THESIS REPORT ON

“MUSEUM OF CONTEMPORARY ART AND ARCHITECTURE, NEW DELHI “

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF:

BBD UNIVERSITY

BACHELOR OF ARCHITECTURE

BY

(GULNAR AZIZ)

(1190101013)

THESIS GUIDE

(AR. ANKUR SAXENA)

SESSION

2023-24

TO THE

SCHOOL OF ARCHITECTURE AND PLANNING

BABU BANARASI DAS UNIVERSITY

LUCKNOW.

SCHOOL OF ARCHITECTURE AND PLANNING

BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).

CERTIFICATE

I hereby recommend that the thesis entitled "MUSEUM OF CONTEMPORARY ART AND ARCHITECTURE, NEW DELHI " under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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Recommendation Accepted

Not Accepted

External Examiner

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Certificate of thesis submission for evaluation

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4. **Degree for which the thesis is submitted: ……**
5. **Faculty of University to which the thesis is submitted:** **Yes / No**
6. **Thesis preparation guide was referred to for preparing the thesis.** **Yes / No**
7. **Specification regarding thesis format have been closely followed.** **Yes / No**
8. **The content of the thesis have been organized based on the guidelines.** **Yes / No**
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ACKNOWLEDGEMENT

I acknowledge my sincere thanks to my faculties Ar. ANKUR SAXENA, who guided me through active participation in discussions and gave their kind cooperation throughout the process.

My sincere thanks to our Thesis coordinator Ar. SHAILESH KUMAR YADAV for his cooperation and understanding at every stage of the study, which gave my study a new direction and made it more meaningful.

I would also like to express my sincere thanks to Ar. Mohit Kumar Agarwal, who graciously served as a Dean and Prof. Sangeeta Sharma, the esteemed Head of the Department for providing essential knowledge and insightful ideas through juries, which proved instrumental in the successful execution of this endeavour.

I would also like to extend my heartfelt appreciation to my friends and batch mates, whose direct and indirect assistance has greatly contributed to the progress of my project.

Last but certainly not least, I would like to express my profound gratitude to my parents and family for their unwavering encouragement, patience, and understanding throughout this journey. I am truly privileged to have had the support and guidance of such remarkable individuals and loved ones, and I will forever cherish their contributions to my success.

Thank You!

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INTRODUCTION

A museum is a revered institution that serves as a custodian of cultural heritage, knowledge, and artistic expression. It is a sanctuary where the treasures of human creativity, history, and innovation are preserved, curated, and showcased for the benefit of present and future generations. Museums encompass a vast array of collections, ranging from ancient artifacts and archaeological discoveries to contemporary artworks and technological innovations. These collections serve not only to educate and inspire but also to provoke thought, spark curiosity, and foster a deeper understanding of the world around us. Museums play a vital role in society by serving as centers for research, education, and cultural exchange, as well as platforms for social engagement and community enrichment. Through their exhibitions, programs, and initiatives, museums provide avenues for individuals to connect with their cultural heritage, explore diverse perspectives, and appreciate the richness and complexity of human experience. In essence, museums stand as guardians of humanity's collective memory, preserving and interpreting the past while shaping the future.

WHY THIS PROJECT?

The project allows me to design something along similar lines. which is important to the public in various stages of their lives be it a student, teacher, traveler, researcher, etc. and aspires to be iconic building incorporating history and innovations.

WHAT IS THE NEED?

Museums fulfill a fundamental need in society by serving as repositories of knowledge, culture, and heritage. They play a crucial role in preserving and safeguarding humanity's collective memory, ensuring that valuable artifacts, artworks, and historical documents are conserved for future generations. Beyond mere preservation, museums serve as vital educational institutions, providing opportunities for individuals to engage with and learn from the past, present, and future. Through curated exhibitions, interactive displays, and educational programs, museums offer immersive experiences that stimulate curiosity, foster critical thinking, and promote lifelong learning. Moreover, museums serve as hubs for cultural exchange and social cohesion, bringing together diverse communities and facilitating dialogue across different perspectives and experiences.

SCOPE

Museum Planning is an opportunity to describe a new museum's vision, the visitor experience, and an organizational plan for a new institute. Space integration is the most important part of museum planning and it is the main scope of work which can be exhibited through circulation pattern and zoning on sheets.

LIMITATIONS

The project will be design oriented and detailing of structural elements with landscaping.

The project also doesn't cater about the costing and estimation of the project as it is an academic project.

METHODOLOGY

- Site study
- Literature study & Case study
- Analysis and inferences
- Formulation of concept & design concept
- Activities and interpretation of space requirements
- Concept and initialization of design
- Design development
- Final design

LITERTAURE STUDY

LIT. STUDY: INDIA INTERNATIONAL CENTRE-NEW DELHI

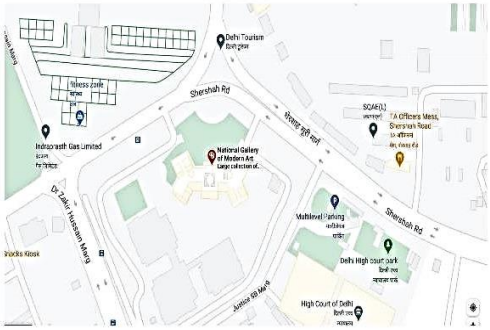
INTRODUCTION

.The buildings of the Centre are located in an ideal environment. Situated in theheart of New Delhi, the Centre is adjacent to the Lodi gardens overlooking a magnificent landscape of gardens and historic monuments from the sixteenth century.
.The site of prestigious complex is situated at lodhi estate, adjoining the serene surroundings of the lodhi gardens, famous for their natural splendour.
.The site measures 4.6 acres adjoins road on eastern and southern side and provide excellent view of gardens and Lodhi tomb.
.The height of the building has been kept below the base of the domes of the nearby tombs in Lodhi garden

HISTORY OF IIC DELHI

.The idea ofIIC first came up in october 1958, when Dr.S.Radhakrishnan, VP of India and John D. Rockefeller III discussed setting up a centre for the quickening and deepening of true and thoughtful undersrtandfing between people of nation.
.Mr. Rockefeller suggested that an international house on the idea of Tokyo's International house of Japan.
.Pd.Jawaharlal Nehru, then the Prime minister of India, was so enthused with the idea that he personally took interest in selectiuon of the beautiful 4.76 Acres site adjacent to lodhi gardens.

YEAR - 1962
SITE AREA - 4.6 ACRES
ARCHITECT - JOSEPH ALLEN STEIN



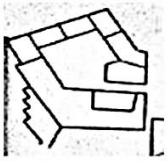
LOCATION

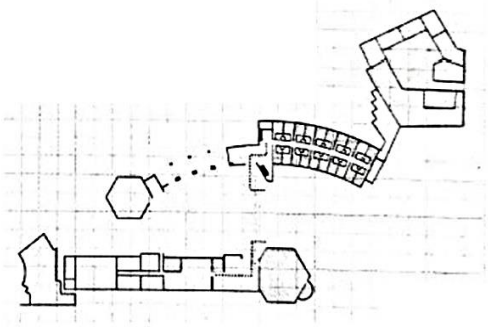
40, Max Mueller Marg, New Delhi 110003

Jor Bagh	850m
NDLS	6.3km
Lodhi Corner	350m
IGIA	8km

PLANNING

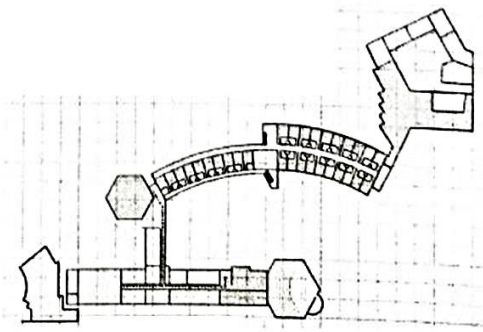
Three separate wings of the IIC complex are designed to reflect the different functional aspects of the Centre.
.Residential rooms in the north wing.
.The dining areas in the west
.Third complex of the library,
.Auditorium and administrative offices in the south wing, are connected to each other by walkways with overhanging eaves in Lodhi.





GROUND FLOOR

CONFERENCE BLOCK
.Multipurpose Seminar hall (ground floor) 550 person
.Hall 1,2,3 (1st flooor)
.Art Gallery (second floor)



FIRST FLOOR

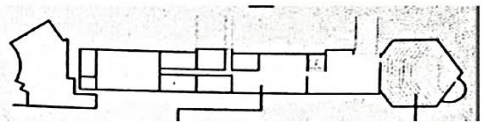
.Conference room .Auditorium
.Pantry .Offices
.Library .Dining/ lounge
.Guest room .Toilet
.Reception .Circulatioon

SITE

STRUCTURE MATERIALS

.Refinement of craft techniques, architect used indigenous elements with the modern use of exposed brick.

.The use of local material, such as tened by screened is soft- found jalis in ceramic blue tiles.



PROGRAMME BLOCK

.The Auditorium: 231person
.Library (ground floor)
.Conference Hall-1(1st floor) 50 around the table
.Offices (1st floor)

LIT.STUDY:GUGGENHIUM MUSEUM-NEW YORK

ELEVATION

Swelling out towards the city of Manhattan, the Solomon R. Guggenheim Museum was the last major project designed and built by Frank Lloyd Wright between 1943 until it opened to the public in 1959, six months after his death, making it one of his longest works in creation along with one of his most popular projects.

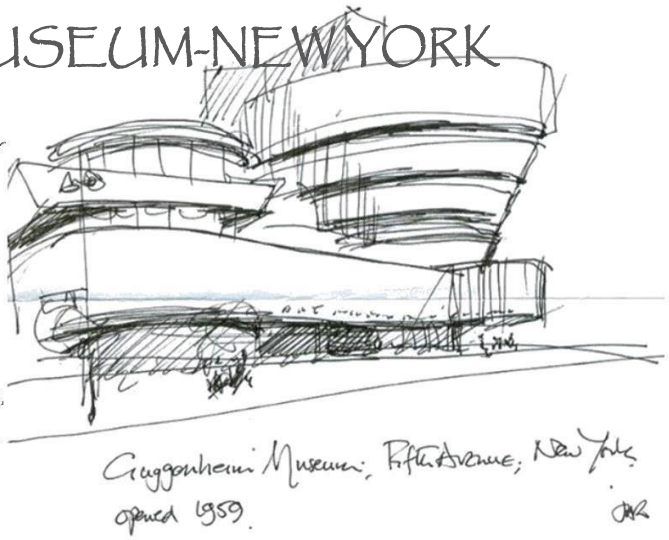
.Completely contrasting the strict Manhattan city grid, the organic curves of the museum are a familiar landmark for both art lovers, visitors, and pedestrians alike.

.The Solomon R. Guggenheim Museum, often referred to as The Guggenheim, is an art museum located at 1071 Fifth Avenue on the corner of East 89th Street in the Upper East Side neighborhood of Manhattan, New York City.

.It is the permanent home of a continuously expanding collection of Impressionist, Post-Impressionist, early Modern and contemporary art and also features special exhibitions throughout the year.

.The museum was established by the Solomon R. Guggenheim Foundation in 1939 as the Museum of Non-Objective Painting, under the guidance of its first director, the artist Hilla von Rebay.

.It adopted its current name after the death of its founder, Solomon R. Guggenheim, in 1952.



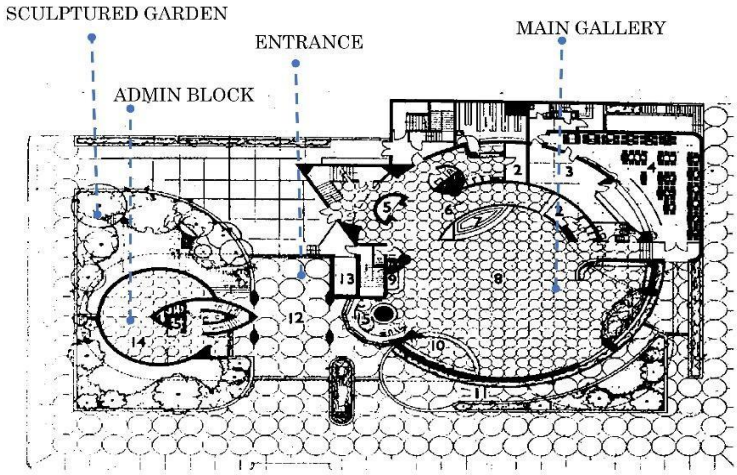
SPECIFICATIONS

4740 SQ METRE gallery space.
.1395 SQ METRE office, theater and retail space.
.28 M tall atrium topped with expansive glass dome.
.Main ramp coins upwards 6 floors, more than 400m.

LOCATION-CONNECTIVITY

.Side neighborhood of Manhattan, New York City.
Latitude: 40° 46' 58.728" N
Longitude: 73° 57' 32.2956"
.5.1 km away from Grand Central.
.6.0 km away from Pennsylvania Station
.29.2 km away from J. F. Kennedy International Airport

SITE PLAN

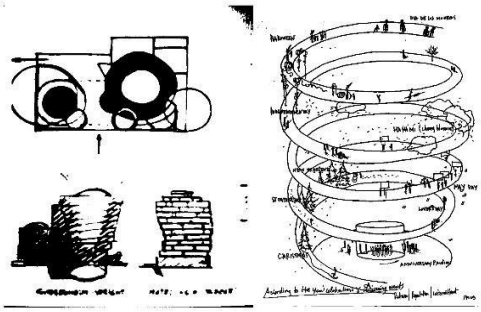


CONCEPT: Wright created the philosophy of 'organic architecture,' which maintains that the building should develop out of its natural surroundings.

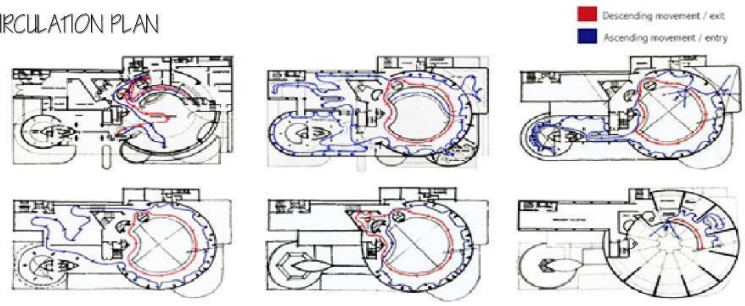
.Although the word 'organic' usually refers to something that bears the characteristics of plants or animals, for Frank Lloyd Wright the term organic architecture had a separate meaning.

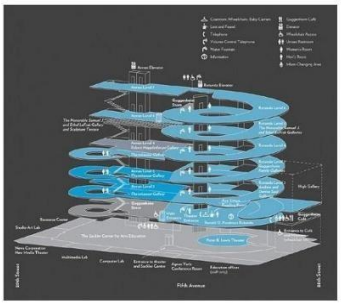
.For him organic architecture was an interpretation of nature's principles manifested in buildings that were in harmony with the world around them.

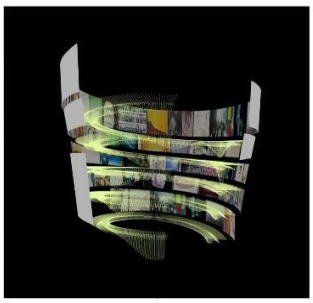
.Building inspired by Wright's love for the automobile — Planetarium designed for visitors to drive up the ziggurat-like ramps.



CIRCULATION PLAN



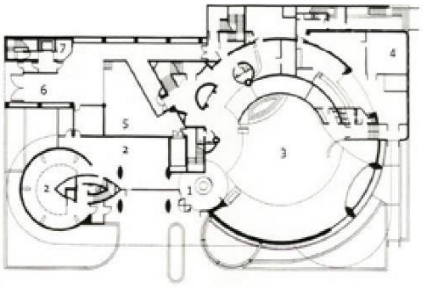




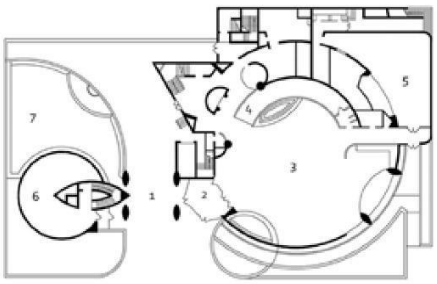
.In the Guggenheim, Wright intended to allow visitors to experience the collection paintings by taking an elevator to the top level then view artworks by descending the central spiral ramp Museum currently designs exhibits to be viewed walking up the ramp rather than walking down.

.From street, building looks like a white ribbon rolled into a cylindrical shape, slightly wider at the top than at the bottom.

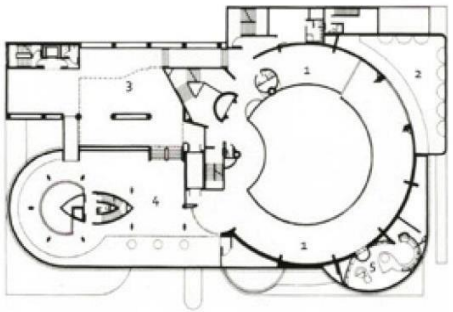
LIT.STUDY:GUGGENHIUM MUSEUM-NEW YORK



MAIN FLOOR (1984-1992)
1 ENTRY VESTIBULE
2 STORE
3 ATRIUM / EXHIBITIONS
4 CONSERVATION
5 LOADING DOCK
6 RECEIVING
7 CONTROL



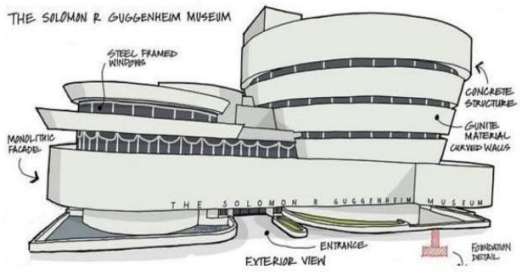
GROUND FLOOR (1959)
1 ACCESS
2 ENTRY VESTIBULE
3 MAIN GALLERY / ATRIUM
4 RAMP
5 GALLERY
6 OFFICES
7 SCULPTURE GARDEN

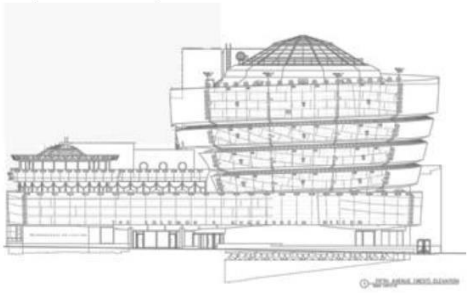


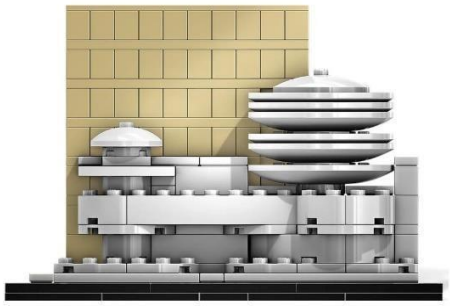
MAIN FLOOR (1984-1992)
1 RAMP/ EXHIBITION
2 HIGH GALLERY
3 EXHIBITION
4 PERMANENT COLLECTION
5 READING ROOM

FLOOR PLANS

.Four floors of exhibition space, three of which are double height, also have office and storage space for mechanical systems.
.Twelve radial web walls divide the gallery into 70 bays for viewing art work,
.A large glass dome covers the entire rotunda, providing natural lighting inside the gallery.
.Skylights line each level of the rotunda, providing natural light along the periphery.
.The gallery walls are 9'6" tall and slope slightly outwards at 97 degrees from the floor.
.Designed to hold paintings, the tilt of the gallery walls was intended to replicate the slope of an easel



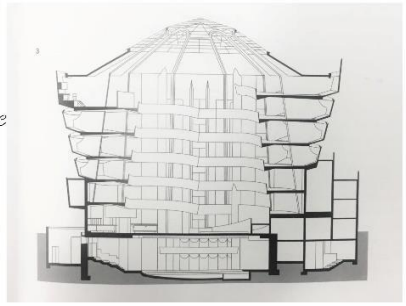




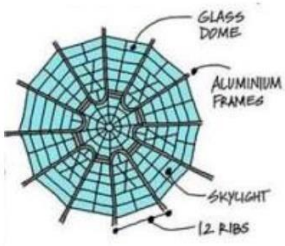
ELEVATIONS

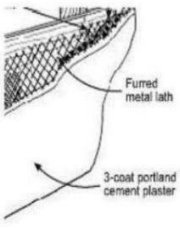
SECTIONS

.A giant spiral ramp circulates up to a giant dome with twelve narrow reinforced concrete partitions that pierce the spiral and serve as stiffeners.
. The web walls act as shear walls, transferring force laterally and vertically, while helping resist bending moments.
.12 radial web walls around the rotunda, 8" thick and 25° wide at the top were designed.
.Structural core includes staircase and elevator shaft.
.Acts as structural anchor and provides an alternate circulation to the ramp.



MATERIALS





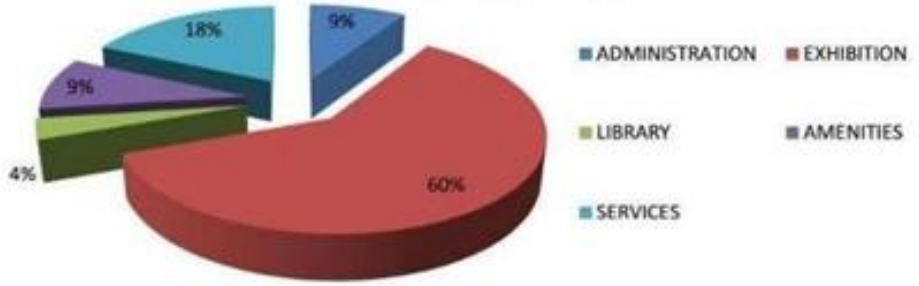
.The Guggenheim is primarily composed of reinforced concrete.
.Normal weight cast in place concrete is the material of the lower levels.
.Light weight concrete is the material of the interior radial walls and the ramps.
.Gunite, or shot Crete, is the material used for the exterior of the spiral curved walls.
.Wright used gunite to achieve a seamless monolithic facade.
.Wright left out expansion joints, which would have created visual vertical breaks.
.He hoped the application of elastomeric paint, known as the cocoon" would fill in the cracks formed during construction.
.The pairing of multiple types of concrete caused visible cracks in the facade.
.Steel framed windows,
.Aluminum skylights were designed.
.Cement plasters soffits on metal lath.

