

HOLISTIC OASIS

THESIS

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

By

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**DEPARTMENT OF ARCHITECTURE
SCHOOL OF BUILDING AND ENVIRONMENT**

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

**Accredited with Grade "A" by NAAC
JEPPIAAR NAGAR, RAJIV GANDHI SALAI,
CHENNAI - 600 119**



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DEPARTMENT OF ARCHITECTURE

BONAFIDE CERTIFICATE

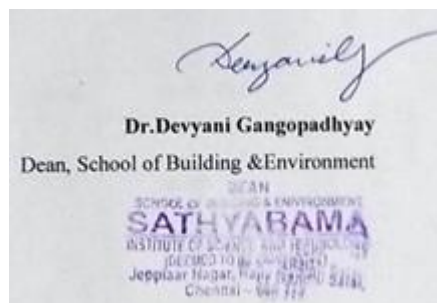
This is to certify that this Project Report is the bonafide work of **Shruti Sunil Menon (3621072)** who carried out the project entitled "**Holistic Oasis**" under our supervision from January 2021 to May 2021.

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I, **Shruti Sunil Menon** hereby declare that the Project Report entitled “**Holistic Oasis**” done by me under the guidance of Ar. **Monisha G.** (Internal Guide), **Ar. Surya Rajkumar** (Internal Review Member) and **Ar. Kishore Panikkar** (External Guide), Sathyabama Institute of Science and Technology is submitted in partial fulfillment of the requirements for the award of Bachelor of Architecture Degree.

DATE:

PLACE: Chennai

SIGNATURE OF THE CANDIDATE

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1. INTRODUCTION

1.1 GENERAL

Different spaces have different energies. How far have spaces and environments been designed to promote a sense of healing. The idea is to explore how design enhance and create spaces where healing can take place.

The intent is to provide a space that links people from different industries and background and work to achieve a common goal through a holistic approach – “Wellness”.

In today’s healthcare the rise of science and technology has diminished focus on the role of healing in the therapeutic potentials of nature. Psychological effects of design play a huge role in lives of people. When we hear the saying “Healing starts with the Mind” we often wonder how far is such a thing being practiced.

To do so, the healthcare objective that is prevalent in Hospitality, Industrial, Institutional and Commercial have been wound up to co-exist together in a way that they complete each other.

When we speak about design, both the inclusive and exclusive atmosphere are included. In order to have a stress-free atmosphere we need to make use of the power we have to alter our personal narrative as present beings who hold health at the forefront of our minds.

When the world is undergoing a pandemic and hospitals become the busiest spaces, how far are people able to feel a sense of openness and connect with nature especially when their duration of stay at healthcare facilities have increased. The need for incorporating the environmental impact on people is what this study goes about.

This project is a cross sectorial concept leveraging the interlinkages between Industries and health care. It attempts to incorporate most modern scientific developments in diagnostic and all other treatment aspects with classical Ayurveda. The aim is to bench- mark the project with the Global Centers of traditional medicine and develops it as Integrated Centre of Excellence in Wellness and Healthcare to overcome the challenges of this system of medicine in the path of Global Recognition.

1.2 AIM AND OBJECTIVE

The aim is to create a holistic environment that restores and maintain the equilibrium between healing, senses and architecture and achieve a common goal of wellness via a hospitality industry.

- The project aims to provide an enabling infrastructure, which will address to the current gaps in the growth path of wellness and enhance the opportunities with value added service and an integrated approach with all other medicinal system. Government of Kerala proposes to develop this project with a motive to transform Kerala as the “World Capital of Ayurveda”.
- Along with healing and therapeutic part of the Oasis, institutional and commercial parameters will also be included that benefits a wider strength of people in terms of job and educational opportunities like the incubation centre, tele health services, research and training institute, convention centre and public health intervention.
- To integrate landscape and the lake as elements in the process of healing and design spaces according to the user behavioral patterns. Scheduling of vistas to connect the user to nature. Ayurveda being a major part of this process as it has become the slice of life with it's advent and positive growth of rejuvenation.

1.3 HOLISTIC OASIS

Holistic means dealing with the whole of a person taking into account mental and social factors, rather than just the symptoms of a disease. At this centre healing will be prioritized over treatment through medication.

Most people see an Oasis as a place of refuge in a desert. Because of its association with water, symbolically it becomes a place where we can receive whatever emotional and physical refreshment we require. Oasis represents your inner paradise that replenishes, soothes, nurtures and feeds your soul. Represents your desire for rest and relaxation. It symbolizes life, love and domesticity.

Holistic design approaches in architecture enable to examine the way that the design will appear aesthetically – in context. To look at neighboring buildings and open spaces.

To consider the position of the sun at different times of day and how light will play on the surface and to examine the use of the space and consider what sort of messages the design should project.

Apart from this, technical and institutional functions are also being offered by this project such that they benefit a greater good. Serves in terms of a psychological as well as economical aspects. The site chosen for this project keeps this very idea in mind such that it's context suits the Programme this building has to offer.

Holistic design goes beyond problem solving to incorporate all aspects of the ecosystem that a product is used in. It is concerned with aesthetics, sustainability, spirituality and other aspects of wants rather than needs. In philosophy, systems theory, science, and art, emergence is the condition of an entity having properties its parts do not have, due to interactions among the parts. A holistic design approach ought to be inclusive by default. It has to be ethical and diverse and most of all it has to be people-first. So, to integrate the different industries in one complex and bring a commonality in their differences and promote wellness for the people overall is the intent of the Holistic Oasis.



Figure 1.1 Holistic Design using holistic approach (Maurizio Carta,2017)

2. LITERATURE CASE STUDIES

2.1 QUIET HEALING CENTRE, PONDICHERRY

Literature Case Study : **QUIET HEALING CENTRE, PONDICHERRY**

Quel is a wellness centre located on banks of Bay of Bengal. It occupies over 7 acres beach front compound. It offers a wide variety of natural healing therapies. It is a place to relax, rejuvenate, recharge and heal. The healing work at Quel is based on the understanding that a person is his and himself a spiritual being, feeling to express it with through the instrumentality of mind, body and physical nature.



Architect: A.C. Puppo Pirelli and Dr. Mario
He was strongly influenced by the growing
environmental awareness, technological and sensory issues. Plus
physiological concerns in architecture. These included health factors through isolating building materials,
electromagnetic, the third use of robust synthetic building products continuously applied, and the waste and reuse
of natural resources.

"Architecture as a healing environment would need to acknowledge and welcome in the senses and the emotions. Buildings are the third skin of human beings after their flesh and clothing: the acoustic, olfactory, tactile experiences of a building are an important part of living senses."

Total Built up Area : 3250 sq.m
Floor Area Ratio : 0.61
Number of Users : 100
Area per User : 32.5

Location: China Middle/Lower Yangtze, Anlu
Site Area: 3224 sq.m
Project Year: 1973-1997
Site Description: Located in the banks of Bai of Bengat
Climate: Warm and humid
Vegetation: Palm tree and shrubs cover
Topography: 2cm from MAS, No contour

Criteria for Case Study :

1. Location of the Project
2. Facilities provided by the project
3. Sustainability of the project
4. Other effects of the project on the area

Site Content

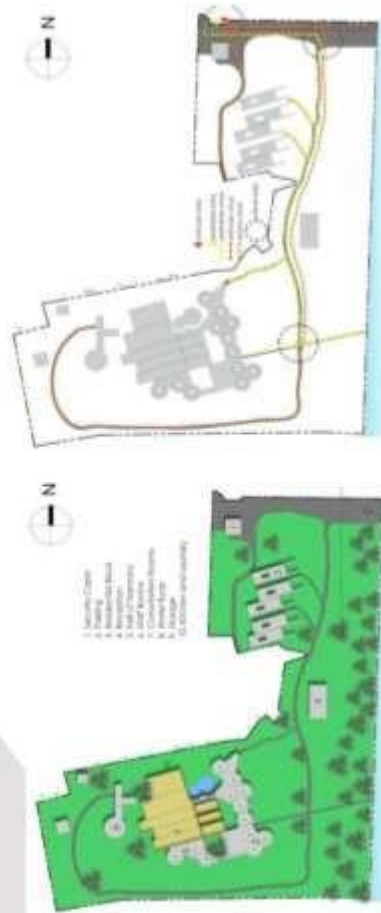
Site Context: The site selected for this project is apt as it connects the place with the built nearest community, city and on other side the nature. One side the structure is surrounded by had palm trees and bay of Bengal. The other side leads to the Foodcology market and city further connecting to Hojai station. Thus the requirement of silent environment for the workshop is fulfilled as well they are so connected to the community.

Zoning

The built-up and open space zoning explains that the structure is well planned with green open spaces in between thus maintaining the connection of nature from exterior to interior. The zoning of the areas as per the activities is well planned separating the private and public zones.



The allocation of the flow will be managed and separated. The frequently coming vehicles does not disturb the regular activities on the road. There is only one node creating a traffic noise when there is service vehicle movement.



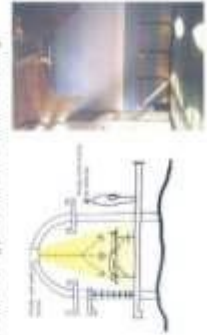
CIRCULATION AND MOVEMENT

- Only the entry is permitted to be used by the ladies, staff and other service vehicles.
- Vehicular circulation inside the site is restricted to reduce the noise level inside the building and also to bring in the idea of 'happily while working'.
- Pedestrian circulation connects all theory and public spaces of the building.
- Due to the single entry point the chaos happens at the junctions created as critical nodes.

ENVIRONMENTAL FACTORS



- the hot and humid climate on the compelled the sacrifice to use materials that would resist dampness.
- These porous materials, such as fired brick blocks, lime mortar and lime have been used to keep interiors dry and cooler compared to outside.
- The domes are decorated with Ganga motifs which select minimum part of the heat while keeping the heating flames and illuminating the day.
- Water ponds have been used and oriented in the North-South direction.
- The green cover acts as a buffer from the noise around the site creating peaceful environment for healing.



HIERARCHY AND SPATIAL DISTRIBUTION: OPEN SPACES AND LINKAGE ELEMENTS

- At the bridge the corridor is connected physically to the consultation rooms and study to the handicapped courtyard.
- The restricted lift is installed for the therapy room to avoid the disturbance by other users.
- The corridor floor slab is elevated from the ground level giving a floating effect to the building.



Gorme is cladbed with broken music files to avoid waste space and the radiation inside the building.



Literature Case Study : QUIET HEALING CENTRE , PONDICHERRY

DESIGN AND STRUCTURAL DETAILS



- The psychological impact of recessed entrance has been explored.
- This gives the user a sense of conviviality when they enter the building.
- It also acts as a shading element because of the tropical climate.
- Addition of line to the concrete gives the lightness feel to the built form.



- Unshaded courtyards are another important aspect of this building.
- This gives the openness to the built form and also act as the core for healing.
- The integrated landscape with the courtyard is the space for mud therapy.



- Precast rings have been used to frame the vistas.
- All the wall facing windows are large to give the view of the beach. It also has less radiation inside.



- Located directly over - looking the Bay of Bengal on light sand dunes.
- The thick vegetation of palm and local shrubs are in the front of the site abutting the sea.
- This acts as a natural element that channels and reduces the wind speed.



- Old water tank issues an spaces for hydrotherapy though it appears to be new.
- Flowing layout, exact geometry is employed to determine scale and proportion.
- This pool also cook the hot oil that enters the mud purpose hall.



- In location on the beachfront makes it highly susceptible to cyclones.
- The structures are well spaced out as to minimize the effect of any damage caused due to cyclones.
- The climate conditions are both constraints and opportunities for design.



CHALJA



INNER COURTYARDS



TRANSITION SPACE : CONNECTING INSIDE TO OUTSIDE



Side Elevation of the Guest Rooms



Front Elevation of the Guest Rooms



Side Elevation of the Therapy Rooms

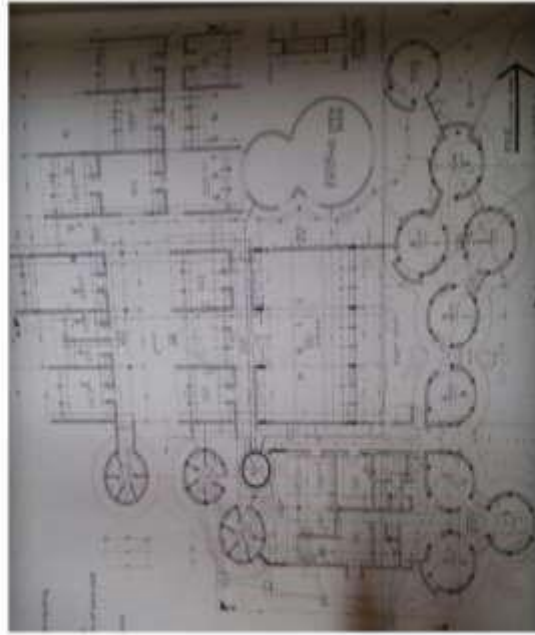


Front Elevation of the Therapy Rooms

- The sloping chajja did as they results as the Architect did not wish to have additional projection on facade.
- The water from the gutter falls directly to the landscaped area below.



- Architect's helpful use of material called for exaggeration of details to depict the value of the material.
- The pith beam of the residential stone projects diagonally from the sloping wall holding the led course of bricks in place.
- The detail is unadorned by the projection of pith beam which provides form coping. The beams continue over the vaulted passage ways and also project out of the exterior walls. The beams have punched to facilitate easy interlocking by tying a rope through it. This helps in placement of precast beams.



FLOOR PLAN

KEY FEATURES - INFERENCE

1. The site for the centre is a transitional zone between busy city zone and the calm peaceful beach. (Nature)
2. The use of local materials and local culture have made it economically sustainable.
3. The planning and designing of the centre is to date that the nature has been merged with the indoors providing unadorned open and semi open spaces that helping in the treatment procedures too.
4. Small details have helped the project be aesthetically and ecologically better.
5. Delineation of Public, Private and Therapy areas.
6. Simplicity in the structure with careful integration of healing elements.
7. Use of context as multifunctional spaces.

The Quiet Healing Centre stands as an outstanding example of fusion art, craftsmanship and structural excellency.



2.3 AYURVEDAGRAM HERITAGE WELLNESS CENTRE, BANGALORE

Literature Case Study : AYURVEDAGRAM HERITAGE WELLNESS CENTRE, BANGALORE

It is a practical and inclusive holistic system of health and care focusing on the prevention and treatment of diseases, taking you back by over hundreds of years. This ethnic Ayurvedic health resort has been transplanted from Kerala into 7 acres of herbal garden of Bangalore, India's Garden City.



- A projected entrance creates a waiting space and announces its function to approach and enter the building.
- The entrance is visually reinforced by articulated environment.
- Architecture style is characterized by vernacular Kerala style.

Architect : Ar. T.C. Cyroc

"We believe that our work forms part of the larger environment. We are aware that the built environment has a long history and tradition and that culture shapes architecture and vice versa. We understand that our goal is to bring natural processes and cultural process to a dynamic equilibrium to create sustainable built environment."

Location : Whitefield, Bangalore

Site Area : 7 acres

Project Year : 2003 - 2004

Site Description : Within the city limit

Climate : Moderate

Vegetation : Coconut trees and shrubs cover

Topography : 100m from MSL, slight contour

Total Built up Area : 6000 sqm

Plot Coverage : 12%

Floor Area Ratio : 0.3

Number of Users : 200

Area per User : 40

Criteria for Case Study :

1. Location of the Project
2. Facilities provided by the project
3. Sustainability of the project
4. Heritage aspects of the project
5. Effective design of spaces

Site Context

The site is located away from the main town surrounded by predominantly agricultural lands. The place is planned based on Kerala Architecture. The allied engaged the end user to cohesively sync with the surrounding environment through various facilities such as library, ayurveda, ampatheas, yoga centre through lush green landscapes and medicinal herb gardens.

