

BUDDHIST UNIVERSITY

THESIS

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

By

**NGWE LA
(3621050)**



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

SATHYABAMA

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

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JUNE - 2021



DEPARTMENT OF ARCHITECTURE

BONAFIDE CERTIFICATE

This is to certify that this Thesis Report is the bonafide work of **NGWE LA (3621050)** who carried out the Thesis entitled “ **BUDDHIST UNIVERSITY** ” under our supervision from January 2021 to June 2021.

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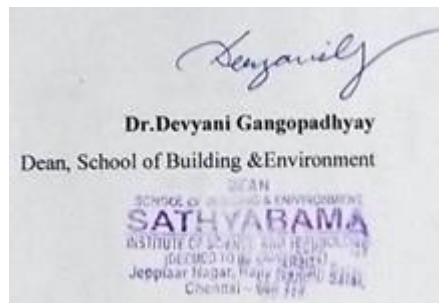
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DECLARATION

I, **NGWE LA** hereby declare that the Thesis Report entitled “**BUDDHIST UNIVERSITY**” done by me under the guidance of **Ar. Vignaeshwar .C** (Internal Guide) **Ar.Ramesh Kumar** (Internal Review Member) and **Ar. Palaniappan** (External Guide), Sathyabama Institute of Science and Technology is submitted in partial fulfillment of the requirements for the award of Bachelor of Architecture Degree.

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ABSTRACT

Indian subcontinent is known for its various majestic architecture and monuments. Some of the most important and historically significant masterpieces, dated oldest were the Buddhist architecture. These beautiful architectural buildings belongs to the Maurya dynasty. During the period of Maurya, these buildings were constructed for prayer and as a resting place for the Buddhist monks. These buildings were carved to emphasize their devotion for Buddhism; and considered as a sacred place for prayer or temple. The Buddha temple comprises of different chambers which includes; the Chaitya hall, where the monks conduct the group prayers Vihara as a chamber for community discussion and later on used as a resting place for the monks. The buildings of Buddhist architecture initially constructed in round structure undergone changes with time attained rectangular shape and in near future got add-on constructions with different shapes. When the stupa styled buildings were raised they stood identical to the centuries old Christian churches. Right after the trending of stupa fashioned buildings, the Buddha temple chambers were used for research, propagation and group prayer organization. As the devotees for Buddha increased, the temple for Buddha increased directly proportional. The monks living under the chambers of Buddha temple later started constructing houses of wood or some lived under thatched based on their convenience.

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CHAPTER 1

INTRODUCTION

1.1 AIM

This design is done to attract people from all over the world who follow buddhism and those who want to pursue post graduate degree in philosophy of buddhist. It is a place for men and women monks to pursue their education in buddhism.

1.2 OBJECTIVE

To explore the different architectural style & culture of Buddhism inside the campus.

1.3 SCOPE OF THE PROJECT

The scope of the project is to design a buddhist university which attracts people from all over the world, who wants to learn about the buddhism studies and its culture.

This scope of the project is also to design by creating peaceful environment , by providing space like meditation center and prayer hall.

1.4 SITE JUSTIFICATION

- Nalanda was an ancient Mahavihara, a revered Buddhist monastery which also served as a renowned centre of learning, in the ancient kingdom of Magadha (modern-day Bihar) in India.
- The university of Nalanda obtained significant fame, prestige and relevance during ancient times, and rose to legendary status due to its contribution to the emergence of India as a great power around the fourth century.

1.5. METHODOLOGY

SELECTION OF PROJECT AND CREATION OF DESIGN BRIEF



LITERATURE AND CASE STUDY



SELECTION OF SITE



SITE STUDY AND ANALYSIS



ANALYSIS OF PROGRAM AND INFERENCE



AREA REQUIREMENT



ZONING AND SCHEMATIC DRAWINGS



FINAL DRAWING

CHAPTER 2

LITERATURE CASE STUDY

2.1 GAUTHAM BUDDHA UNIVERSITY

2.1.1 Introduction

Location : Yamuna expressway, Greater Noida , India.

Site area : 511 acres

Instituted in : 2014

Typology : University

Major components : Meditation centre, Academic block, Library, Indoor stadium , Museum, Auditorium , Faculty housing ,Student housing , Promenade , Eco lake.

Gautam Buddha University is designed to reflect the ethos of Indian Buddhist architecture in contemporary times. From the planning to the architectural vocabulary, the campus has been consciously designed not to blindly ape or mimic forms from a bygone era or further the current trend of glass and concrete boxes, but to sensibly imbibe the essence of local tradition with the present global outlook. Vernacular planning and local materials come together with modern technology to create a campus which is smart and sustainable and sets an example for designing in harmony with nature. The result is an interesting amalgamation of two different architectural styles, creating forms that resonate with both the "Indian" and "global community.



Fig 2.1.1 : Front view of the meditation centre



Fig 2.1.2 : View from the front side

2.1.2 Design Concept

The very understanding and realization of 'Enlightenment has been propagated globally by Gautam Buddha, who is himself, is known as the 'Enlightened One'. The aspects of life are derived in Buddhism through the Middle Path, which teaches the marriage between binaries like 'Dhatu' (matter/solid) and 'Shunya' (antimatter/void), existence and non-existence, 'bhog' (consumption) and 'tyag' (detachment) and that a balance between the respective binaries keeps the wheel of life turning causing birth and rebirth.

2.1.3 Design Derivation

The design uses principles which respect the balance between the binaries of open spaces and built form, nature and man made architecture, symmetry and asymmetry to create a hierarchy of spatial and visual sequences continuing throughout the design of campus. - The abstraction of the overlapping chakras which forms the different spatial entities in the master plan brings a rhythm in the dialogue between the spaces. - The hierarchy of the activities one observes in their daily life, the activity pattern of life in the campus consisting of education, sports, meditation, celebration and leisure have been distributed in this very rhythm in the form of an Academic complex, Sports facilities. Indoor Stadium, Convention Centre and Hostel for 5000 Students and 500 Faculties over a built up area of 80 lakh sq ft.



Fig 2.1.3 : Formation of the elements

2.1.4 Site Features

- For Gautam Buddha University, the ratio and proportions of the image of "Buddha in meditation" were considered to derive a rhythmically knitted pattern with strong connectivity, network and space organization.
- A dense forest at the entrance acts as a visual and sound buffer. It creates an evident difference in environment, as the tranquility within the campus is a stark juxtaposition to the chaotic frenzy outside.
- The academic and faculty blocks are arranged in a radially along the Central Promenade Axis, which culminates at the feet of a magnificent statue of Buddha himself.
- A meditation center, with its somber domed form echoes the architectural symbolism of a stupa. It was designed to visually tie the earth with the sky when viewed in the horizon.
- Features like water recycling through lakes and water bodies, natural lighting and ventilation, locally sourced materials and traditional elements like lattices, sunshades and domes allowed us to further establish a strong link with the natural environment.
- The landscape designed connects these units and establishes a sense of harmony and co-existence for these different aspects of the Buddha to come together and form a Campus, well-versed in its design and integrated philosophy .



Fig 2.1.4 : Site Plan

2.1.5 Sustainable Features

- Certain design features incorporated in the planning of the university campus have set it apart as a model for ecologically sensitive green development which is environment Friendly.
- Complete water recycling through creation of lakes and water bodies helps in maintaining the water balance at the site.
- Along with this, the buildings have been designed to promote natural lighting and ventilation, making the architecture of the University, energy efficient.
- Architectural elements like jaalis and chhajjas, which reduce the heat intake in the building, are an essential part of the design, thereby reducing electrical energy consumption.

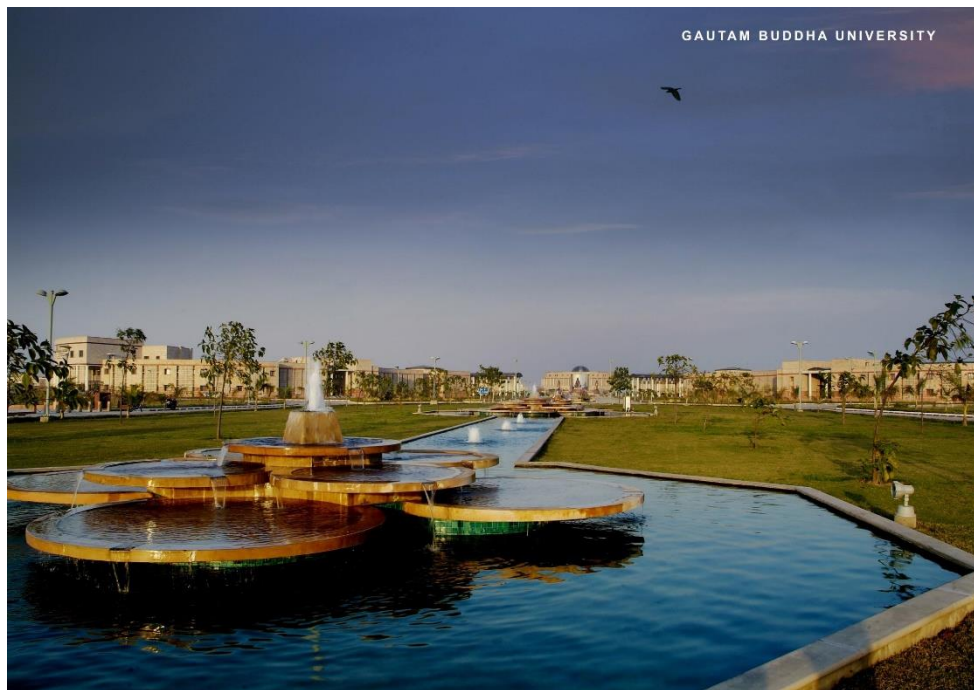


Fig 2.1.5 : Eco lake



Fig 2.1.6 : Landscaping features in meditation center

2.1.6 Vegetation as a Micro Climate Regulator

The forest helps in creating a comfortable microclimate within the campus that helps in naturally combatting the intense summer heat and chilly winters which is the characteristic of this location. The water also creates a tranquil environment and metaphorically depicts the threshold between the chaotic worldly life of hectic frenzies and an orderly environment of peace and discipline.

2.1.7 Native Plantation

Abundant use of plantation indigenous in nature not only helps in maintaining the natural beauty but also offers advantages like decreasing the temperature, increasing water holding capacity of the soil and in using fewer resources. A dense forest at the entrance of the campus is created to act as a visual and sound buffer. The forest helps in create comfortable microclimate within the campus.

