UNDERSTANDING VERNACULAR, PSEUDO-VERNACULAR & MODERN VERNACULAR ARCHITECTURE

INTRODUCTION

Architectural heritage represents the cultural, climatic, and technological responses of a region over time. A building is generally considered **heritage** when it is over **50 years old** and holds historical, architectural, or cultural significance; in India, nationally **protected monuments** are usually **100 years or older**. Heritage architecture includes not only monuments but also vernacular buildings, which evolve organically using local materials, traditional construction techniques, and climate-responsive planning.
With rapid urbanization, many such buildings lose their original function. Adaptive reuse enables their conservation by assigning new uses while retaining **architectural character and cultural identity**, reducing demolition, conserving embodied energy, and preserving the historic character of cities.

Criteria	Vernacular Architecture	Pseudo-Vernacular / Pseudo-Heritage Architecture	Modern Architecture with Adapted Vernacular Elements
Definition	Architecture that evolves organically from **local climate, materials, culture, and lifestyle**, usually without formal architects.	Architecture that **imitates traditional forms** visually but lacks the climatic, cultural, or functional logic behind them.	Contemporary architecture that **reinterprets** vernacular principles meaningfully using **modern planning and construction methods.**
Origin	Developed through collective **local knowledge** and **craftsmanship** over generations.	Designed deliberately using **historic imagery** for visual or **symbolic appeal.**	Designed by architects who study vernacular principles and **adapt them to modern needs.**
Design Approach	Organic and incremental; form evolves from **function and climate.**	Imitative and representational; **form follows image**.	Interpretative and analytical; **form follows concept** and performance.
Relation to Tradition	Direct **continuation of local traditions and construction** practices.	Tradition used **superficially as decoration**.	Tradition used **conceptually** and strategically.
Climatic Responsiveness	Strong climatic response through passive strategies such as **courtyards, thick walls, shading, and ventilation.**	Weak or absent climatic response; **traditional elements are often non-functional.**	Strong climatic response using **courtyards, shading devices, orientation, and passive cooling integrated with modern systems.**
Use of Materials	**Locally available, natural, and low-energy** materials.	Predominantly **modern materials disguised with traditional finishes.**	**Combination** of modern materials and contextual or local materials for performance and sustainability.
Construction Techniques	**Traditional**, skill-based techniques rooted in local knowledge.	**Modern** construction techniques with **applied historical styling.**	**Modern** construction techniques informed by **traditional logic.**
Functional Logic	**Highly functional**; spaces respond directly to daily activities and social structure.	Function is often s**econdary to visual expression**.	Highly functional; **balances contemporary requirements** with traditional spatial logic.
Cultural Authenticity	**High**; deeply embedded in social customs, rituals, and community life.	**Low to moderate**; culture is referenced symbolically rather than lived.	**High**; cultural values are reinterpreted in a contemporary context.
Architectural Identity	Living heritage that **evolves gradually** over time.	**Manufactured or staged** heritage.	**Hybrid** identity combining past wisdom and present-day demands.
Sustainability	**Inherently sustainable** due to climate sensitivity and material efficiency.	**Limited** sustainability; often energy-intensive.	**Sustainable by design**, combining passive strategies with modern technologies.
Role in Adaptive Reuse	Provides the most authentic basis for understanding **heritage values** before reuse.	May mislead adaptive reuse if only **visual heritage is preserved.**	Offers **strong principles** for sensitive and functional adaptive reuse.

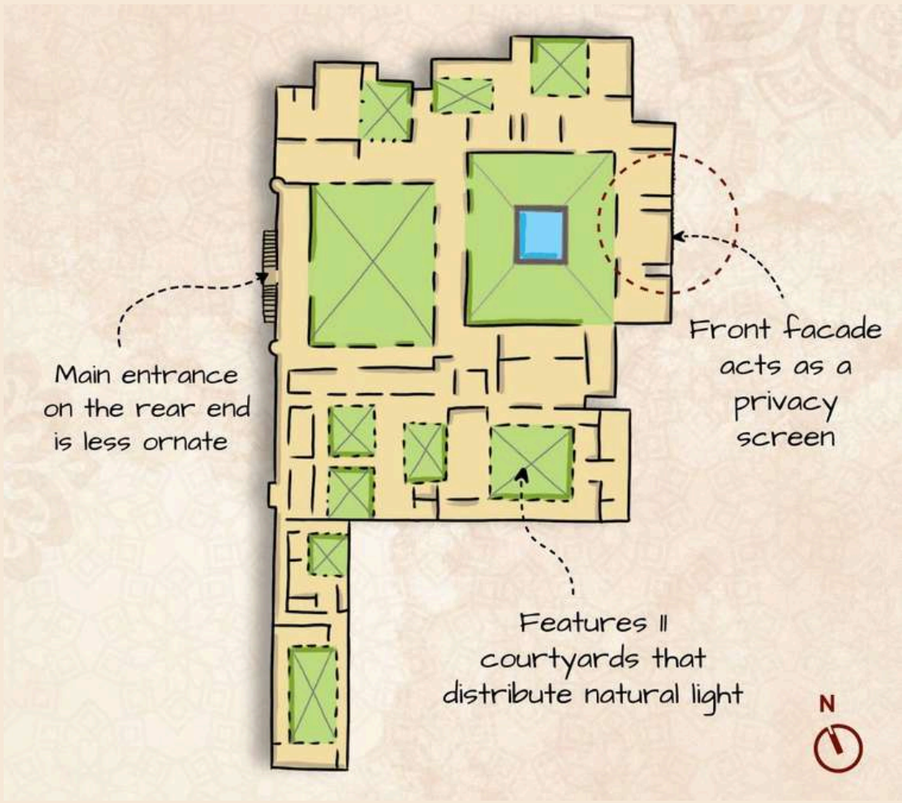
SABHYA AGARWAL
2023UAR1491

VERNACULAR ARCHITECTURE

HAWA MAHAL, JAIPUR

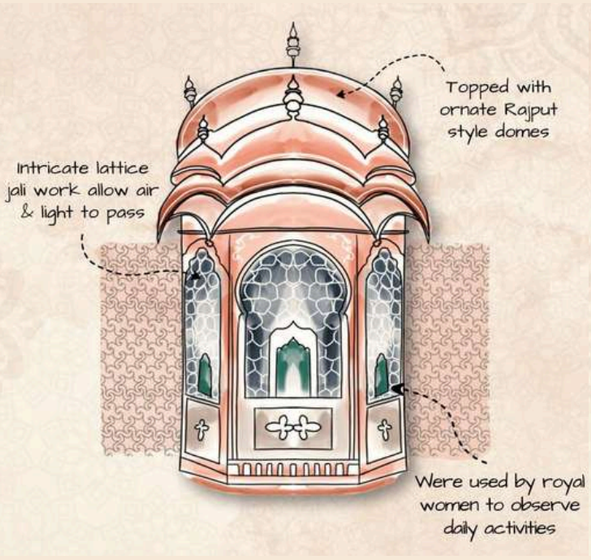
THE PALACE OF WINDS

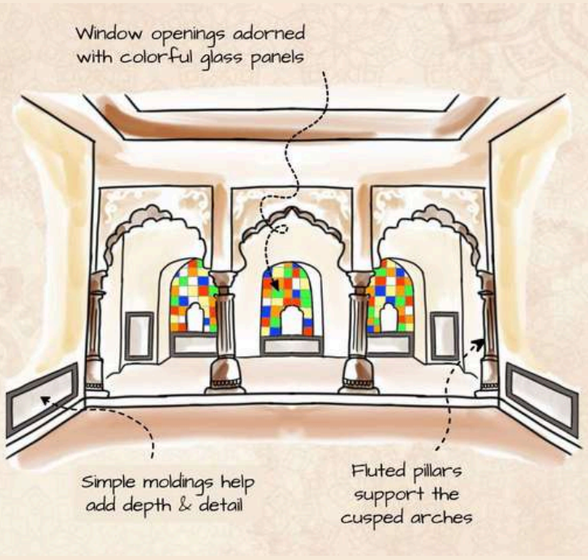
- HISTORICAL CONTEXT: COMMISSIONED BY MAHARAJA PRATAP SINGH AND COMPLETED IN 1799, HAWA MAHAL REFLECTS THE REVIVAL OF CULTURAL AND ARCHITECTURAL PATRONAGE IN JAIPUR DURING HIS REIGN.
- ARCHITECTURE & DESIGN: DESIGNED BY LAL CHAND USTAD, THE PALACE IS A FULL ARCHITECTURAL STRUCTURE BUILT IN RED AND PINK SANDSTONE, CHARACTERIZED BY ITS ICONIC HONEYCOMB FAÇADE, TIERED SYMMETRY, AND TWO INTERNAL COURTYARDS.
- FUNCTION & SIGNIFICANCE: WITH 953 JHAROKHAS, IT ENABLED ROYAL WOMEN TO OBSERVE PUBLIC LIFE DISCREETLY WHILE EXEMPLIFYING JAIPUR'S ARCHITECTURAL ETHOS—CLIMATICALLY RESPONSIVE, ORNAMENTALLY RICH, AND GOVERNED BY TRADITIONAL DESIGN PRINCIPLES.

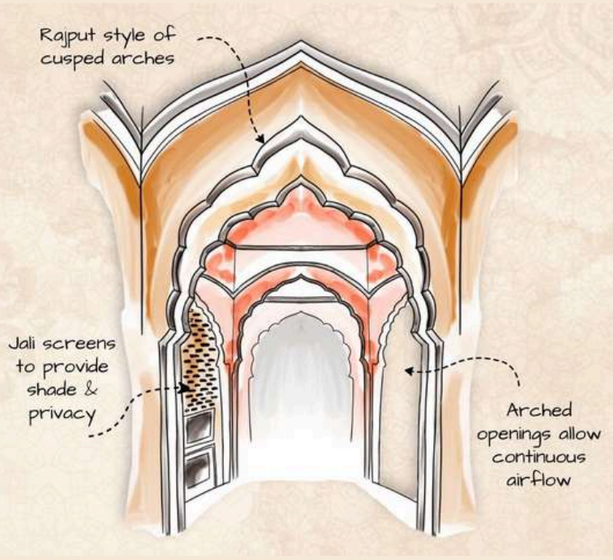


PLAN

MAP SHOWING URBAN CONTEXT







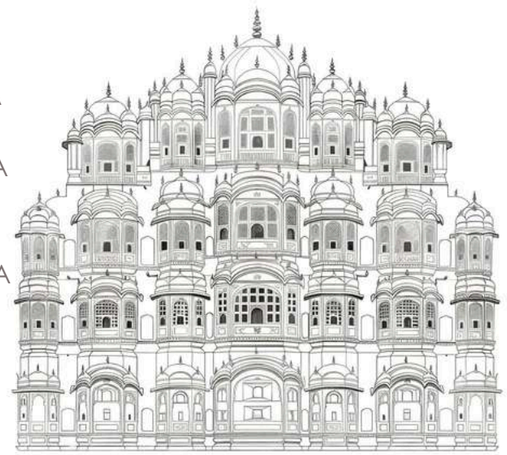
REFERENCES: ANALYSIS OF NATURAL VENTILATION SYSTEMS IN HERITAGE BUILDINGS: A CASE STUDY OF HAWA MAHAL, JAIPUR INDIA BY IOANA GABRIELA SIMION , PROF (DR) MADHURA A YADAV

VERNACULAR ARCHITECTURE

HAWA MAHAL, JAIPUR

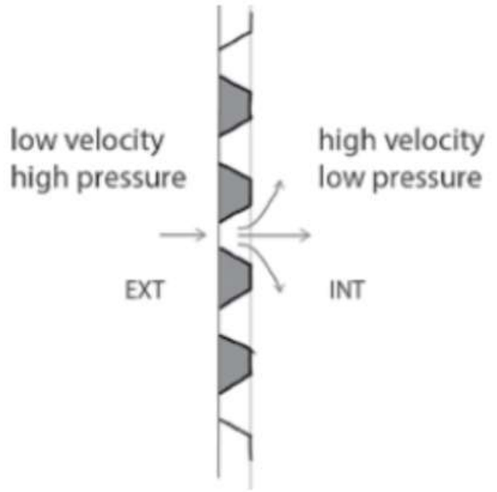
THE TRIPLE-BAYED MOTIF

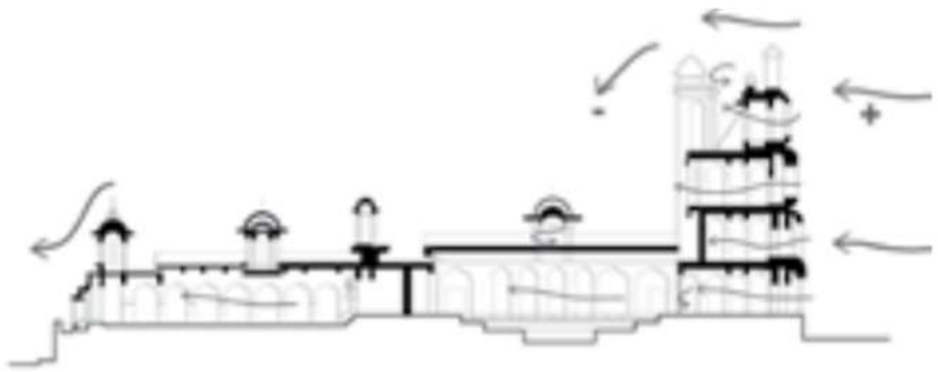
RUNNING DOWN THE CENTRAL VERTICAL SPINE OF THE FAÇADE IS A REPEATED TRIPLE-BAYED OPENING. THIS FORM IS A SIMPLIFICATION OF A WELL-KNOWN RAJPUT PAVILION TYPE, SEEN FOR EXAMPLE IN THE MUKUT MANDIR ATOP THE CHANDRA MAHAL. THERE, TWO SQUARE DOMED *CHHATRIS* FLANK A RECTANGULAR *CHHATRI* WITH A CURVED *BANGALDAR* (ARCHED) ROOF.



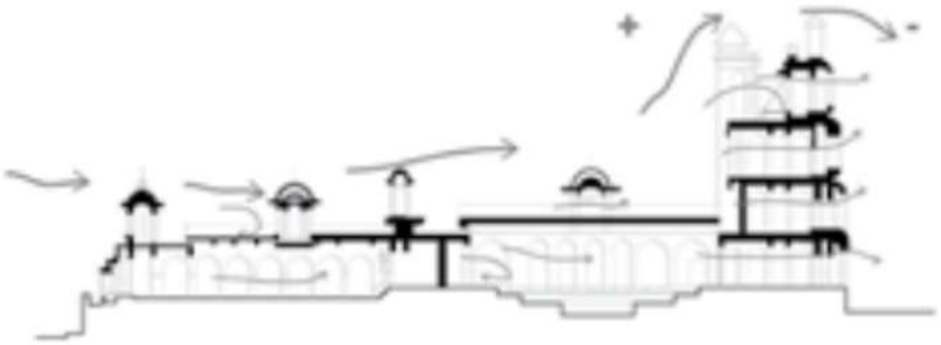
BERNOULLI-VENTURI PRINCIPLE

- IN HAWA MAHAL COMPLEX COURTYARDS AT VARIOUS LEVELS HAVE A SINGLE STOREY CONSTRUCTION ON WEST AND DOUBLE STOREY ON EAST SIDE. THE OTHER TWO SIDES HAVE TALL WALLS FORMING THE SHAPE OF A VALLEY. THESE FEATURES HELP TRAP THE WESTERLY WIND, AND DEFLECT IT DOWNWARDS. THIS PROCESS AUGMENTS FLOW OF WIND THROUGH THE OPENINGS ON EASTERN SIDE OF THE COURTYARD.
- THE HAWA MAHAL HAS 953 SMALL JHAROKHAS (COVERED WINDOWS) WHICH ALLOW VIEW TOWARDS THE OUTSIDE AND ENHANCE VENTILATION INSIDE THE BUILDING THROUGH THEIR POSITION AND SHAPE (JAILS ARE SET AT AN ANGLE MAXIMIZING WIND FLOW ACCORDING TO BERNOULLI-VENTURI PRINCIPLE





SECTION OF THE HAWA MAHAL SHOWING WIND PATTERNS FOR EAST PREVAILING



SECTION OF THE HAWA MAHAL SHOWING WIND PATTERNS FOR WEST PREVAILING

CLIMATE RESPONSIVE DESIGN PRINCIPLES

- THE DESIGN OF HAWA MAHAL IN JAIPUR IS BASED ON THE PRINCIPLE OF CROSS-VENTILATION, WHICH IS A FUNDAMENTAL CONCEPT IN FLUID MECHANICS. CROSS-VENTILATION RELIES ON THE PRESSURE DIFFERENCES CREATED BY THE MOVEMENT OF AIR MOLECULES. WHEN AIR MOLECULES ARE HEATED, THEY EXPAND AND BECOME LESS DENSE, CAUSING THEM TO RISE. THIS CREATES AN AREA OF LOW PRESSURE AT THE TOP OF A BUILDING, WHICH DRAWS IN COOLER AIR FROM OUTSIDE. THIS PROCESS IS KNOWN AS CONVECTION.
- THE DESIGN OF HAWA MAHAL TAKES ADVANTAGE OF THIS NATURAL PROCESS BY CREATING A SERIES OF OPENINGS ON THE WESTERN SIDE OF THE BUILDING, WHICH ALLOW COOLER AIR TO FLOW IN FROM OUTSIDE. THE SMALLER OPENINGS ON THE EASTERN SIDE OF THE BUILDING HELP TO REGULATE THE FLOW OF AIR AND MAINTAIN A COMFORTABLE TEMPERATURE INSIDE THE BUILDING.
- HAWA MAHAL WAS DESIGNED WITH A SERIES OF WINDOWS AND OPENINGS ON THE WESTERN SIDE OF THE BUILDING, WHICH ALLOW AIR TO FLOW INTO THE PALACE. AS THE AIR FLOWS THROUGH THESE OPENINGS, ITS SPEED INCREASES DUE TO THE NARROW OPENINGS, AND ACCORDING TO BERNOULLI'S PRINCIPLE, ITS PRESSURE DECREASES. THIS CREATES A LOW-PRESSURE ZONE INSIDE THE BUILDING, WHICH DRAWS IN COOLER AIR FROM OUTSIDE, HELPING TO VENTILATE AND COOL THE INTERIOR.

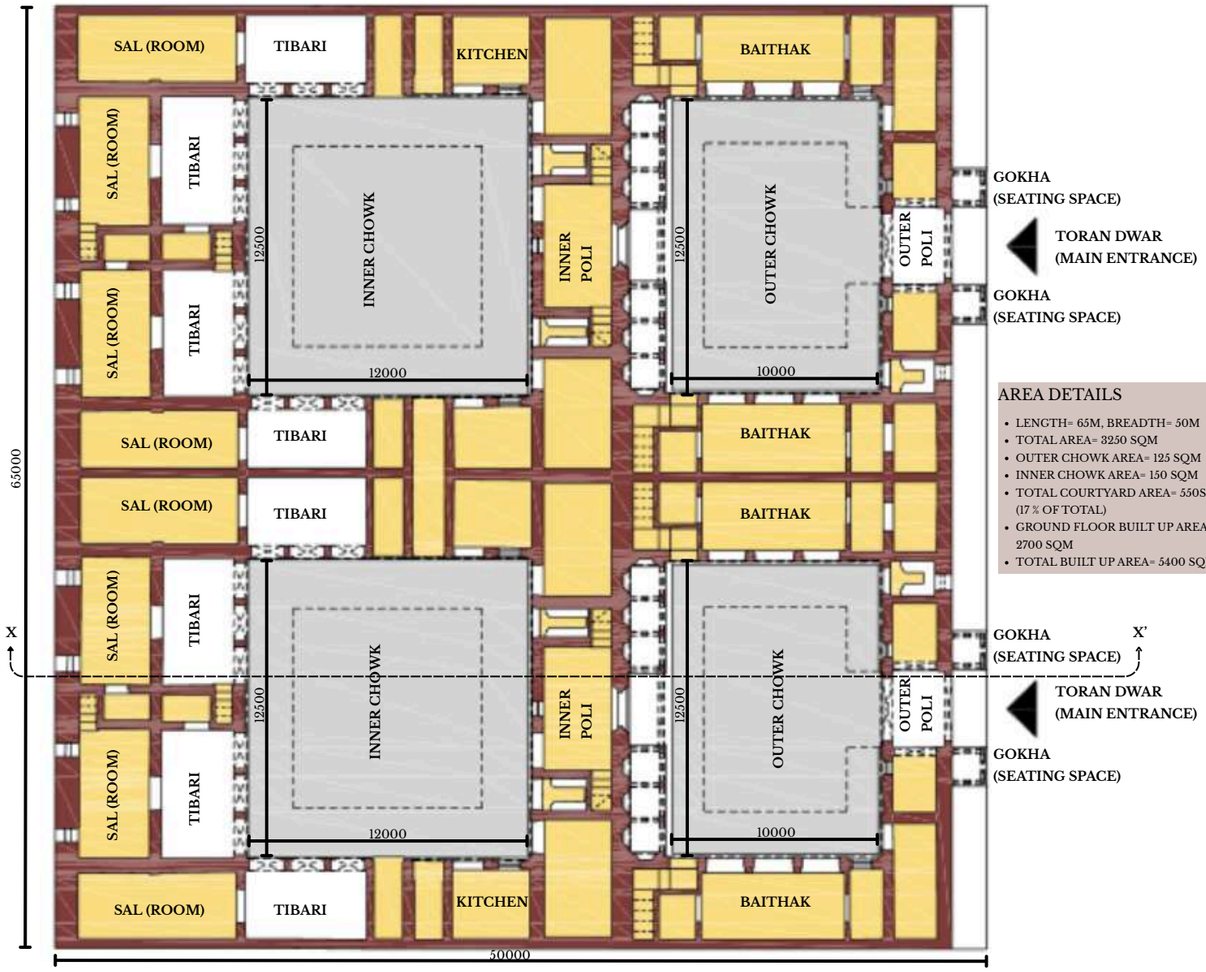
REFERENCES: ANALYSIS OF NATURAL VENTILATION SYSTEMS IN HERITAGE BUILDINGS: A CASE STUDY OF HAWA MAHAL, JAIPUR INDIA BY IOANA GABRIELA SIMION , PROF (DR) MADHURA A YADAV

VERNACULAR ARCHITECTURE

CHAR CHOWK KI HAVELI

MERCHANTS DOMAIN (HAVELI)

THE HAVELI OR RESIDENCE DEFINED THE PRIVATE SPACE OF THE PEOPLE AND FORMED THE BULK OF PROPERTIES IN A TOWN. HAVELIS HAVE A COMMON ARCHITECTURAL PATTERN WHICH SERVES THE PURPOSE OF UTILITY, DURABILITY, SAFETY AND BEAUTY. IN ITS SIMPLEST FORM A HAVELI COMPRISES OF A CENTRAL COURTYARD WITH A HIGH BUILDING MASS ALL AROUND. MOST OF THE HAVELIS HAVE AN OUTER AND AN INNER CHOWK (COURT). HAVELIS CAN HAVE MORE THAN TWO COURTYARDS ALSO AS OBSERVED IN CHAR CHOWK KI HAVELI. THE CHAR CHOWK KI HAVELI BELONGS TO GANERIWAL, A BUSINESS CLAN FROM RAJASTHAN, INDIA WHO ARE A BRANCH OF THE AGARWALS. IT WAS BUILT AROUND 1890.



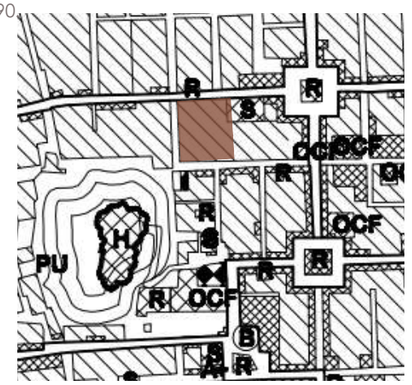
AREA DETAILS

- LENGTH= 65M, BREADTH= 50M
- TOTAL AREA= 3250 SQM
- OUTER CHOWK AREA= 125 SQM
- INNER CHOWK AREA= 150 SQM
- TOTAL COURTYARD AREA= 550SQM (17 % OF TOTAL)
- GROUND FLOOR BUILT UP AREA= 2700 SQM
- TOTAL BUILT UP AREA= 5400 SQM

PLAN OF CHAR CHOWK KI HAVELI, LAKSHMANGARH

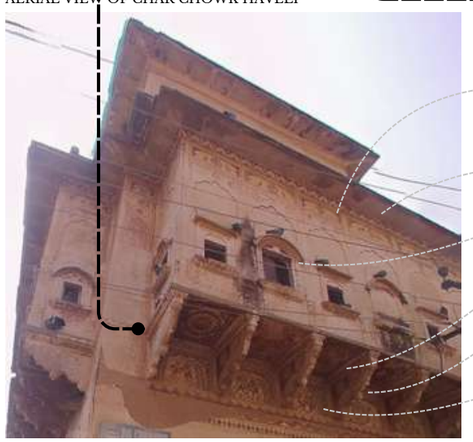
THE PLAN OF CHAR CHOWK KI HAVELI IS ORGANIZED AROUND FOUR COURTYARDS, REFLECTING A HIGHLY EVOLVED SHEKHAWATI HAVELI TYPOLOGY. ENTRY THROUGH THE TORAN DWAR LEADS TO THE OUTER CHOWK, WHICH FORMS THE PUBLIC DOMAIN OF THE HOUSE. BAITHAKS AND GOKHAS ARE LOCATED AROUND THIS COURTYARD FOR RECEIVING GUESTS AND CONDUCTING SOCIAL OR BUSINESS INTERACTIONS. ACCESS TO THE INNER AREAS IS CONTROLLED THROUGH INNER POLS, CREATING A CLEAR TRANSITION FROM PUBLIC TO PRIVATE SPACES. THE INNER CHOWKS SERVE AS THE RESIDENTIAL CORE AND ARE SURROUNDED BY SAL (ROOMS) AND TIBARIS, WHICH FUNCTION AS SHADED CIRCULATION SPACES AND PROVIDE LIGHT AND VENTILATION. KITCHENS AND SERVICE AREAS ARE PLACED DEEPER WITHIN THE PLAN TO MAINTAIN PRIVACY.

THE SEQUENTIAL ARRANGEMENT OF COURTYARDS ESTABLISHES A CLEAR HIERARCHY OF SPACES WHILE RESPONDING EFFECTIVELY TO CLIMATE AND SOCIAL CUSTOMS.



MAP OF LAKSHMANGARH SHOWING PROXIMITY OF CHAR CHOWK HAVELI TO LAKSHMANGARH FORT

AERIAL VIEW OF CHAR CHOWK HAVELI



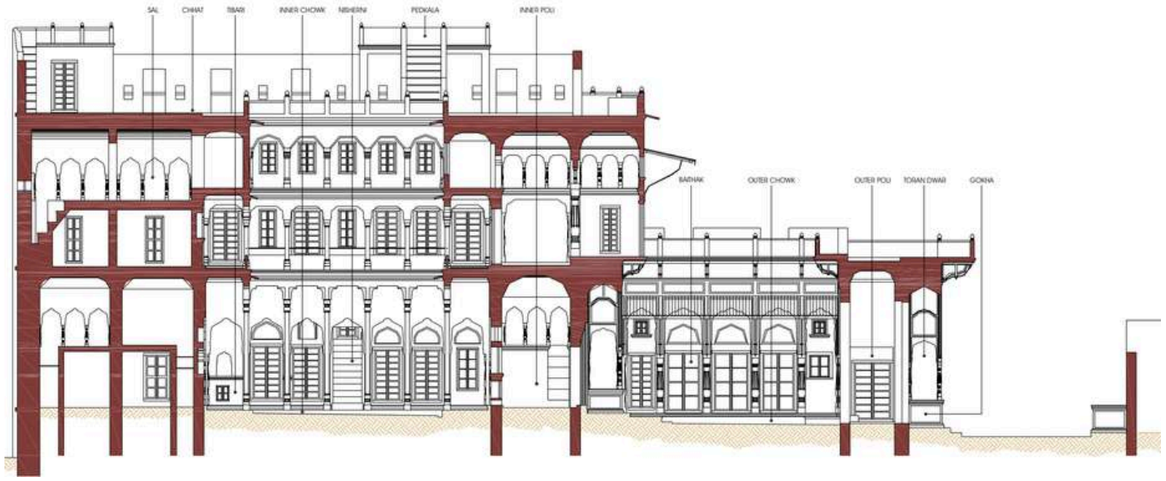
FACADE ELEMENTS

REFERENCES

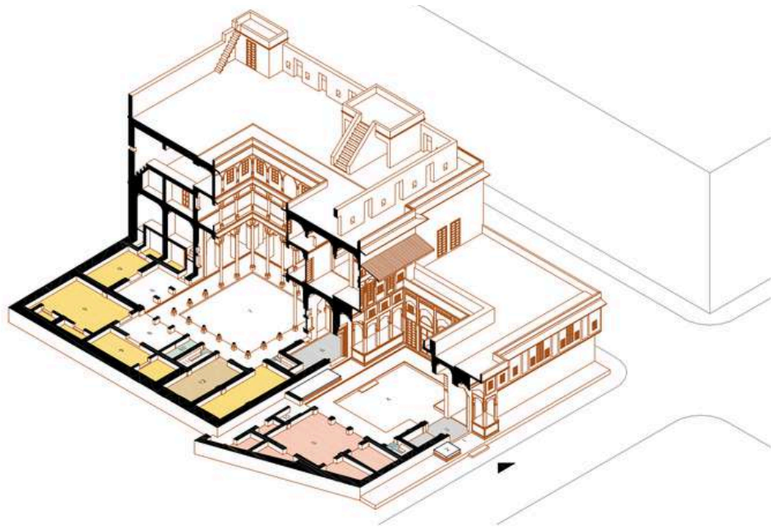
- SHEKHAWATI: URBANISM IN THE SEMI-DESERT OF INDIA A CLIMATIC STUDY AVLOKITA AGRAWAL1 PROF. R.K. JAIN AND PROF. RITA AHUJA
- UNESCO Concept Paper by Ar. Urvashi Srivastava 2009
"INDIAN HERITAGE PASSPORT PROGRAMME ON THE MERCHANT TRAILS IN SHEKHAWATI (RAJASTHAN)"

VERNACULAR ARCHITECTURE

CHAR CHOWK KI HAVELI



SECTION XX'



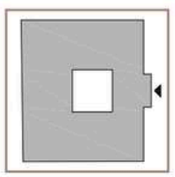
LEGEND

1 TORAN DWAR (MAIN ENTERANCE)
2 GOKHA (SEATING SPACE)
3 OUTER POLI (OUTER TRANSITIONAL SPACE)
4 OUTER CHOWK (OUTER COURT)
5 BAITHAK (RECEPTION SPACE)
6 INNER POLI (INNER TRANSITIONAL SPACE)
7 INNER CHOWK (INNER COURT)
8 TIBARI (SEMI COVERED SPACE)
9 SAL (ROOM)
10 NISHERNI (STAIRCASE)
11 PARINDA (WATER STORAGE SPACE)
12 RASODO (KITCHEN)

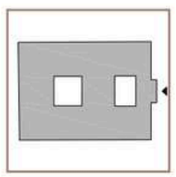
SECTIONAL 3D VIEW OF CHAR CHOWK KI HAVELI, LAKSHMANGARH

THE HAVELI HAS A DISTINCT SEGREGATION OF ACTIVITY. THE TYPE OF ROLE ASSIGNED TO FAMILY MEMBERS GOVERNED THE ACTIVITY PATTERN. MEN REMAINED OUTSIDE FOR MOST PART OF THE DAY ENGAGED IN BUSINESS WHILE WOMEN SPENT THE ENTIRE DAY INDOORS. THUS THE OUTER CHOWK OF THE HAVELI WAS MEN'S ACTIVITY AREA WHILE THE INNER CHOWK WITH ITS ASSOCIATED OPEN, SEMI-OPEN AND COVERED SPACES WAS THE CENTRE OF ALL THE WOMEN'S ACTIVITIES.

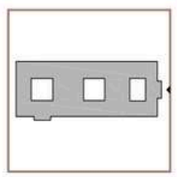
HAVELI TYPOLOGIES



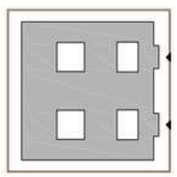
ONE CHOWK HAVELI



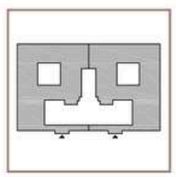
TWO CHOWK HAVELI



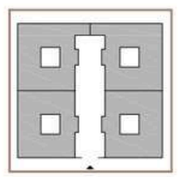
THREE CHOWK HAVELI



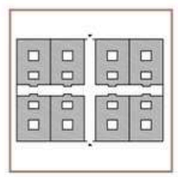
FOUR CHOWK HAVELI



DOUBLE HAVELI

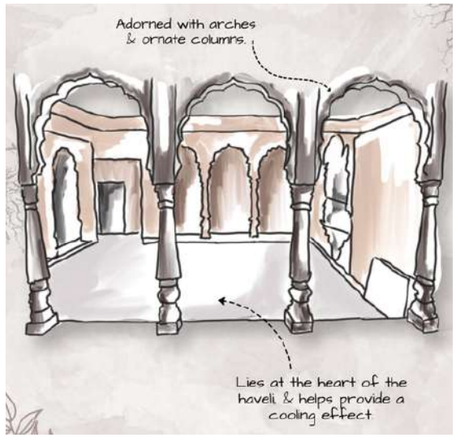


CHAR HAVELI COMPLEX



AATH HAVELI COMPLEX

THE MAIN ENTRANCE OR TORAN DWAR ON A RAISED PLINTH DEFINED BY A HUGE GATEWAY WITH TWO GOKHAS (ARCHED SPACE WITH PILLARS) PROVIDED ACCESS TO THE HAVELI. THE OUTER POLI (TRANSTIONAL SPACE) LEADS TO THE OUTER CHOWK HAVING A BAITHAK ON EITHER SIDE USED AS A RECEPTION AND SITTING ROOM. THE INNER POLI LEADS TO THE INNER CHOWK HAVING SEVERAL SETS OF ROOMS KNOWN AS SAL ATTACHED TO A SEMI COVERED SPACE KNOWN AS TIBARI. RASOI OR KITCHEN AND A PARINDA OR WATER ROOM ARE ARRANGED AROUND THE CHOWK. THERE WAS A SEPARATE ROOM WHERE IMAGES OF FAMILY DEITIES WERE KEPT FOR DAILY WORSHIP. THE CENTRE OF THE COURTYARD HAD A SMALL SQUARE WHICH WAS KEPT KACHCHA FOR DRAINING THE WATER AND AT TIMES HAD THE TULASI CHAURA (SACRED BASIL). NISHERNI OR STAIRS PROVIDED ACCESS TO THE UPPER FLOORS. THE UPPER STOREY CONSISTED OF BIGGER ROOMS WHICH WERE SOMETIMES BEAUTIFULLY PAINTED. SMALL STORAGE SPACES CALLED DUCHHATI WERE INCLUDED IN THE ROOMS. CHHAT OR TERRACE HAD STRUCTURES FOR STORING BEDDING FOR SLEEPING ON THE TERRACE. A SEPARATE NOHRA OR SPACE FOR FACILITIES LIKE KEEPING DOMESTIC ANIMALS AND ROOMS FOR SERVANTS OR GUESTS WAS ALSO PART OF THE HAVELI.

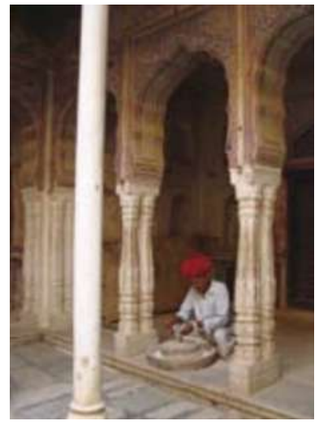


COLONNADED VERANDAH AROUND COURTYARD

ARCHED COLONNADED VERANDAHS AROUND THE COURTYARDS OF CHAR CHOWK KI HAVELI FORM SHADED TRANSITIONAL SPACES THAT REGULATE LIGHT, ENHANCE VENTILATION, AND CONTRIBUTE TO THERMAL COMFORT WITHIN THE HAVELI.

OUTER POLI

TORAN DWAR



TIBARI

VERANDAH

INNER POLI

INNER CHOWK

OUTER CHOWK

BAITHAK

REFERENCES
• SHEKHAWATI URBANISM IN THE SEMI-DESERT OF INDIA A CLIMATIC STUDY AVLOKITA AGRAWALI PROF. R.K. JAIN AND PROF. RITA AHUJA
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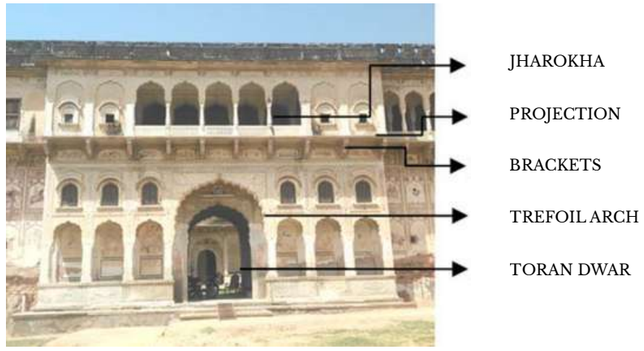
VERNACULAR ARCHITECTURE

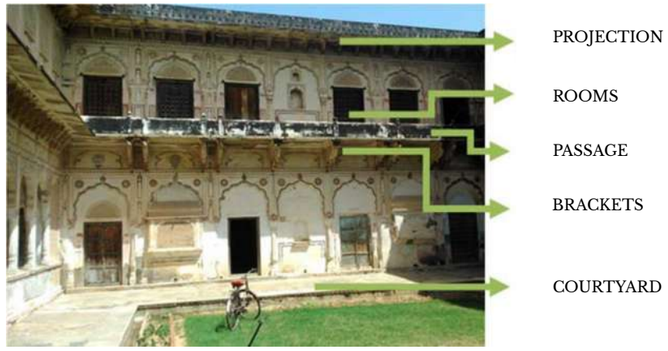
CHAR CHOWK KI HAVELI

ARCHITECTURAL STYLE

MUGHALS AND RAJPUTS WERE THE RULERS WHO HAD INFLUENCED THE ARCHITECTURE OF THE REGION. THE HAVELI IS BUILT USING THE INDO-ISLAMIC ARCHITECTURAL STYLE. THE FRONT FAÇADE IS DECORATED WITH THE JHAROKHA WHICH IS SUPPORTED WITH CARVED STONE BRACKETS. THE MAIN ATTRACTION OF THE HAVELI IS THE FRESCO WORK KNOWN AS ARAYISH ON THE EXTERIOR WALLS. THESE ART WORKS ARE DONE ON THE STUCCO WITH NATURAL COLORS, WHICH ARE THE FIGURES OF THE HINDU GODS AND GODDESSES ON THE FRONT, FLORAL PATTERN ON THE EXTERIOR AND OTHER INTERIOR WALLS. THE PROJECTION PART ALSO WORKS AS A SHADING DEVICE. CARVED COLUMNS ARE USED TO SUPPORT THE TREFOIL ARCHES OF CLASSICAL ISLAMIC ARCHITECTURE.