Environmental Factors

- The entire centre has been designed to utilise maximum natural ventilation and facilitate air movement through stack effect.
- The roof overhang creates a buffer zone between the exterior and interior.
- The details allow diffused sunlight into the internal spaces.

Material

- Wall Finishes : Rawwood Paneling
- Roof and Ceiling : Gabled roof covered with Mangalore tiles ; Timber false ceiling
- Floor : Corried wooden ceiling
- Back Mass
- Red Oxide Flooring
- Bamboo frames

Facilities

Health Centre, Meditation Hall, Ampatheas, Herbal Garden, Sports and Recreational Activities, Conference Hall, Library, Residential Units, Ayurveda Centre, Pranam, Research Centre, Gymnasium



Toning

- Clear and balanced and consolidates the overall form of the site.
- The little matter parking is open and the built form is spread across the site.
- The layout of the site is rather compact and close.

All the areas are well integrated with perfect spatial co-ordination and segregation as public, semi public and private zones. Hence zoning is necessary.

A variety of elements in terms of spatial planning.

The various of spatial organization in terms of the built form creates the perfect sense of about regeneration as the end user engages and integrates more with the surrounding landscapes and atmosphere.

KEY FEATURES - INFERENCE

- Strong concept of vastu shastra is followed throughout the building.
- Use of traditional materials to reduce energy consumption.
- Organized pedestrian and vehicular circulation in the site.
- Innovative amalgamation of Architecture style and the.

The entire campus has been designed to provide a healing atmosphere and ethnic ambience by physically transplanting various heritage houses and structures from Kerala, which recognize the rich architectural splendor and natural surroundings of that region.

2.4 KAIRALI AYURVEDIC HEALING VILLAGE, KERALA

Literature Case Study : KAIRALI THE AYURVEDIC HEALING VILLAGE , KERALA

Kairali is situated in the scenic town of Puthukudam in Kerala. It is a combination of a holiday resort and Ayurvedic health centre. The entire resort is rich with tradition, ethnicity, culture and mesmerising nature splendor. The surroundings can be best described as a 'Return to Nature'. Even the program repertoire treats is a cure in itself.



Architect : Conceptualized by Lucine Baber the cottages reflect the look of traditional Kerala houses. The landscaping Architect Dr. Randave made sure the cottages amalgamated well into the natural setting.

Location : Puthukudam, Kerala
Site Area : 30 acres
Project Year : 1992
Site Description : Within City limits
Climate : Tropical Wet and Humid
Vegetation : Coconut, Teak and Mangro Trees
Topography : 200m from MSL, slight contours

Criteria for Case Study :

1. Location of the project
2. Facilities provided by the project
3. Sustainability of the project
4. Vernacular aspects of the project
5. Effective design of spaces based on water

Site Context

Kairali : The Ayurvedic Healing Village is situated at Puthukudam, a land of palm trees and paddy fields. It is known to be rich in flora and fauna. Synecdochically Puthukudam is derived from the words Puthu and Kadam. Puthu, meaning 'scattered', and Kadam, meaning 'forest'. Puthukudam has precisely the perfect mountain peaks in the world (30-40 km) representing the two sides of the Western Ghats on the border of Kerala with Tamil Nadu. It is the chief granary of Kerala, often called Godown of Kerala. Puthukudam lies at the foot of the gigantic Western Ghats on the border of Kerala. Puthukudam is known for its tobacco background. The district with mountains, forests, and fertile valleys, rivers and mountain streams are rich in flora and fauna.

The site is located away from the main town surrounded by predominantly agriculture lands. The place is painted based on Kerala Architecture. The retreat engages the site with its different site with the surrounding environment through various facilities such as food, beverages, amphi-theatre, yoga centre through lush green landscaped two garden and bathing facilities.

Material

- Clay bricks
- local wood
- Stone

Features

- The entrance into the resort is north faced through a gateway arch of iron of iron.
- Each cottage is named after modernist architectural style.
- Kairali & Puthukudam Cottages are placed in each site to give positive vibrations to the body.
- Water body flows by the side of each room to bring energy and peace of mind.
- Ayurvedic Products & Essential oils used in our Treatment Centre are original and free from harmful chemicals. These are prepared at our own unit.
- R&D department which keeps on working for any possible value addition for the benefit of every individual.



Accommodation

- There are a total of 30 cottages present in the resort. Each cottage is different in design in both interior and exterior despite each being same.
- All cottages are designed according to water including the trees around the cottage.
- Flooding is done by red water which is believed to give positive energy and natural cooling ability.
- The basic structure of the cottages is designed with different shaped walls.



Inference

1. The planning has been done based on water and design to cater in terms of the landscape and water streams like the top to offer.
2. The use of local materials and local artisans helps make it economically sustainable.
3. The different styles adapted to design the accommodation despite covering the same amount of area. Each unit has its own topography.
4. Implementation of rock effect and coast ventilation makes the place more comfortable.
5. Delimitation of public, private and therapy areas.
6. Smooth flow and organization of pedestrian and vehicular pathway.
7. Cloning to the context it's not universally designed.
8. No service entry and staff accommodation.

Notes : The Ayurvedic Healing Village is an exquisite spatial structure of health and wellness that caters to the well-being of the greater human community. It is once in a lifetime experience in Kerala that would let you drive deep into the lap of nature.

2.5 SPIRIT ROCK, CALIFORNIA

Literature Case Study : SPIRIT ROCK, USA

Spirit Rock Meditation Center, commonly called Spirit Rock is a meditation center in Woodside, CA, it focuses on the teachings of the Buddha as presented in the Pāli suttas, or Insight Meditation tradition. The San Francisco Chronicle has called it one of the Bay area's best known centers for meditation. Buddhist ethics provides a foundation for the practice and community life of Spirit Rock.



Source: ASB State College

Architect : Jacobson Shervette Winslow / Degenhardt Architects

Location : Woodside, USA

Site Area : 10 acres

Project Type : 1987

Site Description : Outside city limits.

Climate : Mediterranean

Vegetation : Native drought resistant shrubs and plants

Total Built up Area : 8000 sq.m
Plot Coverage : 6%
Floor Area Ratio : 0.3
Number of people estimated per year : 40,000

Criteria for Case Study :

1. Location of the Project
2. Facilities provided by the project
3. Sustainability of the project
4. Planning aspects of the project
5. Engagement of local community

Material

- Carwood
- Stone
- Glass
- Redwood
- Timber

Site Context

Set among 415 acres of scenic oak woodlands in the isolated hills of West Marin County, California, Spirit Rock Meditation Center is a refuge from everyday life where it's fully possible to quiet the mind, soften the heart and see life in a new way. The spacuousness and stillness of Spirit Rock and the caring teachers, staff and volunteers create a supportive environment for turning inward and letting go of the struggles that get in the way of experiencing the freedom and joy that are inherent in every moment of life.

The site is located away from the main town, surrounded by predominantly agricultural lands. The retreat engages the site users to consciously sync with the surrounding environment through various facilities such as library, healing center, meditation and yoga center through lush green landscape, medicinal herb garden and healing institute.

Environmental Factor

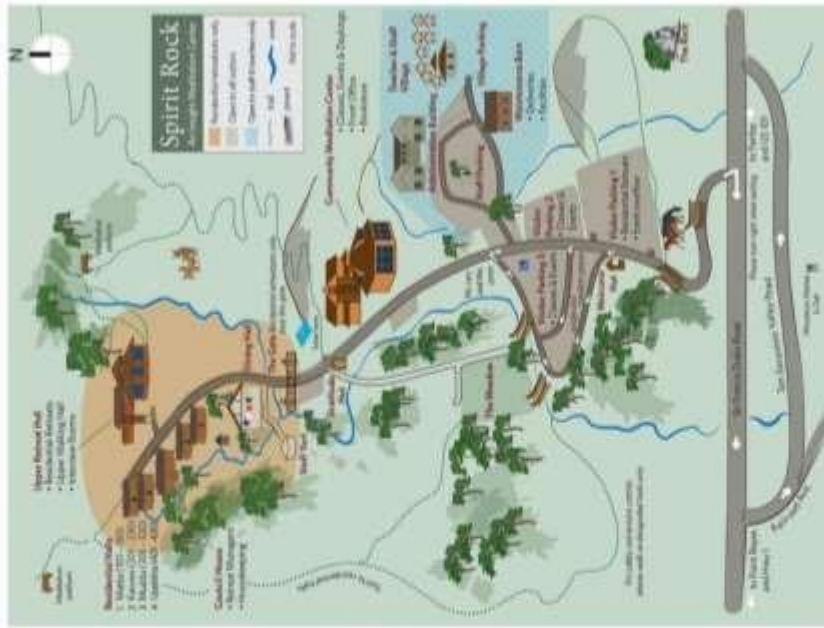
Sustainability and the environment are top priorities for Spirit Rock. The decision to build solar energy was driven by environmental benefits, and as a non-profit, stabilizing operating expenses and locking in energy prices were major drivers as well.

The ground mounted system consists of 1334 solarpower 345-watt high efficiency solar modules, providing renewable energy power to the administrative offices, guest facilities and the meditation hall, reducing Spirit Rock's utility costs by over 70%.

The amount of carbon offset by the PV array is equivalent to removing 50 tons of harmful greenhouse gases annually. Over the next 20 years, the solar solution saved will be equivalent to eliminating almost 3 million miles of driving or planting 10 acres of trees.

Features

1. Spirit Rock has a year round schedule of residential retreats, workshops, weekly classes. Retreats are suitable for beginning and experienced meditators and include basic meditation instruction.
2. There is continuing education (CE) Buddhist teachings, residential retreats and online programs, advanced practitioners programs etc.
3. The different group adopted to design the accommodation despite covering the same amount of area.
4. Staff details have helped the project be aesthetically and ecologically better.
5. Smooth flow and organization of pedestrian and vehicular pathways.



1. The planning of the entire center has been done in the mode of a pilgrimage.
2. All the units have been spaced out in a way that they are directly accessible to nature and a sense of openness is achieved.
3. The form and layout have been incorporated well with the center.
4. Easy and efficient navigation for the users.
5. The center deals with sustainability in many aspects in terms of recycling waste and materials that are used for daily necessities such as recycled paper, energy consumption utilized by the center (LED and CFL), filtered water.
6. The design of the center is suitable to the context in terms of the harsh sunlight keeping the interior cool and offering natural ventilation due to the heavy canton in the site.
7. Construction of public-private and therapy spaces have been done effectively.

2.6 DUKE INTEGRATIVE MEDICINE, NORTH CAROLINA

Literature Case Study : DUKE INTEGRATIVE MEDICINE - Duke IM, NORTH CAROLINA

Duke Integrative Medicine was the first healthcare facility built specifically for the collective practice of both conventional and alternative medicine in the United States. The Duke I4C process model provides a structure for coaches to guide patients through various stages of preparation for change, action, and integration of learning, as well as a map for the creation of personalized health plans.



Architect : DualityPine Architects

The design focused on reducing stress through environmental design in order to improve patient care as well as staff performance. DualityPine Architects used "positive distractions" in spaces that tend to cause anxiety and describe it as a "human-centered healthcare design".

Location : Durham, North Carolina

Site Area : 307,303.73 sqm
Plot Coverage : 55%
Floor Area Ratio : 0.07
Number of people : 260

Criteria for Case Study :

1. Location of the Project
2. Facilities provided by the project
3. Planning aspects of the project
4. Design based on local as well as Vastu's Vastu Shastra
5. Design and Context integration
6. Gothic Architectural style

Site Context

It is nestled in the woodlands of the Duke Forest and is surrounded by meditation gardens. They offer soothing spaces designed to help and focus patients' senses as well as activate the spirit. The facility aimed for an inviting, non-distracting atmosphere for patients.

Features

1. The Mission of Duke IM is to approach healthcare as a holistic endeavor that embraces the mind, body, and spirit. Integrative medicine is about the relationship between the patient and healthcare provider. It uses the local invasive and natural therapies, focusing on strengthening patients' innate healing response.
2. Duke IM offers patients natural healing spaces with the Susan F. Duke Gardens and through the structure and materiality of the building, focusing more on the well-being of patients.
3. The design focused on reducing stress through environmental design in order to improve patient care as well as staff performance.
4. The two main waiting areas at Duke IM try to relax patients' mind by engaging the senses. In the main waiting area, the wall is lined with a bench that faces towards a water wall and a meditation garden.



INFERENCE

1. The building has a Gothic-looking style that displays a sense of order with the building's axes and points that are clearly defined throughout the space.
2. Duke IM seems to blend the interior with the exterior creating an integrative approach to healing.
3. There are three primary branches that extend outward from behind the entry, creating a sense of a natural landscape. As they reach out toward the Duke Forest, they simultaneously offer refuge in well-lit, warm, and airy spaces.
4. Integrating nature in a healthcare facility through the design of the building gives the spaces a calming, serene, and peaceful atmosphere. Incorporating nature in their design in a holistic way, creating a warm, relaxing environment for patients.
5. The use of wood that is incorporated throughout the building gives the facility a more natural feel, acknowledging the fact that it is built in a wooded area.
6. The efficient construction of the building makes the building more accessible in and around the center.
7. The entire complex has a hospital and an alternative center that offer therapy, meditation, yoga, etc. as approaches to healing, leaving the option to the user.

