THESIS REPORT ON

"SOCIO -INTERPRETATION CENTRE,

DISTRICT CENTRE- II, CLUSTER 4B, SECTOR 10, ROHINI, DELHI"

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

BACHELOR OF ARCHITECTURE

BY

SHIVANI GUPTA ROLL NO. 1170101024

THESIS GUIDE

AR. VARSHA VERMA

SESSION 2021-22

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 "S**OCIO -INTERPRETATION CENTRE DISTRICT CENTRE- II, CLUSTER 4B, SECTOR 10, ROHINI, DELHI**" under the supervision of Thesis guide: **AR. VARSHA VERMA** , 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.

Prof. Mohit Kumar Agarwal Dean of Department	Prof. Sangeeta Sharma Head of Department

Recommendation Accepted

Not Accepted

External Examiner	External Examiner

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Certificate of thesis submission for evaluation

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3. **Thesis Title** : **SOCIO -INTERPRETATION CENTRE**

4. **Degree for which the thesis is submitted: BACHELOR OF ARCHITECTURE**

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**
9. **The thesis has been prepared without resorting to plagiarism**	**Yes / No**
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At last but not the least, I have no words to express my gratitude for the love and affection of my parents who gave me support at every step of my life. So, this thesis is dedicated to them.

. –SHIVANI GUPTA

CONTENT

INTRODUCTION

SOCIO-INTERPRETATION CENTRE

- It is basically a SOCIO-CULTURAL CENTRE.
- SOCIO-CULTURAL CENTRE = SOCIAL + CULTURE.
- It is a combination of the activities of social centers and cultural centers.
- It is a physical manifestation of technology along with the cultural aspects of the society in order to project a venue that promotes its culture giving an opportunity to the youth to move ahead with time.
- A socio interpretation center has to give equal importance to the cultural skills educated and the social impact it has in developing the entire center.
- It will encourage cultural, social, academic and business-related programs for exchange of ideas and nurture human relationships.

NEED OF PROJECT

- The need for public space where citizens can experience their cultural art forms in their own neighborhood.
- The need for people dedicated and/or trained for catering to the cultural needs of the citizens.
- Social cultural activities are the most important element which cannot be ignored while determining the future urban development of the city Delhi.
- Provides opportunity for people to meet, interact, create network between people, NGOs and government.
- The site has various residential buildings and hold a large no. of population, depict the need of venue where they can satisfy their urge for art and crafts.

SCOPE OF PROJECT

- The project will be the combination of the art, architecture and the communal heritage of the city.
- To develop the facilities &the amenities at the center, so that the people can be served in most functional & aesthetical way & also to create a

perfect mood for the visitors, which could help them in relating their soul with the city.

- To generate more &more revenue from the tourists visiting Delhi.
- To aware the local as well as the visitors about the rich culture and art forms of the nation.

ITS IMPACT

- It helps in democratization of culture in the sense of providing access to as many citizen as possible.
- In recent years, these activities represents the idea of symbiotic economic i.e., process through which wealth is created from cultural activities including art, music, dance, craft, sports, etc.
- Thus it will provide a conductive environment for interaction and discussion. Hence enriching the conscio usness of the people about their cultural heritage by encouraging folks and tribal arts and from preserving the art forms that are towards their extinction.

ACTIVITIES

Art, Music, Drama, Cinema Literature, Recreation, Sports, Tradition, Festival,

Shopping.

PROJECT REQUIREMENTS

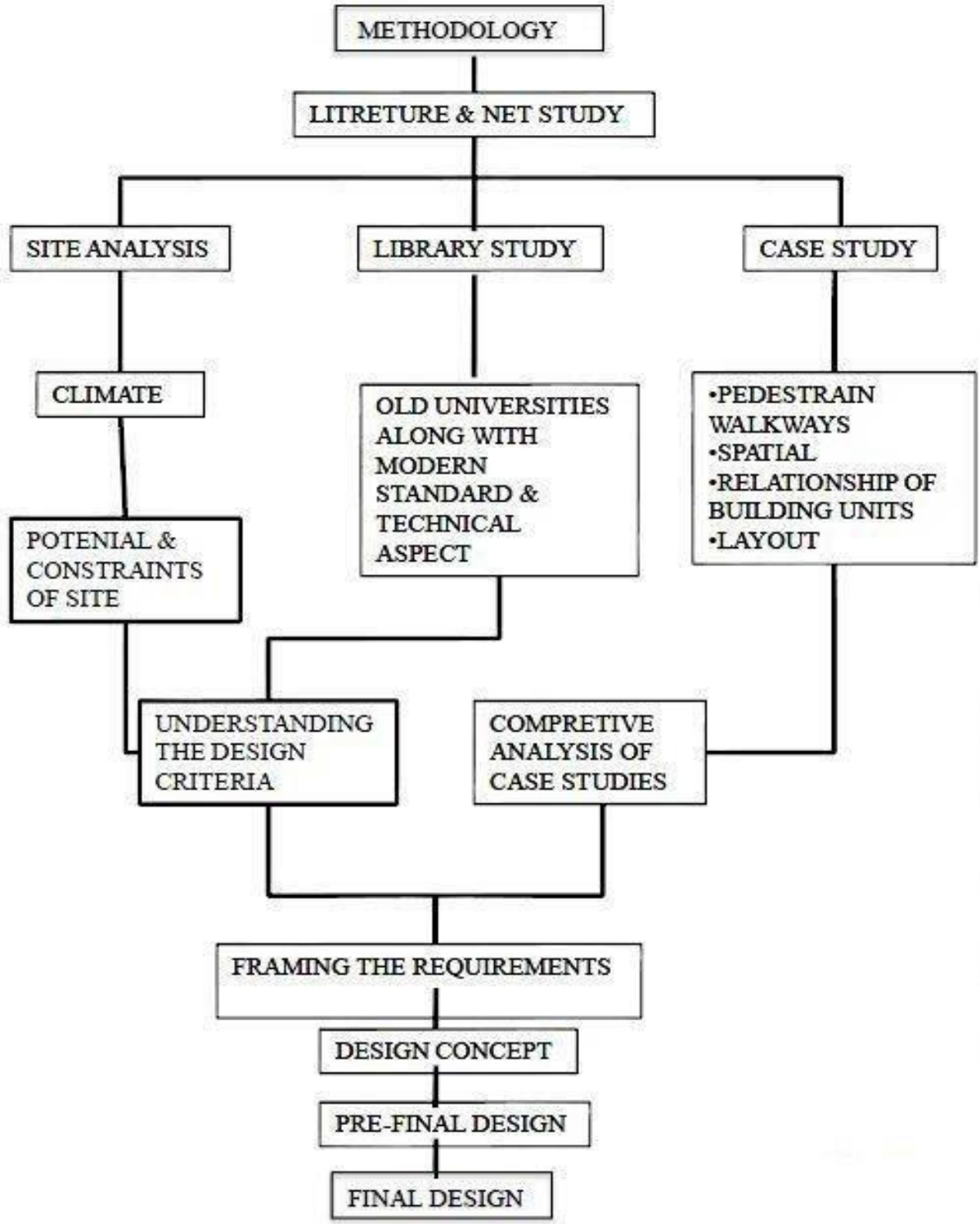
- Center For Performing Art • Auditorium • Convention Centers
- Open Air Amphitheatre • Multi-Purpose Training And Meeting Rooms
- Recreational Club •Library •Administration Office •Retail Shop

CULTURAL BACKGROUND

- Delhi has a rich culture history and evolve into culturaly secular city, accepting different religions, diverse culture.
- Delhi shares boundaries with uttar pradesh, haryana, punjab and
- rajasthan influence the language and lifestyle of its people.

The culture of delhi has its root fin ancient indian culyure have influenced by western culture make it rich and diverse.

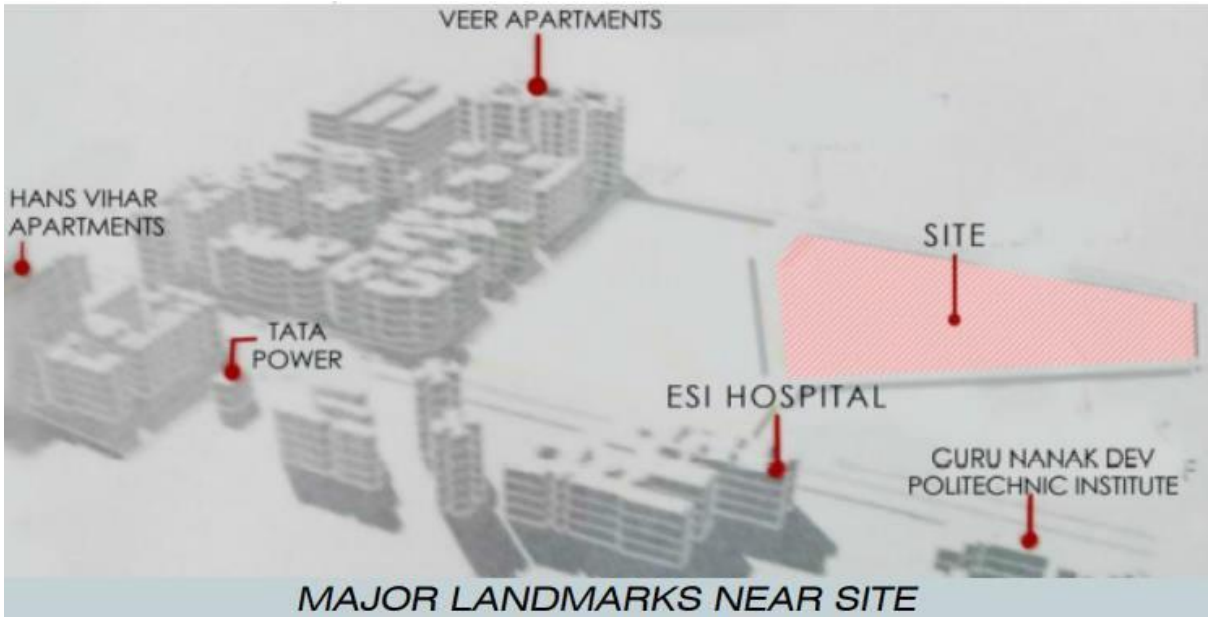
METHODOLOGY



SITE ANALYSIS

INTRODUCTION

PROJECT	SOCIO-INTERPRETATION CENTRE (i.e., SOCIO-CULTURAL CENTRE)
CLIENT	DELHI DEVELOPMENT AUTHORITY
LOCATION	DISTRICT CENTRE-II, CLUSTER 4B, SECTOR-10, ROHINI, DELHI. (OPPOSITE JAPANESE PARK)
CO-ORDINATES	LATITUDE: 28°43'35.5"N LONGITUDE: 77°07'15.8"E
AREA	44,077 sq. m (10.87 ACRE) APPROX.
FAR	1.25
CLIMATE	COMPOSITE CLIMATE
COST	APPROX. Rs. 250 CRORES



MAJOR LANDMARKS NEAR SITE

ABOUT ROHINI

AREA: 3015 HECTARES (APPROX)

Rohini is a residential city in North West Delhi, India. It was the first sub-city project of Delhi Development Authority (DDA), which was started in the 1980s to provide a composite society for all income groups, Rohini is one of the 12 zones administered under the Municipal Corporation of Delhi. The neighboring areas are Pitampura, Shalimar Bagh, Haider Pur, MVangol Puri, Sultanpuri, Khera Kalan, Khera Khurd, Budh Vihar, Karala, Kanjhawala, Samaypur, Barwala, Pooth Khurd, Kirari Suleman Nagar, Pooth Kalan, Mukarba Chowk and Bawana.

TWIN DISTRICT CENTRE

Rohini has emerged as a hub of commerce and entertainment with the Twin District Center. The Delhi Development Authority is planning to make Rohini into fully integrated township hence planned Twin District Center.

The Twin District Center has well defined zones for retail malls, corporate offices, and cultural and entertainment zones like food courts, multiplex and amphitheater. The Twin District Center has metro connectivity (Rohini west and Rithala Metro Station) and is separated by a central green area about 100 hectares made up of gardens, amusement park and leisure areas. DC- 1: a lot of commercial and multiplexes spaces has come up like Crown Plaza Hotel, City Centre Mall, etc.

The site is in DC-2 with no amenities were build so far.

DEMOGRAPHIC DATA

Rohini has a population of approximately 860,000 inhabitants and covers an area of 3,015 hectares.

The sub-city is under active development, and is expected to expand to 7,548 hectares and 1.1 million people by the completion of the development project.

CO-ORDINATES

LATITUDE: 28°43'35.5"N

LONGITUDE: 77°07'15.8"E

BUILDING BYELAWS

- FAR: 1.25
- SITE AREA: 44,077 sq. m (10.87 ACRE) APPROX.
- PERMISIBLE BUILT UP AREA: 56,136 sq. m
- PERMISIBLE HEIGHT: 26 M
- GROUND COVERAGE: 30 % = 13223 sq. m
- FRONT SETBACK:15 M
- SIDE SETBACK: 9 M
- REAR SETBACK: 9 M

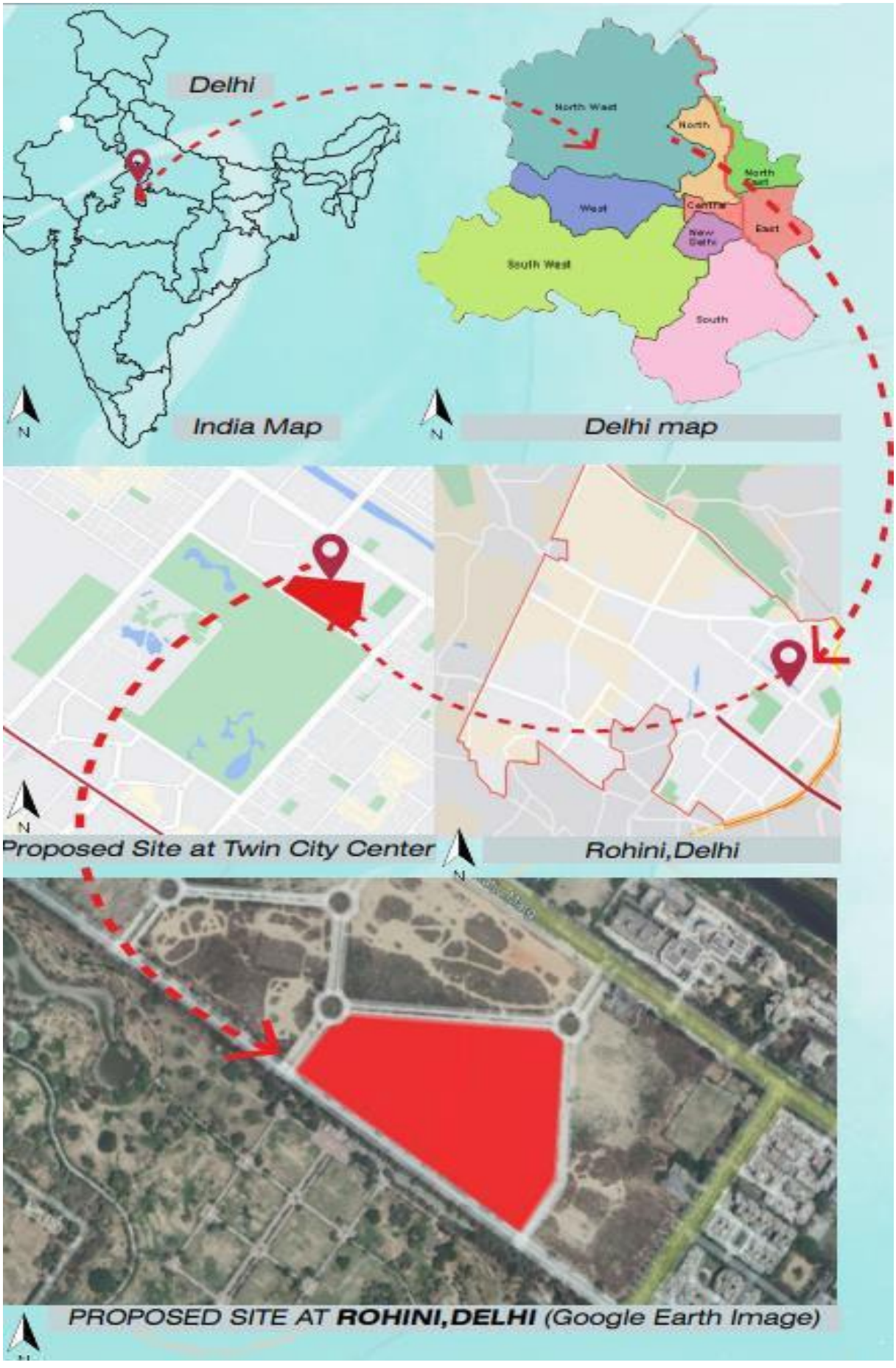
APPROACH

- Nearest Railway Station: New Delhi Railway Station: 15.5km.
- Nearest Bus Stand: Veer Apartment: 300 m.
- Nearest Airport: Indira Gandhi International Airport: 23.2km.
- Nearest Metro Station:
- Rohini West Metro Station: 1.5km.
- Rithala Metro Station : 1.9 km.

ORIENTATION OF SITE

- Located in Twin District Center a developing hub at center of Rohini for Commercial Activities.
- The Site is pentagonal in shape.
- The longer side is placed on SW direction, facing 40m wide road.
- The other four sides faces 36m wide road which lies in DC-2 complex.

LOCATION OF SITE



SITE'S ACCESSIBILITY

The Site is accessible from all sides. Longer Side (SW): 40 m. Road

- SE: HL Parwana Road.
- NW: Rammurti Parssi Marg.
- NE: Dr. KN Katju Marg, further it connects with NH-9.
- Other Sides :36 m. Road

EXISTING STRUCTURE

No permanent or temproray structure was there on the site. The site was enclosed by Brick Wall Boundary.

SITE SURROUNDING

Regional Transport Authority

Esi Hospital

Veer Apartments

Swarn Jyanti Park

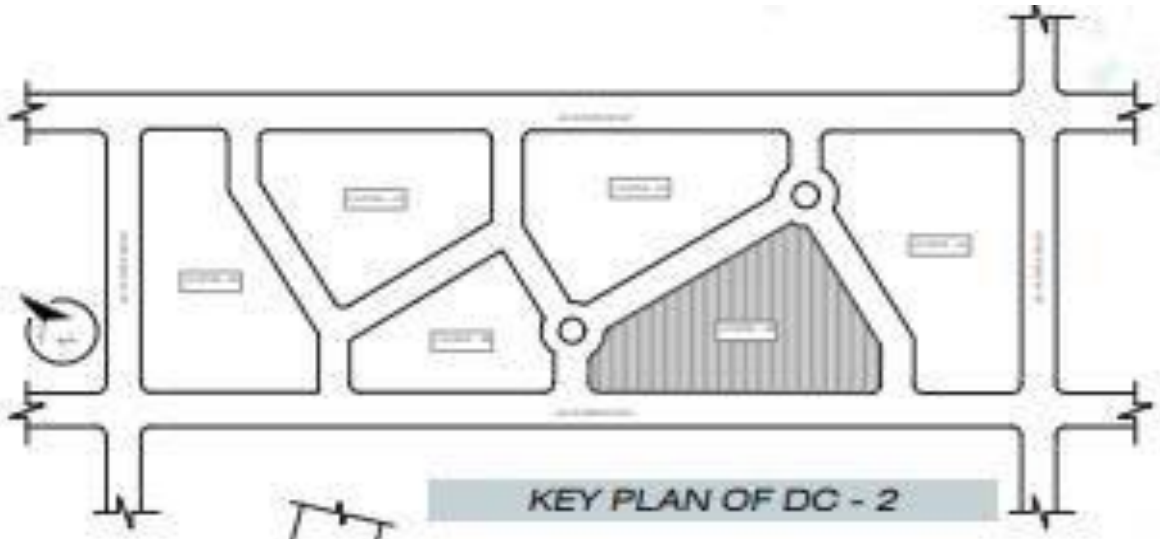
Indian Oil Petrol Pump

Rithala Metro

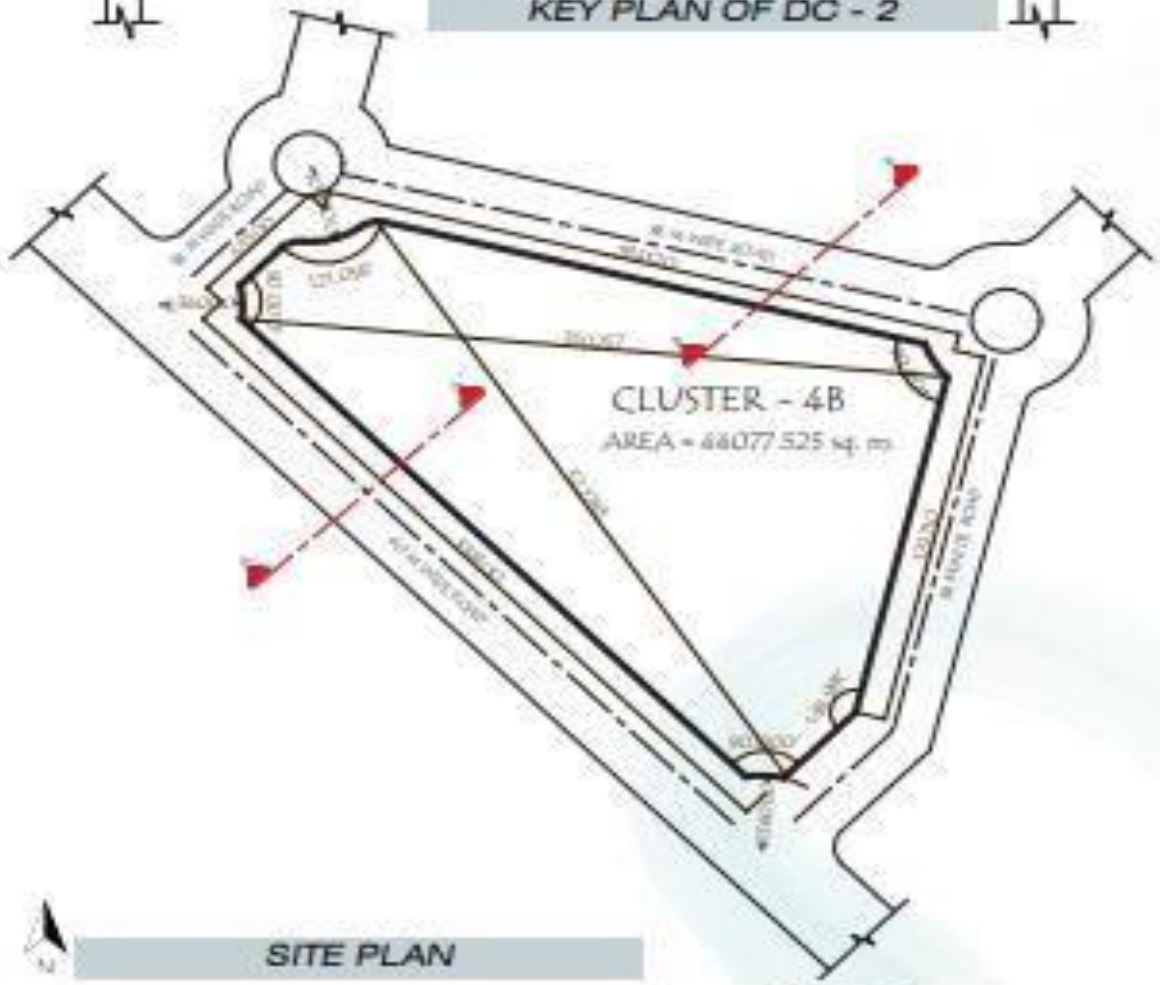
Crown Plaza

Rohini West Metro

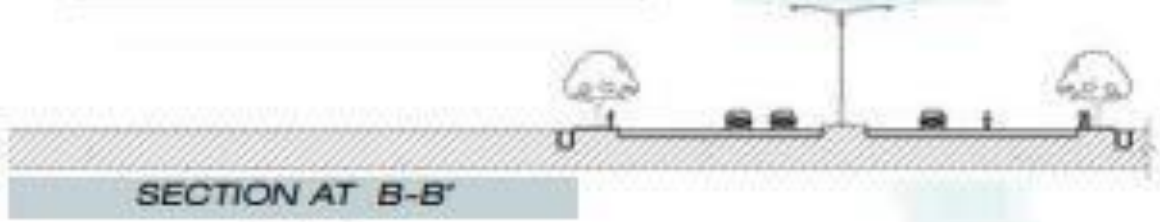
SITE DOCUMENTATION



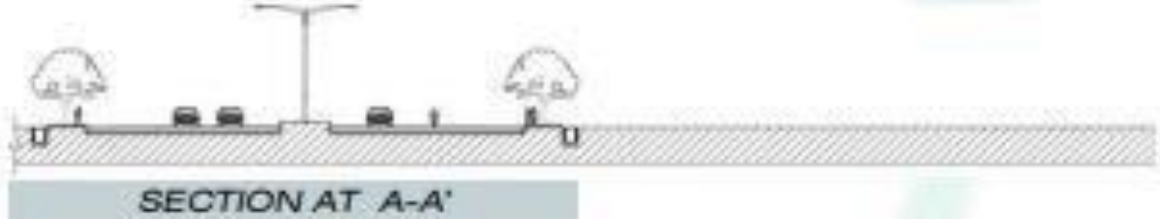
KEY PLAN OF DC - 2



SITE PLAN



SECTION AT B-B'



SECTION AT A-A'

SITE'S VIEW & SERVICES

TOPOGRAPHY

The terrain of the area is generally plain with a gradual slope varying b/w 0.4-0
% towards south and east. The site is located at an altitude of 215 meter above the sea level. The site has proper access to natural ventilation & sunlight.