ENTRANCE FACADE



INNER COURTYARD

VIEW OF COURTYARD AND STAIR CASE MUMTY

FRONT VIEW OF THE HAVELI

SAL (ROOM)

RASODO (KITCHEN)

NISHERNI (STAIRCASE)

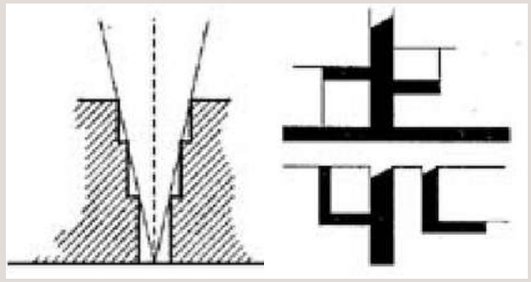
PASSIVE COOLING CONCEPTS

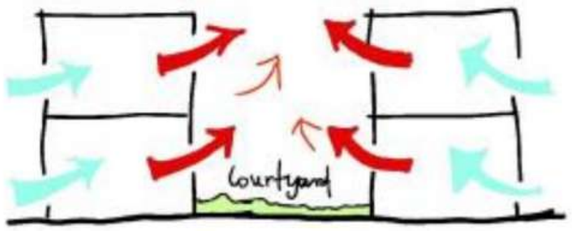
ONE OF THE INSPIRING FEATURES OF THE HAVELIS IS THE USE OF PASSIVE TECHNIQUES TO GAIN THERMAL COMFORT IN THE HARSH CLIMATE. THIS HAVELI ALSO FOLLOWS THE VERNACULAR PASSIVE CONCEPT PRINCIPLES OF THE REGION, WHICH ARE FOLLOWING:

- COURTYARD PLANNING: THE COURTYARD IN HOT SUMMERS HELPS VENTILATE THE FRESH AIR INSIDE THE ROOMS AND HAVELI. THE COURTYARD SERVES AS A MICRO-CLIMATE MODIFIER.
- SHADING DEVICES: JHAROKHAS, PROJECTION RUNNING ALONG THE PARAMETER OF THE BUILDING, AND THE JALIES ARE PROVIDED AS THE SHADING DEVICES WHICH OBSTRUCT THE DIRECT SOLAR HEAT GAIN. JALIES AND JHAROKHAS ALSO WORK AS BARRIER TO THE SANDSTORMS
- OPENING SIZES: THE SIZES OF THE OPENINGS IN THIS HAVELI ARE SMALL AND THE LARGER OPENINGS ARE COVERED WITH STONE JALIES. THESE OPENINGS ARE OPENED DURING NIGHT TO ALLOW CONVECTIVE COOLING. IN DAYTIME THE THICK WOODEN SHUTTERS OF LOW THERMAL MASS ARE CLOSED
- CEILING HEIGHTS: THE HABITABLE HAVE CEILING HEIGHT LARGER THAN 3.5 M WHILE THE OTHER SPACES LIKE THE JHAROKHA WHICH WERE TO BE USED TEMPORARILY AND OCCASIONALLY WERE ONLY 2.5 – 1.8 M HIGH. THIS MEANT A LARGER AIR MASS RESULTING IN LOWER TEMPERATURES.
- ROOFS WITH INSULATION LAYER: THE ROOFS ARE CONSTRUCTED WITH FLAT STONE SLABS JOINED WITH LIME MORTAR. ABOVE THIS A LAYER OF INVERTED EARTHEN POTS IS LAID TO CREATE AIR INSULATION. ON THE TOP OF IT, A LAYER OF LIME MORTAR FINISH WITH REFLECTIVE SMOOTH MATERIAL LIKE BROKEN PIECES OF CERAMIC POTS TO REFLECT MOST OF THE SUNLIGHT IS USED.
- BUILDING MATERIALS: STONE WAS USED ALONG WITH LIME MORTAR IN THE SLAB AND FAÇADE ELEMENTS. LIME MORTAR KEEPS LOW TEMPERATURES INSIDE THE HAVELI. STONE HELPS CREATING TIME LAG DUE TO HIGH THERMAL CAPACITIES. WOOD FOR SHUTTERS OF WINDOWS AND DOOR FRAMES IS USED. ALL THE MATERIALS WERE LOCALLY AVAILABLE AND THE DESIGNERS WERE FAMILIAR WITH THOSE.
- LIGHT COLOUR EXTERIOR: THE EXTERIOR OF THE HAVELI IS LIGHT COLOURED TO REDUCE THE HEAT GAIN, DUE TO LIME PLASTER. WALLS ARE PAINTED WITH MURALS TO PROVIDE THE AESTHETICS FOR THE HAVELI.

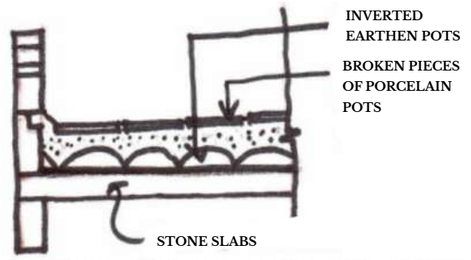
STREET MORPHOLOGY & MICROCLIMATE

- NARROW NORTH–SOUTH ORIENTED STREETS FLANKED BY TALL HAVELI FAÇADES ON BOTH SIDES CUT OFF DIRECT SOLAR EXPOSURE, CREATING SHADED PEDESTRIAN MOVEMENT AROUND CHAR CHOWK KI HAVELI.
- THIS COMPACT STREET SECTION REDUCES HEAT GAIN ALONG THE BUILDING ENVELOPE, HELPING LOWER AMBIENT AIR TEMPERATURE AND CREATING A COOLER MICROCLIMATE AT THE STREET LEVEL.





COURTYARDS IN CHAR CHOWK KI HAVELI ACT AS THERMAL REGULATORS, DRAWING HOT AIR UPWARD AND PROMOTING CROSS-VENTILATION ACROSS SURROUNDING ROOMS.



TRADITIONAL STONE SLAB ROOFING WITH INVERTED EARTHEN POTS AND PORCELAIN PIECES REDUCES HEAT GAIN AND IMPROVES THERMAL INSULATION.

VERNACULAR ARCHITECTURE

ALBERT HALL MUSEUM

ARCHITECTURAL NOTE

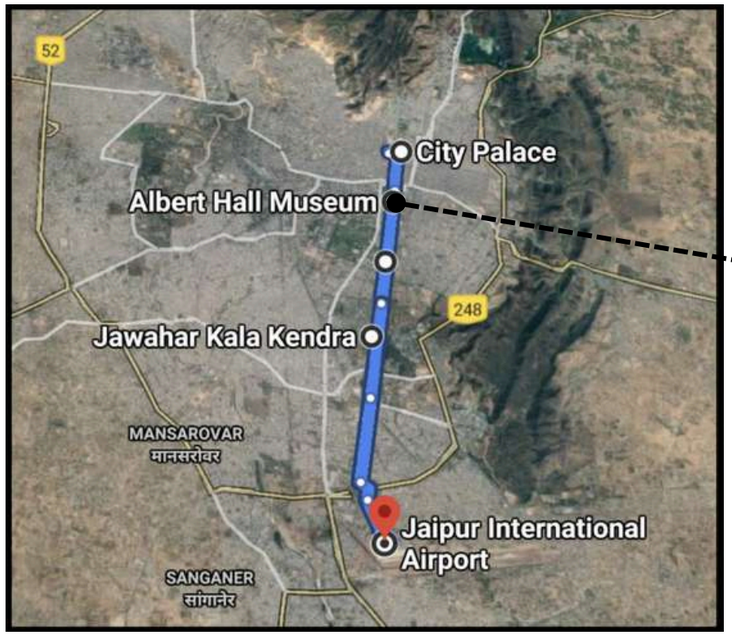
DESIGNED BY SIR SAMUEL SWINTON JACOB IN 1887, THE ALBERT HALL MUSEUM IS AN EARLY EXAMPLE OF INDO-SARACENIC ARCHITECTURE IN JAIPUR. THE BUILDING COMBINES RAJPUT, MUGHAL, AND CLASSICAL INFLUENCES, EXPRESSED THROUGH DOMES, CHHATRIS, ARCHES, AND RICHLY ARTICULATED FAÇADES.

ARCHITECTURAL & MATERIAL CHARACTER

CONSTRUCTED IN LOCAL SANDSTONE WITH LIME PLASTER DETAILING, THE BUILDING USES TRADITIONAL ELEMENTS SUCH AS ARCADED VERANDAHS, CHHATRIS, AND JAALI WORK, WHICH RESPOND TO THE HOT-DRY CLIMATE

LOCATION CONTEXT- BETWEEN HISTORY AND MODERNITY

ALBERT HALL'S LOCATION IN THE RAM NIWAS BAUG LITERALLY AND FIGURATIVELY PLACES THE BUILDING IN LINEAGE WITH JAIPUR'S MOST SIGNIFICANT MONUMENTS.
IT IS ON ONE END OF A VERY VISIBLE AND PUBLIC AXIS OF DIVINITY AND KINGSHIP. AT THE OTHER END OF THIS AXIS, LIES THE TEMPLE OF GOVIND DEV JI, THE CHIEF DEITY OF JAIPUR.
IT IS A STRAIGHT LINE FROM THE TEMPLE, PASSING THROUGH THE CHANDRA MAHAL (THE MAHARAJA'S RESIDENCE IN THE CITY PALACE), THE CEREMONIAL GATEWAY OF TRIPOLIA, AND DOWN AN IMPORTANT AVENUE, THE CHAUDA RASTA.
EXITING OUT OF THE GATE PUNCTURED INTO THE PARKOTA (THE DEFENCE WALL BUILT AROUND THE CITY IMAGINATIVELY CALLED "NEW GATE"), AND CUTTING ACROSS THE LARGE PUBLIC GARDENS (THE RAM NIWAS BAGH), YOU REACH ALBERT HALL.
IN A SENSE, THE ALBERT HALL MUSEUM IS ON THE THRESHOLD BETWEEN HISTORICAL PRECINCTS OF JAIPUR, AND ITS MODERN EXPANSION. IT STRADDLES BOTH WORLDS AND OCCUPIES THE PAST AS WELL AS THE FUTURE WITHIN ITS WALLS.
TODAY, IT IS ONE OF THE FIRST "HERITAGE" BUILDINGS A VISITOR ENCOUNTERS WHEN ARRIVING FROM THE AIRPORT. IT IS AN APPROPRIATE INTRODUCTION TO THE TREASURES OF JAIPUR— SHOWCASING ARCHITECTURE, URBAN PLANNING, TEXTILES, PAINTINGS, AND THE EXCEPTIONAL CRAFTSMANSHIP.



THE SYMMETRICAL COMPOSITION AND LAYERED FAÇADE CREATE DEPTH AND RHYTHM, WHICH IS ACCENTUATED UNDER NIGHT ILLUMINATION. THE LIGHTING HIGHLIGHTS DOMES, ARCHES, AND ORNAMENTAL DETAILS, REINFORCING THE MUSEUM'S LANDMARK CHARACTER WITHIN THE HISTORIC URBAN FABRIC OF JAIPUR.

VERNACULAR ARCHITECTURE

ALBERT HALL MUSEUM

SPATIAL ORGANIZATION

The Albert Hall Museum plan is organized around a central hall with symmetrically arranged galleries and exhibition rooms on both the ground and first floors. The layout reflects a balanced axial composition, where circulation corridors and galleries radiate from a central open space

DISTRIBUTION OF FUNCTION

Galleries, display halls, and exhibition spaces are distributed along the primary axis, with connected corridors providing continuous flow. The plan demonstrates a clear separation between large public halls and subsidiary rooms intended for display and circulation.

CENTRAL CIRCULATION

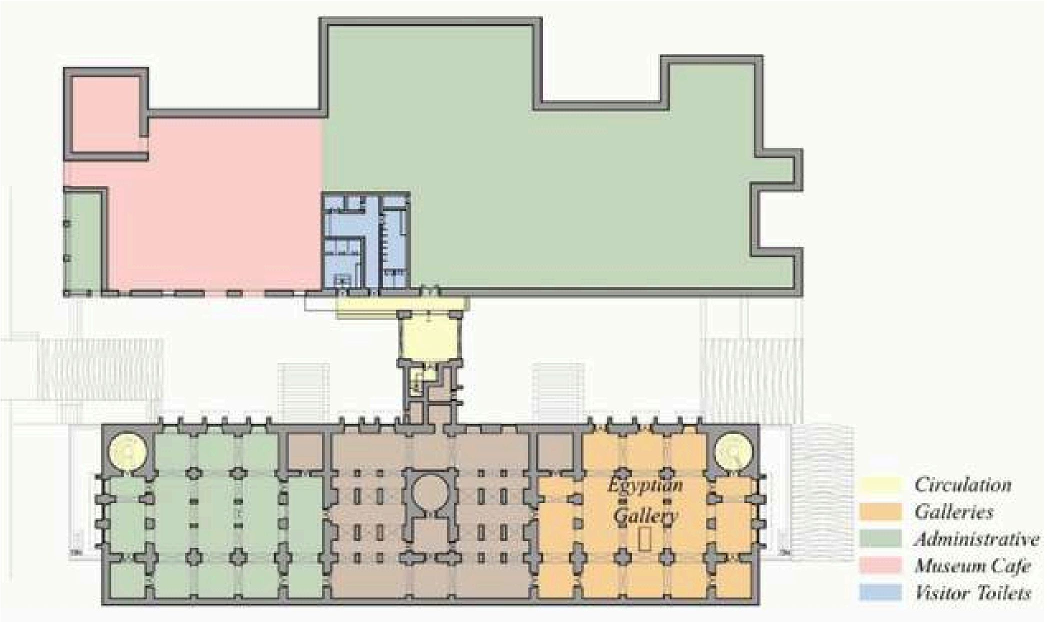
A central atrium space anchors the plan, bringing natural light and ventilation into the interior galleries. Surrounding corridors define the movement paths and connect the main spaces, ensuring visual and spatial coherence.

CLIMATE & VERNACULAR RESPONSE

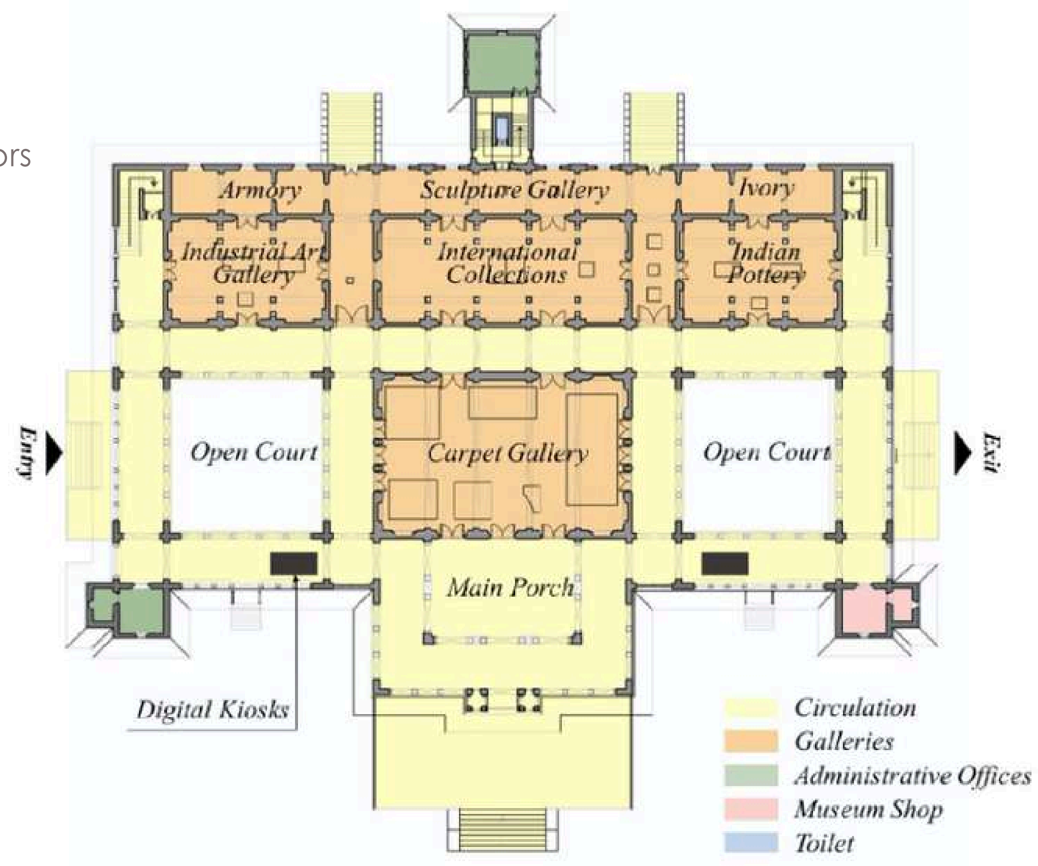
Although primarily institutional, the plan incorporates climate-responsive strategies through orientation of corridors and open spaces that enhance daylight penetration and cross-ventilation, resonating with regional architectural logic.

HERITAGE SIGNIFICANCE

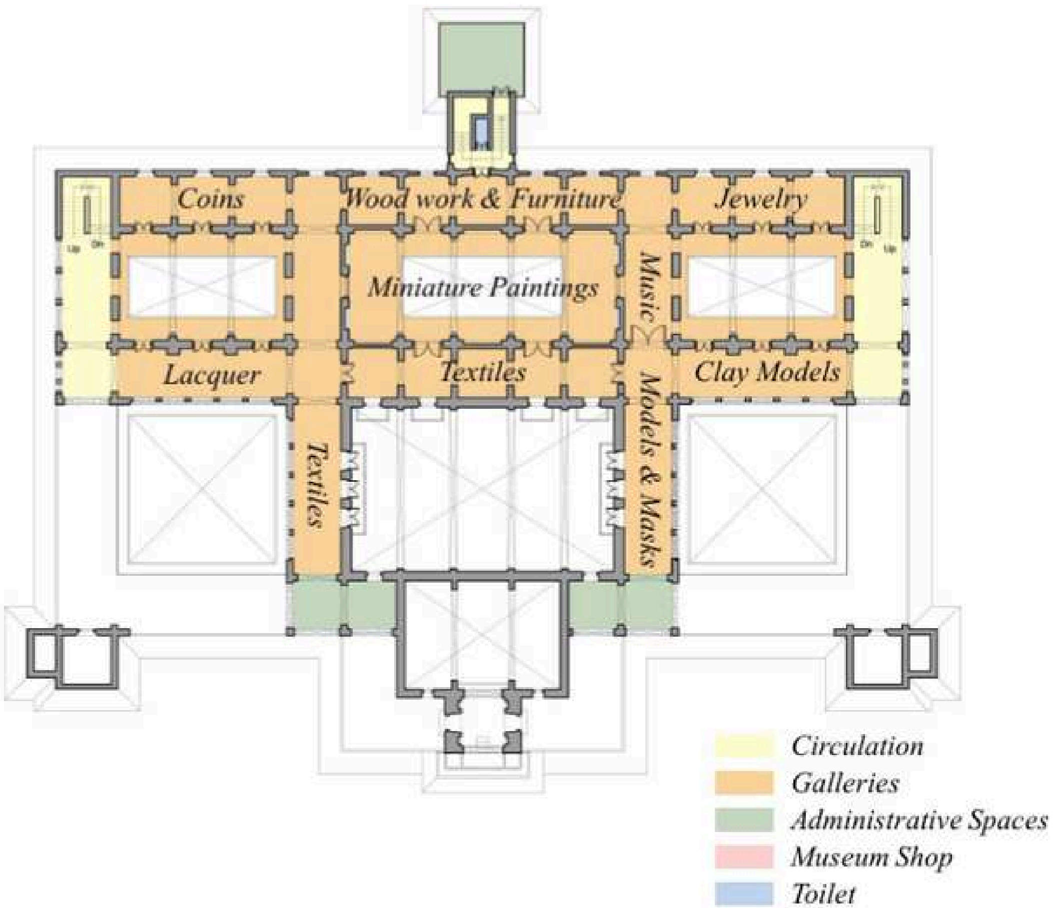
The plan exemplifies how colonial-era institutional architecture in India synthesized formal museum planning with local spatial traditions, making Albert Hall Museum both architecturally significant and contextually grounded.



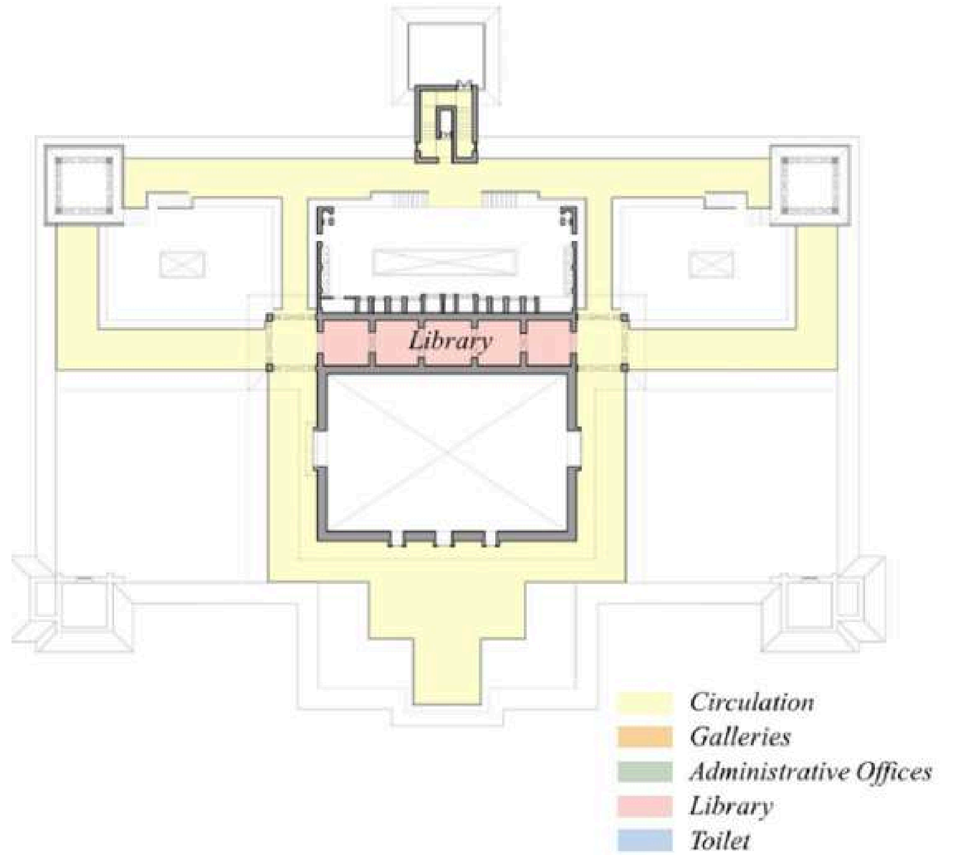
BASEMENT PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN

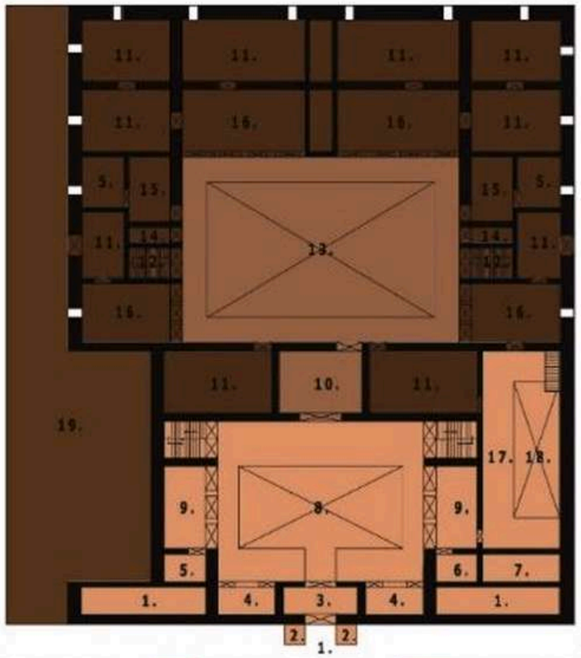


SECOND FLOOR PLAN

VERNACULAR ARCHITECTURE

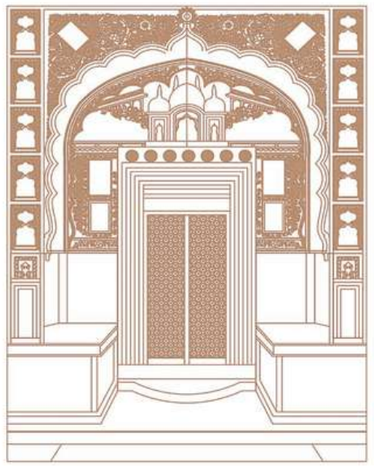
GOENKA HAVELI

PLAN OF GOENKA HAVELI

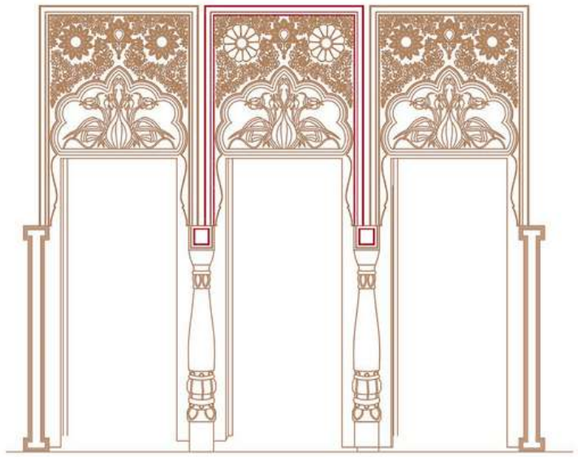


1. TORAN DWAR (ENTRANCE)
2. GOKHA (SEATING SPACE)
3. OUTER POLI(OUTER TRANSITIONAL SPACE)
4. WASHROOM
5. STORE ROOM
6. POOJA ROOM
7. WATCHMEN'S ROOM
8. OUTER CHOWK(OUTER COURT)
9. BAITHAK(RECEPETION SPACE)
10. INNER POLI(INNER TRANSITIONAL SPACE)
11. ROOM
12. NISHERNI(STAIRCASE)
13. INNER CHOWK(INNER COURT)
14. PARINDA(WATER STORAGE)
15. RASODO(KITCHEN)
16. TIBARI(SEMI COVERED SPACE)
17. BALCONY
18. OPEN SPACE
19. PARKING

Plan Zoning of haveli



Detailing on doors of haveli



Mural paintings on shaded colonnades

Materials & Construction

- Use of locally available stone, brick, lime mortar, and timber.
- Lime-based plasters enhance breathability and thermal comfort.
- Roof construction includes insulation layers and reflective surfaces.
- High thermal capacity materials stabilize indoor temperatures.

Architectural Expression

- Integration of art forms such as frescoes, murals, stone carving, wood carving, and patra work.
- Decorative elements are often placed in shaded or semi-open spaces to ensure durability.

Building Envelope

- Thick masonry walls with high thermal mass .
- Small, recessed, shaded openings reduce heat gain.
- Fenestration primarily oriented towards inner courtyards.
- Flat roofs with reflective finishes reduce solar absorption.

Passive Cooling Techniques

- Shaded courtyards and semi-open spaces (colonnades).
- Use of jalis, louvres, and deep overhangs.

Shaded colonnades

Fig. 6. light and ventilation in the courtyard

Fresco painting

Stone carvings

Seth Arjun Das Goenka Haveli

REFERENCES- CLIMATIC ANALYSIS OF A HAVELI IN SHEKHAWATI REGION,RAJASTHAN BY MADHVI CHULET1 AND CHIRAG KUMAR

VERNACULAR ARCHITECTURE

GOENKA HAVELI

DESIGN PRINCIPLES

1. Courtyard as the Climatic Core

- The courtyard is the heart of the haveli, bringing light and air into all surrounding rooms.
- Semi-covered courtyards reduce direct sun while still allowing ventilation, making them usable throughout the day.
- They help cool the interiors naturally in the hot, dry climate of Fatehpur.

2. Semi-Covered Spaces for Thermal Comfort

- Partial roof coverings, overhangs, and verandahs create shaded zones around the courtyard.
- These spaces act as buffer areas between the harsh outdoor climate and interior rooms.
- They reduce heat gain and make daily activities comfortable even in peak summers.

3. Colonnades as Transitional Spaces

- Colonnaded corridors surround the courtyard and connect different rooms of the haveli.
- They provide shade, controlled movement, and visual continuity within the house.
- Structurally, columns support upper floors while allowing open, breathable ground-level spaces.

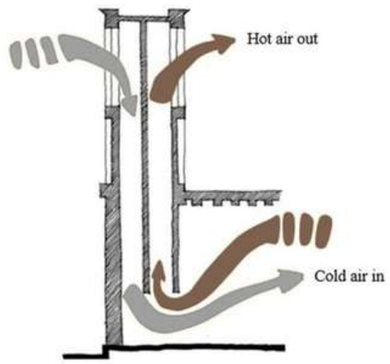
4. Wind Tower for Natural Ventilation

- Wind towers are designed to capture prevailing winds and channel them into the interior spaces.
- The moving air helps remove hot air and improves indoor comfort without mechanical systems.
- This reflects the deep understanding of local climate and passive cooling techniques.

5. Integration of Climate, Structure, and Daily Life

- Every design element responds to climate while supporting social and functional needs.
- Courtyards, colonnades, and wind towers work together as a passive cooling system.
- Design is not decorative alone but rooted in comfort, efficiency, and everyday use.

wind tower in haveli



Main Entrance

One main entry and exit of the haveli to make it secure.
It also has, service entries to the rear of the private courtyard of the haveli.

Courtyard Layout

Courtyard is laid in a SE- NW orientation.

- This is about 40° off the cardinal points, which exposes the NW wall to morning sun.
- The NE wall also gets the sunlight from early morning until midday, after which the
- Sun penetration is largely controlled by the takht on the NW side. The lower winter sun is able to penetrate the courtyard (NW, NE& SE sides) until midafternoon i.e. 4 pm
- The Inner Courtyard of the Havelli is 13500 x 9000mm in Length And Breadth.
- The courtyard is oriented 45 degrees from the prevailing wind which maximizes wind in the courtyard and cross ventilation through the building keeping the courtyard cool.

Walls

- Internal courtyard is designed with building mass all around it, leading to induced ventilation, lowering of temperatures by convective cooling and natural lighting.
- The surrounding walls rise to 6000mm and there are overhangs of 152mm wide on four sides, protecting that side from excessive solar exposure.

Inner Courtyard of Haveli

Semi open spaces in a courtyard

REFERENCES- CLIMATIC ANALYSIS OF A HAVELI IN SHEKHAWATI REGION,RAJASTHAN BY MADHVI CHULET1 AND CHIRAG KUMAR

VERNACULAR ARCHITECTURE

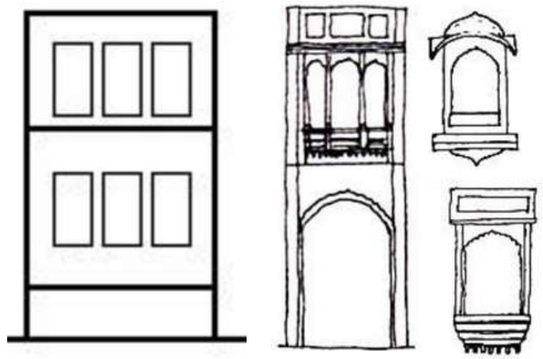
SURAJKANHA HAVELI, JAISALMER

LOCATION AND REGIONAL CONTEXT

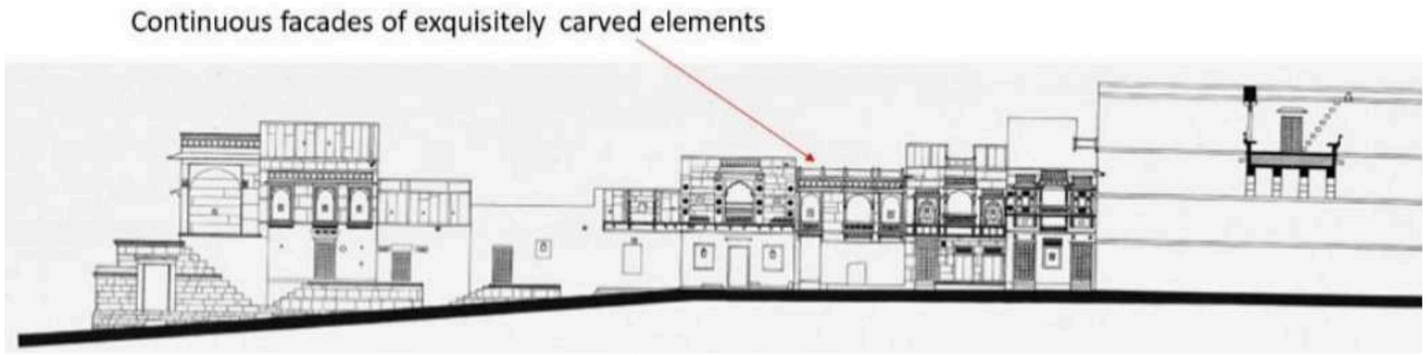
Suraj Kanha Haveli is located in Jaisalmer, Rajasthan, within the Thar Desert region, commonly known as the Golden City. The haveli forms part of the dense historic fabric characterized by inward-looking residences, shared walls, and strong community clustering typical of Jaisalmer's vernacular settlements.

TYPOLOGY & COMMUNITY

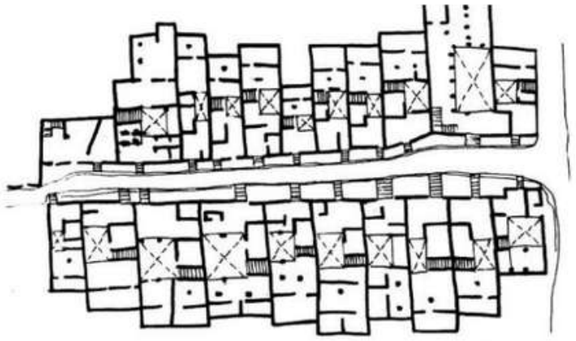
Suraj Kanha Haveli belongs to the haveli typology of Jaisalmer, representing residential architecture shaped by social hierarchy, community grouping, and climate. Jaisalmer havelis are categorized based on community types, such as Rajputs, merchants, Rajpurohits, and Hindu sub-castes, with the Suraj Kanha Haveli being a notable example of a Rajpurohit haveli.



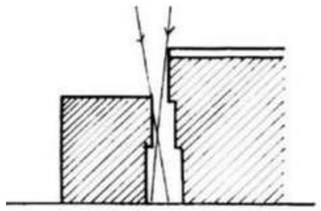
Openings Jharokhas



Section of Street



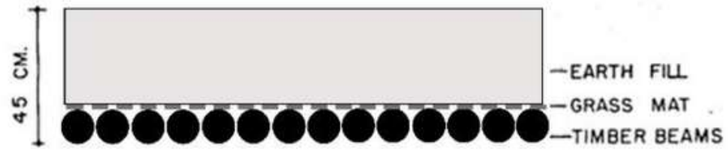
Plan of Street



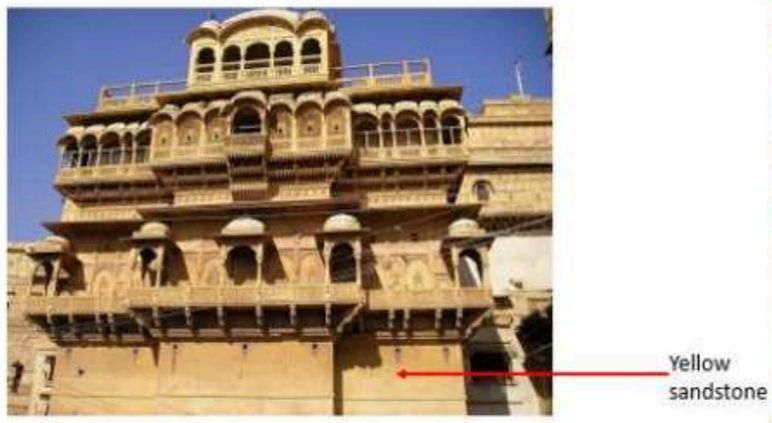
Conceptual street section

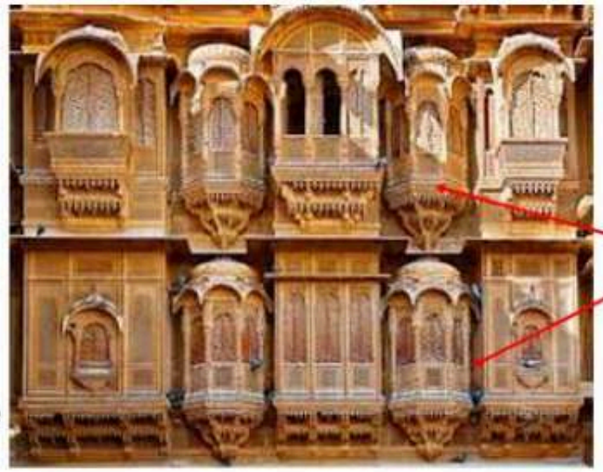
MATERIALS AND CONSTRUCTION TECHNIQUES

THERE IS TRADITIONAL METHOD USED IN THE ROOF BY LAYING CLOSELY SPACED TIMBER BEAMS AND COVERING THEM WITH A LAYER OF REED OR GRASS MATTING AND A THICK LAYER (0.45 TO 0.60M) OF EARTH ON TOP AND THIS IS USED IN MOST HAVELIS.



Roof detail section





Materials used in elevation

REFERENCES- VERNACULAR ARCHITECTURE OF JAISALMER AASTHA YADAV, DR.ANJANEYA SHARMA

VERNACULAR ARCHITECTURE

SURAJKANHA HAVELI, JAISALMER

PLANNING PRINCIPLES

The haveli follows an introverted planning system organized around a central open-to-sky courtyard (chowk), which acts as the social, climatic, and spatial core of the house. The entrance is deliberately positioned to avoid direct visual connection between the street and the courtyard, ensuring privacy. Raised platforms (otla) mediate between public and private realms.

SPATIAL ORGANIZATION

- Central chowk as the aesthetic and functional nucleus
- Spaces arranged symmetrically around the courtyard
- Multiple levels articulated through repetitive structural bays
- Visual emphasis on the centre maintained in both plan and elevation

This organization reflects the traditional Indian concept of "the centre" governing spatial hierarchy.

ORIENTATION & CLIMATE RESPONSIVENESS

The haveli is oriented primarily along the east–west axis, with longer walls facing north and south to reduce solar heat gain. Narrow openings, shaded verandahs, internal courtyards, and thick sandstone walls work together to ensure thermal comfort in an extreme desert climate.

VERNACULAR ARCHITECTURAL FEATURES

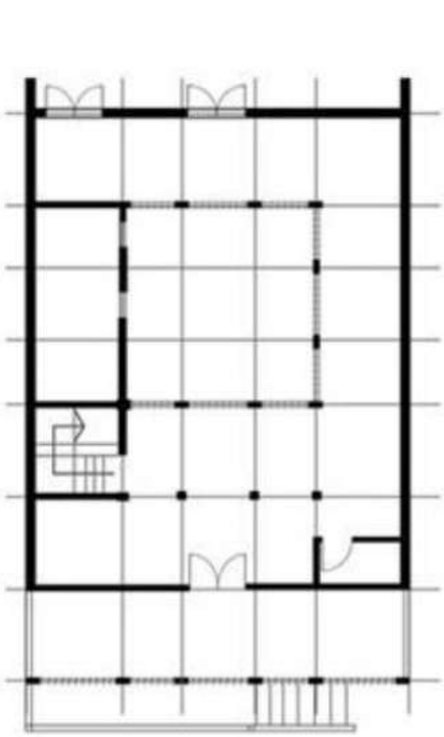
- Jharokhas, chajjas, baris, chhatris, and deep eaves
- Elaborately carved façades masking small functional openings
- Inward-facing spaces emphasizing privacy and climate control
- Use of repetitive modular elements creating visual rhythm

Despite ornate façades, actual living spaces remain inward-looking and shaded.

