THESIS REPORT ON

"MIX USE BUILDING, LUCKNOW"

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

BACHELOR OF ARCHITECTURE

BY

GAURANGI VARSHNEY
(1190101011)

THESIS GUIDE

AR. SANGEETA SHARMA

SESSION

2023-24

TO THE

SCHOOL OF ARCHITECTURE AND PLANNING

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CERTIFICATE

I hereby recommend that the thesis entitled "MIX USE BUILDING, LUCKNOW" under the supervision, is the bonafide work of the student and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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Prof. Sangeeta Sharma	Prof. Sangeeta Sharma	Prof. Mohit Agarwal
(Thesis Guide)	(Head of Department)	(Dean of Department)

_____	_____	_____
Internal Examiner	External Examiner-1	External Examiner-2

Date: _____

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

CERTIFICATE OF THESIS SUBMISSION FOR EVALUATION

1. **Name** : ……
2. **Roll No.** : ……
3. **Thesis Title** : ……
4. **Degree for which the thesis is submitted:** ……
5. **Faculty of University to which the thesis is submitted:** **Yes / No**
6. **Thesis preparation guide was referred to for preparing the thesis.** **Yes / No**
7. **Specification regarding thesis format have been closely followed.** **Yes / No**
8. **The content of the thesis have been organized based on the guidelines.** **Yes / No**
9. **The thesis has been prepared without resorting to plagiarism** **Yes / No**
10. **All the sources used have been cited appropriately** **Yes / No**
11. **The thesis has not been submitted elsewhere for a degree.** **Yes / No**
12. **Submitted 3 hard bound copied plus one CD** **Yes / No**

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(Signature(s) of the supervisor) **(Signature of the Candidate)**

Name: **Name:**

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- Gaurangi Varshney

SCOPE AND LIMITATION

- THE SCOPE TO STUDY COLLEGE OF ARCHITECTURE WOULD BE LIMITED TO THE STUDY OF VARIOUS DEPARTMENTS OF ARCHITECTURE AND PLANNING DEPARTMENT AT UNDERGRADUATE AS WELL AS POST GRADUATE LEVEL.
- IT WOULD INCLUDE THE CURRICULUM OF PLANNING FOR THE DEGREE OF B.ARCH.
- IT WOULD INCLUDE THE CURRICULUM FOR MASTER IN ARCHITECTURE FOR A DEGREE OF M.ARCH. IN VARIOUS DEPARTMENT

METHODOLOGY

- SITE ANALYSIS
- SITE & SURROUNDINGS
- SITE CLIMATE
- CASE STUDY
- LITERATURE STUDY
- AREA ANALYSIS
- STANDARD SHEET
- CONCEPT SHEET
- DESIGN
- ELECTIVE
- VIEW

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SYNOPSIS

MIX USE BUILDING

A mixed-use high-rise is a type of building that integrates multiple functions into a single structure, typically combining residential, commercial, and sometimes even office spaces within one tall building. These skyscrapers are designed to create a self-contained environment where people can live, work, shop, and engage in recreational activities without needing to travel far. The concept promotes urban density and efficient land use, which are essential in addressing the challenges of growing urban populations and limited space in cities.

The lower floors of a mixed-use high-rise often house retail stores, restaurants, and other businesses that serve both the residents of the building and the surrounding community. Above these commercial spaces, there may be several floors of office space, providing convenient workplaces for those who live in or near the building. The uppermost floors are typically reserved for residential units, offering apartments or condominiums with the added benefits of amenities such as gyms, swimming pools, and rooftop gardens.

This combination of uses within a single building fosters a vibrant community, reduces the need for long commutes, and encourages sustainable living practices. It also supports local economies by creating a steady flow of customers for businesses and enhancing the overall appeal of urban living. In essence, mixed-use high-rises are a modern architectural solution that addresses the demands of contemporary urban lifestyles, promoting convenience, connectivity, and sustainability in densely populated areas.

1.1- INTRODUCTION:

A mixed-use high-rise is an innovative architectural concept that has gained significant popularity in urban development. These towering structures blend various functions—such as residential, commercial, and office spaces—within a single building. This approach to design and urban planning addresses the growing need for efficient land use in densely populated cities, fostering environments where people can live, work, shop, and socialize all in one place. By integrating multiple uses, mixed-use high-rises not only enhance the convenience and quality of life for their occupants but also contribute to the economic vitality and sustainability of urban areas. The introduction of these multifaceted buildings represents a forward-thinking solution to the challenges of modern urbanization, promoting a more connected and vibrant community experience.

1.2- AIM:

The aim of a mixed-use high-rise is to create a multifunctional, efficient, and sustainable urban space where people can live, work, and engage in leisure activities within a single, vertically integrated building. This approach maximizes land use, reduces the need for transportation, and fosters a vibrant, convenient, and cohesive community.

1.3- OBJECTIVES:

- Maximize Land Efficiency: Utilize limited urban space effectively by combining various functions in one building.
- Reduce Transportation Needs: Minimize the need for commuting by providing residential, commercial, and office spaces in proximity.
- Enhance Convenience: Offer a variety of amenities and services within the building to improve the quality of life for residents and users.
- Stimulate Economic Activity: Create a vibrant economic hub that attracts businesses, residents, and visitors.
- Encourage Community Interaction: Facilitate social engagement and community building through shared spaces and mixed-use environments.
- Support Urban Density: Contribute to the development of high-density urban areas to accommodate growing populations efficiently.

1.4- NEED OF THE PROJECT:

1. Urban Growth: Addresses rapid urbanization and population growth by efficiently using limited land resources.

2. Economic Boost: Supports economic development as a major hub by providing spaces for businesses, offices, and residences.

3. Improved Connectivity: Enhances connectivity and reduces commute times by integrating residential, commercial, and office spaces in one location.

4. Modern Lifestyle: Offers convenient amenities like shops, gyms, and restaurants, enhancing quality of life and community interaction.

5. Sustainability: Promotes sustainable urban development through higher density living and green building practices.

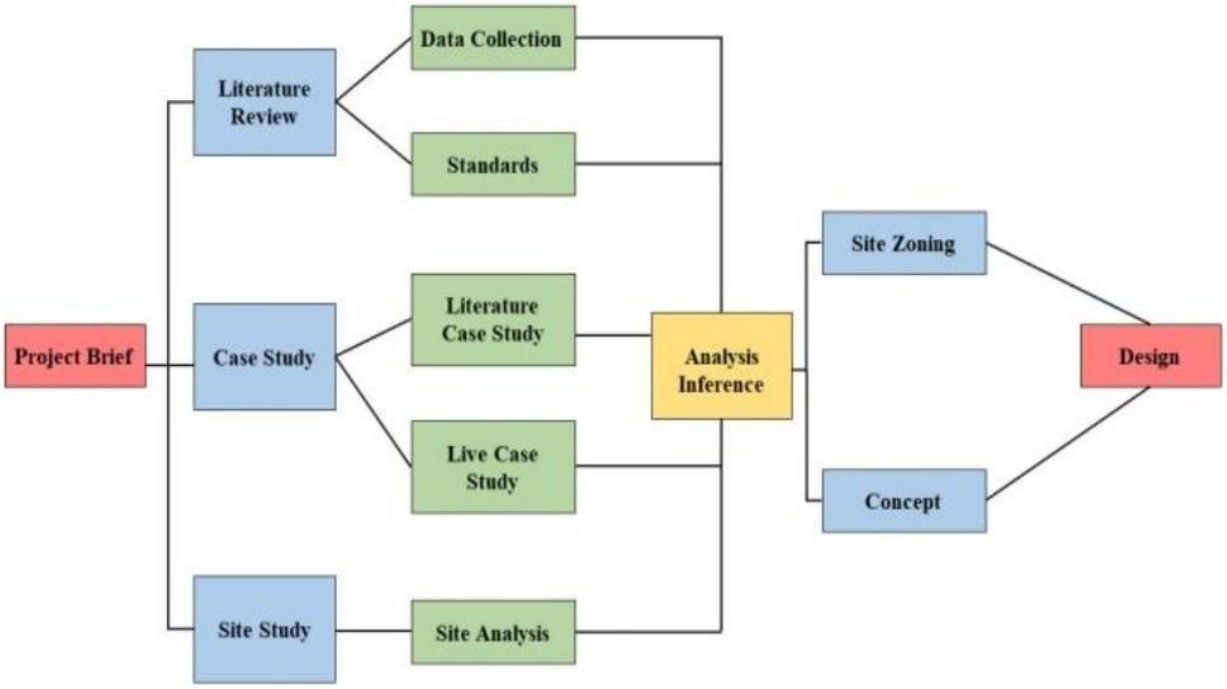
6. Urban Revitalization: Revives underutilized areas, attracting investment and improving infrastructure.

7. Housing Diversity: Provides housing options for diverse income groups, promoting social inclusivity and meeting varied housing needs.

1.5- SCOPE:

- Meeting Urban Needs: Providing a modern, integrated space for living, working, and leisure in response to Lucknow's growing urbanization.
- Economic Catalyst: Boosting local economy by attracting businesses, creating jobs, and fostering a vibrant commercial environment.
- Community Hub: Enhancing social connectivity with amenities that promote interaction, well-being, and a sense of belonging.
- Environmental Responsibility: Implementing sustainable practices to reduce environmental impact and support green living in the city.
- Quality Living: Improving residents' quality of life through convenient access to amenities, diverse housing options, and a lively urban environment.

1.6- METHODOLOGY:

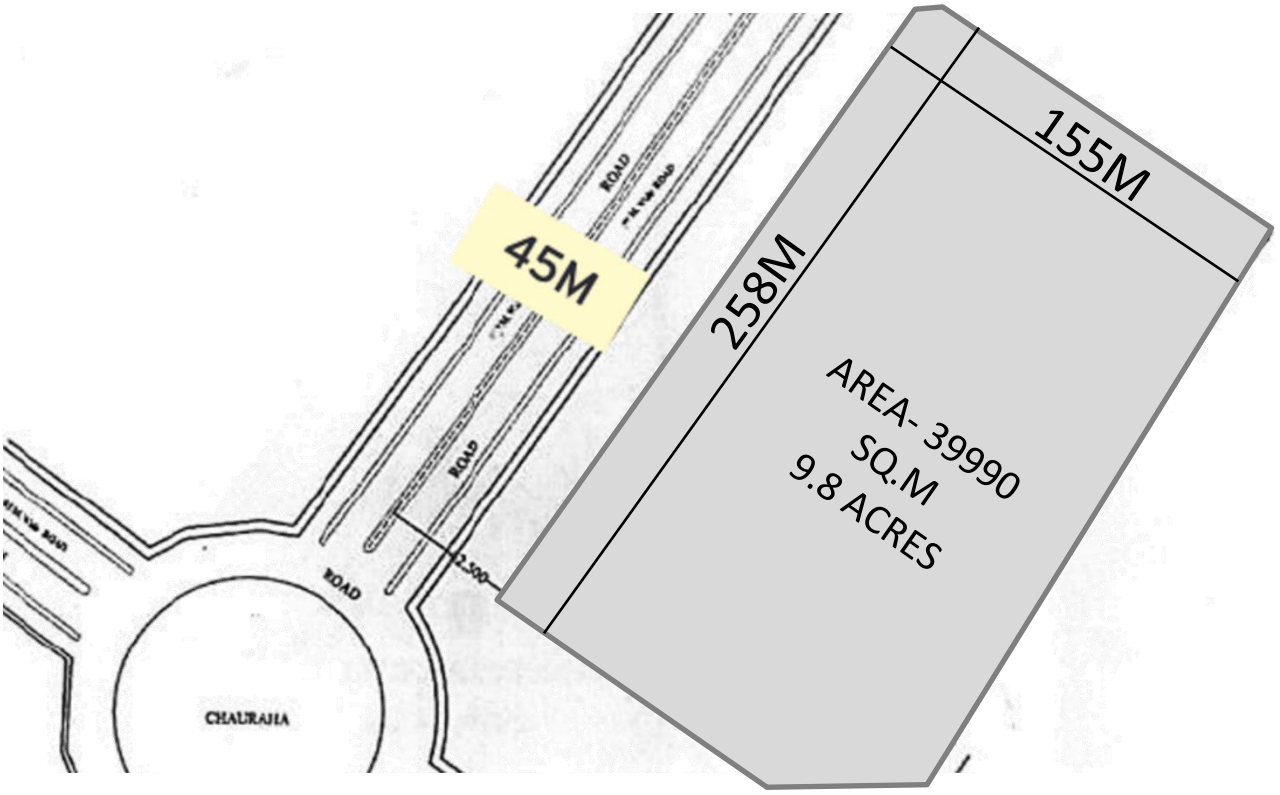


SITE INTRODUCTION

2.1- SITE DETAILS:

SITE INFORMATION

LOCATION: CG CITY IS LOACTED IN SOUTH EASTERN PART OF THE CITY ON LUCKNOW – SULTANPUR ROAD.
(26’48’07.6”N 81’01’06.2”E
AREA: 39990 SQ.M
HECTOR : HA
ACRE: 9.8 ACRES
POPULAATION : 14,58,585
TOPOGRAPHY : SLOPE N-W
WIND DIRECTION : WNW



The site, located at south eastern part of the city on Lucknow – Sultanpur road, Lies at the heart of Lucknow's vibrant urban milieu, where tradition converges with modernity, and history resonates through the streets. Its strategic positioning within the cityscape affords unparalleled connectivity to key landmarks, commercial hubs, educational institutions, and recreational precincts, fostering a dynamic ecosystem ripe for mixed-use development.

LITERATURE STUDY

LITERATURE STUDY – 01

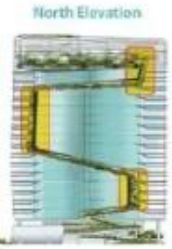
SPIRE EDGE, GURGAON , INDIA .

3.1- SITE DETAILS:

TOTAL SITE AREA- 62800 SQ M (15.5 ACRE)
BUILT UP AREA - 15884 SQ M
GROUND COVERAGE- 9686.86 SQ M
FAR < 1
HEIGHT OF STRUCTURE - 38.7M

1. SIGNATURE TOWER

- Situated in north-east corner of complex
- Bio-climatic skyscraper
- 300 ft. High iconic tower for I.T. offices
- Area = 3 lac sq.ft
- Facilities – Offices, Auditorium , Cafe, Exhibition hall, Meeting pods, Sky courts
- Vertically rising landscape
- Pedestrian ramp



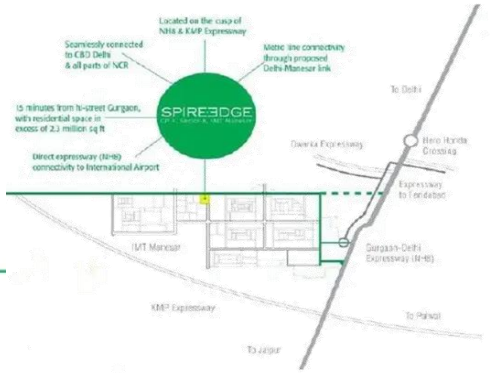
7 September 2010

3.2- CONCEPT AND DESIGN:

DESIGN PHILOSPHY

The three main pillars which form backbone of the system:-

1. Operative Structure
2. Eco Structure
1. People Structure



ARCHITECT : SPIRE EDGE, ALSO KNOWN AS INDIA'S GREENEST BUILDING, WAS DESIGNED BY THE ARCHITECTURAL FIRM KEN YEUNG IN COLLABORATION WITH GENSLER.

3.3- SITE CONDITIONS :

TOPOGRAPHY: THE SITE IS SITUATED IN A RAPIDLY DEVELOPING INDUSTRIAL AND COMMERCIAL AREA. THE TERRAIN IS GENERALLY FLAT, WHICH IS TYPICAL OF THE REGION.
SURROUNDINGS: THE SITE IS SURROUNDED BY OTHER COMMERCIAL DEVELOPMENTS, INDUSTRIAL ZONES, AND IS CLOSE TO MAJOR HIGHWAYS AND TRANSPORTATION HUBS.

3.4- CLIMATE :

TYPE: THE CLIMATE OF MANESAR IS CLASSIFIED AS SUBTROPICAL STEPPE (SEMI-ARID), CHARACTERIZED BY HOT SUMMERS AND MILD WINTERS.
TEMPERATURE: SUMMER TEMPERATURES CAN REACH UP TO 45°C (113°F) WHILE WINTERS CAN DROP TO AROUND 5°C (41°F).
RAINFALL: THE AREA RECEIVES MODERATE RAINFALL DURING THE MONSOON SEASON (JUNE TO SEPTEMBER), AVERAGING AROUND 700-800 MM ANNUALLY.
HUMIDITY: THE HUMIDITY LEVELS ARE RELATIVELY LOW EXCEPT DURING THE MONSOON SEASON.

3.5- FEATURES :

1. GREEN BUILDING DESIGN:
   - SPIRE EDGE IS DESIGNED TO BE ECO-FRIENDLY, INCORPORATING SUSTAINABLE ARCHITECTURAL PRINCIPLES.
   - IT USES NATURAL VENTILATION, DAYLIGHTING, AND SOLAR SHADING TO REDUCE ENERGY CONSUMPTION.
2. INNOVATIVE FACADE:
   - THE BUILDING FEATURES A DISTINCTIVE FACADE WITH GREEN TERRACES AND VERTICAL GARDENS THAT HELP IN TEMPERATURE REGULATION AND IMPROVING AIR QUALITY.
   - THE FACADE DESIGN REDUCES THE HEAT ISLAND EFFECT AND ENHANCES THE AESTHETIC APPEAL.
3. ENERGY EFFICIENCY:
   - INCORPORATES RENEWABLE ENERGY SOURCES LIKE SOLAR PANELS.

- UTILIZES ENERGY-EFFICIENT SYSTEMS AND MATERIALS TO MINIMIZE THE CARBON FOOTPRINT.

4. WATER MANAGEMENT:
  - ADVANCED WATER HARVESTING AND RECYCLING SYSTEMS ARE EMPLOYED.
  - THE BUILDING HAS PROVISIONS FOR RAINWATER HARVESTING AND GREYWATER RECYCLING TO REDUCE WATER WASTAGE.

5. WASTE MANAGEMENT:
  - EMPHASIZES WASTE REDUCTION AND RECYCLING WITHIN THE BUILDING OPERATIONS.
  - DESIGNED WITH FACILITIES TO SUPPORT SEGREGATION AND MANAGEMENT OF WASTE.

6. WORK ENVIRONMENT:
  - FOCUSES ON CREATING A HEALTHY AND PRODUCTIVE WORK ENVIRONMENT WITH AMPLE NATURAL LIGHT AND VENTILATION.
  - FEATURES OPEN OFFICE SPACES, GREEN AREAS, AND RECREATIONAL FACILITIES FOR EMPLOYEES.

7. MODULAR DESIGN:
  - THE DESIGN ALLOWS FOR FLEXIBILITY AND SCALABILITY, ACCOMMODATING FUTURE EXPANSION OR RECONFIGURATION.
  - USES MODULAR CONSTRUCTION TECHNIQUES FOR EFFICIENCY AND REDUCED CONSTRUCTION WASTE.

8. TRANSPORTATION AND ACCESSIBILITY**:
  - STRATEGICALLY LOCATED WITH EASY ACCESS TO MAJOR TRANSPORTATION NETWORKS.
  - INCLUDES PROVISIONS FOR ELECTRIC VEHICLE CHARGING AND PROMOTES THE USE OF PUBLIC TRANSPORT.

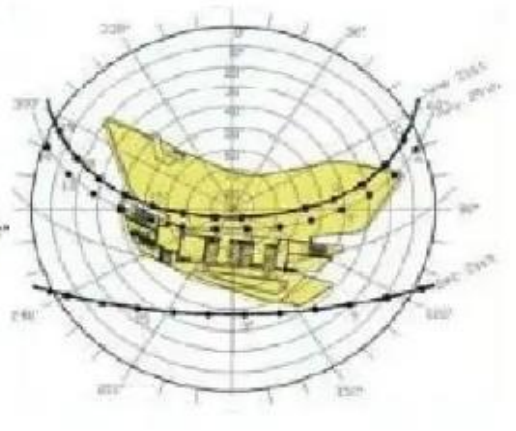
9. CERTIFICATION:
  - AIMS FOR HIGH RATINGS IN GREEN BUILDING CERTIFICATIONS SUCH AS LEED (LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN).

10. INNOVATION AND TECHNOLOGY:
  - INTEGRATES SMART BUILDING TECHNOLOGIES FOR EFFICIENT MANAGEMENT OF RESOURCES.
  - USES BUILDING INFORMATION MODELLING (BIM) FOR DESIGN, CONSTRUCTION, AND OPERATION EFFICIENCY.

MAINSTREAM GREEN FEATURES

1. OPTIMISING NATURAL LIGHT & HEAT

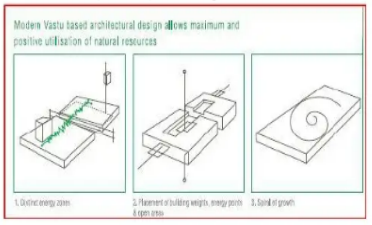
Climatically confronting orientation ensures optimum harnessing of natural light & heat .This in turn increases indoor comfort & also lowers the building energy demand

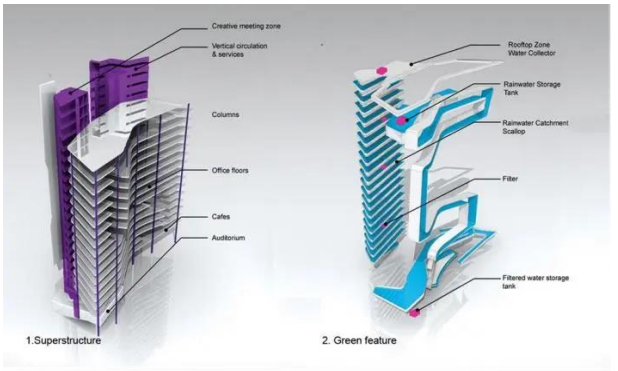


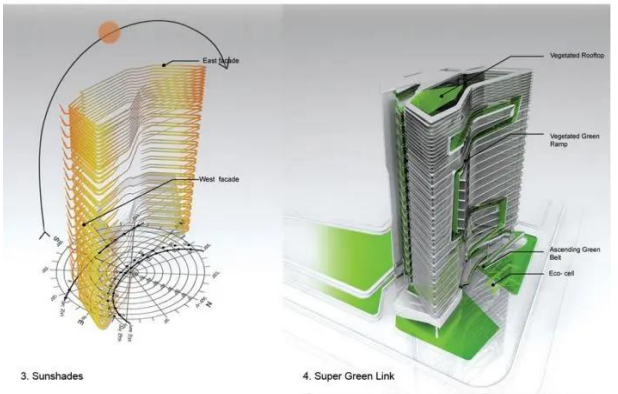
OPERATIVE STRUCTURE

Guides the functional & **physical design components** of the project . This overlay of various layers of spatial planning , functional imperatives & **Vaastu** of symbiosis has enabled in creation of environment that reflects **the positive synergies** achieved

1. The fundamental basis of the Operative structure has roots in the **Vaastu traditions of architectural planning** that govern the placements of building weights, open spaces and directions. This works on the cyclic principles of nature & **energy flow** that are adaptive & promote growth

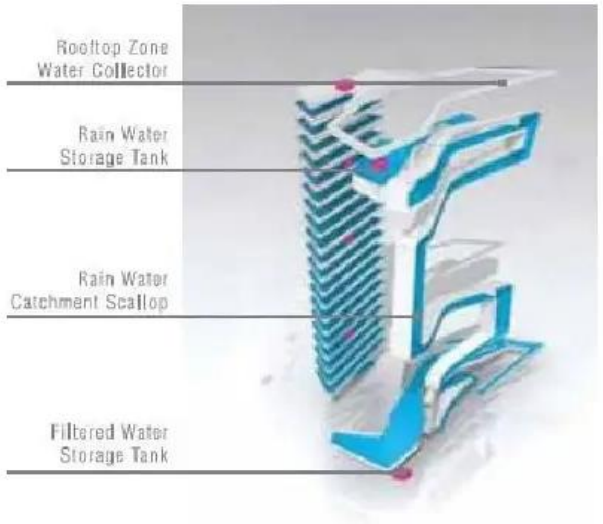


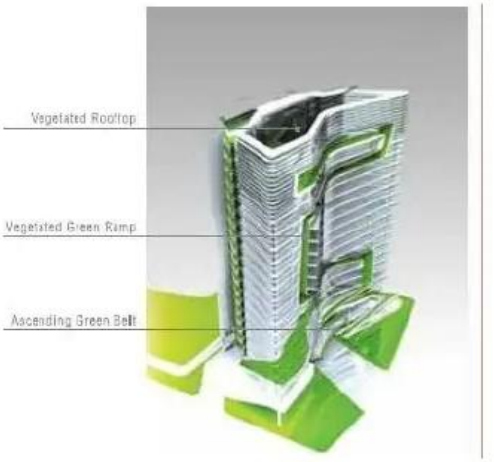




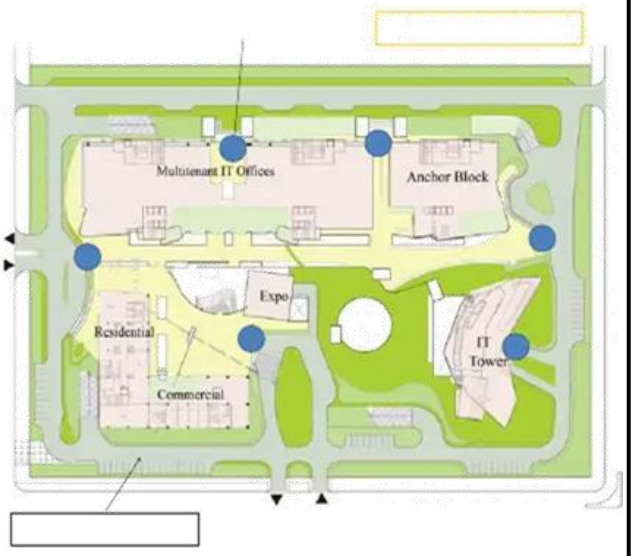
Concept design & builtform

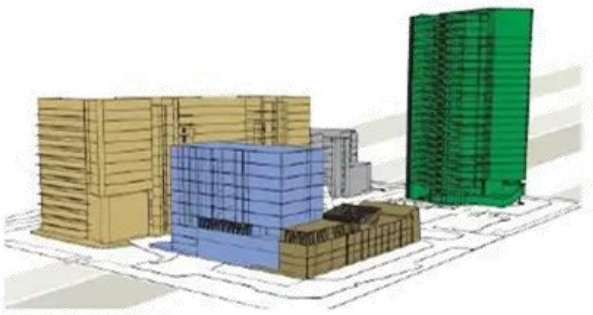
IT Tower
IT Park Millenium Spire
Maneser, Gurgaon for A.N. Buildwell PVT. LTD.



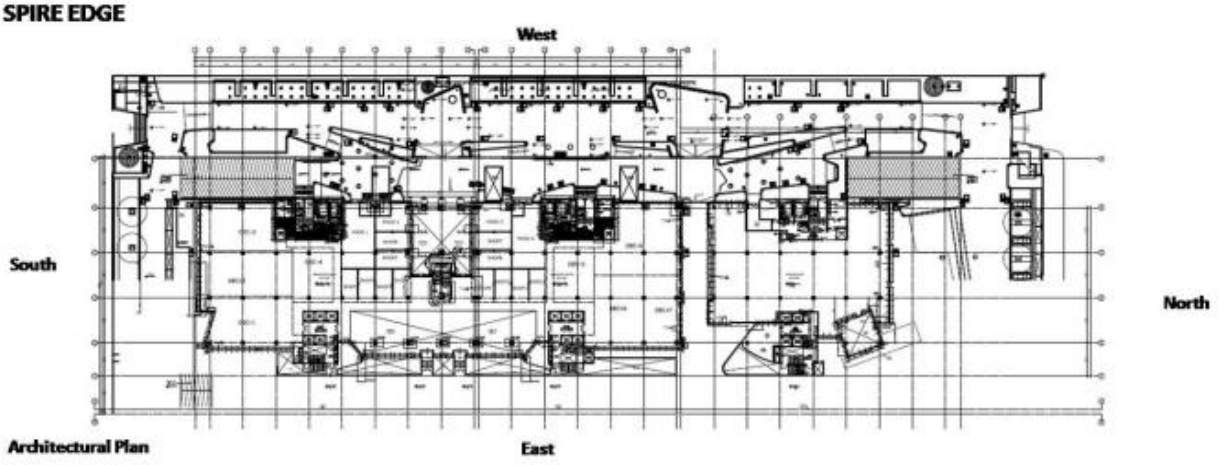


3.6 - SITE PLAN:





SPIRE EDGE



Architectural Plan

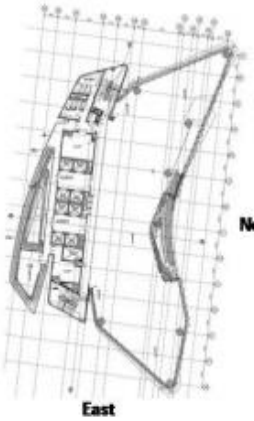
Site Image

Commercial / IT Block(Façade Development)

3.7 - VIEW, ELEVATION AND DETAILS:

SPIRE EDGE

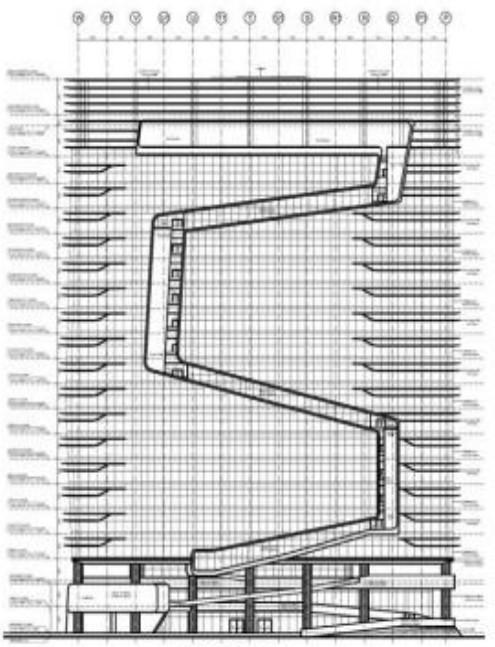
View



East

North

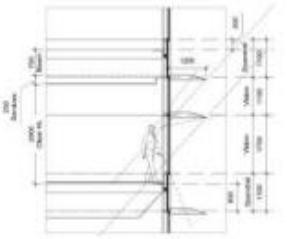
Architectural Plan



North Elevation

East Elevation

Observation Pod



Typical Floor Section

Signature Block (Façade Development)

LITERATURE STUDY – 02

KOHINOOR SQUARE, MUMBAI, INDIA .

4.1- INTRODUCTION

•Kohinoor square is a 52-story 203-metre (666 ft) semi-twin, mixed-use skyscraper located on the land previously owned by Kohinoor mills in Shivaji park, Mumbai, India. It is situated at the junction of LJ road and Gokhale road.

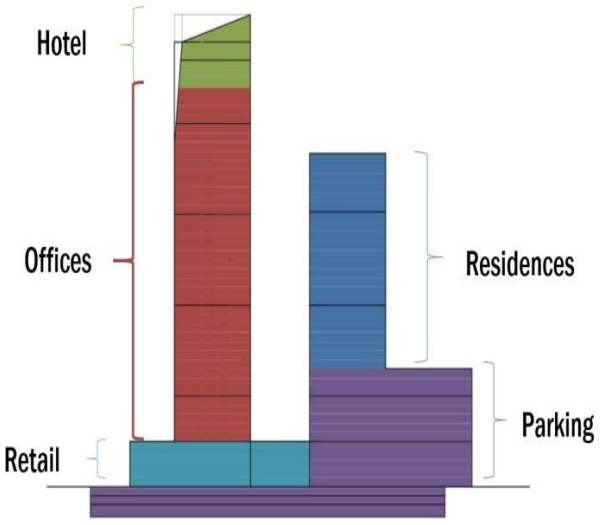
•The Kohinoor square complex comprises a main skyscraper and a residential skyscraper which are for mixed use.

•Houses, hotels, residences and a high- end shopping malls are being constructed by the Kohinoor group under Kohinoor ctnl infrastructure corporation.

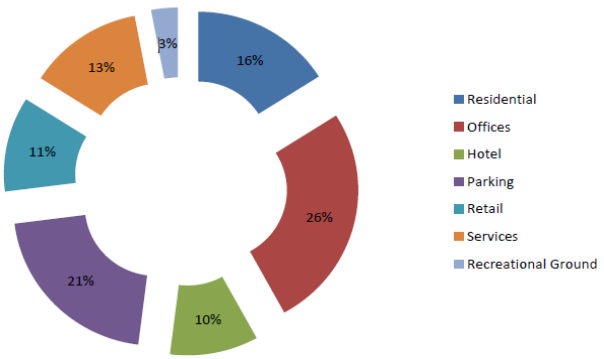
•The building is one of the tallest mixed- use buildings in India, as well as one of the tallest in south Asia as of 2013.

Location	Shivajipark,Mumbai,India
Type	**Mixed use**
Status	Under construction
Architectural style	Skyscrapper
Cost	₹21 billion(US$330 million)
Owner	Kohinoor group
Height	203m main building 142m residential building
Floor count	52+ground floors(5 mech.) main building, 35floors(4 mech.) residential
Floor area	2,750,000sq.ft(255,000sq.m)
Lifts/elevators	40 main building+ 8 residence
Architect	SSA architects,Gkkworks
Parking	3500 cars
Project area	4.6 acres
FAR	13

4.2 - SITE PLAN



Area Distribuation

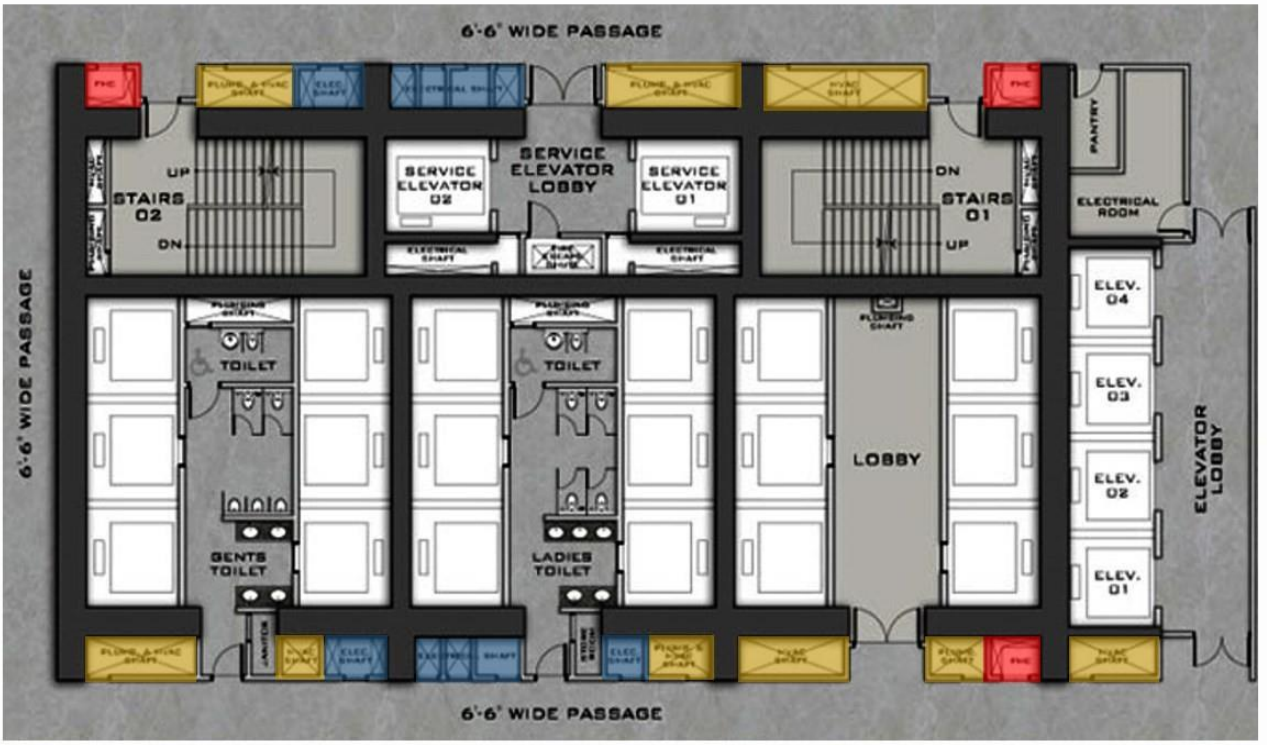


- THE FIRST FIVE FLOORS OF THE MAIN BUILDING IS USED FOR A HIGH-END SHOPPING MALL AND THE REMAINING 47 FLOORS OF THE MAIN BUILDING IS UTILIZED FOR A COMMERCIAL OFFICES AND FIVE STAR HOTEL.
- THE MAIN BUILDING IS CROWNED BY FIVE STAR HOTEL ON TOP 5 FLOOR.
- THE FIRST 13 FLOORS OF THE RESIDENTIAL BUILDING IS USED AS A PARKING GARAGE FOR BOTH THE BUILDINGS AND THE REMAINING 19 FLOORS IS RESIDENCES.
- PARKING PROVIDED FOR ABOUT 2000 CARS WITH SUPER EFFICIENT DRIVEWAYS AND PERSONALIZED ACCESS CONTROLS.

