ARCHITECTURE THESIS
REPORT 2019-20

CONVENTION CENTRE SECTOR 25 DWARKA, NEW DELHI

A Thesis Submitted
in Partial Fulfillment of the
Requirements
for the Degree of

BACHELOR OF ARCHITECTURE

in
ARCHITECTURE

by

AKASH GUPTA
(Enrollment No.- 1150101007)

UNDER THE SUPERVISION OF
PROF. KESHAV KUMAR

SESSION – 2019-2020

TO THE SCHOOL OF ARCHITECTURE
BABU BANARASI DAS UNIVERSITY
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ACKNOWLEDGEMENT

First and foremost gratitude towards the almighty "**GOD**" for his blessings.

I am thankful to **AR. ANSHUL SINGH** and all my faculty members who have been extremely co-operative since the very beginning and who helped me to utilize my skills and creativity to the utmost.

Sincere thanks to **Ar. URVASHI DIXIT and Ar. SHAILESH KUMAR YADAV** (Thesis Co-ordinator), who left no stone unturned to shape our thesis in the best possible way and also for his untimely help whenever required.

I express my deepest gratitude to my thesis guide **PROF. KESHAV KUMAR**, for his valuable dispassionate guidance, critical discussions, suggestions and continuous support all through my B.Arch thesis.

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I would like to thank all my family and friends specially **VIKAS, HARSH,** for their support during my thesis as well as the whole 5 year of study.

At last but not the least, I have no words to express my gratitude for the love and affection of my parents and my family who gave me support at every step of my life. So, this thesis is dedicated to them.

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8. The contents of the thesis have been organized based on the guidelines. YES ☐ NO ☐

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1. Introduction

Understanding the concept of convention centers, role of the MICE industry and the need for a convention center in Delhi.

1.1. Understanding Convention centers
1.2. The MICE Industry
1.3. The need for a convention center

The development of convention centers, sports facilities, and performing arts venues are increasingly being acknowledged for their role in simulating local economies and improving the quality of life of a nation's citizens. Conference and business tourism is hence a very important sector of the global tourism industry. The booming convention market necessitates creation of not merely a convention center but a convention destination with exhibition facilities, shopping plazas, cluster of hotels, backward-forward linkages with international airports, mass transit systems ad adequate parking.

1.1. Understanding convention centers:

A convention center is a large building that is designed to hold a convention where individuals and groups gather to promote and share common interests. A convention center is designed, in most cases, for the purpose of conducting meetings, rallies, or seminars. It may also be adapted for specific events, such as appearances by well-known speakers or musicians. In some cases, meetings or other events take place in centers or buildings not specifically designed for conventions, but large enough to accommodate attendees.

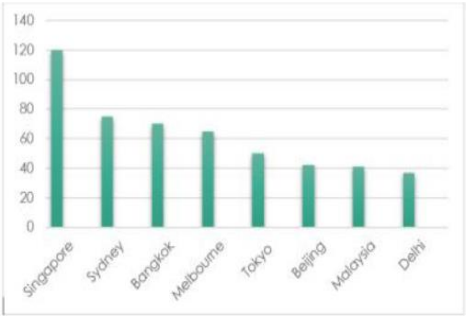
Convention centers receive guests from local, national and international mar kets. The various market segments that visit these facilities are dictated by the types of events that are hosted.

1.2.The MICE Industry:

MICE is a type of tourism in which large groups, usually planned well in advance are brought together for a particular purpose. MICE is an acronym for the Meetings, Incentives, Conventions and Exhibitions tourism segment.

This is therefore a business-oriented segment, involving obligatory (or non-discretionary) travel. The Incentives part of MICE is the odd one out - though it is related to business, as it is usually provided to employees or dealers/distributors as a reward, it tends to be leisure based.

1.3. Need for a convention center:



Delhi has a 35% share of the international conventions and meetings being hosted in India. It hosted 37 international conventions in 2003 out of a total of 101 international conventions hosted in India. It hosts approximately 110 exhibitions, 525 major conventions and nearly 11.000 conferences every year.
The supply in Delhi is characterized by the following:

- Stand-alone convention or exhibition center like Vigyan Bhavan and Pragati Maidan.
- Five-star and four-star hotels

Industry association facilities like FICCI auditorium, PHDCCI auditorium as well as other facilities like Indian Habitat Center.

None of these centers can cater to all kinds of MICE events, some host exhibitions and others host conferences and banquets. Though Pragati Maidan offers convention facilities, however it has not developed a key convention destination due to small size of convention halls and poor quality of other facilities available.
The largest convention hall has a seating capacity of 200 people. There is a clear lack of integrated convention and exhibition center of global standards in Delhi. The breakup of conferences and meetings across key convention centers in Delhi has been presented in Table 2.

1.3.1. Characteristics of Delhi market:

Delhi has its own unique climate and culture that impact the timing of the conventions and exhibitions held in the city. Given the extreme heat experienced by Delhi during April-August, the international conventions are held from September to March (the peak season). More than 70% of the domestic events are also held in these months. Trade shows also follow a distinctly seasonal pattern with the peak periods being from September to March. Nearly 75% of all exhibitions held in Delhi are hosted in the peak season.

The key parameter examined for feasibility of establishing C&EC are location demographics, air seat capacity and hotel room availability. Delhi is only second to Mumbai with regard to availability of hotels and air seat capacity. This makes Delhi one of the best locations in India to host conventions and exhibitions.

2. Project Description

Introducing the proposed project and the client. Brief objectives of the prompters and the user groups of the project.

2.1. Project proposal
2.2. Project location
2.3. Objectives of the promoter
2.4. Project attributes
2.5. User groups
2.6. Methodology adopted

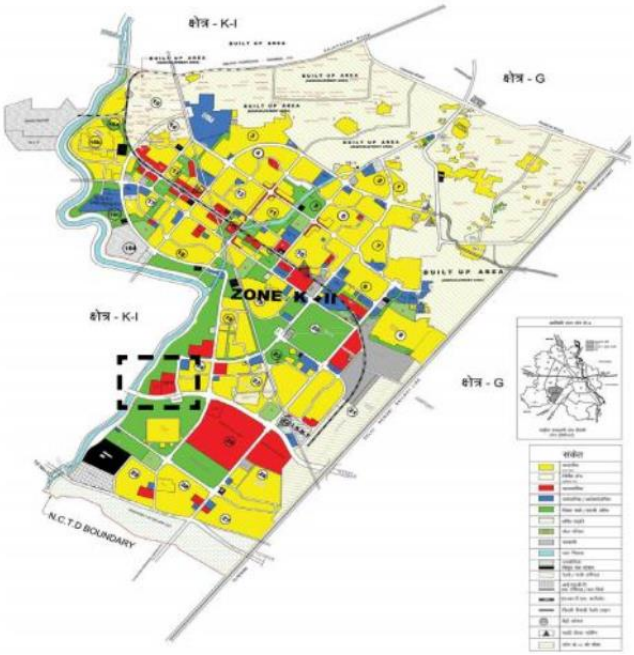
2.1. Project Proposal:

The proposed convention center project is to be located in Dwarka, one of the fast growing urban sub-cities located in southwest Delhi. This integrated state-of-the art convention center and exhibition center has been proposed by the DDA (Delhi Development Authority).

2.2. Project Location:

DDA has proposed an convention center in sector 25 (near DhulSiras village), Dwarka,New Delhi.

The area for the proposed site is 15.2 acres and is an Irregular quadrilateral surrounded by roads on 2 sides. The proposed site is also in proximity to the international airport.



2.3. Objectives of the promoters:

- The project shall create and operate a commercially successful convention center.
- It shall improve the region's ability to attract large international and national conventions.
- It shall create an exciting, commercially successful convention center hence Improving the regions ability to attract revenue regenerating conventions.
- Operating an integrated convention facility accommodating different needs for a variety of user groups.

2.4. Project Attributes:

The idea of international convention center has been derived from the present scenario of rapid growth of innovation, technology, art and cultures. Convention centers serve to provide a location for meetings, conventions, trade shows, public shows, the arts, and local interests.

- Typology : Commercial
- Use : Public

2.5. User Groups:

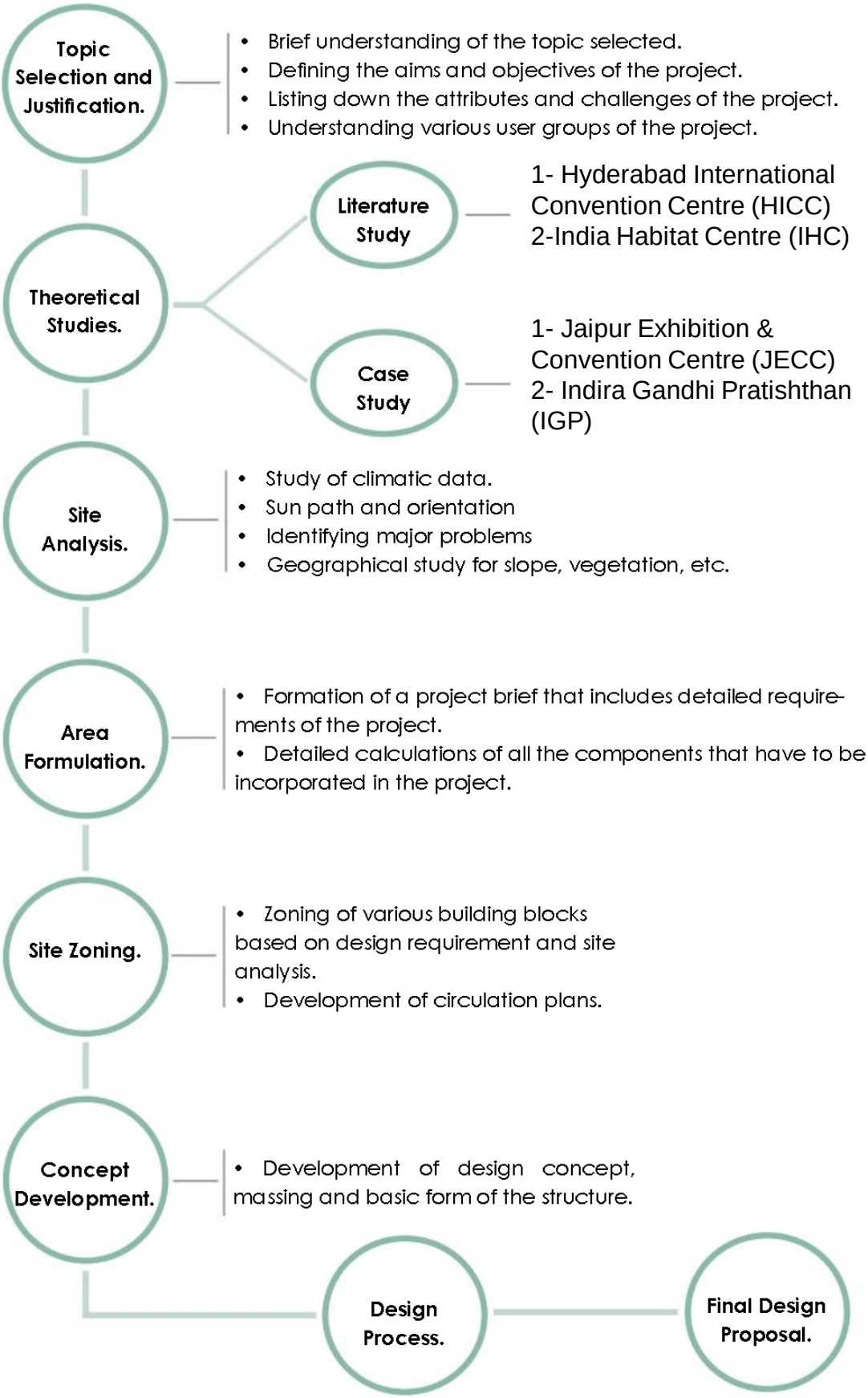
The users of the center are broadly classifies into 3 major types:

- **The delegates:**
  - These are the group of people who form the major part of the convention center.
  - People from both national and international backgrounds are a part of this user group

- **The exhibitors:**
  - They are the reason for the delegates to attend various conventions and exhibitions.
  - People from all over the country gather to promote their respective event.
  - The exhibitors may also be local craftsmen who are allowed to setup temporary shops.

- **The staff:**
  - These people form the backbone of the convention center.
  - They take care of all the needs of nth the delegates as well as the exhibitors who are new to the place and a guest at the convention center.
  - The building must cater to their needs along with catering to the direct users of the building.

2.6. Methodology adopted:



3. Theoretical Study:

3.1. Understanding Conventions:

A convention is a gathering of individuals who meet at an arranged place and time in order to discuss or engage in some common interest. Conventions are often planned and coordinated by professional meeting and convention planners, generally by staff of the convention's hosting company.

Most large cities will have a convention center dedicated to hosting such events.

The term MICE – meetings, Incentives, Conventions and exhibitions - is widely used in Asia as a description of the industry.

3.2. Types of conventions:

The most common conventions are based upon industry, profession, and fandom. Along with them.

- **Trade conventions:** It typically lays focus on a particular industry or in industry segment, and feature keynote speakers. vendor displays, and other information and activities of interest to the event organizers and attendee
- **Professional Convention:** They focus on issues of concern to the profession and advancements in the profession. Such conventions are generally organized by societies dedicated to promotion of the topic of Interest.
- **Fan Conventions:** They usually feature displays, shows, and sales based on pop culture and guest celebrities.

- **Seminars:** They are meetings organized to inform a group of people about a specific topic, or to teach a specific skill. Expert speakers and teachers are usually invited to speak on various topics.
- **Social events:** A large gathering organized to celebrate major life events and religious ceremonies. Common social events include: anniversaries, wed dings and birthdays.
- **Trade shows/Exhibitions:** They are an opportunity for companies to exhibit some of their latest products, as well as yet to be released prototypes to journalists as well as others in the industry

3.3. Types of conventions:

	Components	Space analysis
	Public Use	
1.	Entrance Hall	**Users:** Delegates, performers and staff. **Description:** 1. The major connectivity between the various components of the convention center. 2. It acts as an ideal space for delegates to network. 3. Spaces like information kiosk and waiting lounges form a part of the entrance hall.
2.	Registration Center	**Users:** People taking part in various conventions **Description:** 1. It acts as a space where people attending various events register themselves.
3.	Toilets	**Users:** All occupants. **Description:** 1. The size and quantity of the toilets to be provided shall be decided in accordance to NBC standards. 2. They shall be provided for peak capacity.
4.	Exhibition Halls	**Users:** All occupants **Description:** 1. Trade relative promoters take part in the trade shows to promote their products. 2. Large span structures and column free spaces are required for these promotions. 3. Crowd management of such components becomes necessary.
	Semi Public Use	
1.	Auditorium / Plenary Hall	**Users:** Performers, delegates and local people. **Description:** 1. The purpose of the auditorium is to accommodate large scale gatherings for various events like dance, drama and delegations. 2. The design of the auditorium shall be evolved in accordance to various standard guidelines subjected to auditorium design.
2.	Conference Rooms	**Users:** Delegates and staff **Description:** 1. They hold meetings and small company training sessions for 20-30 people.

3.	Seminar Rooms	**Users:** Delegates and staff. **Description:** 1. They are ideal for small-scale events like workshops, training sessions, press conferences, etc. 2. They are large enough to seat attendees in theatre configurations ranging from 50-200 people.
4.	Public amenities	Users: Delegates Description: 1. They include smoking lounges, ATM's, phone booths, etc. 2. Only people attending any event in the convention center shall have an access to these amenities
	Private Use	
1.	Administrative offices	Users: Staff of the convention center Description: 1. It contains offices for the convention center which handles the general functioning of the bus terminal.
2.	Control room	Users: Staff Description: 1. The control room will monitor the overall functioning of the convention center.
	Service Areas	
1.	Parking	Users: Anyone visiting ICC. Description: 1. Car and bus parking as per norms laid by NBC and DDA.
2.	Loading Docks/ Bays	Users: Staff Description: 1. They form a crucial part for loading/ unloading purpose in the exhibition pavilions.
3.	Service Block AC Plant room; Electrical substa; Maintainenece Deptt.	Users: Staff
3.	Back of House : The Kitchen	Users: Staff Description: 1. It shall serve all the events hosted by the convention center.

4. Space standards:

Segregation of the public movement pattern and the details of the anthropometric standards of the various components of the project.

4.1. Public movement pattern for convention centers
4.2. The auditorium
4.3. Conference rooms
4.4. Exhibition galleries
4.5. Restaurants
4.6. Fire norms by NBC
4.7. Vertical circulation
4.8. Parking

4.1. Public movement pattern for convention centers:

Communication and functionality can be improved by implementing efficient circulation patterns in a convention center. People visiting or working in a convention center can be divided into 5 broad user categories:

- Public flow
- Delegate flow
- VIP flow
- Journalist flow
- Staff flow

4.1.1. Delegates flow:

Delegates form the most important group of users for a convention center. The parking shall lead them to the main entrance foyer which further directs them to their destination. An unobstructed delegate movement is very important.

4.1.2. Public flow:

Dignified personalities are invited depending on the nature of confer hence. It can also have relatives and public guests invited by the organization. The public guests also have access to the exhibition areas and hence these areas shall a separate access to manage the public flow during peak hours efficiently.

4.1.3. VIP flow:

They shall either directly lead to the dais of the main hall or shall enter through the VIP entrance which is connected to a VIP lounge.

4.1.4. Staff flow:

The staff can be divided into two categories namely the technical staff who are responsible for the efficient working of the convention center while the others are the administrative staff who are exposed to the people coming to the center. The paths of the technical and administrative staff diverse at the staff entrance.

4.1.5.Journalist flow:

It includes press people, cameraman and diplomats. They shall have a direct access to the documentation center and the TV studio of the convention center.

4.2. The Auditorium:

The three-dimensional volume of an auditorium is conditioned by the need for all members of the audience to be able to see the whole of the platform or stage; and to hear the actor, singer, musician or speaker. Seating density, floor rake and seating layout are partly determined by this partly to give the audience an appropriate level of comfort and essentially to ensure a means of escape in an emergency, such as a fire, within the time required by safety considerations and by legislation.

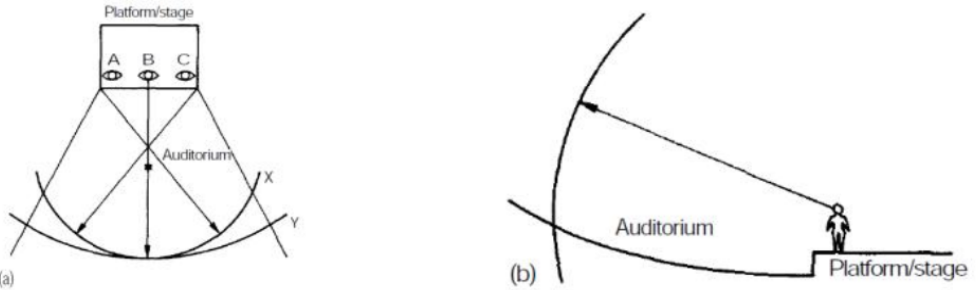


Figure 5: Visual and aural limitations: (a) Plan: for a performer at centre stage B there is an arc Y beyond which visual and aural perceptions are impaired. However, for performers nearer the sides of the stage at A and C produce more restrictive curves X. (b) Section: Similarly, visual and aural limits in section also set an arc centred on the performer.

4.2.1. Seating:

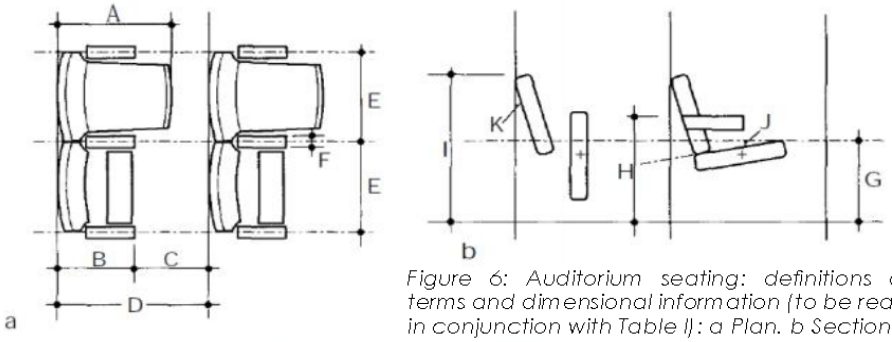


Figure 6: Auditorium seating: definitions of terms and dimensional information (to be read in conjunction with Table I): a Plan. b Section

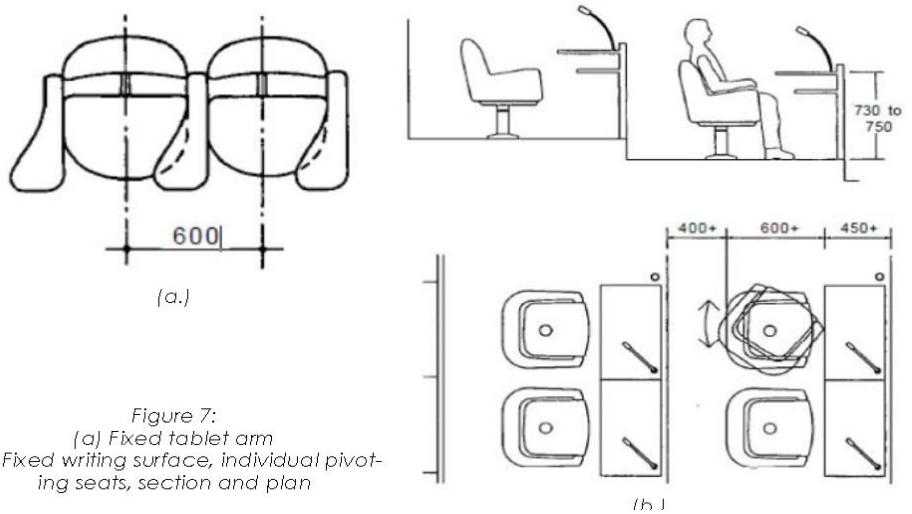
Dimension	Description	Minimum(mm)	Maximum(mm)	Drawnn as
A	Overall seat depth	600	720	650
B	Tipped seat depth	425	500	450
C	Seatway	305	-	400
D	Back to back seat spacing	760	-	850
E	Seat width for seat with arms	500	750	525
F	Annrest height	50	-	50
G	Seat height	430	450	440
H	Armrest height	600		600
I	Seatback height	800	850	800
J	Seat inclination	17	9	7
K	Back inclination	15	20	15

Table 1 : Dimension of auditorium seats

- **Writing surface:**

Conference use may require a writing surface for note-taking. The writing surface may be:

- A tablet fixed to each seat, 20.10
- A fixed table with fixed pivoting or sliding seat. 20.13.



