

**THESIS REPORT**  
**ON**  
**BIOPHILIC APPROACH IN INTERIOR**  
**DESIGN FOR SPACE OF VILLA**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF**  
**THE FOR THE AWARD OF THE DEGREE OF:**

**BACHELOR OF INTERIOR DESIGN**  
**SUBMITTED BY:**

**(MADHVI)**

**(ROLL NO. 1190107012)**

**SESSION 2022-23**

**UNDER THE GUIDANCE OF**  
**(Prof. MOHIT KUMAR AGARWAL )**  
**HEAD OF DEPARTMENT,**



**SCHOOL OF ARCHITECTURE AND PLANNING**  
**BABU BANARASIDAS UNIVERSITY**  
**LUCKNOW.**

**SCHOOL OF ARCHITECTURE AND PLANNING  
BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).**

**CERTIFICATE**

I hereby recommend that the thesis entitled **“BIOPHILIC APPROACH IN INTERIOR DESIGN FOR SPACE OF VILLA”** under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in interior design, school of Architecture and Planning, BBDU, Lucknow.

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Prof. Mohit Kumar  
Agarwal

Dean of Department

---

Prof. Sangeeta  
Sharma

Head of Department

Recommendation      Accepted

Not Accepted

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External Examiner

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External Examiner

## **ACKNOWLEDGEMENT**

Our hard work never shines if do not convey our heart feel gratitude to those people from whom we have got considerable support and encourage during this project.

To start with first and foremost, gratitude towards almighty **GOD** for his blessings. Then I would like to thank all my faculty members who have supported and guided me all these memorable 4 year.

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Last but not the least all friends and loved ones who give their all kind of support and concern. I have put in my best of efforts and worked day and night to make this project a successful. Hope u too will appreciate my endeavor.

MY FAMILY- **KARISHMA, AKANSHA.**

MY SENIORS- **ID. FAIZ AHMED, ID. ABDUL REHMAN, ID.SHREYA, AR.ANAS, ID.SADHNA, FAIZAN.**

**THANKING YOU**

MADHVI

ENROLLMENT NO : 1190107012

BBD UNIVERSITY LUCKNOW.

**BABU BANARASI DAS UNIVERSITY, LUCKNOW  
(U.P)  
Certificate Of Thesis Submission For Evaluation**

- 1. Name : **MADHVI**
- 2. Roll No. **1190107012**
- 3. Thesis Title : **BIOPHILIC IN INTERIOR DESIGN FOR SPACE OF VILLA.**
- 4. Degree for which the thesis is submitted: **BACHELOR OF INTERIOR DESIGN**
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- 7. Specification regarding thesis format have been closely followed. YES/NO
- 8. The content of the thesis has been organized based on the guidelines. YES /NO
- 9. The thesis has been prepared without resorting to plagiarism YES/NO
- 10. All the sources used have been cited appropriately YES/NO
- 11. The thesis has not been submitted elsewhere for a degree. YES/NO
- 12. Submitted 3 hard bound copied plus one CD YES/NO

.....  
(Signature of the Guide)  
Prof. Mohit Kumar Agarwal

.....  
(Signature of the Candidate)  
MADHVI  
ROLL No.: 1190107012



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# **INTRODUCTION**



# **BIOPHILIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**

## **WHAT IS BIOPILIC DESIGN ?**

Biophilic Design Is A Concept Used Within The Building Industry To Increase Occupant Connectivity To The Natural Environment Through The Use Of Direct Nature, Indirect Nature, And Space And Place Conditions. Used At Both The Building And City-scale, It Is Argued That This Idea Has Health, Environmental, And Economic Benefits For Building Of Biophilic Design.

## **WHAT IS MEANING OF BIOPILIC DESIGN ?**

The Word Bio philia Originates From The Greek, 'Philia' Meaning 'Love Of'. It Literally Means A Love Of Life Or Living Things. Humans Have A Deeply Engrained Love Of Nature Which Is An Intuitive And Natural Drive Imprinted Into Our DNA.

## **BIOPILIC DESIGN PRINCIPLE**



**NATURAL**



**HEALTH**



**SUSTAINABLE**



## **ENVIRONMENTAL FEATURES**

Water, Air Sunlight, Color, Plants, Animals, Natural, Views, Geology, Fire, Habitat And Ecosystem.



## NATURAL SHAPES AND FOAMS

Botanical Motifs, Tree And Columnar Supports, Shells' And Spirals, Animal Motifs, Biomimicary, Oval Shapes, Arches, Vaults, Domes, Shapes Resisting Straight Lines And Right Angles.



## NATURAL PATTERNS AND PROCESSES

Deigning With Cultural, Spiritual, Ecological, Or Historical Relationships In Mind.

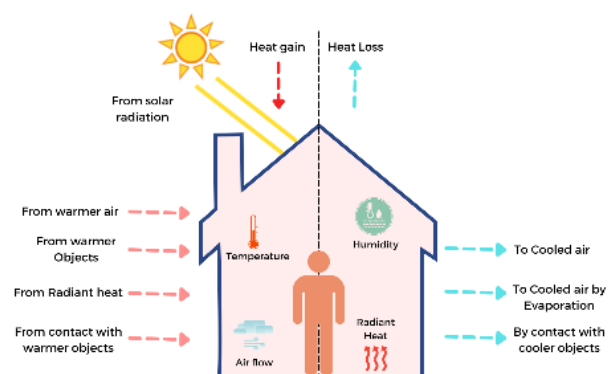
## HOW CAN WELLBEING DESIGN BE USED IN VILLA INTERIOR

The Latest Trend In Modern In Villa Interior Design Incorporates Natural Materials Like Woods. Concrete, Stone, Marble, Granite, Etc. These Materials Have A Timeless Appeal And Add Personality To Your Space Like No Other. Plus They Are Super-versalite And Gel With Almost Any Interior Décor Style.

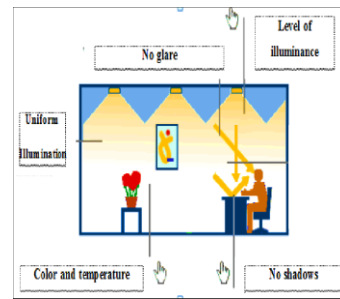
## BACKGROUND HISTORY

The Concept Was Introduced By E.O. Wilson In His 1984 Book Bio philia. Wilson, A Renowned Biologist And University Research Professor Emeritus At Harvard, Outlined A Fundamental Tendency Of Human Beings To Be Attracted To Nature And Emulate Its Processes And Structures In Everyday Life.

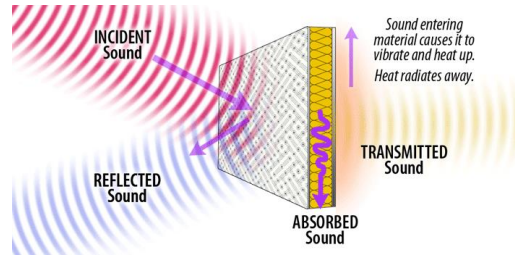
## THERMAL COMFORT



## **VISUAL COMFORT**

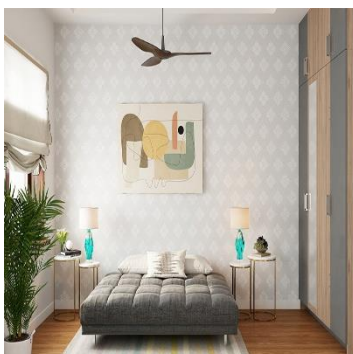


## **ACOUSTIC COMFORT**



## **WHY IS THIS IMPORTANT FOR**

A Luxury Villa Should Feature A Spacious Living Area, Swimming Pool, Elegantly Furnished Dining Area, And More. Every Room In A Luxury Villa Should Be Furnished And Designed With Attention To Detail To Reflect Opulence. Also, Rooms Should Have Luxury And Amenities Expected In Modern Living, Including Entertainment.





# **SITE ANALYSIS**



# **BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**

## **ABOUT THE CITY**

**Sitapur** Is A City And A [Municipal Board](#) In [Sitapur District](#) In The [State](#) Of [Uttar Pradesh](#), [India](#). It Is Located 90 Kilometers North Of State Capital, [Lucknow](#). The Traditional Origin For The Name Is Said To Be By The King [Vikramāditya](#) From Lord [Ram](#)'s Wife [Sita](#).

Sitapur Is Famous For Its Historical And Religious Heritage. It Was Here That The Puranas (The Prolific Hindu Literature And Folklore That Is The Biggest Influence In Hinduism Even Till Date) Were Written By Rishi Ved Vyas, The Writer Of The Indian Epic, Mahabharata.

## **CONNECTIVITY-**

Sitapur Does Not Have Its Own Airport Yet. Chaudhary Charan Singh International Airport, Lucknow Is The Nearest Airport To The City Which Is Almost One And Half Hours' Drive By Car. Sitapur Has Got Its Own Bus Station. Regular Buses Are Available To Sitapur From Delhi And Lucknow. The Sitapur Railway Station Helps The City Remain Well Connected With The Other Main Cities In India Like Bareilly.

## **FAMOUS LANDMARK-**



**NAIMISHARANYA**



**LALITA DEVI  
TEMPLE IN SITAPUR**



# **ELEMENTS OF NATURE**

Color, Plants, And Natural Green Walls, Elements



A Rustling Is A Gentle Swishing Sound, Like The Rustling Of Leaves In The Trees On A Breezy Nigh.



Get the look of  
wood without the  
maintenance  
requirements



WOOD CAST IN CONCRETE APPEARS  
LIKE NOUGAT AND PLASTICS OOZE LIKE JELLY.



SMOOTH, ROUGH, FUZZY, SLIMY,  
AND LOTS OF TEXTURES SOMETHING IN BETWEEN



SCIENTISTS FIND BACTERIA IN SANDSTONE  
FOSSIL AND THEY SMELL LIKE ROTTEN EGGS

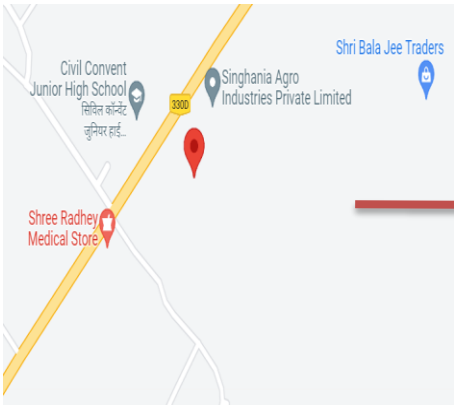
# IDENTIFICATIONS OF SITE



**INDIA/ UTTAR PRADESH**



**SITAPUR**

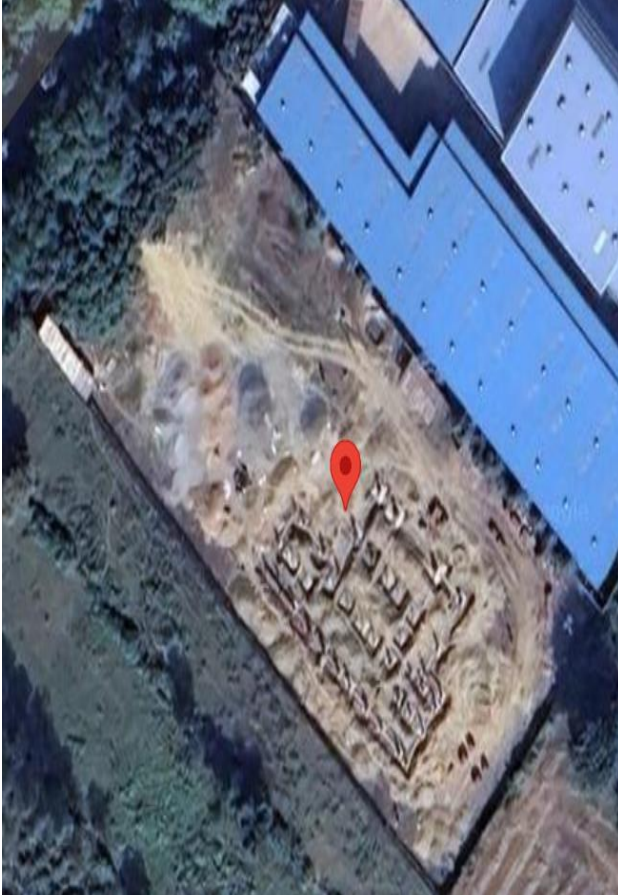


**SITA**

## CO- ORDINATES:

**LATITUDE: 27.554457 - 27°33'16.1"N**

**LONGITUDE: 80.632805 - 80°37'58.1"E**



## SITE INTRODUCTION

**PROJECT- BIOPHILIC  
INTERIOR VILLA**

**LOCATION- MISRIKH  
SITAPUR ROAD,  
KHATKARI, SITAPUR,  
UP-261001, INDIA**

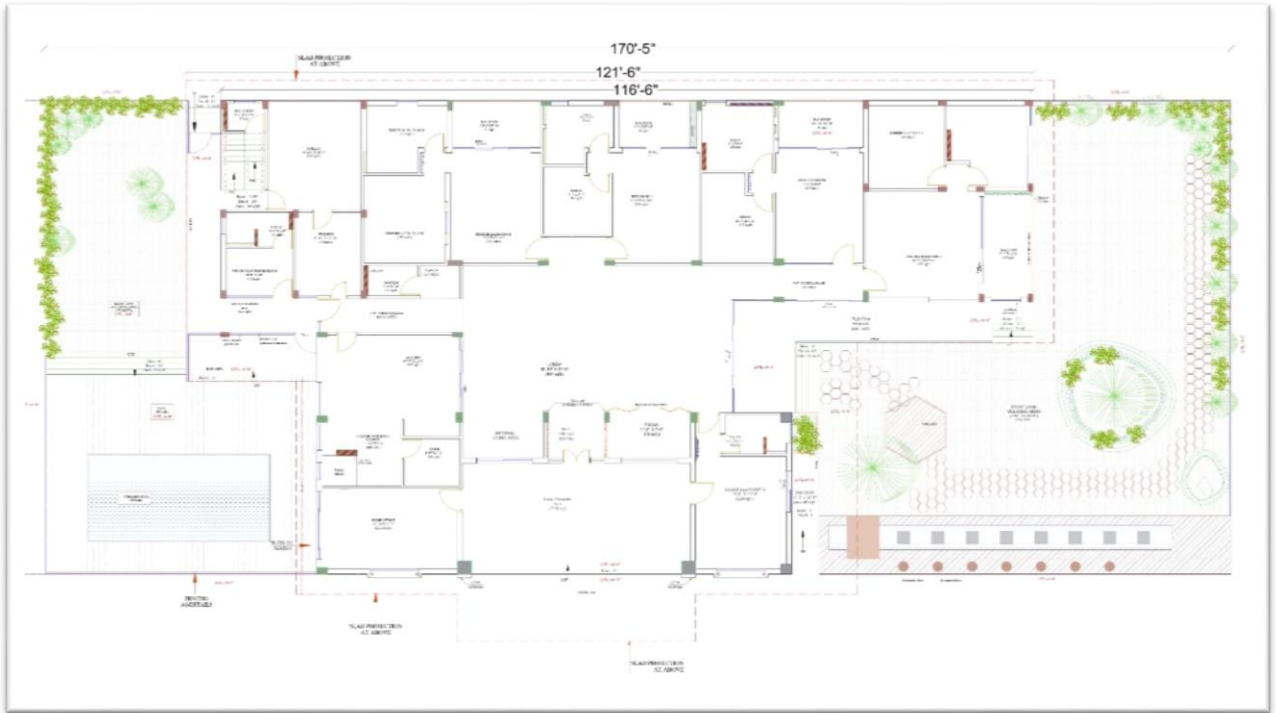
**ARCHITECT- AR.  
NAMIT TANDON  
FROM LUCKNOW  
YEAR OF  
CONSTRUCTION-  
2022**

**TOTAL BUILDUP  
AREA- 8161.74  
square ft.**





# **BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA.**



## **SITE INTRODUCTION**



**BIOPHIPLIC APPROACH IN INTERIOR DESIGN**  
**FOR SPACES OF VILLA**

**LITERATURE STUDY-1**

**18 SCREENS HOUSE**

## INTRODUCTION

This House In Lucknow, A Large City In Northern India, Is Clad With Screens That Provide Shelter From The Sun, Create Different Light Patterns Throughout The Day, And Mitigate Traffic Noise From The Passing Street. Designed By Sanjay Puri Architects. '18 Screens' Is A Six-bedroom Property Located On The Peripheral Edge Of An Extensive Development Of Private Homes.

## PLANNING

- The Plan Accommodates Six Bedrooms As Well As A Prayer Room, A Movie Lounge, A Study And Utility Spaces. A Double-height Naturally Ventilated Internal Courtyard Is At The Heart Of The House, Which Is Surrounded By Open Terraces And Balcony Gardens Leading Into The Bedrooms.

The Effective Integration Of Landscape Features Alongside Design Techniques Creates A Series Of Captivating Experiences Within The House.

Each Living Space Was Designed To Have A Different Spatial Quality, Giving Them Unique Identities. The Placement Of Large Extensive Glass Windows On The North Side Of The House Allows For Indirect Sunlight To Penetrate Into The Interior Spaces.



Architects Decided To Build The Whole Structure Out Of Raw Concrete, With The Internal Spaces Adorned With Sandstone And Wood Features As Well As Landscaping Which Creates An Overarching Natural Palette Fusing Effectively With The Exterior Concrete Aesthetic.

The Differing Living Spaces Have Their Own Identities, Characterized By Spatial Techniques As Well As Light Streaming Into The Interior At Different Intensities, Illuminating The Room.

The Key Features That Characterize The Whole Project Are The Screens With Patterns That Reflect Traditional Indian Design And Architecture, These Screens Protect The Inhabitants From Harsh Sunlight And Heat At Certain Times Of The Day As Well As Create Beautiful Patterns Within The Architecture As The Light Shines Through. The Screens Also Act As Shields That Mitigate The Noise Of Any Traffic From The Nearby Streets. The Specific Pattern Of The Screens Was Inspired By 'Chicken' Embroidery, Famous In India.

