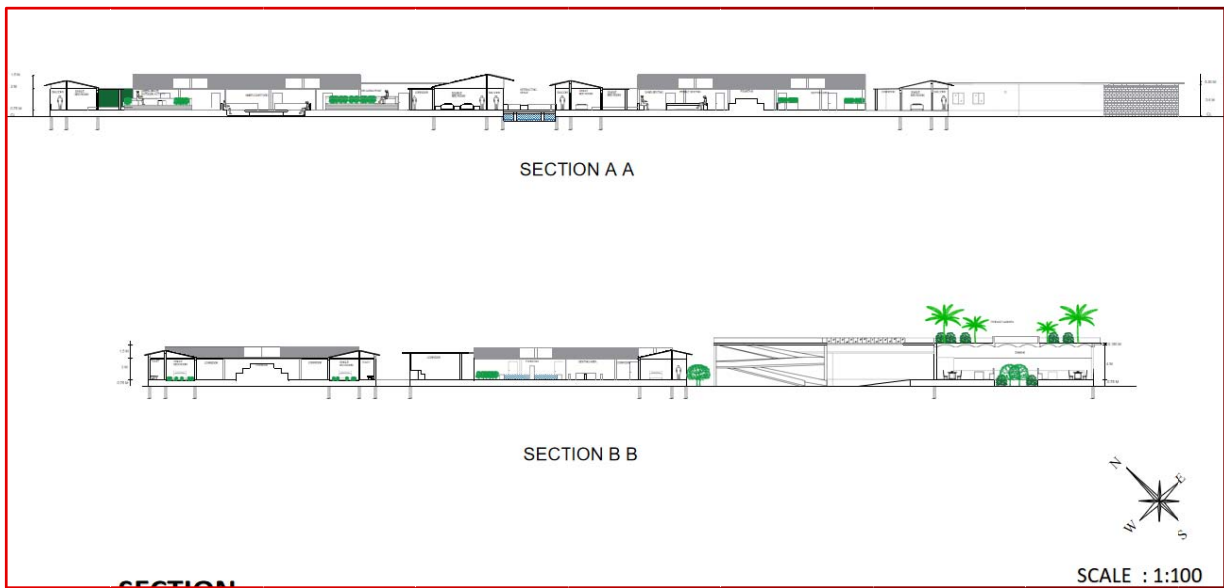
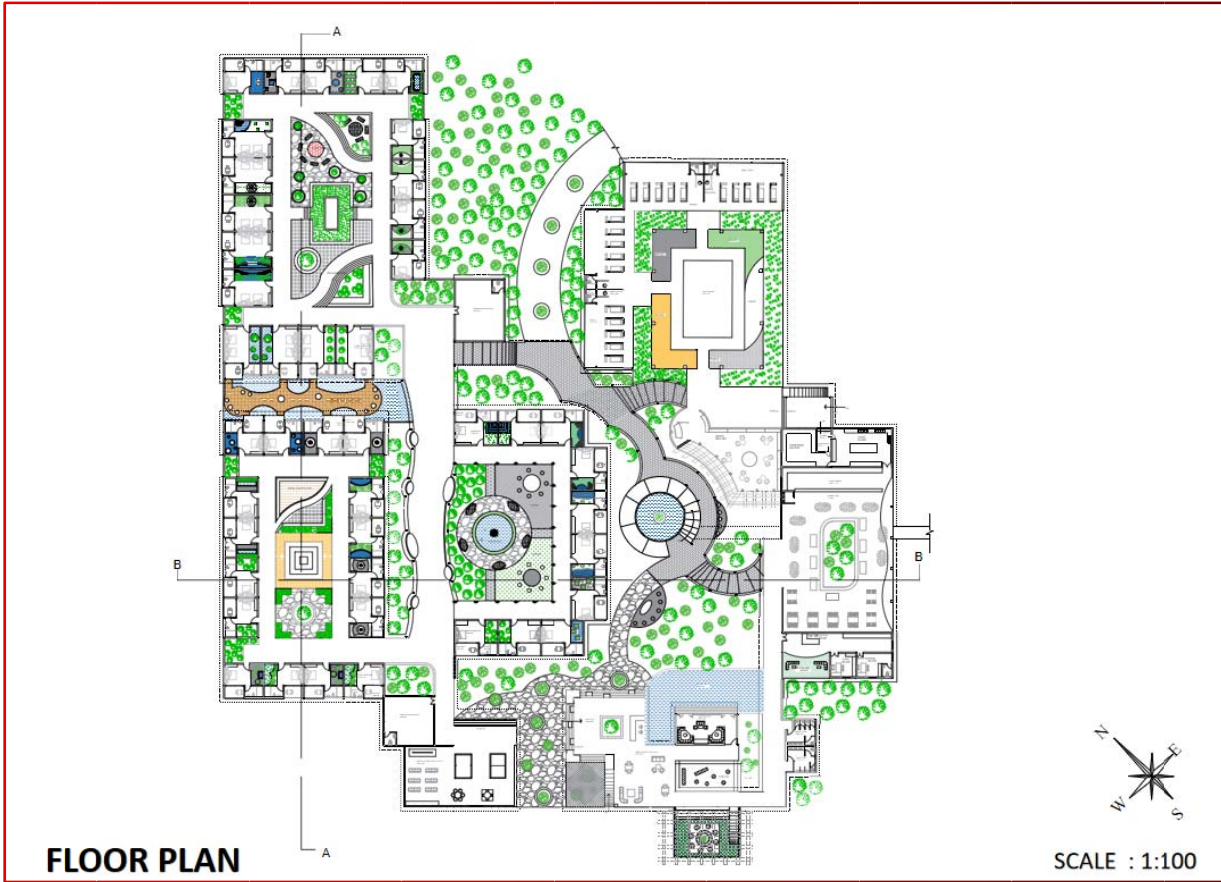
ZONING