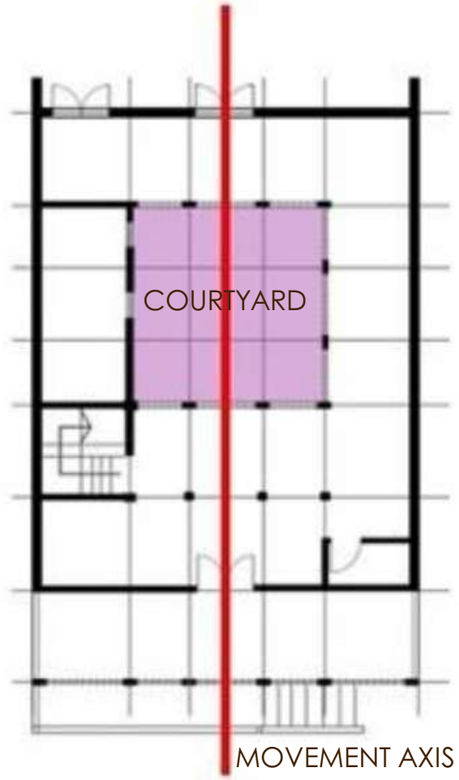
MATERIALS & CONSTRUCTION TECHNIQUES

- Locally sourced yellow sandstone as primary material
- Load-bearing stone masonry construction
- Roofs formed using closely spaced timber beams or stone slabs
- Mud plaster finishes over floors and roofs
- Minimal water-proofing required due to low rainfall

These techniques reflect resource efficiency and climatic adaptation.



PLAN



MOVEMENT AXIS

OPENINGS

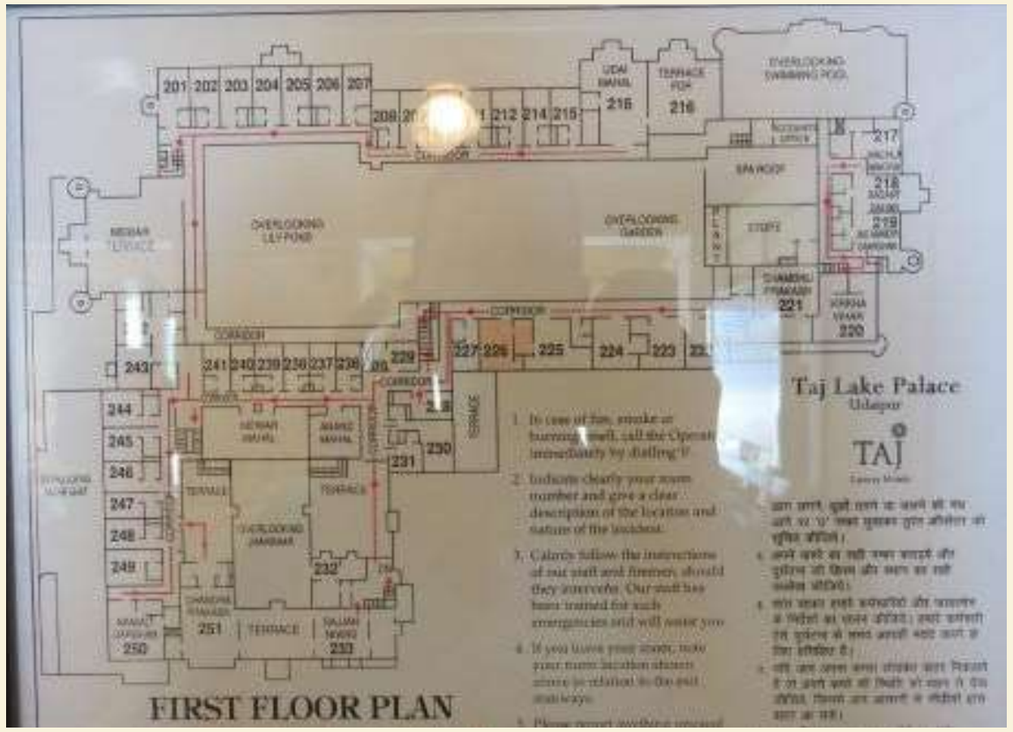
CHOWK VIEW

ENTRANCE

REFERENCES- VERNACULAR ARCHITECTURE OF JAISALMER AASTHA YADAV, DR.ANJANEYA SHARMA

PSEUDO-VERNACULAR ARCHITECTURE

TAJ LAKE PALACE, UDAIPUR



JAGMANDIR ISLAND PALACE

JAGMANDIR ISLAND PALACE, FONDLY KNOWN AS SWARG KI VATIKA, IS AN IDYLLIC 17TH-CENTURY MASTERPIECE INTRICATELY WOVEN INTO THE REGAL LEGACY OF MEWAR. SET AMIDST THE SERENE WATERS OF LAKE PICHOLA, THIS ENCHANTING DESTINATION OFFERS EXQUISITE COURTS AND GARDENS, PERFECT FOR HOSTING DISTINGUISHED OCCASIONS. WITH HERITAGE VENUES LIKE CHAAR BAAGH, KUNWARPADA CHOWK, SPA LAWNS, COURTYARD LAWNS, AND AN ELEGANT PRIVATE DINING ROOM (8.2 MT. X 8.8 MT; 77 SQ. MT.), EVERY CELEBRATION IS ELEVATED WITH TIMELESS GRANDEUR .

JAGMANDIR ISLAND PALACE FLOOR PLAN

	Area (m²)	Dimensions (m.)	Ceiling Height (m.)	Theatre	Cluster	Informal
Jagmandir Island Palace	3456	96 x 36	-	-	-	-
Kunwarpada Chowk	969.6	48 x 20.2	-	200 pax	300 pax	500 pax
Chaar Bagh	1763	41 x 44	-	320 pax	200 pax	500 pax
Courtyard Lawns	463.7	26.2 x 17.7	-	120 pax	60 pax	150 pax
Spa Lawns	260	12.19 x 21.36	-	60 pax	40 pax	80 pax

DIMENSIONS AND SEATING CAPACITIES

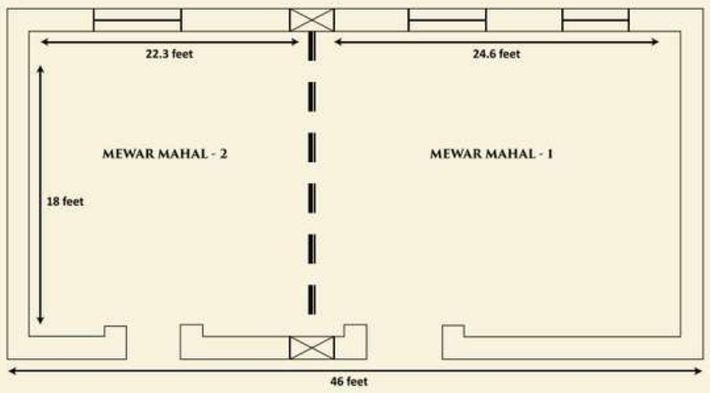
REFERENCES-HTTPS://IHCLDIGITALDIRECTORY.COM/TAJ-FACTSHEETS/TAJ-LAKE-PALACE-MICE-FACTSEET.PDF

PSEUDO-VERNACULAR ARCHITECTURE

TAJ LAKE PALACE, UDAIPUR

MEWAR MAHAL

OVERLOOKING THE SERENE JHANKAR COURTYARD, THE ELEGANTLY DESIGNED MEWAR MAHAL IS AN IDEAL VENUE FOR HIGH-LEVEL MEETINGS AND EXCLUSIVE FUNCTIONS. ACCOMMODATING UP TO 75 GUESTS IN A THEATRE-STYLE SET-UP, IT IS EQUIPPED WITH STATE-OF-THE-ART AUDIO-VISUAL FACILITIES AND SUPPORTED BY SEAMLESS SECRETARIAL SERVICES, ENSURING EVERY EVENT IS EXECUTED WITH SOPHISTICATION AND PRECISION.



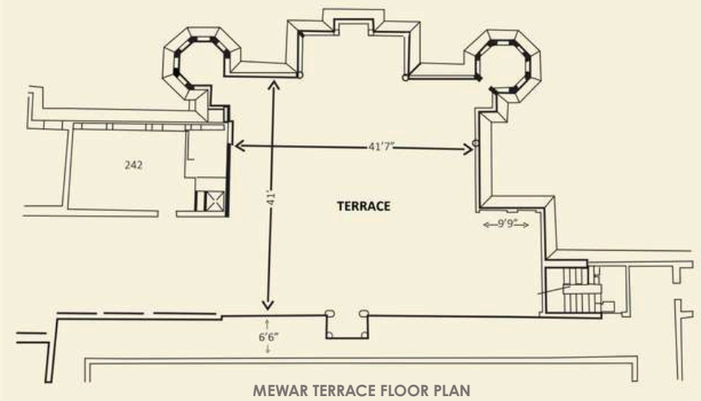
MEWAR MAHAL FLOOR PLAN

Area (m²)	Dimensions (m.)	Ceiling Height (m.)	Cluster	Classroom	Theatre
77	14 x 5	2.43	35 pax	35 pax	70 pax

DIMENSIONS AND SEATING CAPACITIES

MEWAR TERRACE

SPANNING 487 SQ. M WITH HIGH CEILINGS, THE GRAND BALL ROOM ACCOMMODATES UP TO 450 GUESTS. IDEAL FOR CONFERENCES, PRODUCT LAUNCHES, OR CORPORATE GALAS, IT IS ONE OF AGRA'S PREMIER 5-STAR VENUES, EQUIPPED WITH MODERN TECHNOLOGY AND SUPPORTED BY EXPERT EVENT PLANNING SERVICES. A SPACIOUS PRE-FUNCTION AREA ADDS TO THE GRANDEUR, PROVIDING THE PERFECT SETTING FOR REGISTRATIONS, NETWORKING, OR COCKTAIL GATHERINGS BEFORE THE MAIN EVENT.



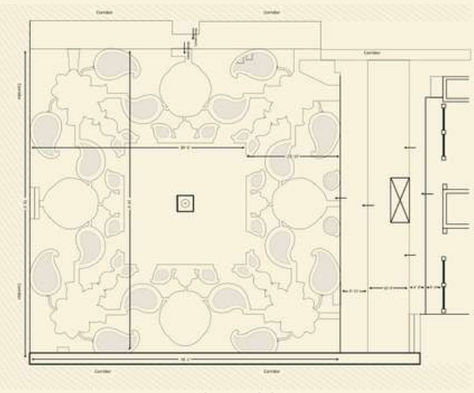
MEWAR TERRACE FLOOR PLAN

Area (m²)	Dimensions (m.)	Ceiling Height (m.)	Cluster	Classroom	Theatre
157	12.4 X 12.7	-	60 pax	70 pax	80 pax

DIMENSIONS AND SEATING CAPACITIES

LILY POND

THE LILY POND PRESENTS A REFINED OUTDOOR SETTING, PERFECT FOR NETWORKING EVENINGS, LEADERSHIP COCKTAILS, OR POST-CONFERENCE RECEPTIONS. SURROUNDED BY LANDSCAPED GARDENS AND A TRANQUIL FOUNTAIN, THIS ELEGANT VENUE OFFERS A REFRESHING AMBIENCE THAT INSPIRES CONVERSATION, COLLABORATION, AND CONNECTION, MAKING IT AN IDEAL CHOICE FOR MEMORABLE CORPORATE GATHERINGS IN UDAIPUR.



LILY POND FLOOR PLAN

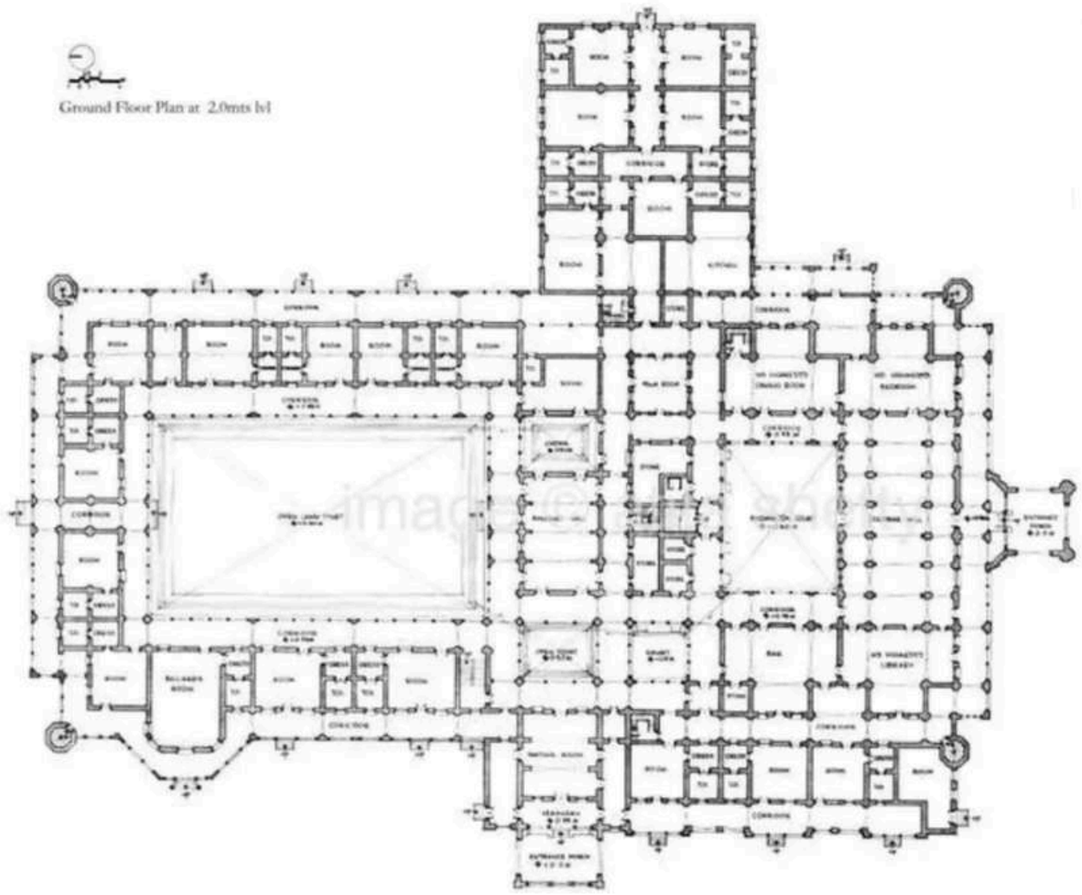
Area (m²)	Dimensions (m.)	Ceiling Height (m.)	Cluster	Classroom	Theatre
554.7	23.31 X 23.80	-	80 pax	-	150 (Informal) Pax

DIMENSIONS AND SEATING CAPACITIES

REFERENCES-HTTPS://IHCLDIGITALDIRECTORY.COM/TAJ-FACTSHEETS/TAJ-LAKE-PALACE-MICE-FACTSEET.PDF

PSEUDO-VERNACULAR ARCHITECTURE

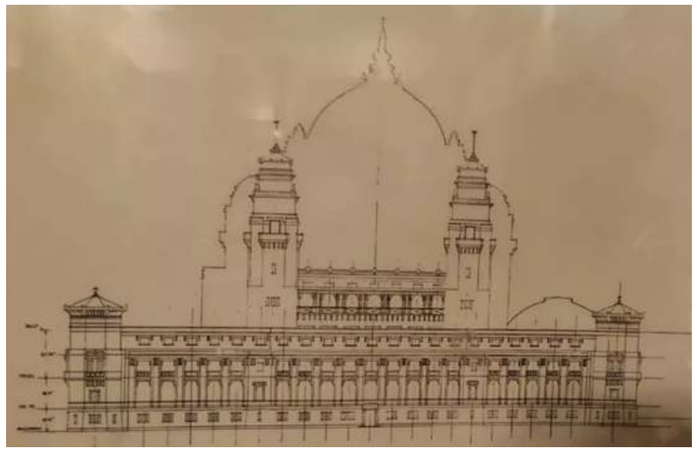
UMAID BHAWAN PALACE, JODHPUR



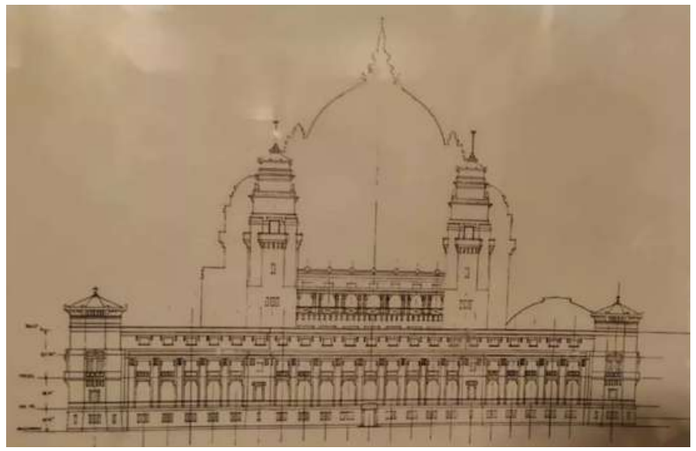
GROUND FLOOR PLAN

ABOUT THE BHAWAN

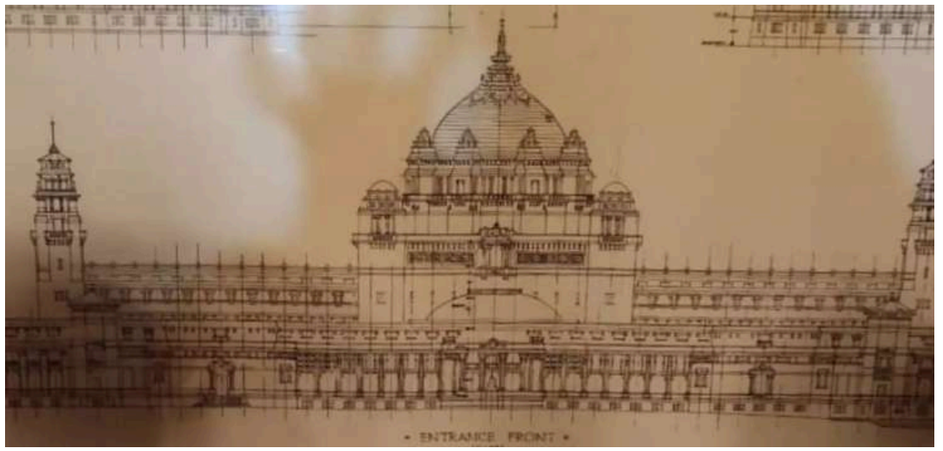
• Designed by Henry Vaughan Lanchester, a renowned Edwardian architect, the palace integrates many Indian architectural styles still
• This magnificent edifice with 347 rooms is one of world's largest private residences.
• Converted to a hotel in 1978, the place was thrown open to the public at large as a residential hotel. The private museum attached to the palace contains a special exhibition on Maharaja Maid Singh and making of Umaid Bhawan Palace.
• The Life Style Gallery recalls life in the palace in the 40's and 50's with displays of ART Deco furniture, dinning and writing sets and a special Sporting Section.



NORTH ELEVATION



SOUTH ELEVATION



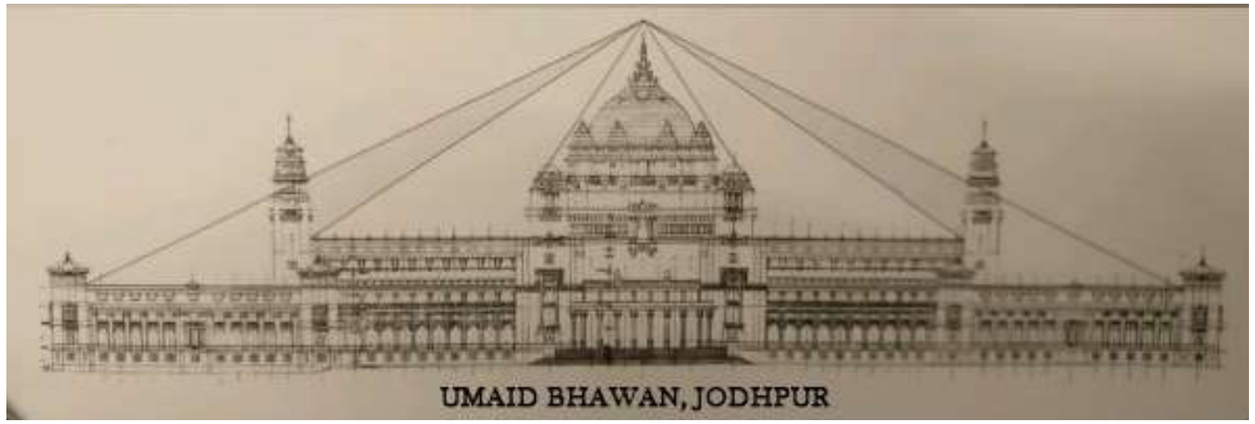
EAST ELEVATION

PSEUDO-VERNACULAR ARCHITECTURE

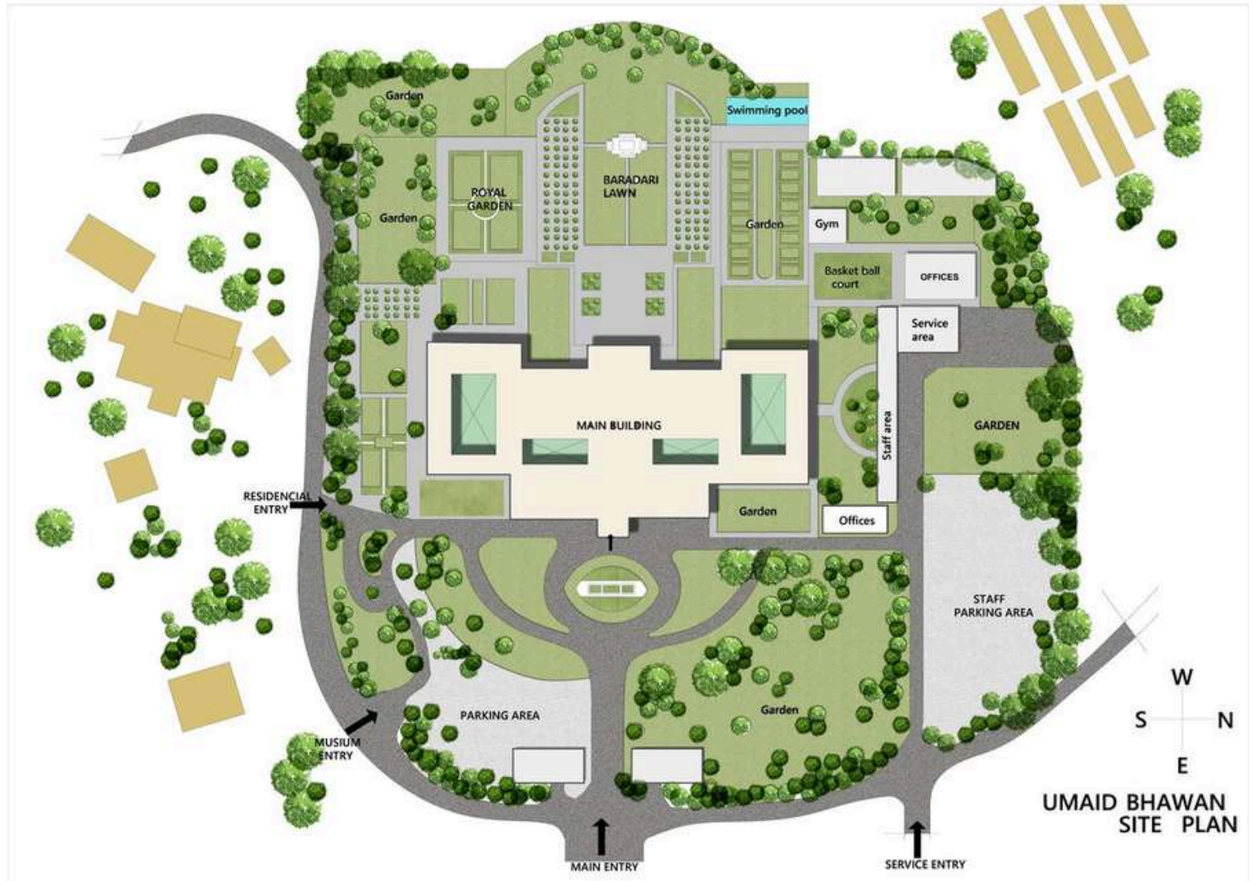
UMAID BHAWAN PALACE, JODHPUR

PLANNING DETAILS

- The palace is in its symmetrical planning, and integration of Indian architectural styles, and the deeply imbued in Rajput tradition.
- Like medieval Rajput palaces it is divided into two sections the zenan or ladies wing and the mardana, male wing both with separate entrances, the former with an enclosed garden and a hidden passages to the swimming pool and public rooms. The ladies could watch ceremonies, durbars and parties, unobserved. The durbar and banquet halls the auditorium have galleries on the first floor were screens were draped for the zenan.



AERIAL VIEW



SITE PLAN

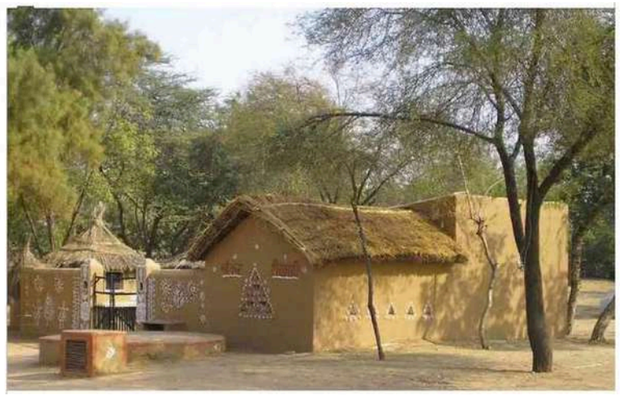
MODERN VERNACULAR ARCHITECTURE

JAWAHAR KALA KENDRA

'THE ARCHITECTURAL EXPRESSION

Charles Correa's signature is vividly present in the meaningful and purposeful expression of the interiors. The interplay of natural and ambient light, shadow, and color of the material palette portray visual poetry which evokes the quintessence of the Kala Kendra. The flow of spaces and functions is immaculate and well constructed.
The partially open roofs of the square have been adorned with 'pergola' structures providing ample scope for the infusion of light and shade at various times of the day. The 'pergola' structures along with the various cutouts employed in the design allow for a narrative of patterns of light and shadow which adds to the aesthetic value of the Kala Kendra. Such a narrative also invokes a sense of appreciation for the various distinct architectural expressions of each of the squares. Local materials and inspirations have been readily used at each design opportunity. Locally available wooden bamboo sticks have been used to construct the entire space frame. The spans between beams were designed keeping in mind the use of wooden bamboo sticks.

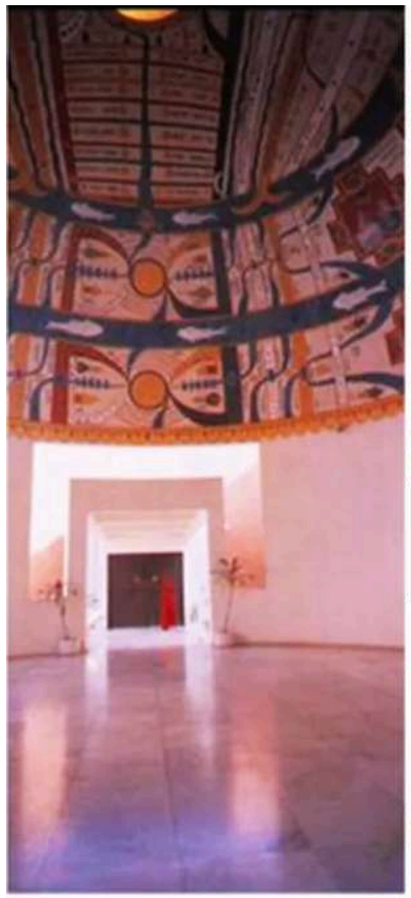
SHILPGRAM COMPLEX:



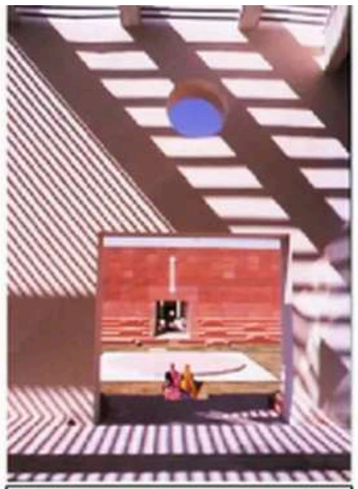
RURAL SETTING DEPICTION

ABOUT THE KALA KENDRA

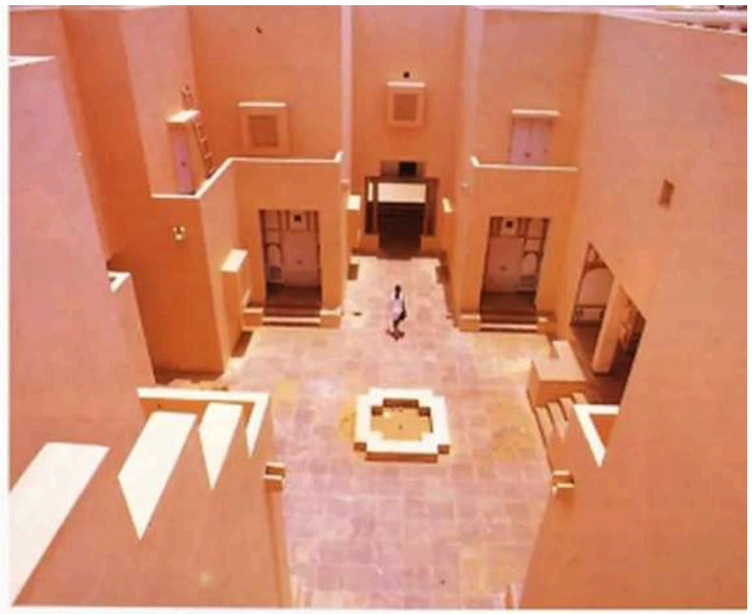
The statuesque architectural marvel was envisioned and brought to fruition by renowned architect Charles Correa. Known for his distinct architectural vocabulary and fondness of traditional architecture flavors, the architectural design, and planning of Jawahar Kala Kendra is yet another showcase of Charles Correa's exemplary architectural finesse. The center was instituted by the state government for the preservation and promotion of the cultural and spiritual values of India and also for the exhibition of the rich craft heritage of India. The center also serves as a homage to one of India's greatest leaders and political activist Jawaharlal Nehru.



This is an interior shot that shows a ceiling which depicts rivers, mountains, animals and vegetation in a traditional Indian cosmology. It shows how well Correa has been able to meld the traditional with the contemporary.

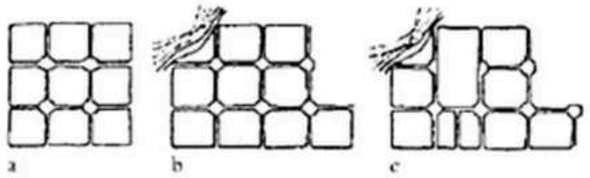


this picture shows a view from inside the art center into a central courtyard, something Correa did very well in many of his designs.

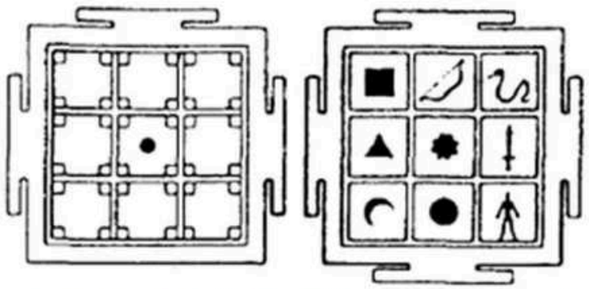


REFERENCES- HTTPS://WWW.RE-THINKINGTHEFUTURE.COM/CASE-STUDIES/A3416-JAWAHAR-KALA-KENDRA-BY-CHARLES-CORREA-REFLECTION-OF-THE-CITYS-ARCHITECTURE/

JAWAHAR KALA KENDRA

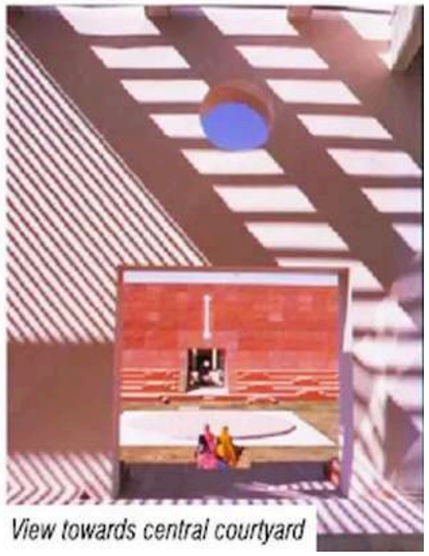


The plan of Jaipur city based on the nine square Yantra in which one square is displaced and two central squares combined.



Ground plan of the Nāt-Mandir in Konarak (left), corresponding to the divisions of the Yantra of the Nine Planets or *Navagraha* (right). The symbols of the yantra are: square = Venus; bow = Mercury; snake = ketu; triangle = Mars; lotus = the sun, at the centre; sword = Rahu; crescent = the moon; circle = Jupiter; man = Saturn. Based on the Mandala Sarvasva.

Aerial view of Jawahar Kala Kendra

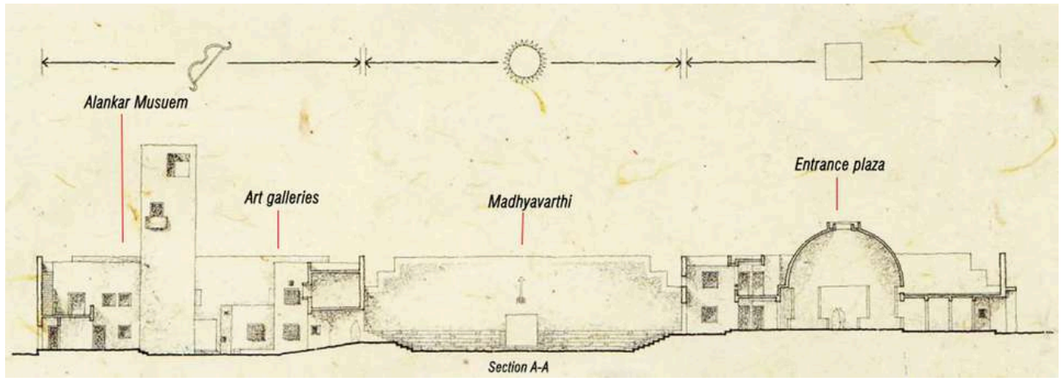


View towards central courtyard

'MADHYAVARTI' – OPEN-AIR THEATRE

he open theatre acts as the anchor point of the visual cue from all the surrounding squares. Often acting as the platform for various art, cultural and literary performances, the open theatre is addressed with stepped platforms which are often used as a medium of seating. The lofty surrounding walls and the seating are clad with locally sourced sandstone. The open-air theatre is well connected to all the surrounding squares.

PLAN SHOWING DIVISION OF SPACES



SECTIONAL VIEW OF THE KALA KENDRA

REFERENCES- HTTPS://WWW.RE-THINKINGTHEFUTURE.COM/CASE-STUDIES/A3416-JAWAHAR-KALA-KENDRA-BY-CHARLES-CORREA-REFLECTION-OF-THE-CITYS-ARCHITECTURE/

VERNACULAR ARCHITECTURAL ELEMENTS

VERNACULAR ARCHITECTURAL ELEMENTS

Vernacular architecture across Rajasthan and North India evolved through centuries of empirical knowledge, responding directly to climate, materials, social structure, and lifestyle. Certain architectural elements recur consistently due to their proven functional efficiency. These elements form the core vocabulary of vernacular buildings and are later either superimposed decoratively in pseudo-vernacular or reinterpreted functionally in modern vernacular architecture.

KEY VERNACULAR ELEMENTS

- Courtyard (Chowk): Central open-to-sky space acting as climatic, social, and spatial core
- Jharokha: Projecting enclosed balcony enabling ventilation, shading, and privacy
- Jaali: Perforated stone or lattice screens filtering light, air, and heat
- Chajja: Deep projecting sunshades protecting openings from solar gain
- Chhatri: Raised pavilion providing shade and symbolic skyline articulation
- Thick masonry walls: High thermal mass ensuring time lag and indoor comfort
- Introverted planning: Inward-facing spaces ensuring privacy and climatic control

EVOLUTION OF VERNACULAR ELEMENTS ACROSS TYPOLOGIES

Vernacular Architecture

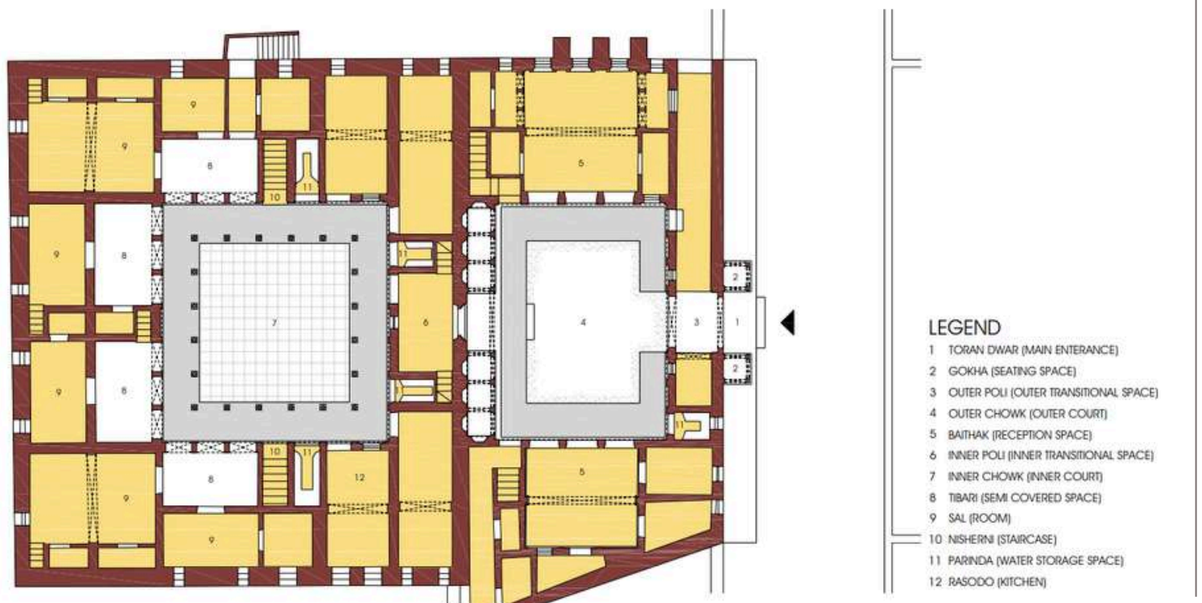
- Elements are integral and functional, not decorative
- Courtyards regulate microclimate and daily life
- Jharokhas and jaalis control heat, glare, wind, and privacy
- Planning is climate-driven and socially structured

Pseudo-Vernacular Architecture

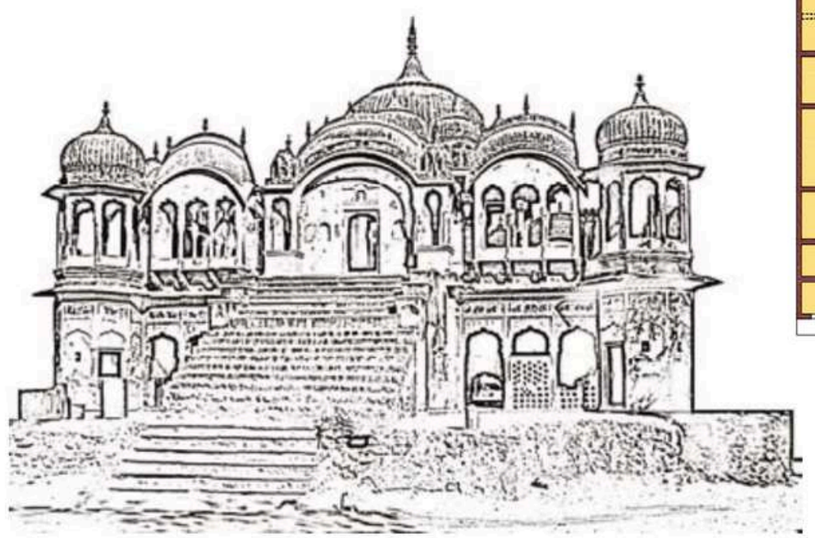
- Vernacular elements are superimposed visually
- Courtyards become ornamental or ceremonial
- Jharokhas, arches, and chhatris act as stylistic symbols
- Climatic logic is often secondary to image-making

Modern Architecture with Adapted Vernacular Elements

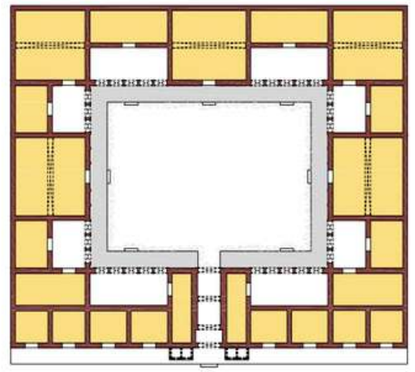
- Vernacular elements are reinterpreted, not replicated
- Courtyards function as climatic moderators in modern programs
- Jaalis become shading devices, screens, or facades
- Traditional principles integrated with modern materials and technology



Plan of a typical haveli



Single Chhatri with rooms below



Plan of a typical Dharamshala

Haveli

Chhatri

VERNACULAR ARCHITECTURAL ELEMENTS

COURTYARD AS A CORE VERNACULAR ELEMENT

COURTYARD AS AN INTEGRAL VERNACULAR ELEMENT

The courtyard is one of the most fundamental and universal elements of vernacular architecture in hot-dry regions. It operates simultaneously as a climatic regulator, social space, circulation node, and symbolic centre. Rather than being an incidental open space, the courtyard governs the entire spatial hierarchy and environmental performance of the building.

