

An aerial photograph of a university campus. The image shows several multi-story buildings with flat roofs, some featuring solar panels. There are large green trees scattered throughout the campus, and a paved road with a white dashed line runs along the bottom edge. A green semi-transparent banner is overlaid on the bottom half of the image, containing text.

MASTER OF ARCHITECTURE (Environmental Design)

**PLACEMENT BROCHURE
2023-25**

About FOAP

The Institute "Faculty of Architecture and Planning-AKTU", Primarily a faculty of Dr. A. P. J. Abdul Kalam Technical University Lucknow, is set on a 6-acre site and is a short walk from Hazratganj's city centre. It was founded in 1911 as a branch of the Government College of Arts and Crafts and is one of the country's oldest.

- 1911 -

Started as a part of "Government College of Arts and Crafts" at Lucknow

- 1976 -

Separated as individual institute by name of Government College of Architecture

- 1980 -

Became a constituent college of Lucknow University and renamed as "GCA"

- 2006 -

Gained autonomous status and functioned as Lucknow College of Architecture

- 2009 -

Became part of AKTU known as "Faculty of Architecture and Planning"

-2019-

Started course as M.Arch. In Environmental Design



FOAP

Principal's Message



"Architecture is a usual art and is experienced through all our senses.

According to Corbusier, we feel it through "eyes that see, head that turns and the legs that walk."

The buildings are the reflection of man's aspirations. These designs are brought to life by architects. These architects are created from young creative minds through rigorous training and technical knowledge imparted by experienced faculty and a conducive environment. At the faculty of architecture, AKTU, we aspire for out of the box solutions and yet be grounded in reality.

PROF. (DR.) VANDANA SEHGAL
Dean and Principal (FOAP, AKTU)

Coordinator's Message



Faculty of Architecture and Planning, AKTU aims to play a key role in preparing future Interior designers to meet the industry challenges by offering this specialized program. The

Masters of Architecture program in Environmental Design is designed to establish a cohesive relationship among architecture, Sustainability, and technology, equipping our graduates with the skills and knowledge needed to respond effectively to the evolving challenges within the environmental design industry. Through a rigorous curriculum grounded in scientific research and analysis, as well as a multidisciplinary approach to understanding various sustainable design trends and traditional wisdom, our students are well-prepared to tackle real-world design problems with creativity and innovation. One of the key strengths of our program lies in its focus on developing solutions for the environmental designs of various typologies of built environments. Whether it's residential, commercial, hospitality, or institutional spaces, our graduates have the expertise to create thoughtful and impactful designs that meet the needs of diverse clients and users.

Additionally, our curriculum delves into essential subjects such as design theories, advanced materials, techniques, and processes, ensuring that our graduates are well-versed in the latest advancements in the field.

We invite you to connect with us and explore the opportunity to collaborate with our talented graduates to bring their unique perspectives and skills to your organization.

DR. FARHEEN BANO

Assistant Professor

M.ARCH (ED) Coordinator

Our Mentors



PROF. (DR.) VANDANA SEHGAL
(Dean and Principal)



PROF. (DR.) RITU GULATI
(Head of Department)



DR. FARHEEN BANO
Assistant Professor
(Course Co-ordinator)



PROF. (DR.) SUBHRAJIT BANERJEE
Professor



DR. MEETA TANDON
Associate Professor



AR. ISHWAR CHANDRA VIDYA SAGAR
Assistant Professor



Ar. DIVYA PANDEY
Assistant Professor



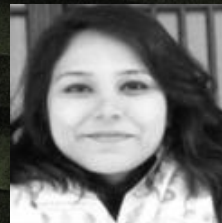
PL. ARUNDHATEE MISHRA
Assistant Professor



Ar. SHRIYAK SINGH
Assistant Professor



Ar. DIVYANSHI SRIVASTAVA
Assistant Professor



Ar. OORVI SINGH
Assistant Professor



Ar. ARUN SRIVASTAVA
Visiting Faculty



Ar. AAMIR
Research Scholar

The Master of Architecture course in Environmental Design establishes cohesive relations amongst architecture, technology and sustainability, enabling graduates to respond effectively to the growing environmental challenges faced by the building industry and planet Earth.

This program offers an opportunity to expand students knowledge base for developing solutions for the environmental sustainability of the built environment, grounded in rigorous scientific research and analysis with a multidisciplinary approach to understanding issues related to energy efficiency and traditional wisdom of the built environment.

The FoAP, AKTU aims to play a key role in preparing future decision-makers to meet sustainable development challenges by offering this specialized course. The aim is to develop skills, knowledge and understanding related to environmental sustainability, construction and building technology, adopting the principles and practices of sustainable building design while responding to environmental challenges such as Climate change, environmental degradation, Pandemic, etc.

M.ARCH (ED) About Course Curriculum

SMALL SCALE DESIGN

Building Level Design
Environmental Modelling

1st SEMESTER

LARGE SCALE CAMPUS DESIGN

Campus Level Design
Remote Sensing & GIS Application

2nd SEMESTER

URBAN LEVEL DESIGN

Urban and Precinct Level Design
Pollution Monitoring
Life Cycle Assessment

3rd SEMESTER

STUDIO

1

ECO HOTEL



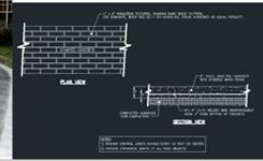
RIVER STONE

Medium River Rock is a small, multicolored decorative stone used for landscaping and drainage applications.



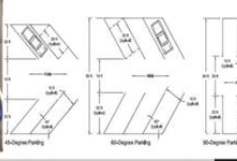
STAMPED CONCRETE

Stamped concrete is concrete that has been imprinted, or that is patterned, textured, or embossed to resemble brick, slate, flagstone, stone, tile, wood, or various other patterns and textures.



ANGLE PARKING

Pulling into a space that's at a 45 degree angle with the curb is called angle parking. With a few exceptions on one-way streets, you'll always enter an angled parking space that's on your right.



DESIGN BRIEF

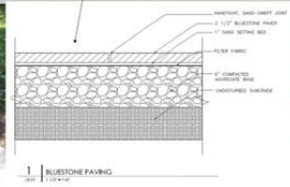
The objective of this exercise was to understand in depth, the environmental factors affecting human comfort and creation of comfort conditions along with the associated building physics.

3D VIEWS



BLUESTONE

Bluestone for patios is durable, attractive, and ideal for all kinds of uses. Bluestone is a natural stone that can also be used for pool decks, stone steps, or entryways.



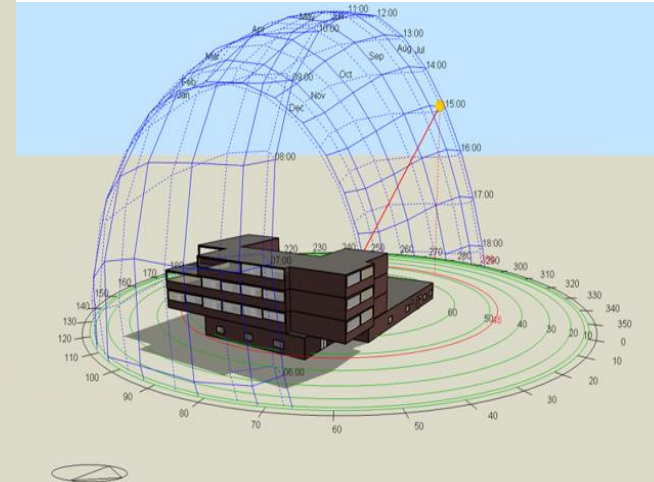
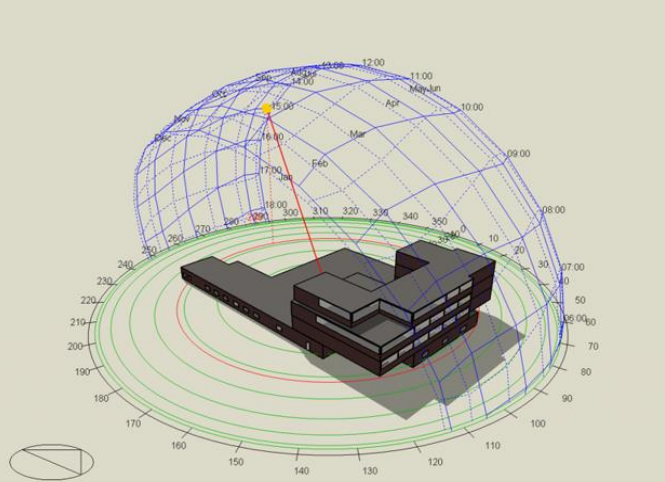
TERRACE GARDEN

A terrace garden is a garden with a raised flat paved or graveled section overlooking a prospect. A raised terrace keeps a house dry and provides a transition between the hardscape and the softscape.



COURTYARD

A courtyard is an open-air area surrounded by tall walls or buildings, typically located in a building's center. Modern courtyards are an architectural feature most commonly seen in office spaces and universities, where students and workers can relax, eat, or talk to peers.



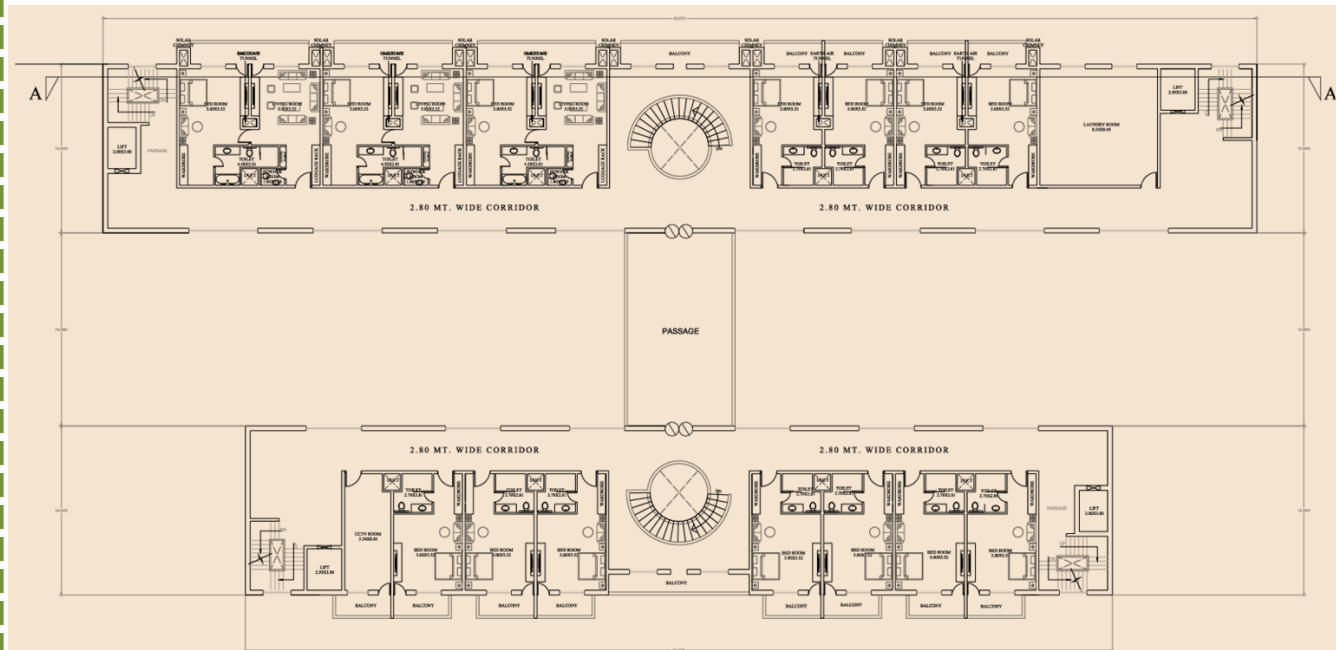
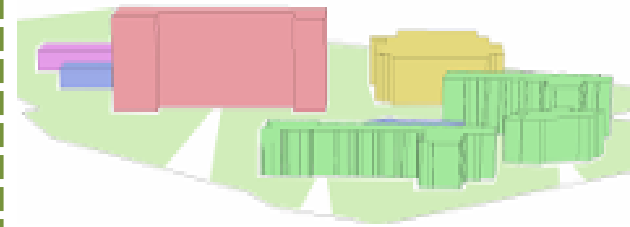
STUDIO

1

DESIGN BRIEF

The objective of this exercise was to understand in depth, the environmental factors affecting human comfort and creation of comfort conditions along with the associated building physics.

3D VIEWS

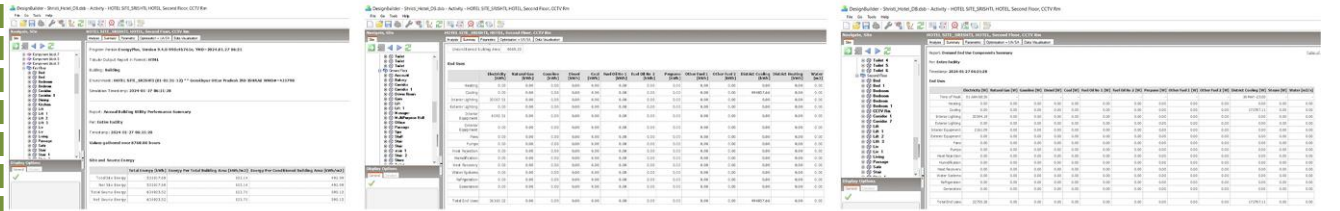
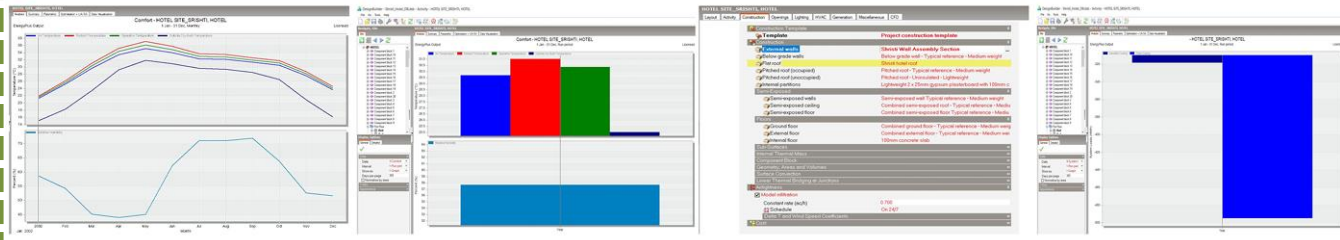
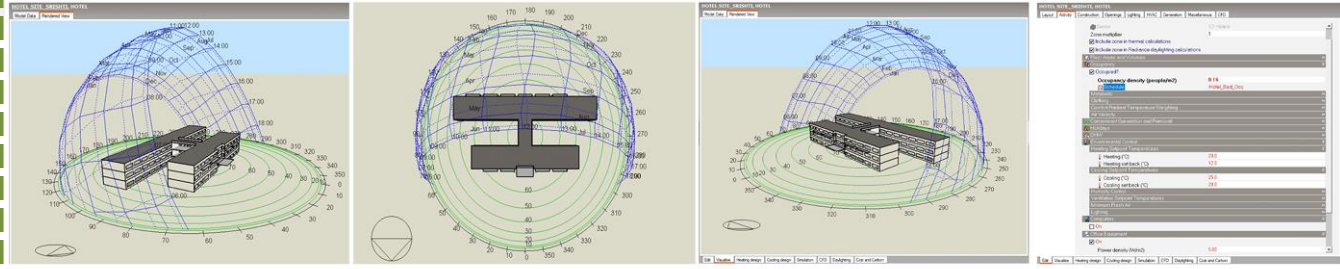