## SITE PHOTOS



## SITE DETAILS

Address: Akhilesh Das Marg, lucknow Vipul Khand 5

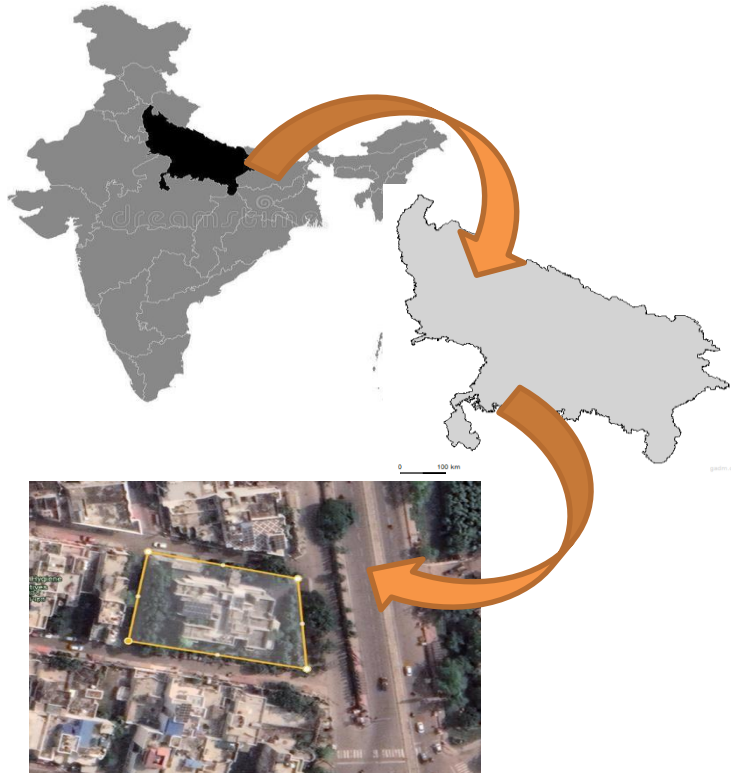
Construction: 2019

Client: Mr. Rajesh Singh Climate: Composite

Climate Site Area: 8500 ft<sup>2</sup>

Architect: Mr. Sanjay Puri Architects

Interior Design : Nina Puri & Sanjay Puri Architects



## CONNECTIVITY

- 18 Screens House Has Good Connectivity With-
  - Chaudhary Charan Singh International Airport
  - Railway Station – 8 Km
  - Kaiserbagh Bus Stand – 8 Km
- The Nearest Metro Station (It College Metro Station) Is 7 Km Away From The Site
- Coordinates- 26`50' 33" N - 80`59'27" E

# **DESIGN ELEMENTS IN 18 Screens House**

- Each living space was designed to have a different spatial quality, giving them unique identities.
- The placement of large extensive glass windows on the north side of the house allows for indirect sunlight to penetrate into the interior spaces.

The differing living spaces have their own identities, characterized by spatial techniques as well as light streaming into the interior at different intensities, illuminating the room.

The key features that characterize the whole project are the screens with patterns that reflect traditional Indian design and architecture, which enclose outdoor seating areas while also allowing light into the building ensuring a continued healthy relationship with the natural environment

he specific pattern of the screens was inspired by 'chicken' embroidery, famous in India.



# **BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**



## **LEGEND**

- |                             |                        |                      |
|-----------------------------|------------------------|----------------------|
| 02. 1.8M WIDE PASSAGE       | 19. DRESSER            | 27. FAMILY ROOM      |
| 03. DOUBLE HT CENTRAL SPACE | 20. TOILET             | 28. SHELTERD TERRACE |
| 04. DOUBLE HT LIVING ROOM   | 21. BEDROOM            | 30. TERRACE          |
| 17. VERANDAH                | 22. DECK               | 31. PANTRY           |
| 18. MASTER BEDROOM          | 26. 1.2M WIDE CORRIDOR | 33. BALCONY          |



# **BIOPHILIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**

## **DESIGN ELEMENTS IN 18 SCREENS**

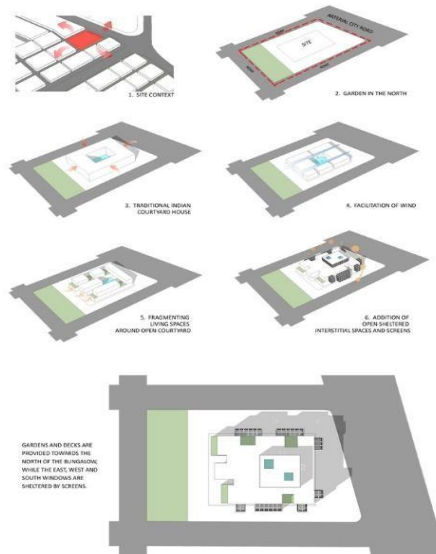


EACH LIVING SPACE WAS DESIGNED TO HAVE A DIFFERENT SPATIAL QUALITY, GIVING THEM UNIQUE IDENTITIES.

THE PLACEMENT OF LARGE EXTENSIVE GLASS WINDOWS ON THE NORTH SIDE OF THE HOUSE ALLOWS FOR INDIRECT SUNLIGHT TO PENETRATE INTO THE INTERIOR SPACES.

THE DIFFERING LIVING SPACES HAVE THEIR OWN IDENTITIES,

CHARACTERISED BY SPATIAL TECHNIQUES AS WELL AS LIGHT STREAMING INTO THE INTERIOR AT DIFFERENT INTENSITIES, ILLUMINATING THE ROOM.



### LEGEND

- 02. 1.8M WIDE PASSAGE
- 03. DOUBLE HT CENTRAL SPACE
- 04. DOUBLE HT LIVING ROOM
- 17. VERANDAH
- 18. MASTER BEDROOM

- 19. DRESSER
- 20. TOILET
- 21. BEDROOM
- 22. DECK
- 26. 1.2M WIDE CORRIDOR

- 27. FAMILY ROOM
- 28. SHELTERD TERRACE
- 30. TERRACE
- 31. PANTRY
- 33. BALCONY





**COURTYARD**



**DRESSER**



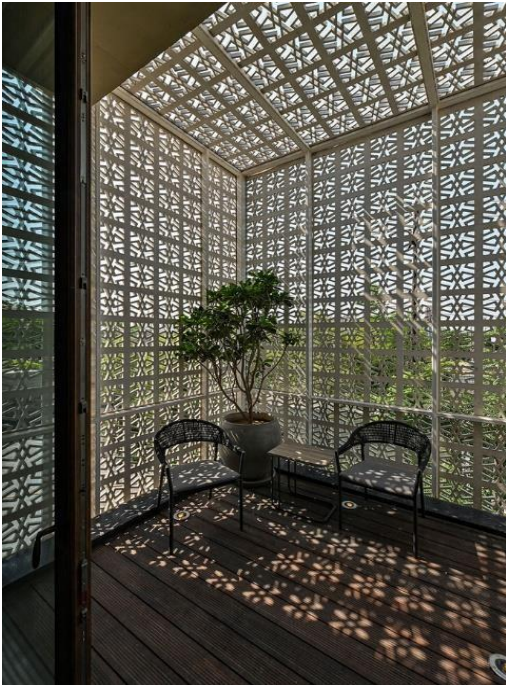
**BEDROOMS**



**LIVING ROOM**



**SCREEN SHELTERED  
WALKWAY**



**DECK**



**SCREEN SHELTERED**



## **SUPPLIERS**

**Windows:** Ritika Woods, Fenesta

**Paint:** Asian Paints, Oikos

**Bathroom Fixtures:** Kohler, Grohe, Gessi

**Kitchen Fittings:** Hafele, Miller, Siemens, Faber

## **FURNITURE STYLE**

### **Mid-Century Modern**

Mid-century modern style is a distinctive yet versatile design style. It fits perfectly between traditional and contemporary styles by drawing on elements of both. Mid-century modern style is associated with the 1960's and has endured in popularity ever since.

Mid-century modern style characteristics

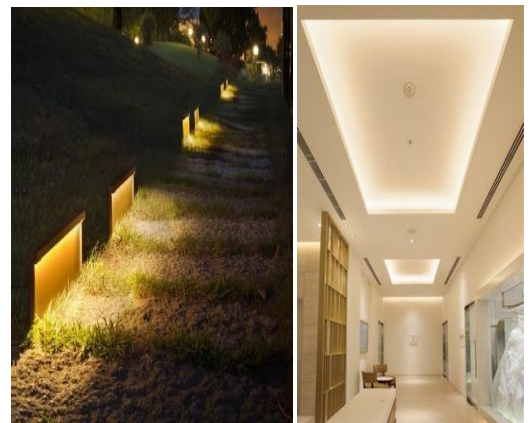
- Organic shapes
- Mixed natural elements
- Clean lines
- Contrasting textures
- Medium to dark wood tones
- Splayed legs
- Pared-down geometric forms



## **LIGHTING**

### **Lighting used**

- Natural Lighting
- Cove Light
- Ambient Lighting
- Spot Light



# SERVICES

CCTV cameras have been installed at the venue which provides proper surveillance

SECURITY ROOM

SERVANT’S ROOM

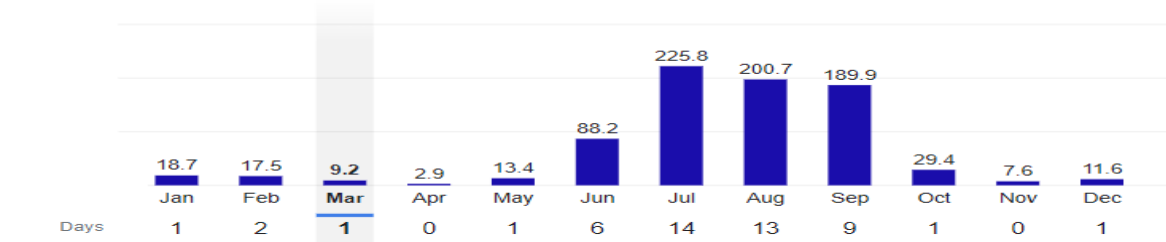
PARKING

24 x 7 Power back up.

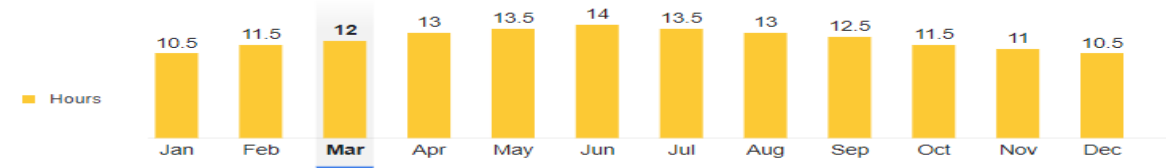
# CLIMATE

Lucknow has a warm humid subtropical climate with cool, dry winters from December to February and dry, hot summers from April to June. The rainy season is from mid-June to mid-September, when Lucknow gets an average rainfall of 1010 mm (40 in) mostly from the south-west monsoon winds.

Rainfall (millimetres)

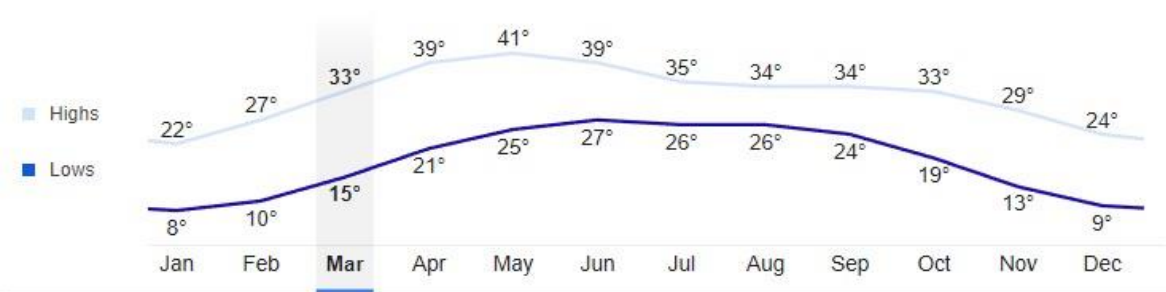


Daylight

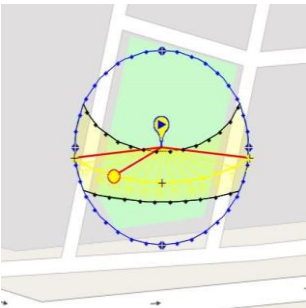


Source: NOAA

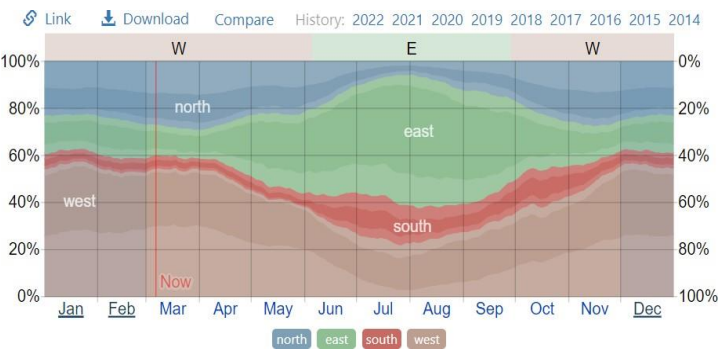
Temperatures (°C)



# SUN PATH



# AVERAGE WIND SPEED IN LUCKNOW











Standard door opening:

Main door	1.10 m
Bedroom door	.80 m
Toilet & bath door	.70 m
Access door	.70 or .80 m

Standard width of window per panel	.70 m
Standard width of t&b window panel	.50 or .60 m
Standard thickness of walls	.20 m
Thickness of door	.10 m

# COMPARISON CHART

Parameter	Mulberry villa	Garden bay	STONE HOUSE	18 Screens House	Comment
1.Location and access	<ul style="list-style-type: none"> <li>Sector C, <u>Sushant Golf city, lucknow</u></li> </ul> 	<ul style="list-style-type: none"> <li>IIM Road, Ghaila, <u>Lucknow, Uttar Pradesh</u></li> </ul> 	<ul style="list-style-type: none"> <li><u>Gyan Vihar, Badrawas, Jaipur</u></li> </ul> 	<ul style="list-style-type: none"> <li><u>Akhilesh Das Marg, lucknow</u> <u>Vipul Khand 5</u></li> </ul> 	<ul style="list-style-type: none"> <li>the site should have proper transport and <u>facilities for better connectivity</u></li> </ul>
2.Year of construction	2019	2019	2019	2019	-
3.Site area	4017 Sq	1884 sq. ft	8000 ft <sup>2</sup>	8500 ft <sup>2</sup>	-
4.Climate	Composite	Composite	Hot and Dry	Composite	-
5.Planning					-
6.Architecture character	<ul style="list-style-type: none"> <li>Designed to perfect the balance Of contemporary living with the traditional forms and details of Indian Standing a testimonies to thoughtful space combined with grandeur</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability is key within the township and a number of energy efficient initiatives have been implemented including the design of the soft scape to help reduce the urban heat</li> </ul>	<ul style="list-style-type: none"> <li>The effective integration of landscape features alongside design techniques creates a series of captivating experiences within the house.</li> </ul>	<ul style="list-style-type: none"> <li>The differing living spaces have their own identities, <u>characterised by spatial techniques</u> as well as light streaming into the interior at different intensities, illuminating the room.</li> </ul>	<ul style="list-style-type: none"> <li>The space reflects its own individual character by use of unique architecture character</li> </ul>

## **COMPARISON CHART**

Parameter	Mulberry villa	Garden bay	STONE HOUSE	18 Screens House	Comment
7.vegetation					<ul style="list-style-type: none"> <li>Natural vegetation should be kept intact with addition of some flowing plants which adds a play of colour</li> </ul>
8.SERVICES	<ul style="list-style-type: none"> <li>CCTV cameras have been installed at the venue which provides proper surveillance</li> <li>SECURITY ROOM</li> <li>SERVANT'S ROOM</li> <li>PARKING</li> <li>24 x 7 Power back up.</li> </ul>	<ul style="list-style-type: none"> <li>CCTV cameras have been installed at the venue which provides proper surveillance</li> <li>SECURITY ROOM</li> <li>SERVANT'S ROOM</li> <li>PARKING</li> <li>24 x 7 Power back up.</li> </ul>	<ul style="list-style-type: none"> <li>CCTV cameras have been installed at the venue which provides proper surveillance</li> <li>SECURITY ROOM</li> <li>SERVANT'S ROOM</li> <li>PARKING</li> <li>24 x 7 Power back up.</li> </ul>	<ul style="list-style-type: none"> <li>CCTV cameras have been installed at the venue which provides proper surveillance</li> <li>SECURITY ROOM</li> <li>SERVANT'S ROOM</li> <li>PARKING</li> <li>24 x 7 Power back up.</li> </ul>	-



#### FOYER

- Small - 6 x 6
- Medium - 8 x 10
- Large - 8 x 15

#### ENTRY CLOSETS (24" minimum inside dimensions)

- Small - 2 x 3
- Medium - 2 x 4
- Large - 2 x 6

#### POWDER ROOM

- Small - 4 x 4
- Medium - 5 x 5
- Large - 6 x 6

#### GREAT ROOM

- Small - 16 x 18
- Medium - 18 x 24
- Large - 20 x 28

#### LIVING ROOM -

- Small - 12 x 18
- Medium - 16 x 20
- Large - 22 x 28

#### DINING ROOM

- Small - 10 x 12
- Medium - 12 x 16
- Large - 14 x 18

#### FAMILY ROOM

- Small - 12 x 16
- Medium - 14 x 20
- Large - 16 x 24

#### RECREATION ROOM

- Small - 12 x 18
- Medium - 16 x 24
- Large - 18 x 30

#### WORKSHOP

- Small - 6 x 8
- Medium - 8 x 10
- Large - 12 x 16

#### STORAGE ROOM

- Small - 6 x 6
- Medium - 8 x 10
- Large - 12 x 14

#### HOME OFFICE / WORK ROOM

- Small - 8 x 10
- Medium - 12 x 14
- Large - 14 x 18

#### MASTER BED ROOM

- Small - 12 x 14
- Medium - 14 x 20
- Large - 16 x 24

#### WALK-IN CLOSETS (24" min inside dim)

- Small - 4 x 6
- Medium - 6 x 6
- Large - 6 x 8

#### MASTER BATHROOM

- Small - 6 x 9
- Medium - 8 x 12
- Large - 10 x 16

#### BEDROOMS

- Small - 10 x 10
- Medium - 12 x 12
- Large - 14 x 16

#### CLOSETS (24" min inside dim)

- Small - 2 x 4
- Medium - 2 x 6
- Large - 2 x 8

#### GUEST BEDROOM

- Small - 10 x 12
- Medium - 12 x 14
- Large - 14 x 18

#### GUEST CLOSETS (24" min inside dim)

- Small - 2 x 3
- Medium - 2 x 4
- Large - 2 x 6

#### FULL BATH

- Small - 6 x 9
- Medium - 7 x 10
- Large - 8 x 12

#### MEDIA ROOM

- Small - 10 x 14
- Medium - 12 x 16
- Large - 14 x 20

#### KITCHEN

- Small - 5 x 10
- Medium - 10 x 16
- Large - 12 x 20

#### EATING AREA

- Small - 10 x 10
- Medium - 12 x 12
- Large - 16 x 16

#### PANTRY

- Small - 2 x 2
- Medium - 3 x 4
- Large - 4 x 6

#### LAUNDRY

- Small - 3 x 6
- Medium - 6 x 8
- Large - 8 x 10

#### UTILITY/MUD ROOM

- Small - 5 x 6
- Medium - 6 x 8
- Large - 8 x 10

#### REAR ENTRY CLOSETS (24" minimum inside dimensions)

- Small - 2 x 3
- Medium - 2 x 4
- Large - 3 x 6

#### GARAGE

- Small - 12 x 20 (1 car)
- Medium - 20 x 20 (2 car)
- Large - 24 x 24 (2 car w/storage)

#### GUEST BATHROOM

- Small - 5 x 9
- Medium - 6 x 10
- Large - 7 x 12

#### LINEN CLOSETS (12" min inside dim)

- Small - 1 x 3
- Medium - 2 x 4
- Large - 3 x 6

#### DEN

- Small - 10 x 10
- Medium - 12 x 12
- Large - 14 x 16

#### STUDY

- Small - 10 x 10
- Medium - 12 x 12
- Large - 14 x 16

#### LIBRARY

- Small - 12 x 12
- Medium - 14 x 18
- Large - 16 x 20



**BIOPHIPLIC APPROACH IN INTERIOR**  
**DESIGN FOR SPACES OF VILLA**  
**LITERATURE STUDY-2**  
**STONE HOUSE**

## INTRODUCTION

Rajasthan is synonymous with sandstone as a building material but sadly, over the last few decades, this material has been reduced to a '*cladding*' medium and its potential as a robust and sustainable structural element has not been explored. The house in [Jaipur](#) presented us with an opportunity to explore and evolve a method of building that has been prevalent in traditional buildings for centuries. We laid out a simple brief: no material other than stone should be used for construction.