(a.)

(b.)

Figure 7:
(a) Fixed tablet arm
(b) Fixed writing surface, individual pivoting seats, section and plan

4.2.2. Auditorium Design:

- **Audience requirements:**

Every member of the audience should be able to see and hear clearly whatever is happening on every part of the stage or platform. The greater the encirclement of the audience of platform or stage, more people can be accommodated within the aural and visual limitations up to 180° encirclement. With a full encirclement, the distance from platform or stage is restricted to six rows.

- **Number of seats in a row:**

With traditional seating the maximum number is 22 if there are gangways at both ends of the row. and 11 for gangway at one end. Rows with more than 22 seats are permitted if the audience is not thereby imperiled.

- **Row to row spacing:**

Spacing is controlled by the clearway between the leading edge of the seat and the rear of the back of the seat in front. For traditional seating the min imum clearway for people to pass along the row is 300 mm and this dimension increases with the number of seats in a row. For continental seating the clearway is not less than 400 mm and not more than 500 mm.

- **Gangways:**

As gangways are essential escape routes, their widths are determined by the number of seats served. The minimum is 1100 mm. They can be ramped up to 10%. If the seating rake is steeper. gangways must have steps extending the full width and these must have consistent treads and risers in each run.

- **Seating geometry:**

Seating is usually laid out in straight or curved rows focused towards the platform or stage. Further forms are the angled row. straight row with curved change of direction and straight rows within emphasized blocks of seats.

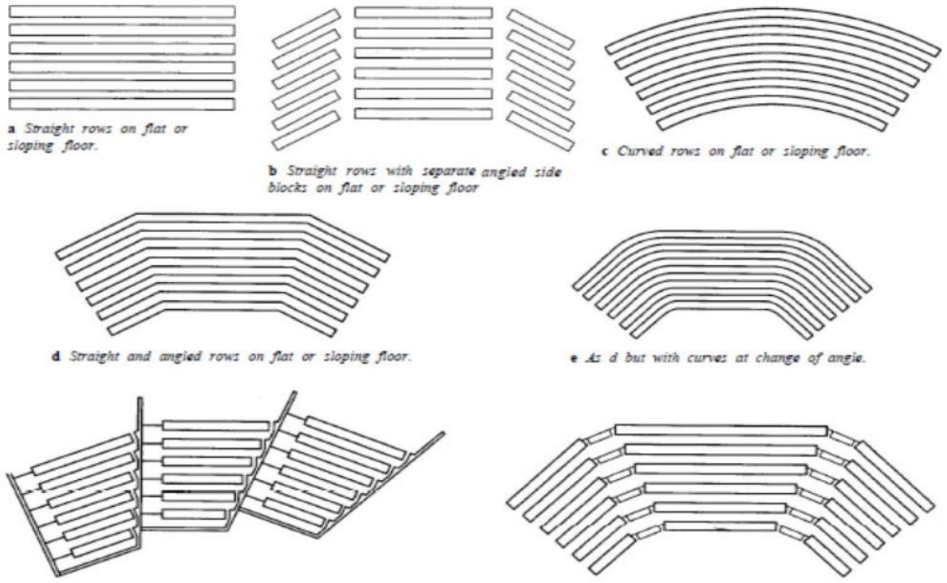


Figure 8: Alternative auditorium seating arrangement

- **Seating density:**

Seats with arms and tippable seat can occupy a space as small as 500 mm wide with a row-to-row dimension of 760 mm; but can be as large as 750 mm wide by 1400 mm. The area per seat therefore varies between 0.38 sqm and 305 sqm

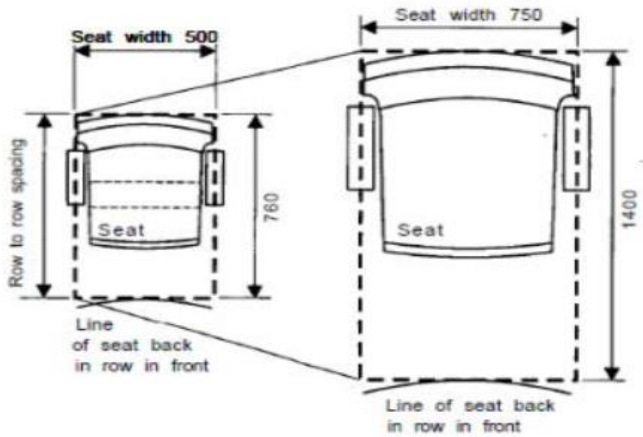


Figure 9 : Seating density, from 0.38 m^2 to 1.0.5 m^2 per person

- **Sightlines for a seated audience:**

For every member of the audience to have an uninterrupted view of the platform or stage over the heads in front and clear of overhangs the section and plan of the auditorium need to conform to certain limitations set by vertical and horizontal sight lines.

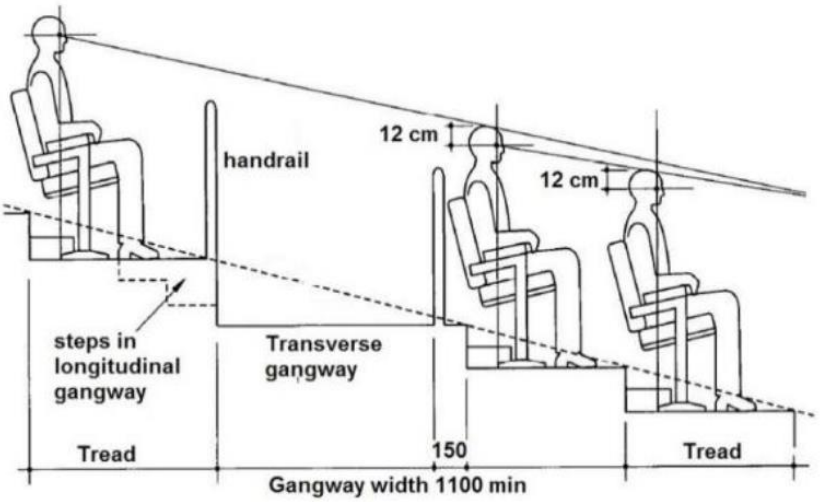
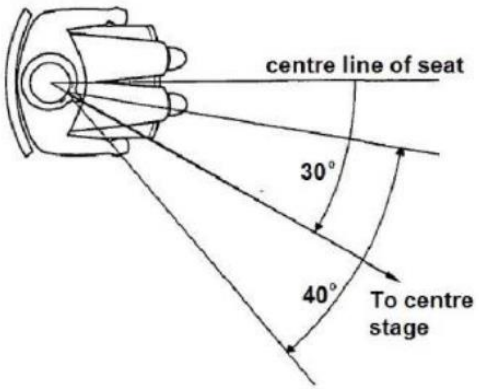
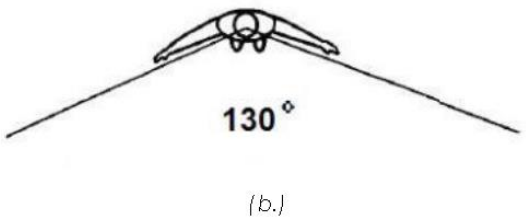


Figure 10 : Graphic representation of vertical sightlines at a transversal gangway



(a.)



(b.)

Figure 11: Horizontal Sightlines
(a.) The maximum comfortable amount the head can be turned from the seat centreline is 30°.
(b.) Horizontal sightlines of the performer

- Width of an auditorium:

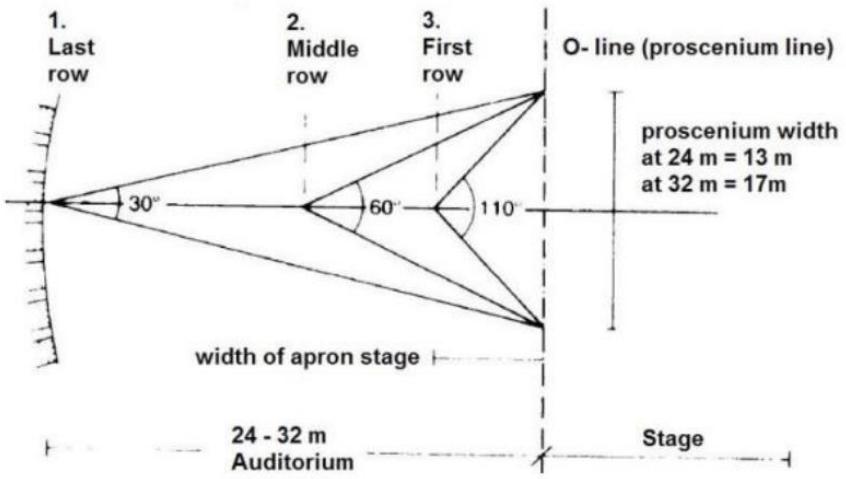


Figure 21: Determining the width of the auditorium

4.2.3. Means of escape:

- **Travel distance:**

The maximum travel distance from seat to exit within the auditorium is determined by the need to evacuate from each level of the auditorium within272 minutes. For traditional seating the maximum travel distance is 18 m mea sured from the gangway, for continental seating 15 m from any seat.

- **Exits:**

From each level of the auditorium two separate exits must be provided for the first 500 seats with an additional exit for each further 250 seats.

- Stairs:

Staircase flights should have at least two risers and not more than 16. All treads should be 275 mm and risers 180 mm.

- **Ramps:**

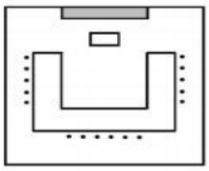
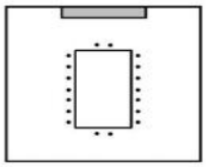
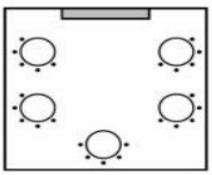
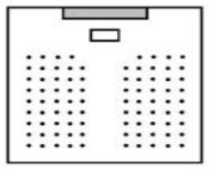
Wheelchair users should be provided with flat or ramped escape routes which may be separate from other routes. Ramps should not be longer than 4.5 m or steeper than 8.5%

Number of people	Minimum total exit widths (m)
upto 200	2.2
201-300	2.4
301-400	2.8
401-500	3.2
751-1000	6.4
1001-2000	14.4

4.3. Conference Rooms:

A conference hall or conference room is a room provided for singular events such as business conferences and meetings. Sometimes other rooms are modified for large conferences such as arenas or concert halls. Conference rooms can be windowless for security purposes.

4.3.1.Types of seating:

	Type	Description	Layout
1.	U shaped	• Seating around three sides of the room. • It is good for presentations from front. • Presentation space in the middle of the room. • Can be used for up to 50 persons. • Per seat area is 3.25m^2.	
2.	Boardroom style	• Centrally located table. • Classic layout ideal for debate and discussion. • Seating capacity 5-30 persons. • Per seat area is 3.71m^2.	
3.	Cabaret style	• All delegates facing front-center on round tables. • Large space in the middle of the room. • Ideal for small-group work. • Per seat area is 1.57m^2.	
4.	Theater style	• Used for product launches, presentations, displays. • Used to present to large numbers of dele-gates. • Can be used for 100-250 persons. • Per seat area is 0.83 m^2.	

4.3.2. Space standard:

Consideration must be given to clearances and circulation around the larger conference table, as indicated in the adjoining figure.

Type	Dimension
A	1210-1520
B	100-150
C	510-610
D	150-255
E	460-610
F	790-910

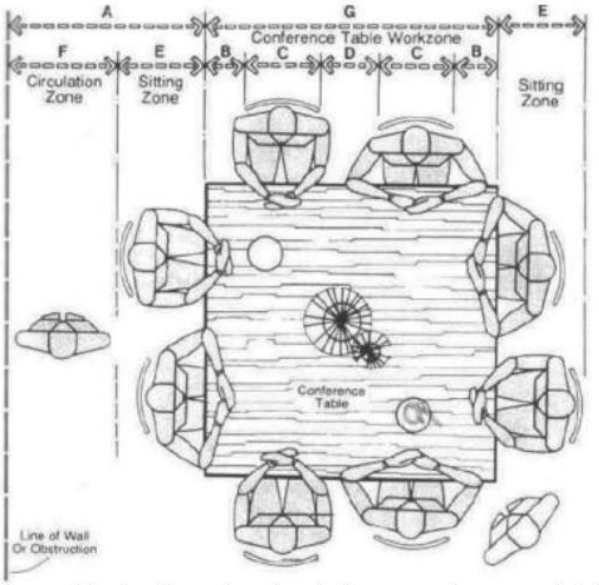


Figure 22: Seating standards for a conference table

4.4. Exhibition Galleries:

An Exhibition is an organized presentation and display of a selection of items. In practice, exhibitions usually occur within museums, galleries and exhibition halls, and World's Fairs. Exhibitions can include many things such as art in both major museums and smaller galleries, interpretive exhibitions, natural history museums and history mu museums, and also varieties such as more commercially focused exhibitions and trade fairs.

4.4.1. General Planning:

The relationships between functions are common to all museums and art galleries. Figure 23 shows collection item movements in the operation of collection services, but note that not every operation necessarily requires a separate space, and some services may be pro vided by outside agencies.

As far as possible, collection movement and public circulation should be kept separate. Figure 24 shows one approach to zoning and expansion based on this principle.

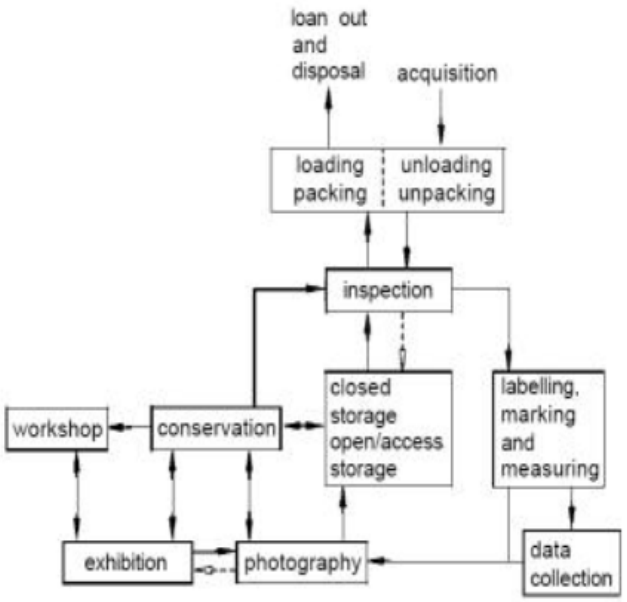


Figure 23: Flow diagram of collection item movements in the operation of collection services: exhibitions, conservation and collections management

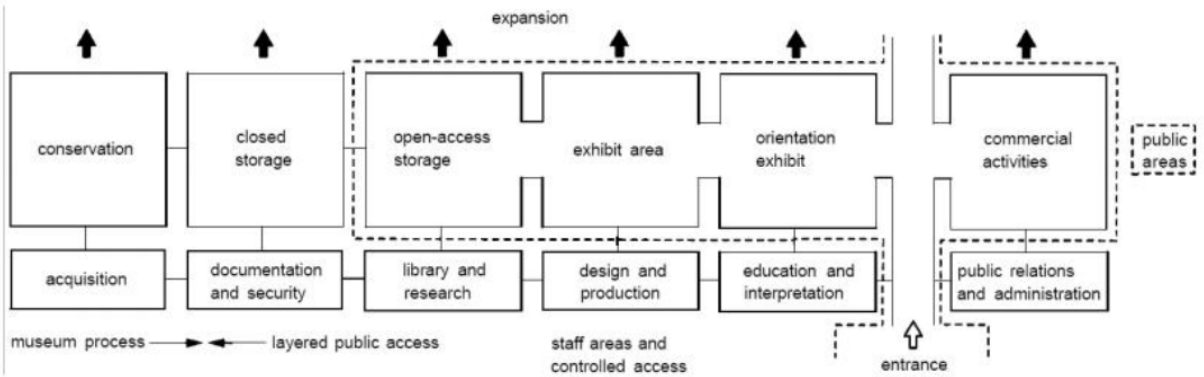


Figure 24: A layout concept showing a clear relationship between museum functions and an approach to zoning and expansion

4.5. Restaurants:

A place where people pay to sit and eat meals that are cooked and served on the premises. Various types of restaurants are classified based upon menu style, preparation methods and pricing.

4.5.1. Types of restaurants:

	Type	Description
1.	Fine dining restaurants with bar	• These are full service restaurants with specific dedicated meal courses. • Décor of such restaurants features higher-quality materials, with an eye towards the "atmosphere".
2.	Casual dining restaurants	• A casual dining restaurant is a restaurant that serves moderately-priced food in a casual atmosphere. • Except for buffet-style restaurants, casual dining restaurants typically provide table service.

4.5.2. Relationship of main elements:

- The layout and relationship between different areas is dependent on the type of facility.
- The kitchen and preparation areas will equal about 50% of the dining space and ancillary and storage will be about1.5-2 times the kitchen area.

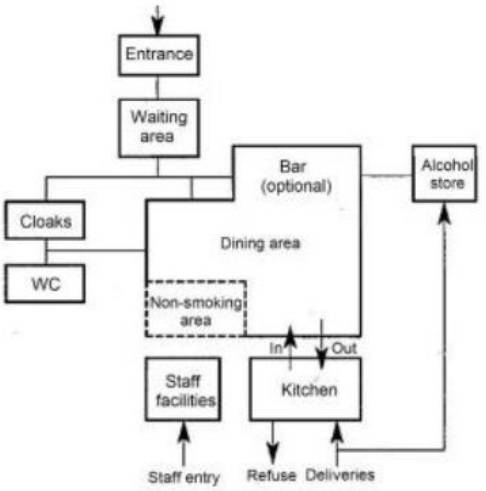


Figure 28: Relationship between major spaces

4.5.3. Space standards:

- Restaurants should be planned so that a variety of seating arrangements is possible (e.g. tables for two and four).
- To eat comfortably, one person requires a 600mm wide and 400mm deep table.
- Service aisles should be minimum 900mm to 1350mm wide if used both by trolleys and guests.
- Area required per person ranges from 1.3-1.9 m.
- There must be clarity in organization between self-service. fast food etc. and a separate smoking area.