FUNCTIONAL ROLE OF COURTYARDS IN VERNACULAR BUILDINGS

Climatic Role

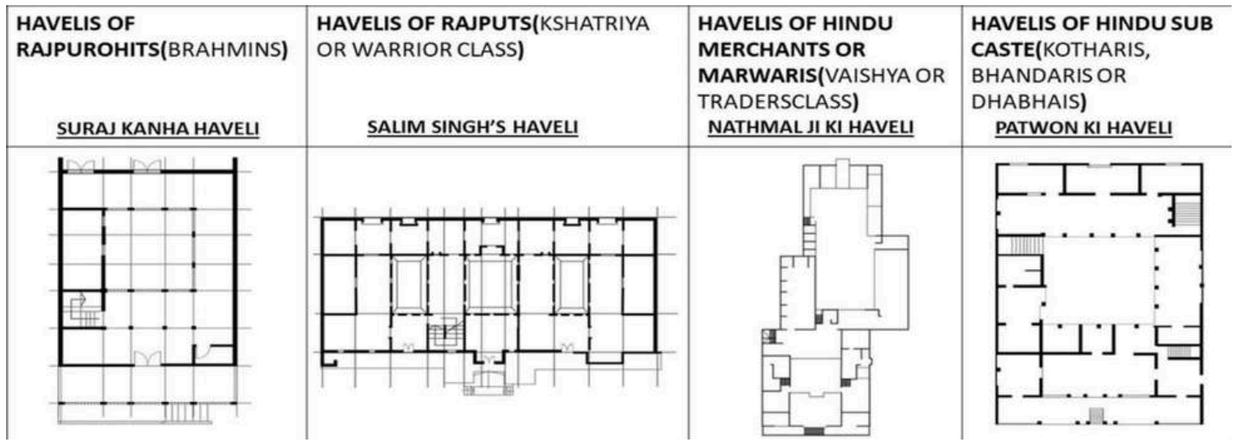
- Acts as a thermal regulator by inducing stack effect and cross-ventilation
- Hot air rises and escapes, drawing cooler air into surrounding rooms
- Night-time cooling of courtyard surfaces improves indoor comfort
- Creates a microclimate cooler than the external environment

Spatial Role

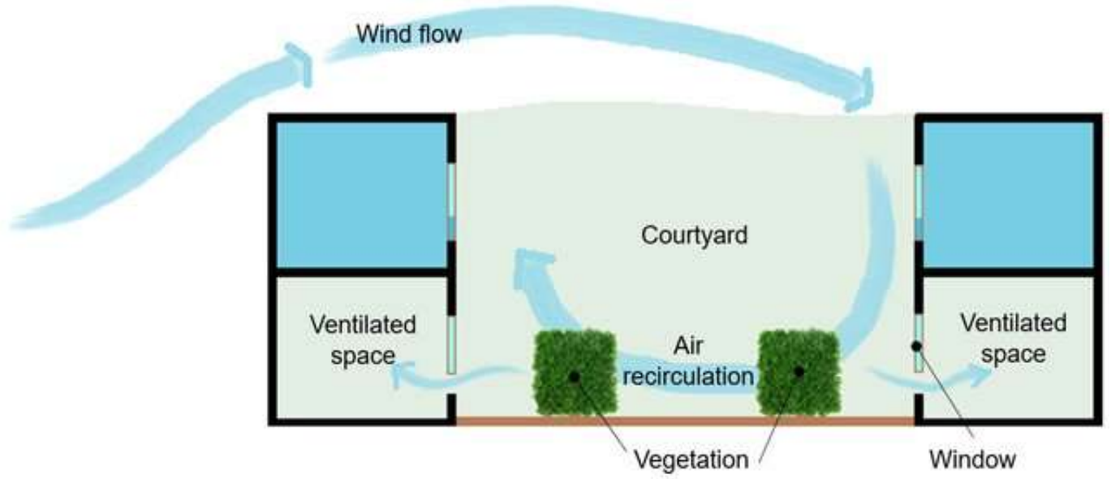
- Organizes rooms around a central void
- Establishes hierarchy from public to private spaces
- Serves as visual anchor in plan and section
- Allows daylight penetration into deep interiors

Social & Cultural Role

- Space for daily activities, rituals, and seasonal use
- Gendered and hierarchical use in traditional households
- Acts as a family interaction zone while maintaining privacy from street



COURTYARD AS A COMMON FEATURE IN VARIOUS HAVELI TYPOLOGIES



COURTYARD: VERNACULAR → PSEUDO → MODERN

In Vernacular Buildings

- Central, functional, and unavoidable
- Determines planning, proportions, and movement
- Integrated with verandahs, colonnades, and rooms

In Pseudo-Vernacular Buildings

- Courtyard retained as formal or symbolic space
- Often oversized or decorative
- Environmental performance may be secondary

In Modern Vernacular Architecture

- Courtyard reinterpreted as climatic device
- Used for light wells, ventilation shafts, or social spill-outs
- Integrated with modern circulation and programmatic needs

WHY COURTYARD REMAINS RELEVANT TODAY

The courtyard remains one of the most sustainable passive design strategies, offering:

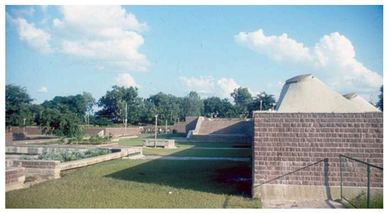
- Reduced energy consumption
- Enhanced thermal comfort
- Cultural continuity
- Flexible spatial use

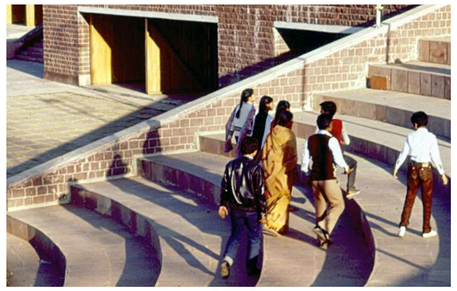
Its continued reinterpretation proves that vernacular wisdom is not outdated but adaptable to contemporary architecture.

CASE STUDY

BHARAT BHAVAN

ARCHITECT: CHARLES CORREA
LOCATION: BHOPAL
YEAR: 1982
TYPE: MULTI-ARTS CULTURAL COMPLEX

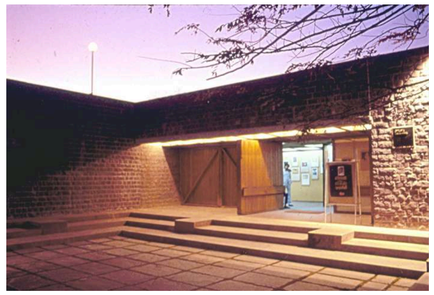


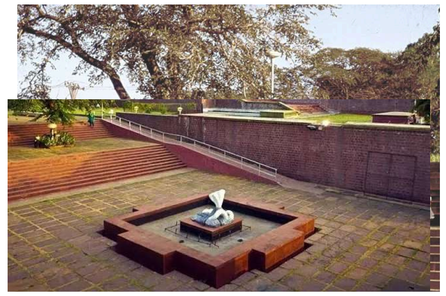


FUNCTIONAL CHARACTERISTICS

STANDARD AREA REQUIREMENTS
APPROXIMATE BUILT AREA: ~10,000–12,000 SQM
SPACES INCLUDE:
- ART GALLERIES
- TRIBAL ART MUSEUM
- THEATRE SPACES (INDOOR + OPEN AIR)
- LIBRARY AND ARCHIVES
- WORKSHOP STUDIOS
- AMPHITHEATRE
- ADMINISTRATIVE BLOCK
- CAFÉ AND PUBLIC INTERACTION SPACES

AREAS ARE DISTRIBUTED THROUGH MULTIPLE TERRACES STEPPING TOWARDS THE LAKE, CREATING A HIERARCHY OF PUBLIC → SEMI-PUBLIC → PRIVATE SPACES.





DESIGN INTERVENTIONS

ELEMENTS
- USE OF COURTYARDS, TERRACES AND PLAZAS.
- VISUAL CONNECTIONS MAINTAINED WITH THE LAKE.

STRUCTURES
- REINFORCED CONCRETE STRUCTURE INTEGRATED WITH EARTH-COVERED ROOFS.
- BUILDINGS APPEAR EMBEDDED IN LANDSCAPE.

MATERIALS
- EXPOSED CONCRETE
- LOCAL STONE PAVING
- BRICK MASONRY
- EARTH TONES MATCHING SURROUNDING ENVIRONMENT

SERVICES
- INTEGRATED DRAINAGE DUE TO SLOPING SITE.
- LIGHTING SYSTEMS FOR GALLERIES AND THEATRE.
- CLIMATE-RESPONSIVE PASSIVE COOLING STRATEGIES.

ACCESSIBILITY
- GRADUAL RAMPS AND STEPPED PATHWAYS CONNECT LEVELS.
- OPEN CIRCULATION ALLOWS FREE PUBLIC MOVEMENT THROUGH COMPLEX.

ZONING

CULTURAL INTERPRETATION CENTRE
- ROOPANKAR MUSEUM – HOUSES TRIBAL, FOLK AND CONTEMPORARY ART COLLECTIONS.
- INTERPRETATION SPACES EXPLAINING INDIAN FOLK TRADITIONS AND ARTISTIC PRACTICES.
- GALLERIES DESIGNED WITH CONTROLLED LIGHT AND FLEXIBLE DISPLAY SYSTEMS.

SOUVENIR SHOPS
- SMALL RETAIL SPACES NEAR ENTRANCE AND PUBLIC CIRCULATION AREAS.
- SELL HANDICRAFTS, TRIBAL ARTEFACTS AND ART PUBLICATIONS.
- ENCOURAGE INTERACTION BETWEEN ARTISTS AND VISITORS.

LOCAL HAAT / CRAFT BAZAAR / MULTIPURPOSE WORKSHOPS
- WORKSHOP STUDIOS FOR ARTISTS-IN-RESIDENCE.
- DEMONSTRATION SPACES FOR TRADITIONAL CRAFT PRACTICES.
- SPACES ALLOW TEMPORARY CRAFT BAZAARS AND EXHIBITIONS.

EXHIBITION SPACES / OPEN ART GALLERY / OAT
- MULTIPLE ART GALLERIES ARRANGED ALONG TERRACES.
- OUTDOOR SCULPTURE COURTS AND OPEN DISPLAY AREAS.
- OPEN AIR THEATRE (OAT) OVERLOOKING THE LAKE USED FOR PERFORMANCES AND FESTIVALS.

RESTAURANT / CULTURAL CAFÉ
- CAFÉ LOCATED IN PUBLIC ZONE FOR SOCIAL INTERACTION AND CULTURAL DIALOGUE.
- SERVES VISITORS, ARTISTS AND PERFORMERS.
- POSITIONED WITH VIEWS TOWARDS THE LAKE LANDSCAPE.

ADMINISTRATIVE BLOCK
- OFFICE SPACES FOR MANAGEMENT AND CURATORIAL STAFF.
- INCLUDES MEETING ROOMS AND ARCHIVES.
- LOCATED IN CONTROLLED ACCESS ZONES AWAY FROM PUBLIC CROWD.

CIRCULATION
- CIRCULATION BASED ON TERRACED PATHWAYS AND RAMPS.
- SEQUENTIAL MOVEMENT CONNECTING COURTYARDS, GALLERIES AND PERFORMANCE SPACES.
- MOVEMENT EXPERIENCE INSPIRED BY TRADITIONAL INDIAN STREETS AND GHATS.

LIGHTING
- COMBINATION OF NATURAL AND ARTIFICIAL LIGHTING.
- SKYLIGHTS AND LIGHT COURTS BRING DIFFUSED DAYLIGHT INTO GALLERIES.
- ARTIFICIAL LIGHTING USED TO CONTROL ILLUMINATION FOR ARTWORKS.

ARCHITECTURAL DESIGN V

CONCEPT SHEET

REFERENCES

- https://bharatbhawan.org/
- https://www.re-thinkingthefuture.com/architectural-community/a10365-bharat-bhawan-the-cultural-haven-of-bhopal/

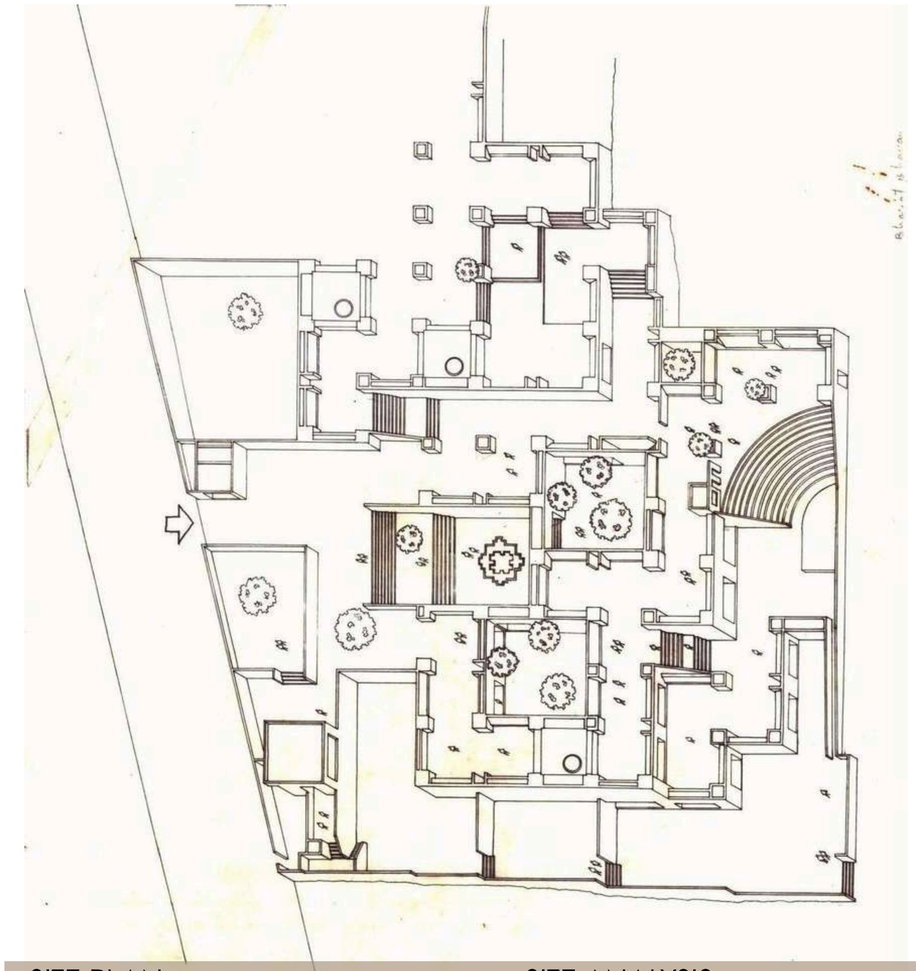
SIGNATURE

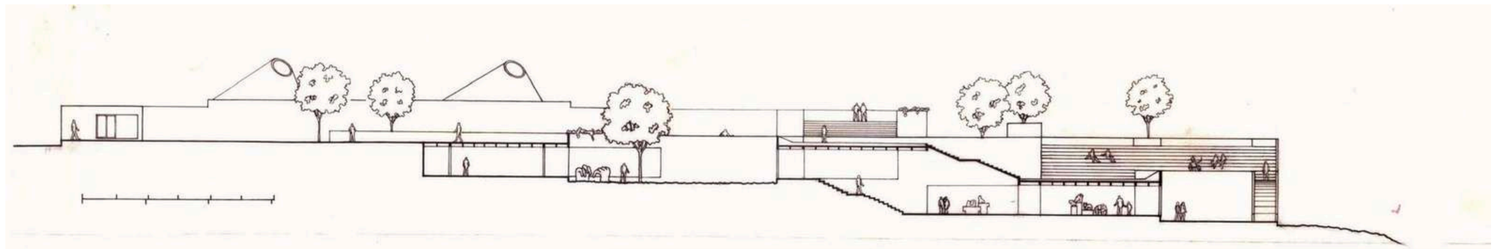
SHEET NO :
SCALE :
DATE OF INTRO: 12/03/26
DATE OF SUB : 16/03/26
ALL DIMENSIONS IN MM

NAME: SABHYA AGARWAL
ID: 2023UAR1491
SEM 6
DEPARTMENT OF ARCHITECTURE & PLANNING
MNIT JAIPUR

CASE STUDY

BHARAT BHAVAN





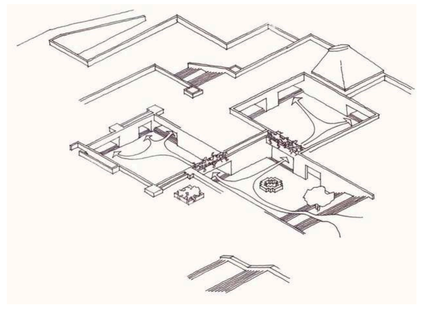
S: STRONG INTEGRATION WITH LANDSCAPE AND FLEXIBLE SPACES SUPPORTING DIVERSE CULTURAL ACTIVITIES.
W: COMPLEX TERRACED CIRCULATION MAY CONFUSE VISITORS AND REQUIRES HIGHER MAINTENANCE.
O: OPPORTUNITY TO HOST MAJOR CULTURAL FESTIVALS AND PROMOTE TRIBAL AND FOLK ARTS.
T: ENVIRONMENTAL PRESSURE NEAR THE LAKE AND INCREASING TOURIST LOAD MAY IMPACT THE SITE.

SITE ZONING

UPPER LEVEL
- ENTRANCE PLAZA
- ADMINISTRATIVE BLOCK
- LIBRARY AND ARCHIVES

MIDDLE LEVEL
- ART GALLERIES
- MUSEUMS
- WORKSHOP STUDIOS

LOWER LEVEL
- AMPHITHEATRE
- OUTDOOR PERFORMANCE SPACES
- PUBLIC GATHERING AREAS



SITE ZONING

UPPER LEVEL
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- MUSEUMS
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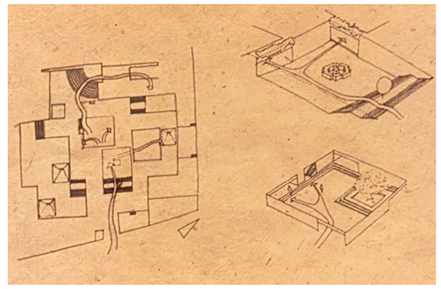
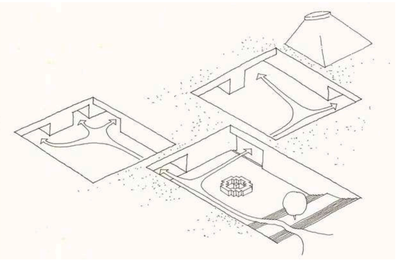
LOWER LEVEL
- AMPHITHEATRE
- OUTDOOR PERFORMANCE SPACES
- PUBLIC GATHERING AREAS





SITE PLAN

KEY PLANNING FEATURES:
- STEPPED TERRACES FOLLOWING NATURAL CONTOUR.
- SERIES OF COURTYARDS ACTING AS SOCIAL NODES.
- OPEN-AIR THEATRE PLACED AT LOWEST LEVEL FACING LAKE.
- ENTRY PLAZA CONNECTING ALL MAJOR FUNCTIONS.

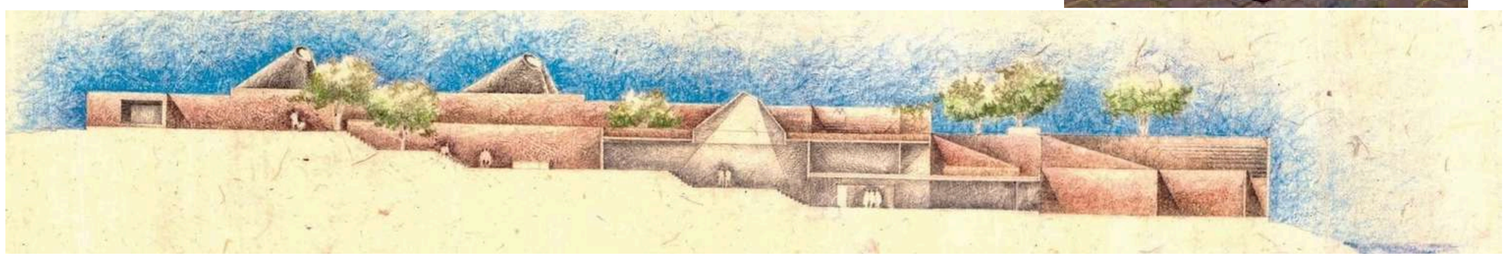
SITE ANALYSIS

SITE LOCATED NEAR UPPER LAKE OF BHOPAL.
KEY CHARACTERISTICS:
- SLOPING TERRAIN DESCENDING TOWARDS THE LAKE
- SCENIC VIEWS TOWARDS WATER BODY
- CULTURAL CONTEXT OF HISTORIC CITY
- WARM CLIMATE REQUIRING SHADED OUTDOOR SPACES

DESIGN RESPONDS THROUGH TERRACES, COURTYARDS AND EARTH-SHELTERED SPACES.

INFERENCES

- ARCHITECTURE SHOULD RESPOND TO SITE TOPOGRAPHY INSTEAD OF ALTERING IT.
- CULTURAL COMPLEXES BENEFIT FROM FLEXIBLE AND INTERACTIVE SPACES.
- INTEGRATION OF TRADITIONAL SPATIAL CONCEPTS WITH MODERN ARCHITECTURE ENHANCES IDENTITY.
- LANDSCAPE AND BUILT FORM SHOULD WORK AS A SINGLE COHESIVE SYSTEM.



ARCHITECTURAL DESIGN V

CONCEPT SHEET

REFERENCES

- https://bharatbhawan.org/
- https://www.re-thinkingthefuture.com/architectural-community/a10365-bharat-bhawan-the-cultural-haven-of-bhopal/

SIGNATURE

SHEET NO :
SCALE :
DATE OF INTRO: 12/03/26
DATE OF SUB : 16/03/26
ALL DIMENSIONS IN MM

NAME: SABHYA AGARWAL
ID: 2023UAR1491
SEM 6
DEPARTMENT OF ARCHITECTURE & PLANNING
MNIT JAIPUR

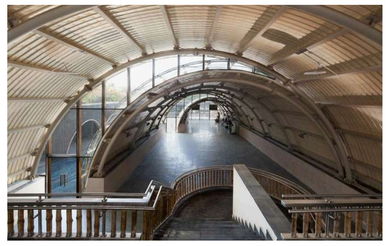
CASE STUDY

DELHI HAAT, JANAKPURI

ARCHITECT: ARCHOHM CONSULTS
LOCATION: NEW DELHI
CLIENT: DELHI TOURISM & TRANSPORTATION DEVELOPMENT CORPORATION (DTTDC)
SITE AREA: ~16,000 M²
YEAR: 2014
THE PROJECT RECREATES THE CONCEPT OF A TRADITIONAL INDIAN HAAT (OPEN CRAFT MARKET) IN A CONTEMPORARY URBAN ENVIRONMENT TO PROMOTE REGIONAL CRAFTS, FOOD AND CULTURAL ACTIVITIES.

SITE PLAN

- BAZAAR CLUSTERS ARRANGED AROUND OPEN COURTYARDS AND PLAZAS.
- EXHIBITION HALL AND AMPHITHEATRE PLACED AS MAJOR ACTIVITY NODES.
- GREEN PATCHES AND LANDSCAPE ELEMENTS CONNECT THE BUILT STRUCTURES.



DESIGN INTERVENTIONS

ELEMENTS
- COURTYARDS, PLAZAS AND SHADED BAZAAR STREETS.
- STREET FURNITURE AND SCULPTURES REFLECTING CRAFT CULTURE.

STRUCTURES
- MOSTLY SINGLE-STOREY STRUCTURES FORMING SMALL SHOP CLUSTERS.
- TENSILE CANOPY ROOFS USED FOR SHADING AND WEATHER PROTECTION.

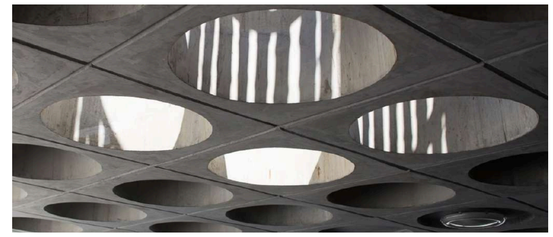
MATERIALS
- RED AGRA STONE
- KOTA STONE PAVING
- SLATE AND DELHI QUARTZ STONE MASONRY
- BAMBOO SCREENS AND LANDSCAPE ELEMENTS
- STEEL AND TENSILE FABRIC STRUCTURES

SERVICES
- ELECTRICAL INFRASTRUCTURE FOR EXHIBITIONS AND PERFORMANCES.
- WASTE MANAGEMENT AND SANITATION FACILITIES.
- EVENT INFRASTRUCTURE FOR FESTIVALS AND FAIRS.

ACCESSIBILITY
- WIDE PEDESTRIAN PATHWAYS AND BARRIER-FREE MOVEMENT.
- SEPARATE SERVICE ENTRY FOR GOODS AND MAINTENANCE.
- VEHICULAR TRAFFIC RESTRICTED INSIDE THE COMPLEX.

FUNCTIONAL CHARACTERISTICS

STANDARD AREA REQUIREMENTS
- TOTAL SITE AREA APPROX. 16,000 SQ M.
- AROUND 100 CRAFT STALLS, 74 OPEN PLATFORM SHOPS, AND 46 AIR-CONDITIONED SHOPS.
- EXHIBITION HALL (~960 SQ M) FOR EVENTS, SEMINARS AND EXHIBITIONS.
- FOOD COURTS, PERFORMANCE AREAS AND LANDSCAPED PUBLIC SPACES.



VISUAL CHARACTER

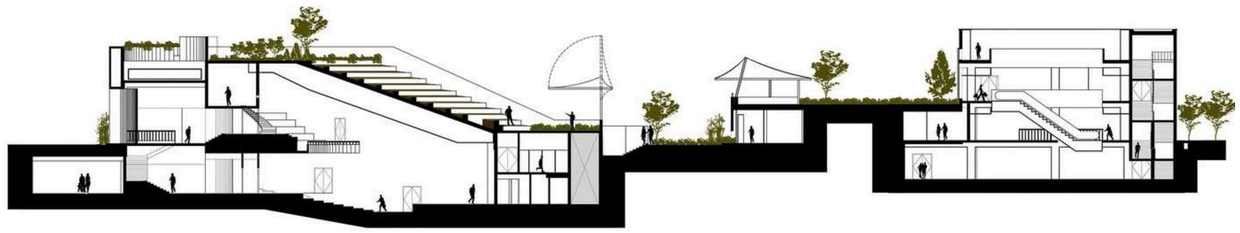
- DESIGN INSPIRED BY TRADITIONAL INDIAN VILLAGE MARKET (HAAT).
- HUMAN-SCALE BUILT FORMS WITH COURTYARDS AND OPEN SPACES.
- LANDSCAPE AND MATERIALS CREATE A CULTURAL ATMOSPHERE.

ARCHITECTURAL DESIGN V	CONCEPT SHEET	REFERENCES • https://www.archdaily.com/777641/dilli-haat-archohm-consults • https://www.researchgate.net/publication/328407091_An_account_of_critical_regionalism_in_diverse_building_types_in_postcolonial_Indian_architecture/figures?lo=1&utm_source=google&utm_medium=organic	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 12/03/26 DATE OF SUB : 16/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

CASE STUDY

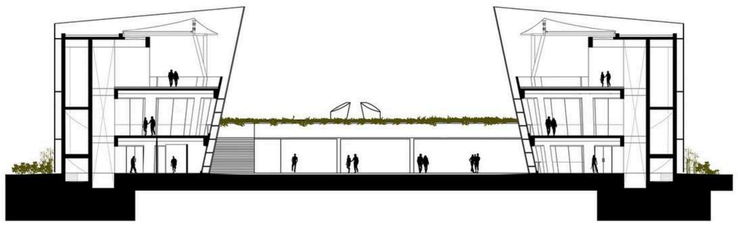
DELHI HAAT, JANAKPURI

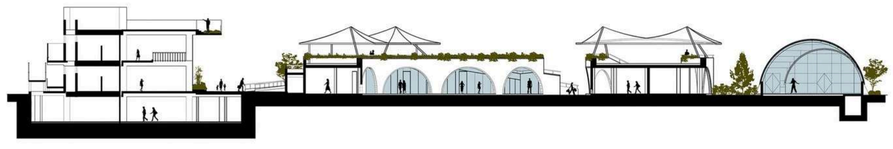
S (STRENGTH): WELL-ORGANIZED CRAFT BAZAAR LAYOUT WITH COURTYARDS AND SHADED PEDESTRIAN STREETS THAT CREATE A VIBRANT CULTURAL MARKETPLACE EXPERIENCE.
W (WEAKNESS): LARGE OPEN PLAZAS AND TEMPORARY STALLS REDUCE SPATIAL ENCLOSURE AND MAY CAUSE UNDERUTILIZED AREAS DURING NON-EVENT DAYS.
O (OPPORTUNITY): CAN EVOLVE INTO A MAJOR CULTURAL TOURISM HUB THROUGH CRAFT FESTIVALS, EXHIBITIONS AND COMMUNITY CULTURAL EVENTS.
T (THREAT): INCREASING COMMERCIALIZATION AND CROWD PRESSURE MAY DILUTE THE AUTHENTICITY OF TRADITIONAL CRAFT AND ARTISAN ACTIVITIES.

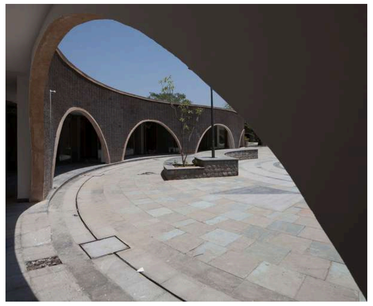


SITE ANALYSIS

- LOCATED IN JANAKPURI DISTRICT CENTRE WITH DENSE RESIDENTIAL SURROUNDINGS.
- DESIGNED TO SERVE LOCAL RESIDENTS AND TOURISTS.
- MULTIPLE ACCESS POINTS IMPROVE PEDESTRIAN AND VEHICULAR CONNECTIVITY.







INFERENCES

- CULTURAL MARKETS SHOULD INTEGRATE OPEN PUBLIC SPACES WITH COMMERCIAL ACTIVITY.
- PEDESTRIAN-FRIENDLY PLANNING ENHANCES VISITOR EXPERIENCE.
- LOCAL MATERIALS AND CRAFT ELEMENTS STRENGTHEN REGIONAL ARCHITECTURAL IDENTITY.
- MIXED-USE CULTURAL SPACES INCREASE URBAN SOCIAL INTERACTION.

ZONING

CULTURAL INTERPRETATION CENTRE
- EXHIBITION HALLS AND CULTURAL DISPLAY AREAS.
- SPACES USED FOR ART SHOWS, CRAFT DEMONSTRATIONS AND SEMINARS.
- ACTS AS A LEARNING SPACE FOR VISITORS ABOUT INDIAN HANDICRAFTS.

SOUVENIR SHOPS
- PERMANENT CRAFT STALLS SELLING TRADITIONAL HANDICRAFTS AND ARTEFACTS.
- AIR-CONDITIONED SHOPS FOR CURATED HANDICRAFT PRODUCTS.
- SUPPORTS DIRECT INTERACTION BETWEEN ARTISANS AND BUYERS.

LOCAL HAAT / CRAFT BAZAAR / MULTIPURPOSE WORKSHOPS
- AROUND 100 CRAFT STALLS ARRANGED IN CLUSTERS FORMING BAZAAR COURTS.
- WORKSHOPS FOR LIVE CRAFT MAKING AND ARTISAN DEMONSTRATIONS.
- FLEXIBLE SPACES FOR SEASONAL CRAFT MARKETS AND FAIRS.

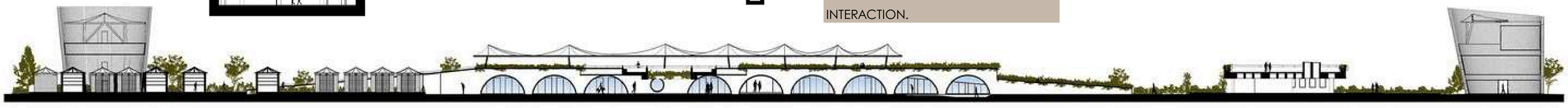
EXHIBITION SPACES / OPEN ART GALLERY / OAT
- LARGE EXPOSITION HALL FOR CULTURAL EVENTS AND EXHIBITIONS.
- OUTDOOR AMPHITHEATRE USED FOR MUSIC PERFORMANCES AND CULTURAL SHOWS.
- OPEN PLAZAS USED AS ART DISPLAY AND GATHERING SPACES.

RESTAURANT / CULTURAL CAFÉ
- FOOD COURT WITH REGIONAL INDIAN FOOD STALLS AND INTERNATIONAL CUISINES.
- OUTDOOR SEATING AREAS INTEGRATED WITH LANDSCAPE.
- PROVIDES A SOCIAL AND CULTURAL INTERACTION SPACE FOR VISITORS.

ADMINISTRATIVE BLOCK
- OFFICES FOR SITE MANAGEMENT AND EVENT COORDINATION.
- INCLUDES CONTROL ROOMS, STAFF AREAS AND MEETING ROOMS.
- LOCATED NEAR ENTRY FOR EASY OPERATIONAL ACCESS.

CIRCULATION
- PEDESTRIAN-ORIENTED CIRCULATION WITH VEHICLES RESTRICTED INSIDE THE COMPLEX.
- LINEAR PATHWAYS WITH SHOPS LOCATED ON BOTH SIDES.
- PAVED ALLEYS AND LANDSCAPED COURTS CREATE A VILLAGE-LIKE BAZAAR ENVIRONMENT.

LIGHTING
- COMBINATION OF NATURAL DAYLIGHT AND ARTIFICIAL LIGHTING.
- TENSILE CANOPY ROOFS ALLOW DIFFUSED LIGHT INTO SHOP AREAS.
- DECORATIVE LIGHTING USED FOR NIGHT MARKETS AND CULTURAL EVENTS.



ARCHITECTURAL DESIGN V	CONCEPT SHEET	REFERENCES • https://www.archdaily.com/777641/dilli-haat-archohm-consults • https://www.researchgate.net/publication/328407091_An_account_of_critical_regionalism_in_diverse_building_types_in_postcolonial_Indian_architecture/figures?lo=1&utm_source=google&utm_medium=organic	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 12/03/26 DATE OF SUB : 16/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

CASE STUDY

RAO JODHA DESERT ROCK PARK, JODHPUR

LOCATION: JODHPUR
NEAR: MEHRANGARH FORT
AREA: ~70 HECTARES
ESTABLISHED: 2006
DEVELOPED BY: MEHRANGARH MUSEUM TRUST
PURPOSE: ECOLOGICAL RESTORATION + CULTURAL LANDSCAPE INTERPRETATION.

FUNCTIONAL CHARACTERISTICS

STANDARD AREA REQUIREMENT

- LARGE LANDSCAPE PARK (~70 HA) WITH VISITOR CENTRE, TRAILS, INTERPRETATION SPACES AND VIEWING AREAS.
- LOW BUILT FOOTPRINT TO PRESERVE NATURAL TERRAIN.

INTEGRATION OF OLD ELEMENTS

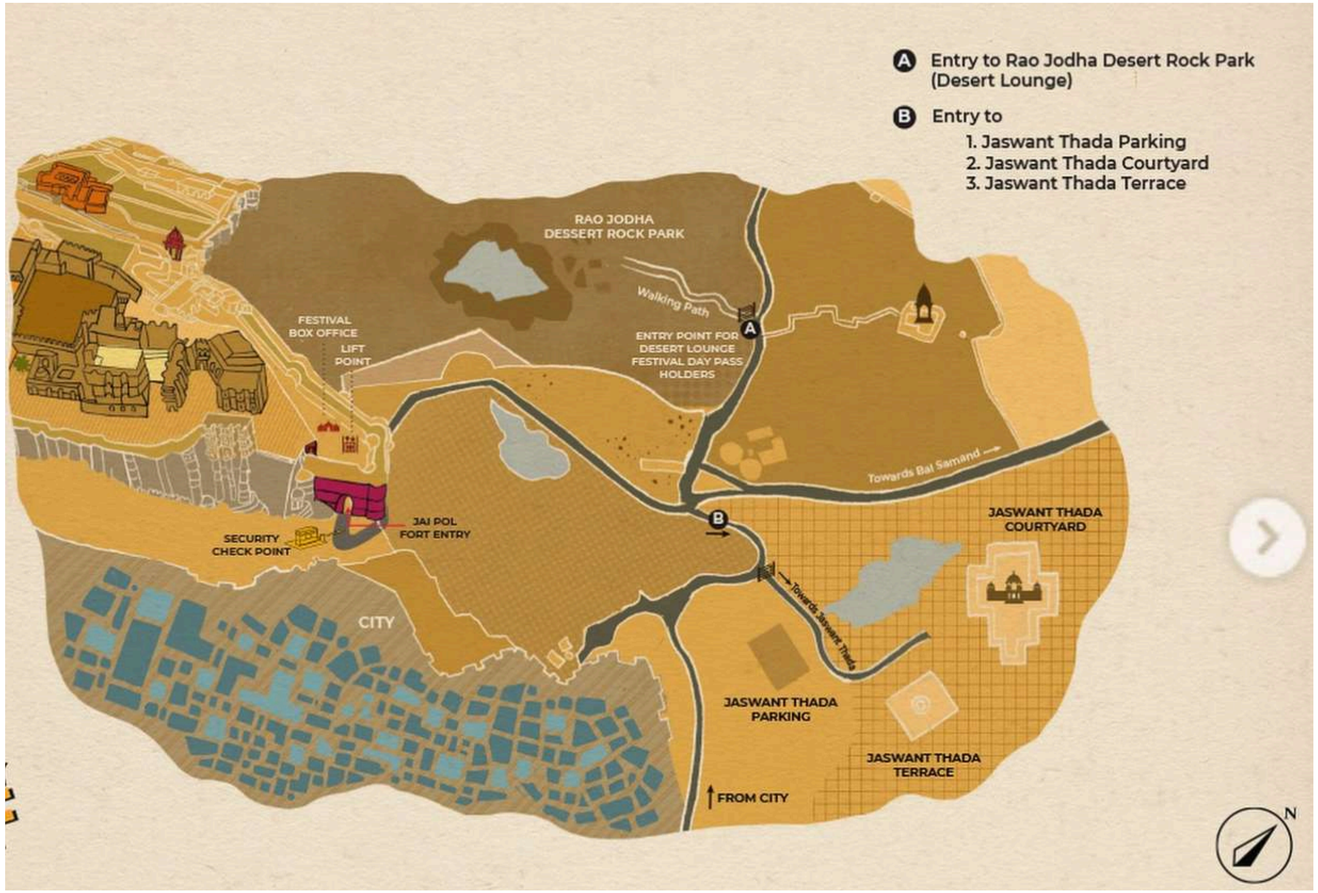
- NATURAL ROCK FORMATIONS PRESERVED.
- NATIVE DESERT VEGETATION REINTRODUCED.
- VISUAL CONNECTION MAINTAINED WITH MEHRANGARH FORT.