## PLANNING

- The plan accommodates six bedrooms as well as a prayer room, a movie lounge, a study and utility spaces. A double-height naturally ventilated internal courtyard is at the heart of the house, which is surrounded by open terraces and balcony gardens leading into the bedrooms. The effective integration of landscape features alongside design techniques creates a series of captivating experiences within the house. Each living space was designed to have a different spatial quality, giving them unique identities. The placement of large extensive glass windows on the north side of the house allows for indirect sunlight to penetrate into the interior spaces.



Architects decided to build the whole structure out of raw concrete, with the internal spaces adorned with sandstone and wood features as well as landscaping which creates an overarching natural palette fusing effectively with the exterior concrete aesthetic.

The differing living spaces have their own identities, characterized by spatial techniques as well as light streaming into the interior at different intensities, illuminating the room.

The key features that characterize the whole project are the screens with patterns that reflect traditional Indian design and architecture, These screens protect the inhabitants from harsh sunlight and heat at certain times of the day as well as create beautiful patterns within the architecture as the light shines through. The screens also act as shields that mitigate the noise of any traffic from the nearby streets.

## SITE PHOTOS



## SITE DETAILS

Address: Gyan Vihar, Badrawas, Jaipur

Construction: 2019

Client: Confidential

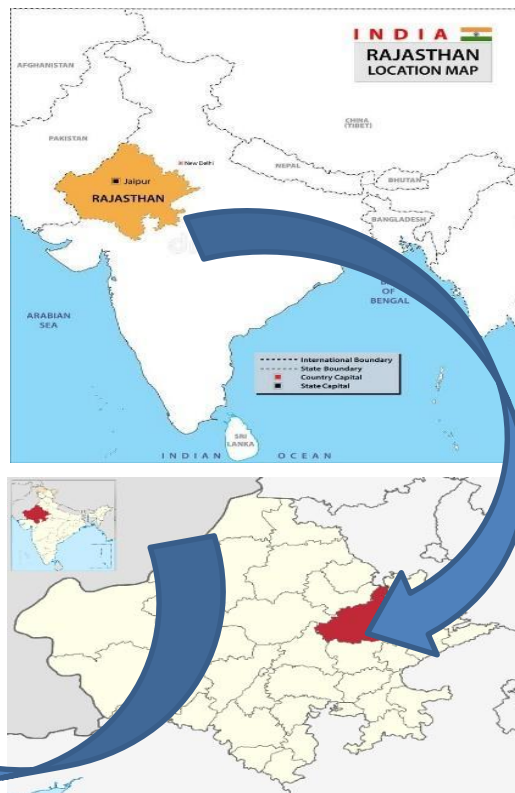
Climate: Hot and Dry

Area: 8000 ft<sup>2</sup>

Architect: Mr. Malik Architecture

## CONNECTIVITY

- Stone House Has Good Connectivity With-
  - Jaipur International Airport 11 Km
  - Railway Station – 6 Km
  - Bus Stand – 6.5 Km
- The Nearest Metro Station (Metro Station Mansarovar)
- Is 1.8 Km Away From The Site.

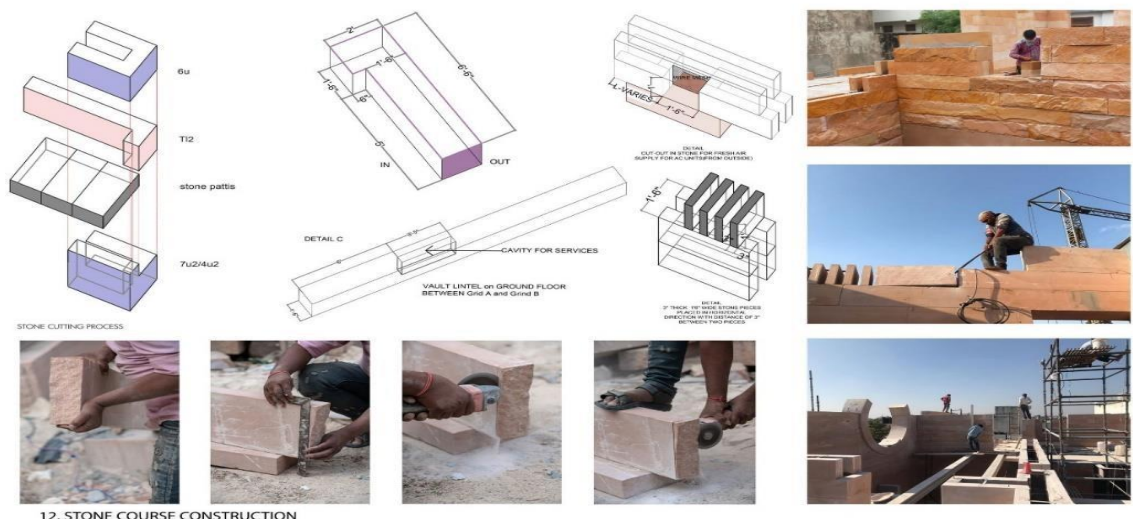


# DESIGN ELEMENTS IN STONE HOUSE

- The House In Jaipur Presented Us With An Opportunity To Explore And Evolve A Method Of Building That Has Been Prevalent In Traditional Buildings For Centuries. We Laid Out A Simple Brief: No Material Other Than Stone Should Be Used For Construction.

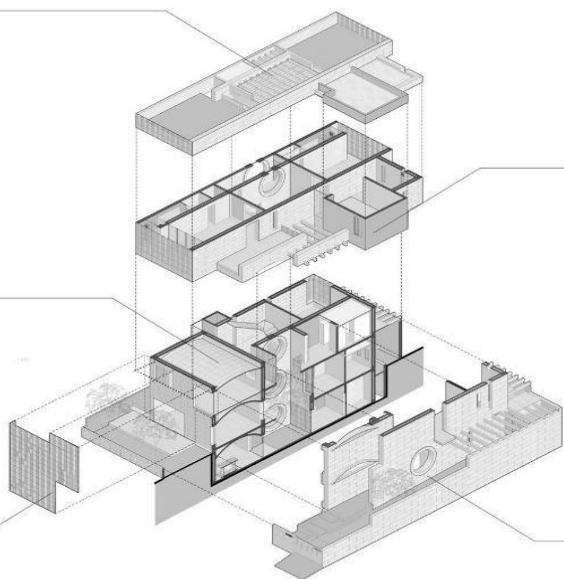
The Traditional Method Of Load Bearing Construction Relied On The Impermeable Thickness Of Walls. This Was Reengineered To Develop A Hollow Interlocking Structural Wall System That Creates A More Effective Thermal Break, Provides Space To Integrate Services Within The Wall Cavity, And Effectively Reduces The Material Consumption By 30%.

Floor Systems Alternate Between Vaults And Large Single Span Stone Pieces. Every Building Element From The Basement Raft/Retaining Walls/Lintels/Door And Window Jambs/Reveals/Stairs/Screens Etc. Has Been Made From Stone Blocks, Either From The Quarry (Superstructure Elements) Or Excavated From The Site (Substructure Elements).



12. STONE COURSE CONSTRUCTION

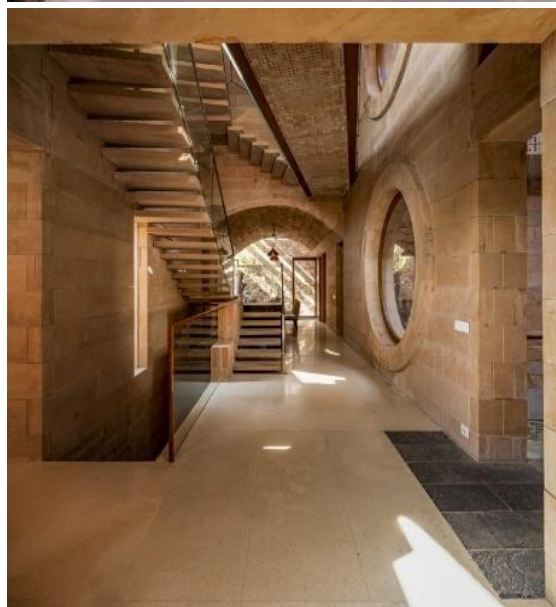




03. AXONOMETRIC VIEW



EAST ELEVATION



WEST ELEVATION

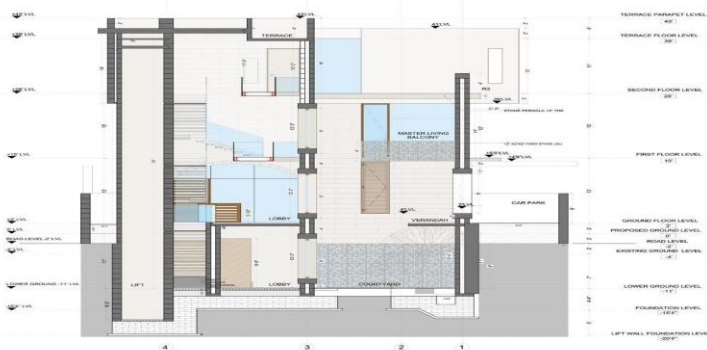
1.  COURTYARD
2.  LOUNGE
3.  POWDER TOILET
4.  KITCHEN
5.  TOILET 3
6.  STUDY ROOM
7.  LIVING ROOM 2
8.  LOBBY
9.  DINING
10.  MASTER BATH
11.  BATH
12.  MASTER BED ROOM
13.  BED ROOM 3
14.  DEN WITH BATH
15.  TEMPLE
16.  GYM
17.  BALCONY
18.  TERRACE
19.  SERVANT ROOM WITH TOILET
20.  DRIVERS ROOM WITH TOILET
21.  POWER ROOM
22.  LIFT
23.  SERVICE



05. BASEMENT PLAN  
HOUSE OF SOLID STONE, JAIPUR



04. GROUND FLOOR PLAN



10. SECTION BB  
HOUSE OF SOLID STONE, JAIPUR



06. FIRST FLOOR PLAN  
HOUSE OF SOLID STONE, JAIPUR



07. SECOND FLOOR PLAN  
HOUSE OF SOLID STONE, JAIPUR







# MATERIAL

TUFFEN GLASS

TEEK WOODEN

TILES

SAND STONE

FURNITURE STYLE

Mid-Century Modern

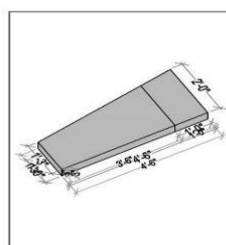
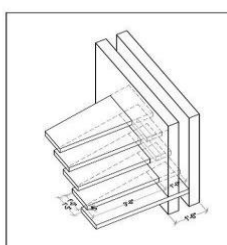
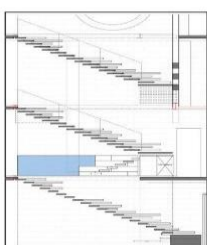
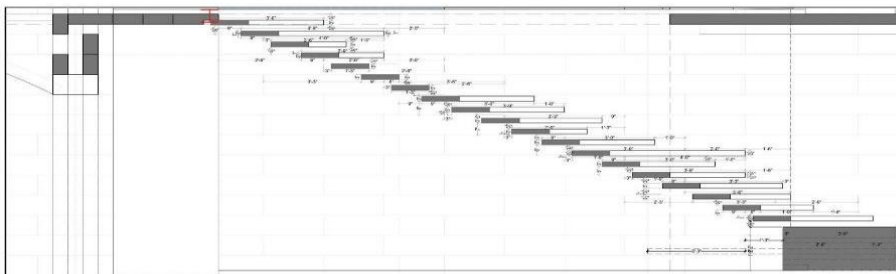
Mid-century modern style is a distinctive yet versatile design style.

It fits perfectly between traditional and contemporary styles by drawing on elements of both.

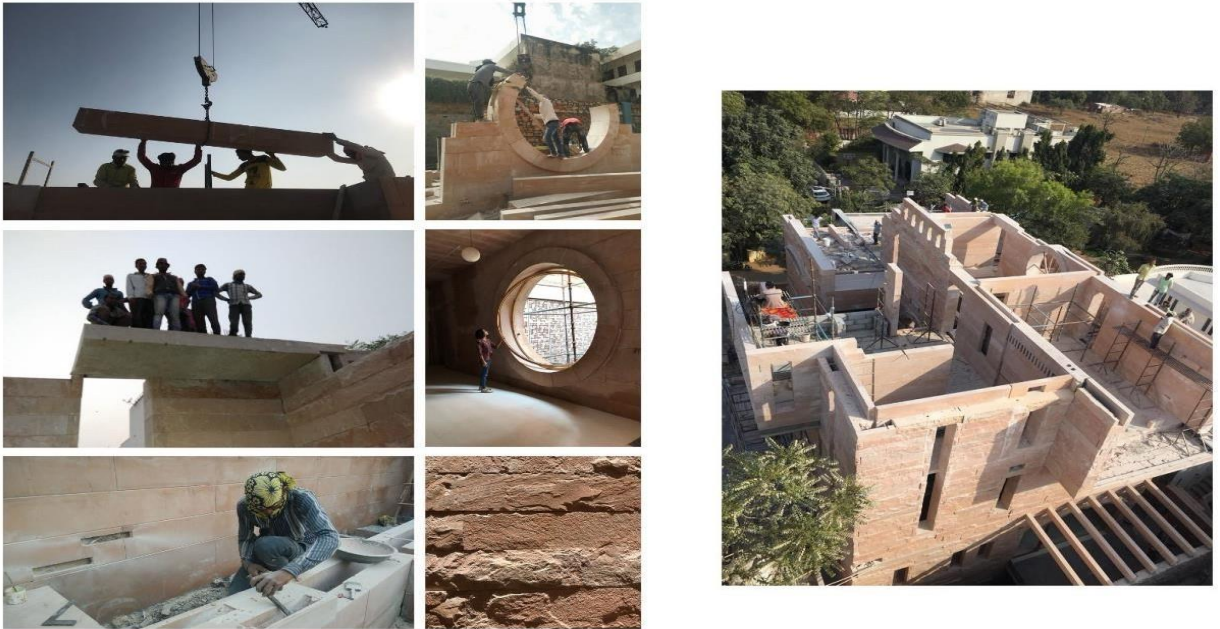
Mid-century modern style is associated with the 1960's and has endured in popularity ever since.

Mid-century modern style characteristics

- Organic shapes
- Mixed natural elements
- Clean lines
- Contrasting textures
- Medium to dark wood tones
- Splayed legs
- Pared-down geometric forms



15. STAIRCASE



18. CONSTRUCTION IMAGES

## SERVICES

CCTV cameras have been installed at the venue which provides proper surveillance

SECURITY ROOM SERVANT'S ROOM PARKING

24 x 7 Power back up.

Climate

hot semi-arid climate

Jaipur has a monsoon-influenced hot semi-arid climate (Köppen climate classification BSH) with long, extremely hot summers and short, mild to warm winters.



17. CONSTRUCTION IMAGES



**BIOPHIPLIC APPROACH IN INTERIOR**  
**DESIGN FOR SPACES OF VILLA**  
**CASE STUDY-1**  
**KD 45 VILLA**



# INTRODUCTION

## WHAT IS BIOPILIC DESIGN ?

Biophilic Design Is A Concept Used Within The Building Industry To Increase Occupant Connectivity To The Natural Environment Through The Use Of Direct [Nature](#), Indirect Nature, And Space And Place Conditions. Used At Both The Building And City-scale, It Is Argued That This Idea Has Health, Environmental, And Economic Benefits For Building Of Biophilic Design.

## WHAT IS MEANING OF BIOPILIC DESIGN ?

The Word Bio philia Originates From The Greek, 'Philia' Meaning 'Love Of'. It Literally Means A Love Of Life Or Living Things. Humans Have A Deeply Engrained Love Of Nature Which Is An Intuitive And Natural Drive Imprinted Into Our DNA.

