



**BABU BANARASI DAS
UNIVERSITY**

DESIGN OF
HAI HOUSE PROPOSED IN VARANASI

Thesis submitted to the Department of Architecture, BBD UNIVERSITY,
Lucknow in partial fulfillment for the award of the degree of

BACHELOR OF ARCHITECTURE
BY
MOHD FAHAD

UNDER THE GUIDANCE OF AR.ARVIND KUMAR SINGH
DEPARTMENT OF ARCHITECTURE, BBDU, LUCKNOW



DEPARTMENT OF ARCHITECTURE
BABU BANARASI DAS UNIVERSITY, LUCKNOW



BABU BANARASI DAS UNIVERSITY

Department Of Architecture
**BABU BANARASI DAS NATIONAL INSTITUTE
OF TECHNOLOGY & MANAGEMENT,
LUCKNOW (INDIA)**

I hereby recommend that the project under my supervision by Mr.
MOHD FAHAD entitled “**HAJ HOUSE** at **VARANASI**” be
accepted in partial fulfillment of the requirements for the degree of
Bachelor of Architecture.

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ACKNOWLEDGEMENT

THE JOURNEY WHICH STARTED 5 YEARS AGO HAS CULMINATED. AS I STEP INTO THE WORLD A SERIES OF PEOPLE FLASH IN MY MEMORY WITHOUT WHOSE SUPPORT AND GOOD WILL THIS JOURNEY WOULDN'T HAVE BEEN EASY AND FREE FLOWING...

THE FIRST AND FOREMOST GRATITUDE TOWARDS ALMIGHTY **GOD** FOR HIS BLESSINGS. WHO BESTOWED UPON ME THE COURAGE , PATIENCE AND STRENGTH TO EMBARK THIS WORK AND CARRIED IT TO ITS COMPLETION.

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I SHALL ALSO LIKE TO THANKS OUR DEAN **DR. MOHIT KUMAR**, **AR.SHAILESH KUMAR YADAV** (THESIS CO-ORDINATOR), **AR. URVASHI SINGH** (THESIS CO-ORDINATOR) FOR THEIR ENCOURAGEMENT, WORTHWHILE SUGGESTIONS AND CONSTRUCTIVE CRITICISM THROUGHOUT PROJECT WORK.

MY SPECIAL THANKS TO "**MR ASHUTOSH MISRA**" WITHOUT WHOSE CONSULT I WOULD NOT HAVE EVEN TAKEN THIS TOPIC. THANKS FOR HIM SUPPORT AND GUIDANCE.

I WOULD LIKE TO THANKS ALL MY DEAR FRIENDS BUT SPECIALLY THANKS TO **ABDUL AHAD AND MANTASHA ANSARI (SAIMA)**.

FINALLY I EXPRESS MY INFINITE INDEBTEDNESS TO MY PARENTS, FOR THEIR LOVE AND AFFECTION AND GIVING ME ENTHUSIASTIC INSPIRATION AT EVERY STAGE OF MY LIFE. WITHOUT THEIR LOVE, BLESSING AND SACRIFICES, I WOULD PROBABLY HAVE NEVER SUCCEEDED IN CARRYING THROUGH THIS PROJECT WORK. I WOULDN'T ABLE TO COMPLETE MY THESIS WITHOUT BLESSINGS OF MY **MOTHER MRS. (AZIZ FATIMA) AND MY FATHER (MR. ARSHAD ALI)**

THIS THESIS IS DEDICATED TO MY BROTHER **ABDUL AHAD**, AND MY SISTER **ANAM ARSHAD**.

MOHD FAHAD

INTRODUCTION

- 1 - A Building which provides all the concerned and necessary facilities to PILGRIMS FOR HAJJ is known as HAJJ HOUSE.
- 2 - It provides accommodation to the hajj bound muslim peoples.
- 3- Hajj pilgrims stay here before leaving for hajj.
- 4- Accomodation of Pilgrims -:
*Official activities such as passport, immigration and banking (exchange foreign currency).
*Performing the namaz, dinning activity is also performed in HAJJ HOUSE.



HAJJ HOUSE, GHAZIABAD

- WHY THIS PROJECT

- 1) If we provide a Hajj house in Varanasi, the requirement of Hajj house for Haj Pilgrims
- 2) From the near areas (i.e, johnpur, Ghazipur and pratapgadh) will be fullfilled because
- 3) There is no Hajj house in the Eastren UP, and better facility will be provide for pilgrims.

NEED OF HAJ HOUSE IN VARANASI

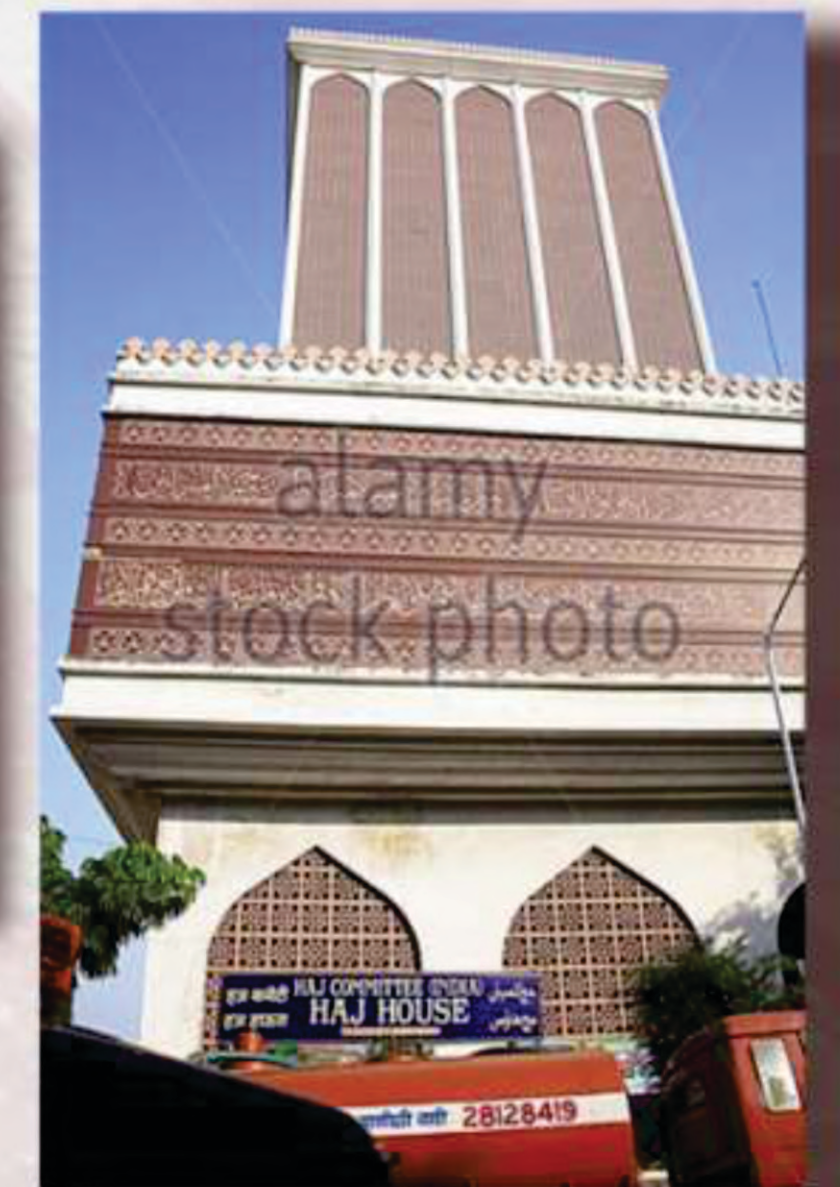
- 1- Since there is no hajj house for hajj pilgrims in the near vicinity of varanasi, they are needed to travel to Lucknow and.
- 2- If we provide a haj house in varanasi, the no need to travel the long distance and requirement will be fulfilled in near area (Ghazpur, johnpur and pratpgadh etc).
- 3- There is no Hajj House in the whole Eastern UP areas Else than lucknow.



MASJID - E - NABWI



HAJJ HOUSE, HYDERABAD



HAJJ HOUSE, MUMBAI

HAJJ COMMITTEE OF INDIA

- 1 - Hajj committee of India is a government body which arrange all the concerned facilities related to Hajj pilgrims and to coordinate with the pilgrims and saudi airlines, during the hajj.
- 2- The maximum number of HAJJ pilgrims are going from UP in 2017 arround 27,425 pilgrims went for hajj
- 3- Arround 4,375 pilgrims went for Hajj in 2017 from varanasi.
- 4- Presentally 1,36,020 Pilgrims are going from India in which arround 1,23,700 are going through the HAJJ COMMITTEE and 12,320 people going from the PRIVATE TOURS AND TRAVELLS.



HAJJ HOUSE, LUCKNOW

**HAJJ HOUSE
VARANASI**

THESIS GUIDE: AR. ARVIND KUMAR SINGH

**MOHD. FAHAD
1150101042**

- AIMS

- 1- The aim of this project is to reside the haj pilgrims before leaving to MECCA and on returning from MECCA.
- 2- To provide the best facilities and convenience to the Hajj Pilgrims.
- 3- To make arrangement for boarding and lodging for about a month.

- OBJECTIVES

- 1- The study of islamic architecture provides us an ideal opportunity to understand what is architectural foarms and elements.
- 2- Understand the elements of islamic architecture i.e, DOMES, VAULT and ARCHES.

- METHODOLOGY

- 1- Project formulation
- 2- Data collection
- 3- Case studies
- 4- Site analysis
- 5- Climatic study
- 6- Concept design
- 7- Detailed design proposal

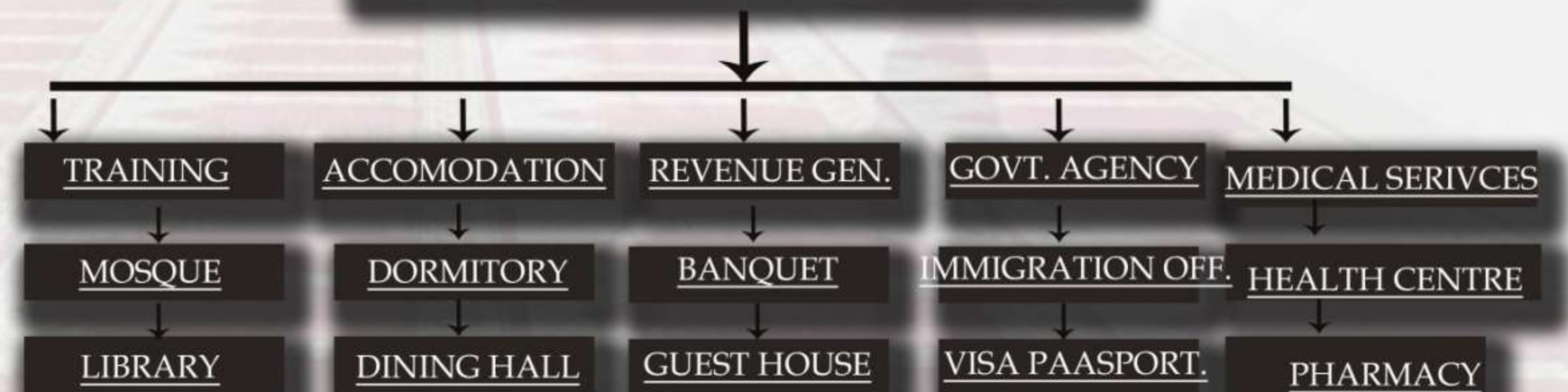


ARCH



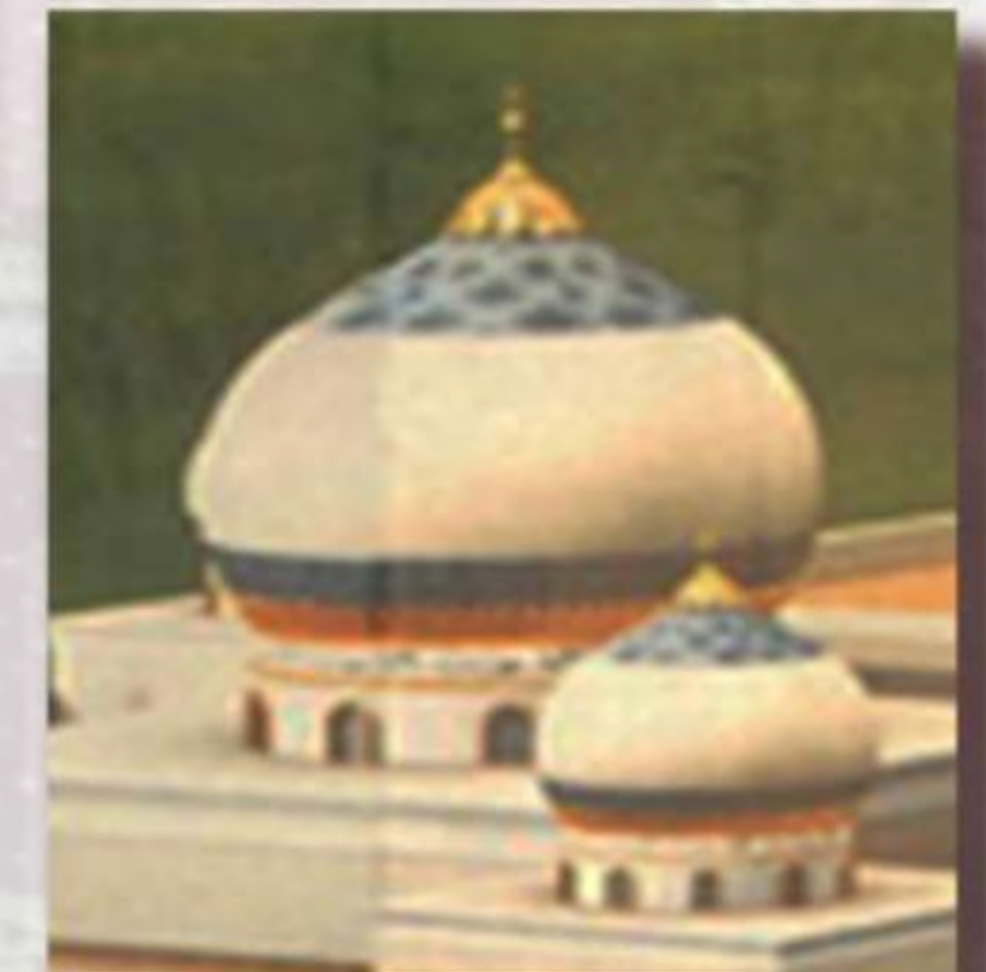
HAJJ HOUSE, LUCKNOW

FUNCTION OF A HAJ HOUSE



RELEVANT CASE STUDY

- 1- HAJJ HOUSE, LUCKNOW.
- 2- HAJ HOUSE, DELHI.



DOMES

SITE ANALYSIS

- INTRODUCTION

- 1- Varanasi is located in the part of the Ganges valley of north India, in the eastern part of Uttar Pradesh, along the left crescent-shaped bank of Ganga average between 50ft, and 70 ft.
- 2- Varanasi is one of the oldest living cities in the world.
- 3- Varanasi is also known as Banares and Kashi, THE CITY OF LIGHTS.

- SITE LOCATION

- 1- Site is located 11 km near the Bus stand, 10 km from the Varanasi Cantt railway station and 10 km from the airport
- 2- Site is located in front of Volkswagen and Raj Mahindra, and Pragma Hospital in west side of the site.
- 3- Access road on 1 side (front).



SITE



SITE

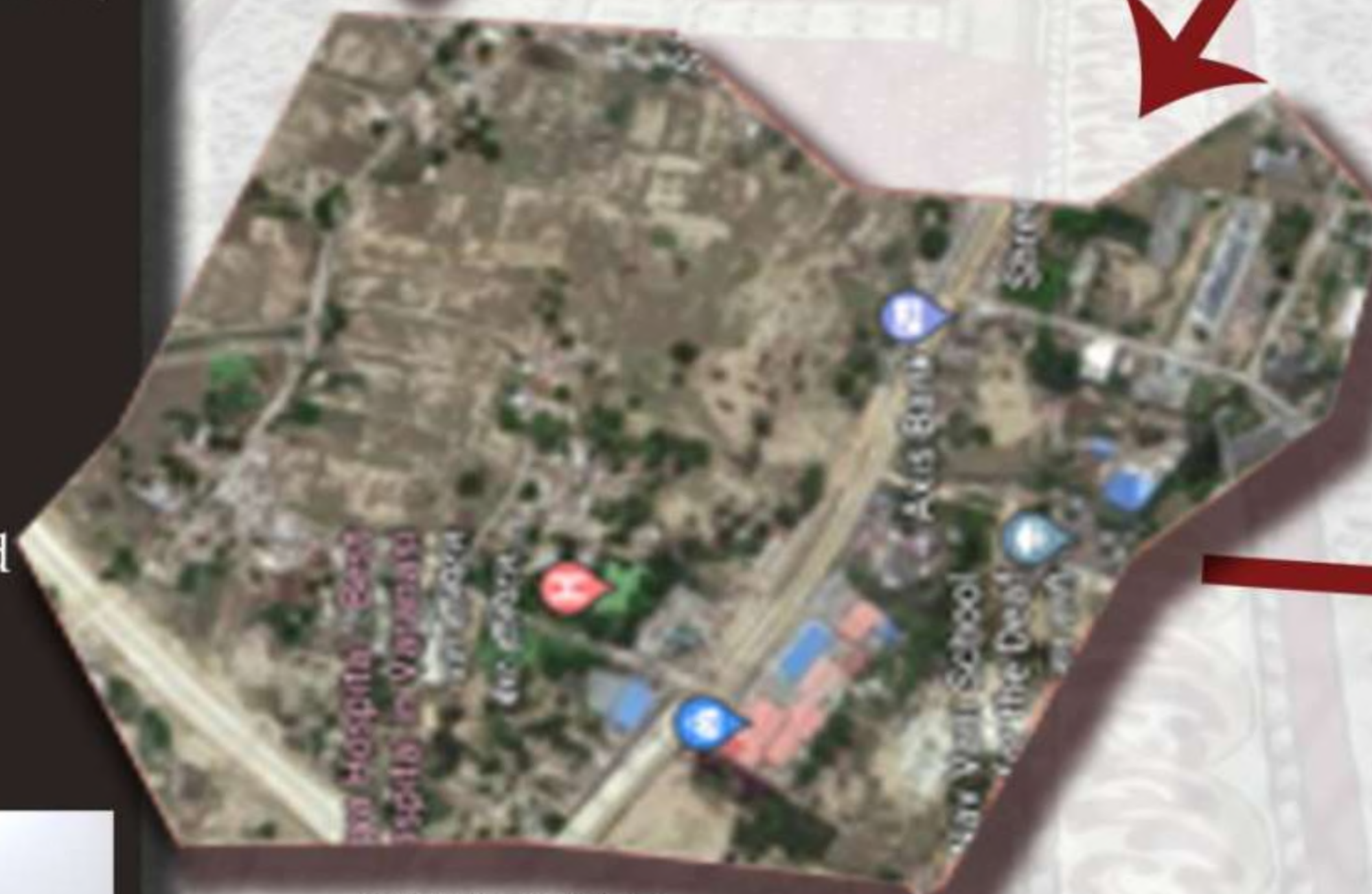


INDIA

U.P, VARANASI



MASTER PLAN



WAZIDPUR



PROPOSED SITE
AREA - 11.53
ACRES

N



NH- 31

SITE - NH- 31



SITE SECTION

HAJJ HOUSE
VARANASI

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- CLIMATE TYPE

- 1- COMPOSITE CLIMATE
- 2- Varanasi experience a large variations between summer and winter temperatures.
- 3- The dry summer starts in april and last until june.
- 4- Winter in varanasi see very large day by day variations, with warm days and downlight cold nights. Fog is common in the winters while hot and dry winds called loo, blowing in the summer.

- WATER LEVEL

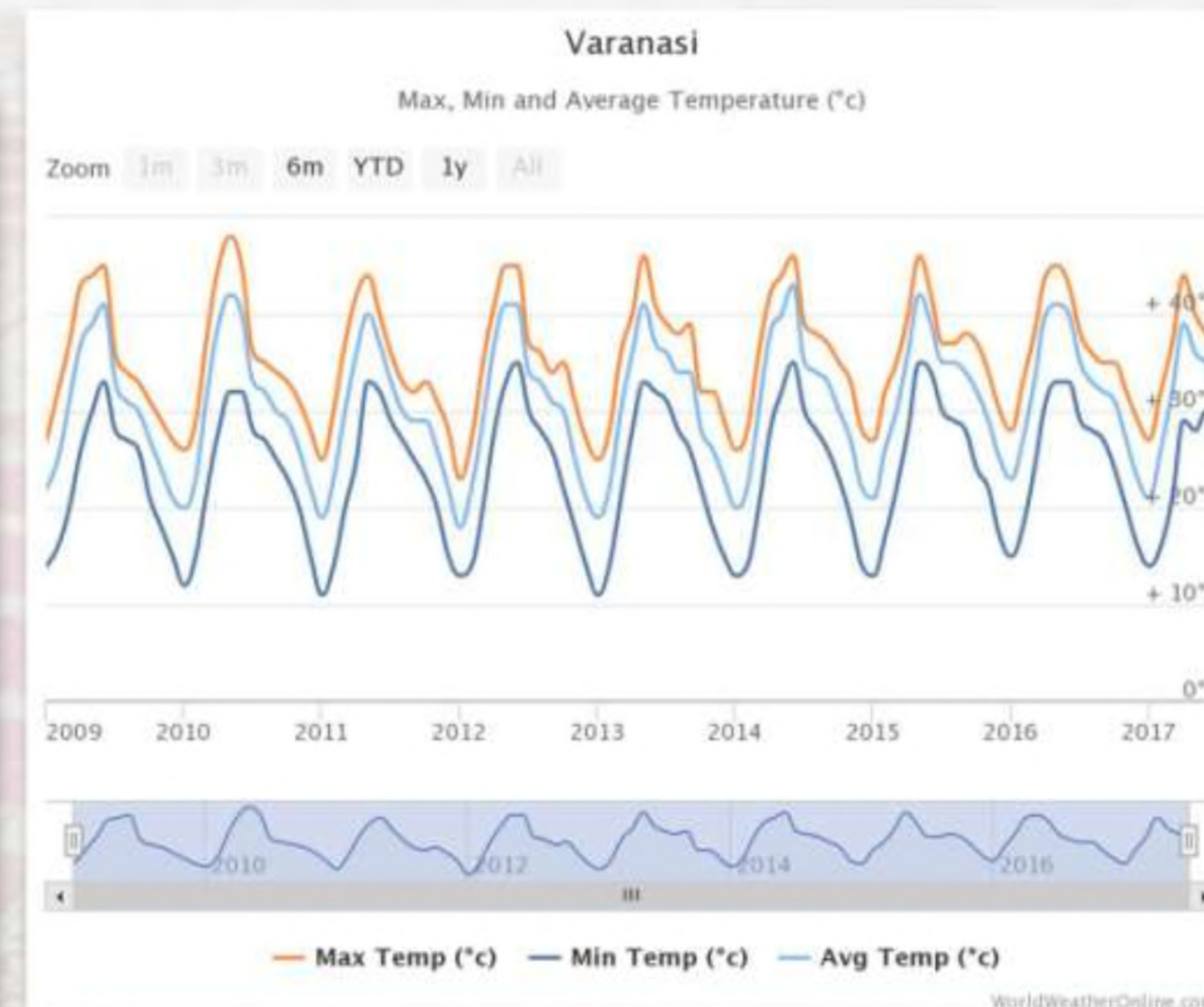
- 1- The annual depletion rate of ground water in the city is 75cm to 90 cm.
- 2- In the past five years, the ground water table has gone down to 10 - 20 meter from 15 - 16 meters in te urban area of Varanasi.

- SOIL TYPE

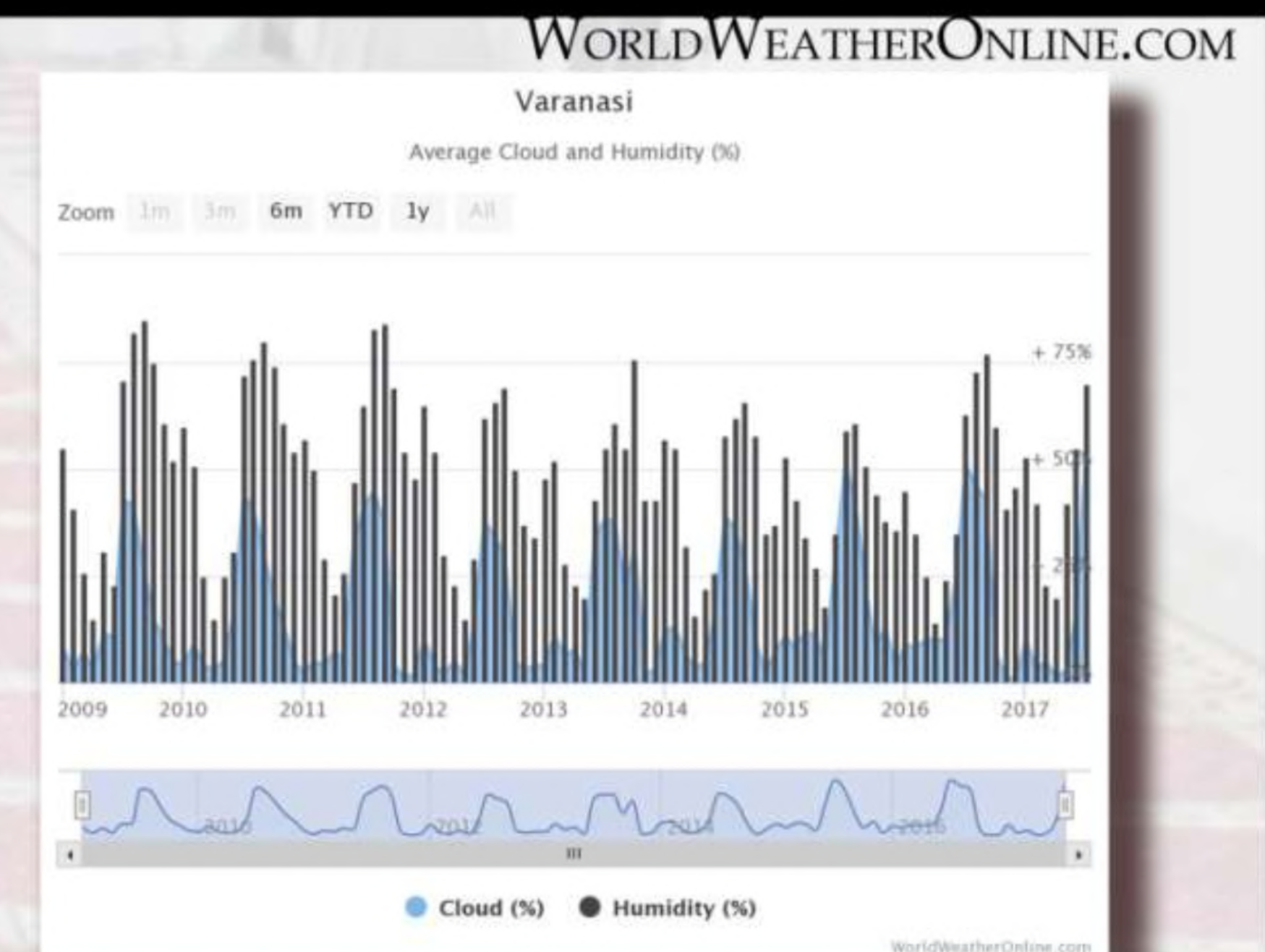
- 1- The soil of the site is ALLUVIAL or yellow Clayely Soil of comperative Strength.
- 2- 10 to 12 T/m² in normal load condition.