STUDIO

1

DESIGN BRIEF

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3D VIEWS



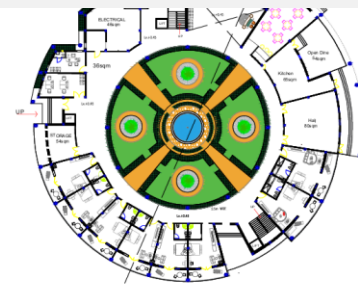
STUDIO

1

DESIGN BRIEF

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PLAN



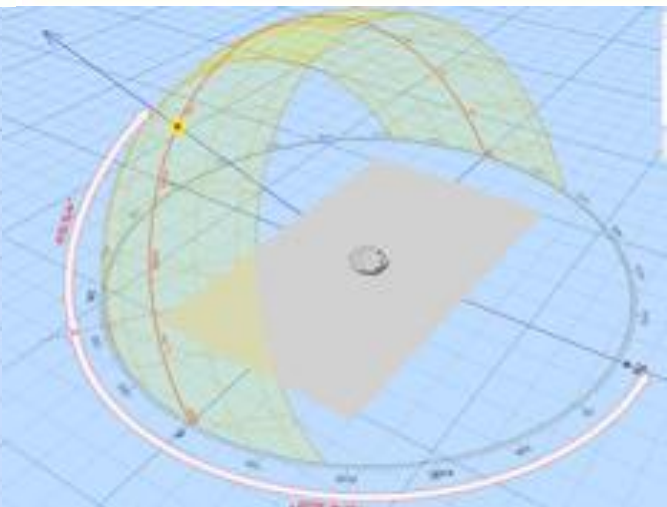
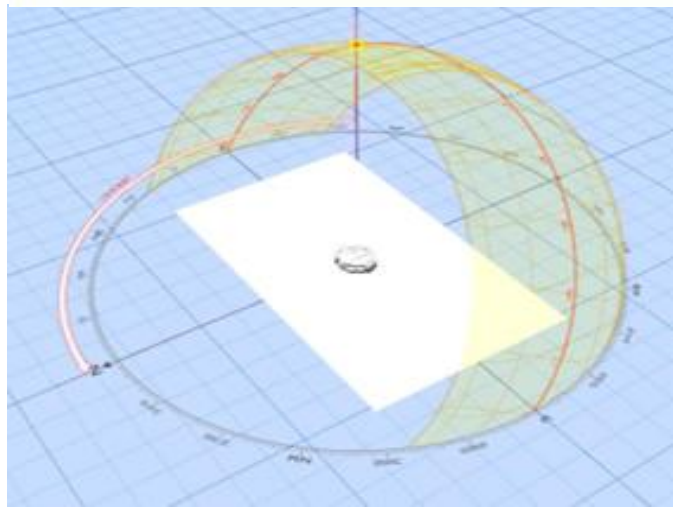
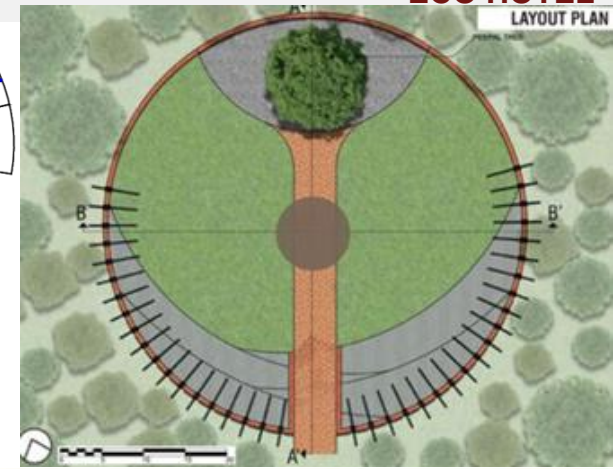
A' GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECTION AT A'A



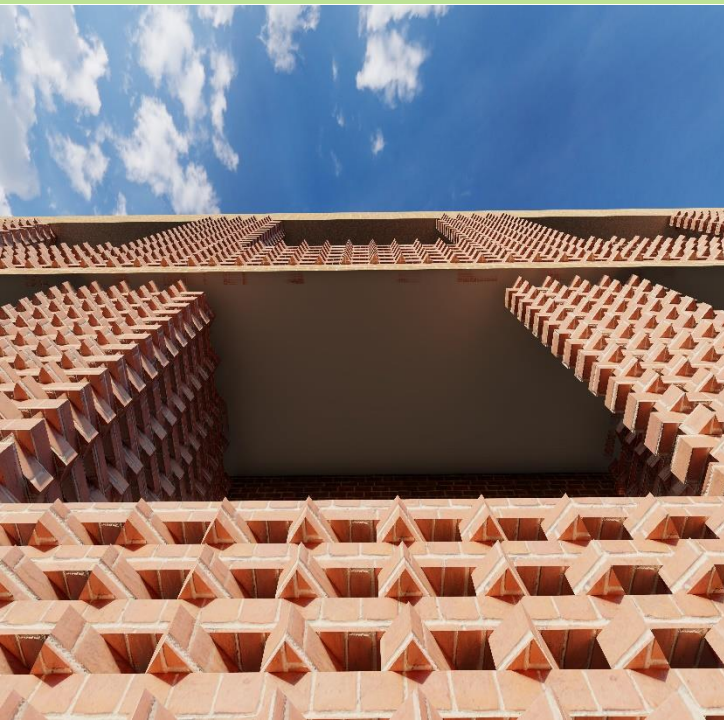
STUDIO

1

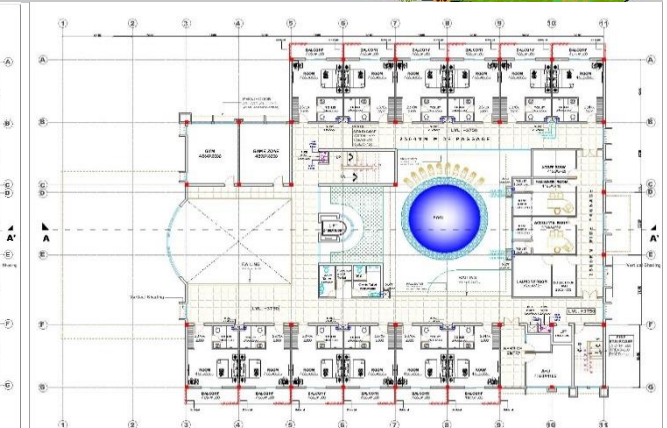
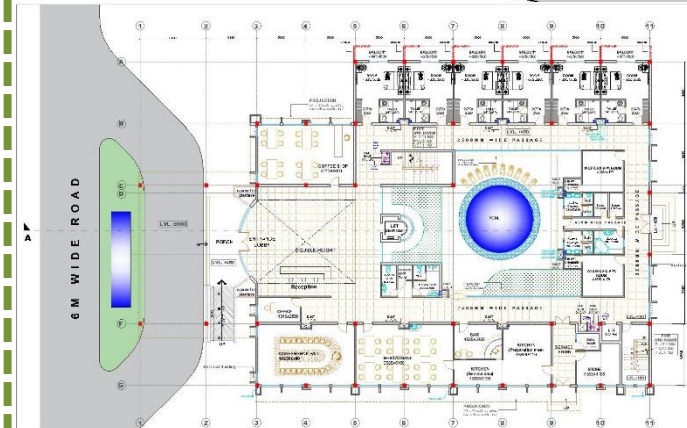
DESIGN BRIEF

The objective of this exercise was to understand in depth, the environmental factors affecting human comfort and creation of comfort conditions along with the associated building physics.

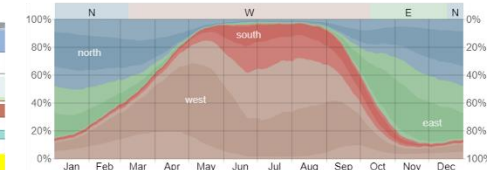
3D VIEWS



ECO HOTEL DESIGN

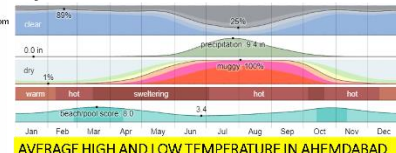


- The predominant average hourly wind direction in Ahmedabad varies throughout the year.
- The wind is most often from the **west** for 7.0 months, from **March 8** to **October 9**, with a peak percentage of 85% on **May 14**. The wind is most often from the **east** for 2.3 months, from **October 9** to **December 17**, with a peak percentage of 55% on **November 8**. The wind is most often from the **north** for 2.7 months, from **December 17** to **March 8**, with a peak percentage of 47% on **January 1**.



Climate and Average Weather Year Round in Ahmedabad

- In Ahmedabad, the wet season is oppressive and mostly cloudy, the dry season is mostly clear, and it is hot year round.
- Over the course of the year, the temperature typically varies from **55°F to 106°F** and is rarely below **50°F** or above **111°F**.
- Based on the beach/pool score, the best times of year to visit Ahmedabad for hot-weather activities are from **late February** to **mid April** and from **mid October** to **mid November**.



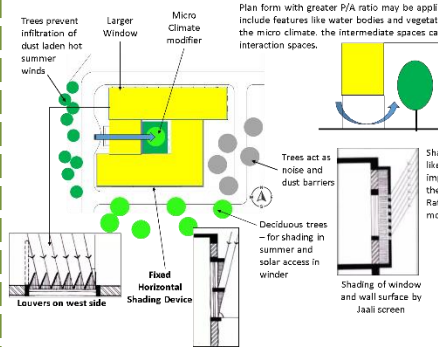
DESIGN BRIEF

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FORM GENERATION

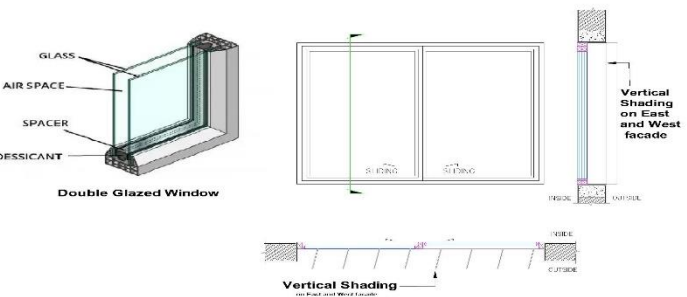


BUILDING FORM according to climate

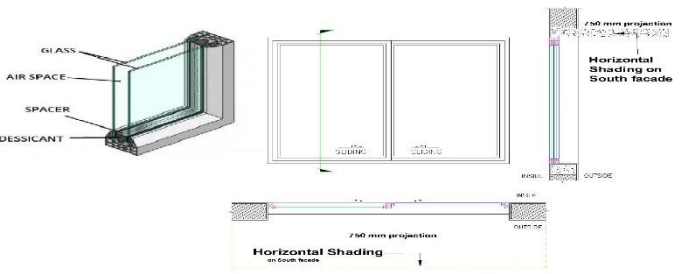


SHADING

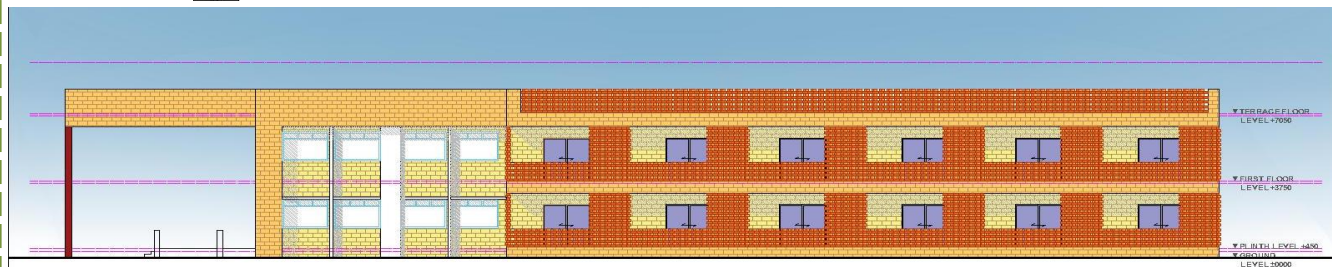
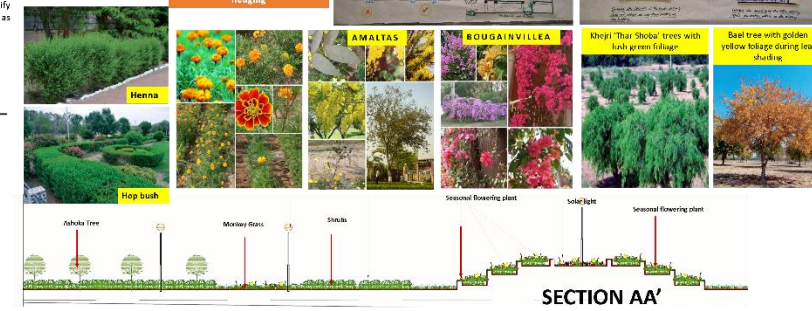
WINDOW DETAIL FOR EAST AND WEST FACADE



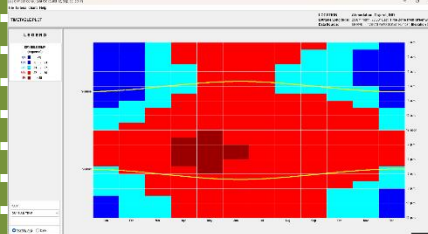
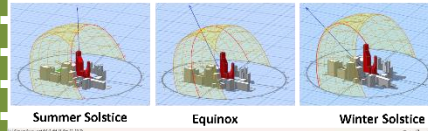
WINDOW DETAIL FOR SOUTH FACADE



Native Plant



Location:- Ahmedabad (Latitude: 23.02 °N; Longitude: 72.57 °E)



Sunshade design for building located at Ahmedabad, Gujarat

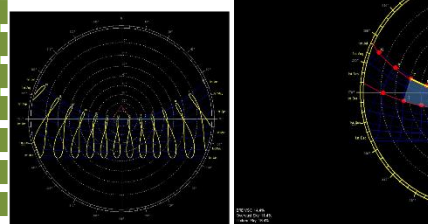
1- The period of the year when shading is required.

1st April to 31st August

In this period, longest sun path- 21st June & shortest

2- The time duration when shading is required in different facades.

Direction	Timing	Required Shading
East	8am to 12pm	Vertical Shading(HSA)
South	11am to 2pm	Horizontal Shading(VSA)
West	12pm to 5pm	Vertical Shading(HSA)



3.1- Azimuth and Altitude angle of the sun for these dates for every hours. (For-East)

Date & Time	Azimuth angle	Altitude angle
21 st June(8am)	74.2°	26.2°
21 st June(9am)	77.9°	39.5°
21 st June(10am)	81.3°	51.1°
21 st June(11am)	83.9°	66.8°
21 st June(12pm)	85.3°	80.5°

3.2- Azimuth and Altitude angle of the sun for these dates for every hours. (For-West)

Date & Time	Azimuth angle	Altitude angle
21 st June(12pm)	85.3°	80.5°
21 st June(1pm)	83.3°	65.7°
21 st June(2pm)	84.7°	71.9°
21 st June(3pm)	82.2°	58.2°
21 st June(4pm)	79.1°	44.6°
21 st June(5pm)	75.6°	31.1°

3.3- Azimuth and Altitude angle of the sun for these dates for every hours. (For-South)

Date & Time	Azimuth angle	Altitude angle
1 st April(11am)	123.2°	58.6°
1 st April(12pm)	149.3°	68.4°
1 st April(1pm)	167.5°	70.7°
1 st April(2pm)	132.8°	63.5°

4- The depth of the shading of the shading based on the lowest possible HSA (vertical shading device) and lowest possible VSA (horizontal shading device) for a window of width 2000mm and height 2100mm.