2.7 COMPARATIVE ANALYSIS

	ENTRANCE	ZONING	NUMBER OF USERS	PLOT COVERAGE	OPEN SPACES	CONNECTIVITY	CIRCULATION	LIGHT AND VENTILATION	FORM AND FUNCTION	COLOUR/CONTRAST	TEXTURE/MATERIAL	INTEGRATION	SUSTAINABILITY APPROACH	SPATIAL ORGANIZATION	LANDSCAPE
QUET HEALING CENTRE, AUROVILLE	RECESSED ENTRANCE GIVING A SENSE OF COVAILITY.	FORMAL PLANNING PROPER DELINEATION OF PUBLIC, PRIVATE AND THERAPY SPACES.	100	55%	LANDSCAPED COURTYARDS, GARDENS, POOL.	UNITS ARE COMPRESSED FROM EACH OTHER. THE RESTRICTED LANE IS ESTABLISHED FOR THE THERAPY ROOM TO AVOID THE SINGLE ENTRY POINT DISTURBANCES BY OTHER USERS.	PROPER DIRECT CIRCULATION SO THAT VEHICULAR FLOW DOES NOT DOUBT THE ACTIVITIES ON THE THERAPY ROOM. SITE DUE TO THE SINGLE ENTRY POINT THE CHAOS HAPPENS AT THE ENTRANCE. POINTED AS CRITICAL NODES.	NATURAL LIGHT AND VENTILATION (POROUS MATERIALS AND CHINA MOSAIC)	CIVILISAR STRUCTURE, DOMES, RECESSED ENTRIES AND SCOPING UNITS, VERNACULAR STYLE.	SINGLE PALETTE COLOURS. THE LEVEL WAS CERTAINLY A CONTRAST.	BRICK AND BROKEN MOSAIC TILES, PRECAST RING.	THERAPEUTIC ENVIRONMENT THROUGHOUT THE DESIGN WITH THERAPY DOMES OPEN TO NATURE AND INNER COURTYARDS.	USAGE OF MATERIALS, SOLAR PANELS, TREEST BING.	THE SPACES ARE ARRANGED BASED ON THE HIERARCHY OF PRANCY LEVEL, CLUSTER ORGANIZATION.	PAINT TREES AND SHRUBS COVER.
ART OF LIVING INTERNATIONAL CENTRE, BANGALORE	GIANT MOTT WORKS ARCHD ENTRY FOLLOWED BY READ TO RECEPTION BUILDING.	FORMAL PLANNING PLANNED BY FOUR ZONES AND FOUR ENTRES WHICH GETS COMPLETING AT TIMES.	8000	6%	GARDENS, AMPHITHEATRES, WITH ARTIFICIAL LAKE AND HIGH MOVES, LANDSCAPING.	THROUGH SHUTTLE BUSES, VERY LONG DISTANCE FOR PEDESTRIAN MOVEMENT (INCLUDED).	CONFUSING UNORGANIZED CIRCULATION AS NO DIRECT APPROACH TO PLACES ON EITHER SIDE ACTIVITIES HAPPEN.	NATURAL LIGHT AND VENTILATION, FULLY GLAZED.	LOTUS, CURVED AND HERALA STYLE.	SINGLE PALETTE COLOURS. CERTAINLY A CONTRAST.	LOTUS MOTIF, EVERYWHERE, MARBLE, POP, BRICK, CEMENT.	ENLIGHTENED THE HIGH-RISE, THE HIGH-RISE, VERY BRIGHT AND BREEZIAL.	RECYCLED WATER AND SOLAR PANELS.	UNIQUE AND MONUMENTAL, FEELS PLEASANT AND VIVINE, SPACIOUS AND PROPER DELINEATION OF ZONES.	NATIVE SHRUBS AND TREES.
AYURVEDAGRAM, BANGALORE	LINEAR APPROACH THE PROJECTED ENTRANCE IS VISUALLY ENFORCED BY ARTICULATED EMBELLISHMENT.	FORMAL PLANNING LINEAR AND BALANCED AND COMPLEMENTED THE OVERALL FORM OF THE SITE.	200	11%	HERBAL GARDENS, AMPHITHEATRES, WITH ARTIFICIAL LAKE, COURTYARDS, MEDITATION HALL.	EFFICIENT AND EASY ACCESSIBILITY BETWEEN SPACES. ALL SPACES ARE CONNECTED IN CLOSE PROXIMITY TO EACH OTHER.	THE PATH CONFIGURATION IS MORE COMPOSITE BUT TO AVOID THE CREATION OF A HIERARCHICAL ORDER AMONG THE PATHS AND NODES OF THE BUILDING IS ESTABLISHED.	NATURAL LIGHT AND VENTILATION (SCALE EFFECT).	RECTILINEAR DETAILS VERNACULAR STYLE ARCHITECTURE.	WOOD AND WHITE COLOUR PAINT BLEND WITH THE CONTEXT OF THE SITE. EARTH COLOURS.	ROSEWOOD PARISHA, MANGALORE TULE, TIMBER FINE CEILING, CARVED WOODEN CEILING, BRICK WALLS, RED OOD FLOORING, BAMBOO FRAMES.	ALL THE AREAS ARE WELL INTEGRATED WITH PERFECT SPATIAL CO-ORDINATION AND PERFECT SENSE OF PUBLIC, SEMI-PUBLIC AND INTERIOR PRIVATE ZONES.	THE DETAILS ALLOW DIFFUSED SUNLIGHT INTO THE INTERNAL SPACES. ROOF OVERHANG CREATES A BUFFER ZONE BETWEEN THE EXTERIOR AND INTERIOR. SALVAGED AND RECYCLED MORE WITH THE SURROUNDINGS LANDSCAPES AND ATMOSPHERE.	THE SPACES OF SPATIAL ORGANIZATION IN TERMS OF THE BUILT FORM CREATED THE PERFECT SENSE OF VISUAL REGENERATION AT THE END USER ENGAGES AND INTERACTS MORE.	COCONUT TREES AND SHRUBS COVER.
KARIAL AYURVEDIC HEALING VILLAGE, PALAKKAD	LINEAR APPROACH THE ENTRANCE IS NORTH FACING THROUGH A GATEWAY ARCH OF SPAN OF 10M.	FORMAL PLANNING THE PLANNING HAS BEEN DONE BASED ON VASTU AND ALSO AS TO ENTER IN TERMS OF THE LANDSCAPE AND WATER STREAMS THE SITE HAS TO ENTER.	70	30%	HERBAL GARDENS, AMPHITHEATRES, WITH ARTIFICIAL LAKE, COURTYARDS, POOL, MEDITATION HALL.	EFFICIENT AND EASY ACCESSIBILITY BETWEEN SPACES. ALL SPACES ARE CONNECTED IN CLOSE PROXIMITY TO EACH OTHER.	SMOOTH FLOW AND ORGANIZATION OF RESTHRAIN AND VEHICULAR PATHWAY.	NATURAL LIGHT AND VENTILATION, AIR CONDITION WHERE REQUIRED.	THE BASIC STRUCTURE OF THE COTTAGE IS PYRAMID PROVIDED WITH DIFFERENT SHAPED WALLS. HERALA STYLE OF ARCHITECTURE.	WOOD AND WHITE COLOUR TANT BLEND WITH THE CONTEXT OF THE SITE. SINGLE PALETTE COLOURS. THE LEVEL WAS CERTAINLY A CONTRAST (EARTH COLOURS).	CLAY BRICK, TEAK WOOD, STONE.	THE RETREAT ENGAGES THE END USER TO CONSCIOUSLY SYNC WITH THE SURROUNDING ENVIRONMENT.	SOLAR ENERGY AND MATERIALS USED FOR CONSTRUCTION.	THE UNITS HAVE BEEN SPACED OUT IN A WAY THAT THEY ARE DIRECTLY ACCESSIBLE TO NATURE AND A SENSE OF OPENESS IS ACHIEVED.	COCONUT TREES AND MANGROVE TREES.
SPIRIT ROCK, USA	GATEWAY ENTRY LEADING TO THE ADAMANTINE BLUET THAT IS VIBRANT SHAPED.	SEMI-FORMAL PLANNING SPREAD OUT ACROSS 10 ACRES THE CENTRE HAS BEEN SPIT INTO DIFFERENT ZONES BASED ON THEIR PRIORITY AND FUNCTIONS. THEY HAVE BEEN ORIENTED IN WAYS TO ACQUIRE MAXIMUM VIEWS OF THE FLORA AND FAUNA.	200	6%	GARDENS, COURTYARDS, MEDITATION HALL.	THROUGH HILL ROOMS THAT MAINTAIN BOTH PESTICULAR AND VEHICULAR MOBILITY EASY.	THE PLANNING OF THE ENTIRE CENTER HAS BEEN DONE IN THE ROUTE OF A PLUNDERAGE AND ITS VERY LONG WALL.	NATURAL LIGHT AND VENTILATION, AIR CONDITION WHERE REQUIRED.	INTERCLOTHPT ARCHITECTURAL STYLE.	SINGLE PALETTE COLOURS. THE LEVEL WAS CERTAINLY A CONTRAST. NATURE AND LANDSCAPE.	OSAKWOOD, STONE, GLASS, TEAKWOOD, TIMBER.	THE DESIGN OF THE CENTER IS SUITABLE TO THE CONTEXT IN TERMS OF THE HIGH-SUNLIGHT KEEPING THE INTERIORS COOL AND UTILISING NATURAL VENTILATION DUE TO THE HEAVY CONTOURS IN THE SITE.	SOLAR PANELS REDUCING THE COSTS BY 90%, RECYCLING WASTE AND WATER.	ALL THE UNITS HAVE BEEN SPACED OUT IN A WAY THAT THEY ARE DIRECTLY ACCESSIBLE TO NATURE AND A SENSE OF OPENESS IS ACHIEVED.	NATIVE SHRUBS AND PLANTS ROSEWOOD, OAKWOOD.
DUKE IM, NORTH CAROLINA	CURVILINEAR GOTHIC WOODEN ARCHD ENTRY.	FORMAL PLANNING THE ENTIRE COMPLEX HAS A HOSPITAL AND AN ALTERNATIVE CENTRE THAT USES THERAPY, MEDICATION, YOGA ETC. AS APPROACHES TO HEALING, LEAVING THE OPTION TO THE USER. POSITIVE DISTRACTIONS ARE PLACED EVERYWHERE IN TERMS OF NATURE AND MATERIAL.	80	5%	LANDSCAPED COURTYARDS, GARDENS, MEDITATION HALL, POUNTAIN.	DOPLAYS A SENSE OF ORDER WITH THE BUILDINGS JAMES AND PATHS THAT ARE CLEARLY DEFINED THROUGHOUT THE SPACES.	THE EFFICIENT CURVILINEAR PLAN SOFTENS THE BUILDING'S MASS AND CREATES EASY ACCESSIBILITY AND AROUND THE CENTER.	NATURAL LIGHT AND VENTILATION, AIR CONDITION WHERE REQUIRED.	DESIGN BASED ON LEONARDO DA VINCI'S VITRUVIAN MAN, ARCHD AND VAULTED COLUMNS USED EXTENSIVELY.	WOOD AND WHITE COLOUR TANT BLEND WITH THE CONTEXT OF THE SITE. EARTH COLOURS.	THE USE OF WOOD THAT IS INCORPORATED THROUGHOUT THE BUILDINGS GIVES THE FEEL ACCOMPANYING THE SITE IN WHICH IT IS. GLAZING FOR HEAVY STONE AND STEEL.	INTEGRATING NATURE IN A HEALTHCARE FACILITY THROUGH THE DESIGN OF THE BUILDINGS GIVES THE SPACED A CALMING EXERCISE INCORPORATED NATURE IN THE DESIGN IN A RELAXING CREATING A WARM ENVIRONMENT FOR PATIENTS.	NO SUSTAINABLE PRACTICES FOLLOWED.	NESTLED IN THE WOODLANDS OF THE DUKE FOREST AND IS SURROUNDED BY MEDITATION GARDENS. ALLOWING INTERIORS WITH EXTERIORS INCORPORATED HEALING APPROACH TO HEALING.	NATIVE SHRUBS AND PLANTS ROSEWOOD, OAKWOOD.

Table 2.1 Comparative Analysis of Literature Studies

3. SITE STUDY

3.1 SITE ANALYSIS

3.1.1 Location

The site is located at Ayiroor Village, Varkala, Trivandrum, Kerala blessed with natural greenery and water frontage of 1.25 Km which is one of the best tourist destination centres in the tourist map of India.

Varkala, also known as The Pearl of the Arabian Sea, is a municipality and is the second largest coastal suburban city in the district after the state capital and northern suburb of Trivandrum City. It is located 36 kilometers north of Trivandrum district, which is the capital and largest metropolitan city of Kerala. • Incorporation of open spaces outside the hospital but within the premises where you have therapeutic landscapes, water bodies and social interaction spaces play a very important role which is often ignored in today's healthcare facilities. Maximum utilization of sunlight over artificial lights is also beneficial.



Figure 3.1 Site Location

3.1.2 Legal

This is an ongoing project of Kerala Industrial Infrastructure Development Corporation (KINFRA), a Statutory Body of Government of Kerala.

3.1.3 Site Features

District : Trivandrum

Taluka : Varkala Taluk

Elevation : 12 M

Latitude : 8.7781004 N

Longitude : 76.7097299 E

Wind Direction : South-West to North-East

Land Breeze : North-East to South West (Night Time)

Sea Breeze : South-West to North-East (Day Time)

3.1.4 Site Justification

1. It is located outside city limits and surrounded by greenery and a waterbody.
2. The location attracts both domestic and foreign visitors.
3. Kerala is the home of Ayurveda so a sense of domesticity is achieved.
4. It has a tropical monsoon climate which keeps the users comfortable.
5. Surrounded by a residential neighbourhood thereby generating job opportunities and community engagement.
6. The site offers views and vistas and plenty of sight-seeing options.
7. The intent is to transform Varkala into Health Tourist Hub.

3.1.5 Site Requirements

1. Good connectivity and accessibility
2. Presence of an International Airport
3. Transportation provision and accessibility
4. Multi Ethnic State
5. Subtle peaceful neighbourhood
6. Pollution free environment
7. Presence of water body and green belt
8. A rich cultural heritage
9. Clean from religious interference
10. Influx tourists
11. Local population engagement and co-operation
12. Rich flora and fauna
13. Wildlife and eco-system importance
14. Historical significance of town
15. Scope for the Programme
16. To promote health tourism

3.1.6 Tonality

Colour harmony in the site and surrounding area.



Figure 3.2 Site and Surrounding Tonality

3.1.7 Accessibility

1. By Air : Trivandrum International Airport (49.8 Km)
2. By Rail : Varkala Railway Station (6.1 Km)
3. By Road : Varkala Bus Terminal (7.4 Km)

Varkala Is At A Distance Of 9 Km From National Highway 66. State Highway 64 (Kerala) Starts In Varkala And Ends In Madathara. The Highway Is 45 Km Long.

3.1.8 History

It is believed that a Pandyan King was instructed by Lord Brahma to build a temple at this very place to redeem him of his sins. Several other myths abound on the birth of Varkala. Another legend states that when a group of pilgrims approached Sage Narada and told him that they had sinned, Narada threw his valkalam (a loin cloth made from the bark of a tree) and it landed at this scenic village and hence, the place came to be known as Varkala. Narada told the pilgrims to pray for their redemption at Papanasam, which literally means redemption from sins.

3.1.9 Services

Water Supply : Bore Wells

Varkala Is connected to National Waterway 3 through Varkala tunnel passing through the heart of city.

Electricity : 1100v State Government Power Supply Line (Proposed Electric Posts)

Drainage : No Sewer Connections (Proposed Drainage Lines)

3.1.10 Coastal Regulations Zone (CRZ 2019)

Such densely populated CRZ-III areas, where the population density is more than 2161 per square kilometer as per 2011 census base shall be designated as CRZ- III

A and in CRZ- III A, area up to 50 meters from the high tide line on the landward side shall be embarked as the 'No Development Zone (NDZ)', provided the CZMP as per this notification

framed with due consultative process, have been approved, failing which, a NDZ of 200 meters shall continue to apply.