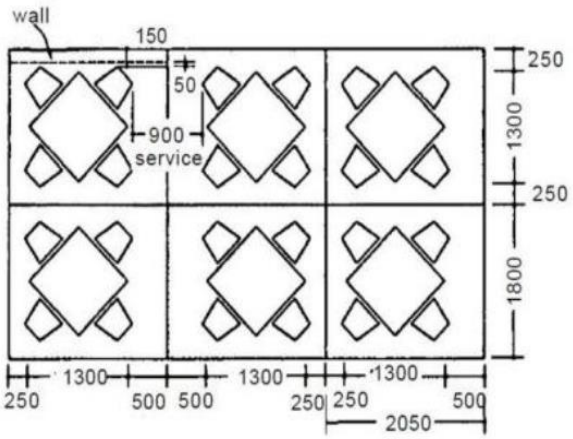


Figure 29: Square tables with diagonal layout

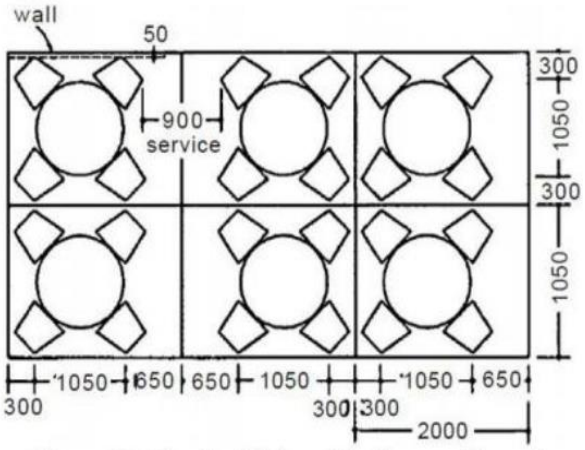


Figure 30: Circular tables with diagonal layout

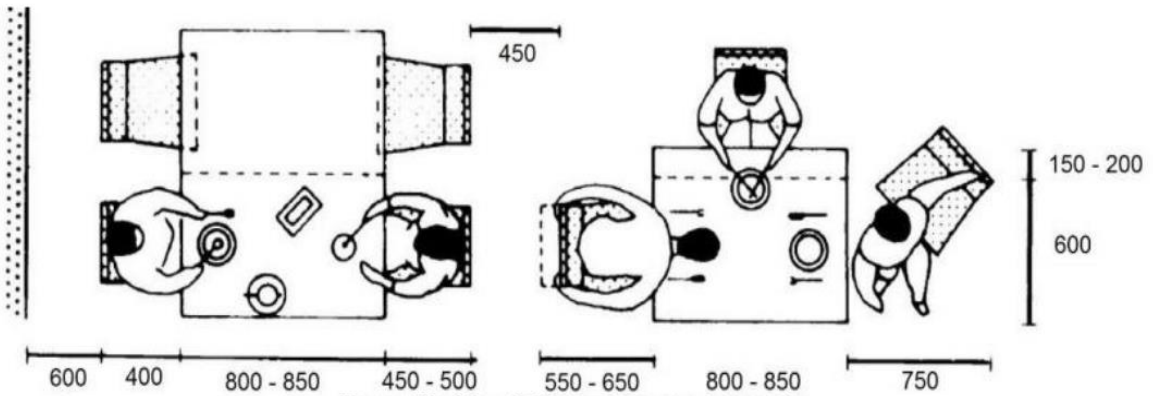
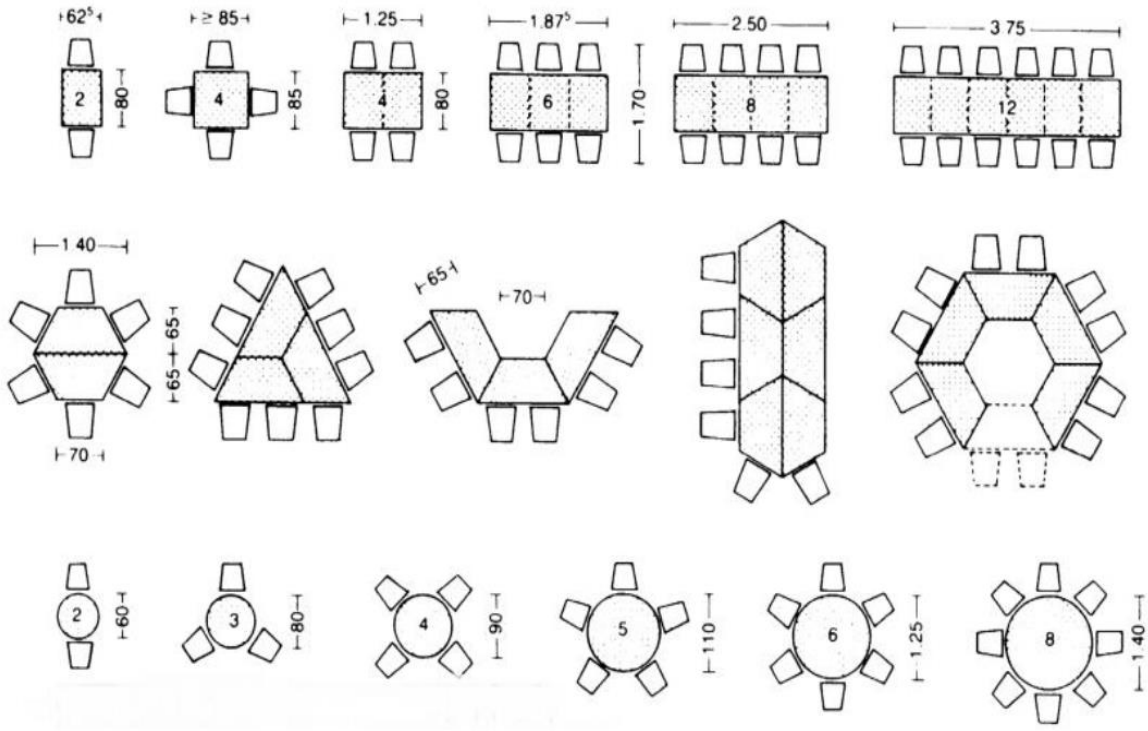
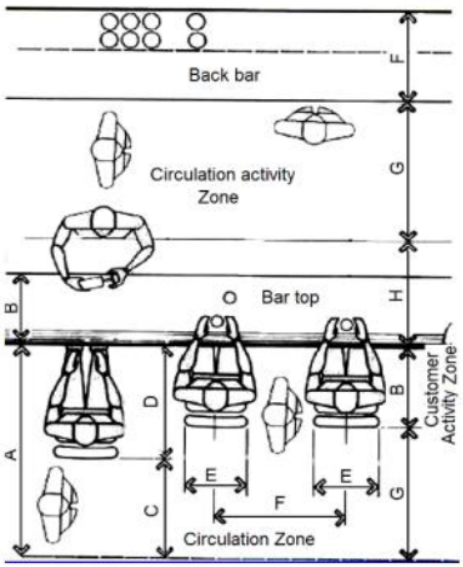


Figure 31: Circulation space requirements



4.5.4. Bar Service:

- To encourage business from non-diners the main bar may have an external entrance.
- A fairly long bar counter supported by bar store and place for seating should be provided.
- Cocktail lounge (comfortable) 18-2.0m2 per person.
- General bar (some standing and on stools) 1.3-1.7m2 per person.



Type	Dimension
A	1370
B	450-610
C	610
D	760
E	400-450
F	610-760
G	760-910
H	710-960

Figure 32: Bar circulation dimensions

4.5.5. Toilet facility

	Sanitary appliance	Male	Female
1.	WC	1 per 100 up to 400 males. For over 400 males, add at the rate of 1 per 250 males.	2 per 50 up to 200 females. For over 200, add at the rate of 1 per 100 females.
2.	Urinals	1 per 50 males.	-
3.	Wash basins	1 per WC and in addition 1 per 5 urinals.	1 per WC.
4.	Toilets for disabled	1 unisex compartment should be reasonably close by.	

4.6. Fire safety norms by the National Building Code of India:

Every building shall be so constructed, equipped, maintained and operated as to avoid undue danger to the life and safety of the occupants from fire, smoke, fumes or panic during the time period necessary for escape.

4.6.1. General Exit Requirements:

- An exit may be a doorway, to an internal staircase, or external staircase, or terrace(s), which have access to the street, or to the roof of a building or a refuge area.
- All exits shall provide continuous means of egress to the exterior of a building or to an exterior open space leading to a street.
- Exits shall be so arranged that they may be reached without passing through another occupied unit.

4.6.2. Capacity of exit:

- The unit of exit width, used to measure the capacity of any exit, shall be 500 mm. A clear width of 250 mm shall be counted as an additional half unit. Clear widths less than 250 mm shall not be counted for exit width.
- In an assembly building (convention center), the capacity per storey per unit width of exit of stairways, ramps and doors is 40,50 and 60 respectively.
- The travel distance to an exit from the dead end of a corridor shall not exceed 30m in case of assembly buildings.

4.6.3. Doorways:

No exit doorway shall be less than 1000 mm in width except assembly buildings where door width shall be not less than 2000 mm. Doorways shall be not less than 2000 mm in height.

4.6.4. Stairways and ramps:

- The minimum width of tread shall be 300 mm and the maximum height of riser shall be 150 mm for assembly buildings.
- The minimum width for a staircase shall be 2m.The minimum headroom in a passage under the landing of a staircase and under the staircase shall be 2.2 m.
- The slope of a ramp shall not exceed in 10. In certain cases steeper slopes maybe permitted but in no case greater than 1 in 8.

4.6.5. Horizontal exits:

For buildings more than 24 min height, refuge area of 15 m or an area equivalent to 0.3 m^2 per person to accommodate the occupants of two con executive floors.

5. Case Studies

Understanding the functionality and components of the project in a detailed manner.

5.1. Indira Gandhi Pratishthan (IGP), Lucknow
5.2. Jaipur Exhibition And Convention Centre

5.1. INDIRA GANDHI PRATISHTHAN (IGP), Lucknow:

Location - Kathauta Chauraha Road, Vibhuti Khand Gomti Nagar Lucknow
Architect - Sikka Associates
Client - Lucknow Development Authority (L.D.A.)
Area - 10 Acres
Construction Status – Completed (Restaurants, Gym, Club, Library) Proposed

Introduction:

Indira Gandhi Pratishthan is one of the largest convention centre in the city of Lucknow. The venue has been host to various national and international meetings, summits and gatherings, the venue consists of three auditoriums, lawns, banquets, meeting rooms, art gallery, exhibition space etc. Named after the former prime minister smt. Indira Gandhi the project began in 2002. This 10 acre campus has parking for 2000 cars and is accessible from all parts of the city. Many facilities have been proposed f0r proper utilization 0f venue and increase the footfalls. The proposals include setting up gymnasium, swimming pool, library, club, restaurants etc.

Purpose:

The convention venue has served various purposes over the year. From local to national to international events the venue is capable of all the events. Some 0f the events hosted by Indira Gandhi Pratishthan

1) Meetings
2) Seminars
3) Product Launches
4) Business Summits
5) Marriage Functions
6) Exhibitions
7) Award Ceremonies
8) Entertainment Events
9) Concerts

Features of IGP :

IGP has been designed for hosting various events there are various block in the venue

1) Earth (5 Moon Halls, Vip Lounge 1 Media Centre)
2) Mercury 400 Pax
3) Mars 600 Pax
4) Jupiter 1500 Pax
5) Saturn Banquet Hall
6) Art Gallery
7) Exhibition Ground

SITE PLAN

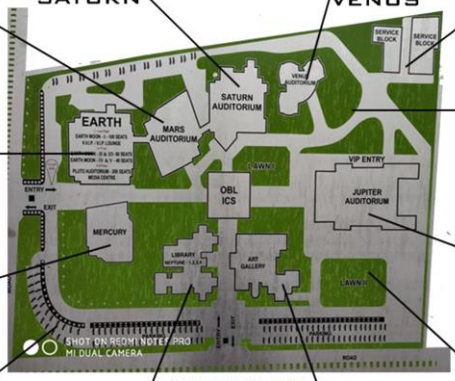

MARS


SATURN


VENUS

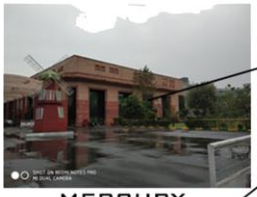

SERVICE BLOCKS


EARTH



SITE PLAN


LAWN


MERCURY


JUPITER


PARKING

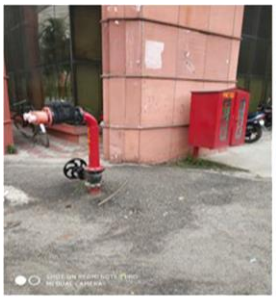

NEPTUNE


ART GALLERY


EXHIBITION

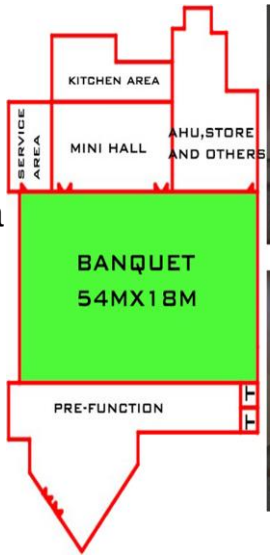
Services :

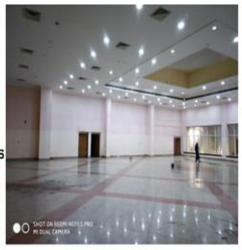
1) Fire hose pipes installed on site with primary and secondary pumps
2) Two 320 KV generator
3) Three transformers installed
4) 12 mt wide access road



Features :

1) Banquet hall with 600 capacity
2) Separate kitchen space provided
3) A hall for mini function
4) AHU store and other area provided
5) Landscaping provided for good aesthetic
6) Solar panel installed
7) Service road for loading and unloading
8) Centrally air conditioned banquet.




MAIN HALL

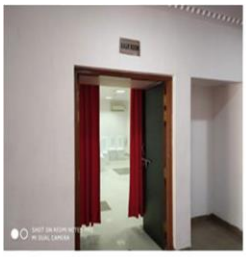

PRE FUNCTION


TOILETS


ENTRANCE

Jupiter (Auditorium) :

1) 1500 people capacity
2) Grand entry foyer
3) Lift and staircase access to first floor
4) Green room, control room, practice hall, vip rooms
5) Basement parking for visitor
6) Separate VVIP entry provided to the building
7) Stone finishing provides lavish aesthetics
8) 10.8 mt wide corridor on each side
9) 7.2 mt wide backstage corridor
10) Solar panel installed on roof
11) 1.2 mt gangway in auditorium for proper circulation.


VVIP ROOM


PRACTICE ROOM


FOYER

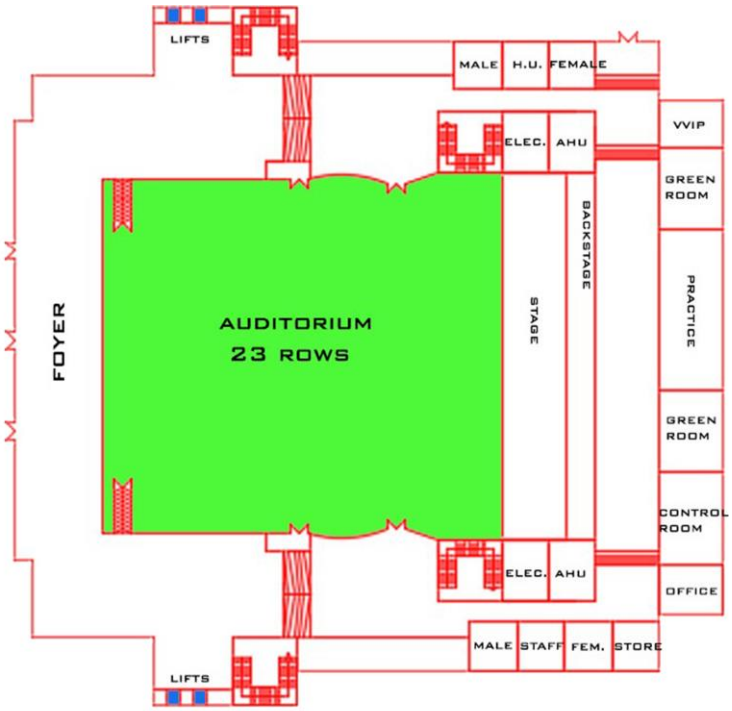

LIFT


CORRIDOR

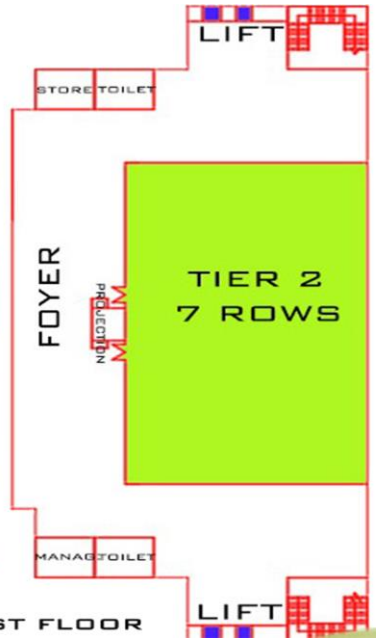

PROJECTION ROOM


GREEN ROOM


BACKSTAGE CORRIDOR

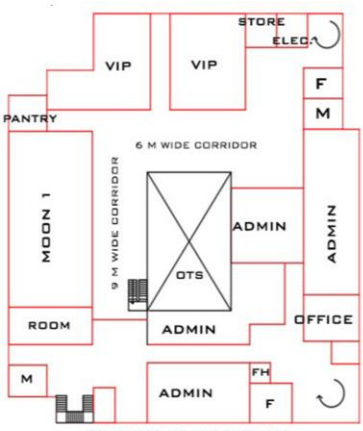


GROUND FLOOR

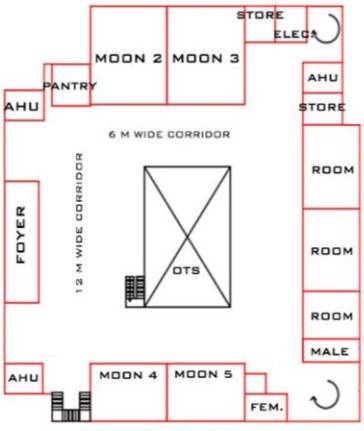


FIRST FLOOR

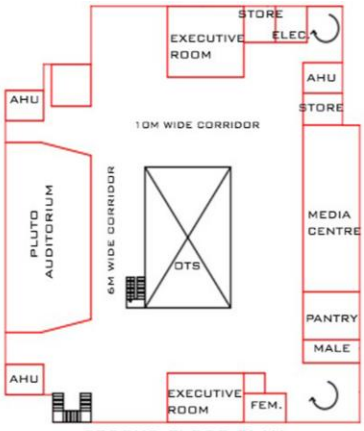
Earth:



GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN


MOON 1

VVIP

VIP


MOON 2


MOON 3


MOON 4


MOON 5


PLUTO (AUDITORIUM)

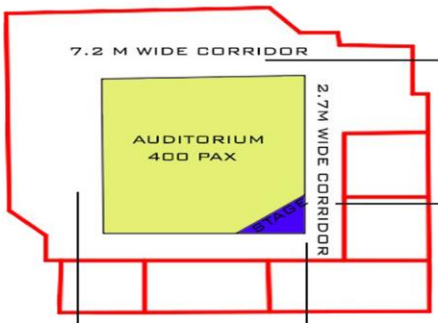

FOYER

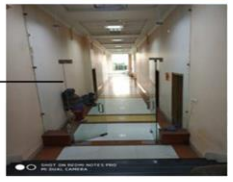

MEDIA CENTRE


EXECUTIVE ROOM

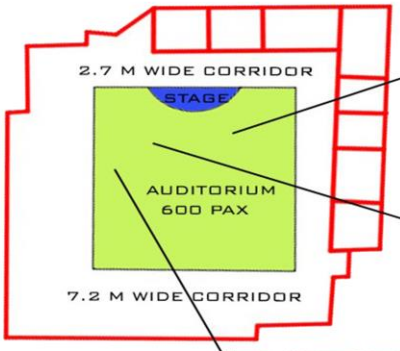
ADMINISTRATION

Mercury 400 Capacity Auditorium:





Mars 600 Capacity Auditorium:



5.2. Jaipur Exhibition And Convention Centre (JECC):

Project Details :

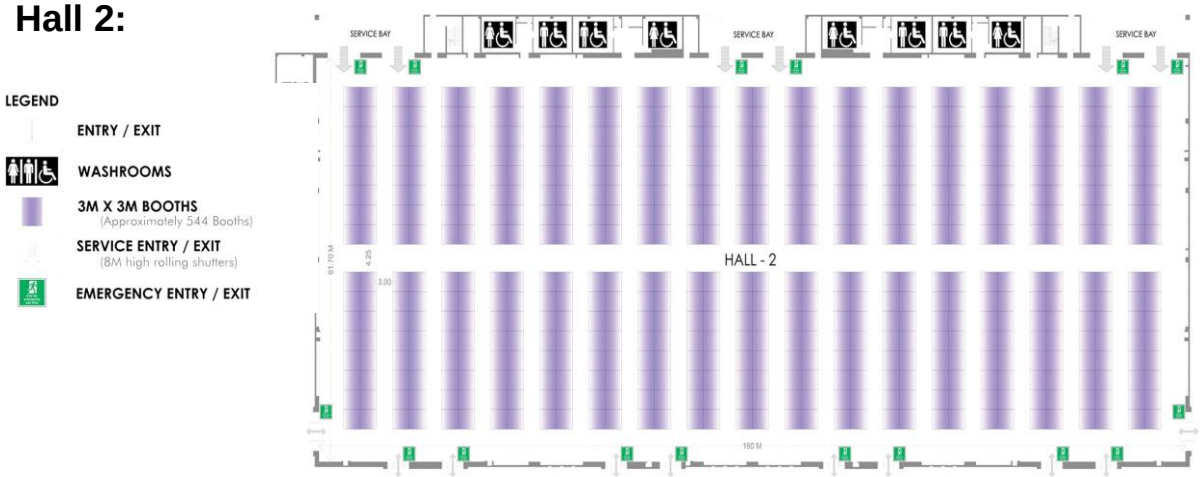
Location - RIICO Industrial Area Sitapura, Jaipur
Architect - M.A. Architects
Client - Diligent Pink City Centre PVT LTD
Area - 42 Acres
Ground Coverage - 27204 Msq.
Site Plan:

Other features of hall:

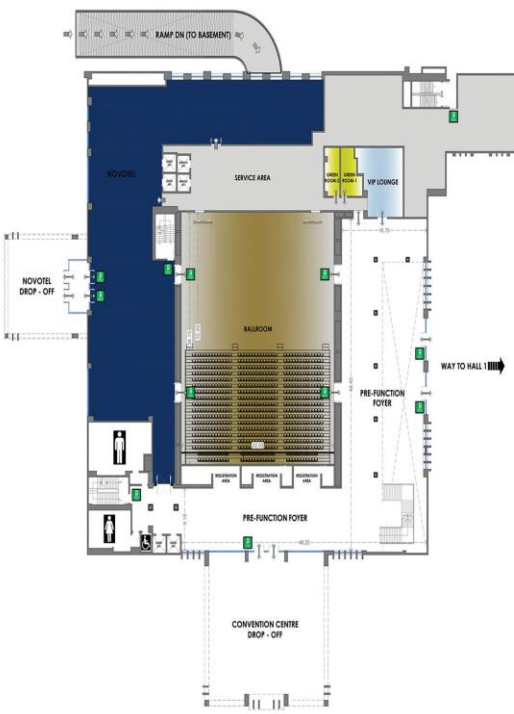
1) The hall can also be used as a seminar hall when required.
2) When used for seminar purpose the hall has capacity of approx 8000 people.
3) Separate double height truck bay is provided for easy loading and unloading if goods.
4) Office and st0re room provided.
5) Separate ada toilets provided for handicapped.
6) For males 64 urinals and 18 wc are provided and for females 24 wc are provided.