HSA for designing Vertical shading device (21st June)

	8am	9am	10am	11am	12pm
Azimuth	74.2°	77.9°	81.1°	83.9°	85.3°
Altitude	26.2°	39.5°	53.1°	66.8°	80.5°
HSA	15.5	12.3	8.9	6.1	4.7
VSA	27.08	40.13	53.43	66.91	80.53

For EAST facade, the lowest HSA is 4.7° at 12pm, Designing for this HSA would result in extremely large shading device. Hence the shading may be designed for an HSA of 10°.

HSA for designing Vertical shading device (21st June)

	12pm	1pm	2pm	3pm	4pm	5pm
Azimuth	85.3°	83.3°	84.7°	82.2°	79.1°	75.6°
Altitude	80.5°	65.7°	71.9°	58.2°	44.4°	31.1°
HSA	17.5	16.7	15.9	15.8	16.9	14.4
VSA	89.4	85.7	72	58.4	45.1	33.9

For WEST facade, the lowest HSA is 5.3° at 2pm, Designing for this HSA would result in extremely large shading device. Hence the shading may be designed for an HSA of 10°.

VSA for designing Horizontal shading device (1st April)

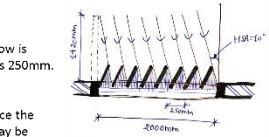
	11am	12pm	1pm	2pm
Azimuth	123.2°	149.3°	167.5°	132.8°
Altitude	58.6°	68.4°	70.7°	63.5°
HSA	-56.8	-30.7	-12.5	-47.2
VSA	71.51	71.14	71.17	71.28

For SOUTH facade, the lowest VSA is 71.12° at 1pm. Hence the shading may be designed for a VSA of 71°.

EAST Facade Shading

Shading by a single fin may result in very deep shading. If the window is divided into 8 louvers section of 250mm each, the effective width is 250mm.

Depth = width / tan(HSA) = 250 / tan 10° = 1420mm



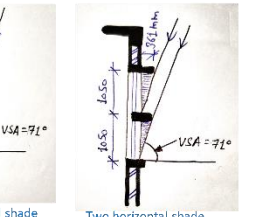
This depth can be reduced by designing the louvers at an angle. Since the sun is at a very low angle in east facade movable shades or trees may be needed to effectively shade the east facade from sun.

WEST Facade Shading

Shading by a single fin may result in very deep shading. If the window is divided into 8 louvers section of 250mm each, the effective width is 250mm.

Depth = width / tan(HSA) = 250 / tan 10° = 1420mm

This depth can be reduced by designing the louvers at an angle. Since the sun is at a very low angle in west facade movable shades or trees may be needed to effectively shade the west facade from sun.



SOUTH Facade Shading

For a Single horizontal shade, Depth = width/tan(VSA) = 2100 / tan 71° = 723mm

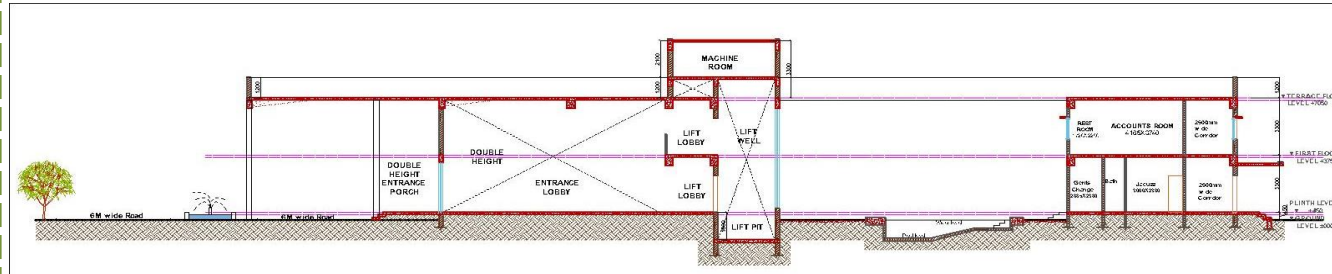
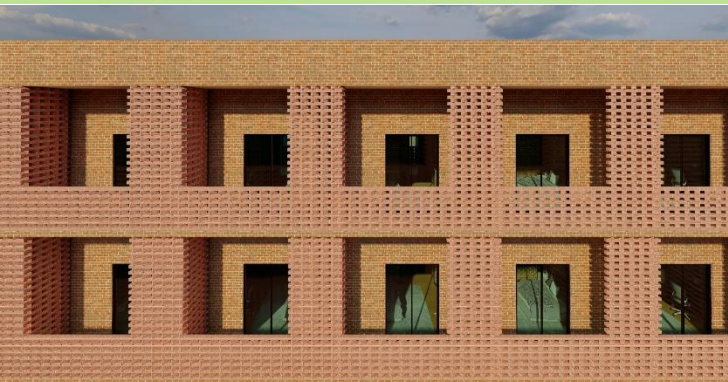
If Two horizontal shade, Depth = width/tan(VSA) = 2100 / tan 71° = 361mm

STUDIO 1

DESIGN BRIEF

The objective of this exercise was to understand in depth, the environmental factors affecting human comfort and creation of comfort conditions along with the associated building physics.

3D VIEWS



STUDIO

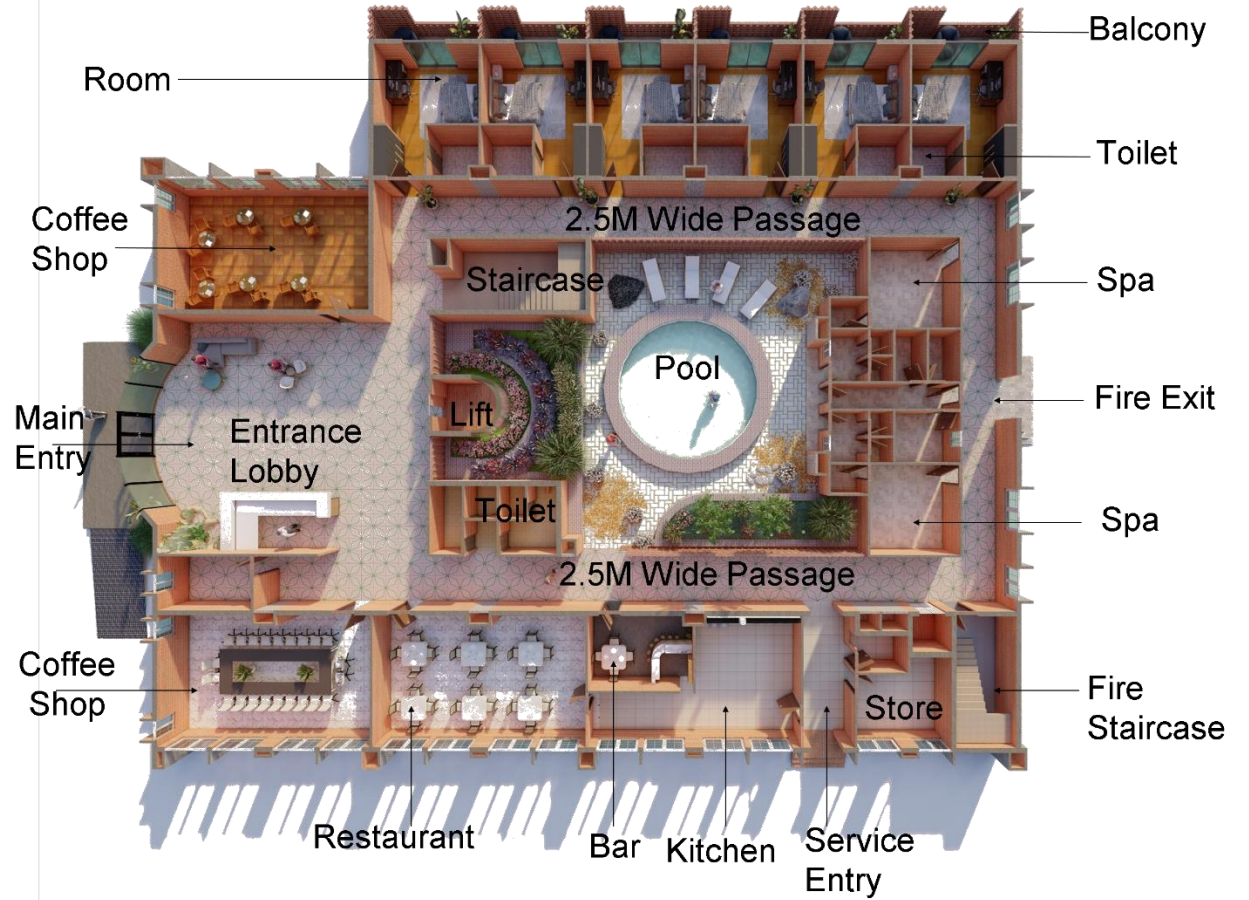
1

ECO HOTEL DESIGN

DESIGN BRIEF

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3D VIEWS



STUDIO

2

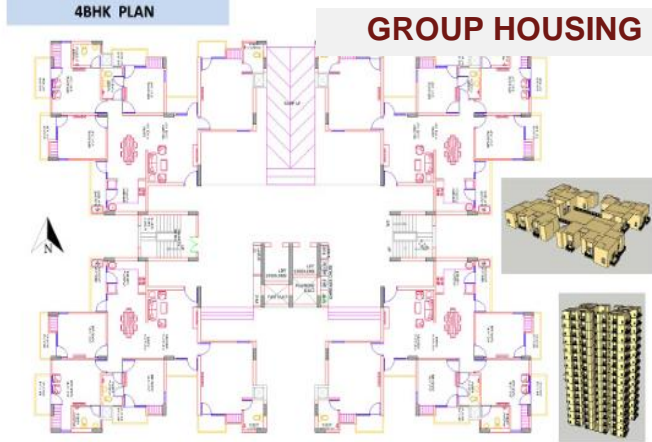
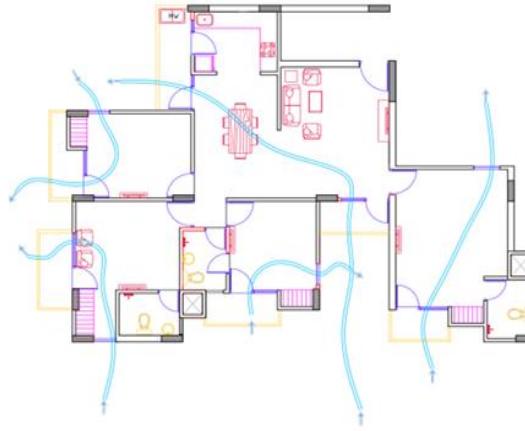
DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



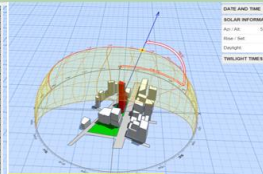
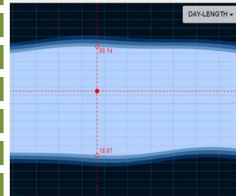
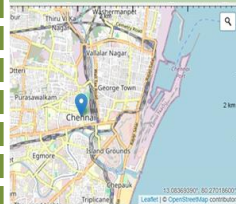
AIR MOVEMENT INSIDE