LIT.STUDY:GUGGENHIUM MUSEUM-NEW YORK

S.NO	SPACE	NO. OF UNITS	AREA (SQ METRE)	DESIGN CAPACITY
1.	**ENTRANCE**			**100**
	Entrance Lobby		300	
	Reception I 30	1	30	
	Back Office I 20	1	20	
2.	**ADMINISTRATION**			**50**
	Staff Office	5	60	
	Director General's Chamber	1	20	
	Curator Office	1	12	
	Meeting Room	1	40	
	Staff Rest Room	1	40	
	Security Monitoring Room	1	20	
	Server Room	1	20	
	Staff Toilet (M/F)	5/5	30	
	Restoration Laboratory !	1	200	
	Pantry	1	40	
3.	**EXHIBITION GALLERY**			**700**
	Level 1 Gallery 1	1	200	
	Level 2 Gallery 1	1	400	
	Level 3 Gallery 1	1	800	
	Level 4 Gallery 1	1	800	
	Level 5 Gallery I	1	800	
	Level 6 Gallery I	1	400	
	Level 7 Gallery I	1	200	
4.	**LIBRARY**		150	**60**
	Librarian's Office	1	20	
	Cyber Room	1	30	
5.	**AMENITIES**			
	Restaurant	1	200	**50**
	Museum Shop	1	100	**40**
	Seminar Hall	1	200	**50**
	Toilet (M/F)	10/10		
6.	**SERVICES**			
	Maintenance	1	200	
	Janitor Room	1	50	
	Store	5	200	
	Housekeeping Centre	1	200	
	High Tension Control Room	1	200	
	HVAC Room	1	200	
7.	**PARKING**		200	**40**
	Staff Parking		100	
8.	**OPEN SPACES**			**250**
	Atrium		900	
9.	**TRANSITION AREA**(40% of Built Up)		3200	
	TOTAL AREA		**11200 SQ METRE**	

LIT.STUDY:GUGGENHIUM MUSEUM-NEW YORK

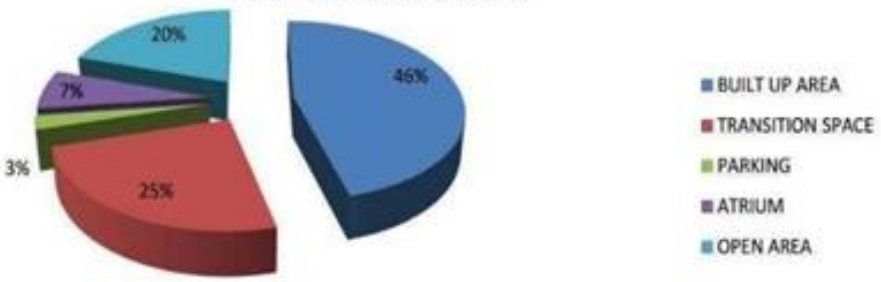
AREA DISTRIBUTION



USER ACTIVITY

USER	ACTIVITY	SPACE
VISITOR	Visual Experience	Level 1 Gallery Level 2 Gallery Level 3 Gallery Level 4 Gallery Level 5 Gallery Level 6 Gallery Level 7 Gallery
	Shopping	Museum Shop
	Reading	Library Cyber Room
	Parking	Parking Area
	Sanitation	Toilet
	Beverage & Food	Restaurant Water Fountain
ADMINISTRATION & SERVICE STAFF	Official Work & Monitoring	Office Server Room
	Services	Maintenance Janitor Room Store Housekeeping Centre High Tension Control Room HVAC Room
	Meeting	Meeting Hall Seminar Hall
	Retiring	Staff Rest Room
	Beverage & Food	Pantry
	Sanitation	Staff Toilet
WORKER STAFF	Restoration	Restoration Lab Store Reserve Collection

SITE DISTRIBUTION



CASE STUDY

CASE STUDY : NATIONAL GALLERY OF MODERN ART, NEW DELHI

INTRODUCTION

.Designed by Sir Arthur Bloomfield.
.Jaipur House was initially house of Jaipur kings.
.The National Gallery of Modern Art, New Delhi, is a repository of more than 17000 most significant works of modern and contemporary art in the country.
.The principal aims of NGMA are to acquire and preserve modern art from 1850 onwards.
.And to present it to a global audience which will create an understanding and sensitivity towards a time that helped shape contemporary art in India.
.The institution is also committed to promote contemporary Indian art in its various forms.
.NGMA is the only museum that preserves cultural architecture and fuses all the modern elements all-together.
.Develop an education and documentation centre.
.Organize seminars and lectures to encourage higher education.
.Above all, the National Gallery of Modern Art helps people to look at the works of modern art with greater joy, understanding and knowledge by extending their relationship with our daily life and experiencing them as vital expressions of the human spirit.

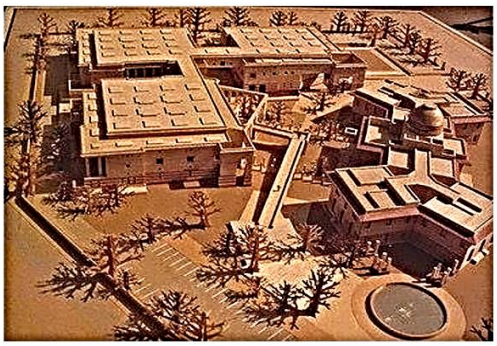
HISTORY OF NGMA

The idea of a National art gallery was first mooted in 1949, and further developed by Prime Minister Jawahar Lal Nehru and Maulana Azad, bureaucrats such as Humayun Kabir and the local art community.
.Designed by Sir Arthur Bloomfield, as a residence for the Maharaja of Jaipur, the butterfly-shaped building with a central dome was built in 1936.
.It was styled after a concept of the Central Hexagon visualized by Sir Edwin Lutyens.
.It was Lutyens, along with Herbert Baker, who visualized and gave shape to the new capital in Delhi.
.Along with buildings designed for other princely potentates like Bikaner and Hyderabad, Jaipur House girded the India Gate circle.

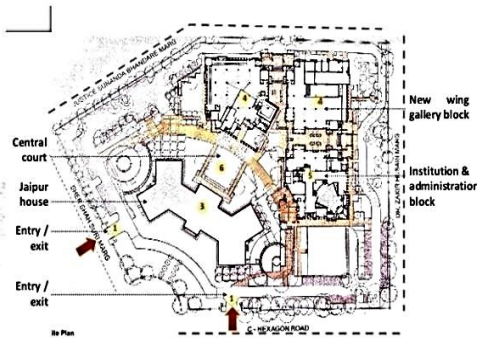
LOCATION

Jaipur House, Shershah Road, Near India Gate, New Delhi.

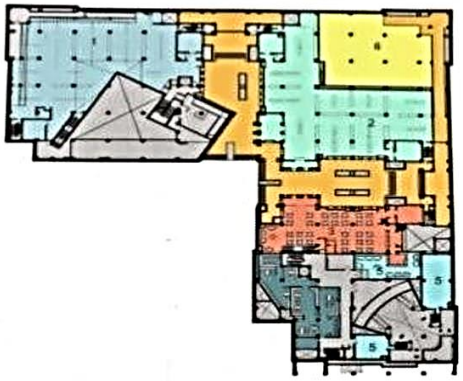
Khan Market 1.4km
NDLS 6km
Jaipur House 0.5km
IGIA 14.5km



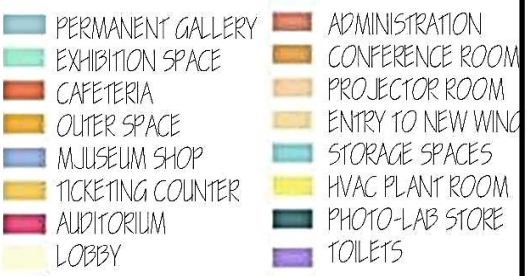
BASEMENT PLAN



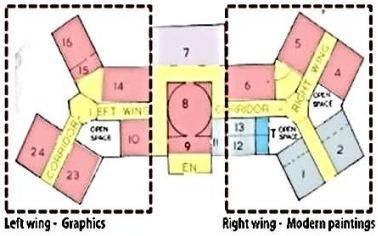
SITE PLAN



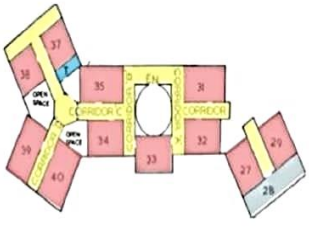
LOWER GROUND FLOOR



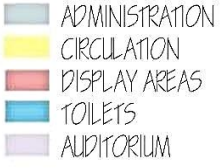
GROUND FLOOR



GROUND FLOOR (JAIPUR HOUSE)

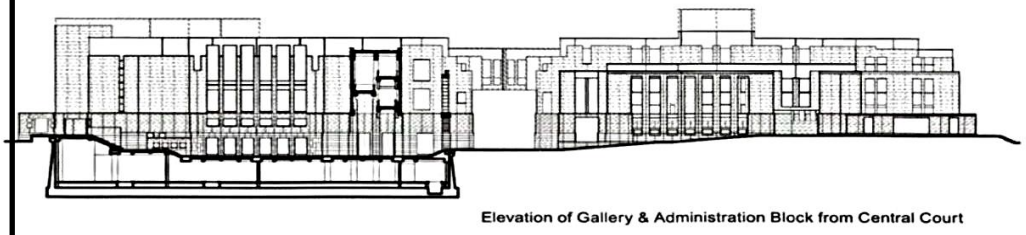


FIRST FLOOR (JAIPUR HOUSE)

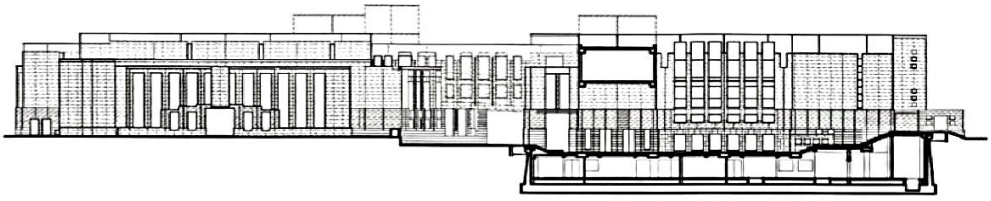


CASE STUDY : NATIONAL GALLERY OF MODERN ART, NEW DELHI

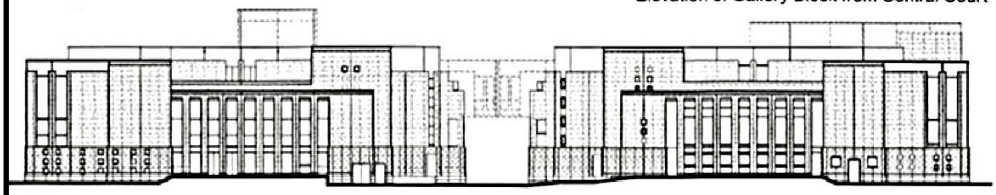
ELEVATION



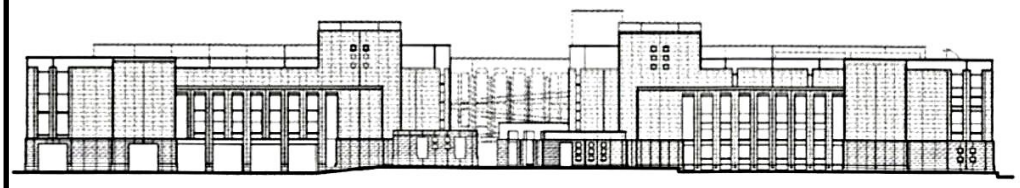
Elevation of Gallery & Administration Block from Central Court



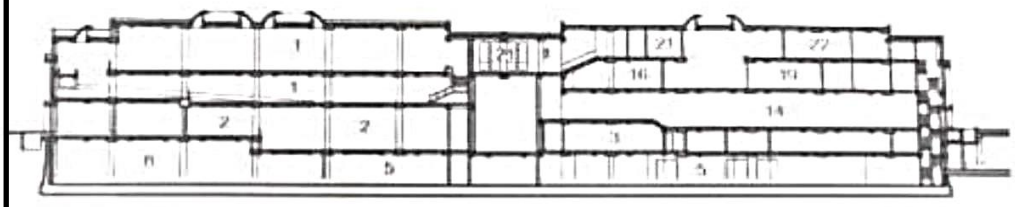
Elevation of Gallery Block from Central Court



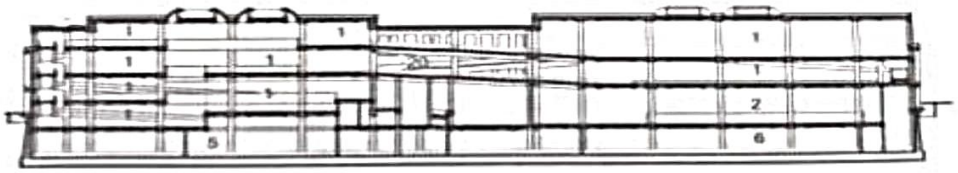
Elevation from Dr. Zakir Husain Marg



Elevation from Justice Sunanda Bhandare Marg



Section through Gallery & Administration Block



Section through Gallery Blocks

AREA PROGRAMME

Jaipur House

.Site Area 7.84 acres (31674 Sq. M.)
.Built up (4620 Sq M.)

New Wing

Display Area 12000 SQ M
.Art Storage 2600 SQ M
.Conservation Lab 600 SQ M
.Library (60 seating) 600 SQ M
.Cafeteria (100 seating) 450 SQ M
.Auditorium (200 seating) 750 SQ M
.Preview Theatre (90 seating) 2600 SQ M
.General Stores 150 SQ M
.Administration, Workshop & Support 4445 SQ M
.Services and Circulation 3000 SQ M
.Underground Parking 1383 SQ M

TOTAL AREA 26926 SQ M

Parking

.Under Ground Parking 15 cars
.Surface Parking 264 Cars

TOTAL PARKING 279 CARS

SERVICES

WATER
.On site Boring

ELECTRICITY
.Supplied by Delhi Vidyut Board

DRAINAGE
.Sewer and Rain water is drained in the municipal line

HVAC
.Centrally air conditioned

FIRE FIGHTING
.Active measures on each floor, connected visually

MERITS :
.Utilization of space of circulation areas as display areas.
.Niche formations breaks monotony.
.Display floors have flexible display for manipulation to obtain required special effects.
.Use of skylights and celestial windows in library and galleries.
.The interconnecting Ramps function as buffer space between the two blocks.
.Daylight sensors automatically regulate the gallery spaces to an optimum illumination level.
.Old trees preserved and fused with building in a seamless way.
.New wing's appearance is derived from existing Jaipur House by use of Sandstone clad in pattern of red and buff.

INFERENCES:
.Use of Daylights and Celestial Windows to maintain the daylight.
.Creating buffer zone between galleries.
.Provision of central sitting space to let users absorb visuals.

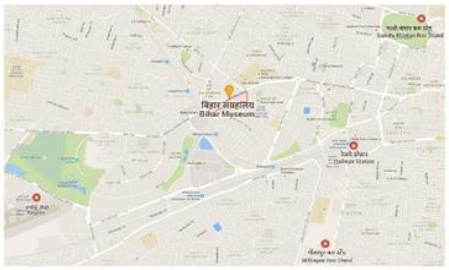
DEMERITS
.No On-Site parking available for visitors.
.No proper signage or floor maps inside the building.
.Administrative b;l;ock is placed at the back of new wing.
.Service road and pedestrian movement overlap each other.
.No dustbin near the galleries.

MATERIALS
.The external walls of the new wing are clad in red sandstone of a colour similar to that of existing building.
.Red and Butt sandstone bands at the base of the older Jaipur house.

CASE STUDY: BIHAR MUSEUM

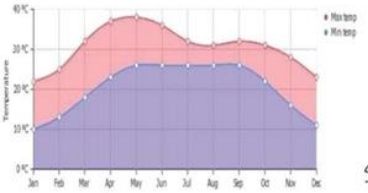
INTRODUCTION

.Patna is a city with a storied past and this land saw the advent of many glorious civilizations. The history of this city unravels like a ball of thread that surprises you with twists and turns as we travel lover two millennia.
.The Patna Museum established in 1917 will soon turn a century old along with the date of discovery of its most cherished and visited artifact — the world famous Didarganj Yakshi, a statue of monumental Mauryan vision.
.In the state of Bihar, the need for a new museum was seriously felt, the Patna Museum having limitations, both in physical space as well as in its design and methods of presentation.
'*Bihar Museum is a modern state of the art museum located in Patna.
.It was partially opened in August, 2015. 'The children's museum', the main entrance area, and an orientation theatre were the only parts opened to the public in August 2015. Later, in October 2017 remaining galleries were also opened.
.It was planned as a history museum for the state of Bihar, and began construction in Bailey Road, Patna in October 2013 with an estimated budget of 498 crore (US$74 million).
.The Museum was planned to bring the region's thousands year history into focus, inspiring local residents and visitors from across the globe to explore Bihar's rich heritage, historic sites and cultural attractions.



CLIMATE

.Climate Macro-Climate: Hot & Humid
.Average Temperature: 27.1 °C
.Maximum Temperature: 46.0 °C
.Minimum Temperature: 1.1 °C
.Annual Precipitation: 1100 mm
.Prevailing Wind Direction: 6km/ h North-East



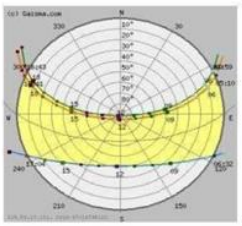
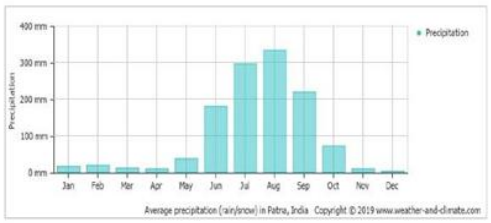


Fig. 1.2 (ii) Sun Path Diagram



SITE

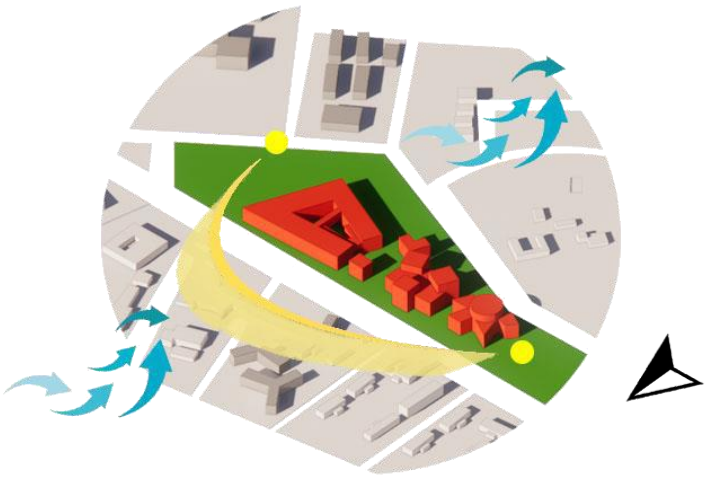
Department of Art, Culture and Youth, State of Bihar (DACY) proposed a new Museum on Bailey Road on the site west of the Patna Museum.

Latitude: 25° 36' 27.7704" N
Longitude: 85° 7' 12.9036" E

ACCESS TO THE SITE

3.6km away from Patna Junction
4.5km away from Mithapur Bus Stand
4.7km away from Jay Prakash Narayan International Airport

.SITE AREA :13.83 ACRES (56000 SQ METRE)
.BUILT UP AREA : 18000 SQ METRE
.ARCHITECT: MAKI & ASSOCIATES(JAPAN) , OPPOLIS (MUMBAI)

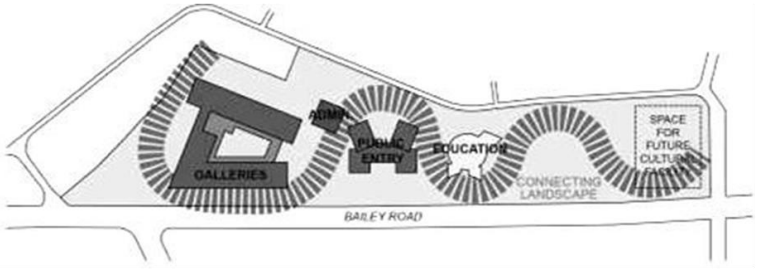


SUN AND WIND PATH

PURPOSE OF STUDY:

To study the architectural and design aspects of the museum, the visitors experience and circulation pattern in museum, to understand the ergonomics of the exhibitions and display units in art gallery and museum and to study the techniques and impacts of lighting in museum

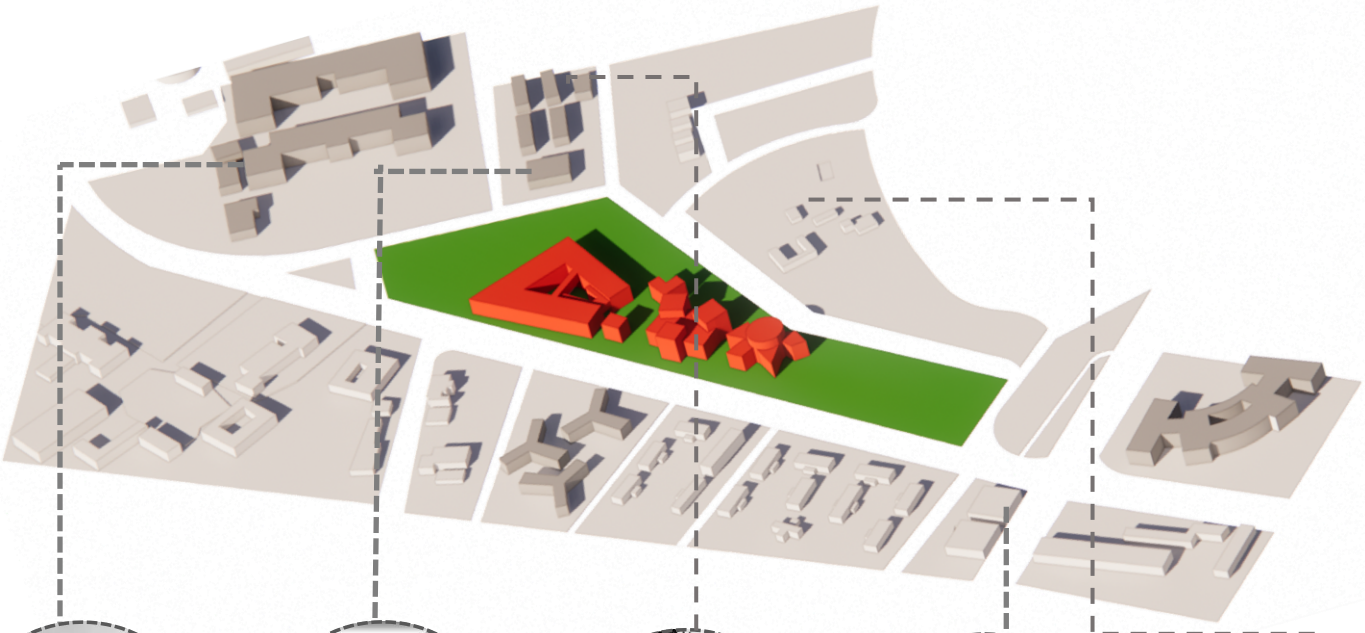
MUSEUM AS EXPANSE:



The breadth and scope- the expanse - of Bihar's history is reflected in the figural spread in landscape - the expanse - of the museum through the site.