Water flows in south and east. Maximum elevation : 216 meter Minimum elevation : 214 meter

SEWER LINE & ELECTRICITY SUPPLY

The site is located in well-developed area having provisions of underground sewage lines.

Tata Power Delhi Distribution Limited (TPDDL, formerly known as North Northwest Delhi Distribution Company Limited) distributes electricity in the North areas of Delhi.

Existing 220 KV Substation *as per Power Map Of Delhi)*

Existing 220KV Double Circuit (Overhead) *(as per Power Map of Delhi)*

CLIMATIC ANALYSIS

Delhi is situated on the banks of Yamuna River.

The climate of Delhi is extreme. A particular season does not prevail for more than six months in Delhi and therefore Delhi is placed in a **Composite climate. Composite climates** are neither consistently hot and dry nor warm and humid. The main consideration for the designer in the composite climate is to create balance between conservation of heat in the winters and exclusion of heat in summer.

SEISMIC CONSIDERATION

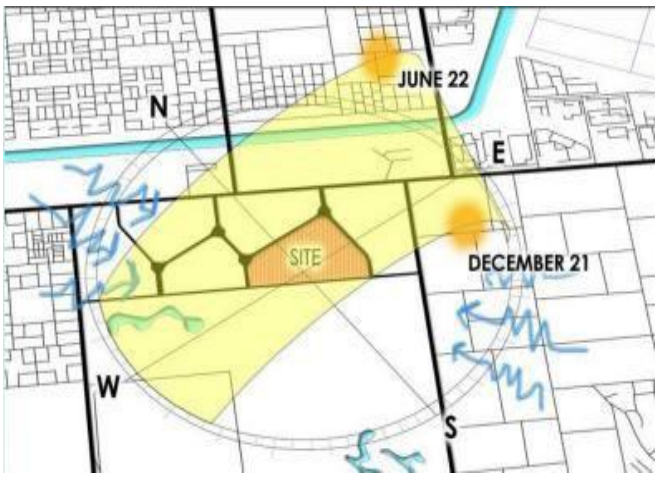
The earthquake zoning map of India divides India into 4 seismic zones (zone 2, 3, 4 and 5) unlike its previous version, which consisted of five or six zones for the country.

According to the present zoning map, zone 5 expects the highest level of seismicity whereas zone 2 is associated with the lowest level of seismicity. According to the Indian seismic zone map, Delhi is placed in seismic zone4, which means high damage risk zone.

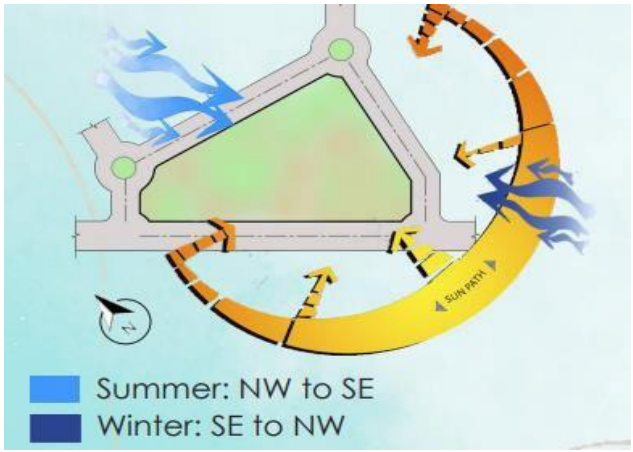
In the past, several earthquakes of richer magnitude 5.5 To 6.7 Have occurred in the national capital territory of Delhi.

Delhi lies among high-risk areas.

SUN PATH DIAGRAM



WIND PATH DIAGRAM

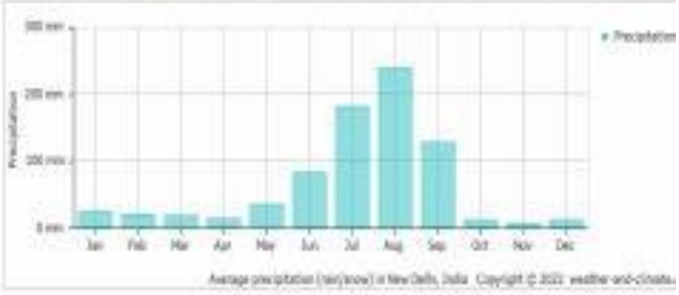


The prevailing winds are predominantly from NORTH-WEST to SOUTH-EAST in summers and vice versa in winters.

AVERAGE TEMPERATURE

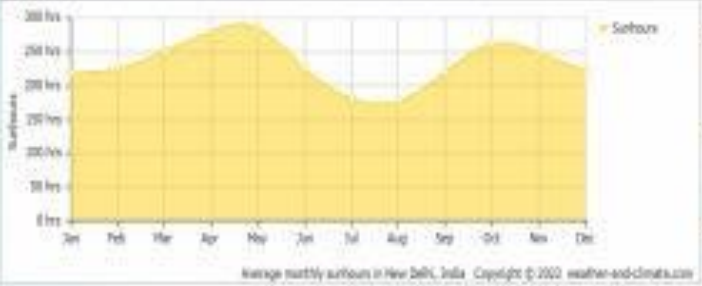
- On average, the warmest month is May with 40.0° Celsius
- On average, the coolest month is January with 20.5° Celsius
- The average annual maximum temperature is: 31.5° Celsius
- The average annual minimum temperature is: 19.0° Celsius

RAINFALL



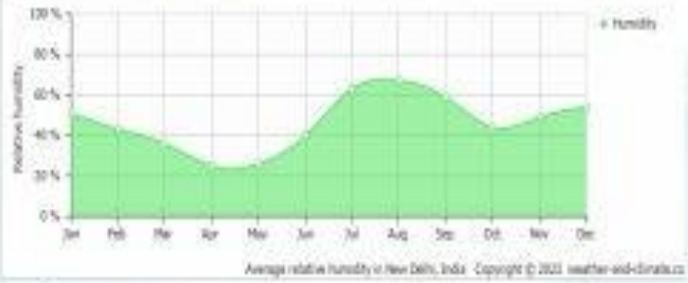
- On average, August is the wettest month with 238.0 mm (9.37 inch) of precipitation.
- On average, November is the driest month with 5.0 mm (0.20 inch) of precipitation.
- The average amount of annual precipitation is: 745.0 mm (29.33 inch)

SUN HOURS



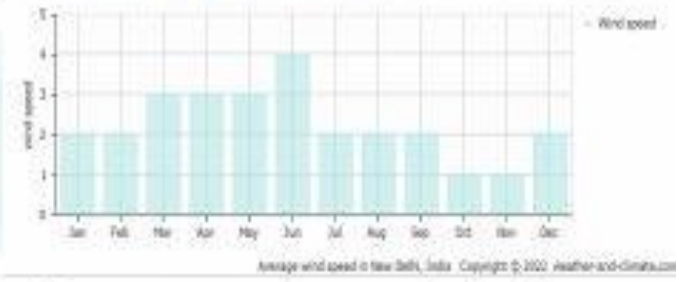
- On average, May is the most sunny month with 286 hours of sunshine.
- August has on average the lowest amount of sunshine with 177 hours.
- The average annual amount of sunhours is: 2780 hours

HUMIDITY



- On average, August is the most humid.
- On average, April is the least humid month.
- The average annual percentage of humidity is: 45.0%

WIND SPEED

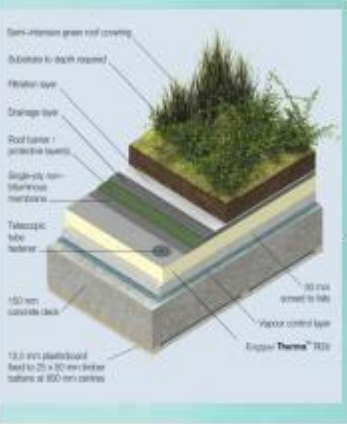


- On average, the most wind is seen in June.
- On average, the least wind is seen in November.

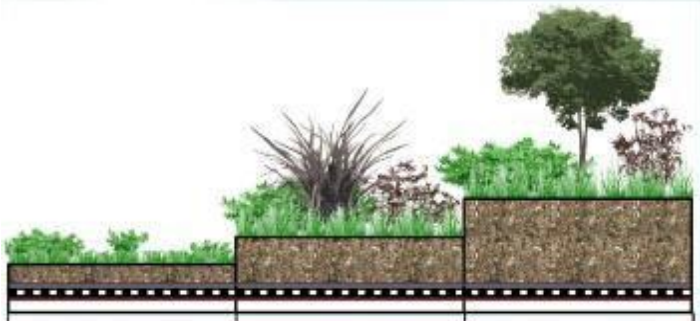
ACTIVE & PASSIVE TECHNIQUES

- ***Passive Design strategies*** *do not use mechanical means and electrical power and refer to the direct use of natural energy sources such as the Sun and wind.*
- ***Active Design strategies*** *use mechanical means and electrical power to create comfort for occupants.*

GREEN ROOF



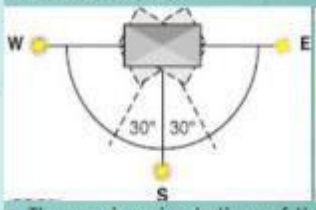
- Green roof tops with living vegetation provide green spaces, mitigate urban heat island, energy conservation, improving the air quality and increases biodiversity.
- It give pleasure to the city dwellers and provide an opportunity for enhancing creativity as well psychological benefits.



EXTENSIVE GREEN ROOF	SEMI-INTENSIVE GREEN ROOF	INTENSIVE GREEN ROOF
Height: 6- 20 cm **Weight**: 60 - 150 kg/m² **Vegetation**: mosses, sedums, herbs and grasses **Cost**: low **Maintenance**: low	**Height** : 12 - 25 cm **Weight** : 120 - 200 kg/m² **Vegetation** : grasses, herbs and shrubs **Cost**: middle **Maintenance** : periodically	**Height** : 15 cm > 1m **Weight** : 180 - 500 kg/m² **Vegetation** : lawn, perennials, shrubs and small trees **Cost**: high **Maintenance** : regularly

ORIENTATION OF BUILDING

- In composite climate the orientation of the buildings is preferable in North-East & South-West Directions.
- This helps in receiving less radiations which results in lesser heat gain & reduces the overall air conditioning requirement & thus saves energy.
- Proper orientation also helps in receiving natural light & ventilation.



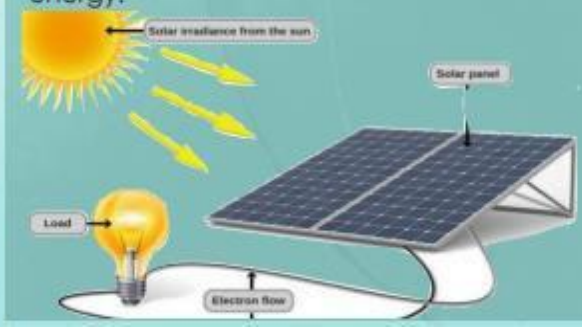
ORIENTATION
1. IS POOR
2. IS GOOD
3. IS BEST

FIG 5.4

- *The main orientation of the building should be within 300 of south. Oriented to east of south will benefit from the morning sun. Those orientated west of south will catch the late afternoon sun — which can help delay the evening heating period*

SOLAR PANEL

- The solar panel is also used to generate renewable energy through various roofs and other parts of the house.
- Renewal Energy is generally energy from a source that is not depleted when used, such as wind or solar power.
- Solar energy is simply the light and heat that come from the sun.
- The installation of Solar Panel helps in conserving the energy.



SWOT ANALYSIS

STRENGTH

- Site surrounded by roads on all sides.
- Easy accessibility by public transport, that is by bus and metro.
- Swarn Jayanti Park next to the site with large green open spaces and lakes.
- Trees line the edges of major roads that can act as noise barrier.
- Residential and institutional neighborhood provide opportunity for the site.

WEAKNESS

- Large vacant land near to the site which is used as temporary tent for wedding ceremonies or even as dump yard, thus gives unaesthetic views.
- Safety issues due to less activity pattern along private edges of the site.
- Not enough good views around site except Swarn Jayanti Park along one edge.

OPPORTUNITY

- The project will give economic opportunities to people in residential area and generate recreational atmosphere in the region.
- Can give views to the park.
- No such facility is present in the vicinity, can become good focal point for cultural activities for surrounding communities.
- Can cater to a larger public due to good connectivity of site.

THREAT

- The success of the project does not depends only on the built environment it might not be able to generate good footfall.
- Safety issues on site can become threat for the project.

INDIAN HABITAT CENTRE

NEW DELHI, INDIA

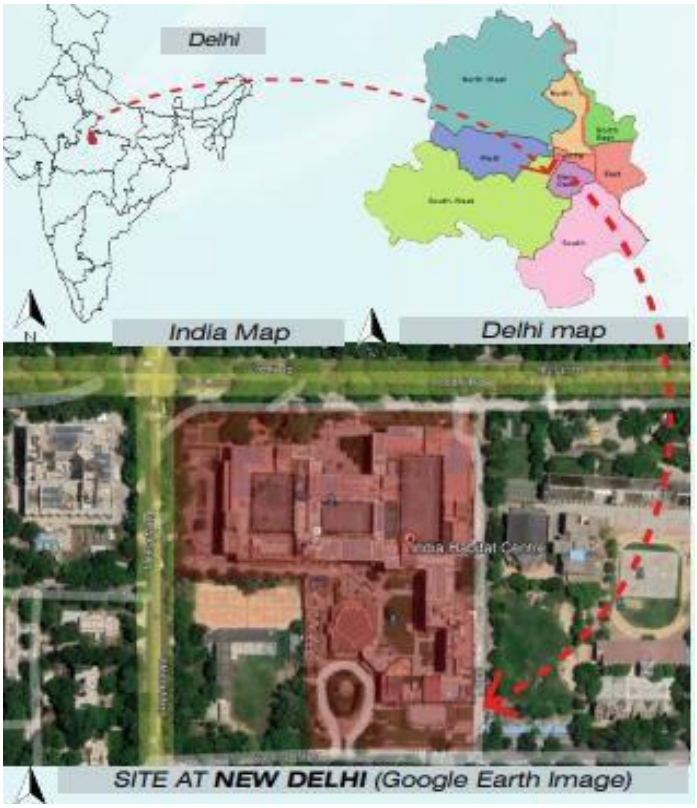
CASE STUDY

INTRODUCTION

The India Habitat Centre is a multipurpose building in new Delhi, India. Mixing work, commercial and social spaces, the Indian Habitat Centre is one of India's most comprehensive convention centers.

India Habitat Centre (IHC) was conceived to provide a physical environment, which would serve as a catalyst for a synergetic relationship between individuals and institutions working in diverse habitat related areas and would therefore maximize their total effectiveness. To facilitate this interaction, the center provides a superb range of facilities.

LOCATION OF SITE



INFORMATION

Name Of Project :	India Habitat Centre
Location :	Lodhi Road, New Delhi.
Client:	Housing And Urban Development
Architect :	Corporation Ltd (Hudco) Joseph Allen Stein.
Co-Ordinates:	Latitude: 28°35'22.90" N Longitude: 77°13'29.66" E
Site Area :	38,850 m^2 (9.5 acre)
Achieved FAR:	1.4

LANDMARKS

APPROACH

Nearest Railway Station: Old Delhi Railway Station: 13km, New Delhi Railway Station: 6.5km

Nearest Bus Stand: Lodhi Road X-Ring : 400m

Nearest Metro Station: JLN Stadium (Violet Line): 1km

Nearest Airport: Safdarjung Airport: 2.9km , Indira Gandhi International Airport: 12.5km

CLIMATE

A particular season does not prevail for more than six months in Delhi and therefore Delhi is placed in a **Composite climate.**

Composite climates are neither consistently hot and dry nor warm and humid.

SITE

India habitat center has the following major features: -

1.CONVENTION CENTRE.

2.HOTEL AND RESTAURANTS.

3.ART GALLERIES.

4.OFFICE BUILDINGS.

The **convention center** is having a separate entrance from gate 3. It has stein auditorium, banquet halls, conference venues lawn, library. Etc.

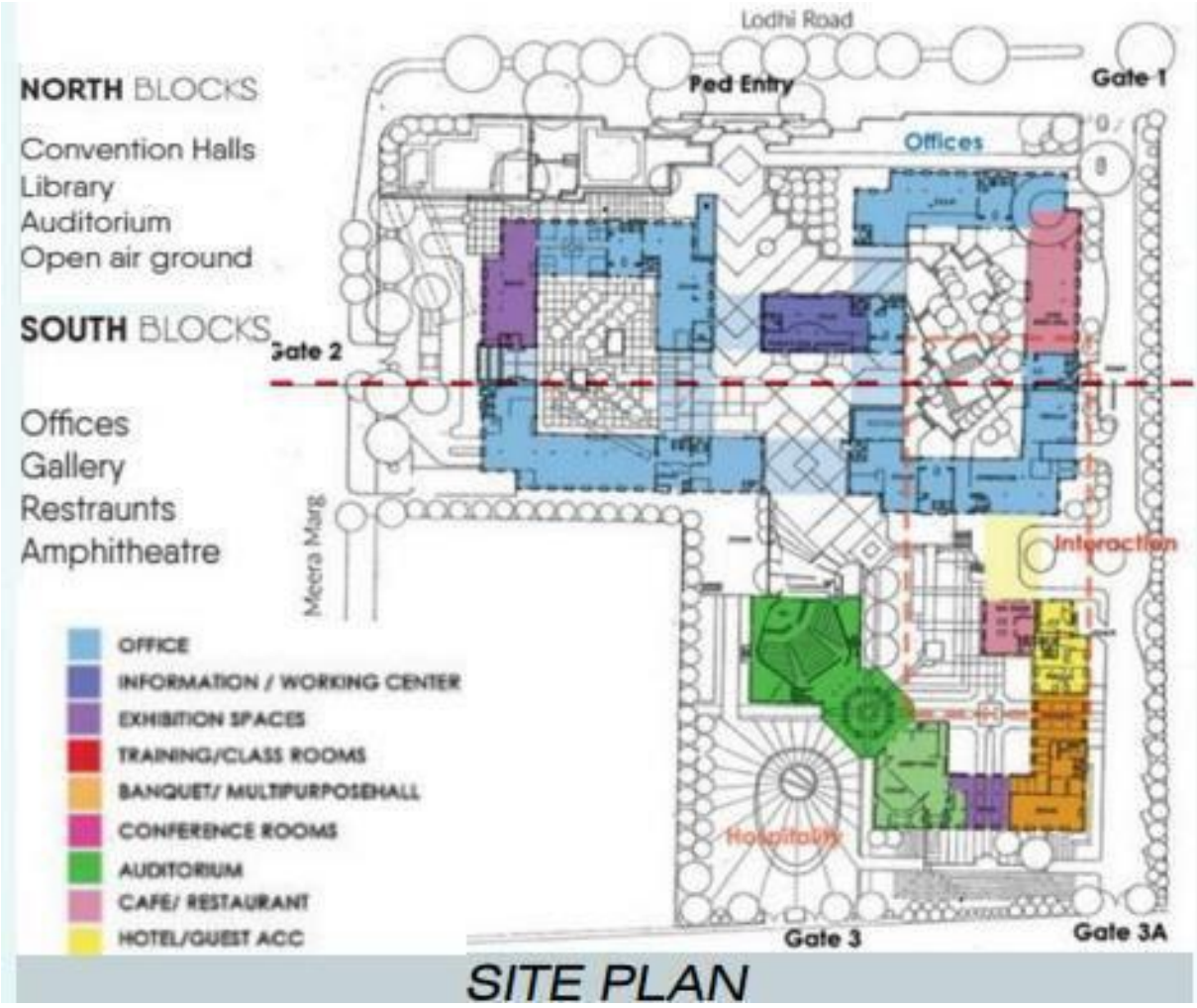
The **hotel block** has a lite zone with gym, spa, swimming pool, fitness center and fine dining for members – Delhi 'o' Delhi, oriental octopus, past time and the deck & for non-member the all American diner and the Eatopia.

Experimental **art gallery** in the cores and visual art galleries are at the ground floor of office blocks.

Rest of the towers mostly has **corporate offices.**

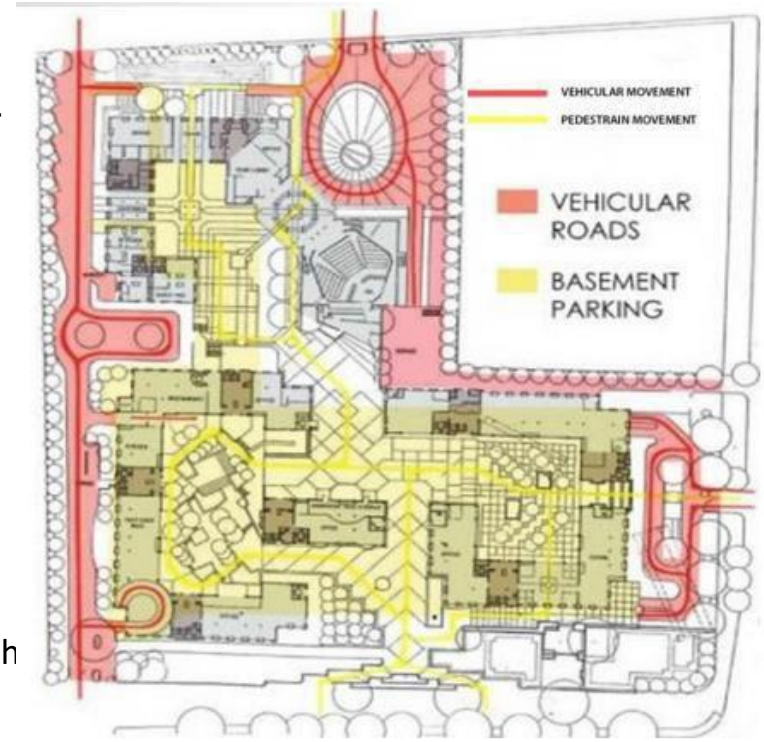
SITE ZONING

- The complex is divided into two main blocks -
- The **North Block** *(Habitat Centre Block)*along the main roads is made of seven storied office spaces. Lower floors remain public. This block is further divided into four zones –4 , 5, 6 and 7.
- The **South Block** *(Convention Block)* along the Lodhi Housing Colony holds functions like auditorium, theatres, library, member facilities and guest rooms. This block is further divided into two zones – 1 & 3.
- The height decreases progressively from the North to the South Block in response to the housing. The built is also set further back from the plot line on this edge.