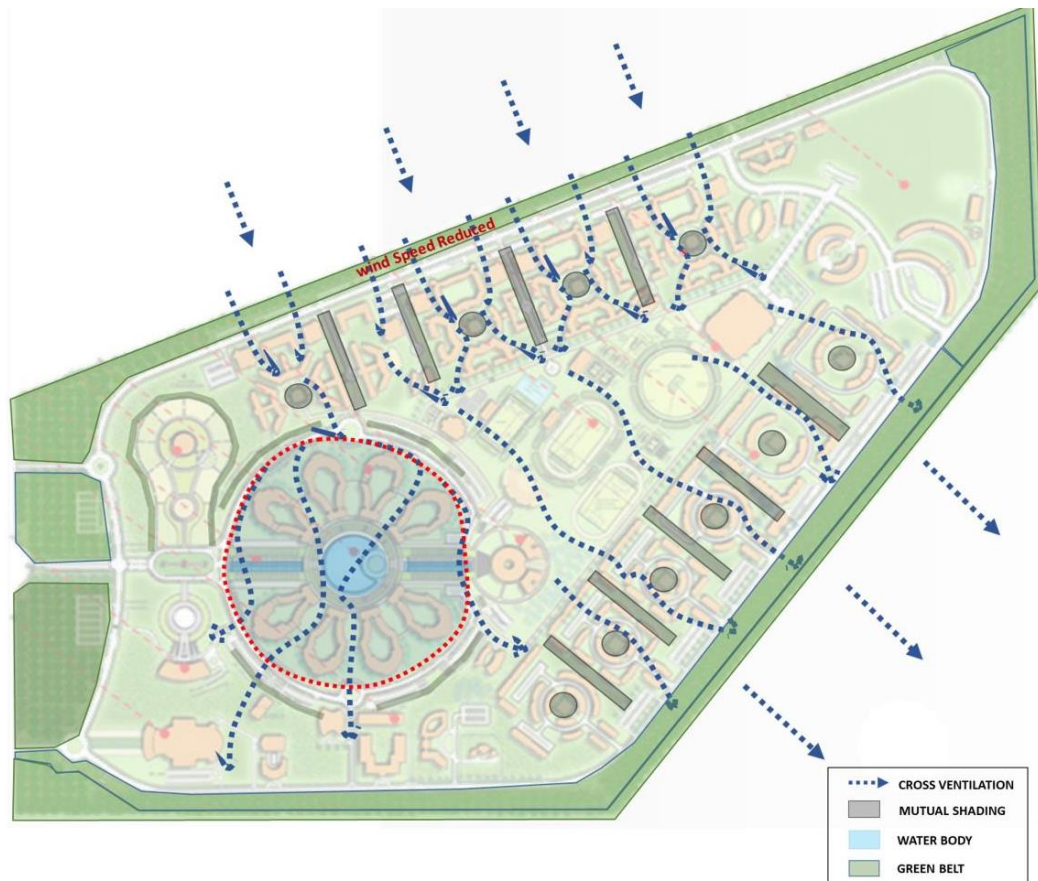


Fig 2.1.7 : Micro climate

2.1.8 University as an Environment Friendly Campus

- Has minimum demand for electricity, water and other natural resources.
- Strives to cater to all its water demands through sustainable processes such as rain water harvesting.
- Recycles and Reuses all its waste on site and loads the environment to the minimum. - Density of the screen design ensures building in different orientation get adequate, diffused natural light.
- Even Double loads corridors get natural light through skylight. Maximum use of local building material (stone) and local craftsmen.
- Has provisions to Separate pedestrian pathways, cycle tracks, electric vehicles.

2.1.9 Central library

Along the Entrance Promenade axis is the Library Block with a magnificent statue of Mahatma Buddha positioned in front, which is visible from any point within the campus, hence becoming the centre of gravity of the Academic environment. At the foot of the statue is a magnificent lake which not only functions as an ecological water system but also is a vibrant meeting place for the students and faculties. The faculty blocks are strung around the lake like a necklace and are connected by a magnificent colonnade.

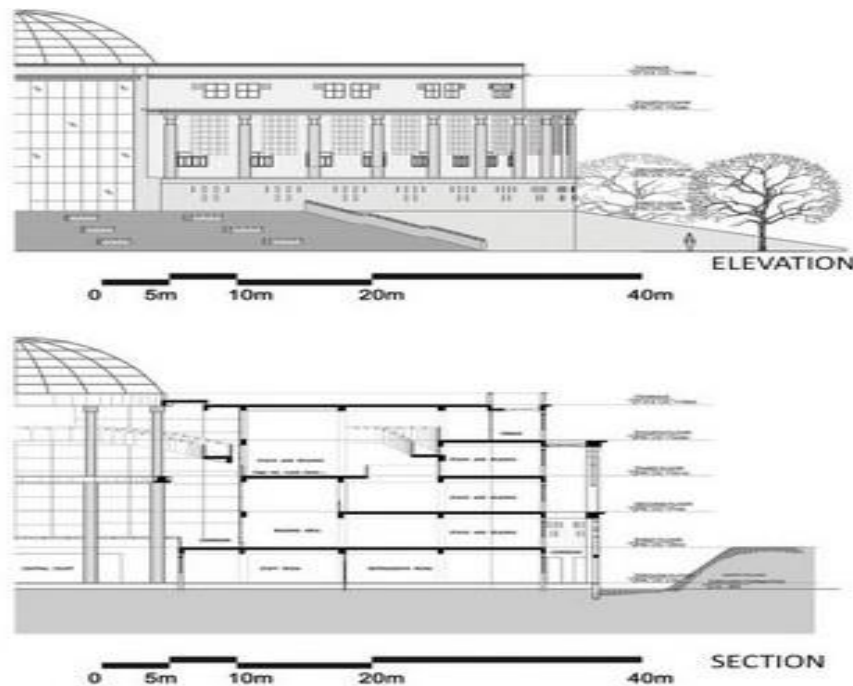


Fig : 2.1.8 Elevation & Section of Library

2.1.10 Meditation Center

The Meditation Hall is a large, Column free structure clad in local stone that visually ties the earth with the sky above the subterranean Library. Elevated on sloped greens, the Meditation Hall sits atop the subterranean Library and reading rooms, which receive Natural daylight via a continuous light well around the circumambulation path on the mound. The design employs earth as a major component of a building thermal control system.

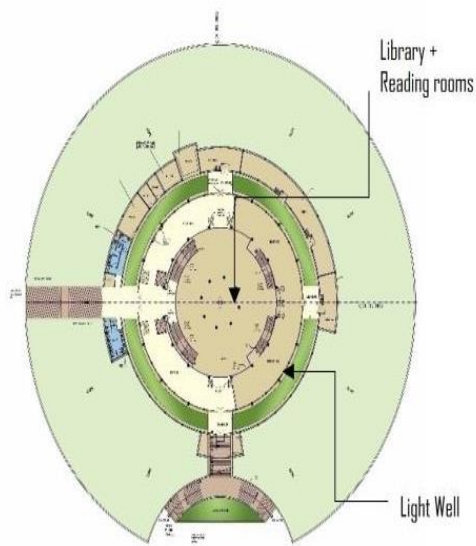


Fig : 2.1.9 Upper level floor

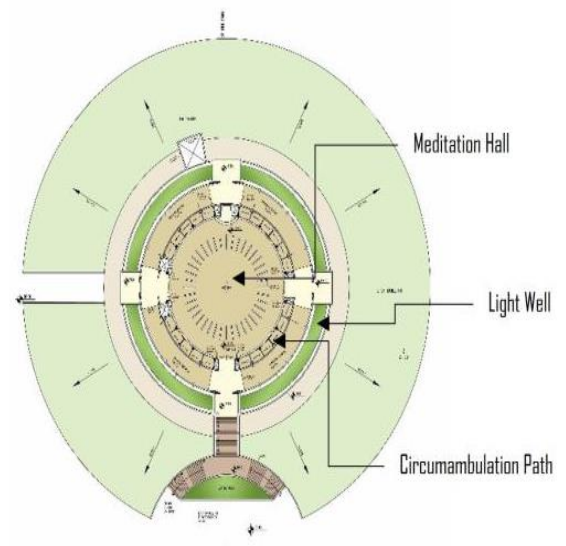


Fig : 2.1.10 lower ground level

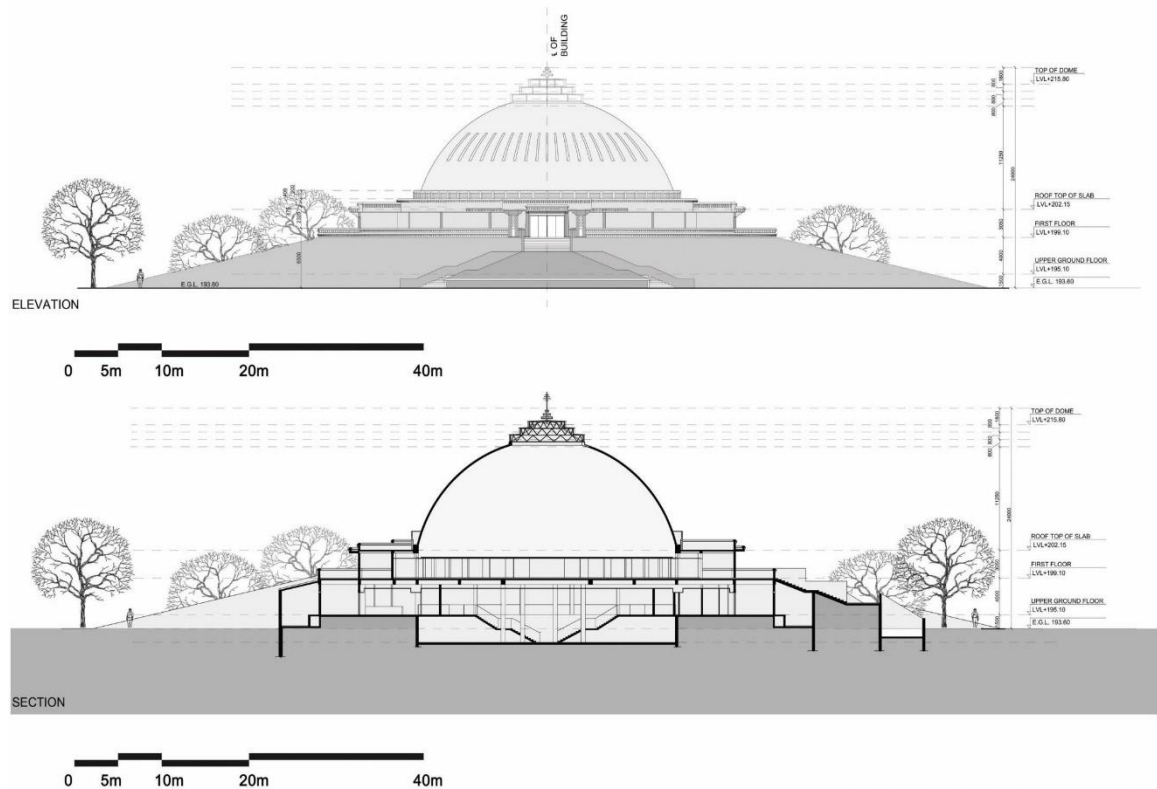


Fig : 2.1.11 Elevation & Section of Meditation Center

2.1.11 Academic Block

The academic and faculty blocks are arranged radially along the Central Promenade Axis, which culminates at the feet of a magnificent statue of Buddha himself. Academic Blocks have faculty rooms, class rooms and lecture rooms assembled around a green courtyard. This helps the teachers and students in sharing knowledge, as well as setting a hierarchy of built and open spaces which emanates through the campus.