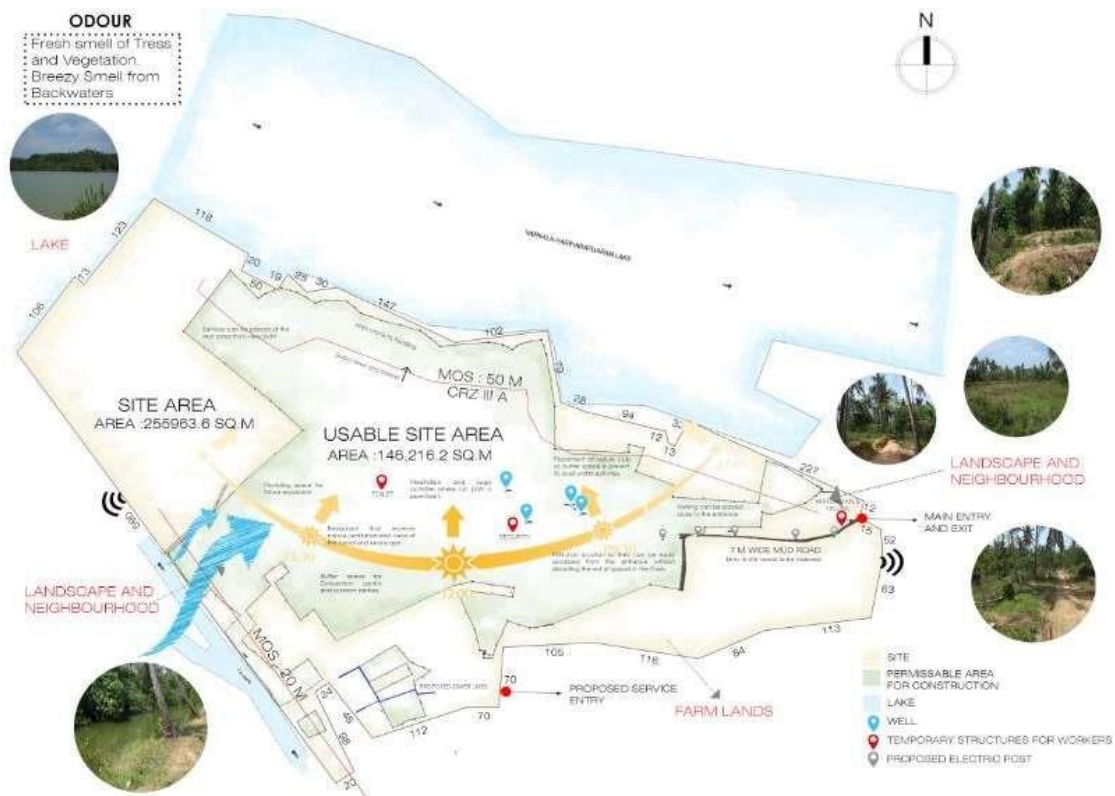


Figure 3.3 Site Analysis



Figure 3.4 On-site features

3.1.11 Chronology

The site area remains unaltered since 2003 the locality around the site has kept evolving. It is visible how development has taken place in the neighbourhood. The population has increased and so has the liveliness in the place.

The Hariharapuram lake seems to have remained the same maybe with a few changes over the years during flood times.

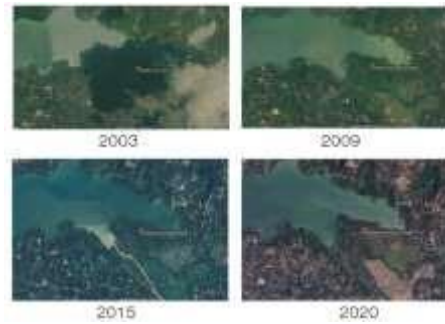
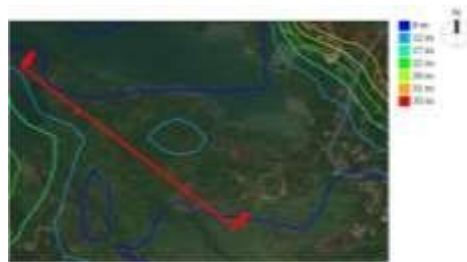


Figure 3.5 Site development from 2003 – 2020

3.1.12 Topography and Drainage Pattern

1. The site is slightly contoured due to the ongoing construction process but has been proposed to be made into a flat land using cut and fill method.
2. Dendritic drainage systems are not straight and are the most common form of drainage system. In this, there are many sub-tributaries which merge into tributaries of the main river. They are seen to feed a river channel that matches and is strongly accordant to the overriding gradient of the land.



3.1.13 Climate

Varkala experiences a Tropical Monsoon climate.

1. Maximum Temperature : 31 C
2. Minimum Temperature : 25 C
3. Average Temperature : 27.8 C
4. Average Rainfall : 310 cm
5. Humidity : 78.83%
6. Precipitation : 81%
7. Wind Speed : 14 Km/h

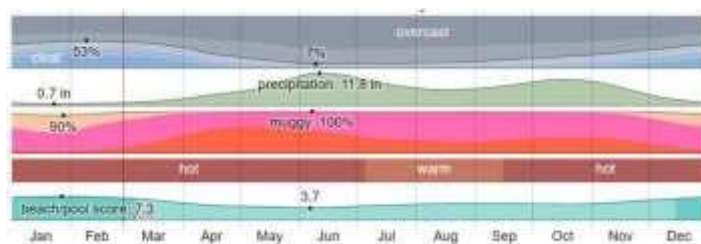


Figure 3.10 Varkala Climate fluctuations throughout the year



Figure 3.11 Sun Path Diagram



Figure 3.12 Wind Chart

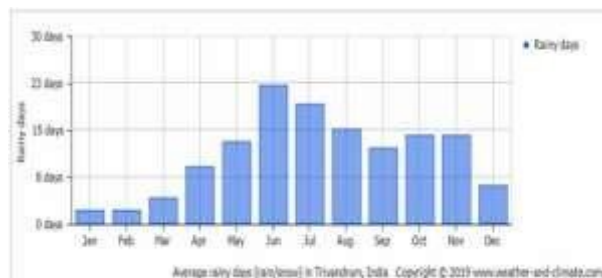


Figure 3.13 Bar Diagram depicting rain statistics throughout the year

3.1.14 Soil Type

1. The soil at site is predominantly Lateritic of both sedimentary and residual types.
2. Other soil types have developed due to physiographic and environment factors such as coastal alluvial soil with fluvial sediments.
3. There is also brown hydromorphic soil present.



Figure 3.14 Soil present at site

3.1.15 Vegetation

The site has an abundance of trees and a lot of marshy unkept grass that needs to be removed before construction. The tall trees can be used as means to prevent flooding in the site.

1. The site is part of the west coast semi evergreen forest areas.
2. Majority of trees are coconuts.
3. Banana, Palm, Posion Sumac, Horse Chestnut, Singeleaf Ash
4. Northern Sea Oats, Spondias indica, Curcuma species, Populus



Figure 3.15 Landscape present at site

3.2 CONTEXT ANALYSIS

3.2.1 Proximity

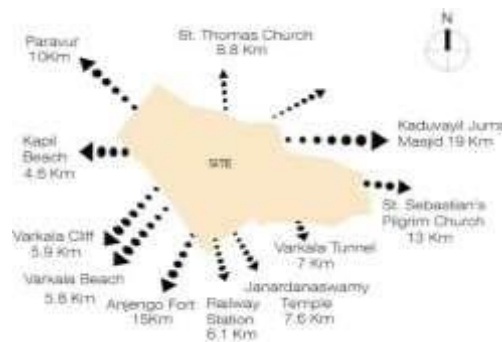


Figure 3.16 Proximity Diagram

3.2.2 Neighbourhood Context

The area surrounding the site is currently open forestlands on the south with local habitation at a few 100 meters. A light perimeter on the north and west is taken by the backwaters from the Arabian Sea and only in the north eastern part there is a local habitation around the site.

According to 2011 Census, Varkala has a population of 40048, males constitute 46%(18312) of the population and female 54%(21736). Population Density: 2693/sq.km.

1. Residential Land Use is more around the site.

2. No separately delineated pedestrian pathway.
3. People walk along the vehicular pathways and depending on the hour of the day the congestion causes problems to the users.
4. All the open spaces are green spaces filled with the native trees and shrubs.
5. The public spaces are the religious complexes surrounding the site.
6. The intention of choosing the site was such that it is surrounded with naturistic views and vistas which is satisfied.
7. Primary road width is only 5-7 m which is very less.
8. A displaced cluster pattern of house arrangement is visible.
9. Farming lands are also present around the site.
10. Construction materials commonly used are granite, brick, mud, laterite, rose wood, teak, timber, coconut palm leaves, concrete, lime mortar. Tiles paved on wooden trusses were the most common and elegant roofing.(Vernacular Architecture Style)



Figure 3.17 Neighbourhood Land use Map



Figure 3.18 Varkala neighbourhood

3.2.3 Figure and Ground

Sparse settlement means thinly dispersed or scattered settlement. This kind of settlement can be seen in areas such as military quarters, community living, barren land areas and also agriculture predominant areas.

It is typically an area containing buildings rather than a single settlement. The population is sparsely distributed in a dispersed settlement.

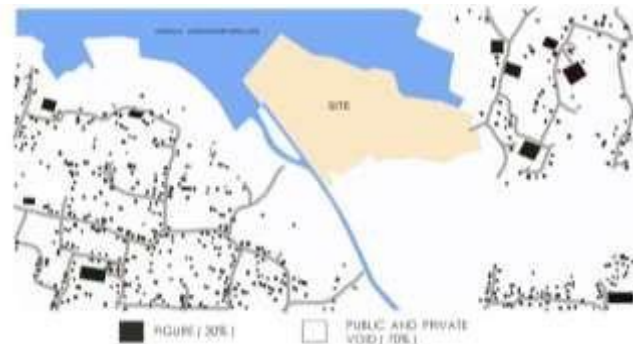


Figure 3.19 Solid void present around the site

3.2.4 Built Environment

The roads are narrow just enough to accommodate two vehicles.

2. Pedestrian pathways is very minimal.
3. Based on standards there are just secondary and tertiary roads. The primary road runs along the beach side.
4. Lot of naturally integrated squares are visible where people interact and engage owing to the abundance of landscape.
5. 70% of the area is filled with landscape mostly coconut and palm trees.
6. Building types are -:

Wretched humble house, Ekasala, Nalukettu, Ettuketu, Concrete structures, Sheds

3.2.5 Lifestyle and Culture

The people of Varkala are simple and like to spend a peaceful low-profile life, but they are extremely helpful. They are so staunch preservers of their traditional arts, culture and tradition that they like to transfer to their generations as well.

Every festival and event in Varkala is celebrated with great enthusiasm. The town adorns a colorful garb and is a promotion of brotherhood and unity.

Following are some of the main festivals of Varkala -:

Annual Utsavam, Ekadasi Festival, Saraswathy Pooja, Easter, Thrikarthika, Janardhana Swami Temple Festival, Karkidaka Vavu Bali.

People in the neighbourhood rely on commercial activities, agriculture, industrial, fishing and tourism oriented services as their main source of income.

3.2.6 Structural Situation

The neighbourhood buildings comprised of old, medium and new settlements ranging from 17-20 years. Few old buildings need to be renovated entirely. Medium settlements need few simple repairs. New Buildings are in good condition.

The use of material in each of these structures suggest the age of the buildings with the old ones being constructed in mud, bricks, teak, tiles, palm leaves and the new ones mostly being constructed in concrete and wood.

3.2.7 Lynch Analysis

1. Edges : The most prominent one in Varkala owing to its cliff topography.
2. Paths : Varkala roads connect to many districts of Kerala through the highways.
3. Nodes : Junctions are the most active points in the city due to liveliness and squares being spaces for interactions.
4. Landmarks : Places defining Varkala
5. District : Varkala is a part of Thiruvananthapuram District.



Figure 3.20 Edge at Varkala



Figure 3.21 Path at Varkala



Figure 3.22 Junction at Varkala



Figure 3.23 Landmarks at Varkala



Figure 3.24 Varkala a part of Thiruvananthapuram District

3.3 FUTURE PLANNING CONSIDERATIONS

3.3.1 Preparation of Mater Plan

In view of Varkala's enormous tourist potential, the Government of Kerala has initiated the process of preparing the Master plan-2041 for integrated development of this area through a number of infrastructure development projects for meeting the requirements of making Varkala a tourists' paradise, both for the domestic and foreign tourists.

To achieve this objective, Government of Kerala through its arm; Vision Varkala Infrastructure Development Corporation Ltd., has engaged RITES Ltd., a Government of India Enterprise for preparing the Master Plan-2041.

Planning Principles -:

1. Multiple Nuclei Concept
2. Decentralized Development
3. Low-Rise and Low-Density Developments
4. Promotion of Public-Private Partnerships
5. Local people's participation
6. Promotion of Home Stay

Considering the existing situation and the growing trends of tourist inflow, it was estimated that the total tourists visiting Varkala by the year 2021 would be around 4.5 lakhs (2.5%); by year 2031, would be around 8.4 lakhs (3%) and by 2041, would be around 14.8 lakhs (3.5%).

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Assuming the average employee-to-room ration of 1.6 for all categories of hotels and home stays in Varkala, the total employment in Varkala would be around 25,600+ jobs in the next 30 years i.e., by year 2041 in the tourism industry.

3.3.2 Development Regulations

As per online proposed KINFRA Regulations -:

Plot Coverage : 45%

Floor Space Index : 1.5

COVERAGE AND FLOOR SPACE INDEX (F.S.I.)				
Sl. No.	Designation	Maximum permissible Coverage	Maximum permissible F.S.I.	
			Without additional lot	With additional lot of 10,000 sqm or more for the additional area
1	Residential A1	85	3	4
2	Leisure houses & Special Residential A2	80	2.5	4
3	Upto Secondary	70	2.5	3
	Higher	70	2.5	3
	Others	50	2.5	3
4	Medical Hospital C	50	2.5	3.5
5	Assembly D	40	1.5	2.5
6	Office E	60	3	4
7	Simultaneous Commercial F	60	3	4
8	Industrial I G1	60	3.5	4
9	Industrial I G2	40	2.5	4
10	Storage H	50	3	4
11	Hazardous I	40	1.5	4
12	Multiplot complex J	60	3	4

Table 3.1 Kerala Development Regulations, 2019

3.3.3 Ground Relationship

The project is currently on hold due to the ongoing pandemic. Survey stones have been laid along the boundaries. Grass and land is being levelled to propose a flat site. There is a security guarding the site and round the clock watchman who has shifted his house beside the site for security purpose as its a government project. The site is accessible on permission as construction is on hold.

3.3.4 Measures to Reduce Coastal Risks

1. Buffering using vegetation or seawalls and other shore-parallel structures such as revetments and bulkheads.
2. Spacing out the structures. (Spatial Planning)
3. Following the development norms and the regulations.
4. In addition to strengthening the structural integrity of facilities, mitigation tools can focus on the nonstructural elements of buildings, utility systems and transportation systems
5. Implementing a flood management plan
6. Integrated water resources management

7. Raising of structures to prevent damage, relocation of utilities, installation of protective walls and waterproof closures, and use of materials that are not damaged by water and can be easily cleaned after the flood event.

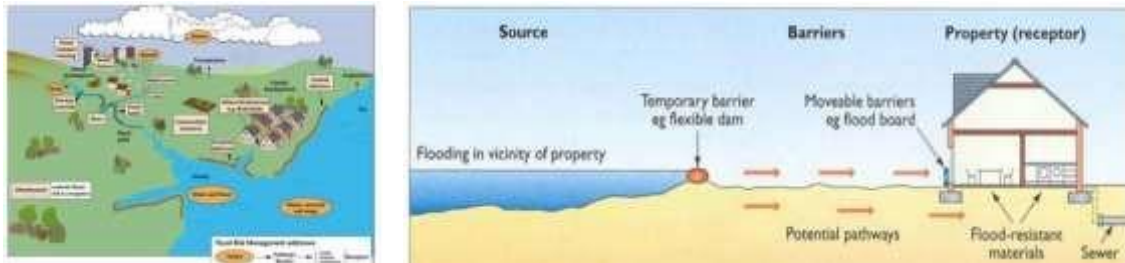


Figure 3.25 Source- Pathway- Receptor- Consequence model for flood risk

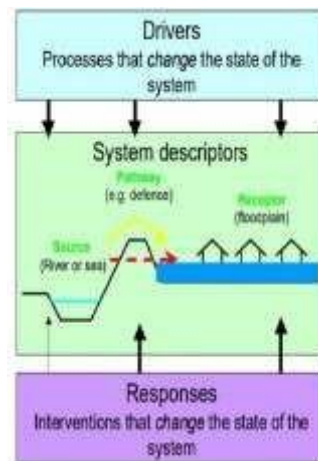


Figure 3.26 Pre and Post solutions to dealing with flood damage

4.1.1 User Analysis

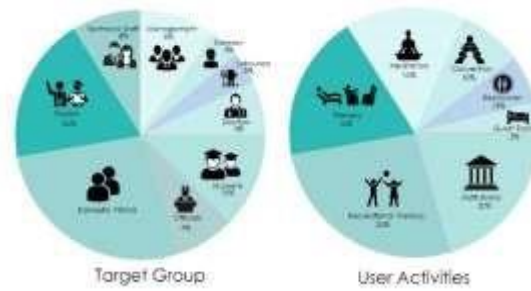


Figure 4.4 User Analysis

4.1.2 Working Hours

- Throughout the year except in the months July - August (Not open to Visitors only) (Due to heavy rains experienced in Varkala and site prone to flooding).