RAINFALL AMOUNT



MIN, MAX AND AVERAGE TEMPERATURE



CLOUD AND HUMIDITY

- TEMPERATURE

- 1- The temperature ranges between 22 - 46 degree C in the summer, 6 degree C in the month of december to february.
- 2- Almost 80% of the year the direction of the preveiling wind if form north west to south east direction. Changes in the preveiling wind at the beginning of the warm and humid season bring rain and cloud.
- 3- The best orientation of the building will be north to south direction.
- 4- The highest relative humidity is recoded in the month of july, august and september 70 - 80%. The lowest relative humididity recoded in the month of March , April and May.
- 5- Heavy rainfall occurs in the month of July and August 240 - 290mm for 20 days approx. Lowest rainfall occurs in the month of March, April < november and December 4 - 9mm for 1 - 2 days.



SITE (EAST DIRECTION)

**H.A.J.J HOUSE
VARANASI**

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- BYE LAWS

- 1- Permissible Grond Coverage - 35%
- 2- Permissible F.A.R - 1.5
- 3- According to AAI, height of building is 10 Mts.
- 4- The ramp should be 1 : 10
- 5- Front set back - 9 Mts.
- 6- Rear set back - 6 Mts.
- 7- Side Set Back - 6 Mts.
- 8- Landscape should be done 20% of the total area of site.



EAST SIDE



NORTH SIDE

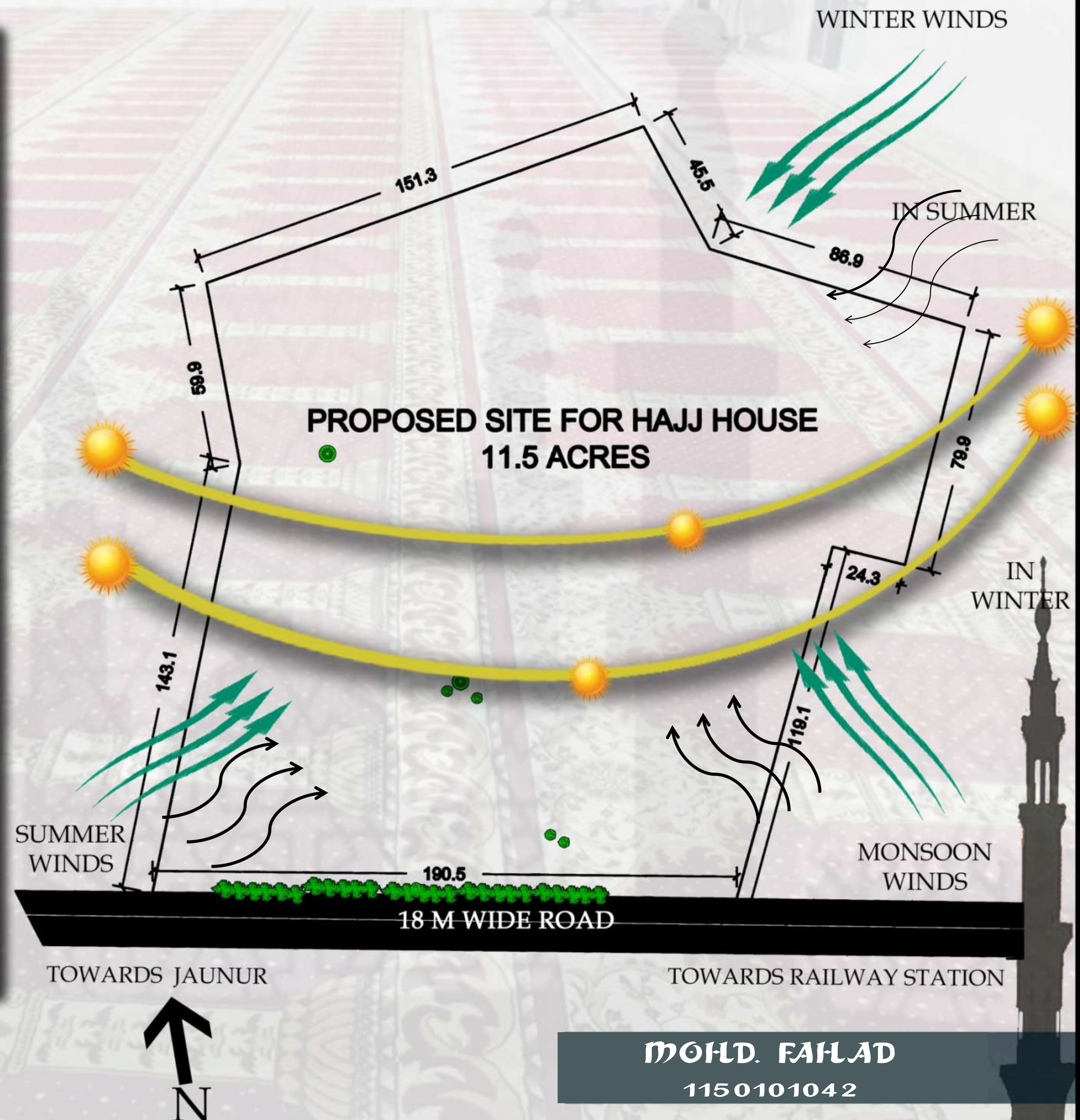


WEST SIDE



SOUTH SIDE

**HAJJ HOUSE
VARANASI**



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- VEGETATION

- 1- Inside the site there is 5 Sheesham tree
3 Neem trees and bamboo trees in front
side of the site.

- TOPOGRAPHY

- 1- The site is usually Flat and and the slope of
site in South side of the site (NH - 31).

- SERVICES

- 1- The site has electric poles on the front of the
site.
- 2- Water will be supplied by the municipal
authority of varanasi.
- 3- Drainage line will be given.
- 4- Sewage line is present in the along the
NH - 31.



UNDER GROUND ELECTRIC WIRES



TOWARDS HIGHCOURT

NH - 31

TOWARDS JOHNPUR

NH - 31



EAST SIDE



WEST SIDE



ELECTRIC POLE



SOUTH SIDE

- INFERENCES

- 1- CROSS VENTELATION SHOLUD BE DONE PROPERLY.
- 2- PLACEMENT OF BUILDING SHOULD BE DONE IN
NORTH AND SOUTH DIRECTION.
- 3- 20 - 40% MEDIUM OPENING SHOULD BE GIVEN.
- 4- HEAVY EXTERNAL WALLS SHOULD BE GIVEN FOR THE
REDUCE HEAT TRANSMISSION INSIDE THE WALL.
- 5- HORIZONTAL AND VERTICAL SHADING LOWERS CAN
BE USED.
- 6- TREES SHOULD BE PLANTED TOWARDS WEST AND
SOUTH SIDE.



TOWARDS
HIGHCOURT

CASE STUDY- 1

- LOCATION

- 1- The Hajj House is located near CHOUDHARY CHARAN SINGH INTERNATIONAL AIRPORT, kanpur road, sarojni nagar, Lucknow.
- 2- It is 2.2 KM from AIRPORT, 5 km from ALAMBAGH BUS STAND and 8 KM from CHARBAGH RAILWAY STATION.

- PROJECT DETAIL

- 1- Client - Government Of Uttar Pradesh.
- 2- Architect - Ar. Faraz USmani.
- 3- Site Area - 9.9 Acres.
- 4- Capacity - 1200 Pilgrims.

- STATE HAJJ QUOTA

- 1- It Accomodates the pilgrims comming from the other Districts of U.P (central districts like Ambedkar Nagar, Auriyya, Badayun, Balrampur, Banda, Barabanki, Bareilly, Basti, Amethi, Behraich, Chitrkoot, Etah, Etawah, Faizabad, Farrukhabad, Gonda, Hameerpur, Hardoi, Jhalun, Jhansi, Kannuj, Kanpur, Kasganj, Lakhimpur Kheri, Lalpur, MAhob, Manipur, Pilibhit, Pratapgarh, Rae Bareilly, Ramabai Nagar, Shahjahanpur, Sitapur, Unnao, Sultanpur and Siddharth Nagar.
- 2 - UTTAR PRADESH PILGRIMS QUOTA - 32173.



SAINIK SCHOOL GROUND



SIGNADGE



MOSQUE
Basement
Ground Floor
First floor



CHOUDHARY CHARAN SINGH
INTERNATIONAL AIRPORT



SITE LOCATION PLAN



SPORTS AUTHORITY OF INDIA



MAULANA ALI MIYAN MEMORIAL HAJJ HOUSE , LUCKNOW.

HAJJ HOUSE
VARANASI

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- PLANNING FEATURES

- 1- Basement parking for the staff, Visitors and officers is given, on site having 4 skylight for light and ventilation.
- 2- The building is planed around the courtyard, along the with water body inside which has contain 72 abulition tap.
- 3- The central space is used for waiting area durig the arrival of the pilgrims from from respective districts.
- 4- The higher officer's office is placed on ground floor just near to the entrance of the main block.
- 5- Reporting office block is seperated from the main block.
- 6- 3 Meter wide corridor runs along the courtyard
- 7- In the mosque, the bacement is used for womens and grong floor or first floor is used for mens.
- 8- Others office and staff quaters has been provided in the east side of the site for police, telephones, nagarmigam, electricity and entrypess etc.



CAFETARIA BLOCK

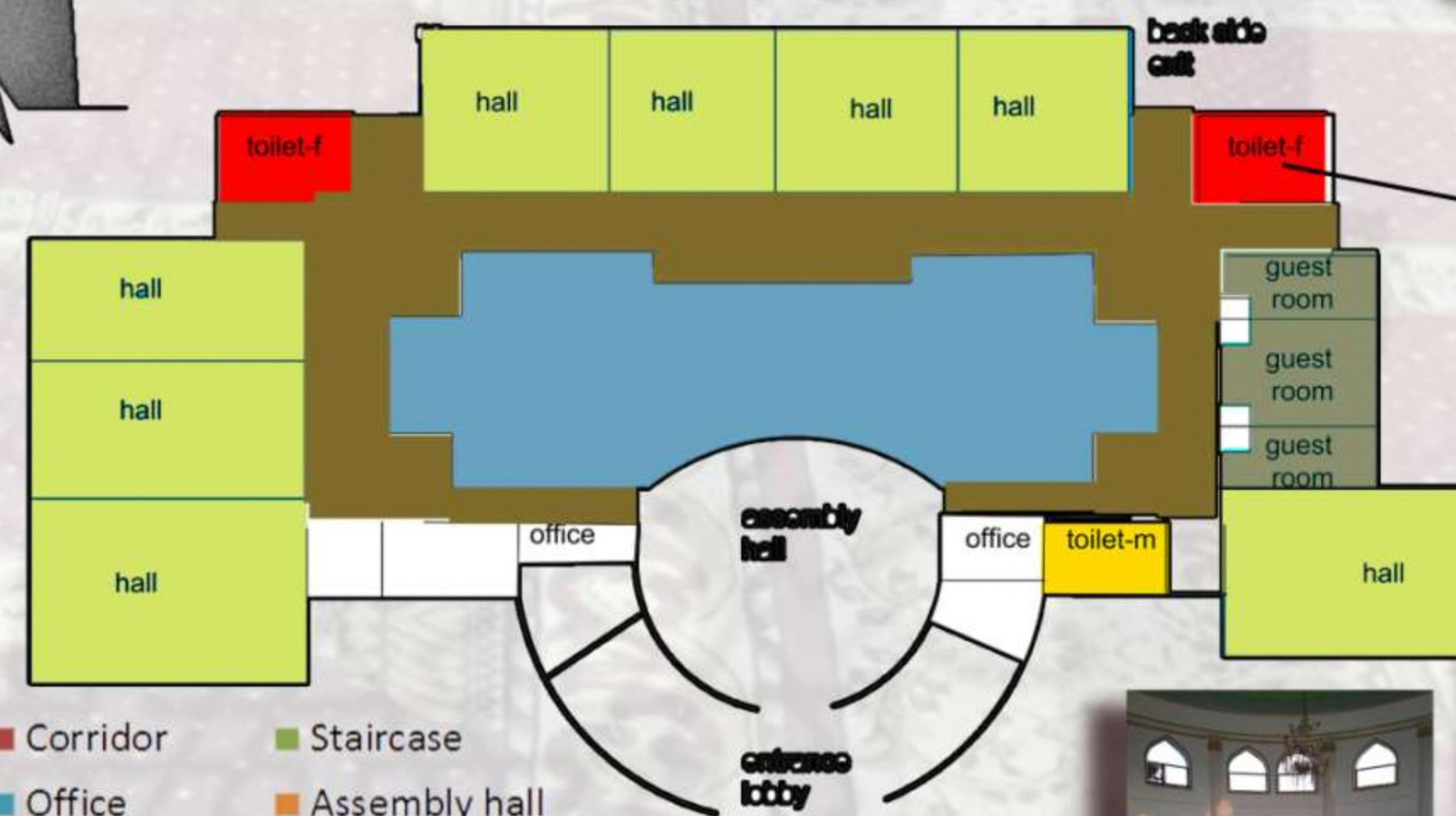


ENTRANCE

**H.A.J.J HOUSE
VARANASI**

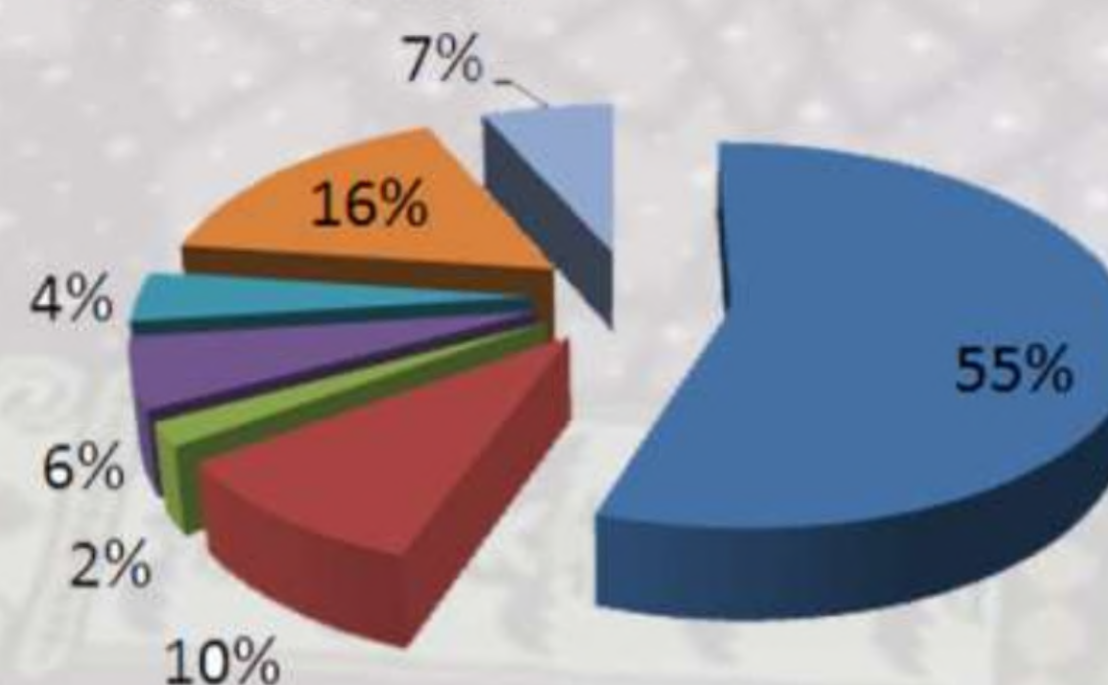


SITE PLAN



GROUND FLOOR PLAN

- Dormitory
- Corridor
- Staircase
- Guest Room
- Office
- Assembly hall
- Entrance Hall



DORMITORY - 654 Sq.Mt
CORRIDOR - 350 Sq.Mt
GUEST ROOM - 90 Sq.Mt
ASSEMBLY HALL - 100 Sq.Mt
OFFICE - 50 Sq.Mt
TOILETS - 115.2 Sq.Mt
STAIRS - 56 Sq.Mt



TOILET



STAIRS



ASSEMBLY HALL

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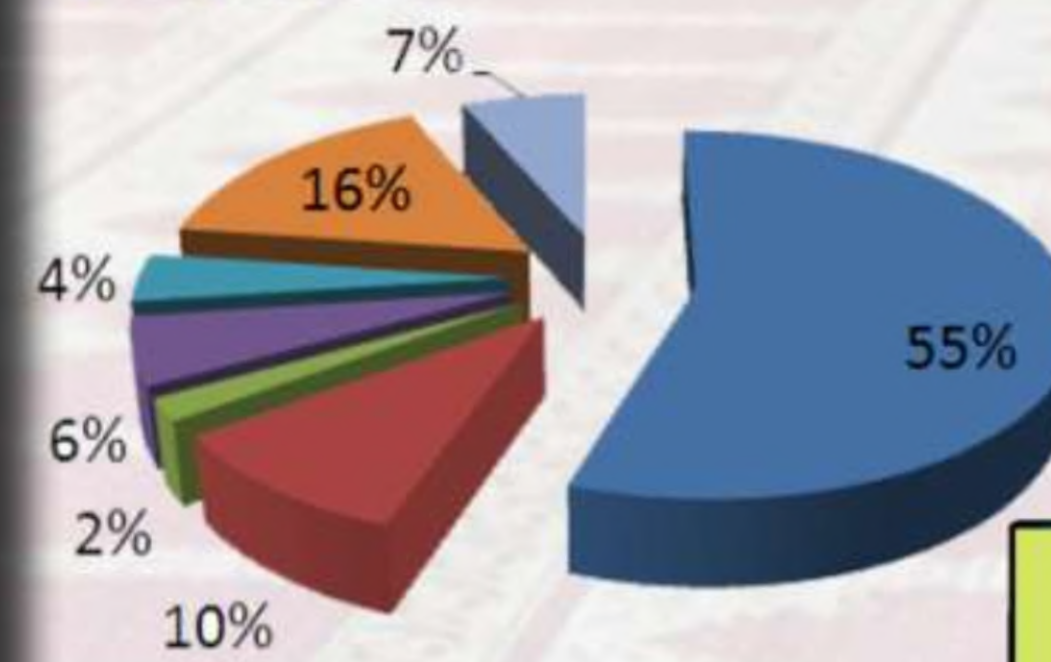
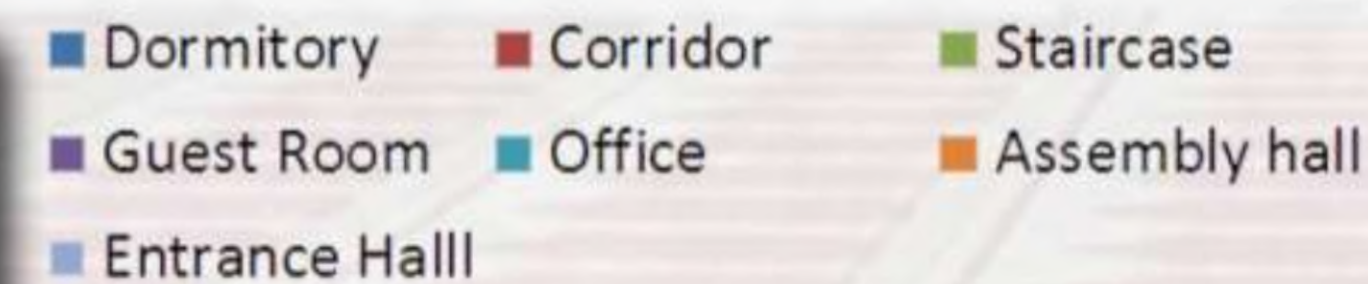
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- SERVICES

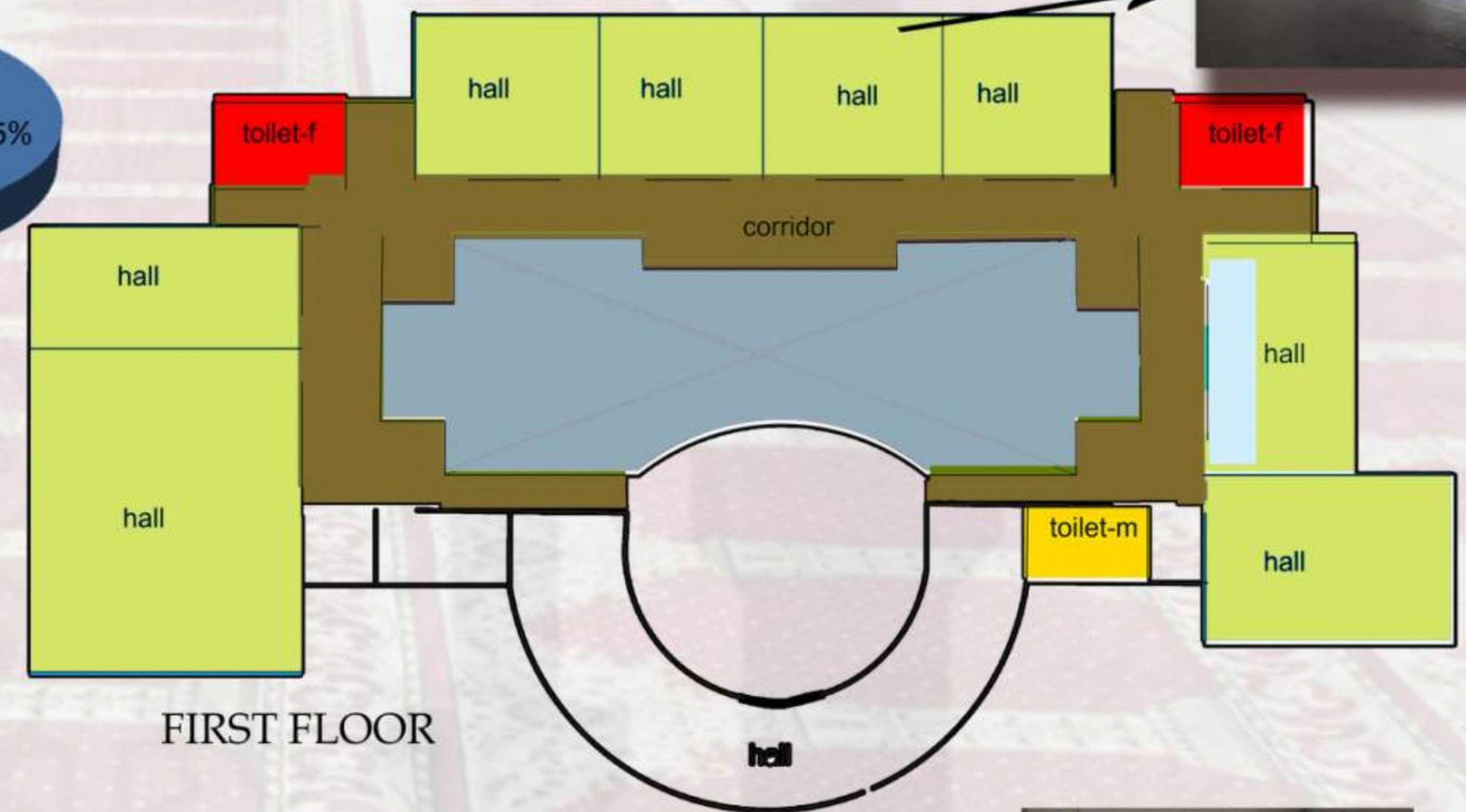
- 1- 2 Septic tanks are given on site.
- 2- Two electricity line have benn taken on site 25kw and 89kw.
- 3- Provision for both indian and western toilets has ben given.
- 4- 4 Buses are parked on the south side of the site near the main block for taking the pilgrims to the airport.
- 5- 2 Water tanks of capacity is 20,000 ltr each.
- 6- 2 Ambulance and 1 fire sation vehicle are present on the site during the arrival of pilgrims.
- 7- Fire existinguishers and pipes has been provided inside and outside the building.
- 8- Two ward room for men and women accomodates 3 patients each.
- 9- Water drange line is present on site.
- 10- The plumbing pipes and drainage pipes were placed inside the duct.
- 11- Split a.c are provided for air conditioning of the offices and dormitories.



HAJJ HOUSE VARANASI



DORMITORY	- 654 Sq.Mt
CORRIDOR	- 350 Sq.Mt
GUEST ROOM	- 90 Sq.Mt
ASSEMBLY HALL	- 100 Sq.Mt
OFFICE	- 50 Sq.Mt
TOILETS	- 115.2 Sq.Mt
STAIRS	- 56 Sq.Mt



- AREA DETAILS

- 1- Ground coverage - 30%
- 2- F.A.R : 1.5
- 3- Plot area : 9.9 Acres
- 4- Total buildup area : 49000 Sq.Mt
- 5- Office area : 403 Sq.Mt
- 6- Mosque (Men + Women) : 500 Sq.Mt
- 7- Cafeteria : 438 Sq.Mt
- 8- Dormitories : 14222 Sq.Mt
- 9- Pantery : Dinning + Kitchen : 268 Sq.Mt
- 10- Rooms : 230 Sq.Mt
- 11- Toilet : 42 sq.Mt
- 12- Parking : 68 Cars + 25 Bikes + 5 Buses



HOSE REEL



FIRE EXTINGUISHER



LT PANNEL



DB

MOHD. FAHAD

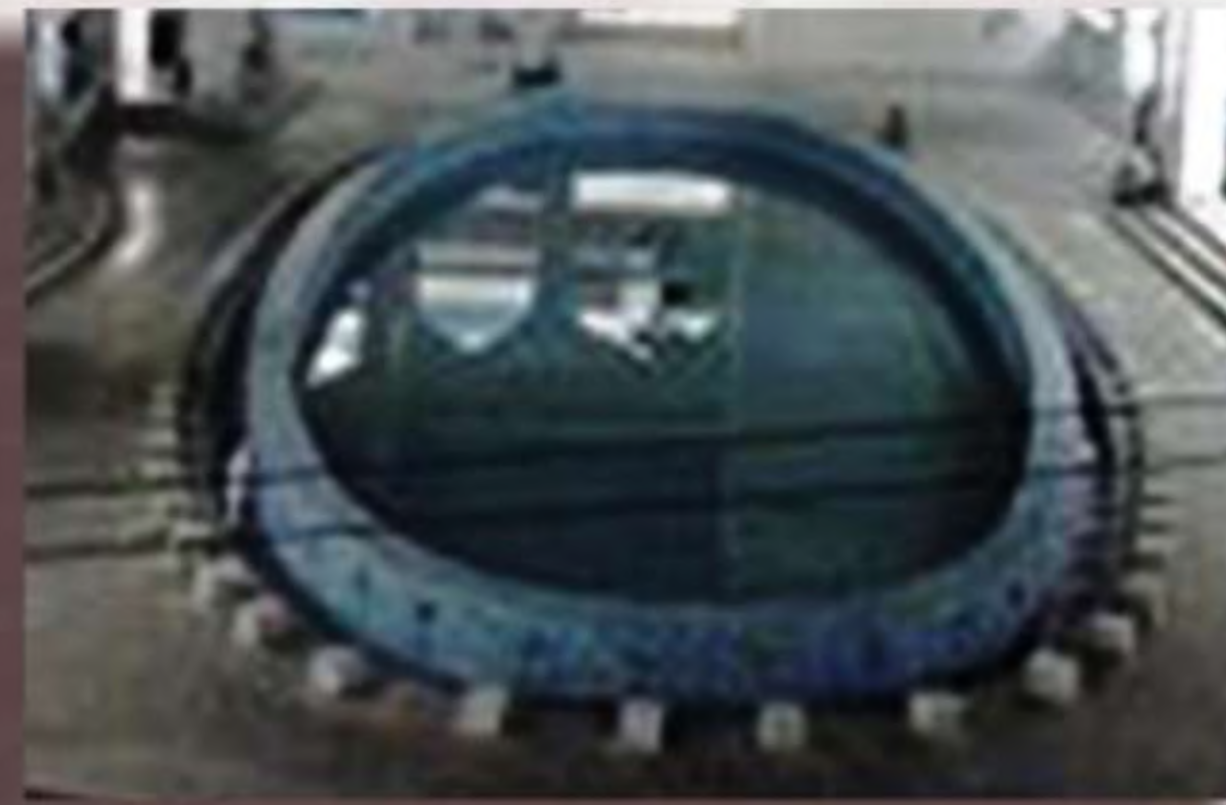
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- MERITS

- 1- Courtyard planning is suitable for the climate.
- 2- Rooms are easily approachable.
- 3- Central lobby can be used for taqreer and waiting area for visitors.
- 4- Proper light and ventilation.
- 5- All the necessary services are given on the site like fire fighting, drainage pipes and septic tank etc.
- 6- Windows provided enough light through the dome inside the building.