4.3- CENTRAL CORE OF TOWER:

CENTRAL CORE OFFICE WERE CONSIST OF:

- 3 LOBBIES OF 6 LIFTS SERVING LEVELS 25TH TO 39TH
- SPACES BETWEEN THE LIFTS WHERE A LIFT LOBBY IS NOT PROVIDED ARE USED AS TOILETS WITH DUST AT EITHER SIDE: 2 LIFTS FROM THIS PACK OF 6 ARE ASSESSABLE TO LOWER FLOORS AS WELL
- 1 LOBBY OF 4 LIFTS SERVING LEVELS 1ST TO 24TH
- THERE IS A LIFT BANK AT 24TH FLOOR.
- 2 SERVICES LIFTS TRAVELLING THROUGHOUT THE BUILDING
- 2 STAIRCASES ARE ALSO PLACED IN THE CORE.

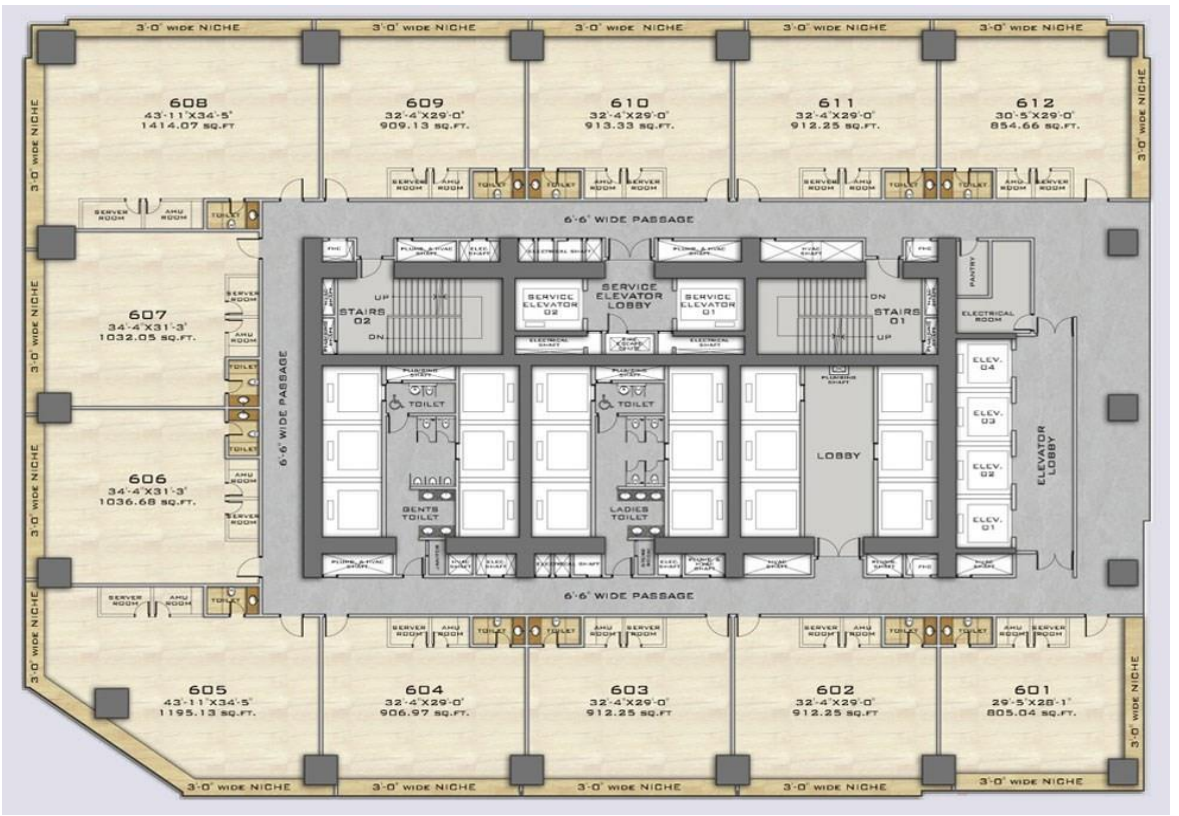


HVAC & Flume Shaft

FHC Shaft

Electrical Shaft

4.4 -OFFICE FLOOR PLANS:



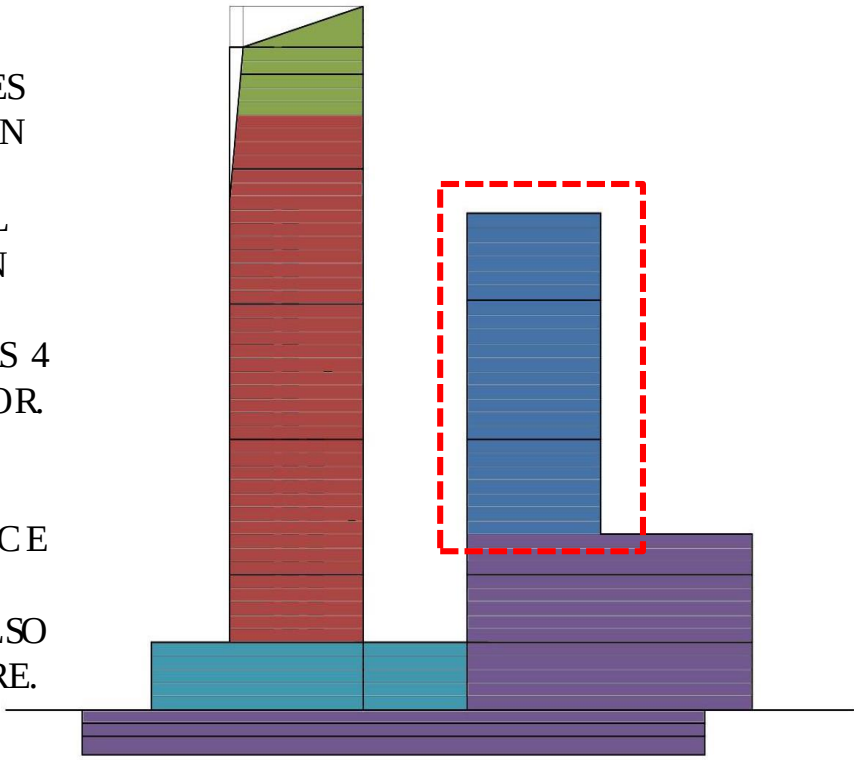
11th to 24th Floor

24th to 37th Floor

4.5 RESIDENTIAL FLOOR PLANS:

RESIDENTIAL BUILDING : 13 STORIES OF PARKING IN BELOW FLOORS.
132 RESIDENTIAL UNITS . 8 UNITS ON EACH FLOOR.
AT TOP FEW FLOORS 4 UNITS ON EACH FLOOR.

CENTRAL CORE :
3 LIFTS AND 1 SERVICE LIFT
2 STAIRS ARE ALSO PLACED IN THE CORE.



4.6 - STURCTURAL SYSTEM:

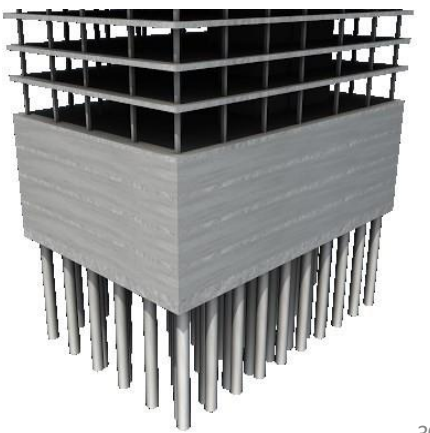
- The structure comprises a concrete core and post-tensioned concrete slab and spandrel beams.
- The average centre to centre distance between columns is 9.5 m.
- The column is of 1.8 x 1.8 m .
- The tube system concept is based on the idea that a building can be designed to resist lateral loads.
- This assembly of columns and beams forms a rigid frame that amounts to a dense and strong structural wall along the exterior of the building.

Foundation :

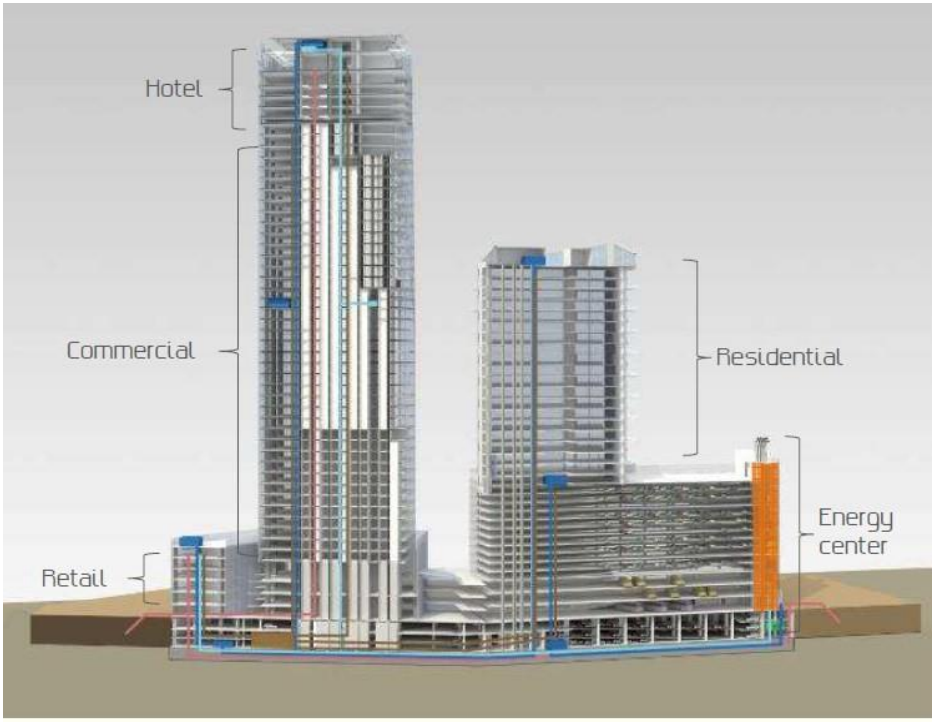
The combined pile raft foundation system is used .

It is a geotechnical composite construction that combines the bearing effect of both foundation elements raft and piles .

The pile raft foundation system has recently been widely used for many structures , specially in high-rise buildings.



4.7 MECHANICAL SYSTEM:



Kohinoor square has a well designed HVAC system for its ventilation purposes. As it is a glass enveloped structure the load of mechanical ventilation is also high. The cooling towers are situated near water tanks at some level in the buildings.

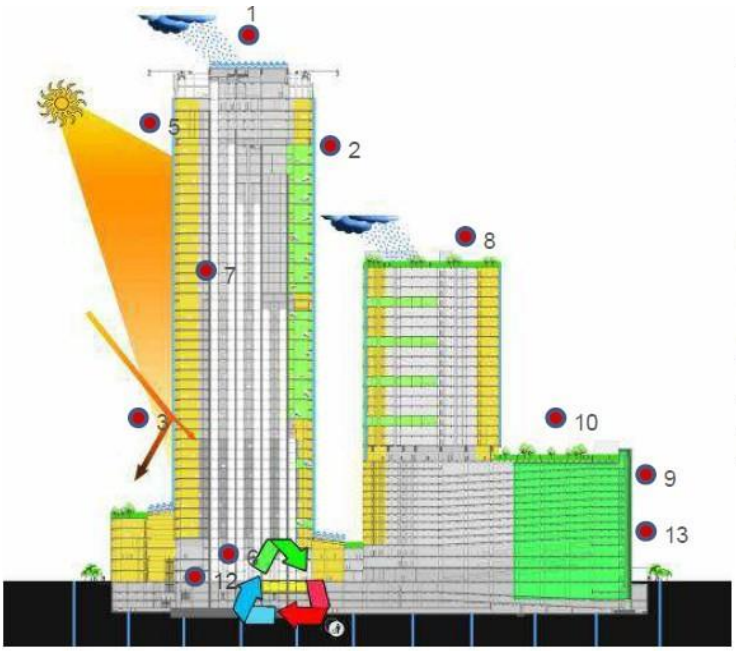
4.8 -FAÇADE TREATMENT:

The façade consists of faceted unitized aluminum curtain walls with provisions for high performance double glass façades on the tower.

Diamond edges of the building having aluminum flashing with LED lighting are the unique feature and make it complicated façade design. All the Glasses are articulated glasses & can sustain design wind pressure of 4.5 to 5.0 kPa.

The building design makes it environmentally friendly, using technologies such as floor-to-ceiling insulated glazing to contain heat and maximize natural light, and an automatic daylight dimming system.

4.9 -SUSTAINABLE FEATURES:



1. Rain Water Collection
2. Sky Gardens
3. High Performance Facade
4. High Efficiency Ventilation System
5. Daylight Harvesting & Dimming Controls
6. Black & Grey water Reuse
7. Environmentally Preferable Material
8. Green Roof
9. Energy Centre
10. Native Adapted Landscape
11. Onsite Waste Water Treatment
12. Recyclable Sorting & Collection
13. Natural Ventilation

4.10 - INFERENCES:

POSITIVE:

- DIFFERENT ENTRIES FOR ALL THE VERTICALS.

•ENVIRONMENTAL FRIENDLY TECHNOLOGIES USED SUCH AS LOW FLOW FAUCETS, DUAL FLUSH TOILETS, GREY WATER SYSTEMS AND STORM WATER & RAIN WATER MANAGEMENT SYSTEMS, RAIN WATER HARVESTING.

•CENTRAL CORE PROVIDES EASY ACCESS TO THE SPACES INSIDE THE BUILDING.

•SPACES BETWEEN THE LIFTS WHERE A LIFT LOBBY IS NOT PROVIDED AREA USED AS TOILETS WITH DUCTS.

•SKY LOBBY CONCEPT FOR REDUCING THE TIME TO TRAVEL TO DIFFERENT FLOORS.

•DOUBLE SKIN FAÇADE SYSTEM LEADING TO ENERGY SAVING AND INCORPORATING NATURAL LIGHT INSIDE THE BUILDING AND PROVIDING GREAT VIEWS FROM INSIDE THE BUILDING.

- MULTI-LEVEL PARKING, PARKING ABOVE THE GROUND.
- REFUGE AREAS PROVIDED AS PER THE NORMS.

NEGATIVE:

- COMPACT SITE.
- LESS GREEN AREA ON SITE
- 1 ENTRY/EXIT TO CARPARK.

CASE STUDY

CASE STUDY – 03 CYBER CITY, GURUGRAM, INDIA

5.1- LOCATION:

SOUTH DELHI, PHASE 3, GURUGRAM, INDIA

ARCHITECT:

HAFEEZ CONTRACTOR

TYPOLOGY:

MIXED USE COMMERCIAL

SITE DETAILS:

TOTAL SITE AREA- 26.2 ACRES
CYBER HUB AREA-9.1 ACRE
FAR -3.75
BUILTUP AREA – 400136 M²
GROUND COVERAGE - 39332M²

PROGRAM:

OFFICES
RESTAURANTS
RETAIL
EXHIBITION HALL
MEDIA ROOM
AMPHITHEATURE

PROJECT LOCATION:

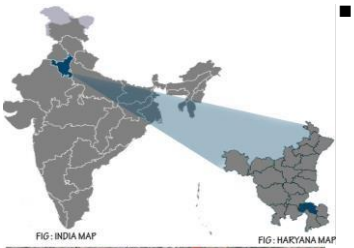
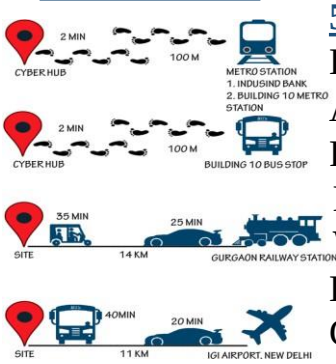


FIG : INDIA MAP FIG : HARYANA MAP

FIG : SATELITE IMAGE OF CYBER HUB

APPROACH:



5.2- CLIMATE:

HUMID SUB-TROPICAL AVERAGE TEMPERATURE RANGE FROM 19-32 DEGREE DEPEND- ING ON THE WEATHER SUMMER ARE HOT, WINTERS ARE QUITE COLD, WITHMOST AMOUNT OF RAIN DURING MONSOONS

5.3- SITE CONDITION:

THE SITE IS STRATEGICALLY LOCATED ON THE MAIN ARTERY CONNECTING GURUGRAM TO DELHI, NH8, UDYOG VIHAR, A DENSELY POPULATED INDUSTRIAL AREA LIES ON THE OPPOSITE SIDE OF THE HIGHWAY. THE SITE IS TO SURROUNDED BY COMMERCIAL AND RESIDENTIAL. CYBER HUB IS LOCATED AT A PRIME CORNER OF CYBER CITY.

5.4- CONNECTIVITY AND ACCESS:

- RAPID METRO RUNS AROUND THE CYBER CITY AND CONNECTS TO THE YELLOW LINE METRO AT SHIKANDERPUR METRO STATION.
- MULTIPLE ENTRIES ARE AVAILABLE INTO THE SITE FROM THE STATIONS ON THIS PRIVATISED LINE.
- FREE SHUTTLE SERVICE AND AUTO-RICKSHAWS SERVE AS LAST MILE CONNECTIVITY FOR THE VICINITY.
- ACCESS BY PUBLIC BUS SERVICE IS INADEQUATE IN COMPARISION TO METRO, RICKSHAW AND PRIVATE VEHICLES

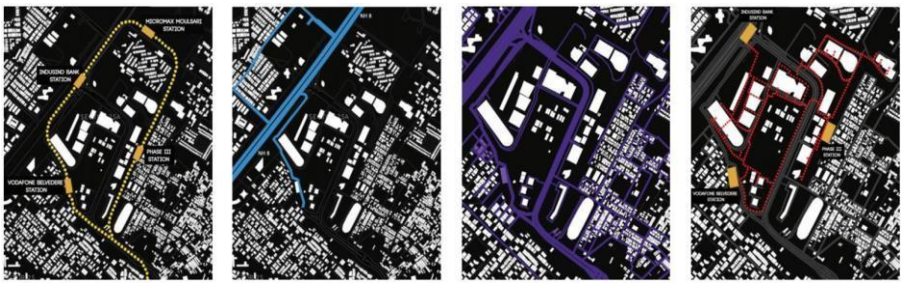


FIG: MOVEMENT SYSTEM LEFT TO RIGHT: RAPID METRO, BUS, PRIVATE VEHICLE AND PEDESTRAIN MOVEMENT

5.5-SITE ZONING:

5.6- LANDUSE :

HIGH, MEDIUM AND LOW DENSITY INDUSTRIAL, RESIDEN- TIAL AND PUBLIC AND SEMIPUBLIC USES ESTABLISHED WITHOUT CLEAR DEFINITION OR RELEVENT SCALES BE- TWEEN INDIVIDUAL BUILDINGS. BUILDINGS CONTAIN A VERTICAL MIX OF USES, OFTEN WITH OFFICE ON THE GROUND LEVEL WITH CAR PARKING OCCUPYING THE REST OF THE PLINTH. THIS REDUCES THE PUBLIC PRESENCE AND PASSIVE SURVEILLANCE ON THE STREET. VERY FEW AREAS OF GREEN SPACES PRESENT IN PRECINCT, THUS FORMING NO HIERARCHY IN GREEN.

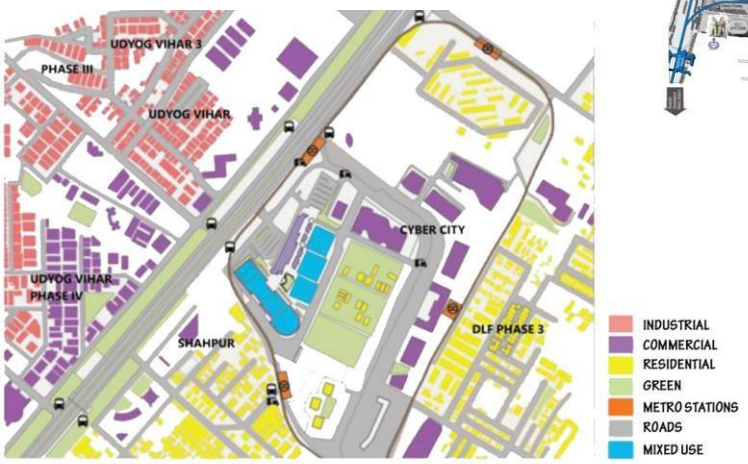


FIG : LAND USE MAP

5.7- BUILDING PROGRAM:

THE MAIN COMPONENT OF THIS CORPORATE PARK ARE 2,71,400 SQ. M OF OFFICES OF TOP IT AND FORTUNE 500 COMPANIES.CYBER HUB ALLOWS VARIED EXPERIENCE TO USERS THROUGH 1,36,150 SQ. M OF CONGREGATION AND CIRCULATION SPACES BESIDES COMMERCIAL ACTIVITY OF 9770 SQ. M. RETAIL OPPORTUNITIESEXHIBIT AREA THAT OFFERS SPACES FOR DESIGN AND DISPLAY OF PRODUCTSAMPHITHEATURE WITH DIGITAL SOUND AND PROJECTION SYSTEM, AIR SCREENS AND WEATHER-PROOF SOUND SYSTEM.OPEN TERRACES FOR SOCIALIZING.THESE ARE SUPPORTED BY 2670 SQ. M OF SERVICES AND 14360 SQ. M OF SURFACE PARKING, BESIDE GENEROUSLY PROVIDED BASEMENTS.

SECURITYCHECKPOINT:

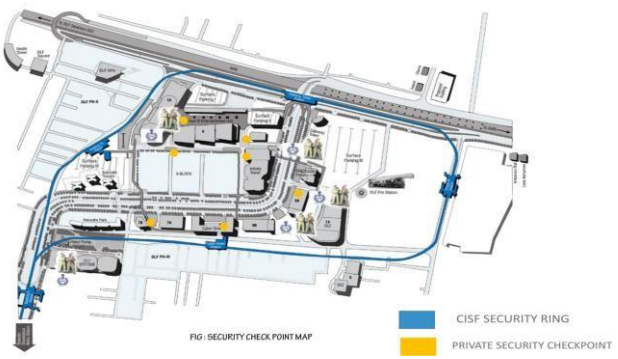


FIG : SECURITY CHECK POINT MAP

FIG : FIGURE GROUND MAP

BUILDING 8 & AND BUILDING 10

SITE AREA -106590 SQ. MT
AREA BUILT ON GROUND: 36.9%
PERMISSIBLE GROUND COVERAGE: 40%
FOT IT SECTOR

BUILTUP AREAS

BUILDING & BUILTUP AREA = 162787 SQM
BUILDING 10 BUILTUP AREA 224910.8 SQ.M
CYBER HUB 12438 SQ. M
TOTAL BUILTUP AREA=4001363 SQM
FAR ACHEIVED=3.75

LAND USE

OFFICE SPACE: 271388.56 SQM
CONGREGATION & CIRCULATION :136144.34 SQ. M
SHOPS: 9768 SQ. M
SERVICES: 2670 SQ. M
SURFACE PARKING: 14360 SQ. M

FOOT FALL

WEEDAY= 35%
WEEKEND 65%

PARKING:

BUILDING 8

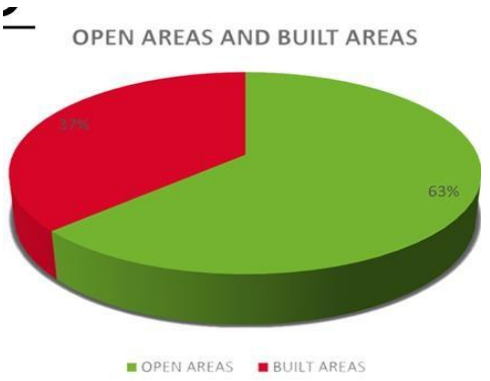
LOWER GROUND: 750 CARS
BASEMENT 1:800 CARS
BASEMENT 2:850 CARS
BASEMENT 3:900 CARS
TOTAL PARKING ACHEIVED: 3300 CARS
TOTAL PARKING REQUIRED @2ECS/100SQ. MI.E. 3256 CARS

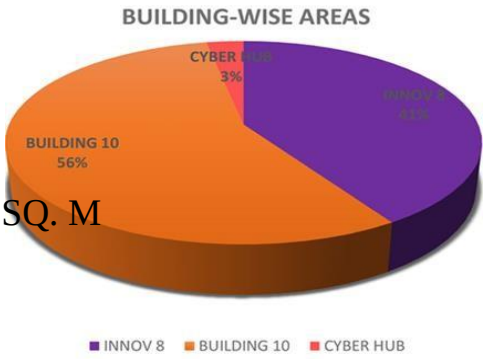
CYBER HUB

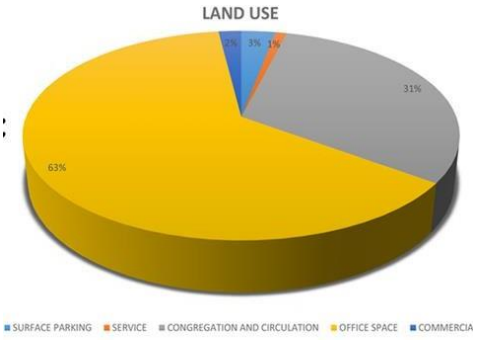
SURFACE PARKING 1: 250 CARS
SURFACE PARKING 2: 250 CARS
TOTAL PARKING ACHEIVED: 500 CARS
TOTAL PARKING REQUIRED @ 2ECS/100 SQ. M I.E. 498 CARS

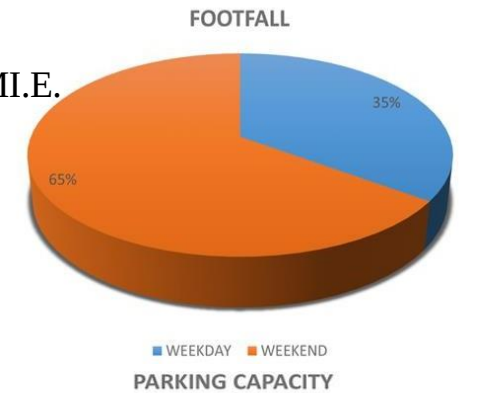
BUILDING 10

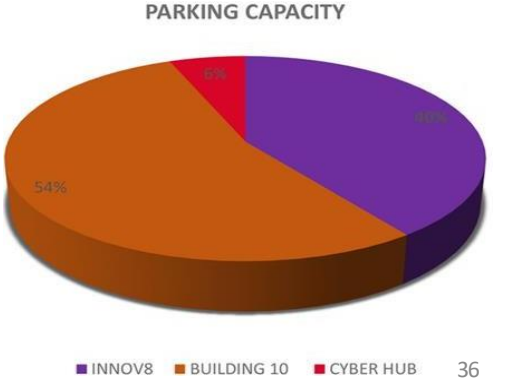
LOWER GROUND: 1020 CARS
BASEMENT 1:1100 CARS
BASEMENT 2:1150 CARS
BASEMENT 3:1230 CARS
TOTAL PARKING ACHEIVED: 4500 CARS
TOTAL PARKING REQUIRED @ 2ECS/100SQ. MI.E. 4498 CARS











BUILDING 8

- WORLD CLASS DEVELOPMENT LOCATED JUST OFF THE NATIONAL HIGHWAY-8 IN DLF CYBER CITY GURGAON.
- DLF INNOV8 IS SPREAD ACROSS AN AREA OF APPROX 1.4 MILLION SQ. FT.
- IT IS DIVIDED INTO 3 BLOCKS (8A, 8B & 8C), WITH A RANGE OF 4-9 FLOORS.
- CONFORMING TO MODERN WORK ENVIRONMENT, FACILITIES LIKE FOOD COURT, ATM AND RETAIL OUTLETS, FORMS AN INTEGRAL PART OF THE COMPLEX.
- THE DESIGN INCORPORATES LARGE EFFICIENT FLOOR PLATES, WIDE COLUMN SPAN AND HIGH FLOOR TO FLOOR CLEARANCE, FOR OPTIMAL SPACE UTILIZATION.
- THE BUILDING STRUCTURE IS DESIGNED TO SEISMIC ZONE V SPECIFICATIONS FOR GREATER EARTHQUAKE RESISTANCE AND IS STRUCTURALLY NFPA COMPLIANT.

5.8- AREA DETAILS

THE TOTAL IT WORKSPACE CONSTITUTES 3 BLOCKS (8A, 8B & 8C) COMPRISES OF RETAIL AND OFFICE SPACE. HAVING TOTAL BUILT UP AREA OF 18841193.5 SQ. M

BUILDING 8 DETAIL

BLOCK	FLOOR	AREA
A	G + 5	29111 SQ. M
B	G + 8	45662 SQ. M
C	G + 15	77381 SQ. M

RETAIL AREA- 10802 SQ. M
RETAIL GROUND FLOOR 5945.2 SQ. M
RETAIL FIRST FLOOR 4857.39 SQ. M

SERVICE LIFT:

BLOCK A	BLOCK B	BLOCK C
NO. OF LIFT - 9 LIFTS	NO. OF LIFT - 14 LIFTS	NO. OF LIFT - 16 LIFTS
PASSENGER- 6 LIFT	PASSENGER- 12 LIFT	PASSENGER- 12 LIFT
SERVICE- 2 LIFT	SERVICE- 2 LIFT	SERVICE- 2 LIFT
FIRE LIFT- 1 LIFT	FIRE LIFT- 2 LIFT	FIRE LIFT- 2 LIFT

PASSENGER LIFT IS OF CAPACITY OF 21 PERSONS, 1600 KG
INTERNAL DIMMENSION OF CAR IS 1800 X 1700 MM OF SOME LIFT
AND 2000 X 1550 OF SOME LIFT.
SERVICE LIFT AND FIRE IS OF CAPACITY OF 24 PERSONS
FIRE LIFT STOPS ON EVERY FLOOR.

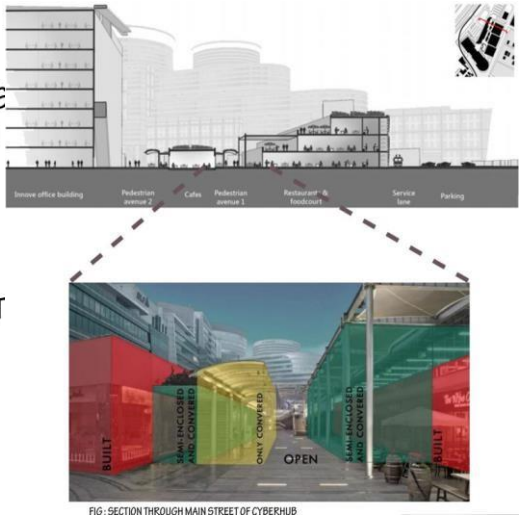


FIG : SECTION THROUGH MAIN STREET OF CYBERHUB

FIRE STAIRCASE:

BLOCK A	BLOCK B	BLOCK C
NO. OF	NO. OF	NO. OF
STAIRCASE- 4 CORE	STAIRCASE- 5 CORE	STAIRCASE- 3 CORE

STAIRS DETAIL
RISER 150 MM
TRADE 300 MM
WIDTH 2000MM



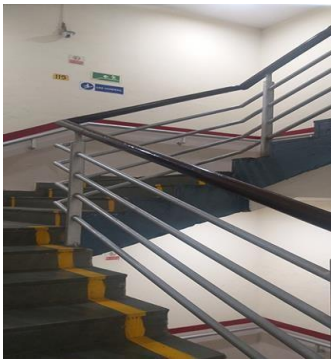
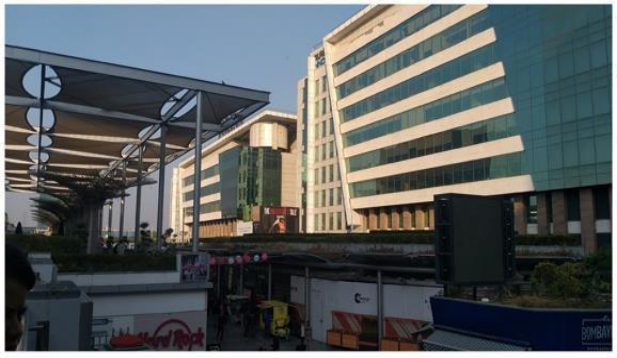



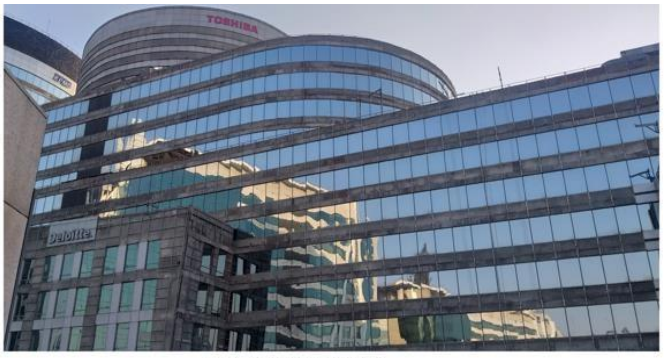
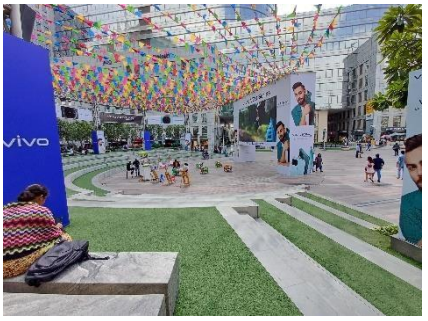
FIG : TENSILE SHADE AT ROOF


FIG : GLASS FACADE

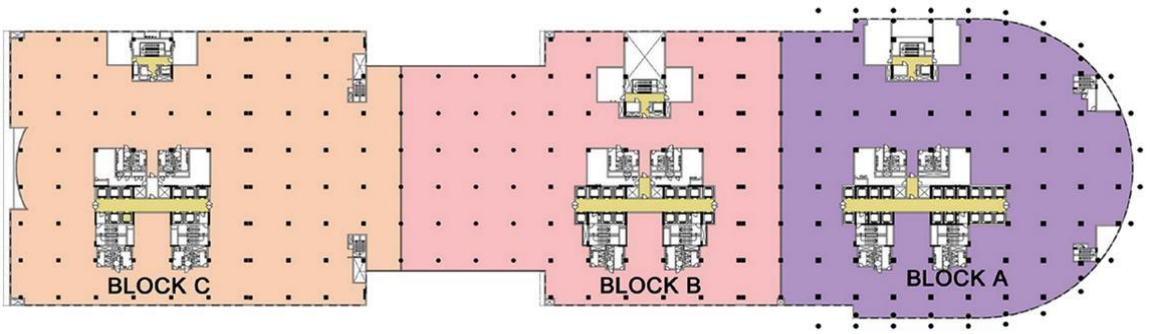



BUILDING 10

- AN INTEGRATED TECHNOLOGY PARK OFFERING MODERN WORKSPACE TO IT/ITES COMPANIES. OFFERING A WORLDCLASS CONTEMPORARY STRUCTURE, BLDG. 10 IS A SPECTACULAR COMPLEX COMPRISING OF A PLETHORA OF FUTURISTIC AMENITIES, WHICH TOGETHER PROVIDE AN INTERACTIVE ENVIRONMENT REQUIRED FOR NEW AGE IT PROFESSIONALS.
- IT IS DIVIDED INTO 3 BLOCKS (10A, 10B & 10C), WITH A RANGE OF 5-20 FLOORS.

PLAN

- BLOCK A CONSIST OF 3 BASEMENT AND 6 FLOOR.
- BLOCK B CONSIST OF 3 BASEMENT AND 15 FLOOR.
- BLOCK C CONSIST OF 3 BASEMENT AND 21 FLOOR
- EFFICIENT FLOOR PLATES-WIDE COLUMN TO COLUMN SPACES.
- TYPICAL FLOOR PLATE SIZE: 40-65000 SQ FT-SCALABLE TO 16000 SFT OVER BLOCKS



AREA DETAILS

AREA DETAILS THE TOTAL IT WORKSPACE CONSTITUTES 3 BLOCKS (10A, 10B, 10C) COMPRISES OF RETAIL AND OFFICE HAVING TOTAL BUILTUP AREA OF 224910.8 SQ. M

BUILDING 10 DETAIL

BLOCK	FLOOR	AREA
A	3B+G+5F	35528.6 SQ M
B	3B+G+14F	65567.5 SQ M
C	3B+G+20F	110839 SQ M

BLOCK A RETAIL UPPER GROUND 5588.5 SQ. M
BLOCK B RETAIL UPPER GROUND 2908 SQ. M
BLOCK C RETAIL UPPER GROUND 4717.2 SQ. M

FIRE STAIRCASE:

BLOCK A
NO. OF
STAIRCASE- 5 CORE

BLOCK B
NO. OF
STAIRCASE- 3CORE

BLOCK C
NO. OF
STAIRCASE- 5 CORE

SERVICE LIFT:

BLOCK A
NO. OF LIFT - 13 LIFTS
PASSENGER- 9 LIFT
SERVICE- 2 LIFT
FIRE LIFT- 2 LIFT

BLOCK B
NO. OF LIFT - 14 LIFTS
PASSENGER- 10 LIFT
SERVICE- 2 LIFT
FIRE LIFT- 2 LIFT

BLOCK C
NO. OF LIFT - 19 LIFTS
PASSENGER- 15 LIFT
SERVICE- 2 LIFT
FIRE LIFT- 2 LIFT

PASSENGER LIFT IS OF CAPACITY OF 21 PERSONS, 1600 KG
INTERNAL DIMMENSION OF CAR IS 1800 X 1700 MM OF SOME LIFT AND 2000 X 1550 OF SOME LIFT.
SERVICE LIFT AND FIRE IS OF CAPACITY OF 24 PERSONS
FIRE LIFT STOPS ON EVERY FLOOR.