SITE'S ACCESSIBILITY

- The Site is accessible from three sides.
- Lodhi road on the North.
- Vardhman marg road on the South.
- Meera marg on the West.
- The site has six entries.
- Vehicular entry from gate no. 1,2 & 3.
- Service entry from 2a & 3a.
- Pedestrian entry form north.
- There is a clear segregation between th vehicular & the pedestrian movement.
- The ground is perceived as a vehicle-free environment, and a fairly elaborate system worked out to deny entrance to all motorized traffic except for repair and fire.



SETBACKS

FRONT(NORTH)-15M:

-Gate no. 1 vehicular entrance. -Pedestrian entry/exit from other gate. Beautiful landscaping.

REAR(SOUTH)-15M :

-Gate no. 3 convention Centre entry. -Service entry from gate no. 3a.

RIGHT(WEST)-30M:

-Gate no. 2 pedestrian and vehicular entry. -Service entry from gate no. 2a.

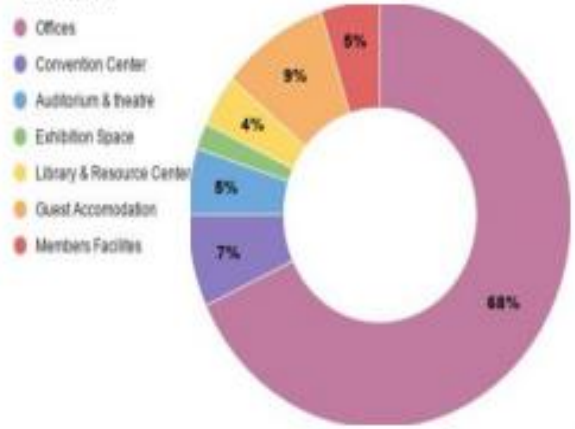
LEFT(EAST)-20M ;

-Has on street parking. -Member's parking

SITE PLAN AND VIEWS

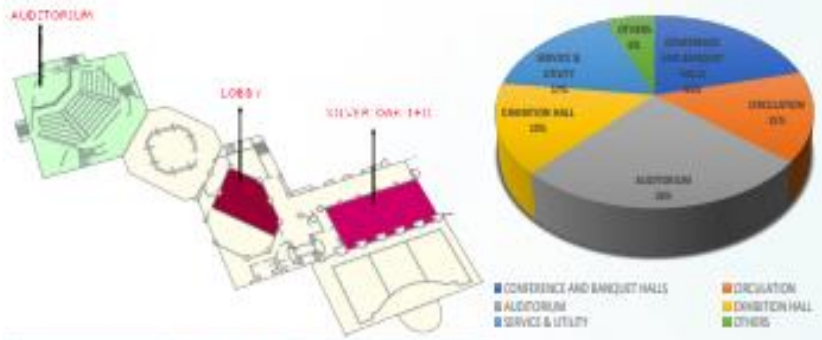
BUILDING PROGRAMMS

- IHC is programmed as a moderately dense complex with institutional and office work spaces, conference and library facilities, including a diverse range of facilities for the members.
- 40,000 sq.m. of office accomodation
- Conference rooms with a total capacity of 1000 in various configurations holding 30 to 450 people
- 60 guest rooms, 5 suites, 5 service apartments
- Conference rooms, cafeteria, restaurants and private dining rooms can handle around 1500 persons at a time
- 700 sq.m. of exhibition space
- 420 capacity auditorium, 250 capacity amphitheatre
- Parking for 933 cars and 2000 two-wheelers
- 25% of the total area goes into landscaped courts.



FLOOR PLANS

Lower Ground Floor Plan

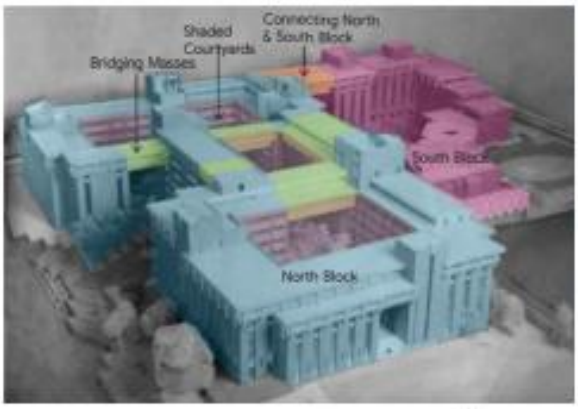


Ground Floor Plan

First Floor Plan

BRIDGES

- BRIDGES BETWEEN THE BLOCKS Overhead connections between the blocks creates an interesting massing creating framed views and shading in the open spaces.



OFFICE AREA

- Offices areas which expect large inflow of public are planned near the entrances.
- Office blocks have entrances form inner side of the courtyards.
- Office spaces measure approximately 14.15 m X 14.15 m, and 33.1 m X 14.75 m
- The entire building is air-conditioned and the basements are mechanically ventilated. ceiling, ceiling reduces to 3.0 m.
- Floor to floor height is 3.75m with clear height of 3m.
- Service core- 2 lifts, 1 staircase,AHU room, electric and telephone connections (adjustable), duct and toilets for both sexes.

Typical Office Layout

STEIN AUDITORIUM

STEIN AUDITORIUM

Auditorium Plan

- Auditorium at IHC is well equipped and accommodate 537 peoples (420GROUND FLOOR + 117 BALCONY).
- The hall is ideal for large conferences, seminars, presentation theater and cultural performances of all kinds.
- The ground floor has 5 exits and the balcony has four exits.
- It has 2 control rooms, 2 green rooms , a pantry and washrooms.
- Area of the auditorium is 575 sq.m.
- Double wall system avoids sounds disturbance from outside.
- It is also provided ith Mahagony room, a hall suited for small gathering with attached kitchenette & washroom.


Seating Plan


Seating in 2 lvl.


Stein Auditorium Entrance

CONVENTION CENTRE

S.NO	HALL	AREA – sq. m.	IDEAL FOR
1	THE THEATER (KADAMBA + RUDRAKSHA + AMALTAS)	279	Workshops, Board Meeting Theater Cultural Performances Meeting Rooms
2	GULMOHAR	266.6	Fixed Seating. Seminars Corporate Presentations Press Interaction Product Launch
3	CHINAR HALL	30	Conference Board Meeting Workshop Seminar Parties
4	WILLOW	53	Conference Board Meeting Workshop Seminar Parties
5	SILVER OAK I SILVER OAK II	111 78	Exhibition Conference Seminar Banquet Parties
6	JACARANDA I JACARANDA II	120 120	Corporate Meeting Seminar Workshop Parties
7	CASUARINA	141	Fixed Seating .Seminars Corporate Presentation, Product Launch
8	MAGNOLIA	143	Free Seating Conference Party


Convention Centre Block

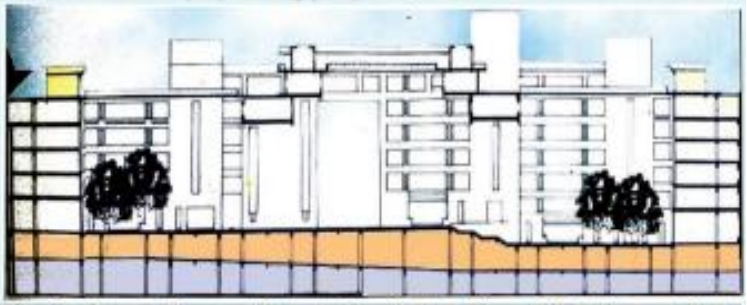
PARKING


Upper Basement (P1) Parking (600 Cars)

Lower Basement (P2) Parking (400)

- Surface parking is provided only for chauffer driven cars from gate no.1
- Total 1000 covered car parking and 2000 two wheele parking. 50 surface parking.
- All the entrances lead to basement parking.
- The lower basement houses parking and service areas like electric room, generator room,pump room whereas the upper basement houses parking only.


View Of Basement Parking


Section Through Basement Showing The Gradual Slope Of The Basement Slab

SERVICES


Fire Fighting System

DRAINAGE SYSTEM:

- The waste water collected at the basement is pumped towards the water treatment plant near gate number 3.The water is made free from grease and oil and then discharge in the storm water drain.
- Closed duct of 2' x 3' is used for pipeline.
- Then the sewer joins the municipal sewer which runs along the road


Fire Control Room

FIRE FIGHTING:

- Fire fighting fire fighting equipment consists of sprinklers, wet riser, fire extinguisher, hose reels.


HVAC System

AIR CONDITIONING:

- Ac plant room is situated in the basement consists of 5 chillers
- 4 With capacity of 600 tr
- 1 With capacity of 300 tr cooling tower placed on the ground
- There are 5 ahu for the auditorium and convention centre.


Electricity Room

ELECTRIC SUPPLY:

- Electric substation is situated in the level lower basement.
- 5 Transformer of 2000 kva


Pressurised Shafts

WATER SUPPLY:

- No overhead water tank
- There are 6 bore well with underground water supply of 33 lakh litre capacity & daily requirement for 14 lakh litres

STRUCTURE

- The structure used is an rcc column, beam & slab structure.
- It follows an alternative grid of 5x5m & iox10m respectively in both directions.
- Massive steel girders have been for the construction purpose.
- The entire office block rests on the steel girders without any support of the column in between the longitudinal plan.
- Most of the horizontal ribbon windows have slots for plantation purpose which add to the beauty of the entire complex.


Ribbon Windows With c


Bridges

MATERIAL & FINISHES

- The facade consits of brick stone & glazed tile cladding. Exposed lakhori bricks.
- Most of the finish is done custom made bricks of 50mm width.
- Walls are made up of special exposed brickwork courtyard walls are made up of combination of exposed aggregate plaster and exposed brick work with ceramic tile on exposed concrete plaster.


Reflectors


Exposed Brick Work


Exposed Conc. Work

SHADING DEVICES

- The reflectors are installed above the building to provide shade and prevent sun from entering into the building.
- The reflectors are aligned at an angle which reflect back 70% of the sunlight and change their angle during winter to allow sunlight to fall on the windows.
- A system of open to sky, shaded canopies over the large paved courts, provide relief from tropical sun with fixed shade casting elements at the predetermined angles within this framework to provide shading element.
- The interesting glass/steel structure near the second entrance provides natural light to the underground parking area.

VISUAL ART CENTRE

- The art gallery houses permanent as well as temporary exhibits.
- The gallery has a open exhibition area called The Palm Court.
- Gallery lacks natural lighting facilities and is totally dependent on artificial means.

AREA CHART

COMPONENT	CAPACITY	AREA (sq. m.)
Auditorium Block		
Stein Auditorium	417	537
Auditorium Dome	350	385
Basement Theatre		
i. Kadamba ii. Rudraksha iii. Amaltas together known as theatre	30 30 100	57 57 165
Convention Centre		
Casuarina	60	141
Magnolia	70	143
Maple	50	113
Juniper	40	143
Marigold	22	96
Tamarind	52	170
Cypress	22	56
Documentation Centre	6 Cabins	50
F & B		
Eatopia	150 + 60	
Speciality	118+95+78+ 46+80+40+5 8+28	
Banquet halls		
Jacaranda (1+2) + foyer	330	343
Silver Oak 1 Silver Oak 2 Silver Oak (1+2)+ foyer+ patio Silver Oak Lawn	100 50 400 150	111 78 668 557
Lawn +Foyer + Patio	600	1226
Mahogany Chinar Willow Can be merged together with foyer	25 25 45	43 30 53
Gulmohar	113	266.6
Margosa & Silk Cotton Lawn	750	1230
The Hub, Charminar, Plazza Steps	1500	3201
Delhi O Delhi Terrace	150	325
Poll Side	60	213
Exhibition Hall		325
Experiment Art Gallery		68
Visual Art Gallery		350

SPATIAL CHARACTERS


Shaded Spaces


Stepped Plaza


Auditorium Entrance


Shaded Spaces


Entry Plaza


Food Court

PLAZA

- Each open space has been designed to impart a distinct-identity to the spaces and is conducive to the type of functions or activities that can beanticipated.
- This has been achieved by paving patterns in different materials, the use of water, a play of levels & greens.

COURTYARD & SHADING DEVICE

- A system of OTS & Shading Devices (Reflectors)that reject and reflect the unwanted solar energy provide a pleasant climate. It blocks 75% of direct sunlight.

INFERENCES

- The project is very successful in terms of architectural expression, and as a place for indulging in cultural and leisure activities.
- Effective zoning for handling crowds.
- All the public activities are locatedon the ground floor and semi public and private activities are located onthe higher floors for smooth functionality.
- Vehicular circulation is restricted to the periphery, making the site pedestrian friendly.
- All the parking has been provided in the basement , except the VIP parking. This keeps the surface free of traffic movement.

- Material and Proportions used for cladding and Paving bricks, stone creates an interesting facade lends it a more humanizing scale.

- Landscaping ties the scheme together and is critical in creating the ambience and micro climate.

- Levels Clever use of levels in the complex landscaping. The landscaping, horticulture and fountains add to the pleasing ambiance

- Clear segregation of vehicular and pedestrian movement throughout the site.

INDIAN INTERNATIONAL CENTRE

NEW DELHI, INDIA

CASE STUDY

INTRODUCTION

- The India International Centre is a premier non-official organization in the capital playing a unique cultural and intellectual role in the life of the citizens.
- It is among the best convention centers.
- This non-profit institution works for the cultural interaction between nations.
- It is a meeting point & gossip gallery for foreign diplomats & Indian bureaucrats.
- The centre is non-official in its character and do not affiliate itself to any government, political, economic or religious organization.

LOCATION OF SITE

India Map | Delhi map

SITE AT **NEW DELHI** (Google Earth Image)

INFORMATION

- ***Name Of Project*** : India International Centre
- ***Location*** : *40, Max Mueller Marg, New Delhi*
- ***Client:*** -
- ***Architect :*** Joseph Allen Stein.
- ***Co-Ordinates:*** Latitude: 28°35'36.18"N
  Longitude: 77°13'20.13"E
- ***Site Area :*** 4.69 acre
- ***Achieved FAR:*** 1.75

LANDMARKS

Lodhi Garden

JLN Stadium

Prithvi Bhawan

Mausam Bhawan

APPROACH

- Nearest Railway Station:
  1. VOld Delhi Railway Station: 10km
  2. New Delhi Railway Station: 7km
- Nearest Bus Stand:
  Lodhi Road X-Ring : 300m
- Nearest Metro Station:
  JLN Stadium (Voilet Line): 1.5km
- Nearest Airport:
  1. Safdarjung Airport: 3.1km
  2. Indira Gandhi International Airport: 16km
- Cannaught Place :5 Km

CLIMATE

- A particular season does not prevail for more than six months in Delhi and therefore Delhi is placed in a **Composite climate.**
- **Composite climates** are neither consistently hot and dry nor warm and humid.
- The main consideration for the designer in the this climate is to create balance between conservation of heat in the winters and exclusion of heat in summer.

CONCEPT

- IIC has been designed as **'triveni'** a sanskrit term which means 'structure of three'.
- The building caters to three activity streams:

1. **The Intellectual Stream :** this is supported by organisation of seminars, meetings,sympo— siums and a large library which also publishes papers.
2. **The Cultural Stream :** this is supported via events like drama,dance,screenings and recitals.
3. **The Social Stream:** via their Hostels and catering facilities.

- The main complex of the Centre is laid out with three wings, on the *north, south and west*, each designed to serve a separate function.
- While cultural programs are open to the interested public in the south wing,
- the Centre offers residential and catering facilities to members and their guests in the north wing.
- The lounge, dining hall and services are located on the west side, overlooking the Lodi gardens.

SITE

- The first or the entrance court provides access on the north side to the guest rooms, and on the south side to the auditorium and program block of libraryand offices.
- After a processional entry drive past a fountain composed of a line of water jets, one is met by the center's sentinel like stair tower and awelcoming portico of extended pre cast vaults which bound the western edge of the court.
- Thus, a proper segregation of activities has been done and the activities have been interlinked by a central courtyard.
- This ensures a separate entry to the various facilities.

SITE ZONING

- The main complex of the Centre is laid out with three wings -

1. **North wing:**
- Residential and catering facilities to members and their guests

2. **South wing:**
- Programme block of offices
- Library
- Domed Auditorium.

3. **West wing:**
- The lounge
- Dining hall & services, overlooking LODI Gardens.

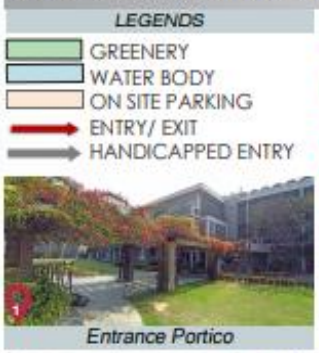
SITE PLAN

SITE'S ACCESSIBILITY

- The Site is accessible from two sides.
- Max Mueller Marg on the East.
- Joseph Stein Lane on the South.
- The site has five entries.

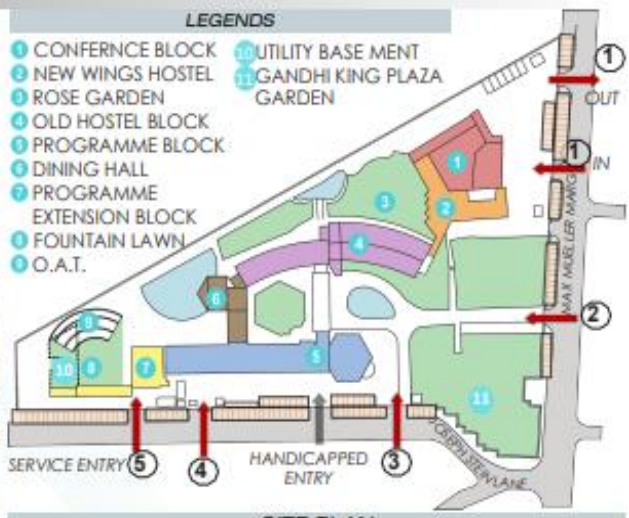
1. Gate no. 1 & 2 at East .
2. .Gate no. 3, 4 & 5 at South.

SITE PLAN AND VIEWS



Entrance Portico

Programme Block



SITE PLAN

Programme Extension Block

Old Hostel Block

New Hostel Block

Lounge & Dining

Conference Block

Auditorium Block

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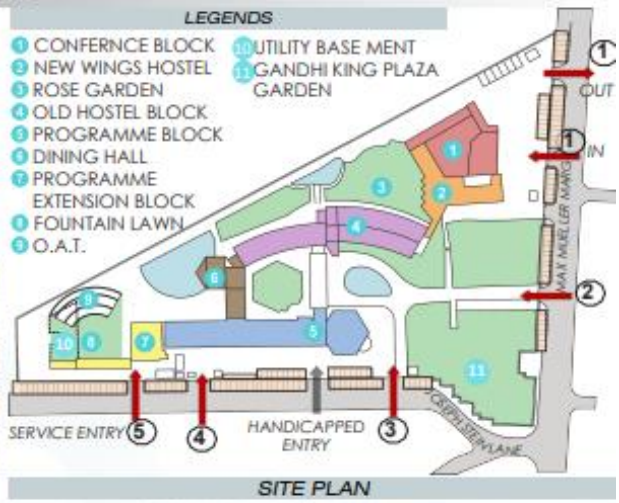
SITE PLAN AND VIEWS