Usual Working Hours

- For Management Staff : 6:30 AM - 11:00 PM (Based on shifts)
- For Technical Staff : 8:00 AM - 6:30 PM
- For Floating Population : 8:00 AM - 10:00 PM
- For Staff and Visitors residing in the Oasis : Throughout the day
(Limited Access to Amenities and Services)

4.1.3 Activity Timeline

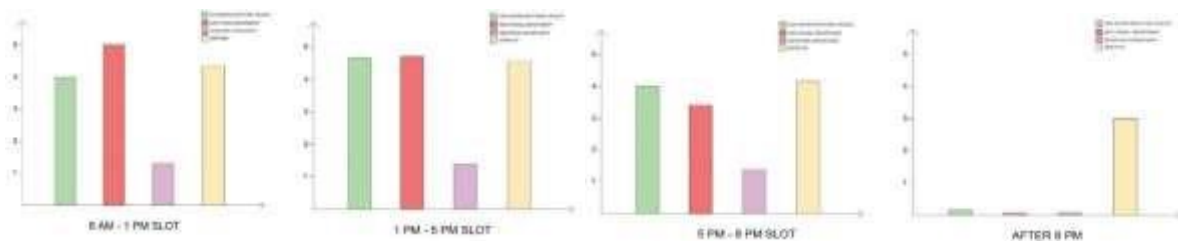


Figure 4.5 Activity timeline showing the timely usability of spaces

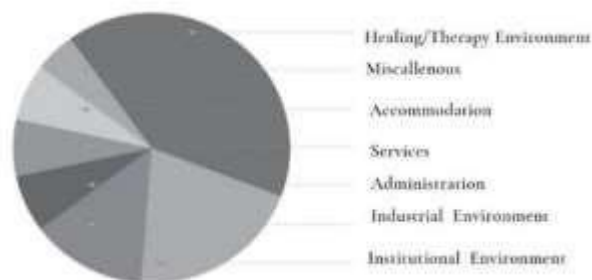


Figure 4.6 Functional Prominence

4.1.4 Criteria for Entering the Complex

1. ID Proof
2. Abiding by the terms and conditions of maintaining the natural habitat without tarnishing it.
3. Using the Amenities and Services only under staff surveillance and in the working hours.

4.1.5 Economic Opportunities

1. Health Workers, Recreational Therapist, Cleanliness and Maintenance, Infrastructure Management, Public Assistance
2. Researchers, Revenue from manufacture of medicinal plants and shops
3. Lodging, Transportation and Food Services

4.1.6 Alternate Uses

The Holistic Oasis can be used as a multi - functional space in times of extreme weather conditions, community engagement and participation purposed and in case of a pandemic.

1. Urban Shelter
2. Community decision making and gathering
3. Art and Culture
4. Quarantine Facility
5. Voting Booth

4.1.7 Pre – Design Considerations

1. Spatial Emphasis of the entire complex
2. Creating break points and nodes
3. Proper delineation of pedestrian and vehicular flow
4. Crowd management through circulation
5. Site zoning based on functional prominence and proximity
6. Creating an active public space and uniting to whole
7. Massing suiting the context - Vernacular construction methods and Modern Architectural style
8. Incorporating natural light and ventilation
9. Paving transition spaces naturally through landscaped pavement

4.2 AREA STATEMENT

DESIGN PARAMETERS	SPACES	TOTAL NUMBER	TOTAL AREA (sq.m)
ADMINISTRATION	RECEPTION	1	173.9
	WAITING ROOM	1	259.3
	LOUNGE	1	135.5
	OFFICE	4	351.3
	MEETING ROOM	1	60.7
	PANTRY	1	60.1
	STORAGE	1	84.1
	WASHROOM	3	106.3
	SHOP	1	137.2
	INFORMATION DESK	1	96.3
	FIRST AID ROOM	1	204.5
	STAFF LOCKER ROOM	2	107.4
	TOTAL BUILT UP : 3692 SQ.M		
INSTITUTION BLOCK	RECEPTION	2	61.6
	CLINICAL STANDARDIZATION	2	253.2
	RESEARCH CENTRE	1	173.8
	CONFERENCE ROOM	1	106.7
	PRESENTATION ROOM	1	186.2
	WAITING ROOM	2	130.5
	PUBLIC HEALTH INTERVENTION	1	173.8
	AYURVEDA TRAINING CLASSROOM	2	464
	PANTRY	2	212.7
	OFFICE	4	151
	LIBRARY	1	106.3
	STORAGE	6	69.6
	WASHROOM	8	243
	TOTAL BUILT UP : 3765 SQ.M		
HEALING BLOCK	RECEPTION	2	219.6
	MEDITATION HALL	1	2069
	WAITING ROOM	2	84.4
	COUNSELLING ROOM	5	197.3
	TREATMENT ROOM	2	29.1
	AYURVEDIC SPA ROOM	8	156.3
	GAZEBO	1	24
	STAFF LOCKER ROOM	3	54.8
	STORAGE	3	78.1
	PANTRY	1	59.3
	WASHROOM	10	80.4
	OFFICE	1	59.5
	TOTAL BUILT UP : 3778 SQ.M		

RECREATIONAL THERAPY BLOCK	RECEPTION	1	200.2
	INFORMATION DESK	1	25.2
	CAFÉ	1	307.6
	LOUNGE	1	232.2
	SWIMMING POOL	1	680.2
	SAUNA	2	65
	GYM	1	359.5
	INDOOR ACTIVITY ROOM	1	198.6
	ARCADE ROOM	1	163.6
	ART AND CRAFT ROOM	1	185
	COOKING CLASS	1	188.7
	ZUMBA CLASS	1	153.4
	OFFICE	1	56.2
	WASHROOM	2	307
	TOTAL BUILT UP : 4766 SQ.M		
CONVENTION CENTRE	RECEPTION	1	113
	INFORMATION DESK	1	39.7
	WAITING ROOM	1	95.2
	CONFERENCE ROOM	1	117.9
	MULTI PURPOSE HALL	1	1569.1
	EXHIBITION HALL	1	765
	ADMINISTRATION	1	311.5
	WASHROOM	2	68.4
	TOTAL BUILT UP : 5022 SQ.M		
RESTAURANT	DINING AREA	3	2985.5
	KITCHEN	3	96.1
	DRINKS COUNTER	1	227
	WASHROOM	2	65
	STORAGE	1	27.1
	TOTAL BUILT UP : 4022 SQ.M		
VIEW DECK	RECEPTION	1	97
	INFORMATION DESK	1	97
	SECURITY	1	97
	WAITING SPACE	1	138.3
	LIBRARY	1	298.5
	OPEN READING SECTION	1	551.6
	SEATING AREA	1	551.6
	COMPUTER ROOM	1	138.3
	DVD/PROJECTOR ROOM	1	109.2
	CAFÉ	1	138.3
	BIRD HOUSE AREA	2	633
	WASHROOM	6	214.2
	AHU	3	197.1
	TOTAL BUILT UP : 4965 SQ.M		
ACCOMMODATION	TYPE A	64	1344
	TYPE B	30	1740
	TYPE C	6	122.4
	TYPE D	3	123
	STAFF BLOCK	1	500
	TOTAL BUILT UP : 6425 SQ.M		
MISCALLENIOUS	SECURITY UNIT	2	26.5
	LAUNDRY	1	20
	ELECTRICAL ROOM	1	67.5
	GENERATOR ROOM	1	67.5
	PUMP STATION	2	33.8
	SEWAGE TREATMENT	1	120.6
	TOTAL BUILT UP : 384 SQ.M		
PARKING	TWO WHEELER	58	116
	CAR	131	2358
	BATTERY CAR	20	330
	VAN	4	96
	TRUCK	3	72
	TOTAL BUILT UP AREA :	36,819 SQ.M	

Table 4.1 Area Statement for Holistic Oasis

4.3 CONCEPT

The concept is based on Sensory Architecture + Seven Principles of Life - Enhancing Design by Erik Asmussen

Aim : To make visible through the Art of Architecture the same healing qualities that we experience in the nature. The principles, which deal respectively with the buildingsite relationship -:

4.3.1 Seven Principles of Life Enhancing Design

1. The Unity of Form and Function

Architecture that allows one to sense the function it serves through the evidence of its perceptible form. Holistic integration of form and function that is evident in nature. To design buildings which make tangible and perceptible a non-arbitrary unity of form and function.



Figure 4.7 Unity of Form and Function

2. Polarity

To say that contrasting elements are polar is to suggest that they are at once different yet inseparably related. Juxtaposed polar elements with no mediation between the two (Contrasts of color, form and material) -: Opposites of up and down, small and large, light and dark are abruptly contrasted. Creates a tension of opposites that energizes and enlivens buildings.



Figure 4.8 Polarity

3. Metamorphosis

Developmental metamorphosis, which is a gradual, stepwise progression of changing forms. (Through a rhythmical process of expansion and contraction).

Metamorphoses of forms, surfaces, colors and spaces to create invisible patterns of relationship that give unity to buildings and building elements. Polar metamorphosis forms and qualities are fundamentally different.

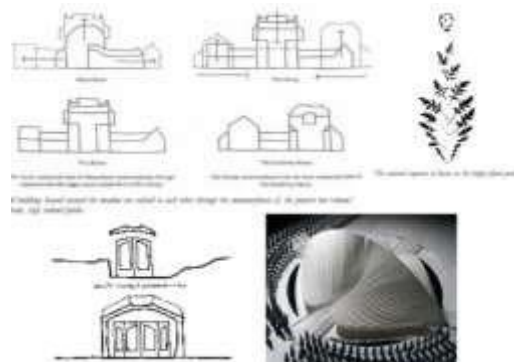


Figure 4.9 Metamorphosis

4. Harmony with Nature and Site

Each building is placed and shaped so that it creates a positive and useable outdoor space in relationship to naturally occurring rocks and trees.

Buildings often formally reflect the specific qualities of the environments in which they are placed. Interlinking flora, fauna and climate.

One-story horizontal masses out of which sculptural volumes arise. Thus, these buildings are homologous to the structure of the surrounding landscape of this part of central Sweden, which is characterized by gently swelling horizontal fields punctuated by sculptural, tree covered granite islands.

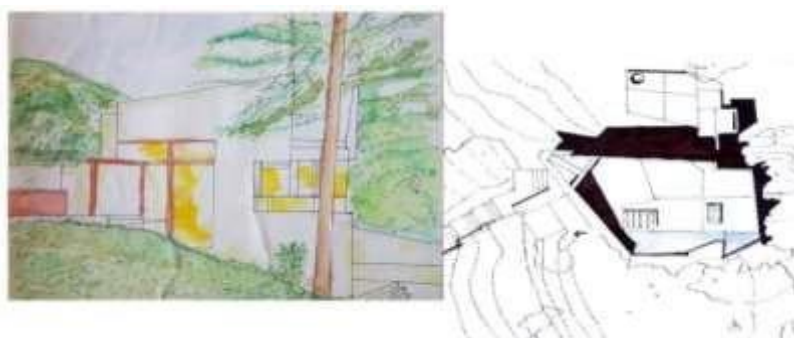


Figure 4.10 Harmony with Nature and Site

5. The Living Wall

To create plastically continuous walls as living membranes that reveal the play between up and down, inside and outside. One thus senses both the security of protected enclosure, which is associated with the element of earth, and the feeling of imaginative freedom and psychological release associated with the sun, wind and light of the overarching sky.



Figure 4.11 Living Wall

6. Colour Luminosity and Perspective

The layer of white allows light that penetrates the outer layers of color to reflect outward, illuminating the colored tones as if from the inside. The effect is to create a gently luminous veil of color that has a depth and quality of aliveness similar to that found in nature. One realizes that color can be used to support and express the moods and activities of a particular building or space.



Figure 4.12 Colour Luminosity and Perspective

7. Dynamic Equilibrium of Spatial Experience

Using contrast between up and down, in and out, front and back, and near and far to create spaces that are dynamically polarized and alive. Embody a play of symmetry and asymmetry, sameness and difference.



Figure 4.13 Dynamic Equilibrium of Spatial Experience

4.3.2 Sensory Architecture

1. Eyes (Sight) : The way the sight can be enhanced is through -: Reflection, Light, Shadow, Contrast, Form, Colour, Volume and Proximity.
2. Nose and Taste (Smell) : The way the smell can be enhanced is through -: Water Body, Herbal Garden, Earthly Material, Vegetation.
3. Ears (Hear) : Resonance (Echo), Nature Elements (Birds, Breeze, Human Interaction), Visual Sound (Fountains- Rhythm and harmony movement through a sequence).
4. Feel (Touch and Experience) : The way a space can be experienced is through -: Texture, Spatial Experience, Ventilation, Scale, Material, Levels.



Figure 4.14 Sensory Architecture Elements

After taking into the consideration the boundary delineated by KINFRA to use for construction and built up thereby conserving the natural reserves and following coastal zone norms, the site is now of the area 1,77,072.09 sq.m.