LITERATURE STUDY – 04

UNITECH SIGNATURE TOWERS, GURGAON INDIA.

6.1- SITE PLAN:

BUILDING SITE AREA: 20,235 SQ.M

GROSS FLOOR AREA: 30,355.55 SQ. M.

NET OFFICE/ COMMERCIAL AREA: 23,504.93

NO. OF STOREYS: 15

NO OF CAR PARKS: 610

STOREY HEIGHTS: FLOOR TO FLOOR :

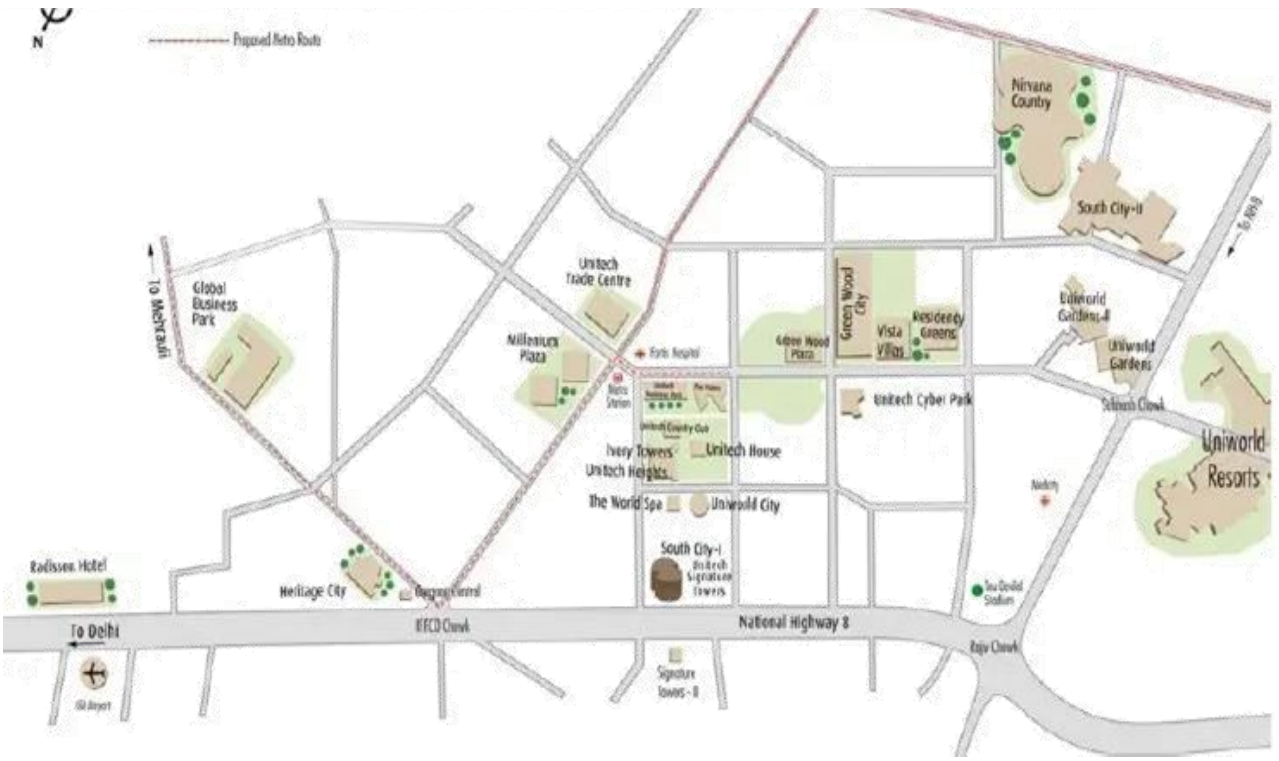
1ST STOREY = 4.2 M

UPPER STOREYS = 3.9 M

FLOOR TO CEILING –1ST STOREY = 3M

UPPER STOREYS = 2.6 M

"WITH AN IDENTITY THAT'S UNIQUE, SIGNATURE TOWERS HAS BECOME ONE OF THE BEST-DESIGNED OFFICE COMPLEXES IN INDIA. FROM THE ELEGANT FOYER TO THE MODERN AMENITIES, THERE'S A NEAT DESIGN LANGUAGE ALL OVER. MANY LEADING MULTINATIONAL AND INDIAN COMPANIES, AS WELL AS UNITECH, HAVE CHOSEN TO OPERATE THEIR BUSINESSES FROM SIGNATURE TOWERS, THANKS TO ITS PERFECT LOCATION JUST A FEW HUNDRED METERS OFF NATIONAL HIGHWAY 8 IN GURGAON."



6.2- BUILDING FINISHES:

•External façade: reflective glass curtain wall and fluorocarbon-coated aluminium panel cladding system.

•Articulated granite cladding at 1st and 2nd storey columns and fascia.

•1st storey concourse stone flooring: quality polished marble/granite.

•Saleable/tenanted area quality polished marble/granite at lift lobbies.

•Cement/sand screed ready for tenant's/occupant's floor system to office and tenanted areas.

Walls:

•1st storey concourse: quality polished granite marble cladding to wall sand columns, toughened/tempered glass screen, glass door to the exterior.

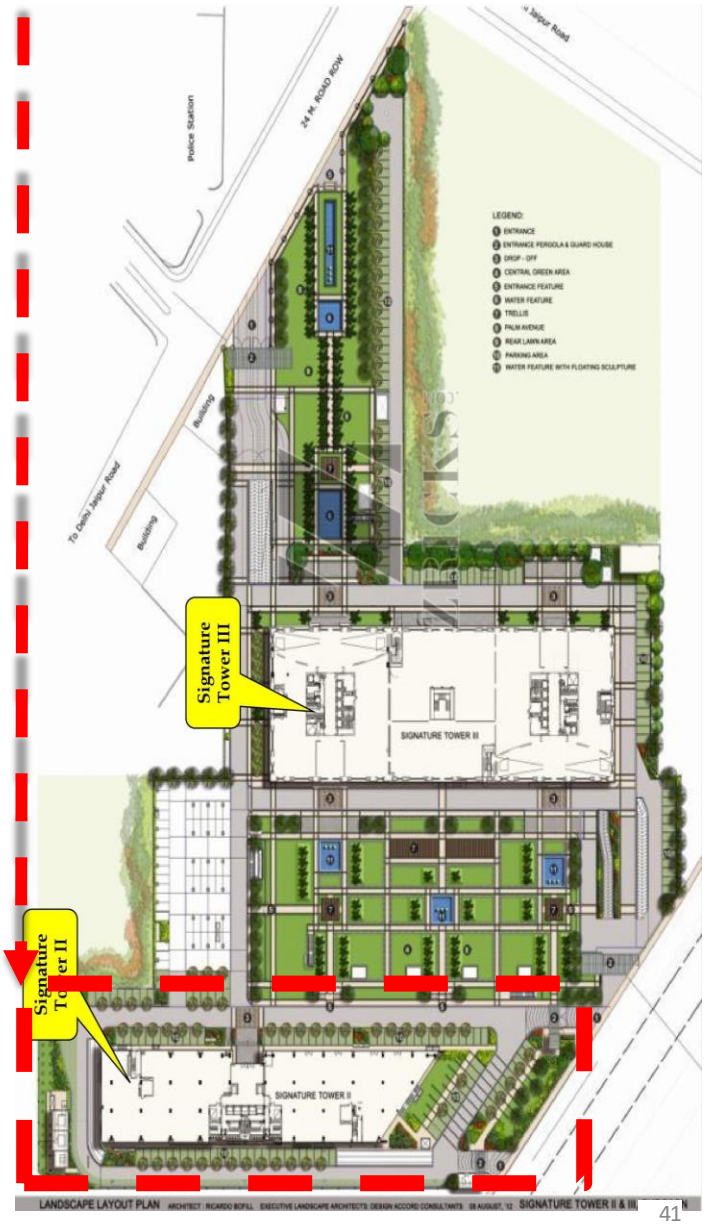
•Saleable/tenanted area lift lobbies: quality polished granite/marble cladding.

•Offices: cement/sand plastered wall with emulsion paint finish.

Ceilings:

•1st storey concourse & lift lobbies: specially designed calcium framing, monolithic finish with emulsion paint.

•Saleable/tenanted space: mineral fibre board ceiling with aluminium suspension framing.



Specifications

STRUCTURE

- RCC Flat slab structure; maximum column spans to ensure high efficiency

FINISHES

- External facade : Mix of stone, ACP / Paint and Double insulated glass
- Atrium with Marble / granite floor finish as per design
- Elevators Cabs finished with Stainless Steel wall finish, lighting and ceiling as per design

PARKING

- 3 Level Basement parking
- Additional parking on surface for visitors
- Access Control barrier with proposed electronic card swipe for basement parking

AIR CONDITIONING

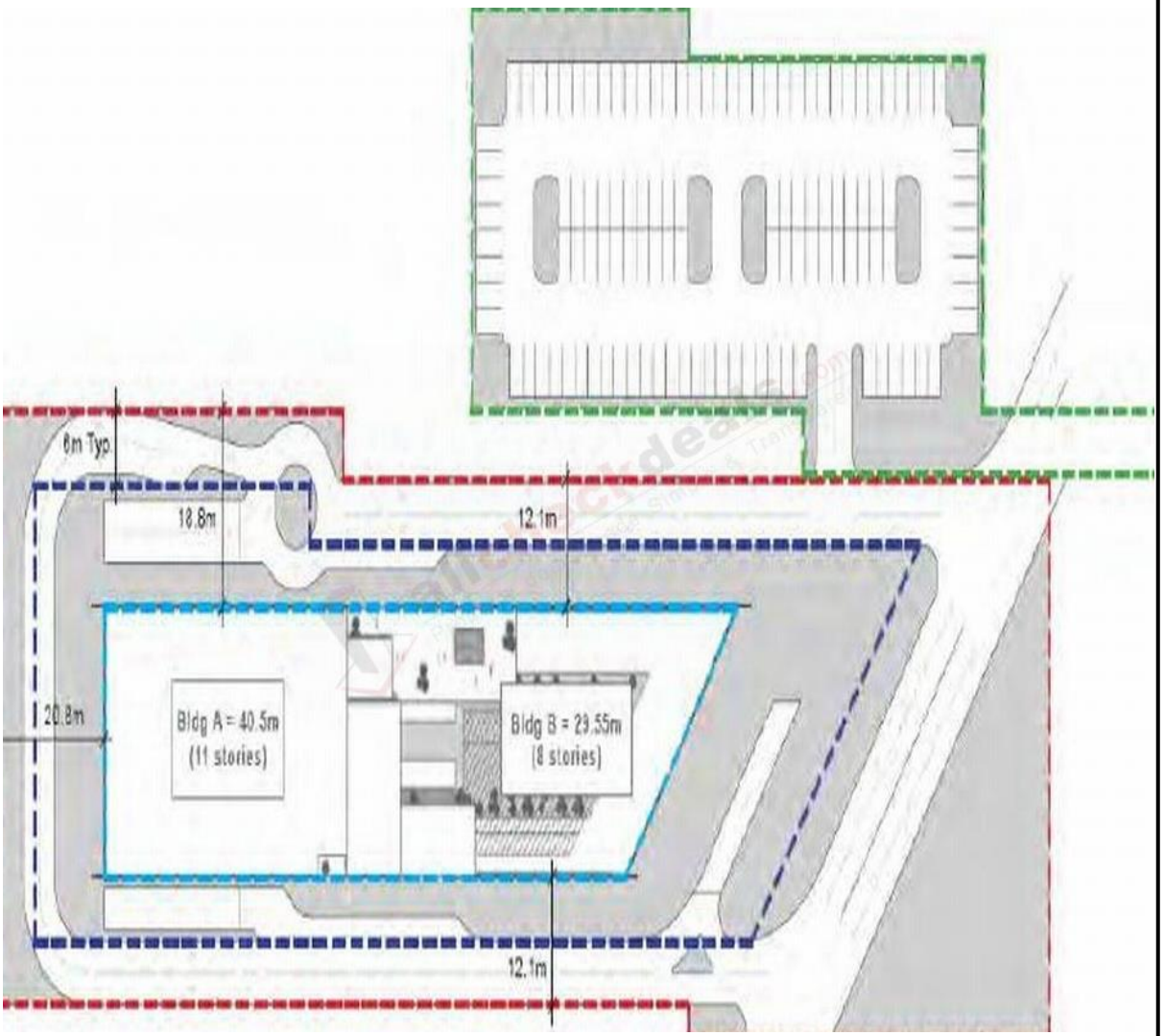
- Centrally air-conditioned building with independent AHU's for each floor. Separate AHU's for common areas

POWER BACK-UP

- 100% power back-up provided for Lighting, Power and AC

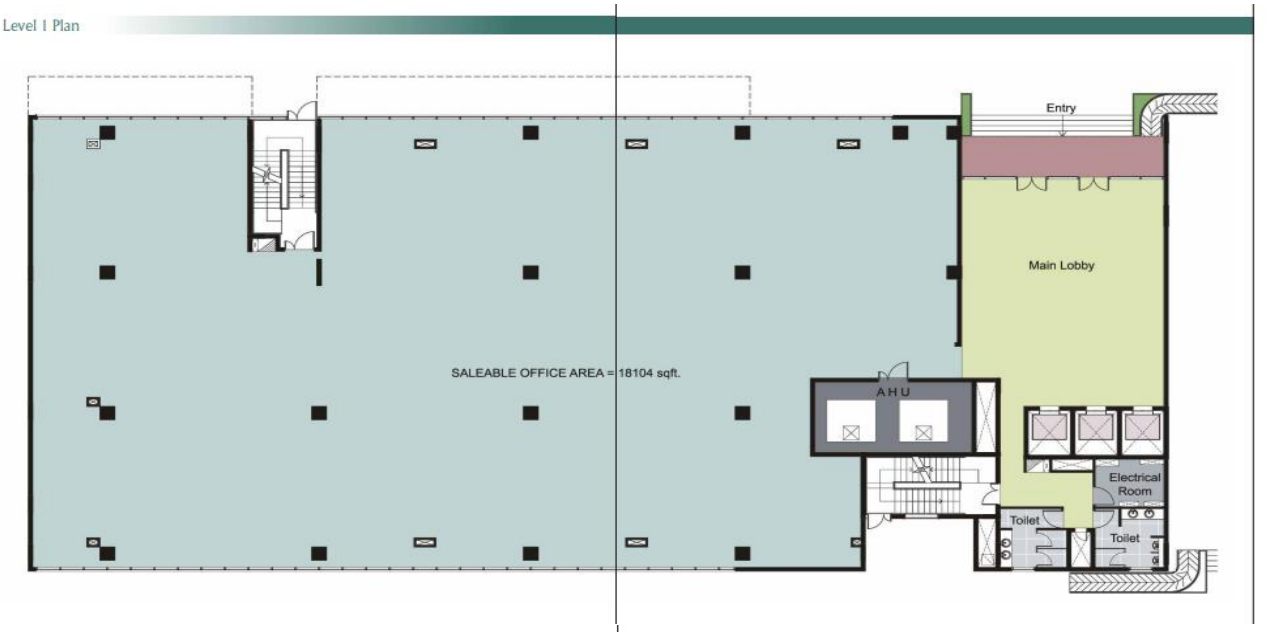
OTHER ITEMS

- BMS and Control System monitoring the principal operations of the building, and fully integrated with the security, fire alarm, and lift operating systems

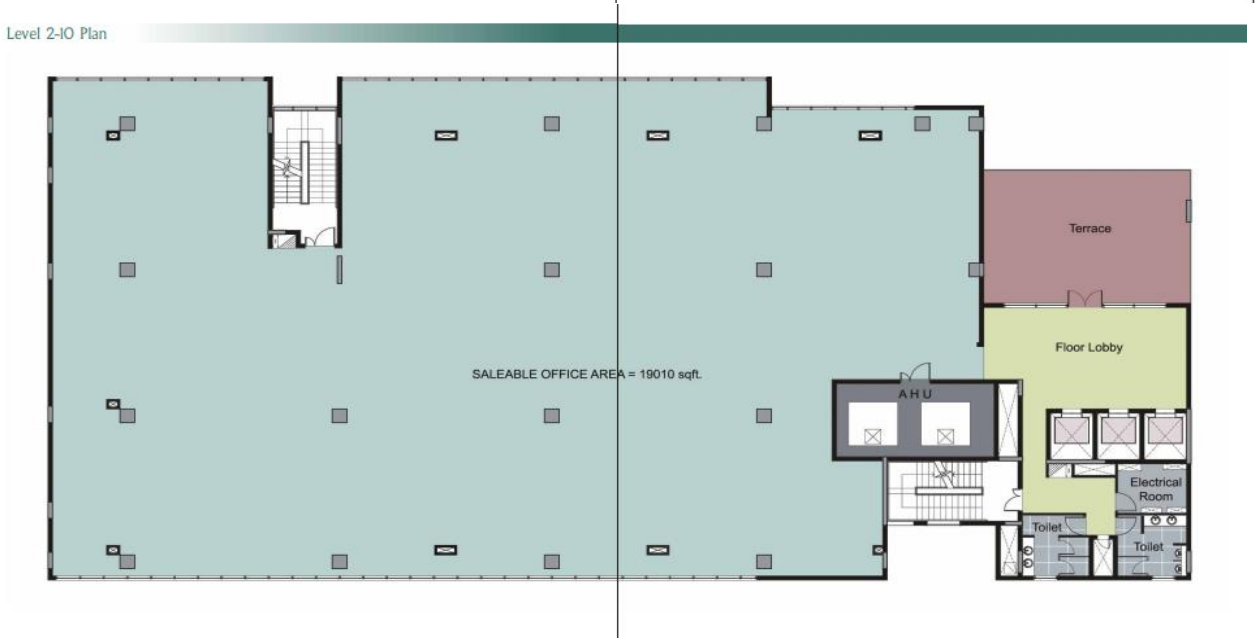


6.3 - PLANS:

Level 1 Plan



Level 2-10 Plan



6.4 - VIEW:

COMPARATIVE ANALYSIS

7.1- Comparative Chart-

Feature	Kohinoor Square, Mumbai	Spire Edge, Manesar, Gurugram	Cyber Hub, Gurgaon	Unitech Signature Tower 2&3, Gurgaon
Location	Mumbai	Manesar, Gurugram	Gurgaon	Gurgaon
Building Heights	Tall towers (48)	Multi-story (21)	Tall towers	Mid-rise (10)
Architectural Styles	Modern	Contemporary	Modern	Modern
Features & Characteristics	Iconic design, mixed-use development	Futuristic, tech-enabled	Social hub, urban plaza	High-end, luxurious
Footfall	High	Moderate	High (40,000)	High
Exterior Design	Glass facade, sleek	Glass and steel, futuristic	Modern facade, vibrant	Glass facade, contemporary
Breathing Architecture	Ventilation systems, green spaces	Natural light, green building certs	Outdoor spaces, open design	Ventilation systems, green elements
Landscaping	Limited	Landscaped grounds	Outdoor plaza, green areas	Limited
Corridors	Wide, well-lit	Spacious	Open, connecting spaces	Wide, elegantly designed
Connectivity (Inside & Outside)	Well-connected	Accessible via highways	Urban environment, walkable	Well-connected, urban
Mixed-Use Components	Commercial, Residential	Commercial, Office	Retail, Dining	Commercial, Office
Amenities	Fitness center, Parking, Retail spaces	Cafeteria, Parking, Recreational areas	Restaurants, Bars, Entertainment	Fitness center, Parking, Retail spaces
Sustainability Features	Green building design, energy-efficient	Green Building Certification	Green Spaces, eco-friendly design	Energy-efficient design
Iconic Features	Landmark status, unique architecture	Futuristic design, tech integration	Social hotspot, vibrant atmosphere	Modern architectural design
Impact on Surroundings	Enhances skyline, urban development	Landmark in Manesar, tech city	Social hub, community integration	Enhances skyline, urban development
Site and Circulation	Well-planned layout, easy navigation	Efficient traffic flow	Open layout, pedestrian-friendly	Structured layout, easy navigation

7.2- INFERENCES

- **ARCHITECTURAL DIVERSITY: EACH BUILDING SHOWCASES A DISTINCT ARCHITECTURAL STYLE, FROM MODERN TO CONTEMPORARY, CATERING TO DIFFERENT PREFERENCES AND URBAN CONTEXTS.**
- **FUNCTIONAL VARIETY: MIXED-USE COMPONENTS VARY, INCLUDING COMMERCIAL, RESIDENTIAL, OFFICE, RETAIL, AND RECREATIONAL SPACES, CATERING TO DIVERSE NEEDS WITHIN THE COMMUNITY.**
- **URBAN INTEGRATION: BUILDINGS LIKE CYBER HUB AND UNITECH SIGNATURE TOWER ARE DESIGNED AS SOCIAL HUBS, SEAMLESSLY INTEGRATING WITH THEIR URBAN SURROUNDINGS, PROMOTING COMMUNITY ENGAGEMENT.**
- **TECHNOLOGICAL INTEGRATION: SPIRE EDGE STANDS OUT FOR ITS FUTURISTIC DESIGN AND TECH-ENABLED FEATURES, REFLECTING ADVANCEMENTS IN ARCHITECTURE AND URBAN PLANNING.**
- **AMENITIES AND SUSTAINABILITY: BUILDINGS PRIORITIZE AMENITIES SUCH AS FITNESS CENTERS, PARKING, GREEN SPACES, AND ENERGY-EFFICIENT DESIGN, ENHANCING QUALITY OF LIFE AND ENVIRONMENTAL SUSTAINABILITY.**
- **CONNECTIVITY AND ACCESSIBILITY: WELL-CONNECTED LOCATIONS AND EFFICIENT TRAFFIC FLOW ENSURE ACCESSIBILITY BOTH INSIDE AND OUTSIDE THE BUILDINGS, FACILITATING EASE OF MOVEMENT FOR RESIDENTS AND VISITORS.**
- **IMPACT ON SURROUNDINGS: EACH BUILDING HAS A SIGNIFICANT IMPACT ON ITS SURROUNDINGS, WHETHER THROUGH ENHANCING THE SKYLINE, CREATING SOCIAL HUBS, OR CONTRIBUTING TO THE URBAN FABRIC AND DEVELOPMENT.**
- **USER EXPERIENCE: WIDE CORRIDORS, VENTILATION SYSTEMS, AND OPEN LAYOUTS PRIORITIZE USER COMFORT AND WELL-BEING, CREATING INVITING SPACES FOR OCCUPANTS.**

7.3- CONCLUSION:

THE ANALYSIS HIGHLIGHTS THE MULTIFACETED NATURE OF MIXED-USE BUILDINGS, EMPHASIZING THEIR ROLE NOT ONLY AS ARCHITECTURAL MARVELS BUT ALSO AS DYNAMIC URBAN SPACES THAT CATER TO DIVERSE NEEDS, FOSTER COMMUNITY INTERACTION, AND CONTRIBUTE TO SUSTAINABLE URBAN DEVELOPMENT.

PRE- DESIGN STUDY

8.1- OFFICE DESIGN:

THE WORD OFFICE COMES FROM THE LATIN WORD “OFFICIUM” MEANING SERVICE, COURTESY ETC.

•THE WORD CORPORATE COMES FROM “CORPORATUS” LATIN, MEANING COLLECTIVE.

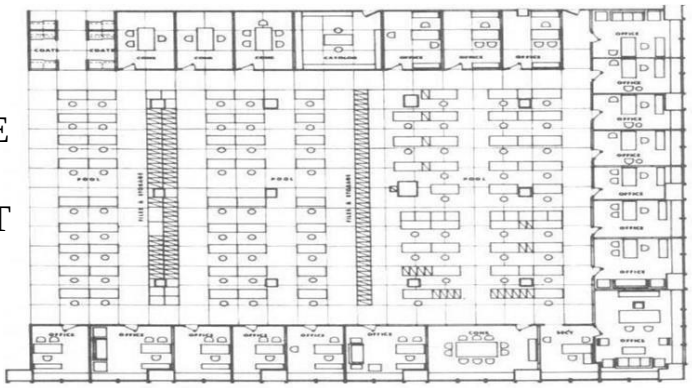
•THERE ARE MANY WAYS OF ARRANGING SPACES IN AN OFFICE ACCORDING TO THE FUNCTIONS MANAGERIAL AND CULTURAL OFFICES.

•IT IS GUIDED BY HOW PEOPLE WILL WORK WITHIN THE SAME ROOM.

•OPEN PLAN OFFICES HAVE MULTIPLE WORKERS TOGETHER IN SAME PLACE AND IMPROVE SHORT TERM PRODUCTIVITY BUT SECURITY AND PRIVACY ARE OFTEN ISSUES ASSOCIATED WITH IT.

•IN WALLED OFFICE SPACES, PEOPLE SET THEIR WORKING DESKS IN SUCH A WAY THAT THEY CAN SEE THE PERSON ENTERING THEIR OFFICES.

8.2- GENERAL OFFICE SPACE:

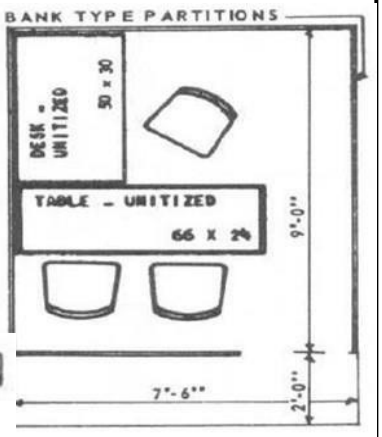


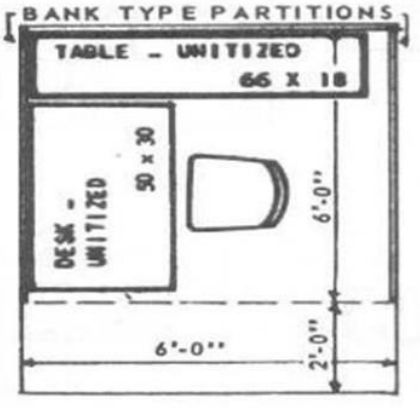
THE SPACE ALLOCATED TO THESE WORK STATIONS IS BASED ON THE FURNITURE AND EQUIPMENT NECESSARY TO PERFORM THE WORK ASSIGNED AS WELL AS ON CIRCULATION AREA.

8.3- WORKSTATION SPACE:

SPACES PROVIDED TO PEOPLE TO ACCOMMODATE THEIR INDIVIDUAL FURNITURE AND EQUIPMENT AND ALLOW THEM TO PERFORM THEIR JOB FUNCTIONS.

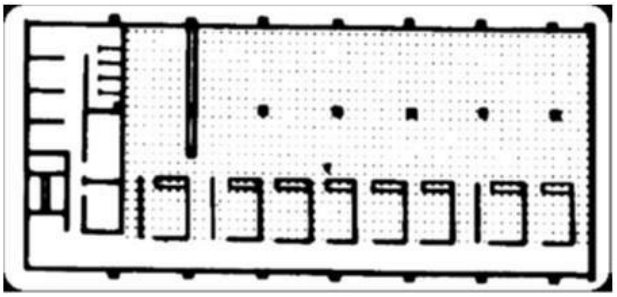
WORKSTATION SPACE MAY BE ENCLOSED OR OPEN DEPENDING ON THE CONFIDENTIALITY, SECURITY, VISUAL AND ACOUSTICAL PRIVACY REQUIREMENTS OF THE JOB.

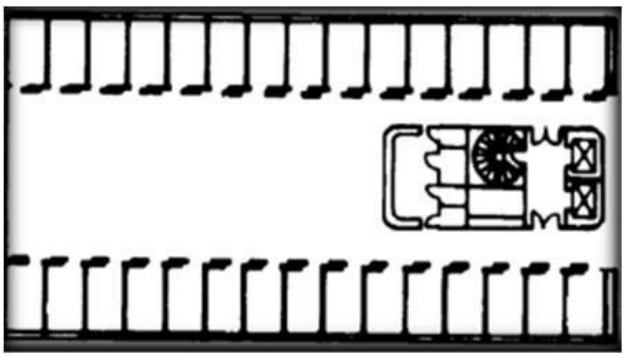




8.4- CONFERENCE ROOMS:

CONFERENCE ROOMS SHOULD BE DESIGNED TO ACCOMMODATE AVERAGE BUT NOT MAXIMUM ATTENDANCE. EXTRA CHAIRS CAN BE USED TO ACHIEVE ADDITIONAL SEATING. THERE IS NEED OF 15-20SQFT PER PERSON SPACE REQUIRED FOR CONFERENCE ROOM.





8.5- OFFICE

ANOFFICEIS GENERALLY A ROOM OR OTHER AREA WHEREADMINISTRATIVEWORK IS DONE, BUT MAY ALSO DENOTE A POSITION WITHIN ANORGANIZATIONWITH SPECIFIC DUTIES ATTACHED TO IT.

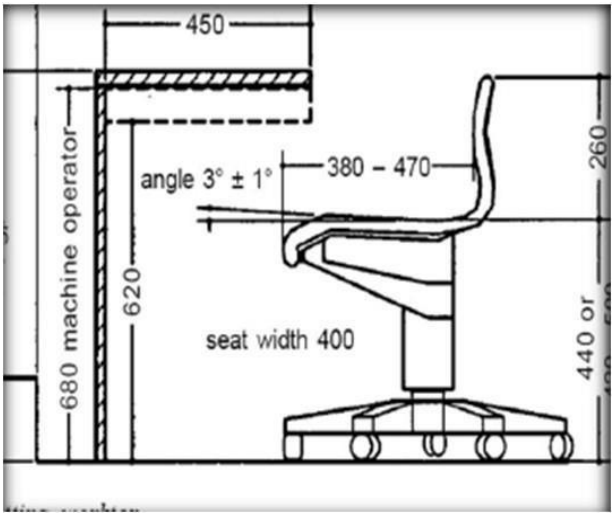
8.6- SIZE OF A PRIVATE OFFICE:

100-200 SQ FT (FOR NORMAL PRIVATEOFFICES

300 SQ FT (WHERE OCCUPANT MEET WITH 10 OR MORE PEOPLE ONCE IN A DAY)

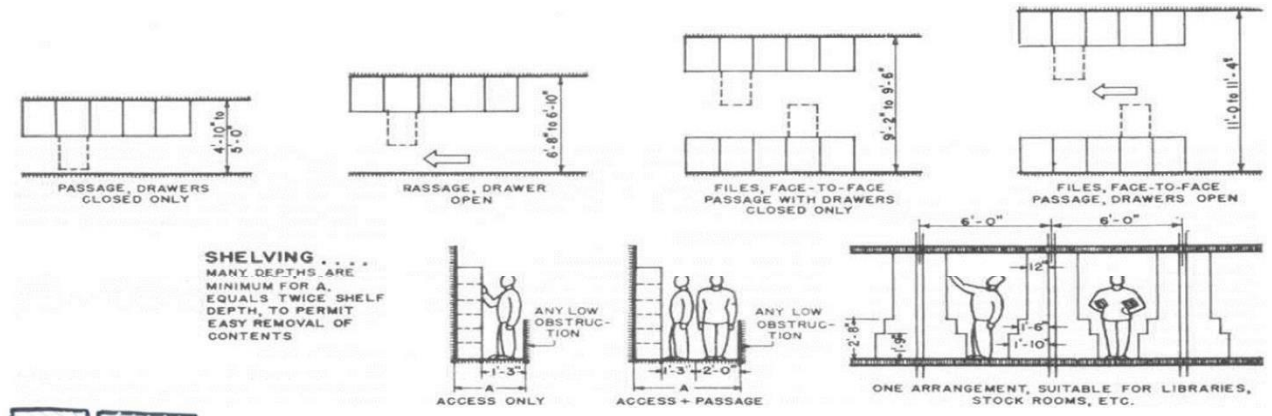
8.7- EMPLOYEE/VISITOR SUPPORT SPACES

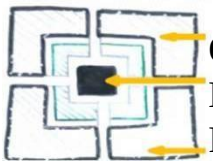
- WORKSTATIONS, CONVENIENCE STORE, KIOSK, OR VENDING MACHINES
- LOBBY OR GENERAL OFFICE SPACE: CENTRAL LOCATION FOR BUILDING DIRECTORY, SCHEDULES, AND GENERAL INFORMATION
- ATRIA OR COMMON SPACE: INFORMAL, MULTI-PURPOSE RECREATION AND SOCIAL GATHERING SPACE
- CAFETERIA OR DINING HALL
- TOILETS OR RESTROOMS



8.8-RECEPTION AREAS AND VISITOR CONTROL

VISITORS RECEIVE THEIR FIRST IMPRESSION OF AN ORGANIZATION FROM THE DECOR AND LAYOUT OF THE RECEPTION AREA. IT SHOULD BE ATTRACTIVE, NEST, BUSINESS LIKE, AND ABOVE ALL, ADEQUATE TO ACCOMMODATE NORMAL VISITOR TRAFFIC.





OTHER OFFICE SPACES LIKE WORKSTATIONS
EXECUTIVE CORE
PRIVATE OFFICES

8.9-PLANNING

•FLOOR-TO-FLOOR HEIGHTS ARE USUALLY ABOUT 12 FT, RANGING FROM 11 TO 14 FT. CEILING HEIGHTS ARE GENERALLY ABOUT 8 TO 8.5FT.
•THE SPACE ABOVE THE CEILING IS REQUIRED FOR DUCTS AND RECESSED LIGHTING.
•IN ORDER TO AVOID EXCESSIVE DEPTHS IN THIS UTILITY SPACE, GIRDERS ARE SOMETIMES DESIGNED WITH OPENINGS IN THE WEB TO PERMIT THE PASSAGE OF DUCTS.

8.10- CIRCULATION

1.AISLES LEADING TO MAIN EXITS FROM AREAS WHICH CARRY SUBSTANTIAL TRAFFIC (MAIN AISLES) SHOULD BE 5 FEET WIDE.
2.AISLES WHICH CARRY A MODERATE AMOUNT OF TRAFFIC (INTERMEDIATE AISLES) SHOULD BE 4 FEET WIDE.
3.AISLES BETWEEN ROWS OF DESKS (SECONDARY AISLES) SHOULD BE APPROXIMATELY 3 FEET WIDE.

8.11- SERVICES IN BUILDING FIRESAFETY

WHERE OPENINGS ARE PERMITTED, THEY SHALL NOT EXCEED THREE-FOURTHS THE AREA OF THE WALL IN THE CASE OF AN EXTERNAL WALL AND THEY SHALL BE PROTECTED WITH FIRE RESISTING ASSEMBLIES OR ENCLOSURES HAVING A FIRE RESISTANCE EQUAL TO THAT OF THE WALL OR FLOOR IN WHICH THESE ARE SITUATED. OFFICE BUILDING SHALL HAVE STAIRCASE WIDTH 1.5M

FIRELIFTS

WHERE APPLICABLE, FIRE LIFTS SHALL BE PROVIDED WITH A MINIMUM CAPACITY FOR 8 PASSENGERS AND FULLY AUTOMATED WITH EMERGENCY SWITCH ON GROUND LEVEL. IN GENERAL, BUILDINGS 15 M IN HEIGHT OR ABOVE SHALL BE PROVIDED WITH FIRE LIFTS

LIGHTING

-BROADER OPENINGS MAY ALSO BE EQUALLY OR MORE EFFICIENT, PROVIDED THEIR SILLS ARE RAISED BY 300 MM TO 600 MM ABOVE THE WORKING PLANE.

-UNILATERAL LIGHTING FROM SIDE OPENINGS WILL, IN GENERAL, BE UNSATISFACTORY IF THE EFFECTIVE WIDTH OF THE ROOM IS MORE THAN 2 TO 2.5 TIMES THE DISTANCE FROM THE FLOOR TO THE TOP OF THE OPENING.