PARKING AREA

- VISITOR PARKING LOCATED OUTSIDE MAIN ECOLOGICAL ZONE.
- ENTRY TRANSITION FROM URBAN EDGE TO NATURAL LANDSCAPE.

OTHER SERVICES

- INFORMATION KIOSKS
- DRINKING WATER POINTS
- GUIDED TOUR FACILITIES



SITE PLAN

- ENTRY PLAZA AND VISITOR CENTRE AT BASE.
- TRAILS BRANCHING ACROSS HILL SLOPES.
- VIEWING POINTS FACING FORT AND CITY.

SITE ANALYSIS

- ROCKY TERRAIN WITH VOLCANIC ROCK FORMATIONS.
- ARID CLIMATE AND SPARSE VEGETATION.
- LOCATED AT FOOTHILLS OF MEHRANGARH FORT.

SITE ADAPTIVE REUSE

MAINTAIN AESTHETICS & VISUAL CHARACTER

- RESTORATION OF DAMAGED DESERT ECOSYSTEM.
- ARCHITECTURE KEPT MINIMAL AND LANDSCAPE-DOMINANT.

DESIGN INTERVENTIONS

ELEMENTS

- ECOLOGICAL RESTORATION WITH NATIVE DESERT PLANTS.

STRUCTURES

- SMALL STONE PAVILIONS AND VIEWING DECKS.

MATERIALS

- LOCAL SANDSTONE, STONE PAVING, MINIMAL STEEL.

SERVICES

- WATER HARVESTING AND IRRIGATION FOR PLANT RESTORATION.

ACCESSIBILITY

- MARKED TRAILS AND CONTROLLED VISITOR MOVEMENT.

EXISTING / BEFORE DEVELOPMENT

- AREA PREVIOUSLY DEGRADED DUE TO QUARRYING AND DUMPING.
- NATIVE VEGETATION LARGELY DESTROYED.

ARCHITECTURAL DESIGN V	CONCEPT SHEET	REFERENCES https://pubs.sciepub.com/aees/10/3/4/ https://www.academia.edu/121959171/Dying_to_Live_The_Making_of_a_Desert_Rock_Park	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 12/03/26 DATE OF SUB : 16/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

CASE STUDY

RAO JODHA DESERT ROCK PARK, JODHPUR

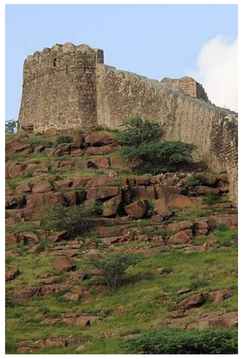
Area of the project
72 hectares

Location
Jodhpur city, Rajasthan

Altitude
302- 334 m

Annual rainfall
314mm

Temperature
4°C to 41°C



KEY SPECIES

Senegalia senegal

Anogeissus sericea var. nummularia

Barleria prionitis var, dicantha

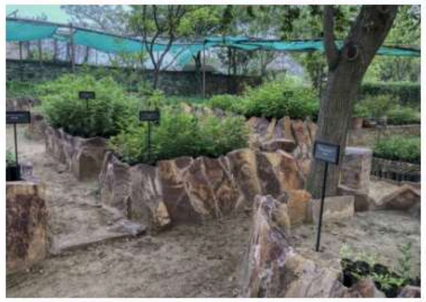
Capparis decidua

Cocculus pendulus

Ephedra foliata

EXISTING / BEFORE DEVELOPMENT

- AREA PREVIOUSLY DEGRADED DUE TO QUARRYING AND DUMPING.
- NATIVE VEGETATION LARGELY DESTROYED.



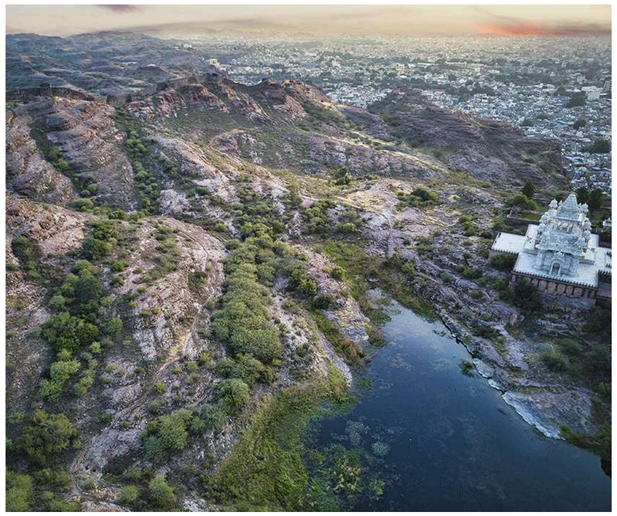
SWOT ANALYSIS

S: STRONG ECOLOGICAL RESTORATION AND LANDSCAPE INTEGRATION WITH HISTORIC FORT SETTING.

W: LIMITED BUILT INFRASTRUCTURE RESTRICTS LARGE VISITOR FACILITIES.

O: POTENTIAL FOR ECO-TOURISM, ENVIRONMENTAL EDUCATION AND CULTURAL EVENTS.

T: VISITOR PRESSURE AND CLIMATE EXTREMES MAY DAMAGE FRAGILE DESERT ECOSYSTEM.



INFERENCES

- LANDSCAPE SHOULD DOMINATE ARCHITECTURE IN HERITAGE SITES.
- USE LOCAL MATERIALS AND MINIMAL BUILT INTERVENTIONS.
- INTERPRET HERITAGE THROUGH WALKING TRAILS AND STORYTELLING SPACES.
- RESTORE NATIVE VEGETATION AND ECOLOGICAL SYSTEMS.
- MAINTAIN VISUAL CONNECTION WITH SURROUNDING HERITAGE STRUCTURES.

ZONING

CULTURAL INTERPRETATION CENTRE
- VISITOR CENTRE EXPLAINING DESERT ECOLOGY, GEOLOGY AND HISTORY.
- INTERPRETATION PANELS ALONG TRAILS.

SOUVENIR SHOPS
- SMALL RETAIL SPACE AT ENTRY PLAZA.
- LOCAL HANDICRAFTS AND BOOKS.

LOCAL HAAT / CRAFT BAZAAR / WORKSHOPS
- TEMPORARY CRAFT STALLS DURING FESTIVALS.
- SPACES FOR CULTURAL EVENTS AND DEMONSTRATIONS.

EXHIBITIONS / OPEN ART GALLERY / OAT
- OUTDOOR INTERPRETIVE ZONES.
- NATURAL AMPHITHEATRE SPACES WITHIN ROCK FORMATIONS.

RESTAURANT / CULTURAL CAFÉ
- SMALL CAFÉ NEAR ENTRANCE.
- VIEW TOWARDS FORT AND DESERT LANDSCAPE.

ADMIN BLOCK
- MANAGEMENT OFFICE AND STAFF AREAS.
- LOCATED NEAR VISITOR ENTRY.

CIRCULATION
- NETWORK OF STONE PATHWAYS AND HIKING TRAILS (~4 KM).
- MOVEMENT FOLLOWS NATURAL ROCK CONTOURS.
- MINIMAL DISTURBANCE TO TERRAIN.

LIGHTING
- MOSTLY DAYTIME USE – NATURAL LIGHTING.
- LIMITED LOW-IMPACT LIGHTING NEAR ENTRY AND PATHWAYS.

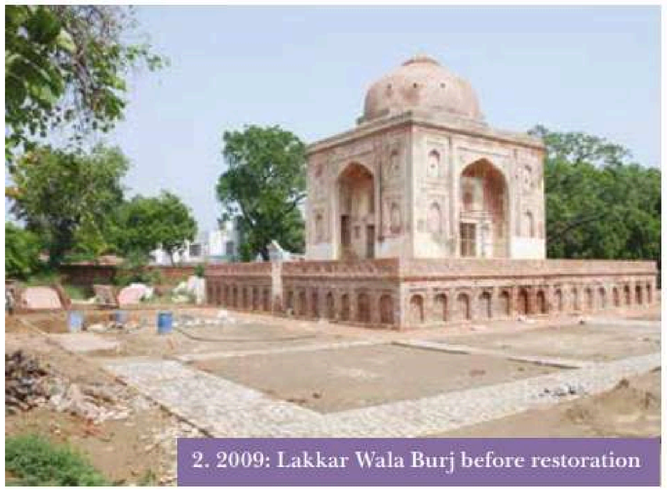
ARCHITECTURAL DESIGN V	CONCEPT SHEET	REFERENCES • https://pubs.sciepub.com/aees/10/3/4/ • https://www.academia.edu/121959171/Dying_to_Live_The_Making_of_a_Desert_Rock_Park	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 12/03/26 DATE OF SUB : 16/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

CASE STUDY

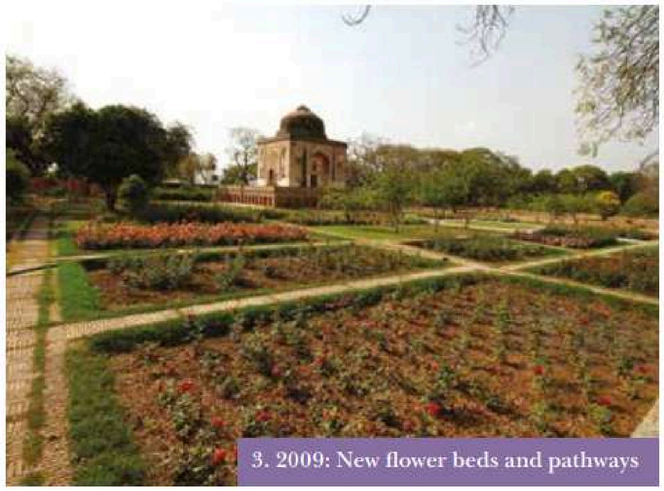
SUNDER NURSERY, DELHI

LOCATION: NEW DELHI
AREA: ~90 ACRES
REDEVELOPED: 2018
DEVELOPED BY: AGA KHAN TRUST FOR CULTURE WITH ASI & NDMC
HISTORIC MUGHAL GARDEN RESTORED AS HERITAGE PARK + CULTURAL LANDSCAPE.

IMAGES OF SITE DEVELOPMENT



2. 2009: Lakkar Wala Burj before restoration



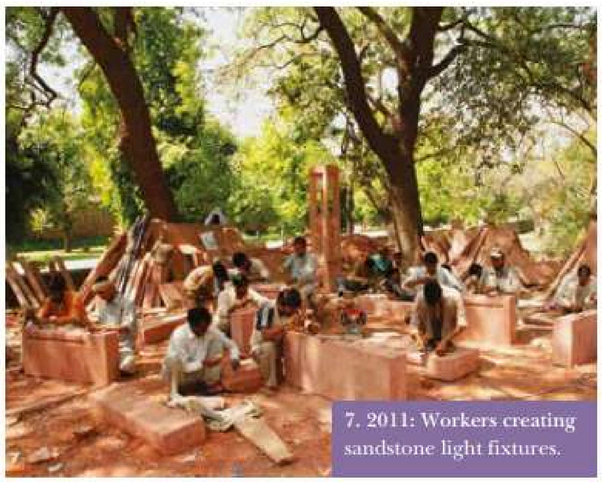
3. 2009: New flower beds and pathways

4. 2009: New flower beds and pathways

5. 2014: Aerial view over the central axis of site works

COMMUNITY INVOLVEMENT

6. 2009: Conserving the painting on the Lakkarwala Burj dome.



7. 2011: Workers creating sandstone light fixtures.

FUNCTIONAL CHARACTERISTICS

STANDARD AREA REQUIREMENT
- LARGE HERITAGE PARK (~90 ACRES).
- MIX OF GARDENS, MONUMENTS, CULTURAL SPACES AND VISITOR AMENITIES.

ZONING

CULTURAL INTERPRETATION CENTRE
- VISITOR CENTRE EXPLAINING MUGHAL GARDEN HISTORY & ECOLOGY.
- INTERPRETATION SIGNAGE ACROSS PARK.

SOUVENIR SHOPS
- SMALL RETAIL NEAR ENTRY.
- CRAFTS, BOOKS AND HERITAGE PRODUCTS.

LOCAL HAAT / CRAFT BAZAAR / WORKSHOPS
- TEMPORARY CRAFT MARKETS AND CULTURAL FAIRS.
- ARTISAN WORKSHOPS DURING EVENTS.

EXHIBITIONS / OPEN ART GALLERY / OAT
- HISTORIC MONUMENTS USED AS EXHIBITION SPACES.
- LAWNS USED FOR PERFORMANCES AND CULTURAL EVENTS.

RESTAURANT / CULTURAL CAFÉ
- CAFÉ AND FOOD KIOSKS NEAR VISITOR ZONE.
- OUTDOOR SEATING WITHIN GARDENS.

ADMIN BLOCK
- PARK MANAGEMENT OFFICE.
- MAINTENANCE AND CONSERVATION STAFF SPACES.

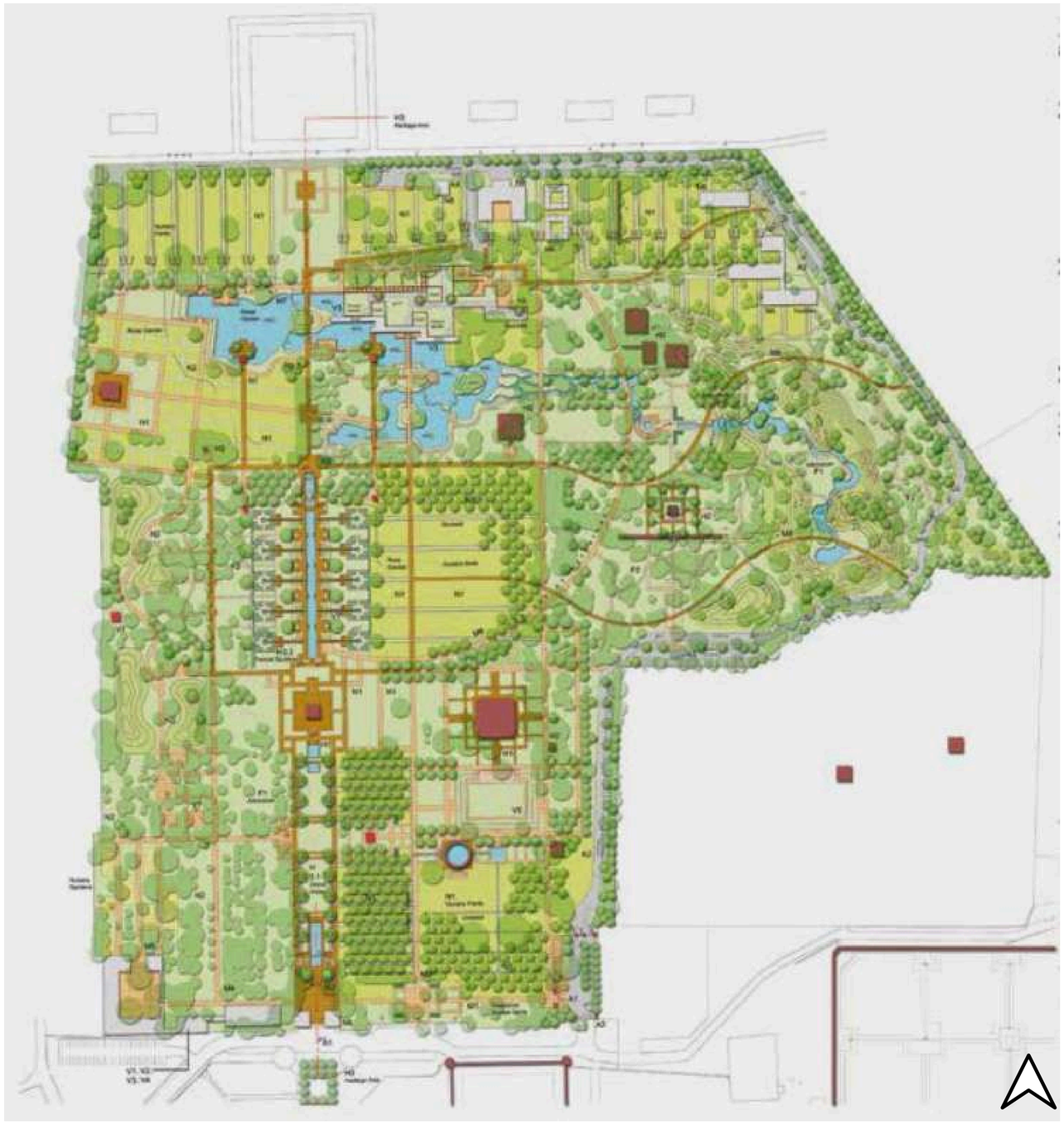
CIRCULATION
- NETWORK OF PEDESTRIAN PATHWAYS AND HERITAGE TRAILS.
- AXIAL GARDEN ROUTES INSPIRED BY MUGHAL PLANNING.
- BARRIER-FREE PATHWAYS.

LIGHTING
- NATURAL DAYLIGHT DOMINANT.
- SOFT LANDSCAPE LIGHTING FOR MONUMENTS AND PATHWAYS.

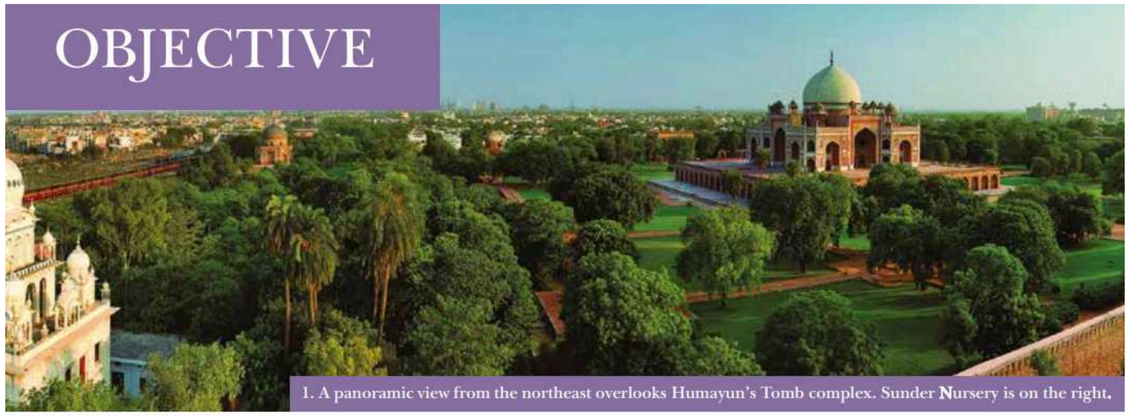
ARCHITECTURAL DESIGN V	CONCEPT SHEET	REFERENCES • https://www.researchgate.net/publication/330466789_Application_of_the_Navarasa_Theory_in_Architecture • https://www.re-thinkingthefuture.com/case-studies/a3416-jawahar-kala-kendra-by-charles-correa-reflection-of-the-citys-architecture/ • https://science.nasa.gov/earth/earth-observatory/the-first-planned-city-in-india-145509/#:~:text=Using%20principles%20of%20Vastu%20shastra,planetary%20bodies%20from%20Vedic%20astrology.	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 12/03/26 DATE OF SUB : 16/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

CASE STUDY

SUNDER NURSERY, DELHI



OBJECTIVE



1. A panoramic view from the northeast overlooks Humayun's Tomb complex. Sunder Nursery is on the right.

The project aimed to improve the 90-acre Sunder Nursery by creatively combining monuments, forest and nursery within an interactive experience.

DESIGN INTERVENTIONS

ELEMENTS

- RESTORATION OF GARDENS, WATER CHANNELS AND HISTORIC PATHWAYS.

STRUCTURES

- SMALL PAVILIONS, INTERPRETATION CENTRE AND VISITOR FACILITIES.

MATERIALS

- RED SANDSTONE, LIME PLASTER, STONE PAVING.

INTEGRATION OF OLD ELEMENTS

- HISTORIC MUGHAL TOMBS RESTORED AND REUSED AS INTERPRETATION LANDMARKS.
- GARDEN LAYOUT REVIVED USING TRADITIONAL CHARBAGH PRINCIPLES.

SWOT ANALYSIS

S: SUCCESSFUL RESTORATION OF HERITAGE GARDEN INTEGRATED WITH PUBLIC CULTURAL USE.

W: LARGE LANDSCAPE REQUIRES CONTINUOUS MAINTENANCE.

O: MAJOR CULTURAL TOURISM AND HERITAGE EDUCATION HUB.

T: URBAN PRESSURE AND HEAVY VISITOR LOAD MAY AFFECT CONSERVATION.

INFERENCES

- RESTORE HISTORIC GARDEN GEOMETRY AND WATER SYSTEMS.
- INTRODUCE HERITAGE INTERPRETATION TRAILS.
- USE GARDENS FOR CULTURAL PERFORMANCES AND EXHIBITIONS.
- KEEP NEW ARCHITECTURE MINIMAL AND REVERSIBLE.
- INTEGRATE VISITOR AMENITIES WITHOUT DISTURBING HERITAGE STRUCTURES.

ARCHITECTURAL DESIGN V	CONCEPT SHEET	REFERENCES • https://www.researchgate.net/publication/330466789_Application_of_the_Navarasa_Theory_in_Architecture • https://www.re-thinkingthefuture.com/case-studies/a8416-jawahar-kala-kendra-by-charles-correa-reflection-of-the-citys-architecture/ • https://science.nasa.gov/earth/earth-observatory/the-first-planned-city-in-india-145509/#:~:text=Using%20principles%20of%20Vastu%20shastra,planetary%20bodies%20from%20Vedic%20astrology.	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 12/03/26 DATE OF SUB : 16/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

CASE STUDY

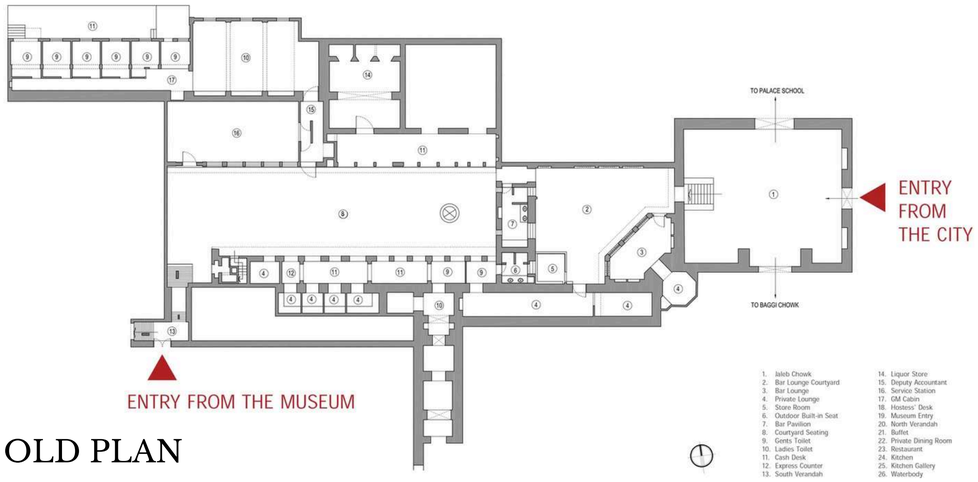
THE BARADARI AT CITY PALACE, JAIPUR

LOCATION: JAIPUR

CONTEXT: INSIDE CITY PALACE

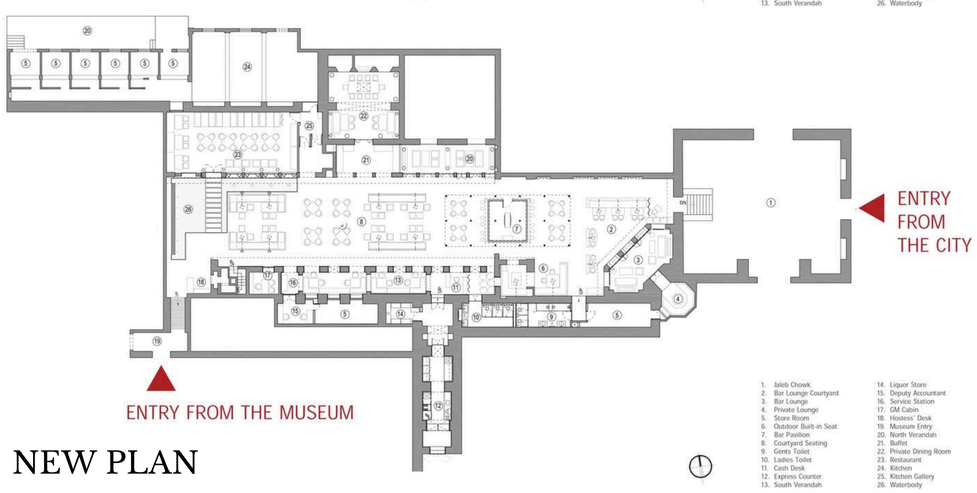
FUNCTION: HERITAGE PAVILION REUSED FOR EXHIBITIONS AND CULTURAL EVENTS.

MANAGEMENT: MAHARAJA SAWAI MAN SINGH II MUSEUM TRUST.



1. Jaleb Chowk
2. Bar Lounge Courtyard
3. Bar Lounge
4. Private Lounge
5. Store Room
6. Outdoor Built-in Seat
7. Bar Pavilion
8. Courtyard Seating
9. Gents Toilet
10. Ladies Toilet
11. Cash Desk
12. Express Counter
13. South Verandah
14. Liquor Store
15. Deputy Accountant
16. Service Station
17. GM Cabin
18. Hostess' Desk
19. Museum Entry
20. North Verandah
21. Buffet
22. Private Dining Room
23. Restaurant
24. Kitchen
25. Kitchen Gallery
26. Waterbody

OLD PLAN



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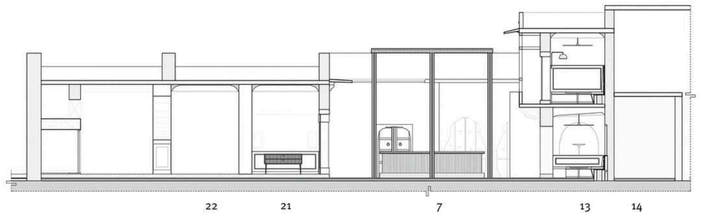
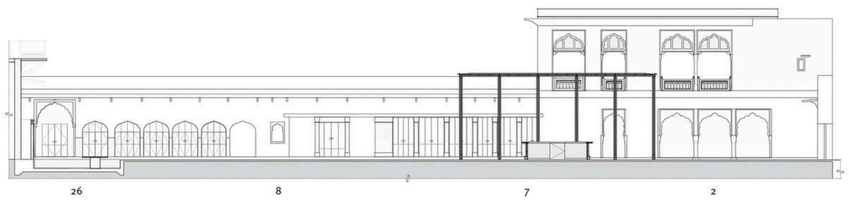
NEW PLAN



SECTION LOOKING TOWARDS BARADARI

22. Private Dining Room
21. Buffet
7. Pavilion
13. South Verandah
14. Office/ Staff Room



SECTION THROUGH COURTYARD LOOKING TOWARDS THE NORTH FACE

26. Waterbody
8. Courtyard Seating
7. Pavilion
2. Bar Lounge Courtyard

SWOT ANALYSIS

S: SUCCESSFUL REUSE OF HISTORIC PAVILION AS FLEXIBLE EXHIBITION AND CULTURAL SPACE.

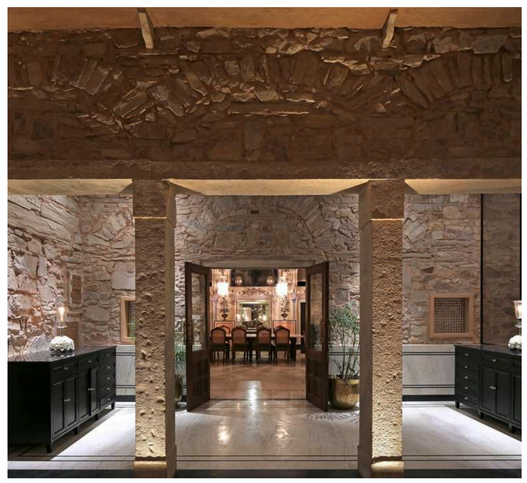
W: LIMITED INTERIOR AREA RESTRICTS LARGE-SCALE EVENTS.

O: STRONG TOURISM POTENTIAL THROUGH CURATED HERITAGE EXHIBITIONS.

T: HEAVY VISITOR FOOTFALL MAY AFFECT FRAGILE HISTORIC FABRIC.

INFERENCES

- REUSE HISTORIC PAVILIONS AS INTERPRETATION CENTRES OR GALLERIES.
- KEEP NEW INTERVENTIONS TEMPORARY AND REVERSIBLE.
- USE COURTYARDS FOR CULTURAL EVENTS AND EXHIBITIONS.
- MAINTAIN ORIGINAL ARCHITECTURAL AESTHETICS WHILE ADDING MODERN SERVICES.
- CREATE HERITAGE STORYTELLING THROUGH EXHIBITIONS AND GUIDED ROUTES.



ARCHITECTURAL DESIGN V

CONCEPT SHEET

REFERENCES

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- https://www.re-thinkingthefuture.com/case-studies/a3416-jawahar-kala-kendra-by-charles-correa-reflection-of-the-citys-architecture/
- https://science.nasa.gov/earth/earth-observatory/the-first-planned-city-in-india-145509/#:~:text=Using%20principles%20of%20Vastu%20shastra,planetary%20bodies%20from%20Vedic%20astrology.

SIGNATURE

SHEET NO :
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DATE OF INTRO: 12/03/26
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ALL DIMENSIONS IN MM

NAME: SABHYA AGARWAL
ID: 2023UAR1491
SEM 6
DEPARTMENT OF ARCHITECTURE & PLANNING
MNIT JAIPUR

SHEKHAWATI REGION

INTRODUCTION

DEFINING THE EXTENT

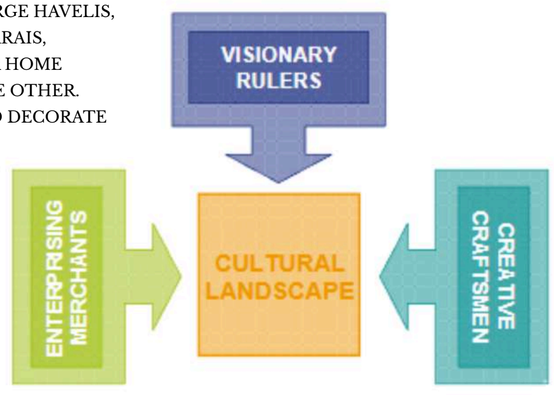
TRADITIONALLY AS AN ADMINISTRATIVE ENTITY, SHEKHAWATI WAS COMPRISED OF THE WESTERN PART OF **SIKAR** DISTRICT AND ALL OF **JHUNJHUNU** DISTRICT, BORDERED BY BIKANER AND JAIPUR STATES. CULTURAL BOUNDARIES HOWEVER EXTEND BEYOND ADMINISTRATIVE BORDERS BRINGING **CHURU** WITHIN ITS FOLD AS WELL.

MAP OF RAJASTHAN

MAP OF JAIPUR STATE IN 1929 SHOWING EXTENT OF SHEKHAWATI

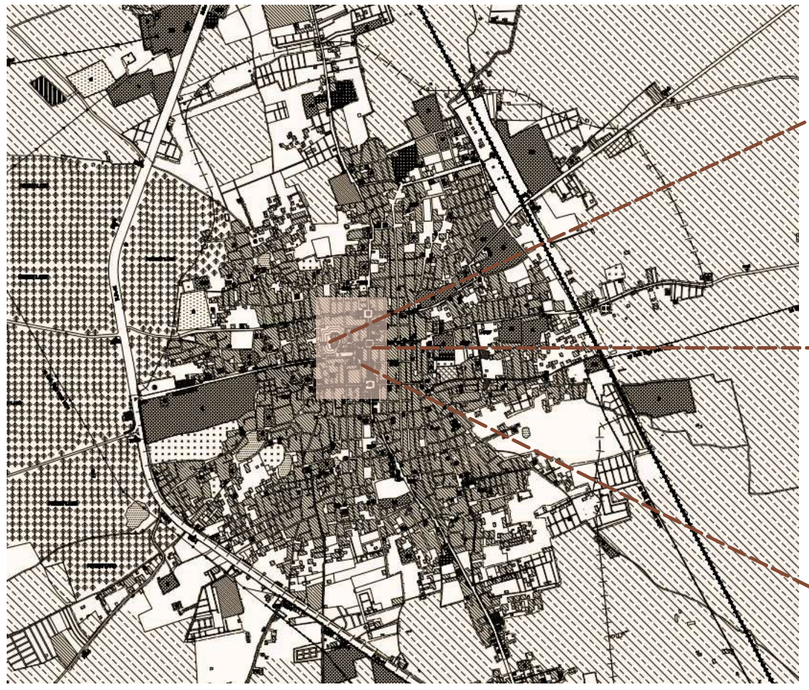
A UNIQUE CULTURAL LANDSCAPE

VISIONARY RULERS, **ENTERPRISING MERCHANTS AND SKILLED CRAFTSMEN** SHAPED THE UNIQUE CULTURAL LANDSCAPE OF SHEKHAWATI. **THAKURS FOUNDED TOWNS**, INITIATED MAJOR BUILDING PROJECTS AND SUMMONED PAINTERS TO DECORATE THEIR BUILDINGS. LATER WITH TRADE FLOURISHING IN THE REGION AND THE SUBSEQUENT MIGRATION OF LOCAL **MARWARI MERCHANTS** TO MAJOR BRITISH PORTS, BUILDING ACTIVITY GAINED MOMENTUM. MARWARI MERCHANTS AMASSED HUGE WEALTH AND EMBARKED ON CONSTRUCTING LARGE HAVELIS, TEMPLES, CENOTAPHS, CARAVAN SARAIS, WELLS AND WATER TANKS IN THEIR HOME TOWN EACH COMPETING WITH THE OTHER. THEY COMMISSIONED PAINTERS TO DECORATE THESE STRUCTURES WITH FRESCOES ON AN UNPRECEDENTED SCALE. LOCAL MASONS, SENSING INCREASED DEMAND FOR **FRESCOES**, QUICKLY LEARNT THE ART FORM THEREBY BESTOWING SHEKHAWATI WITH A RICH HERITAGE.

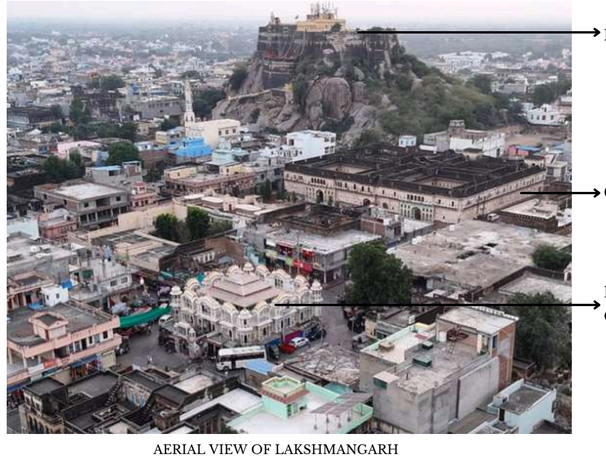


LAKSHMANGARH

LAKSHMANGARH WAS FOUNDED BY THE **RAJA OF SIKAR IN 1806 A.D**. AS A NEW **MERCHANT CENTRE** TO BENEFIT FROM THE BOOM IN CARAVAN TRADE. ORIGINALLY THE TOWN HAD **FORTIFICATION WALLS AND NINE GATES**, NO TRACES OF WHICH NOW SURVIVE. THE PLANNING OF THE TOWN IS INFLUENCED BY JAIPUR HAVING A **GRID PLAN**. THE MAIN BAZAAR OPENS OUT INTO **THREE SQUARES**. THE FORT TO THE WEST OF THE BAZAAR DOMINATES THE LANDSCAPE. THE CHAR CHOWK HAVELI IS THE LARGEST HAVELI IN THE TOWN.



MAP OF LAKSHMANGARH SHOWING EXISTING LAND USE- 2013



AERIAL VIEW OF LAKSHMANGARH

LAXMANGARH FORT

CHAR CHOWK KI HAVELI

MAIN BAZAAR SQUARE ON MUKANDGARH ROAD

URBAN CONTEXT

LAXMANGARH IS ORGANIZED AROUND A CLEAR URBAN HIERARCHY, WITH **LAXMANGARH FORT** AS THE DOMINANT LANDMARK AND BAZAAR STREETS AND MARKET SQUARES FORMING THE COMMERCIAL CORE BELOW. **CHAR CHOWK KI HAVELI** IS LOCATED ADJACENT TO THIS TRADE ZONE, REFLECTING THE SHEKHAWATI PATTERN OF MERCHANT RESIDENCES POSITIONED NEAR COMMERCE WHILE REMAINING INWARD-LOOKING AND PRIVATE. THE **FORT–MARKET–HAVELI RELATIONSHIP** EXPRESSES THE TOWN'S SOCIO-SPATIAL STRUCTURE.