- DEMERITS

- 1- No ramp is given in the building.
- 2- No shade is provided over the window.
- 3- No facility of pantry or drinking area is given for the staff.
- 4- No ablution facility is given in the mosque.
- 5- No provision for handicapped.
- 6- The reporting office block should have been place near and before the main block which will be easily approached by the pilgrims and the attendant coming with him.
- 7- The clearance height of the ramp of the basement is too small for a bus to enter.



COURTYARD



CENTRAL LOBBY



SPRINCLERS



DAY LIGHT



NO RAMP



NO SHADESS ON WINDOW



HOZE REEL



COMMON TOILETS



SHOPS



COURTYARD



HEALTH ROOM



HANDPUMP

MOSQUE

- LOCATION

The Mosque is situated to the west side of the site behind the main block of hajj house.

- DETAIL

- 1- Basement (WOMEN) : 163.3 SQ.MT
- 2- Ground Floor (MEN) : 163.3 SQ.MT
- 3- First Floor (MEN) : 157.0 SQ.MT
- 4- Capacity : 500 PEOPLE.

- PLANNING FEATURES

- 1- It has a simple and compact circular plan of dia 14.6 M.
- 2- It is made up of RCC Column and Brick walls
- 3- It has a PLINTH of 1.3m from the ground.
- 4- The height of mosque about 10 M.
- 5- Staircase having a 0.3 M rise and 0.15M riser.



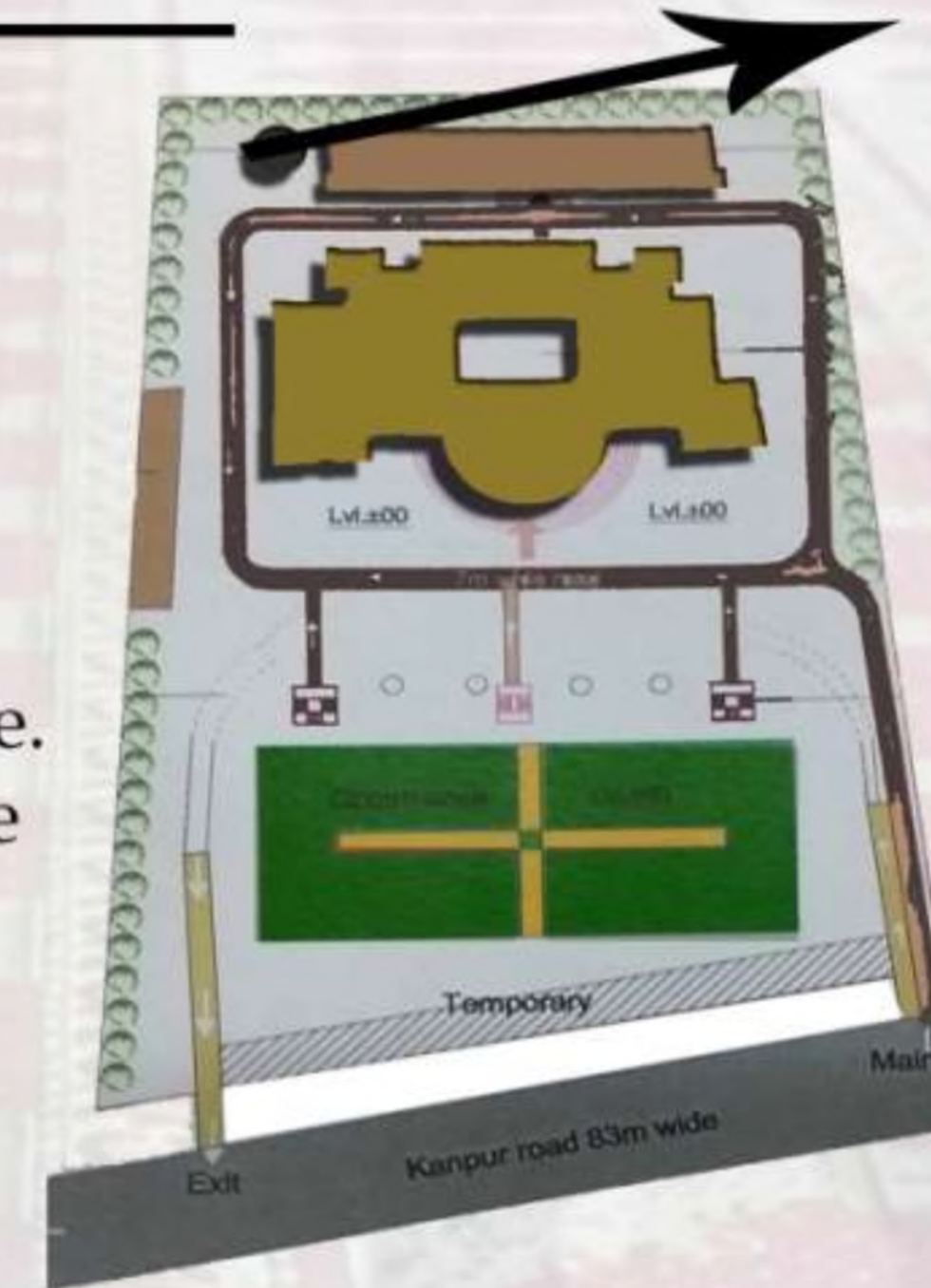
BASEMENT ENTRANCE

- MERITS

- 1- Segregation of women and men prayer hall through the floor.
- 2- Maximum use of natural light through the window on all the side.
- 3- Use of arches on the circumference of the Mosque.

- DEMERITS

- 1- No provision of ramp and no toilets.
- 2- No ablution facility inside the mosque.
- 3- No mehrab is made, i.e west direction toward quibla.
- 4- No shelves for shoes.



MOSQUE



PRAYER HALL



STAIRS



STAIRS

HAJJ HOUSE
VARANASI

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- INTRODUCTION

- 1- The hajj manzil, delhi establish by the Delhi government and hajj committee in 1989 with aim to give convenience and direction to Hajj pilgrims of delhi and another region of india to go to Jeddah by delhi.
- 2- As delhi as center point and no other city had International flight to jeddah at that time, therefore the hajj was built.
- 3- Every year thousands pilgrims use to goto Jeddah via Delhi.

- LOCATION

- 1- It is located in front of TURRAKMAN gate. It is 3 KM from the new delhi railway station and 22.5 KM from the indra gandhi airport.
- 2- The site has access from the ASIF ALI ROAD which is connected to the Delhi gate and chand mahal road.
- 3- Hajj mazil comes in the function of NEW DELHI and OLD DELHI

**HAJJ HOUSE
VARANASI**

HAJJ HOUSE, DELHI



HAJJ MANZIL, DELHI



LOCATION PLAN



STOCK EXCHANGE, DELHI

- PROJECT DETAIL

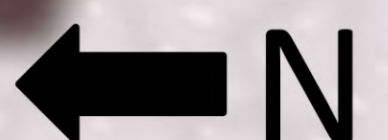
- 1- Client - Delhi government, hajj committee of Delhi.
- 2- Architect- Late Ar. Asima siddiqui
- 3- Total Plot Area - 1090.4 Sq.Mt
- 4- Total Built up area - 2610.8 Sq.Mt



TURRAKMAN GATE



LOCATION PLAN



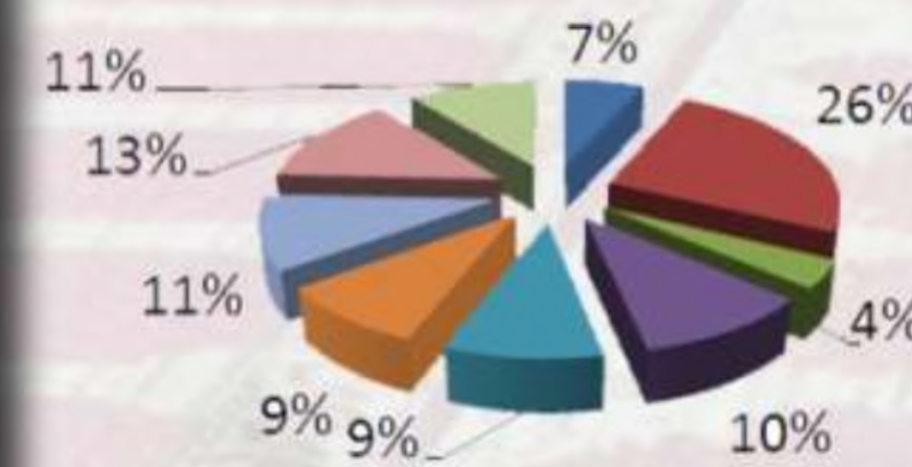
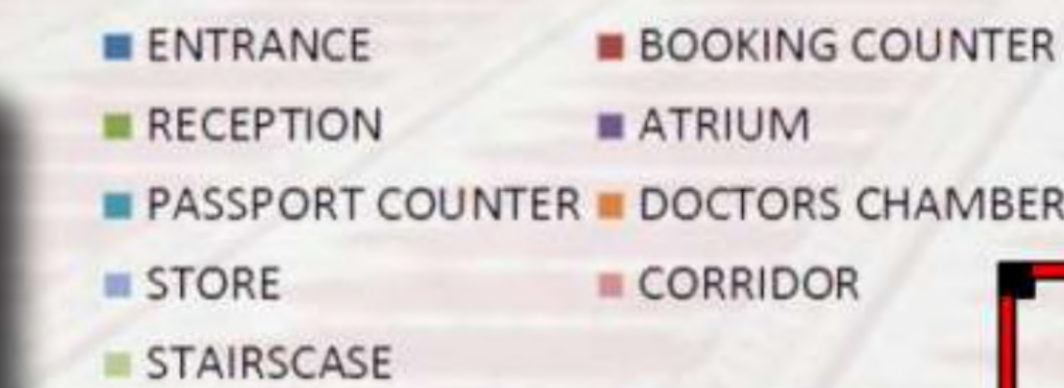
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- ARCHITECTS OBJECTIVE

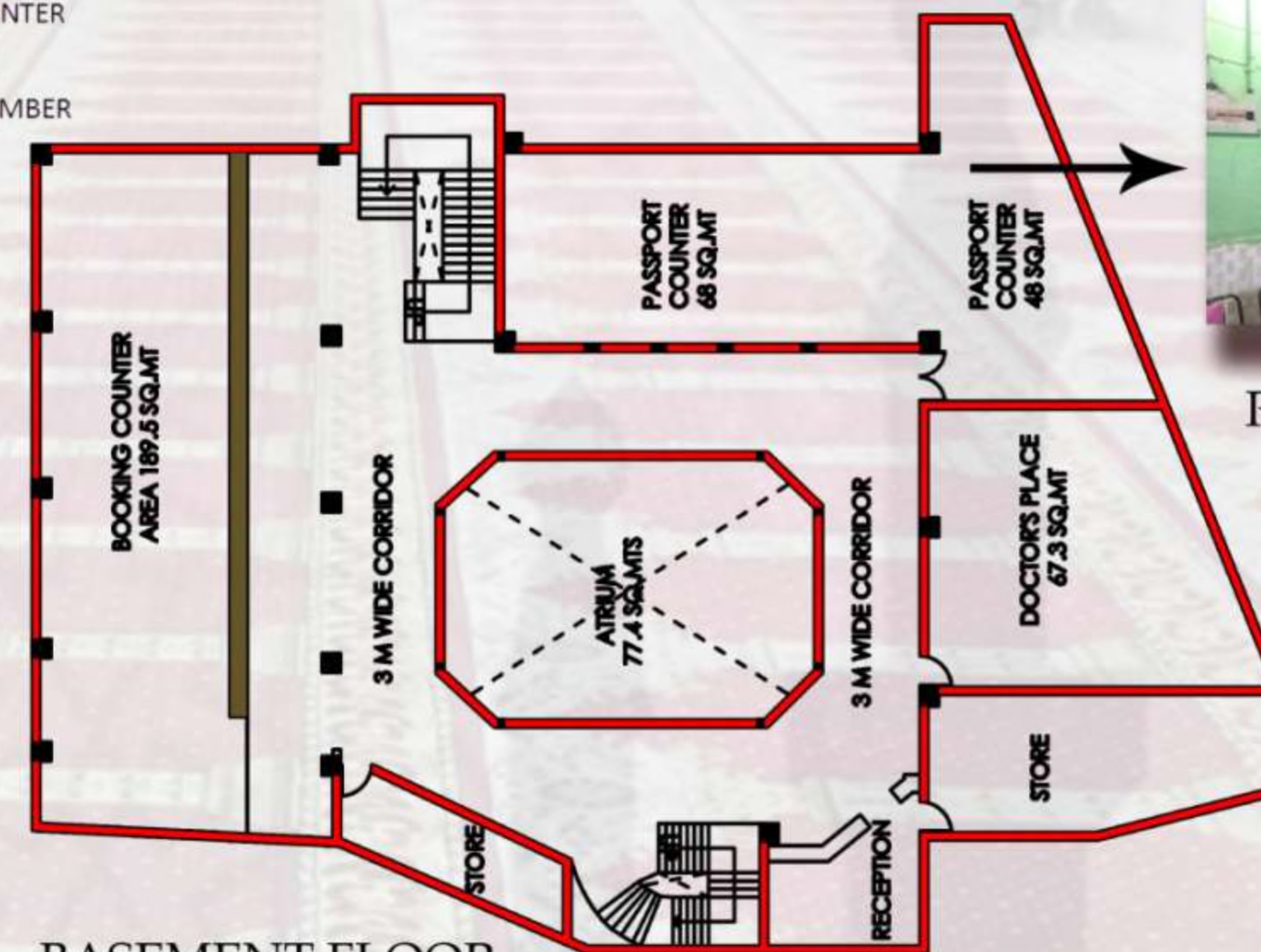
- 1- To give adequate space for convenience of hajj pilgrims to complete all the formalities related with department of costumes and immigration and complete the paper work for the pilgrims in the building itself.
- 2- Gives grandness to the building through granite cladding on the external walls.
- 3- Gives different space around central atrium 12 Mt. which also give the grandness within the building.
- 4- Gives maximum usable space in the small plot area.

- CONCEPT OF DESIGN

- 1- The hajj manzil built in one block with different space arrange around the central auditorium.
- 2- Area of the site small, so prayer hall and conference hall with capacity 350 people at a time is given in structure.
- 3- Dormitory having capacity 180 people are provided at a ground floor.



BASEMENT FLOOR



BASEMENT FLOOR



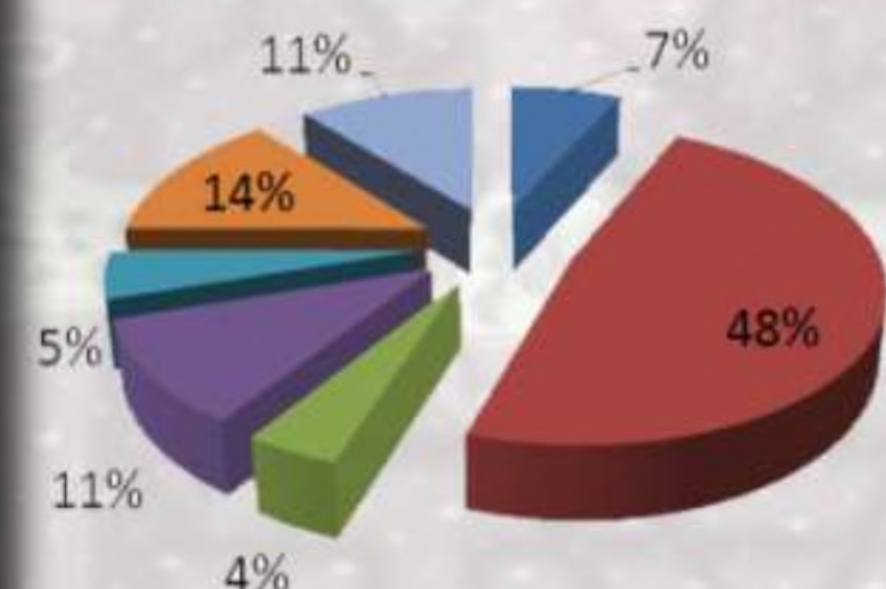
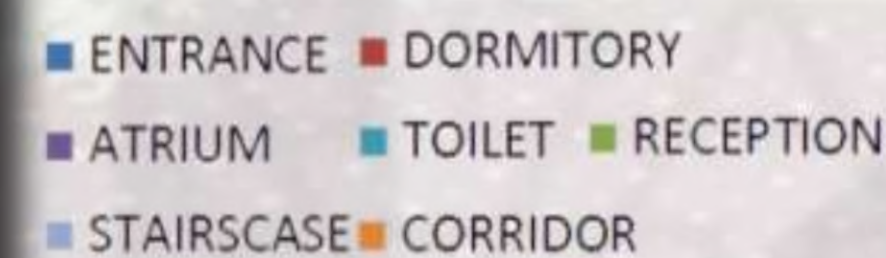
PASSPORT COUNTERS CABINS



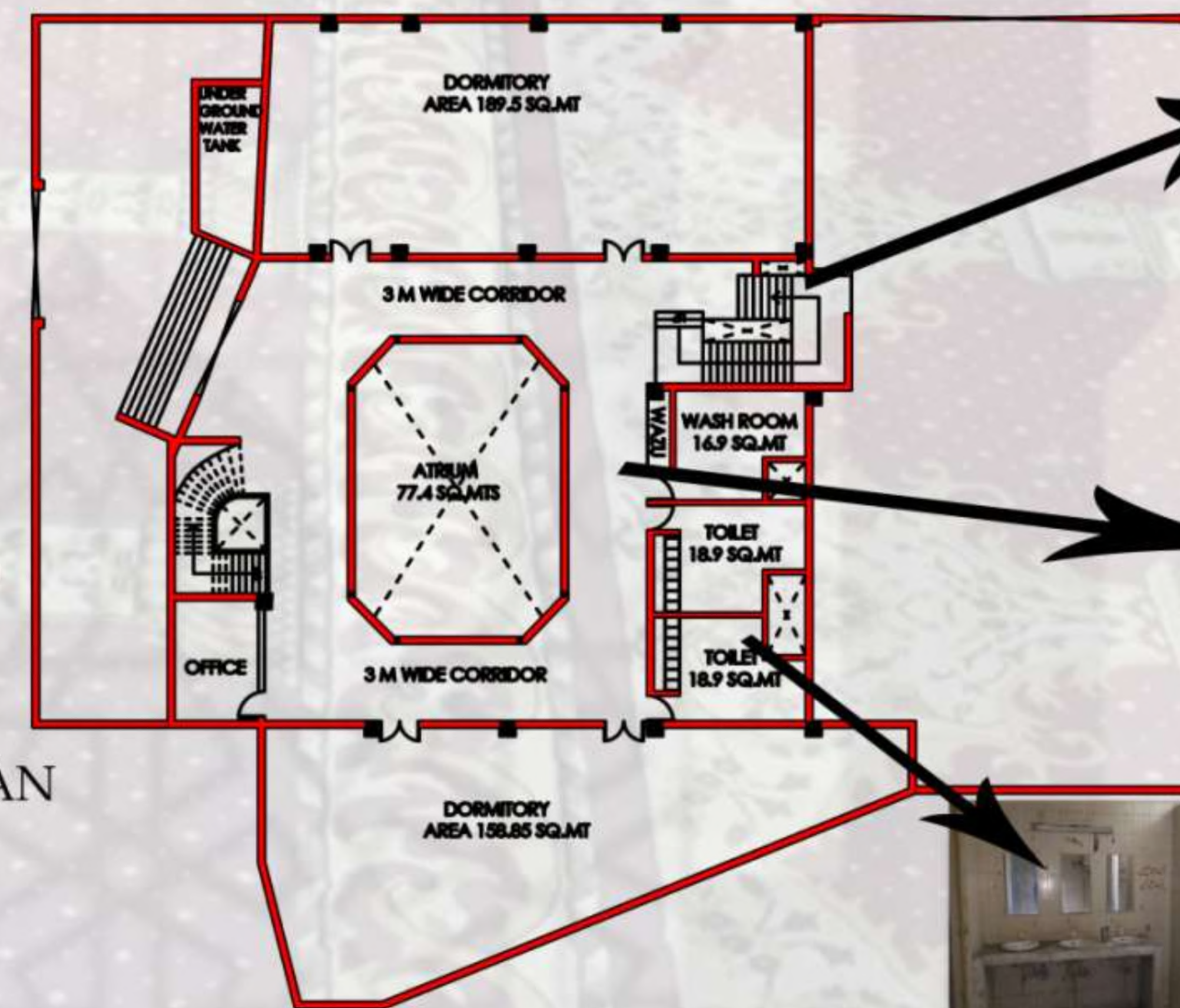
STAIRS



CORRIDOR



GROUND FLOOR PLAN



GROUND FLOOR PLAN



TOILET

- FIRST FLOOR

- 1- ATRIUM.
- 2- DORMITORY
- 3- TOILETS (MALE AND FEMALE).
- 4- STAIRS
- 5- ADMINISTRATION
- 6- STORE
- 7- WAZOO KHANA
- 8- PRAYER HALL



DORMITORY

- SECOND FLOOR

- 1- ATRIUM.
- 2- TRAINING ROOM
- 3- TOILETS (MALE AND FEMALE).
- 4- STAIRS
- 5- TERRACE
- 6- STORE
- 7- WAZOO KHANA
- 8- OFFICE

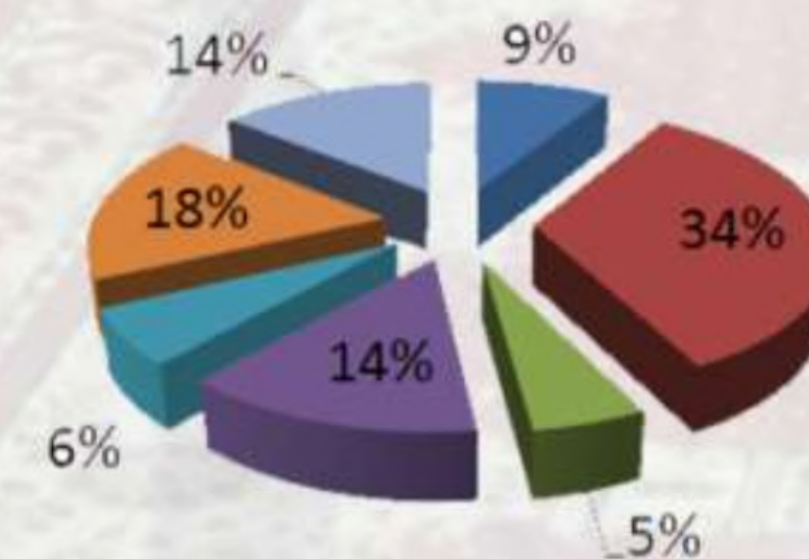
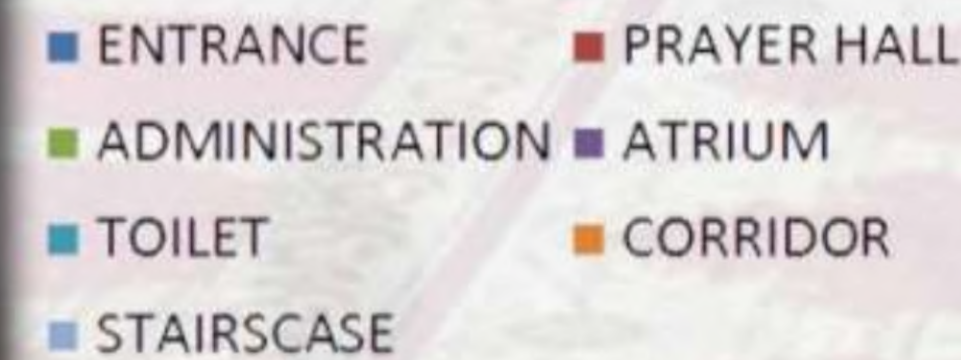