CASE STUDY: BIHAR MUSEUM

SITE SURROUNDINGS:



Patna High Court

Administrative Building

L.N. Mishra school

Pant Bhawan

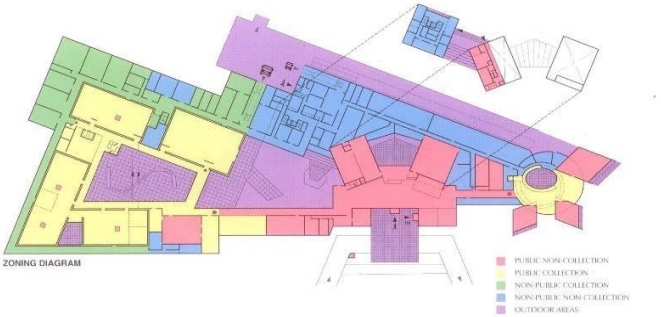
Government office

MATERIALS

CASE STUDY: BIHAR MUSEUM

SITE PLAN

.Inspired by the generous site, Fumihiko Maki conceived the Bihar Museum as a campus with interconnected landscape of built-up and open spaces with modest but dynamic profile, in harmony with the land.
.The campus incorporates primarily four zones i.e., entrance, education, exhibition and administration.
.Each wing has been given a distinct and recognizable form with in the complex.

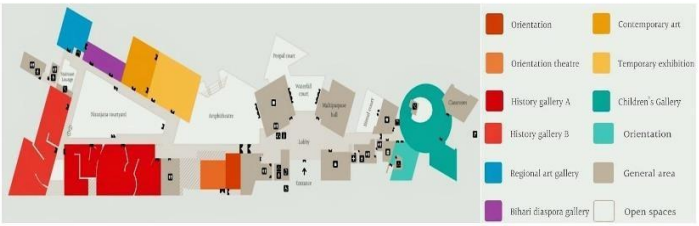


ZONING

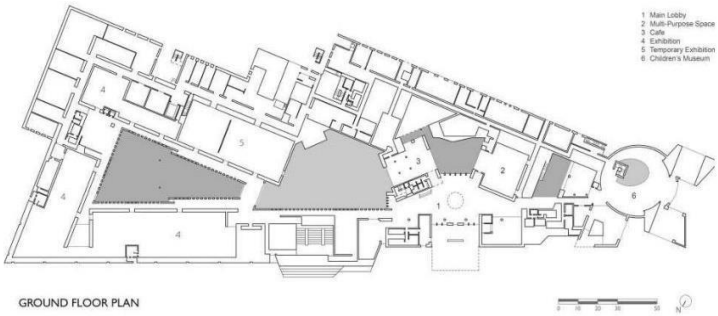
.The spaces divide galleries into different specializations, also distinguishing the children's gallery with its own orientation section.
.The architecture constantly works to enhance the feeling of wonder and belonging to allow the visitor to explore and discover.
.The environment is thus envisioned as a learning landscape, a place that creates a sense of calm that is conducive to education

CIRCULATION PLAN

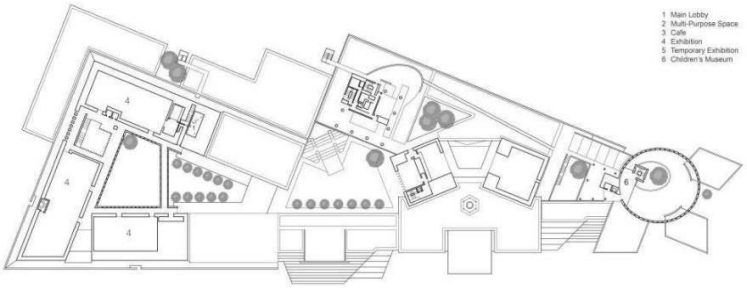
The circulation pattern was based on the history of Bihar, starting with Buddhism and Jainism.
.Which was followed by Mauryan and Gupta Empire to Sher Shah Suri and to the Colonial Past to exhibit the great history of Bihar to the Visitors.



FLOOR PLANS



GROUND FLOOR PLAN



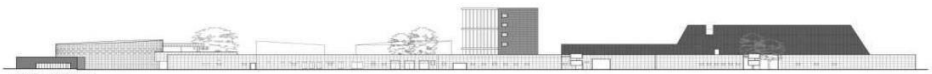
FIRST FLOOR PLAN

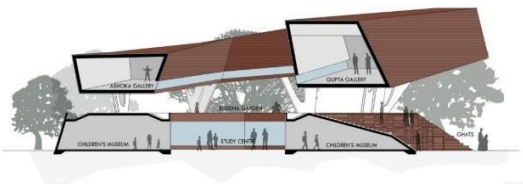
.All independent and smaller-scaled wings are linked together via seven open-to sky courtyards, ensuring that all spaces are connected to the surrounding landscape, while remaining sheltered and comfortable throughout the year.
.Each courtyard has a unique theme, configuration and spatial quality.
.Some of these courtyards have been strategically located to preserve the existing trees on the site.

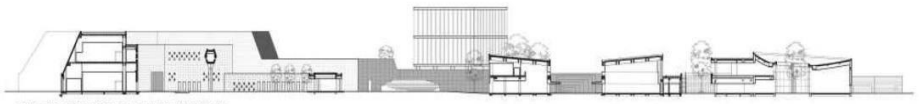
FLOOR PLANS

.Most of the external surfaces of the buildings are clad in zero-maintenance Corten steel, whose earthy brown-red coloration subtly contrasted with the surrounding greenery.
.The Corten steel is offset with Indian granite and sandstone, terracotta, and glass finishes - a modern material palette with clear connections to Bihar's past and future.


NORTH ELEVATION


SOUTH ELEVATION

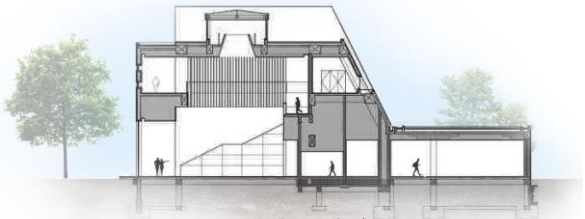



SECTION

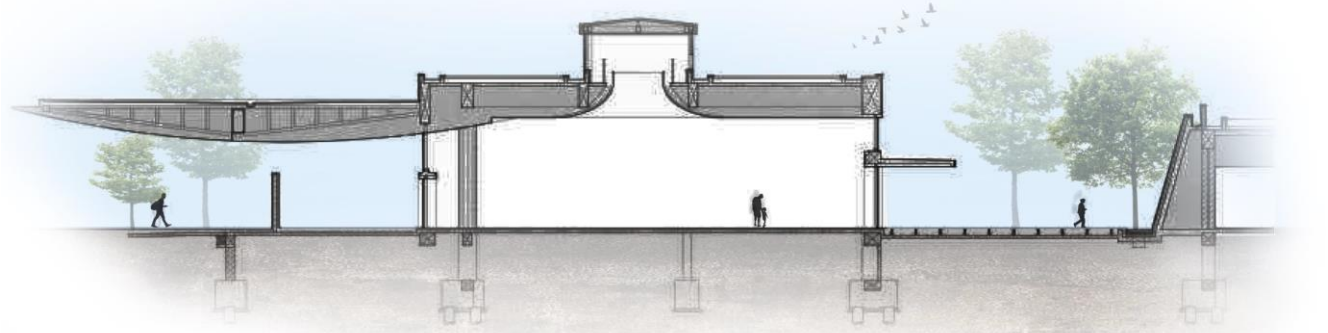
SECTIONS

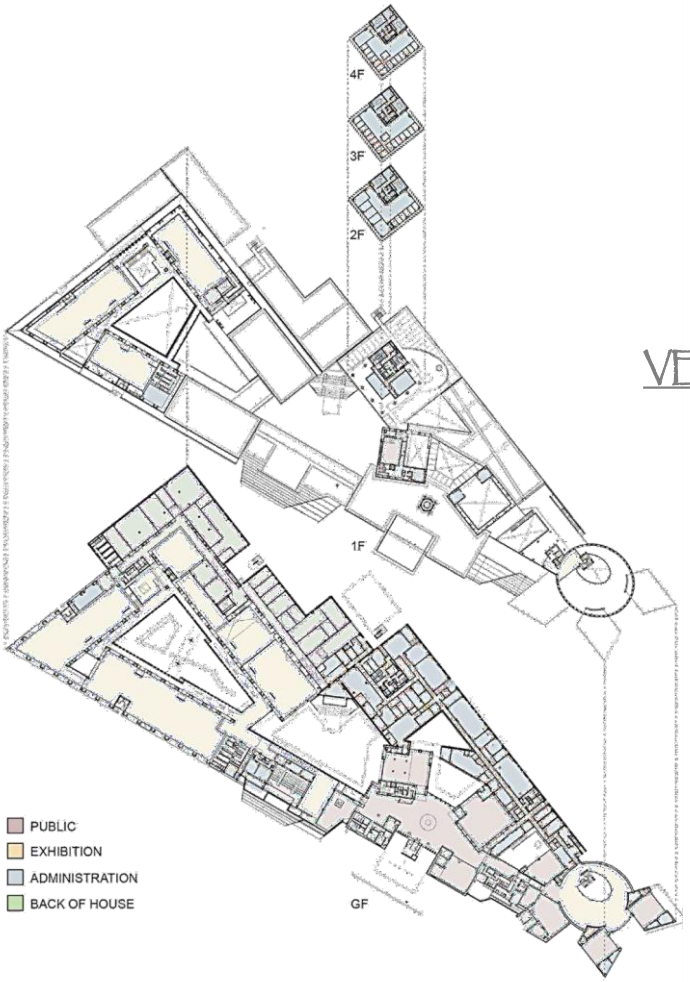
CASE STUDY: BIHAR MUSEUM

SECTION-AA' THROUGH GALLERY SPACES (N.T.S.)



SECTION-BB' THROUGH LOUNGE AREA (N.T.S.)





VERTICAL STACKING

CASE STUDY: BIHAR MUSEUM

SOUTH ELEVATION

NORTH ELEVATION

Exterior view of gallery with long vertical window for daylighting

Bridge exterior which connects two galleries

Main Entrance

Exterior view of Children's gallery

Exterior view of gallery space

Children's gallery interiors

Jali window in children's gallery which gives comfort by play of light

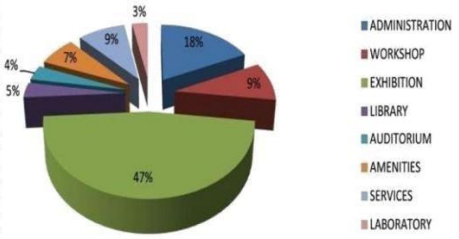
CASE STUDY: BIHAR MUSEUM

AREA STATEMENT

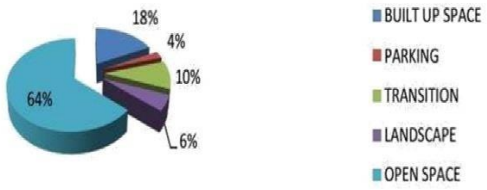
Sr. No.	Space	No. of Units	Area (in sq. m)	Design Capacity
1.	**ENTRANCE**			**100**
	Entrance Court	-	400	
	Reception	1	30	
	Back Office	1	20	
	Information Help Desk	1	20	
	Ticket Counter	2	20	
	Drop off	1	200	
2.	**ADMINISTRATION**			**50**
	Staff Office	10	200	
	Director General's Chamber	1	30	
	Curator Office	2	40	
	Meeting Room	2	200	
	Staff Rest Room	1	100	
	Security Monitoring Room	1	30	
	Server Room	1	30	
	Staff Toilet (M/F)	5/5	50	
	Store	5	1000	
	Staff Canteen	1	200	
3.	**WORKSHOP**			**200**
	Wood Workshop	1	200	
	Metal Workshop	1	200	
	Terracotta Workshop	1	200	
	Store	1	200	
	Store Props	1	100	
4.	**EXHIBITION GALLERY**			**1500**
	Bronze Sculpture Store	1	300	
	Coins Vault	1	200	
	Textile Gallery	1	300	
	Miniature Gallery	1	300	
	Manuscript Gallery	1	100	
	Hindu Art Gallery	1	200	
	Buddhist Art Gallery	1	400	
	Jain Art Gallery	1	200	
	Tribal Art Gallery	1	600	
	Terracotta Gallery	1	300	
	Children's Museum	1	600	
	Pre Show Display	1	200	
	Post Show Display	1	100	
	Temporary Exhibition	1	1000	
5.	**LIBRARY**	-	300	**100**
	Librarian's Office	1	20	
	Cyber Room	1	30	
6.	**AUDITORIUM**	-	300	**100**
	Projection Room	1	20	
	Green Room	1	30	
7.	**AMENITIES**			
	Restaurant	1	250	**50**
	Museum Shop	2	200	**50**
	Seminar Hall	1	200	
	Toilet (M/F)	10/10	50	
8.	**SERVICES**			
	Maintenance	1	100	
	Janitor Room	1	50	
	Store	1	200	
	Housekeeping Centre	1	100	
	High Tension Control Room	1	200	
	HVAC Room	1	200	
9.	**LABORATORY**	4	200	**50**
10.	**LOADING AREA**	-	400	
11.	**OPEN SPACES**	-	1000	**250**
12.	**PARKING**	-	500	**100**
	VIP Parking	-	100	
	Staff Parking	-	100	
				50
13.	**TRANSITION AREA** (40% of Total Build up Area)		4800	

TOTAL AREA	17,000 Sq. M

AREA DISTRIBUTION

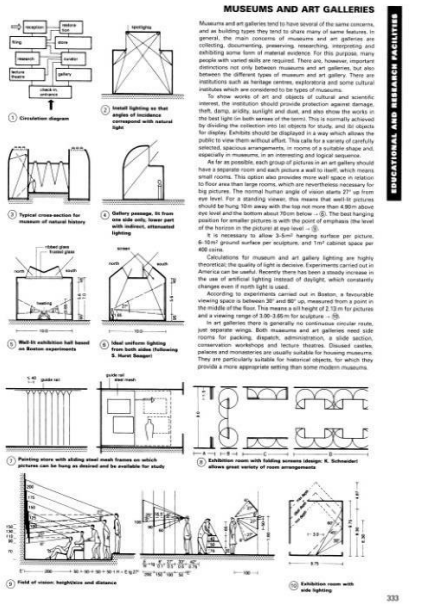


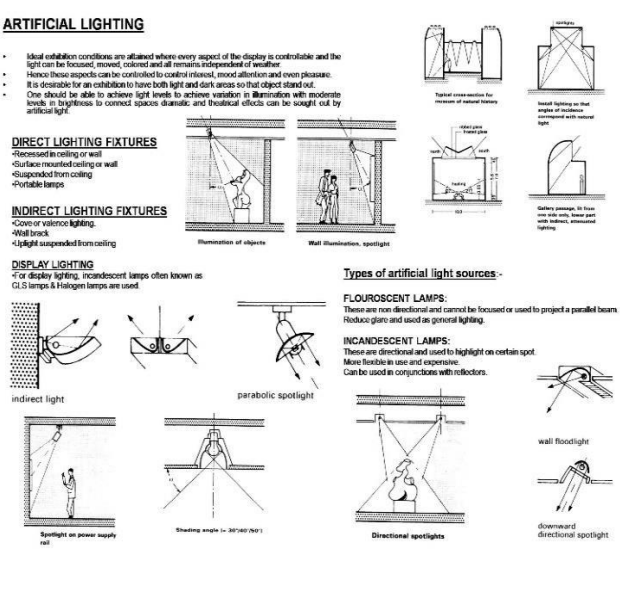
SITE DISTRIBUTION



USER	ACTIVITY	SPACE
VISITOR	Visual Experience	Bronze Sculpture Store Coins Vault Textile Gallery Miniature Gallery Manuscript Gallery Hindu Art Gallery Buddhist Art Gallery Jain Art Gallery Tribal Art Gallery Terracotta Gallery
		Pre Show Display Post Show Display Auditorium Temporary Exhibition
	Shopping	Museum Shop
	Reading	Library Cyber Room
	Parking	Parking Area
	Sanitation	Toilet
	Beverage & Food	Restaurant Staff Canteen
ADMINISTRATION & SERVICE STAFF	Official Work & Monitoring	Office Server Room
	Services	Maintenance Janitor Room Store Housekeeping Centre High Tension Control Room HVAC Room
	Meeting	Meeting Hall Seminar Hall
	Retiring	Staff Rest Room
	Beverage & Food	Pantry
	Sanitation	Staff Toilet
WORKER STAFF	Restoration	Restoration Laboratory Store Reserve Collection

STANDARDS





STANDARDS

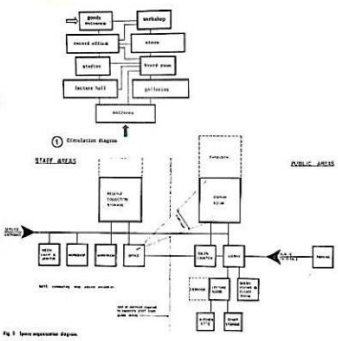
SPATIAL REQUIREMENT

1. Entry, Lobby, Admission, Store
1.1 Entry Vestibule -150 sqft
1.2 Lobby/ Orientation -500 sqft
1.3 Admissions/Tickets -50 sqft
1.4 Museum Store -420 sqft
1.5 Back Storage for Museum Store -80 sqft

2. Activity/Program Areas
2.1 Exhibit Floor -4000 sqft
2.2 Art Space -700 sqft
2.3 Multi-Purpose Room

3. Administrative Areas
3.1 Reception/Waiting - 80 sqft
3.2 Executive Director -200 sqft
3.3 Executive Toilet -50 sqft
3.4 Copy/Work Room/ Mail -180 sqft
3.5 Small Meeting/Planning Area -100 sqft
3.6 Filing and Storage -80 sqft

4. Exhibit Shop & Warehouse
4.1 Exhibit Shop
4.2 Design Area
4.3 Flammable Storage -60 sqft
4.4 Warehouse -1700 sqft
4.5 Exhibit Floor Supply Storage -160 sqft



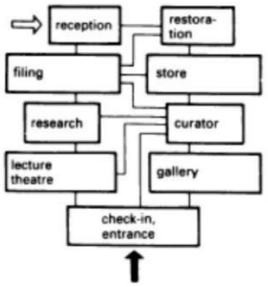


Fig. : 2.2 Circulation Diagram

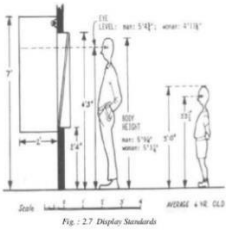


Fig. : 2.7. Display Standards

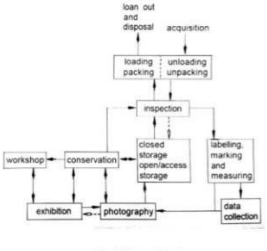
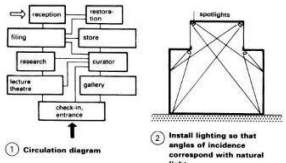


Fig. : 2.12 Layout of services

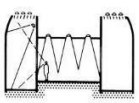
STANDARDS

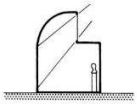
MUSEUMS AND ART GALLERIES

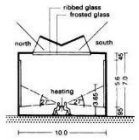


① Circulation diagram

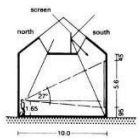
② Install lighting so that angles of incidence correspond with natural light


③ Typical cross-section for museum of natural history


④ Gallery passage, lit from one side only, lower part with indirect, attenuated lighting



⑤ Well-lit exhibition hall based on Boston experiments



⑥ Ideal uniform lighting from both sides (following S. Hurst Seager)

Museums and art galleries tend to have several of the same concerns, and as building types they tend to share many of same features. In general, the main concerns of museums and art galleries are collecting, documenting, preserving, researching, interpreting and exhibiting some form of material evidence. For this purpose, many people with varied skills are required. There are, however, important distinctions not only between museums and art galleries, but also between the different types of museum and art gallery. There are institutions such as heritage centres, exploratoria and some cultural institutes which are considered to be types of museums.

To show works of art and objects of cultural and scientific interest, the institution should provide protection against damage, theft, damp, aridity, sunlight and dust, and also show the works in the best light (in both senses of the term). This is normally achieved by dividing the collection into (a) objects for study, and (b) objects for display. Exhibits should be displayed in a way which allows the public to view them without effort. This calls for a variety of carefully selected, spacious arrangements, in rooms of a suitable shape and, especially in museums, in an interesting and logical sequence.

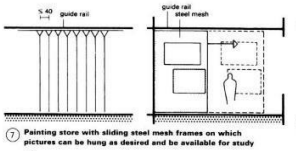
As far as possible, each group of pictures in an art gallery should have a separate room and each picture a wall to itself, which means small rooms. This option also provides more wall space in relation to floor area than large rooms, which are nevertheless necessary for big pictures. The normal human angle of vision starts 27° up from eye level. For a standing viewer, this means that well-lit pictures should be hung 10m away with the top not more than 4.90 m above eye level and the bottom about 70cm below → ⑥. The best hanging position for smaller pictures is with the point of emphasis (the level of the horizon in the picture) at eye level → ⑨.

It is necessary to allow 3-5m² hanging surface per picture, 6-10m² ground surface per sculpture, and 1m² cabinet space per 400 coins.

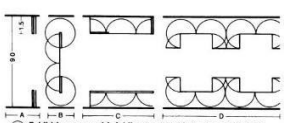
Calculations for museum and art gallery lighting are highly theoretical; the quality of light is decisive. Experiments carried out in America can be useful. Recently there has been a steady increase in the use of artificial lighting instead of daylight, which constantly changes even if north light is used.