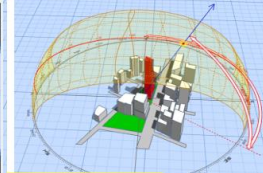
SITE PLAN



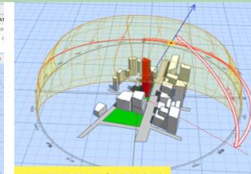
SUN PATH ANALYSIS



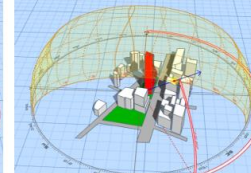
SUMMER SOLISTIC



WINTER SOLISTIC



AUTUMN EQUINOX



SPRING EQUINOX



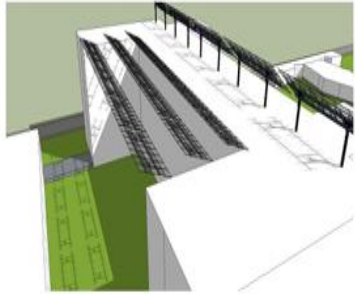
STUDIO

2

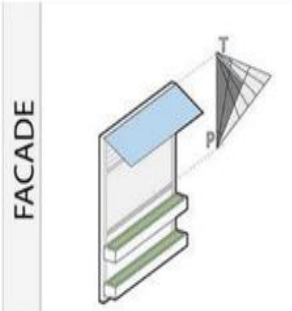
DESIGN BRIEF

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SHADING DEVICE



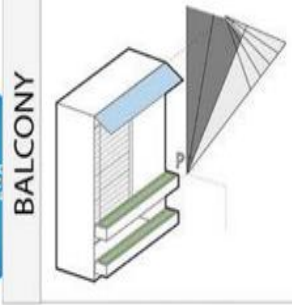
SOLAR PANELS shading courtyard



FACADE



SOLAR PANELS on roof top and as fenestration



BALCONY

SITE PLAN



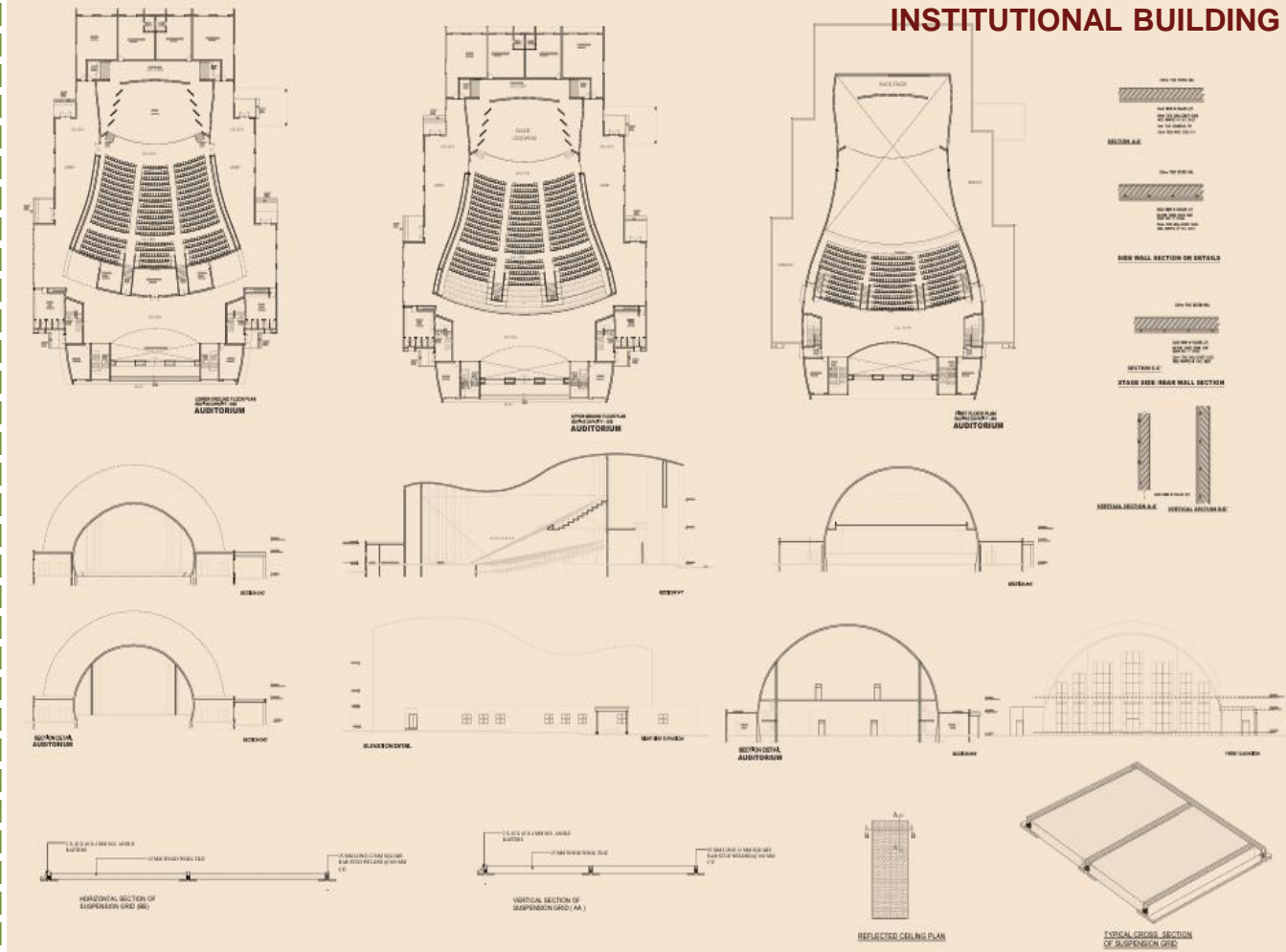
- ENT.
 - 1. Entrance lobby
 - 2. Entry to courtyard
 - 3. Entrance to basement
 - 4. Exit from basement
- CLUB
 - 5. Reception
 - 6. Restaurant
 - 7. Mini theater
 - 8. Parking
- LANDSCAPE
 - 9. Climbing and sitting mounds
 - 10. Secondary Staircase
 - 11. Bird House
 - 12. Steps to Basement
 - 13. Amphitheater
 - 14. Roop climber
 - 15. Green patch
 - 16. Pergola
 - 17. Trampolins
 - 18. Water fountain
- SPORTS
 - 19. Basketball
 - 20. Cricket
 - 21. Chess
 - 22. Ping Pong
 - 23. Tennis
 - 24. Green
 - 25. Pavement
 - 26. Services

STUDIO 2

DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



STUDIO

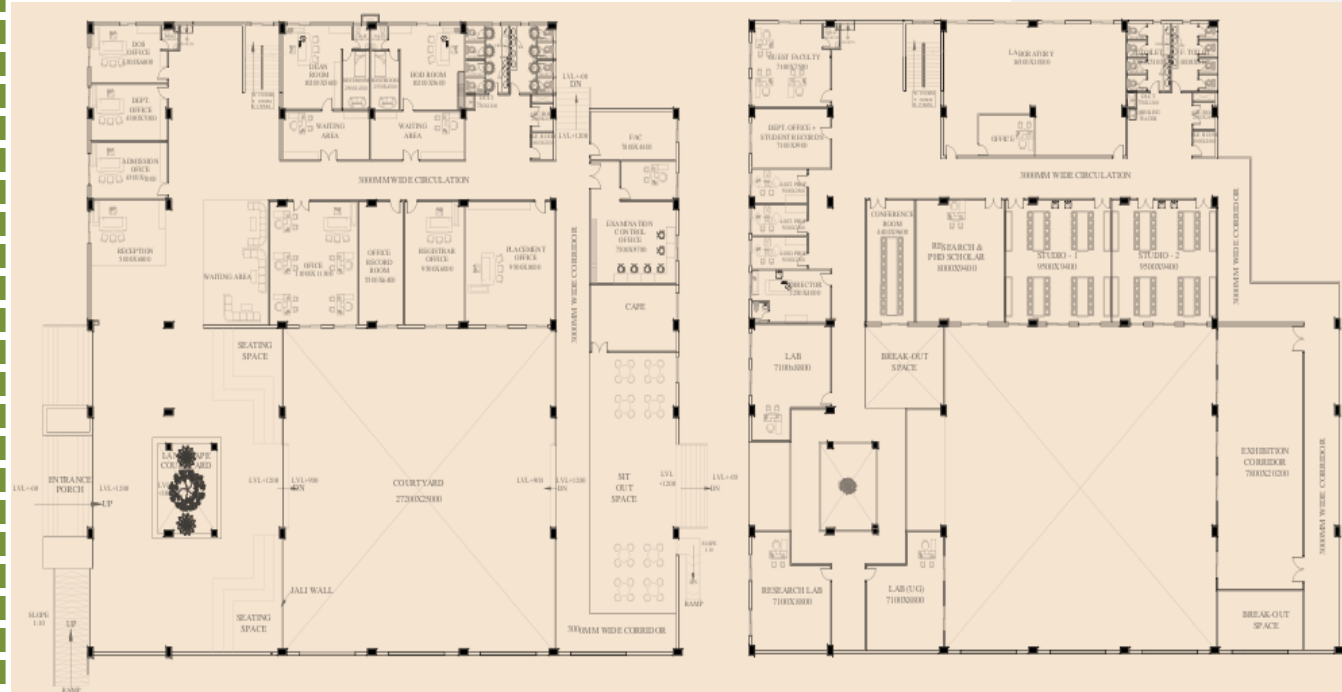
2

INSTITUTIONAL BUILDING

DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



GROUND FLOOR PLAN

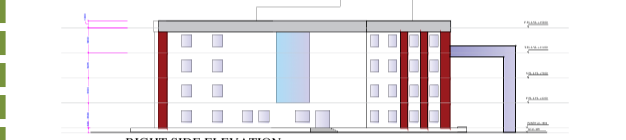
FIRST FLOOR PLAN



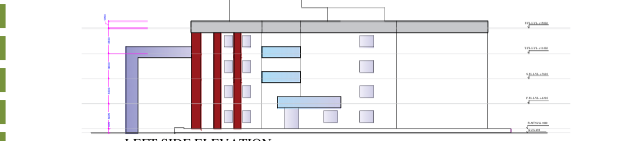
FRONT ELEVATION



BACK ELEVATION



RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION



STUDIO

2

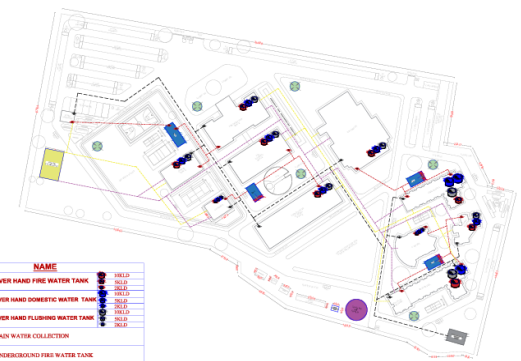
DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



INSTITUTIONAL BUILDING



SL. NO.	SYMBOL	NAME
1.		WET WASTE
		DRY WASTE
		PLASTIC WASTE
		GLASS WASTE
		TO WAY OF PAPER RECYCLING PLANT
		TO WAY OF WET WASTE COLLECTION
		TO WAY OF GLASS WASTE COLLECTION
		TO WAY OF PLASTIC WASTE COLLECTION
		TO WAY OF MENSIPLE COLLECTION

NAME	SYMBOL
TO WAY OF PAPER RECYCLING PLANT	
TO WAY OF WET WASTE COLLECTION	
TO WAY OF GLASS WASTE COLLECTION	
TO WAY OF PLASTIC WASTE COLLECTION	
TO WAY OF MENSIPLE COLLECTION	

WASTE WATER MANAGEMENT

SR. NO.	SYMBOL	NAME	FIELD
1.		OVER HAND FIRE WATER TANK	FIELD
2.		OVER HAND DOMESTIC WATER TANK	FIELD
3.		OVER HAND FLUSHING WATER TANK	FIELD
4.		RAIN WATER COLLECTION	FIELD
5.		RAIN WATER COLLECTION	FIELD
6.		UNDERGROUND FIRE WATER TANK	FIELD
7.		RAIN WATER HARVESTING PIT	FIELD
8.		OVER HEAD WATER STORAGE TANK	FIELD
9.		SOL. HD TECHNOLOGY	FIELD
10.		STP-BLACK WATER 150 SQ MT 40 KLD.	FIELD

NAME	SYMBOL
BLACK WATER CONNECTION TO STP FOR TREATMENT	
RAIN WATER COLLECTION FROM ROOF	
GREY WATER CONNECTION TO STP FOR TREATMENT	
TREATED WATER CONNECTION TO FLUSHING TANK	

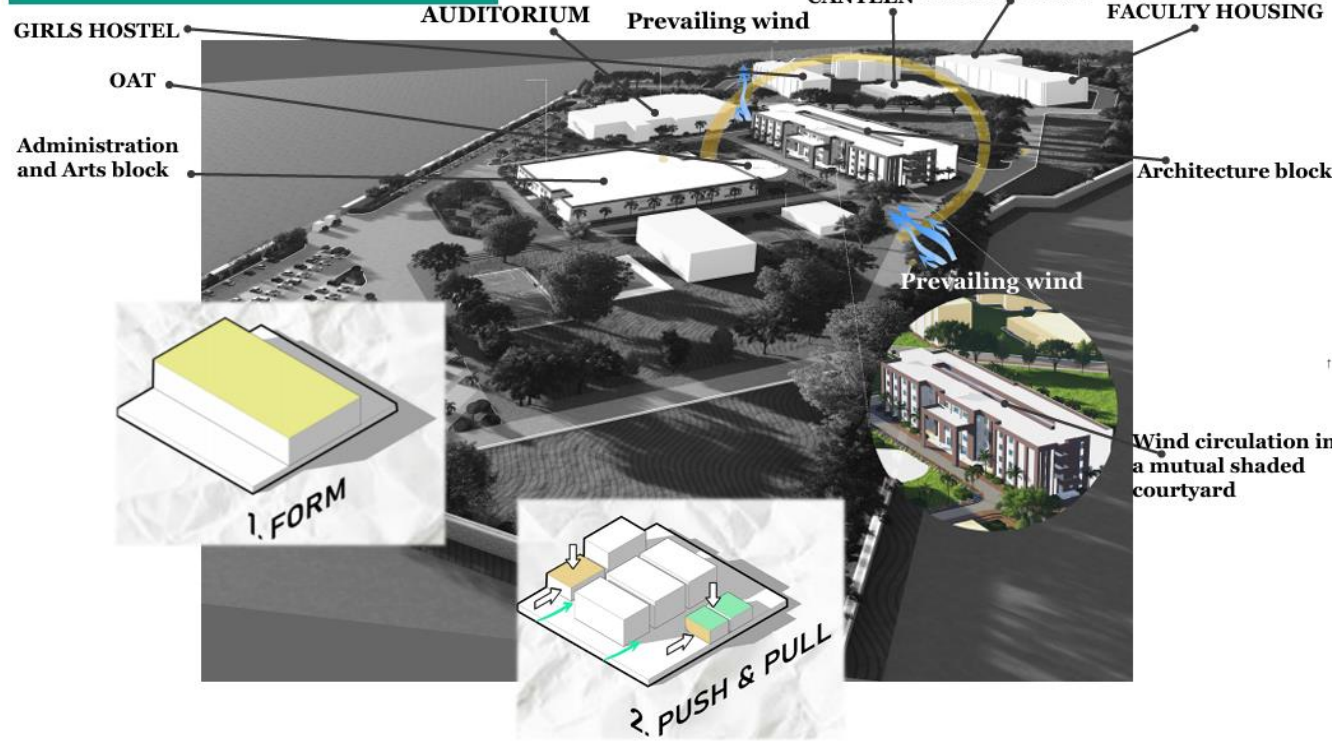
RAIN WATER HARVESTING AND WATER MANAGEMENT

STUDIO

2

PASSIVE STRATEGY

INSTITUTIONAL BUILDING



3D VIEWS



STUDIO

2

COMMERCIAL BUILDING

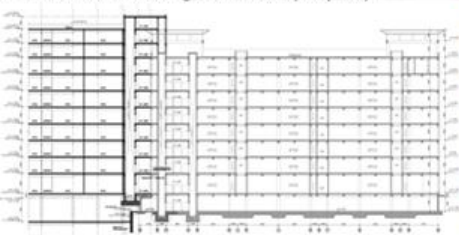
DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

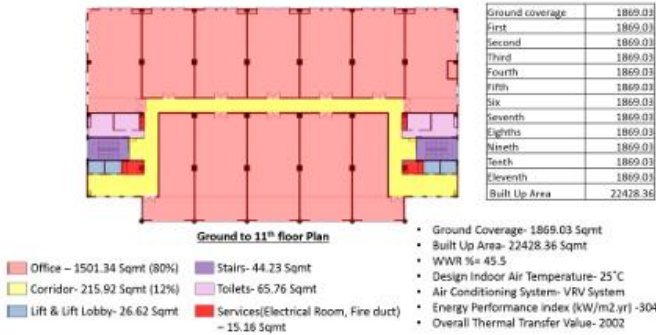
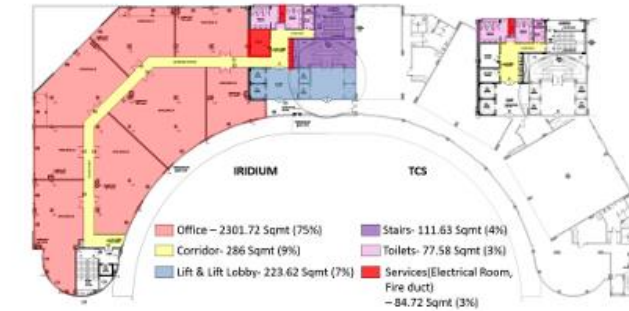
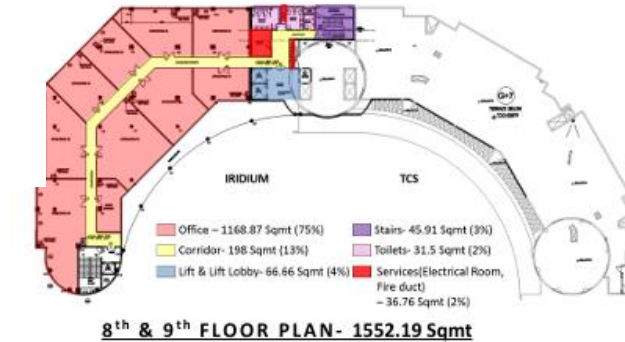
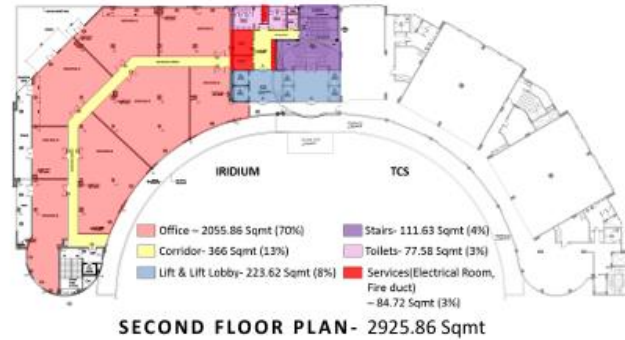
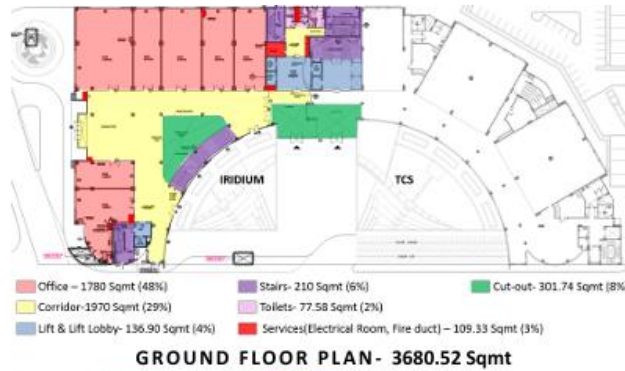
3D VIEWS