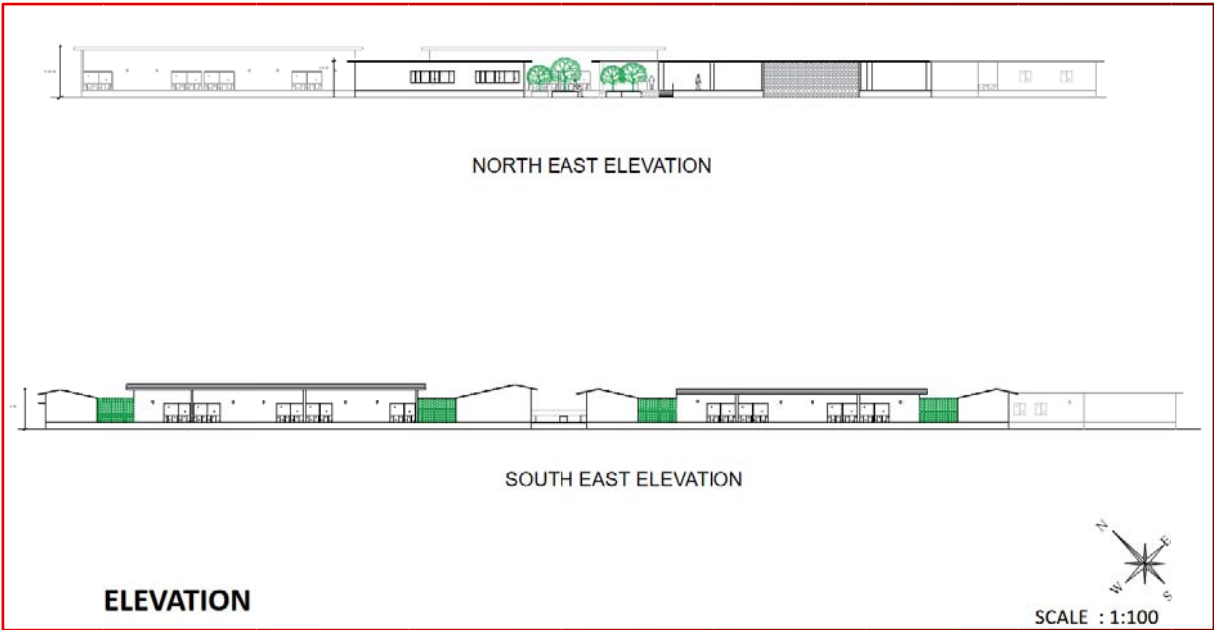
SITE PLAN



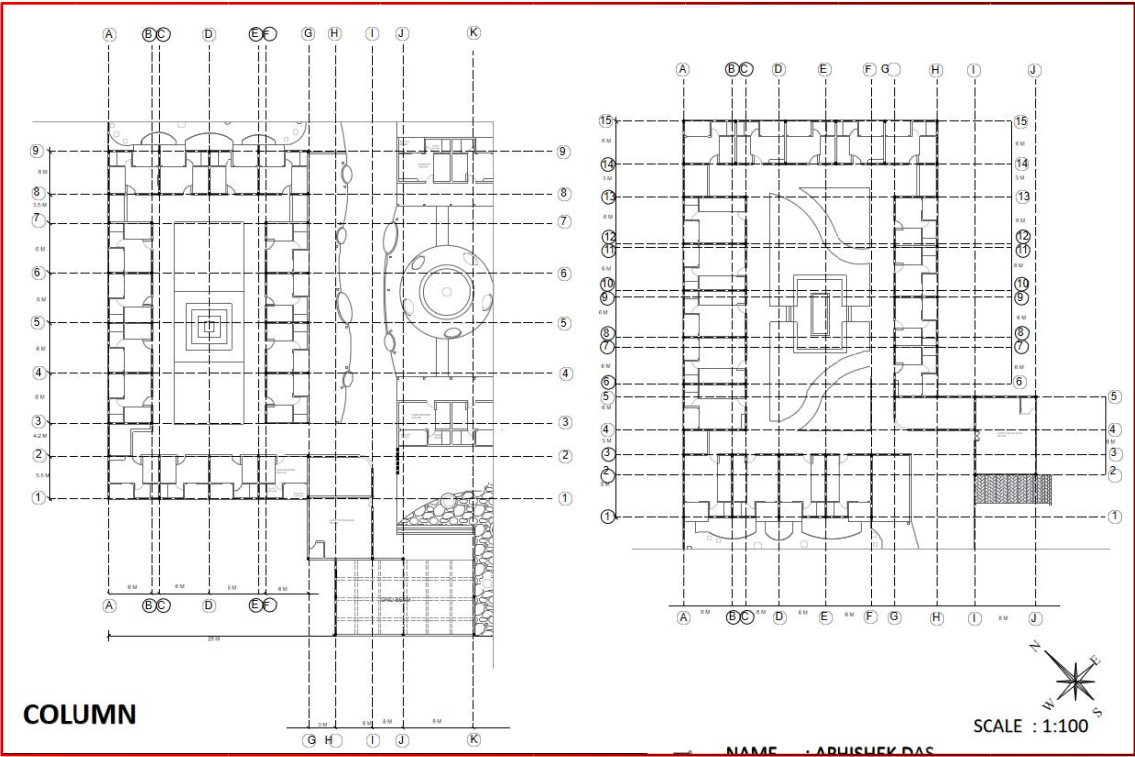
SITE SECTION



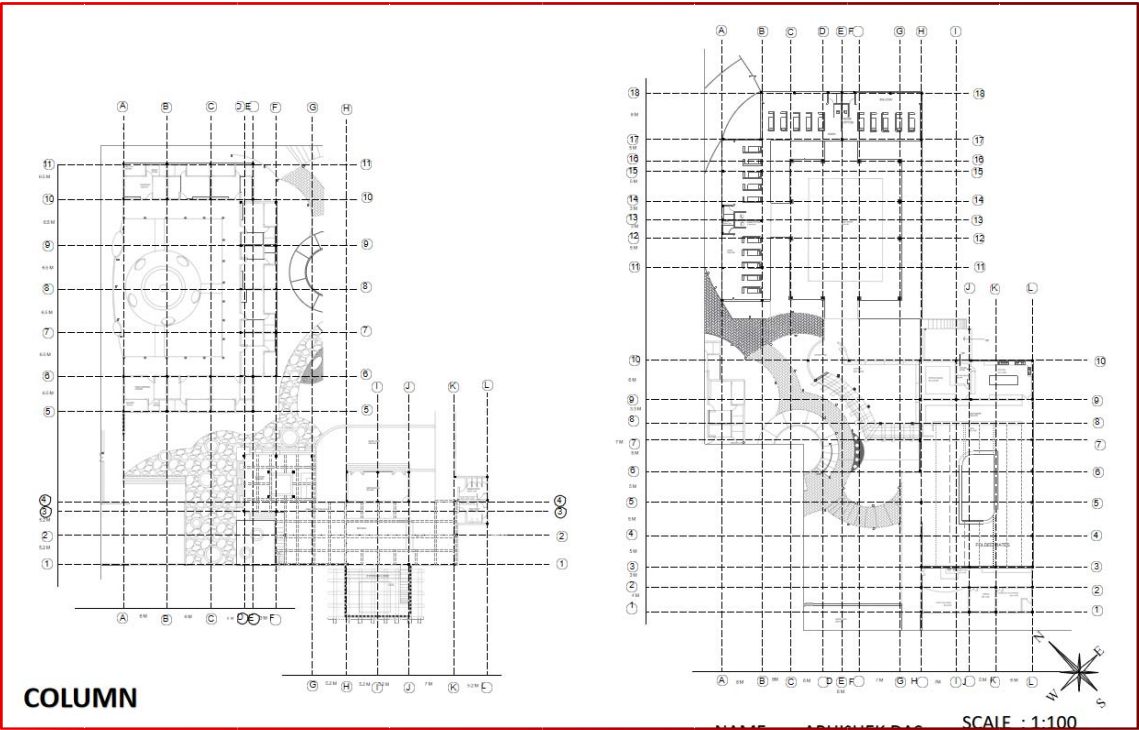