## VILLA KD45 RESIDENCE

Architects:- Studio Symbiosis

AREA:- 1100 Sq.mt

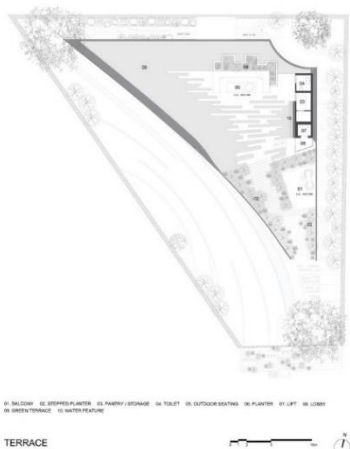
Year:- 2022

Lighting :- The Luminars

Civil Contractor:- Saakar Projects Landscape Design  
Studio Symbiosis Architects.



Design Brief - Biophilic design brief was to create a villa with maximum green space and views of the park. The space requirement is to create a villa for one joint family. The client's brother with his wife and grandparents are on the ground floor and he, his wife, and son are on the first floor. Home theatre, bar, and gym in the basement connected with a nice outdoor staircase and a patio to bring in light. The site is surrounded by villas on 3 sides, offering views of the neighborhood park on the shortest 4<sup>th</sup> side. Alongside there are three prominent trees on the site, one at the entrance, and two flanking the rear side of the plot. The design brief from the client was to try and retain these trees as much as possible.



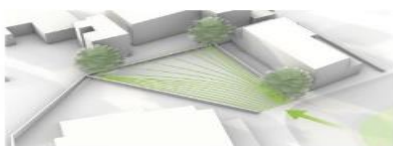
Being a joint family the design wanted dual interaction in the house. Firstly, zones of privacy were required for his parents, his brother's family, and his family, and secondly few spaces where all members living in the house can be together.



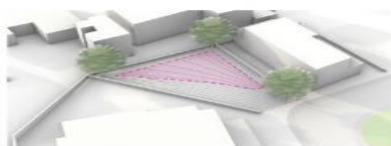
**Design Solution – Urban living in the lap of nature –** In an urban setting, there is a growing disconnect between the user and nature. With this project we are looking at creating green urban living, to rekindle the relationship of the residents with nature in their immediate surroundings. This villa emerges from the landscape, with the central theme of creating maximum green cover on-site and utilizing the views of the park facing the site. The odd shape of the plot along with the views of the neighborhood park was used as design drivers. Thematically the design looks at flowing the green of the neighborhood park in the site, with streamlines emerging from the park facing the southern side and opening up towards the northern edge of the site. This base grid has been used to define the built-form and landscape zones such as water bodies, hardscape, and soft scape.



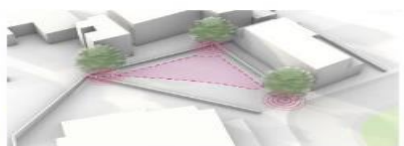
The built form is strategically placed on one edge of the site, resulting in a generous landscaped garden on the west side of the plot which opens up to the double-height family living & dining, thereby extending into an outdoor living room. The built form emerges from the landscape and blends the ground floor to the roof of the building, creating an outdoor connective spine for the villa. This meandering stepped walkway has outdoor space on the first floor with outdoor shaded seating and connects further to the terrace. This outdoor terrace space created on the first floor acts as a balcony and at the same time the direct entrance to the first-floor apartment. The landscape garden on the terrace enjoys the views of the neighborhood park with a feeling of being nested with nature. These three outdoor spaces have different usability based on the time of day and season of the year.



FLOWING THE GREEN OF THE NEIGHBOURHOOD PARK INTO THE SITE



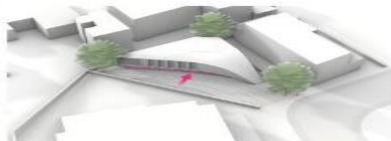
MOVING THE BUILT FORM IN THE NORTH-EAST CORNER TO CREATE A GENEROUS GARDEN ON GROUND



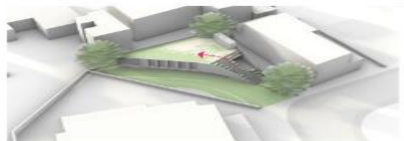
RETAINING THE EXISTING LARGE TREES & BUILT FORM RESPONDS TO THE TREES



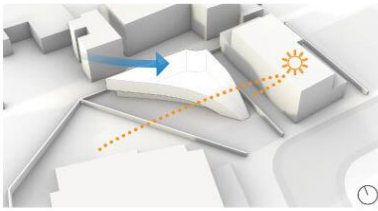
TERRACE FOLDING DOWN TO UNFURL THE LANDSCAPE ONTO THE BUILT



RECESSING THE GROUND FLOOR TO PROVIDE SHADING



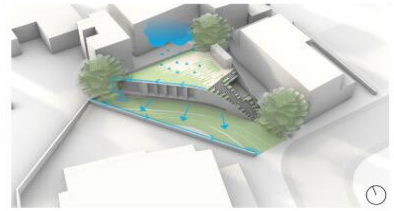
LANDSCAPE EXTENDS TO THE ROOF GARDEN THROUGH A MEANDERING STEPPED WALKWAY



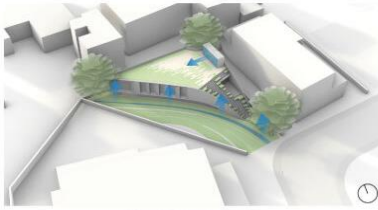
SUN PATH AND WIND DIRECTION



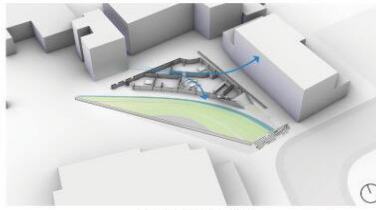
SUSTAINABLE PROPERTIES OF GREEN ROOF AND MITIGATING HEAT ISLAND EFFECT



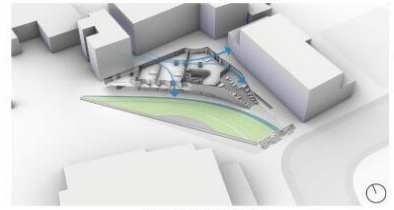
WATER RUN OFF REDUCTION AND RAIN WATER HARVESTING



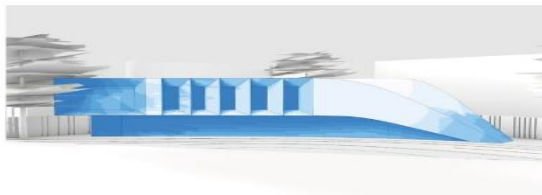
EVAPORATIVE COOLING



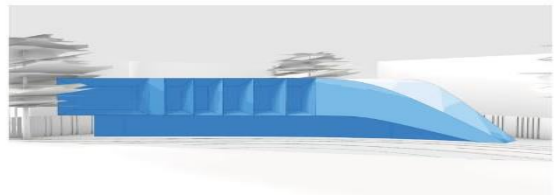
CROSS VENTILATION (GROUND FLOOR)



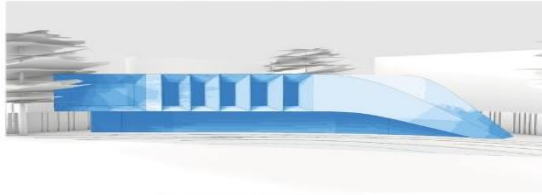
CROSS VENTILATION (FIRST FLOOR)



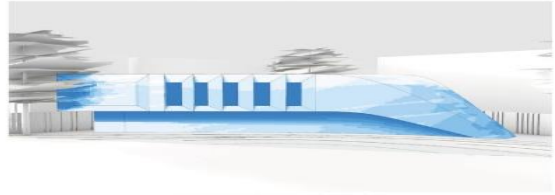
21 MARCH - VERNAL EQUINOX



20 JUNE - SUMMER SOLSTICE

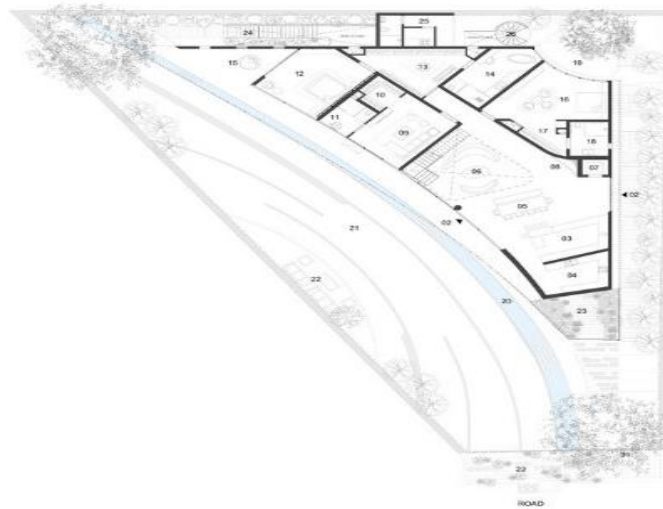


23 SEPTEMBER - AUTUMNAL EQUINOX



21 DECEMBER - WINTER SOLSTICE

< 0.00 DIRECT SUN HOURS 10.00 >  
DESIGN RESPONDS TO SITE BY SHADING FROM SUMMER SUN AND LETTING THE WINTER SUN IN  
**SHADING AND SUN HOUR ANALYSIS - WEST FACADE**



01. MAIN ENTRANCE GATE 02. ENTRANCE 03. DRY KITCHEN 04. WET KITCHEN 05. DINING 06. FORMAL LIVING 07. LEFT 08. POOL  
09. FAMILY LIVING / GUEST BEDROOM 10. WARDROBE 11. BATHROOM 12. MASTER BEDROOM 13. MBR WALK-IN CLOSET 14. MBR BATHROOM 1  
15. SIT-OUT 16. PARENT'S BEDROOM 17. PARENT'S WALK-IN CLOSET 18. PARENT'S BATHROOM 19. COURTYARD 20. WATER CHANNEL 21. LAWN  
22. GARDEN SIT-OUT 23. STEPPED PLANTERS 24. STAIRCASE TO BASEMENT 25. SERVANT / LAUNDRY 26. ACCESS TO BASEMENT

GROUND FLOOR









**BIOPHIPLIC APPROACH IN INTERIOR  
DESIGN FOR SPACES OF VILLA**

**CASE STUDY-2**  
**INDIA HABITAT CENTRE**



# INDIA HABITAT CENTRE

## WHAT IS HABITAT CENTER ?

- It Is Center Of Contemporary Culture, Economic, Business Social Events.
- The Concern Of Habitat Centre & It's Environments work as the back of bone of the Habitat Centre.
- Its Principle "to restore at every level" environment and ecological a balanced and improved way to life is reflected, the Habitat Centre is not only a home for this offices and research of organization but is the order of facilities their interaction, the center provides of wide range of facilities like conference venues, exhibition hall and seminar halls restaurants and club performance venues for the culture activates.



## AMIS IN PROJECT

The aims of the project is to design building that would facilities the public built design and to study design which accommodated both od rural people and foreign. The aims of project is to provide functional design that ensures efficient, safe and appreciate work spaces.

## SCOPE OF WORK LIMITATION

The Habitat Centre is not only a home for this offices and research of organization but is the order of facilities their interaction, the center provides of wide range of facilities like conference venues, exhibition hall and seminar halls restaurants and club performance venues for the culture activates.

- OFFICE CENTRE

1. Office room
2. Conference hall
3. Meeting room
4. Seminar hall



- RECREATIONAL CENTRE

1. Club/ gymnasium
2. Food court/ Restaurants
3. Banquet hall
4. Guest room
5. Parking

- CULTURE CENTRE

1. Art Gallery
2. Exhibition hall &
3. Auditorium





# SITE DETAILS

## WHAT IS HABITAT CENTER ?

- It Is Center Of Contemporary Culture, Economic, Business Social Events.
- The Concern Of Habitat Centre & It's Environments work as the back of bone of the Habitat Centre.
- Its Principle "to restore at every level" environment and ecological a balanced and improved way to life is reflected, the Habitat Centre is not only a home for this offices and research of organization but is the order of facilities their interaction, the center provides of wide range of facilities like conference venues, exhibition hall and seminar halls restaurants and club performance venues for the culture activates.



INDIA- DELHI



THE HABITAT CENTRE

## PROPOSED-

### The Habitat Centre

Lodhi Road, Near Airforce Bal Bharati School,  
New Delhi, Delhi 110003



## OFFICE PLANNING

### Work Place Area (Useable Space)-

Space in which possible for people to work desks, including secondary circulation.

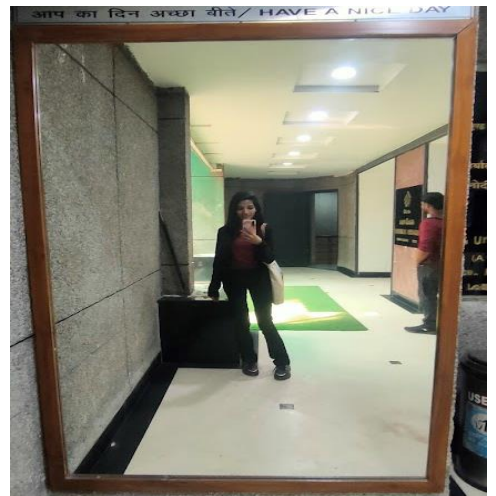
Primary circulation to provide access for mean of escape to work place area.

Usually take place up between 10% to 15% net useable area.

Special area space which can not be used for office worker but its dedicated to particular functions and ex- archives, restaurants.









# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA

## DESIGN CHALLENGES

THE DESIGN IS ADA-PLUS SO SPECIAL ATTENTION WAS MADE TO THE NAVIGABILITY FOR PEOPLE USING WHEELCHAIRS AND OTHER SUPPORT DEVICES AS WELL AS PEOPLE PULLING IV POLES. THE OPPORTUNITIES FOR TRIPPING MUST BE KEPT TO A MINIMUM. BECAUSE OF THIS, THEIR OPTIONS WERE LIMITED FOR PERMEABLE PAVING



## DESIGN IMPLICATIONS

IT IS POSSIBLE TO DESIGN HEALTH CARE GARDENS THAT PROVIDE HABITAT FOR LOCAL FAUNA.

THE USE OF NATIVE PLANTS IS COMPATIBLE WITH HOSPITAL GARDENS.

INNOVATIVE STORMWATER TECHNOLOGIES CAN BE INCORPORATED INTO HOSPITAL GARDEN DESIGN.

WITH MANY SMALLER GARDENS, EACH ONE CAN HAVE ITS OWN THEME. PERHAPS ONE IS DESIGNED SPECIFICALLY



## INTERESTING DETAIL

LEGACY EMANUEL HAS A VERY STRONG AND VERY INVOLVED HORTICULTURE THERAPY PROGRAM FOR THE PATIENTS.



## CHILDHOOD DEVELOPMENT, PLAY AND ACCESS TO NATURE

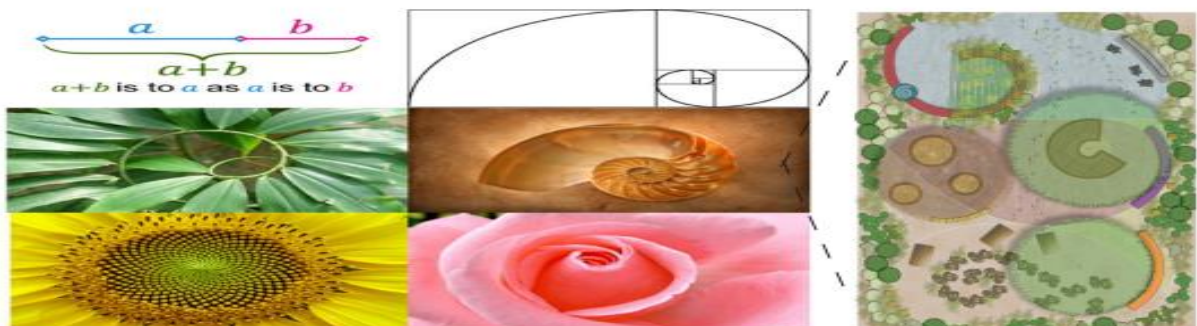
BEYOND BEING IN THE NATURAL WORLD, ACTUALLY ENGAGING WITH IT HAS BEEN SHOWN TO HAVE POSITIVE EFFECTS ON PEOPLE. IN RICHARD LOUV'S SEMIN BOOK LAST CHILD IN THE WOODS, HIS MAIN FOCUS IS ADDRESSING THE DISCONNECTION BETWEEN TODAY'S CHILDREN AND NATURE.

WHETHER IT IS BECAUSE OF LOSS OF NATURAL HABITAT IN THE CHILD'S IMMEDIATE SURROUNDINGS, OR SIMPLY A DISINTEREST IN THE NATURAL WORLD,



## FIBONACCI'S COURTYARD

THE LAYOUT OF HIS COURTYARD COMES FROM FIBONACCI'S SPIRAL. BASED OFF A UNIVERSAL MATHEMATICAL SEQUENCE THAT CAN BE FOUND THROUGHOUT ART, ARCHITECTURE AND NATURE, THE FORM LENDS ITSELF TO CREATING ORGANIC, FLOWING SPACES. CHILDREN WILL FIND A VAST ARRAY OF NATURE--BASED ACTIVITIES IN THIS GARDEN SUITABLE FOR MANY DIFFERENT AGES AND ABILITIES.