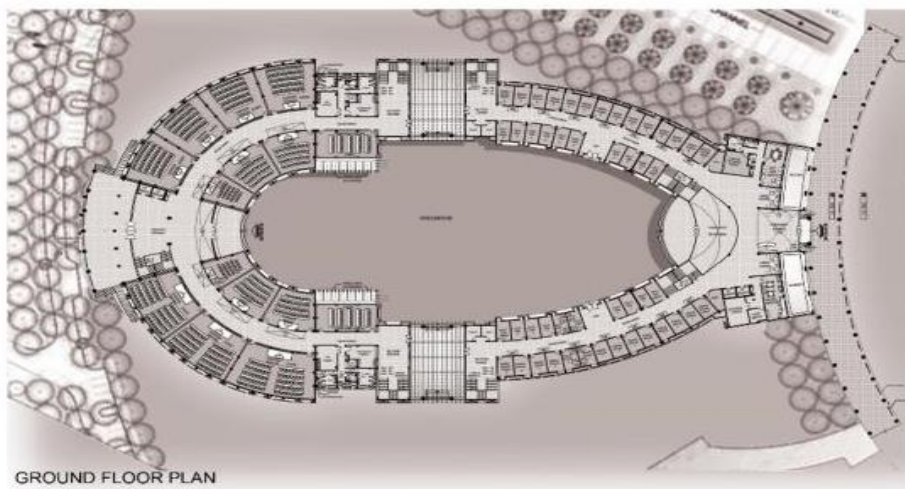


Fig 2.1.12 : Ground Floor Plan

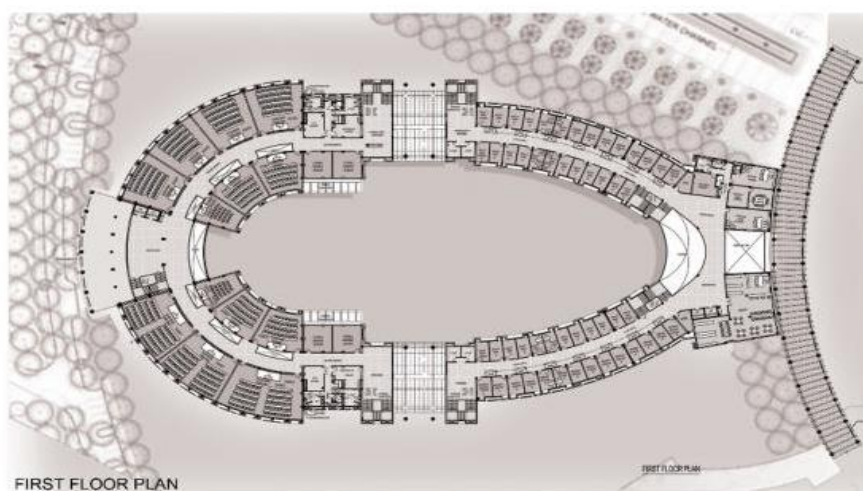


Fig 2.1.13 : First Floor Plan

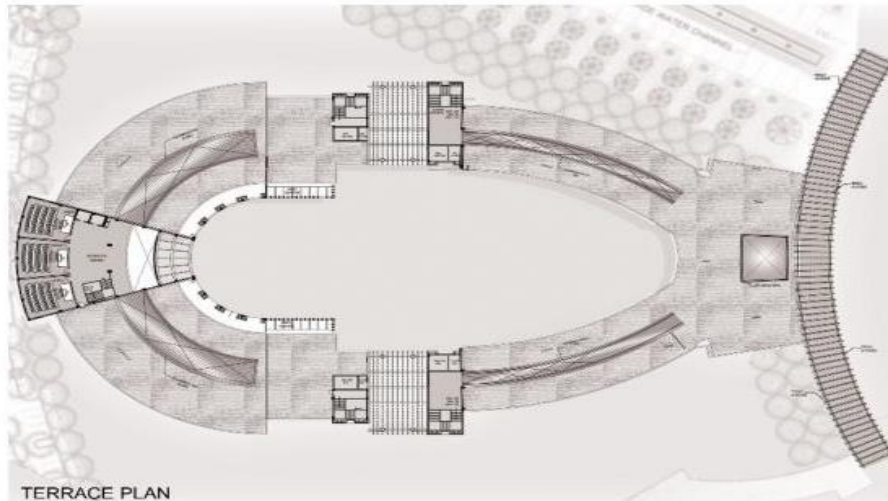


Fig 2.1.14 : Terrace Floor Plan

2.1.12 Materials

Project uses local building materials and local craft skills. Architecture elements like jaalis and chajjas, reduce the heat intake in the building, thereby reducing electrical energy consumption.

2.1.13 Passive Design

Natural lighting and ventilation makes the architecture energy efficient. Passive design controls such as recessed windows helps in reducing the the heat intake in the building, thereby reducing the total electrical energy consumption.

2.1.14 Jaali Design

JALI Jali (screens) is used innovatively as a screen, sun breaker, a protection to the glazed facade. But rather than just fixing the jail , it has been inventively hung on the roof just like curtain over a window. The Jali patterns are abstractions of Buddhist text.

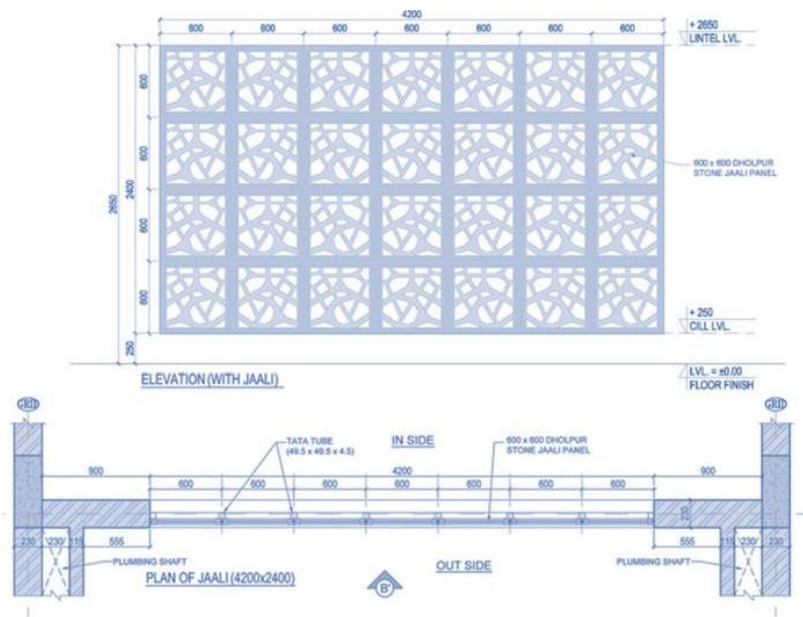


Fig 2.1.15 : Jaali design details

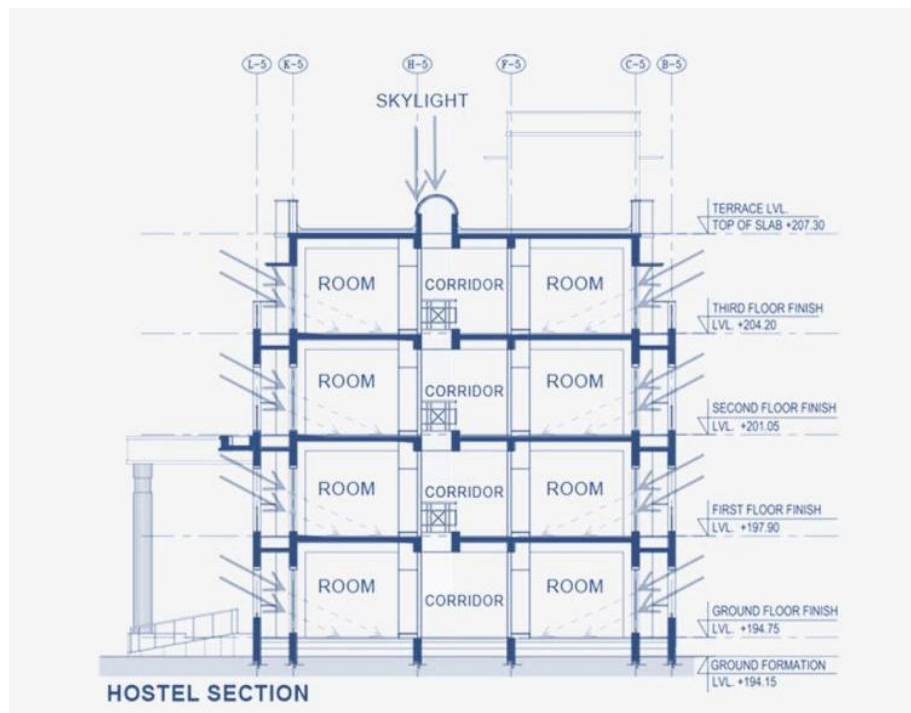


Fig 2.1.16 : Air circulation

2.2 INDIAN INSTITUTE OF MANAGEMENT , AHMEDABAD.

2.2.1 Introduction

Location : Ahmedabad.

Site area : 66 acres

Instituted in : 1961

Typology : Institute

Major components : Academic block, Library, kitchen complex, Offices, Dormitories , Open Spaces, Parking , Gardens & Lawns.

The institute was conceived as an integrated campus to house the different kinds of activities and to provide an environment conducive to creative work.

2.2.2 Design Concept

The concept is FORTRESS IN BRICK keeping with some of the following features: Exposed brickwork , Large openings or voids in walls ,Exposed concrete ties, Very less use of glass for windows , Interplay of light and shade in corridors , Hide entrances, window openings , Diagonal system of placing the blocks to emphasize the blocks.



Fig 2.2.1 : View inside the Institute



Fig 2.2.2 : Entrance to the Building



Fig 2.2.3 : Site Plan of IIM Ahmedabad

2.2.3 Features

- The school building is a longitudinal building located on the south west side of the library.
- It is connected to the library by a corridor and to the dormitory by an over bridge.
- The ground floor has most of the administrative offices with classrooms and seminar rooms on the first and second floors, respectively.
- Lobbies are created in between classrooms and these not only provide entry to rooms but also serve as spots where students can meet and exchange ideas before dispersing after their classes.
- The shape of the class room is hexagonal and the sitting arrangement in a classrooms is in horseshoe pattern with rows of seat at different levels.