HOSPICE SECTION



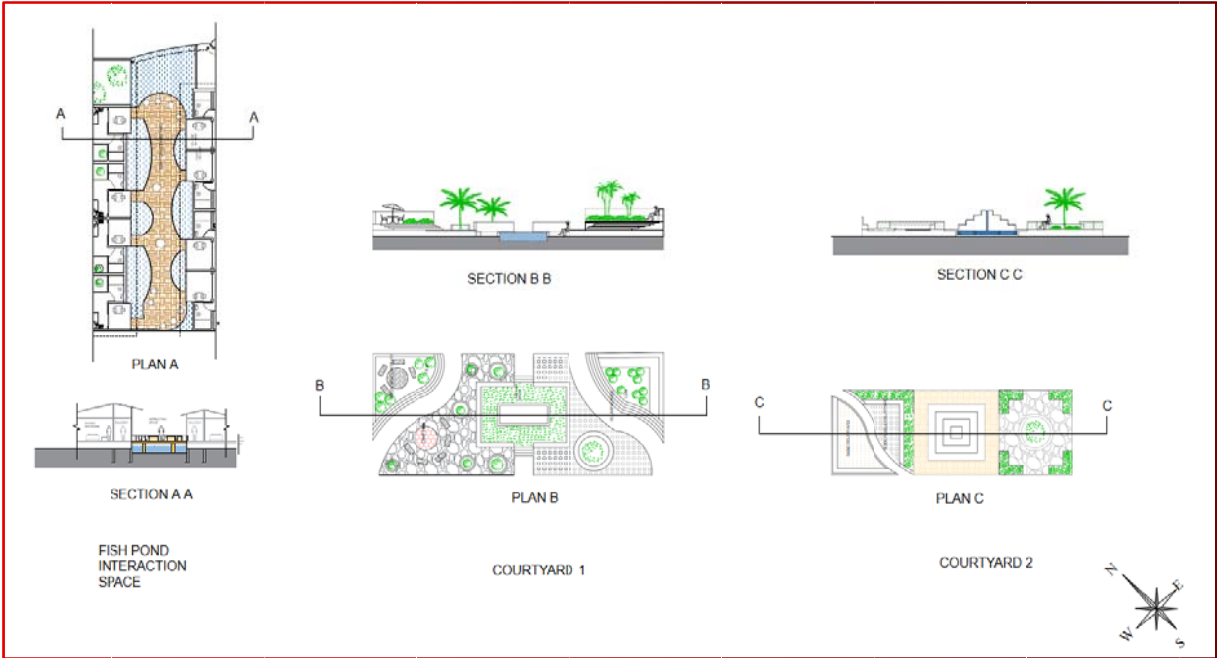
HOSPICE ELEVATION



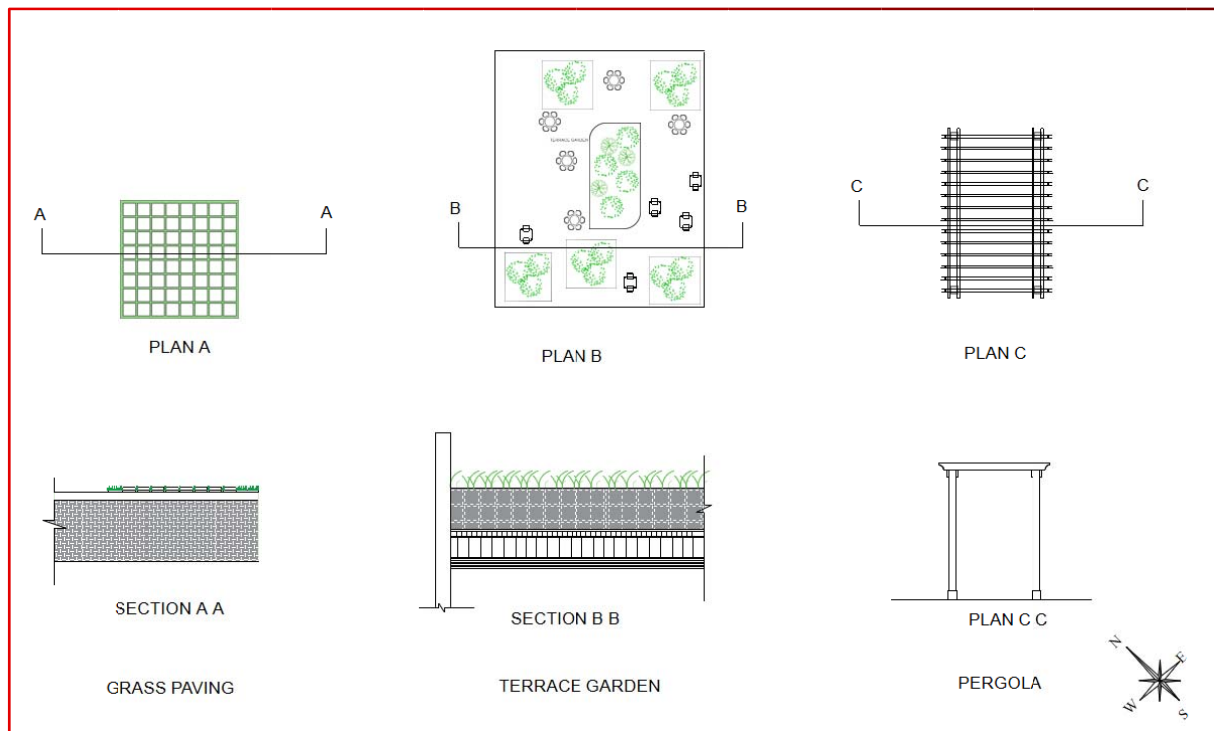
COLUMN GRID 1