8.12-WATER SUPPLY, DRAINAGE AND SANITATION

WATER REQUIRED IN OFFICE BUILDING 45L PER HEAD PER DAY

Sl No	Fixtures	Public Toilets		Staff Toilets	
		Male	Females	Male	Females
(1)	(2)	(3)	(4)	(5)	(6)
i)	**Executive Rooms and Conference Halls in Office Buildings**				
	Toilet suite comprising one WC, one washbasin (with optional shower stall if building is used round the clock at user's option) Pantry optional as per user requirement	Unit could be common for Male/Female or separate depending on the number of user of each facility		For individual officer rooms	
ii)	**Main Office Toilets for Staff and Visitors**				
	a) Water-closets	1 per 25	1 per 15	1 per 25	1 per 15
	b) Ablution tap with each water-closet	← 1 in each water-closet →			
	c) Urinals	Nil up to 6 1 for 7-20 2 for 21-45 3 for 46-70 4 for 71-100 Add @ 3% for 101-200 Add @ 2.5 % Over 200	—	Nil up to 6	—
	d) Washbasins	1 per 25	1 per 25	1 per 25	1 per 25
	e) Drinking water fountain	1 per 100	1 per 100	1 per 100	1 per 100
	f) Cleaner's sink	← 1 per floor →			

8.13-ACOUSTICS AND SOUND INSULATION

•FOR GREEN BELT TO ACT AS A SOUND BARRIER IT SHOULD BE OF 30M THICK BELT OF PLANTING (STRONG LEAFY TREES) IN ALL SITUATIONS A WELL DESIGNED BARRIER OF AT LEAST 3M HEIGHT SHOULD BE GIVEN TO ENSURE NO EXCESSIVE NOISE.
•ROOM REQUIRED QUITE ENVIRONMENT SHOULD BE ON QUITE SIDE, SHOULD NOT ON STREET LEVEL, NOT NEAR PARKING YARDS AND DOUBLE WINDOWS CAN BE PROVIDED.
•NOISE INSIDE ROOMS, REVERBERATION SHOULD NOT EXCEED 0.75 SEC FOR SMALL OFFICE AND 1.25 S FOR LARGE OFFICE.

8.14- FAR PERMITTED:

INDUSTRIAL / I.T. PARK SHALL HAVE MINIMUM 5 ACRES OF AREA. IN AN I.T. PARK, I.T. COMPONENT SHALL HAVE FAR. 2. FOR COMMERCIAL IT IS 2.5 TO 3 . IN CASE OF INDUSTRIAL PARK, FOR INDUSTRIAL FAR PERMITTED FOR AN INDUSTRIAL COMPONENT SHALL BE 1.

8.15-ROAD WIDTH:

THE MINIMUM ROAD WIDTH WITH IN THE INDUSTRIAL UNIT SHALL NOT BE LESS THAN 40FEET .INCASE, THE EXISTING ROAD IS LESS THAN 40’ IN WIDTH THAN IT SHALL BE WIDEN TO 40’ BY TAKING EQUAL STRIP OF LAND FROM BOTH SIDE OF RD.

8.16- HEIGHT:

NO HEIGHT RESTRICTIONS OF THE BUILDING.

Size of Plot	Site Coverage
For the first 2420 sq yds	50% of the site
For the next 2420 sq yds	33% of the site
In excess of 4840 sq yds	25% of the site
FAR	1
Parking	@ 1 ECS per 100 sq. mtr. of covered area*

8.17-PARKING STANDARDS:

PARKING STANDARDS HAVE BEEN PRESCRIBED FOR GOVERNMENT 1 EQUIVALENT CAR SPACES (ECS) PER 100 SQ M OF FLOOR AREA

SITE ANALYSIS

9.1 - SITE INTRODUCTION

Sushant golf city

Sushant golf city, Lucknow, a hi-tech township sprawling across 6465 acres. Located on Amar shaheed path & Lucknow Sultanpur highway.

PALLASIO MALL.

The Phoenix Mills Limited is India's leading retail mall developer and operator with approximately 6 million square feet of retail space spread across 8 malls in 6 gateway cities of India.

LULU MALL one of the largest malls in the Uttar Pradesh capital, covers a huge area of 2.2 million square foot (MSF). It has a spacious space and an 11-story parking lot.

MEDANTA HOSPITAL

Spread across an area of 12.58 acres, Medanta Lucknow is one of the largest multi-super-specialty hospitals in Uttar Pradesh. The hospital aims to provide the highest standard of tertiary healthcare to the entire state and complies with international quality standards. It offers unmatched infrastructure, advanced medical technology, and personalized care. The hospital is led by teams of highly skilled super-specialist doctors, who are supported by trained nurses and paramedic staff.

EKANACRICKET STADIUM

Lucknow. Established, 2017. Capacity, 50,000

CENTRUM HOTEL

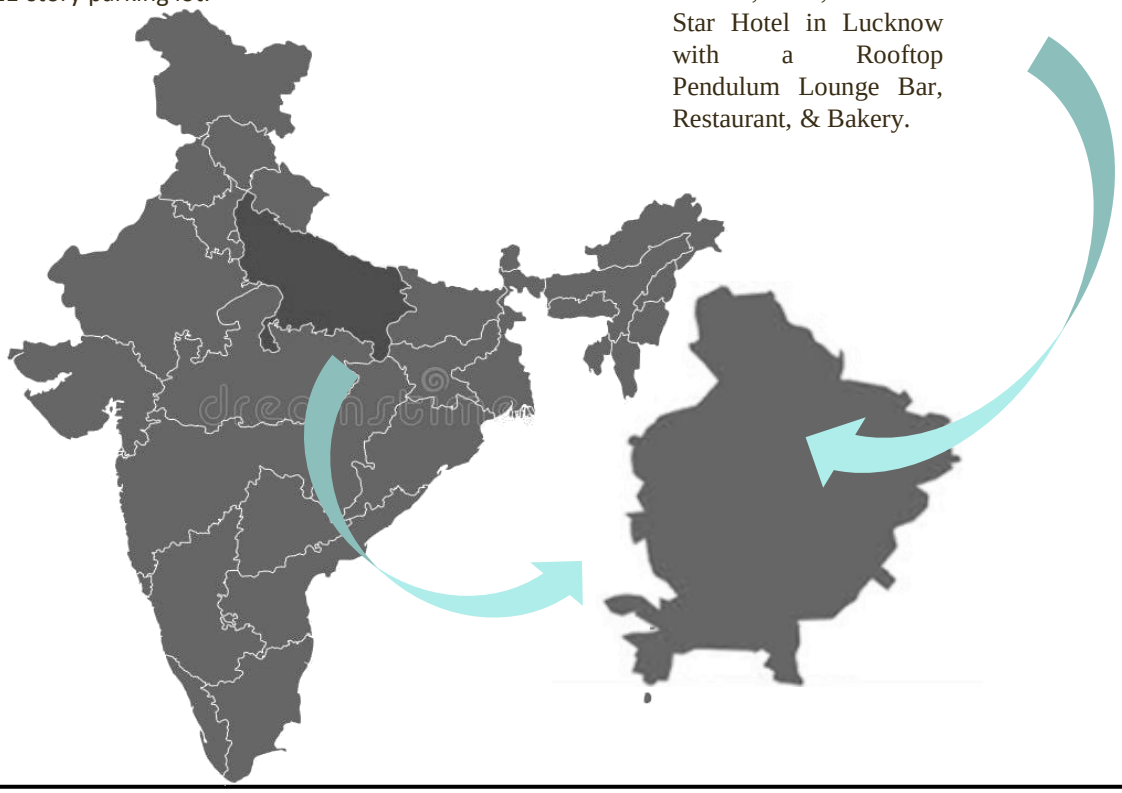
A fantastic stay at one of Lucknow's best Resorts,Clubs,Best 5 Star Hotel in Lucknow with a Rooftop Pendulum Lounge Bar, Restaurant, & Bakery.

RAILWAY STATION

Lucknow Junction railway station (official name Lucknow NER, station code LJN) is one of the two main railway stations of Lucknow city for broad gauge trains. Colloquially, it is known as "Chhoti Line", historically it harbored NE Railways' Meter Gauge. Lucknow JN or LJN station has six platforms.

HCL-IT CITY

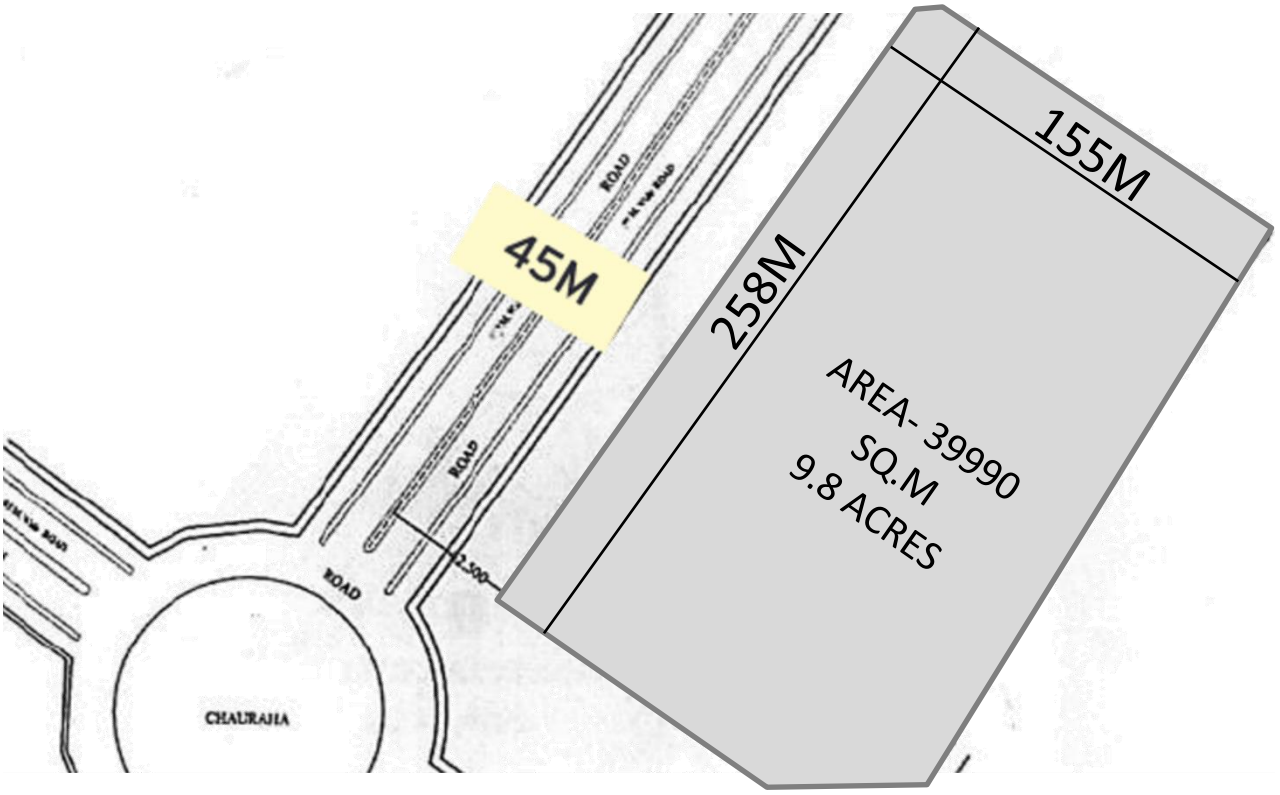
JALSA RESORT located north, of LUCKNOW was originally the residence of Locational Resort is located on Sultanpur Road. The hotel is very popular due to the numerous inhouse facilities provided by it.



9.2- SITE DETAILS:

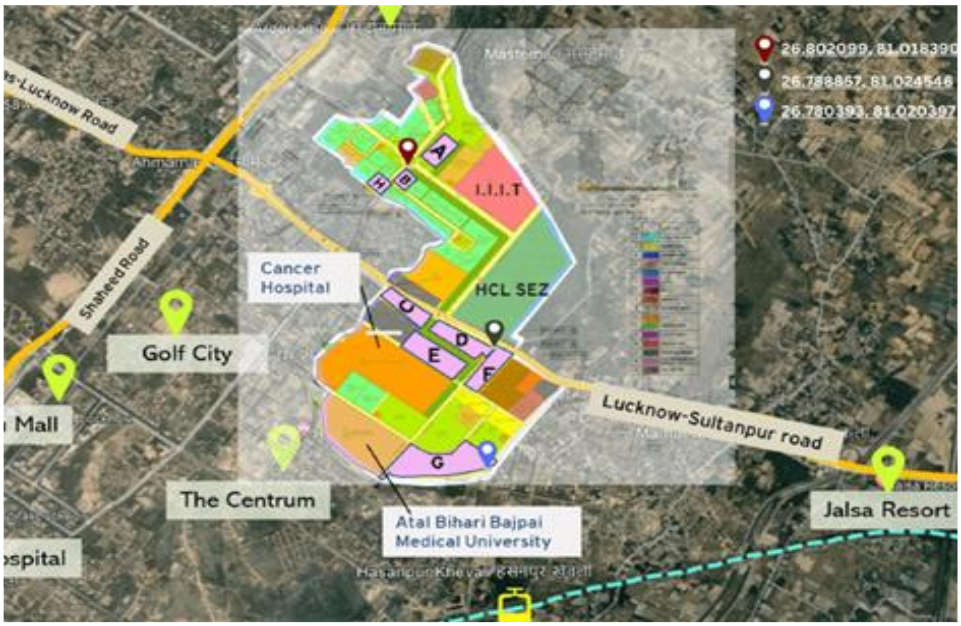
SITE INFORMATION

LOCATION: CG CITY IS LOACTED IN SOUTH EASTERN PART OF THE CITY ON LUCKNOW – SULTANPUR ROAD.
(26’48’07.6”N 81’01’06.2”E
AREA: SQ.M
HECTOR : HA
ACRE:
POPULAATION : 14,58,585
TOPOGRAPHY : SLOPE N-W
WIND DIRECTION : WNW



The site, located at south eastern part of the city on Lucknow – Sultanpur road, Lies at the heart of Lucknow's vibrant urban milieu, where tradition converges with modernity, and history resonates through the streets. Its strategic positioning within the cityscape affords unparalleled connectivity to key landmarks, commercial hubs, educational institutions, and recreational precincts, fostering a dynamic ecosystem ripe for mixed-use development.

9.3 - SITE SURROUNDINGS AND ASSCESIBILITY



Surrounding Land use

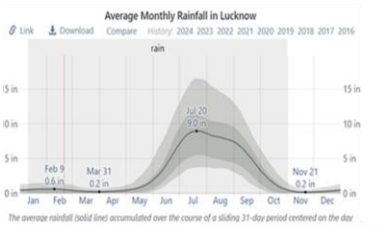
- Immediate Vicinity to
  - Ekana Cricket Stadium
  - The Centrum Hotel
  - Sushant Golf City
  - Pallasio Mall
  - Jalsa Resort

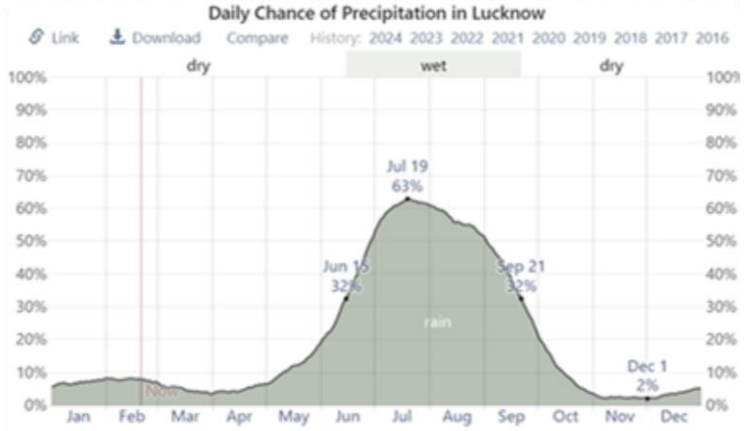
15 mins drive

20 mins drive

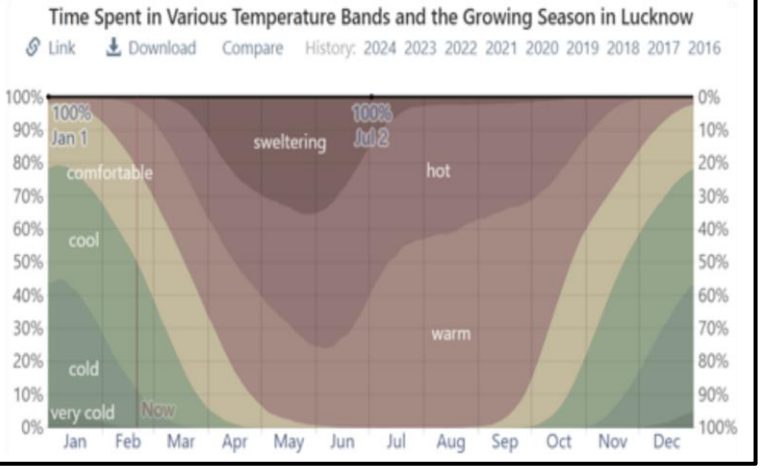
9.4 – SITE IMAGES

9.5 – SITE CLIMATE





The percentage of days in which various types of precipitation are observed, excluding trace quantities: rain alone, snow alone, and mixed (both rain and snow fell in the same day).



9.6 – SWOT ANALYSIS

Prime Location: The site's central location within Lucknow's urban core offers unparalleled accessibility and exposure, enhancing its commercial viability and attractiveness to potential tenants and visitors.
Cultural Heritage: Leveraging Lucknow's rich cultural heritage and historical context as a strength, the project can capitalize on the city's unique identity to create a distinctive sense of place and differentiation.
Multifunctional Design: The mixed-use nature of the building, integrating residential, commercial, and recreational functions, maximizes land use efficiency and revenue potential while fostering a vibrant urban environment.
Sustainable Features: Incorporating sustainable design principles and green infrastructure enhances the project's environmental performance, resilience
Community Engagement: Engaging with local stakeholders and community members throughout the design and development process cultivates

STRENGTHS

Infrastructure Constraints: Addressing existing infrastructure limitations,.
Heritage Preservation: Balancing the preservation of historical assets with the demands Market Competition: The competitive landscape within Lucknow's real estate market, characterized by diverse offerings and evolving consumer preferences.
Regulatory Compliance: Navigating regulatory requirements and bureaucratic processes, including zoning regulations, building codes, and permitting procedures, may entail time delays, cost escalations, and administrative complexities.
Risk of Overdevelopment: Overdevelopment or excessive densification of the site could strain infrastructure capacities, compromise environmental quality,

WEAKNESSES

Threats:
Competition: The site might face competition from existing nearby businesses and attractions.
Regulatory Challenges: Zoning and land use regulations could restrict certain development ideas.
Urban Development Pressure: Rapid urbanization could limit open spaces and increase land value.
Cultural Impact: Balancing modern development with preserving the cultural heritage of the area could pose challenges.

THREATS

Opportunities:
Placemaking: Create a vibrant, culturally rich public space that complements the temple's aura.
Community Hub: Develop a space for events, markets, and gatherings, catering to both visitors and locals.
Historical Integration: Blend the site's cultural essence with historical elements for a unique experience.
Sustainability: Incorporate eco-friendly features and renewable energy sources to enhance the site's environmental impact.

OPPORTUNITIES

9.7 – SITE CONDITIONS

Soil conditions

Lucknow's soil is primarily fertile alluvial soil with loamy composition, suitable for construction.

Loamy soil is well draining and provides good support for foundation.

Given the nature of alluvial soil, construction techniques such as pile foundation, raft foundation or other deep foundation systems may be necessary in certain areas.

Topography

Site exhibits the characteristics of the Gangetic plain, featuring a flat to gently undulating terrain with agricultural fields, rivers, and a mix of urban and rural landscapes

Flora and fauna

Lucknow's flora include a variety of trees like neem and mango colourful flowering plants, medicinal herbs like Tulsi, and well-maintained park with diverse plant species, the city's fauna consists of birds such as peacocks, parrots, butterflies, insects, small mammals like squirrels ants reptiles like snake and lizard . overall Lucknow's ecosystem supports a diverse range of plants and animals, enhancing the city's natural beauty and biodiversity.

Climate

The average wind speed in Lucknow is 2.6 m/s. The average ambient temperature remains 25.3°c.The average relative humidity remains around 68.6%. The station pressure averaged around 1011 h pa. Windrose of Lucknow blow from the WNW.

9.8 – IMPORTANT INFERENCES

1. Urban integration: combined residential, commercial, and office spaces in one structure cater to urban lifestyle needs, emphasizing convenience and efficiency.

2. Economic viability: mixed-use buildings maximize land use and economic returns, meeting the demand for various spaces in a bustling city.

3. Community engagement: they foster a sense of community by bringing together people from different backgrounds, promoting social interaction and neighborhood culture.

4.Infrastructure and amenities: these buildings offer a variety of amenities and services, enhancing the overall quality of life for occupants with retail outlets, Recreational areas, parking facilities, and potentially green spaces.

5.Regulatory compliance: compliance with Lucknow's building regulations is crucial for safety, functionality, and adherence to local laws during construction and operation.

6. Architectural diversity: mixed-use building designs in Lucknow reflect a blend of modern and traditional elements, showcasing the city's cultural heritage.

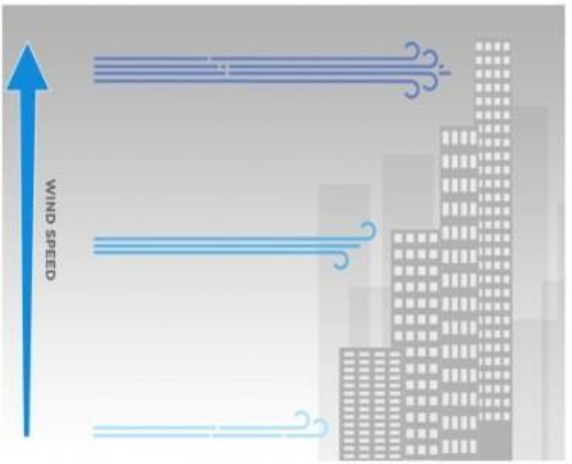
7.Traffic and mobility: considerations for traffic flow and mobility patterns are essential, especially if these buildings attract high volumes of visitors or residents, necessitating provisions for parking, pedestrian access, and public transportation integration.

DESIGN CONCEPT

10.1– CONCEPT

CONCEPT: 'AIRHIVE'

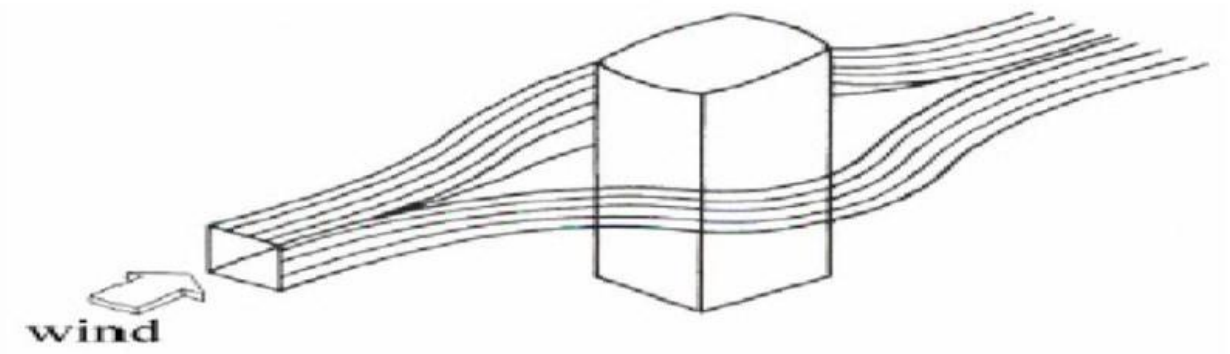
AIRHIVE IS THE BASIC PHENOMENON TO CAPTURE THE HIGH SPEEDS OF AND DISTRIBUTE OR MAKE IT FLOW IN DIFFERENT DIRECTIONS ACCORDINGLY.

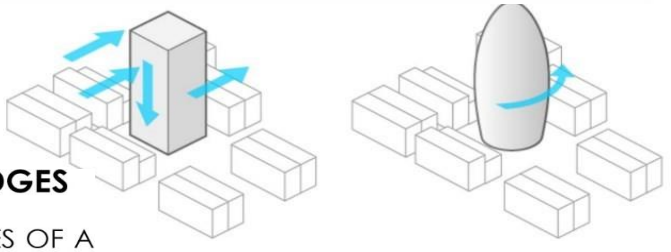


PRINCIPLE: 'AERODYNAMICS

AERODYNAMICS IS THE WAY OBJECTS MOVE THROUGH AIR. THE RULES OF AERODYNAMICS EXPLAIN HOW AN AIRPLANE IS ABLE TO FLY. ANYTHING THAT MOVES THROUGH AIR IS AFFECTED BY AERODYNAMICS.

CHALLENGE: TO TACKLE AND DISTRIBUTE THE WIND SPEED





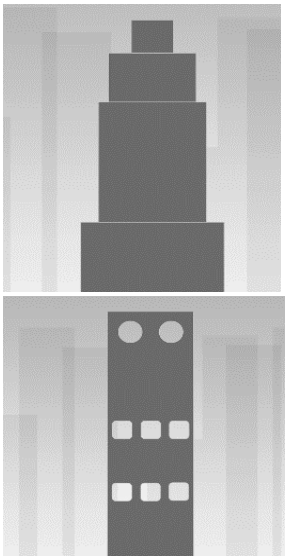
SOLUTIONS:

1. SMOOTHENING/ CURVING THE EDGES

SMOOTHENING OR CURCVING THE EDGES OF A BUILDING WILL TACKLE THE PRESSURE OF WIND AND DISTRIBUTE IT IN MULTIPLE DIRECTIONS.

2. TAPERING OR SETBACKING THE TOWER

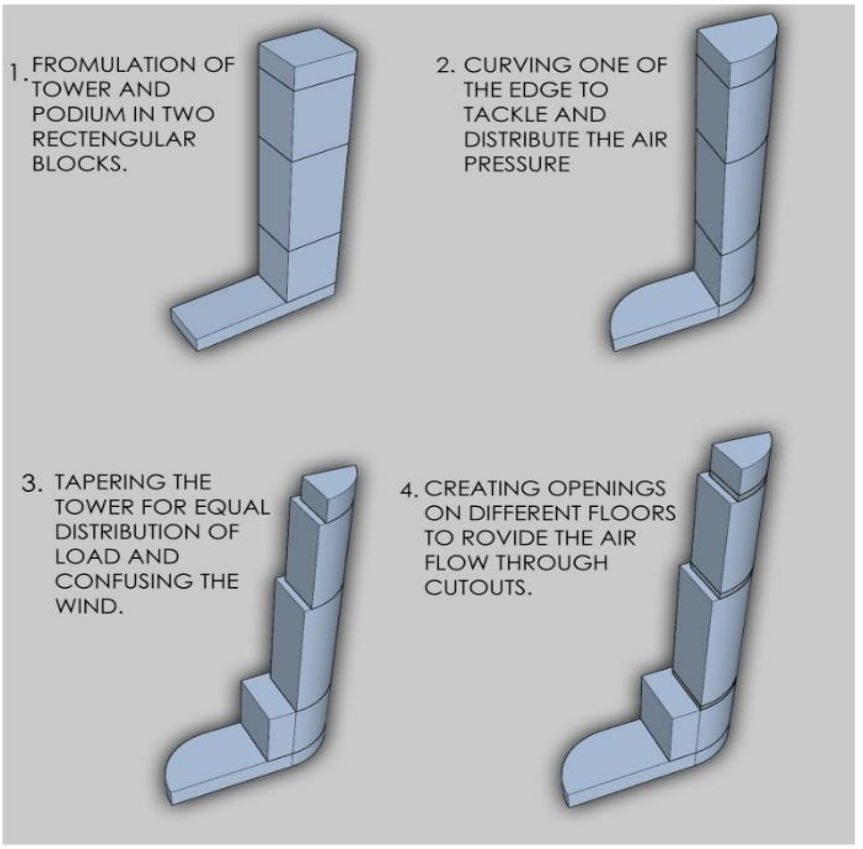
THIS IS THE BEST AND MENDATORY WAY TO DISTRIBUTE THE WIND FLOW IN DIFFERENT DIRECTIONS AS WELL AS IMPORTANT FOR THE DISTRIBUTION OF LOAD IN A MULTIDIRECTIONAL WAY,



2. PROVIDING CUTOUTS AND OPENINGS

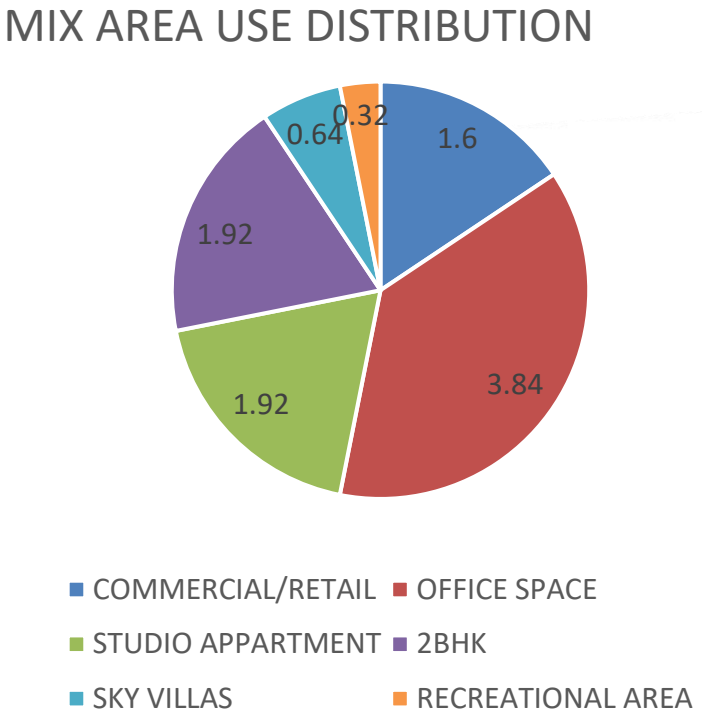
THIS TECHNIQUE THE CAN REDUCE THE WIND PRESSURE AS WELL AS ALLOW THE AIR TO FLOW THROUGH AND AROUND THE BUILING MASS.

10.3– FORM EVOLUTION

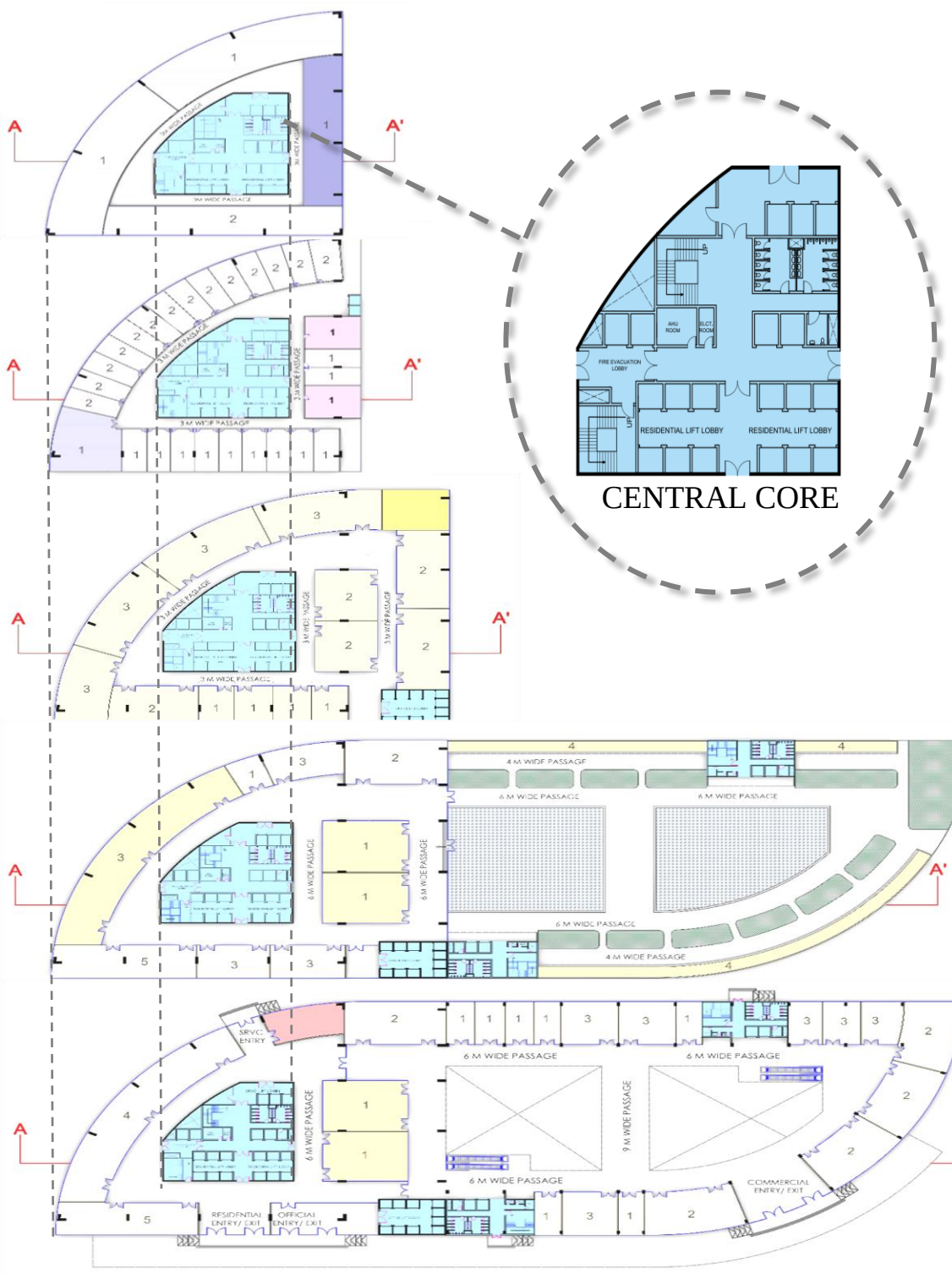


10.4– FORM IN CONTEXT TO SITE

10.5 – CONCEPTUAL ZONING



10.6- AXONOMETRIC FLOOR PLANS



10.7– SITE PLAN

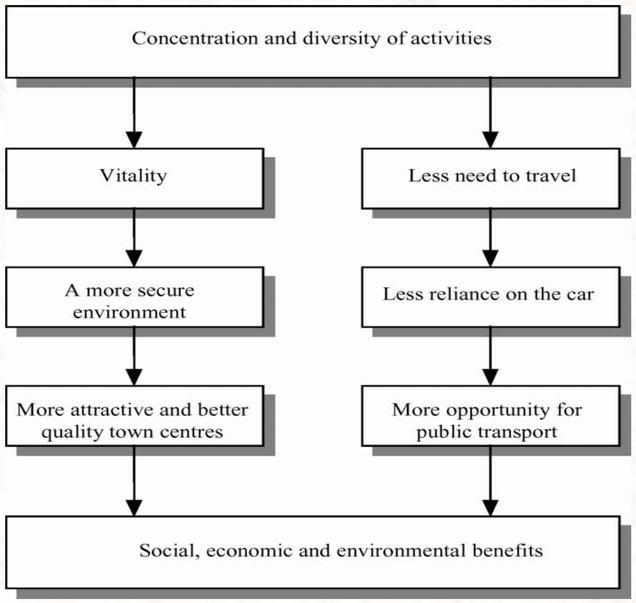
INTRODUCTION

LUCKNOW CITY AND MIXED-USE BUILDINGS

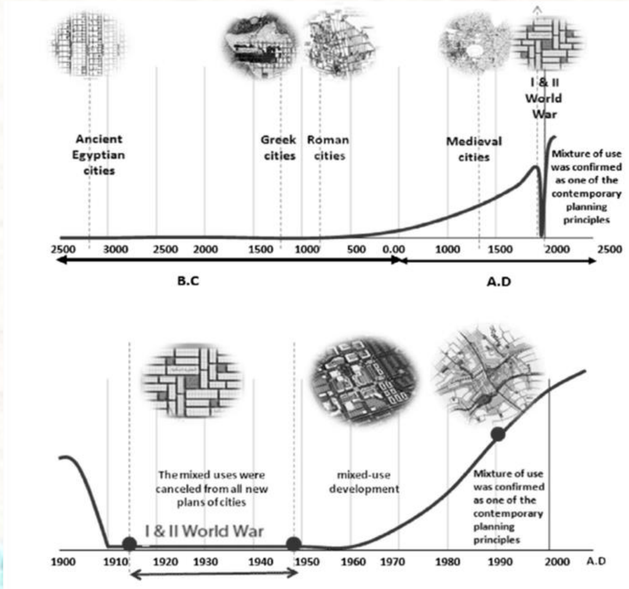
MIXED-USE BUILDINGS COULD BE A POTENTIAL SOLUTION TO SEVERAL URBAN CHALLENGES FACED BY THE CITY. FOR EXAMPLE, IF THERE IS A SHORTAGE OF AFFORDABLE HOUSING UNITS, MIXED-USE BUILDINGS THAT INCLUDE RESIDENTIAL UNITS AS WELL AS COMMERCIAL AND RETAIL SPACES COULD PROVIDE MORE AFFORDABLE HOUSING OPTIONS FOR RESIDENTS. SIMILARLY, MIXED-USE BUILDINGS THAT COMBINE WORKSPACES WITH RESIDENTIAL OR RETAIL SPACES COULD HELP REDUCE TRAFFIC CONGESTION AND PROMOTE A MORE SUSTAINABLE AND LIVABLE URBAN ENVIRONMENT.