REFERENCES

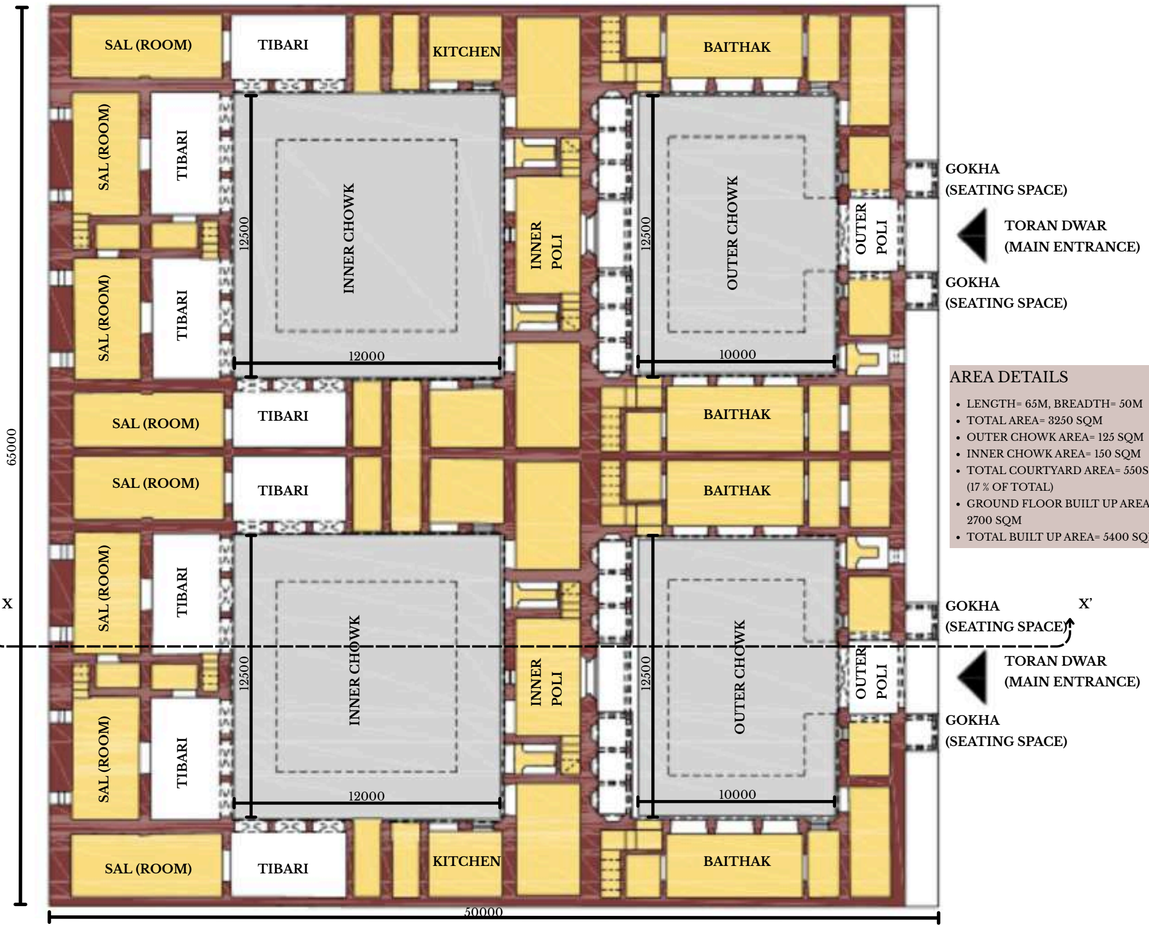
- LAKSHMANGARH MAP BY RAJASTHAN GOVERNMENT https://lsg.urban.rajasthan.gov.in/content/dam/raj/udh/organizations/ctp/pdf/Lachhmangarh%20maps.pdf
- UNESCO Concept Paper by Ar. Urvashi Srivastava 2009

ARCHITECTURAL DESIGN V	CHAR CHOWK KI HAVELI DOCUMENTATION	SIGNATURE	NORTH	SHEET NO : 01 SCALE : DATE OF INTRO: 08/01/26 DATE OF SUB : 12/01/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

CHAR CHOWK KI HAVELI, SHEKHAWATI

MERCHANTS DOMAIN (HAVELI)

THE HAVELI OR RESIDENCE DEFINED THE PRIVATE SPACE OF THE PEOPLE AND FORMED THE BULK OF PROPERTIES IN A TOWN. HAVELIS HAVE A COMMON ARCHITECTURAL PATTERN WHICH SERVES THE PURPOSE OF **UTILITY, DURABILITY, SAFETY AND BEAUTY**. IN ITS SIMPLEST FORM A HAVELI COMPRISES OF A **CENTRAL COURTYARD WITH A HIGH BUILDING MASS ALL AROUND**. MOST OF THE HAVELIS HAVE AN **OUTER AND AN INNER CHOWK (COURT)**. HAVELIS CAN HAVE MORE THAN TWO COURTYARDS ALSO AS OBSERVED IN CHAR CHOWK KI HAVELI. THE CHAR CHOWK KI HAVELI BELONGS TO **GANERIWAL**, A BUSINESS CLAN FROM RAJASTHAN, INDIA WHO ARE A BRANCH OF THE AGARWALS. IT WAS BUILT AROUND **1890.**



PLAN OF CHAR CHOWK KI HAVELI, LAKSHMANGARH

THE PLAN OF CHAR CHOWK KI HAVELI IS ORGANIZED AROUND **FOUR COURTYARDS**, REFLECTING A HIGHLY EVOLVED SHEKHAWATI HAVELI TYPOLOGY. ENTRY THROUGH THE **TORAN DWAR** LEADS TO THE OUTER CHOWK, WHICH FORMS THE PUBLIC DOMAIN OF THE HOUSE. **BAITHAKS AND GOKHAS** ARE LOCATED AROUND THIS COURTYARD FOR RECEIVING GUESTS AND CONDUCTING SOCIAL OR BUSINESS INTERACTIONS.

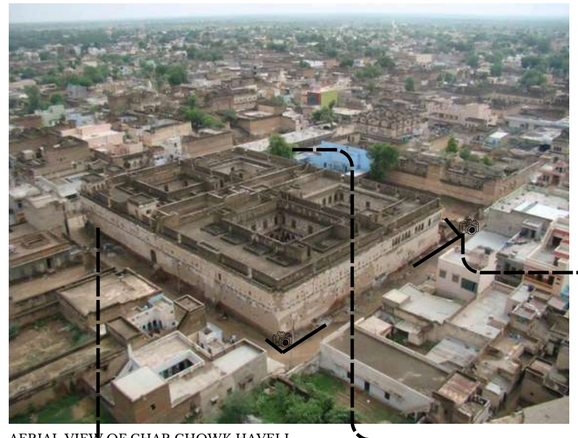
ACCESS TO THE INNER AREAS IS CONTROLLED THROUGH **INNER POLS**, CREATING A CLEAR TRANSITION FROM PUBLIC TO PRIVATE SPACES. THE **INNER CHOWKS** SERVE AS THE RESIDENTIAL CORE AND ARE SURROUNDED BY SAL (ROOMS) AND TIBARIS, WHICH FUNCTION AS SHADED CIRCULATION SPACES AND PROVIDE LIGHT AND VENTILATION. KITCHENS AND SERVICE AREAS ARE PLACED DEEPER WITHIN THE PLAN TO MAINTAIN PRIVACY.

THE SEQUENTIAL ARRANGEMENT OF COURTYARDS ESTABLISHES A CLEAR HIERARCHY OF SPACES WHILE RESPONDING EFFECTIVELY TO CLIMATE AND SOCIAL CUSTOMS.

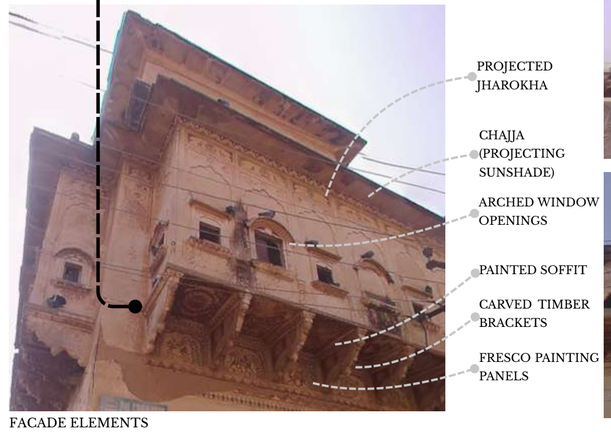
AREA DETAILS

- LENGTH= 65M, BREADTH= 50M
- TOTAL AREA= 3250 SQM
- OUTER CHOWK AREA= 125 SQM
- INNER CHOWK AREA= 150 SQM
- TOTAL COURTYARD AREA= 550SQM (17 % OF TOTAL)
- GROUND FLOOR BUILT UP AREA= 2700 SQM
- TOTAL BUILT UP AREA= 5400 SQM

MAP OF LAKSHMANGARH SHOWING PROXIMITY OF CHAR CHOWK HAVELI TO LAKSHMANGARH FORT



AERIAL VIEW OF CHAR CHOWK HAVELI



FACADE ELEMENTS

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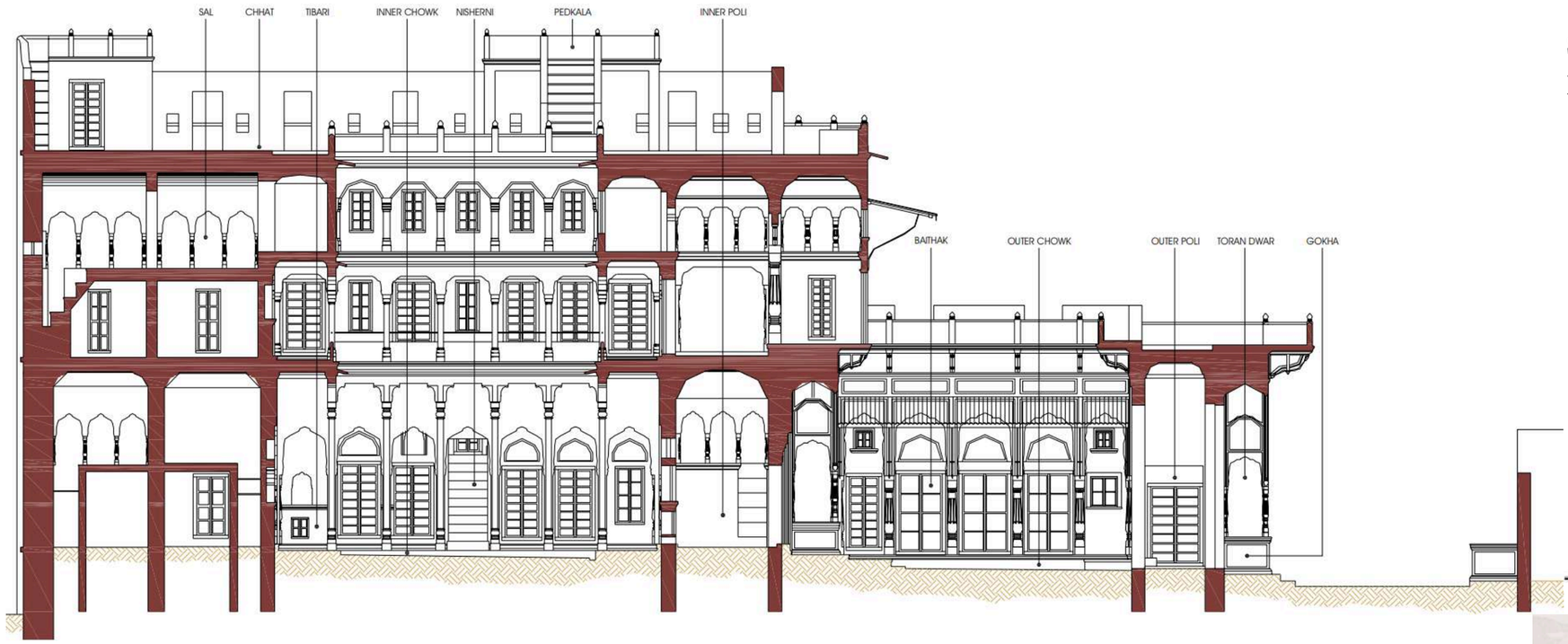
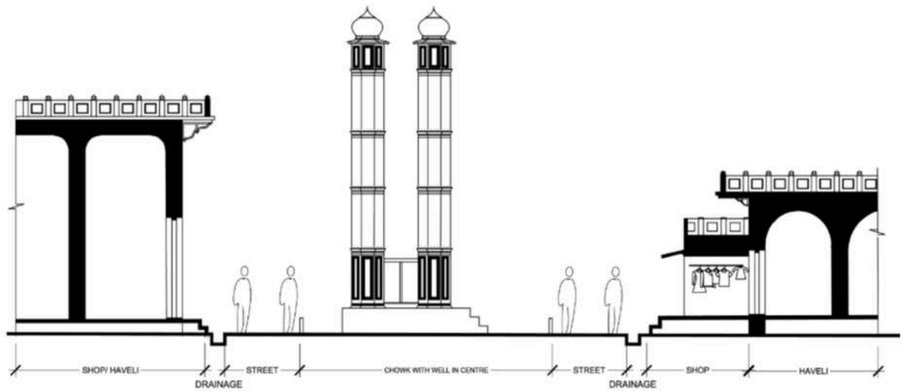
CHAR CHOWK KI HAVELI, SHEKHAWATI



SECTION XX' OF CHAR CHOWK KI HAVELI, LAKSHMANGARH

THE MAIN ENTRANCE OR TORAN DWAR ON A RAISED PLINTH DEFINED BY A HUGE GATEWAY WITH TWO GOKHAS (ARCHED SPACE WITH PILLARS) PROVIDED ACCESS TO THE HAVELI. THE OUTER POLI (TRANSTIONAL SPACE) LEADS TO THE OUTER CHOWK HAVING A BAITHAK ON EITHER SIDE USED AS A RECEPTION AND SITTING ROOM. THE INNER POLI LEADS TO THE INNER CHOWK HAVING SEVERAL SETS OF ROOMS KNOWN AS SAL ATTACHED TO A SEMI COVERED SPACE KNOWN AS TIBARI. RASOI OR KITCHEN AND A PARINDA OR WATER ROOM ARE ARRANGED AROUND THE CHOWK. THERE WAS A SEPARATE ROOM WHERE IMAGES OF FAMILY DEITIES WERE KEPT FOR DAILY WORSHIP. THE CENTRE OF THE COURTYARD HAD A SMALL SQUARE WHICH WAS KEPT KACHCHA FOR DRAINING THE WATER AND AT TIMES HAD THE TULASI CHAURA (SACRED BASIL). NISHERNI OR STAIRS PROVIDED ACCESS TO THE UPPER FLOORS. THE UPPER STOREY CONSISTED OF BIGGER ROOMS WHICH WERE SOMETIMES BEAUTIFULLY PAINTED. SMALL STORAGE SPACES CALLED DUCHHATI WERE INCLUDED IN THE ROOMS. CHHAT OR TERRACE HAD STRUCTURES FOR STORING BEDDING FOR SLEEPING ON THE TERRACE. A SEPARATE NOHRA OR SPACE FOR FACILITIES LIKE KEEPING DOMESTIC ANIMALS AND ROOMS FOR SERVANTS OR GUESTS WAS ALSO PART OF THE HAVELI.



MAIN MARKET SQUARE SECTION

MIX USE STREETS HAVING CENTRAL CHOWK AND RAISED PLATFORM AT INTERSECTION POINT. THIS RAISED PLATFORM IS USED FOR DRINKING WATER FACILITY/ SITTING SPACE FOR ELDERLY PEOPLE OR STRUCTURES SUCH AS TEMPLE (AS OBSERVED IN LAKSHMANGARH). THESE CHOWKS ARE USED FOR SOCIAL GATHERINGS AND CELEBRATIONS OF FESTIVALS LIKE HOLI AND GANGAUR. CENTRAL MARKET CHOWK OF LAKSHMANGARH CONSISTS OF SHRI MURLI MANOHAR JI TEMPLE AND DAKLIYA TEMPLE.

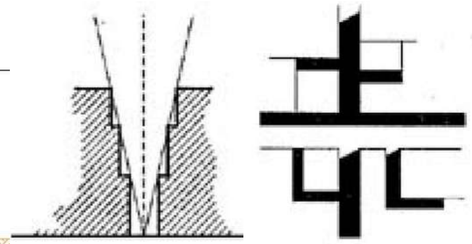
REFERENCES

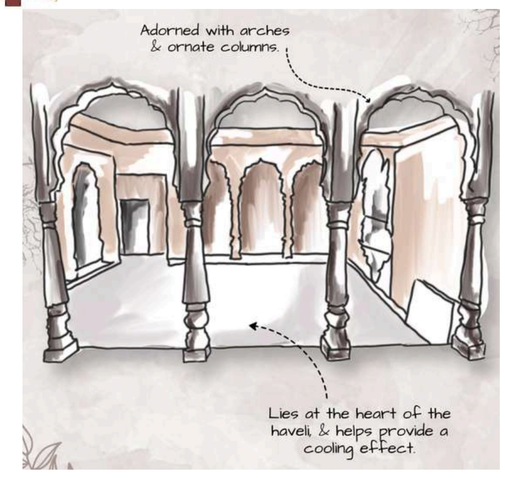
- SHEKHAWATI: URBANISM IN THE SEMI-DESERT OF INDIA A CLIMATIC STUDY AVLOKITA AGRAWALI PROF. R.K. JAIN AND PROF. RITA AHUJA
- UNESCO Concept Paper by Ar. Urvashi Srivastava 2009

"INDIAN HERITAGE PASSPORT PROGRAMME ON THE MERCHANT TRAILS IN SHEKHAWATI (RAJASTHAN)"

STREET MORPHOLOGY & MICROCLIMATE

- NARROW NORTH–SOUTH ORIENTED STREETS FLANKED BY TALL HAVELI FAÇADES ON BOTH SIDES CUT OFF DIRECT SOLAR EXPOSURE, CREATING SHADED PEDESTRIAN MOVEMENT AROUND CHAR CHOWK KI HAVELI.
- THIS COMPACT STREET SECTION REDUCES HEAT GAIN ALONG THE BUILDING ENVELOPE, HELPING LOWER AMBIENT AIR TEMPERATURE AND CREATING A COOLER MICROCLIMATE AT THE STREET LEVEL.





COLONNADED VERANDAH AROUND COURTYARD

ARCHED COLONNADED VERANDAHS AROUND THE COURTYARDS OF CHAR CHOWK KI HAVELI FORM SHADED TRANSITIONAL SPACES THAT REGULATE LIGHT, ENHANCE VENTILATION, AND CONTRIBUTE TO THERMAL COMFORT WITHIN THE HAVELI.

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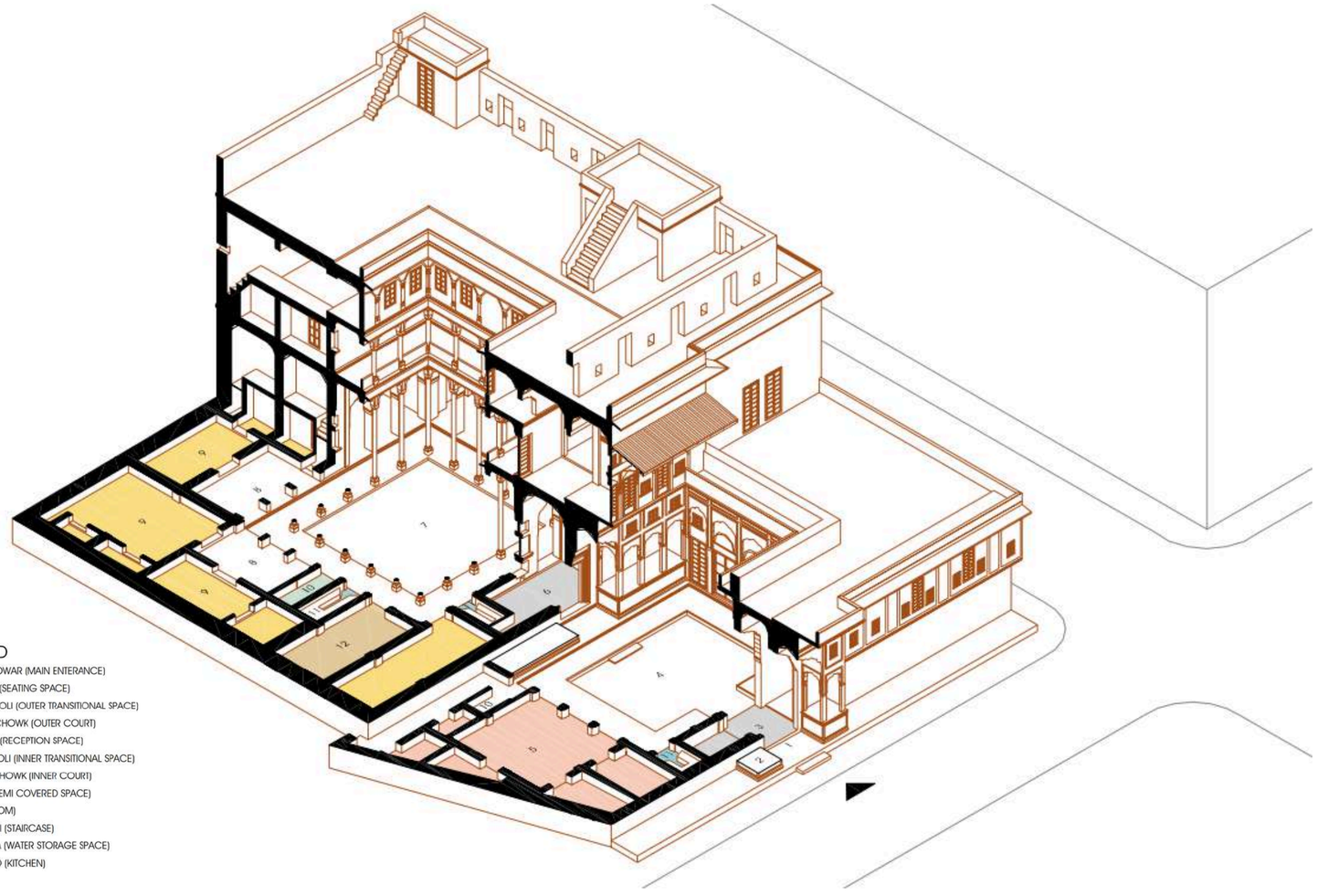
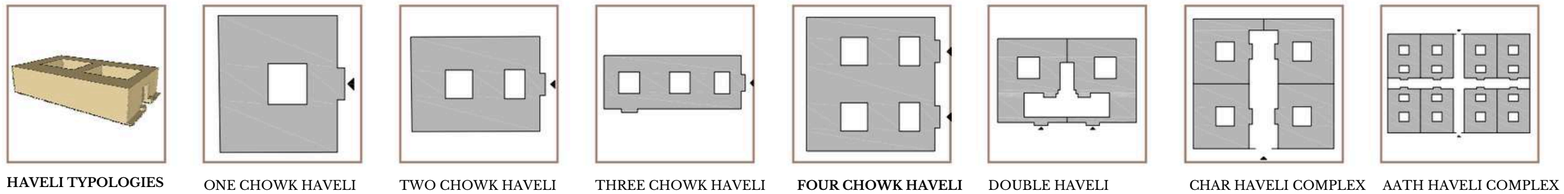
CHAR CHOWK KI HAVELI, SHEKHAWATI



LEGEND
1 TORAN DWAR (MAIN ENTERANCE)
2 GOKHA (SEATING SPACE)
3 OUTER POLI (OUTER TRANSITIONAL SPACE)
4 OUTER CHOWK (OUTER COURT)
5 BAITHAK (RECEPTION SPACE)
6 INNER POLI (INNER TRANSITIONAL SPACE)
7 INNER CHOWK (INNER COURT)
8 TIBARI (SEMI COVERED SPACE)
9 SAL (ROOM)
10 NISHERNI (STAIRCASE)
11 PARINDA (WATER STORAGE SPACE)
12 RASODO (KITCHEN)

SECTIONAL 3D VIEW OF CHAR CHOWK KI HAVELI, LAKSHMANGARH

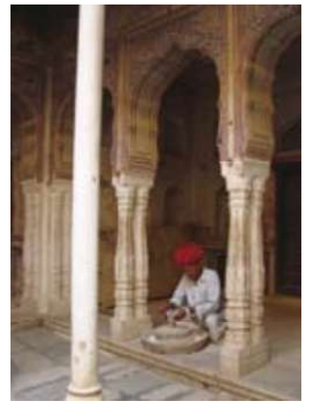
THE HAVELI HAS A DISTINCT SEGREGATION OF ACTIVITY. THE TYPE OF ROLE ASSIGNED TO FAMILY MEMBERS GOVERNED THE ACTIVITY PATTERN. MEN REMAINED OUTSIDE FOR MOST PART OF THE DAY ENGAGED IN BUSINESS WHILE WOMEN SPENT THE ENTIRE DAY INDOORS. THUS THE OUTER CHOWK OF THE HAVELI WAS MEN'S ACTIVITY AREA WHILE THE INNER CHOWK WITH ITS ASSOCIATED OPEN, SEMI-OPEN AND COVERED SPACES WAS THE CENTRE OF ALL THE WOMEN'S ACTIVITIES.



HAVELI TYPOLOGIES | ONE CHOWK HAVELI | TWO CHOWK HAVELI | THREE CHOWK HAVELI | **FOUR CHOWK HAVELI** | DOUBLE HAVELI | CHAR HAVELI COMPLEX | AATH HAVELI COMPLEX

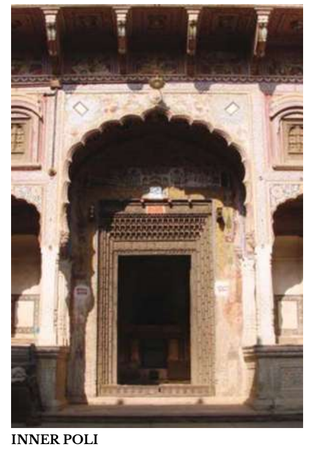
OUTER POLI

TORAN DWAR



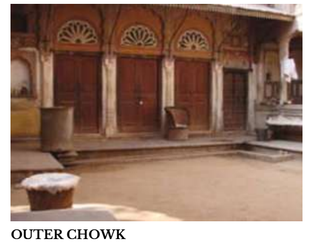
TIBARI

VERANDAH



INNER POLI

INNER CHOWK



OUTER CHOWK

BAITHAK

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CHAR CHOWK KI HAVELI, SHEKHAWATI

ARCHITECTURAL STYLE

MUGHALS AND RAJPUTS WERE THE RULERS WHO HAD INFLUENCED THE ARCHITECTURE OF THE REGION. THE HAVELI IS BUILT USING THE INDO-ISLAMIC ARCHITECTURAL STYLE. THE FRONT FAÇADE IS DECORATED WITH THE JHAROKHA WHICH IS SUPPORTED WITH CARVED STONE BRACKETS. THE MAIN ATTRACTION OF THE HAVELI IS THE FRESCO WORK KNOWN AS ARAYISH ON THE EXTERIOR WALLS. THESE ART WORKS ARE DONE ON THE STUCCO WITH NATURAL COLORS, WHICH ARE THE FIGURES OF THE HINDU GODS AND GODDESSES ON THE FRONT, FLORAL PATTERN ON THE EXTERIOR AND OTHER INTERIOR WALLS. THE PROJECTION PART ALSO WORKS AS A SHADING DEVICE. CARVED COLUMNS ARE USED TO SUPPORT THE TREFOIL ARCHES OF CLASSICAL ISLAMIC ARCHITECTURE.

ENTRANCE FACADE

INNER COURTYARD

VIEW OF COURTYARD AND STAIR CASE MUMTY

FRONT VIEW OF THE HAVELI

SAL (ROOM)

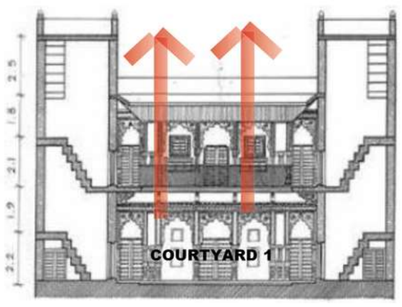
RASODO (KITCHEN)

NISHERNI (STAIRCASE)

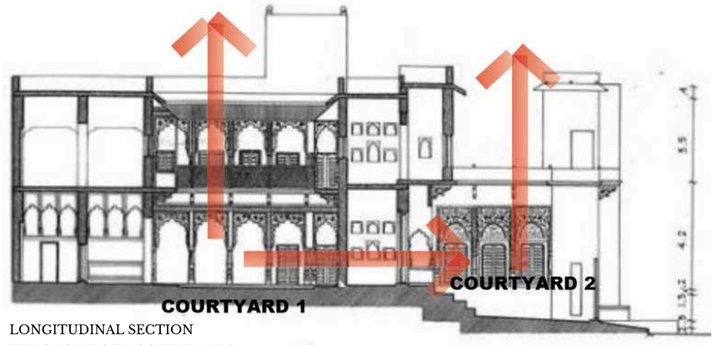
PASSIVE COOLING CONCEPTS

ONE OF THE INSPIRING FEATURES OF THE HAVELIS IS THE USE OF PASSIVE TECHNIQUES TO GAIN THERMAL COMFORT IN THE HARSH CLIMATE. THIS HAVELI ALSO FOLLOWS THE VERNACULAR PASSIVE CONCEPT PRINCIPLES OF THE REGION, WHICH ARE FOLLOWING:

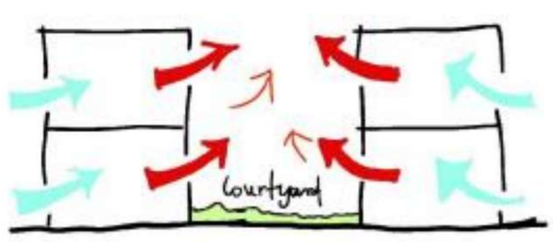
- **COURTYARD PLANNING:** THE COURTYARD IN HOT SUMMERS HELPS VENTILATE THE FRESH AIR INSIDE THE ROOMS AND HAVELI. THE COURTYARD SERVES AS A MICRO-CLIMATE MODIFIER.
- **SHADING DEVICES**: JHAROKHAS, PROJECTION RUNNING ALONG THE PARAMETER OF THE BUILDING, AND THE JALIES ARE PROVIDED AS THE SHADING DEVICES WHICH OBSTRUCT THE DIRECT SOLAR HEAT GAIN. JALIES AND JHAROKHAS ALSO WORK AS BARRIER TO THE SANDSTORMS
- **OPENING SIZES**: THE SIZES OF THE OPENINGS IN THIS HAVELI ARE SMALL AND THE LARGER OPENINGS ARE COVERED WITH STONE JALIES. THESE OPENINGS ARE OPENED DURING NIGHT TO ALLOW CONVECTIVE COOLING. IN DAYTIME THE THICK WOODEN SHUTTERS OF LOW THERMAL MASS ARE CLOSED
- **CEILING HEIGHTS**: THE HABITABLE HAVE CEILING HEIGHT LARGER THAN 3.5 M WHILE THE OTHER SPACES LIKE THE JHAROKHA WHICH WERE TO BE USED TEMPORARILY AND OCCASIONALLY WERE ONLY 2.5 – 1.8 M HIGH. THIS MEANT A LARGER AIR MASS RESULTING IN LOWER TEMPERATURES.
- **ROOFS WITH INSULATION LAYER:** THE ROOFS ARE CONSTRUCTED WITH FLAT STONE SLABS JOINED WITH LIME MORTAR. ABOVE THIS A LAYER OF INVERTED EARTHEN POTS IS LAID TO CREATE AIR INSULATION. ON THE TOP OF IT, A LAYER OF LIME MORTAR FINISH WITH REFLECTIVE SMOOTH MATERIAL LIKE BROKEN PIECES OF CERAMIC POTS TO REFLECT MOST OF THE SUNLIGHT IS USED.
- **BUILDING MATERIALS:** STONE WAS USED ALONG WITH LIME MORTAR IN THE SLAB AND FAÇADE ELEMENTS. LIME MORTAR KEEPS LOW TEMPERATURES INSIDE THE HAVELI. STONE HELPS CREATING TIME LAG DUE TO HIGH THERMAL CAPACITIES. WOOD FOR SHUTTERS OF WINDOWS AND DOOR FRAMES IS USED. ALL THE MATERIALS WERE LOCALLY AVAILABLE AND THE DESIGNERS WERE FAMILIAR WITH THOSE.
- **LIGHT COLOUR EXTERIOR:** THE EXTERIOR OF THE HAVELI IS LIGHT COLOURED TO REDUCE THE HEAT GAIN, DUE TO LIME PLASTER. WALLS ARE PAINTED WITH MURALS TO PROVIDE THE AESTHETICS FOR THE HAVELI.



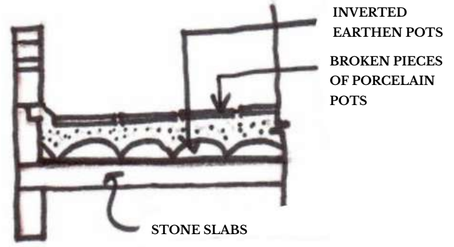
TRANSVERSE SECTION THROUGH INTERNAL COURTYARD



LONGITUDINAL SECTION THROUGH BOTH COURTYARDS



COURTYARDS IN CHAR CHOWK KI HAVELI ACT AS THERMAL REGULATORS, DRAWING HOT AIR UPWARD AND PROMOTING CROSS-VENTILATION ACROSS SURROUNDING ROOMS.



TRADITIONAL STONE SLAB ROOFING WITH INVERTED EARTHEN POTS AND PORCELAIN PIECES REDUCES HEAT GAIN AND IMPROVES THERMAL INSULATION.

ARCHITECTURAL DESIGN V	CHAR CHOWK KI HAVELI DOCUMENTATION	SIGNATURE	SHEET NO : 05 SCALE : DATE OF INTRO: 08/01/26 DATE OF SUB : 12/01/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

SISODIA RANI KA BAGH, JAIPUR

NAVANAYANA

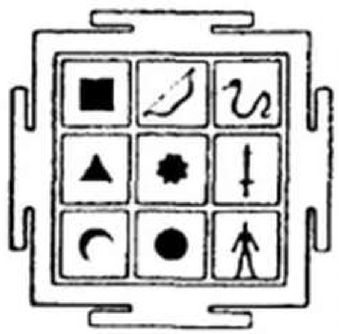
THE NINEFOLD COSMIC–EMOTIONAL FIELD

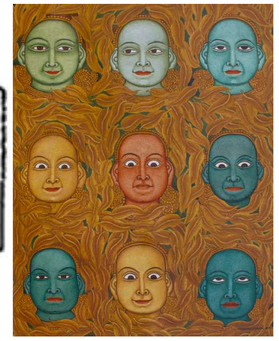
(NAVA = NINE | NAYANA = PERCEPTION / VISION)

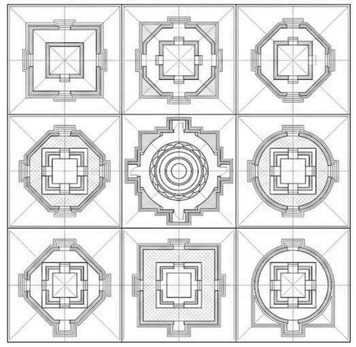
NAVANAYANA IS A SPATIAL SYSTEM WHERE PLANETARY ORDER IS TRANSLATED INTO HUMAN EMOTION, AND EMOTION IS TRANSLATED INTO ARCHITECTURE. IT TRANSLATES THE ASTRONOMICAL PLANNING PRINCIPLES OF JAIPUR AND THE PHILOSOPHY OF NAVARASA INTO AN EXPERIENTIAL SPATIAL FRAMEWORK. DERIVED FROM THE NAVAGRAHA MANDALA AND THE MODULAR LOGIC OF JAWAHAR KALA KENDRA, THE PROJECT IS STRUCTURED AS A NINE-SQUARE MATRIX WHERE EACH ZONE EMBODIES A PLANETARY FORCE AND A CORRESPONDING EMOTIONAL STATE.

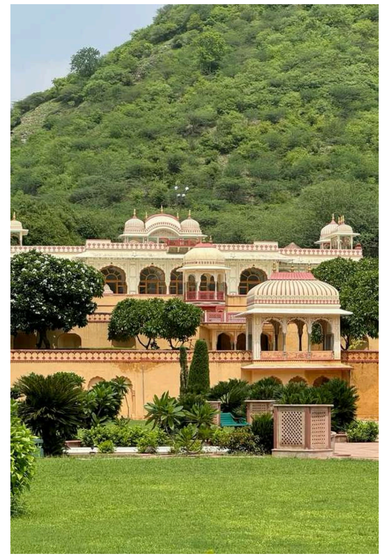
THROUGH CALIBRATED MANIPULATION OF LIGHT, SCALE, TEXTURE, WATER, AND ENCLOSURE, EACH SPACE EVOKES A DISTINCT RASA, FORMING A CONTINUOUS EMOTIONAL JOURNEY ACROSS THE SITE. THE CENTRAL COURT FUNCTIONS AS THE HRIDAYA STAMBH- THE PSYCHOLOGICAL CORE, WHERE INDIVIDUAL PERCEPTION ALIGNS WITH COSMIC ORDER.

THE PROJECT OPERATES AS A LIVING INSTRUMENT THAT CONVERTS CELESTIAL HARMONY INTO HUMAN EXPERIENCE, ALLOWING VISITORS TO NAVIGATE ATTRACTION, ANTICIPATION, WONDER, COMPASSION, JOY, AND PEACE. NAVANAYANA THUS REINTERPRETS TRADITIONAL INDIAN SPATIAL WISDOM INTO A CONTEMPORARY ARCHITECTURAL LANGUAGE ROOTED IN ASTRONOMY, PSYCHOLOGY, AND CULTURE.





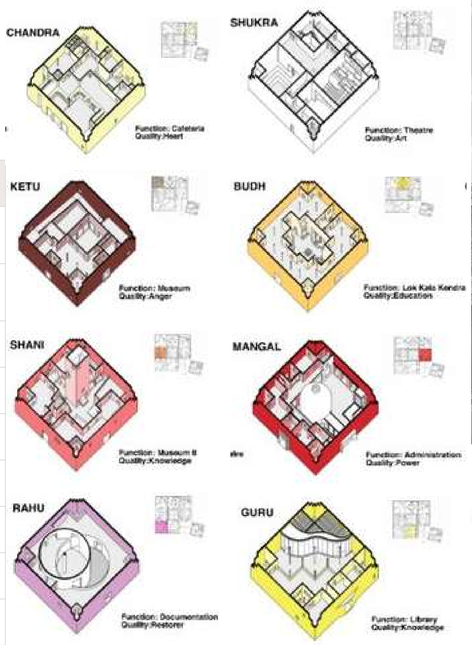


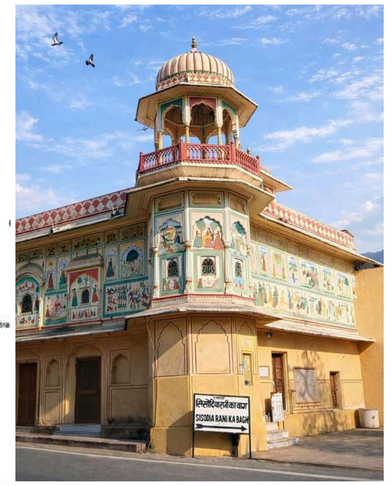


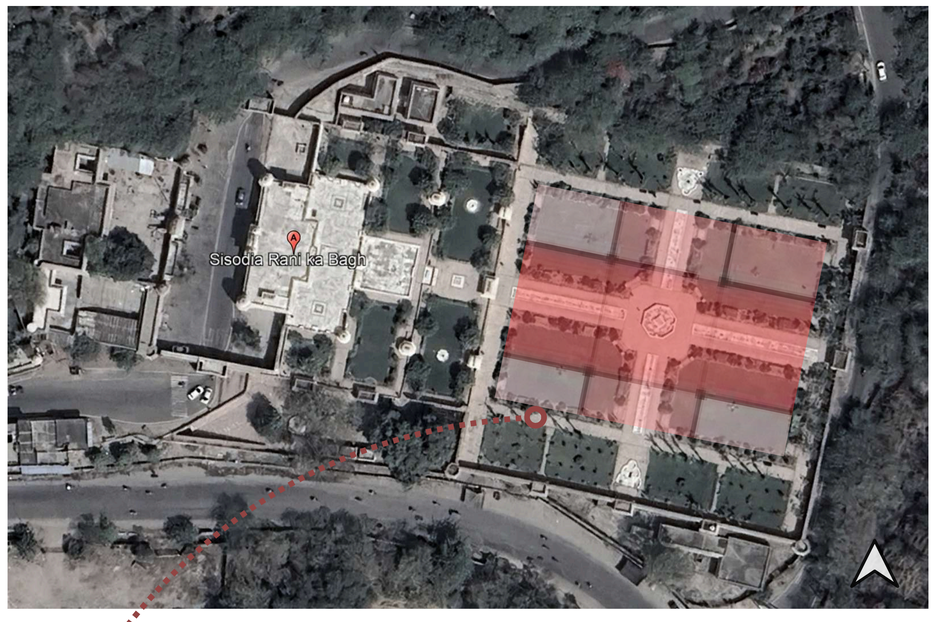
FROM COSMIC ORDER TO HUMAN EXPERIENCE

DERIVED BY THE ASTRONOMICAL PLANNING PRINCIPLES OF JAIPUR AND THE NAVARASAS, NAVANAYANA TRANSLATES THE NINE VEDIC PLANETS INTO SPATIAL EXPERIENCES THAT RESONATE WITH DIFFERENT EMOTIONS. THE NINE REALM FRAMEWORK FUNCTIONS AS AN ORGANIZING STRUCTURE FOR MOVEMENT, PAUSE, AND PERCEPTION. BUILT FORMS, COURTYARDS, WATER CHANNELS, AND VEGETATION ARE ARRANGED TO CREATE GRADUAL EMOTIONAL TRANSITIONS. ARCHITECTURE HERE BECOMES A MEDIUM THROUGH WHICH USERS ENGAGE WITH SPACE THROUGH MEMORY, SENSORY AWARENESS, AND REFLECTION, STRENGTHENING THE RELATIONSHIP BETWEEN ENVIRONMENT, MIND, AND MOVEMENT.