Entrance Portico

Programme Block



SITE PLAN

Programme Extension Block

Old Hostel Block

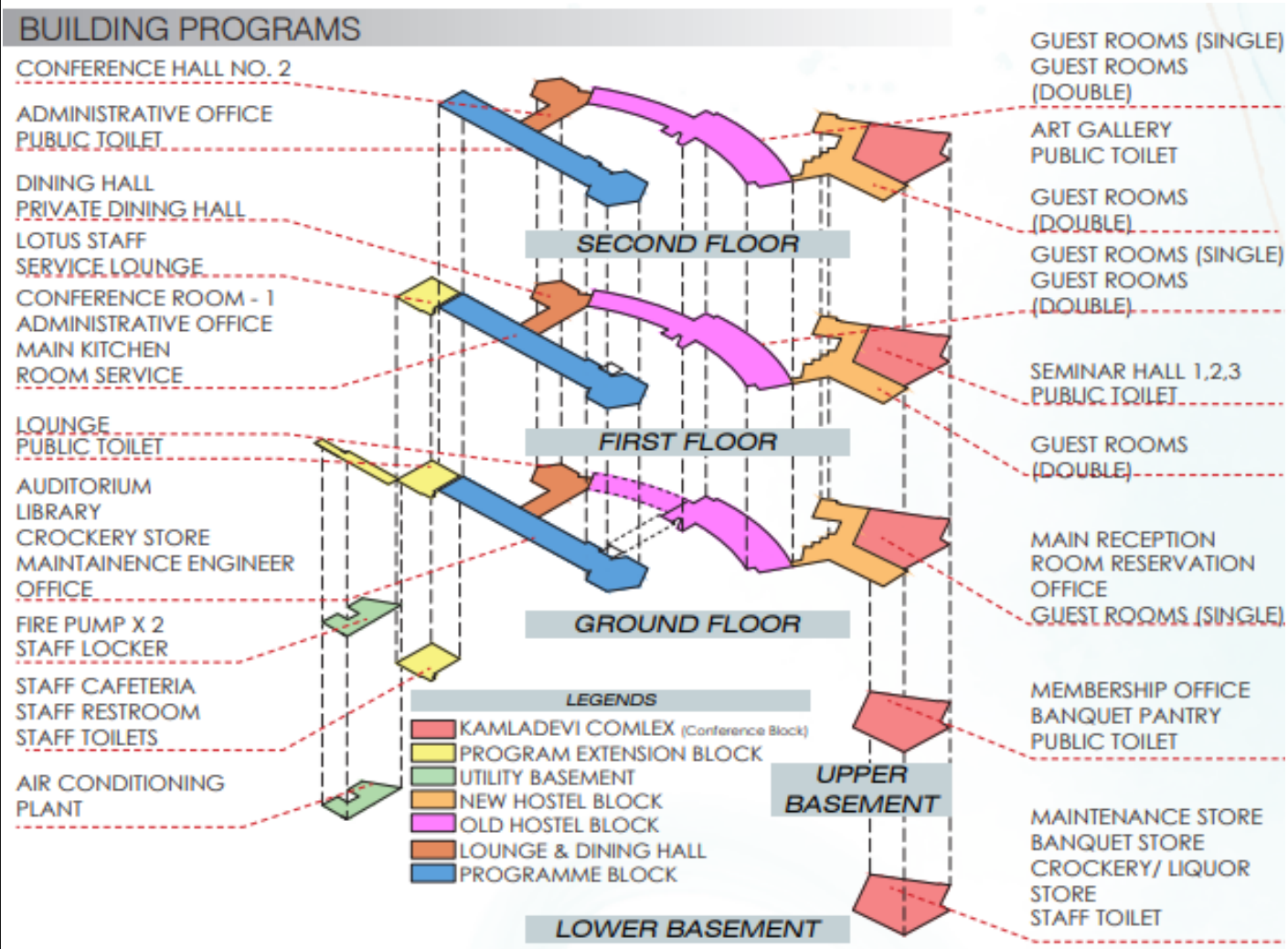
New Hostel Block

Lounge & Dining

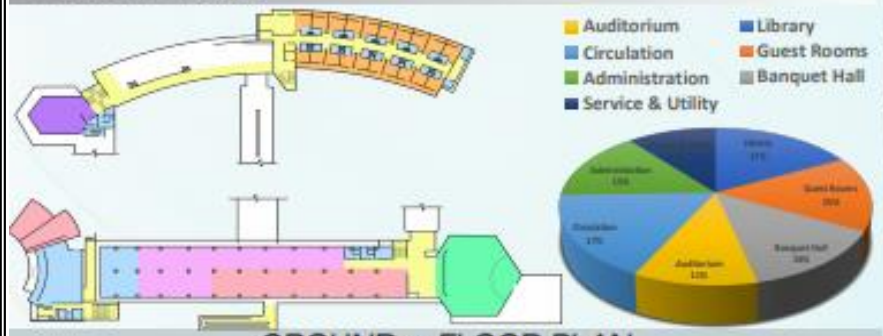
Conference Block

Auditorium Block

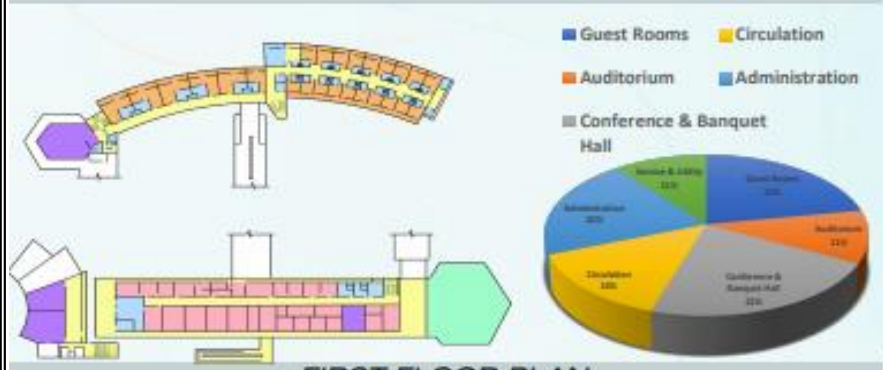
BUILDING PROGRAMS



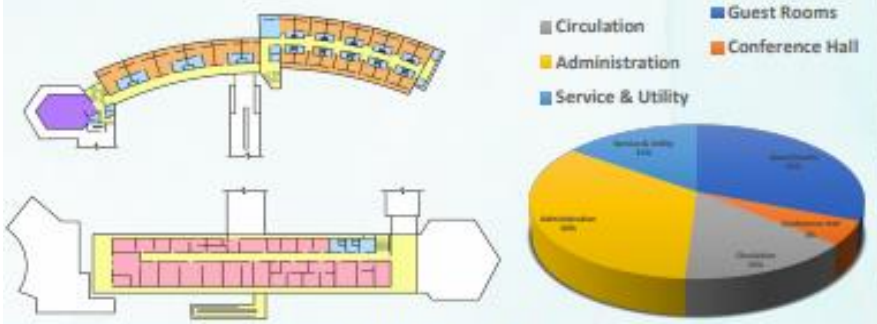
FLOOR PLANS



GROUNDvv FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

LIBRARY

- Library is in South Wing.
- Oblong 12m wide and 25m long.
- Reception cum Issue and Deposit Counter on the entrance.
- Magazines section opposite to reception counter having seating capacity of 15 people.
- The library has 6 cubicles of 2mx2m.
- Photocopying facilities are available on payment.
- Reading zone has windows overlooking the central lawn.

Ceilieng Of Library

Library

PROGRAMME BLOCK

Programme block

Ramp at Prog. Block

- It is a 2 storied building, consists of auditoriums, library, admin offices, kitchen, store and room servics.
- First floor has Conference hall -1 with capacity of 80 persons and area 92 m^2.
- Mainly serves Administrative services.
- Ramp at entrance is provided.
- The programme Block has been functionalised in a Linear Form, having lobby at centre.
- The basement has facilities for staffs like gym, cafe , etc.
- A lounge is provided for the staff workers on the first floor .

Auditorium Entrance

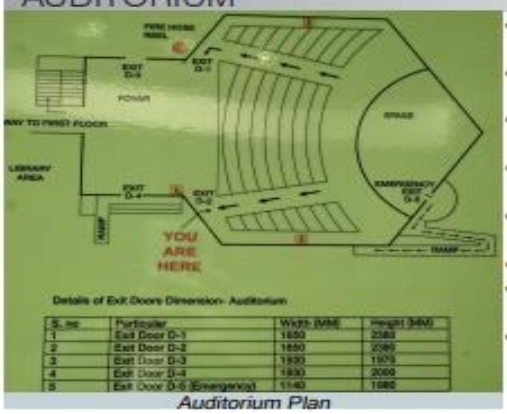
Prog. Extension Blk.

KAMLADEVI CONFERENCE BLOCK

- It is a new wing.
- This block holds Cultural events, Seminars, Meetings and Lectures.
- The basement covers all sevices and storages.
- Multipurpose Hall is at ground floor.
- Seminar Hall is at 1st floor.
- Art Gallery is at 2nd floor.

Conference Block

AUDITORIUM



S. no	Particular	Width (MM)	Height (MM)
1	Exit Door D-1	1850	2080
2	Exit Door D-2	1850	2080
3	Exit Door D-3	1930	1975
4	Exit Door D-4	1930	2000
5	Exit Door D-5 (Emergency)	1140	1980

Auditorium Plan

- A auditorium of capacity **240** is provided next to reception lobby.
- It is **hexagonal** in shape covering an area of 315 sqm approximately.
- Stage is small and mainly use for lecture and conferences.
- Projection facilities: mainly for stage drama.
- Setting in form of 12 rows and approached by 2 aisles (1.6m wide).
- Wooden paneling on wall facing the stage
- It is surmounted by a dome in the shape of smaller inscribed hexagons.
- Fire Extinguisher & Fire Bucket is provided at both side walls & also marked on the keymap.

Seating In Auditorium

Ramp For Direct Entry From Backstage Of Auditorim

HOSTEL WING

- This block has lounge, reception and accommodation facilities of guest rooms, is placed on the northern side of the site giving spectacular views of lodhi gardens.
- It is connected to it by pergola shaped corridor.
- The main entrance to this wing is from southern side by vaulted corridor connecting program wing and parking on eastern side.

Hostel Block

Corridor

SEMINAR HALL

- IT is in Kamladevi Conference Block.
- There are three Seminaer Halls at 1ast floor with public toilets.
- Seminar Hall I & III has a cpacity of 40 persons with an area of 500 sq. ft.
- Seminar Hall II has a cpacity of 60 persons with an area of 1000 sq. ft.

Seminar Hall Entrance

Seminar Hall Interior

GUEST ROOM

- Two types of rooms both single (39) and double (44) are provided .
- The centrally located entrance lobby divided hostel into two wings east wings and west wings.
- The east wing has single seated rooms served by doubly loaded corridor on ground and first floor.
- West wing raised on stilts, double seated room on first & second floor.
- The hostel wings linked with coffee & bar at ground floor by means of patio. The corridors are covered by vertical jaali to which is attached film and wood construction allowing diffused light into the corridors.

Hostel Block

New Hostel Block

WEST WING (DINING & LOUNGE)

Western Wing Block

Path towards Dining & Lounge.

- It forms a connection between program and hostel wing.
- At far endit has hexagonal coffee house at ground floor and outdoor seating under projecting roof having a view of the water body and Lodhi gardens beyond that.
- Above it is the main dining hall of 120 capacity.
- Second floor has Conference Hall -2 of area 50 m^2 with capacity of 50 persons.

SERVICES

ELECTRIC SUPPLY:

- Generator – 2 nos, 75 kv amp
- Transformer located near a/c plant room.
- Electric supply of 11kv stepped by transformer to 230kv.

Electricity Room

AIR CONDITIONING:

- Ac Centralized air conditioned with the a/c plant being located at the western end of the program block from where the ducts are carried to this block and hostel block.
- A/c capacity- 3 a/c plants of 200 t capacity each, one being a standby.
- Plant room area – 235 m^2.

HVAC System

WATER SUPPLY:

- Over head tank capacity – 1,25,000 liters stored in two overhead tanks.
- Water supply is from municipal lines water stored in the sumps.
- Under ground water tank was provided for domestic purpose of capacity 1,00,000 liters.

Genrator

DRAINAGE SYSTEM:

- Waste from toilet (drainage)into the municipal drainage pipe.
- Kitchen waste also flow into the municipal line.

FIRE FIGHTING:

- Fire pump room is in the lawn.
- Water tank for fire extinguisher purpose was also provided in the lawn of capacity 50,000 liters.

Fire Pump Room

MATERIAL & FINISHES

- Concrete is used as a basic structural material.
- Locally available stones are used for constructing walls.
- Flooring is done using locally available quartzite stone and blue kotah stone.
- The concrete frame is filled in with various types of cladding (local stone, pre-cast concrete panels), windows, and shading devices of various sizes, the particular quality of the site.

Rubble Masonary

Jalis

LANDSCAPE

Ampitheatre

Water body

- The site has been well landscaped.
- There has been a play of water body which creates a dramatic effect.
- Small water pool has been provided at the entrance.
- Interrelated interior and shaded space courtyards and gardens.
- Each courtyard and garden at the iic has a difference function and aspect.
- Passing through the portico the visitors enters into the main courtyard and then into the gardens of the centre, which bound the rear and the north sides of the site.

SPATIAL CHARACTER

- The shading devices at the IIC range from relatively monolithic sunshields, like the pre-cast vaulting for the entry portico and rooftop pergolas, to an operable lightweight device the vertical sliding window louvers in the dining room.
- The most precisely detailed and coordinate of the devices are the designs for the jaali and the vertical sliding louvers.

Entrance Portico

Overhanging Eaves

AREA CHART

COMPONENT	CAPACITY	AREA (sq. m.)
Kamladevi Conference Block		
Multipurpose Hall	350-375	337
Seminar Hall 1 & 3	40	47
Seminar Hall 2	60	93
Art Gallery	-	316
Upper Basement	-	706
Lower Basement	-	632
West Wing		
Lounge	-	115
Lounge Pantry		50
Dining Hall		145
Conference Hall -2		50
South Wing		
Auditorium	240 Seats	315
Conference Hall -1	50+30	92
Library		300
Restaurant	40 Seats	168

INFERENCE

MERITS

- Good layout, minimal continuity. Layout according to the shape of the site.
- Exposed concrete columns, pre-cast concrete blocks, and blue, green state roofing merges well with the surroundings.
- Provision for handicapped is made all over complex.
- Usage of old time principles of shading devices- Jalli screens and cross ventilation to keep interiors coolar.
- Hierarchy of the open spaces is maintained to Lodhi Gardens.

DEMERITS

- The need for more spaces is felt at places like Auditorium of 240 capacity which is unable to accomodate the growing spactators day by day.
- Need for more conference rooms and exhibition spaces.
- There is no provision of the sufficient parking within the complex. All the cars are parked outside the complex which is also shared by the other buildings in the vicinity.
- Single staircase in utility block is insufficient.

BHARAT BHAWAN

BHOPAL, MP

LITERATURE STUDY

INTRODUCTION

- Bharat Bhavan Is An Autonomous Multi-Arts Complex And Museum In Bhopal, India, Established And Funded By The Government Of Madhya Pradesh.
- The Architect Of The Bharat Bhavan Is Charles Correa.
- Opened In 1982, Facing The Upper Lake, Bhopall.
- It Houses Multiple Art Galleries, A Graphic Printing Workshop, A Ceramics Workshop, An Open-Air Amphitheatre, A Studio Theatre, An Auditorium, A Museum Of Tribal & Folk Art And Libraries Of Indian Poetry, Classical Music & Folk Music. .
- The Bharat Bhavan, literally 'Abode / 'Home of India'.

LOCATION OF SITE

India Map | M.P. Map

SITE AT **BHOPAL, MP** (Google Earth Image)

INFORMATION

- ***Name Of Project*** : Bharat Bhavan
- ***Location*** : Bhopal, Madhya Pradesh
- ***Client:*** -
- ***Architect :*** Charles Correa
- ***Co-Ordinates:*** Latitude: 23° 14' 49.27" N
  Longitude: 77° 23' 33.31" E
- ***Site Area :*** 11149 m² (2.75 acre)
- ***Achieved FAR:*** 0.98
- ***Type:*** Multi-Arts Complex And Museum

LANDMARKS

SBI, INDIA

Darbar Temple

Walkway Upper Lake

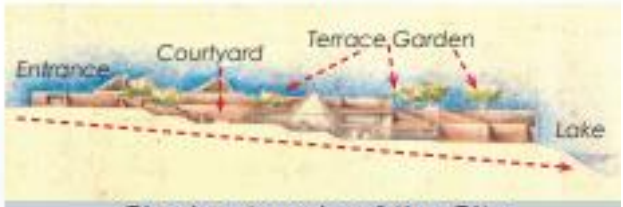
Bistar Hostel

APPROACH

- Nearest Railway Station:
  1.Habib Ganj Railway Station: 8 km
- Nearest Bus Stand:
  Nadira Bus Stand: 6 km
- Nearest Airport:
  Raja Bhoj Airport: 12 km

SITE FEATURES

- ***Shape of site***: almost square.
- ***Topography:*** contour site.
- ***Soil condition:*** fertile soil and having good bearing capacity of soil
- ***Entrances to the site:*** There are two entrances to the site. The first is the main entrance for visitors and administrative staff etc.
- ***Circulation:*** No vehicular movement. Parking is outside the side.100% pedestrian movement.



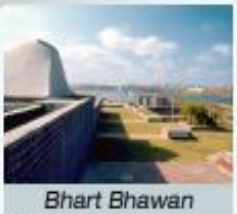
Sloping terrain of the Site

CONCEPT

- Based on the idea of 'non - building', only a glimse of the structure is seen from the entrance as if there is no building at all.
- due to sloping terrain, building unflods itself when on walks in gradually levelling down.
- series of courts and terrace gardens are inspired from indian entrance view of bharat bhavan village setting.

SITE

Entance Gate



Bhart Bhawan

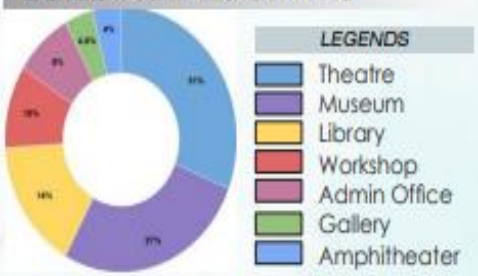
- Built into a hillside which slopes towards a lake, a series of terraces & courtyards comprise the complex.
- Upon entering ,the choice of the path of terraces or moving down the three courtyards.
- The inside of the complex is a medley of courtyards,split-level exhibition spaces,galleries and performance rooms.
- The visitors enter the highest level and walk down a pedestrain spine,flanked by a pattern of courtyards.

SITE PLAN

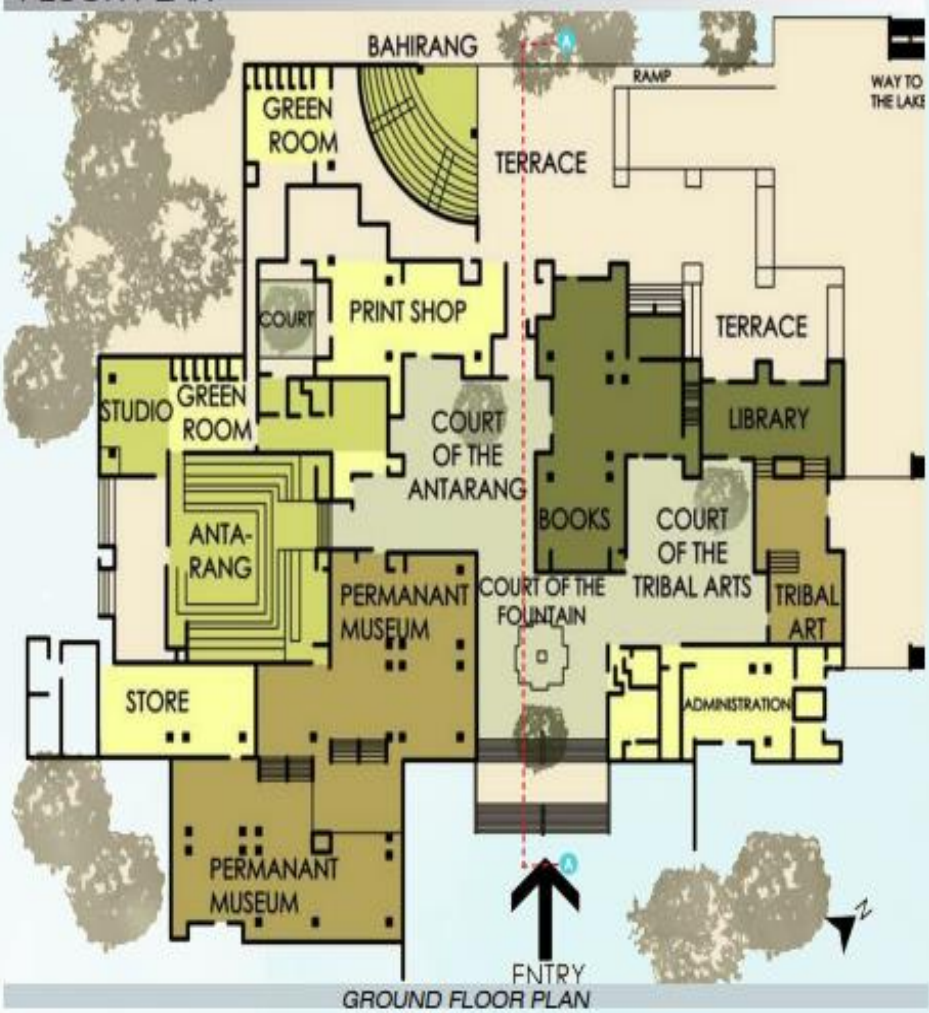
WINGS

- *Roopankar:* Museum of fine arts
- *Rangmandal:* Graphic and ceramic art workshop
- *Vagarth:* A centre for Indian poetry
- *Anhad:* A centre for classical & folk music
- *Chhavi:* A centre for classical cinema
- *Nirala Srijanpeeth:* Creative writing centre

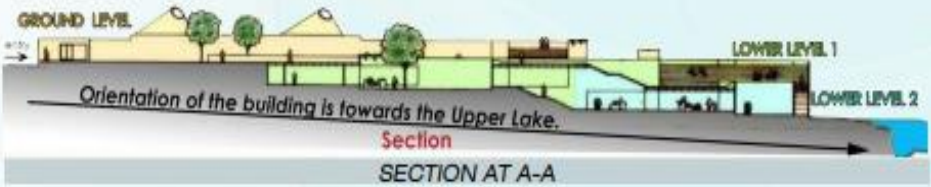
BUILDING PROGRAMS



FLOOR PLAN



GROUND FLOOR PLAN



SECTION AT A-A

PERMANENT MUSEUM

- also known as Roopankar/ Modern Art Gallery
- is the only museum of arts in India which houses both contemporary, urban, folk and tribal arts.
- It has fully equipped workshops for printmaking.
- Efficient and well planned.
- This space is characterised by continuous modulations in the ceiling and floor levels.

Finishes:

- Walls - white
- Ceiling - Exposed concrete
- Floor – Polished Kota stone

Interior View Of Roopankar

Interior View Of Roopankar

AUDITORIUM

ANTARANG / THEATRE:

- An indoor auditorium with 300 capacity.
- Seating on 3 sides of the stage.
- No aisles; seating & circulation is on the same tread.
- have the stages where plays, music concerts, dance performances, literary recitals, discussions, demonstrations and meetings are held.
- The lighting of the stage is controlled from the control room.
- The max. Distance between the last seat & the stage is 18 m. Coffers above are covered so as to reduce echoes.

Theatre at Night

Antarang Interior

Abhiarang Interior

ABHIRANG / STUDIO THEATRE:

- An indoor auditorium with 100 capacity.
- It is fully equipped with fully equipped with well maintained sound system and electronic instruments.

BAHIRANG / AMPITHEATRE:

- An outdoor open air theatre with 1000 capacity.
- stands overlooking the Big lake and beyond the bounds of the Big Lake can be viewed the picturesque scene of the old city.

Bahiarang Interior

SEMINAR HALL

- - it is one of the significant creative spaces for providing a platform of Graphics art.
- - The artists can work on Zinc Plate, Etching, Fiber Glasst, Lithography, Serigraphy and Screen Printing.
- - photography, modelling, lithography, drama,dance, painting textiles, sculpture, pottery & ceramics studios are different spaces under print shop.

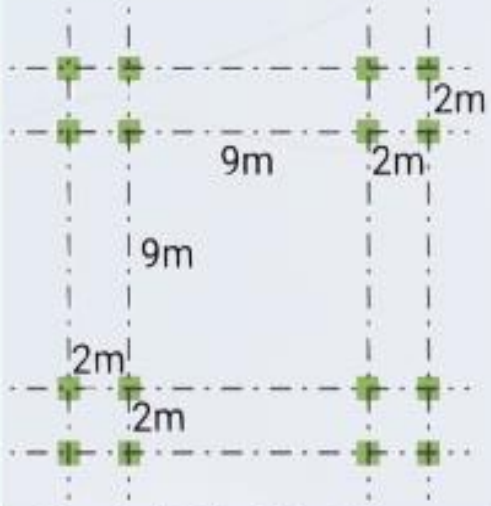
LIBRARY

- Vagarth is a library of India poetry in 17 major languages.
- Anhad is a library of folks & classical books.
- the two blocks contains a total of 20000 books.

Library

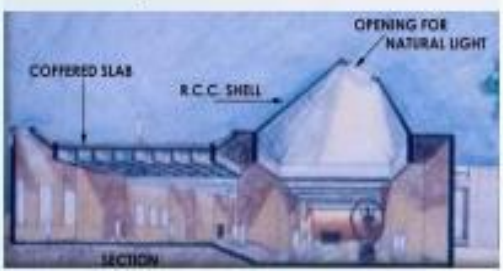
STRUCTURE

- The framework of Bharat Bhawan is based on RCC framework.
- The grid consist of group of 4 columns at distance of 2 meters each.
- The group is placed at the distance of 9 meters each.
- This structural framework is adopted troughout the building.



Structural Grid of Bharat Bhawan

- The vertical members of waffle slab is kept punctured so that for electrical lines.
- The courtyard and the circulation spaces of the complex are covered with rough flagstone paving using 600 x 600 mm slabs with gap for grass.
- Ceiling inside the gallery is precast coffer slab, there is provision of skylight and Italian fibreglassare placed at the top at roof level and cell for natural light.
- The cell and the dome is constructed in R.C.C.
- Terrace is covered with 250mm brickbat cement mortar over this 50mm hard metal fiber and at last 170 mm earth filled for lawn and terrace garden.



LIGHTING AND VENTILATION

Skylites

- Lighting and Ventilation are provided from the concrete shells and from slots along the terrace parapet.
- There are two sets of shutters between the opening of courtyards and terraces.
- The inner one consist of combination of fixed glass and the outer one consists of large wooden doors, for security purpose.