Hall 1:

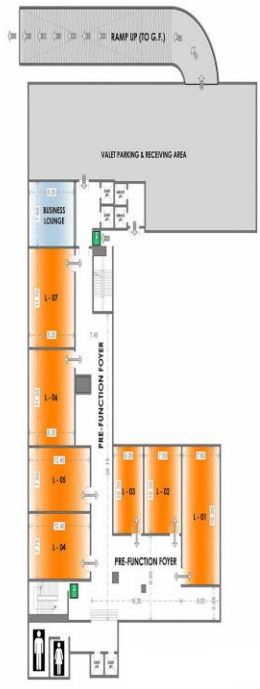
Hall 2:



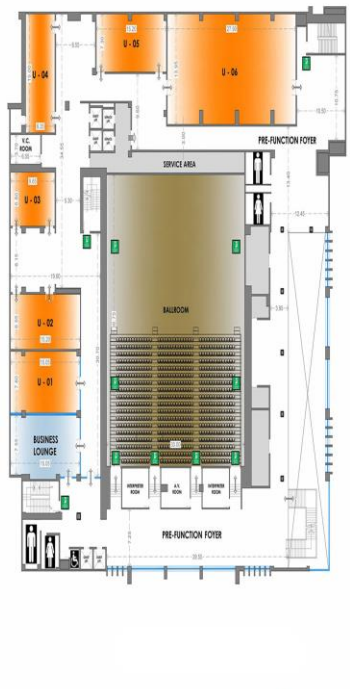
Auditorium:



Ground Floor



Lower Ground Floor



First Floor

Auditorium:

1) Consists of hall of area 1100 msq
2) Seating capacity of hall is 1200
3) Retractable fitted seating for 740
4) Stage size 32'x24'
5) Main entry brings the permanent registration counters that is turn give way to the pre function foyer
6) Two green rooms and a vip lounge
7) AV rooms and interpretation centre for 6 languages
8) Space of these rooms varies from 127 msq to 64 msq
9) This expansive centre also consists of 13 breakout rooms on upper floor.

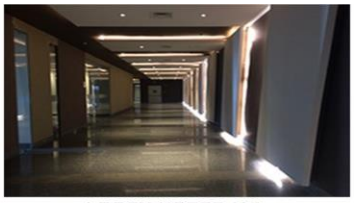
Interior:

INFO BOARDS

ACOUSTICAL PANELS

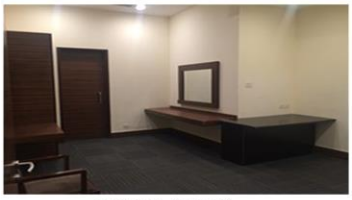
HEMP BOARD

VIP LOUNGE



LOBBY UPPER LVL.

BUSINESS LOUNGE



GREEN ROOM

RECEPTION

AUDITORIUM ENTRANCE

SEMINAR HALL

LIFTS

MEETING ROOM

STAIRCASE

MEETING ROOM

FOYER

6. Literature Studies

Understanding the functionality and components of the project in a detailed manner.

6.1. Hyderabad International Convention Centre (HICC)
6.2. India Habitat Centre (IHC)

6.1. Hyderabad International Convention Centre (HICC):

Project details :

Location - NDVOTEL and HICC Complex, Kondapur, Hyderabad

Architect- Robert Matthew Johnson Marshall

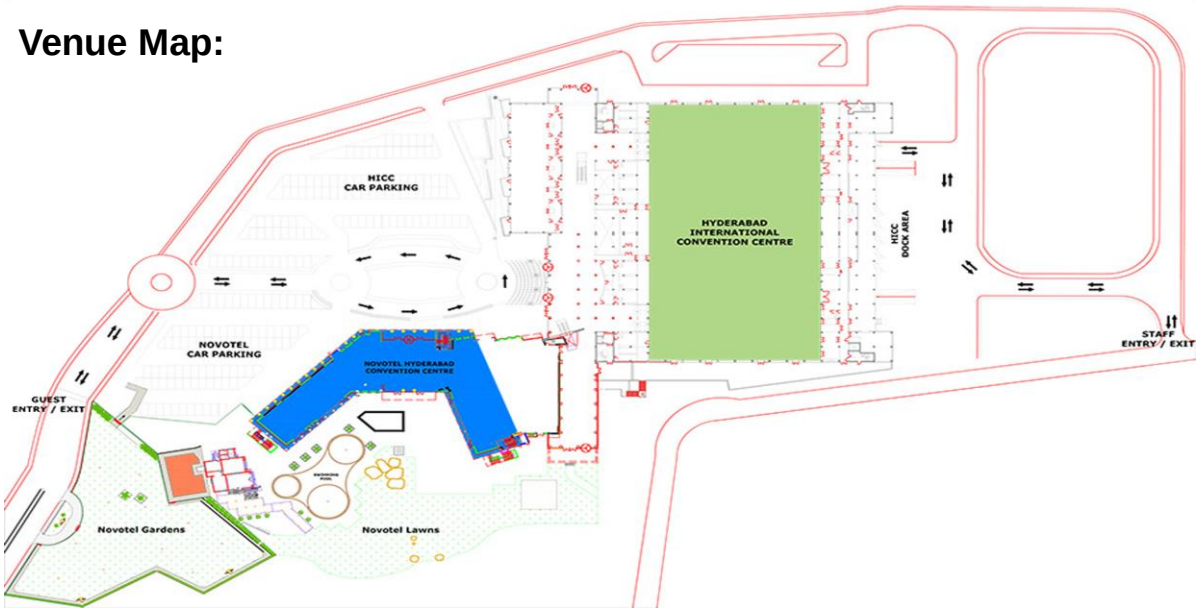
Construction status - completed

Site area - 15 acres

Ground coverage - 45%

Client- APIIC

Venue Map:



Facilities :

1) Custom built to handle versatile events be it an international conference for 5000 delegates, a cocktail dinner for 4000 guests, a corporate party for2000 people or even a board meeting for just 15.

2) 32 breakout rooms including specialized eating rooms, speaker, preparatory rooms, boardrooms and vip lounge.

3) 16 seater registration area.

4) A pillar free internal hall of net 6480 msq that can hold a 5000 delegate plenary and can be partitioned into 6 halls depending upon its use and requirement.

5) A spacious pre function foyer area of over 6000 msq of lobby space.

6) 12.5 m free ceiling height with catwalks and truss to hold heavy suspension and mobile operable walls.

7) Service pits every 6 m, with power, water and internet.

8) Automated telescopic tiered seating 2.5k.

Areas (Hall):

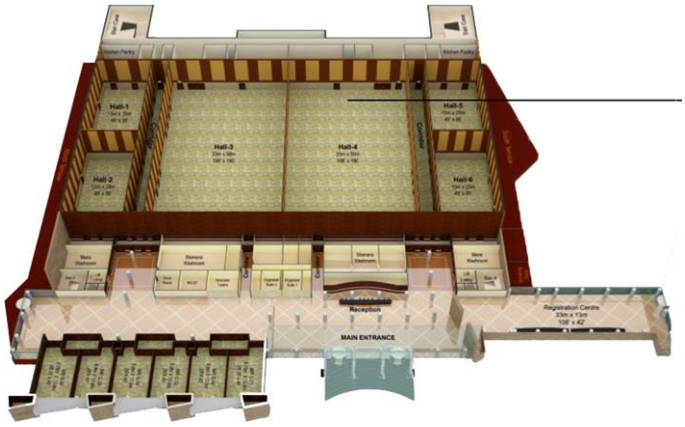
Hall 1- 435 msq Hall 2- 435 msq
Hall 3- 1914 msq Hall 4- 1914 msq
Hall 5- 435 msq Hall 6- 435 msq

Meeting room:

Varies From 120.75 To 122.82 Msq

Other spaces :

1- Organizer Suites
2- Business Centre
3- Clock Room
4- Facility Office
5- Communication Room
6- Vip Lounge
7- Interpretation Room
8- Admin Office
9- Office Space



Ground Floor

Services offered:

1- Food and beverage-

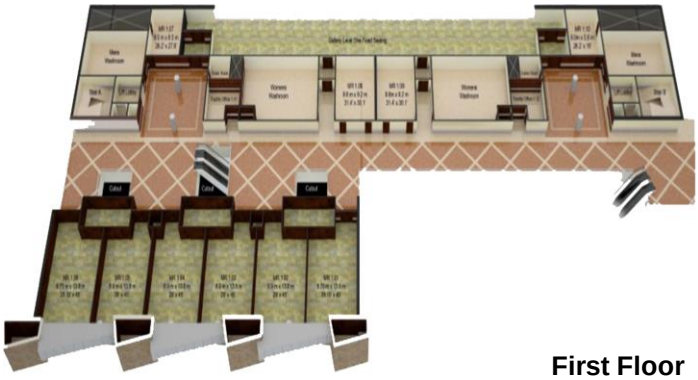
The restaurant located on western side with an area of 792 msq is Designed to accommodate nearly 180 people.

2- Open exhibition area-

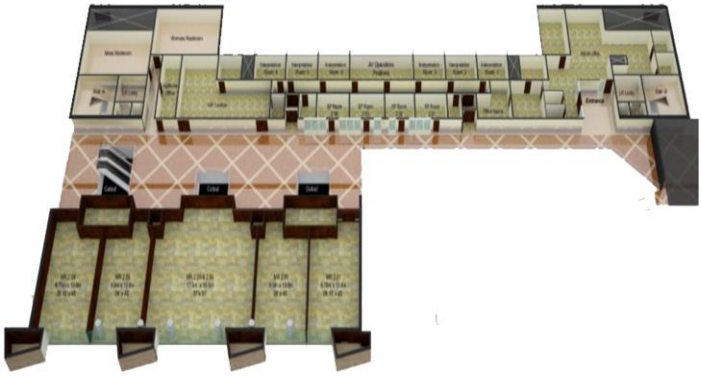
A total exhibition space of 32825 msq provided.

3- Car parking area-

Nearly 1200 car parking slots for visitors/exhibitors. Separate car parking for organizers near trade fair office building. Separate Parking for heavy vehicles on north entrance of HICC.



First Floor

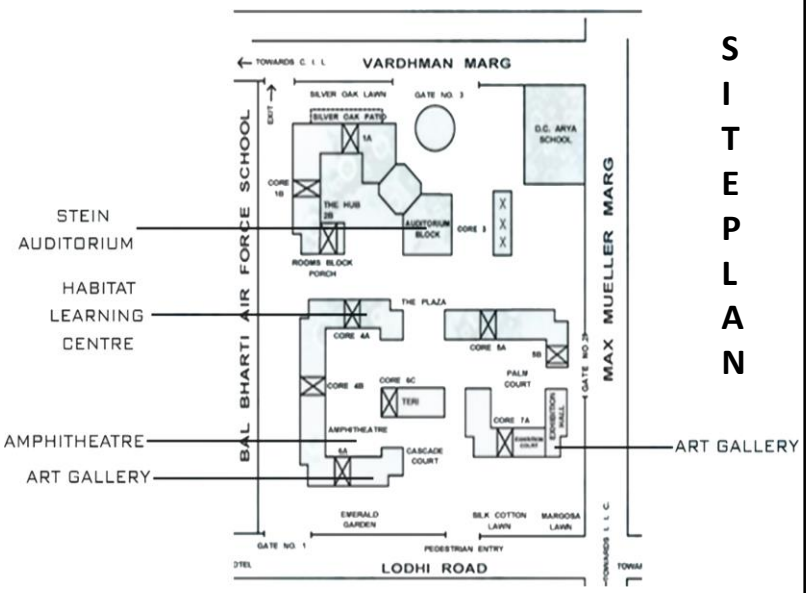


Second Floor

6.2.India Habitat Centre (IHC):

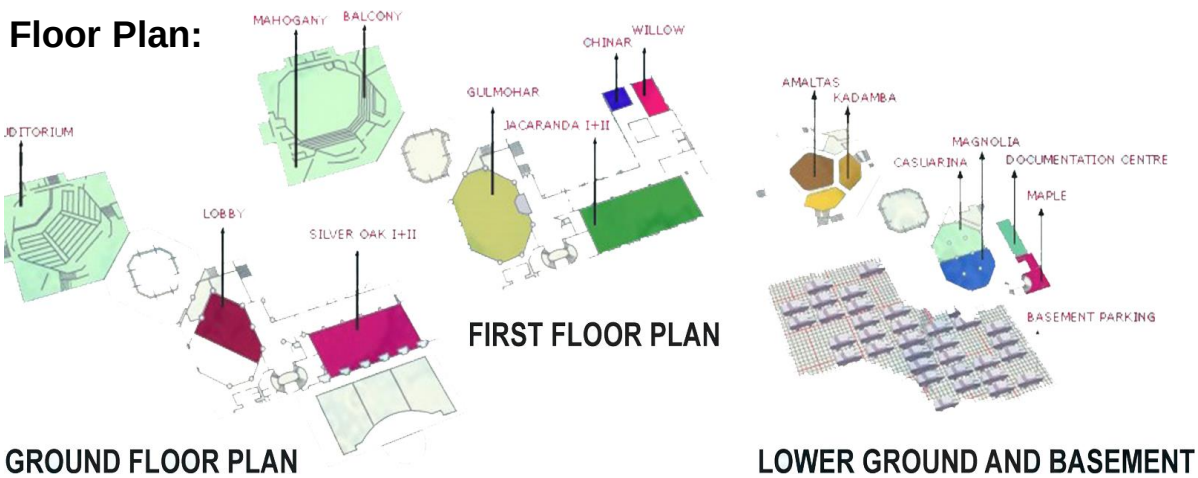
Project details:
Location: Lodhi Road, New Delhi
Architect: Joseph Allen Stien
Construction status: Completed
Site area: 9.6 Acres
Ground coverage: 25%

Various functions area:
1) Rented Office Space
2) Library
3) Convention Centre
4) Art Gallery
5) Guest Room
6) Auditorium
7) Amphitheatre



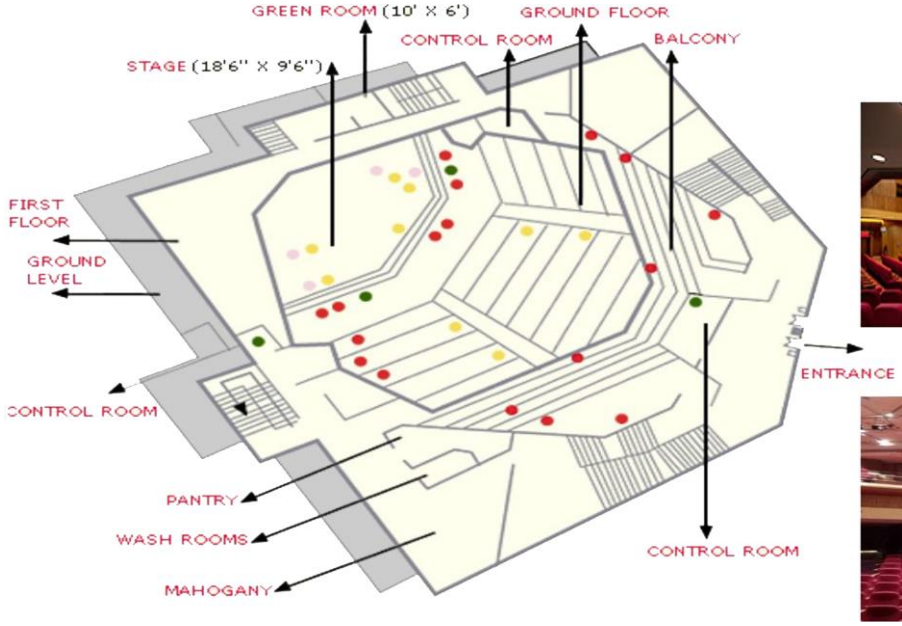
Orientation:
1) The layout of india habitat centre is in I shape
2) The orientation of building in N-5. The building is designed with a view to keep minimum exposure east west side
3) The western face has less fenestration or windows hence reducing heat load on

Floor Plan:



Stein Auditorium:

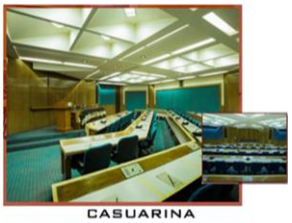
1) 537 seating capacity
2) 35 mm projection interpretation in 4 different languages at same time
3) 576 msq large seminar halls
4) Video conferencing facility
5) Two green rooms
6) Wheel chair access control room
7) LCD projector with screen
8) Special effects lights



Meeting and Seminar Halls:


SILVER OAK


JACARANDA


CASUARINA


MOHOGANY


MAGNOLIA


MAPLE


JUNIPER


GULMOHAR


MARIGOLD


TAMARIND


CYPRESS

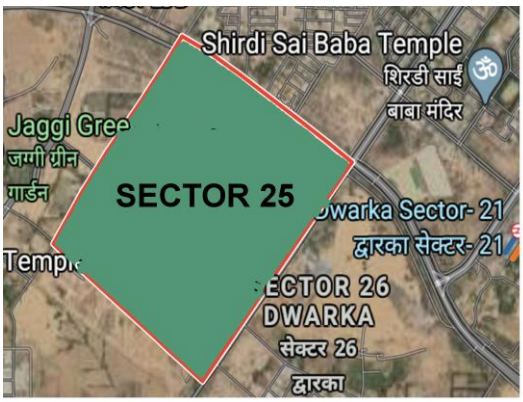

CHINAR

7. Site Analysis:

7.1. Location of the site
7.2. Surroundings of the site
7.3. Details of the site
7.4. Climatic conditions

7.1. Location of the site:

DDA has proposed an international convention center in sector 25 (near DhulSiras village), Dwarka, New Delhi. The area for the proposed site is 15.2 acres and is an irregular quadrilateral surrounded by roads on 2 sides.



Location of site in Dwarka Delhi

Location of the site

7.2. Surroundings of the site:

The site has a 60m and 45m right of way approach roads from the southern and the eastern side respectively. On the western side lies the proposed site for golf course adjoining which is the Najafgarh drain.

60 METER WIDE ROAD TOWARDS GURGUON

ROAD LEADING TO THE NAJAFGARH DRAIN

45 MT WIDE FROM THE INTERSECTION OF THE ROAD

SHOWING THE ROAD LEADING TO THE SITE

ERA PUBLIC SCHOOL IN 450 METERS

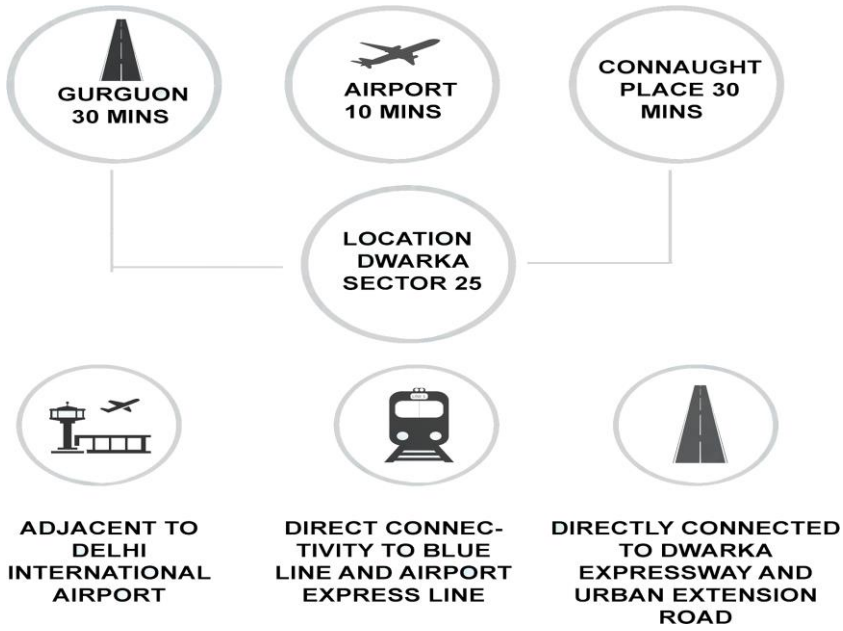
DELHI ENGLISH SCHOOL 620 MT

7.3. Details of the site:

The site proposed for the convention center covers an area of 15.2 acres / 62,058 mt so with a minimum 15m and 12m setbacks from road and other side of the site. The site is almost level with no major changes in the elevation of the site. There are presently 8 tress existing on site.