According to experiments carried out in Boston, a favourable viewing space is between 30° and 60° up, measured from a point in the middle of the floor. This means a sill height of 2.13 m for pictures and a viewing range of 3.00-3.65m for sculpture → ⑩.

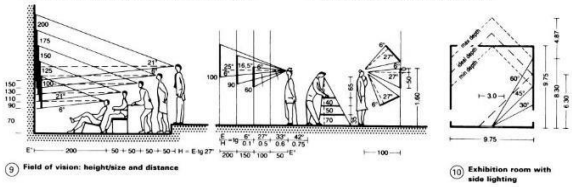
In art galleries there is generally no continuous circular route, just separate wings. Both museums and art galleries need side rooms for packing, dispatch, administration, a slide section, conservation workshops and lecture theatres. Disused castles, palaces and monasteries are usually suitable for housing museums. They are particularly suitable for historical objects, for which they provide a more appropriate setting than some modern museums.



⑦ Painting store with sliding steel mesh frames on which pictures can be hung as desired and be available for study



⑧ Exhibition room with folding screens (design: K. Schneider) allows great variety of room arrangements



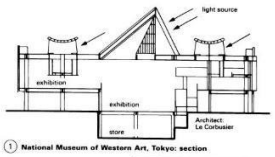
⑨ Field of vision: height/size and distance

⑩ Exhibition room with side lighting

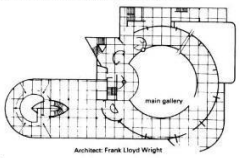
MUSEUMS: EXAMPLES

Nowadays, many museum buildings are also used as culture centres, and this possibility must be included in the planning stage. Spaces must be available for permanent and temporary exhibitions, libraries, media rooms and lecture theatres. There should also be places for relaxation and refreshments, as well as space for transport, storage, conservation, workshops and administration.

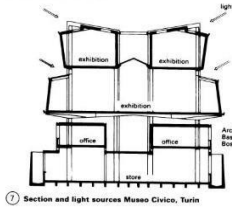
Technological innovations are having a big effect not only on museum function, but also on the design of exhibits. Two examples are the computerisation of collection records and design documentation, and lamp miniaturisation and fibre optics and their effect on lighting design.



① National Museum of Western Art, Tokyo: section

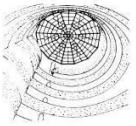


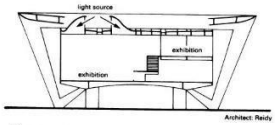
② Guggenheim Museum, New York: plan → ③.④.⑤



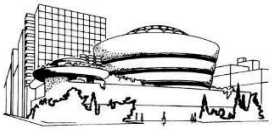
⑦ Section and light sources Museo Civico, Turin

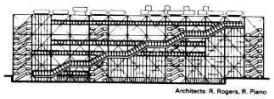

③ Section → ②


④ Interior → ② - ③

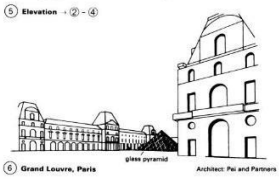


⑧ Section and light sources Museum of Modern Art, Rio de Janeiro

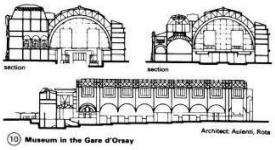

⑤ Elevation → ② - ④



⑨ Centre Pompidou, Paris: elevation



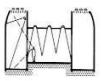
⑥ Grand Louvre, Paris



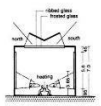
⑩ Museum in the Gare d'Orsay

ARTIFICIAL LIGHTING

- Ideal exhibition conditions are attained where every aspect of the display is controllable and the light can be focused, moved, colored and all remains independent of weather.
- Hence these aspects can be controlled to control interest, mood attention and even pleasure.
- It is desirable for an exhibition to have both light and dark areas so that object stand out.
- One should be able to achieve light levels to achieve variation in illumination with moderate levels in brightness to connect spaces dramatic and theatrical effects can be sought out by artificial light.


Typical cross-section for museum of natural history

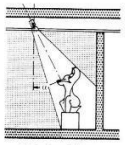
Install lighting so that angles of incidence correspond with natural light

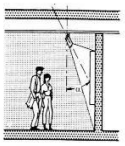



Gallery passage, lit from one side only, lower part with indirect, attenuated lighting

DIRECT LIGHTING FIXTURES

- Recessed in ceiling or wall
- Surface mounted ceiling or wall
- Suspended from ceiling
- Portable lamps


Illumination of objects


Wall illumination, spotlight

INDIRECT LIGHTING FIXTURES

- Cove or valence lighting.
- Wall brack
- Uplight suspended from ceiling

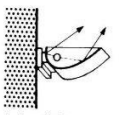
DISPLAY LIGHTING

- For display lighting, incandescent lamps often known as GLS lamps & Halogen lamps are used.

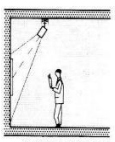
Types of artificial light sources:-

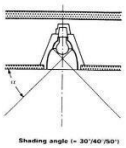
FLOURESCENT LAMPS:
These are non directional and cannot be focused or used to project a parallel beam. Reduce glare and used as general lighting.

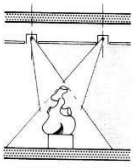
INCANDESCENT LAMPS:
These are directional and used to highlight on certain spot. More flexible in use and expensive. Can be used in conjunctions with reflectors.


indirect light


parabolic spotlight


Spotlight on power supply rail


Shading angle (= 30°/40°/50°)


Directional spotlights


wall floodlight


downward directional spotlight

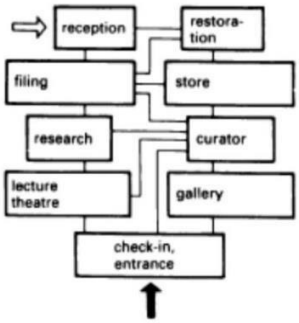


Fig. :2.2 Circulation Diagram

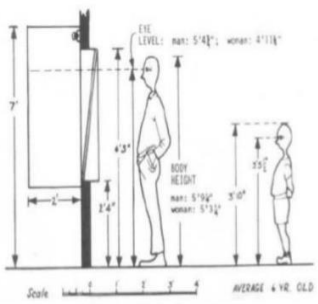


Fig. : 2.7 Display Standards

STANDARDS

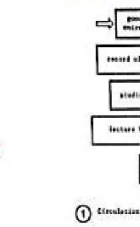
SPATIAL REQUIREMENT

1. Entry, Lobby, Admission, Store
1.1 Entry Vestibule -150 sqft
1.2 Lobby/ Orientation -500 sqft
1.3 Admissions/Tickets -50 sqft
1.4 Museum Store -420 sqft
1.5 Back Storage for Museum Store -80 sqft

2. Activity/Program Areas
2.1 Exhibit Floor -4000 sqft
2.2 Art Space -700 sqft
2.3 Multi-Purpose Room

3. Administrative Areas
3.1 Reception/Waiting -80 sqft
3.2 Executive Director -200 sqft
3.3 Executive Toilet -50 sqft
3.4 Copy/Work Room/ Mail -180 sqft
3.5 Small Meeting/Planning Area -100 sqft
3.6 Filing and Storage -80 sqft

4. Exhibit Shop & Warehouse
4.1 Exhibit Shop
4.2 Design Area
4.3 Flammable Storage -60 sqft
4.4 Warehouse -1700 sqft
4.5 Exhibit Floor Supply Storage -160 sqft



① Circulation diagram

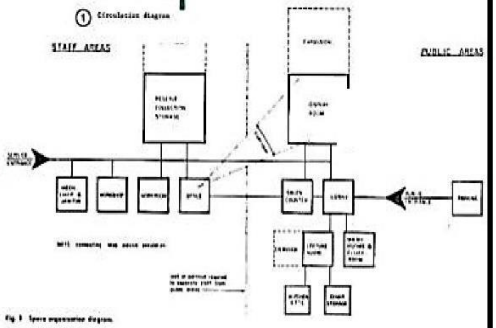


Fig. : Space organization diagram.

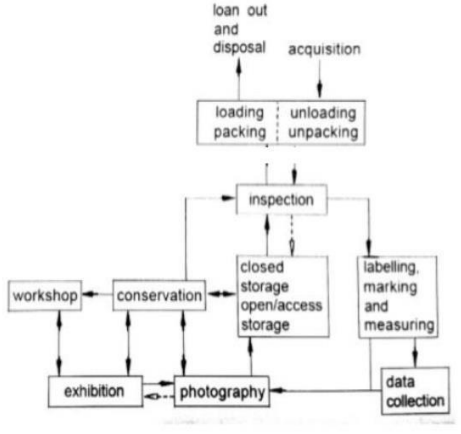


Fig. : 2.12 Layout of services

COMPARATIVE ANALYSIS:

REQUIREMENT	LITERATURE STUDY 1	LITERATURE STUDY 2	CASE STUDY 1	STANDARDS
ENTRANCE	175 SQ.M.	345 SQ.M.	500 SQ.M	200 SQ.FT
ADMINISTRATION	241 SQ.M.	490 SQ.M.	1000SQ.M	
EXHIBITION GALLERY	1800 SQ.M.	2400 SQ.M.	1200 SQ.M	4000 SQ.FT
WORKSHOP	100 SQ.M.	450 SQ.M.	800 SQ.M	180 SQ.FT
AMENITIES	250 SQ.M.	550 SQ.M.	900 SQ.M.	1700 SQ.FT
SERVICES	525 SQ.M	800 SQ.M.	1200 SQ.M	100 SQ.FT
PARKING	150 SQ.M.	500 SQ.M.	1383 SQ.M	AS PER AUTHORITY
AUDITORIUM (200 P)	300 SQ.M	480 SQ.M	750 SQ.M	4.5 CU.M/P
LIBRARY (60 P)	290 SQ.M	300 SQ.M	600 SQ.M	1.2 SQ.M/P
CAFETERIA (100 P)	250 SQ.M	280 SQ.M	450 SQ.M	
CONSERVATION LAB	200 SQ.M	400 SQ.M	600 SQ.M	

*FOR THE DATA GIVEN ABOVE, DESIGN CAPACITY OF AN AVERAGE OF 100-150 PEOPLE HAS BEN BEEN CONSIDERED.
*APPLICABLE WHEREEVER THE DATA HAS NOT BEEN PROVIDED.

INFERENCES

CASE STUDY - 1

- USE OF DAYLIGHTS AND CELESTIAL WINDOWS TO MAINTAIN THE DAYLIGHT.
- CREATING BUFFER ZONE BETWEEN GALLERIES.
- PROVISION OF CENTRAL SITTING SPACE TO LET USERS ABSORB VISUALS.

CASE STUDY - 2

- WELL DEFINED BLOCKS/ WINGS.
- DOUBLE HEIGHTED CEILING WITH LARGE OPENINGS.
- USE OF SOFT COLOUR.
- VISIBLE BRICKWORK AND USE OF STONE CLADDING WITH RESPECT TO LODHI GARDEN.

LITERATURE STUDY -1

- USE OF ORGANIC STRUCTURE.
- CENTRAL DOME WORK AS SKYLIGHT
- ASCENDING-DESCENDING PATH ALLOWS VISITORS TO HAVE DIFFERENT VIEWS.
- USE OF RIGOROUS RAMP- FIRST OF ITS KIND.
- SLIGHTLY WIDER AT ITS TOP - TTTTGOOD LIGHTING.

LITERATURE STUDY -2

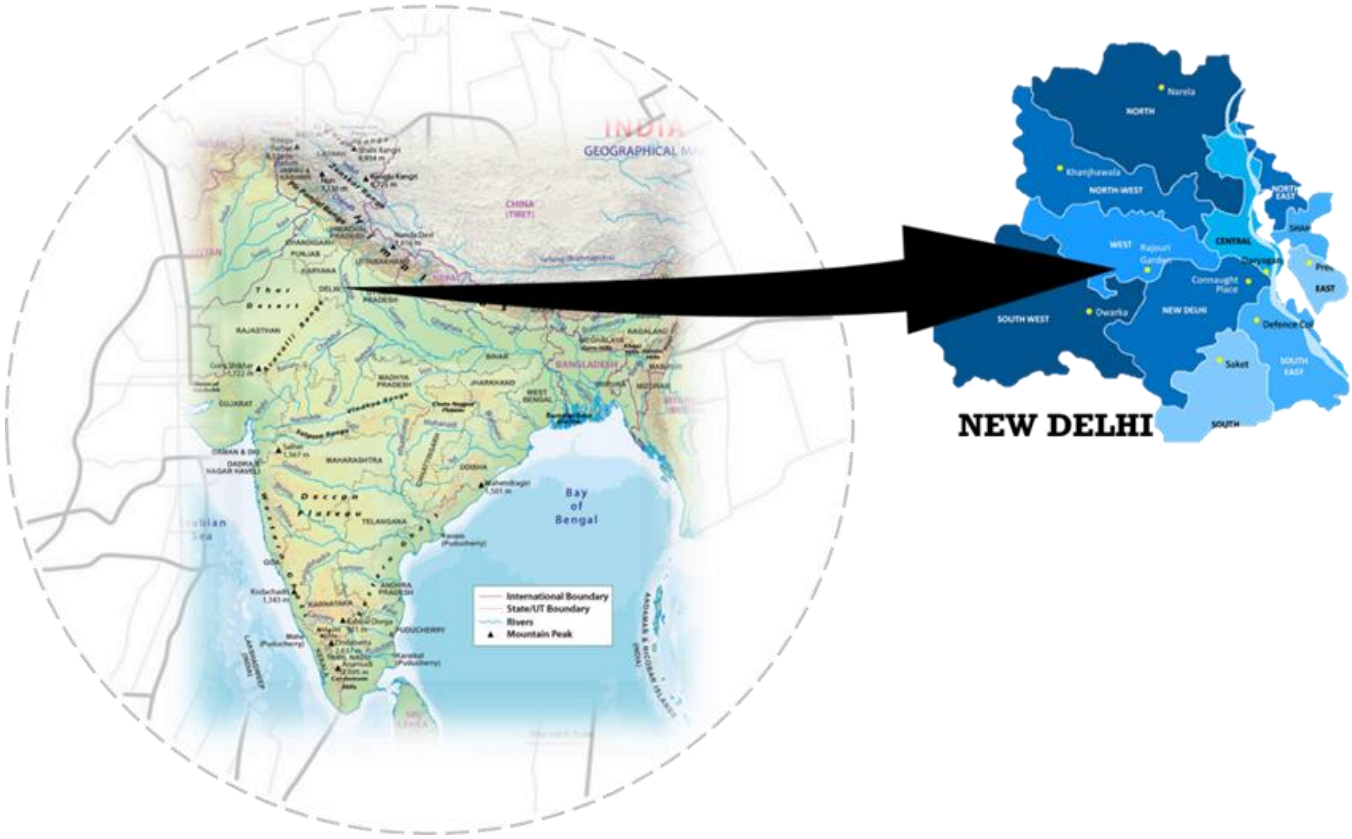
- WELL INTERCONNECTED LANDSCAPE IN HARMONY WITH LAND.
- EACH WING(4) HAS BEEN GIVEN A DISTINCT/ RECOGNIZABLE FORM.
- THE CIRCULATION PATTERN WAS BASED ON BIHAR HISTORY, BUDDHISM TO JAINISM FOLLOWED BY MAURYAS, GUPTAS, AND BRITISHERS.

SITE AREA STUDY

SITE STUDY

ABOUT SITE

The selected site falls under Public and Semi-Public land use as per the Master plan of Delhi Development Authority 2021 and will be developed as per the same. The land will be used for the development of cultural purpose and the land cover of project site is a fallow land and depicts plain topography (relative relief is less than 5m) the construction activities of the project are as per the Master plan of Delhi Development Authority 2021 and will help in increasing the aesthetic beauty. During the construction phase, land cover of the project site has been altered to some extent, which is temporarily in nature.



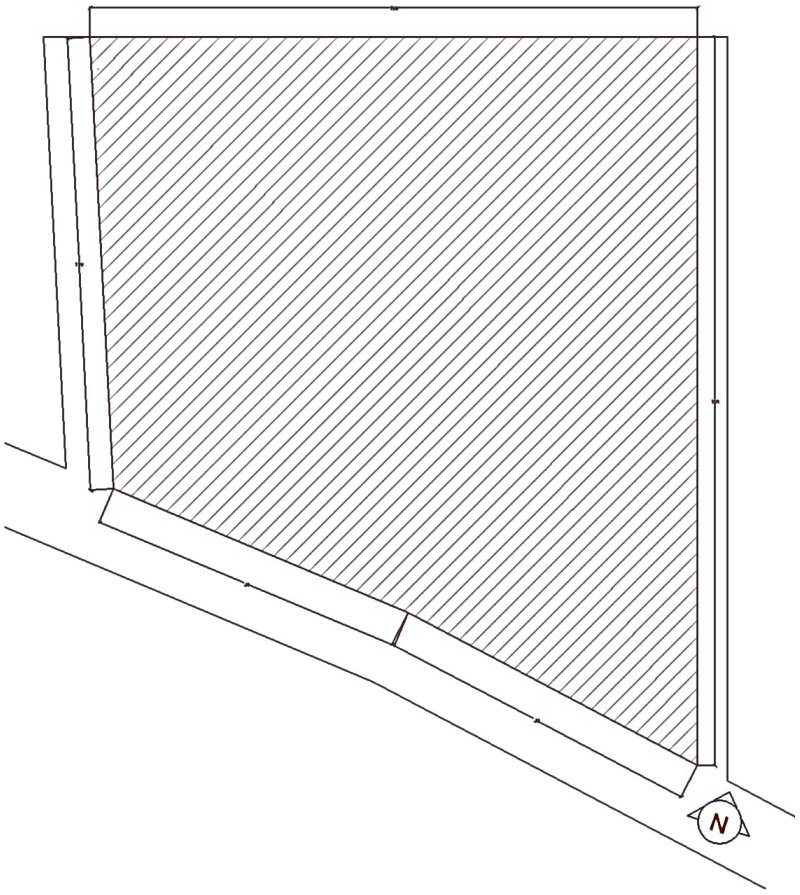
LOCATION: NEW DELHI, INDIA

PLOT AREA: 7.46 ACRE (30,186.51 m²)

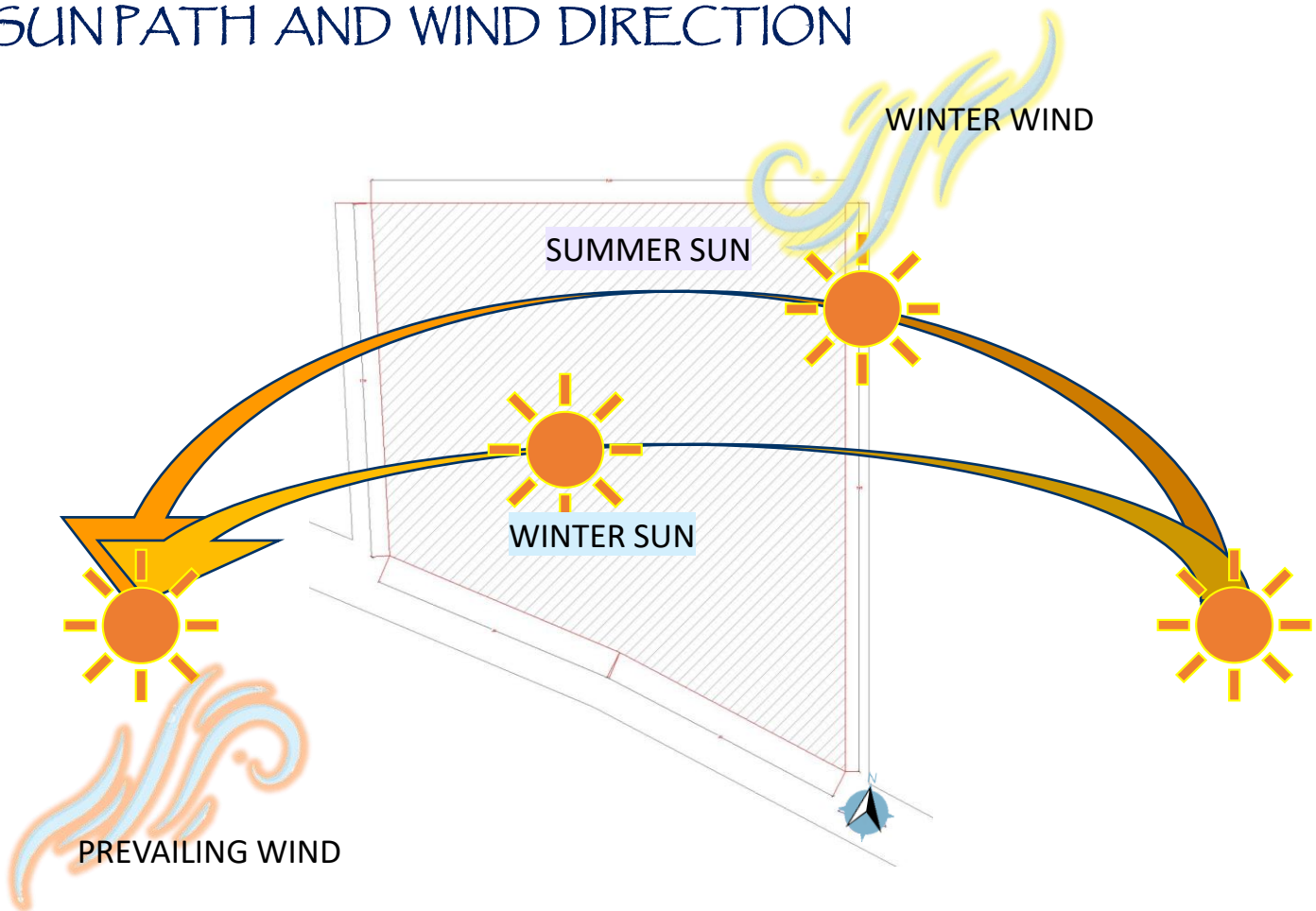
ROAD DETAILS:-

WEST SIDE: 12 M WIDE ROAD

SOUTH SIDE: 20 M WIDE ROAD



SUN PATH AND WIND DIRECTION



CONNECTIVITY:

RAILWAY STATION- 12.3 KMs

DELHI AIRPORT- 15 KMs

NEAREST METRO- 2.4 KMs

NEAREST MONUMENTS AND MARKET PLACE:

HAUZ KHAS FORT- 3 KMs

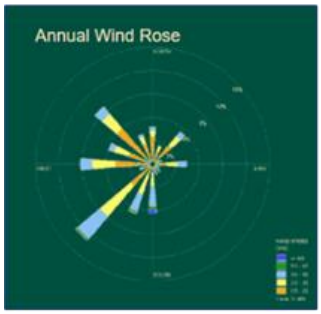
SAROJNI MARKET-1.8 KMs

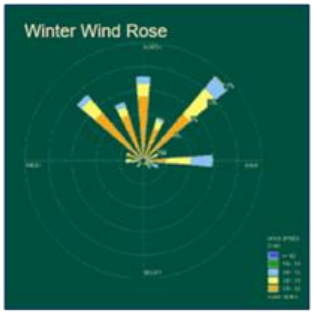
CLIMATE ANALYSIS:

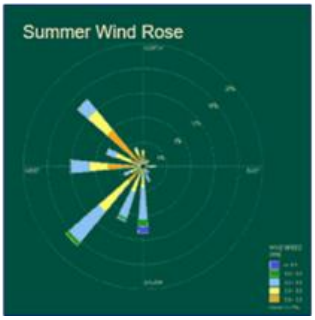
MACRO CLIMATE: COMPOSITE

- AVERAGE TEMPERATURE: 25 ° C
- MAXIMUM TEMPERATURE :46 ° C
- MINIMUM TEMPERATURE :2.2 ° C
- ANNUAL PRECIPITATION: 886mm
- PREVAILING WIND DIRECTION: WEST-NORTH WEST
- 87% OF THE ANNUAL RAINFALL IS RECEIVED DURING THE MONSOON MONTHS JUNE TO SEPTEMBER.