SERVICES

- There is only one service entry atthe right hand side(eastern side) of the building.
- **Generator room and AC plant** are provided on the western corner pf the site so there is no disturbance to the normal functioning of the building.
- Green roof terraces are provided to maintain proper cooling of spaces underneath the roof.
- **Water Sprinkler** are used to irrigate rain water to the terrace garden.
- **Septic tank** is provided underneath the garden.
- **Parking** vehicles are parked on the opposite side of the road, around 150 cars and 300 two wheelers are parked along the road.

Waffle slab

Waffle Slab

MATERIAL & FINISHES

Stone Paving

Use of bricks

Sandstone.

Brick work

Exposed Concrete

- Red sand stone was used on the outer façade of the building.
- Flemish bond brick masonry.
- R.C.C. shells were used in the auditorium.
- Ashlar stone masonry was used on the outer façade.
- Exposed concrete
- Marble and Granite in internal spaces.

LANDSCAPE

Ampitheatre

View of Bharat Bhawan

- Roofs of all the buildings were covered through grass making the view beautifulas well as keeping the building cooler.
- Open to sky courtyards were made tomanage crowd.
- Lake adjacent to the Bharat bhavan wasalso incorporated into the design.

SPATIAL CHARACTER

- The site is on gently sloping plateau overlooking the lake such that the countours are used in design.
- The natural counours have been used to create a series of sunken courts & terrace garden around which are cultural facilities.
- The terraces and courtyards are connected like a progression in space, where complex of internal streets acts like a village layout.

AREA CHART

COMPONENT	CAPACITY	AREA (sq. m.)	REMARKS
Art Centre	40	220	Lake View, Main Organization
Conference Facilities	105	335	Hire
Library		360	Academic Zone, Desirable North Light
Art Galleries		860	Display Work
Retail		800	
Restaurants	150	760	With Lake View
Auditorium	400	1000	Open Cut Into Spill Out Area, Acoustical Treatment
Theatre	650	1560	Retail Outlets, With Access To Canteen, Controlled Environment

INFERENCE

- Great example of responding to the site.
- The terraces & open to sky spaces bind the built masses into an experiental walk for the visitors.
- Courtyards act as important tools for place making.
- Site is entirely pedestrian which lack to achieve universal access.
- The nature of public space create is inward looking with volumes containing the inside from the outside.
- There is no specified parking area.

HYDER ALIYEV CENTRE

BAKU, AZERBAIJAN

LITERATURE STUDY

INTRODUCTION

- The Center, designed to become the primary building for the nation's cultural programs.
- The Center houses a conference hall (auditorium), a gallery hall and a museum.
- The project is intended to play an integral role in the intellectual life of the city.
- Located close to the city center, the site plays a pivotal role in the redevelopment of Baku.

LOCATION OF SITE

SITE AT BAKU, AZERBAIJAN (Google Earth Image)

INFORMATION

- ***Name Of Project :*** Heydar Aliyev Centre
- ***Location :*** Baku, Azerbaijan
- ***Client:*** The Republic of Azerbaijan
- ***Architect :*** Zaha Hadid
- ***Co-Ordinates:*** Latitude: 40° 23' 43" N
  Longitude: 49° 52' 1" E
- ***Site Area :*** 101801 m²
- ***Built Up Area :*** 57,519 m2
- ***Type:*** Mixed-Use Venue

LANDMARKS

Neptun Supermarket

Baku Congress Centre

Azerbaijan University Of Languages

Azerbaijan State Academy of Art

VIEW OF HEYDAR ALIYEV CENTRE

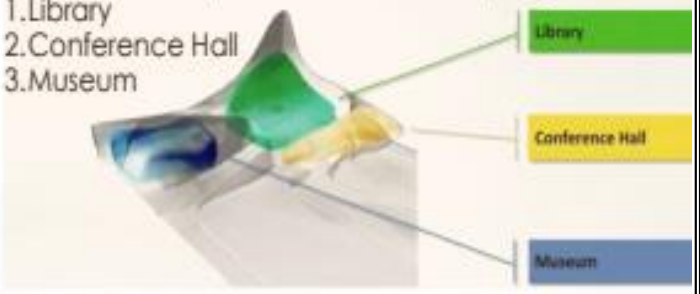
CONCEPT

- The design of the Heydar Aliyev Center establishes a continuous, fluid relationship between its surrounding plaza and the building's interior.
- Elaborate formations such as undulations, bifurcations, folds, and inflections modify this plaza surface into an architectural landscape that performs a multitude of functions: welcoming, embracing, and directing visitors through different levels of the interior.
- With this gesture, the building blurs the conventional differentiation between architectural object and urban landscape, building envelope and urban plaza, figure and ground, interior and exterior.

BUILDING PROGRAM

- The Heydar Aliyev Center has three programmes:

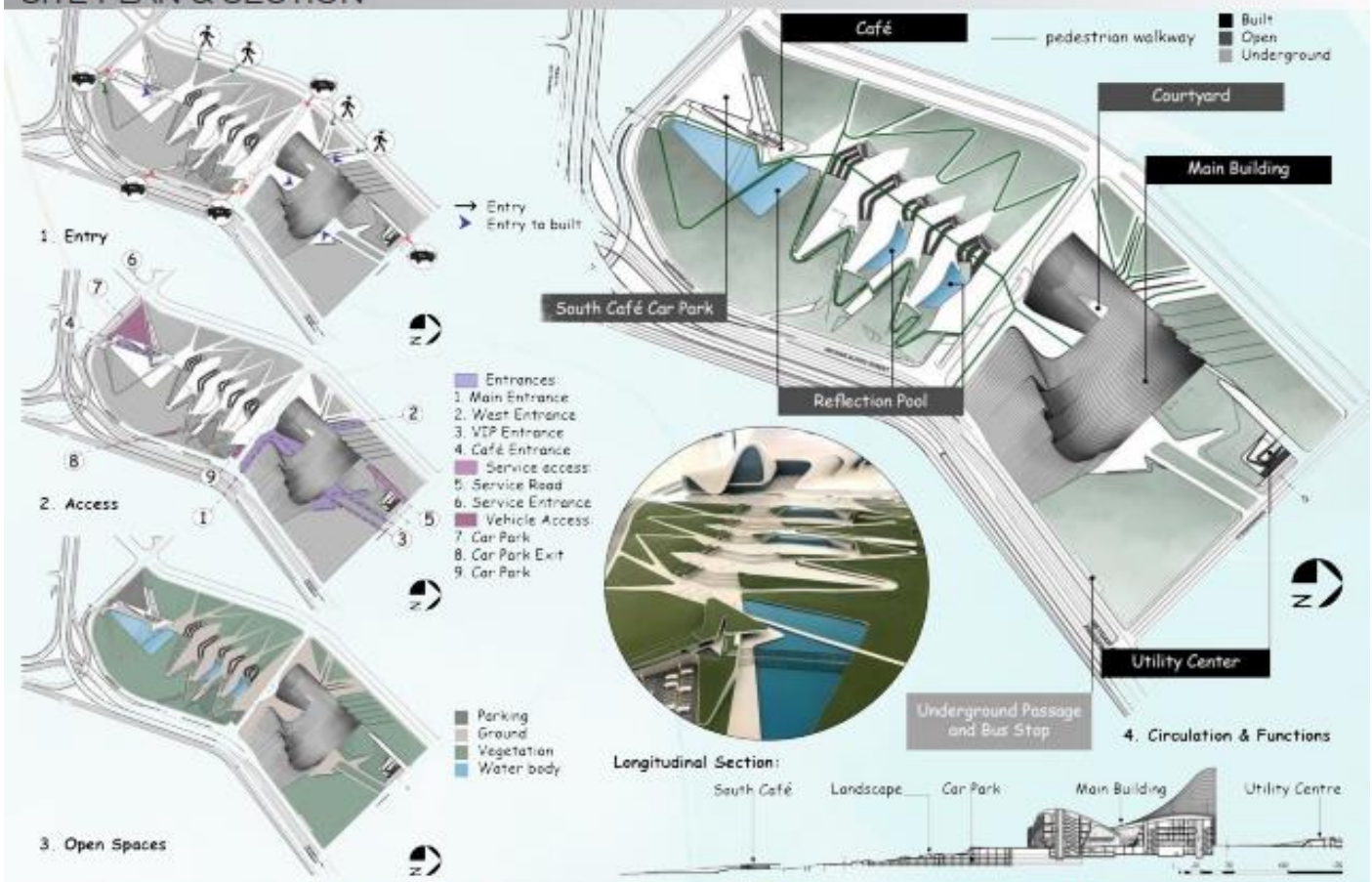
1.Library
2.Conference Hall
3.Museum



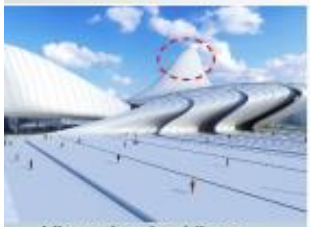
LIBRARY

- The library is 8 stories seated in the north of site with a continuous external building skin in the façade.
- The Library is oriented north to take advantage of natural light and has its own entrance.
- Levels dedicated to reading and file are stacked one above the other, wrapped in the folds of the outer skin.
- Plants tumble over one another with ramps which connect, creating a continuous circulation path.
- The Library and Museum are also connected by a ramp that leads through the ground floor of the Library, to the first floor of the Museum.
- The Library is connected to the conference room through a bridge that 'fly' over the entrance hall.
- Its shape reaches the Cultural Plaza, leaning to create the necessary slope leading to the seats of outdoor space.

SITE PLAN & SECTION



MUSEUM



View showing Library

Interior View of Library

- he museum occupies 9 floors with exhibition halls, administrative office, restaurant and a cafeteria.
- It consists of a permanent gallery and a temporary exhibition gallery.
- In the temporary gallery, a double-height space lobby is in the entrance with curve ceiling above.

View showing Museum

CONVENTION CENTER

- The convention center could be used for both convention and music performance with ***1200 auditorium seats.***
- This section of 4 levels embraces 2 *multifunctional conference halls, meeting rooms and the media center.*
- To reach a large span, the ceiling is constructed by two-way system and adopt steel space frame. As for the interial surface of ceiling, it is created by gypsum board supported by cables to meet acoustical and lighting requirements.
- The first floor and second floor have a continuous large space and transfer the self-weight to narrow reinforced concrete beams and columns at the base.
- The **multifunction hall** is near the convention center which is divided into three smaller ones toward north in the garden. The hall spans about 27 meters with a height of 10.5 meters.

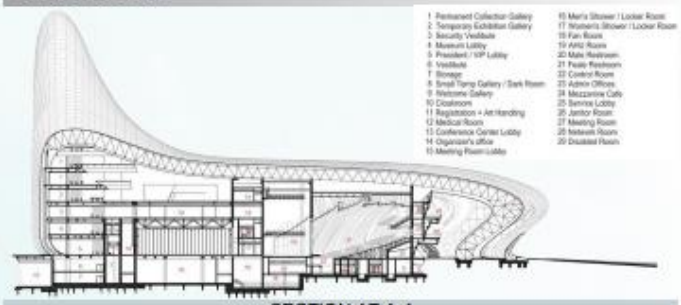
FLOOR PLANS

AUDITORIUM

- The auditorium and its associated facilities have direct access to the Plaza.
- The main entrance is on the void created in the outer layer, "stretching" of the volume of the museum and the library tower.
- The secondary entrance is on the north side of the building.]
- The capacity of auditorium is 1200.
- The auditorium is 18 meters height and spans approximately 28 meters supported by concrete shear wall around the space.

Interior View of Auditorium

SECTIONS



SECTION AT A-A

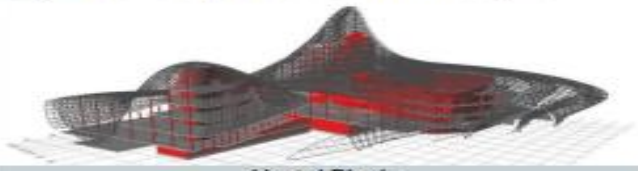
SECTION AT B-B

STRUCTURE

- The Heydar Aliyev Centre consists of 2 structural systems:

1. Space Frame
2. Concrete Structure

- The aim was to create a large column-free space giving visitors the opportunity of experiencing the fluidity of the interior. To achieve this, vertical elements are absorbed by the envelope and curtain wall system.



Hostel Block

CONCRETE

- Reinforced concrete is mainly used to construct shear walls as the partition to separate main spaces and to support the space frame.
- It also used to construct the footing of the building. As Earthquakes are one of the biggest threats to construction in Baku, the building must be reinforced by massive 150-foot-long concrete piles buried below the Earth's surface to withstand an earthquake measuring up to magnitude 7.0.

Concrete

Space Frame

SPACE FRAME

- The space frame enables the construction of this free form structure while offering significant savings in time throughout the construction process, while the substructure has been developed to incorporate a flexible connection between rigid grid of the spatial structure and sheathing seams freely.
- The special geometry of surfaces promotes unconventional structural solutions, such as the introduction of curves "Boot columns" for reverse shell from the ground surface to the west of the building, and the "duck tail" resulting from the narrowing of the cantilever beams that support the skin of the building on the east side.

SPECIAL NODES

- Due to the large span of the space frame, it is connected to the reinforced concrete structure in addition to the support of the columns and directly to the foundation, in order to maintain the stability of the structure as much as possible.
- The method of maintaining stability is to extend the steel core beam from the reinforced concrete core tube, fix the vertical steel member to the joist, and connect the space frame to the joist.

MATERIALS & SKIN

- The building, whose distorted grid panels soft polyester reinforced fiberglass has no visible connections, is less "as built" and more like "if landed"
- ***CLADDING MATERIALS;*** Glass Fibre Reinforced Concrete (GFRC) and Glass Fibre Reinforced Polyester (GFRP) were chosen as ideal cladding materials.
- They allow for the powerful plasticity of the building's design while responding to very different functional demands related to a variety of situations: plaza, transitional zones and envelope.

Skin of outer facade

View

INFERENCE

- The design establishes a continuous, fluid relationship between its surrounding plaza and the building's interior.
- This was achieved by using an ingenious and elegant structure system.
- Because vertical structural elements are absorbed by the envelope and curtain wall system, the large-scale column-free spaces can allow the visitor to experience the fluidity of the interior.

CASE STUDY AND LITERATURE STUDY COMPARITIVE MATRIX

PARAMETER	CASE STUDY 1 INDIAN HABITAT CENTRE	CASE STUDY 2 INDIA INTERNATIONAL CENTRE	LITERATURE STUDY 1 BHARAT BHAWAN	LITERATURE STUDY 2 HEYDAR ALIYEV CENTRE
LOCATION	LODHI ROAD, NEW DELHI	40, MAX MUELLER MARG, NEW DELHI	BHOPAL, MADHYA PRADESH	BAKU, AZARBIJAN
ARCHITECT	JOSEPH ALLEN STEIN	JOSEPH ALLEN STEIN	CHARLES CORREA	ZAHA HADID
SITE AREA	9.5 ACRE	4.69 ACRE	2.75 ACRE	25.1 ACRE
BUILT UP	53000 SQ. M	46500 SQ. M	9785 SQ. M	-
ACHIEVED F.A.R.	1.4	1.75	0.98	-
NO. OF STOREY	2B + 4-7 STOREY	2B + (G+2)	LOWER LEVEL (1 + 2) + G	4B + (G+8)
TYPOLOGY	MIXED USE BUILDING	CONVENTION CENTRE	MULTI ARTS COMPLEX & MUSEUM	MIXED USE VENUE
BUILDING PROGRAM	VISUAL ART GALLERY, OFFICES, CONVENTION CENTRE, AUDITORIUM, THEATRE, LEARNING & RESOURCE CENTRE, REASTURANT, GUEST ROOM, MEMBER FACILITIES	DISTINCT 3 PARTS OF THE BUILDING; CONFERENCE, AUDITORIUM, OFFICE , LIBRARY IN SOUTH, HOSTEL BLOCK IN NORTH, LOUNGE AND DINING HALL IN WEST OVERLOOKING LODHI GARDEN.	THEATRE, MUSEUM, LIBRARY, WORKSHOP, ADMIN OFFICE, GALLERY, AMPITHEATER.	THE HEYDAR ALIYEV CENTER HAS THREE PROGRAMMES: LIBRARY CONFERENCE HALL MUSEUM
STRUCTURAL SYSTEM	RCC FRAME STRUCTURES	RCC STRUCTURE	RCC FRAMEWORK STRUCTURES	SPACE FRAME + CONCRETE STRUCTURE
VERTICAL TRANSPORTATION	STAIRS & LIFTS; AERIAL WALKWAYS	STAIRS & LIFTS	STAIRS	STAIRS + LIFTS + ESCALATORS
AIR CONDITIONING	HVAC WERE PROVIDED IN BASEMENT	HVAC WERE PROVIDED	AC PLANT PROVIDED	-
FIRE FIGHTING	SPRINKLERS, WET RISER, FIRE EXTINGUISHER, HOSE REELS, PRESSURISED SHAFTS ARE PROVIDED	FIRE PUMP ROOM, FIRE EXTINGUISHER, ARE PROVIDE	-	-
ELECTRICITY	ELECTRIC SUBSTATION- LOWER BASEMENT	TRANSFORMER LOCATED NEAR A/C PLANT ROOM.	-	-
WATER SUPPLY	6 BORE WELL WITH UNDERGROUND WATER SUPPLY	2 OVERHEAD TANKS WERE PROVIDED	SEPTIC TANK IS PROVIDED	-
PARKING	2 BASEMENT : 1000 CARS (600+400); 2000BIKES	THERE IS PROVISION TO BRING THE VEHICLE INSIDE TILL THE CAR PORCH BUT THERE IS NO PARING PROVIDED IN THE SITE.	NO PARKING ON THE SITE. NOMINAL PARKING AVILABLE ACROSS THE ROAD.	PARKING WAS PROVIDED.
MATERIAL	BRICK STONE & GLAZED TILE CLADDING. EXPOSED LAKHORI BRICKS USED IN FCADE WITH EXPOSED CONCRETE.	EXPOSED CONCRETE, USE OF LOCAL MATERIALS, PRECAST CONSTRUCTION IS EXTENSIVELY USED FOR MODULAR FAÇADE JAALIS, RAILING, WINDOW OF VARIOUS SIZE.	RED SANDSTONE , ASHLAR STONE MASONARY, EXPOSED CONCRETE , MARBLE AND GRANITE WERE USED IN BHARAT BHAWAN.	GLASS FIBRE REINFORCED CONCRETE (GFRC) AND GLASS FIBRE REINFORCED POLYESTER (GFRP) WERE CHOSEN AS IDEAL CLADDING MATERIALS.

IDEOLOGY & CONCEPT

INTRODUCTION

- IT IS BASICALLY A SOCIO-CULTURAL CENTRE.
SOCIO-CULTURAL CENTRE = SOCIAL + CULTURE.
- IT IS COMBINATION OF THE ACTIVITIES OF SOCIAL CENTRES & CULTURAL CENTRES.
- A SOCIO INTERPRETATION CENTRE HAS TO GIVE EQUAL IMPORTANCE TO THE CULTURAL SKILLS EDUCATED & THE SOCIAL IMPACT IT HAS IN DEVELOPING THE ENTIRE CENTRE.
- IT WILL ENCOURAGE CULTURAL, SOCIAL, ACADEMIC & BUSINESS RELATED PROGRAMS FOR EXCHANGE OF IDEAS & NURTURE HUMAN RELATIONSHIPS.
- IT IS A PHYSICAL MANIFESTATION OF TECHNOLOGY ALONG WITH THE CULTURAL ASPECTS OF THE SOCIETY.

ACTIVITIES

- ART
- MUSIC
- DRAMA
- CINEMA
- LITERATURE
- RECREATION
- HEALTH
- SPORTS
- TRADITION
- FESTIVAL
- SHOPPING

REQUIREMENTS

- AUDITORIUM ;
- CENTRE FOR VISUAL ART
- LEARNING AND SKILL CENTRE
- AMPITHEATRE
- CONVENTION BLOCK
- CAFETERIA
- HOSTEL
- RESIDENTIAL
- RECREATIONAL CENTRE
- RETAIL SHOPS
- ADMINISTRATIVE BLOCK
- OFFICE

THE SITE IS LOCATED IN, DISTRICT CENTRE-II, CLUSTER 4B, SECTOR 10, ROHINI, DELHI.
AREA: 10.8 ACRE.

NEED OF PROJECT

- THE NEED FOR PUBLIC SPACE WHERE CITIZENS CAN EXPERIENCE THEIR CULTURAL ART FORMS IN THEIR OWN NEIGHBORHOOD.
- THE NEED FOR PEOPLE DEDICATED AND/OR TRAINED FOR CATERING TO THE CULTURAL NEEDS OF THE CITIZENS.
- THE SITE HAS VARIOUS RESIDENTIAL BUILDINGS & HOUR A LARGE NO OF POPULATION, DEPICT THE NEED AND VENUE WHERE THEY CAN SATISFY THEIR URGE FOR ART & CRAFTS.
- PROVIDES OPPORTUNITY FOR PEOPLE TO MEET, INTERACT, CREATE NETWORK BETWEEN PEOPLE, NGOs & GOVERNMENT.
- SOCIO CULTURAL ACTIVITIES ARE THE MOST IMPORTANT ELEMENT WHICH CANNOT BE IGNORED WHILE DETERMINING THE FUTURE URBAN DEVELOPMENT OF THE CITY DELHI.

IMPACTS

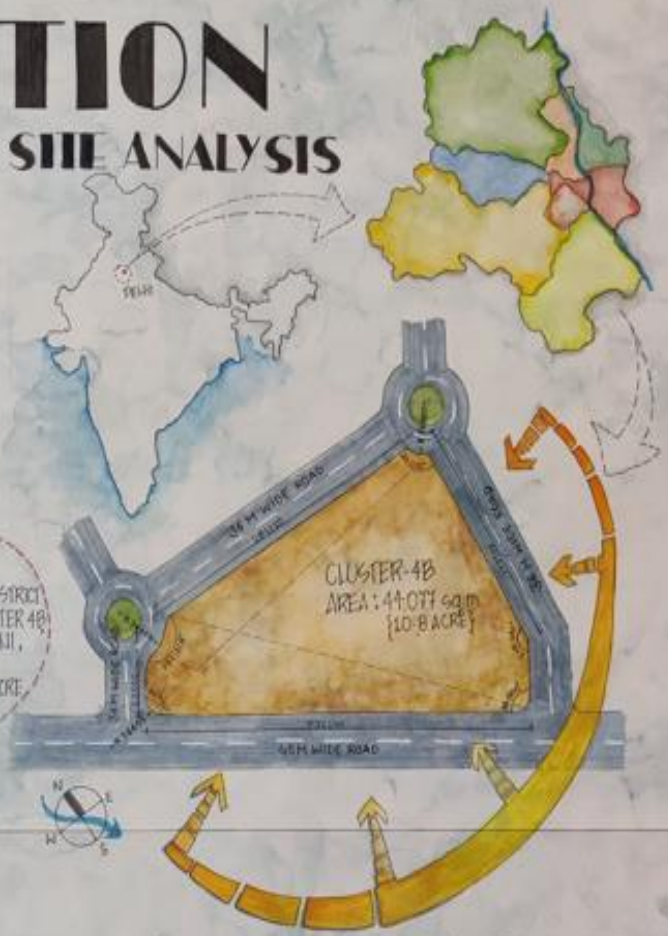
- IT HELPS IN DEMOCRATIZATION OF CULTURE IN THE SENSE OF PROVIDING ACCESS TO AS MANY CITIZEN AS POSSIBLE.
- IN RECENT YEARS, THESE ACTIVITIES REPRESENTS THE IDEA OF SYMBIOTIC ECONOMIC i.e. PROCESS THROUGH WHICH WEALTH IS CREATED FROM CULTURAL ACTIVITIES INCLUDING ART, MUSIC, DANCE, CRAFT, SPORTS, etc.
- THUS, IT WILL PROVIDE A CONDUCTIVE ENVIRONMENT FOR INTERACTION AND DISCUSSION, HENCE ENRICHING THE CONSCIOUSNESS OF THE PEOPLE ABOUT THEIR CULTURAL HERITAGE BY ENCOURAGING FOLKS & PRESERVING THE ART FORMS.