Built form variable	Regulation	Implication on the project
Ground coverage	30% (plus 5% for the atrium)	Maximum ground coverage in sit can be 18,617m² / 4.6 acres.
FAR	1.2	Maximum built up area 74,469 m² / 18.4 acres.
Maximum permissible height	No restrictions; Permissibility is subject to clearance from AAI	30m as per Airport Authority of India
Basement	Minimum 2 levels to be provided for parking	
Open space / circulation	Minimum 20% area to be developed as mandatory green	12,411 m² / 3.06 acres to be developed as green space

Connectivity:



7.4. Climatic conditions:

New Delhi is located in the northern plains at an altitude of 200 m above sea level and a latitude of 28 deg, north Delhi has a composite climate with high variations between summers and winters temperatures and precipitation. The climate is characterized by a hot and dry season in early summer determined by hot wind from the desert in Rajasthan, with temperatures between a mean maximum of 32°c and 43°c and a mean minimum of 21°c to 21°c.In winter the cold, northern winds from the Himalayas dominate the climate. The temperature fluctuates between 20°c -27°c in daytime and 4°c -10°c at night* in between these two extremes there is a period of moderate temperature Taurus. This includes the monsoon period during which the humidity is very high and most of the precipitation falls.

SUMMER SOLSTICE SUN PATH

WINTER SOLSTICE SUN PATH

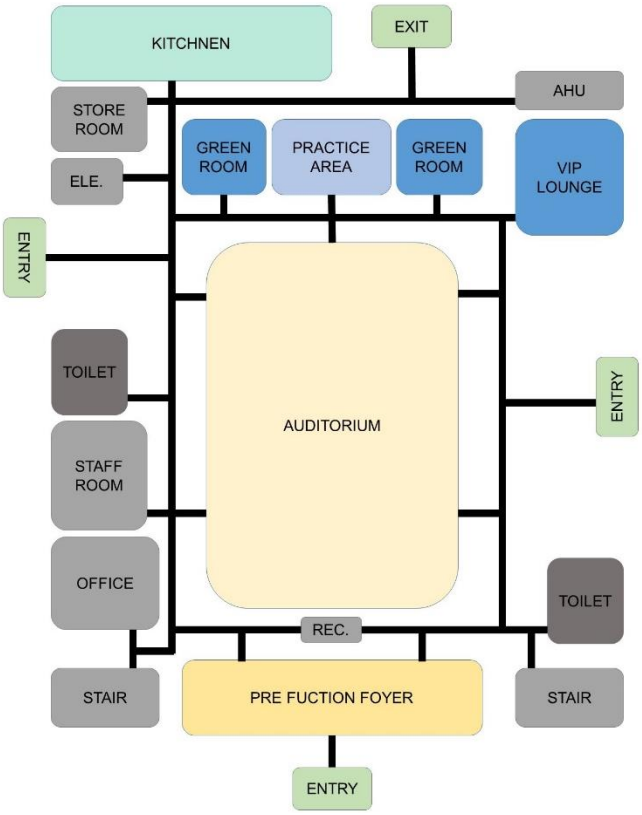
Wind direction throughout the year:

NW-SE : JAN – JUNE
SENW : JUL-AUG
W-E : DECEMBER

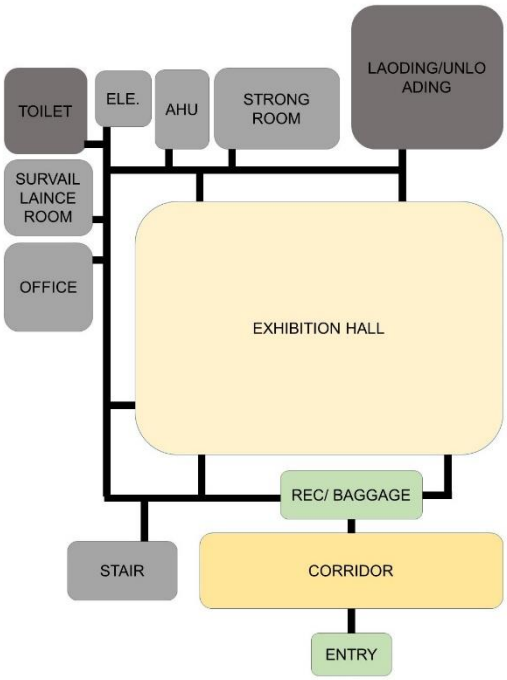
The wind speed varies from 11-17 km/hr from Jan - June, 13 km/hr from July - Aug as well as December

Bubble Diagram :

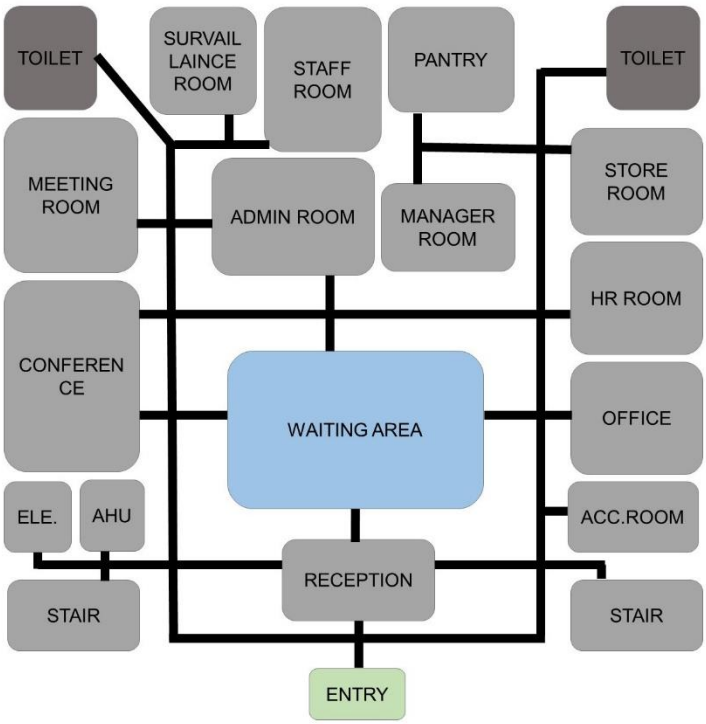
Auditorium:



Exhibition Block:



Admin Block:

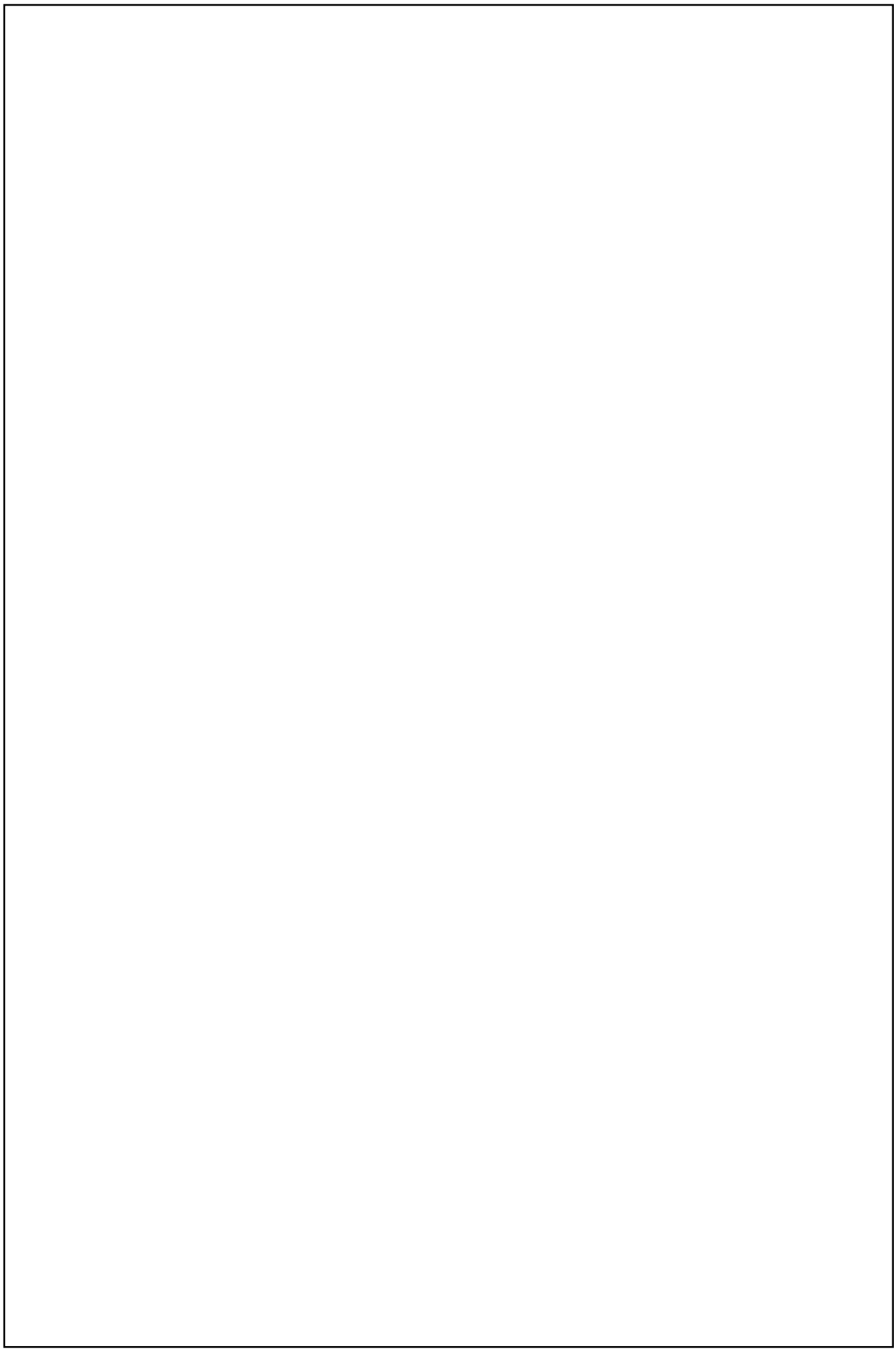


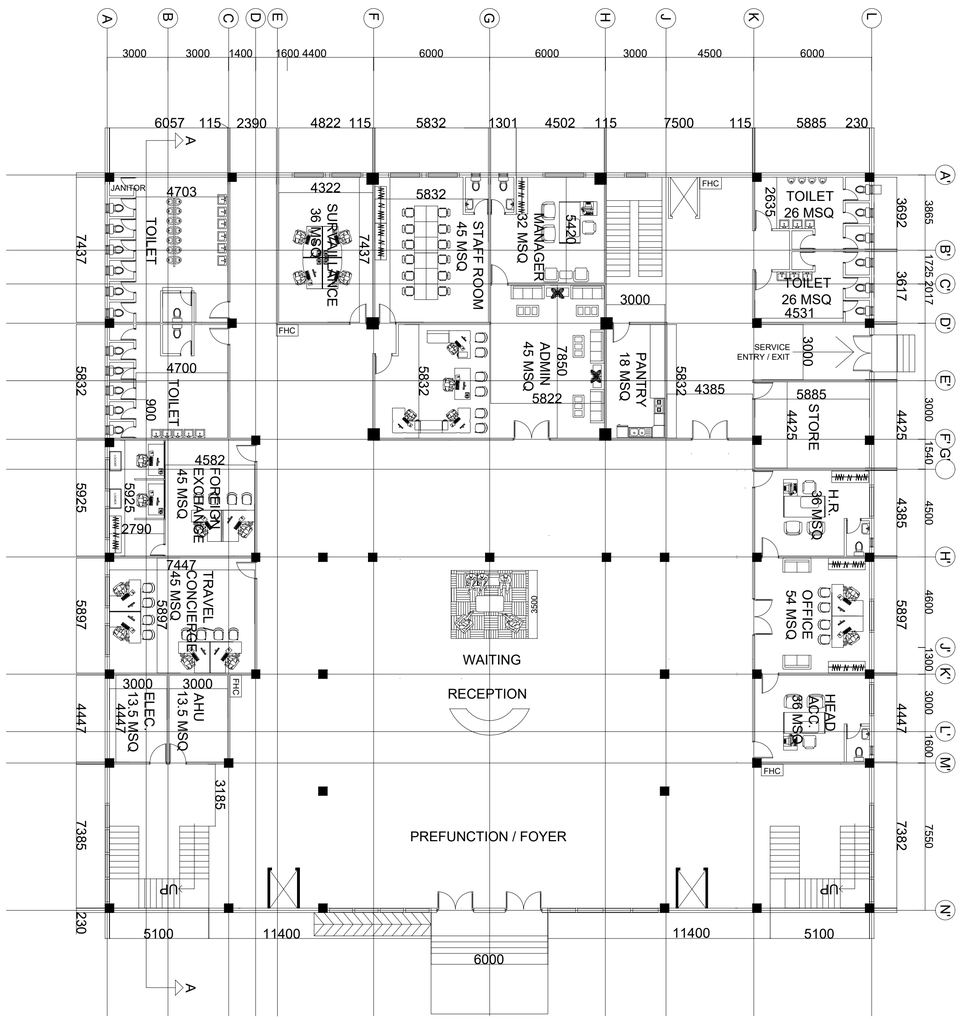
Comparative:

S.NO	DESCRIPTION	JECC	IGP	HICC	IHC	STANDARDS	USERS	AREA TO BE USED
1	ARCHITECT	M.A. ARCHITECTS	SIKKA ASSOCIATES	ROBERT MATTHEW JOHNSON MARSHALL	JOSEPH ALLEN STEIN	----	----	
2	LOCATION	JAIPUR	LUCKNOW	HYDERABAD	NEW DELHI	----	----	GOA
3	SITE AREA	42 ACRES	10 ACRES	15 ACRES	9.6 ACRES	----	----	16 ACRES
4	NO. OF FLOOR	2-7	2-3	3	3-6	----	----	
5	FOYER/ATRIUM	1100 msq	300 msq	6000 msq	320 msq	0.6-0.9 MSQ/PERSON	----	3000 MSQ
6	AUDITORIUM	1100 msq	1400 msq	6848 msq	576 msq	0.8-1.2 MSQ/PERSON	2000	3500 MSQ
7	PROJECTION	40	32 msq.	80 msq.	25 msq	AS PER REQ.		30 MSQ
8	CONFERENCE/ MEETING	1500 msq	900 msq	1730 msq	4378 msq	1.4-2.8 MSQ/PERSON	1000	2000 MSQ
9	EXHIBITION	20000 msq	2746 msq	32825 msq	----	1.2-1.6 MSQ/PERSON	5000	7500 MSQ
10	ART GALLERY	----	2400 msq.	----	335 msq	1.4-2.8 MSQ/PERSON	1000	1500 MSQ
11	OFFICE	500 msq.	582 msq.	480 msq.	40000 msq	1.6-3.8 MSQ/PERSON	100	250 MSQ
12	BANQUET HALL	3870 msq.	1000 msq.	3828 msq	297 msq	1-1.6 MSQ/PERSON	500	750 MSQ
13	TOILET	2 WC PER 400	1 WC PER 100 USER	2 WC PER 500	2 WC PER 50	2 WC PER 50	----	
14	STAIRCASE WIDTH	2 M	1.5 M	2 M	1.5 M	2.0 M	----	

Requirements:

S.NO.	SPACE	CAPACITY	STANDARDS	AREA
1.	MEETING ROOMS			
a.	ROOM - 1	15	1.2-2 SQM/PER.	30 SQM
b.	ROOM - 2	30	1.2-2 SQM/PER.	60 SQM
c.	ROOM - 3	45	1.2-2 SQM/PER.	90 SQM
d.	ROOM - 4	60	1.2-2 SQM/PER.	120 SQM
2.	CONFERENCE HALL	100	1.5-2 SQM/PER.	200 SQM
3.	BUSINESS LOUNGE	40	1.8-2.5 SQM/PER.	88 SQM
4.	ART GALLERY	200	1.2-1.8 SQM/PER.	300 SQM
5.	ENTRANCE LOBBY		20% OF TOTAL AREA	
6.	EXHIBITION HALL (2)	500 EACH	1.5-1.8 SQM/PER.	800 SQM
7.	AUDITORIUM	1000	1.2 SQM/PER.	1200 SQM
a.	FOYER	1000	0.8 SQM/PER.	800 SQM
b.	STAGE	1000	0.3 SQM/PER.	300 SQM
c.	BACKSTAGE		30% OF STAGE AREA	90 SQM
d.	GREEN ROOMS+ CHANGING ROOMS +TOILETS (4)	20 MALE 20 FEMALE	3.5 SQM	140 SQM
e.	PROJECTION ROOM		Min. 3m*4.5m	13.5 SQM
f.	LIGHT / SOUND ROOM		Min. 3m*4.5m	13.5 SQM
g.	Toilets		**MALE** - **WC** (l.2 SQM) 2/400 PER. **U** (0.63 SQM) 1/100 PER. **WB** (0.92 SQM) 1/WC **FEMALE** – **WC** (l.2 SQM) 2/200 PER. **WB** (0.92 SQM) 1/WC	





GROUND FLOOR PLAN (1:200)

FIRST FLOOR PLAN (1:20)

THESIS 2019-20

CONVENTION CENTRE SECTOR 25, DWARKA, DELHI

DWG. TITLE

FLOOR PLAN

ADMIN BLOCK

SUBMITTED BY-

AKASH GUPTA
1150101007
B.B.D.U.

SCALE

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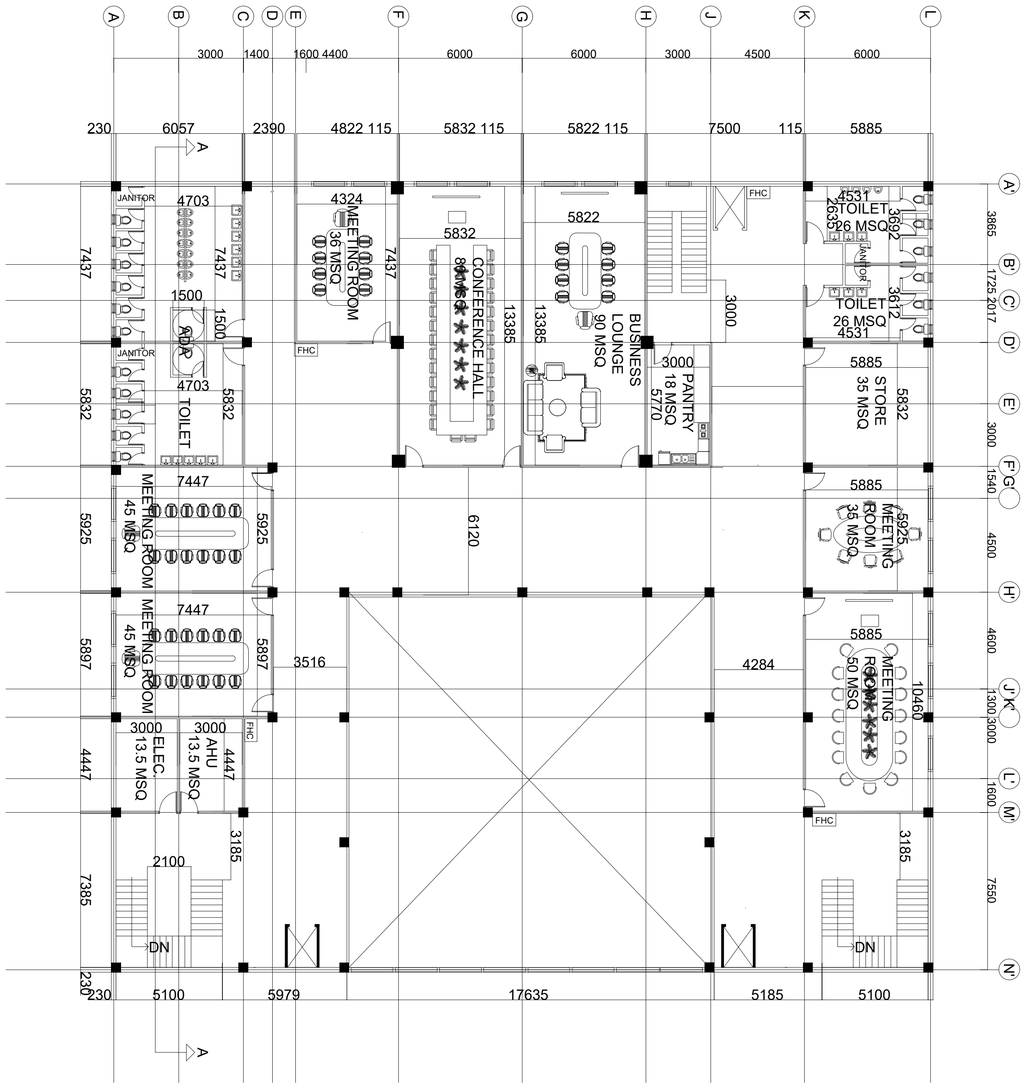
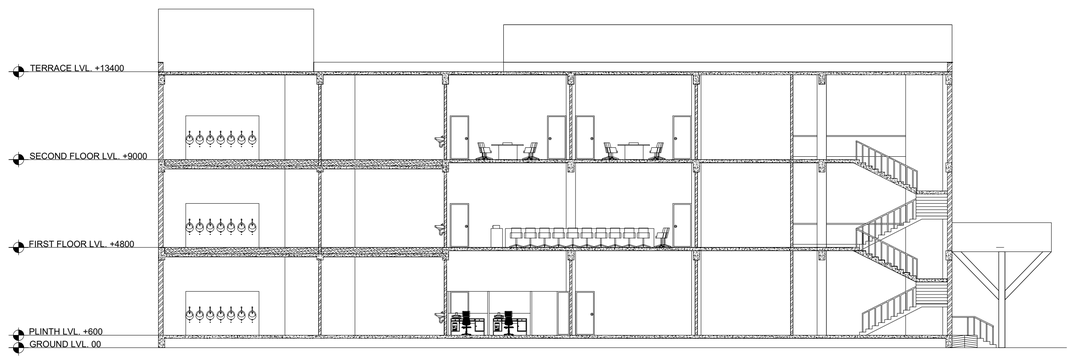