ADDITIONALLY, MIXED-USE BUILDINGS CAN BE A CATALYST FOR ECONOMIC GROWTH BY ATTRACTING BUSINESSES, INCREASING FOOT TRAFFIC FOR RETAIL ESTABLISHMENTS, AND CREATING NEW EMPLOYMENT OPPORTUNITIES. A PROPERLY DESIGNED MIXED-USE BUILDING CAN CREATE A VIBRANT STREET LIFE AND STIMULATE LOCAL ECONOMIC ACTIVITY.
OVERALL, THE RELATIONSHIP BETWEEN LUCKNOW AND MIXED-USE BUILDINGS IS THAT THEY CAN BE MUTUALLY BENEFICIAL FOR CREATING A SUSTAINABLE URBAN ENVIRONMENT AND PROMOTING ECONOMIC DEVELOPMENT.

IMPORTANCE OF MIXED–USE BUILDING



DEVELOPMENT OF MIXED-USE CONCEPT



THE SITE AND SURROUNDING

SUSHANT GOLF CITY
Sushant Golf City, Lucknow, a Hi-tech Township sprawling across 6465 acres. Located on Amar Shaheed Path & Lucknow-Sultanpur Highway.

MEDANTA HOSPITAL
Spread across an area of 12.58 acres, Medanta Lucknow is one of the largest multi-super-specialty hospitals in Uttar Pradesh. The hospital aims to provide the highest standard of tertiary healthcare to the entire state and complies with international quality standards. It offers unmatched infrastructure, advanced medical technology, and personalized care. The hospital is led by teams of highly skilled super-specialist doctors, who are supported by trained nurses and paramedic staff.

RAILWAY STATION
Lucknow Junction railway station (official name Lucknow NER, station code LJN) is one of the two main railway stations of Lucknow city for broad gauge trains. Colloquially, it is known as "Chhoti Line", historically it harbored NE Railways' Meter Gauge. Lucknow JN or LJN station has six platforms.

HCL-IT CITY
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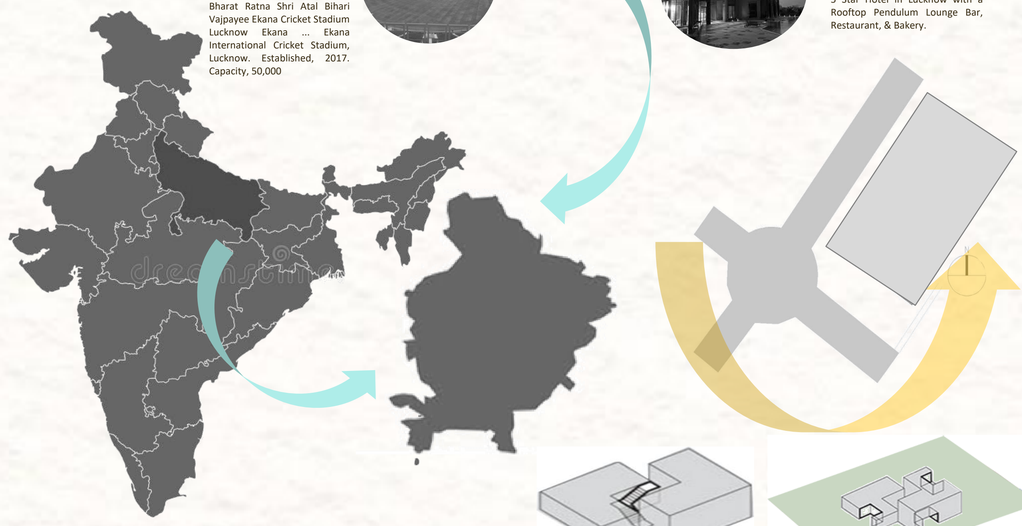
PALLASIO MALL.
The Phoenix Mills Limited is India's leading retail mall developer and operator with approximately 6 million square feet of retail space spread across 8 malls in 6 gateway cities of India.

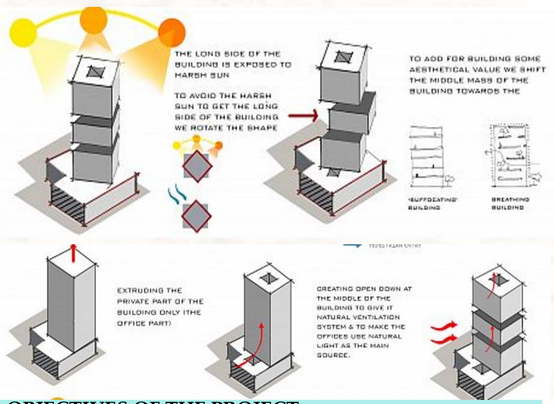
LULU MALL
Lulu Mall in Lucknow, one of the largest malls in the Uttar Pradesh capital, covers a huge area of 2.2 million square foot (MSF). It has a spacious space and an 11-story parking lot. The mall has more than 300 shopping stores, offering a great shopping experience.

JALSA RESORT
located north, of LUCKNOW was originally the residence of Locational Resort is located on Sultanpur Road. The hotel is very popular due to the numerous inhouse facilities provided by it.

CENTRUM HOTEL
A fantastic stay at one of Lucknow's best Resorts,Clubs,Best 5 Star Hotel in Lucknow with a Rooftop Pendulum Lounge Bar, Restaurant, & Bakery.

EKANACRICKET STADIUM
Bharat Ratna Shri Atal Bihari Vajpayee Ekana Cricket Stadium Lucknow Ekana ... Ekana International Cricket Stadium, Lucknow. Established, 2017. Capacity, 50,000



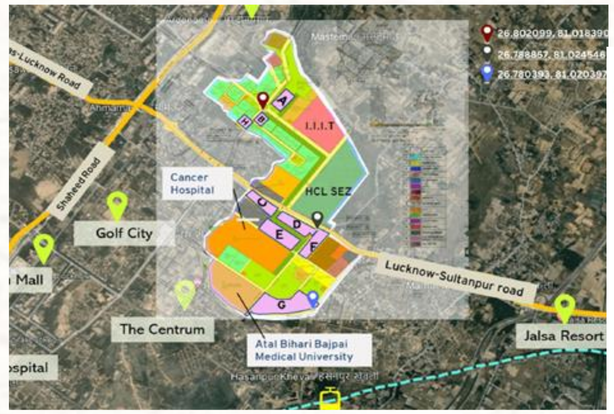


OBJECTIVES OF THE PROJECT

- ENHANCE URBAN VITALITY:
- EMPOWER THROUGH SKILLS
- BUILD COMMUNITY
- CELEBRATE CULTURE
- SUSTAINABILITY FOCUS

SITE INFORMATION

LOCATION : CG CITY IS LOACTED IN SOUTH EASTERN PART OF THE CITY ON LUCKNOW – SULTANPUR ROAD.
(26’48’07.6”N 81’01’06.2”E
AREA: 39990 SQ.M
ACRE: 9.8 ACRES
POPULAATION : 14,58,585
TOPOGRAPHY : SLOPE N-W , WIND DIRECTION : WNW

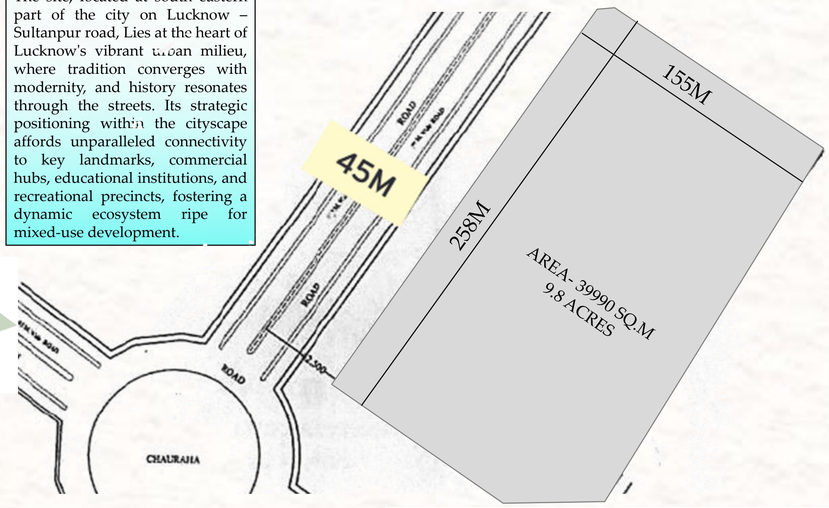


Surrounding Land use
- Immediate Vicinity to
  - Ekana Cricket Stadium
  - The Centrum Hotel
  - Sushant Golf City
  - Pallasio Mall
  - Jalsa Resort

15 mins drive

20 mins drive

The site, located at south eastern part of the city on Lucknow – Sultanpur road, Lies at the heart of Lucknow's vibrant urban milieu, where tradition converges with modernity, and history resonates through the streets. Its strategic positioning within the cityscape affords unparalleled connectivity to key landmarks, commercial hubs, educational institutions, and recreational precincts, fostering a dynamic ecosystem ripe for mixed-use development.



Prime Location: The site's central location within Lucknow's urban core offers unparalleled accessibility and exposure, enhancing its commercial viability and attractiveness to potential tenants and visitors.
Cultural Heritage: Leveraging Lucknow's rich cultural heritage and historical context as a strength, the project can capitalize on the city's unique identity to create a distinctive sense of place and differentiation.
Multifunctional Design: The mixed-use nature of the building, integrating residential, commercial, and recreational functions, maximizes land use efficiency and revenue potential while fostering a vibrant urban environment.
Sustainable Features: Incorporating sustainable design principles and green infrastructure enhances the project's environmental performance, resilience
Community Engagement: Engaging with local stakeholders and community members throughout the design and development process cultivates

Infrastructure Constraints: Addressing existing infrastructure limitations,.
Heritage Preservation: Balancing the preservation of historical assets with the demands Market Competition: The competitive landscape within Lucknow's real estate market, characterized by diverse offerings and evolving consumer preferences.
Regulatory Compliance: Navigating regulatory requirements and bureaucratic processes, including zoning regulations, building codes, and permitting procedures, may entail time delays, cost escalations, and administrative complexities.
Risk of Overdevelopment: Overdevelopment or excessive densification of the site could strain infrastructure capacities, compromise environmental quality,

Threats:
Competition: The site might face competition from existing nearby businesses and attractions.
Regulatory Challenges: Zoning and land use regulations could restrict certain development ideas.
Urban Development Pressure: Rapid urbanization could limit open spaces and increase land value.
Cultural Impact: Balancing modern development with preserving the cultural heritage of the area could pose challenges.

Opportunities:
Placemaking: Create a vibrant, culturally rich public space that complements the temple's aura.
Community Hub: Develop a space for events, markets, and gatherings, catering to both visitors and locals.
Historical Integration: Blend the site's cultural essence with historical elements for a unique experience.
Sustainability: Incorporate eco-friendly features and renewable energy sources to enhance the site's environmental impact.

SITE AND SURROUNDING

SOIL CONDITIONS

LUCKNOW'S SOIL IS PRIMARILY FERTILE ALLUVIAL SOIL WITH LOAMY COMPOSITION, SUITABLE FOR CONSTRUCTION.
LOAMY SOIL IS WELL DRAINING AND PROVIDES GOOD SUPPORT FOR FOUNDATION. GIVEN THE NATURE OF ALLUVIAL SOIL, CONSTRUCTION TECHNIQUES SUCH AS PILE FOUNDATION, RAFT FOUNDATION OR OTHER DEEP FOUNDATION SYSTEMS MAY BE NECESSARY IN CERTAIN AREAS.

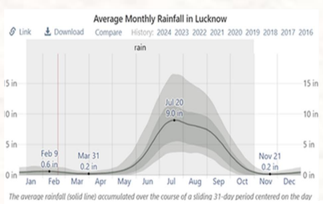
TOPOGRAPHY
SITE EXHIBITS THE CHARACTERISTICS OF THE GANGETIC PLAIN, FEATURING A FLAT TO GENTLY UNDULATING TERRAIN WITH AGRICULTURAL FIELDS, RIVERS, AND A MIX OF URBAN AND RURAL LANDSCAPES

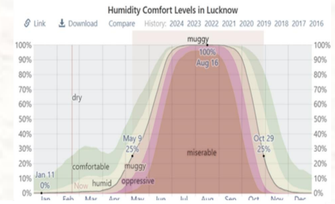
FLORA AND FAUNA
LUCKNOW'S FLORA INCLUDE A VARIETY OF TREES LIKE NEEM AND MANGO COLOURFULL FLOWERING PLANTS, MEDICINAL HERBS LIKE TULSI, AND WELL-MAINTAINED PARK WITH DIVERSED PLANT SPECIES, THE CITY'S FAUNA CONSISTS OF CIRDS SUCH AS PEACOCKS, PARROTS, BUTTERFLIES, INSECTS, SMALL MAMMALS LIKE SQUIRRELS ANS REPTILES LIKE SNAKE AND LIZARD . OVERALL LUCKNOW'S ECOSYATEM SUPPORTS A DIVERSE RANGE OF PLANTS AND ANIMALS, ENHANCING THE CITY'S NATURAL BEAUTY AND BIODIVERSITY.

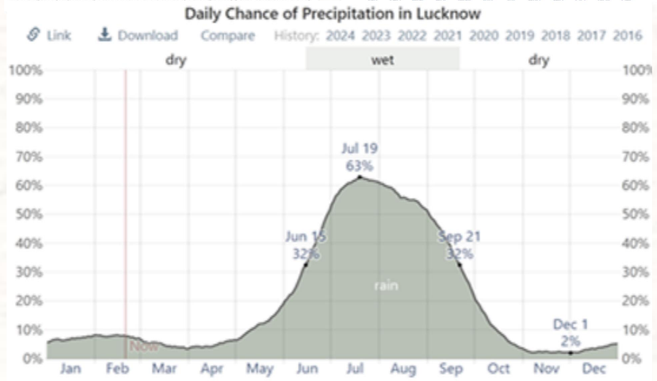
CLIMATE
THE AVERAGE WIND SPEED IN LUCKNOW IS 2.6 M/S. THE AVERAGE AMBIENT TEMPERATURE REMAINS 25.3°C.THE AVERAGE RELATIVE HUMIDITY REMAINS AROUND 68.6%. THE STATION PRESSURE AVERAGED AROUND 1011 H PA. WINDROSE OF LUCKNOW BLOW FROM THE WNW

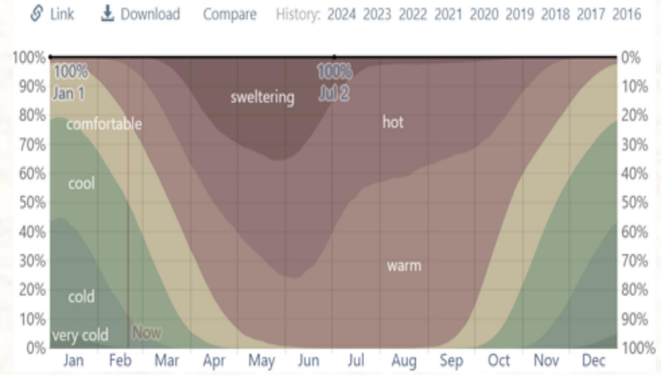
IMPORTANT INFERENCES:

1. **URBAN INTEGRATION**: COMBINED RESIDENTIAL, COMMERCIAL, AND OFFICE SPACES IN ONE STRUCTURE CATER TO URBAN LIFESTYLE NEEDS, EMPHASIZING CONVENIENCE AND EFFICIENCY.
2. **ECONOMIC VIABILITY**: MIXED-USE BUILDINGS MAXIMIZE LAND USE AND ECONOMIC RETURNS, MEETING THE DEMAND FOR VARIOUS SPACES IN A BUSTLING CITY.
3. **COMMUNITY ENGAGEMENT**: THEY FOSTER A SENSE OF COMMUNITY BY BRINGING TOGETHER PEOPLE FROM DIFFERENT BACKGROUNDS, PROMOTING SOCIAL INTERACTION AND NEIGHBORHOOD CULTURE.
4. **INFRASTRUCTURE AND AMENITIES**: THESE BUILDINGS OFFER A VARIETY OF AMENITIES AND SERVICES, ENHANCING THE OVERALL QUALITY OF LIFE FOR OCCUPANTS WITH RETAIL OUTLETS, RECREATIONAL AREAS, PARKING FACILITIES, AND POTENTIALLY GREEN SPACES.
5. **REGULATORY COMPLIANCE:** COMPLIANCE WITH LUCKNOW'S BUILDING REGULATIONS IS CRUCIAL FOR SAFETY, FUNCTIONALITY, AND ADHERENCE TO LOCAL LAWS DURING CONSTRUCTION AND OPERATION.
6. **ARCHITECTURAL DIVERSITY:** MIXED-USE BUILDING DESIGNS IN LUCKNOW REFLECT A BLEND OF MODERN AND TRADITIONAL ELEMENTS, SHOWCASING THE CITY'S CULTURAL HERITAGE.
7. **TRAFFIC AND MOBILITY:** CONSIDERATIONS FOR TRAFFIC FLOW AND MOBILITY PATTERNS ARE ESSENTIAL, ESPECIALLY IF THESE BUILDINGS ATTRACT HIGH VOLUMES OF VISITORS OR RESIDENTS, NECESSITATING PROVISIONS FOR PARKING, PEDESTRIAN ACCESS, AND PUBLIC TRANSPORTATION INTEGRATION.









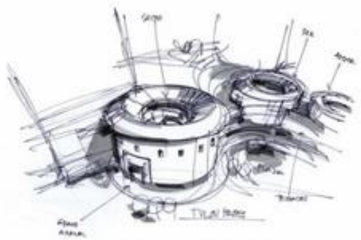
Environmentall-friendly and energy saving elements were important to the overall concept for the design. The aim for the development was to mimise building energy consumption and importantly, achieve a sustainable development.

Given that Fuzhou is a typhoon-prone city, landscape design has been integrated with storm water management. Features include the use of pervious surfaces for water absorption into the earth, and subsurface sand filters help purify wastewater.

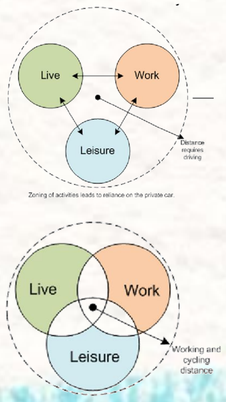
ALL PURPOSE OF THE MIXED USE

Capturing and celebrating the unique architectural and visual culture of Fujian province informed the architectural and interior design concept of the project. Under the direction of "Old meets New", the design language draws influences from the traditional Tulou or roundhouse. The nearby Qing Dynasty White Pagoda and traditional city gates of Fuzhou also provide architectural references for the development.

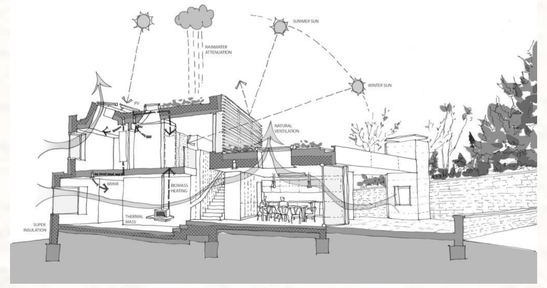
The design puts an emphasis on the wider community, encouraging the use of its open, public spaces by residents and visitors alike. This focus on shared public space is exemplified in the design's use of greenery and public gardens, which takes advantage of the natural temperate environment of Fuzhou, and capitalises on the site's unique positioning next to the city's iconic Wuyi Square.



Compact mixed-use nodes reduce journey requirements and create lively sustainable neighbourhoods

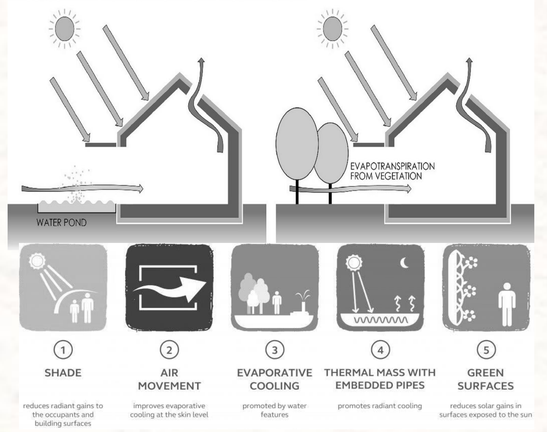


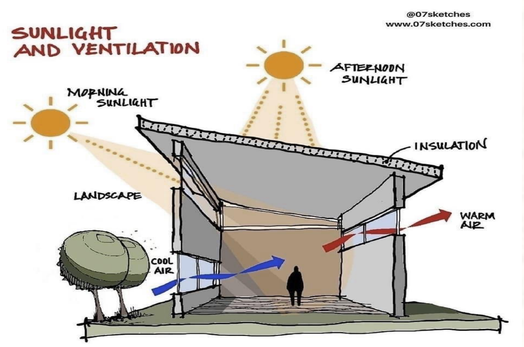
SITE AND PHOTOS

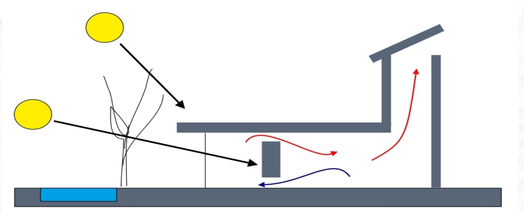


PASSIVE TECHNIQUES

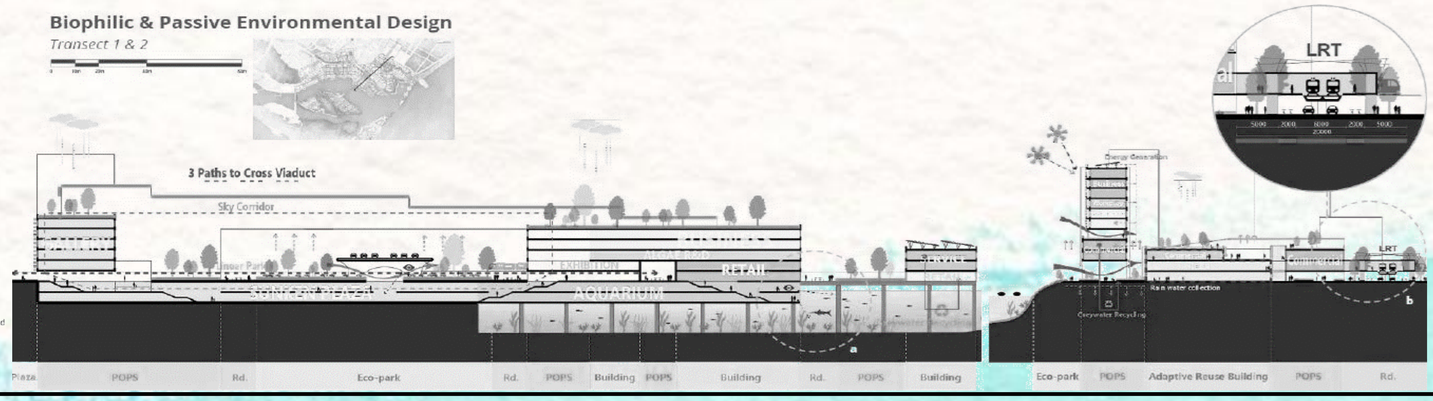
EVAPORATIVE HEAT EXCHANGE: DIRECT EVAPORATIVE COOLING







Biophilic & Passive Environmental Design

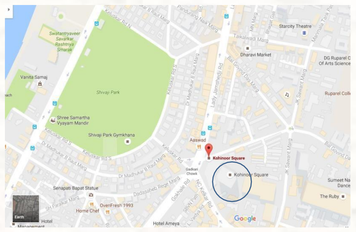


KOHINOOR SQUARE, MUMBAI

"MIXED-USE HIGH-RISE HABITAT IS — IN A BROAD SENSE — ANY URBAN OR SUBURBAN DEVELOPMENT OR EVEN A SINGLE BUILDING THAT BLENDS A COMBINATION OF RESIDENTIAL, COMMERCIAL, CULTURAL, INSTITUTIONAL, OR INDUSTRIAL USES, WHERE THOSE FUNCTIONS ARE PHYSICALLY AND FUNCTIONALLY INTEGRATED, AND THAT PROVIDES PEDESTRIAN CONNECTIONS. SINCE THE 1990S, MIXED-USE ZONING HAS ONCE AGAIN BECOME DESIRABLE AS THE BENEFITS ARE RECOGNIZED. THESE BENEFITS INCLUDE GREATER HOUSING VARIETY AND DENSITY, REDUCED DISTANCES BETWEEN HOUSING, WORKPLACES, RETAIL BUSINESSES, AND OTHER DESTINATIONS, MORE COMPACT DEVELOPMENT, STRONGER NEIGHBORHOOD COHESION, AND PEDESTRIAN- AND BICYCLE-FRIENDLY ENVIRONMENTS.
MUMBAI CURRENTLY FACES SPACE SHORTAGE ISSUES AND VARIOUS SOCIAL ISSUES, ONE OF WHICH IS TRAVELING FROM ONE END TO ANOTHER. A RESILIENT MIXED-USE COMPLEX IS AN ATTEMPT TO ADDRESS THESE ISSUES."

INTRODUCTION

- LOCATION : MUMBAI , INDIA
- TYPE : MIXED USE BUILDING
- ARCHITECT : SSA ARCHITECTS
- HEIGHT : 203 M MAIN BUILDING, 142 M RESIDENCE BUILDING
- FLOOR COUNT : 52 STORIES , 32 STORIES
- COMPLETED FIRST MIXED USE HIGHRISE IN MUMBAI



- THE SITE IS LOCATED AT DADAR , A SUBURB OF MUMBAI.
- THE SITE IS IN COMMERCIAL HUB SURROUNDED BY VARIOUS HIGH END NATIONAL, INTERNATIONAL OFFICES AND LUXURIOUS APARTMENRTS.
- IT IS TALLEST STRUCTURE IN VICINITY.
- THE FAMOUS SHIVAJI PARK IS AT 5 MINS WALK FROM THE SITE.

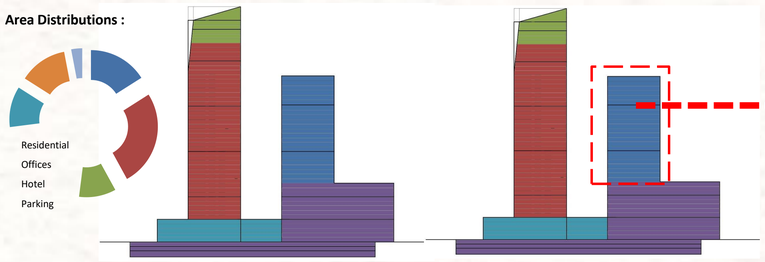
CLIMATE OF MUMBAI BUILDING INTRODUCTION

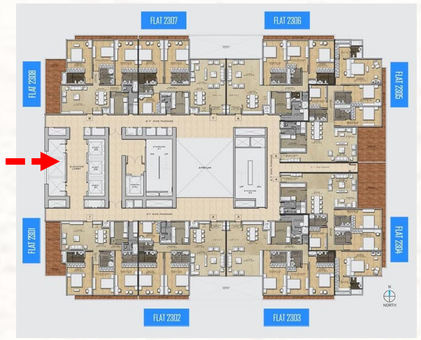
- MUMBAI'S CLIMATE CAN BE BEST DESCRIBED AS MODERATELY HOT WITH HIGH LEVEL OF HUMIDITY.
- ITS COASTAL NATURE AND TROPICAL LOCATION ENSURES TEMPERATURES WON'T FLUCTUATE MUCH THROUGHOUT THE YEAR.
- IT IS A SEMI-TWIN MIXED USE SKYSCRAPER IN MUMBAI.
- THE MAIN SKYSCRAPER IS ABOUT 52 FLOORS 203 METRESAND THE RESIDENTIAL SKYSCRAPER IS ABOUT 35 FLOORS 142 METRES .
- THE FIRST FIVE FLOORS OF THE MAIN BUILDING IS USED FOR A HIGH-END SHOPPING MALL AND THE REMAINING 47 FLOORS OF THE MAIN BUILDING IS UTILIZED FOR A COMMERCIAL OFFICES AND FIVE STAR HOTEL.
- THE FIRST 13 FLOORS OF THE RESIDENTIAL BUILDING IS USED AS A PARKING GARAGE FOR BOTH THE BUILDINGS AND THE REMAINING 19 FLOORS IS RESIDENCES.

CONCEPT

AN ICONIC STRUCTURE DRAWING INSPIRATION FROM THE DIAMOND.

Area Distributions :



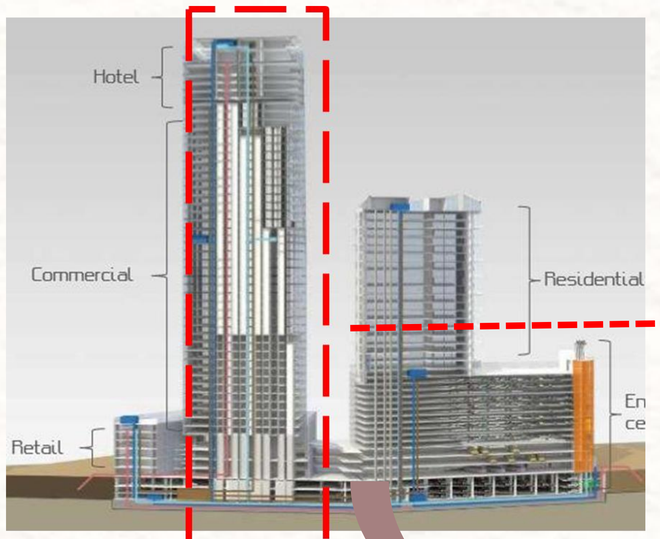


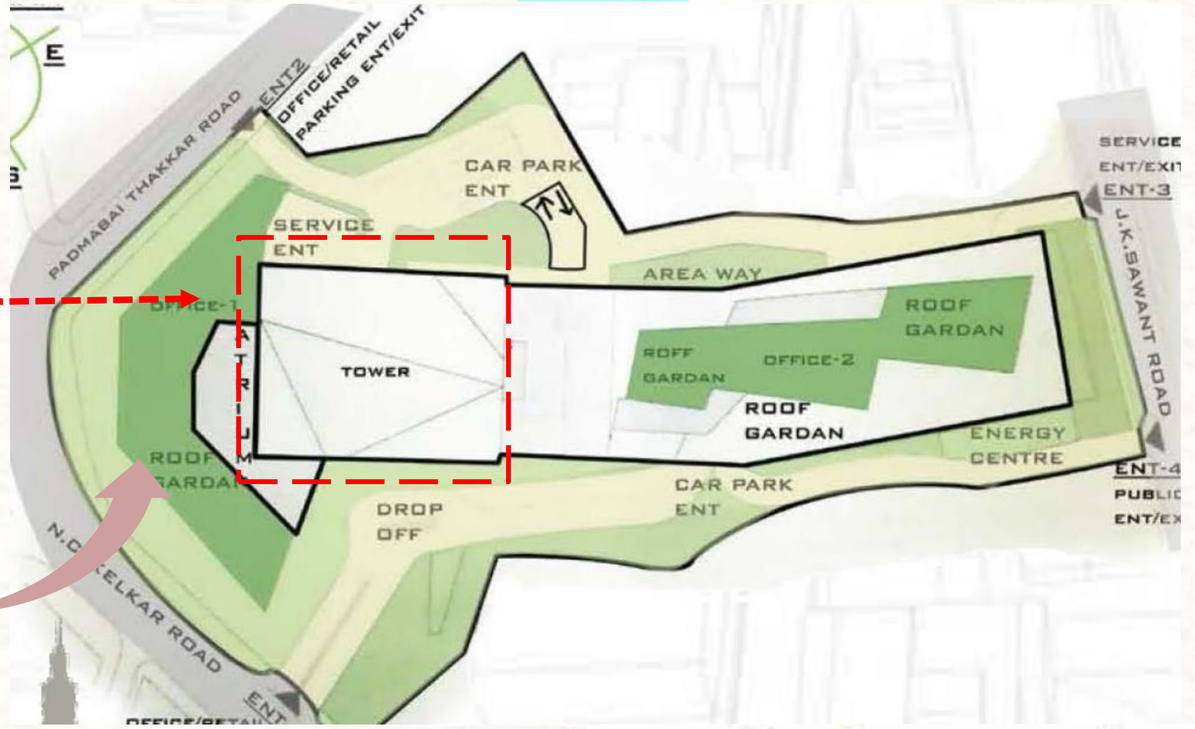
RESIDENTIAL BUILDING :

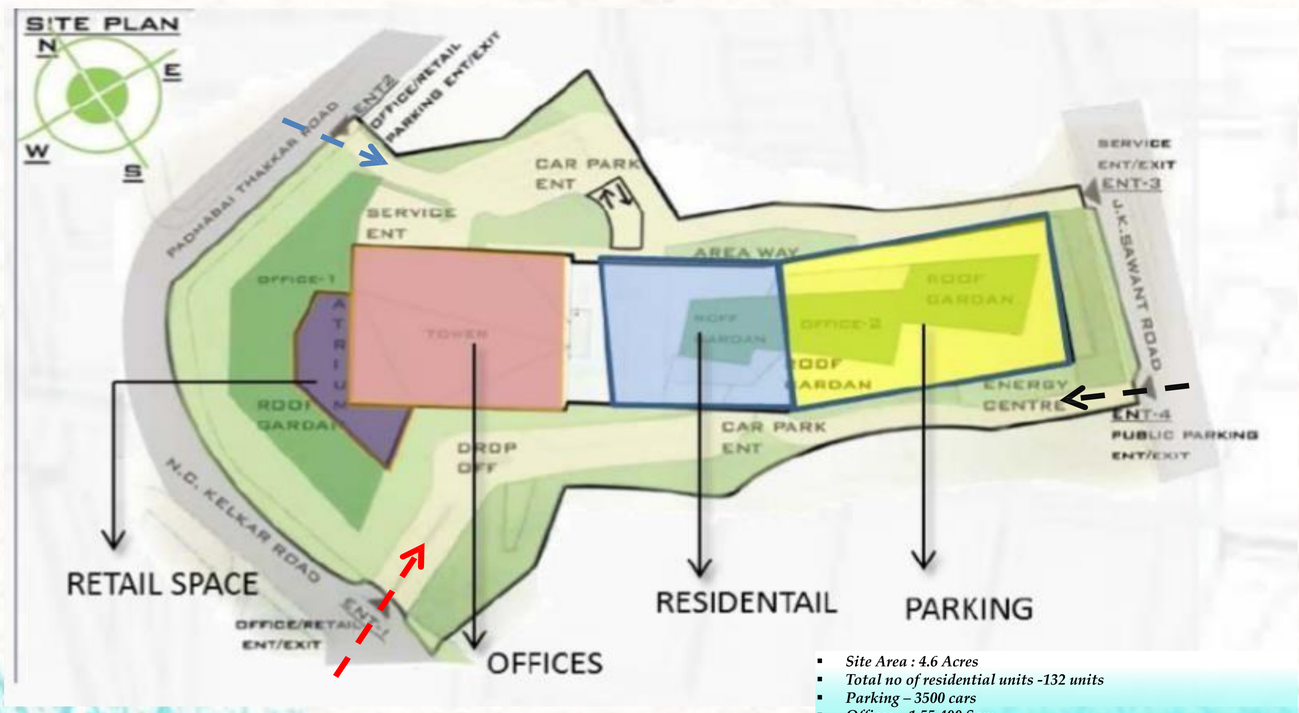
- 13 STORIES OF PARKING IN BELOW FLOORS. 132 RESIDENTIAL UNITS.
- 8 UNITS ON EACH FLOOR.
- AT TOP FEW FLOORS 4 UNITS ON EACH FLOOR.

CENTRAL CORE :

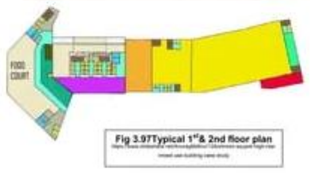
- 3 LIFTS AND 1 SERVICE LIFT
- 2 STAIRS ARE ALSO PLACED IN THE CORE.