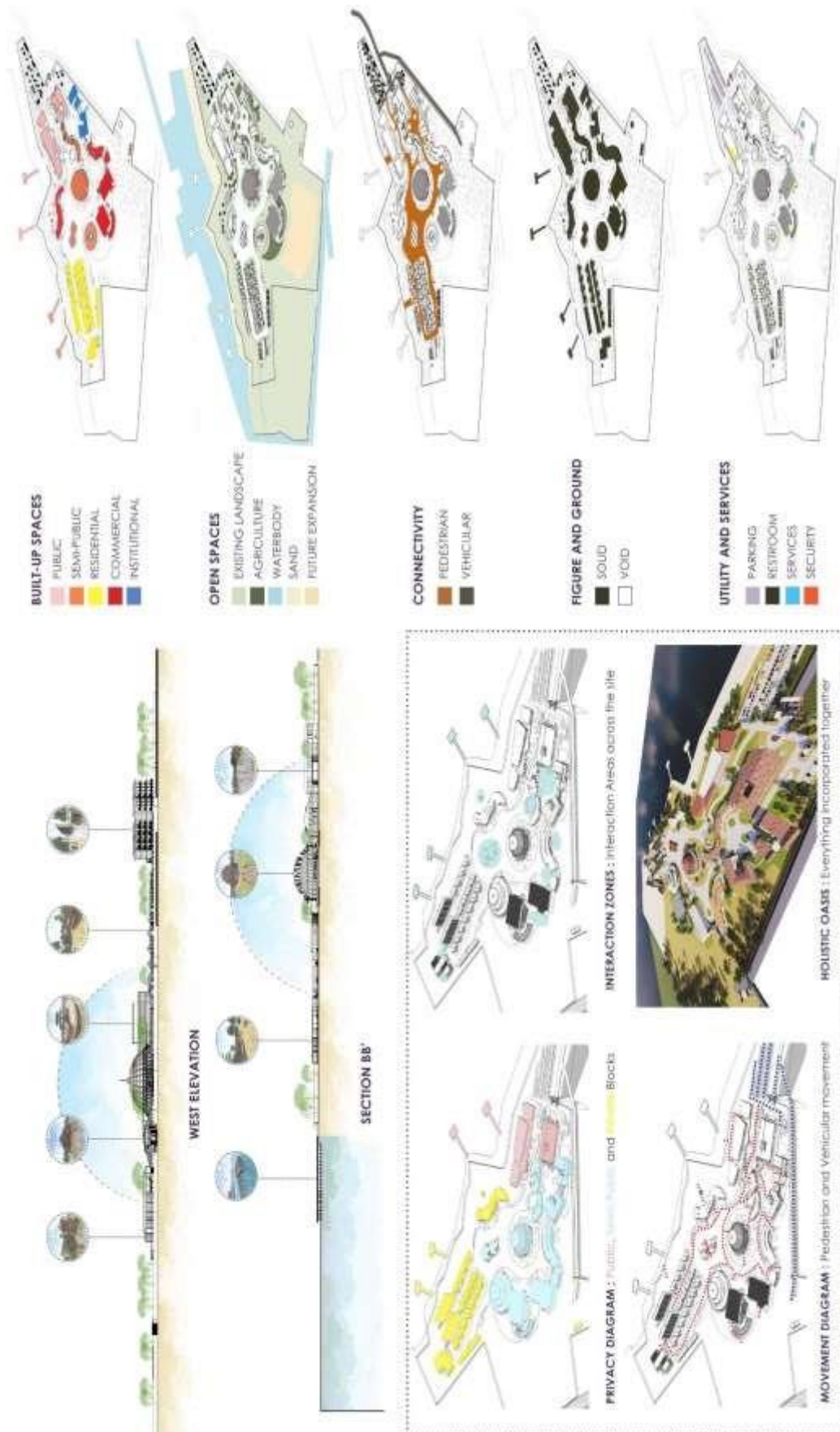


5. DESIGN

5.1 MASTER PLAN



5.1.2 Master Plan Details



5.2 GROUND FLOOR PLAN

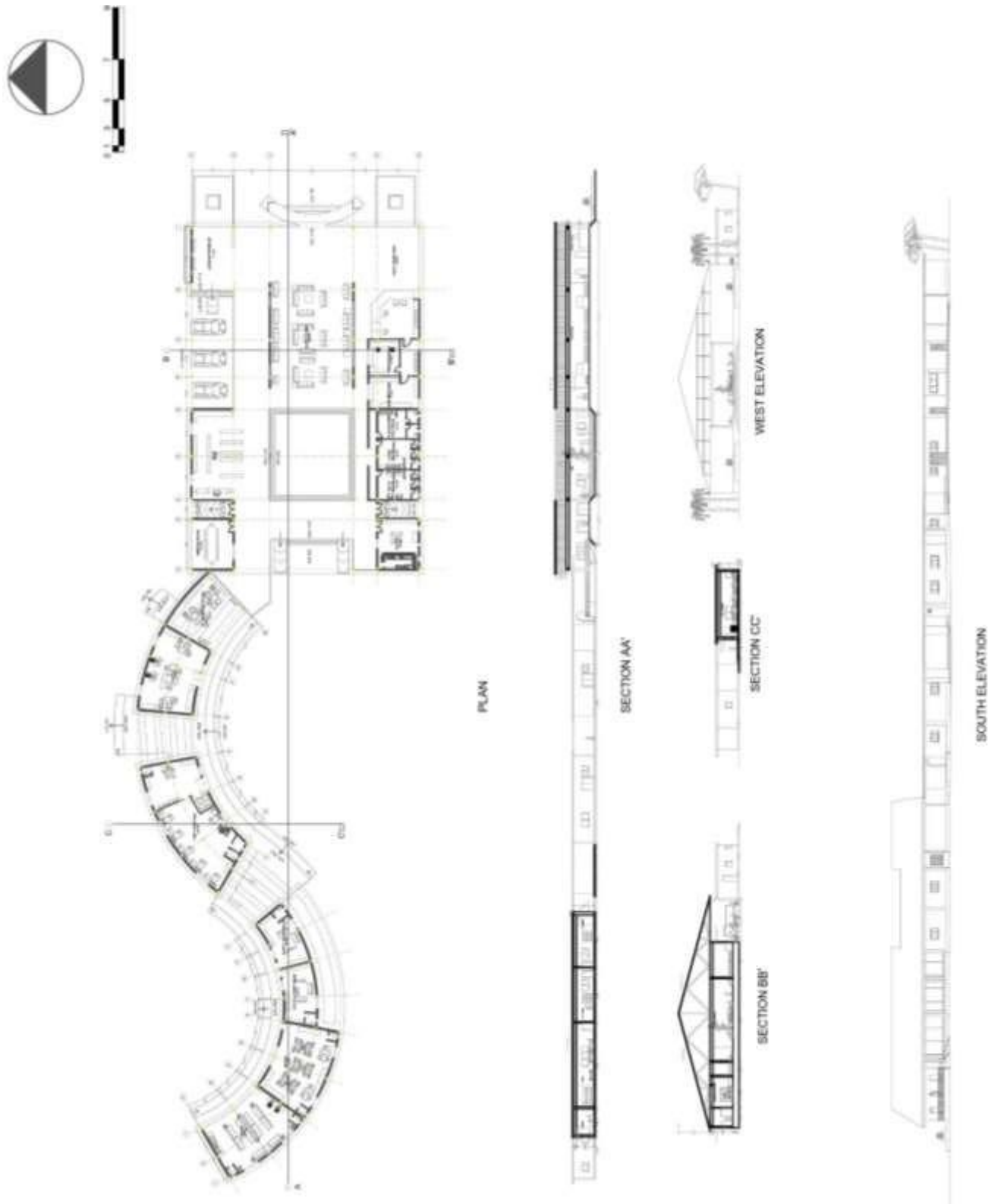


5.3 SERVICE PLAN

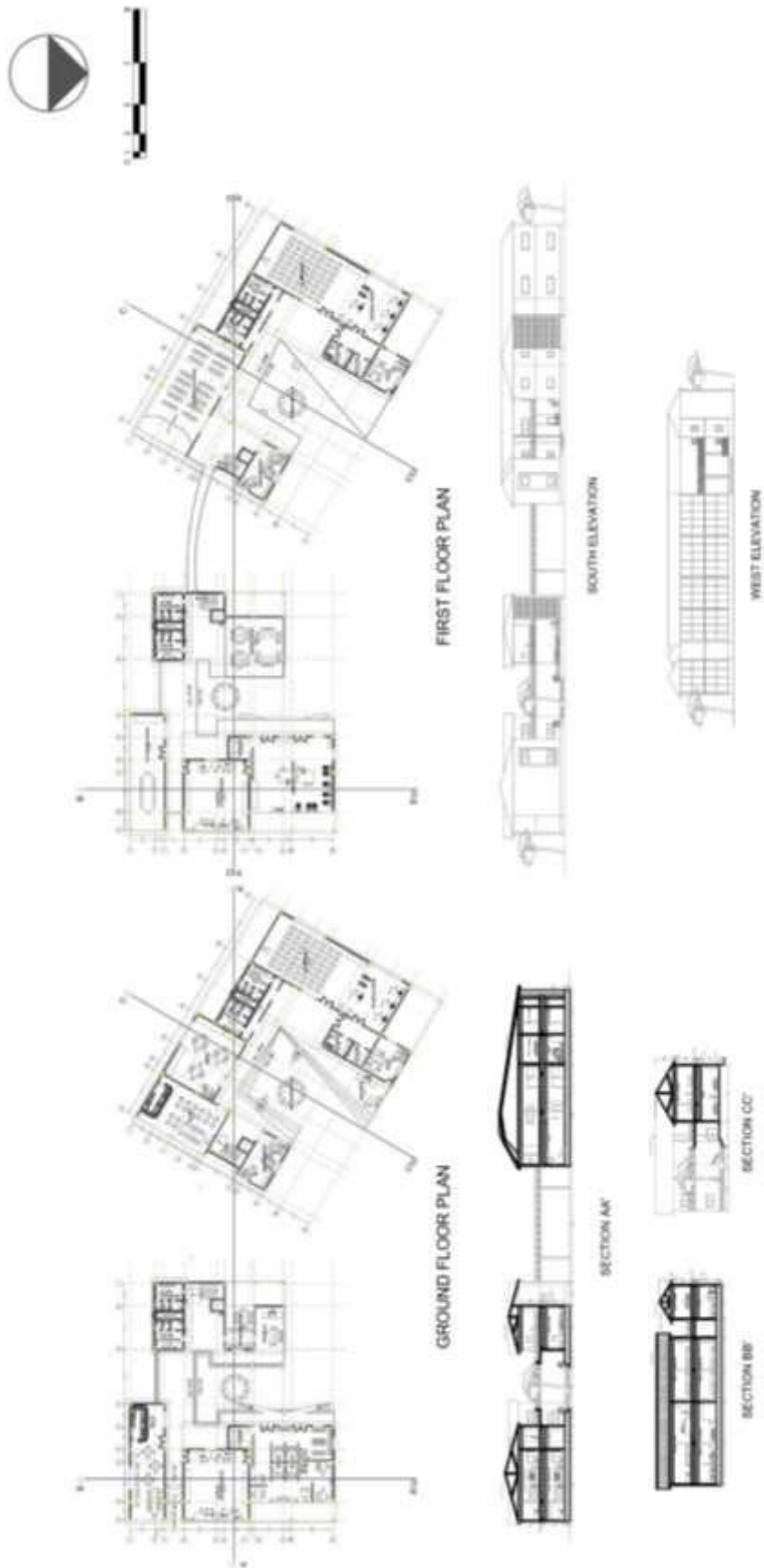


5.4 FLOOR PLANS, SECTIONS AND ELEVATIONS

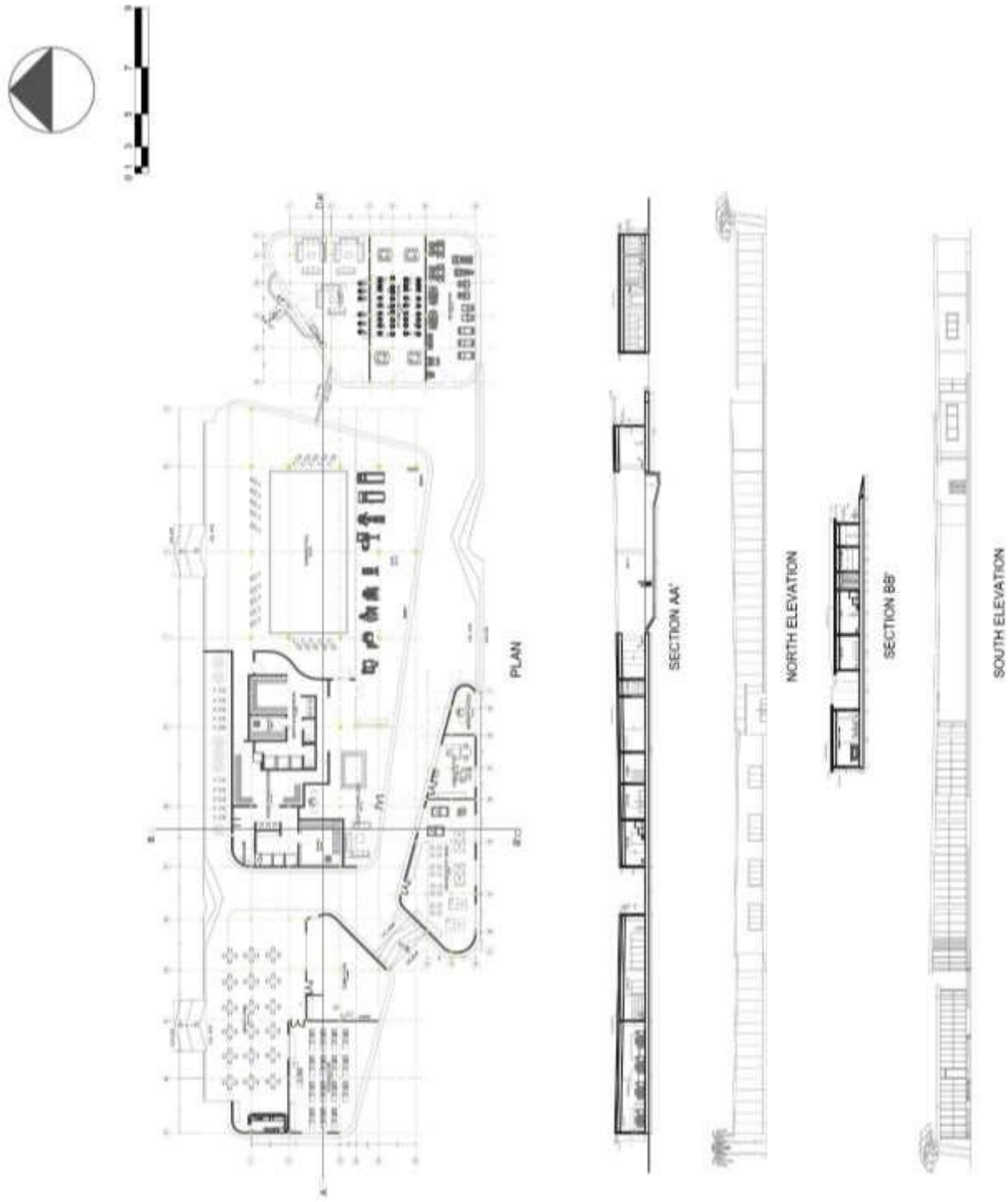
5.4.1 Administration Block



5.4.2 Institution Block

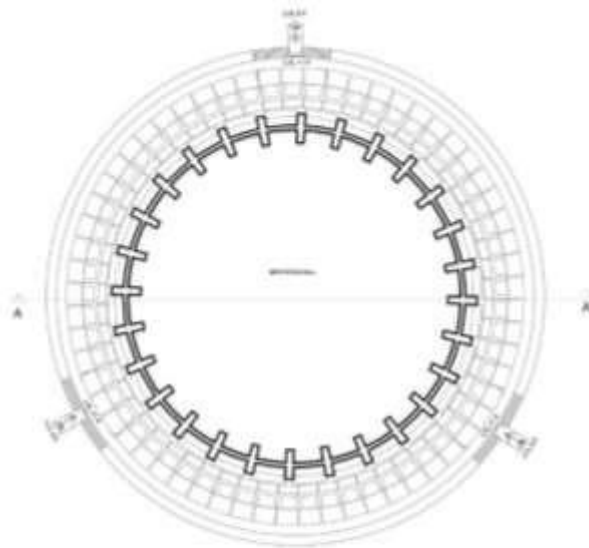


5.4.3 Recreational Therapy Block

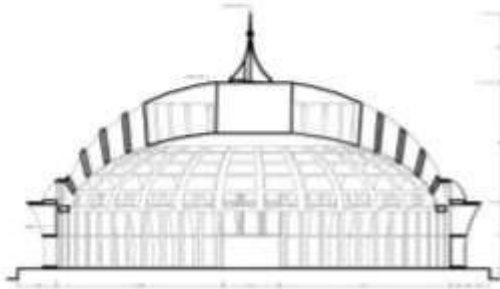


5.4.