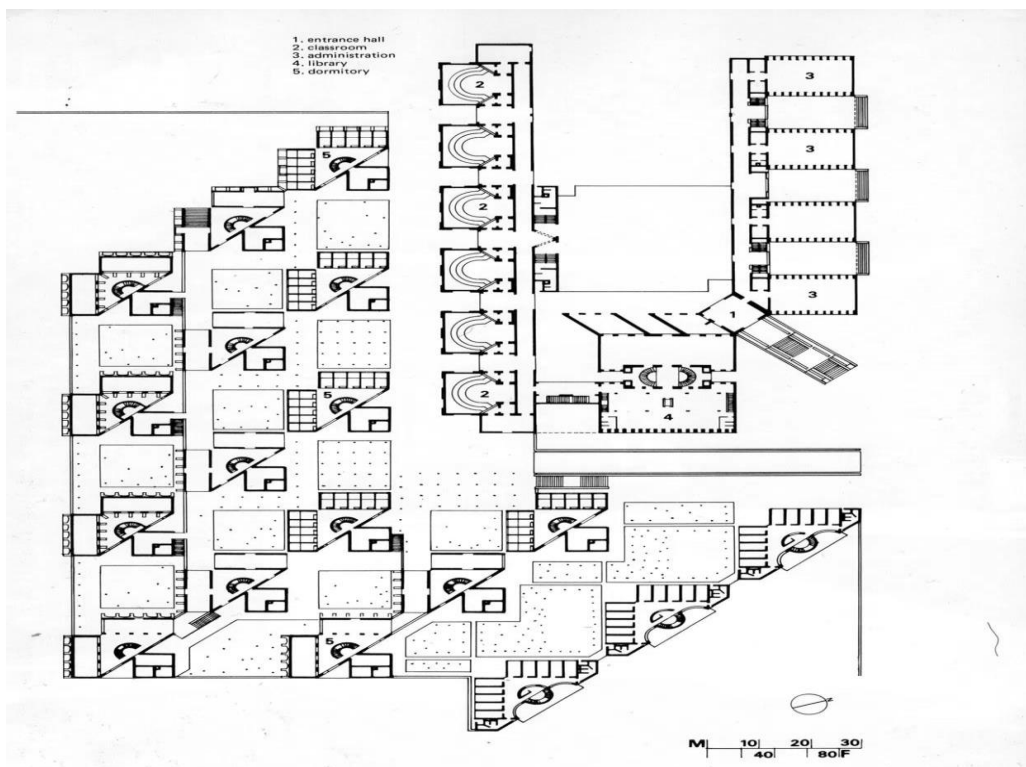


Fig 2.2.4 : Building Plan

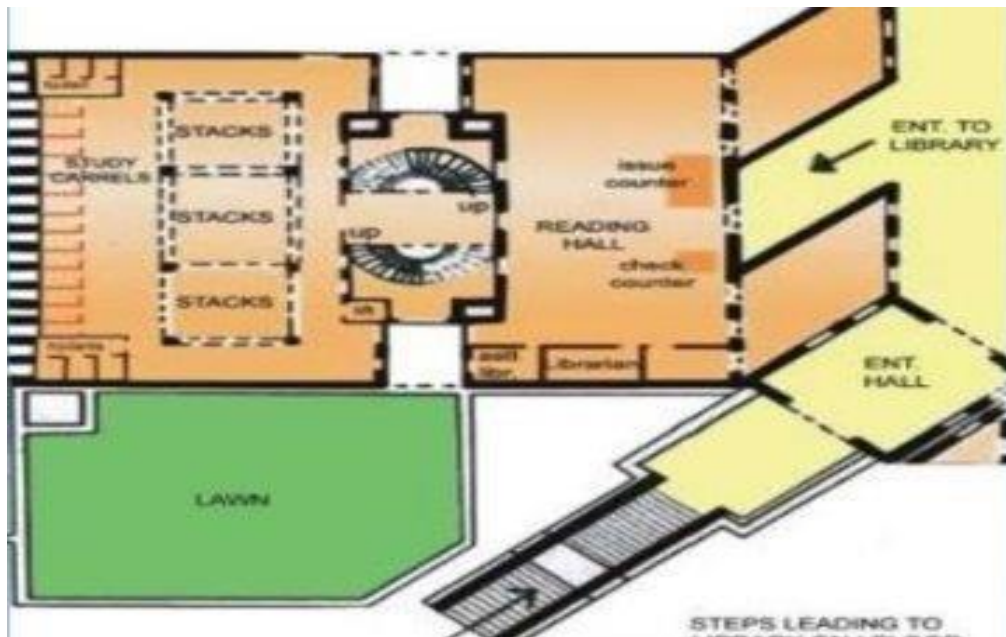


Fig 2.2.6 : Plan of Library

2.2.5 Faculty Blocks

- Four Storey Building comprising of four blocks. All four blocks are joined together by a corridor on each floor.
- These blocks enclose space in between them, which are developed as a raised lawns. There are 10 rooms on each floor of one block.
- The arched openings in the corridors, adjacent to the staircases act as viewing galleries offering views of the landscaped courts.

2.2.6 Dormitories

- The shape of each dormitory block is square with two residential wings, a triangular lounge and two service area.
- The positioning of the stairs are meant to protect the living room from sun and glare without obstructing the breeze and ventilation.
- The ground floor of certain dormitories blocks have been utilized as multipurpose rooms, bank post and telegraph office, dispensary and students welfare offices etc.
- Some dormitories have been kept free for circulation by provision of arched openings underneath the dormitories with rooms above.

- The dorms have an access through a ramp leading to a piazza which provide a link between the dorms and classrooms.
- The dorms are placed one behind the other to obtain the much needed breeze and cross ventilation. The design of individual blocks as well as their layout are intended to promote interaction among the students and to provide them privacy.



Fig 2.2.7 : View of Faculty Block



Fig 2.2.8 : Interior view of Dormitories

2.2.7 Dining Blocks

- The dining block has good connectivity with the school building.
- The basement accommodates storage.
- The dining hall for students is on the ground floor and the cafeteria is located on the first floor.
- It has been connected with the dormitories with the passage known as village street.
- Capacity of dining hall : 500
- Area of dining hall : 8000 Sqft.
- Area of Kitchen : 4000 Sqft.

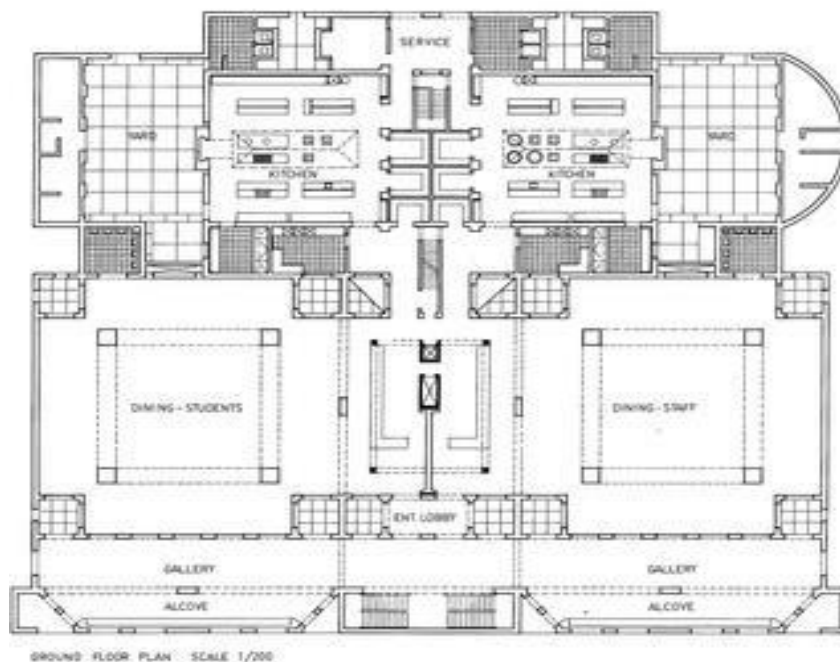


Fig 2.2.9 : Dining Block Ground Floor Plan

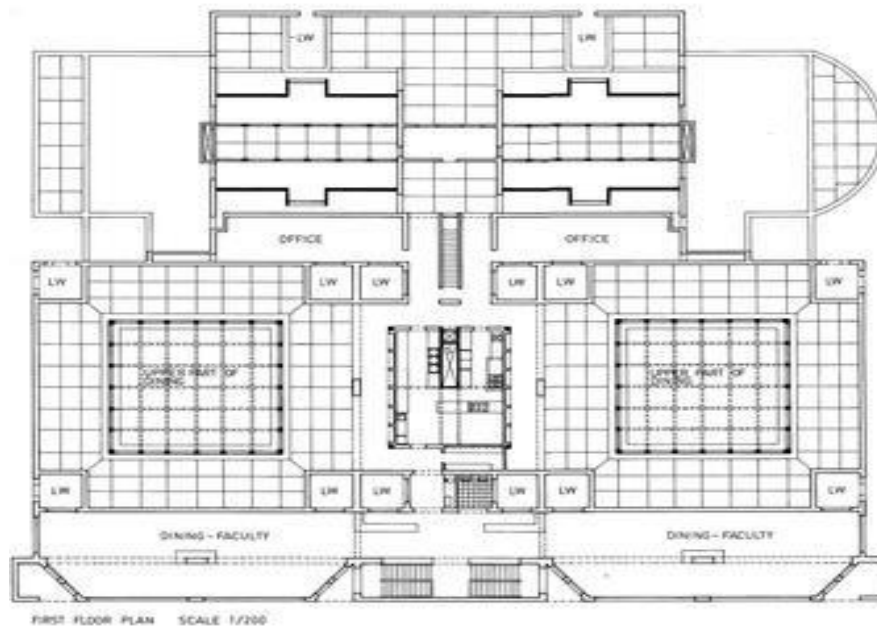


Fig 2.2.10 : Dining Block First Floor Plan

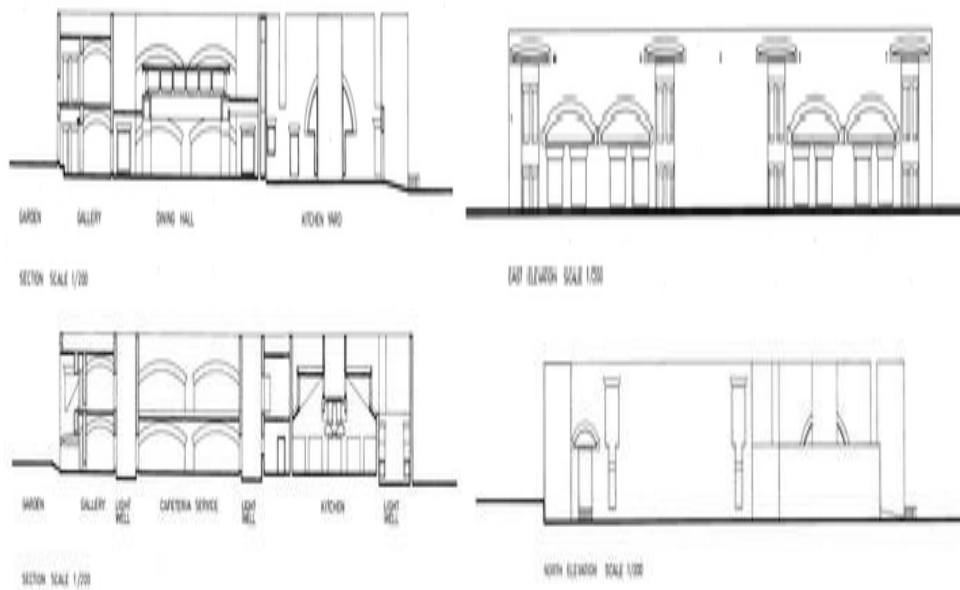


Fig 2.2.11 : Dining Block Section

2.2.8 Management Development Centre (MDC)

- The planning of the management centre facilitates interaction amongst the participants.
- The building in the front accommodates offices, lecture room, syndicate rooms on the ground floor and seminar rooms on the upper floor while the other building accommodates lecture room, syndicate rooms, computer center, executive hostels and dining hall.
- There are two lecture halls, conference rooms and 8 syndicate rooms in the MDC building.
- The seating layout of the lecture hall is in a horseshoe pattern to facilitate interaction amongst students as well as student and teacher interaction.