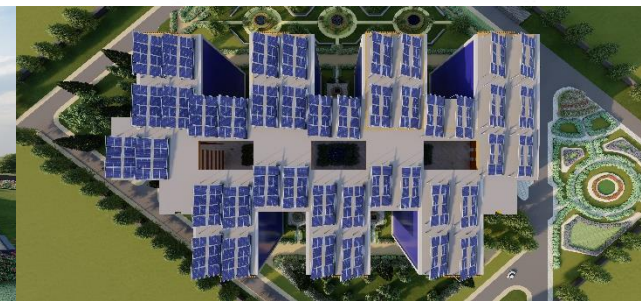
- Site Area- 20234.18 Sqmt
- Total built-up Area- 51180.64 Sqmt (2.52)
- Total Ground Coverage- 5549.55 Sqmt (27%)



WEST	SOUTH	NORTH	EAST
Total wall area= 2089.18	Total wall area= 162.43	Total wall area= 1622.76	Total wall area= 1903.1
Glazed area= 1137.24	Glazed area= 149.08	Glazed area= 980.36	Glazed area= 871.36
WWR % = 54.43	WWR % = 90.78	WWR % = 60.41	WWR % = 45.6



TITANIUM- TYPICAL FLOOR PLAN

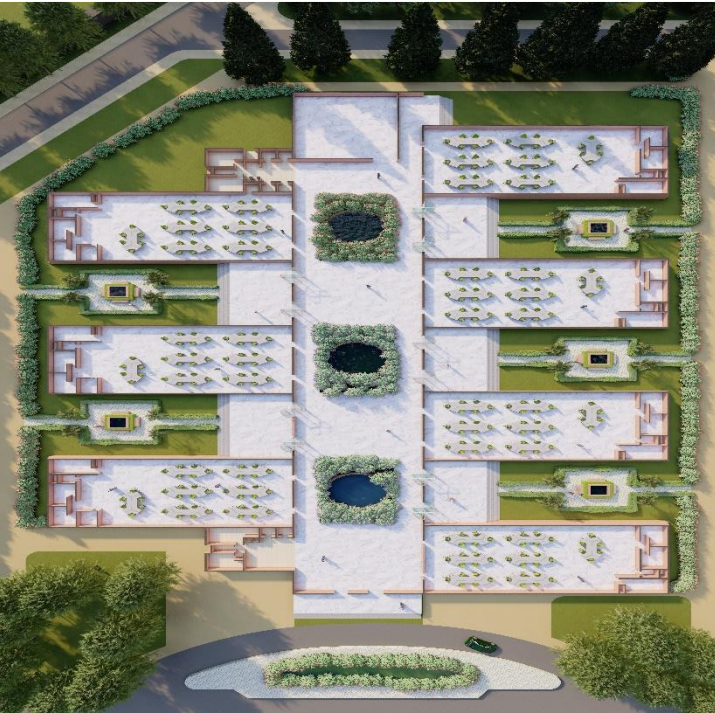


- Ground Coverage- 1869.03 Sqmt
- Built Up Area- 22428.36 Sqmt
- WWR % = 45.5
- Design Indoor Air Temperature- 25°C
- Air Conditioning System- VRV System
- Energy Performance index (kW/m².yr) -304
- Overall Thermal Transfer Value- 2002

DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



PASSIVE TECHNIQUES

Building Orientation and Form

- Reducing the depth of the structure.
- Lessening the requirement for artificial lighting inside the structure.
- The construction of the building must be as narrow as possible to facilitate cross ventilation.

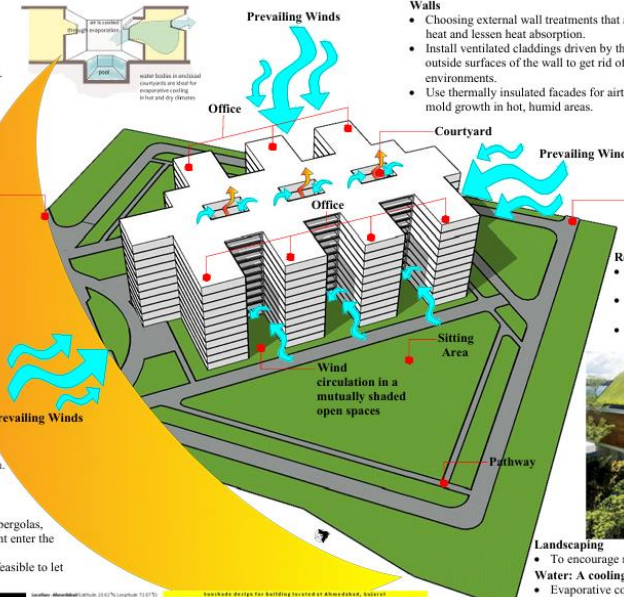
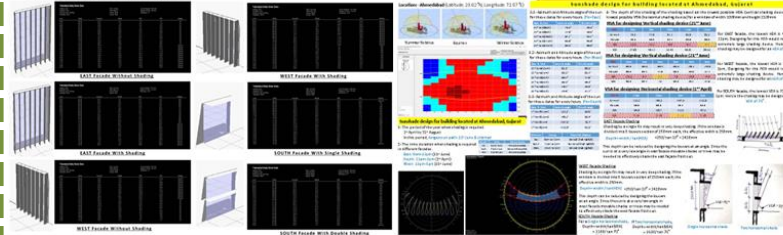


Ventilation and Openings

- Install windows higher to operate as ventilation outlets, and create openings in all the outside walls so air can flow both ways.
- Remove west-facing windows and use south-facing windows with horizontal louvers instead.
- Add northern side apertures for diffused light and reduced radiation.
- Customize the window size to meet the usage, orientation, and shading needs.

Daylighting and Shading

- Outdoor wall structure design should be built using structures like pergolas, louvers, and screens to let only the necessary amount of natural light enter the building.
- The window opening must be positioned as close to the ceiling as feasible to let in as much daylight as possible.



Walls

- Choosing external wall treatments that are bright in color to radiate heat and lessen heat absorption.
- Install ventilated claddings driven by the stack effect behind the outside surfaces of the wall to get rid of moisture in humid environments.
- Use thermally insulated facades for airtightness and resistance to mold growth in hot, humid areas.



Roofing

- To reduce the effects of excessive heat and sunlight on buildings, one effective approach is to use lighter, cooler roofs.
- Some of the best materials which reflect more sunlight and absorb less heat include clay, terra cotta, metal, and slate.
- Green roofs are covered with vegetation, which helps to insulate the building and reduce heat absorption.



Landscaping

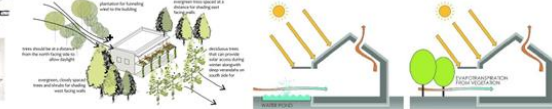
- To encourage natural earth cooling at the site, grow gardens in open areas.

Water: A cooling element

- Evaporative cooling reduces the temperature of the interiors. The evaporation rate will grow as the amount of water that comes into contact with the air does.

Use of Materials

- Environmentally friendly locations are chosen for sourcing stones to reduce air pollution and promote resource reuse.
- The use of stone dust and chips in making concrete helps reduce soil and air pollution.
- Salvaged wood is reused instead of new wood to conserve trees.
- Blocks made of stabilized soil have a lower embodied energy value.
- The use of low-VOC paint is encouraged to reduce air pollution.



STUDIO

2

DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



LOCATION

- ADDRESS- PALDI AHMEDABAD, GUJARAT
- COUNTRY- INDIA
- STATE- GUJARAT
- CITY- AHMEDABAD



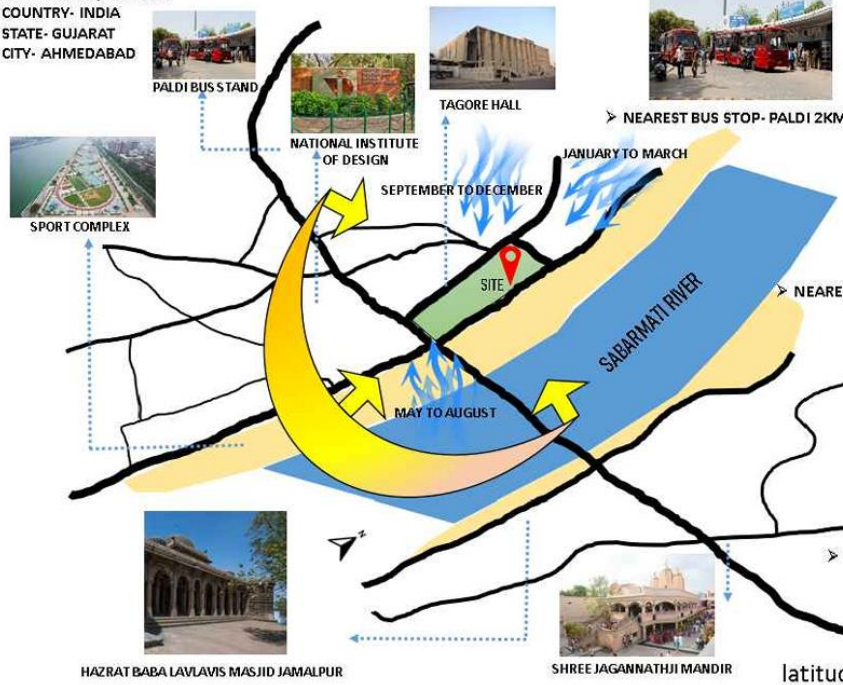
Commercial Site located in Ahmedabad which is the largest city in the state of Gujarat.

LANDUSE



This site is in Commercial land use

NEIGHBOURHOOD CONTEXT



PALDI BUS STAND



TAGORE HALL



SPORT COMPLEX



NATIONAL INSTITUTE OF DESIGN



HAZRAT BABA LAVLAVIS MASJID JAMALPUR



SHREE JAGANNATHJI MANDIR

latitude 23.02N, longitude 72.35E

COMMERCIAL BUILDING

ACCESSIBILITY



➤ NEAREST BUS STOP- PALDI 2KM



➤ NEAREST RAILWAY STATION- AHMEDABAD 5.5KM



➤ NEAREST METRO STATION- PALDI 1.8KM

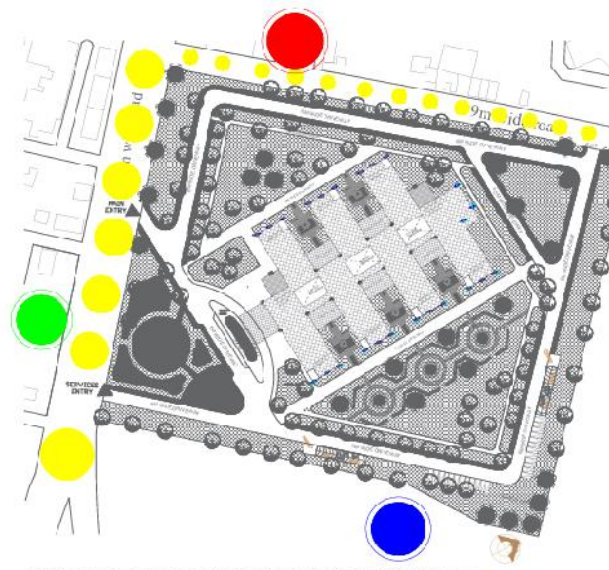
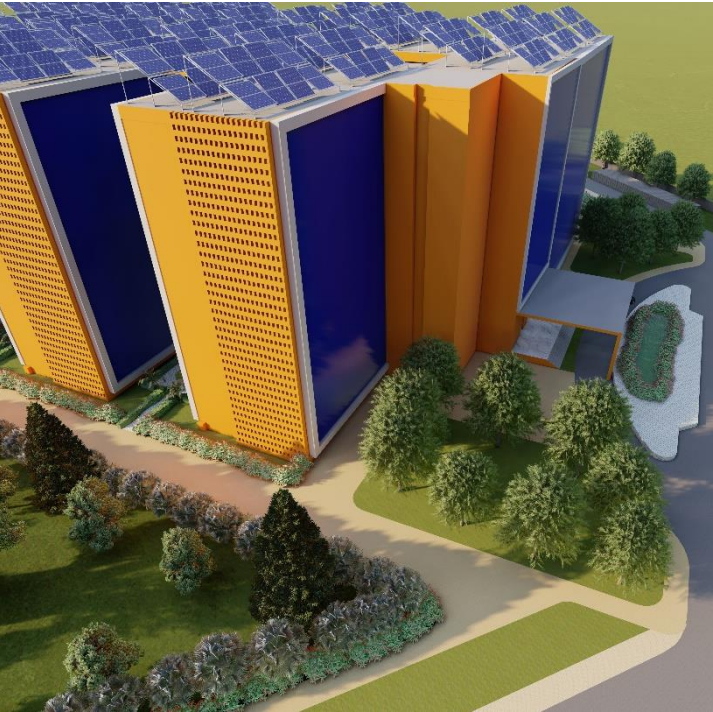
STUDIO

2

DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

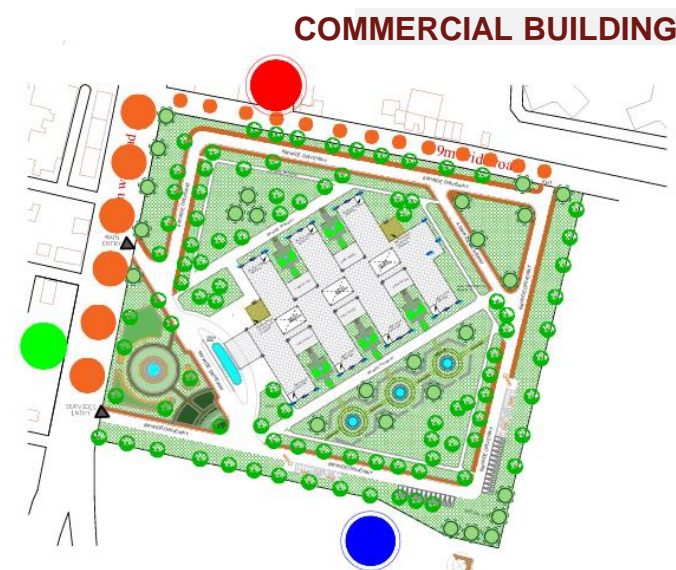
3D VIEWS



NOISE POLLUTION SOURCES:

Sardar Bridge Circle (Major)
Bhagtacharya road

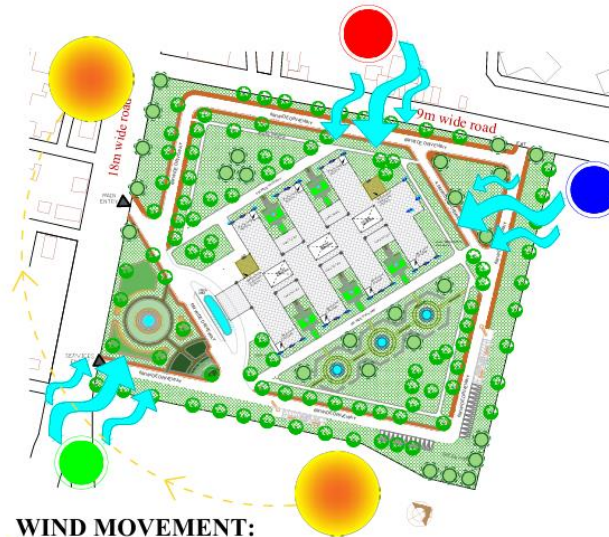
- East- 58 dBA
- West- 84 dBA
- South- 89 dBA



AIR POLLUTION SOURCES:

Sardar Bridge Circle (Major)
Bhagtacharya road

- East- CO2-456 PPM (Good), HCHO- 0.050 mg/m2 (Healthy)
- West- CO2- 425 PPM (Good), HCHO- 0.044 mg/m2 (Healthy)
- South- CO2- 476 PPM (Good), HCHO- 0.071 mg/m2 (Healthy)



WIND MOVEMENT:

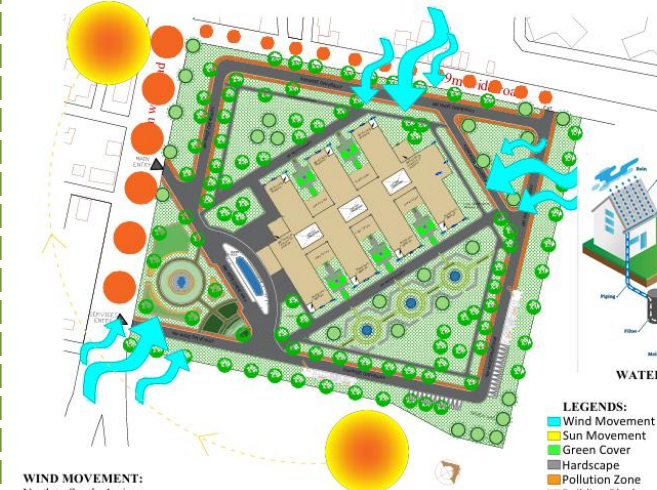
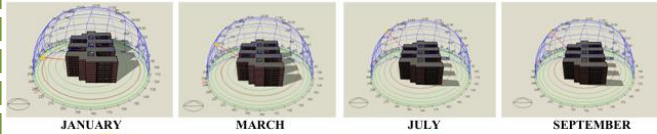
- North to South- 1m/sec
- West to East- 0.9m/sec
- South-East to North-West- 4m/sec



PARTICULATE MATTERS:

- East- PM2.5- 32.5ug/m3, PM10- 47.6 ug/m3, Particles/Lt.- 9865
- West- PM2.5- 20.4ug/m3, PM10- 27.8 ug/m3, Particles/Lt.- 7217
- South- PM2.5- 34.2ug/m3, PM10- 49 ug/m3, Particles/Lt.- 9375

CLIMATE ANALYSIS



WIND MOVEMENT:
 North to South- 1m/sec
 West to East- 0.9m/sec
 South-East to North-West- 4m/sec

SITE PLAN - Sun path and Wind direction

CONCEPT

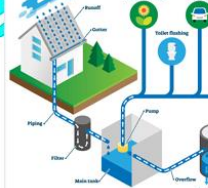
GREEN CAMPUS APPROACHES: Creating a green campus involves adopting various sustainable practices that reduce the environmental impact of a Campus. These practices encompass energy efficiency, waste reduction, sustainable transportation, water conservation, and promoting biodiversity.

NET-ZERO WATER: Net zero water is a sustainability concept aimed at balancing the amount of water consumed on a site with the amount of water returned to the natural environment or reused on-site. This approach seeks to minimize the water footprint of buildings and campuses by reducing water consumption, enhancing water efficiency, and maximizing the reuse of water.

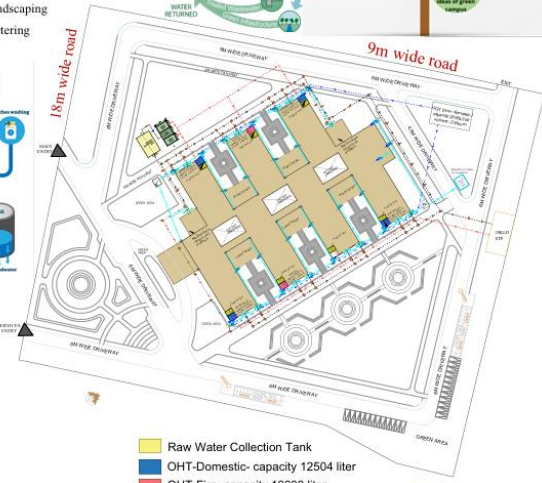
- Water Conservation
- Water Reuse and Recycling
- Storm water Management
- Water Restoration
- Water Efficient Landscaping
- Monitoring and Metering



WATER HARVESTING

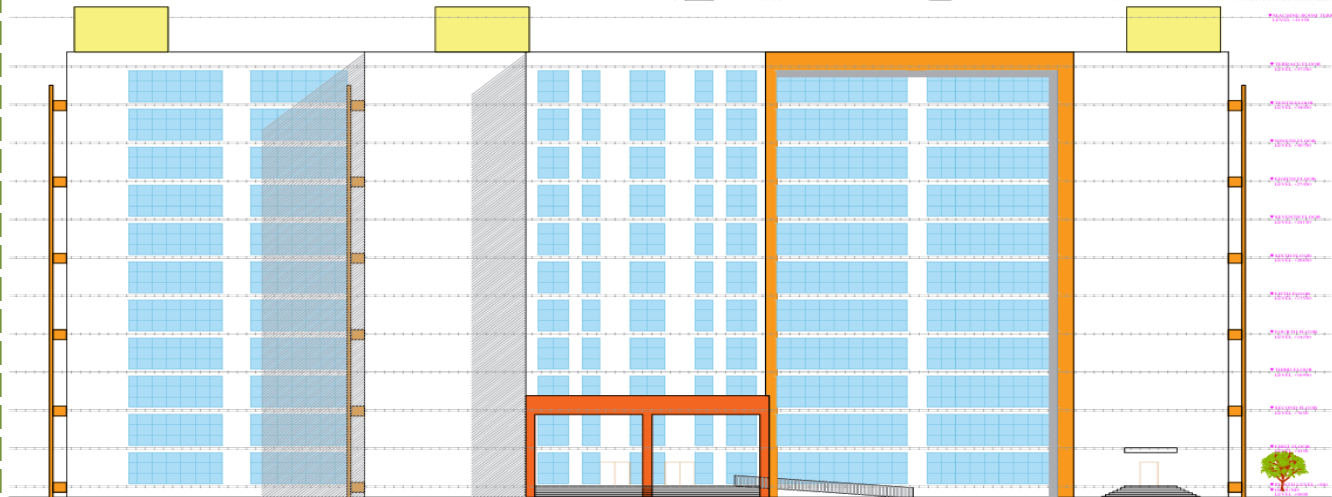


- LEGENDS:**
- Wind Movement
 - Sun Movement
 - Green Cover
 - Hardscape
 - Pollution Zone
 - Building Block
 - Water Body



LEGENDS:

- Raw Water Collection Tank
- OHT-Domestic- capacity 12504 liter
- OHT-Fire- capacity 10000 liter
- Treated water line for flushing
- Grey water line to SBT
- Black water line to STP
- Water Supply line from UGT TO OHT
- Rain water chamber
- Flow Direction
- Recharge borewell & settlement tank



D- FRONT ELEVATION

DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



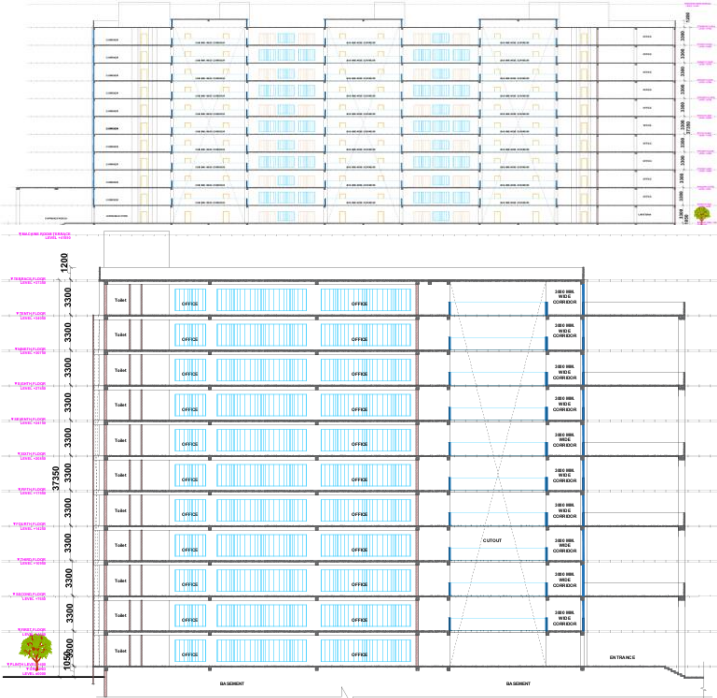
STUDIO

2

DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

SECTIONS

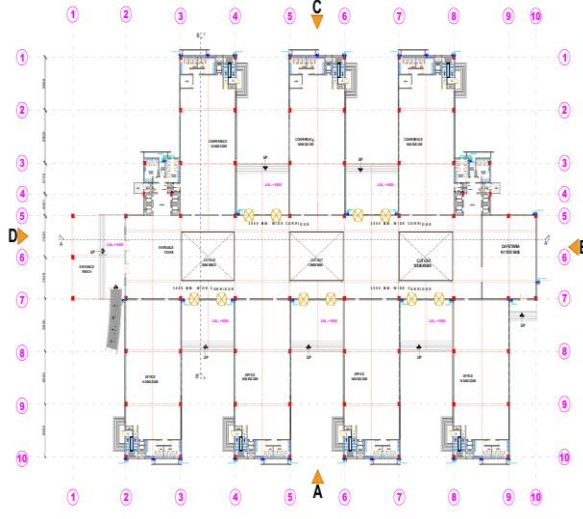


COMMERCIAL BUILDING



Parking Calculation-

- Required Parking- per 100sqmt 02 ECS
- Permissible Parking- 806 ECS
- Permissible Parking for visitor 10%- 81 ECS
- Achieved Basement Parking- 737 car
- Open Parking- 24 car



GROUND FLOOR PLAN

STUDIO

2

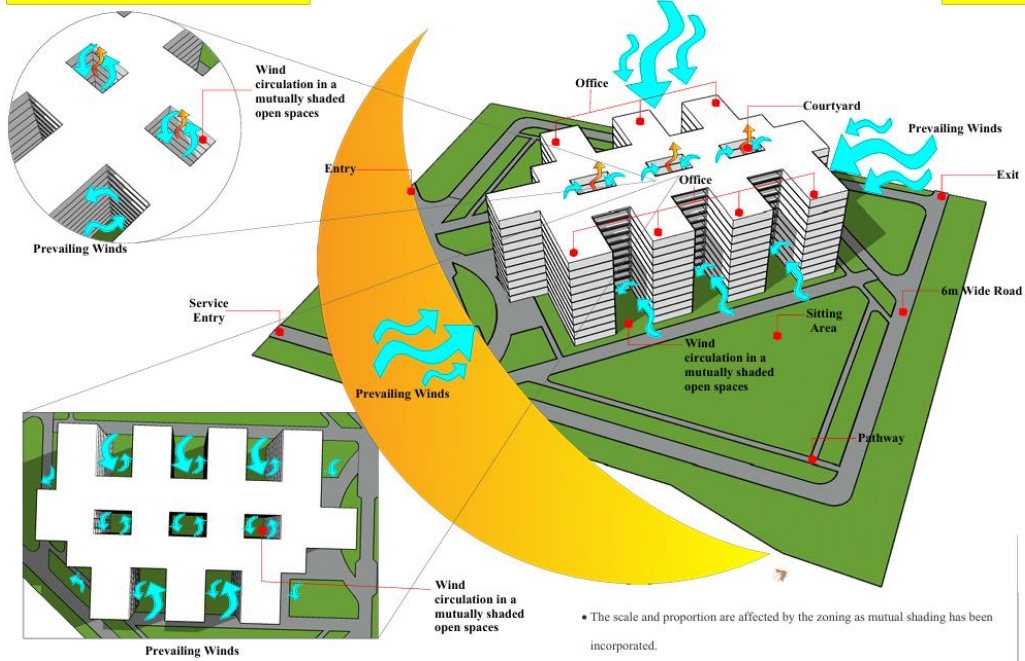
DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



SITE ZONING



- A central axis anchors the building, connecting it horizontally and vertically across all levels.
- Seven office towers diverge from the central axis; they are interspersed with shaded courtyards for rest and recreation that can remain in use year-round.
- The 10-storey office towers are oriented north-south, screening the harsh western sun and enabling 75% of the workspaces to be filled with diffused light throughout the day.

- The scale and proportion are affected by the zoning as mutual shading has been incorporated.
- Sense of enclosure brought by the built form as the developed pockets can be adapted by the users for their use and create a sense of belongingness.
- The primary circulation has been guided by the central pathway following the concept of a boulevard, influencing the accessibility of the site for pedestrian movement.