SECOND FLOOR PLAN (1:200)



SECTION A-A'

THESIS 2019-20

CONVENTION CENTRE SECTOR 25, DWARKA,DELHI

DWG. TITLE

FLOOR PLAN

ADMIN BLOCK

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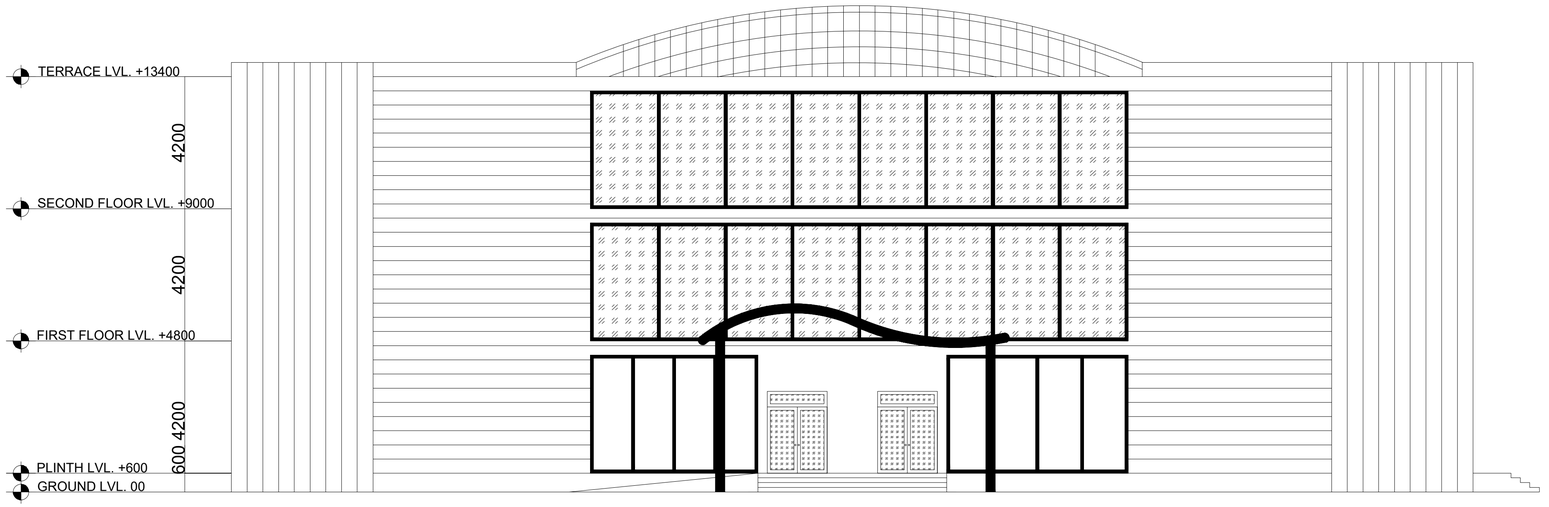
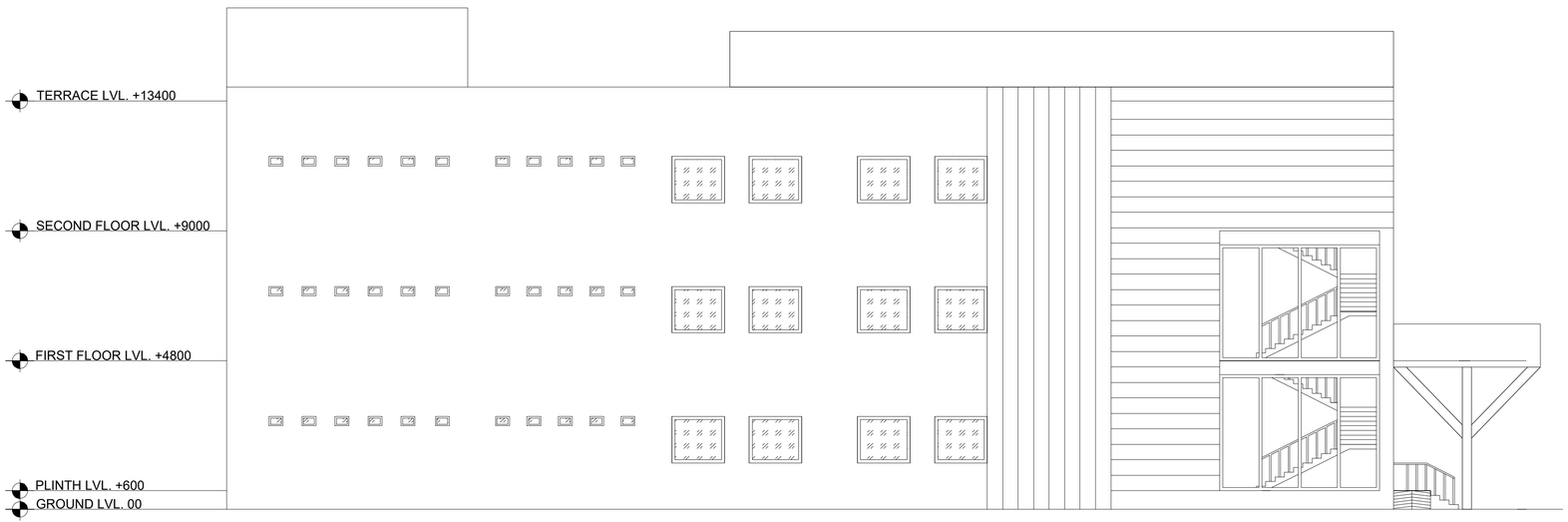


FRONT ELEVATION (1:200)



SIDE ELEVATION (1:200)

THESIS
2019-20

CONVENTION CENTRE
SECTOR 25, DWARKA,DELHI

DWG. TITLE

ADMIN BLOCK

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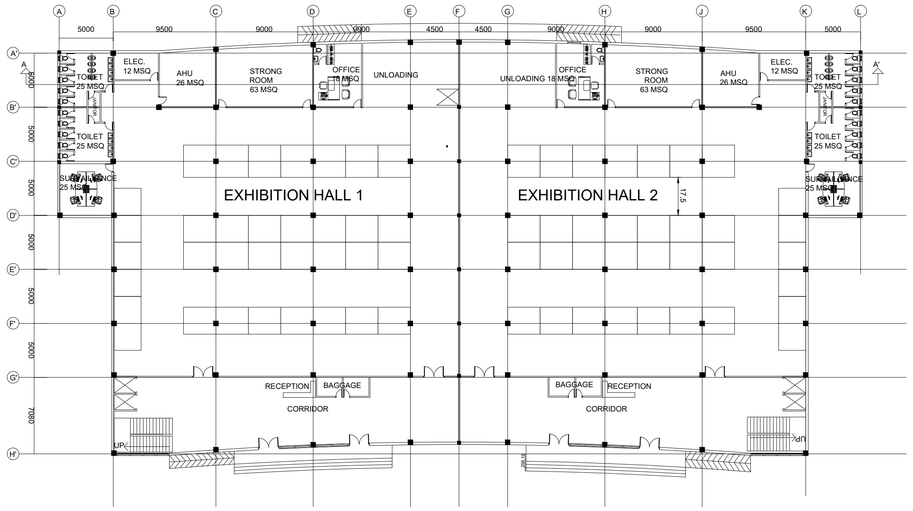
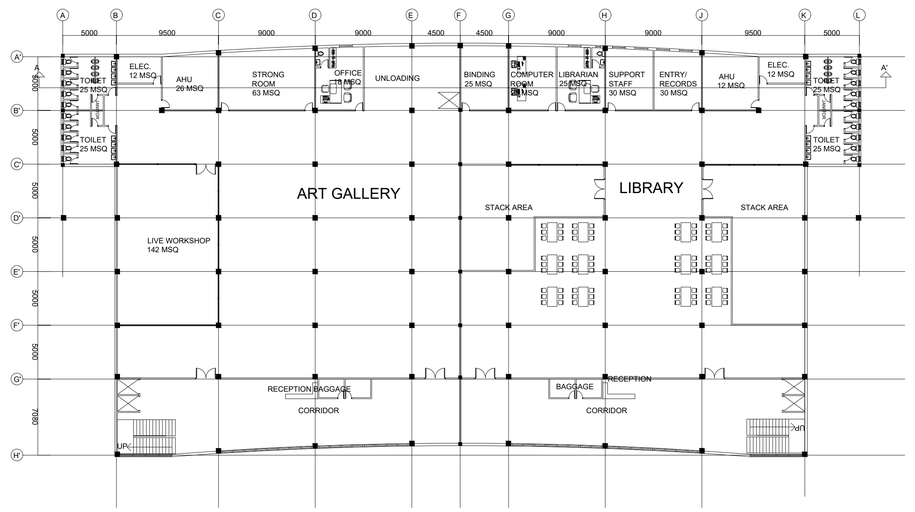
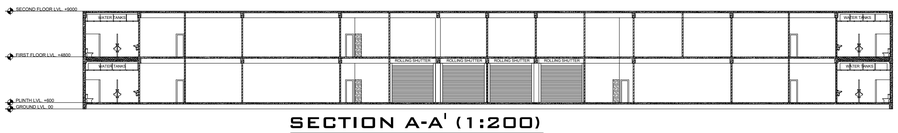


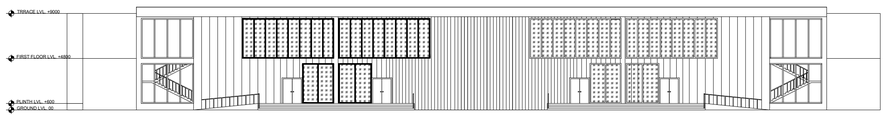
GROUND FLOOR PLAN (1:200)



FIRST FLOOR PLAN (1:200)



SECTION A-A' (1:200)



FRONT ELEVATION (1:200)

THESIS 2019-20

CONVENTION CENTRE SECTOR 25, DWARKA,DELHI

DWG. TITLE

FLOOR PLAN

EXHIBITION BLOCK

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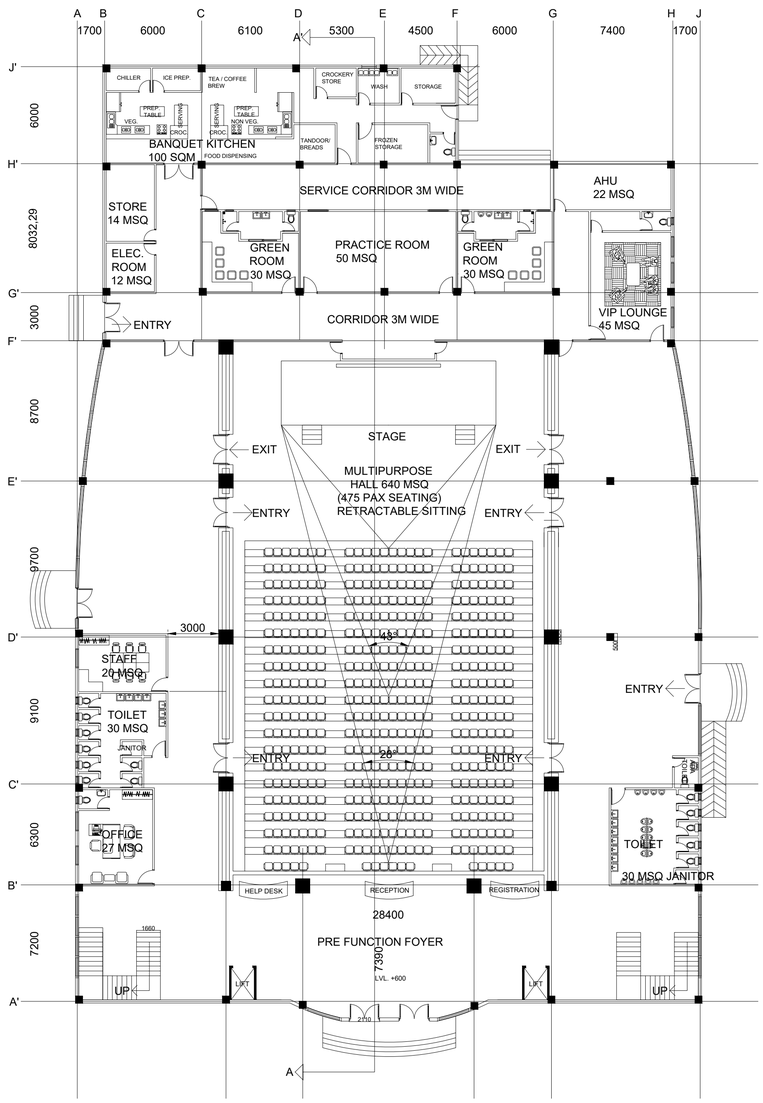
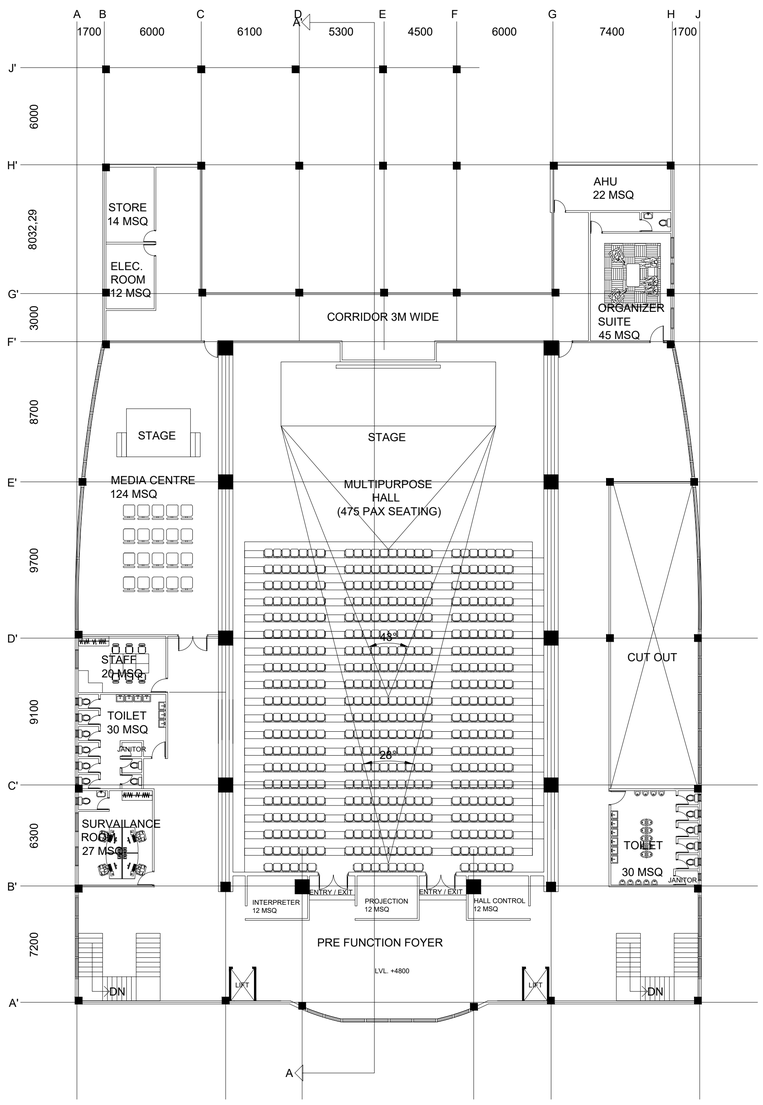
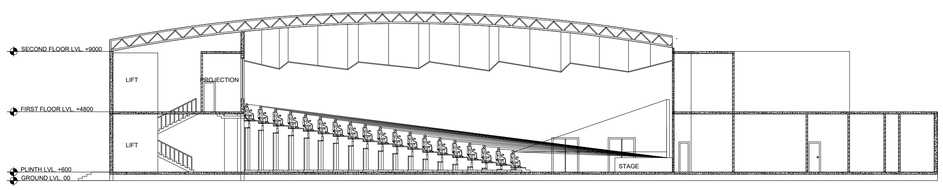


GROUND FLOOR PLAN (1:200)



FIRST FLOOR PLAN (1:200)

FRONT ELEVATION (1:200)



SECTION A-A' (1:200)

THESIS 2019-20

CONVENTION CENTRE SECTOR 25, DWARKA,DELHI

DWG. TITLE

FLOOR PLAN

AUDITORIUM

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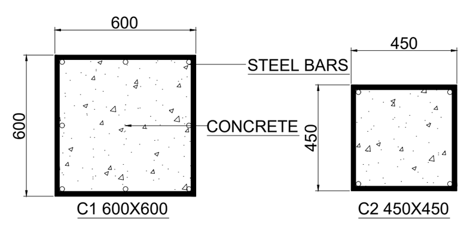
COLUMN SCHEDULE

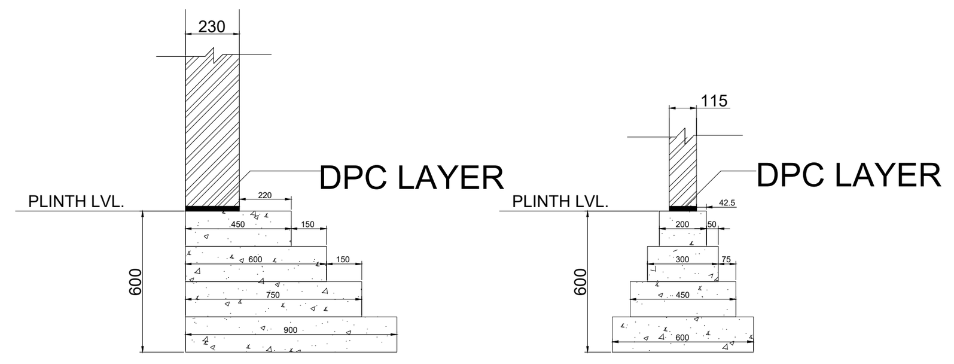
S.NO.	TYPE	SIZE	NOS.
1.	C1	600X600	6
2.	C2	450X450	39



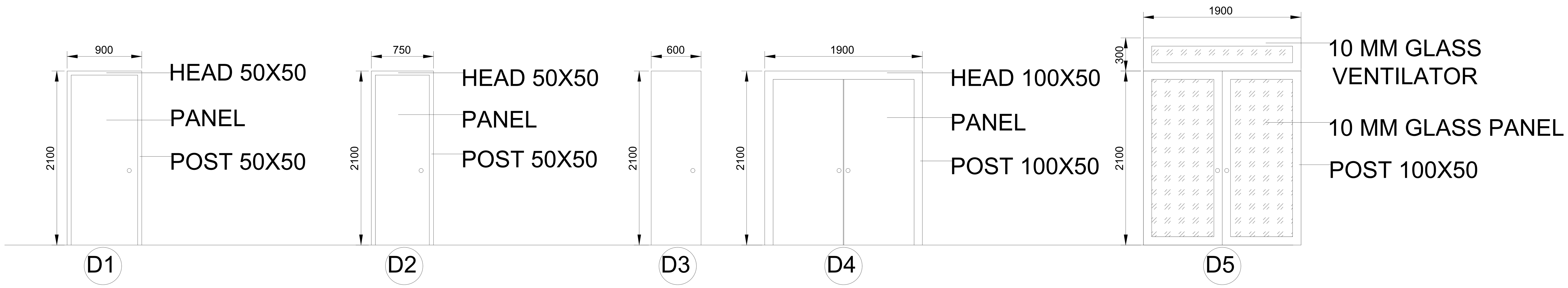
COLUMN DETAIL (1:10)