2.2.9 Louis Kahn Plaza

- Instead of small courts one large court has been planned in the center to relate to movement around the classrooms, library and faculty administration.
- The court is vast and the openings of the corridors flanking the court are few giving a ritualistic sense to the entire space.
- The Louis Kahn plaza is a raised platform in the court, which is 120 feet wide serves the function of a stage on formal occasions with large gatherings.

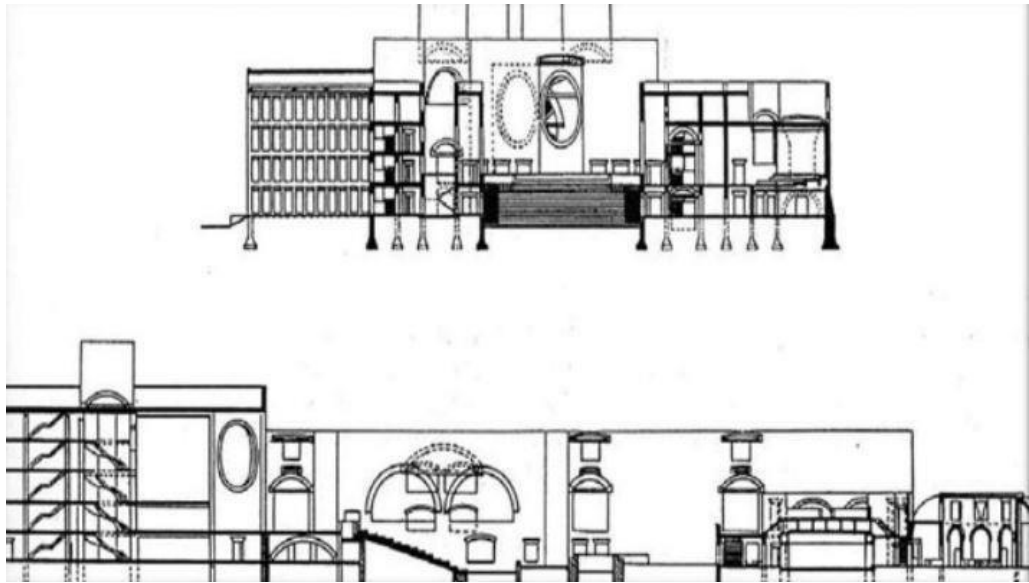


Fig 2.2.12 : Section Of Plaza



Fig 2.2.12 : View of Plaza

2.2.10 Auditorium

- The auditorium has been placed in close proximity to the main entrance near the parking area for easy access.
- The auditorium has a capacity of 550 seats, accommodated in a combination of stepped and flat floors, which is to be mainly used for simulated conferences by participating students, lectures as well as periodic entertainment.
- The acoustics of the auditorium are taken care of with the design of an asymmetric folded plate roof which helps in carrying the sound to the back rows without the need of any false ceiling and plaster moulds.

Capacity – 550 seats

- Entrance lobby - 560Sqft
- Foyer - 560Sqft
- Auditorium - 3000 Sqft
- Conference room - 200 Sqft
- Seminar room - 400 Sqft

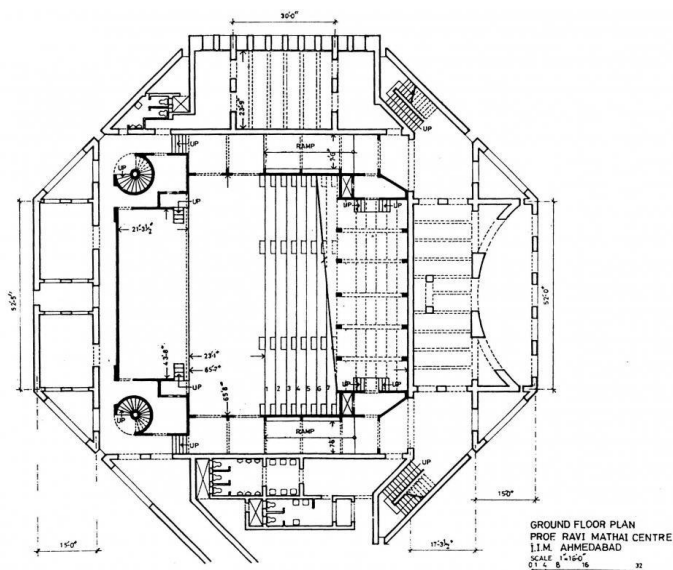


Fig 2.2.13 : Auditorium Ground Floor Plan

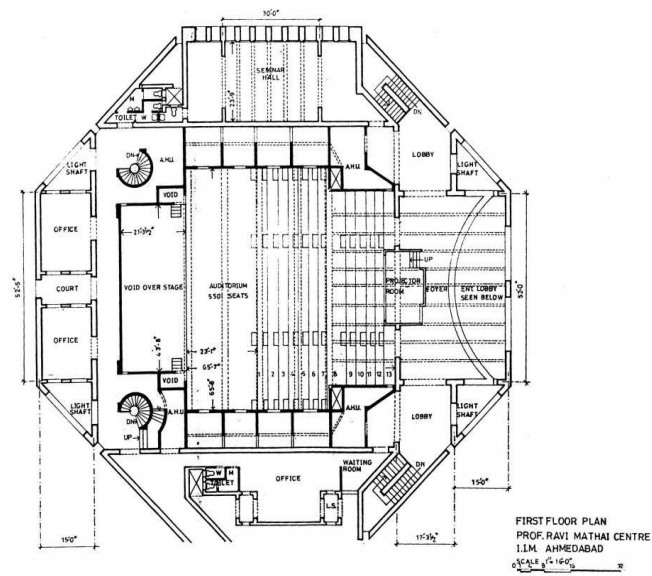
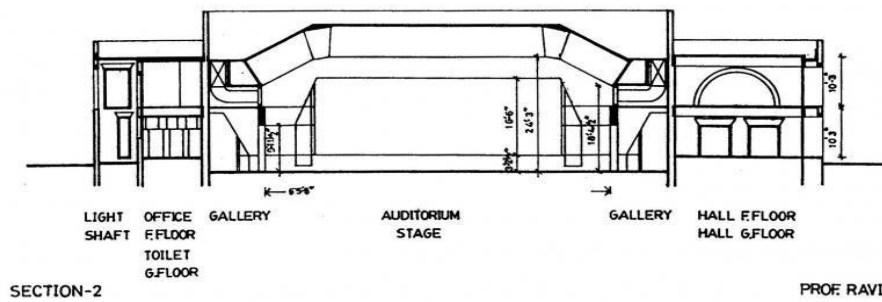
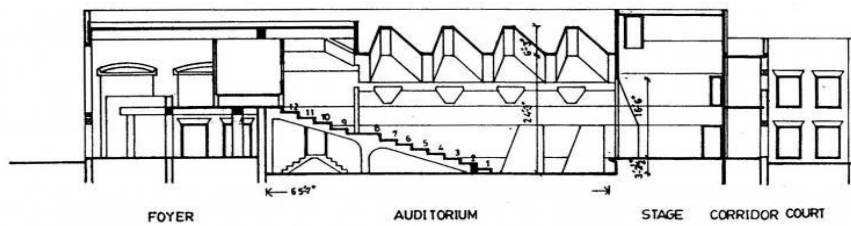


Fig 2.2.14 : Auditorium First Floor Plan



PROF. RAVI MATHAI CENTRE
 I.I.M. AHMEDABAD

SCALE 1"=16'0"
 0 5 10 15 20

Fig 2.2.15 : Section Of Auditorium



Fig 2.2.16 : View Of Auditorium

2.2.11 Landscaping

- Landscaping is an important element of design, which has been well integrated with building design in campus.
- The Louis Kahn Plaza is the central court around which buildings have been planned.
- This functions as a space for relaxation as well as for formal occasions for huge gatherings.
- Faculty offices have been planned with garden courts in between two blocks. Raised lawns in front of the auditorium as well as the main entrance further aid in visually enhancing the quality of environment within a complex.

2.3 VAJRASANA BUDDHIST RETREAT CENTER .

2.3.1 Introduction

Location : Walsham le Willows , UK

Site area : 1355 m²

Instituted in : 2016

Typology : Retreat center

Major components : Shrine room, Courtyard, Bedroom , pods.

A Buddhist retreat in the Suffolk countryside has reopened, designed by Walters & Cohen Architects. Potash Farm is home to Vajrasana Buddhist Retreat Centre; capacity has been increased from 34 to 60, accessibility improved and the centre now includes a glittering new shrine room. While the retreat is run by the London Buddhist Centre, it is also used for carers on respite and those dealing with issues such as stress, addiction and anxiety. It is the first time in the UK a new building has been designed specifically around the Buddhist practice as opposed to reusing existing buildings.



Fig 2.3.1 : Top view of the center



Fig 2.3.2 : Typical model of the center



Fig 2.3.3 : Site Plan of the center

2.3.2 Design Concept

- The practice's design for Vajrasana evolves around three concepts or 'jewels' common to Buddhism but particularly closely adhered to by the Triratna community:
 1. Sangha,
 2. Dharma and
 3. Buddha.
- These three ideas inform the spaces of the retreat each distinct from the other and provide a processional route based around the geometry of the spaces and the movement towards the final religious space.



Fig 2.3.4. : View of courtyard

2.3.3 Planning

- Sangha representing community is the first space you encounter a series of low-rise buildings placed around a lushly planted courtyard.
- These contain a large dining area, living spaces and shared bedrooms accommodating about 60 guests at any one time.
- The buildings are simple and modest. A concrete portal frame creates the double-height space of the dining room and it is simply lined with painted blockwork and clad on the outside in charred timber.
- All the materials are expressed and it is a light and airy space. From the Sangha courtyard a covered cloister-like walkway leads to a further two courtyards representing the Dharma, or path to enlightenment.
- In one courtyard sits a large white limestone stupa monument, while in the other a cast bronze Buddha sits atop a lotus flower, appearing to float in a rectangular pool of water.
- Separated from the Sangha courtyard by a perforated screen of bricks, these spaces are quieter and more introspective, though they still provide views out towards the surrounding landscape.
- These courtyards lead on to the final jewel – the Buddha – conceived of both as a historical figure and as the state of enlightenment in the Buddhist faith.
- Here, in what is known as the shrine room, a 3m-tall gold-colored Buddha sits on a plinth. The room is a perfect 13 x 13m square with 6m-tall ceilings.
- Built from a dark, almost rust-colored Belgian brick and with a timber floor, the space feels close to nature. The room is used for spiritual celebrations, meditation and yoga classes.
- High-level windows allow a view out to the sky but do not draw the gaze out to the landscape; the focus is on the Buddha.
- The three elements of the scheme work together while the scheme remains strongly rooted in its rural landscape.
- From each of the axial routes, views to rolling hills beyond open up. Although the building is small and minimal and to a degree inward-looking, these vistas allow visitors to gaze on the space beyond and gain perspective. You are a small part of something much larger.