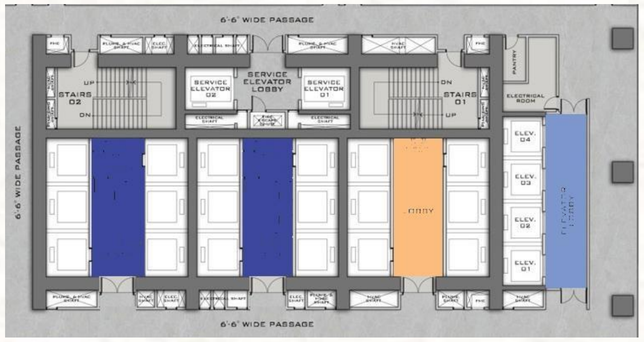
- *Site Area : 4.6 Acres*
- *Total no of residential units -132 units*
- *Parking – 3500 cars*
- *Offices – 1,55,400 Sqm*

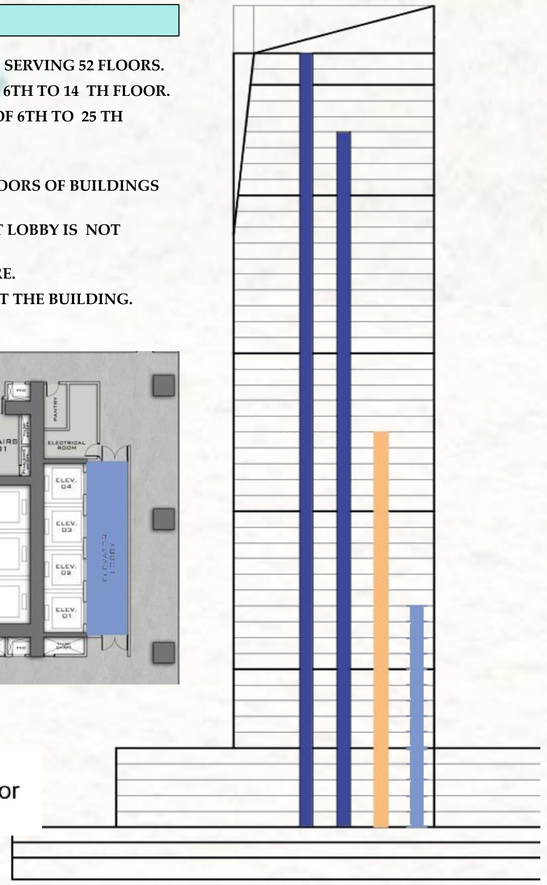


BUILDING CONCEPT AND WORKING

CENTRAL CORE CONSISTS OF

+ 3 LOBBIES OF 6 LIFTS AND 1 LOBBY OF 4 LIFTS SERVING 52 FLOORS.
+ 1 LOBBY OF 4 LIFTS SERVING THE OFFICES OF 6TH TO 14 TH FLOOR.
+ 1 LOBBIES OF 6 LIFTS SERVING THE OFFICES OF 6TH TO 25 TH FLOOR.
+ 25 TH FLOOR IS A LIFT BANK.
+ 2 LOBBIES OF 6 LIFTS SERVING THE UPPER FLOORS OF BUILDINGS 25TH TO 52TH FLOORS.
+ SPACES BETWEEN THE LIFTS WHERE THE LIFT LOBBY IS NOT PROVIDED ARE USED AS TOILETS .
+ 2 STAIRCASES ARE ALSO PLACED IN THE CORE.
+ 2 SERVICES LIFTS TRAVELLING THROUGHOUT THE BUILDING.





The section shows that particular lifts are assigned to reach particular floor for time reduction.

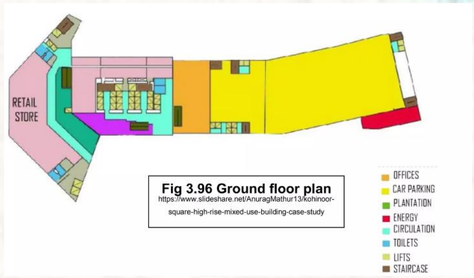


Fig 3.96 Ground floor plan
https://www.slideshare.net/AnuragMathur13/kohinoor-square-high-rise-mixed-use-building-case-study

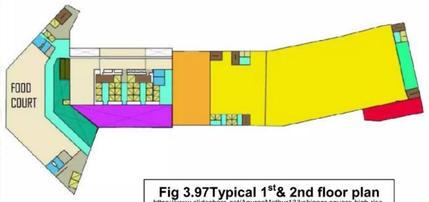


Fig 3.97Typical 1st& 2nd floor plan
https://www.slideshare.net/AnuragMathur13/kohinoor-square-high-rise-mixed-use-building-case-study

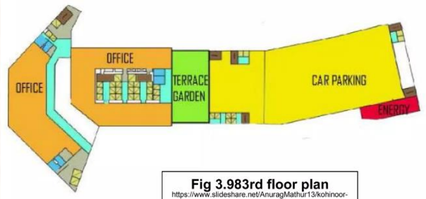


Fig 3.983rd floor plan
https://www.slideshare.net/AnuragMathur13/kohinoor-square-high-rise-mixed-use-building-case-study

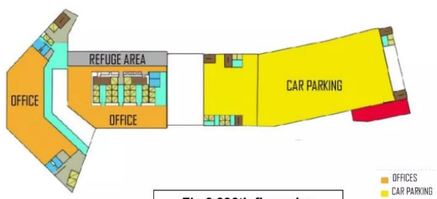


Fig 3.996th floor plan
https://www.slideshare.net/AnuragMathur13/kohinoor-square-high-rise-mixed-use-building-case-study

Fig 3.1007th floor plan
https://www.slideshare.net/AnuragMathur13/kohinoor-square-high-rise-mixed-use-building-case-study

Retail store = 1150sq.m
Food court = 1150sq.m
Energy = 236sq.m
Offices = 715.9sq.m
Terrace = 715.9sq.m
Parking = 3627.6sq.m
Male washroom = 21sq.m
Female washroom = 21sq.m

Fig 3.101 Typical Floor Plan(office)
http://www.kohinoorsquare.in/offices/floor-plan.html

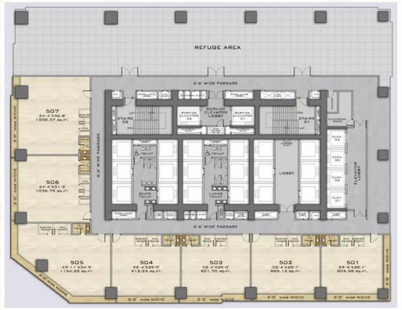


Fig 3.1025th Floor Plan(office)
http://www.kohinoorsquare.in/offices/floor-plan.html

Fig 3.10311th Floor Plan(office)
http://www.kohinoorsquare.in/offices/floor-plan.html

Fig 3.10413th Floor Plan(office)
http://www.kohinoorsquare.in/offices/floor-plan.html

Fig 3.10514th Floor Plan(office)
http://www.kohinoorsquare.in/offices/floor-plan.html

Electric room – 77.5ft²
Server room – 199.13ft²
AHU room – 199.13ft²

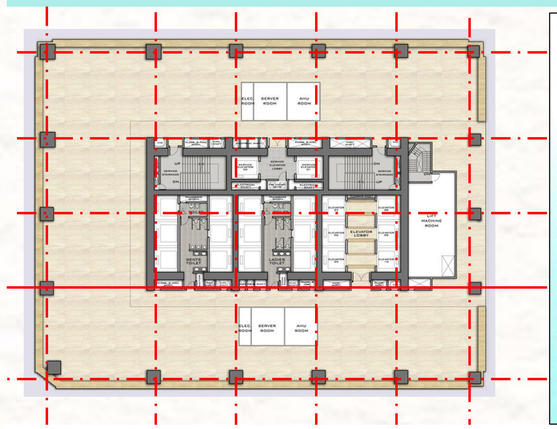
Fig 3.10615th Floor Plan(office)
http://www.kohinoorsquare.in/offices/floor-plan.html

Electric room – 77.5ft²
Server room – 199.13ft²
AHU room – 199.13ft²
Machine room - 763.16ft²

Fig 3.10716th Floor Plan(office)
http://www.kohinoorsquare.in/offices/floor-plan.html

Electric room – 77.5ft²
Server room – 199.13ft²
AHU room – 199.13ft²
Refuge area – 1291.66ft²

ARCHITECTURAL FEATURES



- THE DESIGN OF THE BUILDING MAKES IT ENVIRONMENTALLY FRIENDLY , USING TECHNOLOGIES SUCH AS FLOOR TO CEILING INSULTED GLAZING TO CONTAIN HEAT AND MAXIMIZE NATURAL LIGHT AND AN AUTOMATIC DAY LIGHT DIMMING SYSTEM.
- THE TOWER ALSO FEATURES A GREY WATER SYSTEM , WHICH CAPTURES THE RAIN WATER TO REUSE.

9.5 M
STRUCTURE SYSTEM :
CONCRETE SHEAR WALL + FRAME STRUCTURE
THE AVERAGE CENTRE TO CENTRE DISTANCE BETWEEN COLUMNS IS 9.5 M.
THE COLUMN IS OF 1.8 X 1.8 M .

FOUNDATION :
THE COMBINED PILE RAFT FOUNDATION SYSTEM IS USED . IT IS A GEOTECHNICAL COMPOSITE CONSTRUCTION THAT COMBINES THE BEARING EFFECT OF BOTH FOUNDATION ELEMENTS RAFT AND PILES .
THE PILE RAFT FOUNDATION SYSTEM HAS RECENTLY BEEN WIDELY USED FOR MANY STRUCTURES , SPECIALLY IN HIGH-RISE BUILDINGS.

Fig 3.91 Central core (shafts)
https://www.slideshare.net/AnuragMathur13/kohinoor-square-high-rise-mixed-use-building-case-study?qid=cfc82a0d-f91d-417f-9a36-570a33917e13&v=&b=&from_search=2

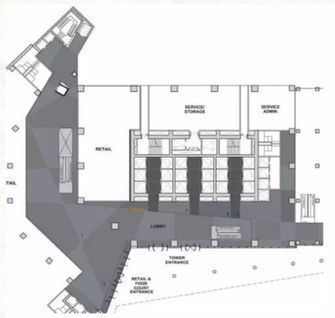


Fig 3.95 Ground floorplan

RESIDANCE FLOOR PLANS

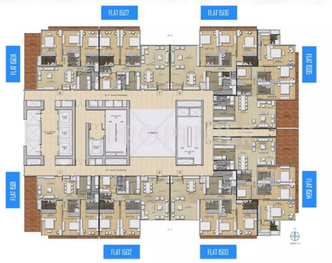


Fig 3.10815th Floor Plan(residence)
http://www.kohinoorsquare.in/residential/customization/home.html

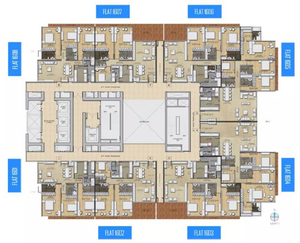


Fig 3.10916th Floor Plan(residence)
http://www.kohinoorsquare.in/residential/customization/home.html

Fig 3.11017th Floor Plan(residence)
http://www.kohinoorsquare.in/residential/customization/home.html

UPPPER FLOOR PLANS

Fig 3.11132th Floor Plan(residence)
http://www.kohinoorsquare.in/residential/customization/home.html

Fig 11233rd Floor Plan(residence)
http://www.kohinoorsquare.in/residential/customization/home.html

Fig 3.117Mechanical system

Kohinoor square has a **well designed HVAC system** for its ventilatio purposes. As it is a glass enveloped structure the load of mechanical ventilation is also high.

The cooling towers are situated near water tanks at some level in the buildings.

Spaces	Areas(sq.m)
Residences	
3bhk	222.96
3.5bhk	260.12
4bhk	306.58
Offices	
Working spaces	50-256
Male washroom	30
Female washroom	30
Pantry	4.8
Refuge area	458.76
Electrical room	1.25
AHU	2.49
Server room	18.50
Machine room	70.89
Retail	
Retail store	1150
Food court	1150
Male washroom	21
Female washroom	21
Shops	50-256
Energy	236
Terrace on 3rd floor	715.9
Parking	3627.6

Sustainable features

- **15 double height landscaped sky gardens** and more than a **dozen height terraces**, to act as tranquil and refreshing breakout zones.
- Low flow faucets, dual flush toilets, grey water systems and storm water & rain water management systems – all the parts of our commitment to the environment

Fig 3.115 Sustainable features
https://image.slidesharecdn.com/presentation1170205205612/95/kohinoor-square-high-rise-mixed-use-building-mumbai-case-study-14-638.jpg?cb=1486328493

1. Rain water collection.
2. Sky gardens
3. High performance façade.
4. High efficiency ventilation system.
5. Daylight harvesting &dumming controls.
6. Black & grey water reuse.
7. Environmentally preferable material.
8. Green roof.
9. Energy centre.
10. Native adapted landscape
11. Onsite waste water treatment.
12. Recyclable sorting & collection.
13. Natural ventilation.

Foundation

- The **combined pile raft foundation** system is used .
- It is a geotechnical composite construction that combines the bearing effect of both foundation elements raft and piles .
- The pile raft foundation system has recently been widely used for many structures , specially in high-rise buildings.

Fig 3.114Foundation
https://www.slideshare.net/AnuragMathur13/kohinoor-square-high-rise-mixed-use-building-case-study

Major Connecting Roads	Time	Distance (KM)
Bandra Worli Sea Link	10 min	4.5
Western Express Highway	12 min	3.3
Eastern Express Highway	14 min	7.7
Domestic Airport	20 min	9.3

S.No.	Major Business Centres	Time	Distance (KM)
1	Bandra Kurla Complex	12 min	4.5
2	Elphinstone	6 min	3.0
3	Prabhadevi	15 min	3.3
4	Lower Parel	10 min	4.5
5	Worli	10 min	6.0
6	Nariman Point	25 min	14

Fig 3.84 Location advantage
http://online.fliphtml5.com/qpzr/yyak/#p=6

The first **five floors** of the main building is used for a high-end **shopping mall** and the remaining 47 floors of the main building is utilized for a commercial **offices** and five star **hotel.**The main building is crowned by five star**hotel on top 5 floor.**

There are segregated office space from 6th to 14 floor with toilets to each office and common toilets also provided on all these floor.

The Central Core is surrounded by the office spaces and refuge areas at 24 meter of height.

The first 13 floors of the residential building is used as a parking garage for both the buildings and the remaining 19 floors is residences. Parking provided for about 2000 cars with super efficient driveways and personalized access controls.

Kohinoor Square, Mumbai

Positive Points:

- **Different entries** for all the verticals.
- **Environmental friendly technologies** used such as low flow faucets, dual flush toilets, grey water systems and storm water & rain water management systems, rain water harvesting.
- **Central core** provides easy access to the spaces inside the building.
- spaces between the lifts where a lift lobby is not provided area used as toilets with ducts.
- **Sky lobby concept** for reducing the time to travel to different floors.
- **Double skin façade system** leading to **energy saving** and incorporating **natural light** inside the building and providing **great views** from inside the building.
- **Multi-level parking,** parking above the ground.
- Refuge areas provided as per the norms.

Negative Points:

- **Compact site.**
- **Less green area** on site
- 1 entry/exit to car park.

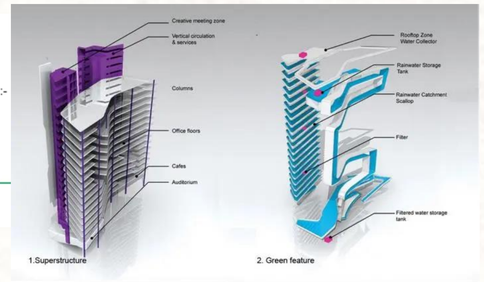
Fig 3.85kohinoor square from lady jamshedi road
source - author

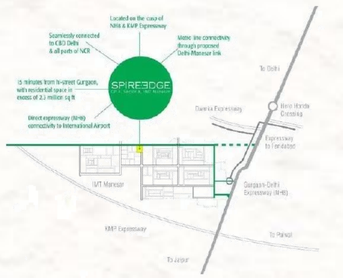
SPIRE EDGE, GURGAON

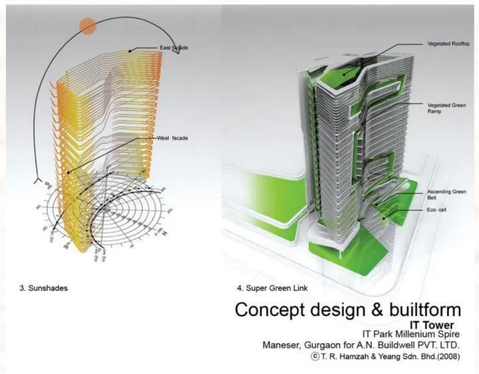
DESIGN PHILOSPHY

The three main pillars which form backbone of the system:-

1. Operative Structure
2. Eco Structure
1. People Structure







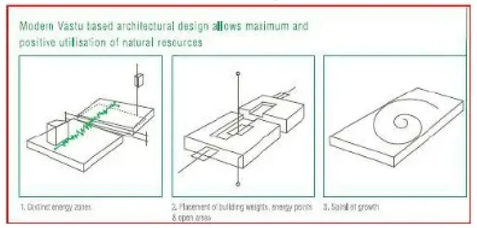
Concept design & builtform
IT Tower
IT Park Millenium Spire
Maneser, Gurgaon for A.N. Buildwell PVT. LTD.

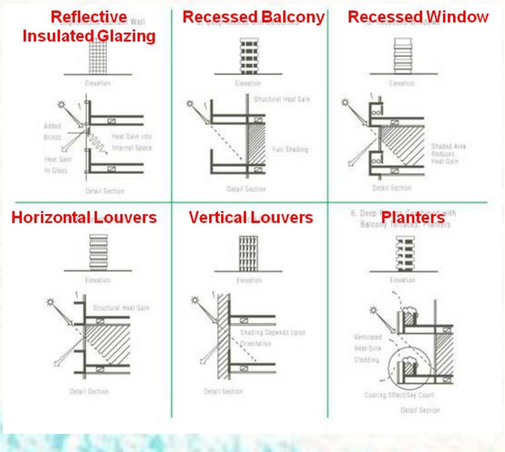
CONCEPT AND DESIGN

OPERATIVE STRUCTURE

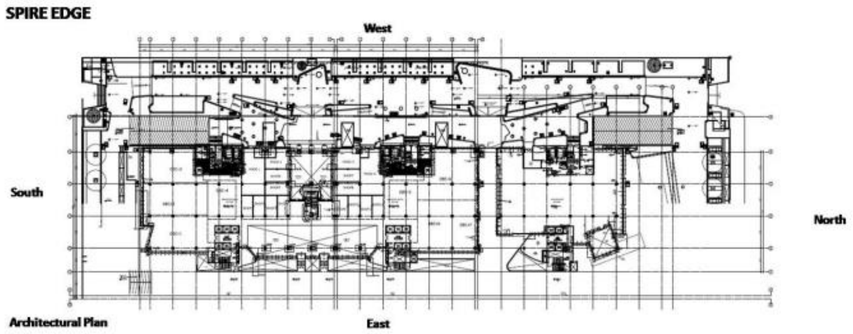
Guides the functional & **physical design components** of the project . This overlay of various layers of spatial planning , functional imperatives & **Vaastu** of symbiosis has enabled in creation of environment that reflects **the positive synergies** achieved

1. The fundamental basis of the Operative structure has roots in the **Vaastu traditions of architectural planning** that govern the placements of building weights, open spaces and directions. This works on the cyclic principles of nature & **energy flow** that are adaptive & promote growth





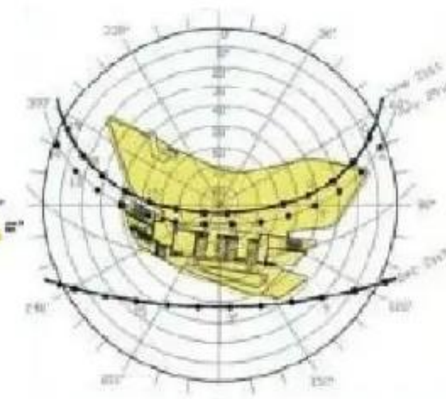
MATERIALS



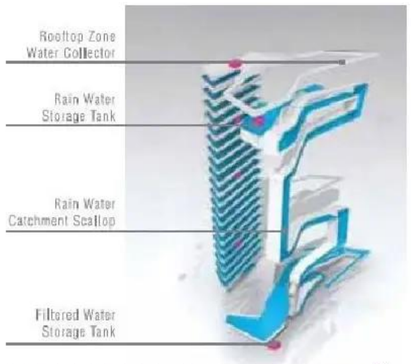
MAINSTREAM GREEN FEATURES

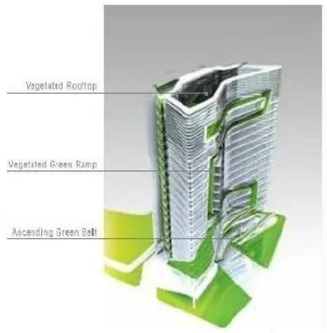
1. OPTIMISING NATURAL LIGHT & HEAT

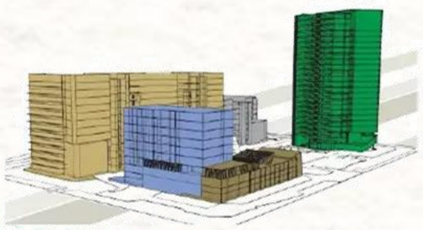
Climatically confronting orientation ensures optimum harnessing of natural light & heat .This in turn increases indoor comfort & also lowers the building energy demand



CONCEPT AND DESIGN

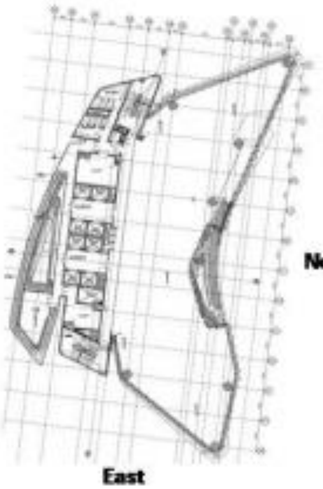






SPIRE EDGE

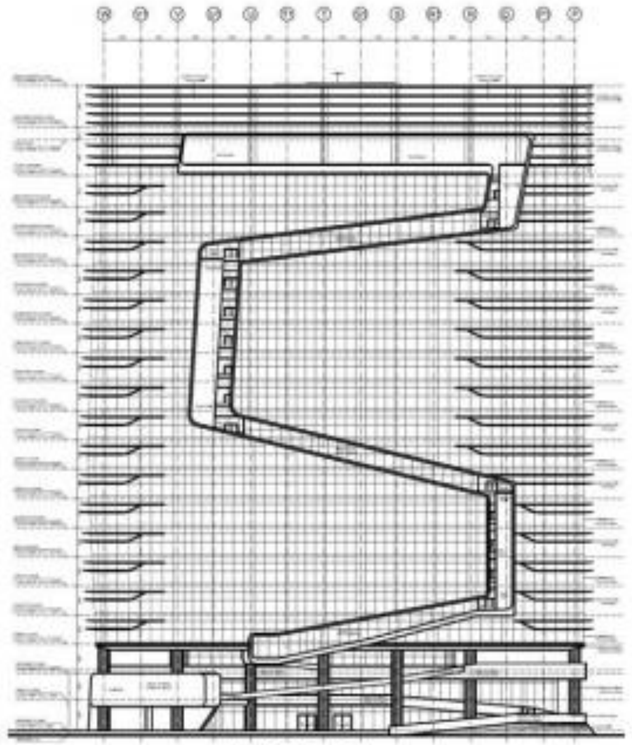
View



East

North

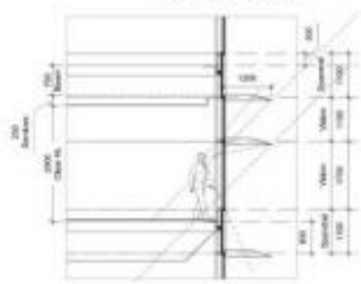
Architectural Plan



North Elevation

East Elevation

Observation Pod



Typical Floor Section

Signature Block (Façade Development)

1. SIGNATURE TOWER

- Situated in north-east corner of complex
- Bio-climatic skyscraper
- 300 ft. High iconic tower for I.T. offices
- Area = 3 lac sq.ft
- Facilities – Offices, Auditorium , Cafe, Exhibition hall, Meeting pods, Sky courts
- Vertically rising landscape
- Pedestrian ramp

7 September 2010

CYBER HUB, GURGAON

PROJECT NAME - CYBER CITY, GURUGRAM
TYPE OF PROJECT – COMMERCIAL
DEVELOPERS – DLFCLIENT
YEAR OF START - 1997
YEAR OF COMPLETION - 2013.
INCLUDES SHOPS, OFFICE BUILDING, RECREATIONAL AREAS
NO. OF STOREYS -FOR OFFICE AND COMMERCIAL BUILDING G+20
TOTAL PROJECT AREA - 128 ACRE
ARCHITECT - HAFEEZ CONTRACTER AND MOHIT GUJRAL.
FOOTFALL - MORE THAN 1.5 LAKH

SITE CHARACTER

SITE AREA -128ACRES
TOPOGRAPHY - SITE IS FLAT.SITE SLOP:-SOUTH TO NORTHSHAPE - SITE IS IRREGULAR.
ORIENTATION - SITE IS NORTHWEST ORIENTED
COMMERCIAL BUILDINGS ORIENTED IN NORTH EAST DIRECTION ALLOWS MORE OPEN SPACES TO RECEIVE INDIRECT SUNLIGHT AND LESSER HEAT GAIN.

LOCATION

- LOCATED IN GURUGRAM
- LIES NEXT TO THE NATIONAL HIGHWAY 8.
- LIES NEXT TO THE DELHI-GURUGRAM BORDER.
- 10MIN FROM IGI AIRPORT.
- The CBD resides in the city of Gurugram often dubbed the 'face of new India'.
- Overlooked as a backward,
- Rural community just a decade ago,
- Gurugram has rapidly developed into an IT hub and home to many multinational companies, partly due to its proximity and connectivity to the national capital of new Delhi

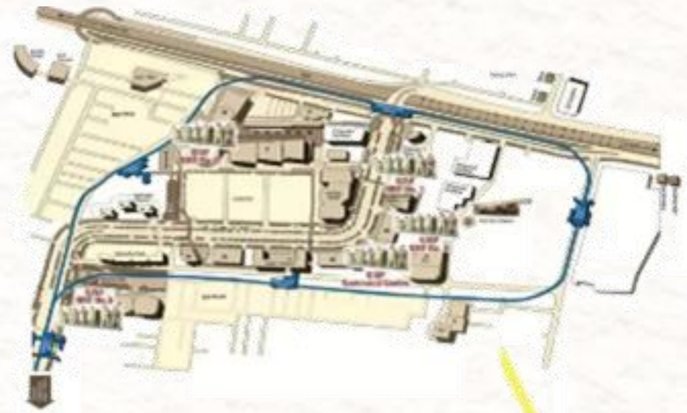
MAIN APPROCH

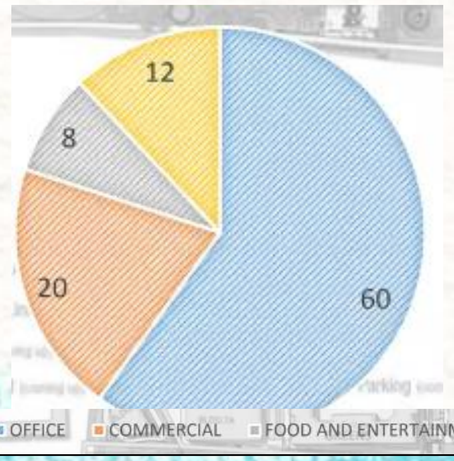
15KMS FROM IGI AIRPORT

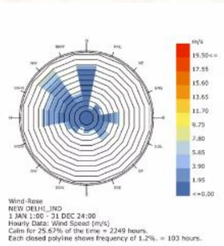
40KMS FROM DELHI RAILWAY STATION

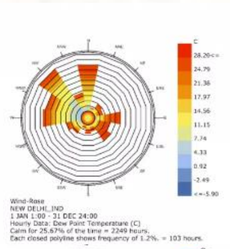
30KMS FROM RAILWAY STATION

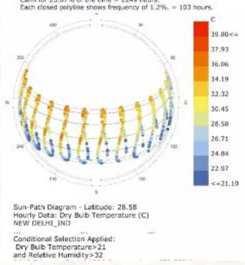
BUILDING CONCEPT AND WORKING

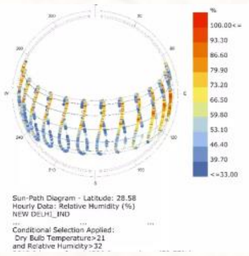


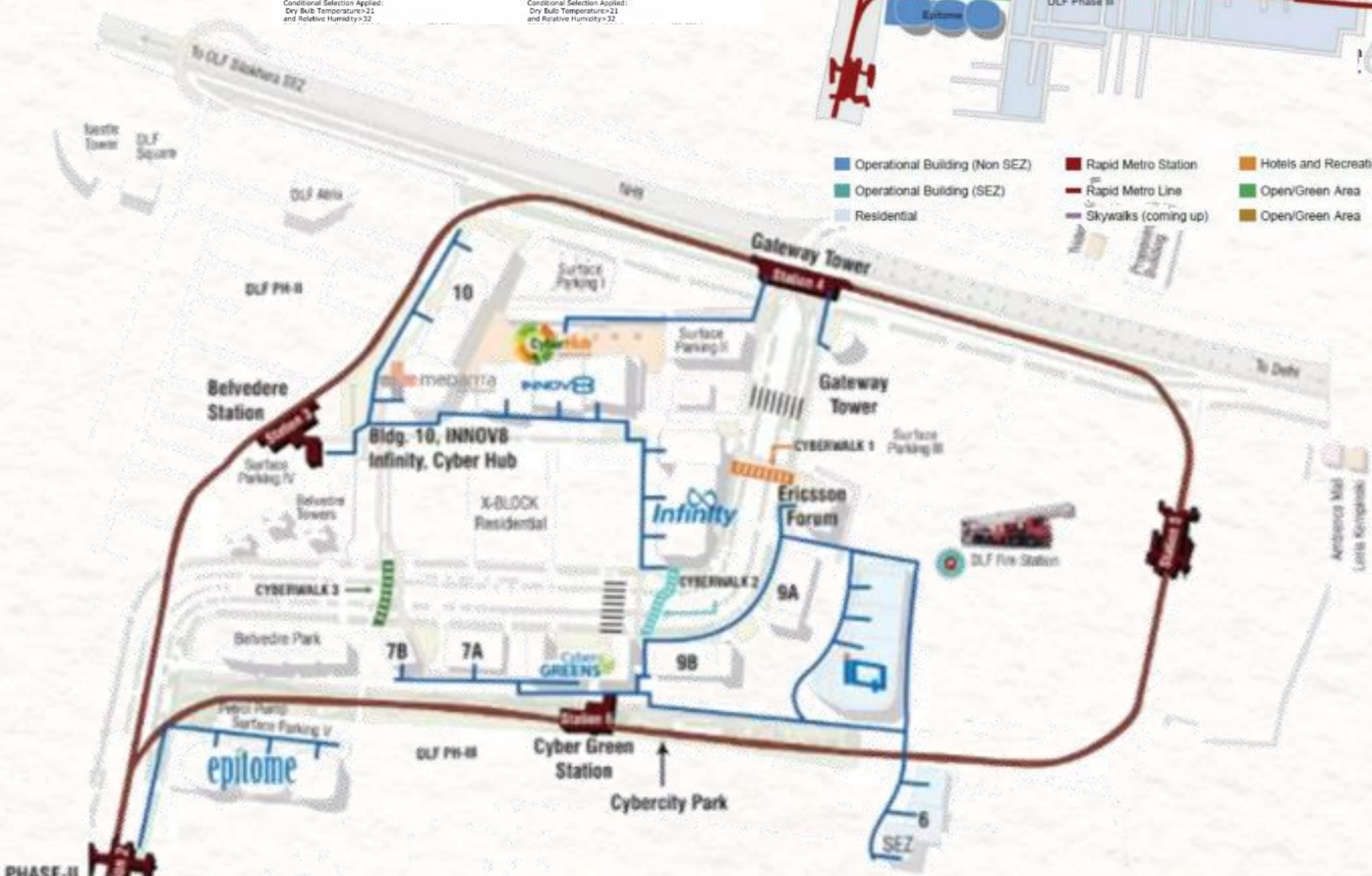










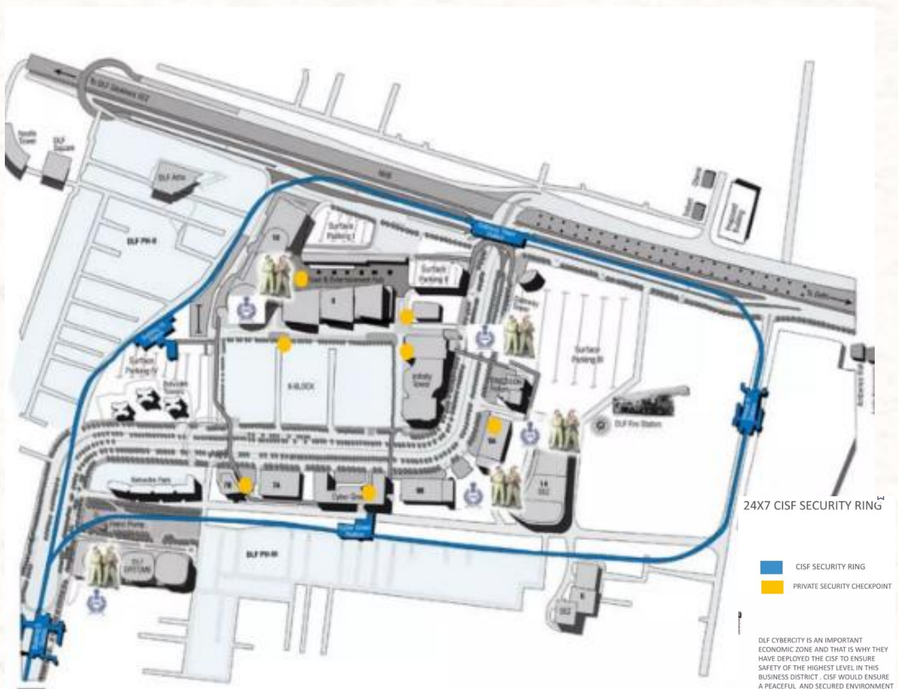


MASTER PLAN

RAPID METRO STATIONS
1 - Sikanderpur
2 - Phase 2
3 - Vodafone Belvedere Towers
4 - Indusind Cybercity
5 - Micromax Moulsari Avenue
6 - Phase 3

CYBERWALK 1
CYBERWALK 2
CYBERWALK 3
Rapid Metro Route
Walkways Connecting
Zebra Crossing

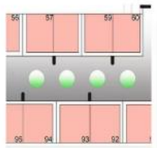
SITE ZONING

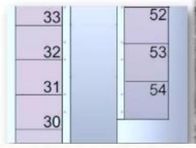


CYBER HUB AS A RETAIL AREA AND FOOD COURT

ASPECT (SHOPS)	ACC TO NORMS (MIN)	PROVIDED
LARGE	25'X40'	20'X66'
MEDIUM	10'X 24'	15'X 30'
SMALL SHOPS	15'X10'	-

- STREET PATTERN IS FOLLOWED
- PLOTS FOR OFFICES/SHOPS IN A CONTINUOUS ROW ALONG THE PEDESTRIAN PLAZAS, WHICH ARE 3 STOREY HIGH.
- SHOPS COVER 2 FLOORS OF THE BUILDING BLOCK.
- LARGE DISTANCE BETWEEN OPPOSITE SHOPS SUFFICIENT TO CATER CROWD
- STAIRCASE IS PROVIDED AFTER EVERY 8 SHOP





Surface Car parking for 10000.

Multilevel parking

FIRE SAFETY

- TO PROTECT DLF5 AND THE ADJOINING AREAS IN CASE OF A FIRE EMERGENCY, DLF HAS SET UP A PRIVATE FIRE STATION AT DLF5. THIS IS THE SECOND PRIVATE FIRE STATION IN INDIA (FIRST SET UP BY DLF AT CYBER CITY).

INDICATION DEVICES
HOOTERS
ELECTRICAL BELLS
SPEAKERS
LAMPS

INITIATING DEVICES
SMOKE DETECTORS
HEAT DETECTORS
FLAME DETECTORS
MCPs, FLOW SWITCHES

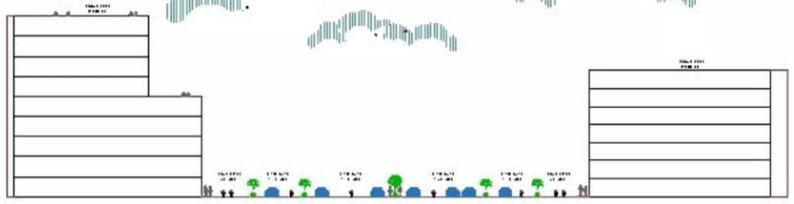
- INDIA'S FIRST PRIVATE FIRE STATION WITH A 90 METER HIGH HYDRAULIC SKYLIFT THAT CAN REACH UP TO 30 FLOORS.
- COMPLETED 2 YEARS OF SAFETY JOURNEY WITH DUPONT AS THE SAFETY PARTNER.
- FREE FIRE SAFETY TRAINING & 3RD PARTY SAFETY AUDIT FOR TENANTS.
- 5 SAFETY PATENTS FILED BY DLF.
- DISASTER MANAGEMENT AND DISASTER RECOVERY PLAN (DMDRP) CENTERS EQUIPPED WITH ALL EMERGENCY EQUIPMENT ATTACHED TO OFFICE BUILDINGS.

- THE DLF FIRE SERVICES HOUSE HAS 3 HYDRAULIC PLATFORMS – TWO 90 METERS AND ONE 60 METERS IN HEIGHT .
- DLF FIRE SERVICES HOUSES TWO FIRE TENDERS AT THE STATION. EACH OF THEM HAS FIRE DOUSERS WITH A CAPACITY OF CARRYING 18 KILOLITRES OF WATER PER VEHICLE. THE STATION IS MANNED BY TRAINED FIRE SAFETY PERSONNEL WITH SEVERAL YEARS OF FIRE FIGHTING EXPERIENCE.
- PRACTICE FIRE DRILLS ARE ORGANIZED IN ALL THE COMMUNITIES ON A FORTNIGHTLY BASIS, TO ENSURE EFFICIENCY IN CASE OF EMERGENCY. THEY ARE CONDUCTED WITH ADEQUATE GUIDANCE, IN THE PRESENCE OF ALL THE RESIDENTS, SECURITY GUARDS AND OTHER OFFICIALS.