SECOND FLOOR

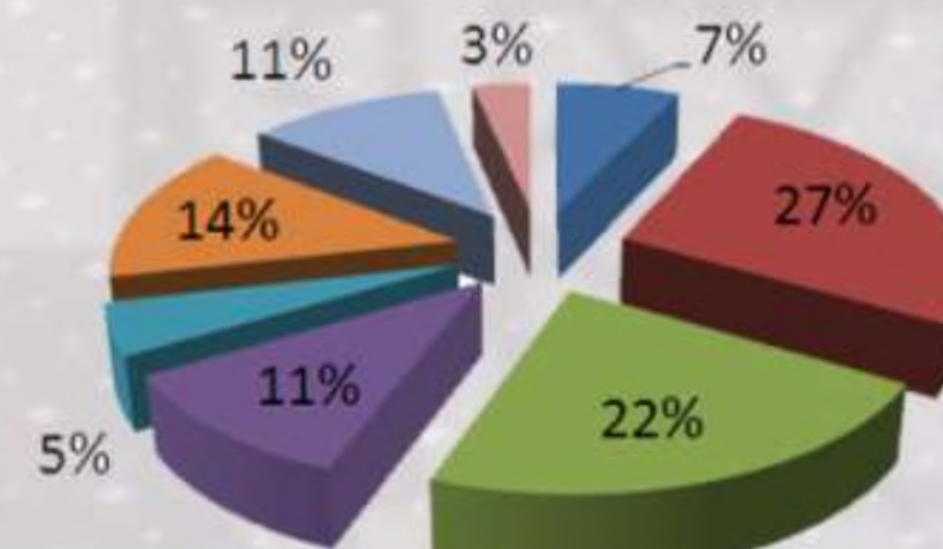
**HAAJ HOUSE
VARANASI**



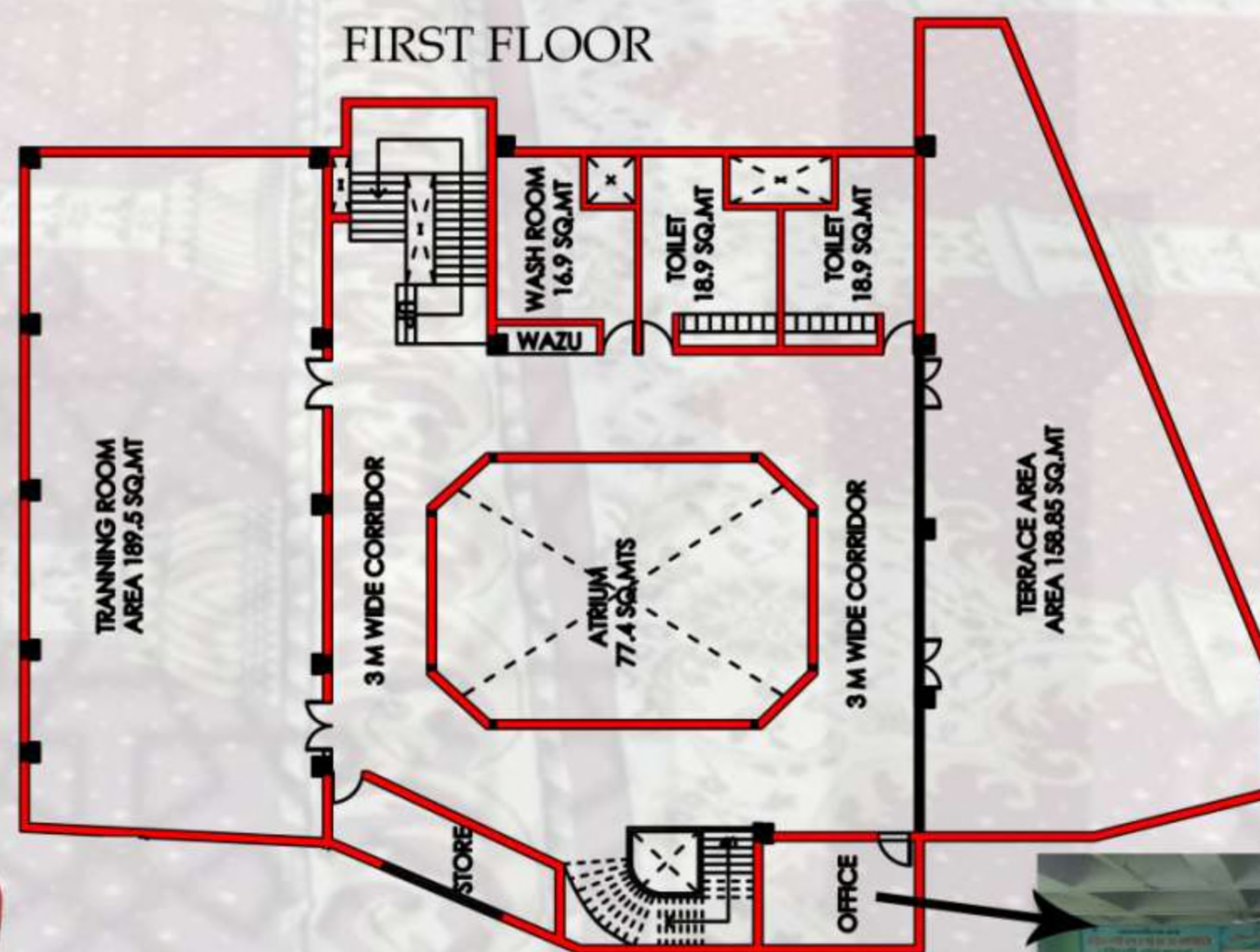
PRAYER HALL



FIRST FLOOR



SECOND FLOOR



SECOND FLOOR



TOILET



CORRIDOR



STAIRS



OFFICE

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- SERVICES

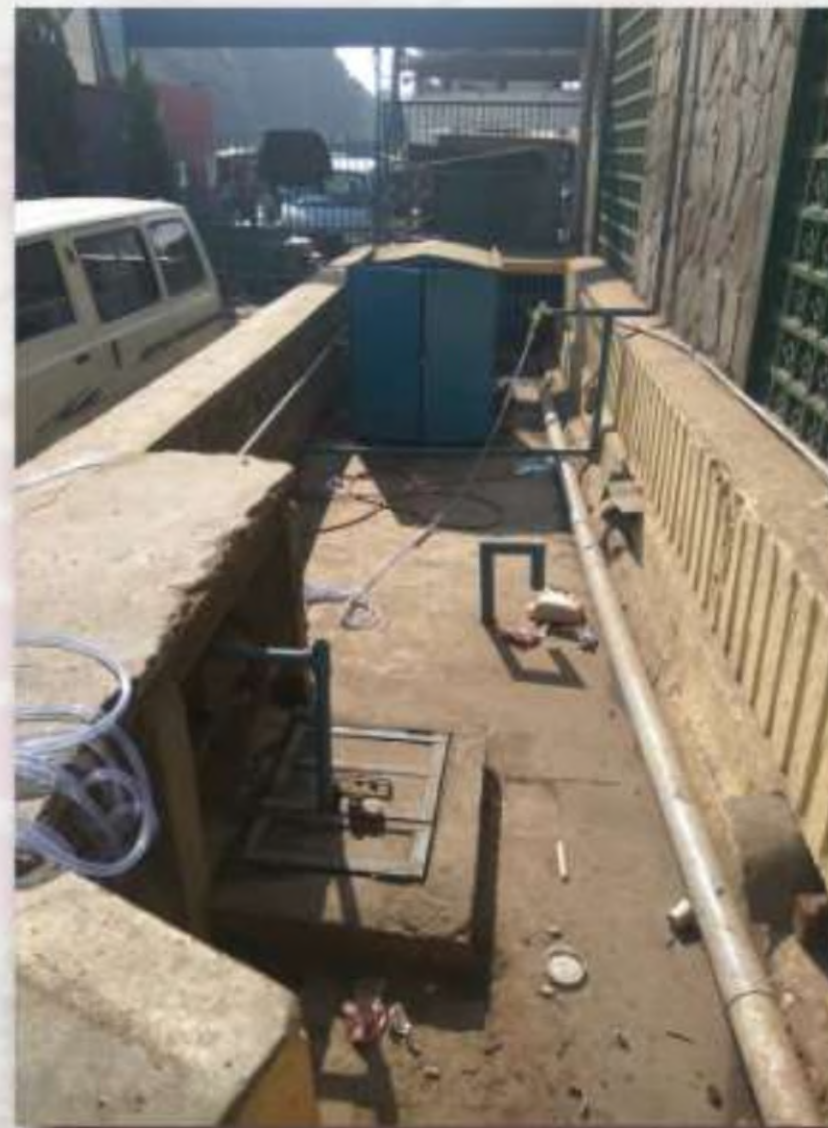
- 1- Water supply- 4 Overhead tank each of 500 Ltr capacity.
- 2- Total provision of water - 20,000 Ltr.
- 3- No provision of lifts.
- 4- No proper provision of fire fighting.
- 5- No sapce for parking
- 6- No provision of ramp in basement.

- PARKING

- 1- No parking is provided in whole site .
- 2- The vehicles are used to park on road side during hajj periods.

- MATERIALS

- 1- Aluminium and glass window used on external facade for day light and proper ventilation.
- 2- Framed structure with coffered slab and brick masonry.
- 3- Granite used on external facade to give grandness to the building.
- 4- Office partation is done by PVC.
- 5- Ceramic tiles is used in the toilets and wazoo khana.



WATER TANK



PARKING



TOILET



FACADE



COFFERED SLAB



DAYLIGHT



JALI

HAJJ HOUSE HYDERABAD

- LOCATION

- 1) The hajj house (razzak manzil), hyderabad is surrounded by hotels and commercial complexes. it is located near nampalli railway station and can be approached by public garden road and kalcha road.
- 2) From nampally railway station - 1.67 km and from rajiv gandhi international airport - 30.3 km.

- PLANNING FEATURES

- 1- The hajj house has three different buildings height connected to each other,
 - Front block (G+7).
 - Rear block (g+12).
 - Mosque (g+2).
- 2- The front block has office only and the rear block have restaurent and office upto 3rd Floors.
- 3- Dormitories and rooms are 4th to 12th Floors
- 4- From 2nd floor blocks have connected through bridge.
- 5- Circle form of the mosque with use of iron jali window resembling mughals stone jali
- 6- Double heighted entrance of the building give the feeling of grandness.
- 7- It has a basement for staff and open parking for visitors.
- 8- Use pargolas and fiber glass.

HAJJ HOUSE
VARANASI

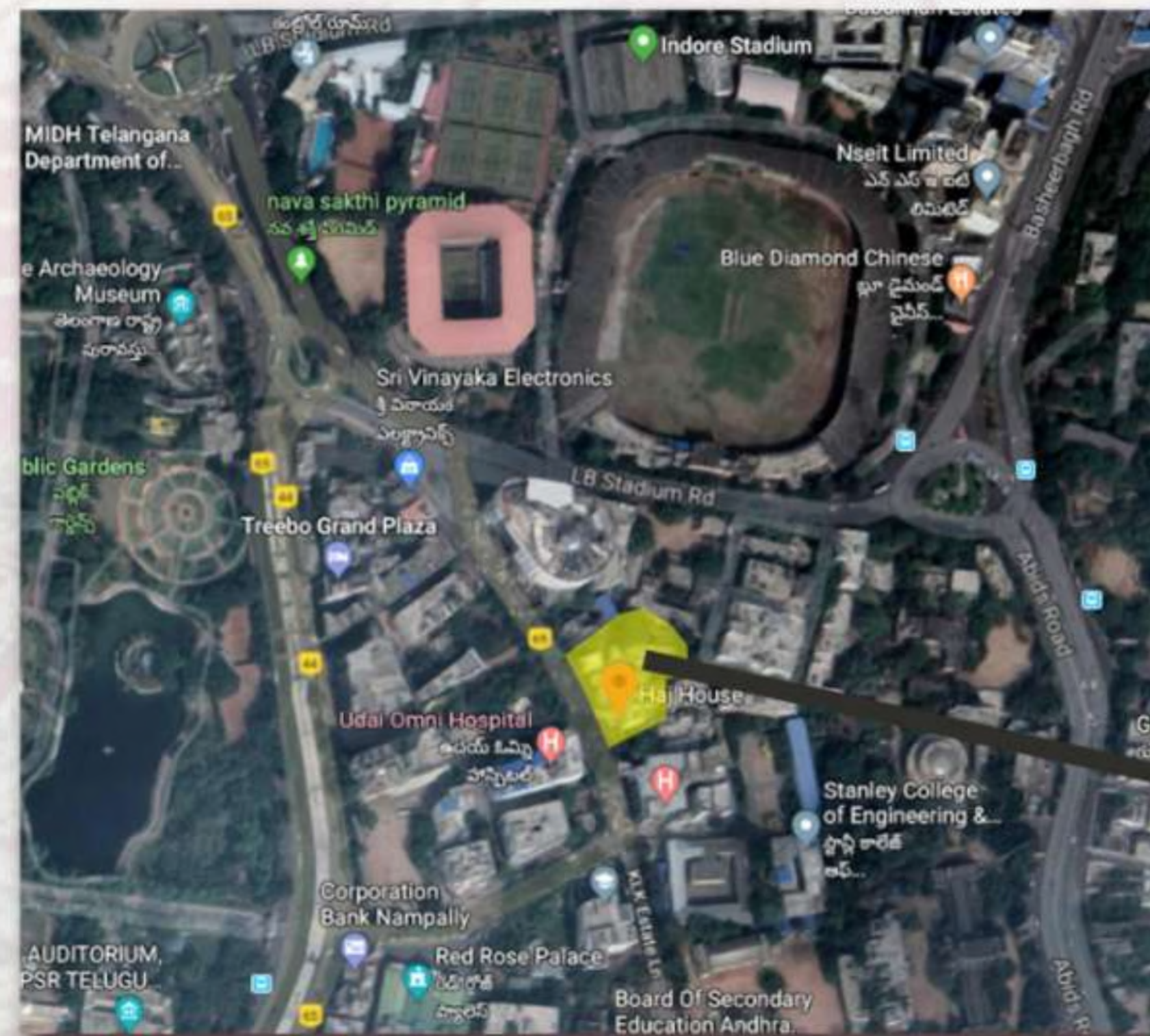
LITERATURE STUDY

- PROJECT DETAILS

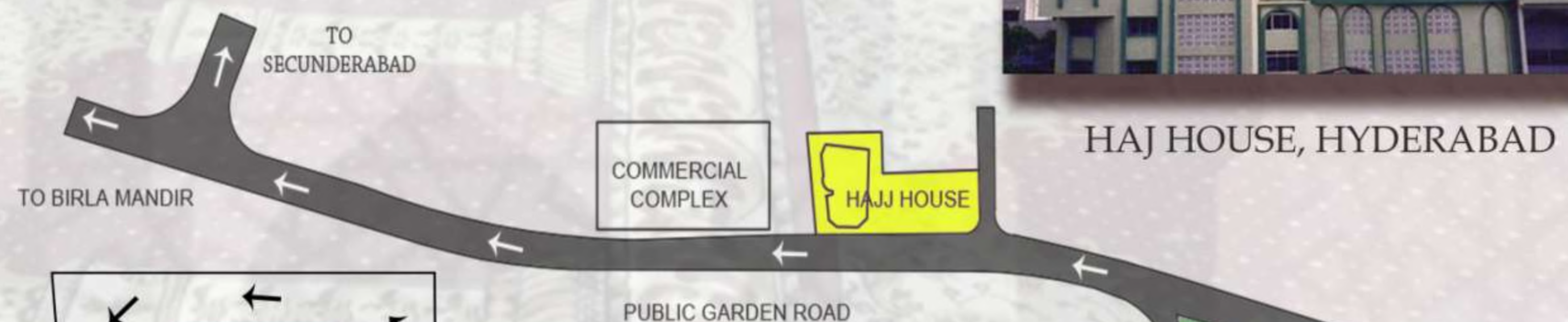
CLIENT -
ARCHITECT-

WAQF BOARD.
ARCHITECT
SALIM DAWAWALA
(MUMBAI).
4576.32 SQ.MT.
800 PILGRIMS.

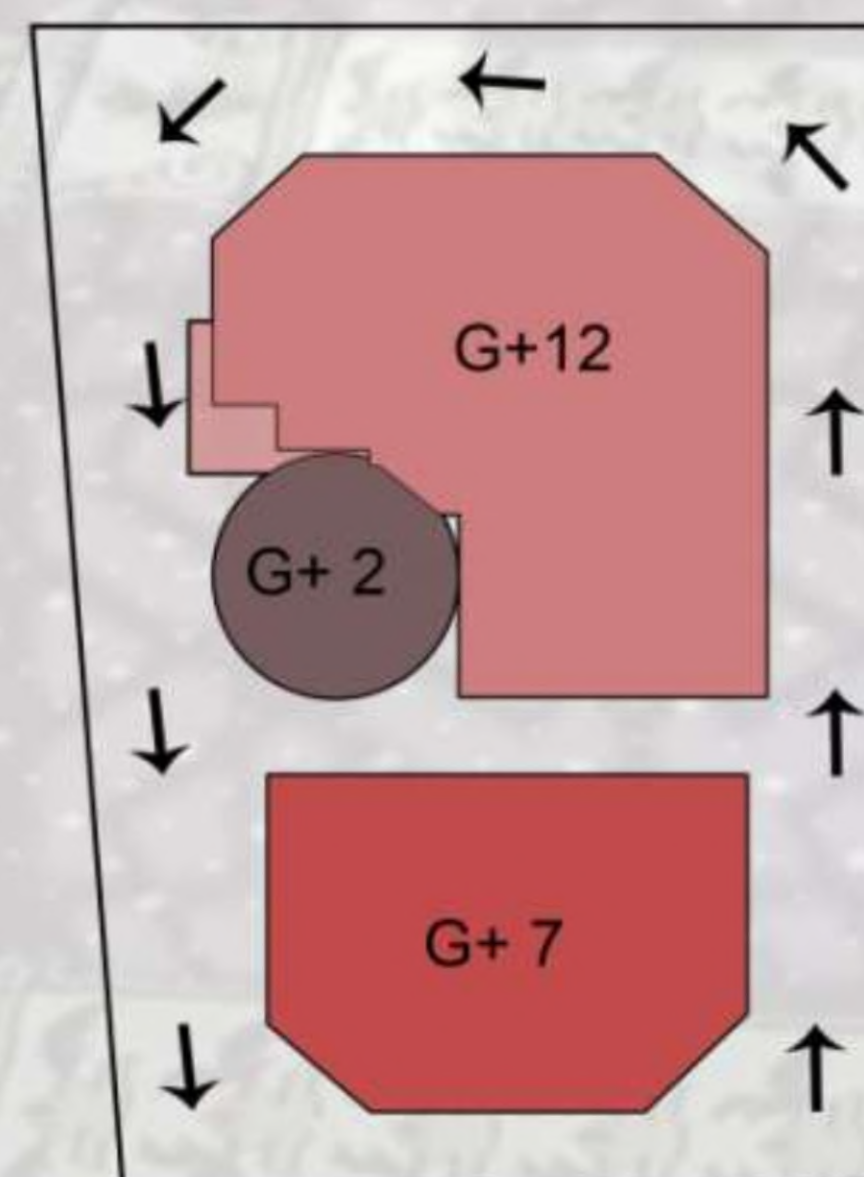
SITE AREA -
CAPACITY -



LOCATION PLAN



HAJJ HOUSE, HYDERABAD

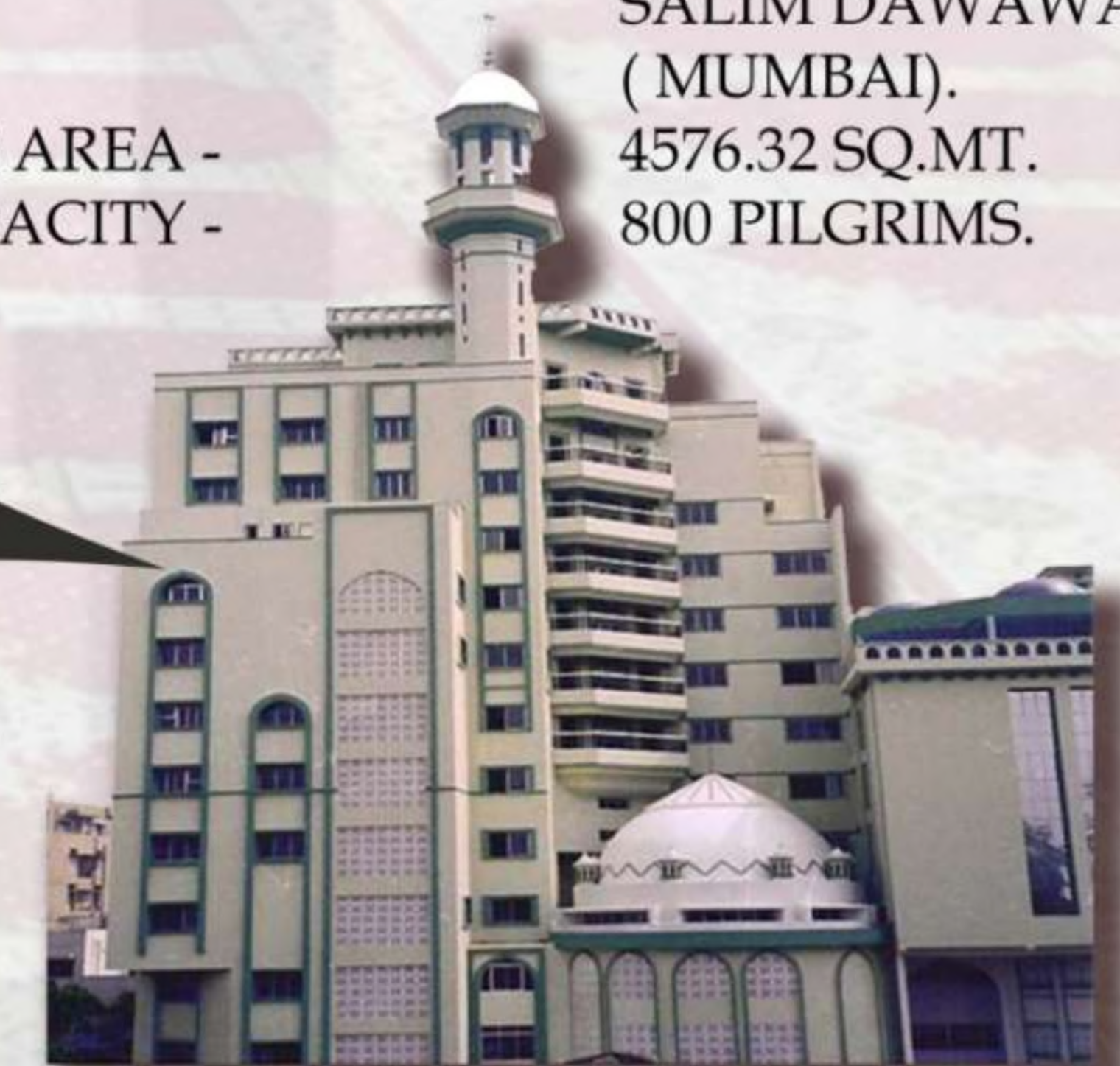


LOCATION PLAN

VISITORS
PARKING

PUBLIC GARDEN ROAD

SITE PLAN



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- FACILITIES

- 1- SPLIT AC WERE PROVIDED FOR AIR CONDITIONING.
- 2- FIRE EXTINGUISHERS WERE PRESENT FOR FIRE PROTECTION.
- 3- PARKING FOR 45 CARS AND 41 FOR BIKES IS GIVEN.
- 4- LIFTS OF 13 PASSENGERS CAPACITY AND 1 STRETCHER LIFT HAS BEEN PROVIDED FOR THE VERTICAL MOVEMENT.
- 5- DIFFERENT TYPES OF FACILITIES HAS BEEN PROVIDED, FAMILY SUITES WITH LOUNGE AND BALCONY. DOUBLE BED ROOM WITH TOILET, DORMITORIES FOR 15 AND 40 PERSON CAPACITY.
- 6- NO SERVICE STAIRCASE HAS BEEN PROVIDED.
- 7- SEPERATE ENTRY FOR OFFICE BLOCK AND THE ACCOMODATION BLOCK.
- 8- PRAYER HALL FOR MEN, CAPACITY 170 AND PRAYER HALL FOR WOMEN, FOR 80 ONLY.
- 9- WATER TANK OF CAPACITY 170 LTR GIVEN.
- 10- UNDERGROUND WATER TANK OF 3,40,340 LITER HAS BEEN PROVIDED ON NORTH SIDE OF THE SITE.

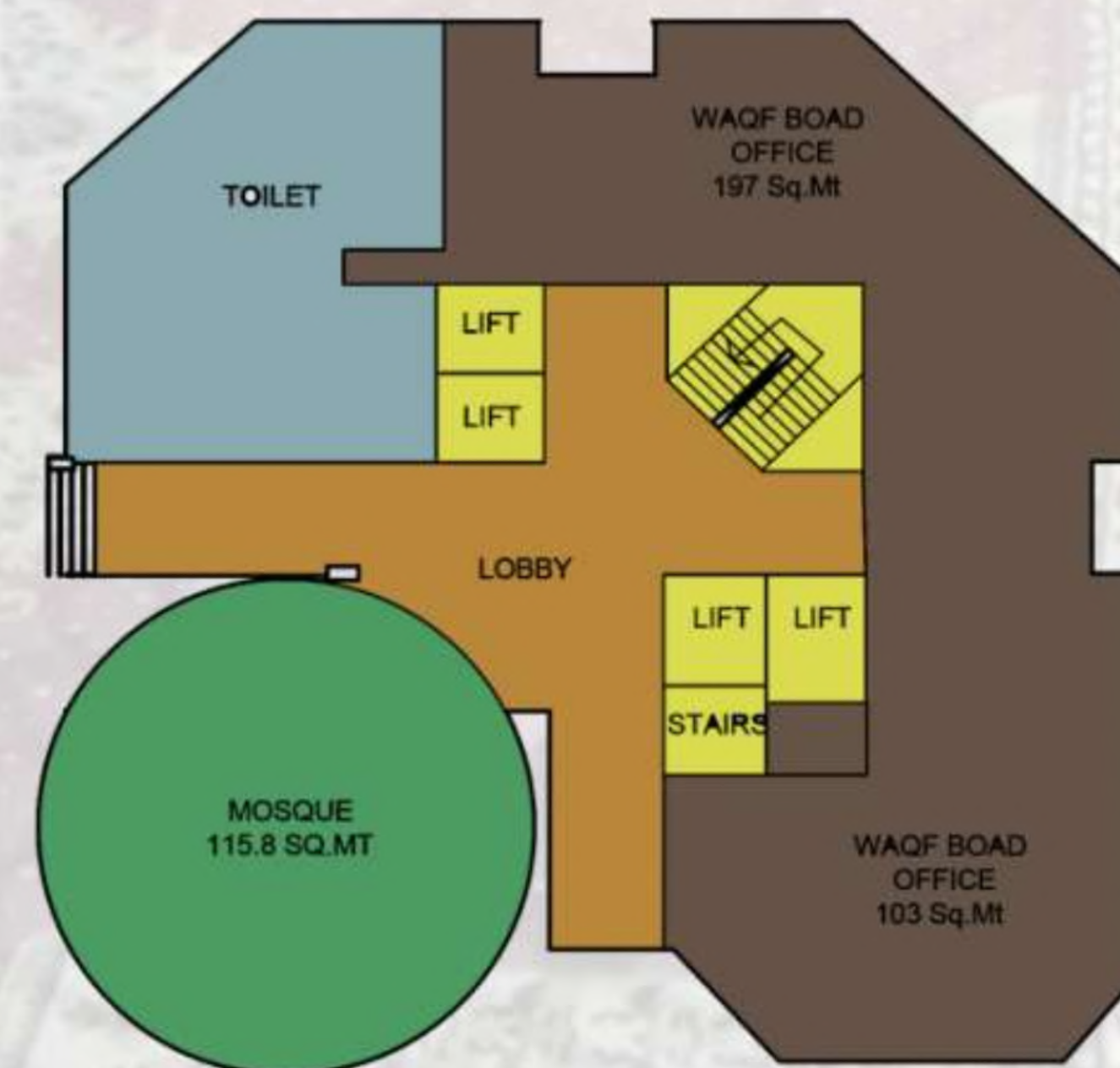
**H.A.J.J HOUSE
VARANASI**

- FLOORS

BASEMENT FLOOR -
GROUND FLOOR -
1ST FLOOR -
2ND FLOOR

3RD FLOOR
4TH FLOOR
5TH FLOOR
6TH FLOOR
7TH FLOOR
8TH FLOOR
9TH, 10TH, AND
11TH FLOOR

STORE, 35 CARS AND 45 BYKES PARKING.
MOSQUE, WAZU, TOILET, SHOPS, ARIVAL AND DEPARTURE AREA.
CORPORATE OFFICE, TOILET, WOMEN PRAYER HALL, WAZU.
-- WAQF BOARD OFFICE, LIBRARY, HEALTH CHECK, VISA PASSPORT, BANK TOILET, TRAVELLING AGENT AND P.C.O.
WAQF BOARD OFFICE, FAMILY SUITE, TOILET, DOUBLE BED ROM.
-- MINORITY WELFARE OFFICE, FAMILY SUITE.
URDU ACADEMY, ROOMS AND TOILETS.
KITCHEN, DINNING HALL, ROOMS, TOILETS.
SEMI - COVERED SPACE FOR DINNING, ROOMS AND TOILETS.
FAMILY SUITES AND TOILETS.
TWO DORMITORY FOR 15 PERSON, ONE DORMITORY FOR 40 PERSONS
TOILETS ON EACH FLOORS.