DOOR AND WINDOW SCHEDULE

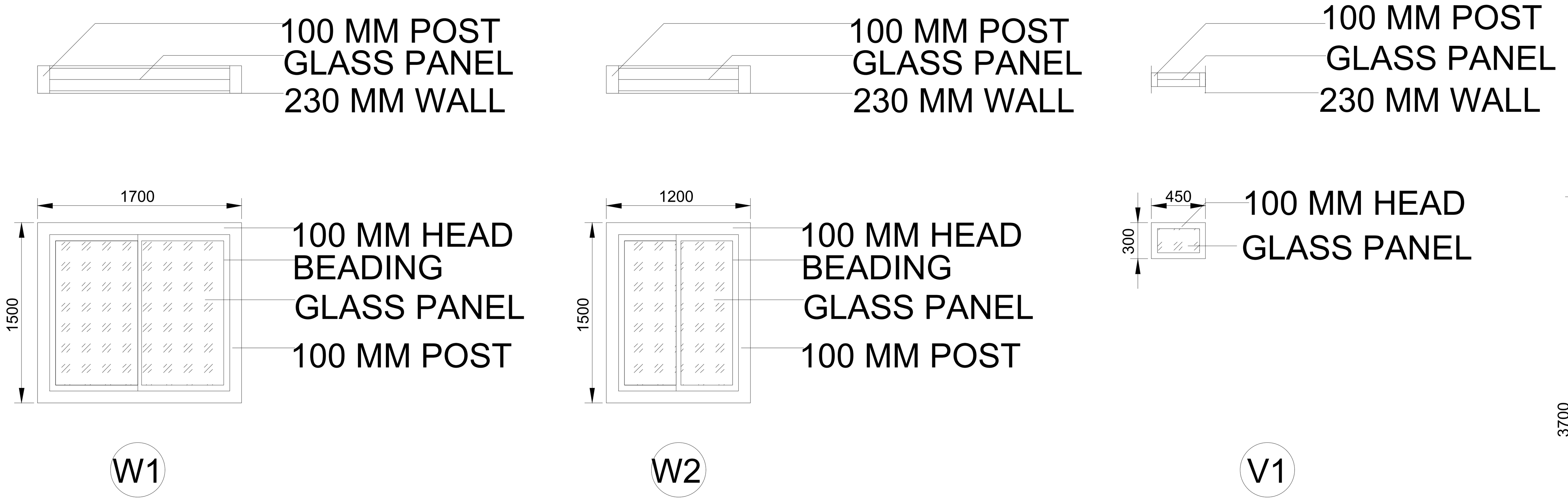
S.NO.	TYPE	SIZE	SILL	LINTEL		REMARK
			WINDOW	DOOR	WINDOW	
1.	D1	900X2100	–	2100	–	
2.	D2	750X2100	–	2100	–	
3.	D3	600X2100	–	2100	–	
4.	D4	1900X2100	–	2100	–	
5.	D5	1900X2100	–	2400	–	
6.	W1	1700X1500	900	–	2400	
7.	W2	1200X1500	900	–	2400	
8.	W3	3700X5165	–	–	3700	
9.	V1	300X450	2100		2400	

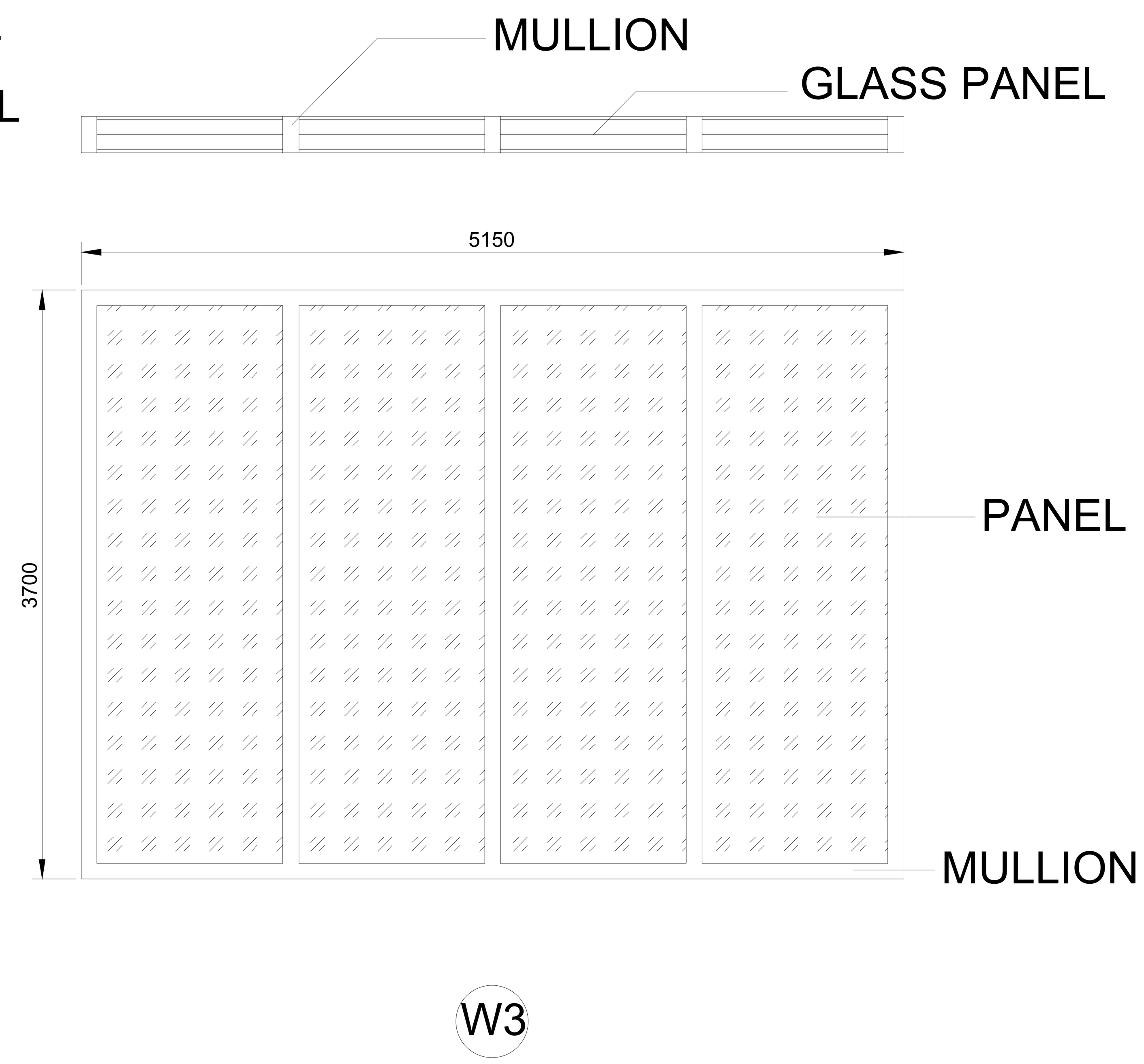


FOUNDATION DETAIL (1:10)



1:50





DOOR WINDOW SCHEDULE (1:50)

THESIS
2019-20

CONVENTION CENTRE
SECTOR 25, DWARKA,DELHI

DWG. TITLE

DOOR WINDOW
SCHEDULE

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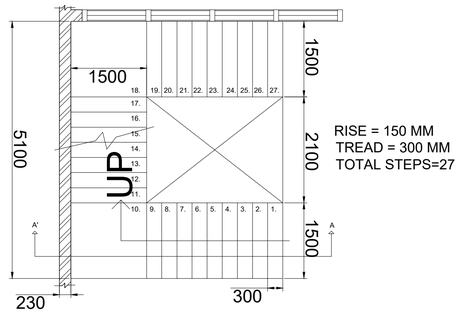
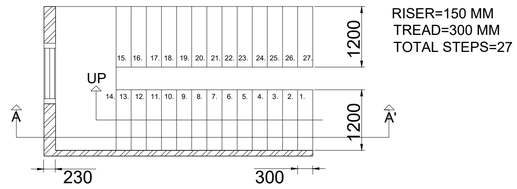
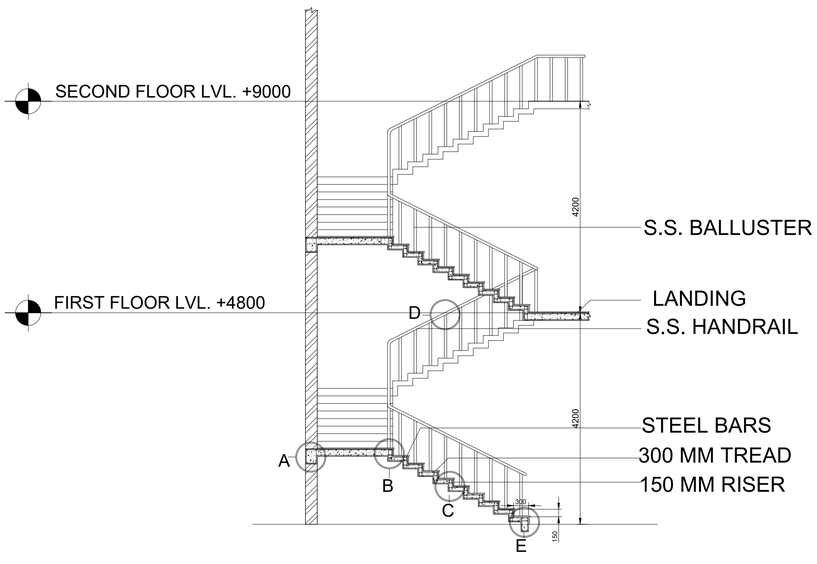


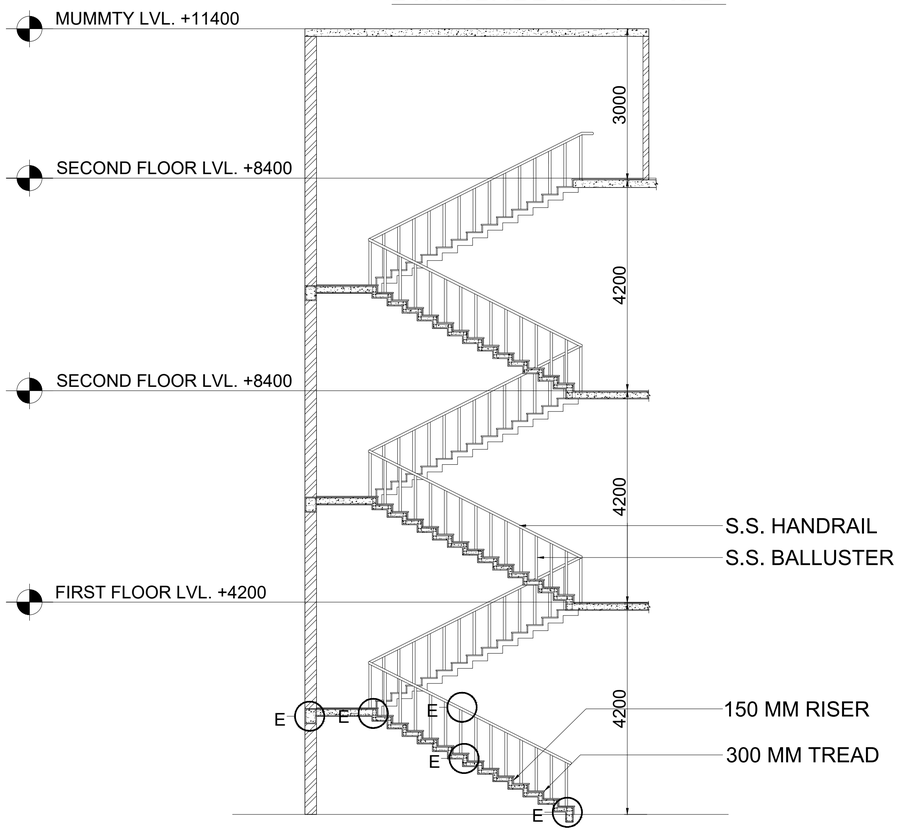
STAIRCASE PLAN (1:50)



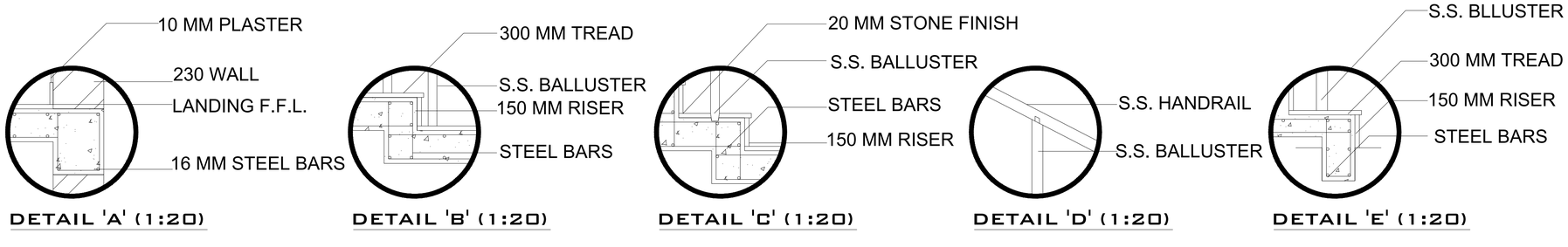
STAIRCASE PLAN (1:50)



STAIRCASE SECTION (1:50)



STAIRCASE SECTION (1:50)



STAIRCASE DETAILS (1:20)

THESIS
2019-20

CONVENTION CENTRE
SECTOR 25, DWARKA,DELHI

DWG. TITLE

STAIRCASE DETAIL

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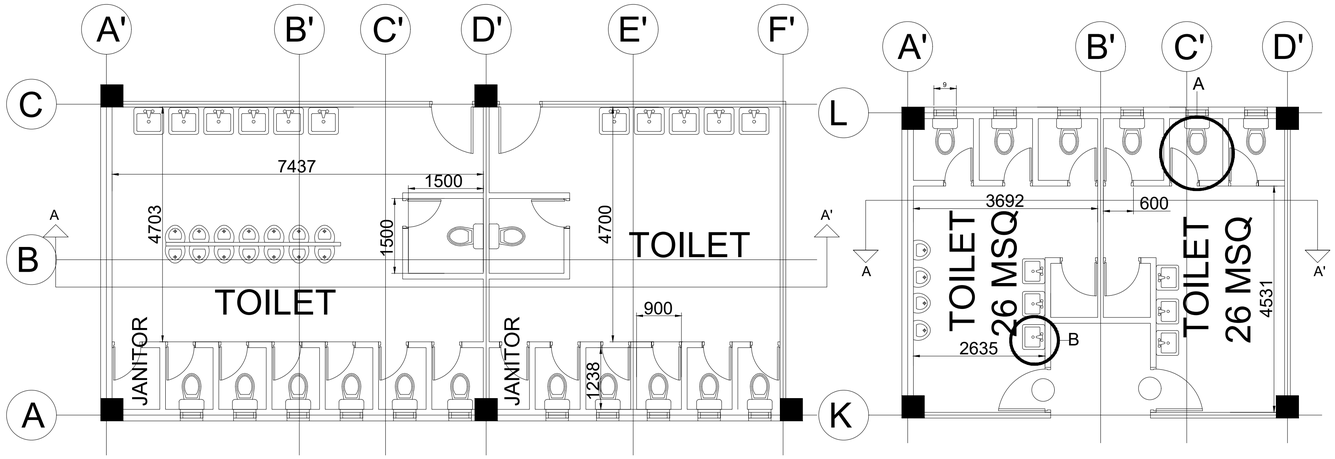
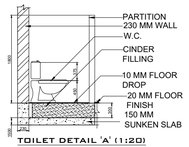


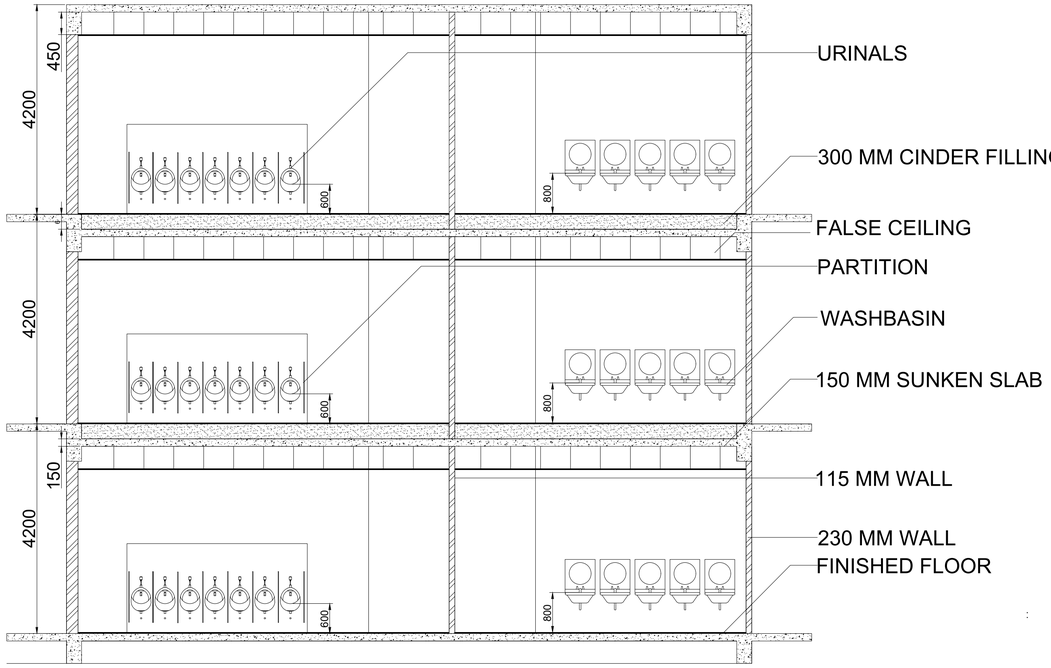
TOILET PLAN (1:50)

STAFF TOILET PLAN (1:50)

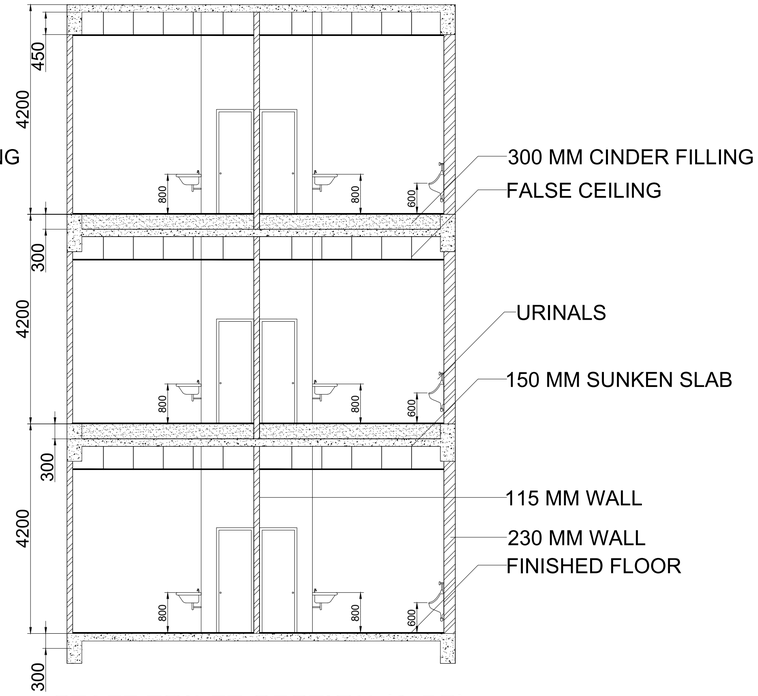
TOILET DETAIL 'B' (1:20)



TOILET DETAIL 'A' (1:20)



TOILET SECTION (1:50)



STAFF TOILET SECTION (1:50)

THESIS
2019-20

CONVENTION CENTRE
SECTOR 25, DWARKA,DELHI

DWG. TITLE

TOILET DETAIL

SUBMITTED BY-

AKASH GUPTA
1150101007
B.B.D.U.