PLANET	RASA	ARCHITECTURAL EXPRESSION
VENUS	SHRINGARA	WATER, BEAUTY, SOFT EDGES
MERCURY	HASYA	HAAT, EXPERIENTIAL SPACES
KETU	VIBHATSA	RAW SURFACES, EXPOSED LAYERS
MARS	RAUDRA	TENSION, THOUGHT PROVOCATION
JUPITER	ADBHUTA	MONUMENTAL SCALE, WONDER
SATURN	KARUNA	ENCLOSURE, SHELTER
MOON	SHANTI	SILENCE, REFLECTION, THINKING
RAHU	BHAYANKARA	HEIGHT, TRANSPARENCY
SUN	VEERA	VERTICAL AXIS, IDENTITY, CENTRE

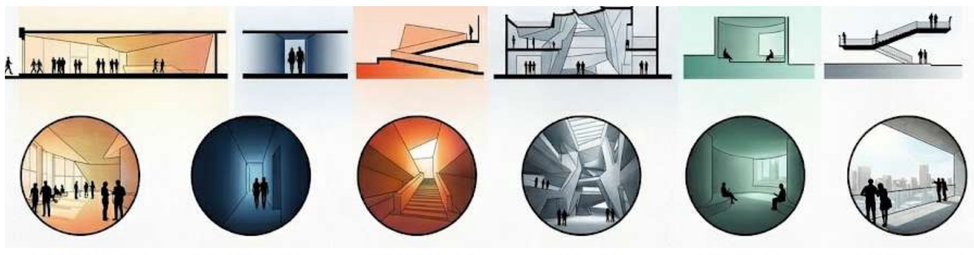


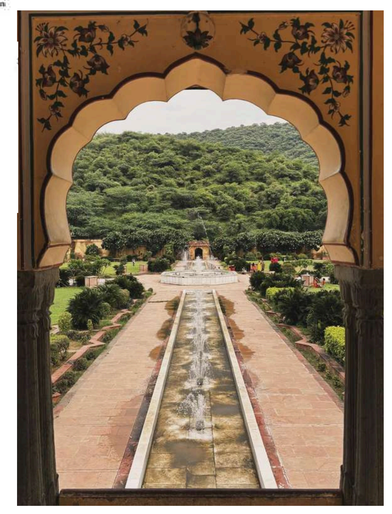




CENTRAL CHARBAGH AS SURYA KENDRA

INSPIRED BY THE NAVAGRAHA-BASED PLANNING OF JAIPUR UNDER SAWAI JAI SINGH II, THE CENTRAL CHARBAGH OF SISODIA RANI KA BAGH IS REINTERPRETED AS THE SURYA KENDRA—THE SOLAR AND EXPERIENTIAL CORE OF THE SITE. OPEN TO SKY, INTEGRATED WITH WATER AND VEGETATION, IT FUNCTIONS AS THE CLIMATIC LUNG, SPATIAL ANCHOR, AND SYMBOLIC HEART FROM WHICH ALL EXPERIENTIAL REALMS RADIATE.





ARCHITECTURAL DESIGN V

CONCEPT SHEET

REFERENCES

- https://www.researchgate.net/publication/330466789_Application_of_the_Navarasa_Theory_in_Architecture
- https://www.re-thinkingthefuture.com/case-studies/a3416-jawahar-kala-kendra-by-charles-correa-reflection-of-the-citys-architecture/
- https://science.nasa.gov/earth/earth-observatory/the-first-planned-city-in-india-145509/#:~:text=Using%20principles%20of%20Vastu%20shastra,planetary%20bodies%20from%20Vedic%20astrology.

SIGNATURE

SHEET NO :
SCALE :
DATE OF INTRO: 27/02/26
DATE OF SUB : 02/03/26
ALL DIMENSIONS IN MM

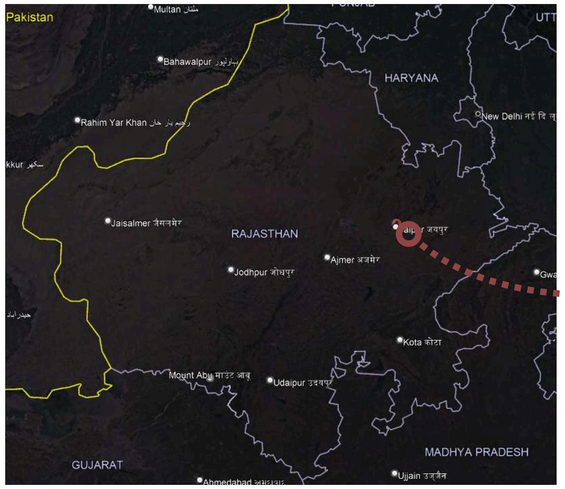
NAME: SABHYA AGARWAL
ID: 2023UAR1491
SEM 6
DEPARTMENT OF ARCHITECTURE & PLANNING
MNIT JAIPUR

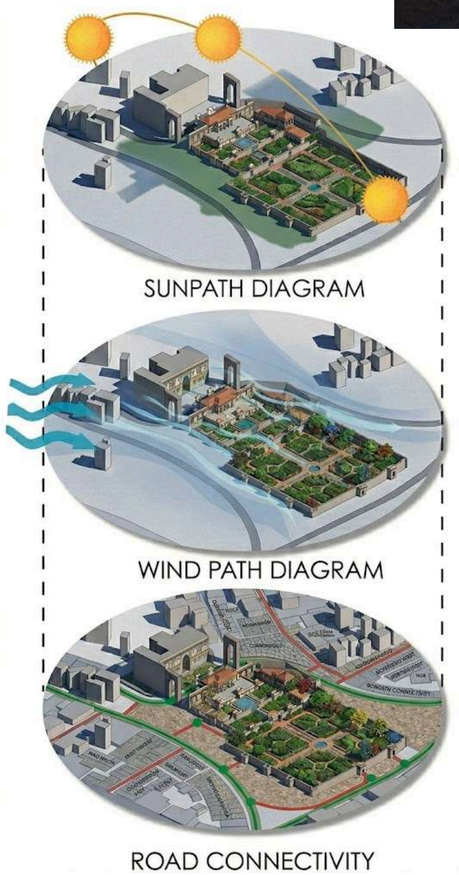
SISODIA RANI KA BAGH

SITE ANALYSIS

SITE IDENTITY & CONTEXT

- SITE: SISODIA RANI KA BAGH
- LOCATION: JAIPUR, RAJASTHAN
  LATITUDE: 26.89927° N
  LONGITUDE: 75.85874° E
- SETTING: HISTORIC TERRACED GARDEN PALACE AT THE FOOTHILLS OF ARAVALLI RANGE
- SURROUNDINGS: HILLS, FOREST COVER, TOURISM CORRIDOR
- CHARACTER: ROYAL RETREAT INTEGRATED WITH LANDSCAPE AND WATER SYSTEMS





TOPOGRAPHY & TERRAIN

THE SITE IS CHARACTERIZED BY A NATURALLY SLOPING TERRAIN

THIS SLOPE IS STRUCTURED THROUGH STEPPED TERRACES, RETAINING WALLS, AND WATER CHANNELS, FORMING A HIERARCHICAL LANDSCAPE SYSTEM.

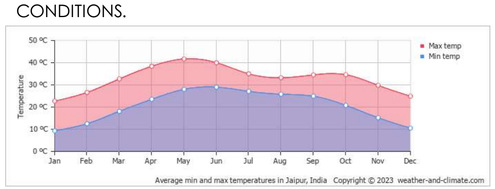
DERIVED FROM TRADITIONAL MUGHAL–RAJPUT GARDEN PLANNING.

CLIMATE PROFILE

JAIPUR EXPERIENCES A HOT SEMI-ARID CLIMATE

- SUMMER: 40–45°C
- WINTER: 5–10°C
- ANNUAL RAINFALL: ~650 MM (MONSOON-DOMINATED)
- PREDOMINANT WIND: SOUTHWEST (SUMMER), NORTHEAST (WINTER)

ARCHITECTURAL ELEMENTS SUCH AS THICK MASONRY WALLS, SHADED COURTS, WATER BODIES, AND DEEP VERANDAHS RESPOND DIRECTLY TO THESE CLIMATIC CONDITIONS.

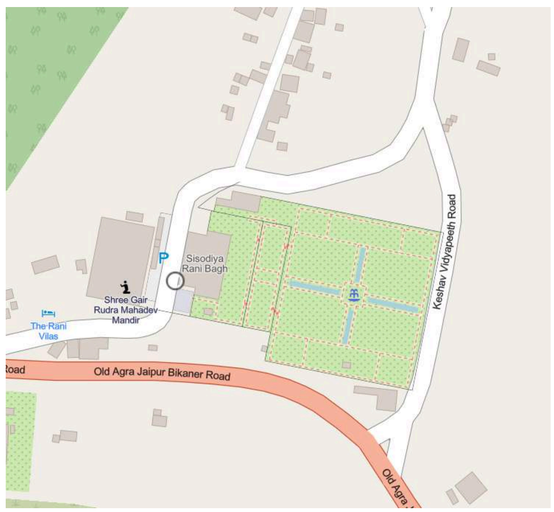


MICROCLIMATE & PASSIVE COOLING

THE GARDEN LAYOUT CREATES A LAYERED MICROCLIMATE THROUGH:

- EVAPORATIVE COOLING FROM WATER CHANNELS
- SHADING BY TREES AND PAVILIONS
- AIR MOVEMENT ALONG TERRACES
- THERMAL MASS OF SANDSTONE STRUCTURES

THESE ELEMENTS REDUCE AMBIENT TEMPERATURE AND ENHANCE THERMAL COMFORT WITHOUT MECHANICAL SYSTEMS.



LANDSCAPE & BIOPHILIA

THE SITE DEMONSTRATES AN INHERENT BIOPHILIC STRUCTURE, INTEGRATING BUILT FORM WITH NATURAL SYSTEMS.

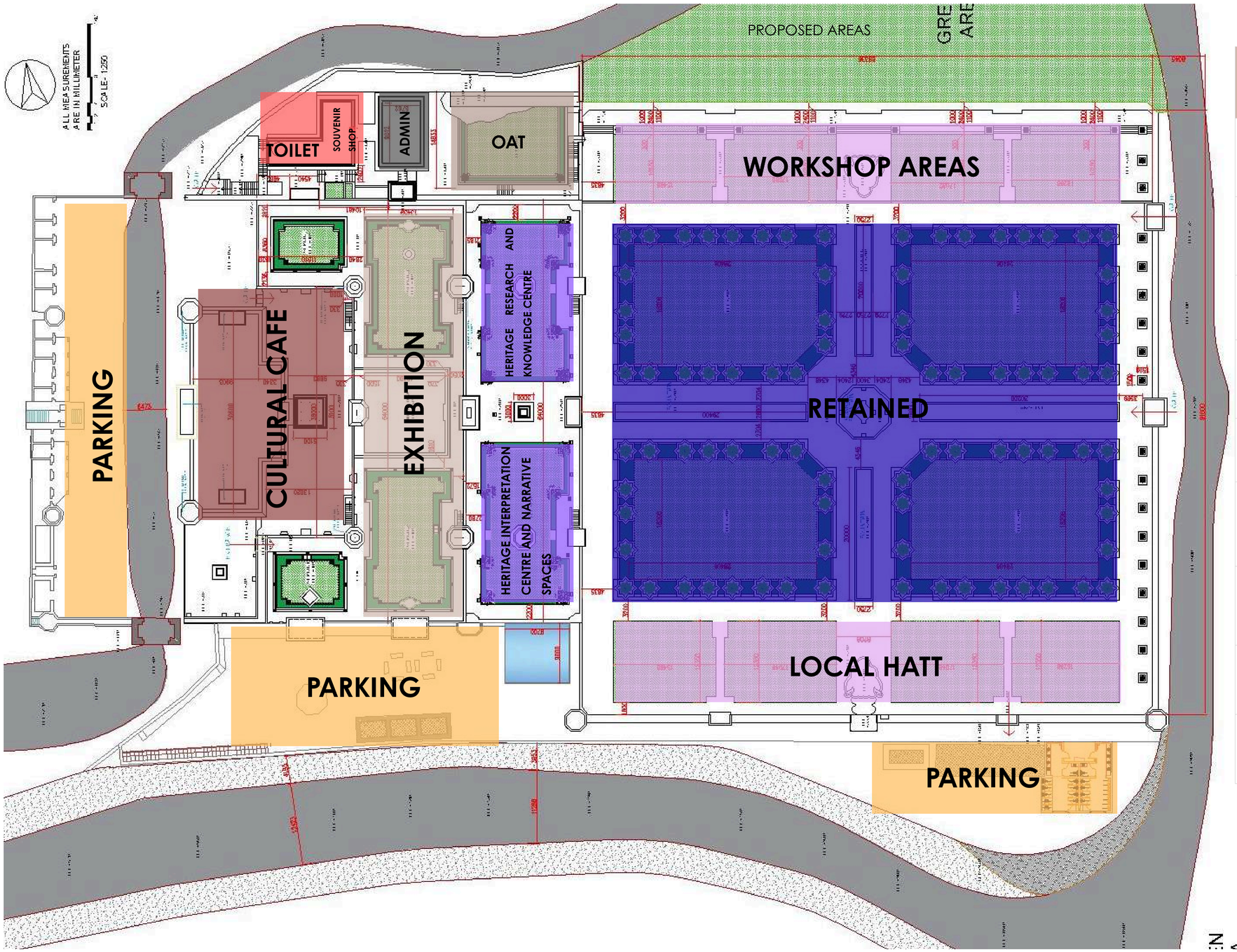
KEY COMPONENTS:

- CANOPY TREES AND FRUIT ORCHARDS
- FLOWING WATER SYSTEMS
- TERRACED VEGETATION
- FRAMED LANDSCAPE VIEWS

THIS ALIGNS WITH BIOPHILIA THEORY, WHICH EMPHASIZES THE HUMAN NEED FOR VISUAL, PHYSICAL, AND SENSORY CONTACT WITH NATURE.

ARCHITECTURAL DESIGN V	SITE ANALYSIS	REFERENCES • https://apps.nationalmap.gov/viewer/ • https://weather-and-climate.com/average-monthly-min-max-Temperature,jaipur,India	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 27/02/26 DATE OF SUB : 02/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

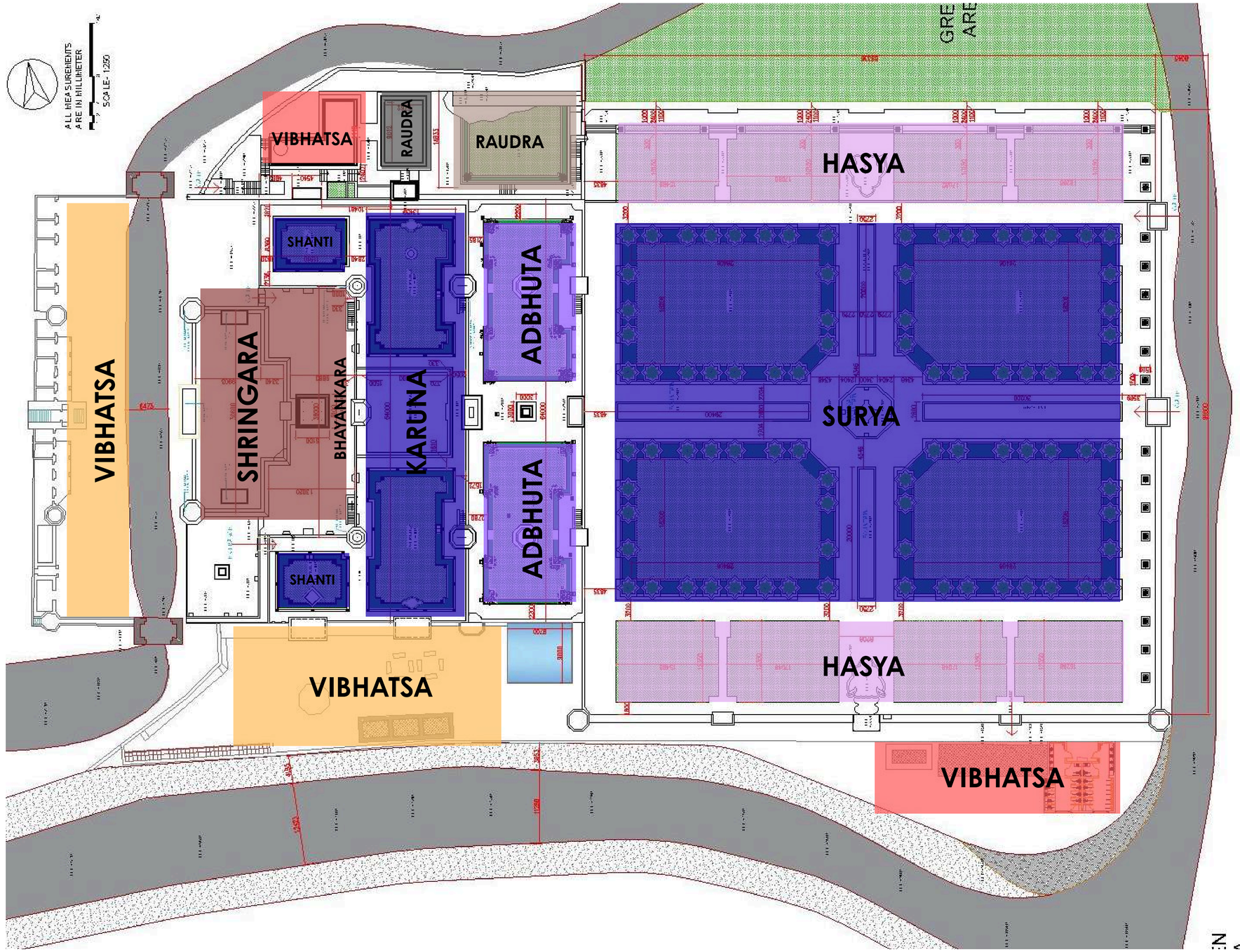
SITE ZONING



PLANET	RASA	ZONED FUNCTION	SPATIAL INTENT
VENUS	SHRINGARA	CULTURAL CAFÉ & SOUVENIR SHOP	SOCIAL INTERACTION, BEAUTY
MERCURY	HASYA	LOCAL HAAT & WORKSHOPS	INFORMAL, PLAYFUL
KETU	VIBHATSA	SERVICES & UTILITIES	VISUALLY SUBDUED ZONES
MARS	RAUDRA	SEMINAR & LEARNING SPACES	STRUCTURED, FOCUSED, DISCIPLINED ENVIRONMENT
JUPITER	ADBHUTA	PERMANENT EXHIBITION HALLS	VISUAL AWE
SATURN	KARUNA	RETAINED HERITAGE PAVILIONS	COMPASSION FOR HERITAGE
MOON	SHANTI	INNER COURTS & GARDENS	SILENCE, REFLECTION, BALANCE
RAHU	BHAYANKARA	EDGE ZONES & VIEWPOINTS	HEIGHT, OPENNESS, ANTICIPATION
SURYA (CENTER)	VEERA	CENTRAL CHARBAGH AXIS	IDENTITY, SPATIAL CORE

ARCHITECTURAL DESIGN V	SITE ZONING	REFERENCES • https://apps.nationalmap.gov/viewer/ • https://weather-and-climate.com/average-monthly-min-max-Temperature,jaipur,India	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 27/02/26 DATE OF SUB : 02/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

SITE ZONING



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SURYA (CENTER)	VEERA	CENTRAL CHARBAGH AXIS	IDENTITY, SPATIAL CORE

LEGEND

- PARKING AREAS
- SEMINAR AND LEARNING ROOM
- ADMIN BLOCK
- RETAINED AREA
- LOCAL HATT AND WORKSHOPS AREA
- OAT AND PERMANENT EXHIBITION AREA
- SERVICES AND TOILET BLOCKS
- CULTURAL CAFE, EXHIBITION AND SOUVENIR SHOP

ARCHITECTURAL DESIGN V	SITE ZONING	REFERENCES • https://apps.nationalmap.gov/viewer/ • https://weather-and-climate.com/average-monthly-min-max-Temperature,jaipur,India	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 27/02/26 DATE OF SUB : 02/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

PROGRAM AREA TABLE – NAVANAYANA CULTURAL INTERPRETATION CENTRE

S.No	Main Space	Sub-Spaces	Area (sqm)	Total (sqm)
A. INTERPRETATION + NARRATIVE SPACES				
1	Orientation Space	Entry orientation	40	
		Info + circulation	30	**70**
2	Introductory Gallery	Display	80	
		Circulation	25	**105**
3	Interpretation Galleries	Main galleries	180	
		Circulation	65	**245**
4	Flexible Exhibition	Modular hall	100	
		Storage	20	
		Partition zone	20	**140**
5	Digital Interactive	Interactive zone	70	
		Movement	30	**100**
6	Audio Visual	Seating	60	
		Control	15	
		Buffer	15	**90**
B. HERITAGE RESEARCH + KNOWLEDGE				
7	Research Centre	Reading	40	
		Staff	30	**70**
8	Study Rooms	2 rooms	40	**40**
9	Archive	Storage	50	
		Circulation	20	**70**
10	Seminar Room	Seating	60	
		Teaching	20	**80**
C. EXHIBITION SPACES				
11	Permanent Exhibition	Display	250	
		Circulation	75	
		Storage	30	**355**
12	Open Art Gallery	Corridors	100	
		Sculpture courts	80	**180**
13	Art Gallery (Haat)	Display	100	
		Circulation	40	**140**
14	Traditional Exhibition	Display	100	
		Buffer	60	**160**

S.No	Main Space	Sub-Spaces	Area (sqm)	Total (sqm)
D. CULTURAL + FOOD				
15	Café Indoor	Seating	45	
		Circulation	20	**65**
16	Café Outdoor	Seating	40	**40**
17	Kitchen	Prep	35	
		Storage/wash	20	**55**
18	Cultural Reading Hall	Seating	40	
		Circulation	20	**60**
E. LOCAL HAAT				
19	Local Haat	18 stalls	396	
		Circulation	100	**496**
20	Haat Art Gallery	Display	80	
		Circulation	30	**110**
21	Spill-out	Informal selling	100	**100**
F. CRAFT SPACES				
22	Craft Bazaar	Activity	100	
		Circulation	50	**150**
23	Traditional Craft Exhibit	Display	80	
		Buffer	40	**120**
24	Demo Spaces	Work	60	
		Interaction	40	**100**
25	Artisan Spaces	Work + storage	80	**80**
G. WORKSHOP + LEARNING				
26	Multipurpose Workshop	Hall	80	
		Storage	20	**100**
27	Artist Studios	8 rooms	200	
		Circulation	60	**260**
28	Training Rooms	2 rooms	80	**80**
H. PERFORMANCE				
29	OAT	Seating	75	
		Circulation	40	**115**
30	Stage	Platform	50	**50**
31	Backstage	Green room	30	
		Storage	20	**50**
I. RETAIL				
32	Souvenir Shop	Display	40	
		Storage	10	**50**

S.No	Main Space	Sub-Spaces	Area (sqm)	Total (sqm)
J. ADMIN				
33	Admin Block	Office	60	
		Meeting	25	
		Records	15	**100**
K. LANDSCAPE (OPEN)				
34	Trails	Pathways	300	**300**
35	Thematic Gardens	Landscape	400	**400**
36	Movement Paths	Circulation	300	**300**
37	Pause Nodes	Seating	150	**150**
38	Water Systems	Integration	200	**200**
39	Gathering Courts	Open space	250	**250**
L. ENTRY + FLOW				
40	Entrance	Plaza	60	
		Threshold	20	**80**
41	Ticketing	Counter	20	**20**
42	Info Desk	Help	15	**15**
43	Waiting	Seating	40	**40**
M. SERVICES				
44	Toilets	M/F/Accessible	90	**90**
45	Electrical	Plant	40	**40**
46	Storage	General	60	**60**
47	Waste	Collection	20	**20**
48	Service Circulation	10% approx	300	**300**
N. SITE ACCESS				
49	Drop-off	Vehicular	120	**120**
50	Parking	Limited	400	**400**
51	Service Entry	Access	80	**80**

ARCHITECTURAL DESIGN V	PROGRAM AREA TABLE	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 10/03/26 DATE OF SUB : 17/03/26 ALL DIMENSIONS IN MM

NAME: SABHYA AGARWAL
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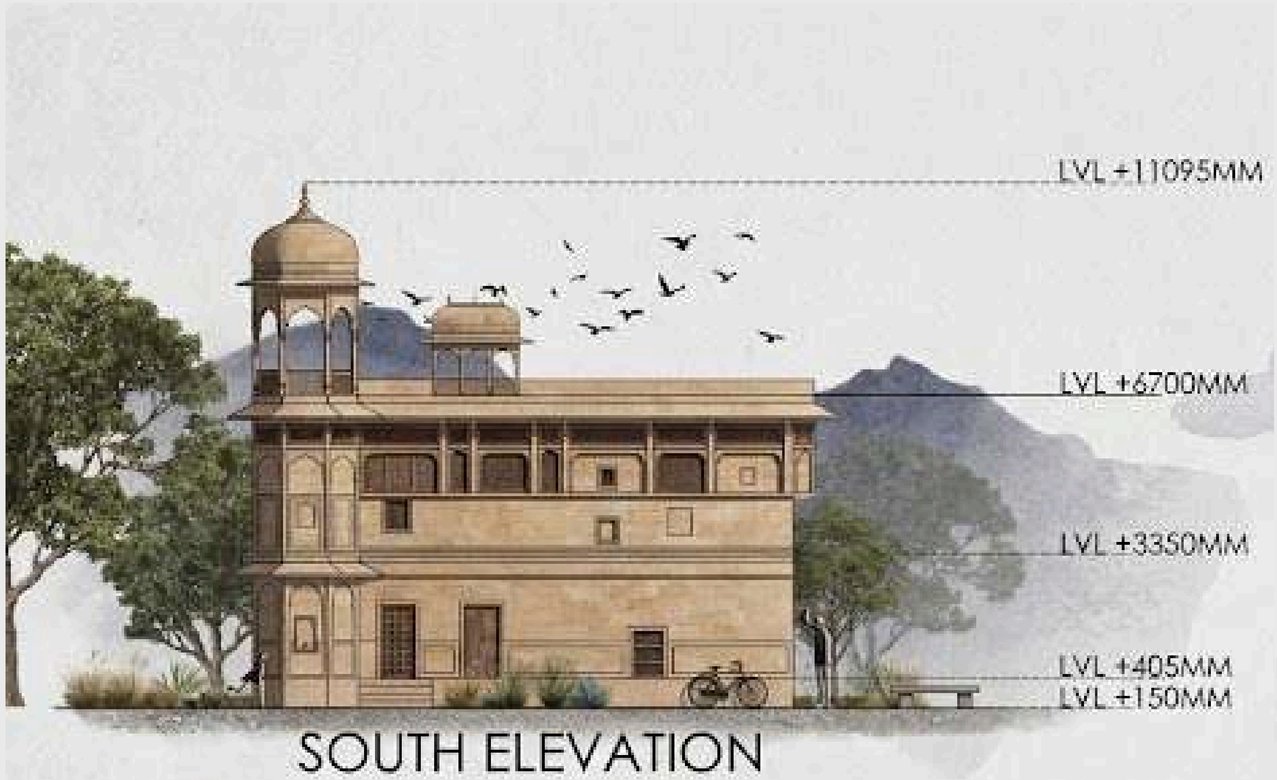
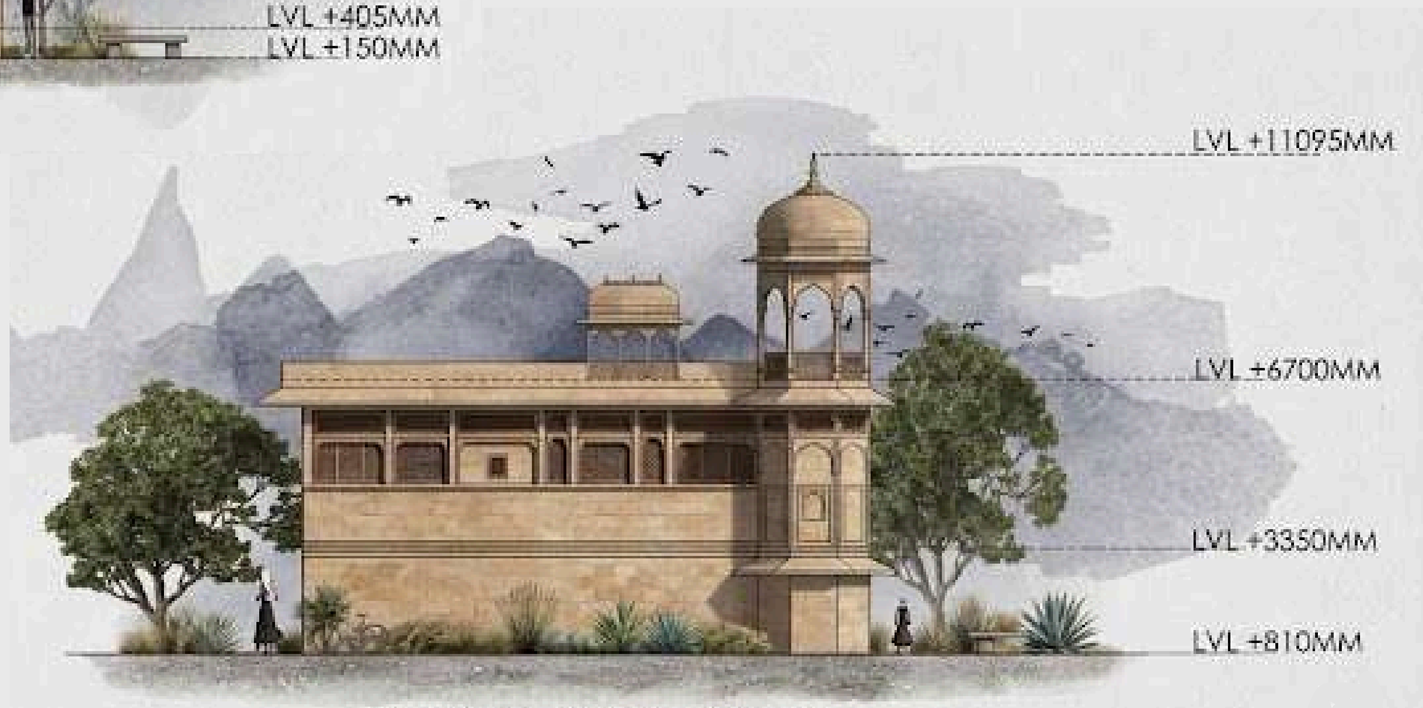
MNIT JAIPUR

NAVANAYANA CULTURAL INTERPRETATION CENTRE



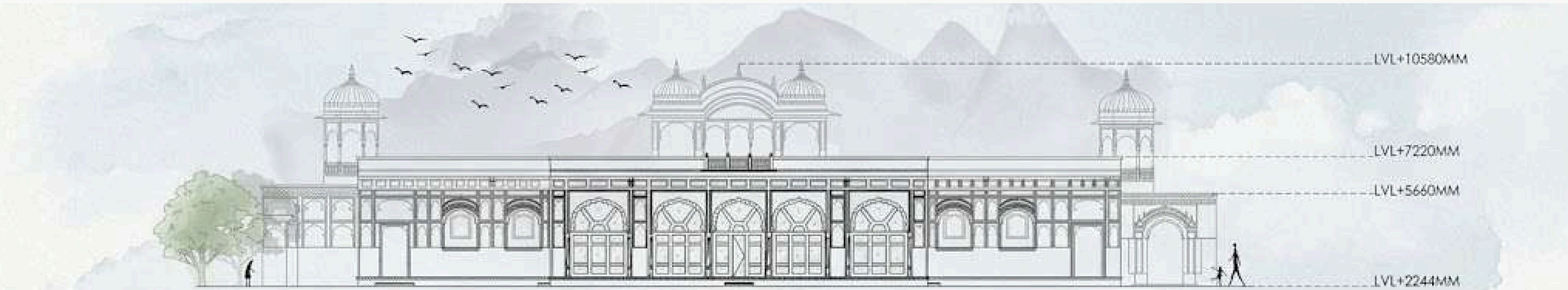
SOUTH ELEVATION



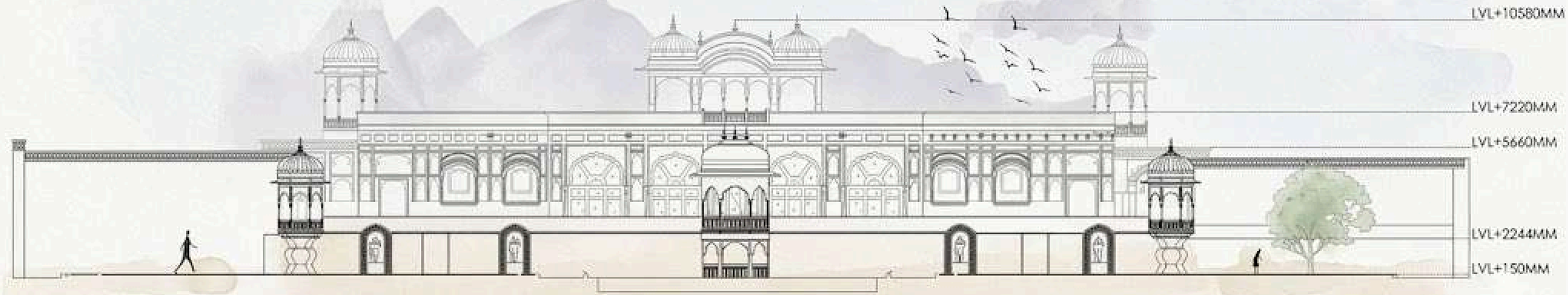
NORTH ELEVATION

ARCHITECTURAL DESIGN V	NAVANAYANA CENTRE	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 19/03/26 DATE OF SUB : 26/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

NAVANAYANA CULTURAL INTERPRETATION CENTRE



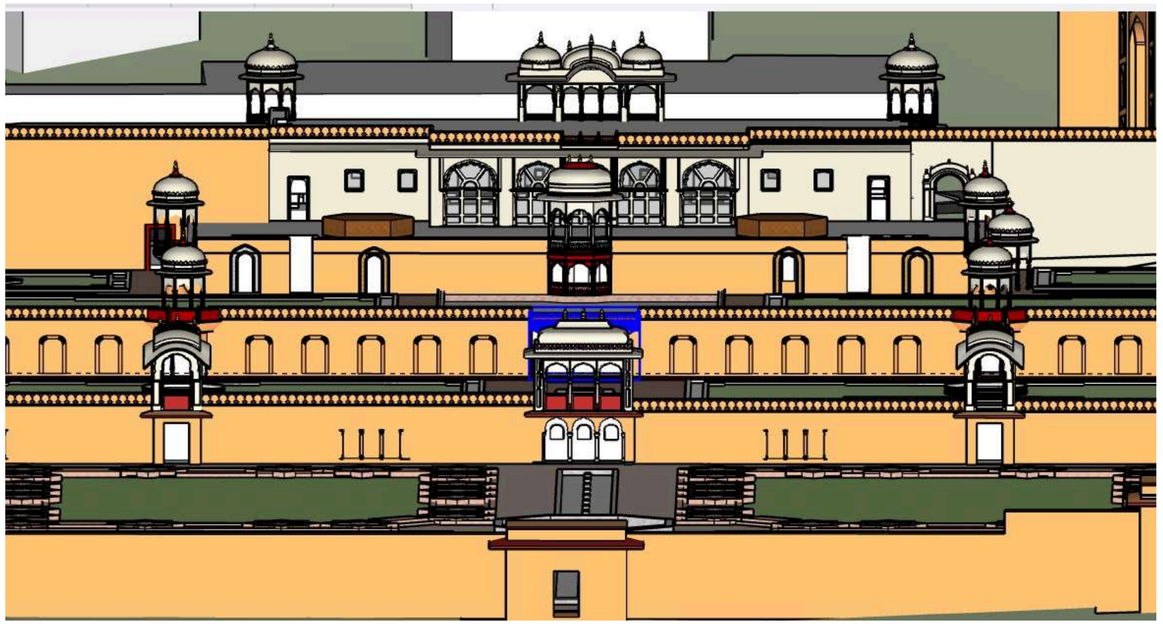
EAST ELEVATION

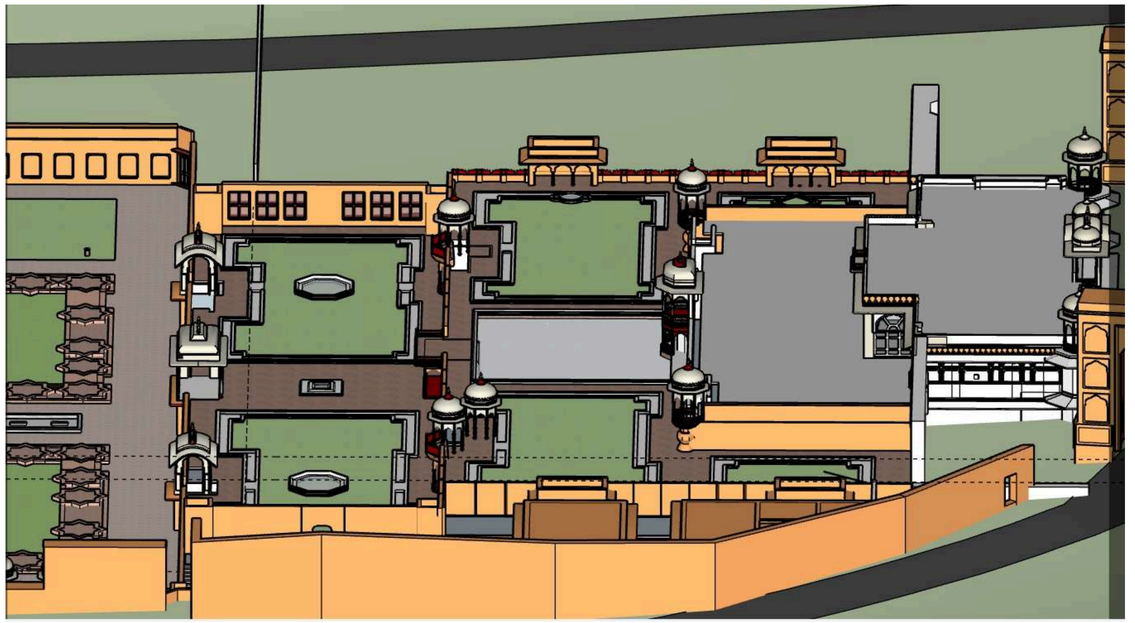


ENTRY LEVEL ELEVATION

ARCHITECTURAL DESIGN V	NAVANAYANA CENTRE	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 19/03/26 DATE OF SUB : 26/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