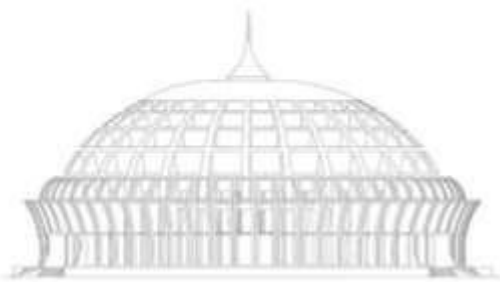
4 Meditation Hall



PLAN



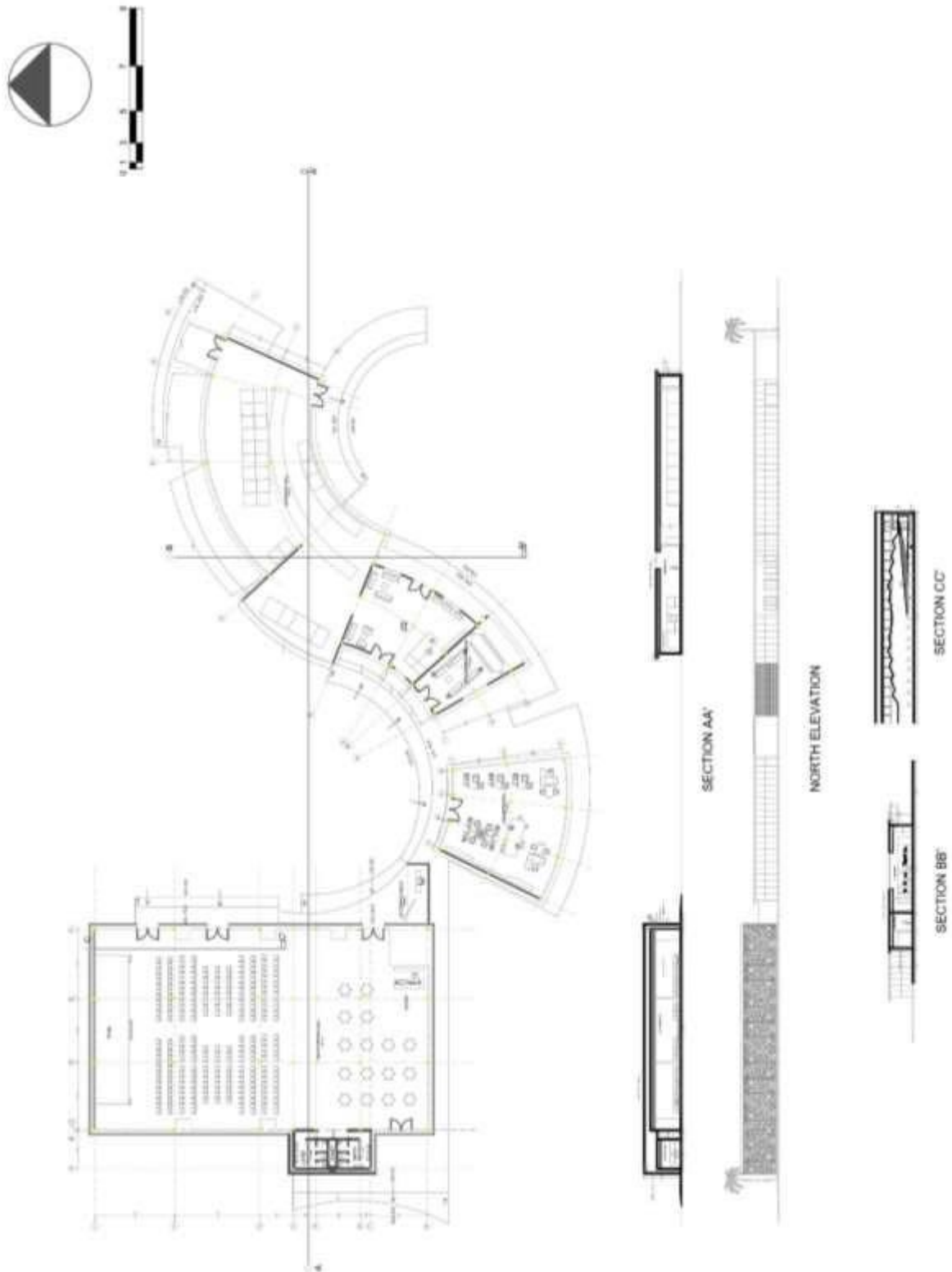
SECTION AA'



NORTH ELEVATION

5.4.

5 Convention Centre

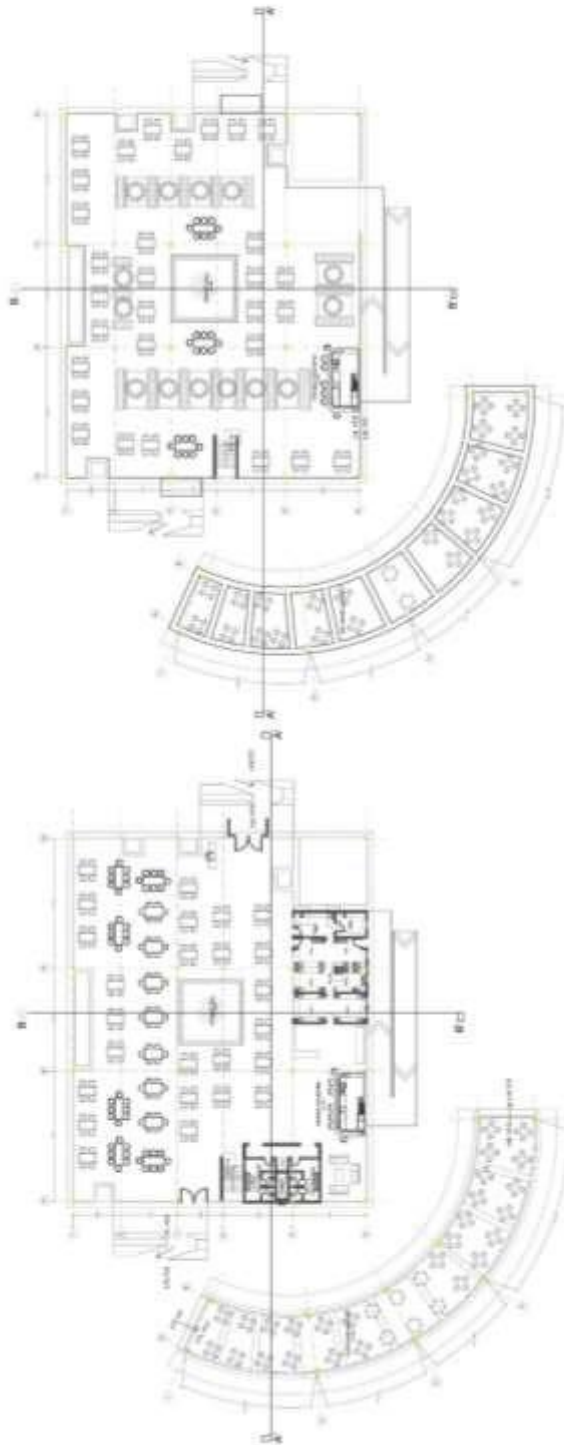


5.4.

5.4.

6 *Restaurant*

5.4.



FIRST FLOOR PLAN

GROUND FLOOR PLAN



SECTION AA'



SECTION BB'



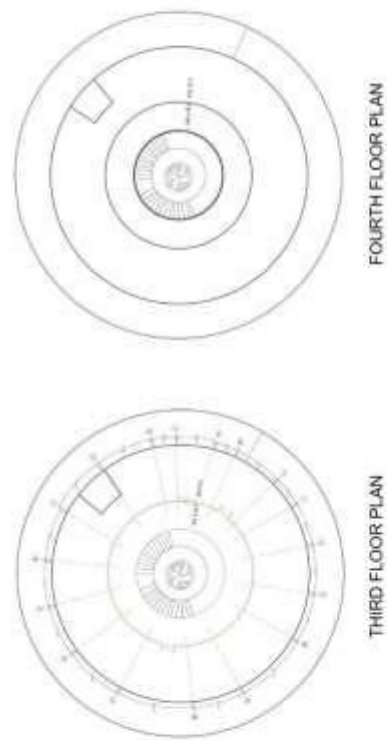
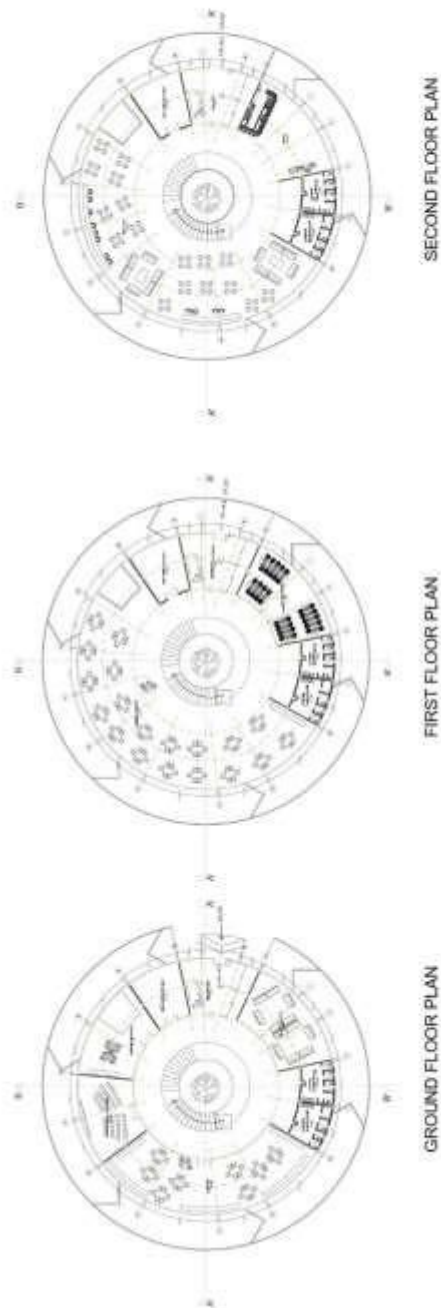
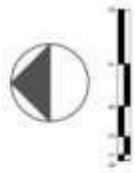
WEST ELEVATION



NORTH ELEVATION

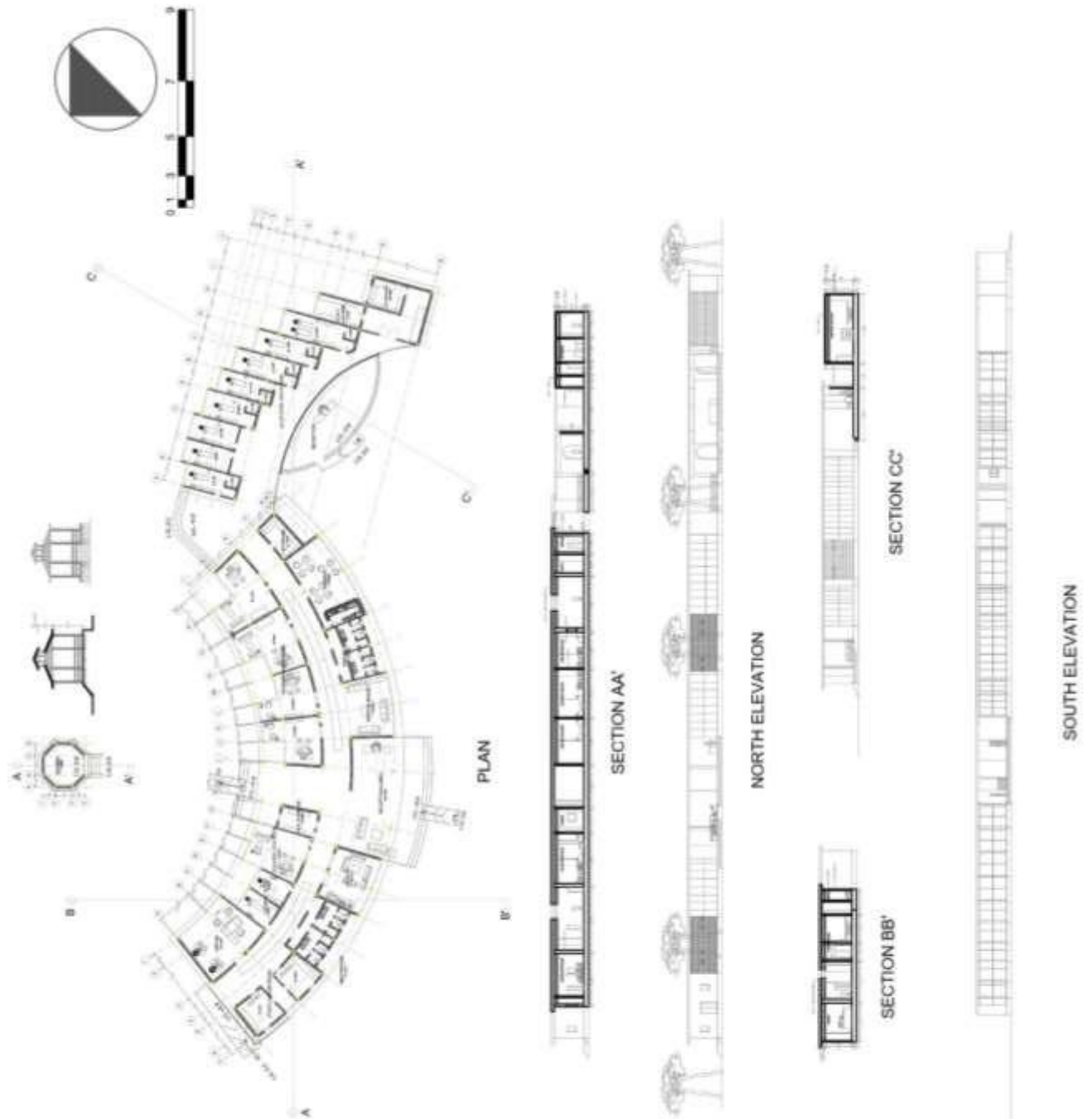
5.4.

7 View Deck



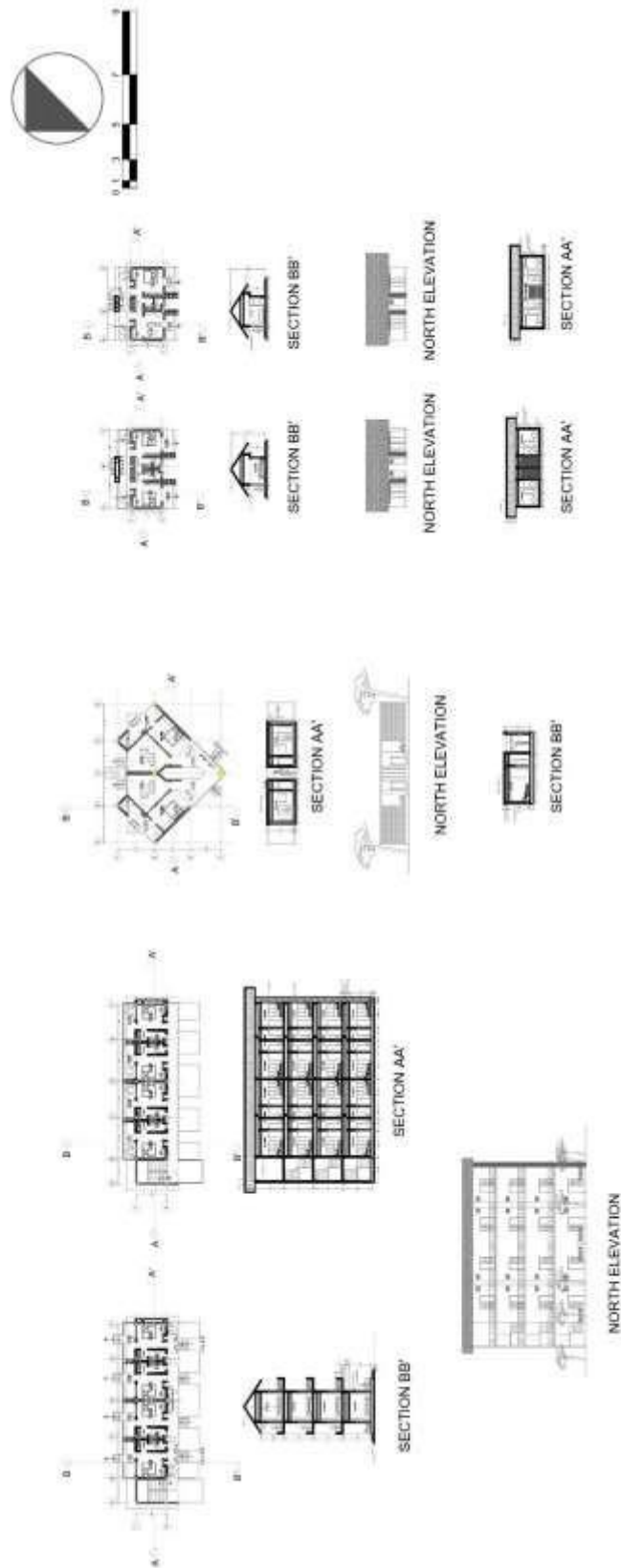
5.4.