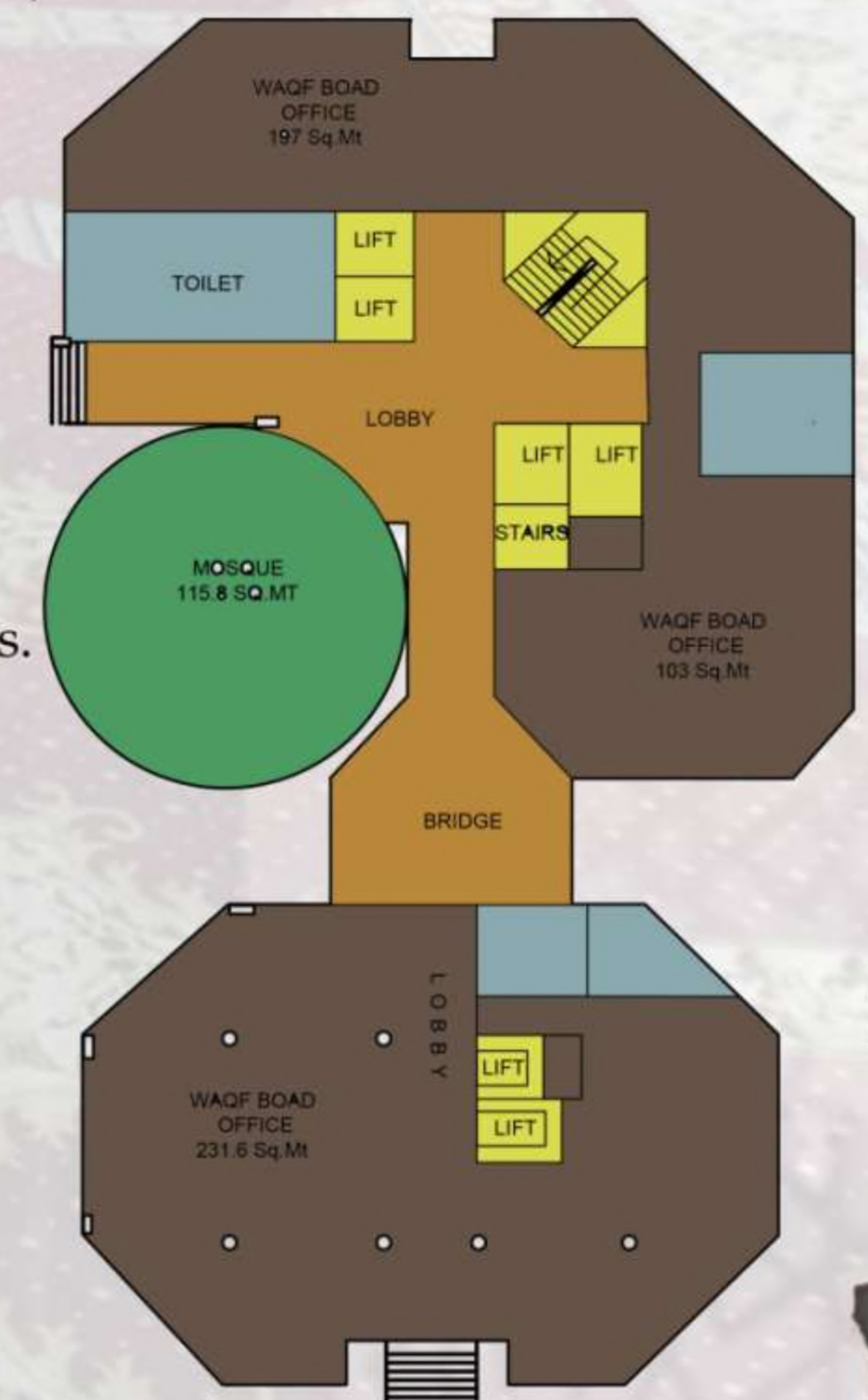


GROUND FLOOR PLAN

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LEGEND

- 1- Waqf board office.
- 2- Mosque.
- 3- Lift and stairs.
- 4- Lobby.
- 5- Toilets.



FIRST AND SECOND
FLOOR PLAN

MOHD. FAHAD

1150101042

- MERITS

- 1- Compact planning.
- 2- Rooms are Easily approachable and less horizontal movement is required.
- 3- Seperate office area is required with proper ventilation facilities.
- 4- Different type of rooms and dormitories of different capacity is provided.
- 5- Site is near NAMPALLI RAIWAY Station.
- 6- Proper light and ventilation.

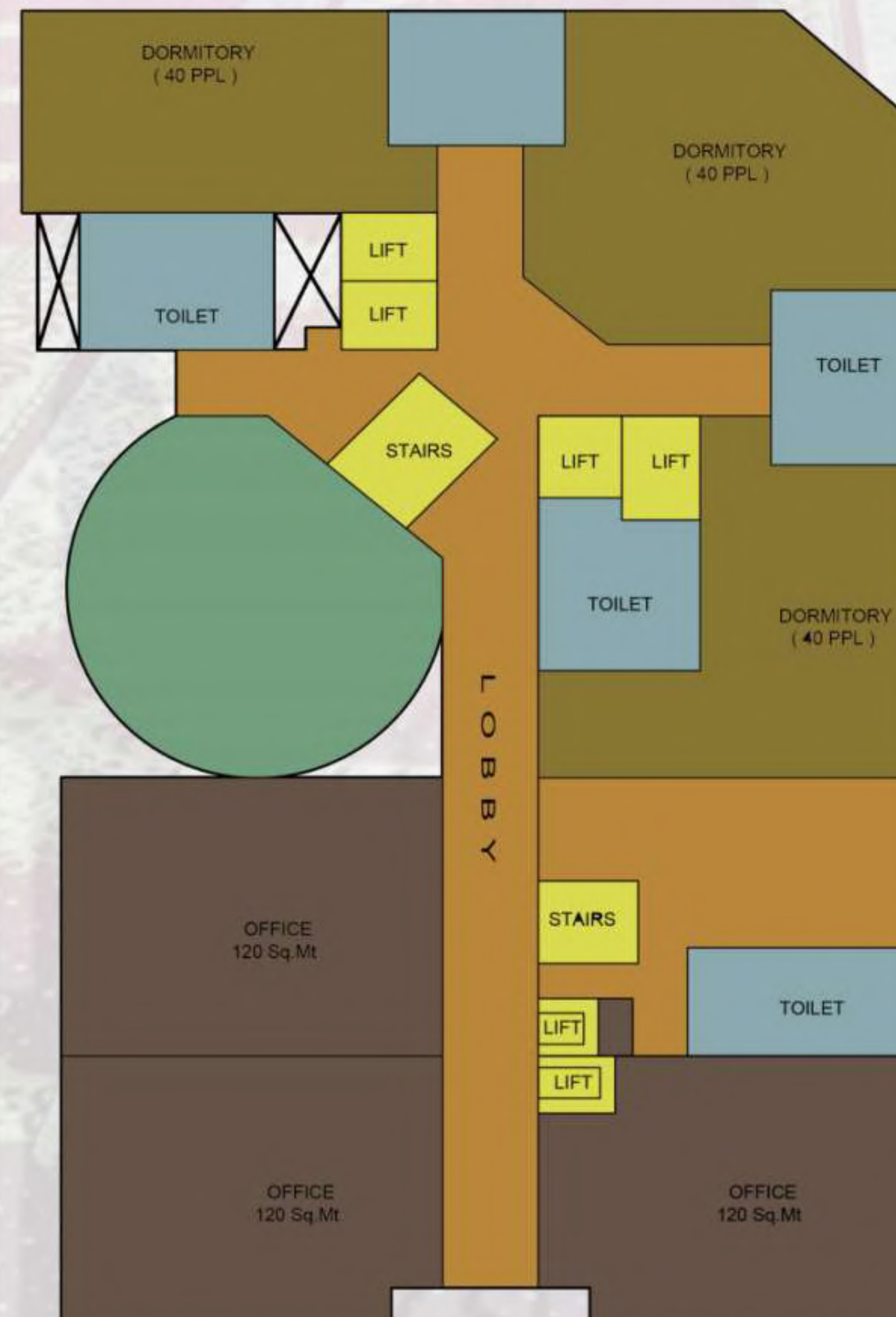


HAJJ HOUSE, HAYDERABAD

**HAJJ HOUSE
VARANASI**

- DEMERITS

- 1- NO SERVICE STAIRCASE IS GIVEN.
- 2- NO PARKING SPACE FOR BUSS.
- 3- NO FIRESTAIRCASE HAS BEEN PROVIDED.
- 4- LESS SPACE GIVEN FOR MEN AND WOMEN IN THE MOSQUE.



FIFTH AND SIXTH FLOOR PLAN

LEGEND

- | | |
|---------------------|--------------------|
| 1- Office. | 6- Dormitory. |
| 2- Mosque. | 7- Terrace garden. |
| 3- Lift and stairs. | 8- Family Suite |
| 4- Lobby. | 9- Double Bed. |
| 5- Toilets. | |



EIGHT FLOOR PLAN

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COMPARATIVE ANALYSIS

CONTENT	HAJJ HOUSE , LUCKNOW	HAJJ HOUSE, DELHI	HAJJ HOUSE, HYDERABAD	INFRENCES
LAYOUT & PLANNING	Simple layout Courtyard planning.	Simple layout & linear Planning.	Layout according to surrounding views available and linear planning.	Large ventilated areas should be provided.
ZONNING	Floor wise segregation of semi - private and public areas.	No Floor wise segregation.	Floor wise segregation of public and private area.	Zoning should be such that it clearly separates varied zones while at the same time well connecting them.
NO. OF ENTRY/EXIT AND CIRCULATION	The main access along the service access to the building site is through a single entry point. Simple linear circulation pattern.	Circular Circulation	Linear circulation patterns.	Entry / exit should be such that the traffic movement of vehicular and pedestrian should be segregated.
USER GROUP SPECIFIC DESIGNING	Easy movement patterns.	Easy movement patterns.	Easy movement patterns.	Easy and defined movement patterns should be there.
SERVICES	All services provided in the site.	All services are not provided	-	All services will be provided.
PARKING	Parking is provided for visitors and staff	No parking is provided	-	Separate Parking should be given for staff and VIP.
RECREATIONAL SPACES	Courtyard, water body and Green area are provided	No recreational spaces are Provided.		Recreational spaces should be provided.
MATERIALS	Brick, reinforced concrete, stone, cement mortar etc.	Stone cladding on the exterior façade.	Brick, reinforced concrete, stone, cement mortar etc.	Brick, reinforced concrete, stone, cement mortar and glass etc.

AREA ANALYSIS

S.NO	REQUIREMENTS	CASE STUDY - 1 (LUCKNOW)				CASE STUDY - 2 (DELHI)				LITERATURE STUDY - 2 (HYDERABAD)			STANDARDS	PROPOSAL			REMARK
		NO. OF UNITS	UNIT AREA	TOTAL AREA	FLOOR	NO. OF UNITS	UNIT AREA	TOTAL AREA	FLOOR	NO. OF UNITS	UNIT AREA	TOTAL AREA		NO. OF UNITS	UNIT AREA	TOTAL AREA	
		METER				METER				METER			METER	METER			
1	ADMINISTRATION																FOR 720 PEOPLES
a)	Entrance lobby	1	100	100	G.F	1	50	50	Basement	-	-	-	1.0 Per Person	1	180	180	
b)	Reception	1	10	10	G.F	-	-	-	-	1	60	60	0.4 Per Person	1	72	72	
c)	Waiting Area	-	-	-	-	-	-	-	-	-	-	-	0.6 Per Person	1	108	108	
d)	Hajj committee office	1	66	66	G.F	1	211	211	Basement	2	-	427.26	24 Sq.mt	2	50	50	
e)	Computer Room	-	-	-	-	1	18	18	Basement	-	-	-	24 Sq.mt	2	40	80	
f)	Record Room	-	-	-	-	-	-	-	-	-	-	-	-	1	50	50	
g)	Passport Office	1	118	118	G.F	1	189	189	Basement	1	21	21	-	1	60	120	
h)	Currence Exchange	1	23.5	23.5	G.F	1	18	18	Basement	-	-	-	-	1	30	30	
i)	Immigration Office	1	75	75	G.F	1	18	18	Basement	-	-	-	-	1	50	50	
j)	Secratory Room	-	-	-	-	1	25	25	Basement	-	-	-	-	1	30	30	
k)	ATM	-	-	-	-	-	-	-	-	-	-	Temporary	-	2	10	20	
l)	Conference Room	-	-	-	-	-	-	-	-	-	-	-	1.2 per person	1	25	25	for 15 per person
m)	Baggage Counter	-	-	-	-	-	-	-	-	-	-	-	-	1	20	20	
n)	Minority Welfare	2	143	286	G.F	1	336.1	336.1	Basement	-	-	-	-	1	350	350	
o)	Chairman Office	-	-	-	-	-	-	-	-	-	-	-	-	1	50	50	
q)	Toilets	2	75	150	G.F	1	140	140	Basement	1	72.3	-	1.8 PER W.C	2	24	48	
r)	Cafetaria (Indoor)	-	-	-	-	-	-	-	-	-	-	-	1.5 Per Person	1	100	100	for 25 per person
s)	Cafetaria (outdoor)	-	-	978	-	-	-	-	-	-	-	-	1.2 Per Person	1	70	70	for 15 per person
t)	Store Room	-	-	-	-	-	-	-	-	-	-	-	-	1	50	50	
	TOTAL			610.5				798.1				508.26				1503	
	TOTAL AREA INCLUDING 25% CIRCULATION = 1503 + 375.75 = 1878.75																1878.75
3	ACCOMODATION																FOR 720 PEOPLES
a)	ENTRANCE LOBBY	-	-	-	-	-	-	-	-	-	-	-	1.0 Per Person	1	720	720	
b)	WAITING AREA	-	-	-	-	-	-	-	-	-	-	-	0.6 PER PERSON	1	432	432	
c)	DORMITORIES																
*	14 BEDED	16	90.5	1432.5	-	2	253.4	506.8	F.F/S.F	6	240	1440	5.5 PER PERSON	26	100	2600	for 360 person
*	6 BEDED	-	-	-	-	-	-	-	-	-	-	-	5.5 PER PERSON	30	50	1500	for 180 person
*	SINGLE ROOM WITH TOILET	4	13.5	54	G.F/F.F	-	-	-	-	-	-	-	17.5 PER UNIT	20	20	400	for 68 person
*	DOUBLE ROOM WITH TOILET	10	20	200	F.F	-	-	-	-	-	-	-	22 PER UNIT	56	25	1400	for 112 person
*	TOILET (M/F)	08/04.	23.5	190	G.F/F.F	04/02.	25	50.1	G.F/F.F/S.F	1	-	09/04.	-	18/14	1.8	90	
*	STORE	-	-	-	-	-	-	-	-	-	-	-	-	04-	1.8	96	
	TOTAL			1953				568.9					1			7238	
1	TOTAL AREA INCLUDING 25% CIRCULATION = 7238 + 1809.5																9047
4	HEALTH CENTER																For 15 Person
a)	WAITING AREA	-	-	-	-	-	-	-	-	-	-	-	1.0 Per Person	1	40	40	
b)	DOCTOR'S CABIN WITH TOILET	2	12	24	F.F	1	70	70	BASEMENT	-	-	-	-	1	50	50	
c)	OBSERVATION ROOM	-	-	-	-	-	-	-	-	-	-	-	5.5 PER PERSON	1	45	45	
d)	PHARMACY	-	-	-	-	-	-	-	-	-	-	-	-	1	30	30	
e)	TOILET	-	-	-	-	-	-	-	-	-	-	-	1.8 PER W.C	3	10	30	1 For 25 Per Person
	TOTAL				865.5			150								195	
	TOTAL AREA INCLUDING 25% CIRCULATION = 195 +48.75																243.75

HAJJ HOUSE
VARANASI

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S.NO	REQUIREMENTS	CASE STUDY - 1 (LUCKNOW)				CASE STUDY - 2 (DELHI)				LITERATURE STUDY - 2 (HYDERABAD)			STANDARDS	PROPOSAL			REMARK
		NO. OF UNITS	UNIT AREA	TOTAL AREA	FLOOR	NO. OF UNITS	UNIT AREA	TOTAL AREA	FLOOR	NO. OF UNITS	UNIT AREA	TOTAL AREA		NO. OF UNITS	UNIT AREA	TOTAL AREA	
		METER				METER				METER			METER	METER			
5	DINNING AREA																For 180 Person
a)	SEATING (M)	1	200	200	G.F	1	164	164	S.F	1	430	430	1.5 Per Person	1	350	350	For 108 Person
b)	SEATING (F)	1	146	146	F.F	1	100	100	S.F	1	240	240	1.5 Per Person	1	240	240	For 72 Person
c)	WASHING	2	40	80	F.F	1	30	30	S.F	-	-	-	1.0 Per Person	10		50	
6	KITCHEN	2	60	120	F.F	1	88	88	-	1		80.5	30% OF SITTING AREA			177	
a)	WASHING AREA	2	32	64	F.F	-	-	-	-	1	-	-	-	1		50	
b)	STORAGE	1	30	30	1	-	-	-	-	-	-	-	-	1	1	70	
c)	SERVICE COUNTER	2	15	15	1	-	-	-	-	-	-	-	-	1	1	20	
7	CAFETERIA																For 360 Person
a)	PANTRY	1	140	140	F.F	-	-	-	-	-	-	-	-	1	190	190	
b)	SEATING	1	60	60	F.F	-	-	-	-	-	-	-	1.5 Per Person	1	500	500	
c)	WASHING	1	25	25	F.F	-	-	-	-	-	-	-	1.0 Per Person	10		50	
d)	TOILET(M/F)	-	-	-	-	-	-	-	-	1	-	32	1.8 PER W.C	08/06 .		50	
	TOTAL			880												1747	
	TOTAL AREA INCLUDING 25% CIRCULATION = 1747 + 436.75																2183.75
8	MULTIPURPOSE HALL																For 360 Person
a)	ENTRANCE LOBBY	-	-	-	-	-	-	-	-	1	140	140	1.0 Per Person	1	100	100	
b)	WAITING AREA	-	-	-	-	-	-	-	-	-	-	-	1.0 Per Person	2	50	100	
c)	TOILETS (M/F)	-	-	-	-	-	-	-	-	-	-	-	1 WC PER 25 PERSON	08/06 .		50	
d)	SEATING	-	-	-	-	-	-	-	-	1	200	200	0.5 PER PERSON	1	220	220	For 360 Person
e)	STAGE	-	-	-	-	-	-	-	-	-	-	-	30% OF SITTING A.	1	66	66	
f)	GREEN ROOM(M) WITH TOILET	-	-	-	-	-	-	-	-	2		30	5.0 PER PERSON	1	50	50	
g)	GREEN ROOM(F) WITH TOILET	-	-	-	-	-	-	-	-	-	-	-	5.0 PER PERSON	1	50	50	
h)	PROJECTOR ROOM	-	-	-	-	-	-	-	-	1	10	10	-	1	18	18	
i)	STORE	-	-	-	-	-	-	-	-	1	10	10	-	1	30	30	
j)	SNACK COUNTER	-	-	-	-	-	-	-	-	1	15	15	-	2	18	36	
k)	AUDIO VISUAL ROOM	-	-	-	-	-	-	-	-	-	-	-	-	1	30	30	
l)	LIBRARY												4.5 PER PERSON	1	300	300	
	TOTAL												-			1050	
m)	TOTAL AREA INCLUDING 25% CIRCULATION =1050 + 265.2																1312.5
2	MOSQUE																FOR 720 PEOPLES
a)	Prayer Hall (M)	1	370	370	U.F	1	379	379	First Floor	3	-	540	0.85 PER PERSON	1	-	450	for 432 per person
b)	Prayer Hall (F)	1	230	230	Basement	-	-	-	-	-	-	-	0.85 PER PERSON	1	-	300	for 288 per person
c)	Wazoo Khana	-	-	-	-	-	-	-	-	1	-	54.7	-	2	80	160	
d)	Toilets (M & F)	-	-	-	-	-	-	-	-	-	-	-	1.8 PER W.C	18/12.	1.8	90	1 For 25 Per Person
e)	Store Room	-	-	-	-	-	-	-	-	-	-	-	-	1	50	50	
f)	Imam Room	-	-	-	-	-	-	-	-	-	-	-	-	1	40	40	
	TOTAL			600				379				594.7				1090	
	TOTAL AREA INCLUDING 25% CIRCULATION = 1090 + 272.5																1362.5

Permissible Plot Area - 11.5 ACRES (46650.38 Sq.Mt)

Permissible F.A.R - 1.5

Permissible Ground Coverage - 35% (16327.64)

Buildup Area = F.A.R x Plot Area
= 1.5 x 46,650.38
= 69,975.57 Sq.Mt

Ground Coverage = 35% of Plot Area.
= 16327.64 Sq.Mt

No. of Floors = Buildup Area / Ground Coverage
= 69,975.57 / 16,327.65
= 4.3 - 4.5 Floors.

Achieved Ground Coverage = 4316.5
Achieved Ground Coverage = 4306.5 / 16327.5
= 26.4%
= 4.3 - 4.5 Floors.

Achieved F.A.R = total area / 46650.30
= 0.34

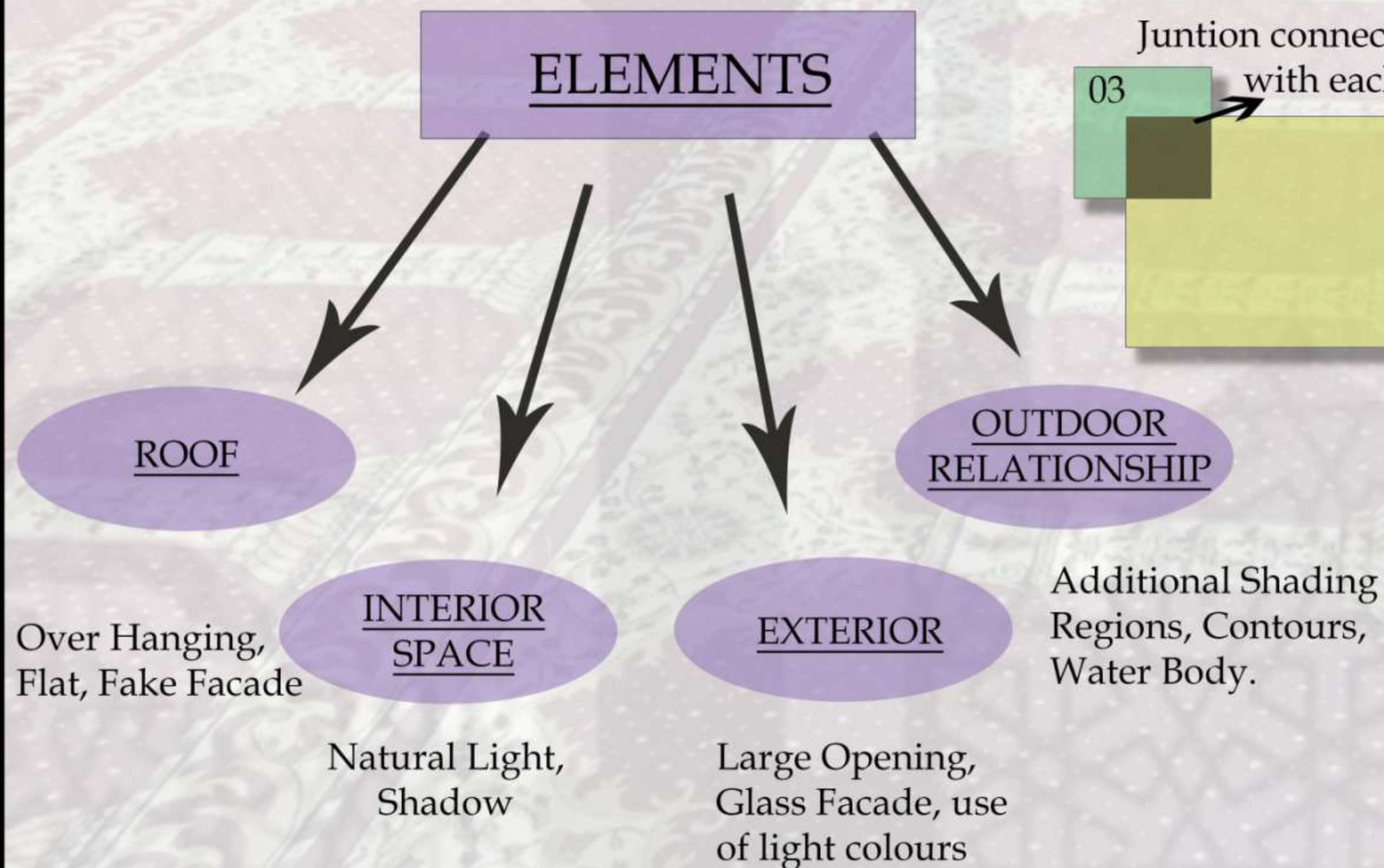
CONCEPT

CONTEMPORARY ARCHITECTURE

Contemporary Architecture is a architecture of 21st century. No single style is Dominant. LIGHT and AIR are two main Pillar of the contemporary Architecture.

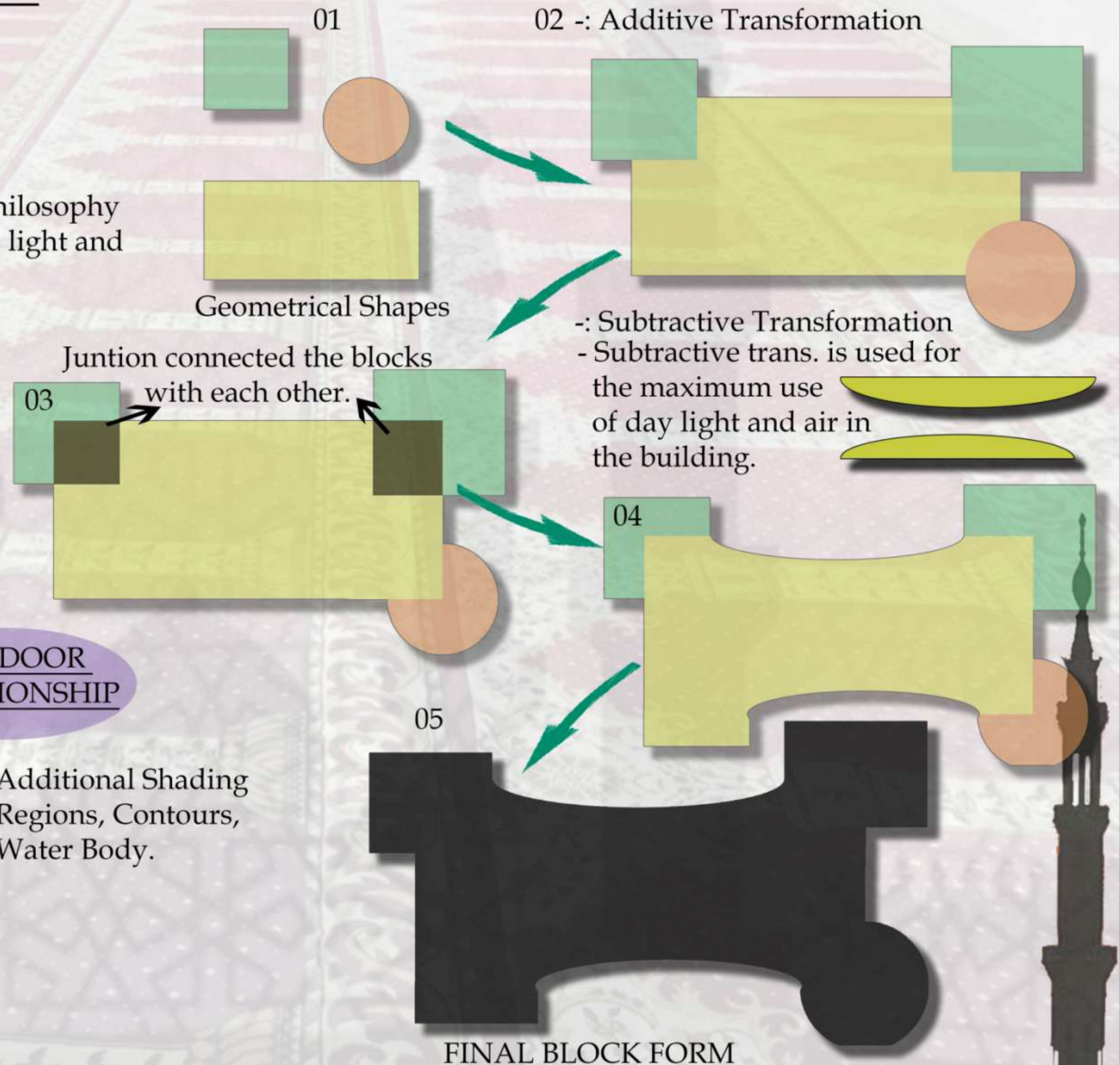
Hajj House is a religious building and it is based on philosophy CONNECTING TO THE GOD by certain medium i.e, light and air.