- Despite having no precedent, Walters & Cohen has created a building that perfectly fits its purpose. When you arrive in the first courtyard there is an instant feeling of calm. With its communal dining space and planted spaces it could be a large Maggie's Centre.
- This place is a step forward for Western Buddhism'. They have created a new typology.



Fig 2.3.5 : Floor Plan

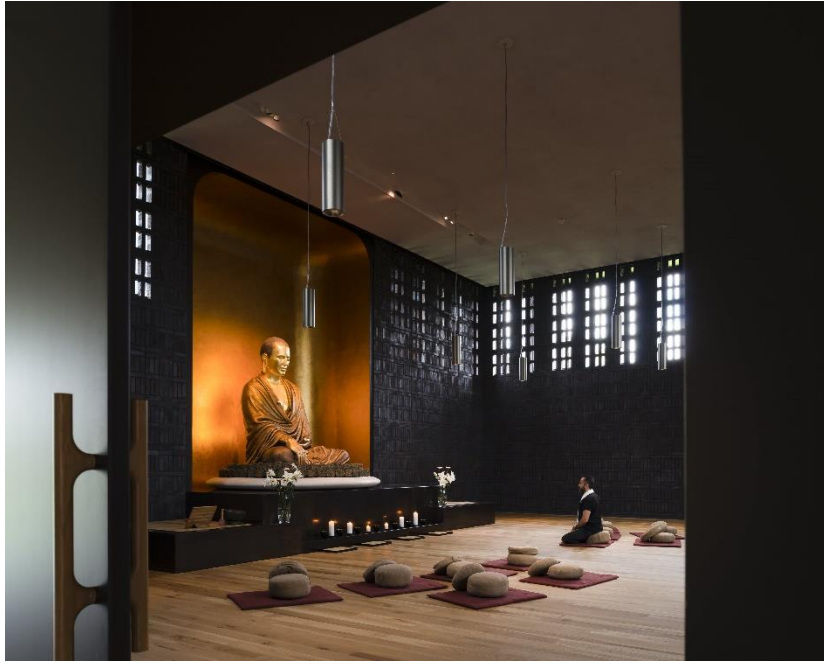


Fig 2.3.6 : Shrine room



Fig 2.3.7 : Shrine room

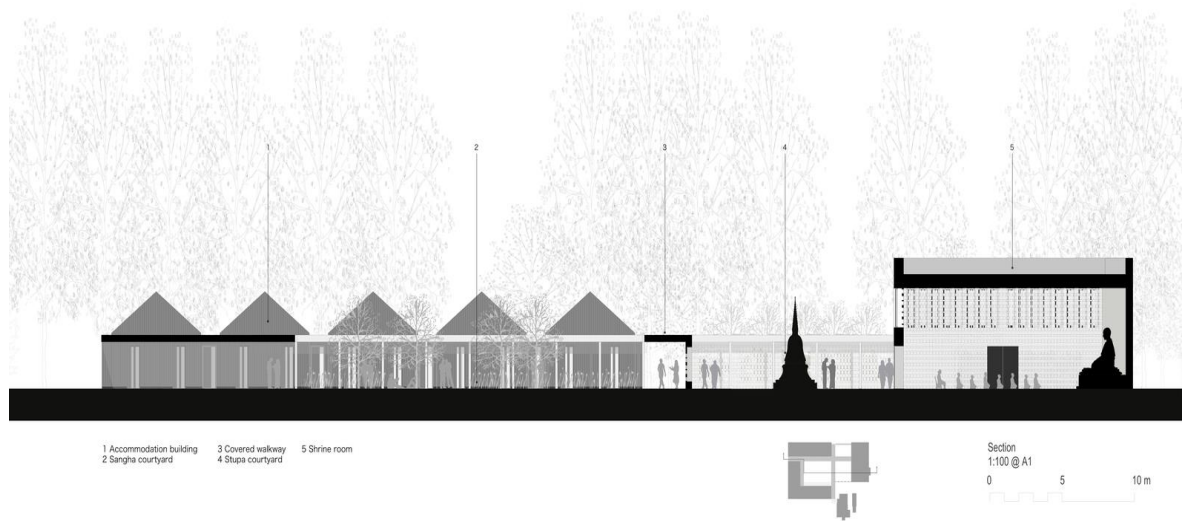


Fig 2.3.8 : Section of the Center

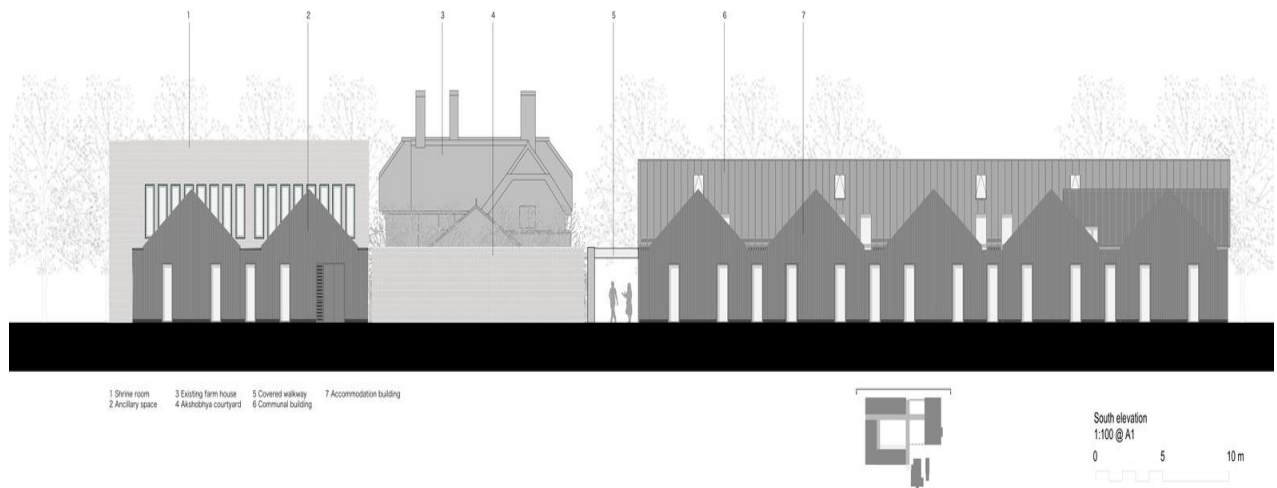


Fig 2.3.9 : Elevation of the Center

2.3.4 Structure

Precast concrete portal frame to communal building and concrete frame (beam and column) along the walkway.

Windows :

- Skylight to the communal building Schüco FW50+ SG SI thermally broken skylight system
- Windows to the shrine room Schüco AWS 75.SI side hung, thermally broken, outward opening window system.
- Windows to the accommodation block Ideal Combi Futura+ triple-glazed composite window

Zinc standing seam roof :

- VM Zinc standing seam roofing including proprietary membranes, thermal insulation, flashings, fixings, profiles and accessories

Internal walls :

- Internal painted concrete block with flush joints

Internal and external floor :

- Slip-resistant, resin-bound gravel

Ceilings:

- 18mm birch plywood ceiling board sanded finish, appearance under class II grade BB and with fire protection treatment
- British Gypsum CasoLine MF suspended plasterboard ceiling on metal grid finished with a decorative acoustic spray coating.

2.3.5 Landscaping

The inner gardens are for meetings and meditation; their spirit is not directly related to Suffolk, but is created by the Buddhist community and their own narrative. There was a particularly close collaboration between the client, architects and landscape designers; and carefully composed gardens and courtyards were set among connected dining, meeting and sleeping spaces.

The building embraces three inner gardens, each with a distinctive theme and long vistas to the countryside. At the heart of the site is a garden for retreatants, framed by a colonnade walk with green oak seats and timber surfaces. This area is domestic and ever changing, with seasonal and scented plants, and forms a meeting place for the community. A smaller courtyard is set around the Akshobhya Buddha sculpture, and symbolizes a reflection of reality.

The Buddha sits above a water mirror, and the space comprises four elements: blue-green granite, water, planting and dark terracotta bricks. Finally, the stupa courtyard is for walking meditation. It is a dry space, bare of vegetation and minimal in texture. The magnificent limestone stupa rests on pale Pennant stone from the Forest of Dean and is surrounded by matching river gravels and circular stone seats.

None of our team is Buddhist, but we feel the design process was enlightening and are grateful for having had the opportunity to be part of a very special design team.



Fig 2.3.10 : Greeneries in the courtyard

2.4 MATRIMANDIR.

2.4.1 Introduction

Location : Auroville , Tamilnadu.

Started in : 21 Feb 1971

Completed in : Feb , 2008

Typology : House of Meditation

Major components : Meditation Center

- The name 'Matrimandir' means literally "Temple of the Mother". According to Sri Aurobindo's teaching, the 'Mother' concept stands for the great evolutionary, conscious and intelligent principle of Life, the Universal Mother, - which seeks to help humanity move beyond its present limitations into the next step of its evolutionary adventure, the supramental consciousness.
- At the very centre of Auroville one finds the 'soul of the city', the Matrimandir, situated in a large open area called 'Peace, from where the future township will radiate outwards. The atmosphere is quiet and charged, and the area beautiful, even though at present large parts of it are still under construction.
- As yet incomplete, the Matrimandir emerges as a large golden sphere which seems to be rising out of the earth, symbolizing the birth of a new consciousness seeking to manifest. Its slow and steady progress towards completion is followed by many.



Fig 2.4.1 : Front view of the Matrimandir

2.4.2 Inner Chambers

The spacious Inner Chamber in the upper hemisphere of the structure is completely white, with white marble walls and white carpeting. In the centre a pure crystal-glass globe suffuses a ray of electronically guided sunlight which falls on it through an opening at the apex of the sphere. The four pillars that support the structure of Matrimandir, and carry the Inner Chamber, have been set at the four main directions of the compass.

Mahakali (North Pillar)

- Another embodies her power of splendid strength and irresistible passion, her warrior mood, her overwhelming will, her impetuous swiftness and world-shaking force.

Maheshwari (South Pillar)

- One is her personality of calm wideness and comprehending wisdom and tranquil benignity and inexhaustible compassion and sovereign and surpassing majesty and allruling greatness.

Mahalakshmi (East Pillar)

- A third is vivid and sweet and wonderful with her deep secret of beauty and harmony and fine rhythm, her intricate and subtle opulence, her compelling attraction and captivating grace.

Mahasaraswati (West Pillar)

- The fourth is equipped with her close and profound capacity of intimate knowledge and careful flawless work and quiet and exact perfection in all things.