8 Therapy Block



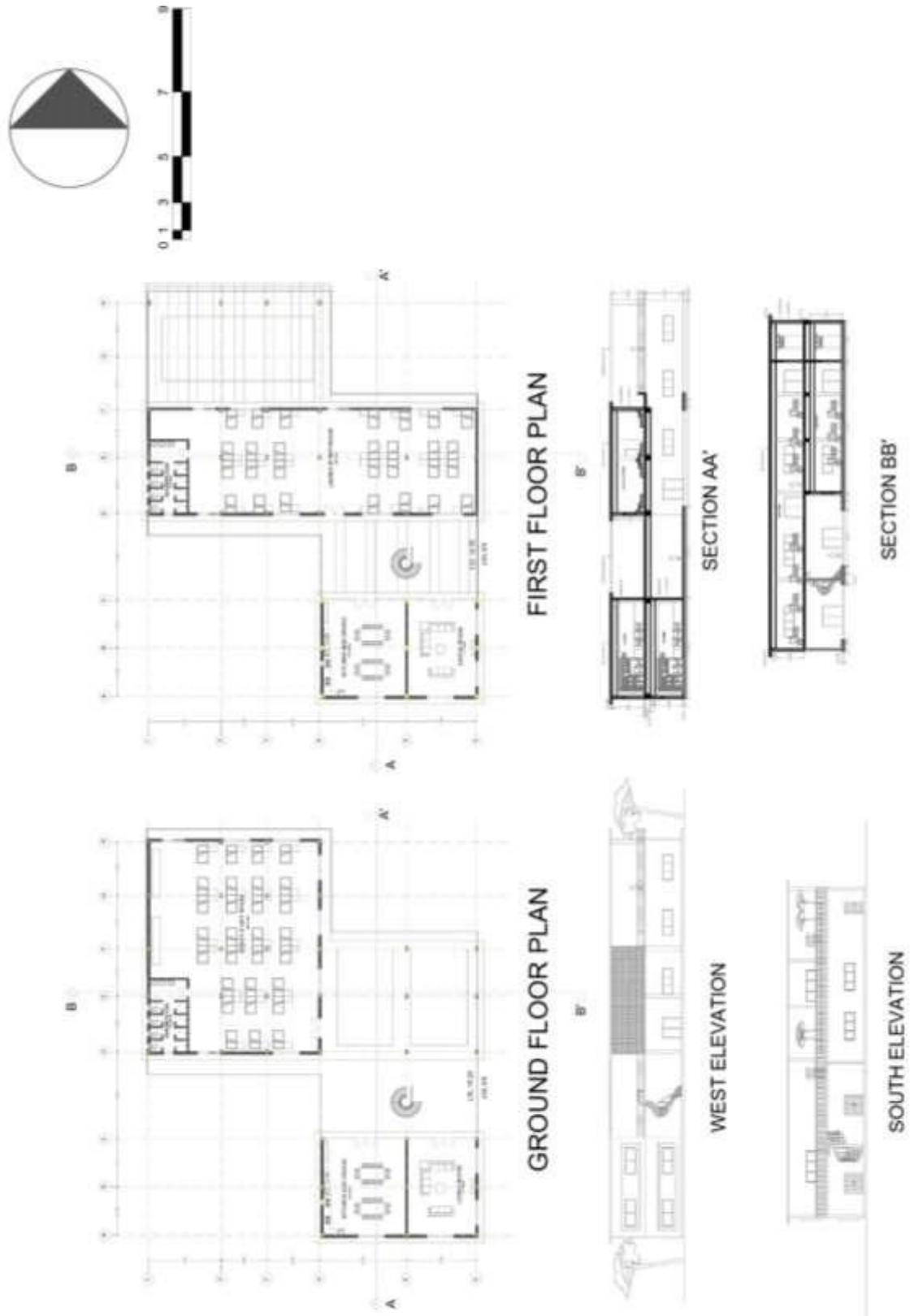
5.4.

5.4. 9 Accommodation



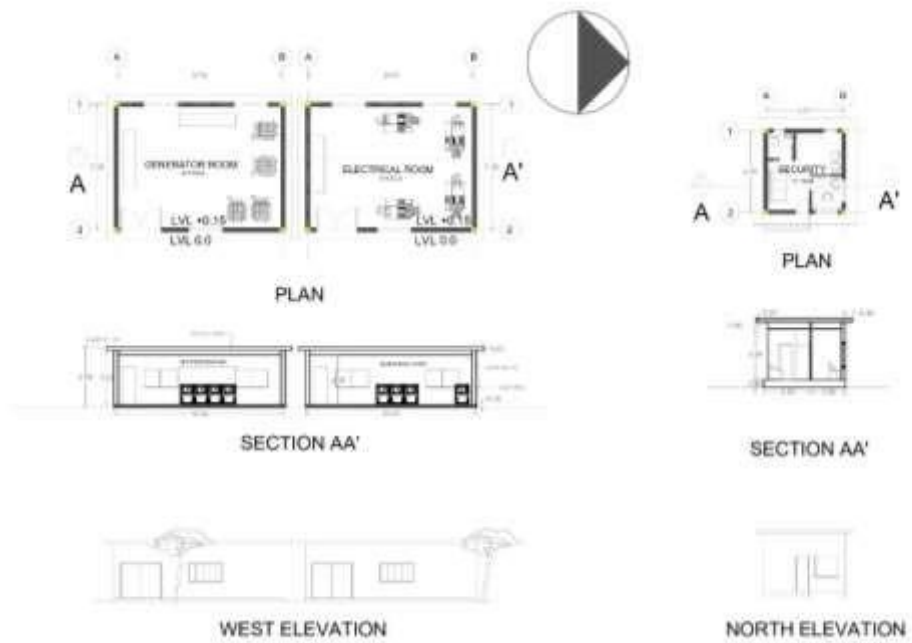
5.4.

10 Staff Accommodation



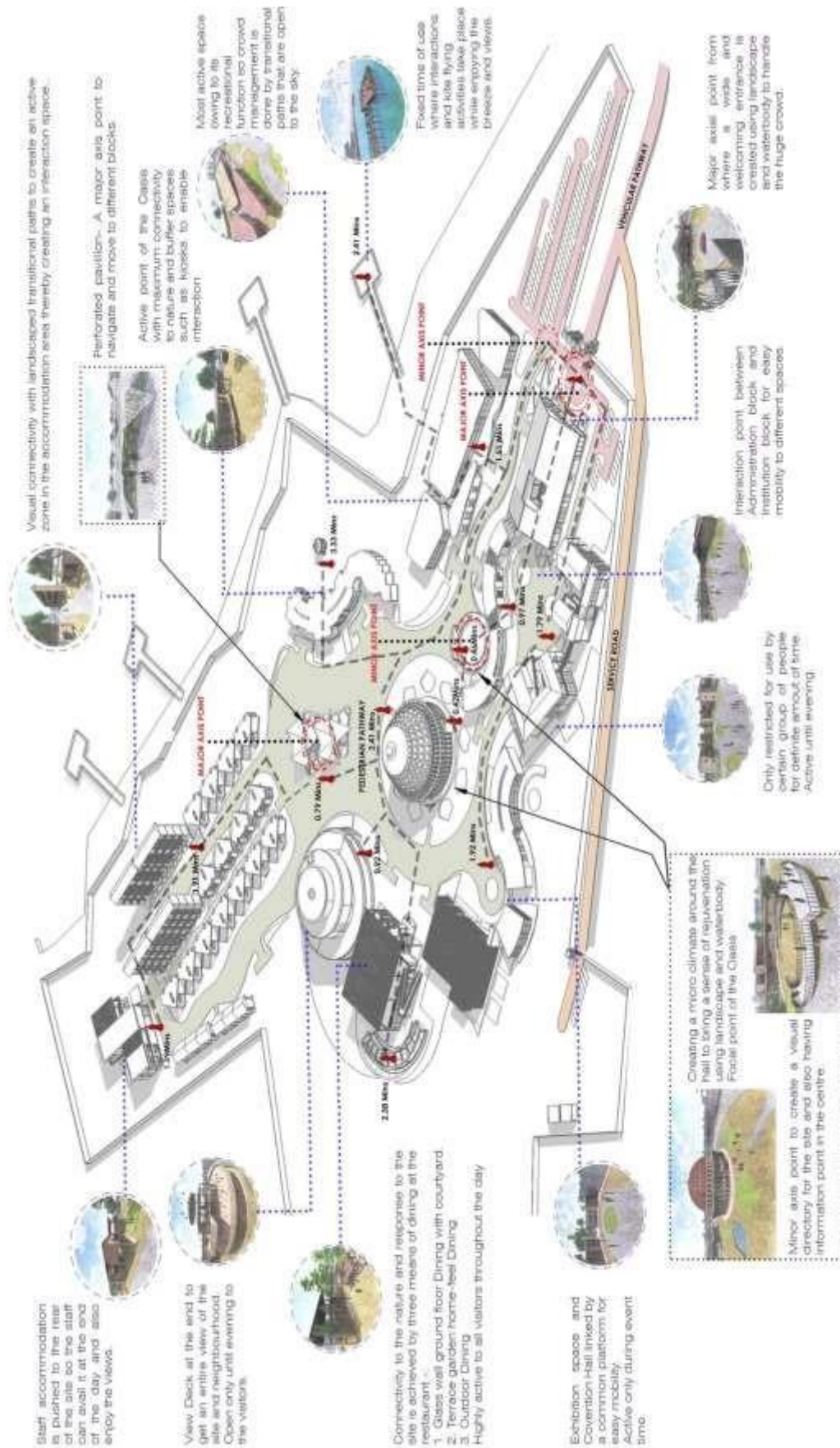
5.4.

11 *Electric Block and Security Cabin*



5.4.

5.5 ACTIVITY MAP



5.6 VIEWS

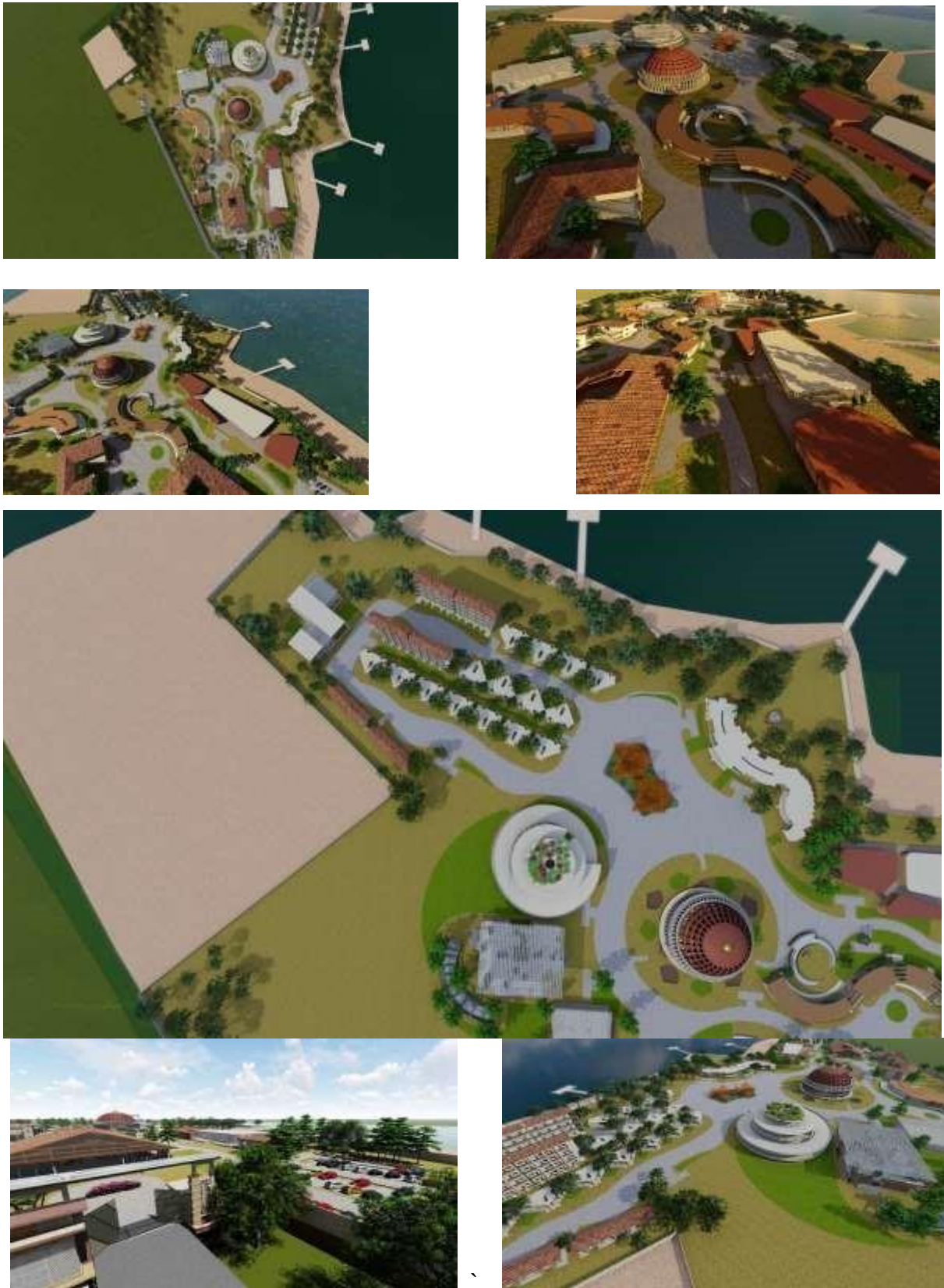


Figure 5.1 Site Views



Figure 5.2 Administration Block



Figure 5.3 Institutional Block



Figure 5.4 Recreational Therapy Block



Figure 5.5 View Ramp



Figure 5.6 Meditation Hall



Figure 5.7 Floating Platform



Figure 5.8 Convention Centre



Figure 5.9 Restaurant



Figure 5.10 View Deck



Figure 5.11 Pavilion



Figure 5.12 Therapy Block



Figure 5.13 Visitors Accommodation



Figure 5.14 Staff Accommodation

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