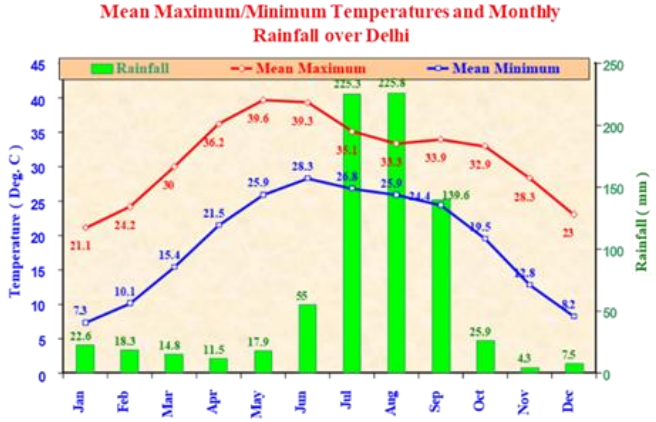
WIND DIRECTION

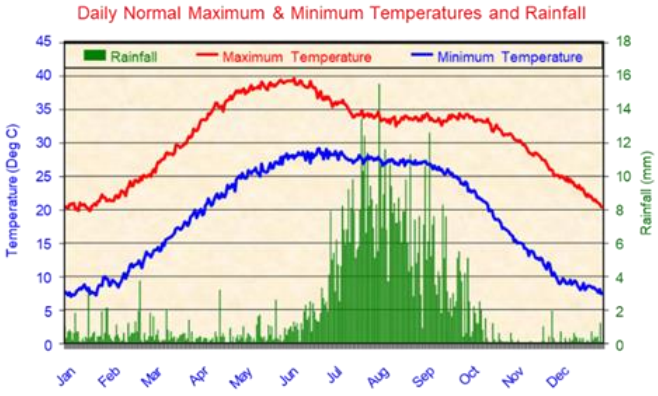






TEMPERATURE AND PRECIPITATION





Prepared by: Meteorological Office Safdarjung Airport New Delhi – 110 003

SITE SPECIFICATION:

Permissible ground coverage – 35%

F.A.R – 1.5

Floors – 3

Topology – Flat

NATURAL FACTORS

Soil type- The proposed site has alluvial soil with some undifferentiated soil. The soil particles have a mixture of both coarse and fine loamy soil.

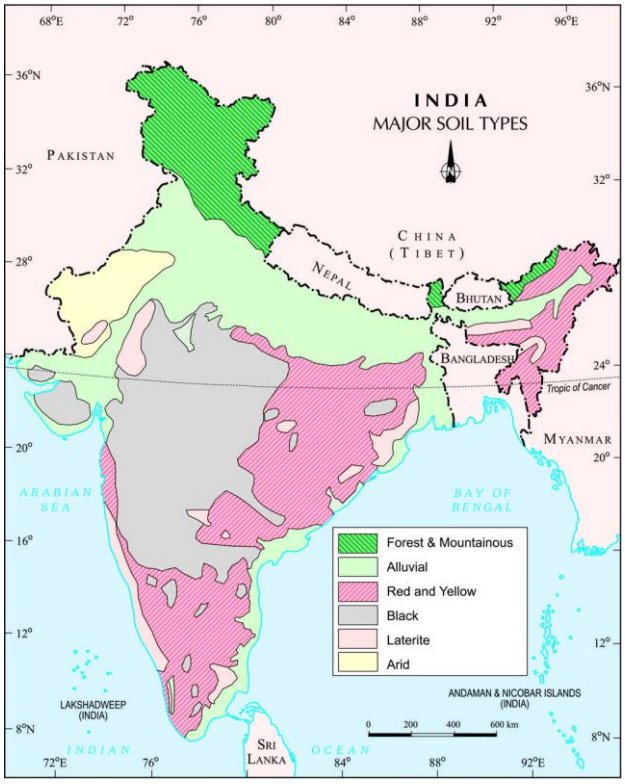
Water Expected Source:

Source of water would be municipal water supply (Delhi Jal Board).

Electricity Source:

1. Power consumption during the operational phase will be supplied by BSES Rajdhani Power Limited.

2. Backup power source: In case of power failure, 3 DG sets of total capacity of 3030 kVA (3 x 1010) will be provided as power back-up for the essential load.



INDEGINIOUS VEGETATION

The natural vegetation consist of trees, herbs, shrubs.

The most common tress are:

- Acacia arabica Wild (Babul),
- Ficus bengalensis Linn(Banyan),
- Azadirachta indica (Neem),
- Weeds like Cenchrus spp (Anjan).

BABUL

NEEM

BANYAN

ANJAN

ON-SITE CONSIDERATIONS:

- Area is susceptible to earthquake. Project area falls in Zone-IV as High Damage Risk Zone.
- No ground water will be abstracted for any purpose during the construction phase water supply will be met through private water tankers and Water requirement during the operational phase will be met through Delhi Jal Board.
- Electricity Source: Power consumption during the operational phase will be 2430 KW and will be supplied by BSES Rajdhani Power Limited.
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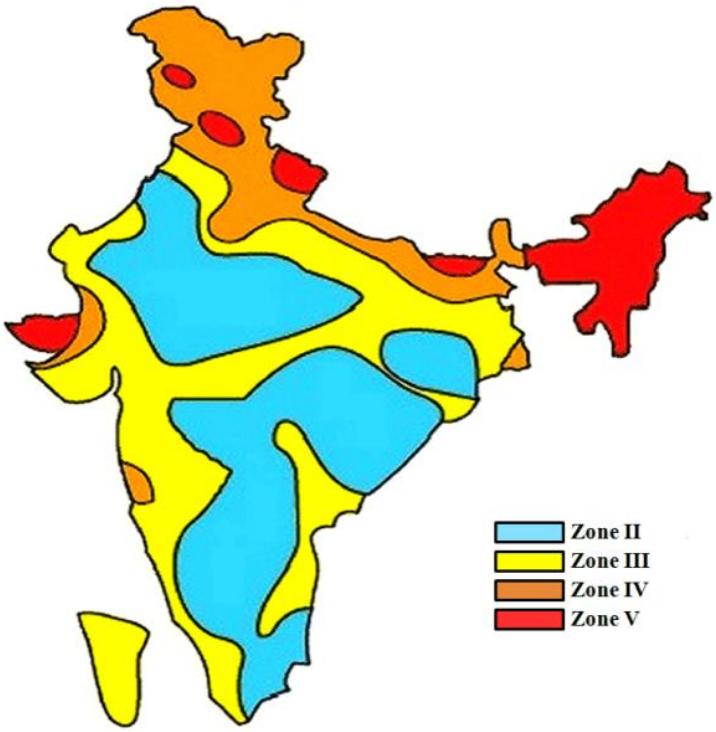
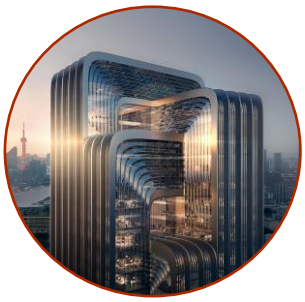


CONCEPT

INITIAL IDEA:

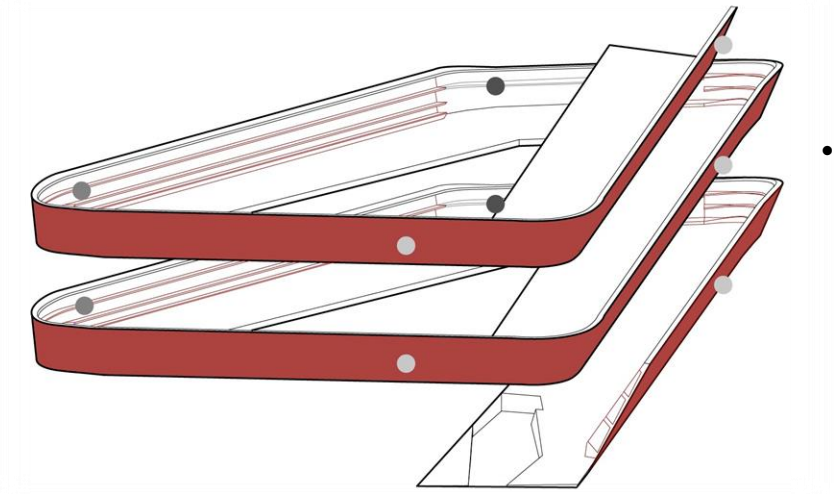


- The whole of the idea has been inspired from renowned architect Zaha Hadid. Her use and play with curves and soft edges is being incorporated in the building façade, interior spaces as well as on the whole site.

- This style is very subtly used throughout the site to create soft silhouettes in design, which can help to create a relaxing and inviting space.

- Another perspective envisions curved lines in architecture as means to create bolder and more dynamic spaces, capable of arousing surprise and wonder.

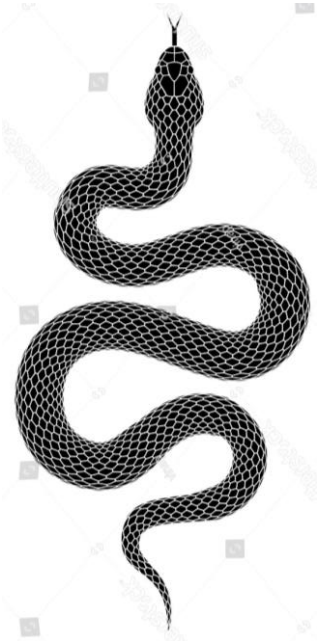
RAMP:



- The ramp design is inspired by typical Zaha Hadid aesthetic of swooping curves and filleted edges.

STAIRCASE DESIGN:

- The serpent inspired form visually breaks the conventional spiral staircase geometry and creates an interesting architectural feature

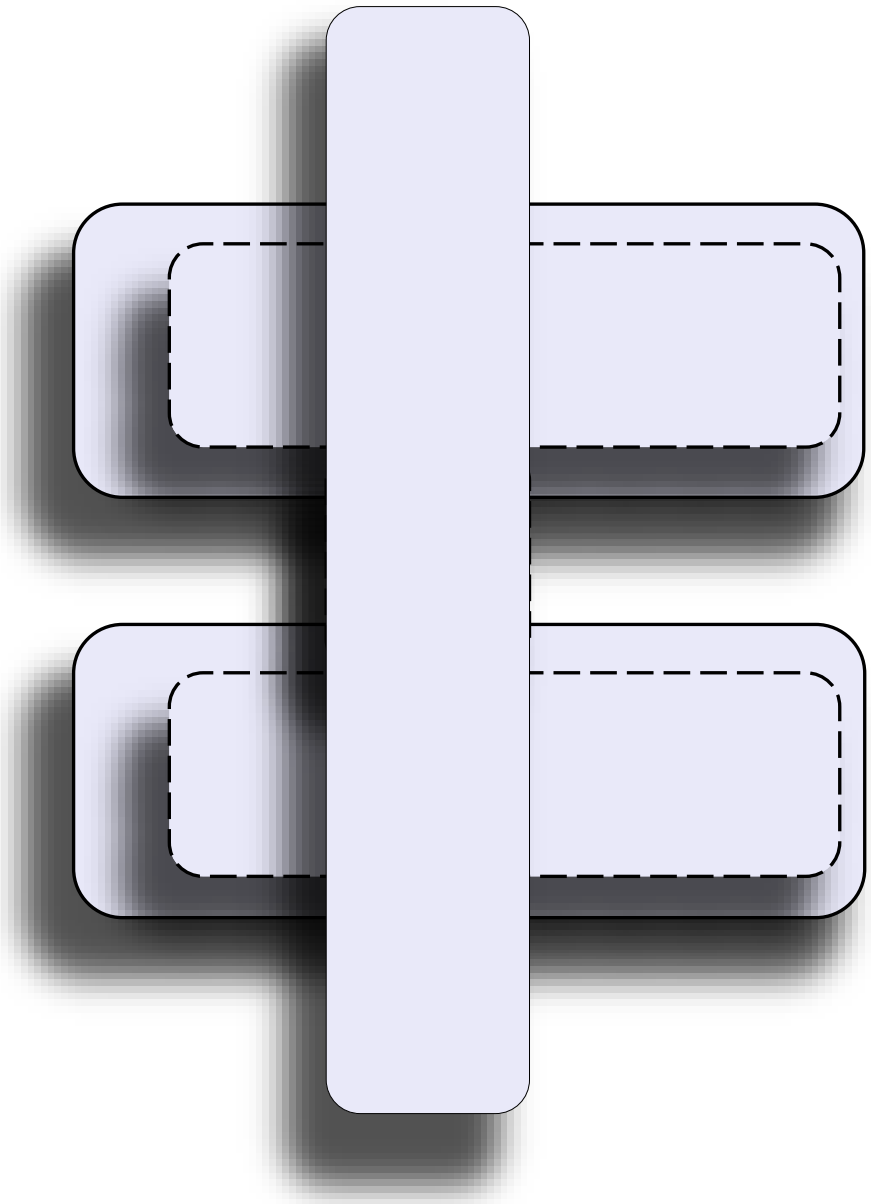


LANDSCAPING:

- The landscaping on the site is done keeping in mind the concept and theme of curves, smooth edged and circular formations.

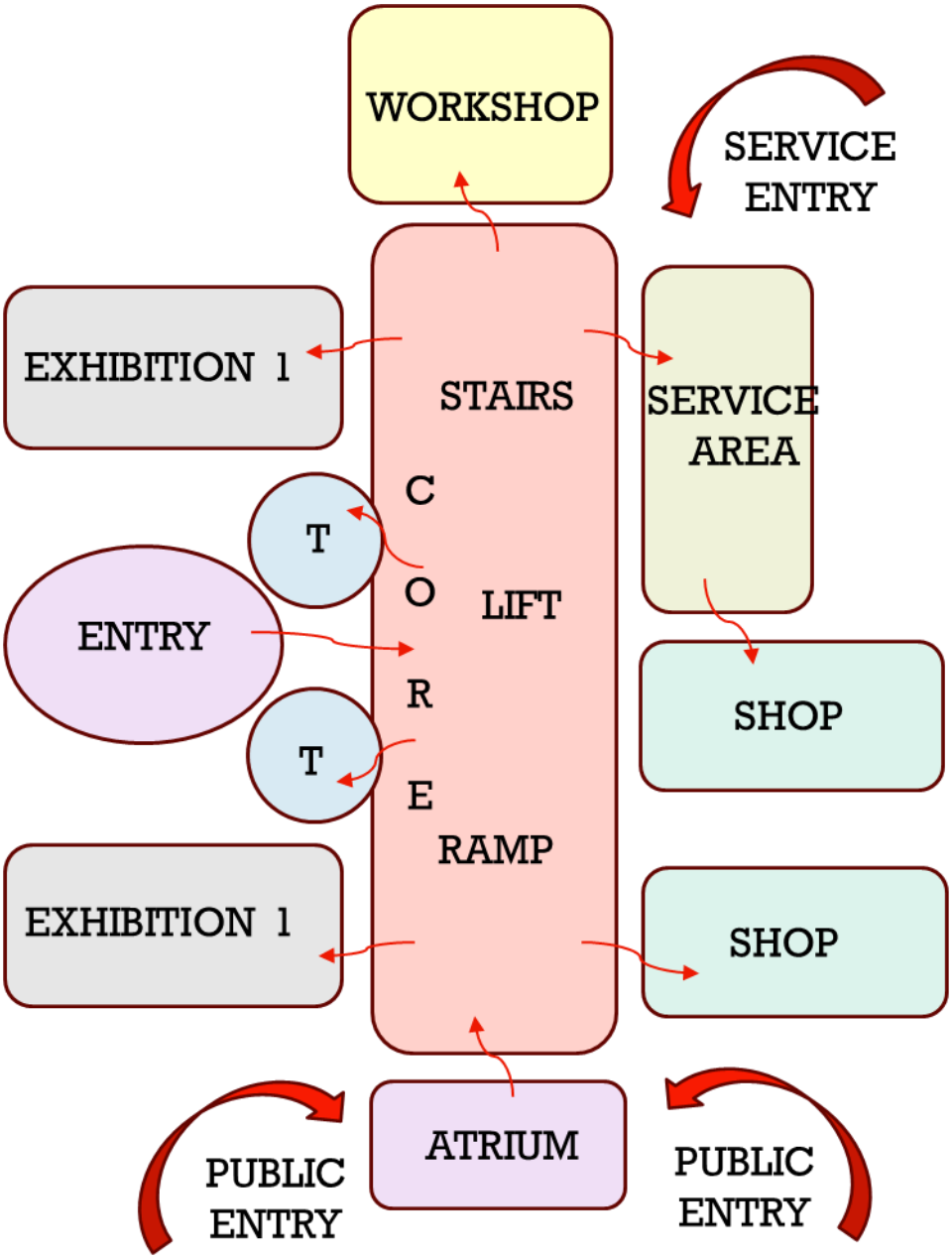
BUILDING FORM:

- The building edges are softly curved from all sides to give it a strong, sophisticated and inviting look.
- The building façade shall have circular and softer façade treatment with complimenting window shapes, etc.



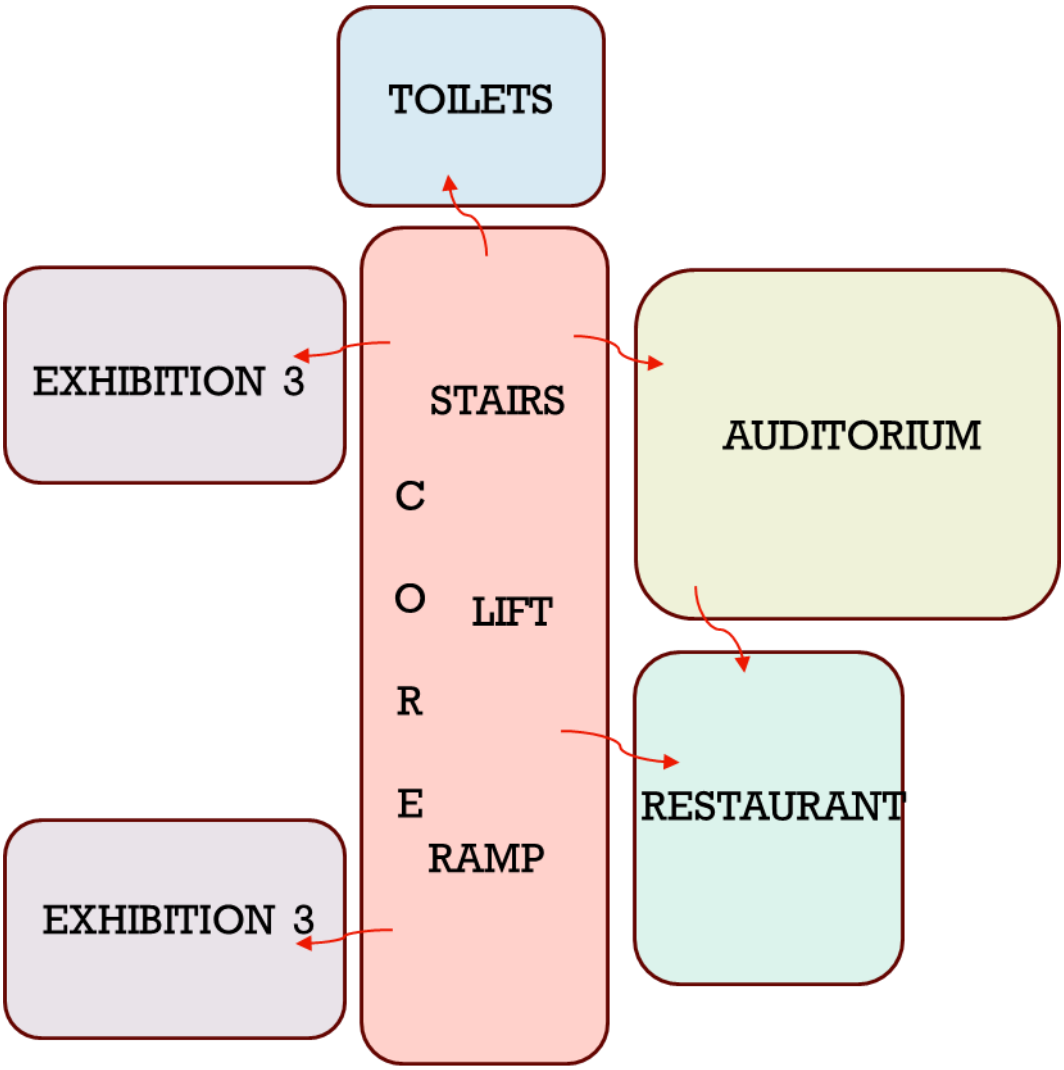
CONCEPTUAL BUILDING FORM

BUBBLE DIAGRAM:



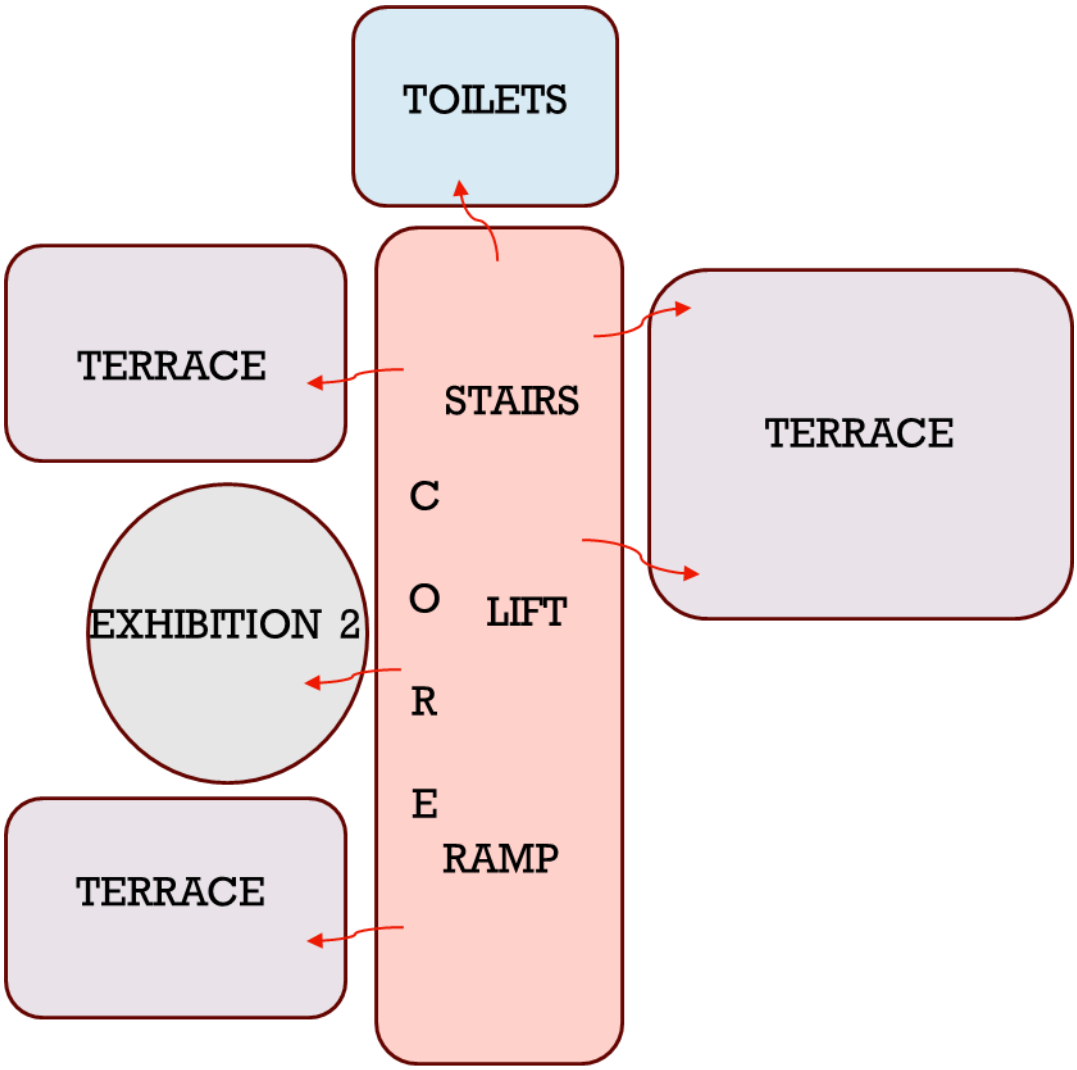
GROUND FLOOR

BUBBLE DIAGRAM:



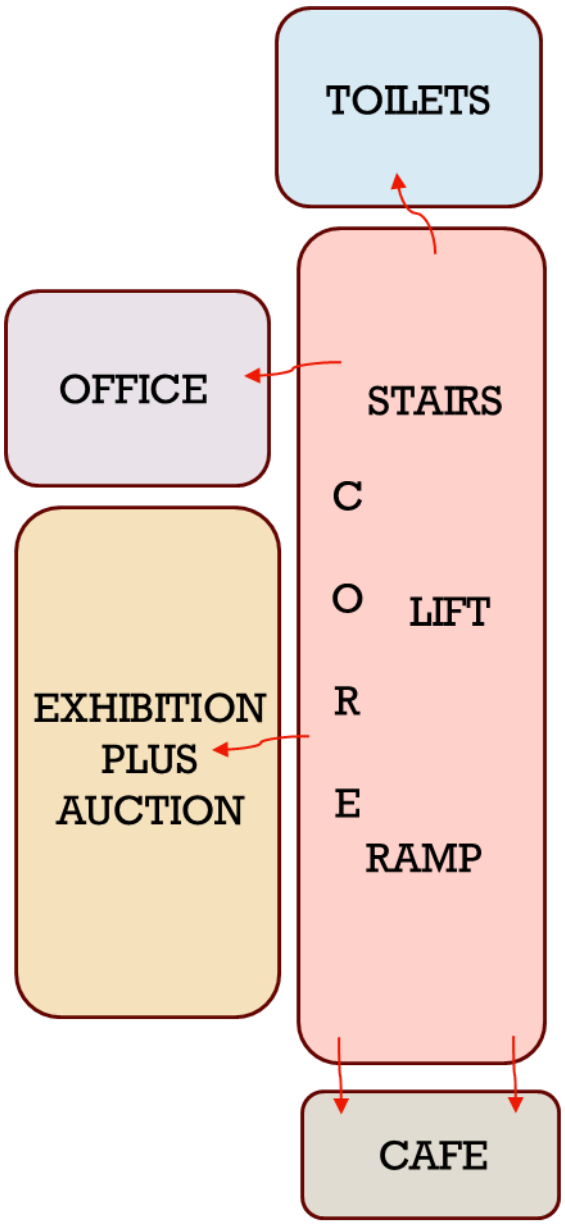
FIRST FLOOR

BUBBLE DIAGRAM:



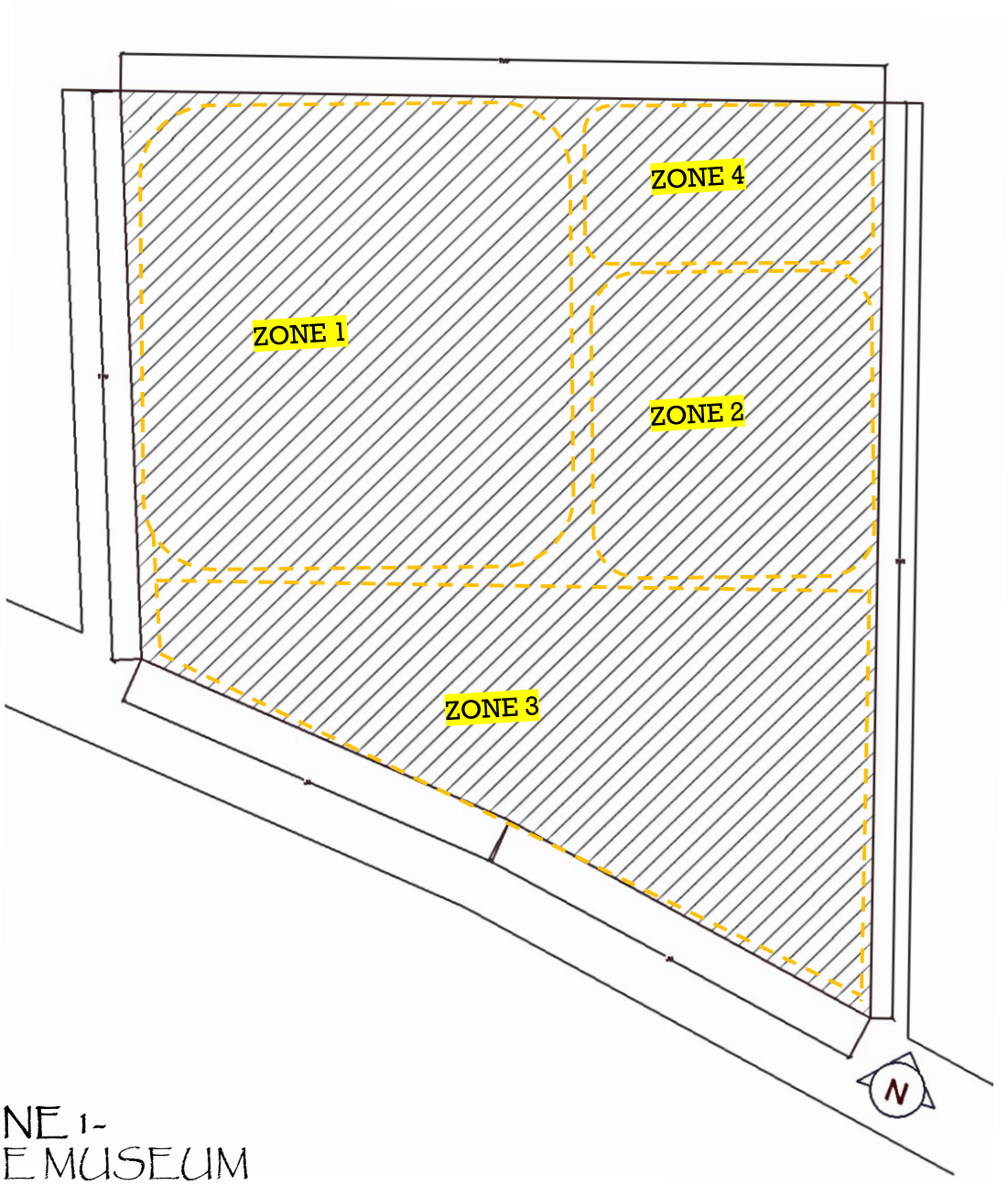
SECOND FLOOR

BUBBLE DIAGRAM:



THIRD FLOOR

SITE ZONING:



ZONE 1-
THE MUSEUM

ZONE 2- OUTDOOR EXHIBITION AREA
-AMPITHEATRE
-CHILDRENS PLAY AREA

ZONE 3- ART HAAT AND PARKING
-SPACE FOR SMALL ART BUSINESSES TO SELL THEIR PRODUCTS

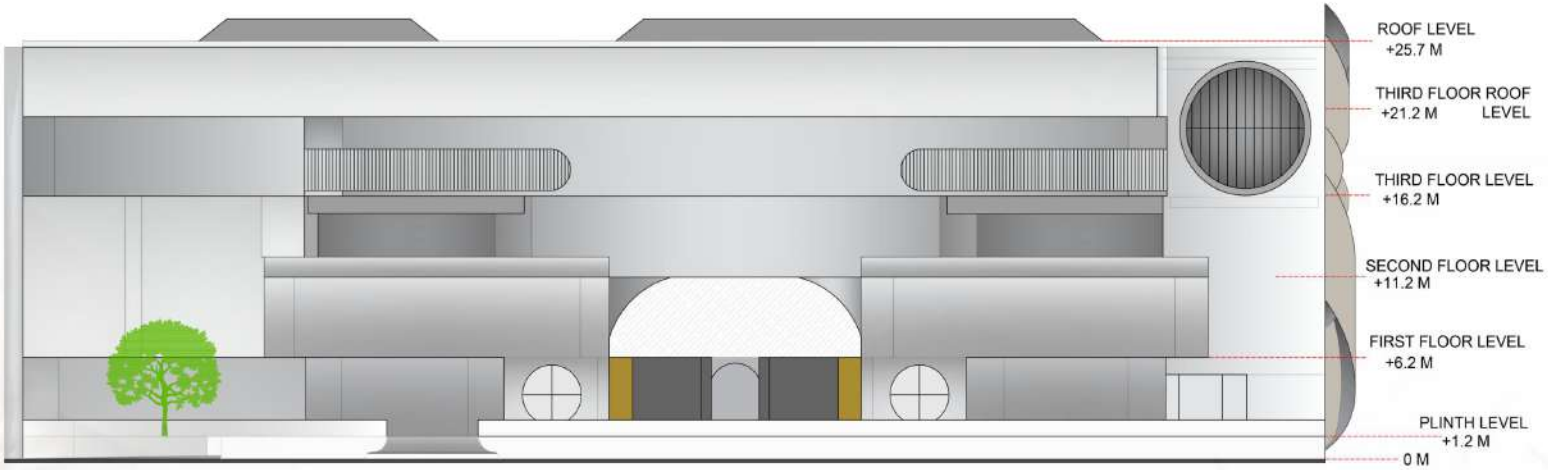
ZONE 4- FUTURE EXPANSION

AREA STATEMENT:

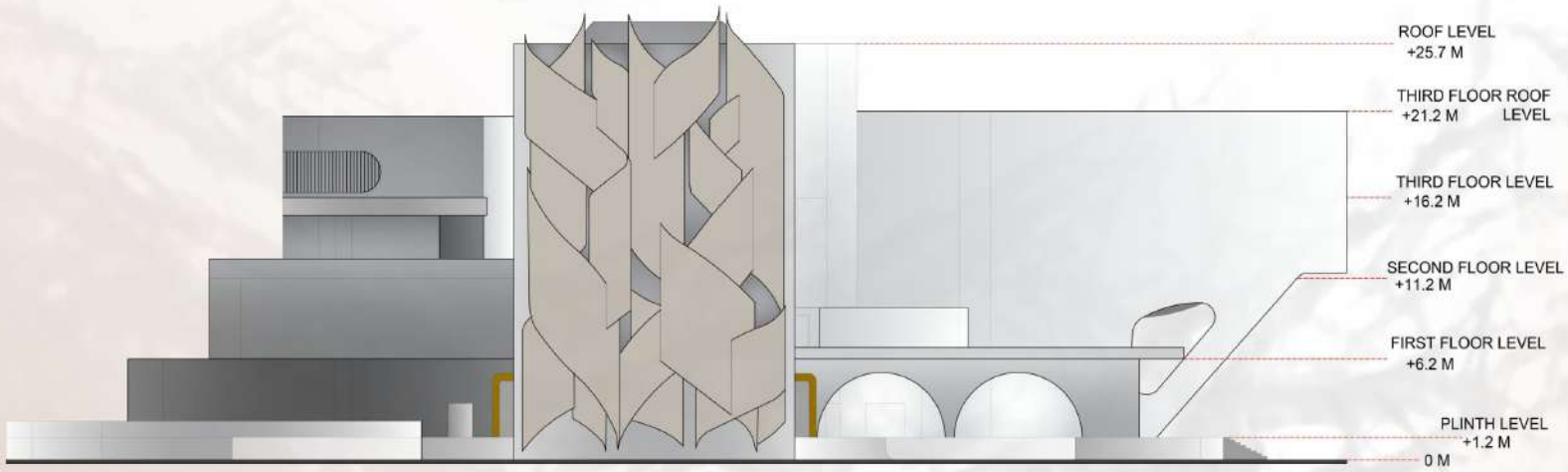
FACILITY	NO.	AREA
ATRIUM	2	150 SQ. M
EXHIBITION AREA 1-	1	240 SQ. M
EXHIBITION AREA 2-	1	450 SQ. M
AUDITORIUM	1	775 SQ. M
RESTAURANT+ KITCHEN-	1	410 SQ. M
CAFÉ	1	170 SQ. M
OFFICE	1	260 SQ. M
TOILETS	6	120 SQ. M
SHOP	2	190 SQ. M
SERVICE AREA-		270 SQ. M
TERRACE	1	420 SQ. M
RECEPTION+ INFO COUNTER-	1	150 SQ. M

- NEUFERT THIRD EDITION DATA
- TIME SAVER STANDARDS
- WWW.GOOGLE.COM
- WWW.NID.EDU
- WWW.WIKIPEDIA.COM
- CENSUS2011
- ISSU.COM
- GOOGLE MAPS
- GOOGLE EARTH
- WEATHERSPARK.COM

ELEVATIONS



WEST ELEVATION



SOUTH ELEVATION

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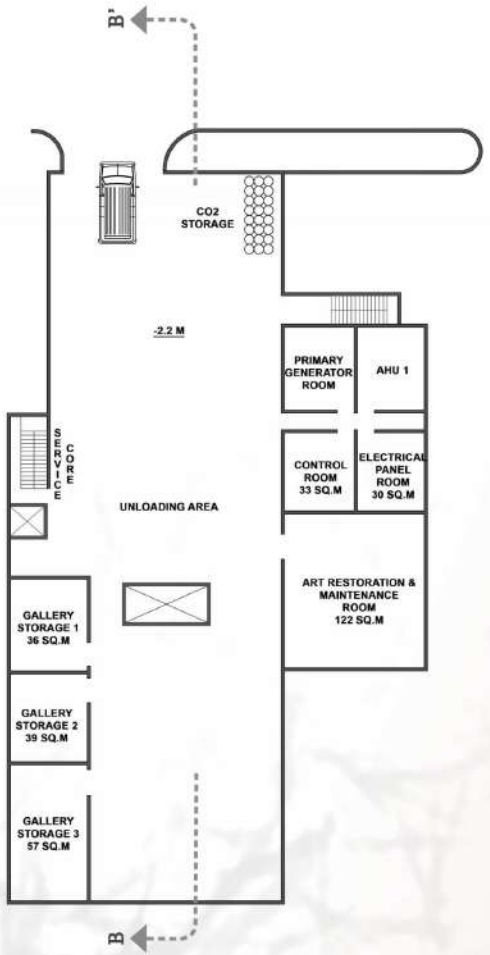
GROUND FLOOR PLAN



BASEMENT PLAN

SCALE - 1:200

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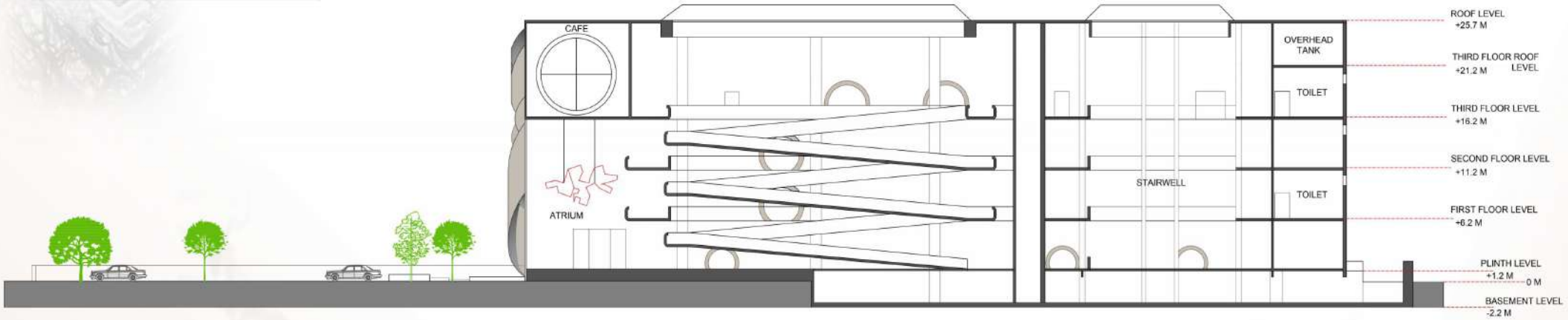
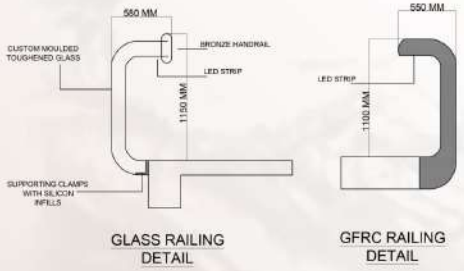
SECTIONS

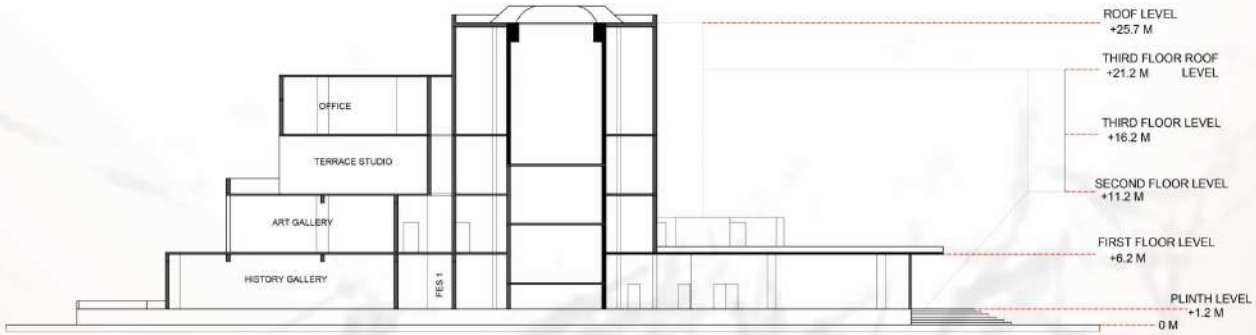


SECTION AT BB'



GLASS RAILING DETAIL

GFRC RAILING DETAIL



SECTION AT AA'