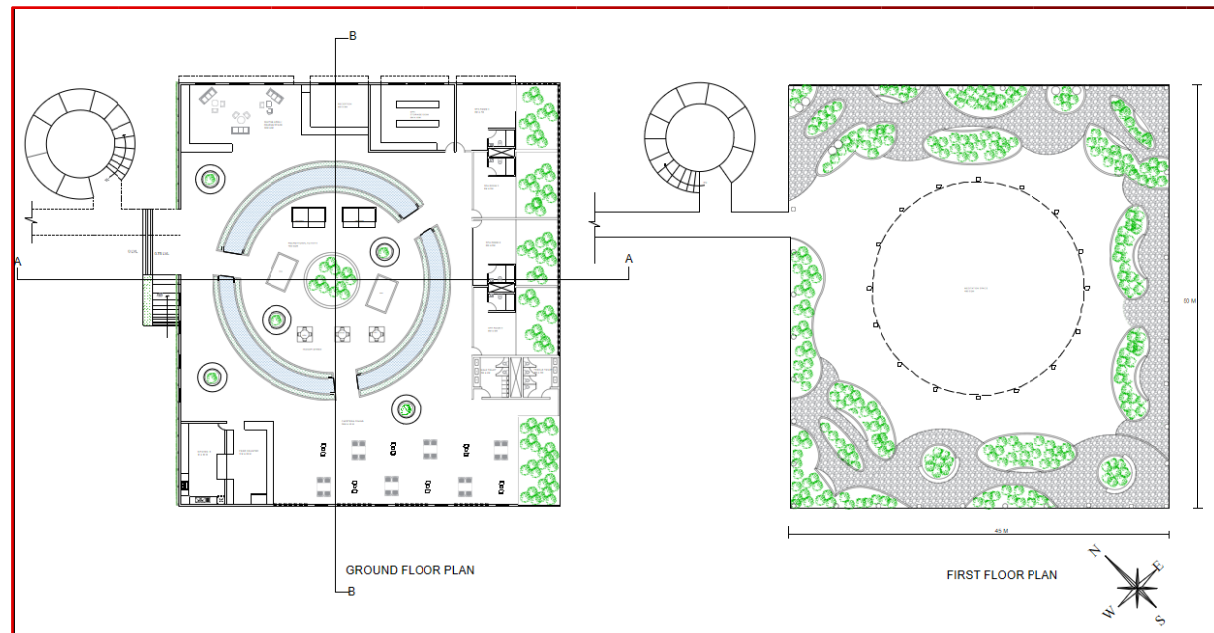
COLUMN GRID 2



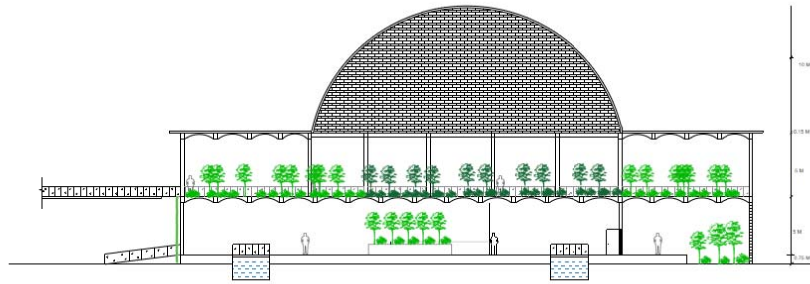
ZOOMED SECTION



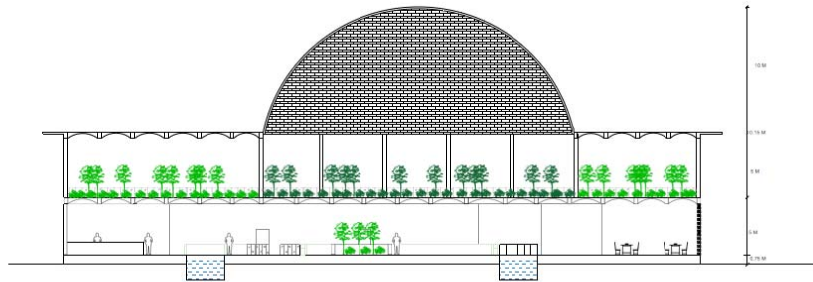
DETAIL DRAWING