ELEMENTS



**HAJJ HOUSE
VARANASI**

EVOLUTION OF FORM



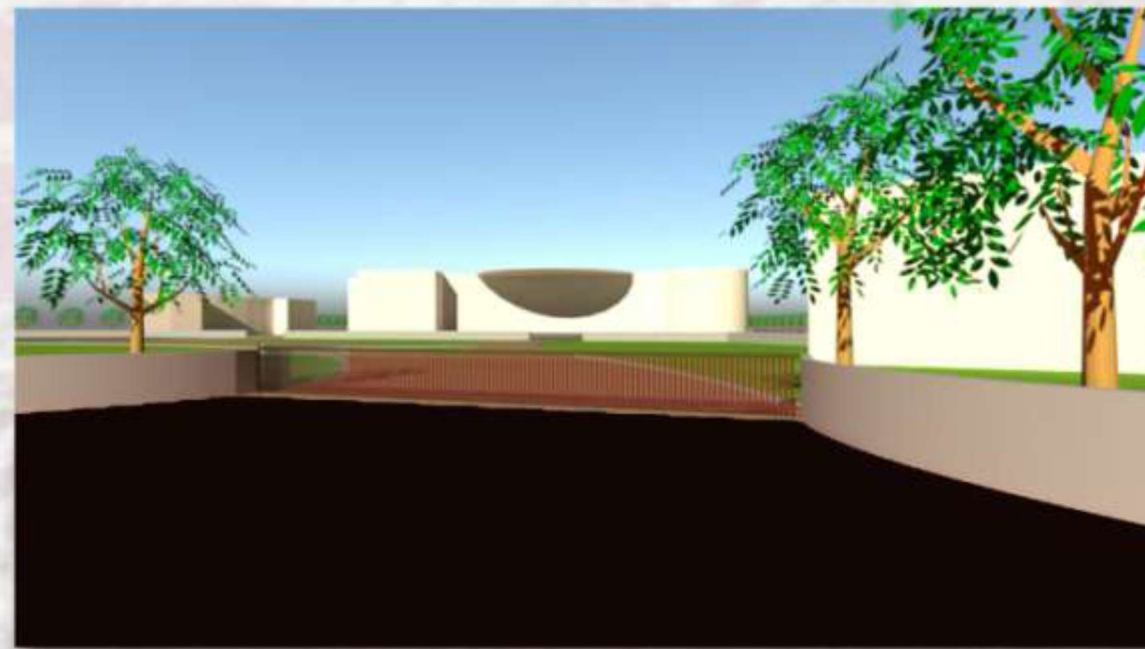
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SITE PLAN



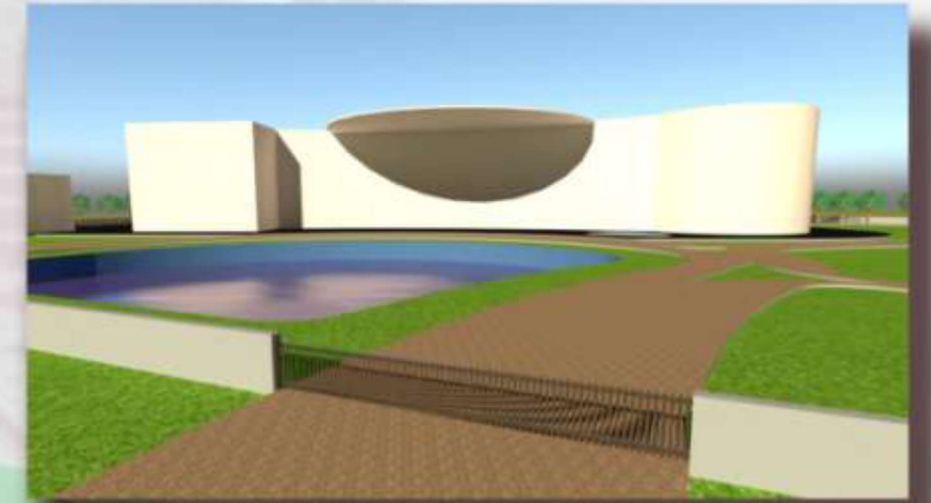
ENTRANCE



EXIT



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DORMITORY



SITE PLAN

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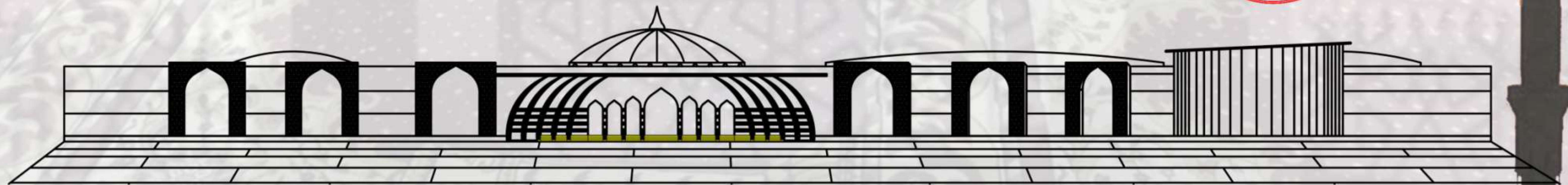
DORMITORY

REQUIREMENTS :-

- 01 - Dormitory for 16 persons - 15
- 02 - Dormitory for 06 persons - 11
- 03 - Single seater rooms - 17
- 04 - Toilets (M/F) - 08



GROUND FLOOR PLAN

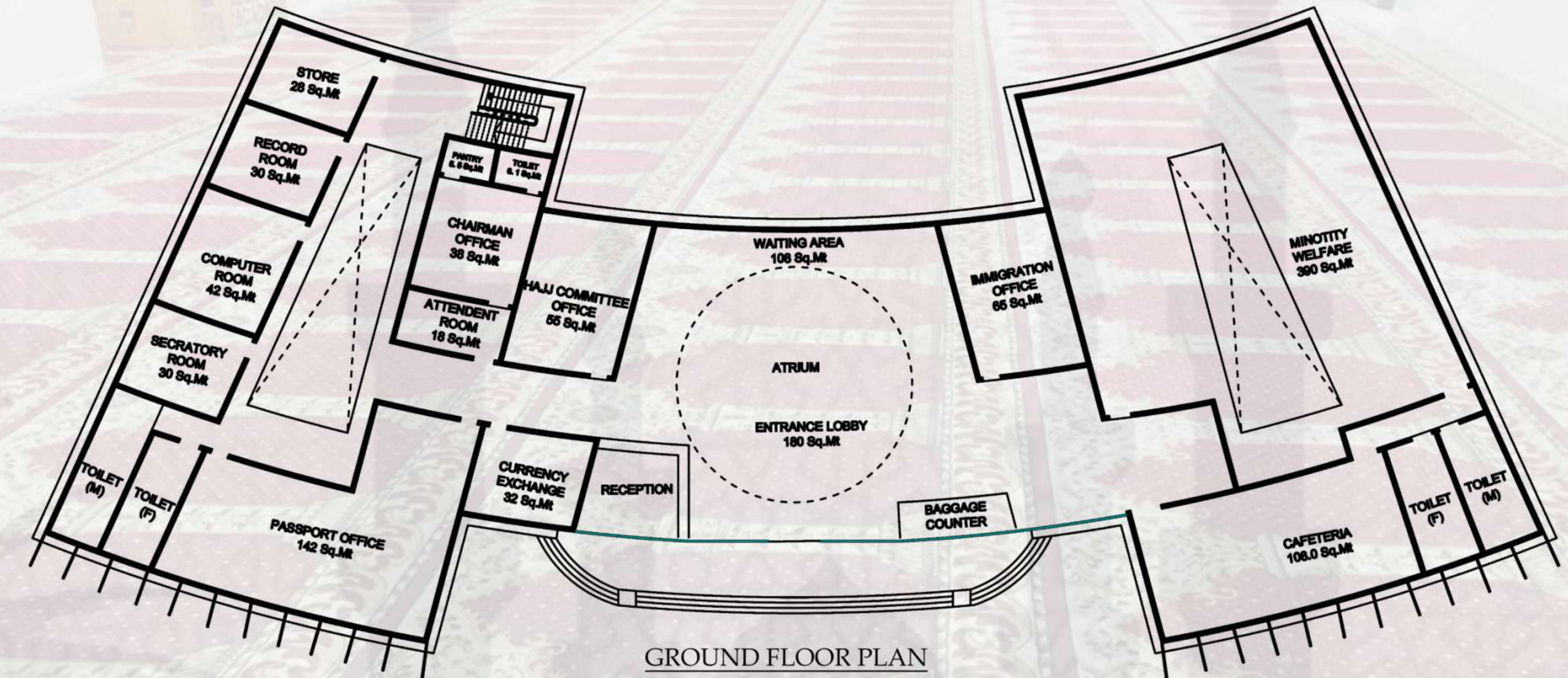


ELEVATION

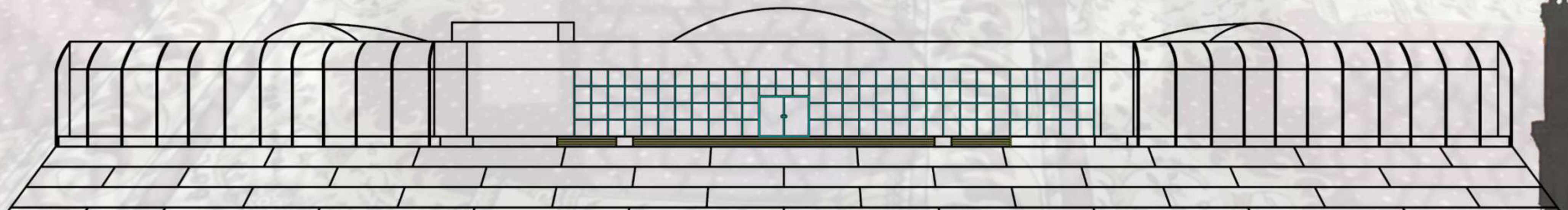
HAJJI HOUSE
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ADMINISTRATION BLOCK



GROUND FLOOR PLAN

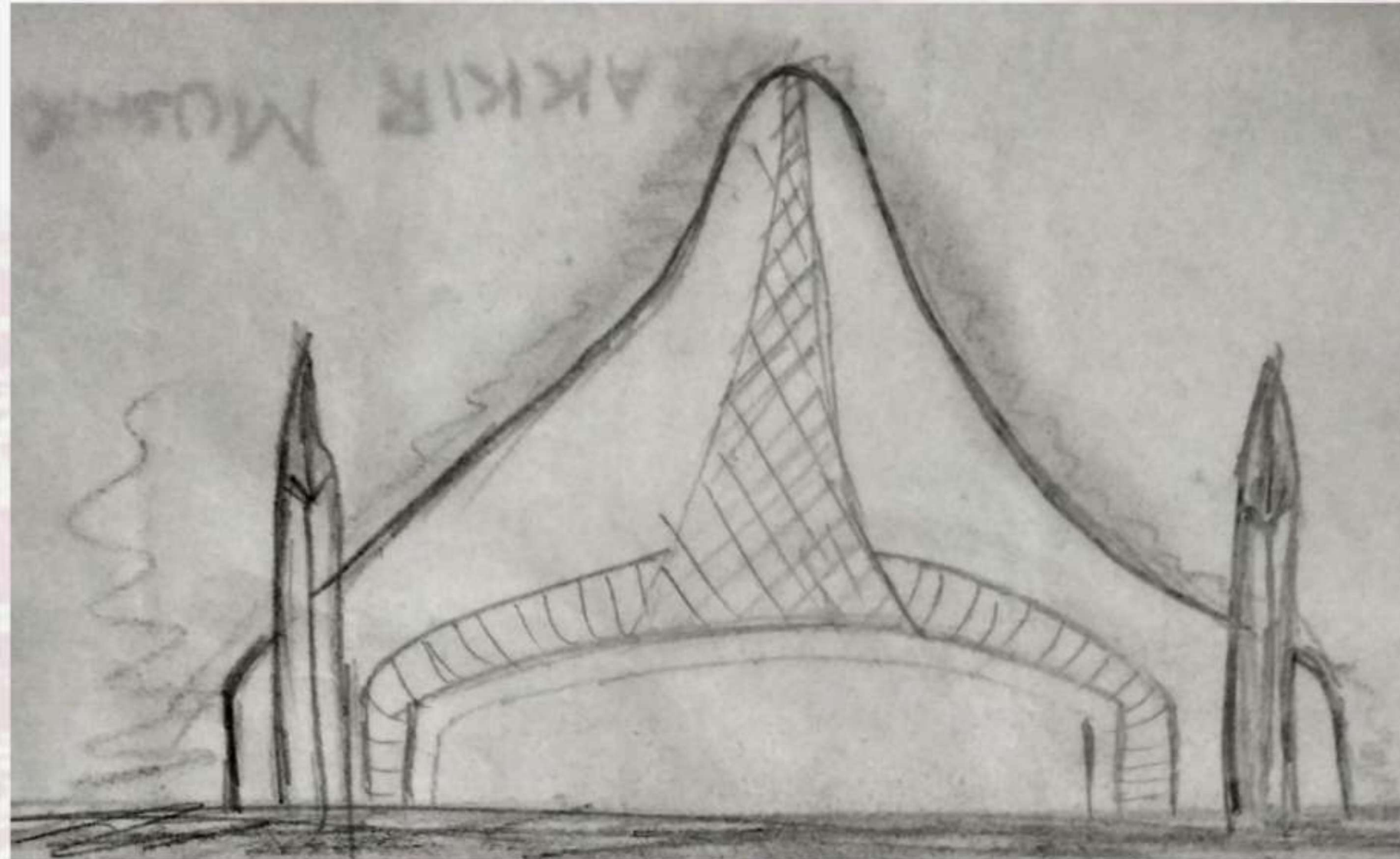


FRONT ELEVATION

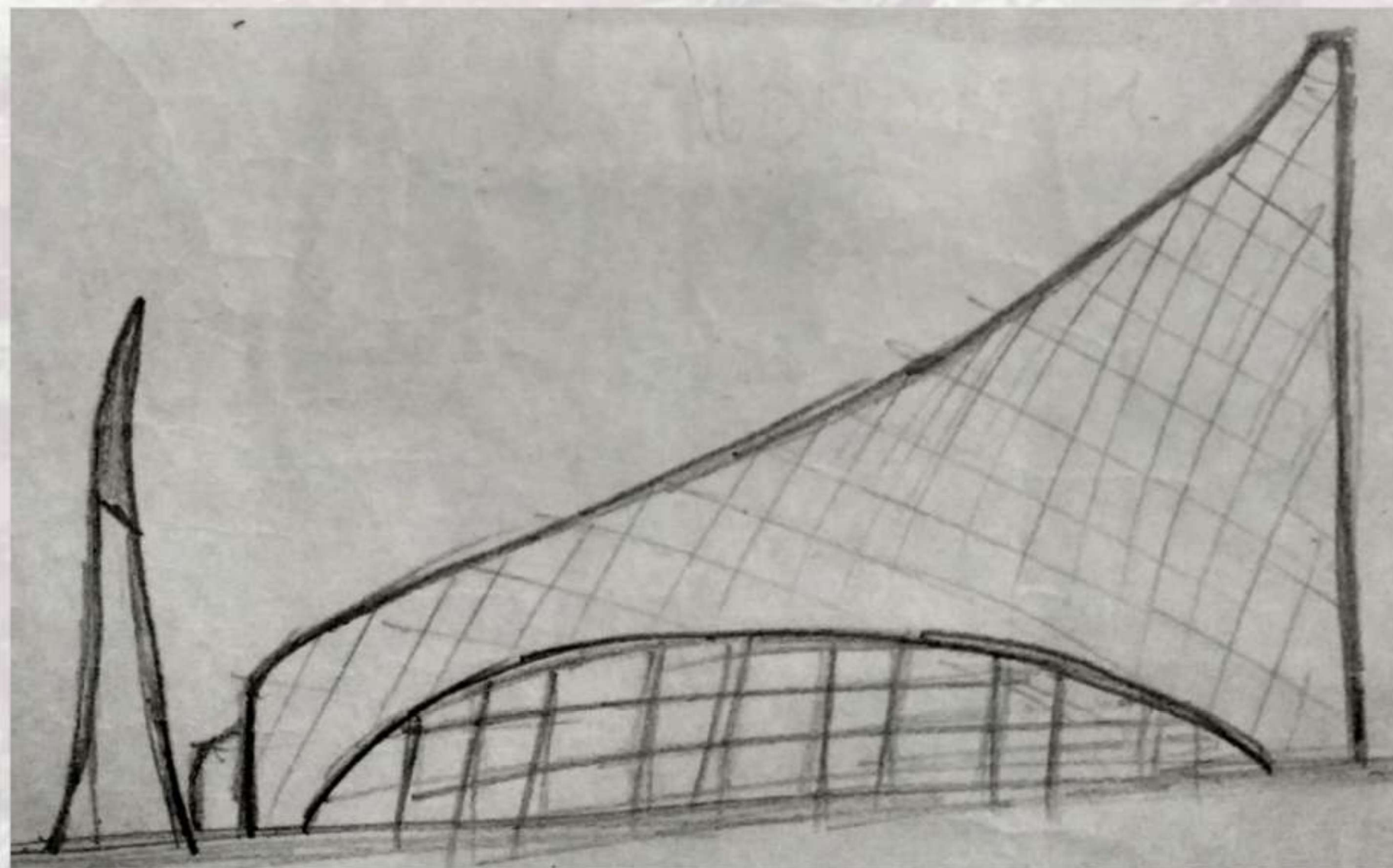
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VARANASI**