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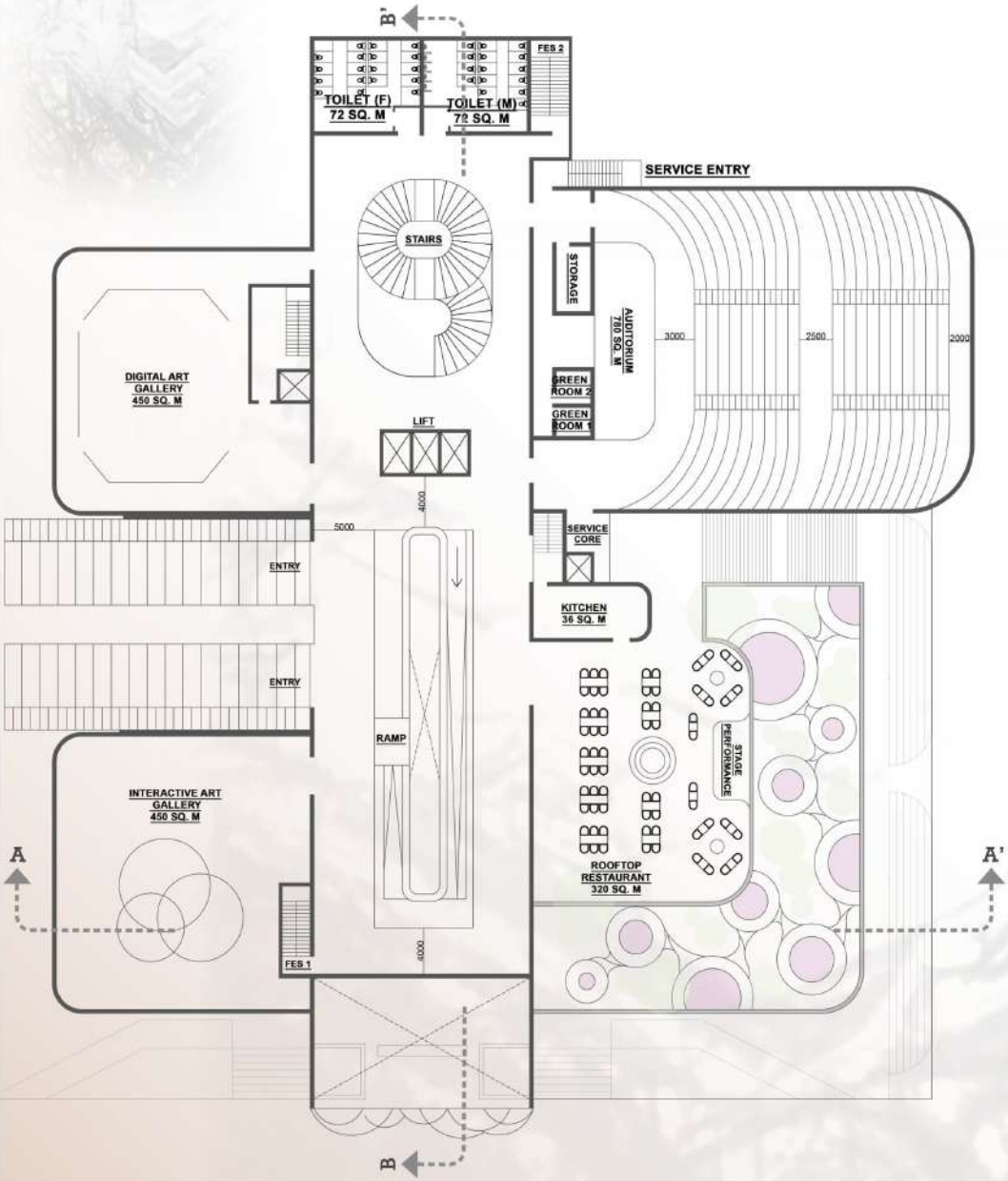
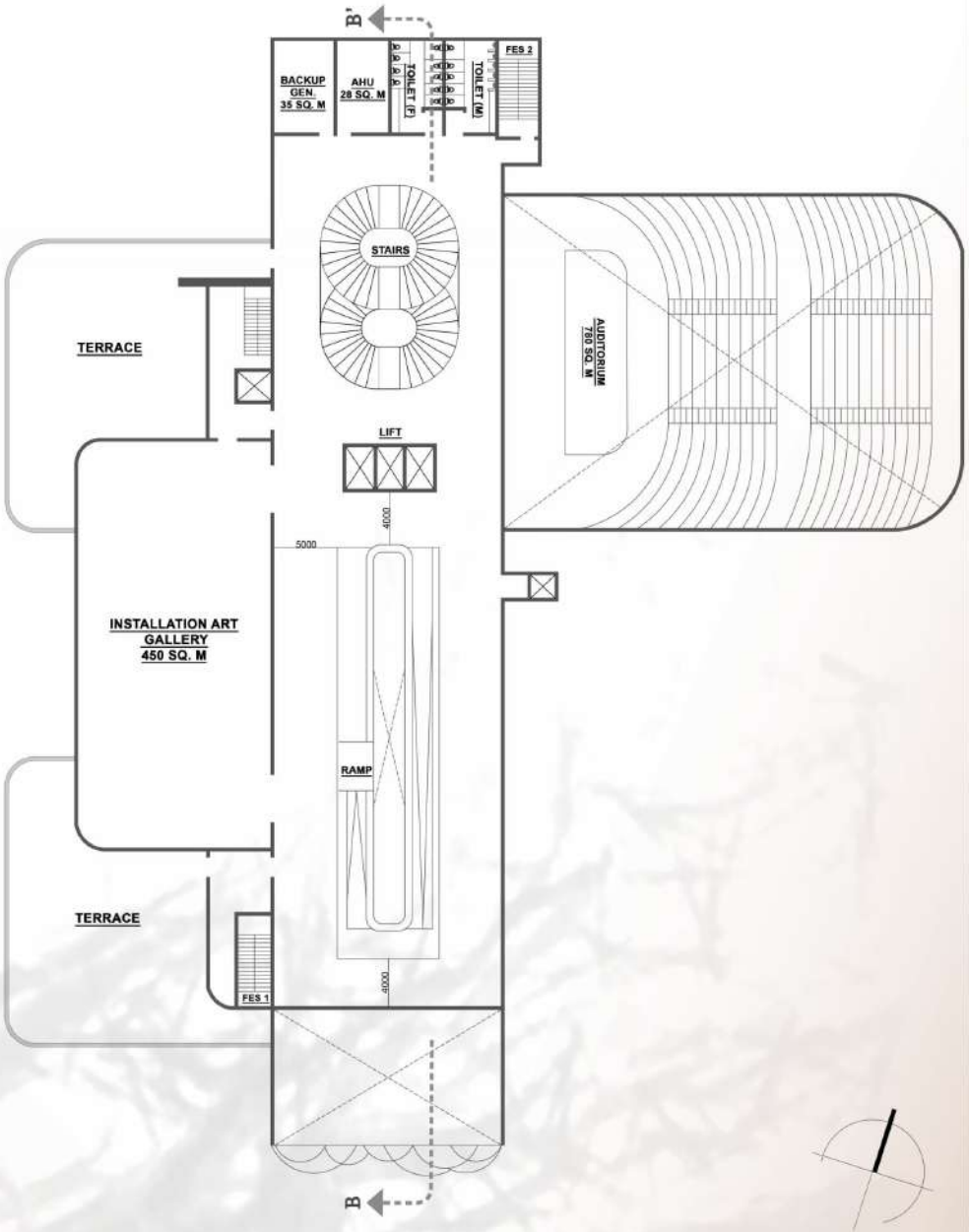


FIRST FLOOR PLAN



SECOND FLOOR PLAN

SCALE - 1:200

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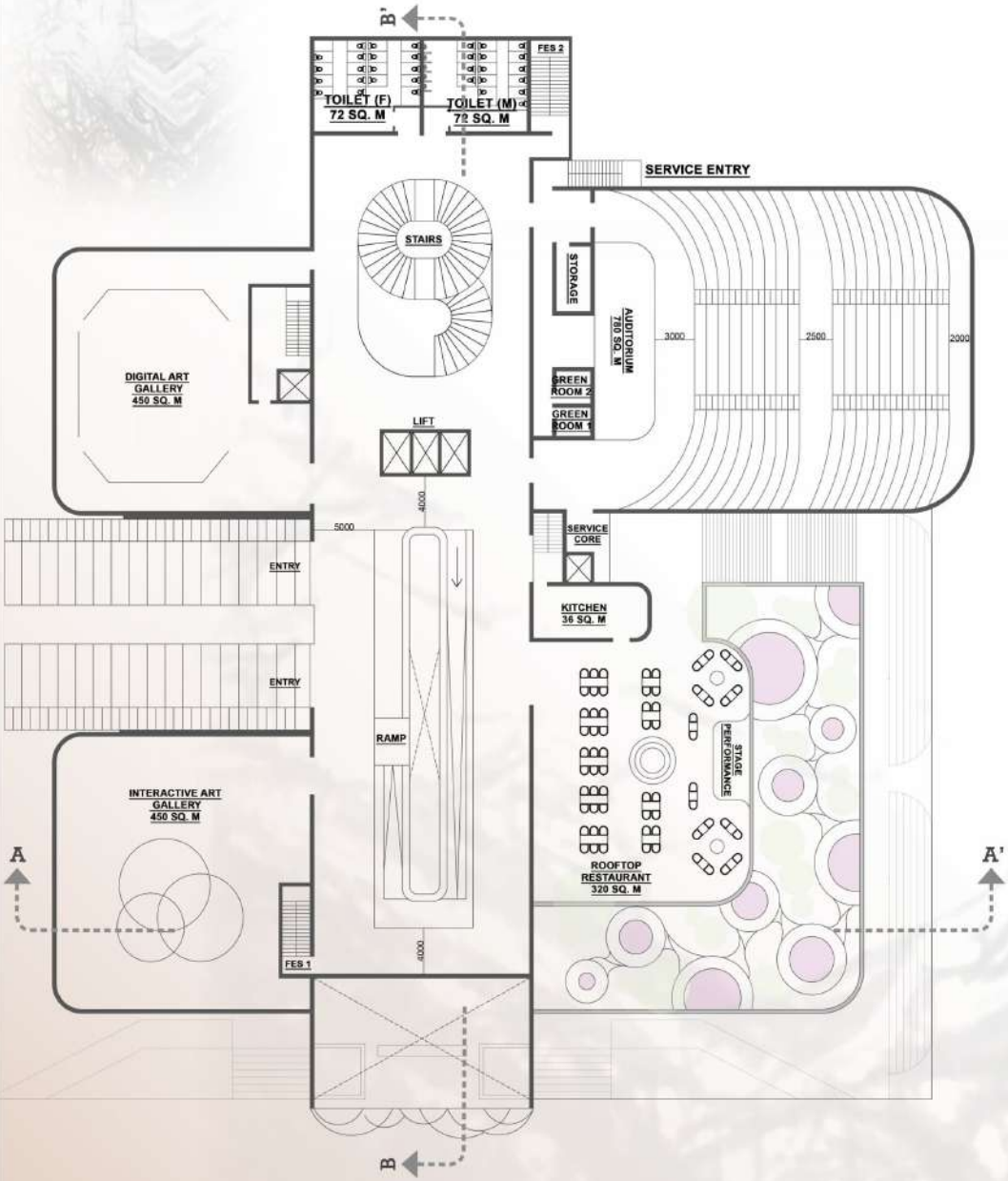
MUSEUM OF CONTEMPORARY ART & ARCHITECTURE



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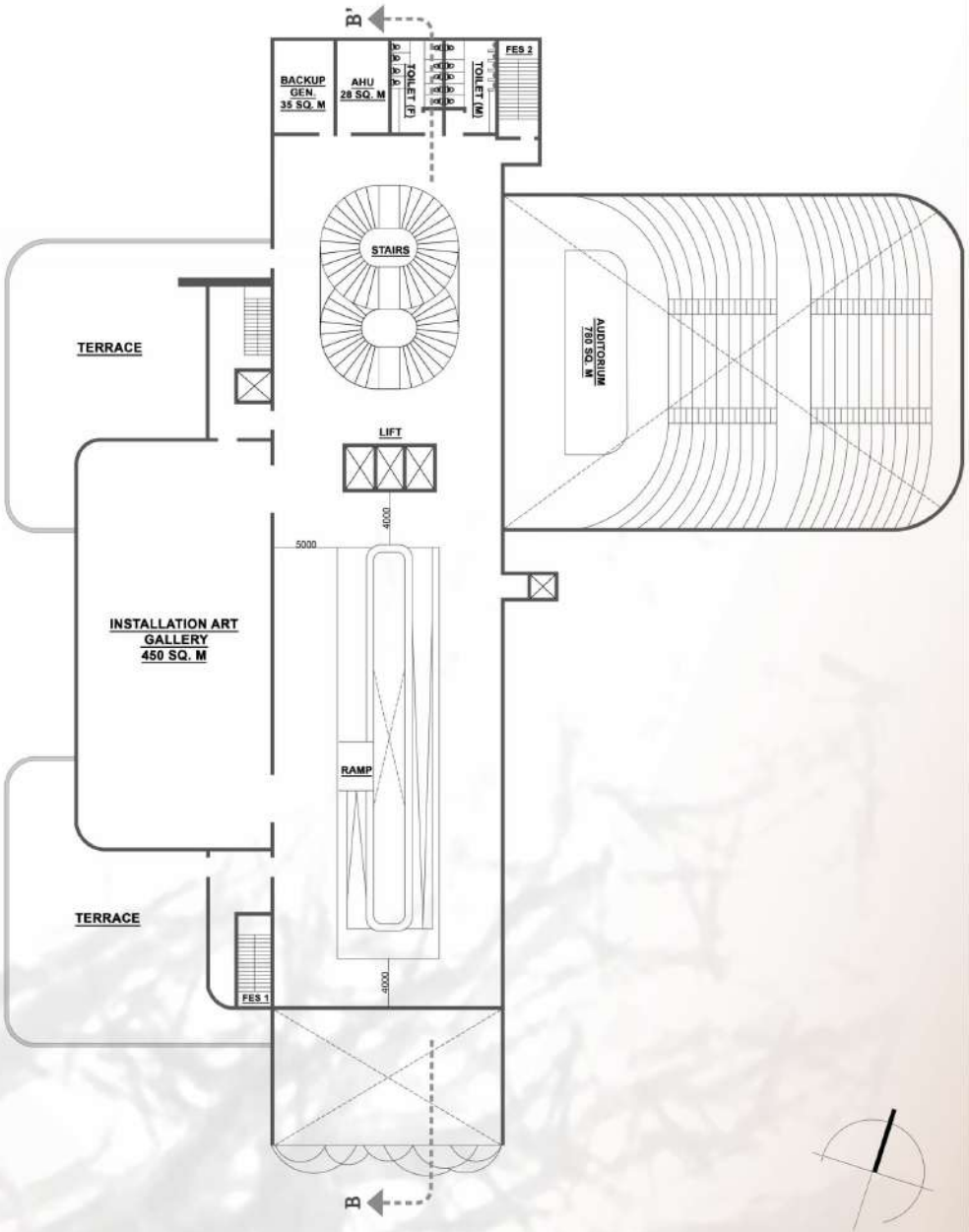

SECOND FLOOR PLAN

SCALE - 1:200

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INTERIOR

CAFETERIA

-The cafeteria acts as a tour halt for visitors after finishing the exhibition tour on the top floor.
-The design fuses vegetation and seating to create vegetation barrier between two tables.
-The double height louvered observation window offers view of the uotside.
-The cafeteria is naturally lit by the ambience of the fabric facade that also creates an interesting geometry that changes with light

OFFICE SPACE

-The office space interiors are designed to reflect the brutalist style of the museum.
-The open floor plan divided by glass framed panels create a transparent space which encourages the workers to engage and colaborate more frequently promoting team spirit.

SOME INTERIOR RENDERS

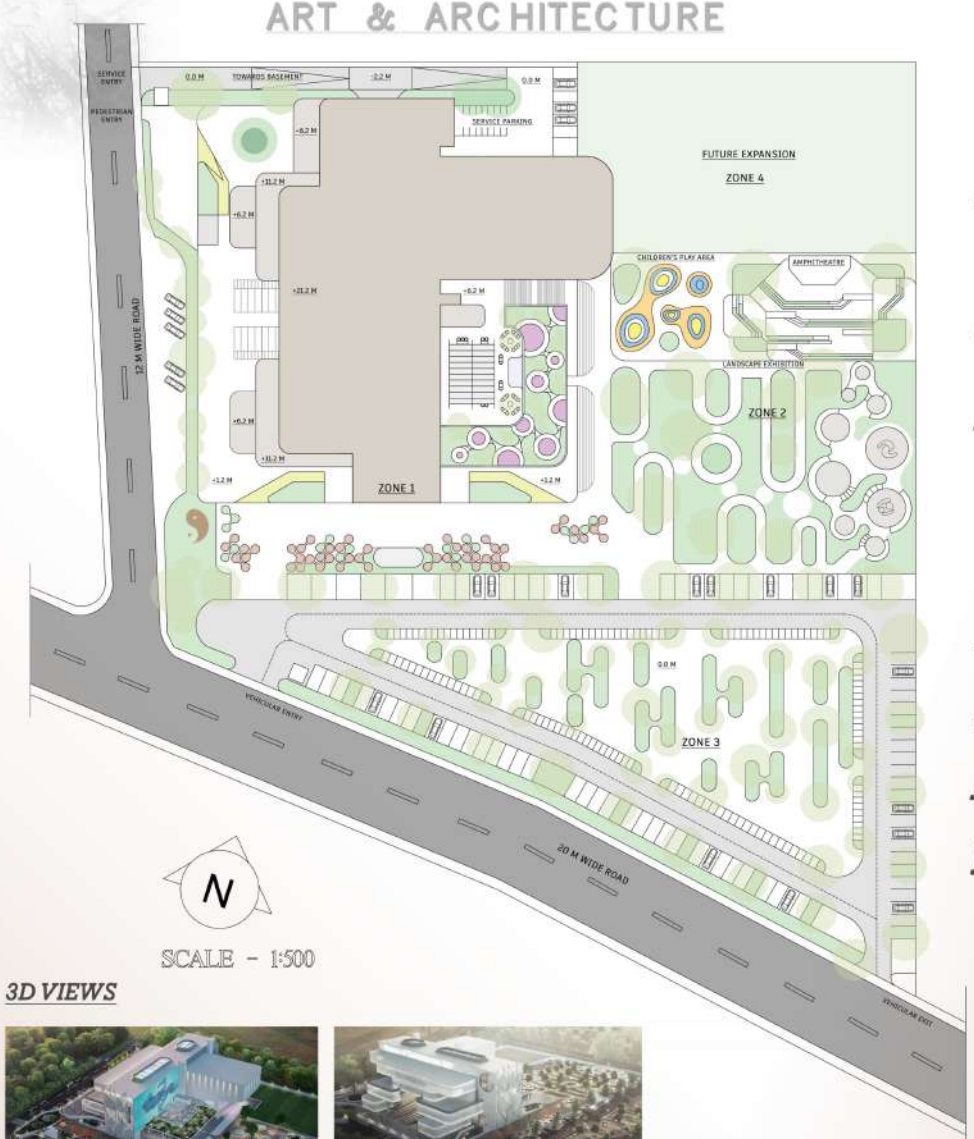
GALLERY OF HISTORY

DIGITAL ART GALLERY

INSTALLATION ART GALLERY

MUSEUM OF CONTEMPORARY ART & ARCHITECTURE

SITE PLAN



SCALE - 1:500

3D VIEWS

SITE ZONING

The site is divided into four zones.

ZONE 1- MUSEUM
ZONE 2- OUTDOOR EXHIBITION AREA
LANDSCAPE EXHIBITION
AMPHITHEATRE
CHILDREN'S PLAY AREA
ZONE 3- ART HAAT AND PARKING
ZONE 4- FUTURE EXPANSION

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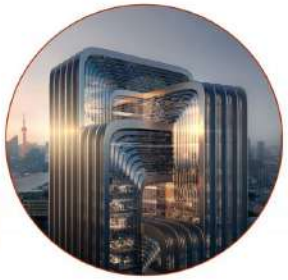
MUSEUM OF CONTEMPORARY ART & ARCHITECTURE

CONCEPT





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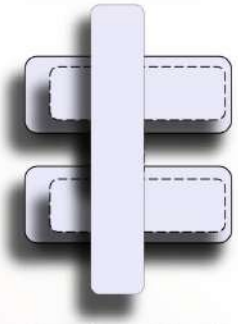
BUILDING FORM: (CONCEPTUAL)




RAMP:

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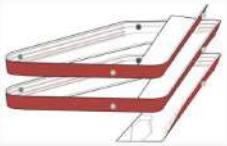

STAIRCASE DESIGN:

- The serpent inspired form visually breaks the conventional spiral staircase geometry and creates an interesting architectural feature


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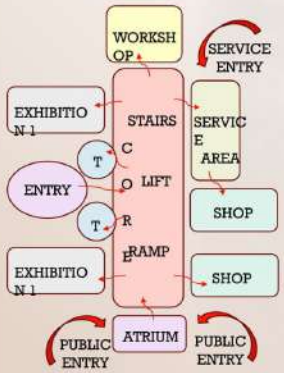
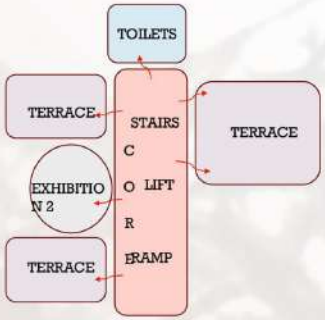
BUBBLE DIAGRAM

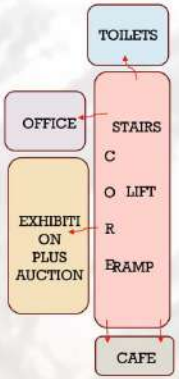


GROUND FLOOR

FIRST FLOOR

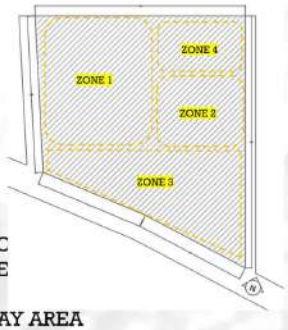


SECOND FLOOR



THIRD FLOOR

SITE ZONING:



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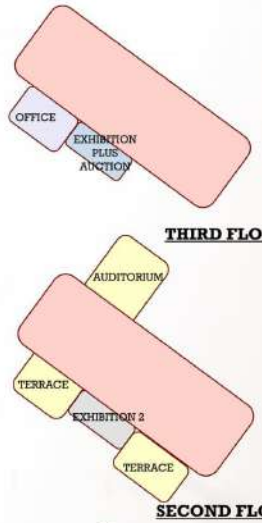
-SPACE FOR SMALL ART BUSINESSES TO SELL THEIR PRODUCTS

ZONE 4- FUTURE EXPANSION

CORE & CIRCULATION:
- STAIRCASE
- LIFT
- RAMP

VERTICAL STACKING:



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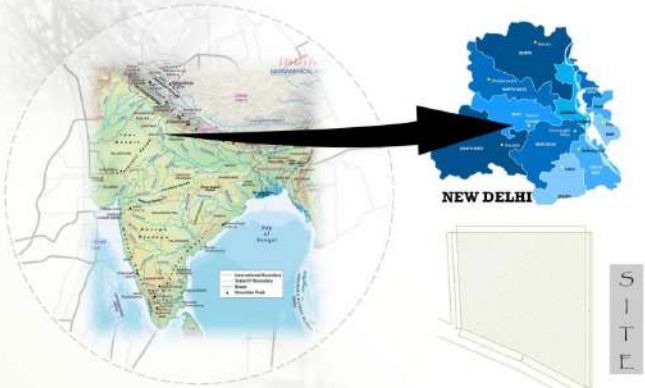
SITE ANALYSIS



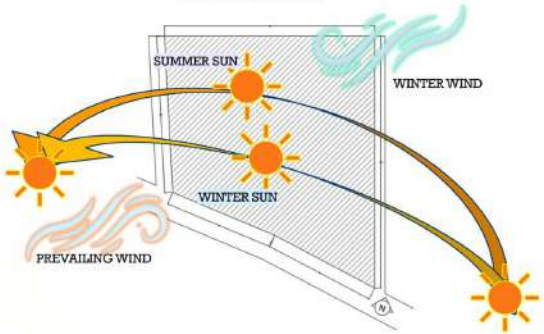
LOCATION: BHAIRON MARG, NEAR PURANA QUILA, NEW DELHI, INDIA

PLOT AREA: 6.43 ACRE (26021.28 m²)

COORDINATES: 28°34'13"N 77°11'29"E

The selected site falls under Public and Semi Public land use as per the Master plan of Delhi Development Authority 2021 and will be developed as per the same. The land will be used for the development of cultural purpose and the land cover of project site is a fallow land and depicts plain topography (relative relief is less than 5m) the construction activities of the project are as per the Master plan of Delhi Development Authority 2021 and will help in increasing the aesthetic beauty. During the construction phase, land cover of the project site has been altered to some extent, which is temporarily in nature.