RETREAT CENTER FLOOR PLAN



SECTION A A



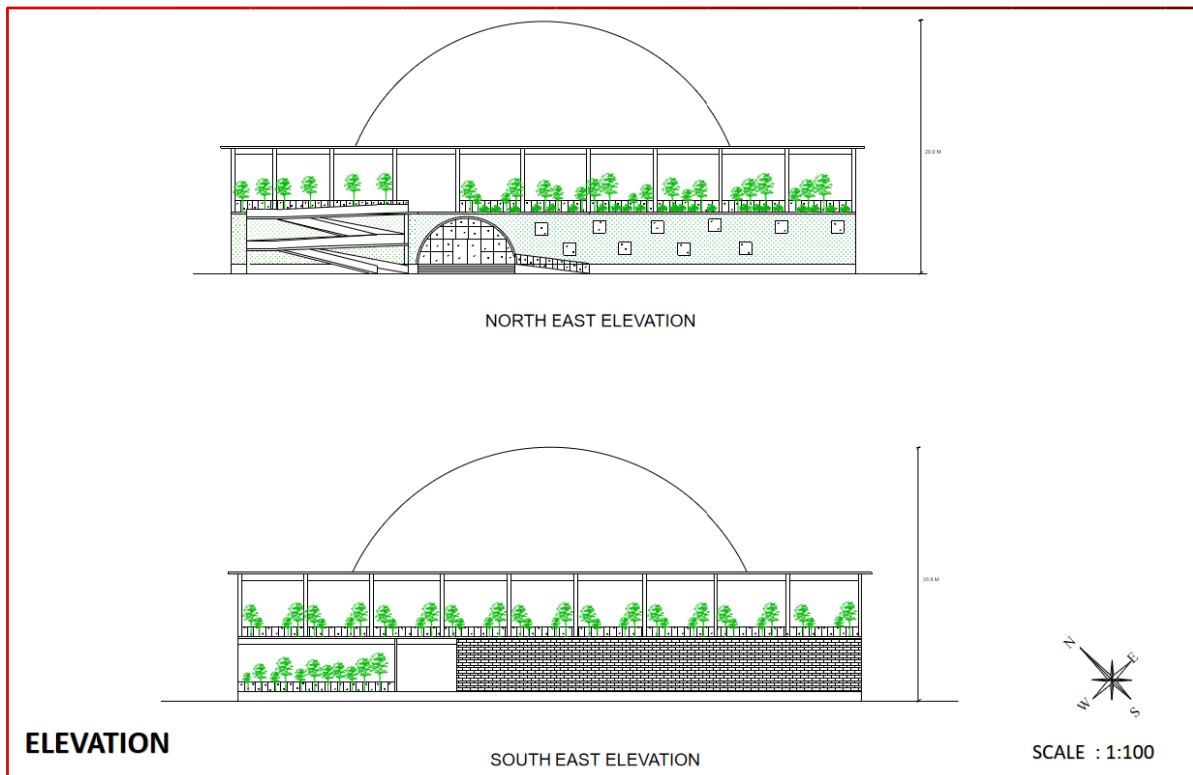
SECTION B B

SECTION

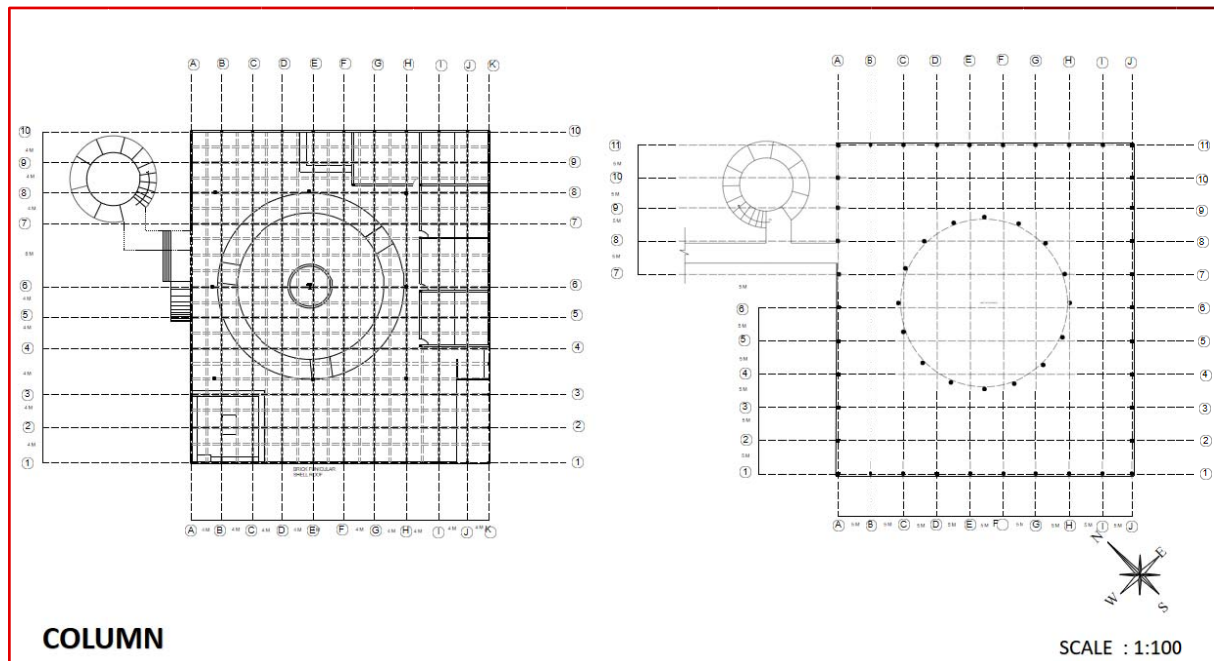