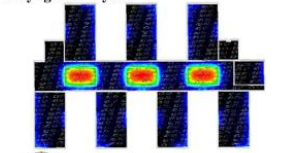


A- RIGHT SIDE ELEVATION

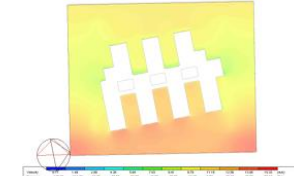
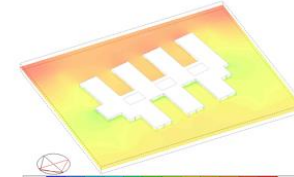
COMMERCIAL BUILDING

CFD & DAYLIGHT - ANALYSIS

Daylight Analysis:



CFD Analysis:



STUDIO

2

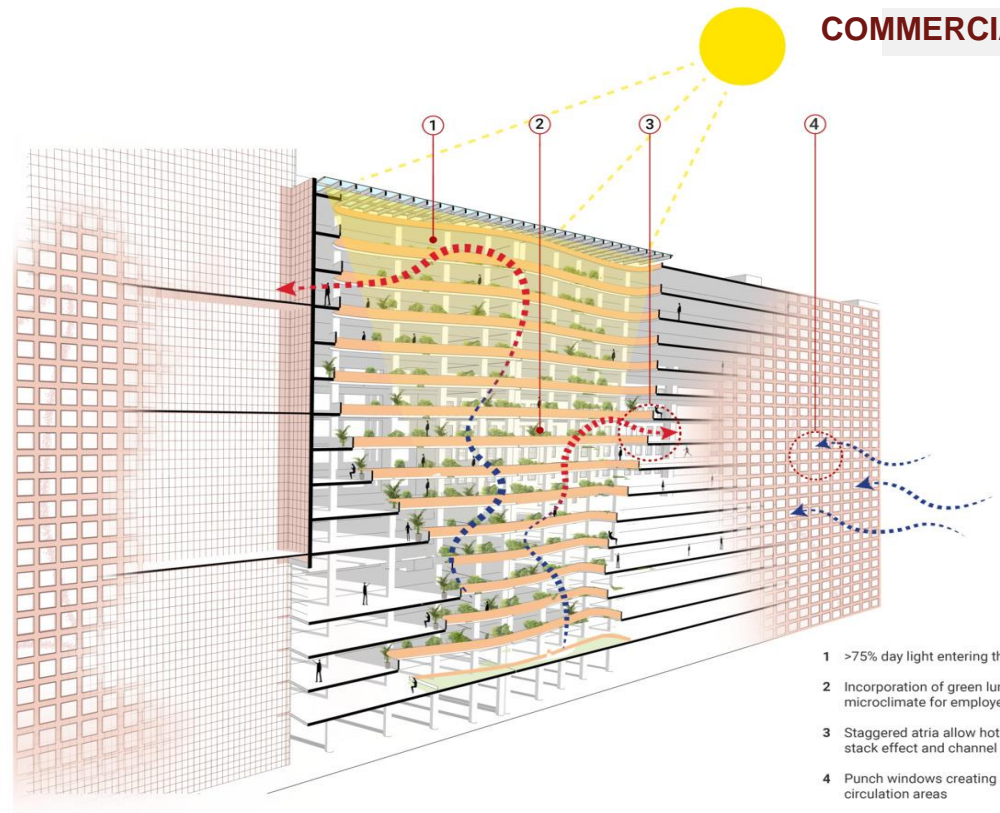
DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



COMMERCIAL BUILDING



- 1 >75% day light entering through atrium
- 2 Incorporation of green lungs create the ideal microclimate for employees.
- 3 Staggered atria allow hot air to escape through the stack effect and channel fresh air to the common areas.
- 4 Punch windows creating 100% naturally ventilated circulation areas



C-LEFT SIDE ELEVATION

STUDIO

2

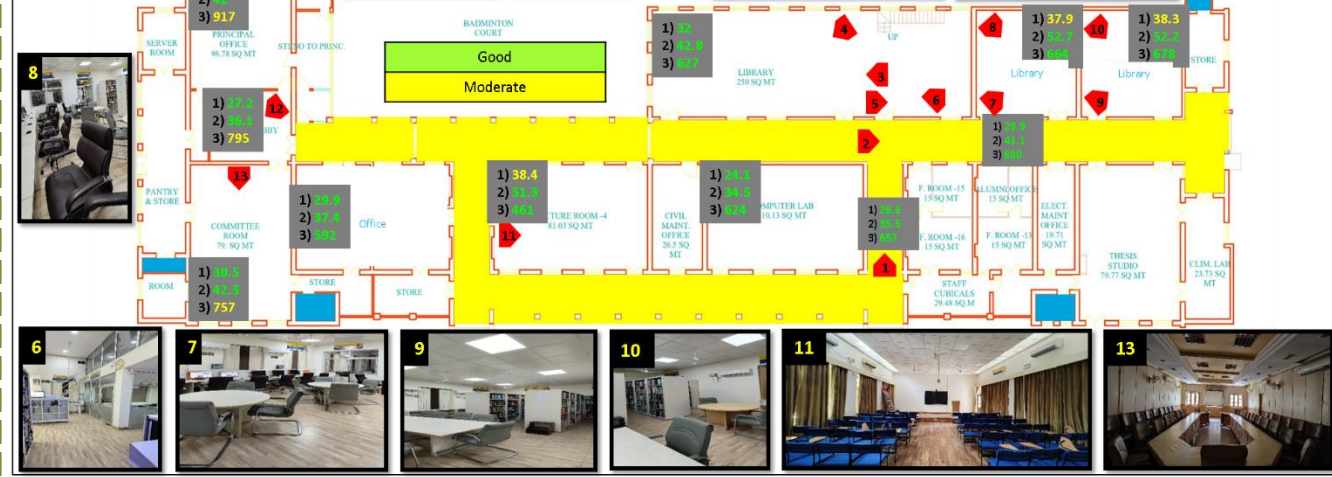
COMMERCIAL BUILDING



Ground floor

- Legends**
- Toilet
 - Staircase
 - Passage

- Readings**
- 1) PM 2.5
 - 2) PM 10
 - 3) Co2



DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

3D VIEWS



STUDIO

2

DESIGN BRIEF

The objective of this exercise was to apply the design principles for energy efficiency and sustainable development

MODEL



COMMERCIAL BUILDING

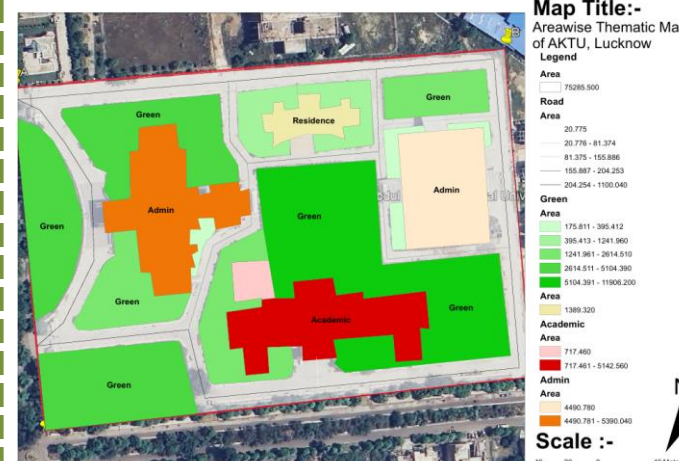
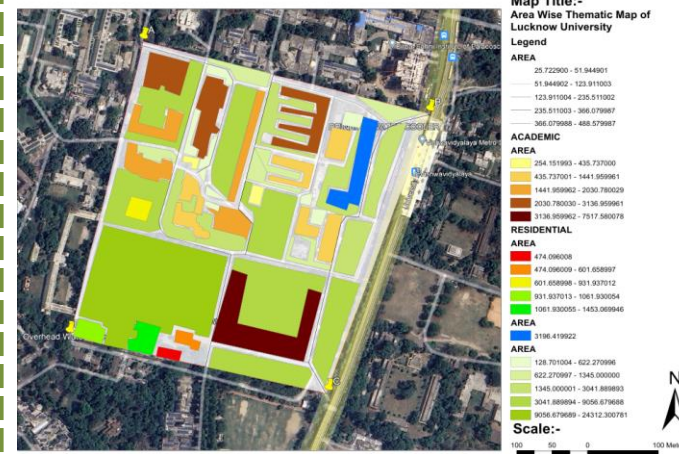
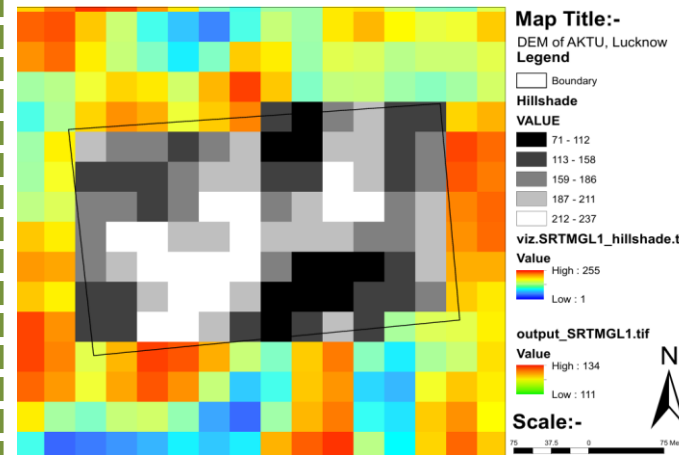
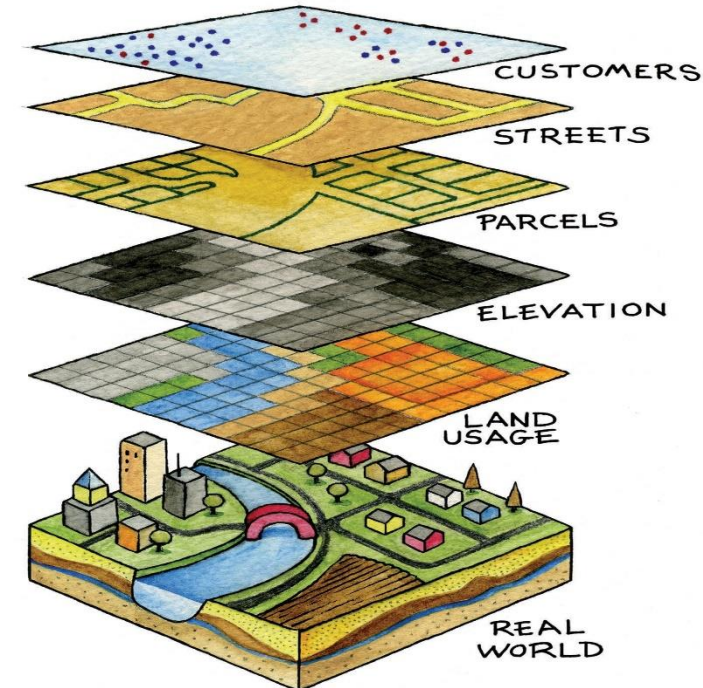
STUDIO

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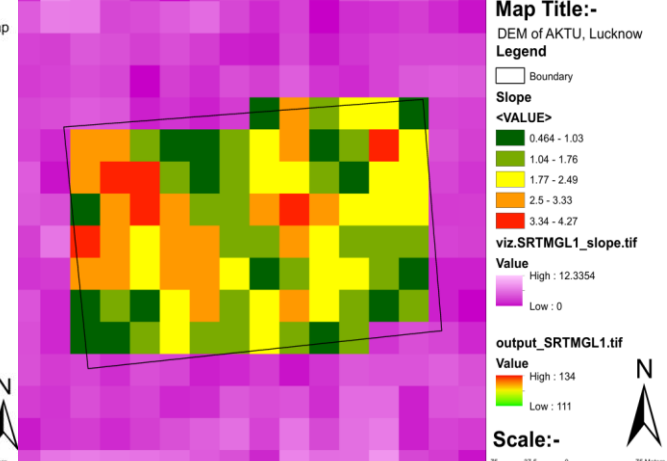
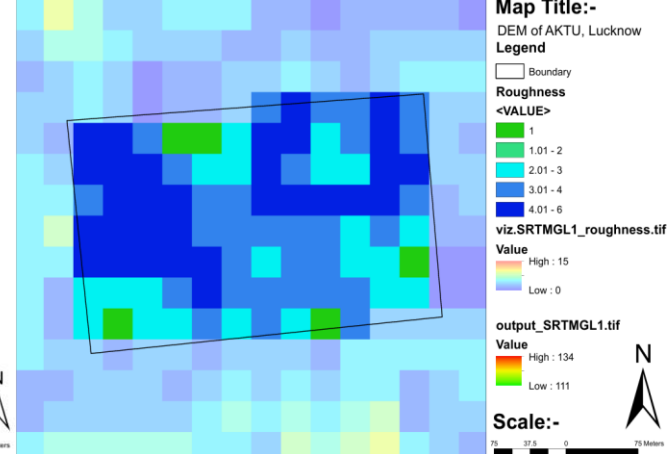
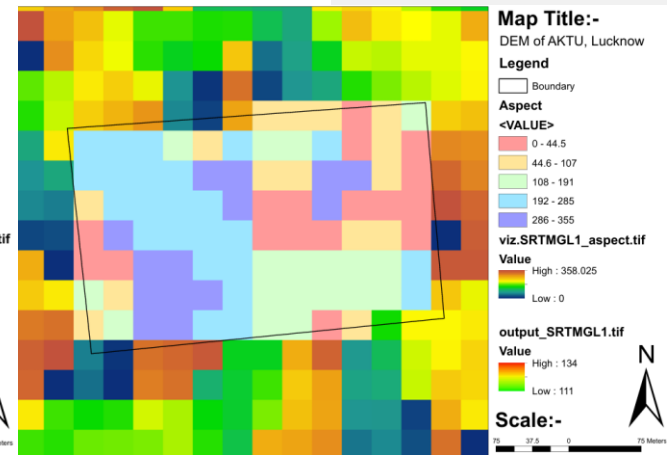
REMOTE SENSING

The objective of this exercise was to comprehend the evolution of urban form and conscious urban planning and to understand the various strategies planners employ for an ideal urban plan.

GIS



REMOTE SENSING & GIS



STUDIO

3

DESIGN BRIEF

The objective of this exercise was to apply the Environmental Design at the urban scale and generating the Environment Management Plan document for the same.

ENVIMET

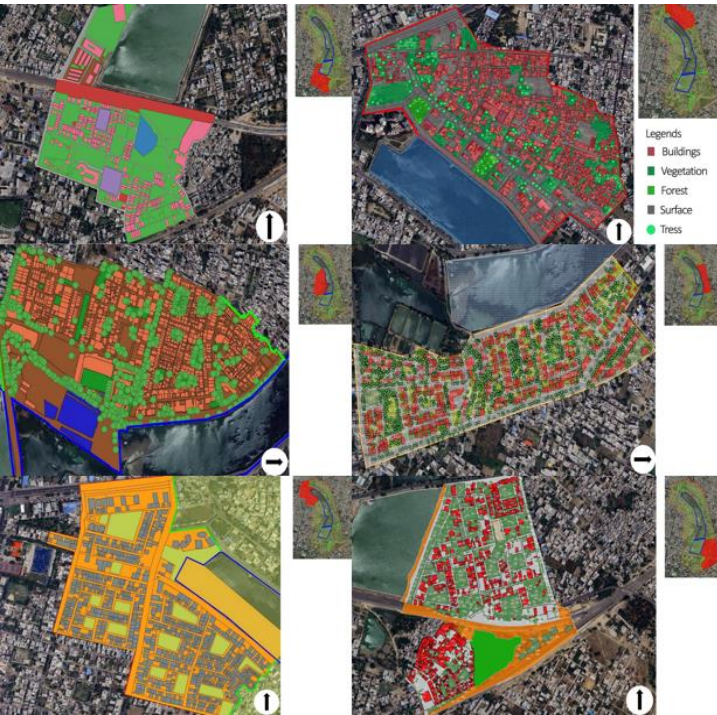


The screenshot displays the ENVIMET software interface. At the top, there are menu bars for 'Start', 'Edit', 'View', 'Digitize', and 'Help'. Below these are toolbars for file operations (Save model, Save model as, Copy model to clipboard) and a 'Misc' section. The main workspace shows a 3D perspective view of a site with green trees and grey buildings on a brown ground plane. A cursor is positioned at x = 11 (24.00 m) and y = 129 (260.00 m). On the left, there is a 'Map Control' panel with a 'Map Content' tree listing various layers like Arrows, Datalayer, Speciallayer, and Vectors and Particles. Below this is a 'Welcome to LEONARDO!' message and instructions to select a category from the list. On the right, there is a 'DataNavigator' panel with 'File Set A' and 'File Set B' options, and a 'Vector' panel with settings for Mean Radiant Temp. Below these is a 'Figure 1: Comparison FOAP Simulation 15.59.59 30.09.2024 with (unknown title)' showing a heatmap of absolute difference Mean Radiant Temp. The heatmap has a color scale from blue (below -1.74 K) to red (above 25.90 K). The bottom status bar shows coordinates: 'Orid: 54.72; Data: No Data K Special: -999.00000 (???) Vector: -999.00000, -999.00000 K Contour: -999.00000 <Place units>'.