# **BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**

## **BIRDS**



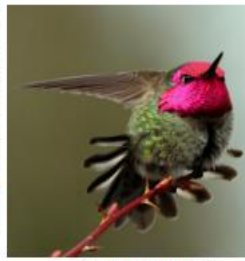
Verdin



Mockingbird



Cardinal



Anna's hummingbird



Black Chinned Hummingbird

## **BUTTERFLIES & MOTHS**



Queen



Pipevine Swallowtail



Black Chinned Hummingbird



Marine Blue



Grey Hairstreak



Giant Swallowtail

## **PLANTS PALTTE**



Tropical Sage



Butterfly Guara



Chuparosa



Blackfoot Daisy



Desert Marigold



Penstemon



Mexican Honeysuckle



Chocolate Daisy



Black Dalea



# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA

## TWELVE GARDENS AND THEIR CENTRAL FLOWERS



**Psychic Power in Existence**  
*The aim of existence is realised.*



**Supramental Consciousness**  
*Gloriously awake and powerful – luminous, Sure of itself and infallible in its movements!*



**Bliss**  
*Calm, tranquil, equal, smiling and very gentle in its truly simple austerity.*



**Light of purified power**  
*Of irresistible simplicity in its power solely consecrated to the Divine.*



**Power of consciousness**  
*All the powers of controlling and dominating the lower movements of inconscient nature.*



**Aesthetic power**  
*Beauty is a great power.*



**Wealth**  
*True wealth is that which one offers to the Divine.*



**Utility of Auroville**  
*A creation which aims at teaching men to surpass themselves*



**Power to progress**  
*Precious because of its rarity, it must be cultivated with care.*



**Beauty of supramental youth**  
*Exquisitely fresh and powerful with uncontested beauty*



**Power of harmony**  
*Simple, noble, dignified, powerful and charming*



**Psychological perfection**  
*There is not one psychological perfection but five. They are sincerity, faith, devotion, aspiration and surrender.*

## Common North American Oak Trees



Black Oak



Pin Oak



Southern Red Oak



Northern Red Oak



Chestnut Oak



Bur Oak



Oregon White Oak



White Oak

# **BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**

## **MATERIALS**



CONCRETE



SAND STONE



MITERED EDGE GLASS

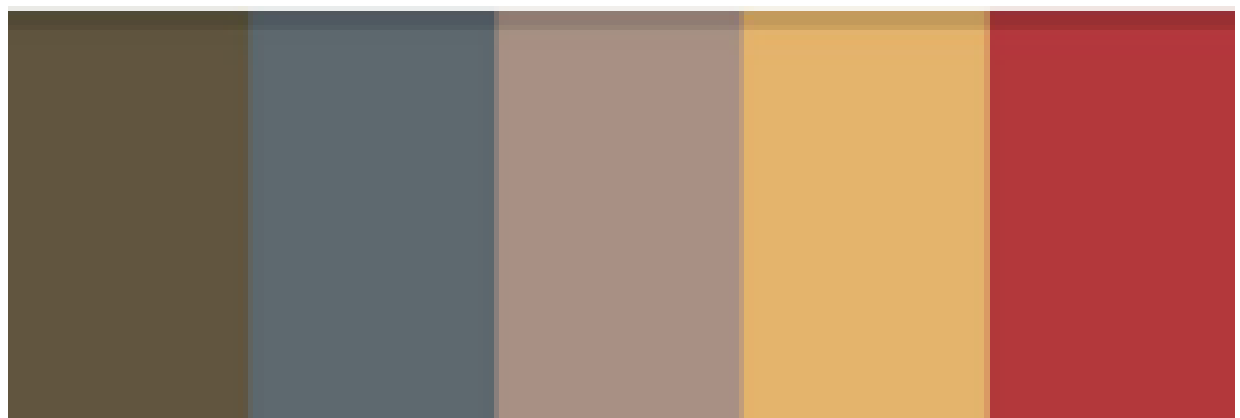


ROCK STONE



OAK WOOD

## **COLORS SCHEME**





# **CONCEPT**



# WHAT IS BIOPHILIC DESIGN ?

BIOPHILIC DESIGN IS THE PRACTICE OF CREATING A CLOSER CONNECTION TO NATURE THROUGH THE WAYS BUILDING AND LANDSCAPES ARE CREATED AND BUILT. BIOPHILIA MEANS A **LOVE OF NATURE**, SO BIOPHILIC DESIGN USES NATURAL RESOURCES TO CREATE A SENSE OF HARMONY BETWEEN MODERN ARCHITECTURE AND THE NATURAL WORLD

REFERENCE-book Stephen R. Kellert and Judith H. Heerwagen

## BIOPHILIC DESIGN PRINCIPLE



NATURAL



HEALTH



SUSTAINABLE

## BIOPHILIC DESIGN ELEMENTS

### NATURAL SHAPES AND FORMS

BOTANICAL MOTIFS, TREE AND COLUMNAR SUPPORTS, SHELLS AND SPIRALS, ANIMAL MOTIFS, BIOMIMICRY, OVAL SHAPES, ARCHES, VAULTS, DOMES, SHAPES RESISTING STRAIGHT LINES AND RIGHT ANGLES



### NATURAL PATTERNS AND PROCESSES

DESIGNING WITH CULTURAL, SPIRITUAL, ECOLOGICAL, OR HISTORICAL RELATIONSHIPS IN MIND



### LIGHT AND SPACE

NATURAL LIGHT, FILTERED AND DIFFUSED LIGHT, LIGHT AND SHADOW, LIGHT POOLS, SPATIAL VARIETY, SPATIAL HARMONY, SPACIOUSNESS, INSIDE-OUTSIDE SPACES



### PLACE-BASED RELATIONSHIPS

GEOGRAPHIC CONNECTION TO PLACE, ECOLOGICAL CONNECTION TO PLACE, CULTURAL CONNECTION TO PLACE, INDIGENOUS MATERIAL, LANDSCAPE ORIENTATION, LANDSCAPE ECOLOGY, AVOIDING PLACELESSNESS



### EVOLVED HUMAN-NATURE RELATIONSHIPS

DESIGNING TO MAINTAIN STRONG REACTIONS/CONNECTIONS TO OUR PROSPECT AND REFUGE, ORDER AND COMPLEXITY, CURIOSITY AND ENTICEMENT, CHANGE AND METAMORPHOSIS, SECURITY AND PROTECTION, MASTERY AND CONTROL, EXPLORATION AND DISCOVERY,

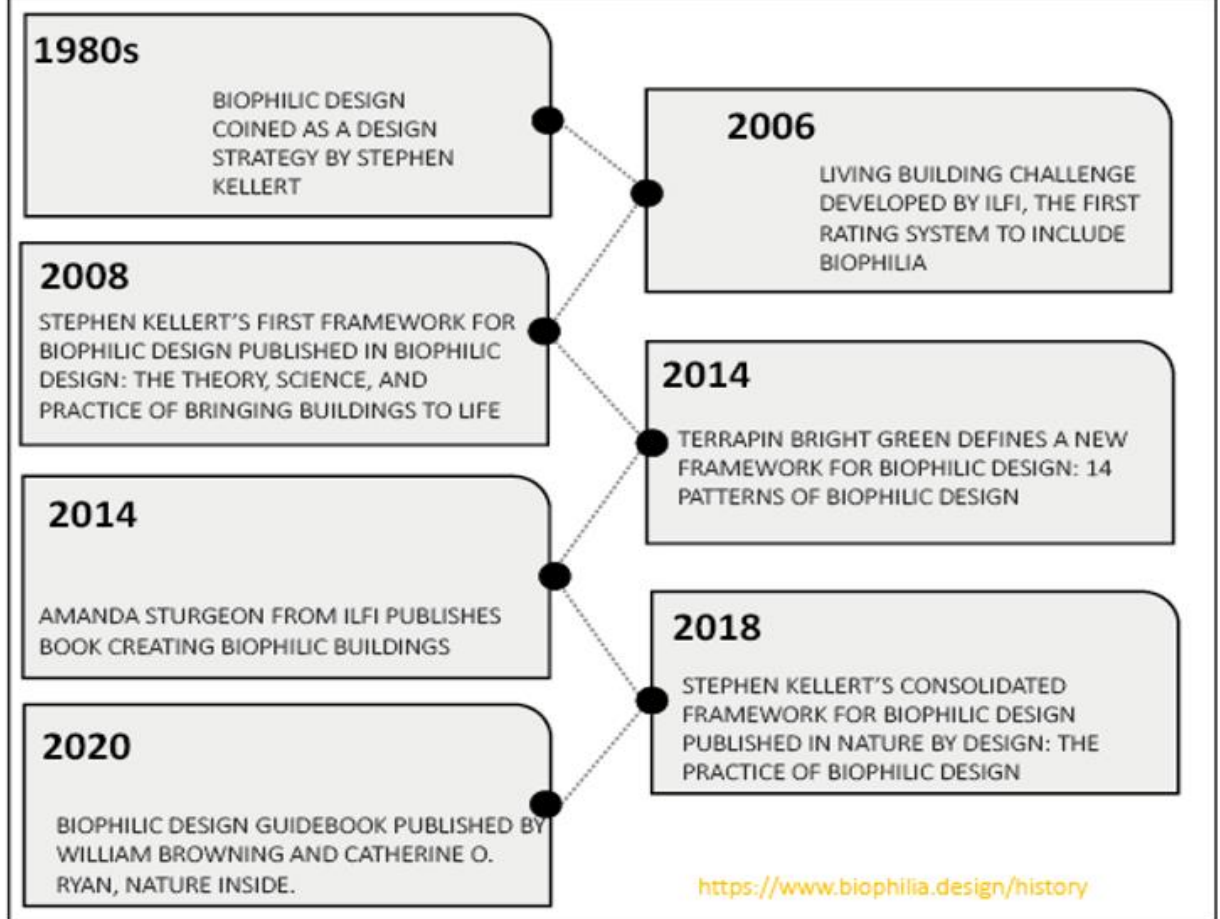


REFERENCE-Reort Tucson Medical Center  
Jennifer Tuttle, RN, BSN, CNRN

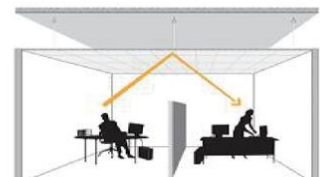
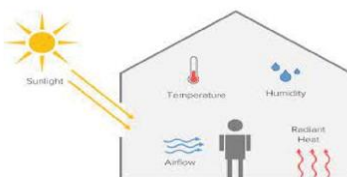
# BACKGROUND HISTORY

THE CONCEPT WAS INTRODUCED BY E.O. WILSON IN HIS 1984 BOOK BIOPHILIA. WILSON, A RENOWNED BIOLOGIST AND UNIVERSITY RESEARCH PROFESSOR EMERITUS AT HARVARD, OUTLINED A FUNDAMENTAL TENDENCY OF HUMAN BEINGS TO BE ATTRACTED TO NATURE AND EMULATE ITS PROCESSES AND STRUCTURES IN EVERYDAY LIFE.

## BACKGROUND RESEARCH



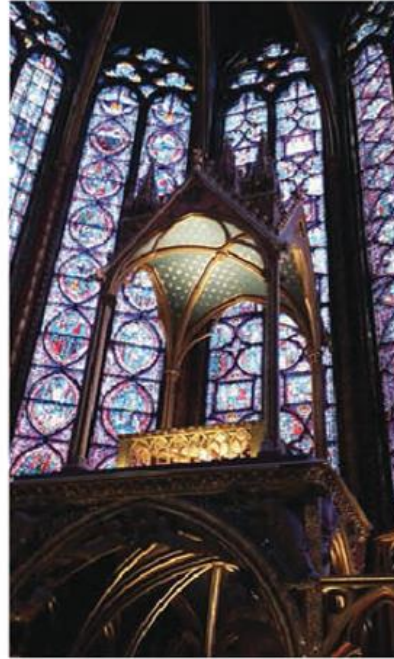
## THERMAL COMFORT VISUAL COMFORT ACOUSTIC COMFORT







**Direct Experience  
of Nature**



**Indirect Experience  
of Nature**

LIGHT  
AIR  
WATER  
PLANTS  
ANIMALS  
WEATHER  
NATURAL LANDSCAPES AND  
ECOSYSTEM  
FIRE

IMAGE OF NATURE  
NATURALS MATERIALS  
NATURAL COLORS  
SIMULATING NATURAL LIGHT AND AIR  
NATURALISTIC SHAPES AND FORM  
EVOKING NATURE  
INFORMATION RICHNESS  
BIOMIMICRY

Nature

VIEWING  
visual contact



SITTING  
less physical contact



ENGAGING  
physical contact



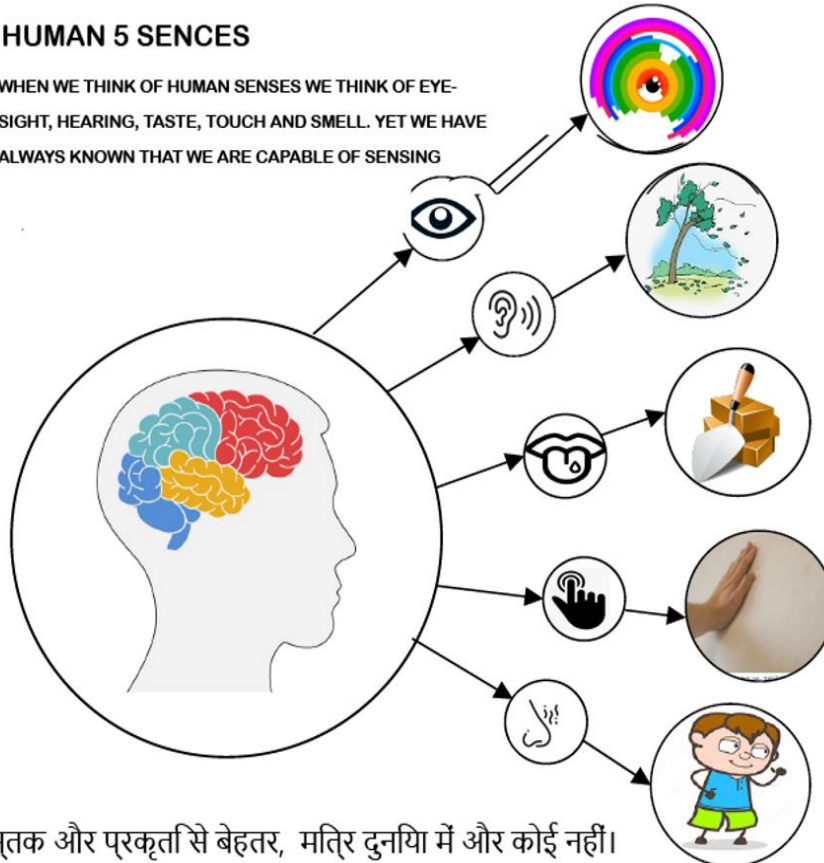
## WHY IS THIS IMPORTANT FOR HEALTHY HOUSING

A Biophilic Villa Should Feature A Spacious Living Area, Swimming Pool, Elegantly Furnished Dining Area, And More. Every Room In A Luxury Villa Should Be Furnished And Designed With Attention To Detail To Reflect Opulence. Also, Rooms Should Have Luxury And Amenities Expected In Modern Living, Including Entertainment For Healthy Housing.

Improved Housing Conditions Save Lives, Reduce Disease, Increase Quality Of Life, Reduce Poverty, Mitigate Climate Changes And Contribute To Achievement Of The Sustainable Development Goals For Health(sdg3) And Sustainable Cities.

### HUMAN 5 SENCES

WHEN WE THINK OF HUMAN SENSES WE THINK OF EYE-SIGHT, HEARING, TASTE, TOUCH AND SMELL. YET WE HAVE ALWAYS KNOWN THAT WE ARE CAPABLE OF SENSING



पुस्तक और परकृतसे बेहतर, मतिर दुनिया में और कोई नहीं।



## DIRECT EXPERIENCE OF NATURE












1. LIGHT
2. AIR
3. FIRE
4. WATER
5. PLANTS
6. ANIMALS
7. WEATHER
8. NATURAL
9. LANDSCAPES AND
10. ECOSYSTEM

## INDIRECT EXPERIENCE OF NATURE

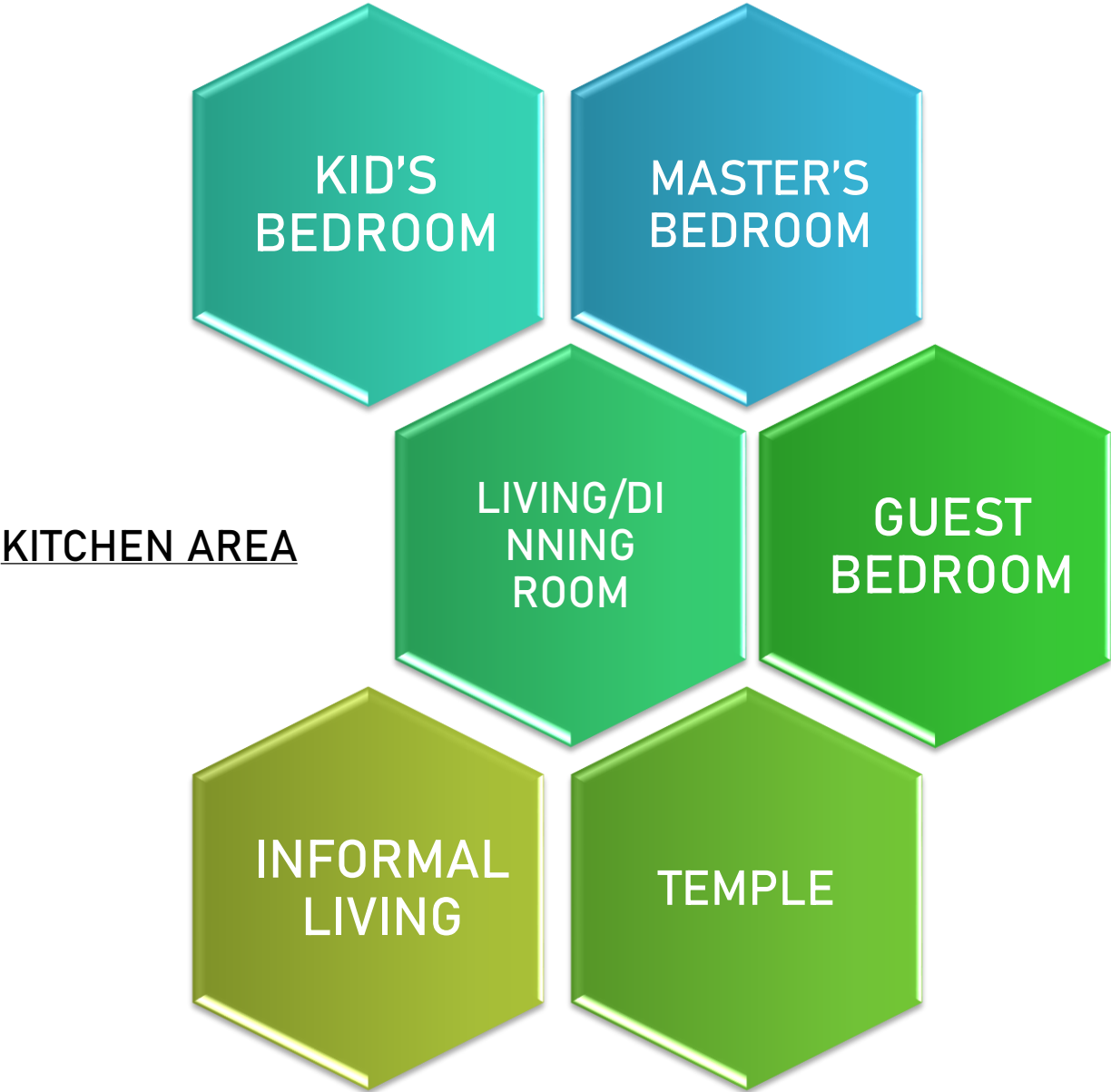


1. MEGA OF NATURE
2. NATURALS MATERIALS NATURAL COLORS
3. SIMULATING NATURAL LIGHT AND AIR
4. EVOKING NATURE
5. INFORMATION RICHNES
6. BIOMIMICRY