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RETREAT CENTER SECTION



RETREAT CENTER ELEVATION



RETREAT CENTER COLUMN GRID

5.5 RENDER VIEWS

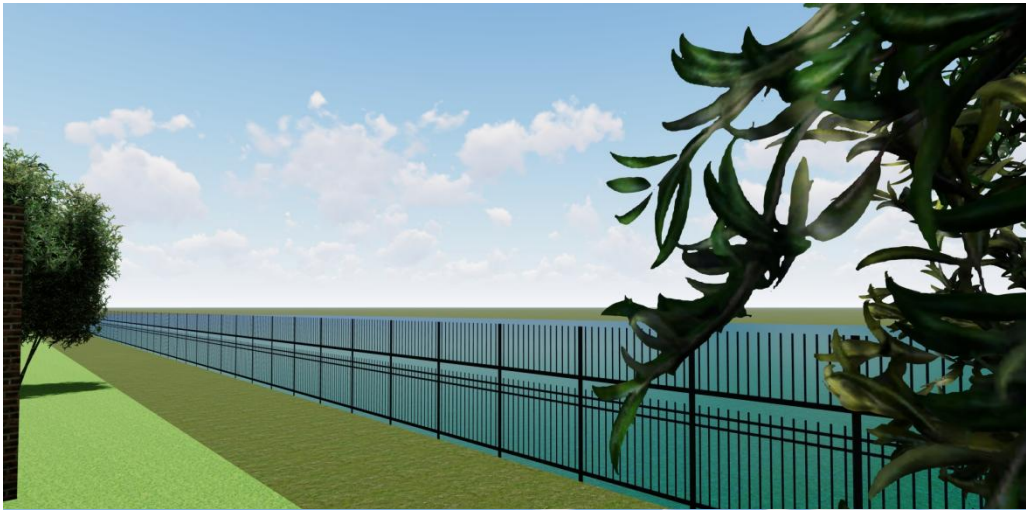












CHAPTER - 6

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urban hospice

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<https://archello.com/project/urban-hospice>

Benziger Hospice Home

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