DESIGN BRIEF

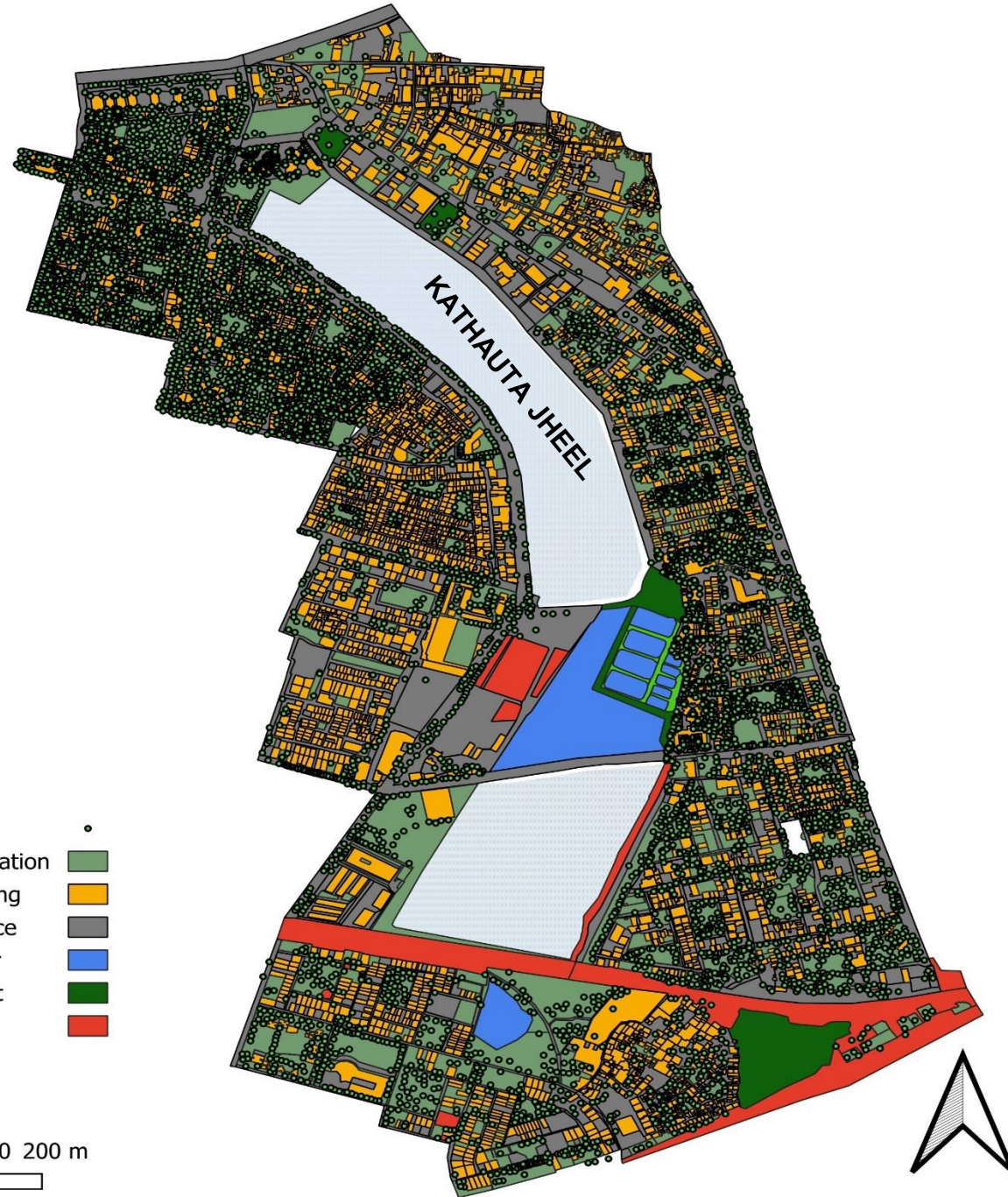
The objective of this exercise was to apply the Environmental Design at the urban scale and generating the Environment Management Plan document for the same.

THEMATIC MAP



- Tree
- Vegetation
- Building
- Surface
- Water
- Forest
- Other

0 100 200 m



STUDIO

3

DESIGN BRIEF

The objective of this exercise was to apply the Environmental Design at the urban scale and generating the Environment Management Plan document for the same.

THEMATIC MAP



HEAT STRESS ANALYSIS & MITIGATION



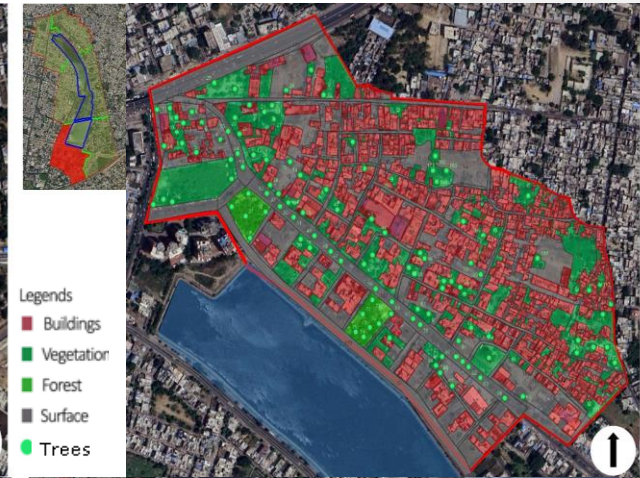
- Legends
- Buildings
 - Vegetation
 - Forest
 - Surface
 - Trees



- Legends
- Buildings
 - Vegetation
 - Forest
 - Surface
 - Trees



- Legends
- Buildings
 - Vegetation
 - Forest
 - Surface
 - Trees



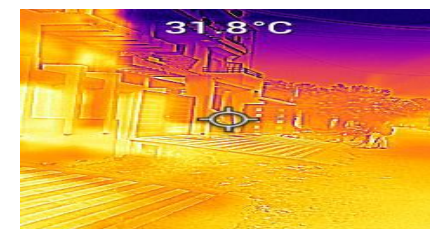
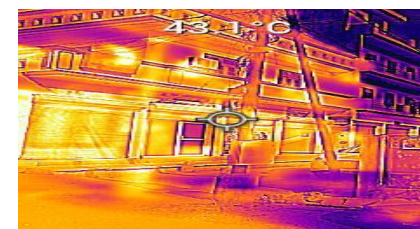
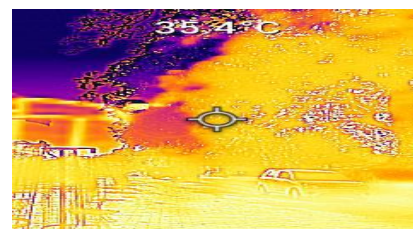
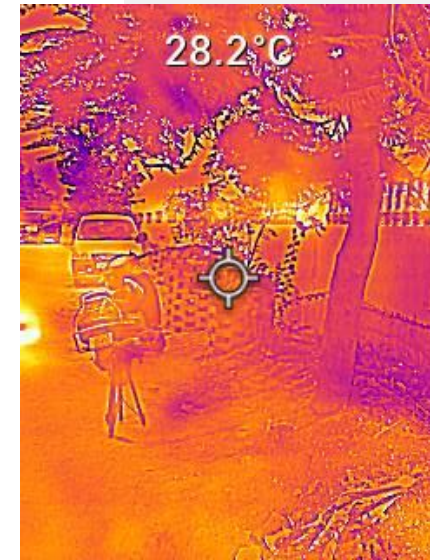
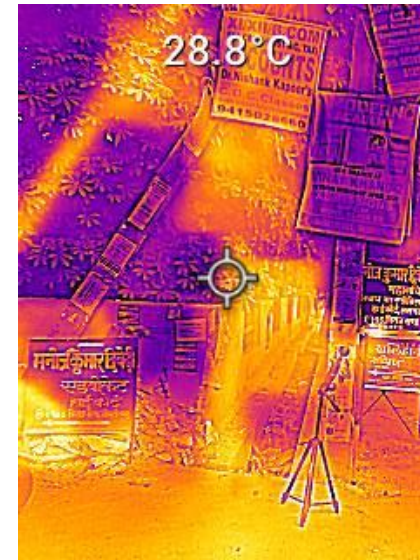
- Legends
- Buildings
 - Vegetation
 - Forest
 - Surface
 - Trees



- Legends
- Buildings
 - Vegetation
 - Forest
 - Surface
 - Trees



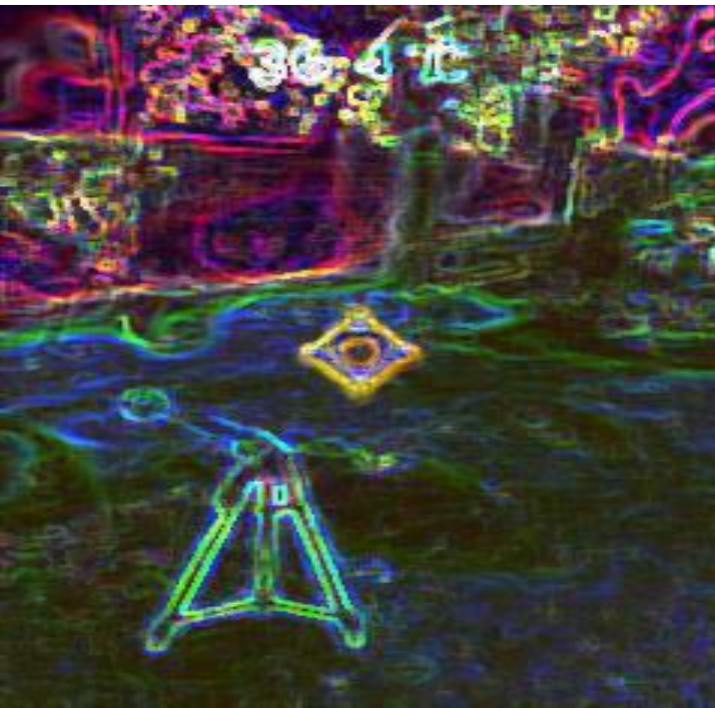
- Legends
- Buildings
 - Vegetation
 - Forest
 - Surface
 - Trees



DESIGN BRIEF

The objective of this exercise was to apply the Environmental Design at the urban scale and generating the Environment Management Plan document for the same.

Thermal Image



Batch of 2023-25



ABHISHEK KUMAR VERMA ARCHITECT | NOIDA-UP

Qualification: B.Arch- Gautam Buddha University, Gr. Noida, 2023
Work Experience: 1.5 Year Architectural Practice
Internship Experience: ArcMax Architects & Planners- Ahmedabad 2 Months, Credo Architecture-Ahmedabad 5 Months, Arcop-New Delhi 7 Months, ANB Consultant-Lucknow 4 Weeks
Contact: 7497946850
Email: av39035@gmail.com
Area of interest: Research, Simulation, Concept development with Sustainability.
CV & Portfolio: <https://bit.ly/4g47J1g>



ALOK KUMAR ARCHITECT | LUCKNOW-UP

Qualification: D.Arch- Government Polytechnic Lucknow 2018, B.Arch- Babu Banarasi Das University 2023
Work Experience: 1 years, Architect, Shivalok Architects And Construction (2023-Till Time)
Internship Experience: Under Ar. Akshay Kumar Gupta Sir (Passive Design Consultant, Noida, U.P.), 4 Weeks
Contact: 7905693528
Email: shivalokarch@gmail.com
Area of interest: Climate Responsive Building, LEED/IGBC/GRIHA Rated Building, Climate Resilient Infrastructure, Urban Heat Island Effect.
CV & Portfolio: <https://bit.ly/3tp10x7>



ANUGRAH SINGH ARCHITECT | DEORIA-UP

Qualification: B.Arch- Institute of Architecture and Town Planning, B.U, Jhansi, 2023
Work Experience: 1 Year Architectural Practice & 3 Years Freelancing
Internship Experience: Icon Architects-Lucknow 6 Months, New Horizon Architects-Lucknow 6Months, ANB Consultants-Lucknow 4 Weeks
Contact: 7007086907
Email: anugrahsingh223@gmail.com
Area of interest: Focus on designing eco-friendly buildings, sustainable urban spaces, renewable energy systems, or climate-responsive solutions that integrate green materials and prioritize resilience and community well-being.
CV & Portfolio: <https://bit.ly/49v1qNH>



SHRUTI SINGH ARCHITECT | BALLIA-UP

Qualification: B.Arch- School of Architecture and planning, BBDU 2023
Work Experience: 1 Year Architectural Practice
Internship Experience: CP kukreja Architects , Green Park New Delhi
Contact: +918317067730
Email: shrutisingh51@gmail.com
Area of interest: Climate Responsive Building, IGBC/GRIHA Rated Building, LEED, Climate Resilient Infrastructure, Urban Tree Cover, Urban Heat Island effect.
CV & Portfolio: <https://bit.ly/49rCaWe>



SACHIN SAGAR ARCHITECT | MORADABAD-UP

Qualification: B.Arch- School of Planning and Architecture, Bhopal (2013)
Work Experience: 10 years, Architect, Armetra Design Consultants(2016-2023) Assistant Professor (2015-16) Integral Designs (2014-15) Sharad Das and associates (2013-2014)
Internship Experience: Under Dr. Vandana Sehgal & Dr. Farheen Bano, (4 Weeks) July-August 2024
Contact: 8171909190
Email: architectsachinsagar@gmail.com
Area of interest: GRIHA, IGBC & LEED STANDARDS, Integrating traditional wisdom to buildings, Energy efficient designs, Net Zero buildings and Heat stress and mitigation technology.
CV & Portfolio: <https://bit.ly/3ipHm10>



SHIVANI GUPTA ARCHITECT | LUCKNOW-UP

Qualification: B.Arch - ITM School of Architecture & Town Planning, Lucknow, 2023
Work Experience: 1 Year Architectural Practice
Internship Experience: Civil Consultant 6 months (2022-2022), A&B Consultant 4 weeks(2024)
Contact: 7518725719
Email: shivani945511@gmail.com
Area of interest: Sustainable Development, Graphics, 3D, Climate Responsive Building, LEED/IGBC/GRIHA Rated Building, Climate Resilient Infrastructure, Urban Heat Island Effect.
CV & Portfolio: <https://bit.ly/4gn5RH1>

DISSERTATION PROJECTS

Batch of 2023-25



6 PROUD ENVIRONMENTAL DESIGNERS

- Advantage of recycle material over conventional material for Life cycle assessment (LCA) and Carbon footprint.
- Net zero Water for an educational Campus in Composite Climate.
- Impact of Urban Heat Island in Lucknow (Assessing the heat island intensity in relation to land use data)
- Incorporating biomimicry as a tool to design adaptive facade for optimum daylighting in buildings
- Integrating Traditional Courtyard Design for Optimized Passive Cooling: A Comparative Computational Analysis of Wind Flow Dynamics in Diverse Indian Climatic Zones.
- Optimal Shading devices for different Climates in India, for thermal Comfort and Energy Efficiency.



Placement In-Charge: Dr. MEETA TANDON

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TRAINING AND PLACEMENT CELL 2023-24

**Student Placement
Coordinators**

**OUT-REACH
& MEDIA**

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Availability for joining
1st August 2025



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