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1150101042**

AUDITORIUM



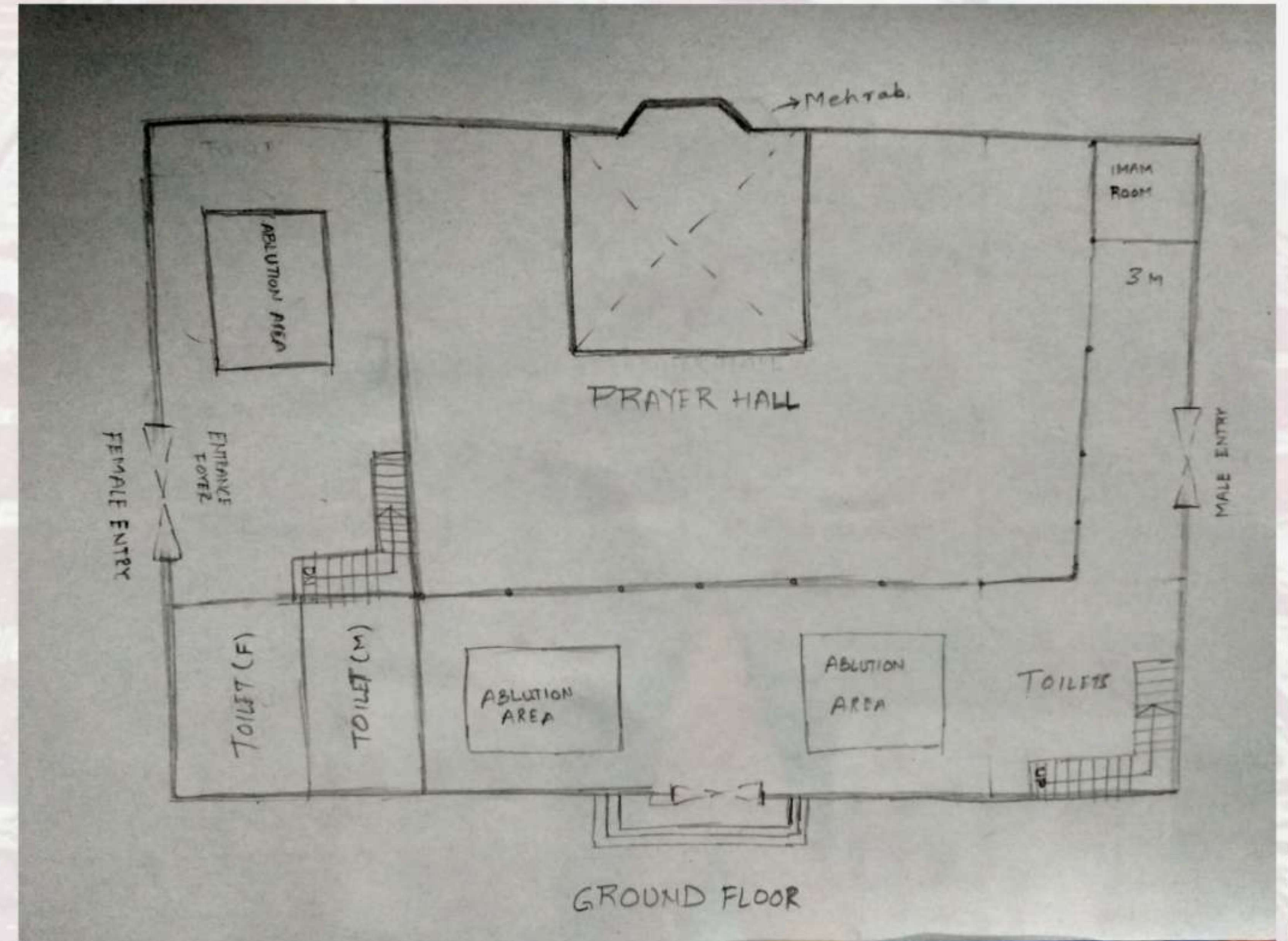
FRONT ELEVATION



SIDE ELEVATION

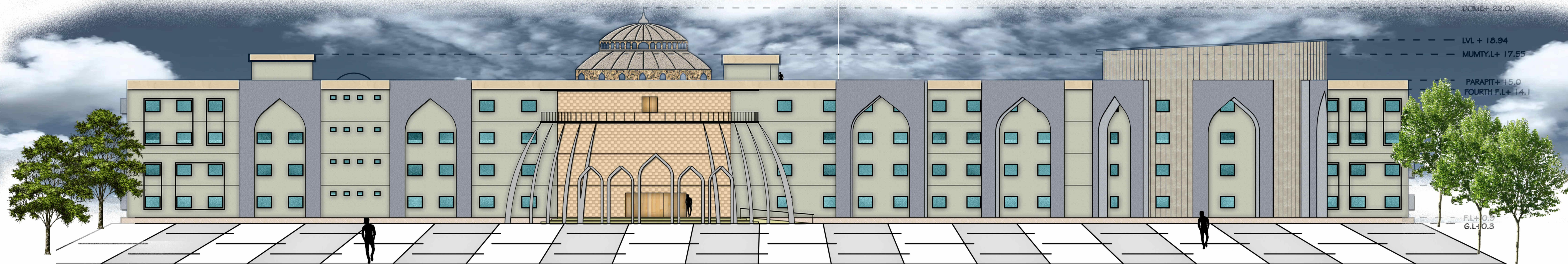
**H.A.J.J HOUSE
VARANASI**

MOSQUE

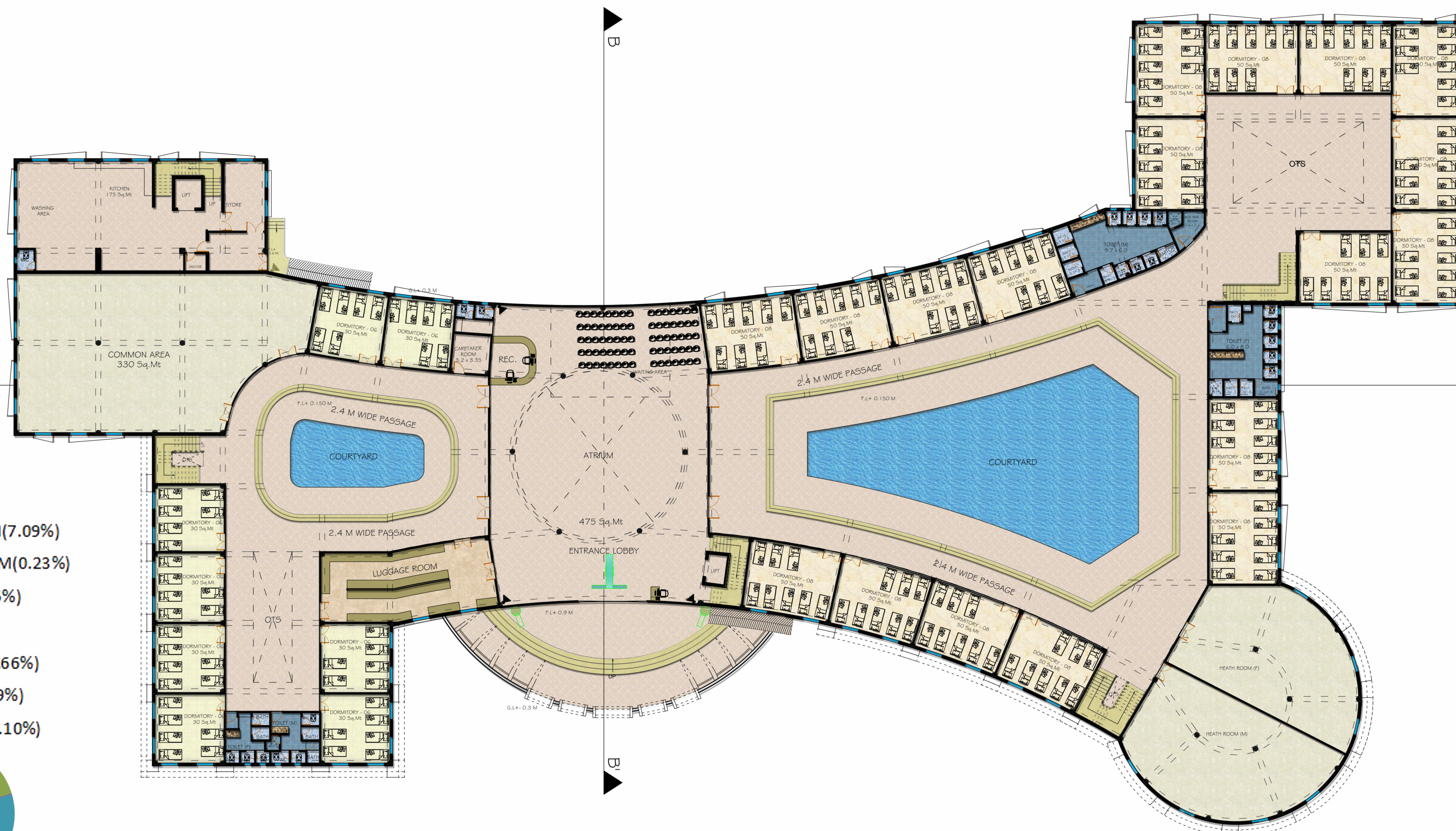


GROUND FLOOR PLAN

**MOHD. FAHAD
1150101042**

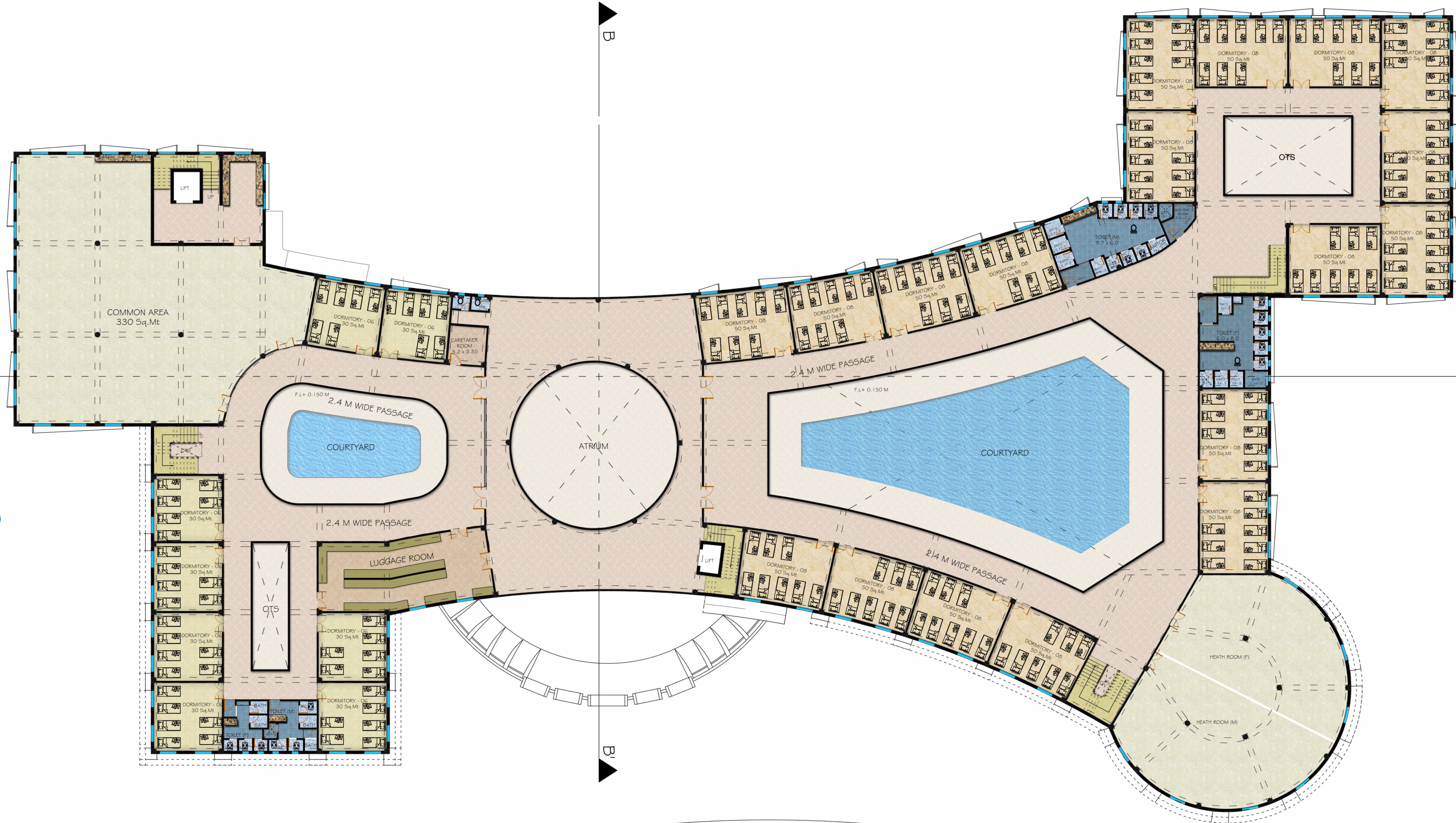


FRONT ELEVATION

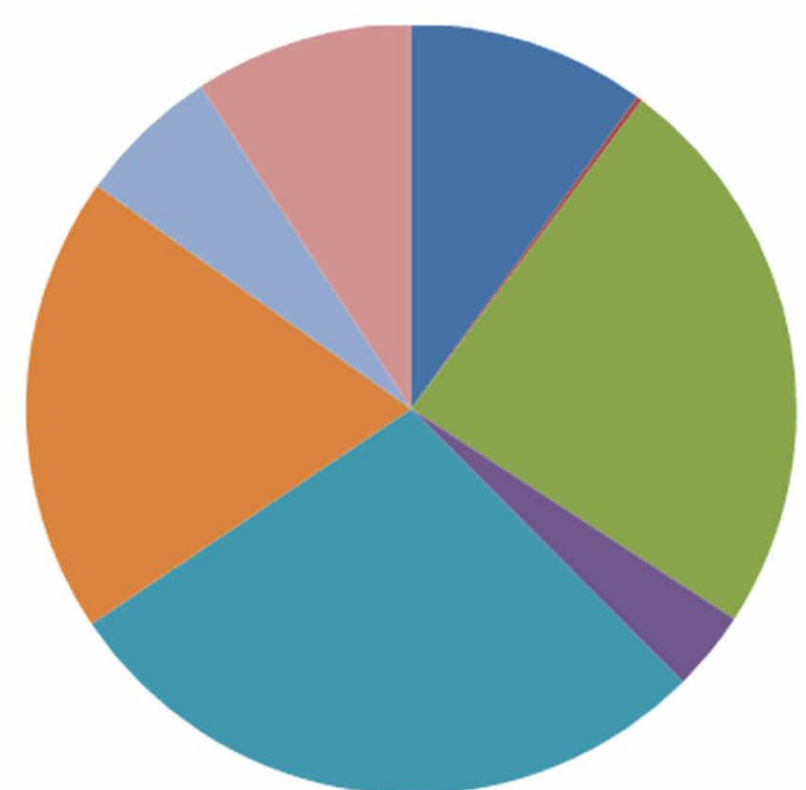




REAR ELEVATION



- ATRIUM(10.21%)
- CARETAKER ROOM(0.23%)
- DORMITORY(24.5%)
- TOILET(3.44%)
- CIRCULATION(28.66%)
- OPEN AREA(19.69%)
- HEALTH ROOM(6.10%)
- DINING ROOM(9.41%)



HAJJ HOUSE, VARANASI
BY MOHD FAHAD

THESIS

TYPICAL FLOOR (G+3)

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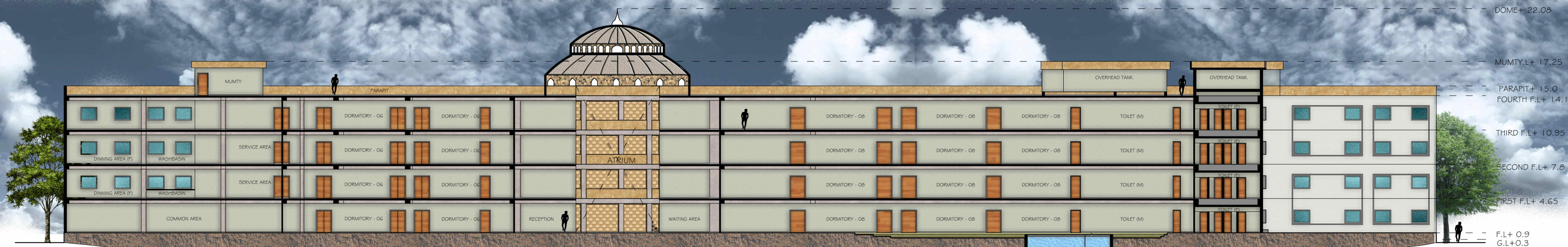
B.ARCH (5-2)

REAR ELEVATION

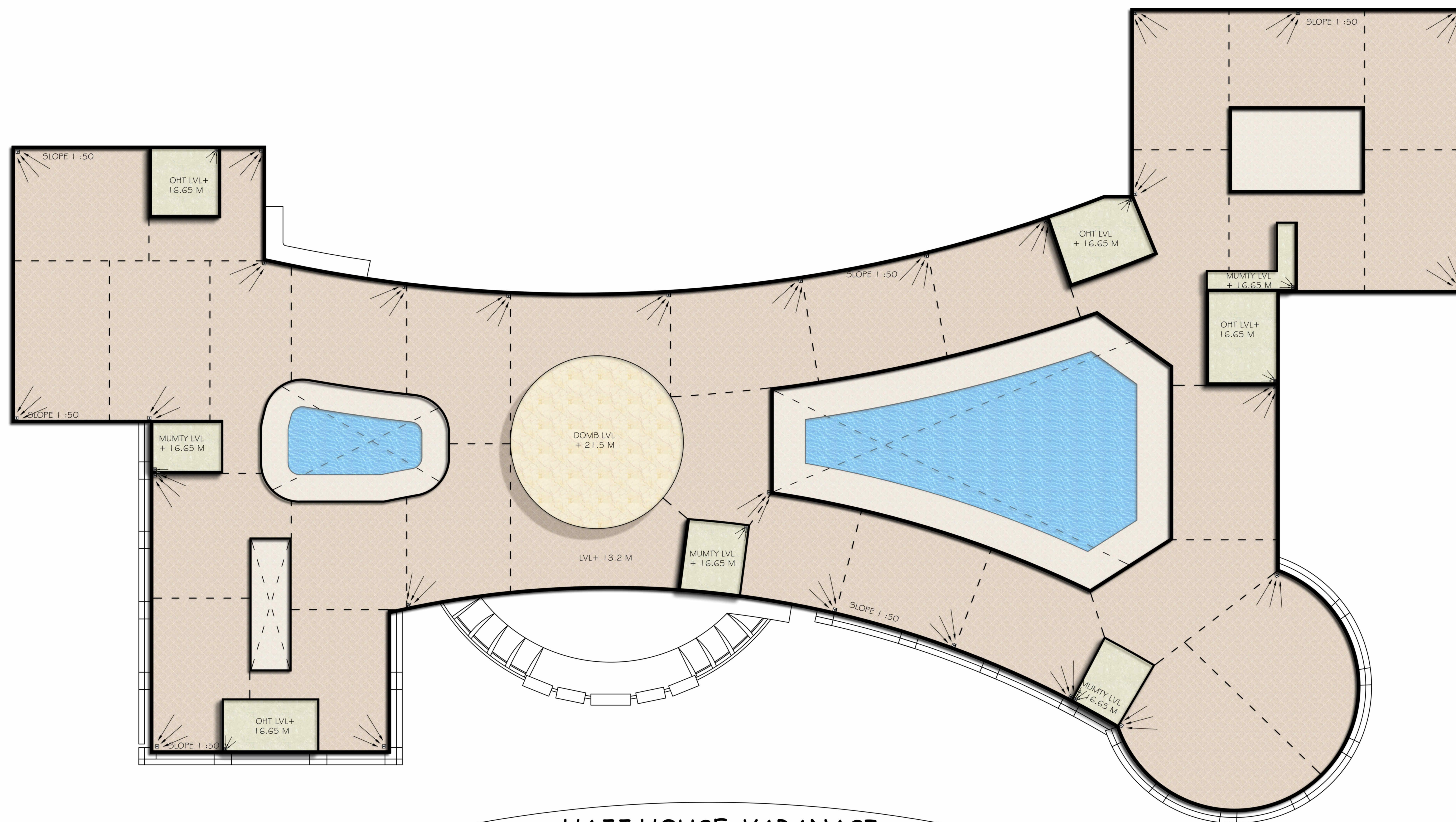
DORMITORY BLOCK

SCALE- 1:200

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SECTION - AA'



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THESIS

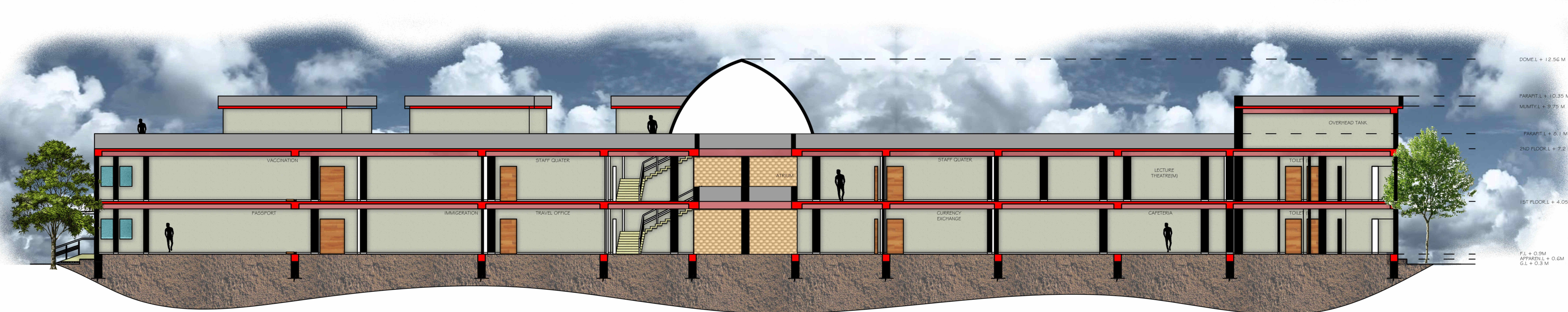
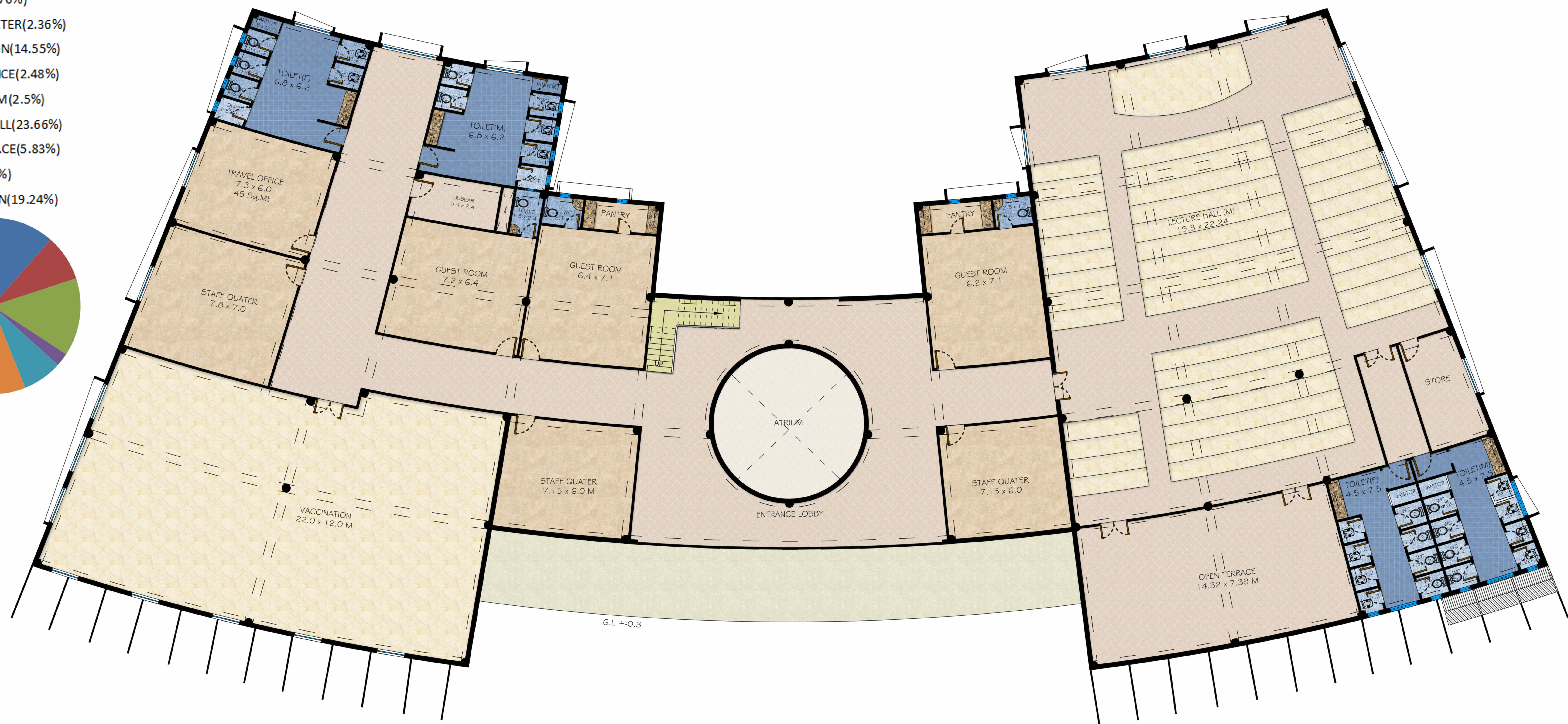
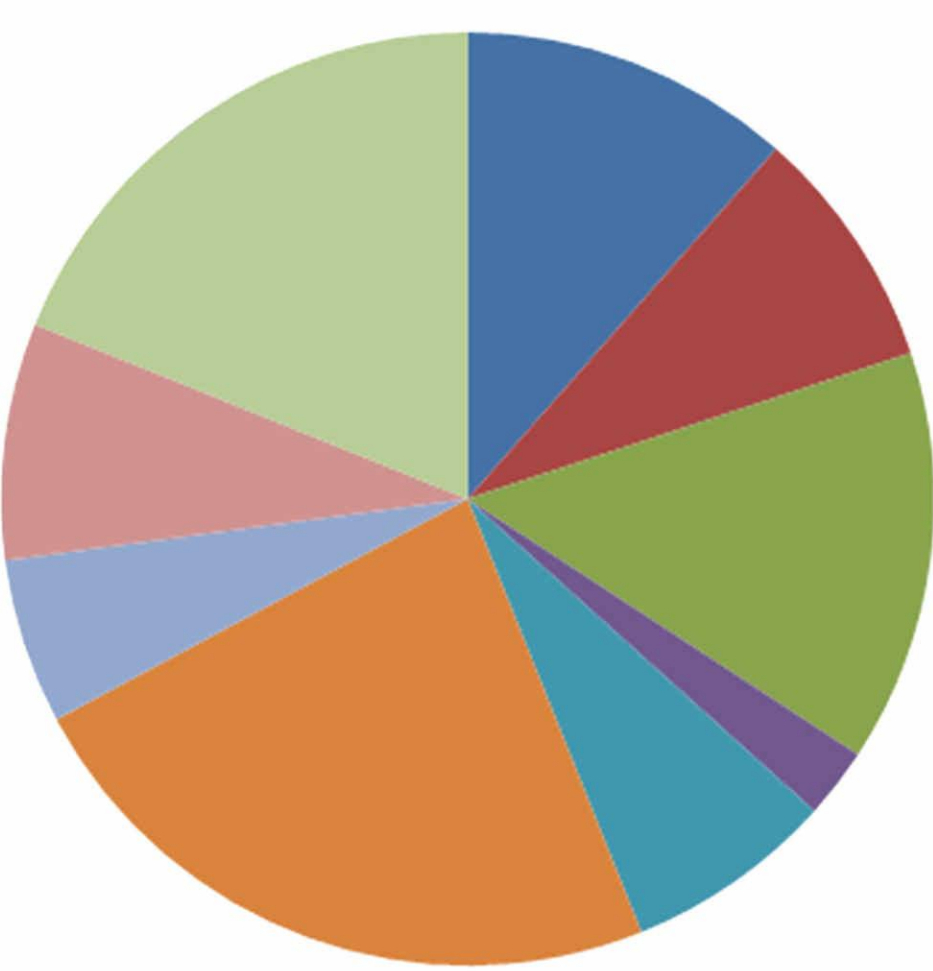
TERRACE PLAN
SECTION

1150101042
DORMITORY BLOCK

B.ARCH (5-2)
SCALE- 1:200

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- ATRIUM(11.70%)
- STAFF QUARTER(2.36%)
- VACCINATION(14.55%)
- TRAVEL OFFICE(2.48%)
- GUEST ROOM(2.5%)
- LECTURE HALL(23.66%)
- OPEN TERRACE(5.83%)
- TOILET(8.36%)
- CIRCULATION(19.24%)



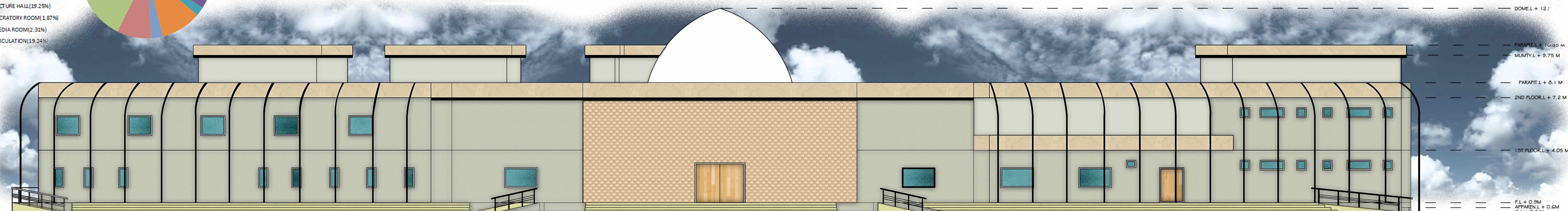
SECTION AA'

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THESIS

FIRST FLOOR	1150101042	B.ARCH (5-2)
SECTION	ADMINISTRATION BLOCK	SCALE- 1:200

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FRONT ELEVATION

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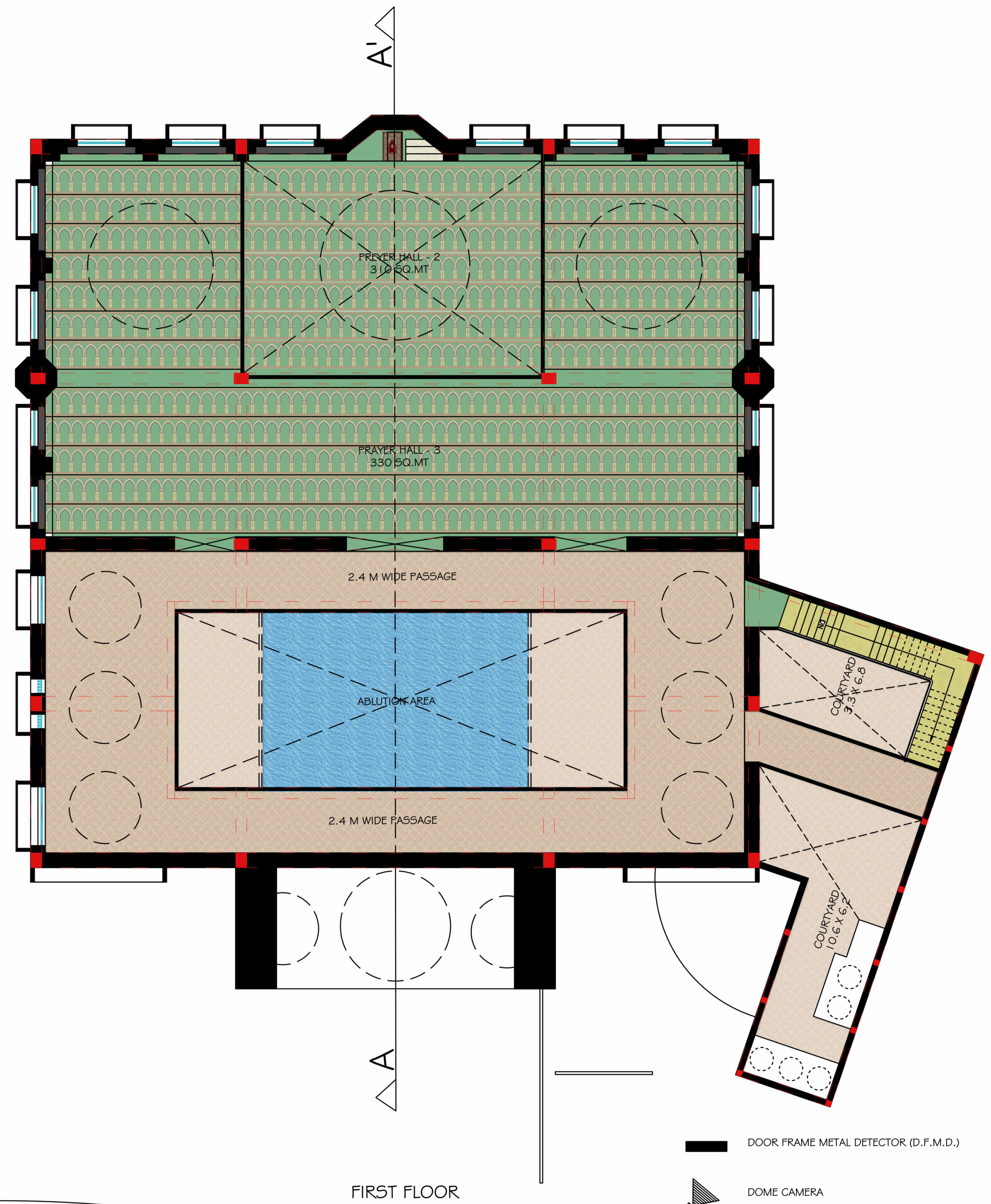
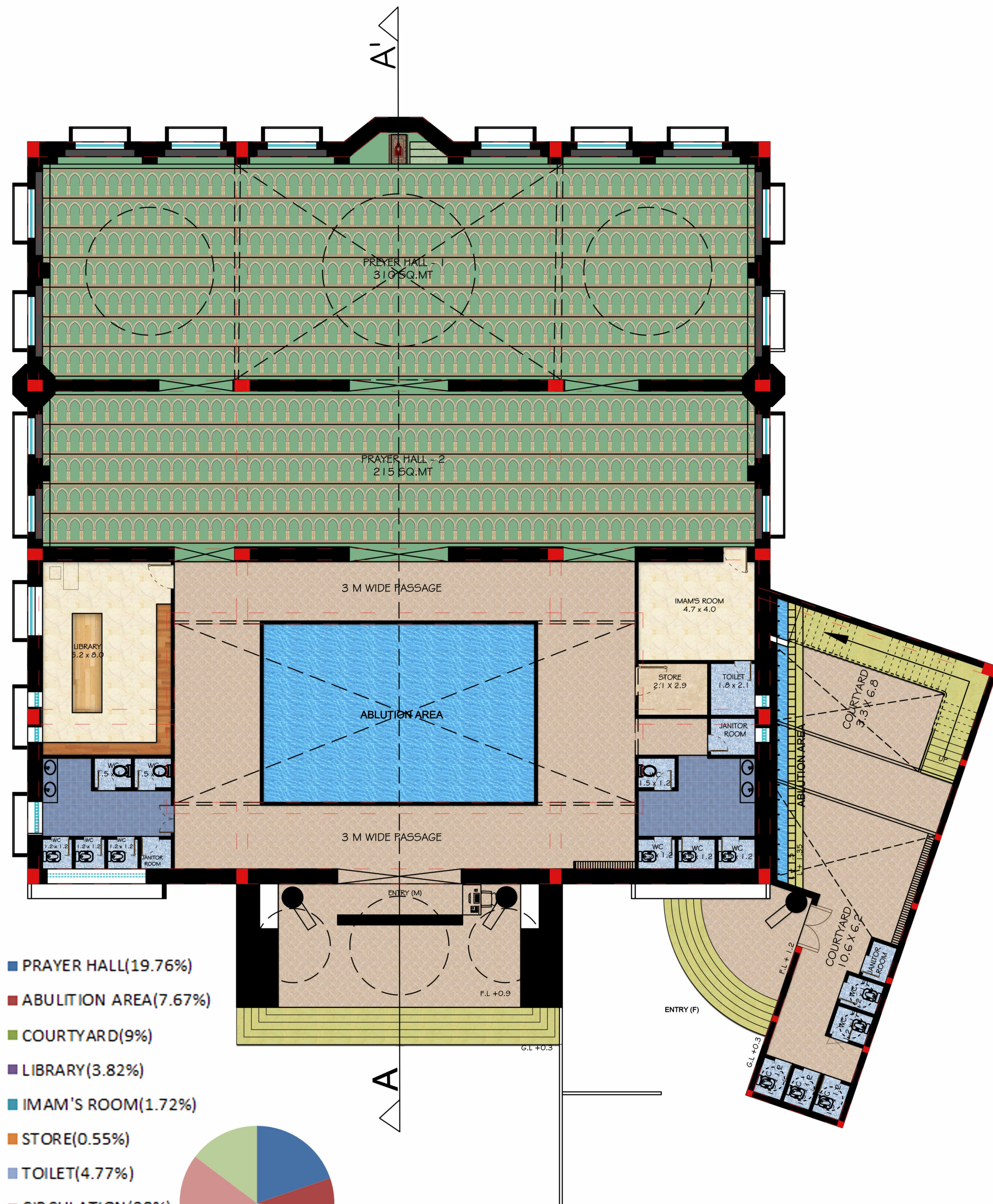
THESIS