PURPOSE

THIS PROJECT PROPOSES TO -

- CREATE A HUB FOR THE PRESERVATION AND CIRCULATION OF KNOWLEDGE REGARDING THE HISTORICAL AND MODERN HERITAGE OF DELHI.
- INCORPORATE MULTIPLE FUNCTIONS THAT REINFORCES THE POSITIONS OF THIS FACILITY AS A RESOURCE FOR TOURISM AND LOCAL UTILISATION (RETAIL AND CONVENTION CENTRE).
- UNITING ALL FUNCTIONS TOGETHER THROUGH ALL ENGAGING AND LIVELY PUBLIC REALM.

SITE ANALYSIS



- LATITUDE: 28°43' 35.5" N
- LONGITUDE: 77° 07' 15.8" E
- ELEVATION: 215 METRE.
- TOPOGRAPHY: PLAIN SITE
- SITE SHAPE: PENTAGONAL
- ORIENTATION: SOUTH-WEST

APPROACH:

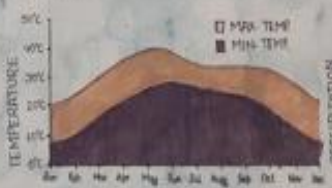
- NEW DELHI RAILWAY STATION - 15.5 km
- VEER APARTMENT BUS-STAND - 300m.
- INDIRA GANDHI INTERNATIONAL AIRPORT - 23.2 km
- ROHINI WEST METRO STATION - 1.5 km.
- RITHALA METRO STATION - 1.9 km.

CLIMATE:

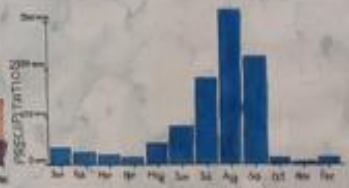
- THE CLIMATE OF DELHI IS COMPOSITE.
- THE MAIN CONSIDERATION FOR THE DESIGNER IN THIS CLIMATE IS TO CREATE BALANCE B/W CONSERVATION OF HEAT IN WINTERS & EXCLUSION OF HEAT IN SUMMER.

SITE SURROUNDING:

- VEER APARTMENTS
- ESI HOSPITAL
- GURU NANAK DEV POLYTECHNIC INSTITUTE
- TATA POWER



AVERAGE TEMPERATURE



RAINFALL

AVERAGE HUMIDITY

AVERAGE WIND SPEED

CONCEPT

ACCULTURATION JOURNEY:

ACCULTURATION IS THE PROCESS IN WHICH AN INDIVIDUAL/GROUP ADOPTS AND ADJUSTS TO A NEW CULTURAL ENVIRONMENT AS A RESULT BEING PLACED INTO NEW CULTURE, MAIN REASONS BEING MOVEMENT DUE TO SETTLEMENTS, INVASIONS, etc.

SIGNIFICANT CHANGES CAN BE SEEN IN THE FOOD, CLOTHING, AND LANGUAGE OF THOSE BECOMING INTRODUCED TO THE OVERARCHING CULTURE.

DELHI BEING RULED FROM DIFFERENT DYNASTIES LIKE TOMAR DYNASTY, MUGHALS, THE BRITISH WHICH REFLECTS IN THE CULTURE FOLLOWED TODAY.

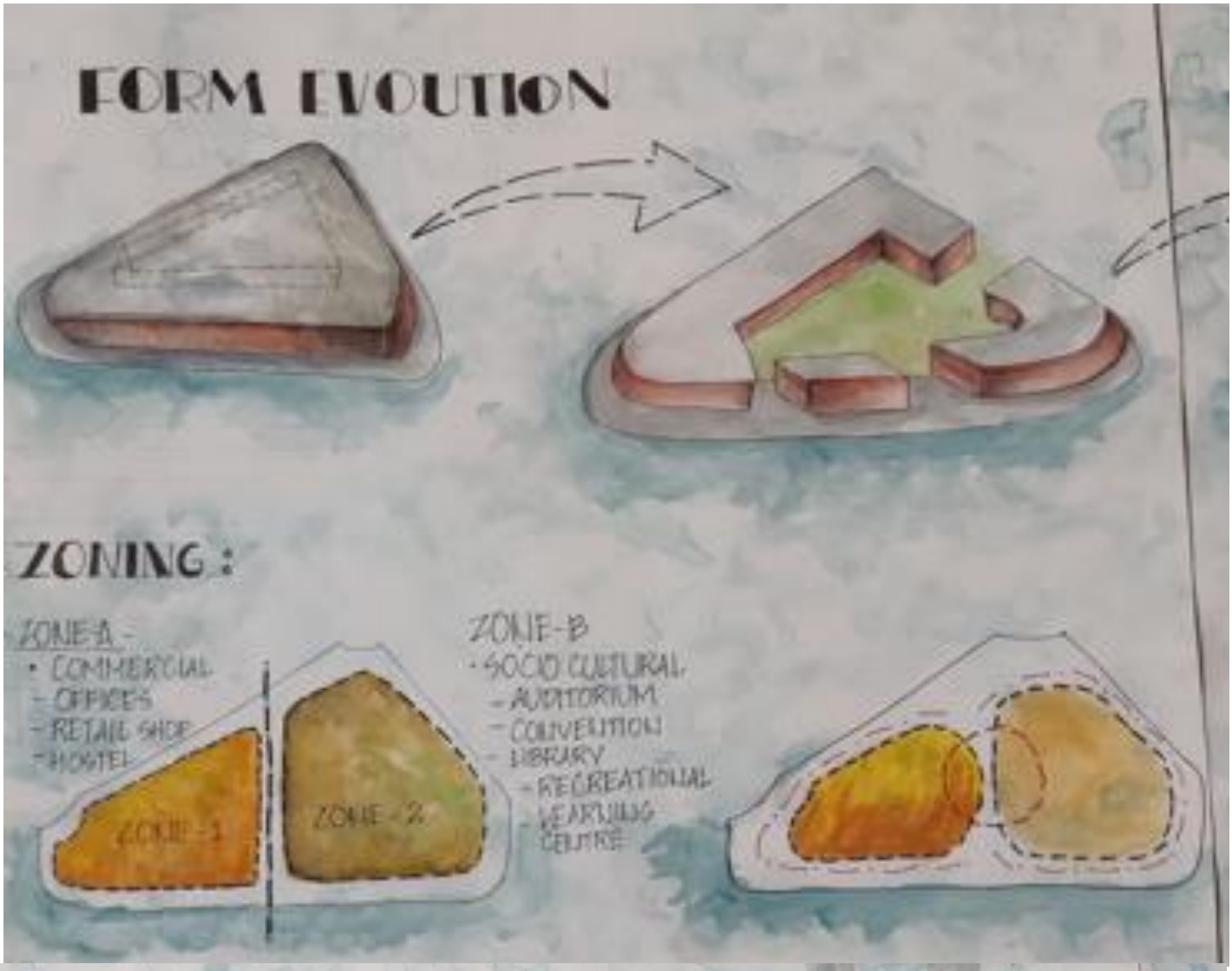
THE CENTRE WILL BRING BACK THE ESSENCE OF OLD DELHI, USE OF RED SANDSTONE AND ARCHES WILL BRING BACK THE MEMORIES OF MUGHAL ARCHITECTURE.

THE COURTYARD PLANNING IS DONE IN A WAY THAT THE ENTIRE BUILDING IS INWARD FACING WHICH REDUCES THE DISTRACTIONS OF THE OUTER WORLD.

THE DESIGN OF BUILDING WILL BE DONE IN A WAY TO MINIMISE OBSTRUCTION AND FREE PASSAGE AND CONNECTIVITY TO THE PEOPLE.

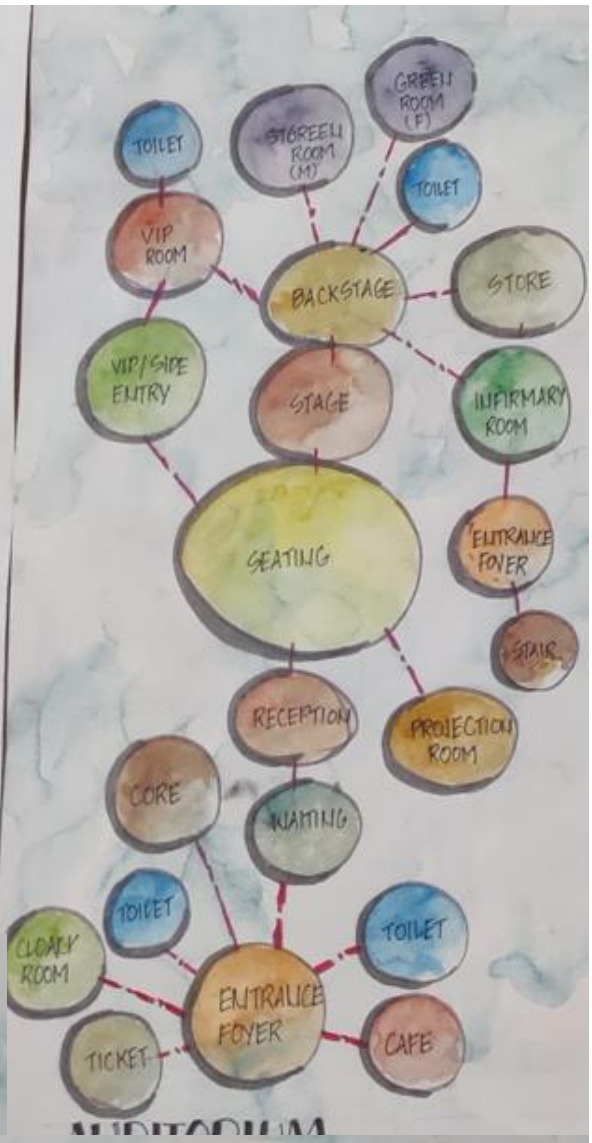
PREFERENCE OF MATERIALS WILL BE BASED UPON THEIR PROPERTIES TO ACT ACCORDING TO THE SURROUNDING ENVIRONMENT, RED SANDSTONE WILL BE PREFERRED AS IT CAN WITHSTAND ALMOST ALL KIND OF WEATHER CONDITIONS.

ARCHES AND JALI WILL PROVIDE AN ASTHETIC FEELING TO THE VIEWER, THEY WILL BE ABLE TO UNDERSTAND THE ART & CONSTRUCTION USED IN EARLY DAYS; JALLIS WILL BE PROVIDED IN THE SOUTHWEST AND NORTHEAST DIRECTION TO PROVIDE A BETTER CIRCULATION OF AIR/ VENTILLATION INSIDE THE BUILDING, AND IT WILL PROVIDE DECENT SHADOW EFFECT.


FORM EVOLUTION
ZONING :
ZONE-A
• COMMERCIAL
- OFFICES
- RETAIL SHOP
- HOSTEL
ZONE - 1
ZONE - 2
ZONE-B
• SOCIO CULTURAL
- AUDITORIUM
- CONVENTION
- LIBRARY
- RECREATIONAL
- LEARNING CENTRE


SITE ZONING
LEGENDS
1. RESTIV + OFFICE BLOCK
2. ADMINISTRATIVE BLOCK
3. AUDITORIUM
4. CONVENTION BLOCK
5. LIBRARY + LEARNING CENTRE
6. RESIDENTIAL + RECREATIONAL
7. CENTRAL PLAZA
8. O.A.T.
36 M WIDE ROAD
40 M WIDE ROAD
ZONE 1 & ZONE-2 IS CONNECTED WITH A LARGE CENTRAL PLAZA.
VERTICAL STACKING :-


STACKING
LEGENDS
1. ENTRY
2. ADMIN
SITE HORIZONTA
STACKING


TOILET
GREEN ROOM (F)
TOILET
VIP ROOM
BACKSTAGE
STORE
VIP/SIDE ENTRY
STAGE
INFIRMARY ROOM
SEATING
ENTRANCE FOYER
STAIR
RECEPTION
PROJECTION ROOM
CORE
WAITING
TOILET
TOILET
CLOAK ROOM
ENTRANCE FOYER
CAFE
TICKET


TOILET
ARTIST LOUNGE
ART GALLERY
WAITING AREA
ART GALLERY
RECEPTION
TOILET
ELECTRI-CAL
ENTRANCE LOBBY
AHU
SECURITY
CLOAK ROOM
ENTRY
TICKET
STORE
CENTRE FOR VISUAL ART

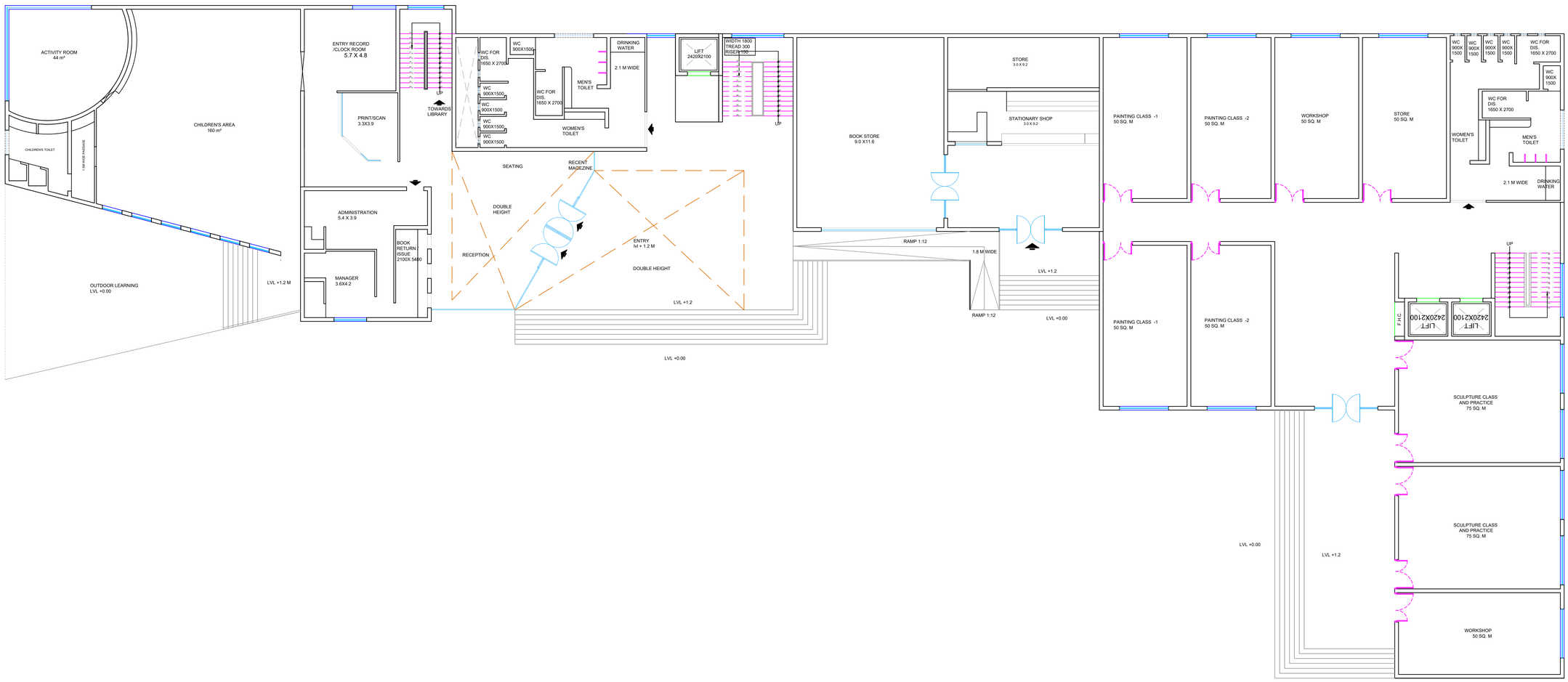

TOILET
STORE
WASHING AREA
KITCHEN
SERVICE COUNTER
BILLING AREA
SNACKS
COUNTER
SEATING AREA
TOILET
ENTRANCE LOBBY
CAFETE-RIA
REASTURANT

-PAGE LEFT KNOWINGLY

DRAWING

-PAGE LEFT KNOWINGLY

SOCIO - INTERPRETATION CENTRE



GROUND FLOOR PLAN

LIBRARY CUM LEARNING AND SKILL CENTRE

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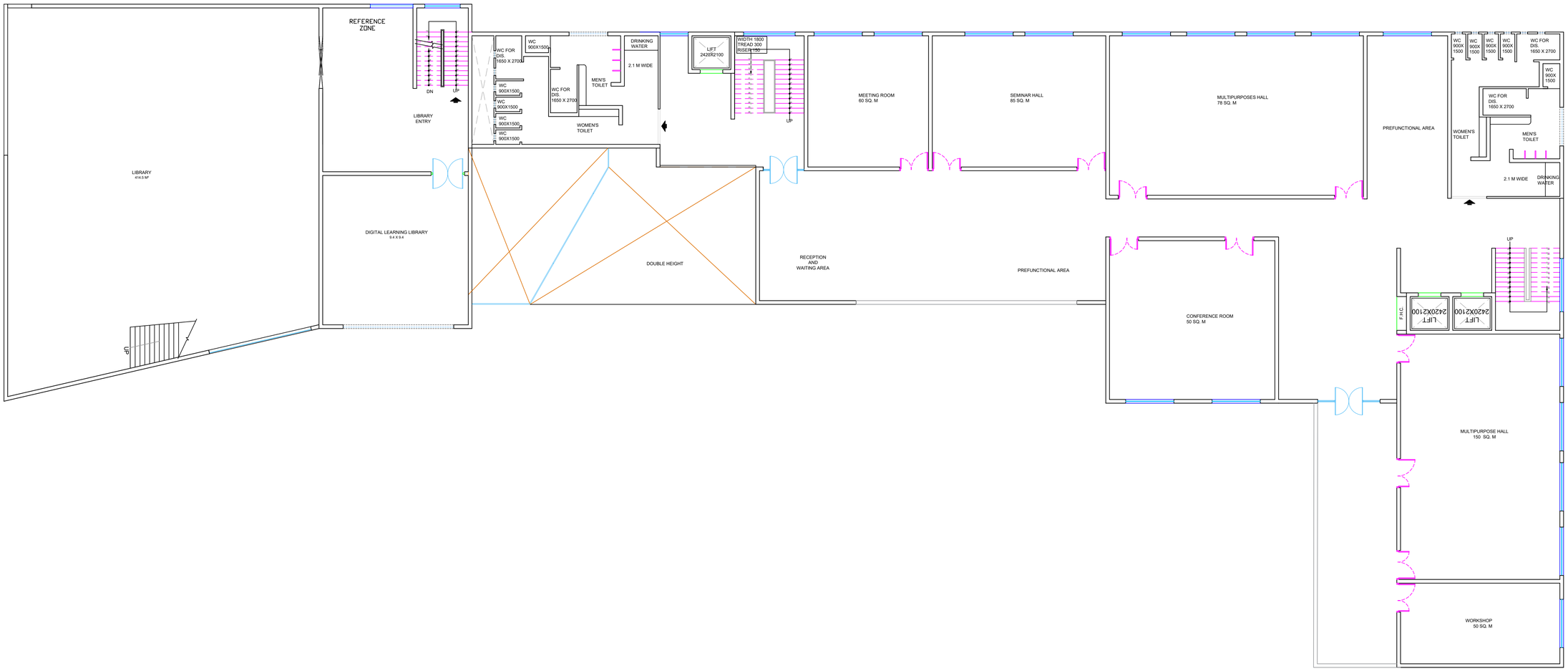

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LIBRARY CUM LEARNING AND SKILL CENTRE

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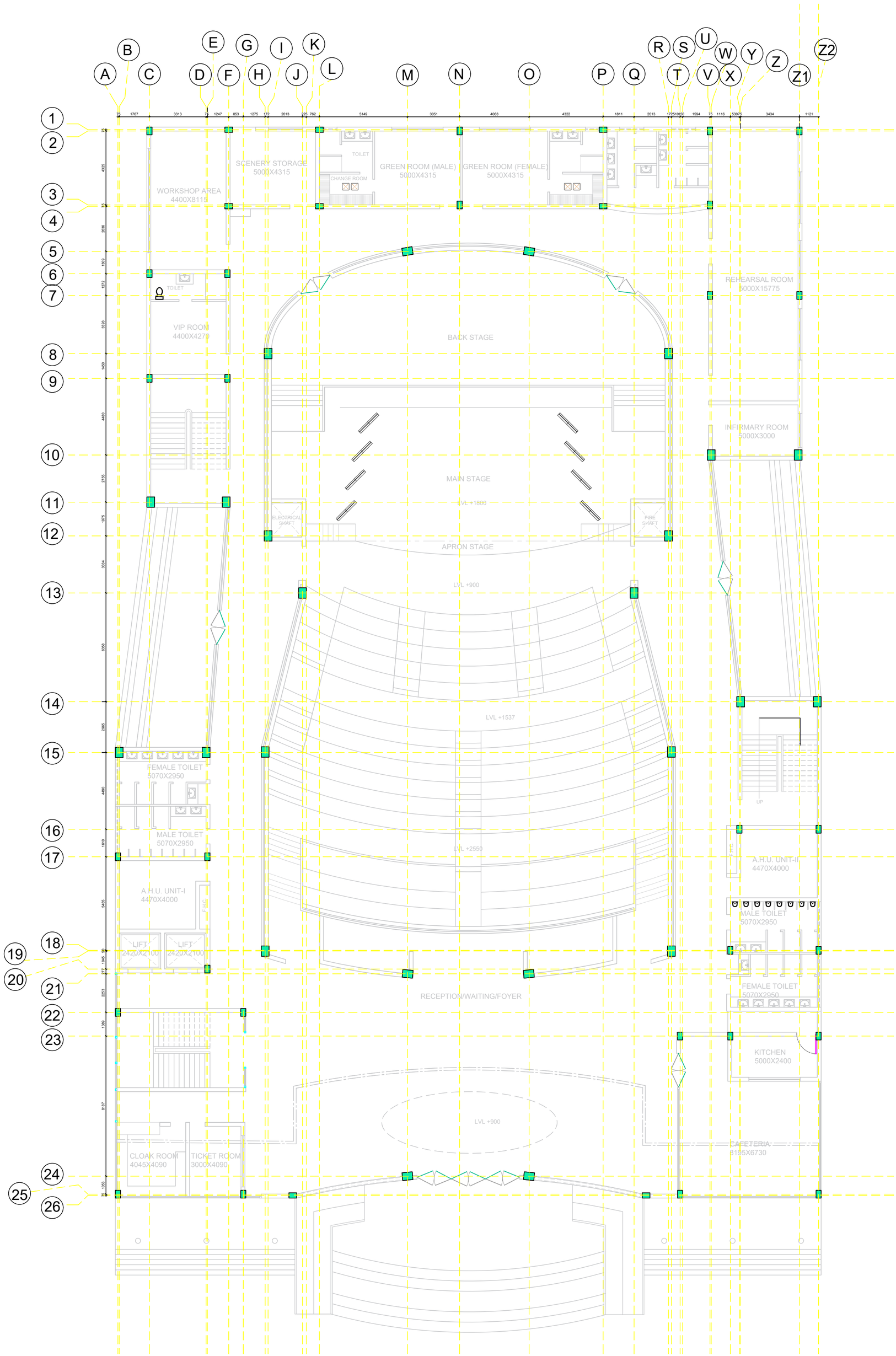