S.NO.	PLANT	BOTENICAL NAME	FEATURES	BENIFIT	MAINTENANCE
1.	SNAKE PLANT 	Sansevieria trifasciata	The Snake plant offers tall, dramatic foliage in green and yellow. Also called Mother-In-Law's Tongue	provide strong protective energy in your space	does well in low light conditions with little maintenance.
2.	ZZ Plant 				
3.	Golden Pothos 				
4.	Parlor Palm 	Chamaedora elegans	This rainforest native is a single-trunk palm with a compact habit and handsome arching green pinnate leaves comprised of narrow leaflets	air cleaning plants able to remove pollutants such as formaldehyde, benzene and carbon monoxide from the air	does well in low light conditions with little maintenance.
5.	Corn Plant 	Dracaena fragrans	Leaves are arranged in a spirally, forming a rosette atop a woody stem or cane, which bears the leaf scars of shed foliage, similar to a palm	It has antioxidant and antibacterial properties,	does well in low light conditions with little maintenance.
6.	Umbrella Tree 	Schefflera amata	This tree gets its name from the shape of its leaf, with 5 to 10 oval-shaped leaflets that can be up to 12 inches (30.5 centimeters) long.	IMPROVE YOUR HEALTH , IMPROVE AIR QUALITY	does well in low light conditions with little maintenance.
7.	Gardenia 	Gardenia jasminoides	Gardenias have glossy evergreen leaves,the flowers are often strongly scented. The large berrylike fruits contain a sticky orange pulp.	natural remedy for depression, anxiety, emotional stress, low libido and insomnia	does well in low light conditions with little maintenance.
8.	Chocolate Mint 				
9.	warneck dracaena 				
		Dracaena deremensis	FLOWERING PLANT	non-toxic, and air purifying houseplant	does well in low light conditions with little maintenance.



**BOUBLE DIGRAM**

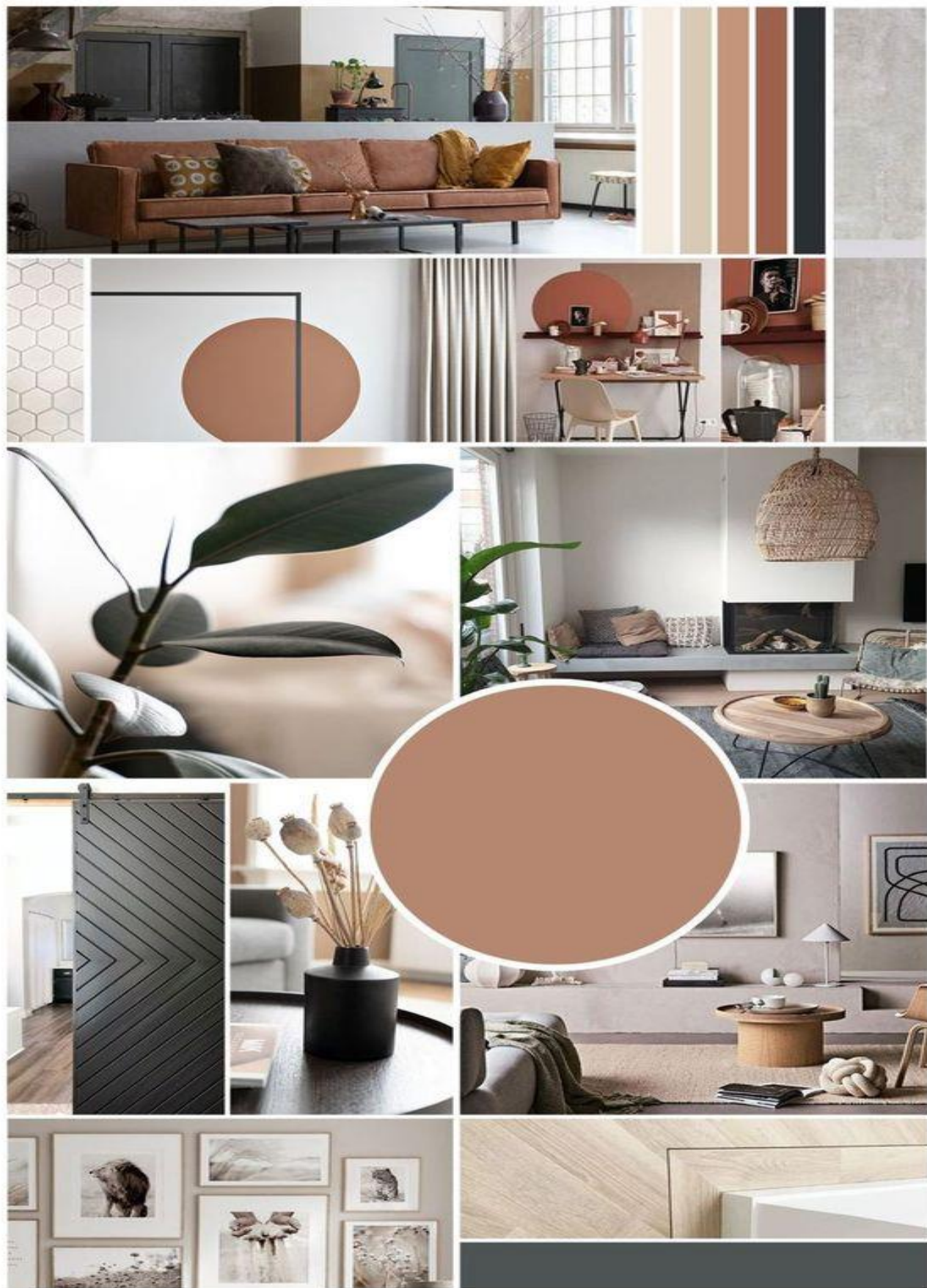


# MOOD BOARD

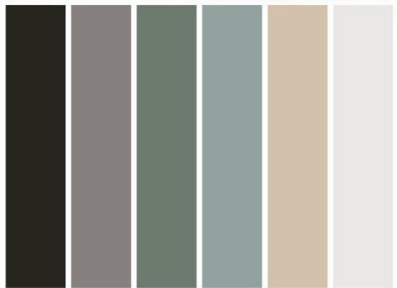




# MOOD BOARD



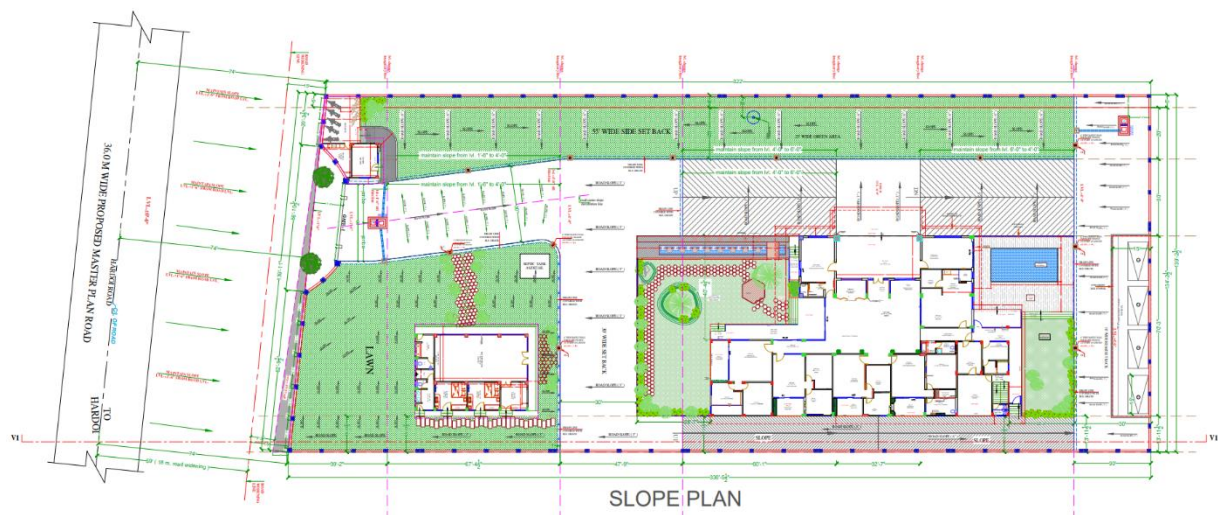
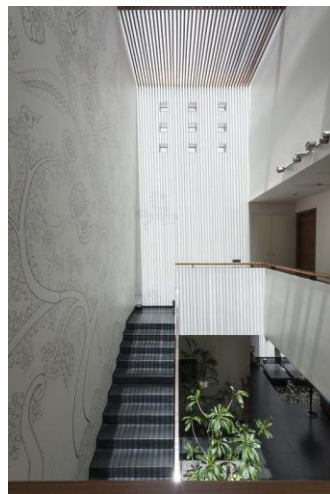
# **COLOR PALETTE**



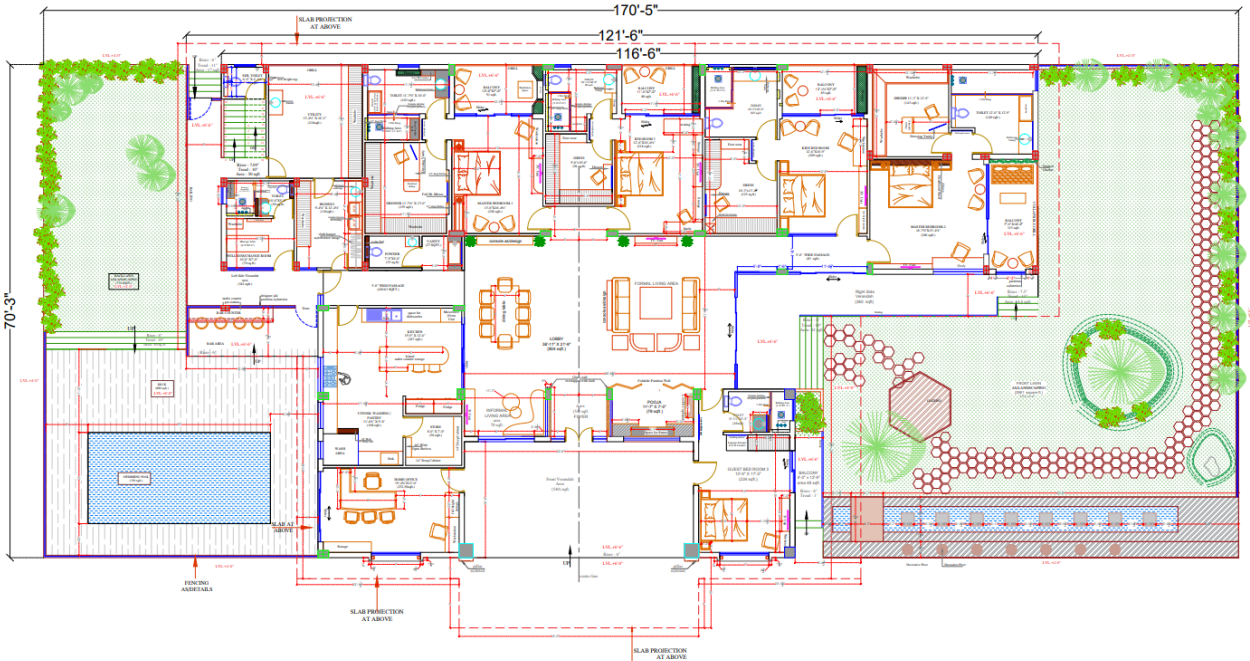
## **WHAT ARE THE BENEFITS OF NATURAL LIGHT ?**

**Our Ancestors Didn't Have Artificial Lighting. For Thousands Of Years, Civilization Revolved Around Daylight, And Many Religions Worshipped The Sun As The Source Of All Life. The Idea Of Discussing The Benefits Of Natural Light Wouldn't Even Have Occurred To Anyone Before The End Of The 19th Century (When Electric Lighting Started To Become Popular). But Our Modern Reality Means That As Our Working And Living Patterns Change, We've Become Hugely Dependent On Artificial Light – To The Detriment Of Our Physical And Psychological Health, And Our Over – All Productivity**