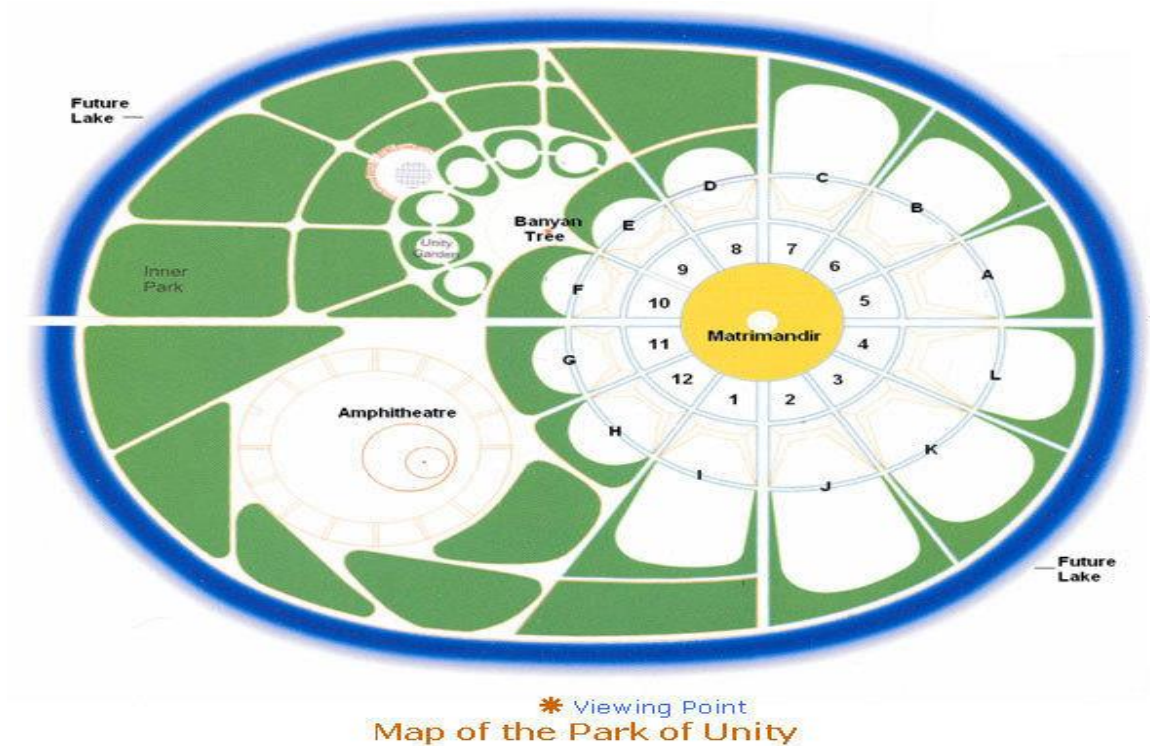


Fig 2.4.2 : Site Plan of the Matrimandir

2.4.3 The Mother's Symbol and the Petals

- The meditation rooms inside the twelve stone-clad 'petals' surrounding the Matrimandir carry the names and colours of the 'petals' in the Mother's symbol.
- The below mentioned names and colours have been integrated into the sequence of the meditation rooms which are being completed inside each of the twelve petals surrounding the structure in the following order:
 - Sincerity - light blue
 - Peace - deep blue
 - Equality - blue violet
 - Generosity - pure violet
 - Goodness - reddish violet
 - Courage - red
 - Progress - orange red

- Receptivity - orange
- Aspiration - orange yellow
- Perseverance - pale yellow
- Gratitude - pale green
- Humility - deep green

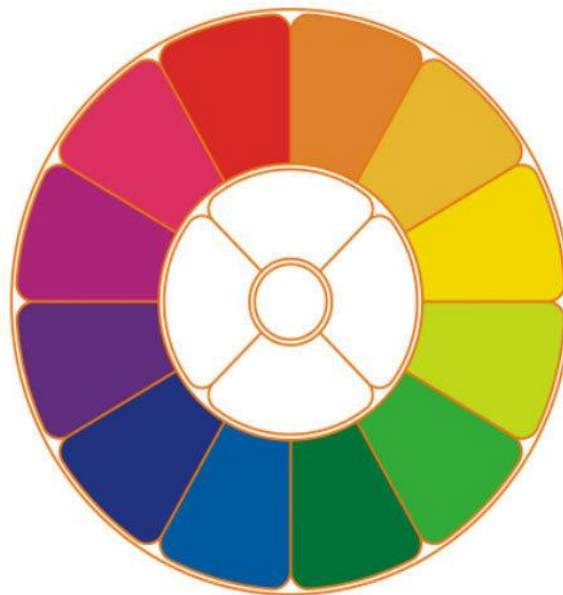


Fig 2.4.3 : The Mother's Symbol in Colour

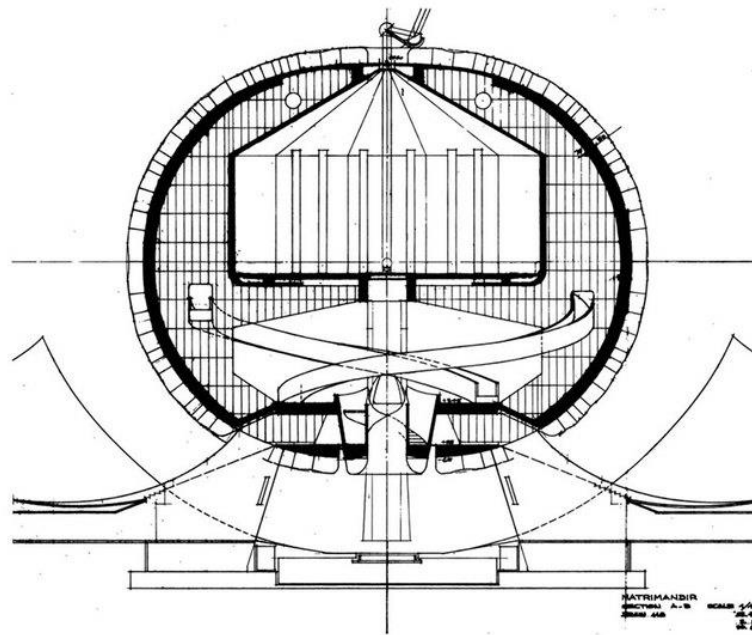


Fig 2.4.4 : Section of Matrimandir

2.4.4 Elements

The Crystal Globe

The crystal for the Matrimandir arrived in Auroville on 26-4-91 at 10.15 p.m. It was moved into the Matrimandir's Inner Chamber the very next day at 09.45 a.m. The size of 70 cm diameter was marked on the original plan that Mother had drawn for the central object in the Chamber. In July 1983, the searchlight fell on the firm of Schott in Mainz, and somewhat later on Zeiss in Oberkochen, both in Germany. These firms proposed the type of crystal optically perfect glass - with the name of Bohr Kron 7. On the 8th of June 1984, Zeiss presented the study, and gave the estimate: approx. 230.000 German Marks.

The columns

The columns arrived at Matrimandir in the beginning of January 1990. They were 24-inch diameter, galvanised, seamless steel pipes, 8.65 mtr long, weighing 830 kg each. The painting job appeared straightforward and the first two were done completely in a couple of months. A dedicated team started putting in extra time, a few infra-red lights appeared to help the drying, and then even an electric polishing machine arrived to speed up the work. There are an average of 15 coats of paint

on each column with finer and finer sanding between coats after which the final polishing was done.

The gold discs

- Disc frame: - Stainless steel tubes
- Disc material: - stainless steel sheet
- Gold leaf: - 28 gm of gold per 1000 leaves
- Leaf size: - 85 x 85 mm
- Total number of discs:- 1415
- Small convex discs: - 954
- Large concave discs: - 461
- Average diam. (large discs): - 2.3 meter
- Average diam. (small discs): - 1.5 meter

The Carpet :

The carpet in the meditation chamber was woven in Agra using a blend of the finest Merino wool imported from New Zealand. This project was completed under the skilful guidance of Mr. Meattle of India Carpets and Furnishing Company, one of India's top carpet makers. It took 6 months to weave the twelve sections and two spare pieces) which cover the entire floor area of the Chamber. The manufacturing was done on a specially designed handloom using the Wilton weaving system. This system gives a carpet all the good qualities of a machine-made carpet as well as the special qualities of a handmade one.

The Heliostat and Lens :

The heliostat is controlled by a computer program, which moves a mirror across the sun's path every day. This mirror projects sunlight into a lens, that projects the single sun ray down on the crystal. To make sure that the ray strikes the crystal exactly in the centre, a photo sensor is installed in the path of the ray itself and relays the data on the ray's position to the computer, which in turn will adjust the ray to the correct position if necessary.

2.5. COMPARATIVE CASE STUDY

NAME	LOCATION	SITE AREA	ARCHITECT	TYPOLGY	CLIMATE	ACCESSIBILITY	PLANNING	MATERIAL USED	CAPACITY	PARKING	PEDESTRIAN / VEHICULAR ACCESS
GAUTHAM BUDDHIST UNIVERSITY	Yamuna expressway, Greater Noida, India.	511 acres	C P Kureja Architect	University	local steppe climate	The site is located Yamuna near Expressway Easily Accessible.	 The site is very unique irregular polygon shape. The main part of the building was plan in the form of Buddha Enlightenment.	Project uses local building materials and local craft skills. Architecture elements like jaalis and chajjas, reduce the heat intake in the building, thereby reducing electrical energy consumption.	5000 Students & 500 staffs Total no. of classroom = 190 Eight Academic block	Vehicles are restricted at the entrance of the site. The parking is provided near entrance.	There is proper vehicular access to all the buildings. The pathways are used for both vehicular and pedestrian movement.
IIM AHMEDABAD	Ahmedabad.	66 acres	Louis Kahn	Institute	tropical savanna climate	The site is located on 132 feet main road. Easily Accessible.	 The site is placed diagonal system. The planning of open spaces has been done with the system of courts.	Brick has been used as primary building material for the entire complex walls. Brick arches have been used for wider spans. Concrete has been restricted to floor slabs, foundations and ties for arches.	1105 Students & 110 Faculty Total no. of classroom & Seminar room = 10	Vehicles are restricted at the entrance of the site. The parking is provided near entrance.	The full site has proper pedestrian access.
VAJRASANA BUDDHIST RETREAT CENTER	Walsham le Willows, UK.	1355 m²	Walters & Cohen Architects	Retreat Center	temperate oceanic climate	The site is little far from the main road. The distance from the main road to the site is about 50 m.	 linear planning.	The building is wrap around with charred timber. The pitched roof design draws light and air into the rooms. A dark, multi-toned brick envelops the shrine room, meditative Stupa courtyard and serene Akshobhya courtyard.	60 Guests	Vehicles are restricted at the entrance of the site. The parking is provided near entrance.	The full site has proper pedestrian access.
MATIRMANDIR	Auroville, Tamilnadu.		Roger Anger	Meditation Center	tropical wet and dry climate	The site is located near Matirmandir road. Easily Accessible.	 The plan is in the form of circular shape.	The columns were 24-inch diameter, galvanised, seamless steel pipes, 8.65 mtr long, weighing 830 kg each. The carpet in the meditation chamber was made of finest Merino wool. The cover of structural frame is gold discs.		The parking is far away from the site.	Pedestrian access is preferred more for the public to experience the site.