GRID COLUMN LAYOUT

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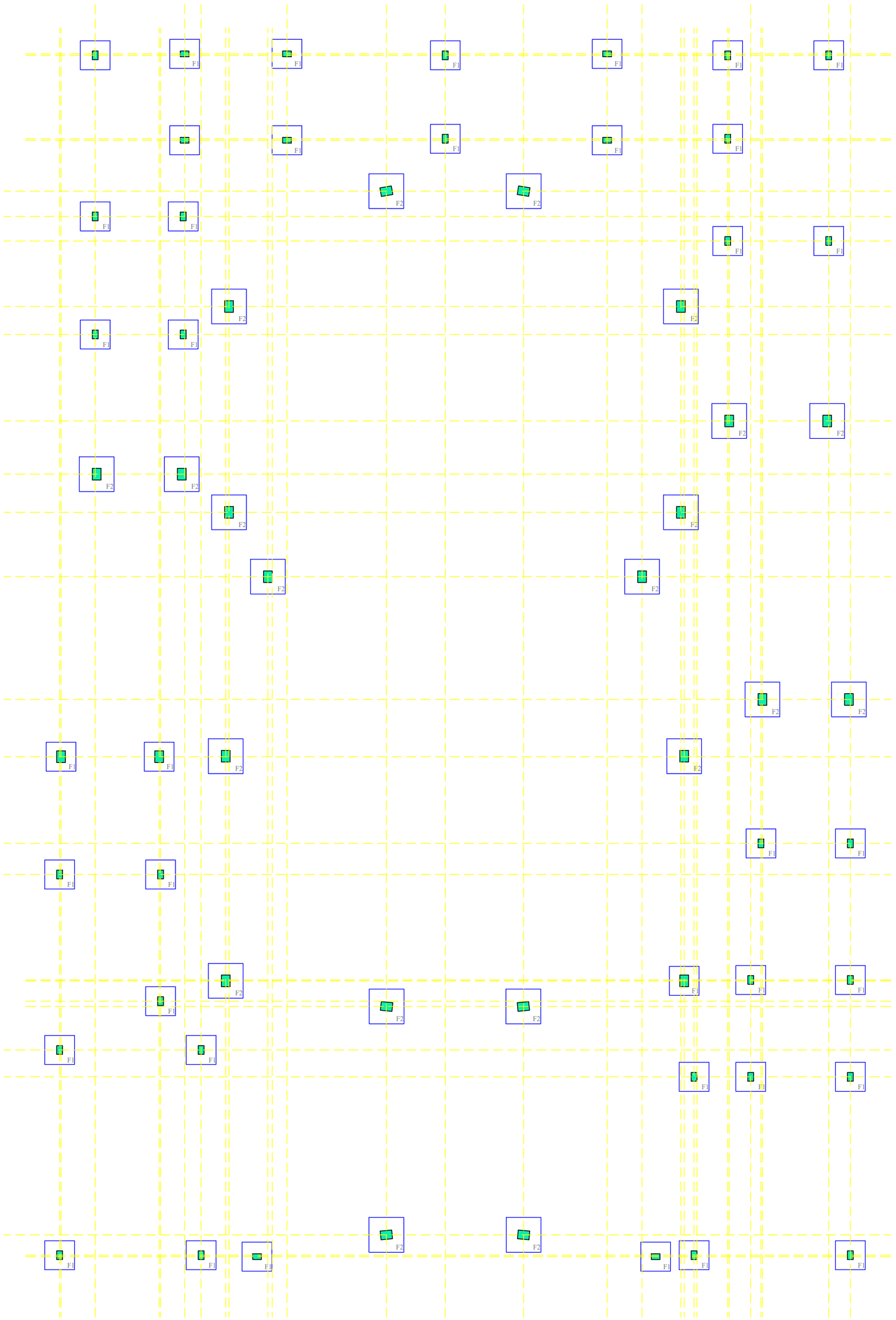

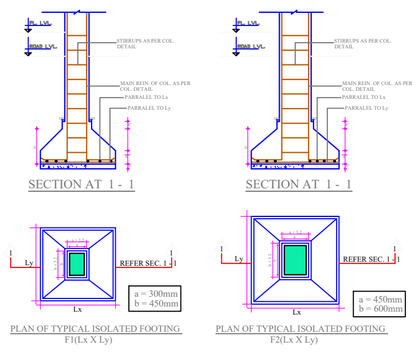

FOOTING PLAN

C1= 300x450mm

C2= 450x600mm

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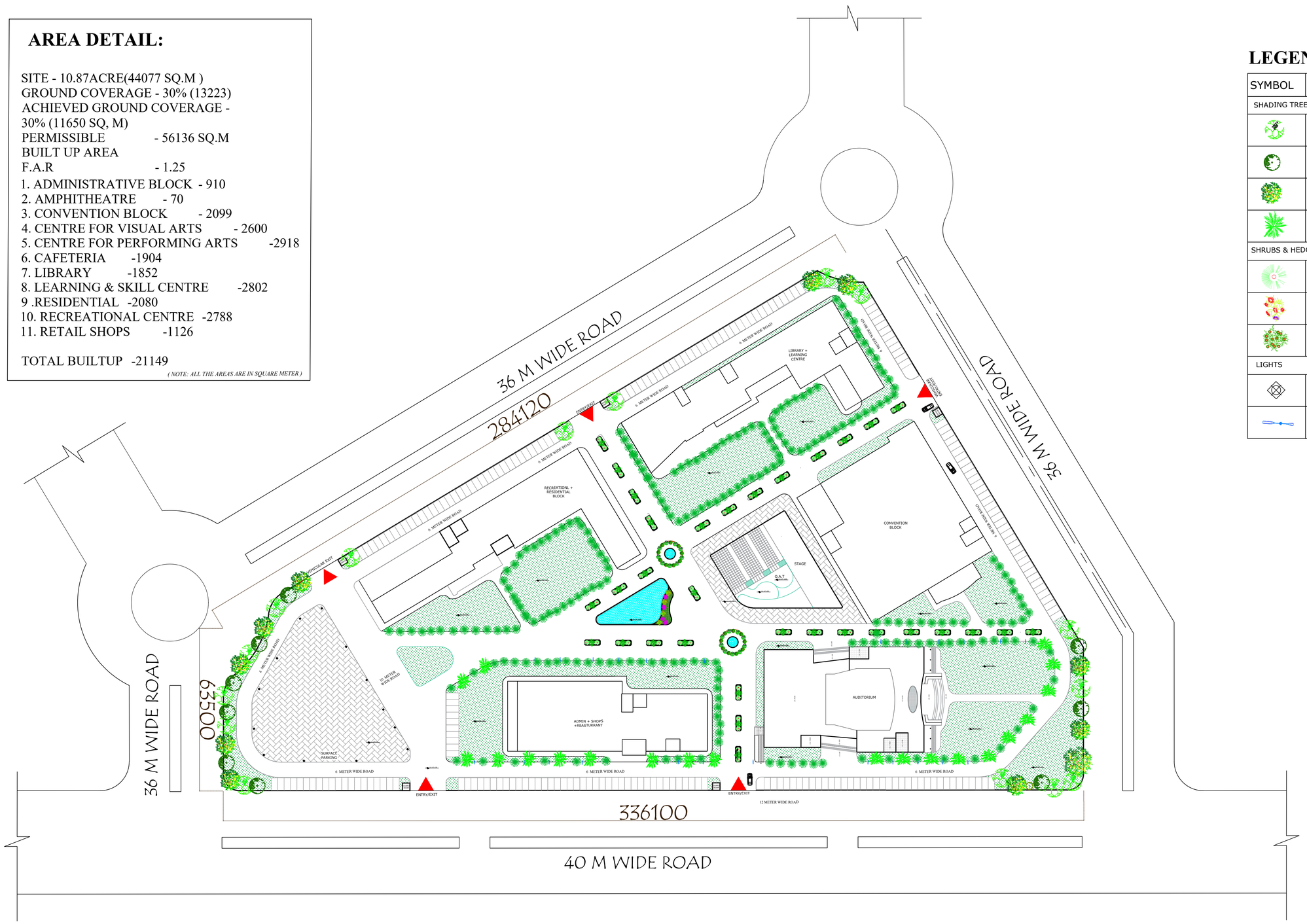
AREA DETAIL:

SITE - 10.87ACRE(44077 SQ.M)
GROUND COVERAGE - 30% (13223)
ACHIEVED GROUND COVERAGE -
30% (11650 SQ, M)
PERMISSIBLE - 56136 SQ.M
BUILT UP AREA
F.A.R - 1.25

1. ADMINISTRATIVE BLOCK - 910
2. AMPHITHEATRE - 70
3. CONVENTION BLOCK - 2099
4. CENTRE FOR VISUAL ARTS - 2600
5. CENTRE FOR PERFORMING ARTS -2918
6. CAFETERIA -1904
7. LIBRARY -1852
8. LEARNING & SKILL CENTRE -2802
9 .RESIDENTIAL -2080
10. RECREATIONAL CENTRE -2788
11. RETAIL SHOPS -1126

TOTAL BUILTUP -21149

(NOTE: ALL THE AREAS ARE IN SQUARE METER)



LEGENDS:

SYMBOL	DESCRIPTION
SHADING TREES	
	NEEM TREE Azadirachta indica
	YELLOW OLEANDER Cascabela thevetia
	GULMOHAR Royal poinciana
	PALM TREE Areca triandra
SHRUBS & HEDGES	
	Golden duranta
	Tecoma capensis
	Latana
LIGHTS	
	Pole Lights
	Street lights

SITE PLAN (LANDSCAPING)

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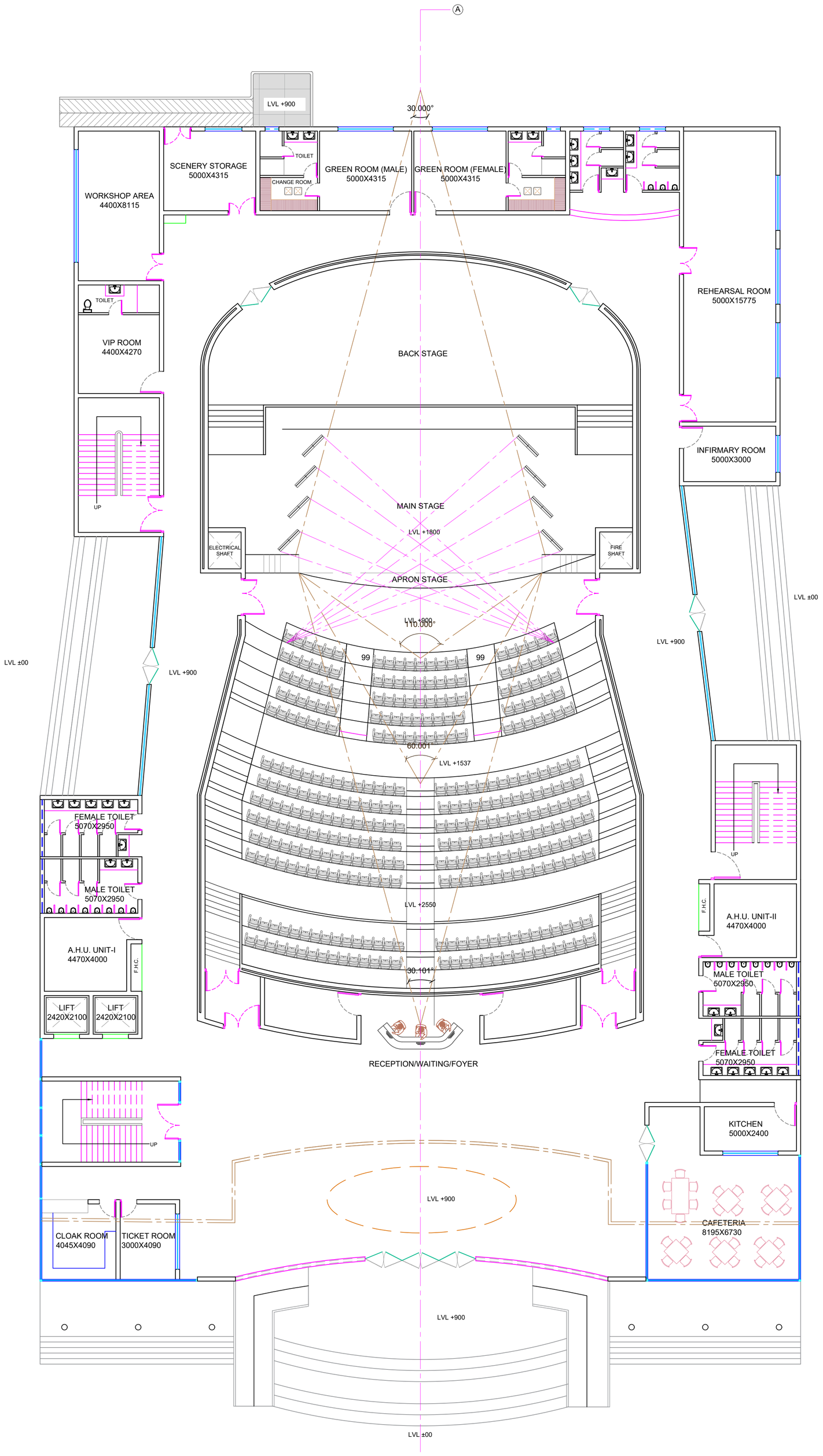

GROUND FLOOR PLAN

AREA- 2731.5 SQ. M

CENTRE FOR PERFORMING ARTS

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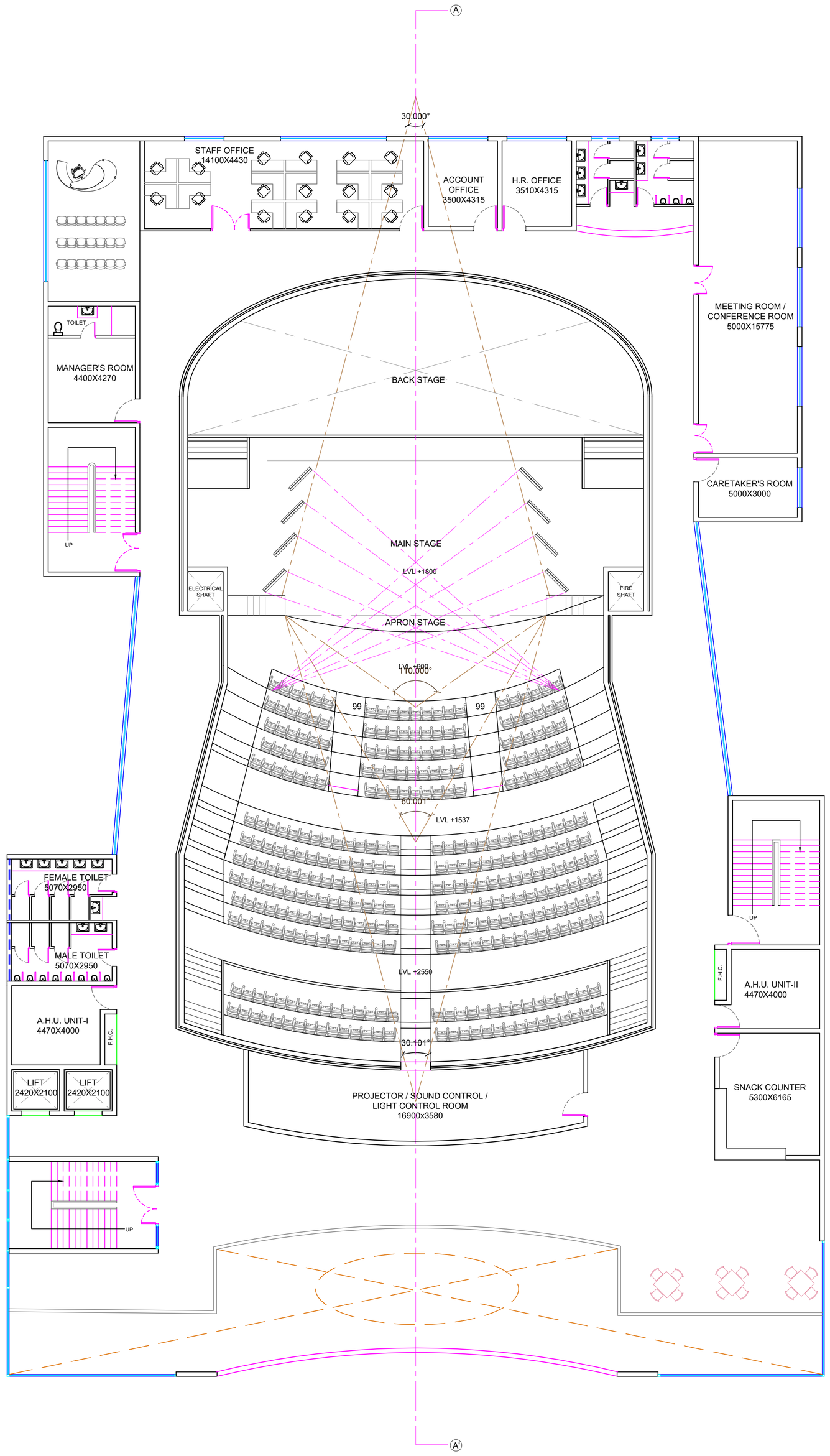

FLOOR PLAN
AT LVL +4500

FIRST FLOOR PLAN

AREA- 2731.5 SQ. M

CENTRE FOR PERFORMING ARTS

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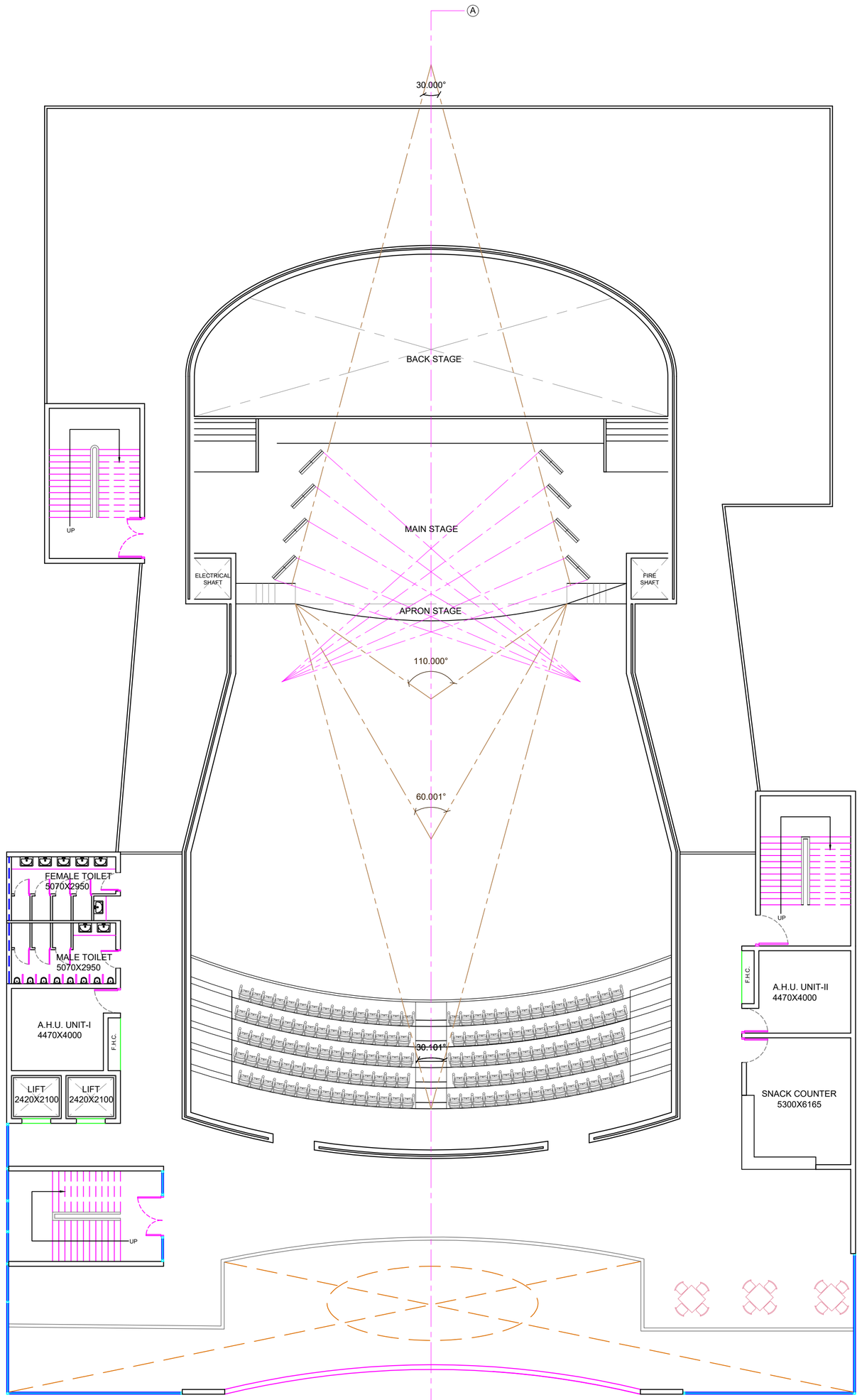
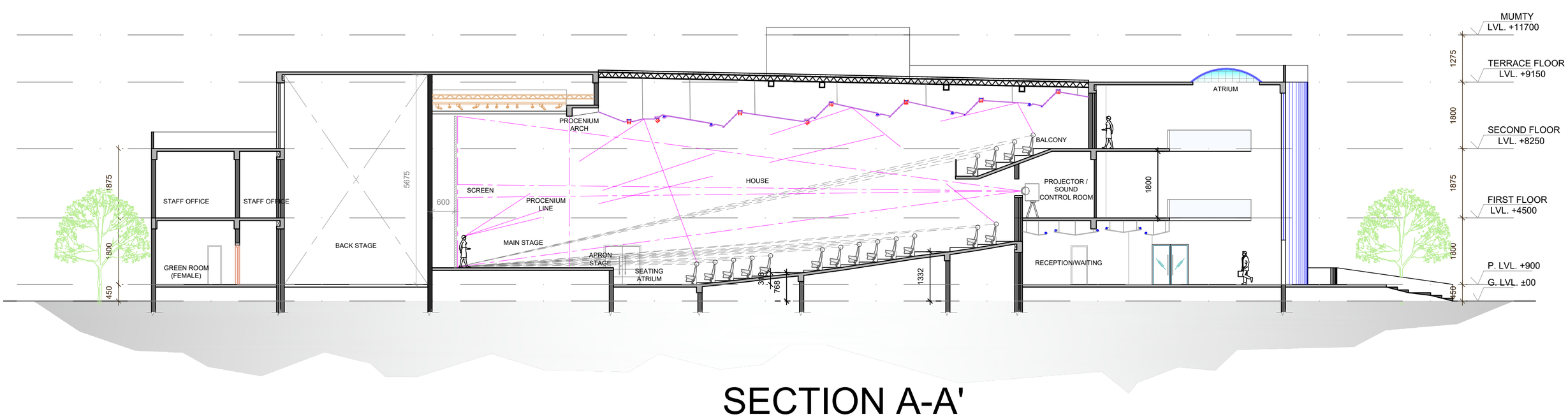


FLOOR PLAN
AT LVL +9150

SECOND FLOOR PLAN

AREA- 2731.5 SQ. M



SECTION A-A'