GROUND FLOOR
ELEVATION

ADMINISTRATION BLOCK

B.ARCH (5-2)
SCALE- 1:200

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- DOOR FRAME METAL DETECTOR (D.F.M.D.)
- DOMA CAMERA
- IR BULLET CAMERA

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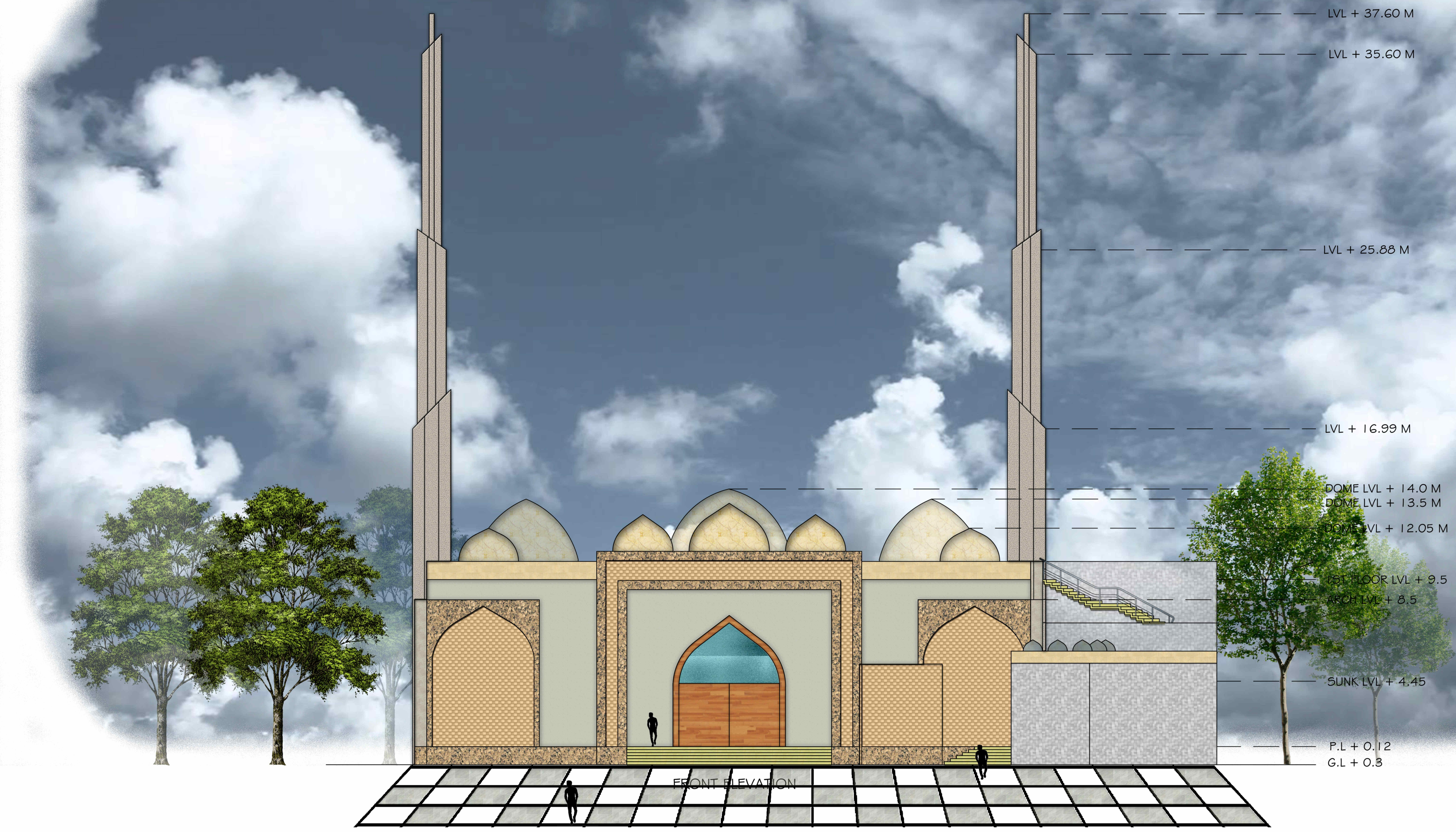
FLOOR PLAN

1150101042
MOSQUE

B.ARCH (5-2)
SCALE- 1:200

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THESIS

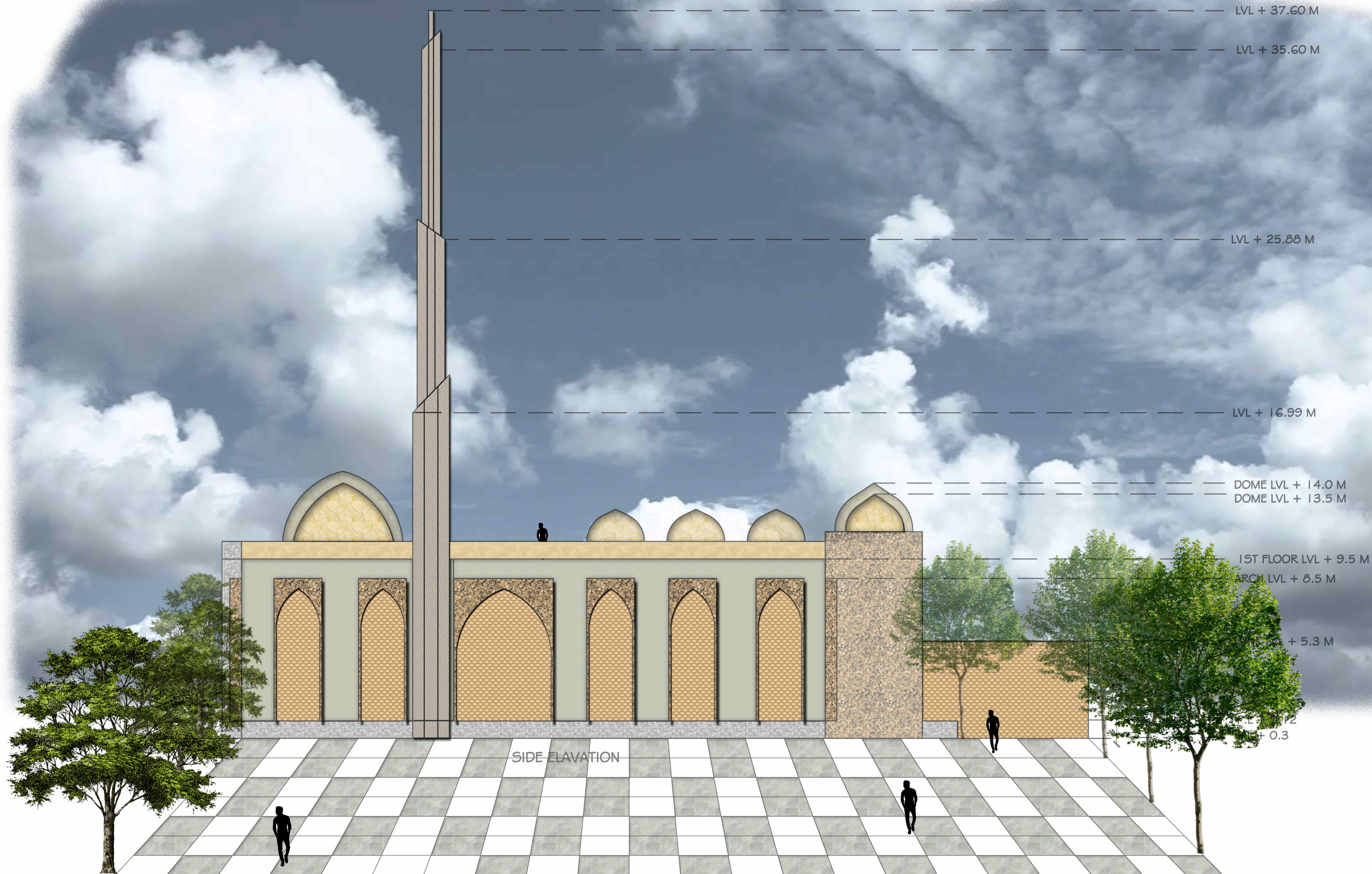


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THESIS

FRONT ELEVATION	1150101042	B.ARCH (5-2)
SECTION	MOSQUE	SCALE- 1:200

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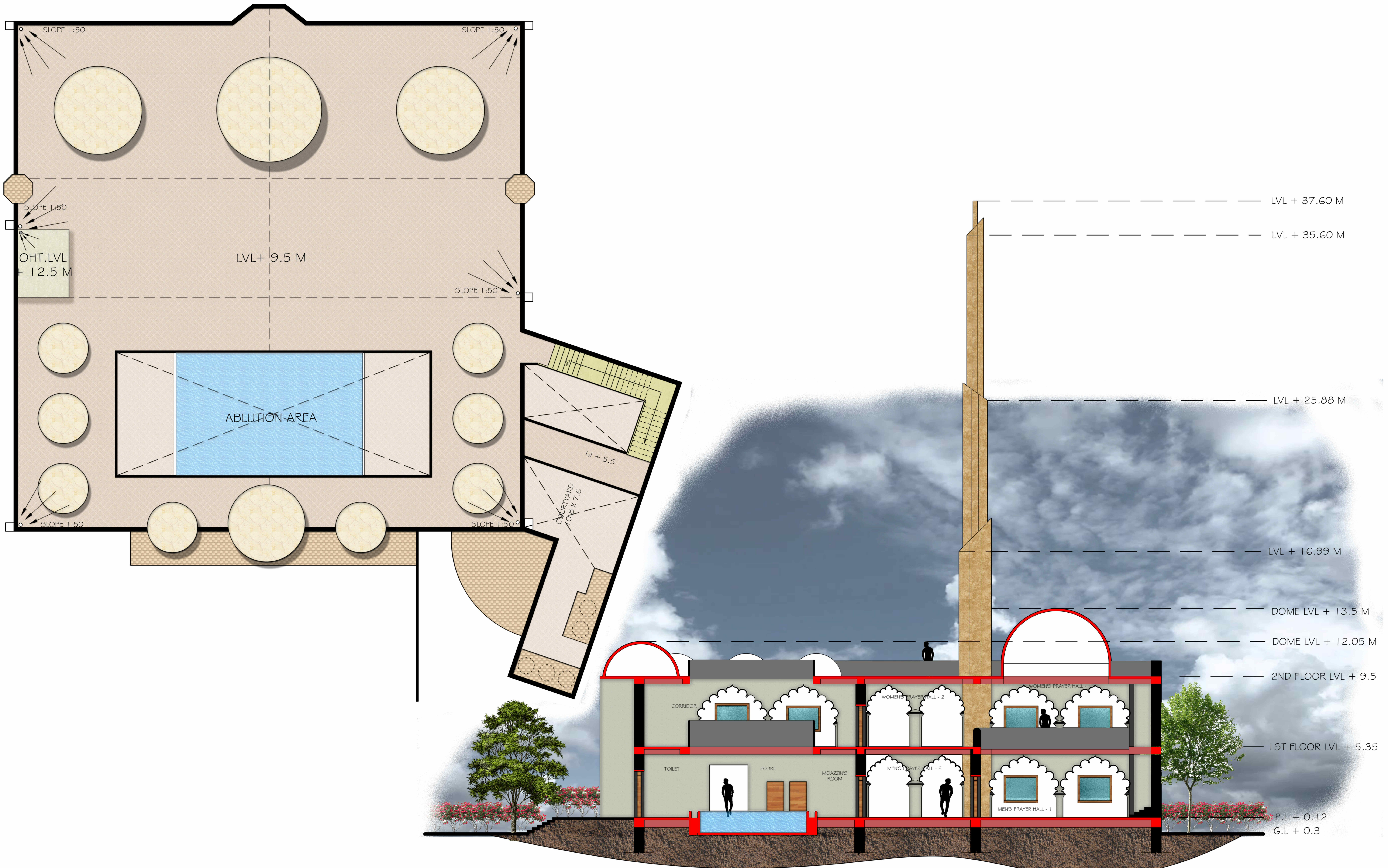
THESIS

SIDE ELEVATION

1150101042
MOSQUE

B.ARCH (5-2)
SCALE- 1:200

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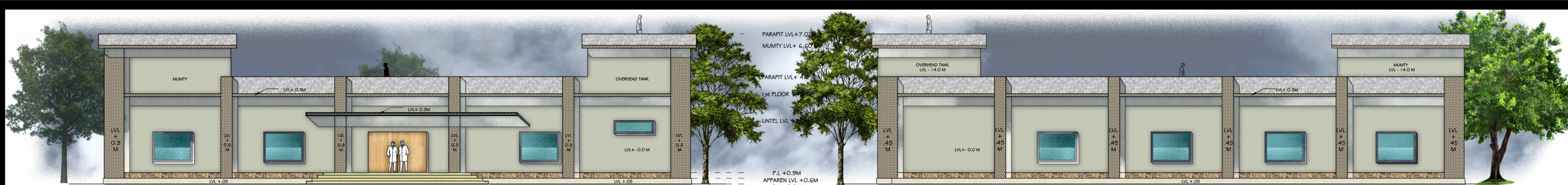
THESIS

TERRACE PLAN
SECTION

1150101042
MOSQUE

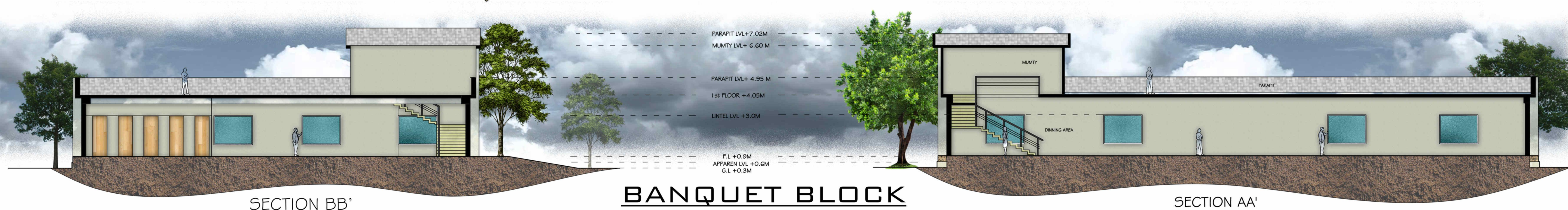
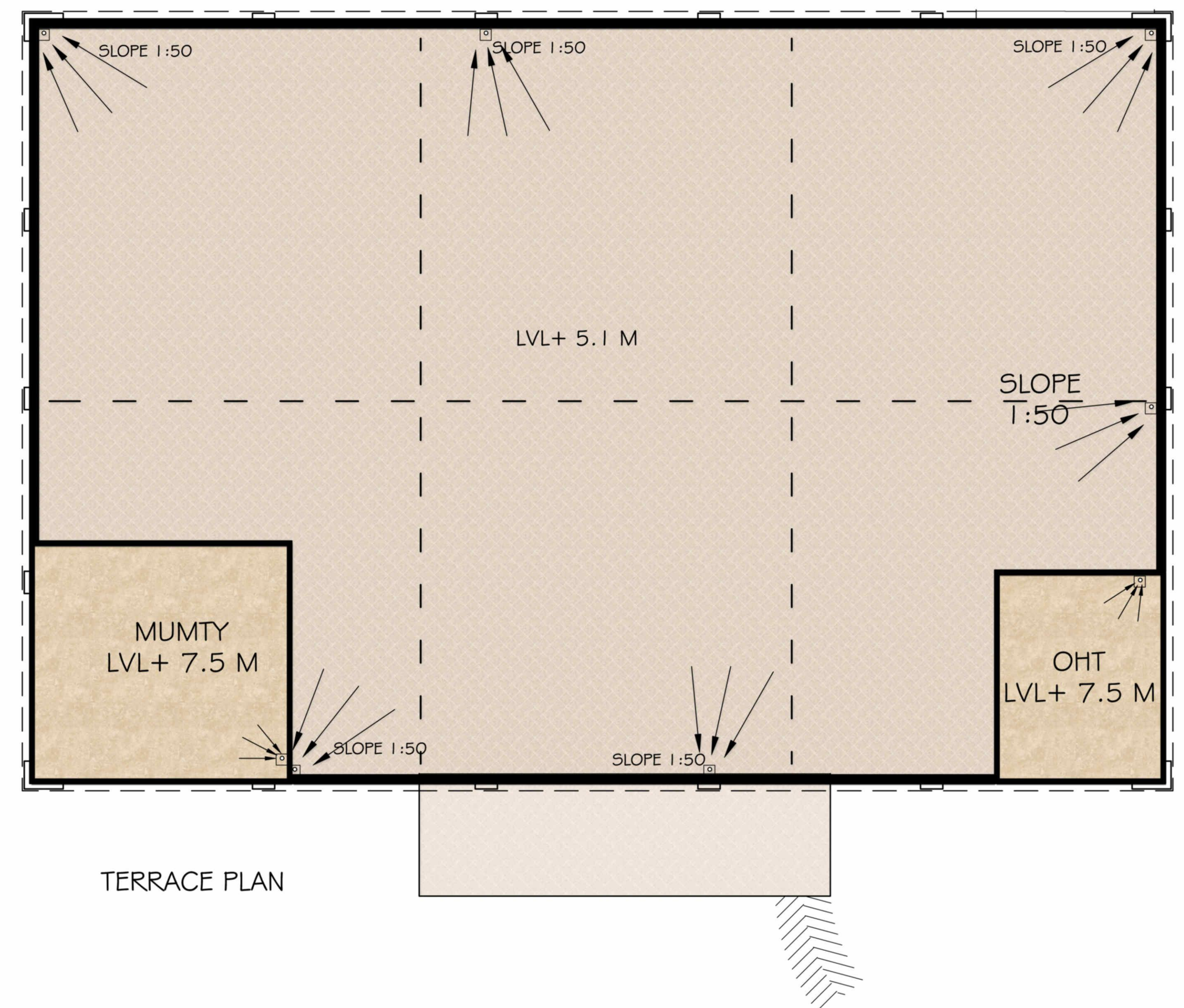
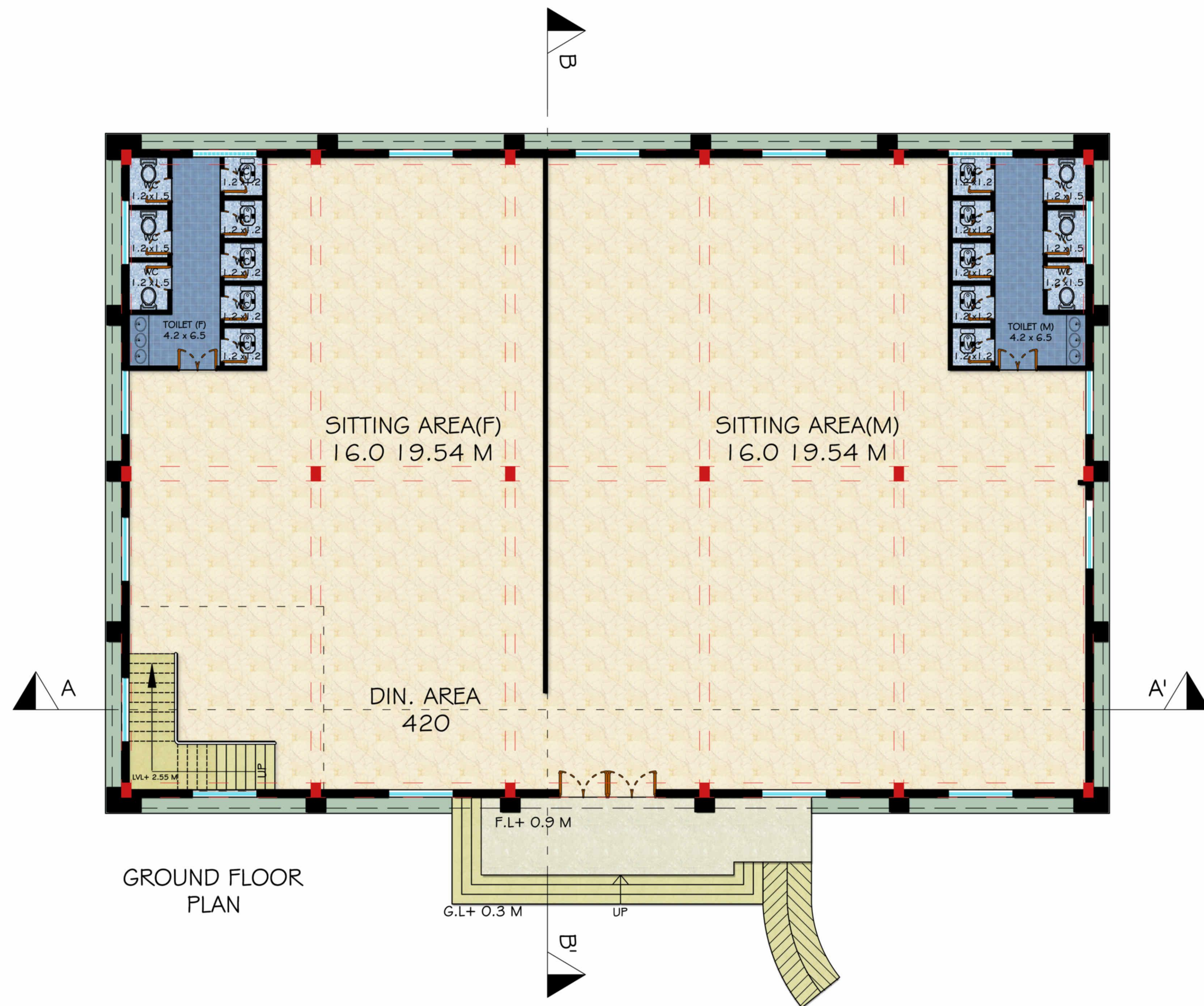
B.ARCH (5-2)
SCALE- 1:200

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FRONT ELEVATION

REAR ELEVATION



BANQUET BLOCK



SITE PLAN

ELECTIVE LANDSCAPING

IMPORTANCE OF LANDSCAPING:

As the buildings are made for the usage of the public, hence an important aspect is to maintain a comfortable and environment atmosphere. Even in all kind of building, this consideration should always be made so that the building is just not internally comfortable but so has an ambiguous environment and incorporate work with recreation for a better working input and development of the corporate world. FOLLOWING ARE THE MEASURES USED TO CREATE A HEALTHY AND COMFORTABLE ENVIRONMENT:

- Trees
- Plants
- Water bodies
- Green pavers

TREES:

CASSIA FISTULA



Common name: Amaltas, Golden shower tree, Indian Laburnum **Botanical name:** Cassia fistula

Family: Caesalpinaceae (Gulmohar family)

- One of the most beautiful of all tropical trees when it sheds its leaves and bursts into a mass of long, grape-bunches like yellow gold flowers.
 - A tropical ornamental tree with a trunk consisting of hard reddish wood, growing up to 40 feet tall.
 - The wood is hard and heavy; it is used for cabinet, inlay work, etc. It has showy racemes, up to 2' long, with bright, yellow, fragrant flowers.
 - These flowers are attractive to bees and butterflies.
 - The fruits are dark-brown cylindrical pods, also 2' long, which also hold the flattish, brown seeds (up to 100 in one pod).
- Medicinal uses:** The sweet blackish pulp of the seedpod is used as a mild laxative.

HAJJ HOUSE

Common name: Gulmohar
Botanical name: *Delonix regia*
Family: Fabaceae

- its ornamental value
- it is also a useful shade tree in tropical conditions, because it usually grows to a modest height but spreads widely, and its dense foliage provides full shade.
- In areas with a marked dry season, it sheds its leaves during the drought, but in other areas it is virtually evergreen.



Common name: Blackboard tree,
Indai and evil tree
Botanical name: *Alstonia scholaris*
Family: Apocynaceae



- *Alstonia scholaris* is a small tree that grows up to 40 m tall and is glabrous. The bark is greyish; branchlets are copiously lenticellate.
- The upper side of the leaves are glossy, while the underside is greyish.
- Leaves occur in whorls of 3-10; petioles are 1-3 cm; the leathery leaves are narrowly obovate to very narrowly spatulate, base cuneate, apex usually rounded; lateral veins occur in 25-50 pairs, at 80-90° to midvein. Cymes are dense and pubescent; peduncle is 4-7 cm long. Pedicels are usually as long as or shorter than calyx.
- Seeds of *A. scholaris* are oblong, with ciliated margins, and end with tufts of hairs 1.5-2 cm. The bark is almost odorless and very bitter, with abundant bitter and milky sap.

Haji House

BLACK BAMBOO

Phyllostachys nigra, or Black Bamboo, is a giant grass characterized by large woody stems that are native to Southern China. Plants spread by very vigorous rhizomes and are considered a running form of bamboo. In nature, plants will reach 25 feet (>7.6m) tall and the stem at maturity will reach 2 inches (5cm) in diameter. Clumps can become very large if left uncontrolled. In containers, it makes an outstanding looking plant, but due to the vigorous growth they will outgrow most containers in a couple of years. I have seen this plant break ceramic pots with their rhizomes. In the landscape, they make a great hedge plant, but be careful about controlling their roots. It is hardy in the landscape in USDA zones 8-10.

•CYCUS REVOLUTA

Cycas revoluta (sagocycad), is an attractive plant native to southern Japan. Though often known by the common name of king's agapalm, or just sagopalm, it is not a palm at all, but a cycad.

This very symmetrical plant supports a crown of shiny, dark green leaves on a thick, shaggy trunk that is typically about 20cm (7.9in) in diameter, sometimes wider. The leaves are deep semiglossy green and about 50–150cm (20–59in) long when the plants are of a reproductive age. They grow out into a feather-like rosette to 1m (3.3ft) in diameter. The crowded, stiff, narrow leaflets are 8–18cm (3.1–7.1in) long and have strongly recurved or revolute edges. The basal leaflets become more like spines. The petiole or stem of the Sago Cycad are 6–10cm (2.4–3.9in)



HAJI HOUSE

WATER BODIES:

Water bodies are so very important as it not only has the aesthetic value but as has its functional value. The water bodies generate a micro-climate around its and create a cool space. placed along the wind direction to generate an ambiguous environment. it decrease the temperature by about 5 c

.AESTHETIC FACTORS-

- Auditory
- Psychological
- Sensory effects
- Visual

FUNCTIONAL FACTORS-

- Recreational
- Circulation control
- Utilitarian

GREEN PAVERS:



HAIJ HOUSE



THANK YOU

**H.A.J HOUSE
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GUIDE BY: AR. ARVIND KUMAR SINGH

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