NAVANAYANA CULTURAL INTERPRETATION CENTRE

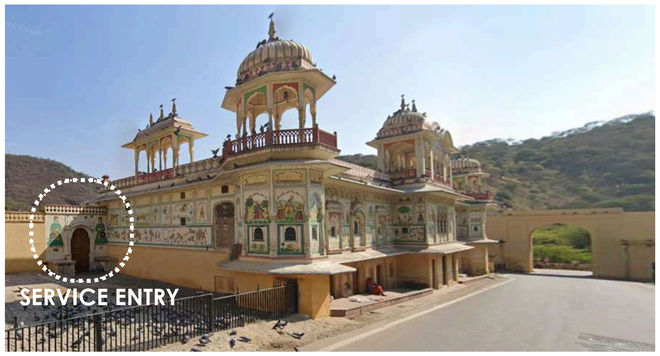


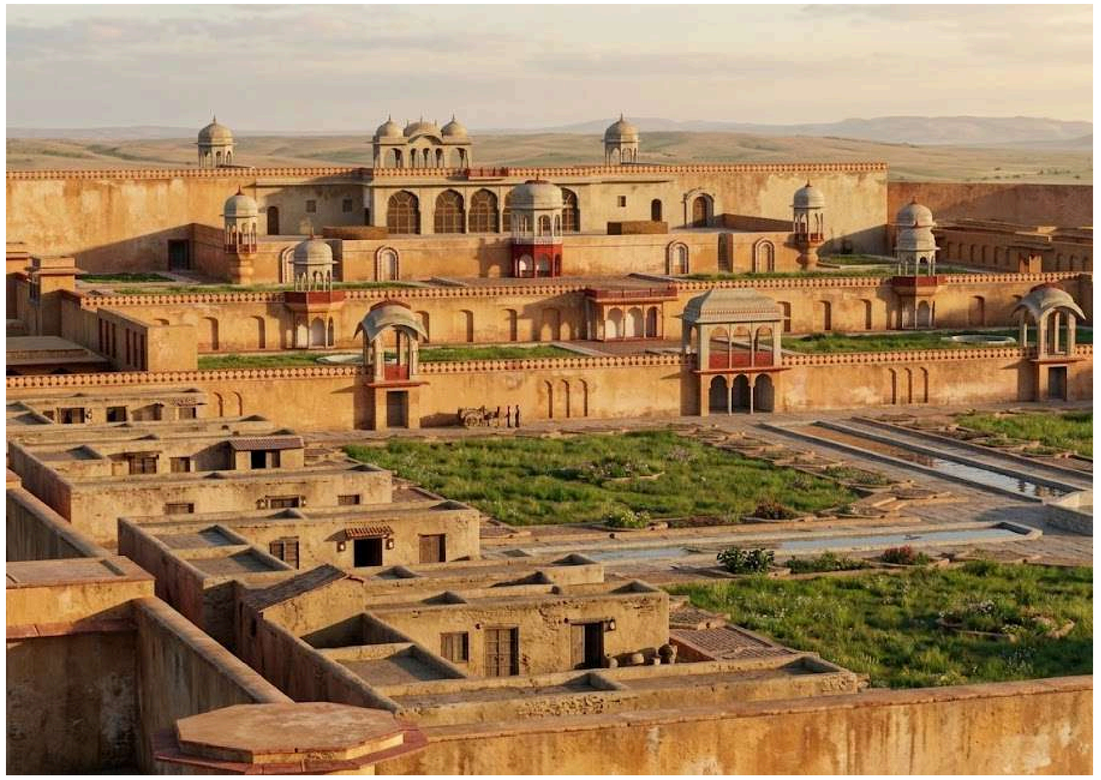


ARCHITECTURAL DESIGN V	NAVANAYANA CENTRE	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 19/03/26 DATE OF SUB : 26/03/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

NAVANAYANA CULTURAL INTERPRETATION CENTRE

VISITOR ENTRY





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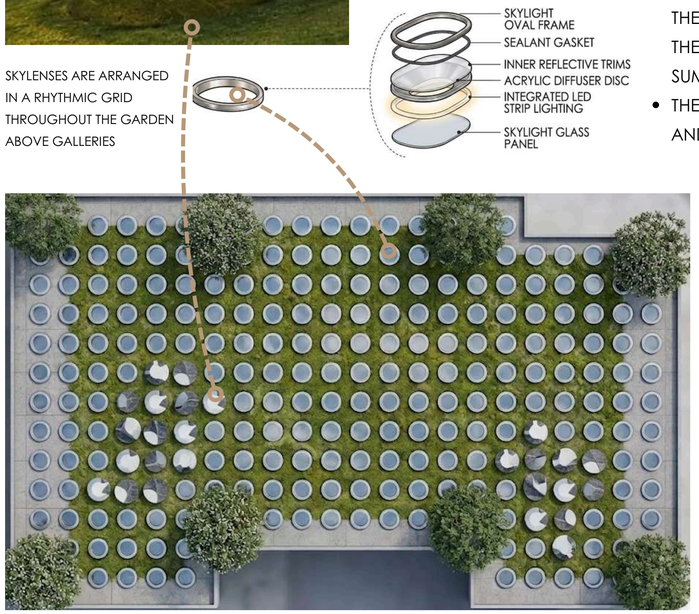
SCULPTURE COURT AND GALLERY OF FLOW

SCULPTURE COURT

CLOUD CEILING | RESPONSIVE LUMINOUS CANOPY

A BACKLIT CLOUD-LIKE CEILING OF THREE-DIMENSIONAL CURVED TENSILE FABRIC DEFINES THE IDENTITY OF THE GALLERY. THE SYSTEM BLENDS NATURAL AND ARTIFICIAL LIGHT TO REPLICATE CHANGING DAYLIGHT TONES THROUGHOUT THE DAY. SOFT GRADIENTS OF ILLUMINATION CREATE AN ETHEREAL AMBIENCE INSPIRED BY JAIPUR'S MONSOON SKIES AND DESERT LIGHT. INTEGRATED RING LIGHTS AROUND EACH SKYLIGHT PROVIDE FOCUSED LIGHTING FOR ARTWORKS AND SCULPTURES, WHILE THE LUMINOUS CANOPY ENHANCES SPATIAL DEPTH AND MAINTAINS A CALM MUSEUM ATMOSPHERE.

THE INTERVENTION TRANSFORMS THE BASEMENT GALLERIES INTO AN IMMERSIVE CULTURAL ENVIRONMENT WHERE LIGHT, REFLECTION, CLIMATE, AND HERITAGE INTERACT SEAMLESSLY.



DESIGN DETAILS

DESIGN CONCEPT

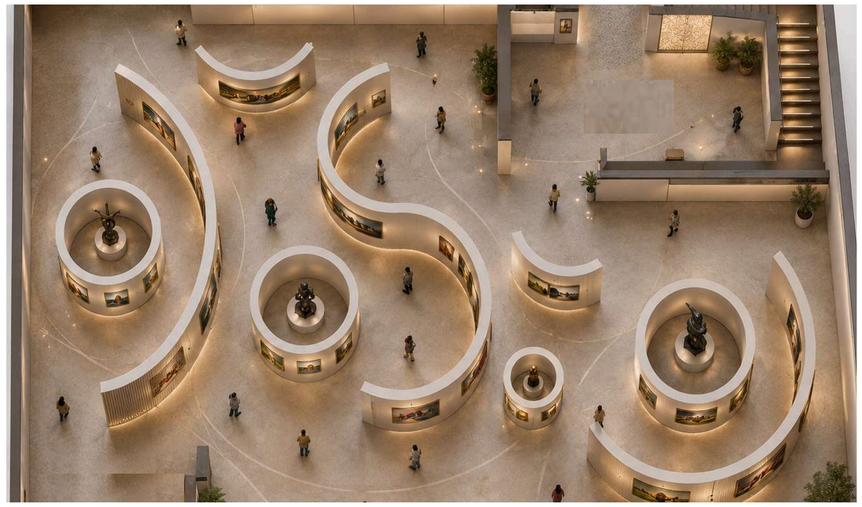
AN IMMERSIVE SUBTERRANEAN EXHIBITION ENVIRONMENT INSPIRED BY THE ROYAL GARDENS, REFLECTIVE WATER CHANNELS, AND CLIMATIC INTELLIGENCE OF SISODIA RANI KA BAGH.

THE GALLERY REINTERPRETS JAIPUR'S HERITAGE THROUGH FLUID SPATIAL PLANNING, MIRRORED INSTALLATIONS, DIFFUSED DAYLIGHT, AND RESPONSIVE ENVIRONMENTAL SYSTEMS — CREATING A CONTEMPORARY CULTURAL EXPERIENCE ROOTED IN PLACE.

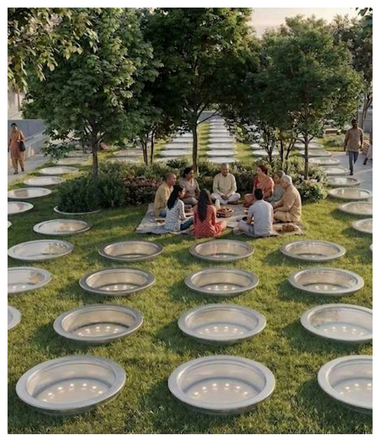
SKYLENSES- INTERACTIVE REFLECTIVE SCULPTURES

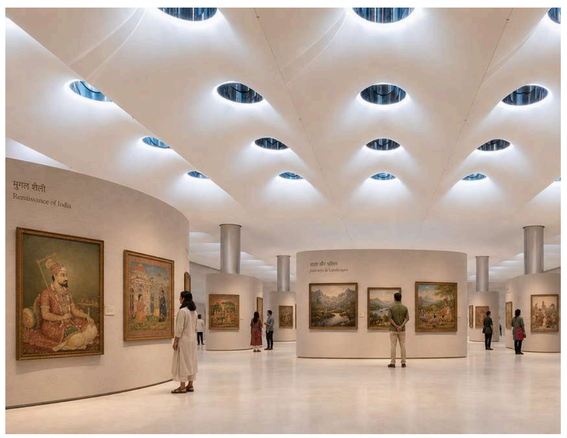
BEAUTIFUL INNOVATIVE MIRRORED "SKYLENSES" ARE ARRANGED IN A RHYTHMIC GRID THROUGHOUT THE GARDEN. THESE SCULPTURAL ELEMENTS REINTERPRET THE REFLECTIVE WATER BODIES AND SENSORY EXPERIENCES OF HISTORIC RAJPUT GARDENS.

- SEAMLESS CURVED MIRRORED SURFACES CREATE INTERACTIVE SEATING AND GATHERING SPACES.
- THE REFLECTIVE GEOMETRY CAPTURES FRAGMENTED VIEWS OF THE GALLERIES, VISITORS, AND HERITAGE ARCHITECTURE, ALLOWING USERS TO EXPERIENCE SISODIA RANI KA BAGH FROM CONSTANTLY SHIFTING PERSPECTIVES.
- THEIR SCULPTURAL FORM ENHANCES SPATIAL DYNAMISM WHILE VISUALLY EXPANDING THE UNDERGROUND GALLERIES.
- INTEGRATED CIRCULATORY COOLING TECHNOLOGY BENEATH THE SURFACE ABSORBS SOLAR HEAT AND KEEPS THE SEATING THERMALLY COMFORTABLE EVEN DURING JAIPUR'S INTENSE SUMMERS.
- THE INSTALLATIONS BECOME BOTH ENVIRONMENTAL DEVICES AND EXPERIENTIAL PUBLIC ART PIECES.



GALLERY OF FLOW





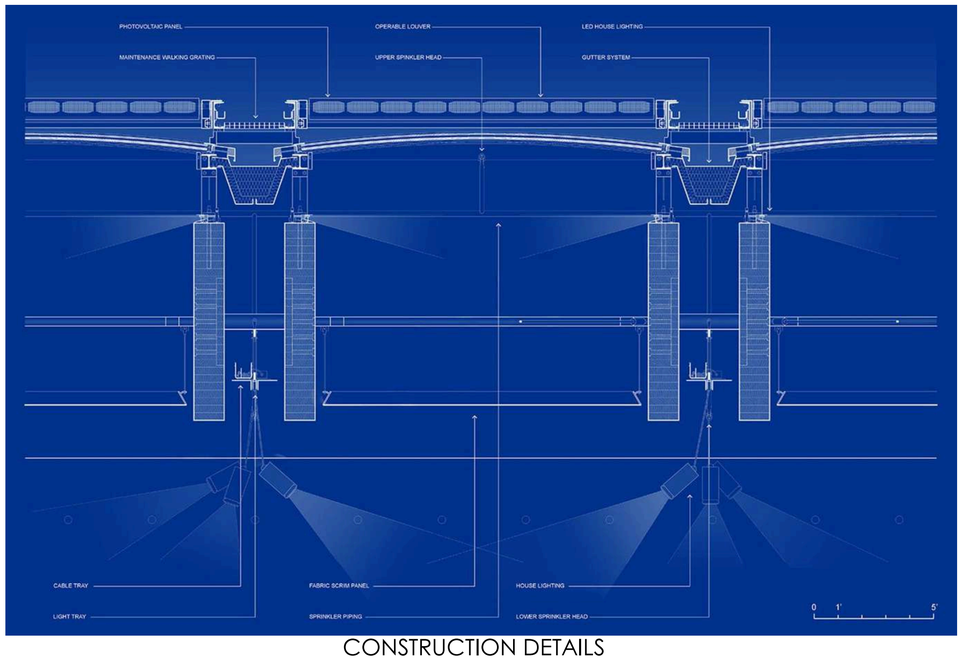
ARCHITECTURAL DESIGN V	SCULPTURE COURT AND GALLERY OF FLOW	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 19/04/26 DATE OF SUB : 26/04/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

HERITAGE INTERPRETATION CENTRE AND NARRATIVE SPACES

DESIGN DETAILS

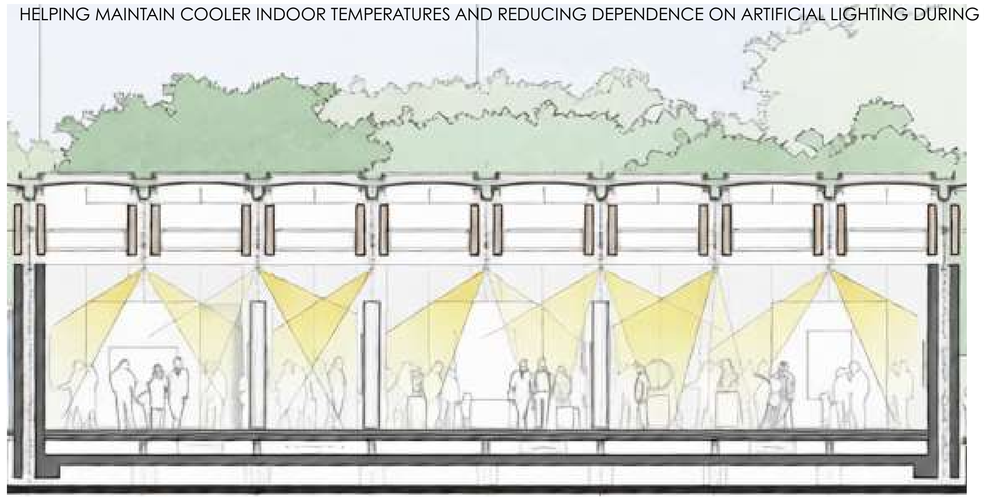
DIFFUSED DAYLIGHT ROOF SYSTEM

THIS ROOF SYSTEM IS DESIGNED AS A LINEAR DAYLIGHTING STRUCTURE THAT BRINGS CONTROLLED NATURAL LIGHT INTO THE UNDERGROUND EXHIBITION AND RESEARCH SPACES. THE SECTIONAL PROFILE ALLOWS SOFT, FILTERED DAYLIGHT TO PENETRATE DEEP INTO THE BASEMENT WHILE MAINTAINING THERMAL COMFORT AND VISUAL QUALITY SUITABLE FOR GALLERIES, ARCHIVES, AND INTERPRETATION SPACES. THE ROOF CONSISTS OF A SERIES OF GENTLY CURVED TRANSLUCENT SKYLIGHT MODULES SUPPORTED ON A LIGHTWEIGHT STRUCTURAL FRAMEWORK.

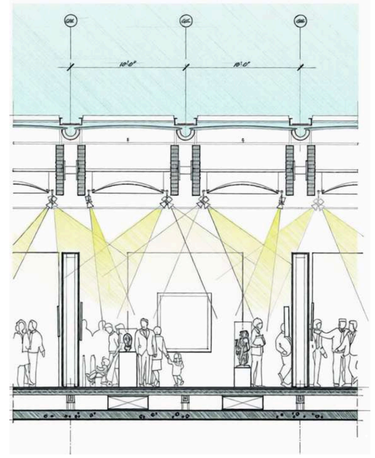


CONSTRUCTION DETAILS

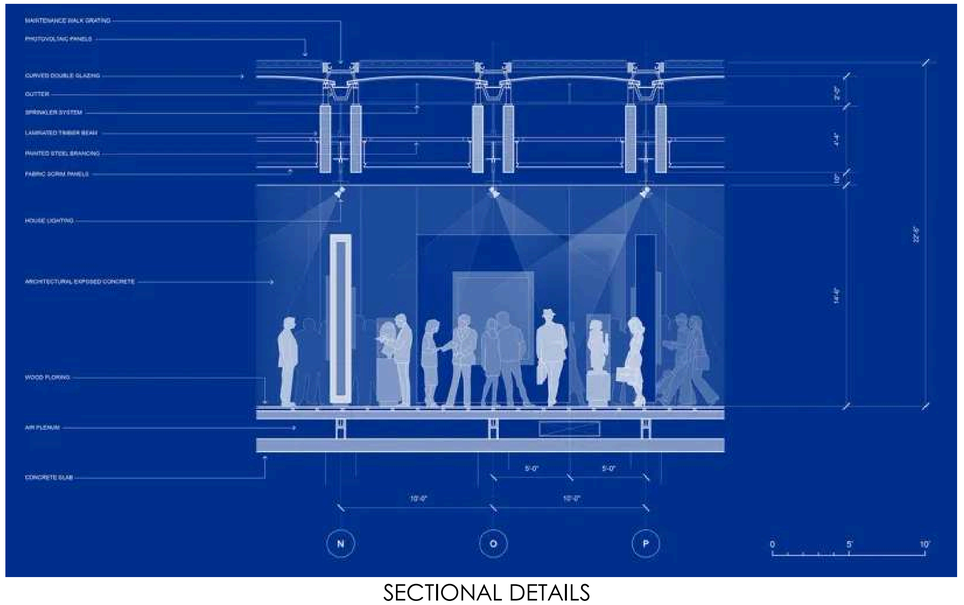
THE SYSTEM IS HIGHLY RESPONSIVE TO JAIPUR'S HOT SEMI-ARID CLIMATE. INSTEAD OF ALLOWING DIRECT SUNLIGHT INTO THE BASEMENT SPACES, THE LAYERED SKYLIGHT ASSEMBLY FILTERS AND DIFFUSES DAYLIGHT, SIGNIFICANTLY REDUCING GLARE AND SOLAR HEAT GAIN. THE INSULATED ROOF BUILD-UP MINIMIZES THERMAL TRANSFER, HELPING MAINTAIN COOLER INDOOR TEMPERATURES AND REDUCING DEPENDENCE ON ARTIFICIAL LIGHTING DURING DAYTIME HOURS.



EVOLUTION GALLERY SECTION

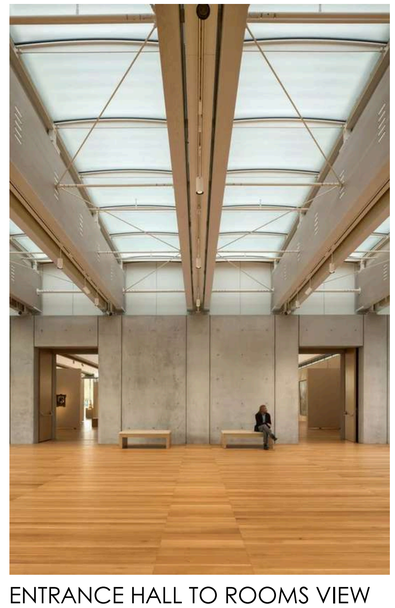


NARRATIVE GALLERY SECTION



SECTIONAL DETAILS

ORIENTATION GALLERY INTERIOR VIEW



ENTRANCE HALL TO ROOMS VIEW

ARCHITECTURAL DESIGN V	SCULPTURE COURT AND GALLERY OF FLOW	SIGNATURE	SHEET NO : SCALE : DATE OF INTRO: 19/04/26 DATE OF SUB : 26/04/26 ALL DIMENSIONS IN MM	NAME: SABHYA AGARWAL ID: 2023UAR1491 SEM 6 DEPARTMENT OF ARCHITECTURE & PLANNING MNIT JAIPUR

SISODIYA RANI KA BAGH

SITE PLAN

ALL MEASUREMENTS
ARE IN MILLIMETER

1 2 4 8 16M

VACANT
LAND

12 M WIDE ROAD

10 M WIDE ROAD

8 M WIDE ROAD

6.5 M WIDE ROAD

6 M WIDE ROAD

GREEN
AREA

GREEN
AREA

ARCHITECTURAL
DESIGN V

DATE 02.04.2026

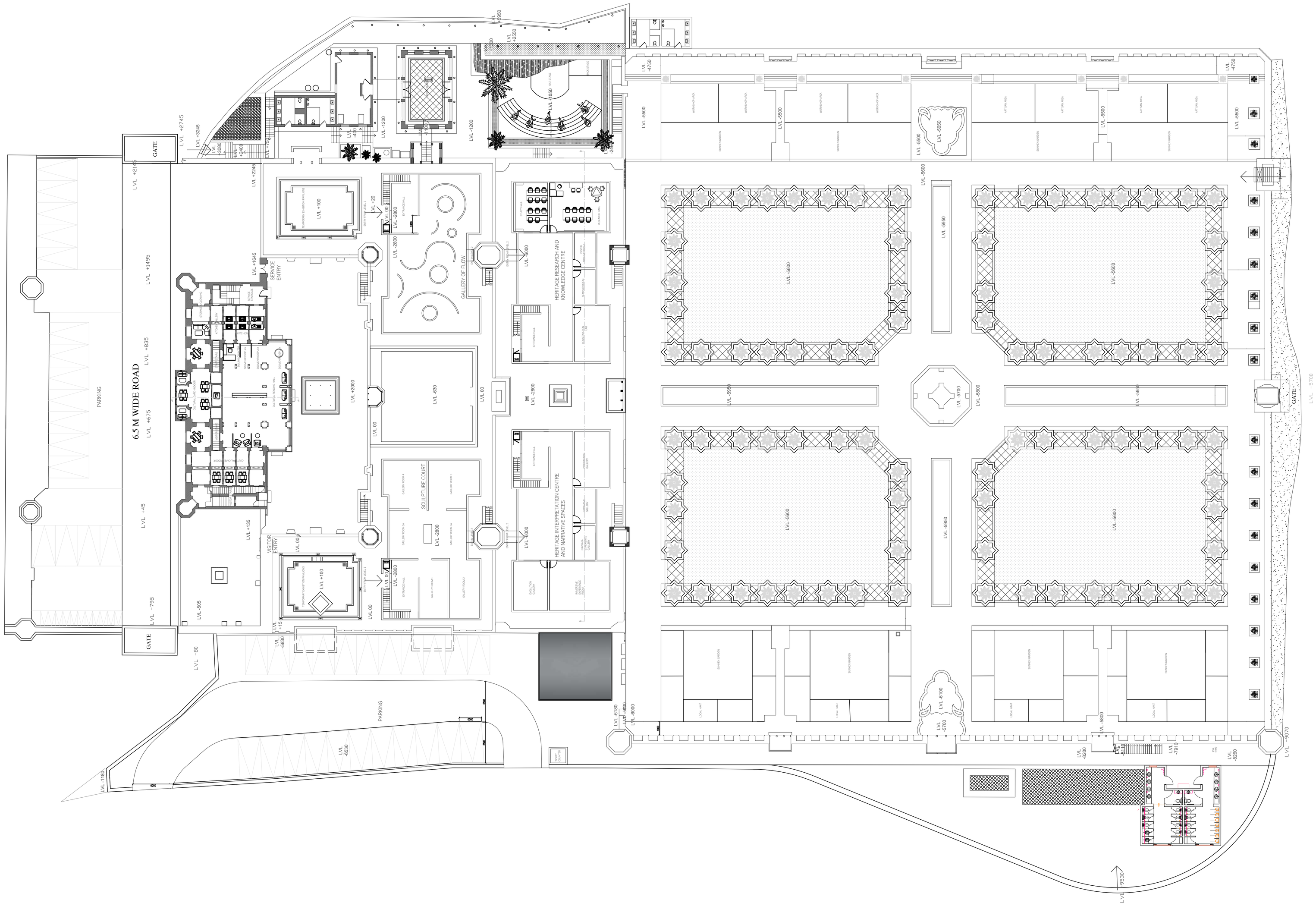
Notes

Signature

SABHYA AGARWAL
2023uar**1491**

PLAN

01



ARCHITECTURAL
DESIGN V

DATE 02.04.2026

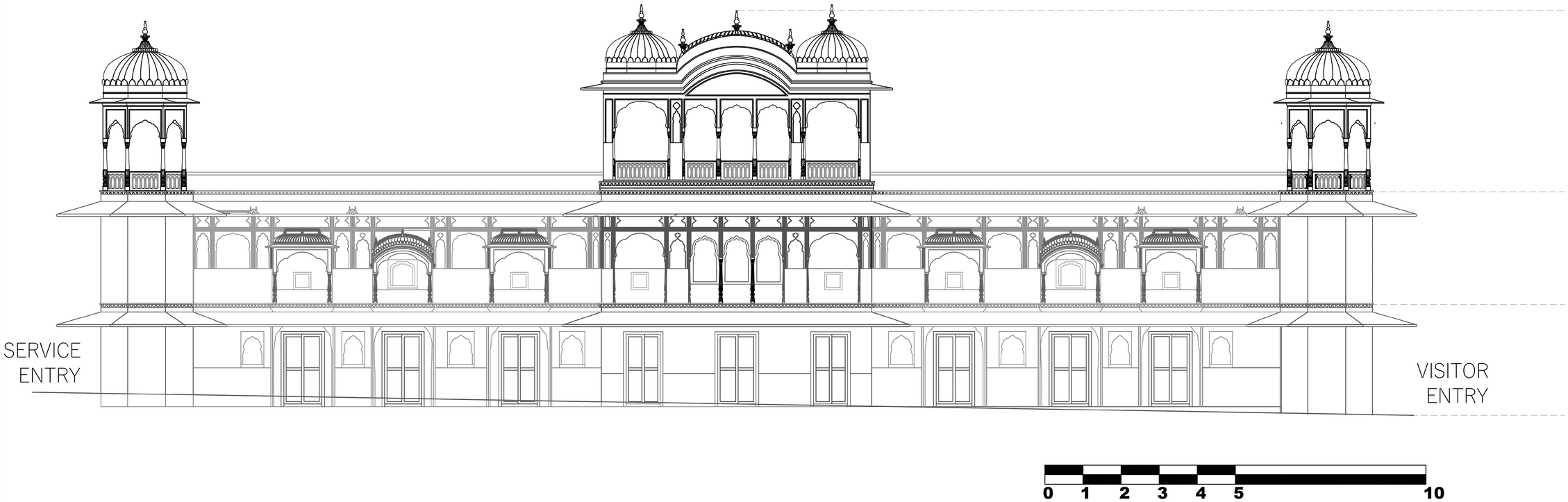
Notes

Signature

SABHYA AGARWAL
2023uar**1491**

PLAN

02



WEST ELEVATION

ARCHITECTURAL
DESIGN V

DATE 05.04.2026

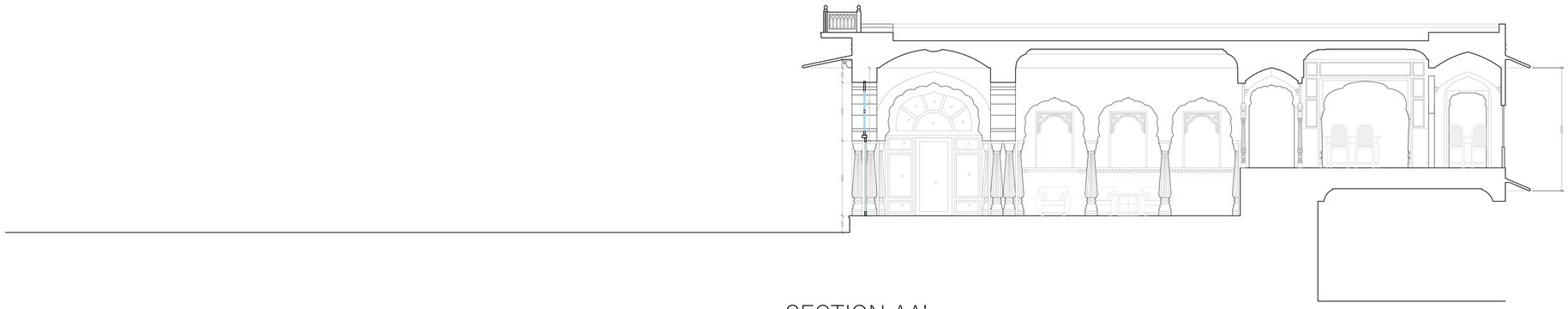
Notes

Signature

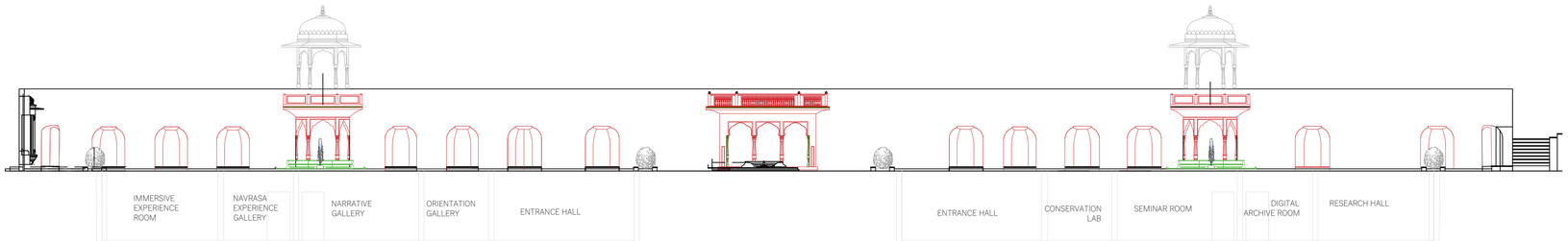
SABHYA AGARWAL
2023uar**1491**

ELEVATION

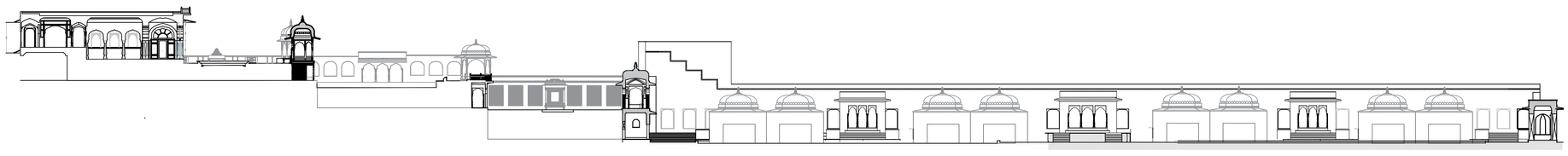
03



SECTION AA'



SECTION BB'



SECTION AT CENTRAL AXIS

ARCHITECTURAL
DESIGN V

DATE 02.04.2026

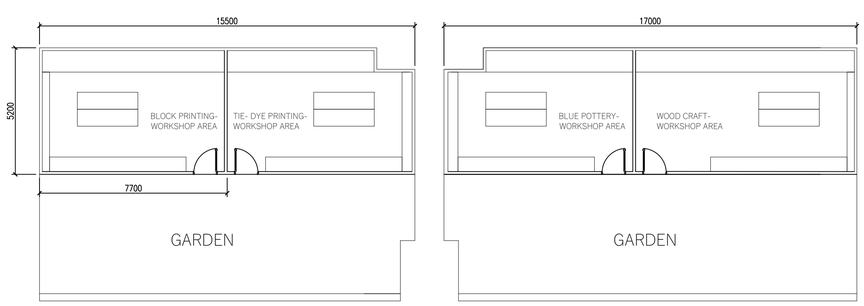
Notes

Signature

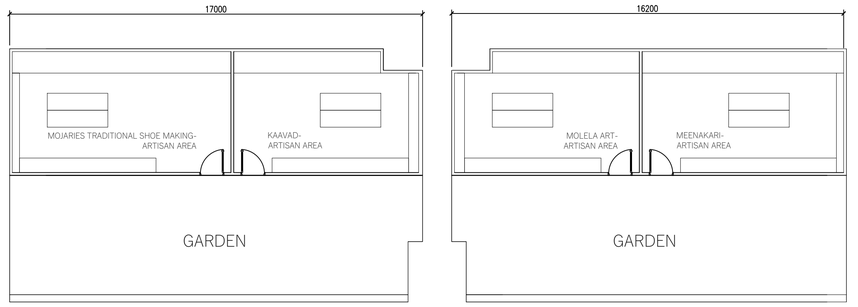
SABHYA AGARWAL
2023uar**1491**

SECTION

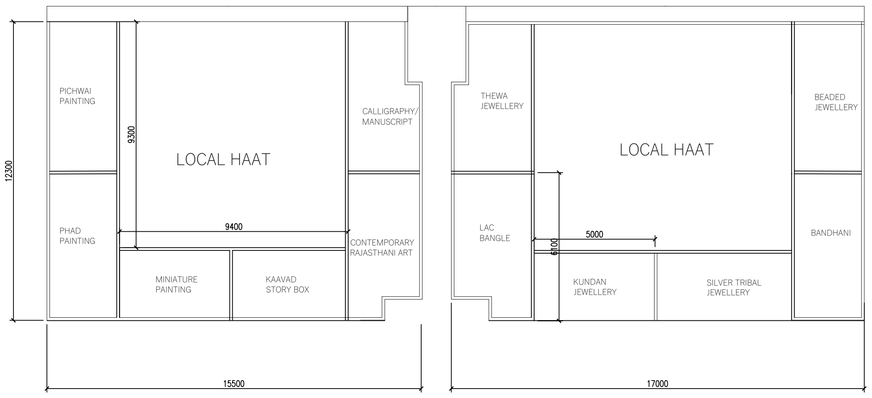
03

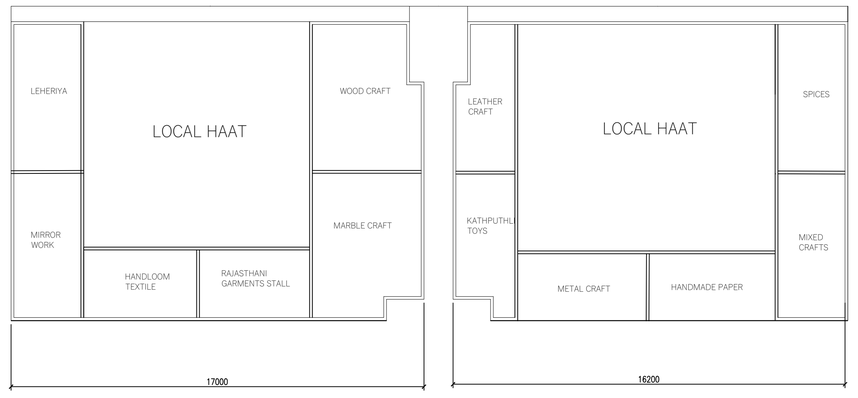


WORKSHOP AREA



ARTISAN AREA





LOCAL HAAT

ARCHITECTURAL
DESIGN V

DATE 05.04.2026

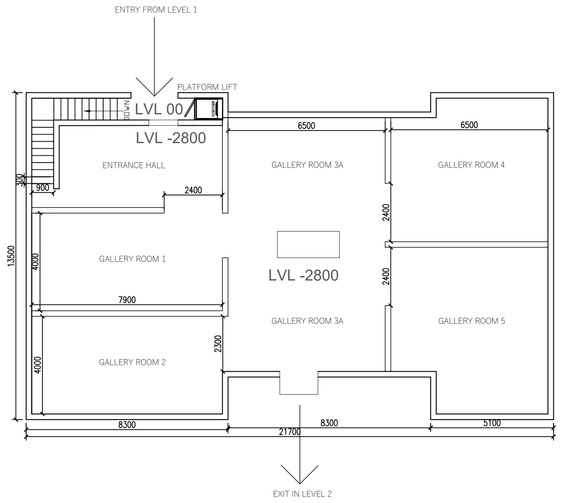
Notes

Signature

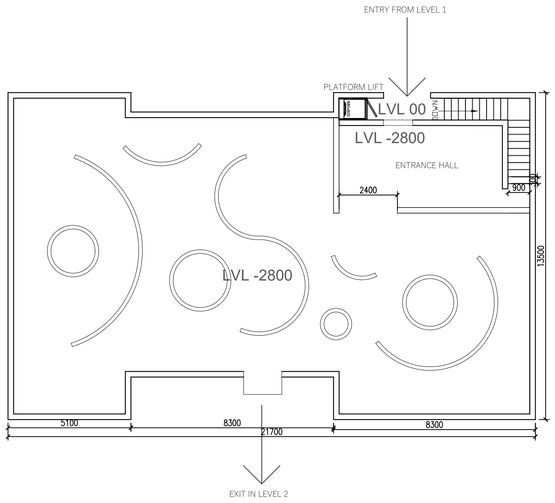
SABHYA AGARWAL
2023uar**1491**

PLAN

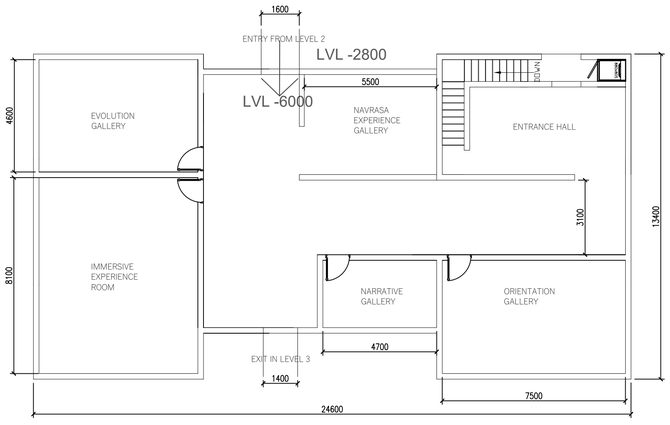
05



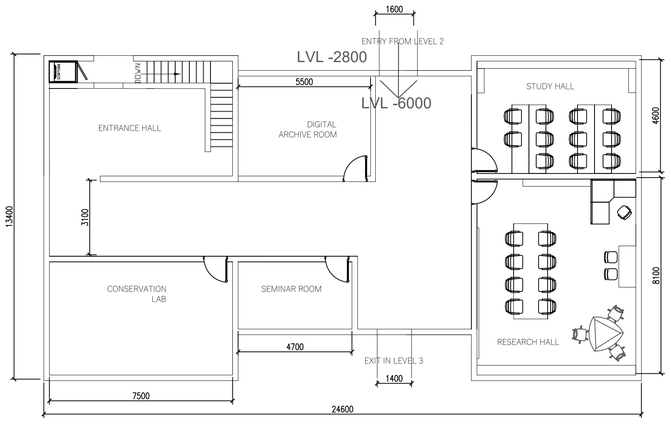
SCULPTURE COURT



GALLERY OF FLOW



HERITAGE INTERPRETATION CENTRE
AND NARRATIVE SPACES



HERITAGE RESEARCH AND
KNOWLEDGE CENTRE

ARCHITECTURAL
DESIGN V

DATE 05.04.2026

Notes

Signature

SABHYA AGARWAL
2023uar**1491**

PLAN

04