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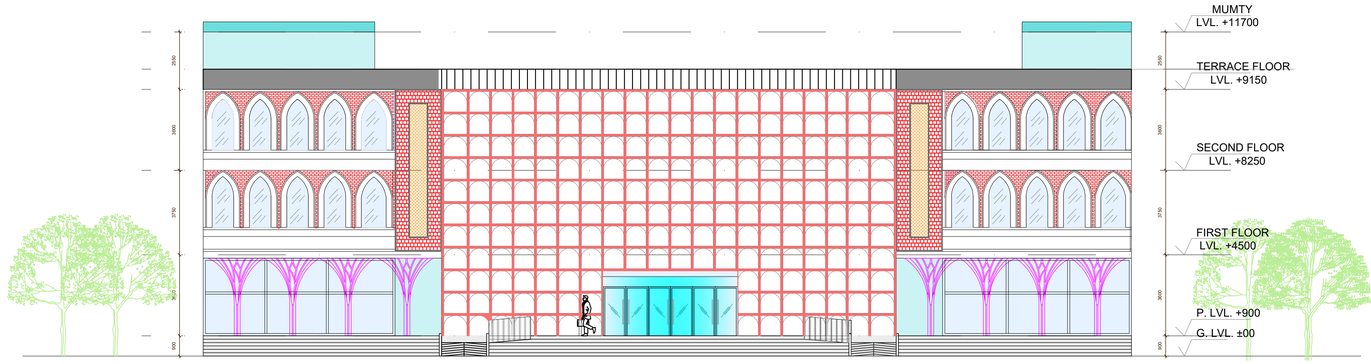
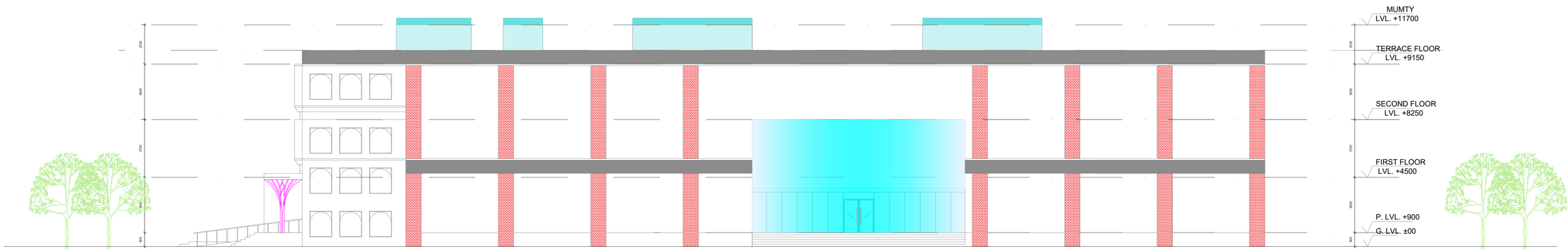


FRONT ELEVATION



SIDE ELEVATION

CENTRE FOR PERFORMING ARTS

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GROUND FLOOR PLAN

RECREATIONAL CUM RESIDENTIAL BLOCK

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FIRST FLOOR PLAN

RECREATIONAL CUM RESIDENTIAL BLOCK

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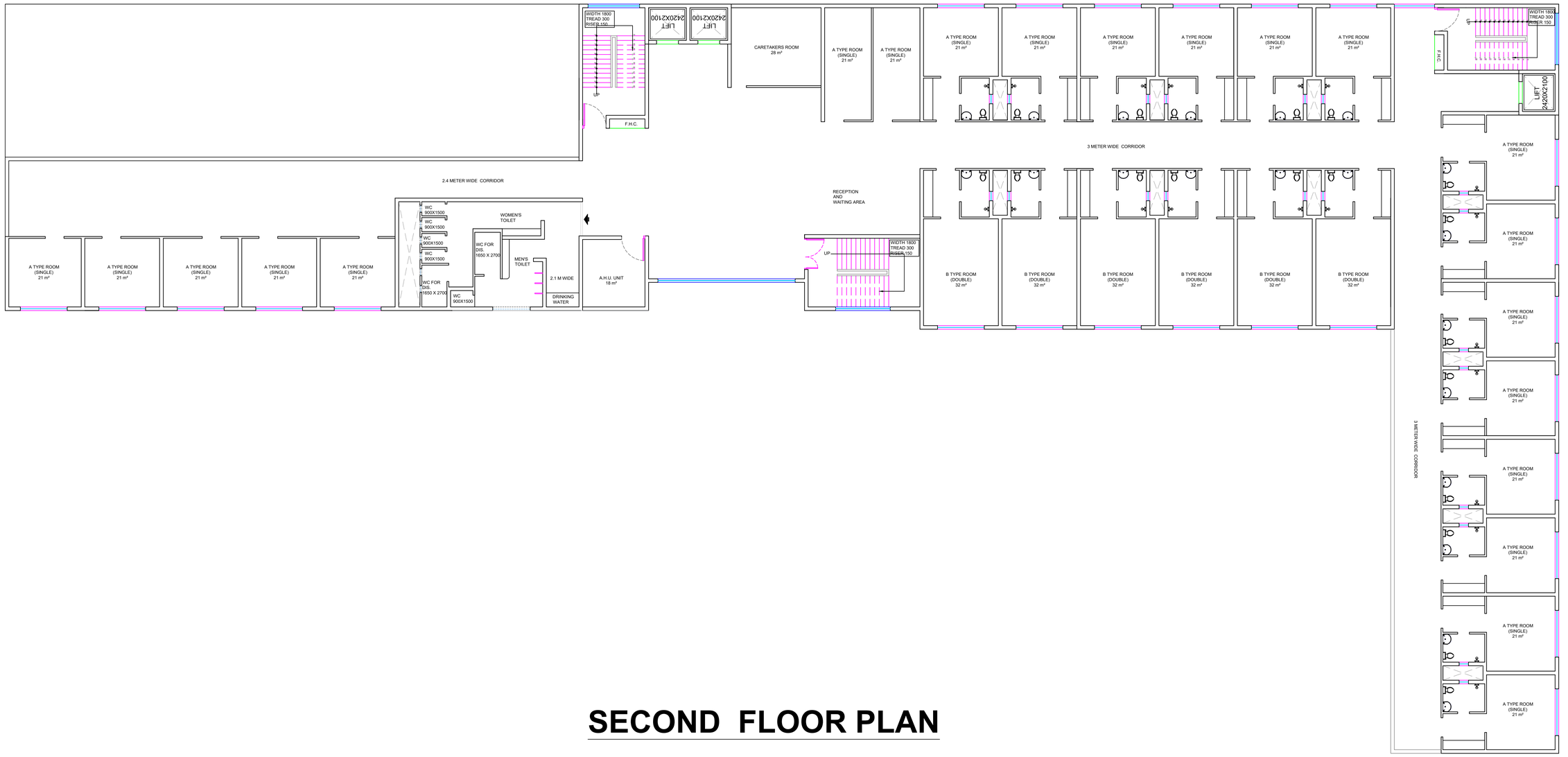

SECOND FLOOR PLAN

RECREATIONAL CUM RESIDENTIAL BLOCK

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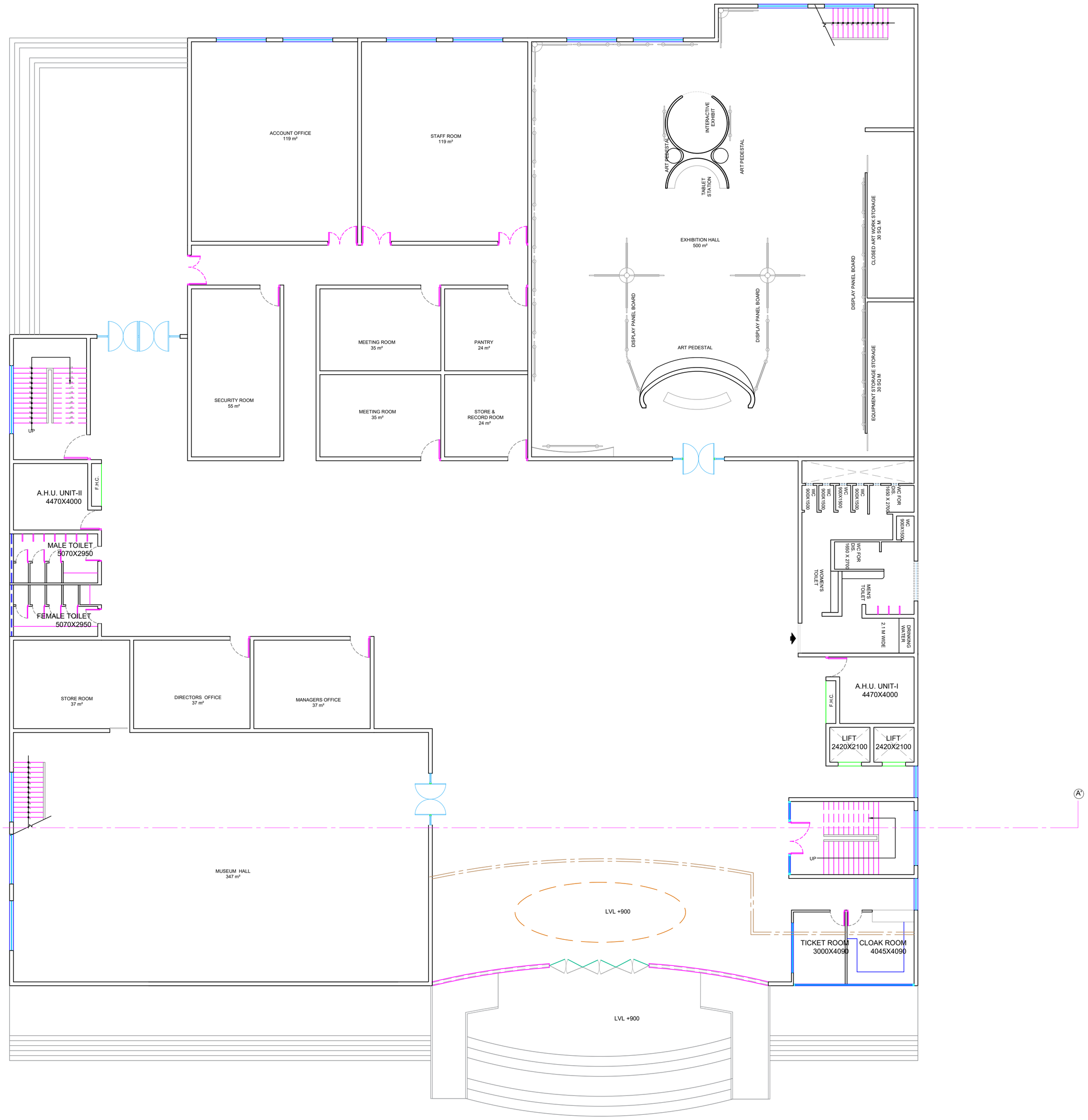

GROUND FLOOR PLAN

CENTRE FOR VISUAL ARTS

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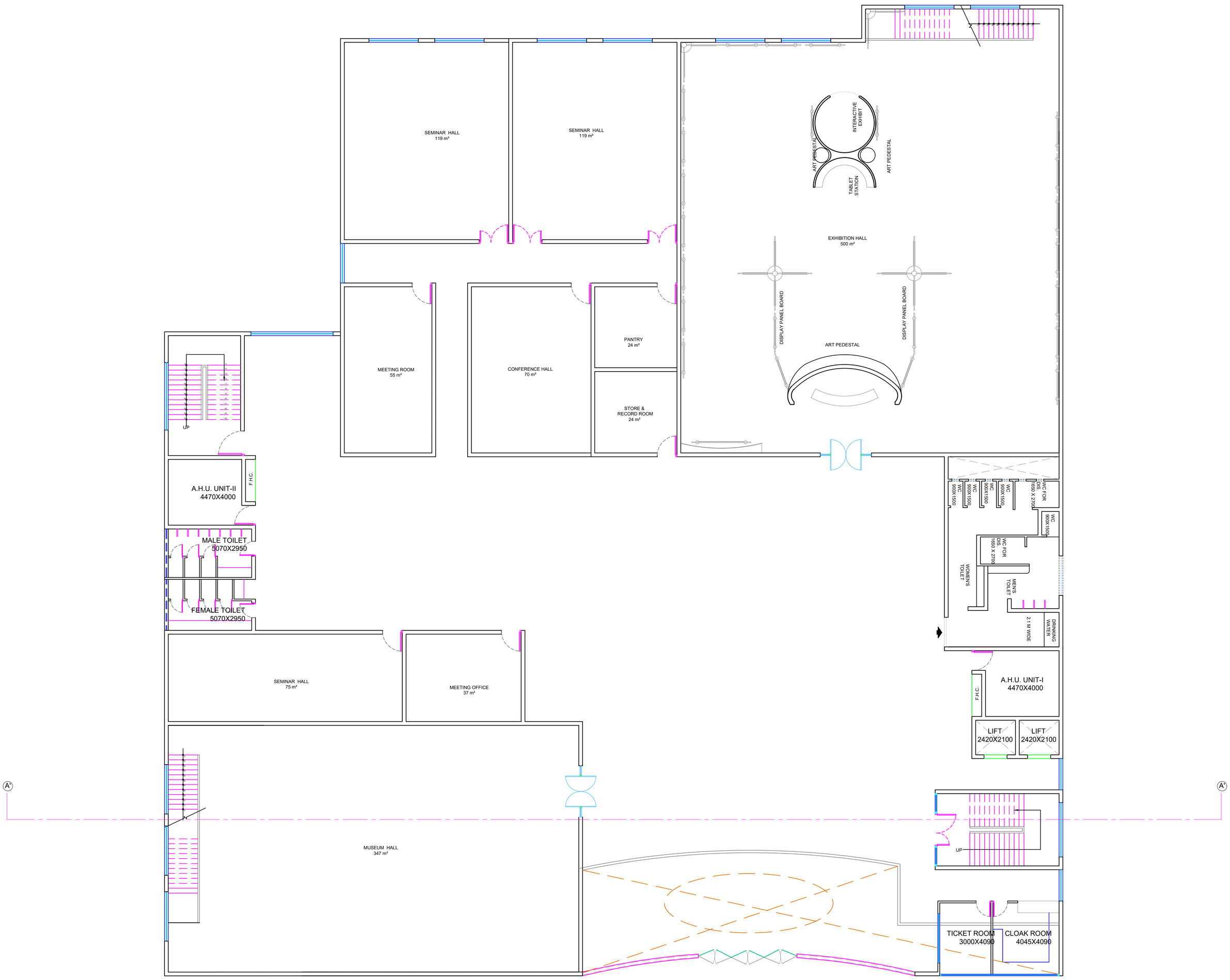

FIRST FLOOR PLAN

CENTRE FOR VISUAL ARTS

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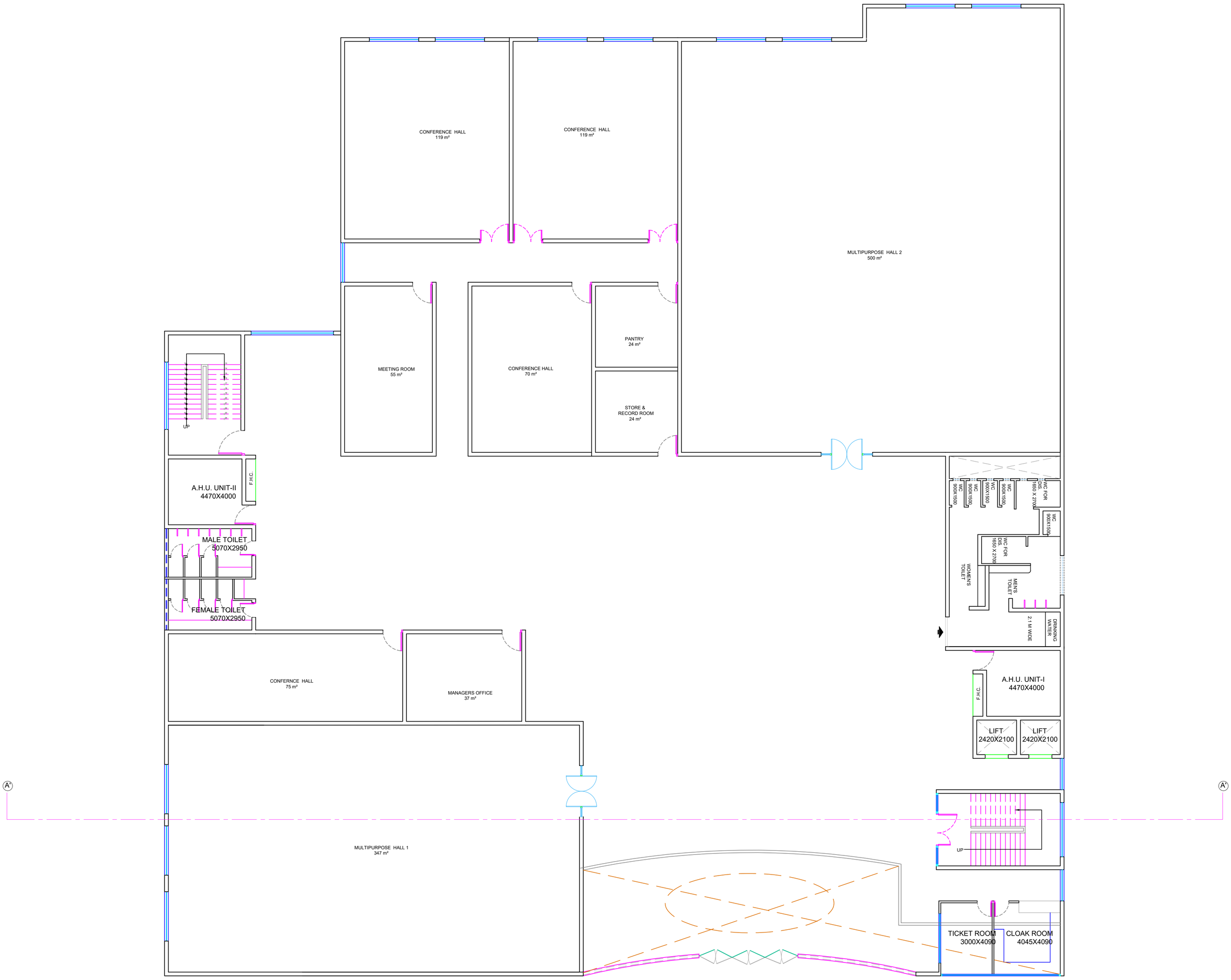
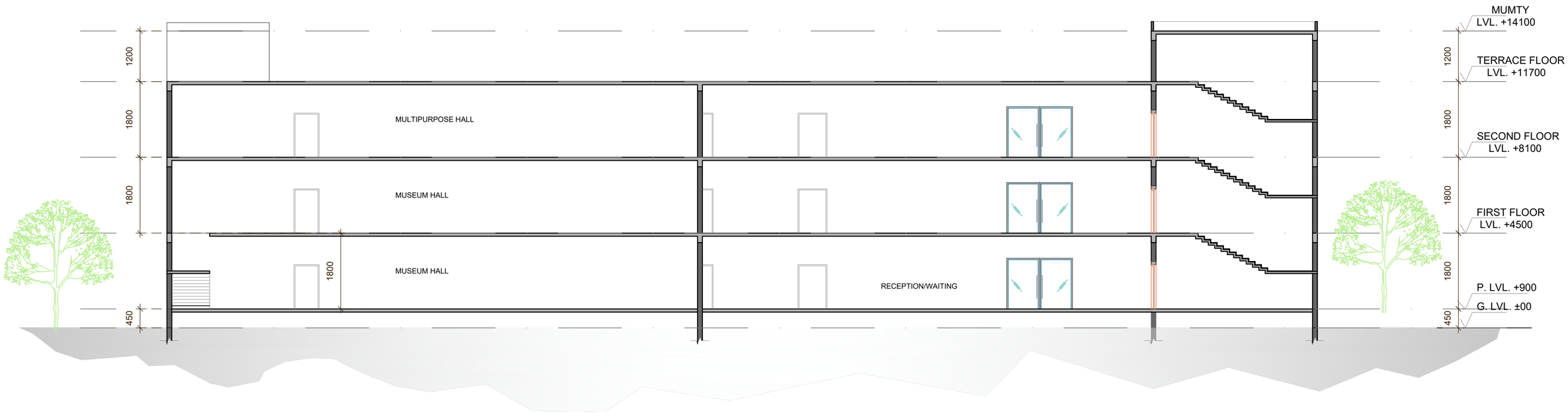


SECOND FLOOR PLAN



SECTION A-A'

CENTRE FOR VISUAL ARTS

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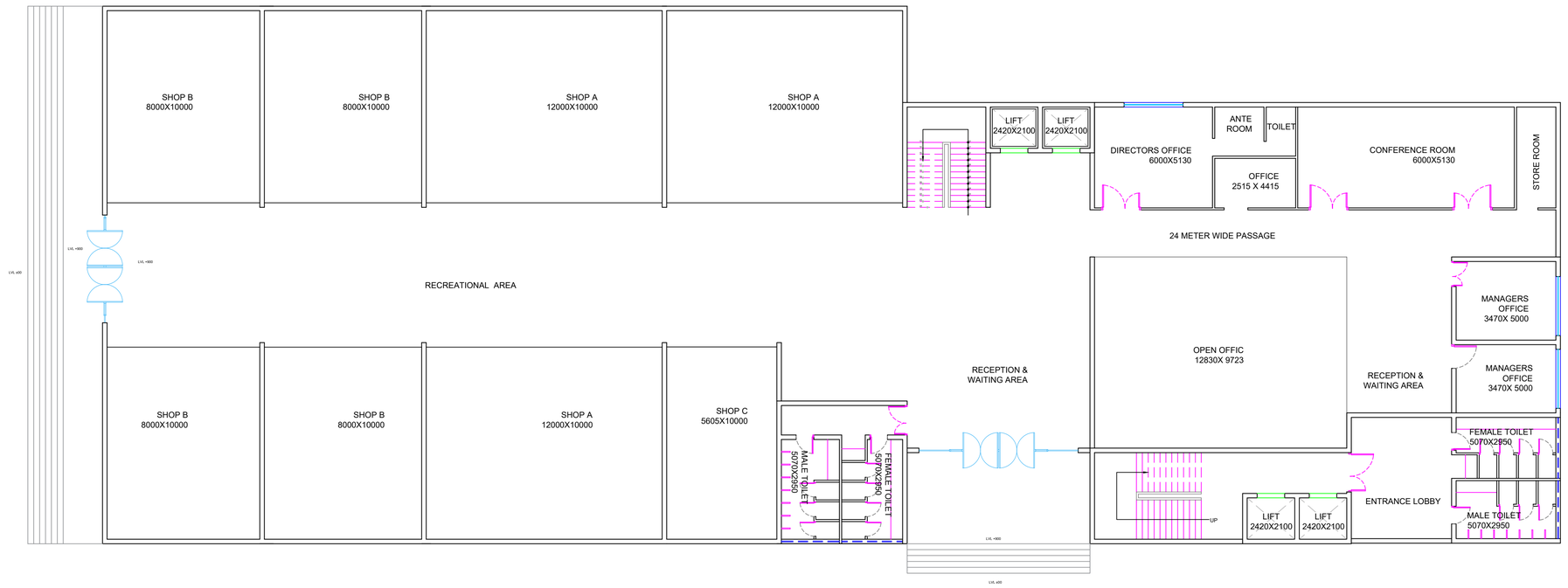

ADMINISTRATION BLOCK CUM SHOPS CUM REASTURANT

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