SKYLINE

VISUAL IMAGE

STREET SECTION OF THIS ROAD



DLF INFINITY TOWER

- Designed by renowned **ARCHITECT HAFEEZ CONTRACTOR** the complex constitutes three interconnected towers (A, B, C) scaling between **10-12 storeys** .
- Spread across **1.2 million sq. ft.** of space, the complex is designed to provide unmatched flexibility with scalability option ranging from **38,000 sq. ft.** to **52,000 sq. ft.**

INFINITY TOWER

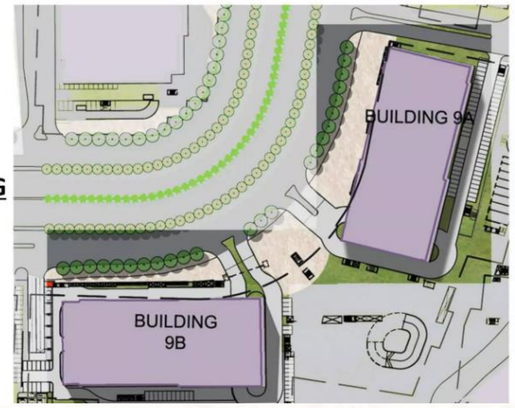
INFINITY TOWER

- Providing for contiguous space of up to **1,35,000 sq. ft.** on each individual floor. **Well connected to domestic and international airport** and south, central, and west Delhi it provides for easy connectivity.
- The Structure is designed to **Seismic Zone V** specifications for greater earthquake resistance along with NFPA compliant and provides for facilities and amenities like food court, health club and ATMs to the occupants of the complex.
- Additional safety systems include **24x7 CCTV** security in common areas, **Modern Fire Detection** and **suppression systems** and **24x7 Ambulance service** for any kind of emergency.

DLF CYBER CITY BUILDING 9A & 9B (AREA CHART)

The total IT workspace constitutes 2 blocks		
Blocks	No. of Floors	Block Area (sq.ft.)
Block A	Ground + 16 floors	756,577
Block B	Ground + 16 floors	756,519
	Total Area (sq.ft.)	1,513,096

DLF CYBER CITY BUILDING 9A & 9B (SITE PLAN)



DLF INFINITY TOWER

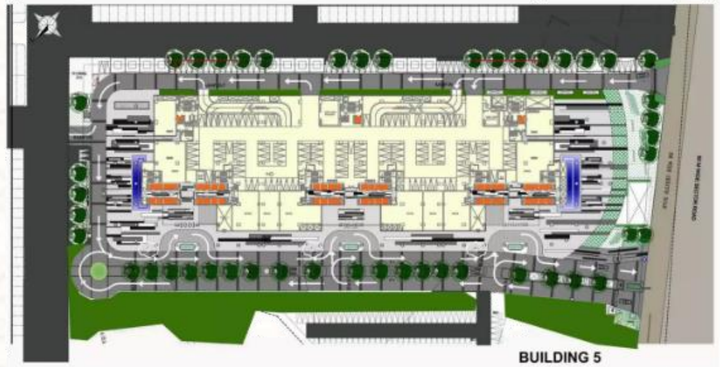
DROP OFF

CAFETERIA

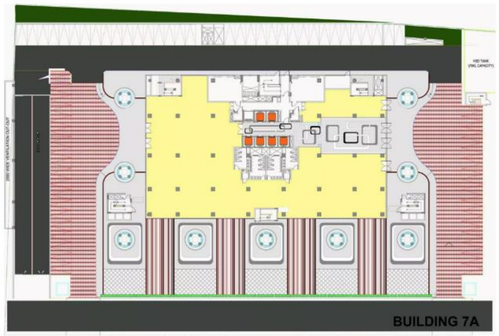
The total IT workspace constitutes 3 blocks		
Blocks	No. of Floors	Block Area (sq.ft.)
Block A	Ground + 9 floors	327,703
Block B	Ground + 8 floors	379,383
Block C	Ground + 12 floors	605,033
	Total Area (sq.ft.)	13,12,119

AREA CHART

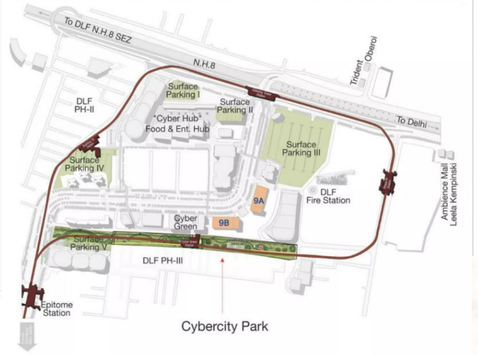
DLF CYBER CITY EPITOME BUILDING 5 (SITE PLAN)



DLF CYBER CITY EPITOME BUILDING SITE PLAN



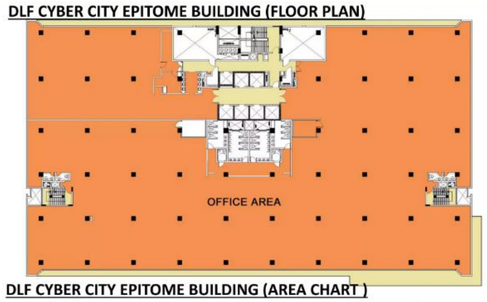
DLF CYBER CITY BUILDING 9A & 9B (SITE PLAN)



LAYOUT PLAN

KEY PLAN

DLF CYBER CITY EPITOME BUILDING (FLOOR PLAN)

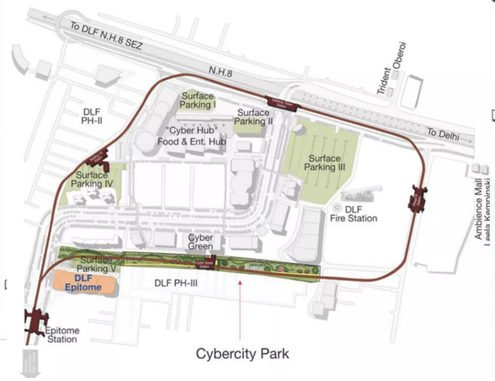


DLF CYBER CITY EPITOME BUILDING (AREA CHART)

Building	No. of Floors	Block Area (sq.ft.)
Building 7A	Ground + 6 floors	272,121
Building 7B	Ground + 8 floors	166,718
	Total Area (sq.ft.)	438,839

DLF INFINITY TOWER (SITE PLAN)

DLF CYBER CITY EPITOME BUILDING 5



DLF GATEWAY TOWER

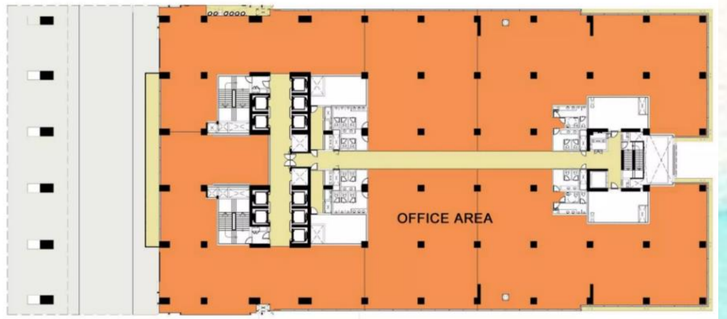
- Gateway Tower as is appropriately coined, acts as the gateway to the **3000-acre** landmark city of DLF.
- This **12-storey** complex is spread across an area of **1.15 acres**. With its **ship-like shape**, Gateway Tower presents futuristic architecture, which is also reflected in its interiors with floor plates measuring to **85,000 sq.ft**.
- The unique feature of this complex is its high visibility and compact office space.

KEY PLAN

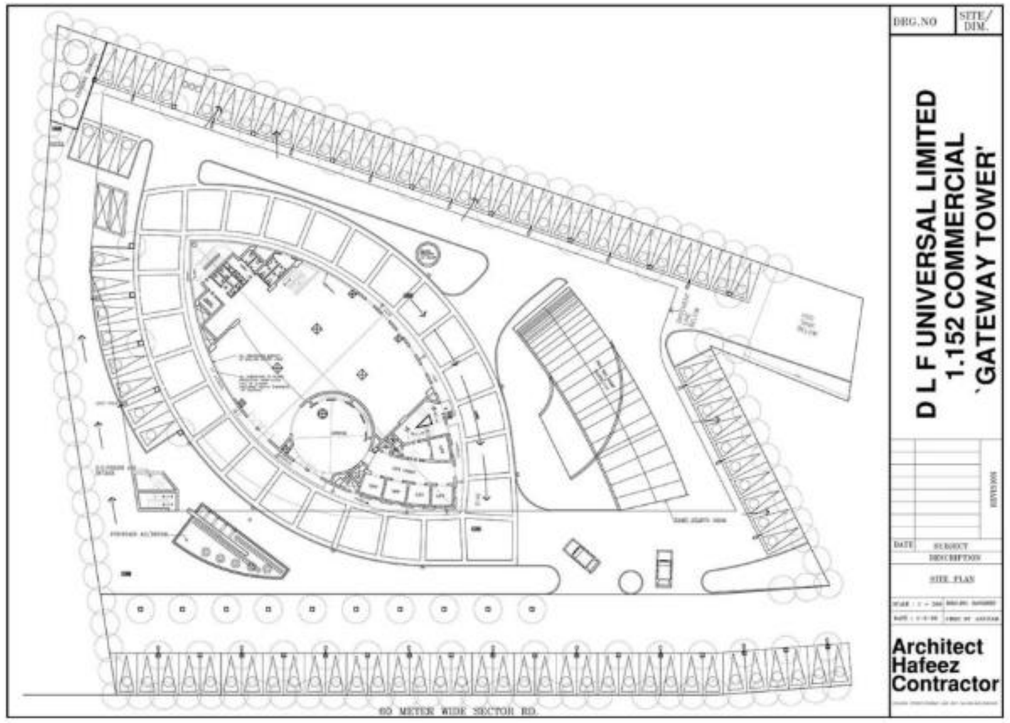
DLF CYBER CITY EPITOME BUILDING 7A & 7B

- RBS India Development Centre also known as Technology Services India (TSI) is spread over 3 primary locations: Gurgaon, Mumbai and Chennai. Currently TSI delivers high quality support and development across multiple global RBS businesses i.e. Retail Markets, UK Corporate Banking, Global Banking and Markets, Insurance, Global Transaction Services (GTS) and Group Functions.
- Building 7B, a built-to-suit office space developed for RBS is spread across an area of 166,718 sq. ft. It is ideally located on National Highway-8, and is a part of DLF Cybercity. It is in close proximity to the International and domestic Airports and well connected to South, Central & Western Delhi through National Highway - 8 & the Mehrauli – Gurgaon Road.

DLF CYBER CITY EPITOME BUILDING 5 (FLOORPLAN)



DLF GATEWAY TOWER (LAYOUT PLAN)



DLF GATEWAY TOWER (AREA AND PLAN)

Area Sheet	
No. of Floors	Tentative Floor Area
Ground plus 11 floors	Typical Floor Area= 8,000 sq.ft. (approx.) Total Super Area = 85,000 sq.ft. (approx.)

ERICSSON FORUM

- Ericsson Forum represents the **company's Indian Corporate Office and consolidates its multiple offices in the National Capital Region (NCR).** This landmark development is a symbol of brand and its global image.
- Located in **DLF Cyber city** in an area of **170,000 sq.ft.** The complex has been designed to Ericsson's international specifications conforming to the futuristic designs and world-class features.
- **The external façade combined with the six storey high atrium represents a new paradigm in workplace design.**
- Truly this building is distinctive and representative of DLF's capabilities in exacting customer demands for exclusive workspace.

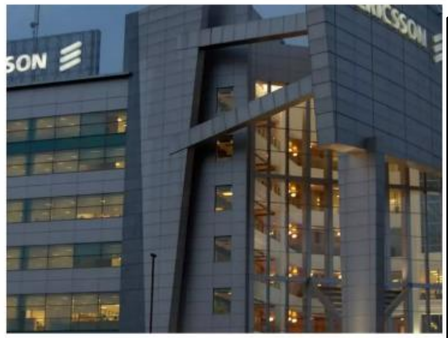
KEY PLAN

ERICSSON FORUM

AREA CHART

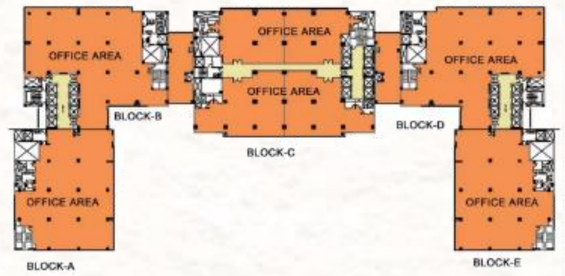
Saleable Area of Building	
Block Area (sq.ft.)	
216,090	
Total Area (sq.ft.)	216,090

ERICSSON FORUM



EXTERNAL FACADE

CYBER GREEN (AREA AND PLAN)



The total IT workspace constitutes 5 blocks		
Blocks	No. of Floors	Block Area (sq.ft.)
Block A	Ground + 10 floors	105,134
Block B	Ground + 14 floors	173,552
Block C	Ground + 18 floors	355,864
Block D	Ground + 14 floors	173,552
Block E	Ground + 10 floors	105,134
	Total Area (sq.ft.)	913,236

CYBER GREEN (SITE LAYOUT)

CYBER GREEN

- This Landmark complex is spread across an area **of 900,000 (approx.) sq.ft**. The complex constitutes five blocks / towers each scaling to 10-18 storeys. Located just off National Highway-8 at the entrance of Gurgaon this **"INTELLIGENT IT ENABLED WORKSPACE"** is well connected to domestic and international airports and south, central and west Delhi.
- Cyber Greens is the first project where DLF pioneered the concept of having amenities block and provision for break-out areas.
- Designed by the renowned **ARCHITECT MOHIT GUJRAL** the architecture incorporates large, efficient floor plates, wide column span and high floor-to-floor clearances, for optimal space utilization. It provides necessary facilities like multi-cuisine food court with a seating capacity of 700, health club and ATMs for the ease and convenience of its tenants.

DIFFERENT BUILDINGS



Clients
Top clients of Building 6

Cognizant, TATA CONSULTANCY SERVICES, Infosys, iYogi, KESC, BT

FLOOR PLAN

Area Details

The total IT workspace constitutes 3 blocks

Blocks
Total Floors
Block Area (sq.ft.)
Block A
Ground + 9 floors
236,428
Block B
Ground + 11 floors
325,691
Block C
Ground + 15 floors
302,496
Total Area (sq.ft.)
864,615

SWOT ANALYSIS

STRENGTH
- **Largest hubs of IT** activity in Delhi- NCR.
- **Cyber hub** is a **massive courtyard** within **cyber city.**
- **Easy approachable** by **Rapid Metro Gurgaon** introduced to cyber city.
- DLF Cyber city are **sustainable** and **ensure energy** and **water conservation**. They are **LEED certified.**
- **IGI Airport** is located in **close proximity** to the Cyber City.

OPPORTUNITIES
- **Growing economy,** rising urbanization, increasing income.
- DLF Cyber city has the **Cyber hub** spread **over 2 lac sq ft**., offers a **one stop destination** for the best and iconic restaurants with specialty cuisines, an **amphitheatre for live entertainment** and a lot more.
- The new and **expansive surface parking** areas can **easily accommodate 4000 cars** and will **enable employees and visitors to simply dash in and out of DLF Cyber city without any hassles.**

- It lies **near Udyog Vihar**, which is a **conventional industrial** area on the opposite side of **NH-8.**

WEAKNESS
- The **DLF phase 2 underpass**, meant to **reduce traffic congestion**, has **ended up adding to traffic chaos** at Cyber City as **confused commuters often miss the turn leading to underpass** and simply drive over the divider to cross over too the road going towards New Delhi.
- The **signage are poorly placed** and **very small**, making it **difficult** for commuters to **spot them.**

THREATS
- **No space** for **future expansion**.
- **Air pollution** is a **major threat** which is produced by **growing traffic inside the city.**

BUILDING -10

An integrated technology Park offering modern workspace to IT/ITES companies. Offering a world-class contemporary structure, Bldg. 10 is a spectacular complex comprising of a plethora of futuristic amenities, which together provide an interactive environment required for new age IT professionals.

Clients
Top clients of Building 10

ExxonMobil, FLUOR DANIEL, indus TOWERS, AIRCEL, pwc, BCG, Deloitte.

BUILDING - 14

DLF IQ: Benchmarked to perfection
The modern and well planned work spaces of DLF IQ lend a distinctive appeal to this aesthetically designed architectural wonder. Spread over 2 million sq.ft. approx, the building has four interconnected blocks, each block offering an intelligent IT/ITES SEZ workplace tonew age professionals. Benchmarked to global standards, the smartly designed work spaces will be instrumental intransforming your worklife to a considerable extent. The office blocks are designed to ensure a dynamic interplay of open and enclosed spaces. The overall development has a campus feel, with buildings and landscape visually integrated in to one complete environment.

BUILDING -8

World class development located just off the national Highway-8 in DLF Cyber City Gurgaon . DLF Innov8 is spread across an area of approx 1.4 million sq. ft. It is divided into 3 blocks (8A, 8B & 8C), with a range of 4-9 floors.
Conforming to modern work environment, facilities like food court, ATM and retail outlets, forms an integral part of the complex.
The Design incorporates large efficient floor plates, wide column span and high floor to floor clearance, for optimal space utilization. The building structure is designed to Seismic zone V specifications for greater earthquake resistance and is structurally NFPA compliant.

Area Details
The total IT workspace constitutes 3 blocks
Blocks
No. of Floors
Block Area (sq.ft.)
Block A
Ground + 5 floors
313,023
Block B
Ground + 8 floors
490,993

Block C
Ground + 15 floors
832,058
Retail Ground Floor
63,927
Retail First Floor
52,230
Total Area (sq.ft.)
1,752,231

FLOOR PLAN

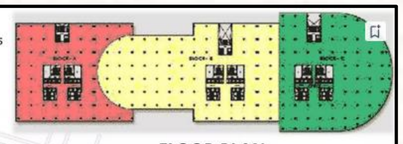
Clients
Top clients of Innov8

ORACLE, Google, accenture, YES BANK, YAHOO!

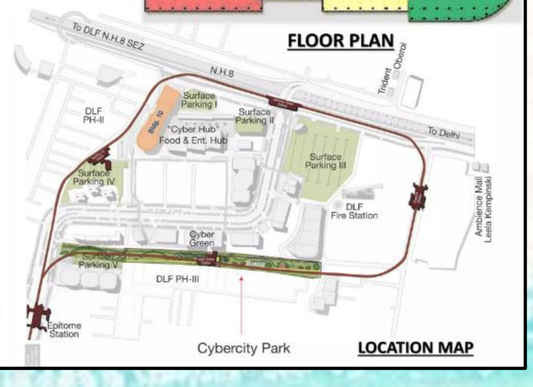
SITE LAYOUT

Area Details
The total IT workspace constitutes 3 blocks
Blocks
No. of Floors
Block Area (sq.ft.)
Block A
Ground + 5 floors
381,998
Block B
Ground + 14 floors
705,026
Block C
Ground + 20 floors
1,191,813
Block A Retail
Upper Ground
60,091
Block B Retail
Upper Ground
31,269
Block C Retail
Upper Ground
50,723

Total Area (sq.ft.)
2,420,920



FLOOR PLAN



LOCATION MAP

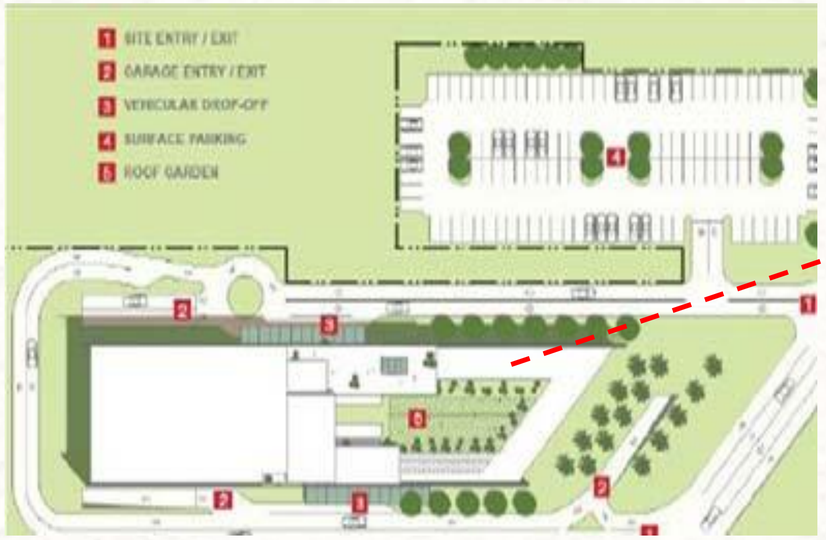
Area Details
The total IT workspace constitutes 4 blocks
Blocks
No. of Floors
Block Area (sq.ft.)
Block A
Ground + 9 floors
203,116
Block B
Ground + 17 floors
383,963
Block C
Ground + 19 floors
686,620
Block D
Ground + 20 floors
744,205

Total Area (sq.ft.)
2,017,904

LOCATION MAP

FLOOR PLAN

UNITECH SIGNATURE TOWERS, GURGAON



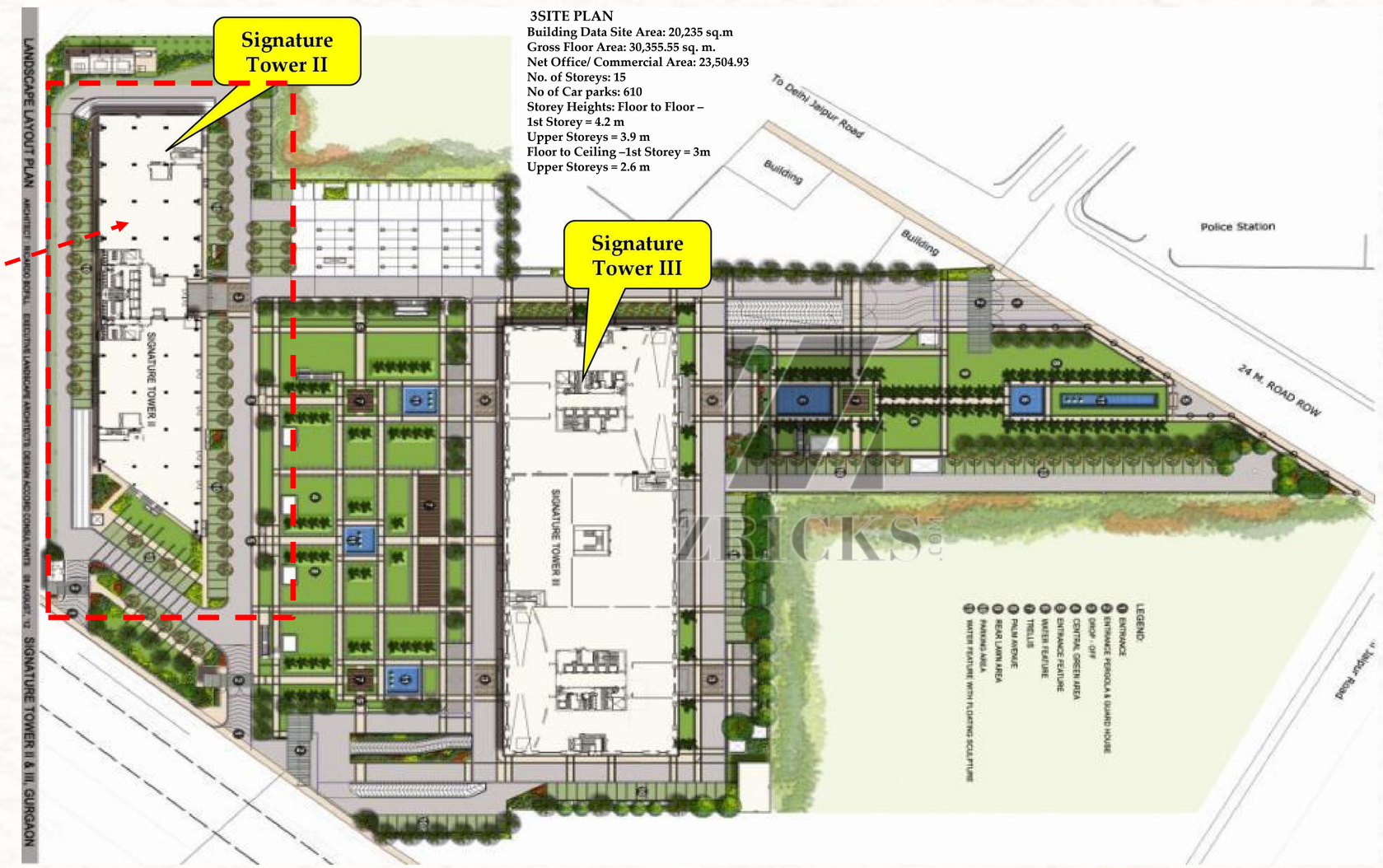
UNITECH SIGNATURE TOWERS2 GURGAON

"WITH AN IDENTITY THAT'S UNIQUE, SIGNATURE TOWERS HAS BECOME ONE OF THE BEST-DESIGNED OFFICE COMPLEXES IN INDIA. FROM THE ELEGANT FOYER TO THE MODERN AMENITIES, THERE'S A NEAT DESIGN LANGUAGE ALL OVER. MANY LEADING MULTINATIONAL AND INDIAN COMPANIES, AS WELL AS UNITECH, HAVE CHOSEN TO OPERATE THEIR BUSINESSES FROM SIGNATURE TOWERS, THANKS TO ITS PERFECT LOCATION JUST A FEW HUNDRED METERS OFF NATIONAL HIGHWAY 8 IN GURGAON."

MATERIALS AND FACADE

BUILDING FINISHES:
•EXTERNAL FAÇADE: REFLECTIVE GLASS CURTAIN WALL AND FLUOROCARBON-COATED ALUMINIUM PANEL CLADDING SYSTEM.
•ARTICULATED GRANITE CLADDING AT 1ST AND 2ND STOREY COLUMNS AND FASCIA.
•1ST STOREY CONCOURSE STONE FLOORING: QUALITY POLISHED MARBLE/GRANITE.
•SALEABLE/TENANTED AREA QUALITY POLISHED MARBLE/GRANITE AT LIFT LOBBIES.
•CEMENT/SAND SCREED READY FOR TENANT'S/OCCUPANT'S FLOOR SYSTEM TO OFFICE AND TENANTED AREAS.
WALLS:
•1ST STOREY CONCOURSE: QUALITY POLISHED GRANITE MARBLE CLADDING TO WALL SAND COLUMNS, TOUGHENED/TEMPERED GLASS SCREEN, GLASS DOOR TO THE EXTERIOR.
•SALEABLE/TENANTED AREA LIFT LOBBIES: QUALITY POLISHED GRANITE/MARBLE CLADDING.
•OFFICES: CEMENT/SAND PLASTERED WALL WITH EMULSION PAINT FINISH.
CEILINGS:
•1ST STOREY CONCOURSE & LIFT LOBBIES: SPECIALLY DESIGNED CALCIUM FRAMING, MONOLITHIC FINISH WITH EMULSION PAINT.
•SALEABLE/TENANTED SPACE: MINERAL FIBRE BOARD CEILING WITH ALUMINIUM SUSPENSION FRAMING.

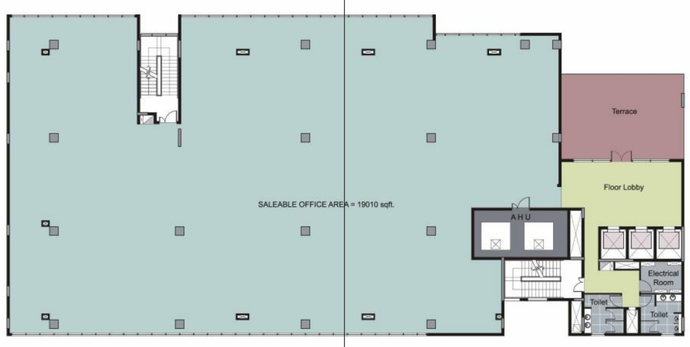
3SITE PLAN
Building Data Site Area: 20,235 sq.m
Gross Floor Area: 30,355.55 sq. m.
Net Office/ Commercial Area: 23,504.93
No. of Storeys: 15
No of Car parks: 610
Storey Heights: Floor to Floor –
1st Storey = 4.2 m
Upper Storeys = 3.9 m
Floor to Ceiling –1st Storey = 3m
Upper Storeys = 2.6 m



UNITECH SIGNATURE TOWERS2 GURGAON

Level 1 Plan

Level 2-10 Plan



Signature Towers, Gurgaon

Specifications

STRUCTURE
- RCC Flat slab structure; maximum column spans to ensure high efficiency

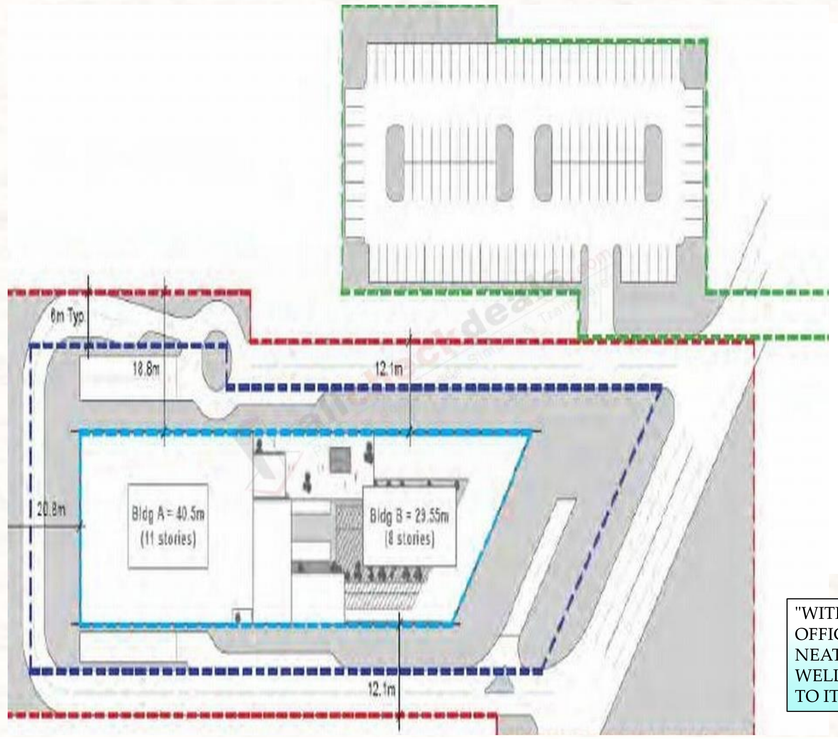
FINISHES
- External facade : Mix of stone, ACP / Paint and Double insulated glass
- Atrium with Marble / granite floor finish as per design
- Elevators Cabs finished with Stainless Steel wall finish, lighting and ceiling as per design

PARKING
- 3 Level Basement parking
- Additional parking on surface for visitors
- Access Control barrier with proposed electronic card swipe for basement parking

AIR CONDITIONING
- Centrally air-conditioned building with independent AHU's for each floor. Separate AHU's for common areas

POWER BACK-UP
- 100% power back-up provided for Lighting, Power and AC

OTHER ITEMS
- BMS and Control System monitoring the principal operations of the building, and fully integrated with the security, fire alarm, and lift operating systems



Amenities of Signature Towers

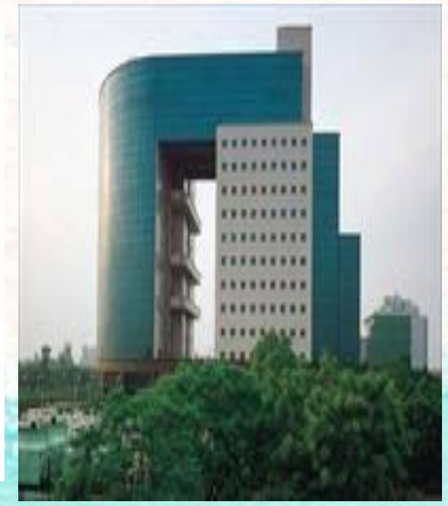
- RO Water
- 24 Hrs. Water
- 24x7 Power Backup
- Reserved Parking
- Shopping Complex
- Lift
- Visitor Parking
- Landscape Garden
- Club House
- Party lawns
- Security System
- Laundry Service
- Waste Disposal
- Maintenance Staff
- Water Storage

"WITH AN IDENTITY THAT'S UNIQUE, SIGNATURE TOWERS HAS BECOME ONE OF THE BEST-DESIGNED OFFICE COMPLEXES IN INDIA. FROM THE ELEGANT FOYER TO THE MODERN AMENITIES, THERE'S A NEAT DESIGN LANGUAGE ALL OVER. MANY LEADING MULTINATIONAL AND INDIAN COMPANIES, AS WELL AS UNITECH, HAVE CHOSEN TO OPERATE THEIR BUSINESSES FROM SIGNATURE TOWERS, THANKS TO ITS PERFECT LOCATION JUST A FEW HUNDRED METERS OFF NATIONAL HIGHWAY 8 IN GURGAON."

Millennium Plaza, Gurgaon

Global Business Park, Gurgaon

Unitech Business Park, Gurgaon



COMPARATIVE ANALYSIS

Feature	Kohinoor Square, Mumbai	Spire Edge, Manesar, Gurugram	Cyber Hub, Gurgaon	Unitech Signature Tower 2&3, Gurgaon
Location	Mumbai	Manesar, Gurugram	Gurgaon	Gurgaon
Building Heights	Tall towers (48)	Multi-story (21)	Tall towers (20)	Mid-rise (10)
Architectural Styles	Modern	Contemporary	Modern	Modern
Features & Characteristics	Iconic design, mixed-use development	Futuristic, tech-enabled	Social hub, urban plaza	High-end, luxurious
Footfall	High	Moderate	High (40,000)	High
Exterior Design	Glass facade, sleek	Glass and steel, futuristic	Modern facade, vibrant	Glass facade, contemporary
Breathing Architecture	Ventilation systems, green spaces	Natural light, green building certs	Outdoor spaces, open design	Ventilation systems, green elements
Landscaping	Limited	Landscaped grounds	Outdoor plaza, green areas	Limited
Corridors	Wide, well-lit	Spacious	Open, connecting spaces	Wide, elegantly designed
Connectivity (Inside & Outside)	Well-connected	Accessible via highways	Urban environment, walkable	Well-connected, urban
Mixed-Use Components	Commercial, Residential	Commercial, Office	Retail, Dining	Commercial, Office
Amenities	Fitness center, Parking, Retail spaces	Cafeteria, Parking, Recreational areas	Restaurants, Bars, Entertainment	Fitness center, Parking, Retail spaces
Sustainability Features	Green building design, energy-efficient	Green Building Certification	Green Spaces, eco-friendly design	Energy-efficient design
Iconic Features	Landmark status, unique architecture	Futuristic design, tech integration	Social hotspot, vibrant atmosphere	Modern architectural design
Impact on Surroundings	Enhances skyline, urban development	Landmark in Manesar, tech city	Social hub, community integration	Enhances skyline, urban development
Site and Circulation	Well-planned layout, easy navigation	Efficient traffic flow	Open layout, pedestrian-friendly	Structured layout, easy navigation

INFERENCES

- ARCHITECTURAL DIVERSITY: EACH BUILDING SHOWCASES A DISTINCT ARCHITECTURAL STYLE, FROM MODERN TO CONTEMPORARY, CATERING TO DIFFERENT PREFERENCES AND URBAN CONTEXTS.
- FUNCTIONAL VARIETY: MIXED-USE COMPONENTS VARY, INCLUDING COMMERCIAL, RESIDENTIAL, OFFICE, RETAIL, AND RECREATIONAL SPACES, CATERING TO DIVERSE NEEDS WITHIN THE COMMUNITY.
- URBAN INTEGRATION: BUILDINGS LIKE CYBER HUB AND UNITECH SIGNATURE TOWER ARE DESIGNED AS SOCIAL HUBS, SEAMLESSLY INTEGRATING WITH THEIR URBAN SURROUNDINGS, PROMOTING COMMUNITY ENGAGEMENT.
- TECHNOLOGICAL INTEGRATION: SPIRE EDGE STANDS OUT FOR ITS FUTURISTIC DESIGN AND TECH-ENABLED FEATURES, REFLECTING ADVANCEMENTS IN ARCHITECTURE AND URBAN PLANNING.
- AMENITIES AND SUSTAINABILITY: BUILDINGS PRIORITIZE AMENITIES SUCH AS FITNESS CENTERS, PARKING, GREEN SPACES, AND ENERGY-EFFICIENT DESIGN, ENHANCING QUALITY OF LIFE AND ENVIRONMENTAL SUSTAINABILITY.
- CONNECTIVITY AND ACCESSIBILITY: WELL-CONNECTED LOCATIONS AND EFFICIENT TRAFFIC FLOW ENSURE ACCESSIBILITY BOTH INSIDE AND OUTSIDE THE BUILDINGS, FACILITATING EASE OF MOVEMENT FOR RESIDENTS AND VISITORS.
- IMPACT ON SURROUNDINGS: EACH BUILDING HAS A SIGNIFICANT IMPACT ON ITS SURROUNDINGS, WHETHER THROUGH ENHANCING THE SKYLINE, CREATING SOCIAL HUBS, OR CONTRIBUTING TO THE URBAN FABRIC AND DEVELOPMENT.
- USER EXPERIENCE: WIDE CORRIDORS, VENTILATION SYSTEMS, AND OPEN LAYOUTS PRIORITIZE USER COMFORT AND WELL-BEING, CREATING INVITING SPACES FOR OCCUPANTS.