SCALE

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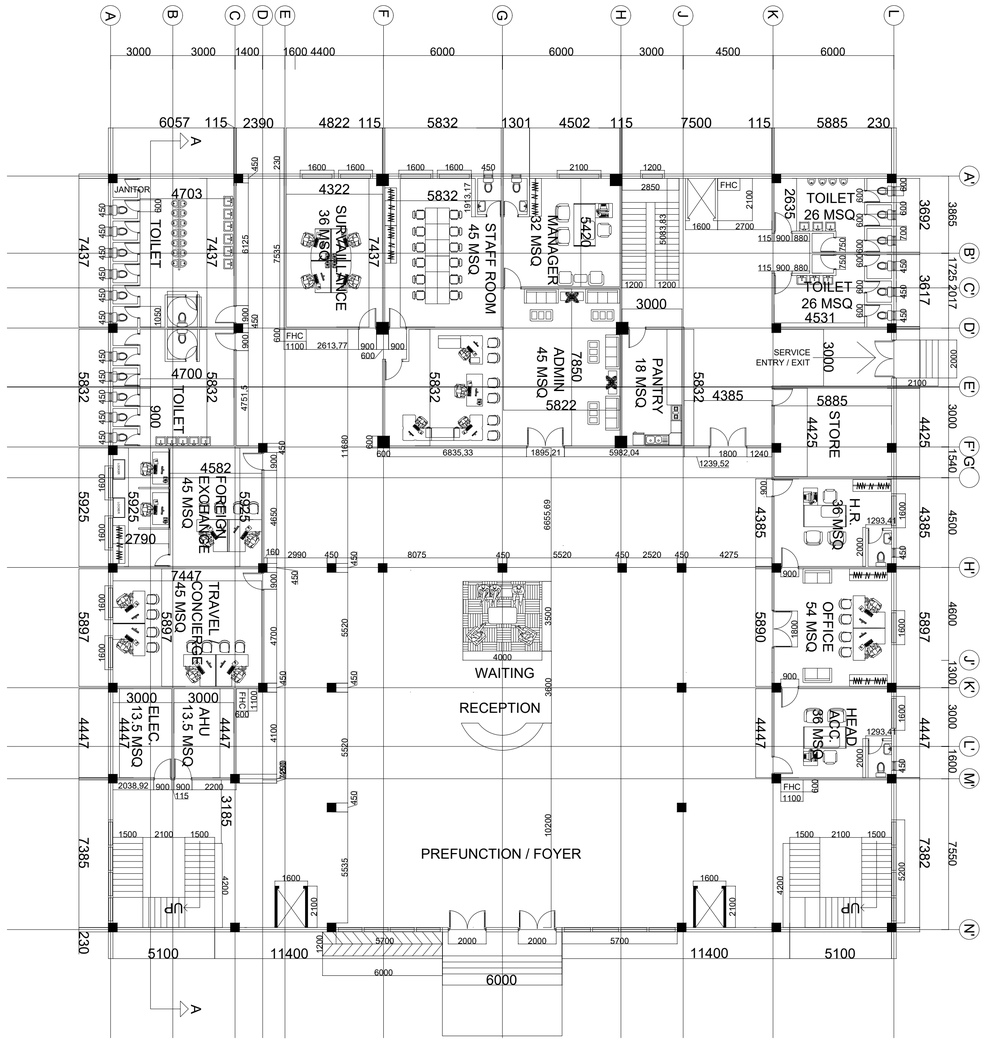
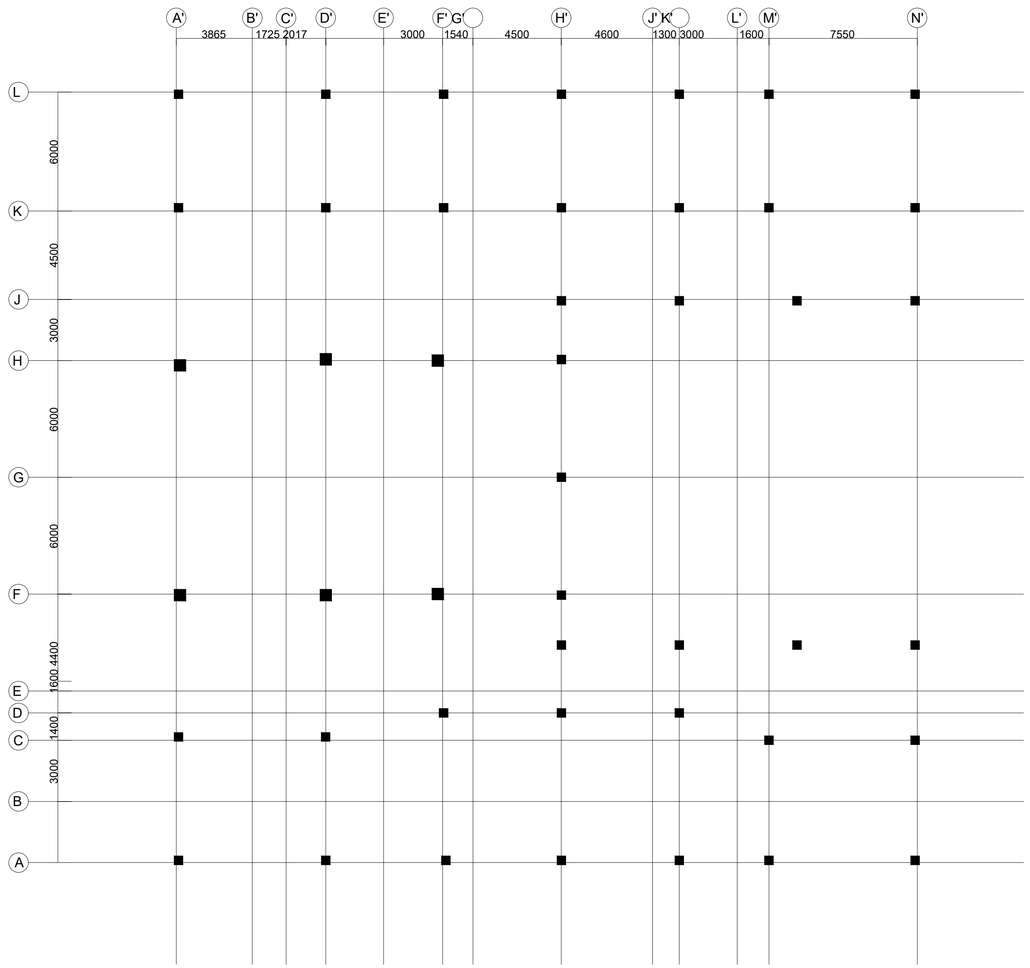


GROUND FLOOR PLAN (1:200)



COLUMN LAYOUT (1:200)

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WORKING DRAWING

ADMIN BLOCK

SUBMITTED BY-

AKASH GUPTA
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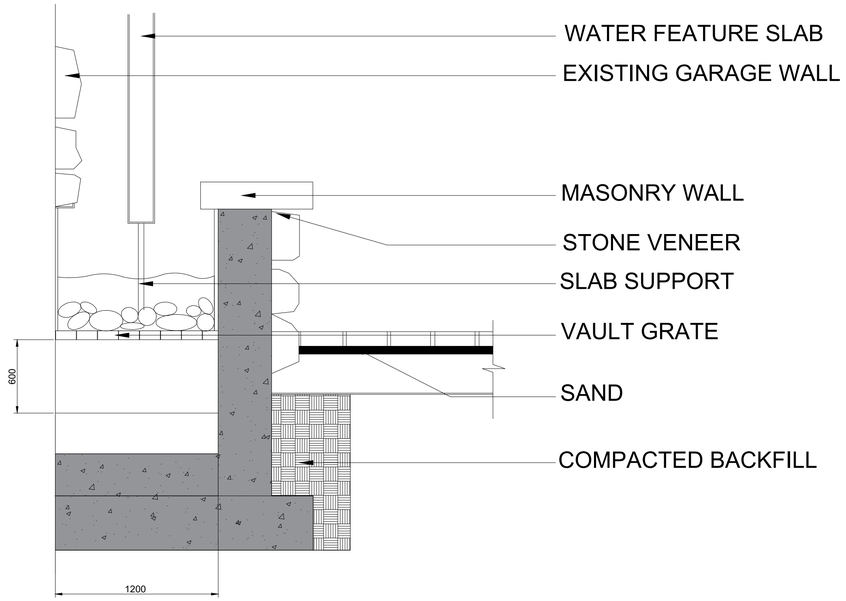
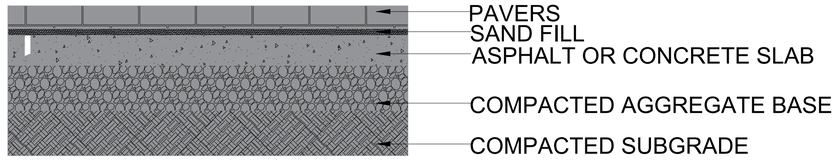
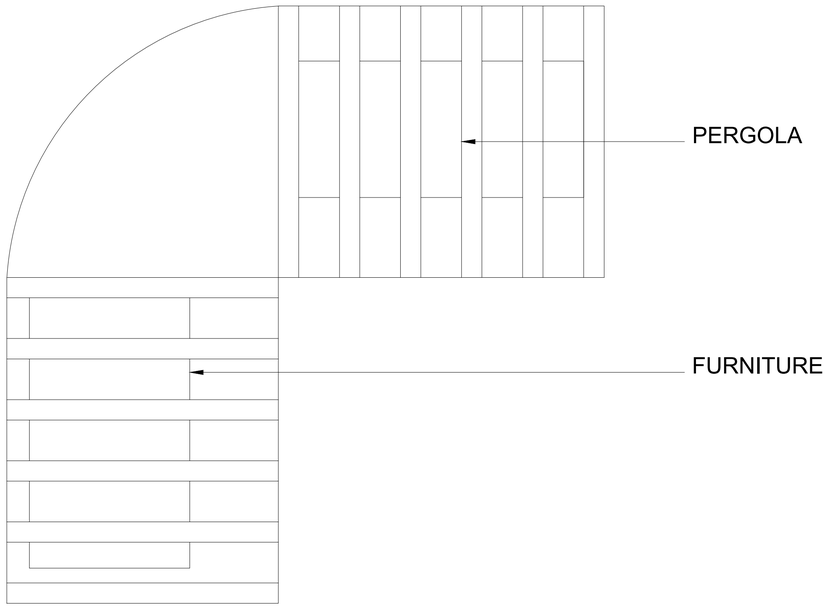


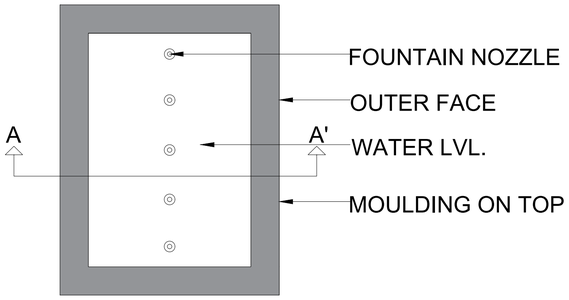
FEATURE WALL SECTION (1:20)



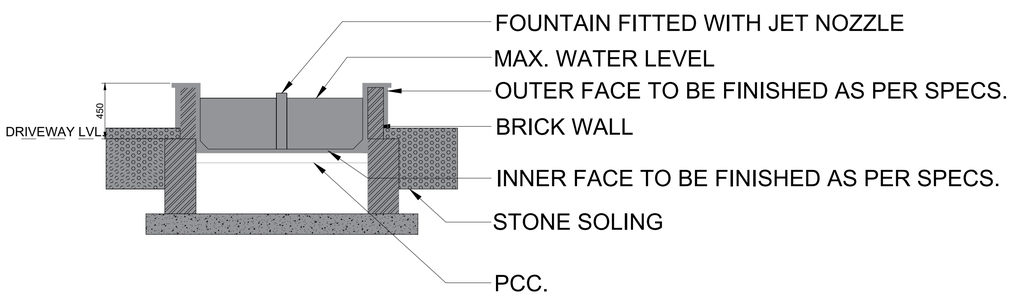
PAVEMENT DETAIL (1:20)



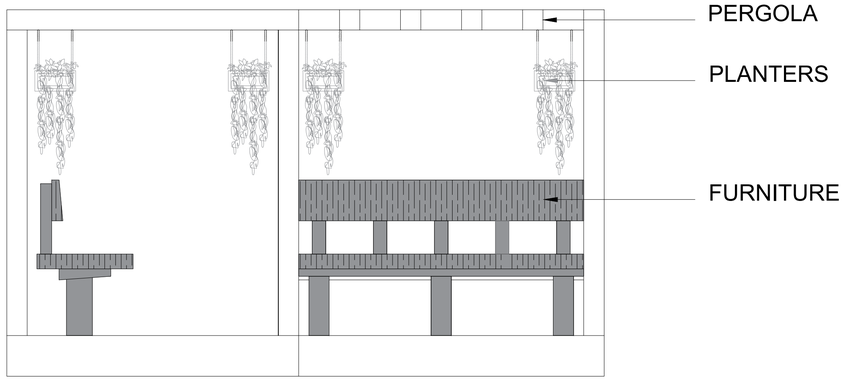
PERGOLA SITTING PLAN (1:20)



JET FOUNTAIN PLAN (1:20)



JET FOUNTAIN SECTION (1:20)



PERGOLA SITTING ELEVATION (1:20)

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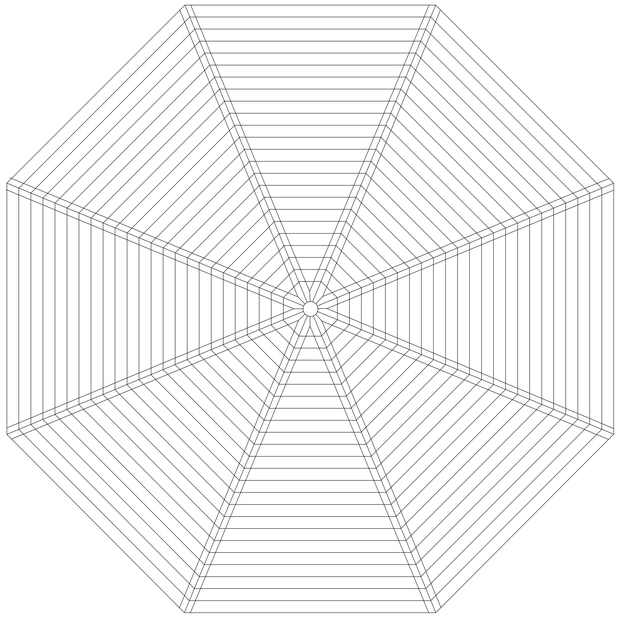
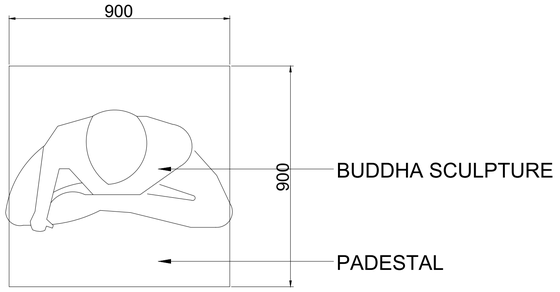


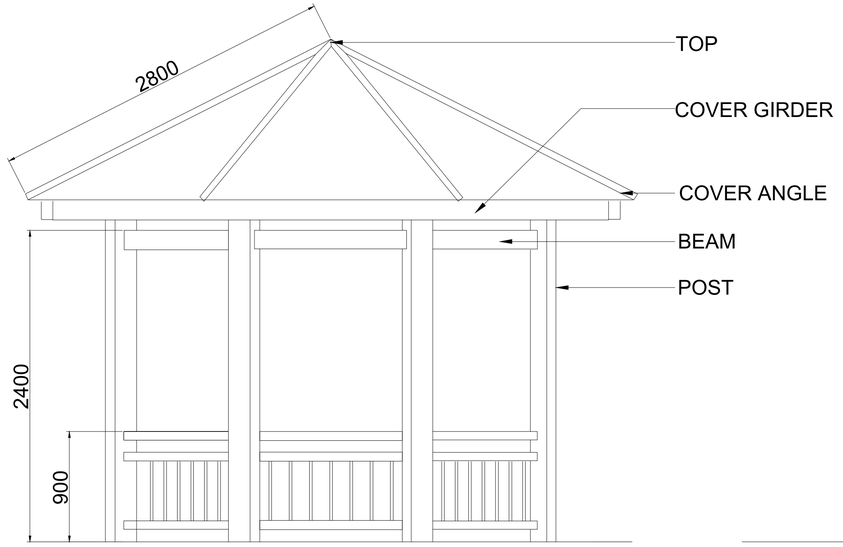
GAZEBO PLAN (1:20)



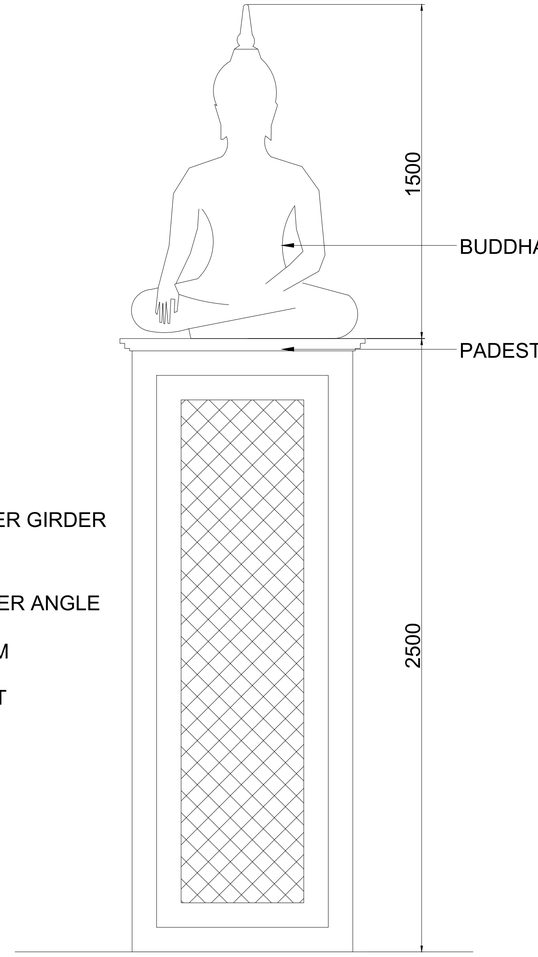
BUDDHA SCULPTURE PLAN (1:10)

LEGEND		
	NAME	DESCRIPTION
	SAL TREE	DECIDOUS TREE
	COCONUT TREE	SLENDER STRAIGHT TRUNK, LARGE LEAVES ON TOP
	BOUGAINVILLEA	ORNAMENTAL PLANT
	GULMOHAR	MEDIUM SIZED, FAST GROWING, ORANGE FLOWERS
	BREAD FRUIT	MEDIUM SIZED DECIDOUS TREE
	BUSHES	LOW HEIGHT DENSE LEAVES CLUSTER
	BOSTON FERNS	NON FLOWERING RUFFLED LOOK
	JASMINE	FLOWERS WITH FRAGRANCE

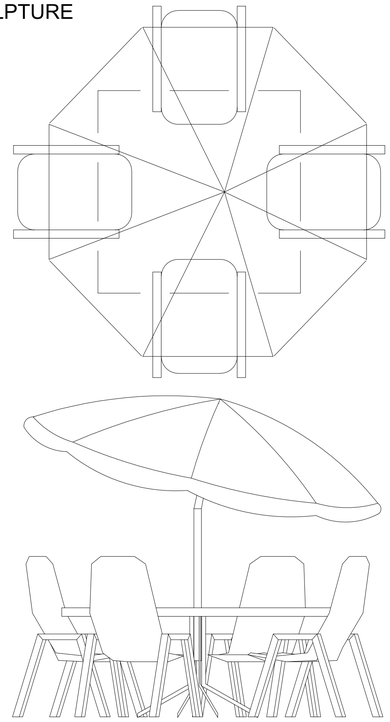
TREES AND PLANTS LEGEND



GAZEBO ELEVATION (1:20)



BUDDHA SCULPTURE ELEVATION (1:10)



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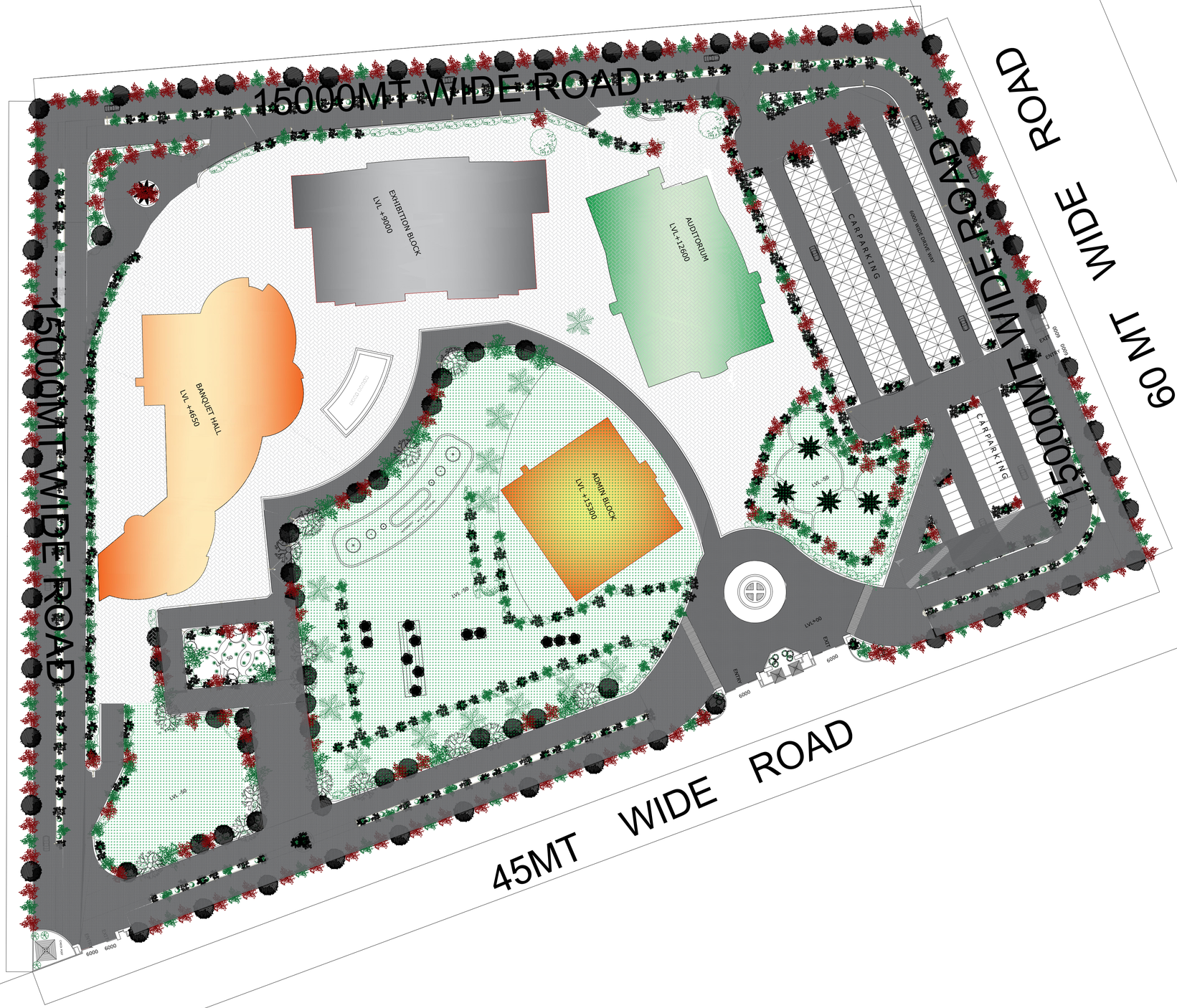

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CONVENTION CENTRE
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SITE PLAN

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