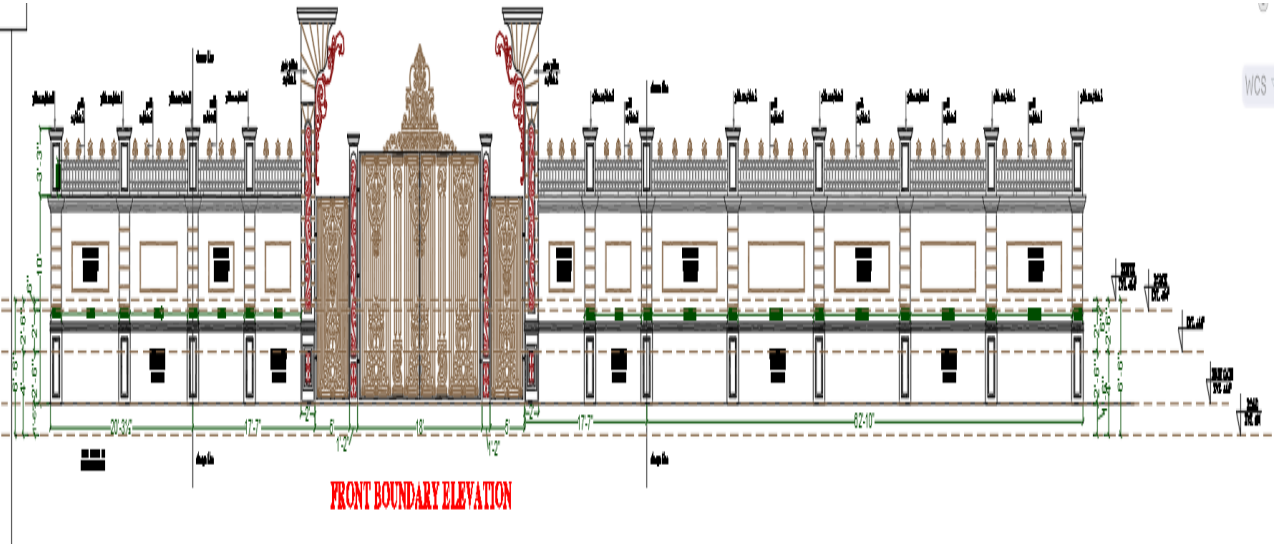




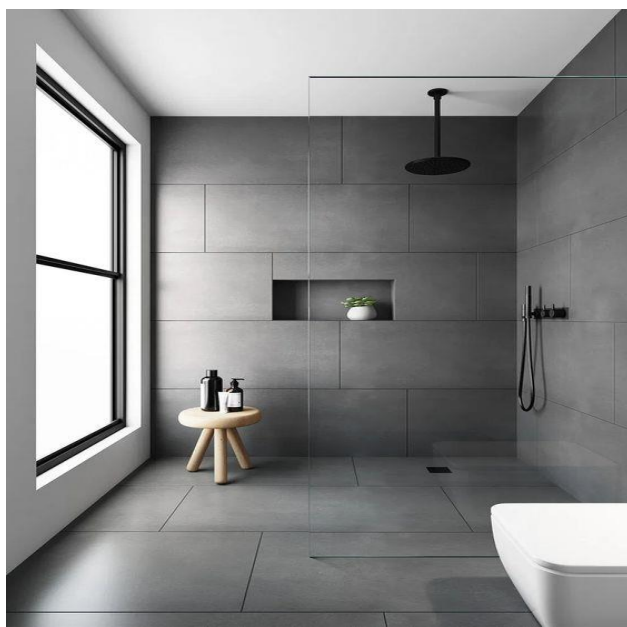
## FURNITURE LAYOUT



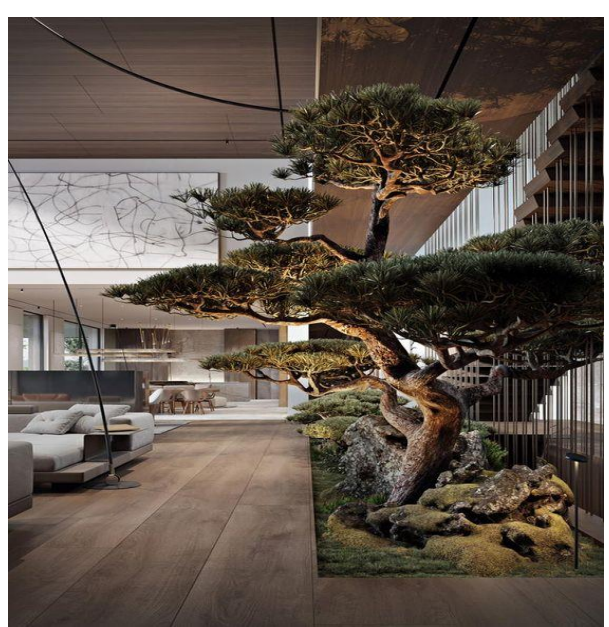
## FRONT BOUNDARY WALL ELEVATION







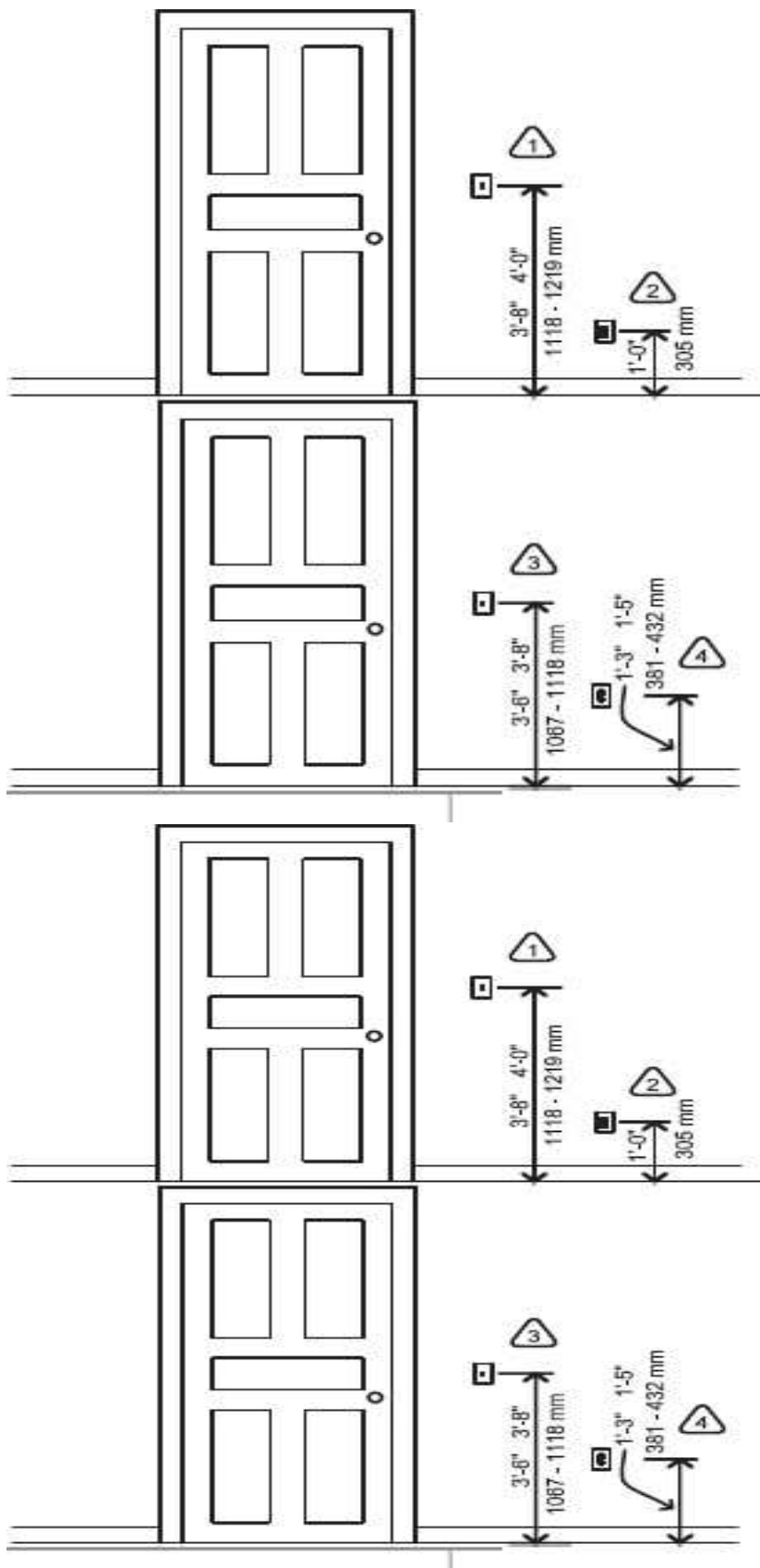






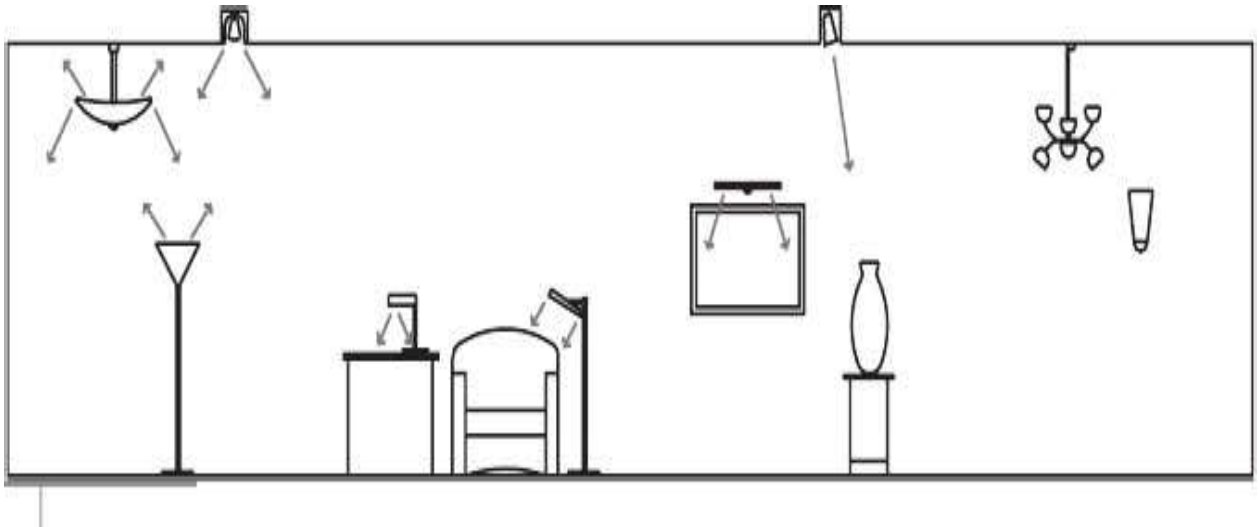
# STANDARDS

# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA





# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA



AMBIENT

TASK

ACCENT

DECORATIVE

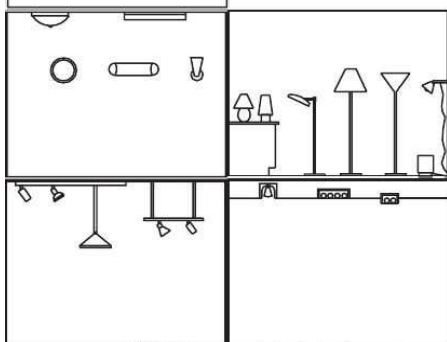
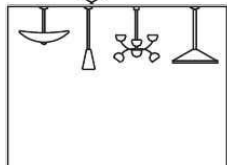
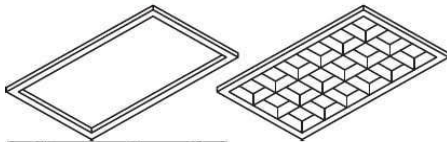
RECESSED WALL WASH



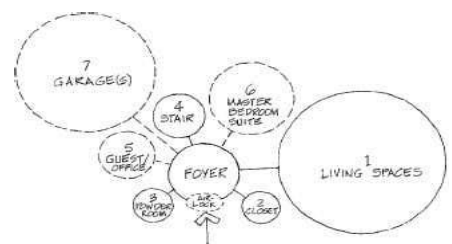
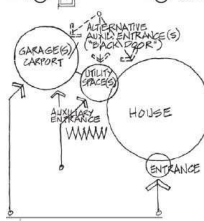
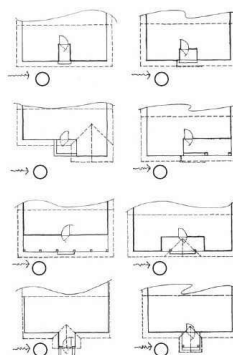
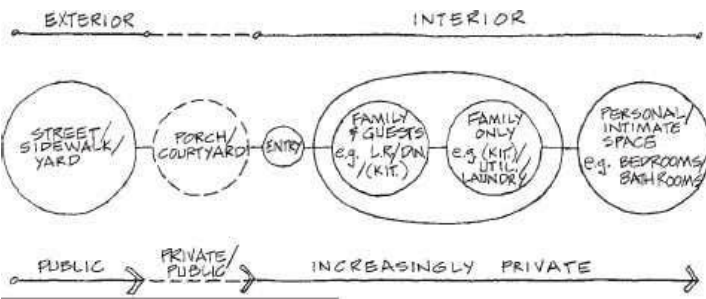
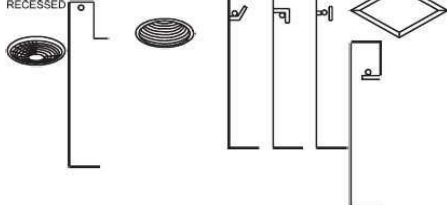
ADJUSTABLE RECESSED



RECESSED TROFFERS



RECESSED DOWNLIGHTS





# DRAWINGS



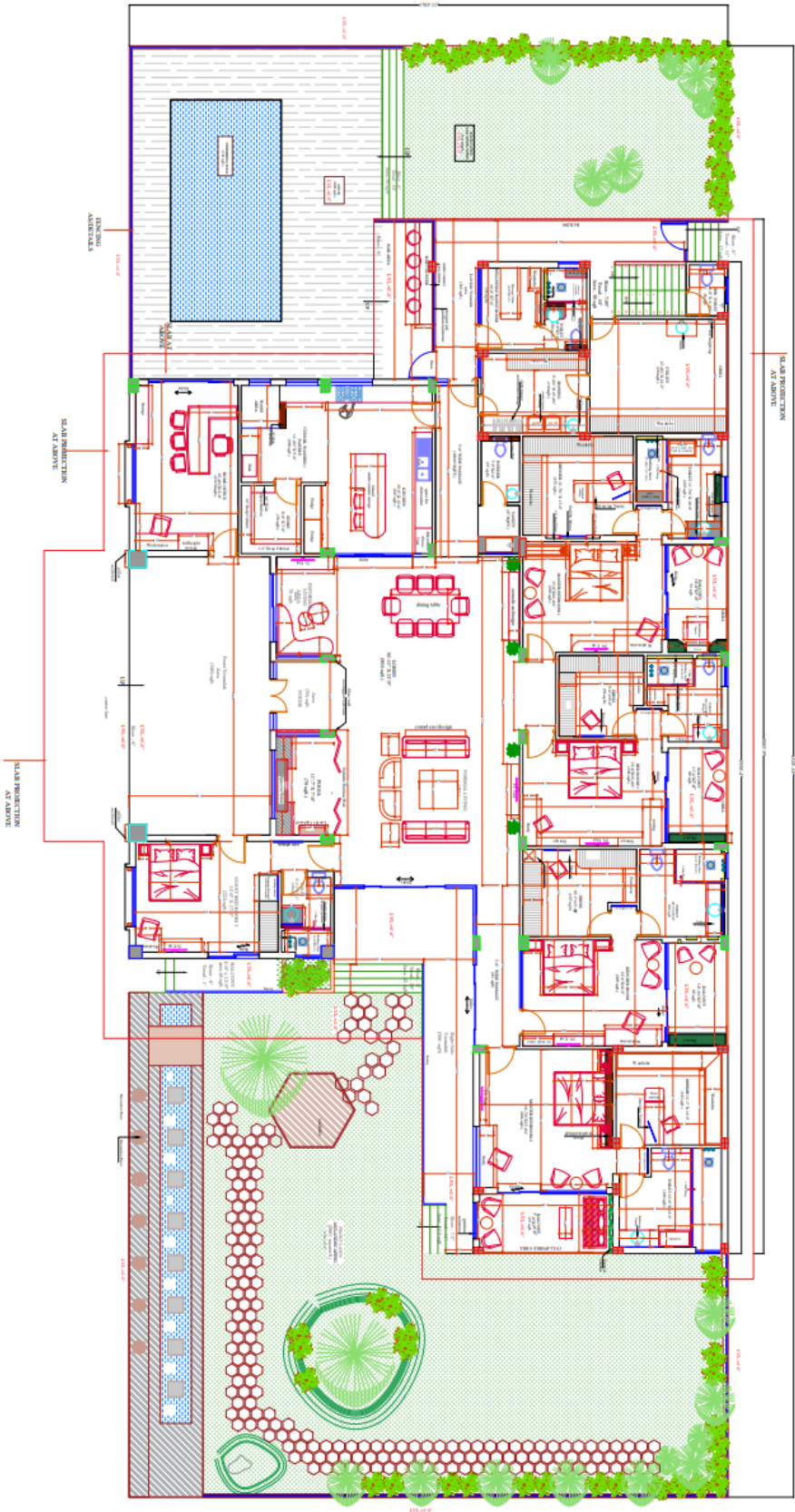
# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA

SITE PLAN



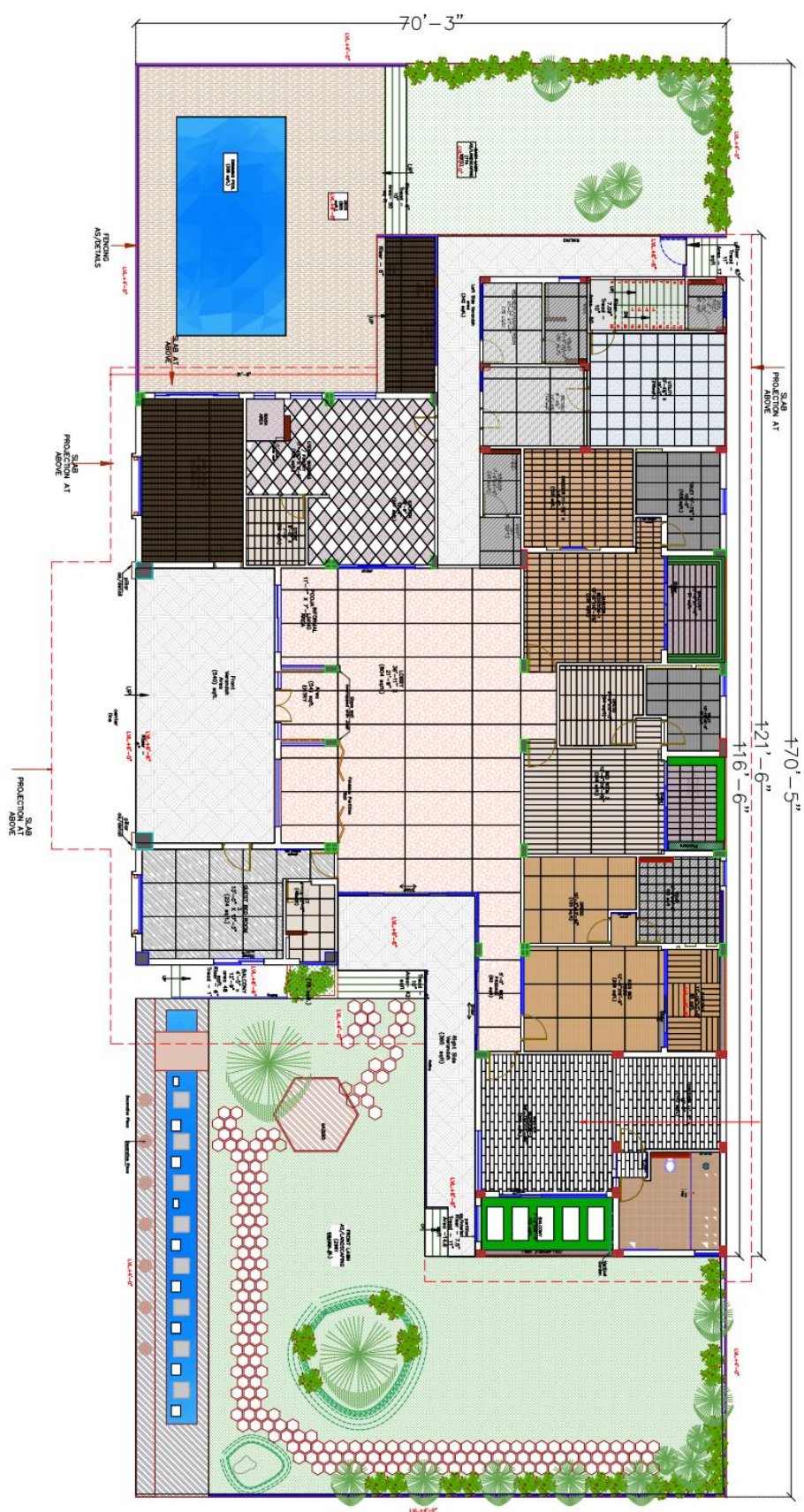
# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA

FURNITURE LAYOUT





## FLOORING LAYOUT



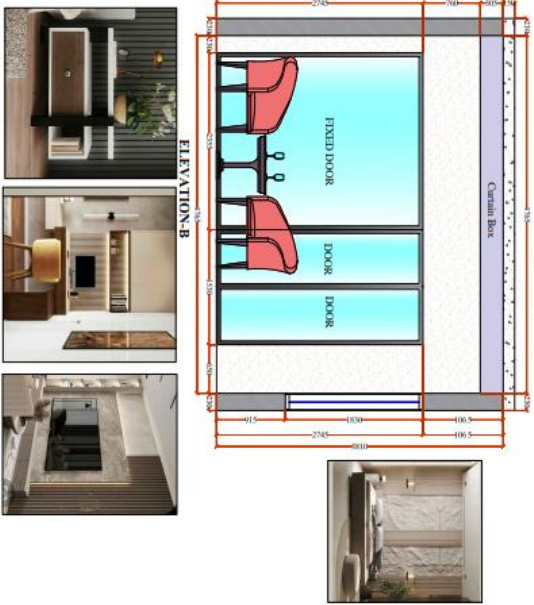
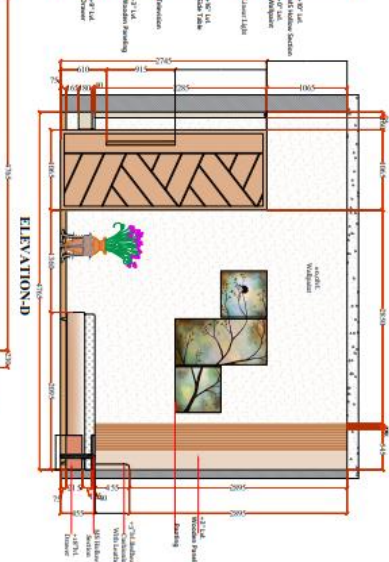
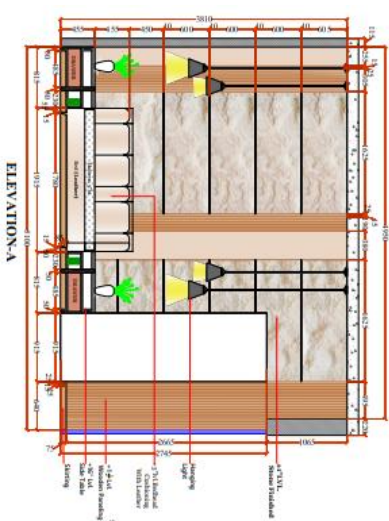
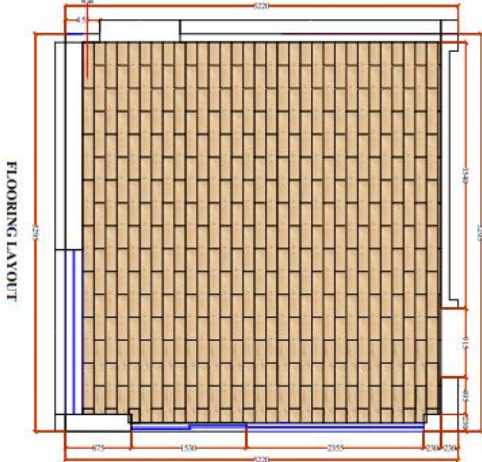
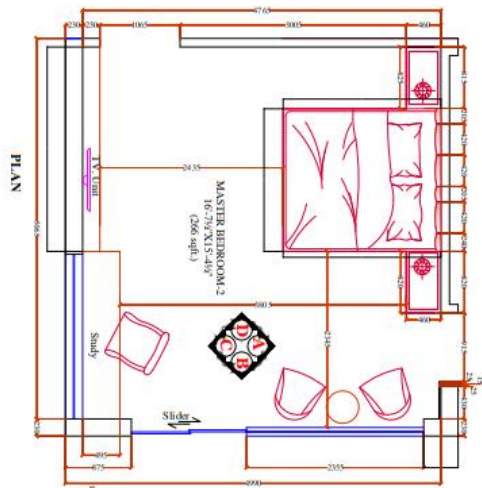