3.1. AREA REQUIREMENTS

ADMINISTRATION BLOCK

- Admission room
- Account room
- Reception
- Founder room
- Waiting Area
- Board room
- Ticket counter for meditation center
- Toilets
- Xerox room

ACADEMIC BLOCK

- Classroom
- Faculty room
- HOD room
- Lecture hall
- Exam cell
- Toilets

MEDITATION CENTER

PRAYER HALL

MESS HALL

- Dining area
- Kitchen
- Storage room

- Dish washing Area

RESIDENTIAL AREA

Monks , Nuns , Gents & Ladies

- Hostel room
- Multipurpose Hall
- Store room
- Doctor room
- Nurse room
- Ward

FACULTY ACCOMODATION

- Hostel room
- Multipurpose Hall
- Store room

AUDITORIUM BLOCK

- Seating Area
- Toilets
- Waiting Lounge
- Stage

LIBRARY

- Reading Area
- Lobby
- Book Shelf
- Computer center
- Toilets

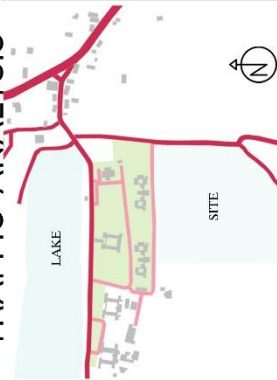
- Office

SITE ANALYSIS

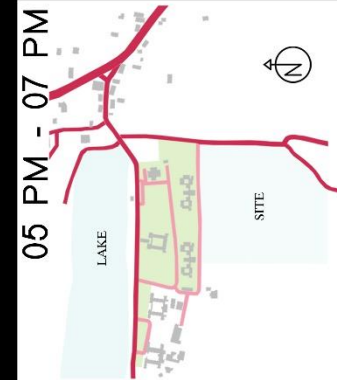
LOCATION



TRAFFIC ANALYSIS



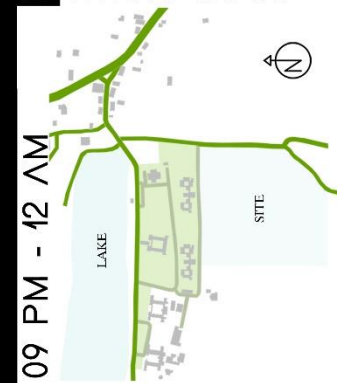
08 AM - 10 AM



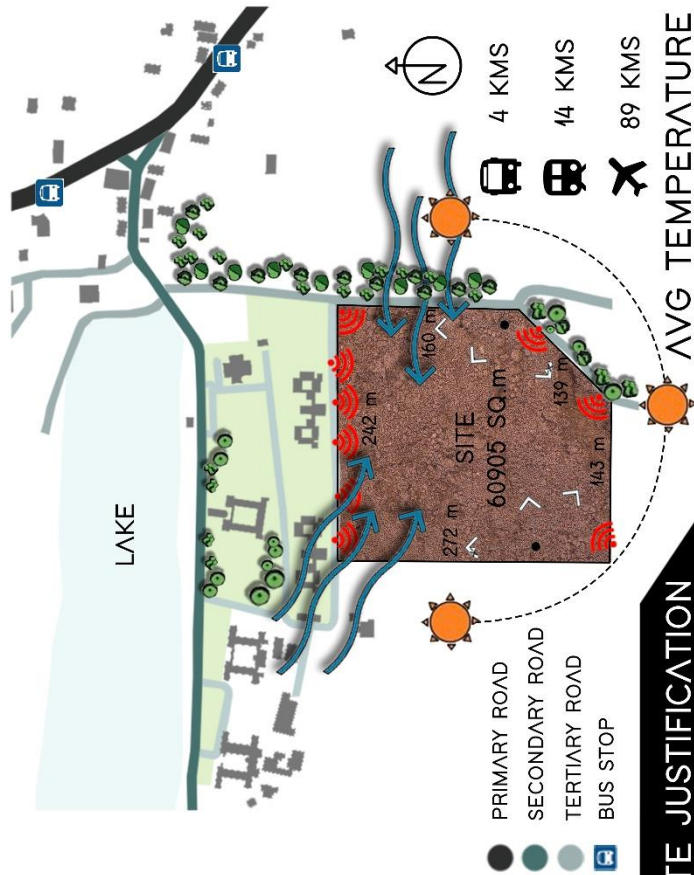
05 PM - 07 PM



12 PM - 01 PM

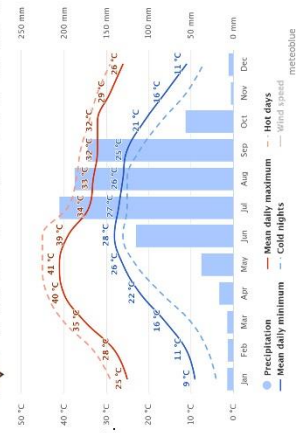


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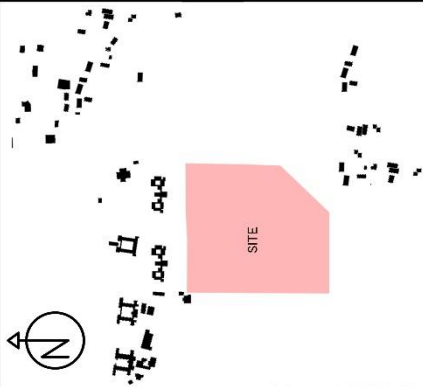


SITE JUSTIFICATION

Nalanda was an ancient Mahavihara, a revered Buddhist monastery which also served as a renowned centre of learning, in the ancient kingdom of Magadha (modern-day Bihar) in India. The university of Nalanda obtained significant fame, prestige and relevance during ancient times, and rose to legendary status due to its contribution to the emergence of India as a great power around the fourth century.

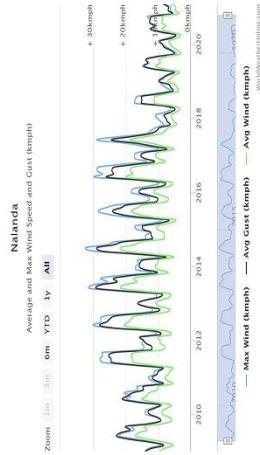
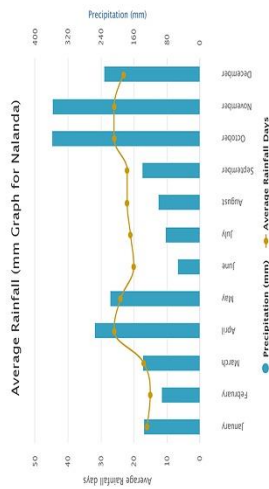


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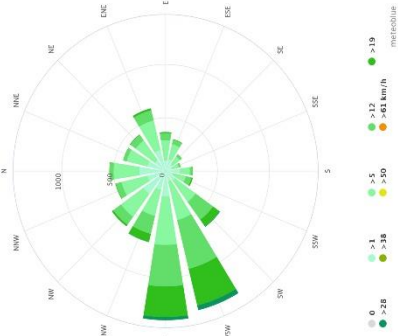


NALANDA

AREA : 2367 SQ. KM2
 ALTITUDE : 67 METRES
 LATITUDE : 25.1368° NORTH
 LONGITUDE : 85.4438° EAST
 WINTER TEMP : 4°C - 27°C
 SUMMER TEMP : 17°C - 44°C
 AVG ANNUAL RAINFALL : 120 CM
 BEST TIME TO VISIT : OCT - MAR
 LANGUAGES : HINDI, URDU, ENGLISH
 MAIN OCCUPATION : AGRICULTURE
 CROPS : PADDY, POTATOES, ETC.
 RIVERS: PHALGU, JIRAYAN, KUMBHAR

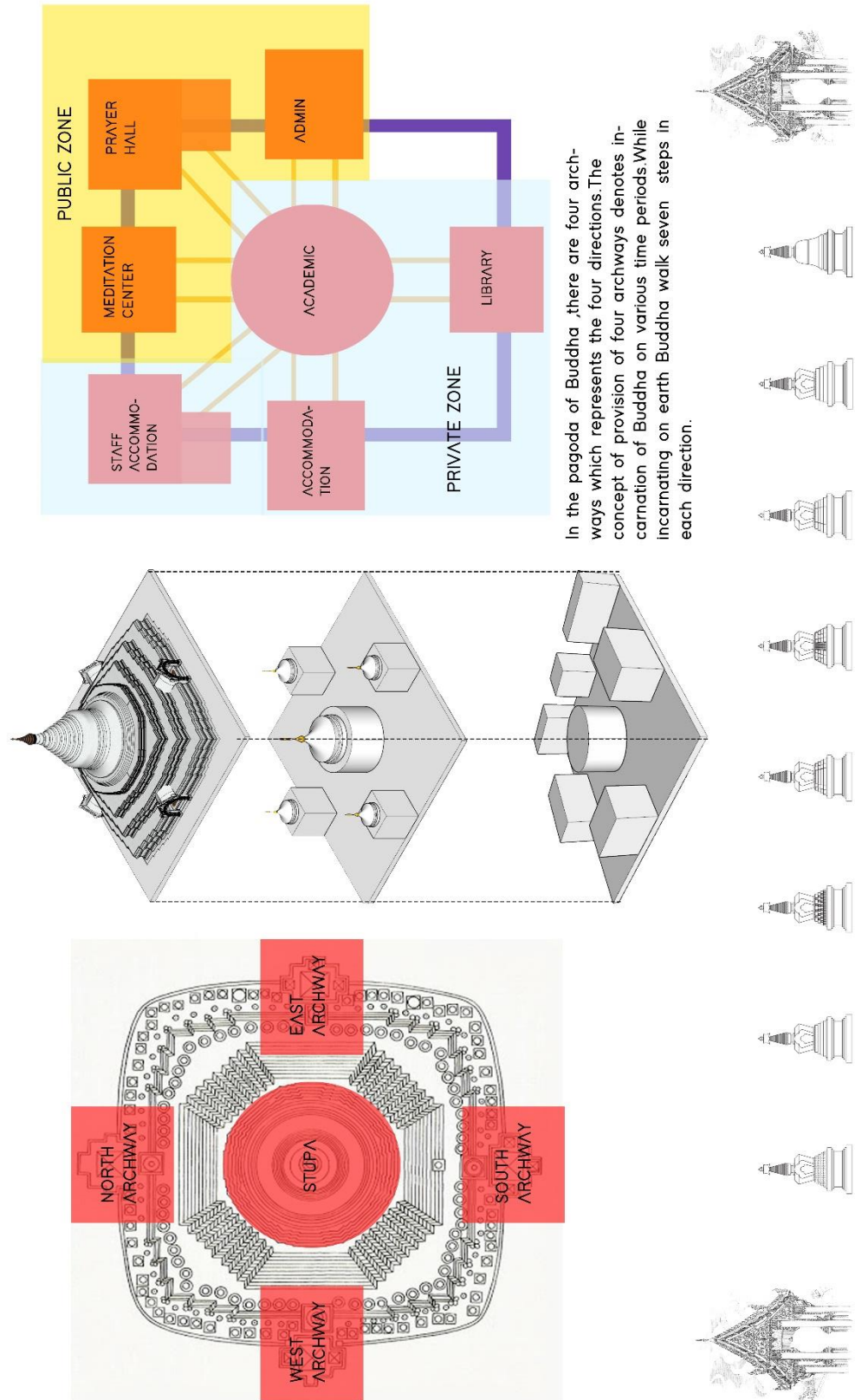


WIND ROSE



3.3 CONCEPT

CONCEPT



3.4 ZONING

ZONING