SUN PATH AND WIND DIRECTION



SITE PICTURES:

SITE SECTION:

ON-SITE CONSIDERATIONS:

- Area is susceptible to Earthquake. Project area falls in Zone-IV as High Damage Risk Zone.
- No ground water will be abstracted for any purpose during the construction phase water supply will be met through private water tankers and Water requirement during the operational phase will be met through Delhi Jal Board.
- Electricity Source: Power consumption during the operational phase will be 2430 KW and will be supplied by BSES Rajdhani Power Limited.
- Backup power source: In case of power failure, 3 DG sets of total capacity of 3030 kVA (3 x 1010) will be provided as power back-up for the essential load.
- Construction waste shall be used for back filling, road making and pavements. There are two structures on the site which will be demolished and the demolition waste will be used for back filling purposes.

3.	Socio- cultural activities such as auditorium, music, dance & drama centre/mediation & spiritual centre etc.	35%	120	26m	1. Parkingstandard @2ECS/100sq.m of floor area. 2. A proper scheme for visitors parking and parking adequacy statement shall be prepared taking into consideration large number of visitors.

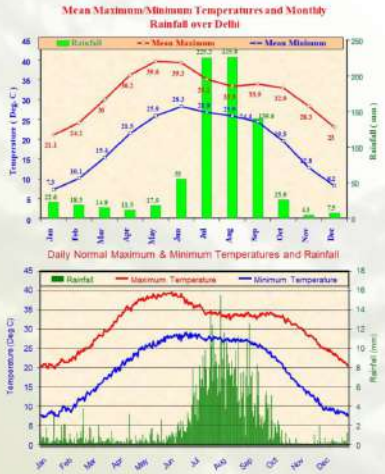
CONNECTIVITY

RAILWAY STATION- 12.3 KMs
DELHI AIRPORT- 15 KMs
NEAREST METRO- 2.4 KMs

NEAREST MONUMENTS AND MARKET PLACE:

HAUZ KHAS FORT- 3 KMs
SAROJNI MARKET-1.8 KMs

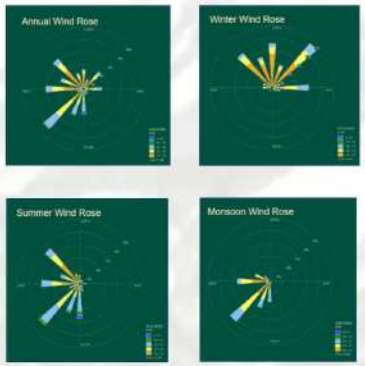
TEMPERATURE AND PRECIPITATION



ROAD DETAILS:-

WEST SIDE: 12 M WIDE ROAD
SOUTH SIDE: 20 M WIDE ROAD

WIND DIRECTION



- **BUILT UP AREA-** 8812.423 SQ. M
- **GROUND COVERAGE-** 35%
- **NO. OF PARKING-** 235

WHY THIS PROJECT?

The project allows me to design something along similar lines. which is important to the general public in various stages of their lives be it a student, teacher, traveler, researcher, etc. and also aspires to be iconic building incorporating history and innovations.

STRENGTH
The site is very close to metro, i.e, within 2.4 km. Easy accessibility.

OPPORTUNITY
The site lack any context, hence the design has the opportunity to guide future constructions.- The project will give importance to its surrounding context.

WEAKNESS
Building restriction.

THREAT
Security concerns on the site due to surrounded by residents and informal settlements.

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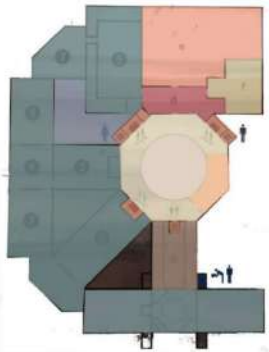
MUSEUM OF CONTEMPORARY ART & ARCHITECTURE

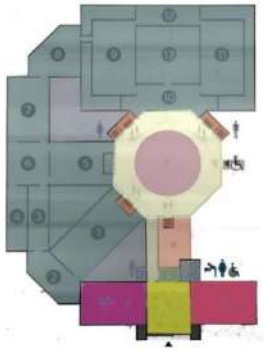
CASE STUDY

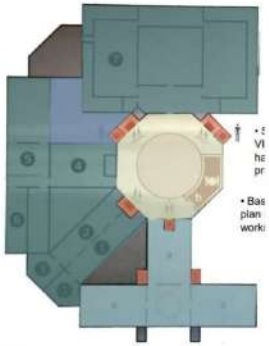
NATIONAL MUSEUM, NEW DELHI

Central secretariat metro station – 1.2 k.m.
Indira gandhi international airport – 14.5 k.m.
New delhi railway station – 3.8 k.m.
Nearest stops :- National Museum bus stop

Location : Jan path , New Delhi
Established Year : 1949
Site Area : 9.5 acre
Exhibits : Art , Cultural and Heritage of India
Woking Hours : 10AM-6PM







Exhibition Spaces
Entrance Lobby
Auditorium
Admin. Section
DG Office
Library
Office

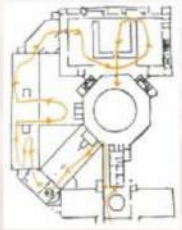
Museum Institute
Services
Toilets
Corridor space
Central open space
Museum Shop
Ajanta Paintings

SITE SURROUNDINGS

EAST - VIGYAN BHWAN
WEST - JJAWAHARLAL NEHRU BHAWAN
NORTH – RAJPATH ROAD
SOUTH – ARCHAELOGICAL SURVEY OF INDIA

APPROACH ROAD

- Access to the museum is from main Maulana Azad road
- Inclined – entry from right side of building
- Two main entries from main road – one is Temporarily closed
- Separate entrance for VIP
- Store sculptures painting , Baggage Counter , Workshop , Vegetation , Water Body etc. are seen within site .

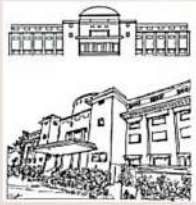


CIRCULATION

- Museum has radial circulation
- Visitor enter in exhibition area from gallery left hand side of token counter
- All exhibition hall is connected with each other with a centre circulation

FORM AND FUNCTION

- The building seems to merge with the surrounding buildings – as per DDA guidelines
- Building comprises of four stories with a basement
- Basic plan of the building is fan shaped with a circular courtyard in between surrounded by a covered veranda
- Wings are linked with the courtyard according to different requirement are need
- Building is made using high strength R.C.C and red sand stone



POSITIVE

- All exhibition area is directly connected with central courtyard
- Library is located such that it is accessible from entrance lobby
- The additional activates provided in museum like auditorium , cafeteria , institute ; library , shops , etc are placed separately on different floor
- Seating arrangements has been made for the visitors

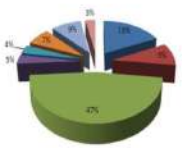
NEGATIVE

Admin area are divded in parts and provided separeted
Proper parking was not their
Placement of toilet not proper
Fire exit were hidden

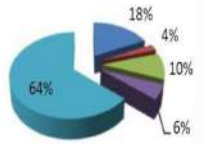
BIHAR MUSEUM

ARCHITECTS: Maki and Associates, Opolis
CLIENTS: Government of Bihar.
AREA: 25410 m²
GROUND COVERAGE: 33%
BUILDING HEIGHT: 18m.
F.A.R.: 0.44
ARCHITECTURAL STYLE: Modern & Contemporary

SUN AND WIND PATH



AREA DISTRIBUTION:



SITE DISTRIBUTION:

CONNECTIVITY:

3.6 km away from Patna Junction
4.5 km away from Mithapur Bus Stand

CLIMATE:

Macro-Climate: Hot & Humid
Average Temperature: 27.1 °C
Maximum Temperature: 46.0 °C
Minimum Temperature 1.1 °C
Annual Precipitation: 1100 mm
Prevailing Wind Direction: 6km/h North-East

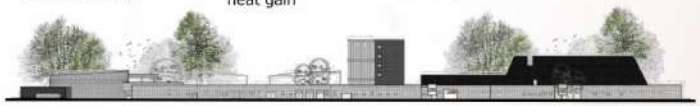
PASSIVE STRATEGIES:

Jalis: Allows light to enter, minimizing harsh sun rays

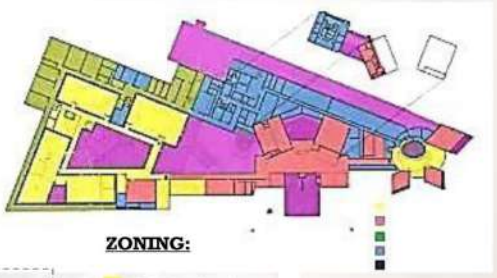
Water bodies in courtyard: Evaporative cooling as well as minimizing heat gain

Bridge: Dramatic effect while providing natural air and light

Niches Creating play of light.



SOUTH ELEVATION



ZONING:

Public collection.
Public noncollection.
Non public collection.
Non public non collection.
Outdoor areas.

SITE SURROUNDINGS:

INFERENCES

- Well interconnected landscape in harmony with land.
- Each wing has been given distinct/recognisable form.
- The circulation pattern was based on Bihar history, Buddhism and Jainism followed by Mauryas, Guptas and Britishers.

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LITERATURE STUDY

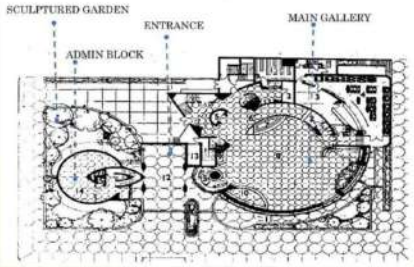
GUGGENHIUM MUSEUM, NEW YORK

SPECIFICATIONS

4740 SQ METRE gallery space.
1395 SQ METRE office, theater and retail space.
28 M tall atrium topped with expansive glass dome.
Main ramp coins upwards 6 floors, more than 400m.

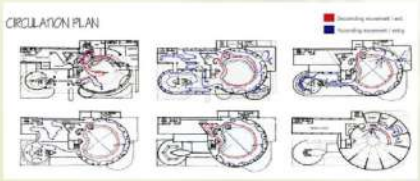
LOCATION-CONNECTIVITY

Side neighborhood of Manhattan, New York City.
Latitude: 40° 46' 58.728" N
Longitude: 73° 57' 32.2956"
5.1 km away from Grand Central.
6.0 km away from Pennsylvania Station
29.2 km away from J. F. Kennedy International Airport



CIRCULATION PLAN

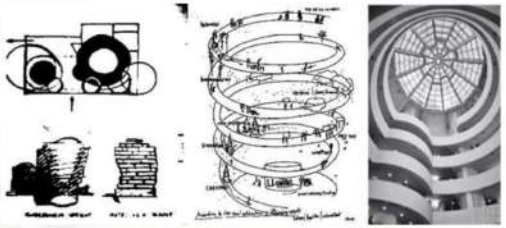
In the Guggenheim, Wright intended to allow visitors to experience the collection paintings by taking an elevator to the top level then view artworks by descending the central spiral ramp Museum currently designs exhibits to be viewed walking up the ramp rather than walking down. From street, building looks like a white ribbon rolled into a cylindrical shape, slightly wider at the top than at the bottom.



INFERENCES

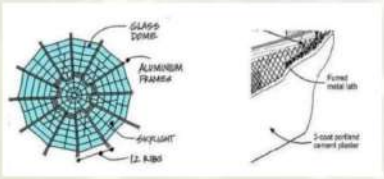
- Use of organic structure.
- Central dome work as skylight.
- Ascending-descending path allows visitors to have different views.
  Use of rigorous ramp-first of its kind.
- Slightly wider at its top-good lighting.

CONCEPT: Wright created the philosophy of organic architecture, which maintains that the building should develop out of its natural surroundings. Although the word 'organicll usually refers to something that bears the characteristics of plants or animals, for Frank Lloyd Wright the term organic architecture had a separate meaning. For him organic architecture was an interpretation of nature's principles manifested in buildings that were in harmony with the world around them. Building inspired by Wright's love for the automobile - Planetarium designed for visitors to drive up the ziggurat-like ramps.



MATERIALS

The Guggenheim is primarily composed of reinforced concrete.Normal weight cast in place concrete is the material of the lower levels.Light weight concrete is the material of the interior radial walls and the ramps.Gunite, or shot Crete, is the material used for the exterior of the spiral curved walls.Wright used qunite to achieve a seamless monolithic facade.Wright left out expansion joints, which would have created visual vertical breaks. He hoped the application of elastomeric paint, known as the cocoon would fill in the cracks formed during construction.The pairing of multiple types of concrete caused visible cracks in the facade.



INDIA INTERNATIONAL CENTRE, NEW DELHI

INTRODUCTION

- The buildings of the Centre are located in an ideal environment. Situated in the heart of New Delhi, the Centre is adjacent to the Lodi gardens overlooking a magnificent landscape of gardens and historic monuments from the sixteenth century.
- The site of prestigious complex is situated at Lodhi estate, adjoining the serene surroundings of the Lodhi gardens, famous for their natural splendour.
- The site measures 4.6 acres adjoins road on eastern and southern side and provide excellent view of gardens and Lodhi tomb.
- The height of the building has been kept below the base of the domes of the nearby tombs in Lodhi garden

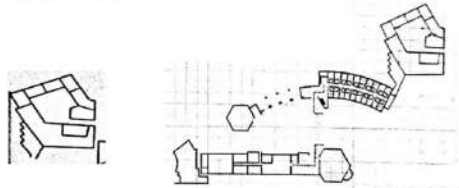
YEAR -1962
SITE AREA-4.6 ACRES
ARCHITECT JOSEPH ALLEN STEIN

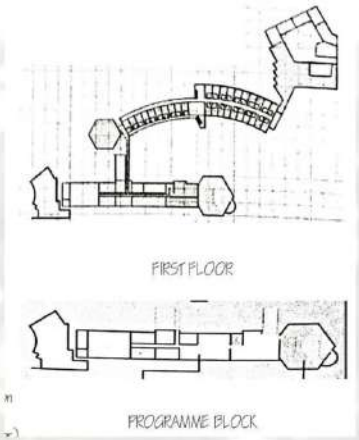
LOCATION

40, Max Mueller Marg, New Delhi 110003
Jor Bagh - 850m
NDLS - 6.3km
Lodhi Corner- 350m
IGIA - 8km

PLANNING

- Three separate wings of the IIC complex are designed to reflect the different functional aspects of the Centre. Residential rooms in the north wing.
- The dining areas in the west.
- Auditorium and administrative offices in the south wing, are connected to each other by walkways with overhanging eaves in Lodhi.





STRUCTURE MATERIALS

- Refinement of craft techniques, architect used indigenous elements with the modern use of exposed brick.
- The use of local material, such as screen, is soft-found jalis in ceramic blue tiles.

INFERENCES

- Use of daylights and celestial windows to maintain the daylight. Well defined blocks/wings.
- Creating buffer zone between galleries.
- Provision of central sitting space to let users absorb visuals.

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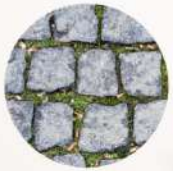
LANDSCAPING

- THE LANDSCAPE DESIGN IS INSPIRED BY TRADITIONAL JAPANESE LANDSCAPE ARCHITECTURE
- LUSH GREEN ELEMENTS ARE CONSTRASTED WITH PEBBLES AND WOODEN SURFACES TO CREATE A NATURAL HARMONY REPLICATING THE TRADITIONAL JAPANESE ART OF LANDSCAPING
- THE PLANTATION IS SPLIT INTO 4 TIERS TO CREATE A PLAY OF HEIGHT, TEXTURES AND COLORS WITHIN THE PLANTATION.

HARDSCAPE



COBBLESTONE PAVEMENT

CONCRETE

CROSS LAMINATED TIMBER PAVEMENT

PEBBLES

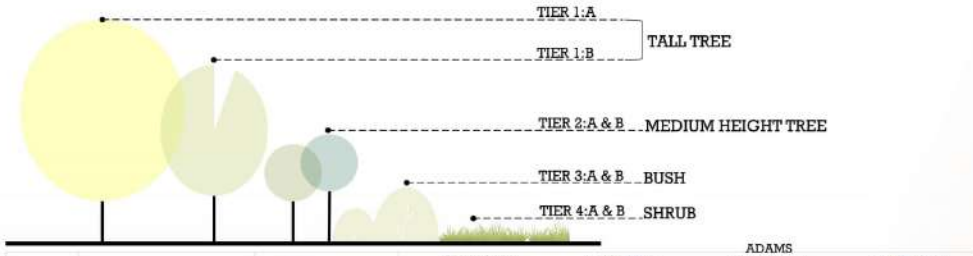
CHINESE RED TERRACOTTA PAVEMENT

LANDSCAPE VISUALS

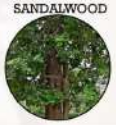








TIER A PLANTATION SCHEME						
TIER 1: HEIGHT UPTO 6M		 GULMOHAR	 LABURNUM	 ADAMS LABURNUM	 JACARANDA
TIER 2: HEIGHT >2M <6M		 PALASH	 PLUMERIA	 PLUMERIA	 BAUHINIA
TIER 3: HEIGHT 0.5M-2M		 HIBISCUS	 HIBISCUS	 IXORA	 IXORA
TIER 4: HEIGHT >0.5M		 RAIN LILY	 RAIN LILY	 RAIN LILY	 RAIN LILY

TIER B PLANTATION SCHEME						
TIER 1: HEIGHT UPTO 6M		 RAINTREE	 PEEPAL	 RED SANDALWOOD	 TEAK
TIER 2: HEIGHT >2M <6M		JAPANESE CYPRUSS	BOUGAINVILLIA	CHINESE FAN PALM	
TIER 3: HEIGHT 0.5M-2M		MAHUA	MOGRA	DURANTA	CROTON
TIER 4: HEIGHT >0.5M		PAMPAS GRASS	FOUNTAIN GRASS	JAPANESE FERN	

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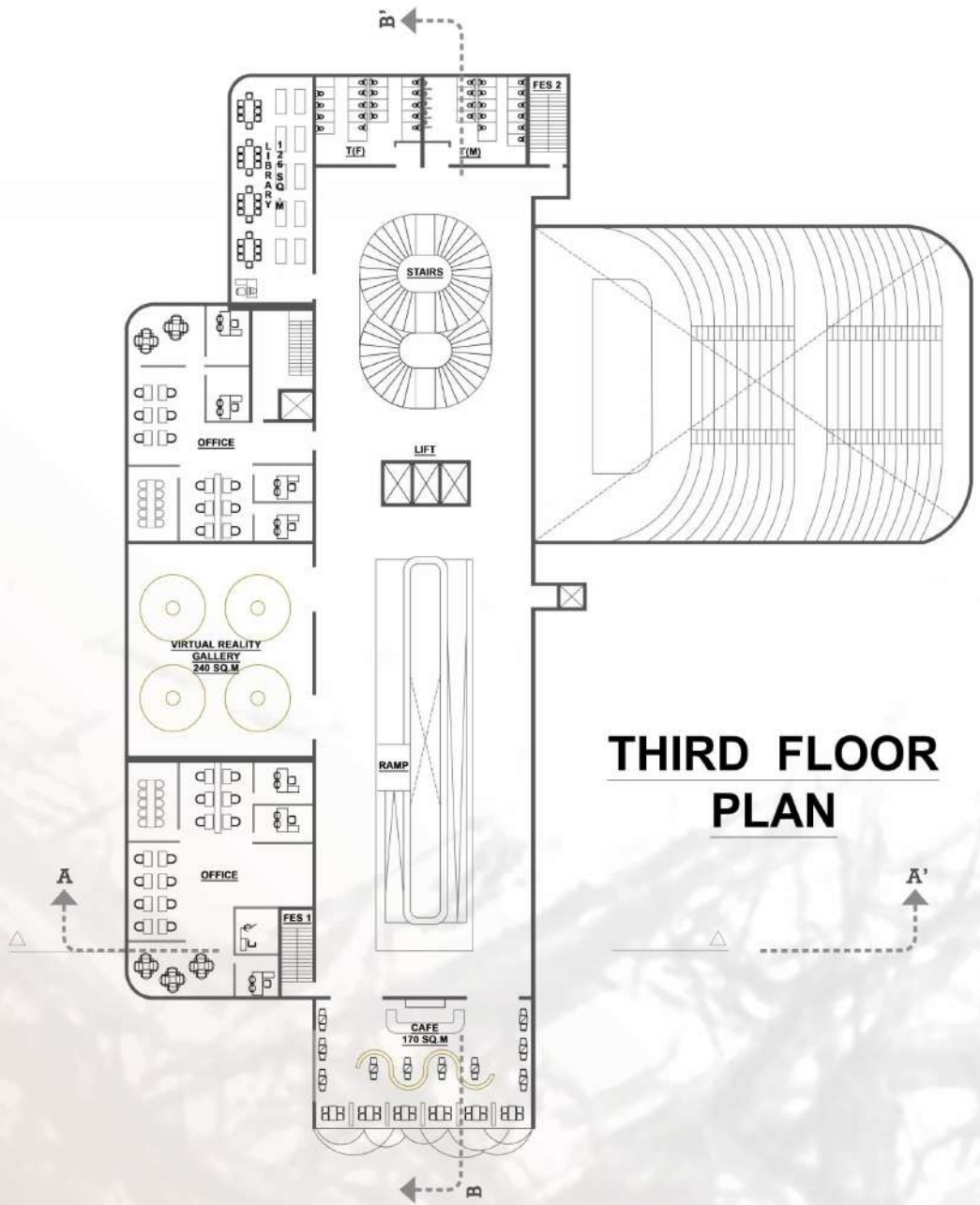
MUSEUM OF CONTEMPORARY ART & ARCHITECTURE



THIRD FLOOR PLAN

SCALE - 1:200

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