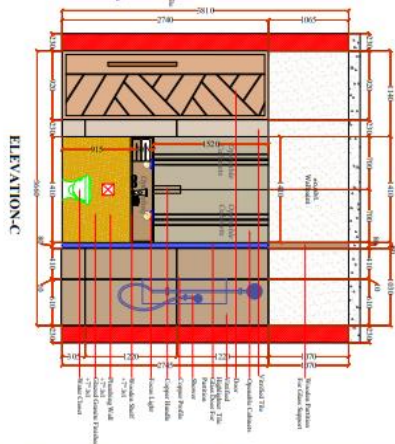
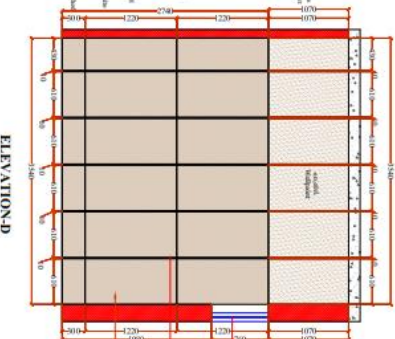
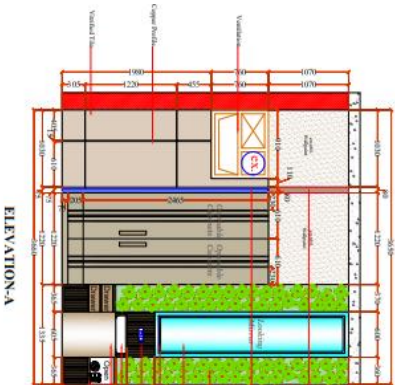
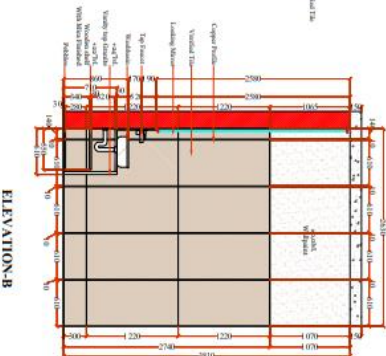
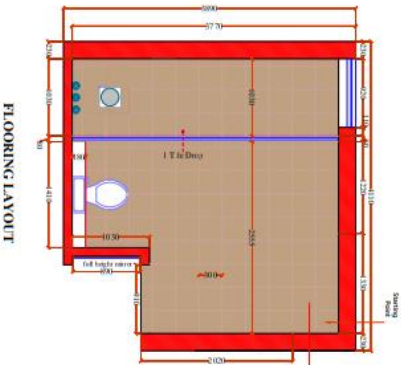
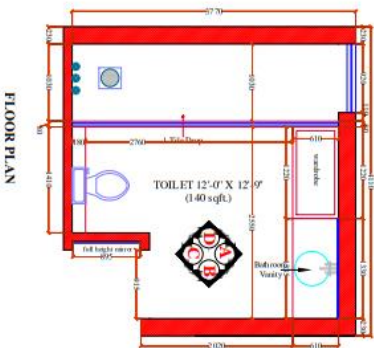
# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA

## MASTER BEDROOM



# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA

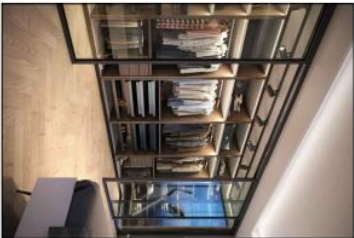
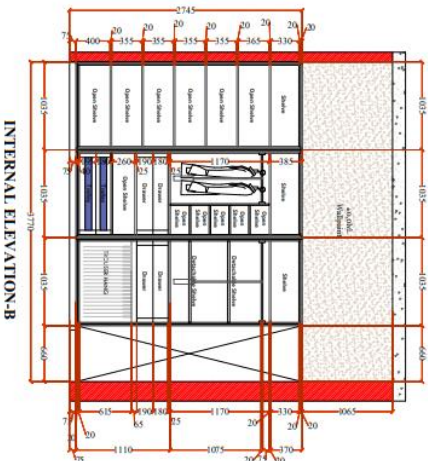
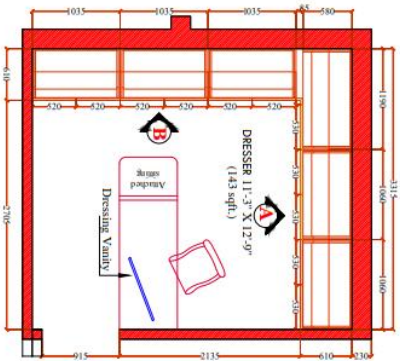
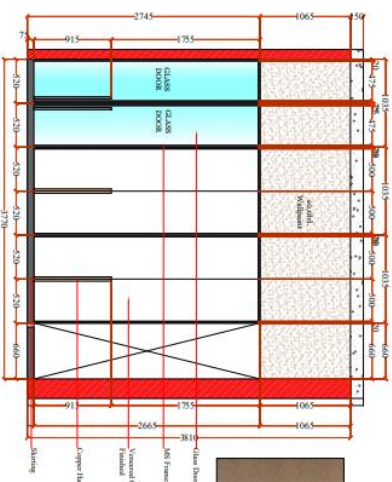
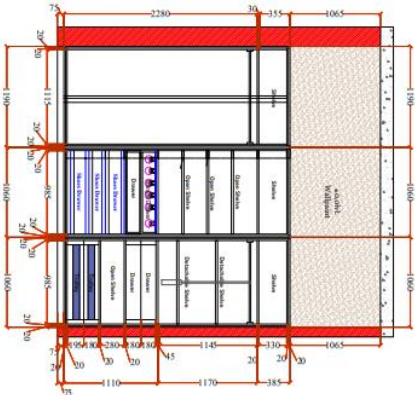
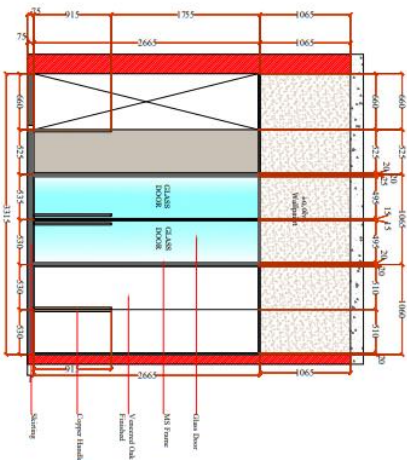
## MASTER BEDROOM TOILET DETAILS





# BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA

## MASTER BEDROOM CLOSET DETAILS

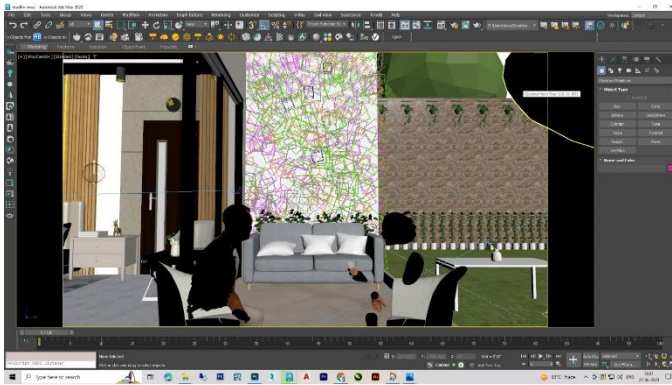


## TEMPLE DESIGN DETAILS



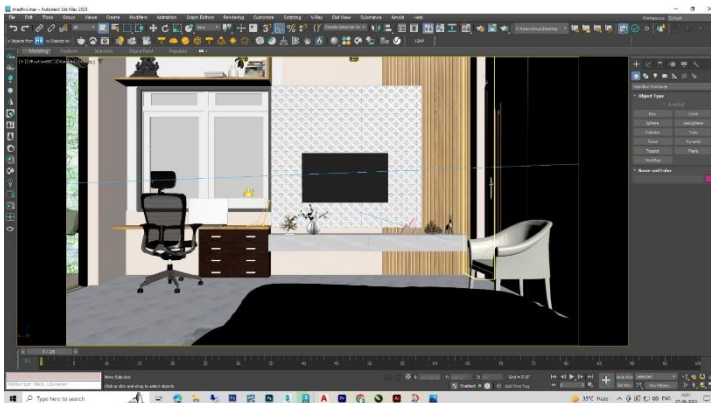
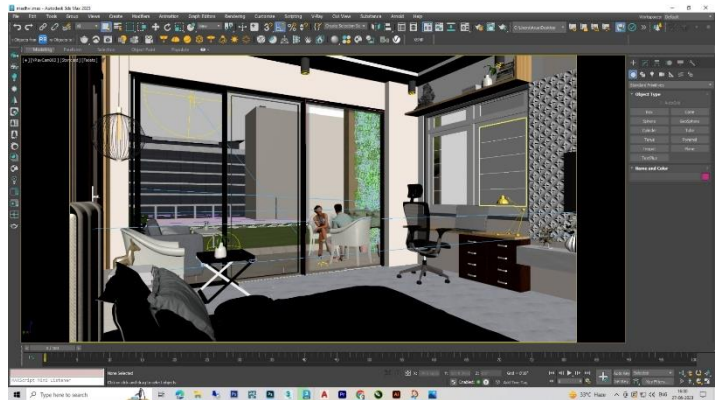


# **BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**



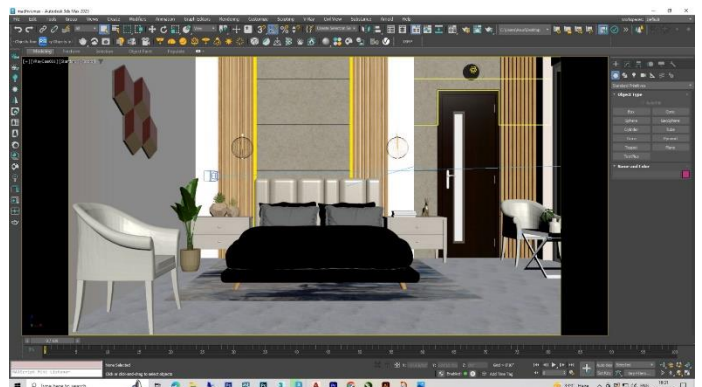
**BALCONY 3D VIEW**

**3D VIEW**

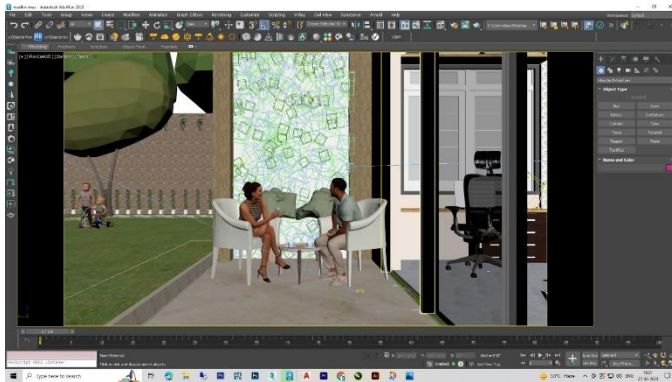


**TV UNIT WALL**  
**3D VIEW**

**BALCONY 3D VIEW**

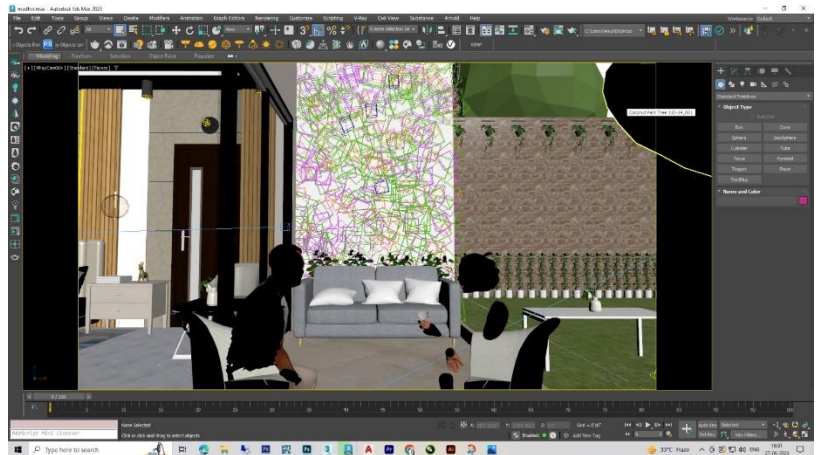


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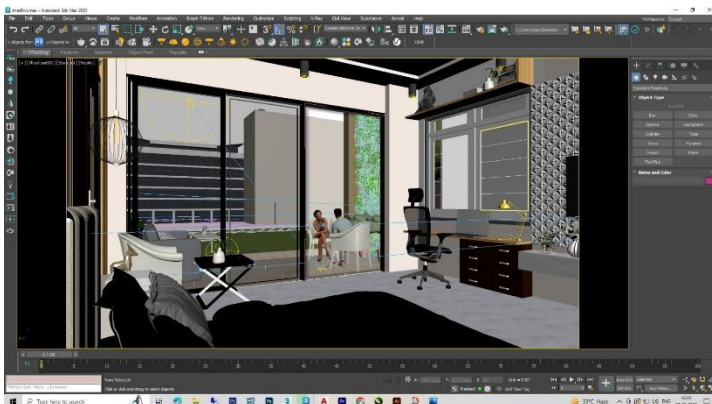


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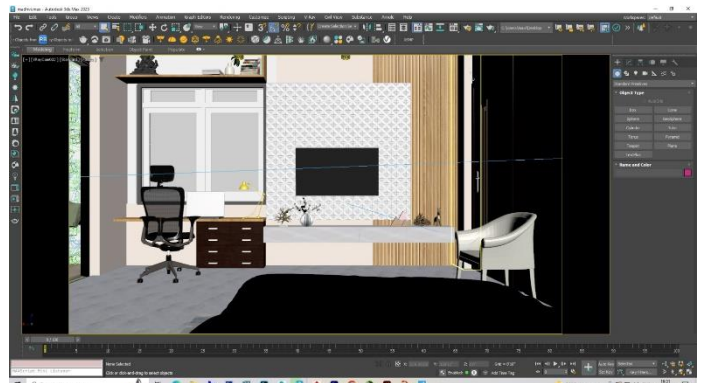
**3D VIEW**



**TV UNIT WALL 3D VIEW**



**TV UNIT WALL 3D VIEW**





# **BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**



**BALCONY 3D VIEW**



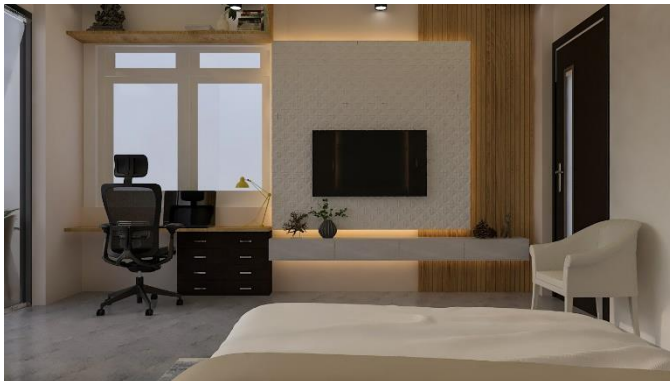
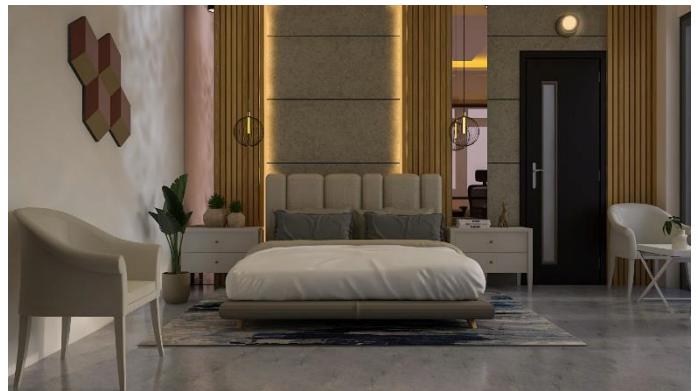
**BALCONY 3D VIEW**

# **BIOPHIPLIC APPROACH IN INTERIOR DESIGN FOR SPACES OF VILLA**



**BALCONY 3D VIEW**

**BED SIDE WALL  
3D VIEW**



**TV UNIT WALL  
3D VIEW**

**BALCONY 3D VIEW**





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