CONCLUSION

THE ANALYSIS HIGHLIGHTS THE MULTIFACETED NATURE OF MIXED-USE BUILDINGS, EMPHASIZING THEIR ROLE NOT ONLY AS ARCHITECTURAL MARVELS BUT ALSO AS DYNAMIC URBAN SPACES THAT CATER TO DIVERSE NEEDS, FOSTER COMMUNITY INTERACTION, AND CONTRIBUTE TO SUSTAINABLE URBAN DEVELOPMENT.

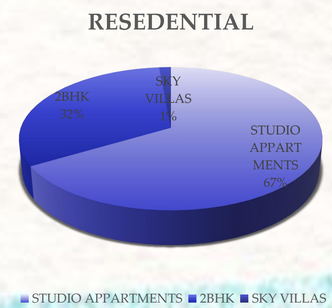
AREA ANALYSIS & REQUIREMENT FORMULATION

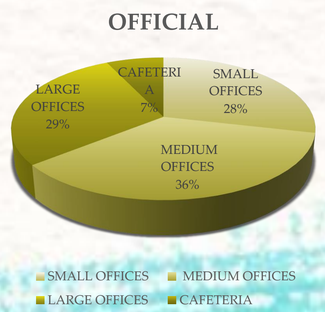
SITE AREA : 39990 SQ. M. (9.8 ACRE)
PERMISSIBLE GROUND COVERAGE AREA : 15996 SQ. M. (40%)

TOTAL ACHIEVED COVERED AREA: 119970 SQ.M.
F.A.R.: 3

Sr. No.	FUNCTIONAL SPACES	STANDARDS AREA PER UNIT	PROPOSAL					REMARKS
			NO. OF PEOPLE	AREA/PERSON	NO. OF UNITS	UNIT AREA	TOTAL AREA	
1	**COMMERCIAL**							
1.1	RETAIL							
	SMALL SHOPS	4-7 SQ. M./PERSON	10	5	32	50	1600	METRIC HANDBOOK
	MEDIUM SHOPS	4-7 SQ. M./PERSON	20	5	18	100	1800	METRIC HANDBOOK
	LARGE SHOPS	4-7 SQ. M./PERSON	40	5	36	200	7200	METRIC HANDBOOK
	ANCHOR SHOPS	4-7 SQ. M./PERSON	200	5	5	1000	5000	METRIC HANDBOOK
	HYPER MARKETS	4-7 SQ. M./PERSON	500	5	4	2500	10000	METRIC HANDBOOK
1.2	**ATRIUM**	0.9 SQ. M/ PERSON	2000	0.9	1	1800	1800	
1.3	**TOILETS (MALE)**							
	W.C.	1/25 PERSON	3602	1.6	84	1.6	134	MBBL
	URINALS	1/20 PERSON	3602	0.75	84	0.75	63	MBBL
	WASH BASINS	1/25 PERSON	3602	0.6	84	0.6	50	MBBL
	TOILETS (FEMALES)							
	W.C.	1/15 PERSON	2948	1.6	105	1.6	168	MBBL
	WASH BASINS	1/15 PERSON	2948	0.6	84	0.6	50	MBBL
1.4	**RESTAURENTS**							
	RESTURENTS/ CAFÉ	1.8 SQ. M./PERSON	150	1.8	10	250	2500	NBC
	KITCHEN	30-40%					405	NBC
	TOILETS (MALE)							
	W.C.	1/50 PERSON	412	1.6	20	1.6	32	MBBL
	URINALS	1/50 PERSON	412	0.75	20	0.75	11.4	MBBL
	WASH BASINS	1/50 PERSON	412	0.6	10	0.6	5.4	MBBL
	TOILETS (FEMALES)							
	W.C.	1/25 PERSON	338	1.6	20	1.6	32	MBBL
	WASH BASINS	1/25 PERSON	338	0.6	20	0.6	5.4	MBBL
1.5	**FOOD COURT**							
	SEATING AREA	1.8 SQ. M./PERSON	500	1.8	1	750	900	NBC
	KITCHEN AREA	30-40%					270	NBC
	TOILETS (MALE)							
	W.C.	1/50 PERSON	275	1.6	6	1.6	9.6	MBBL
	URINALS	1/50 PERSON	275	0.75	6	0.75	4.5	MBBL
	WASH BASINS	1/50 PERSON	275	0.6	6	0.6	3.6	MBBL
	TOILETS (FEMALES)							
	W.C.	1/25 PERSON	225	1.6	9	1.6	14.4	MBBL
	WASH BASINS	1/25 PERSON	225	0.6	9	0.6	5.4	MBBL
1.6	CIRCULATION (15%)						4770	TIME SAVER
2	**OFFICIAL**							
2.1	RECEPTION	2 SQ.M./PERSON	2	4	20	8	160	NBC
2.2	SMALL OFFICES	10 SQ.M./PERSON	10	10	44	100	4400	NBC
2..3	MEDIUM OFFICES	10 SQ.M./PERSON	20	10	55	200	11000	NBC
2.4	LARGE OFFICES	10 SQ.M./PERSON	30	10	44	300	13200	NBC
2.5	CAFETERIA	1.8 SQ.M./PERSON	1000	1.8	11	100	1100	NBC
2.6	CIRCULATION (15%)						9243	TIME SAVER
3	**RESEDENTIAL**							
3.1	STUDIO APPARTMENTS	50-60 SQ. M.			162	60	9720	NUEFERTS
3.2	2 BHK	100-150 SQ. M.			78	120	9360	NUEFERTS
3.3	SKY VILLAS/ PENT HOUSE	500 SQ. M.			12	400	4800	NUEFERTS
3.4	CIRCULATION (15%)						15400	TIME SAVER

Sr. No.	FUNCTIONAL SPACES	STANDARDS AREA PER UNIT	PROPOSAL					REMARKS
			NO. OF PEOPLE	AREA/PERSON	NO. OF UNITS	UNIT AREA	TOTAL AREA	
4	**RECREATIONAL**							
4.1	KID'S ZONE	2.7 SQ. M./PERSON	100	6	1	600	600	TIME SAVER
4.2	GYM	6.5 SQ. M./PERSON	100	6.5	2	650	650	NUEFERTS
4.3	SPA	6-8 SQ. M./PERSON	50	7	1	350	350	TIME SAVER
4.4	LOUNGE				2	1000	2000	TIME SAVER
4.5	**TOILETS (MALE)**							
	W.C.	1/25 PERSON	600	1.6	32	1.6	51.2	MBBL
	URINALS	1/20 PERSON	600	0.75	40	0.75	30	MBBL
	WASH BASINS	1/25 PERSON	600	0.6	32	0.6	19.2	MBBL
	TOILETS (FEMALES)							
	W.C.	1/15 PERSON	500	1.6	44	1.6	70.4	MBBL
	WASH BASINS	1/15 PERSON	500	0.6	44	0.6	26.4	MBBL
	CIRCULATION (15%)						1540	MBBL
5	**ADMINISTRATIVE**							
5.1	ENTERANCE LOBBY	1.5 SQ. M./PERSON	100	1.5	1	150	200	TIME SAVER
5.2	DIRECTOR'S OFFICE				1	15	15	TIME SAVER
5.3	MANAGER'S OFFICE				2	30	60	
5.4	MAINTAINANCE	2.5 SQ. M./PERSON	20	2.5	2	50	100	
5.5	ACCOUNTS/BILLING	2.5 SQ. M./PERSON	20	2.5	1	50	50	NEUFERTS
5.6	RECORD ROOM				1	30	30	
5.7	CONFERENCE ROOM	2.7SQ. M./PERSON	20	2.7	1	54	54	TIME SAVER
5.8	STORE				1	30	30	TIME SAVER
5.9	**TOILETS (MALE)**							
	W.C.	1/25 PERSON	100	1.6	4	1.6	6.4	MBBL
	URINALS	1/20 PERSON	100	0.75	5	0.75	3.75	MBBL
	WASH BASINS	1/25 PERSON	100	0.6	4	0.6	2.4	MBBL
	TOILETS (FEMALES)							
	W.C.	1/15 PERSON	80	1.6	7	1.6	11.2	MBBL
	WASH BASINS	1/15 PERSON	80	0.6	7	0.6	4.2	MBBL
5.10	CIRCULATION (15%)						84	
6	**SERVICE ZONE**							
6.1	SERVICE FLOORS	AFTER EVERY 6TH FLOOR		8	1100	8800		NBC
6.2	SERVICE CORE	EVERY 30M RADIUS		4				NBC
6.3	LIFTS	EVERY 30M RADIUS		28				NBC
6.4	LIFT LOBBIES	EVERY 30M RADIUS		6				NBC
6.5	STAIRCASES	EVERY 30M RADIUS		5				NBC





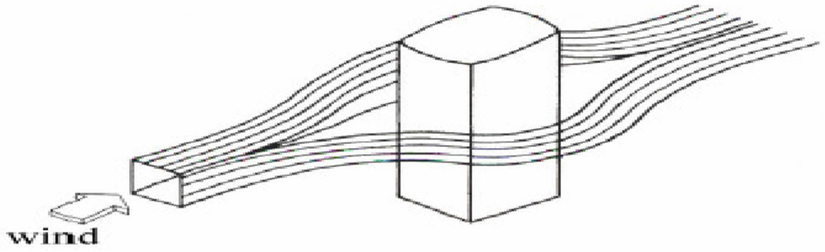
CONCEPT

WHAT IS AIRHIVE?

THE AIRHIVE CONCEPT REVOLVES AROUND THE STRATEGIC MANAGEMENT OF AIR FLOW WITHIN ARCHITECTURAL SPACES TO ENHANCE ENVIRONMENTAL COMFORT AND ENERGY EFFICIENCY.

THIS PHENOMENON EMPHASIZES THE IMPORTANCE OF DIRECTING AND DISTRIBUTING AIR THROUGH A NETWORK OF CHANNELS OR "HIVES" IN A BUILDING. THESE CHANNELS ARE DESIGNED TO ENSURE OPTIMAL VENTILATION, TEMPERATURE REGULATION, AND AIR QUALITY BY GUIDING THE FLOW OF AIR IN VARIOUS DIRECTIONS ACCORDING TO SPECIFIC NEEDS.

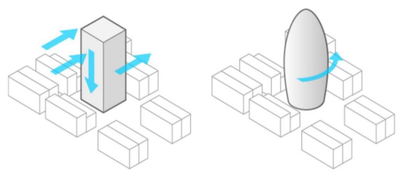
IMPLEMENT AIRHIVE IN A MIXED-USE BUILDING TO ENSURE OPTIMAL AIR FLOW, ENHANCE ENERGY EFFICIENCY, AND MAINTAIN HEALTH AND COMFORT ACROSS RESIDENTIAL, OFFICE, AND RETAIL SPACES THROUGH INTEGRATED, ADAPTIVE VENTILATION SYSTEMS.



SOLUTIONS:

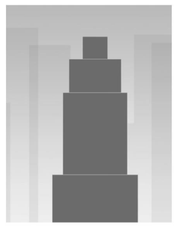
1. SMOOTHENING/ CURVING THE EDGES

SMOOTHENING OR CURCVING THE EDGES OF A BUILDING WILL TACKLE THE PRESSURE OF WIND AND DISTRIBUTE IT IN MULTIPLE DIRECTIONS.



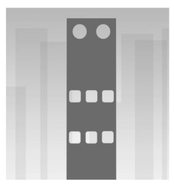
2. TAPERING OR SETBACKING THE TOWER

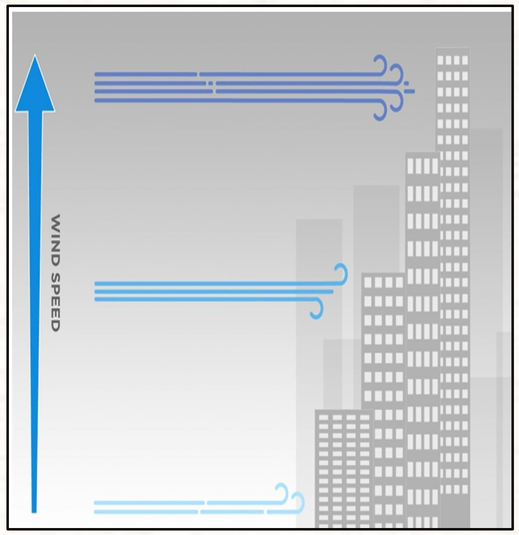
THIS IS THE BEST AND MENDATORY WAY TO DISTRIBUTE THE WIND FLOW IN DIFFERENT DIRECTIONS AS WELL AS IMPORTANT FOR THE DISTRIBUTION OF LOAD IN A MULTIDIRECTIONAL WAY,



2. PROVIDING CUTOUTS AND OPENINGS

THIS TCHNIQUE THE CAN REDUCE THE WIND PRESSURE AS WELL AS ALLOW THE AIR TO FLOW THROUGH AND AROUND THE BUILING MASS.





AERODYNAMICS IS THE STUDY OF HOW OBJECTS MOVE THROUGH AIR. IT EXPLAINS THE PRINCIPLES THAT ENABLE AN AIRPLANE TO FLY. ANY OBJECT MOVING THROUGH AIR IS INFLUENCED BY AERODYNAMIC FORCES. THE CHALLENGE LIES IN UNDERSTANDING AND OPTIMIZING THESE FORCES TO IMPROVE EFFICIENCY AND PERFORMANCE IN AVIATION, AUTOMOTIVE DESIGN, AND VARIOUS OTHER FIELDS.

KEY ASPECTS OF THE AIRHIVE CONCEPT:

1- VENTILATION EFFICIENCY: ENSURES EVEN DISTRIBUTION OF FRESH AIR, REDUCING STAGNANT AIR POCKETS AND IMPROVING INDOOR AIR QUALITY THROUGH INTERCONNECTED CHANNELS.

2- TEMPERATURE REGULATION: MAINTAINS CONSISTENT TEMPERATURES BY DIRECTING AIR TO COOLER OR WARMER AREAS AS NEEDED, ENSURING BALANCED THERMAL ENVIRONMENTS.

3- ENERGY CONSERVATION: REDUCES HVAC SYSTEM LOAD, LOWERING ENERGY CONSUMPTION AND OPERATIONAL COSTS FOR GREATER SUSTAINABILITY.

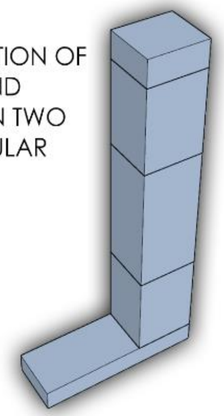
4- ADAPTABILITY: ADJUSTS AIR FLOW BASED ON ENVIRONMENTAL CONDITIONS AND OCCUPANCY LEVELS, INCREASING EFFICIENCY DURING PEAK TIMES AND REDUCING IT WHEN UNOCCUPIED.

5- DESIGN INTEGRATION: SEAMLESSLY BLENDS INTO ARCHITECTURAL DESIGN WITH HIDDEN DUCTWORK AND STYLISH VENTS, ENHANCING BOTH AESTHETICS AND FUNCTIONALITY.

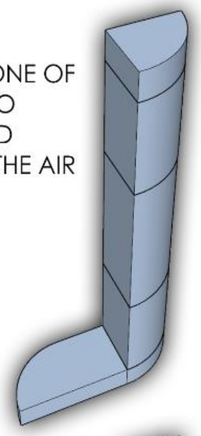
6- HEALTH AND COMFORT: ENSURES A STEADY SUPPLY OF FRESH AIR AND OPTIMAL HUMIDITY, PROMOTING OCCUPANT HEALTH AND COMFORT, CRUCIAL FOR OFFICES, SCHOOLS, AND HEALTHCARE FACILITIES.

FORM EVOLUTION

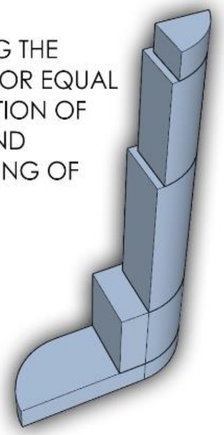
1. FROMULATION OF TOWER AND PODIUM IN TWO RECTENGULAR BLOCKS.



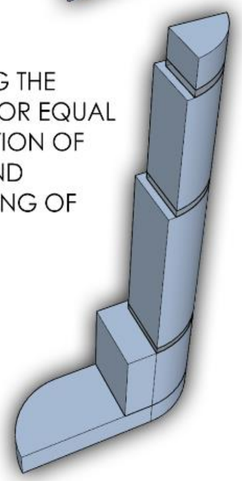
2. CURVING ONE OF THE EDGE TO TACKLE AND DISTRIBUTE THE AIR PRESSURE



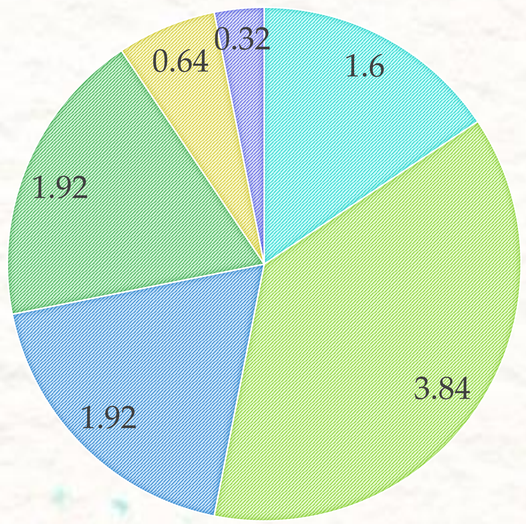
3. TAPERING THE TOWER FOR EQUAL DISTRIBUTION OF LOAD AND CONFUSING OF WIND.



4. TAPERING THE TOWER FOR EQUAL DISTRIBUTION OF LOAD AND CONFUSING OF WIND.



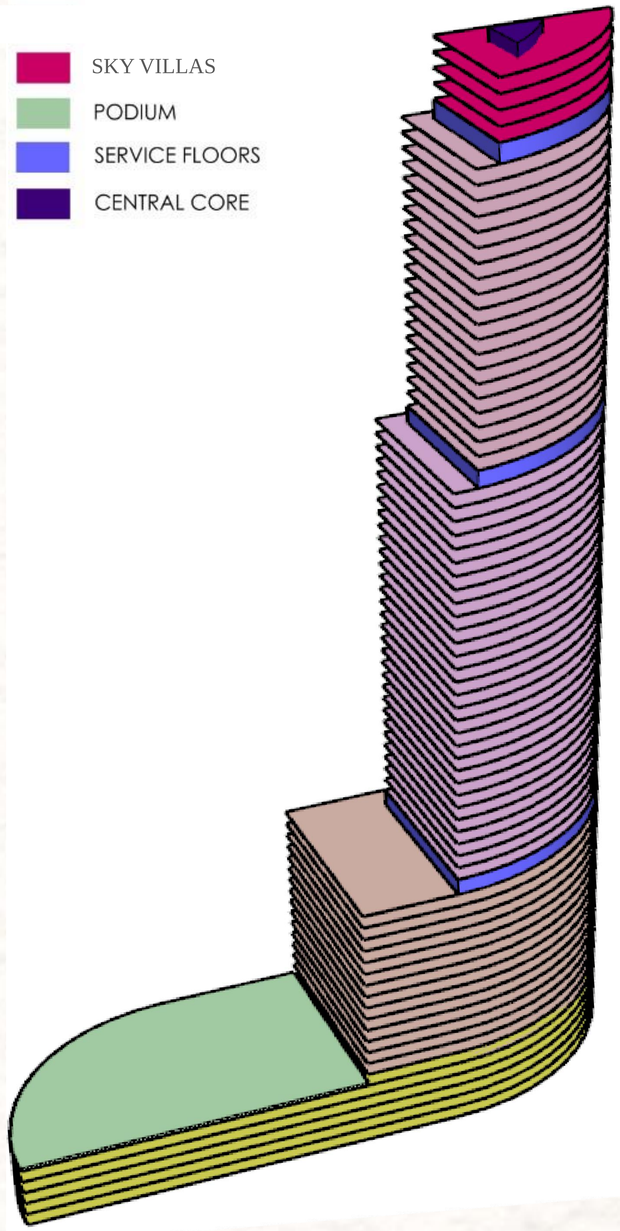
MIX AREA USE DISTRIBUTION



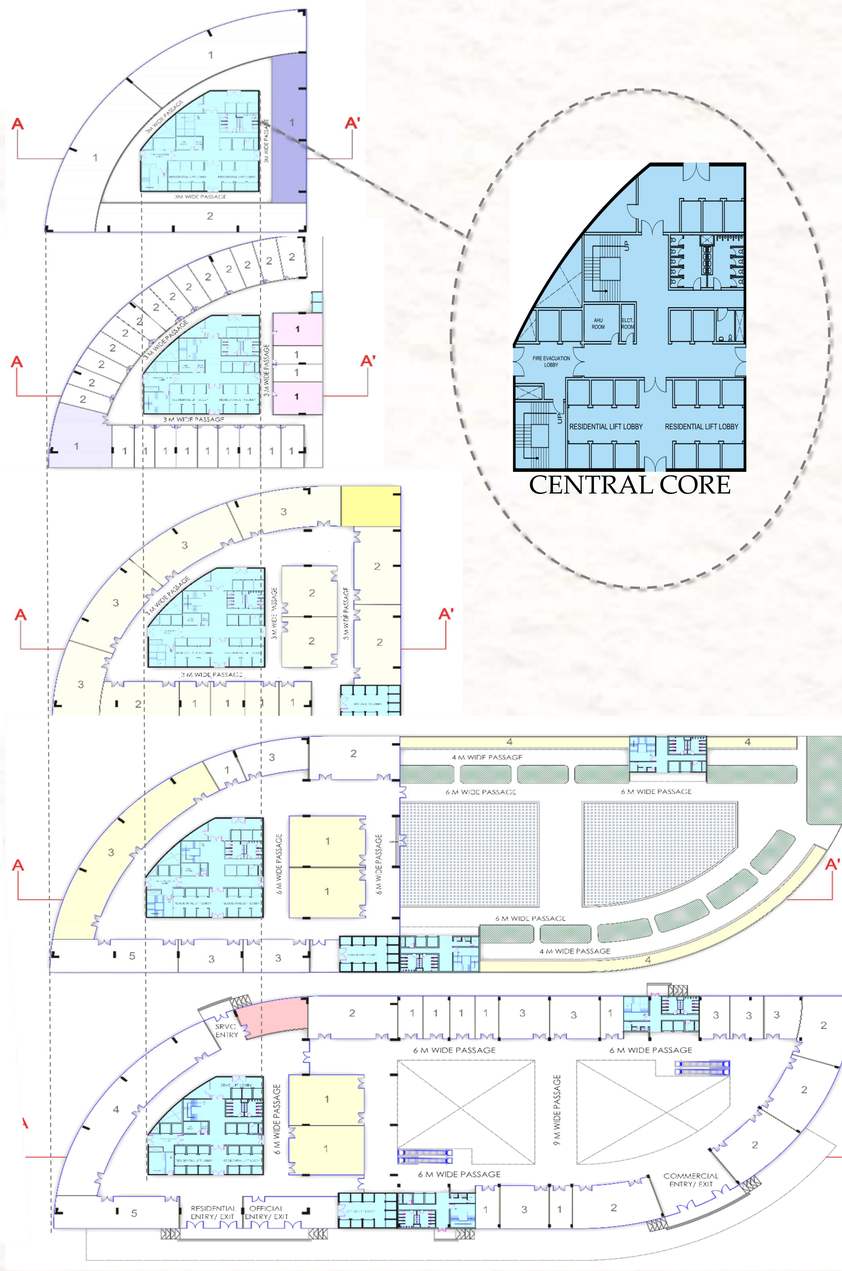
- COMMERCIAL/RETAIL
- OFFICE SPACE
- STUDIO APPARTMENT
- 2BHK
- SKY VILLAS
- RECREATIONAL AREA

ZONING

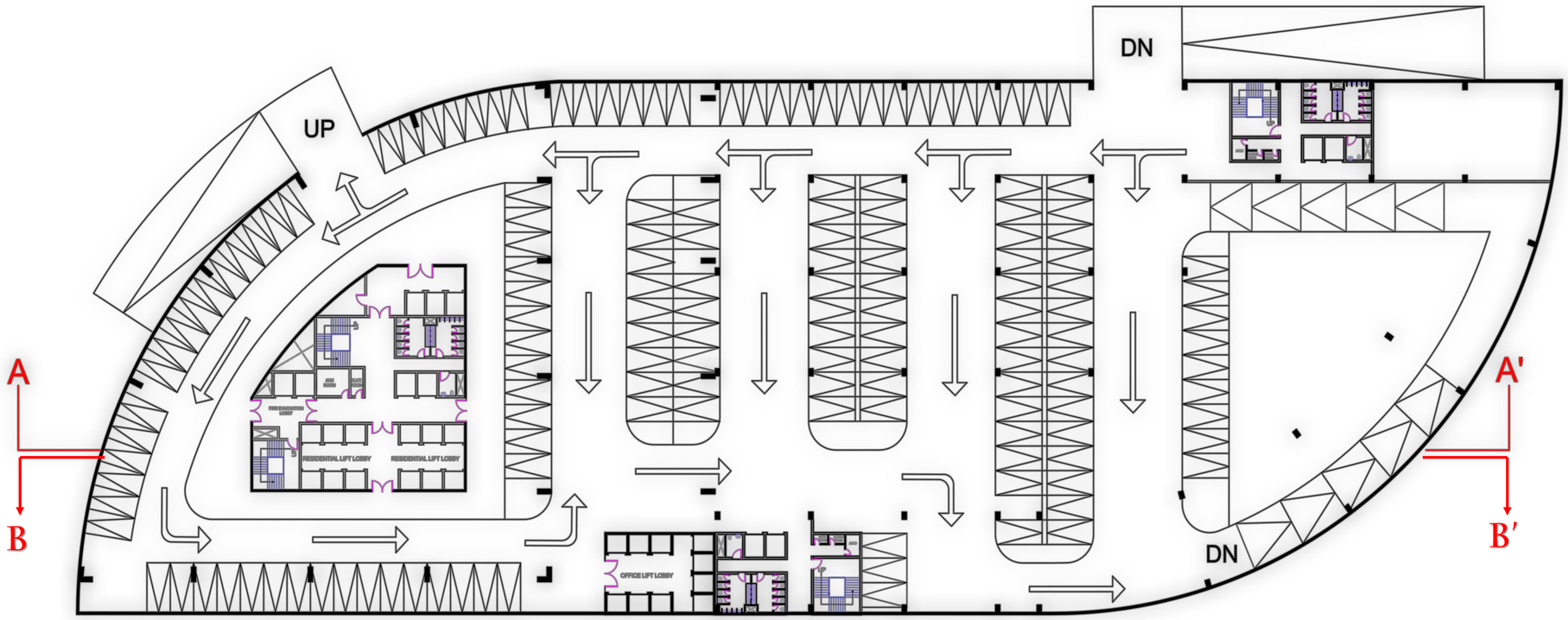
- COMMERCIAL/RETAIL
- OFFICES
- SERVICE APARTMENTS
- SKY VILLAS
- PODIUM
- SERVICE FLOORS
- CENTRAL CORE



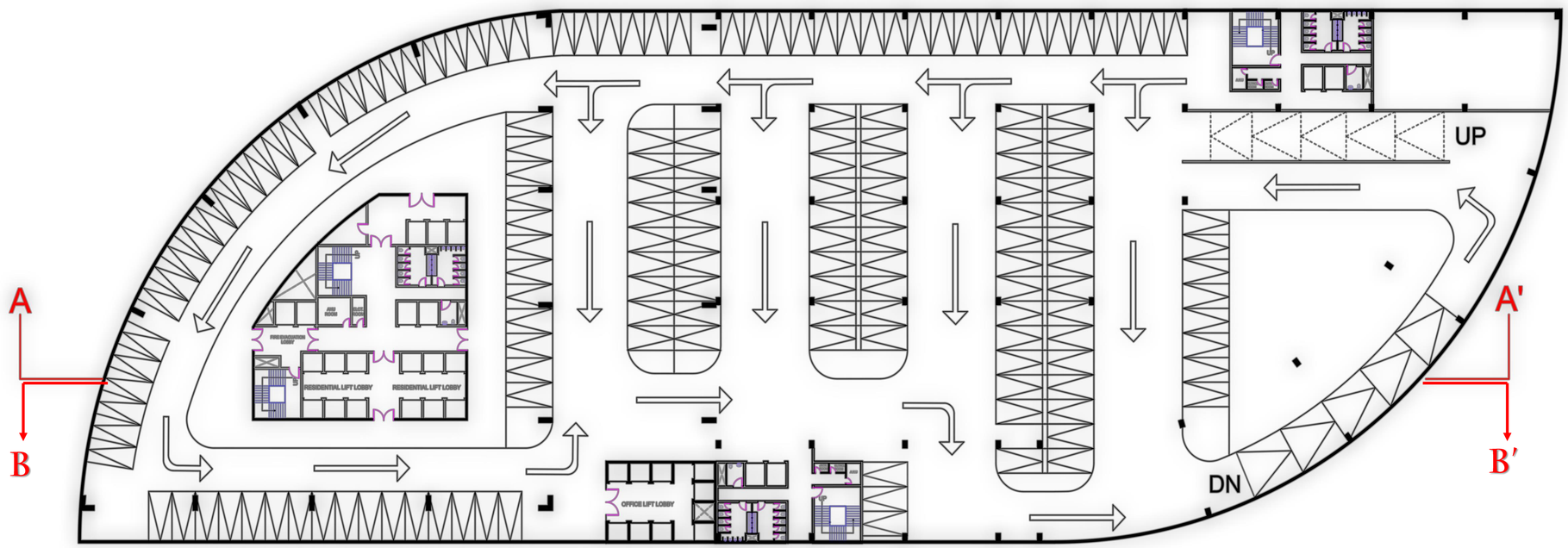
AXONOMETRIC FLOOR PLANS



FLOOR PLANS



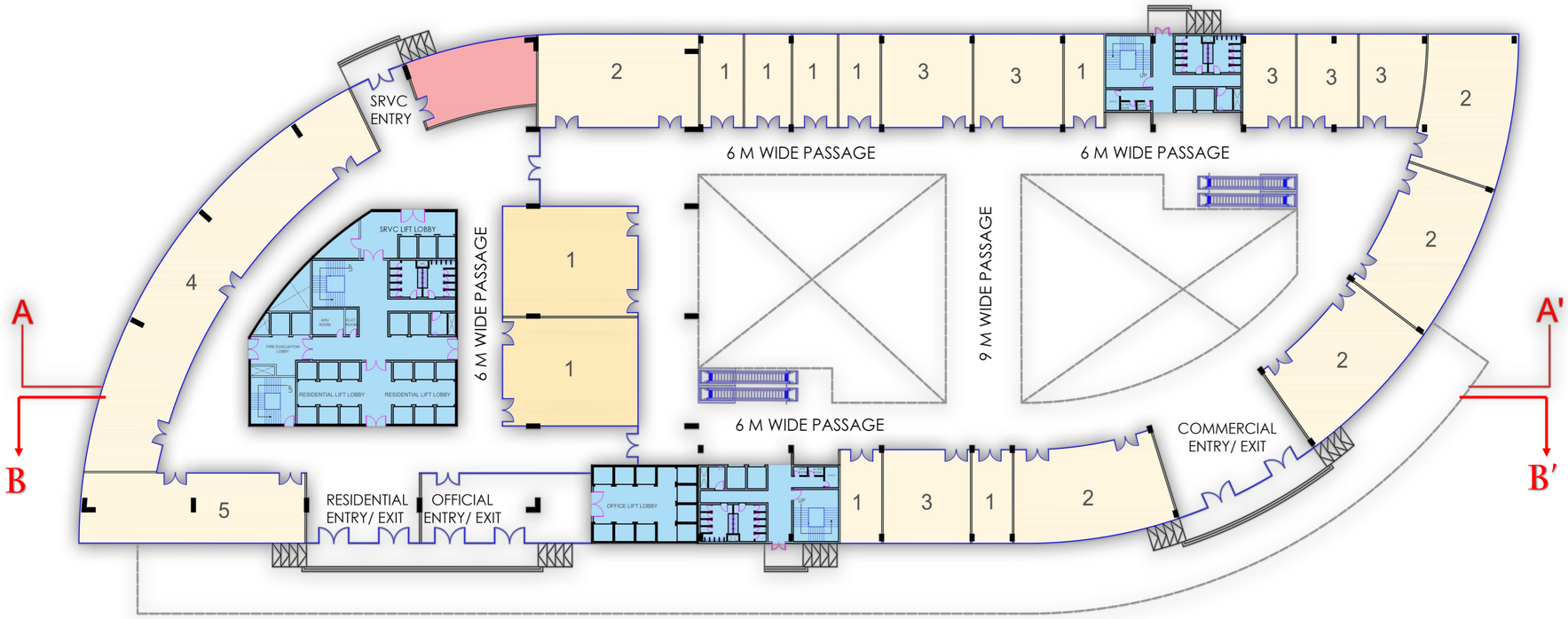
UPPER BASEMENT PLAN



LOWER BASEMENT PLAN

SCALE : 1:300

FLOOR PLANS



GROUND FLOOR PLAN

RETAIL AREA

1. SMALL SHOPS - 50 SQM
1. MEDIUM SHOPS - 100 SQM
3. LARGE SHOPS - 200 SQM
4. HYPER MARKET - 500 SQM
5.ANCHOR SHOPS - 300 SQM

ADMINISTRATION
OFFICE - 100 SQM

1ST AND 2ND FLOOR PLAN

EATING AND RECREA-
-TIONAL AREA

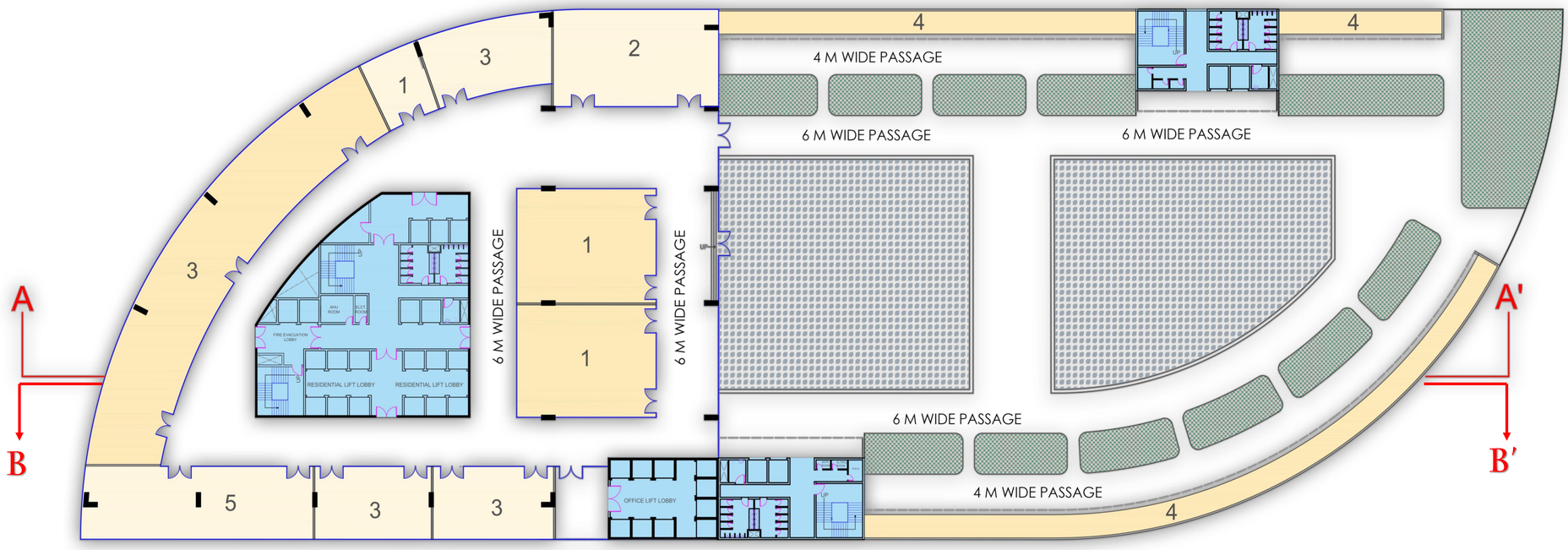
1. RESTAURENTS - 250 SQM
2. KETCHEN AND SERVING AREA - 300 SQM
3. KIDS AND GAMING ZONE - 500 SQM
4. KIOSKS/ TEMPORARY STALLS

SERVICE CORES

SCALE : 1:300

FLOOR PLANS

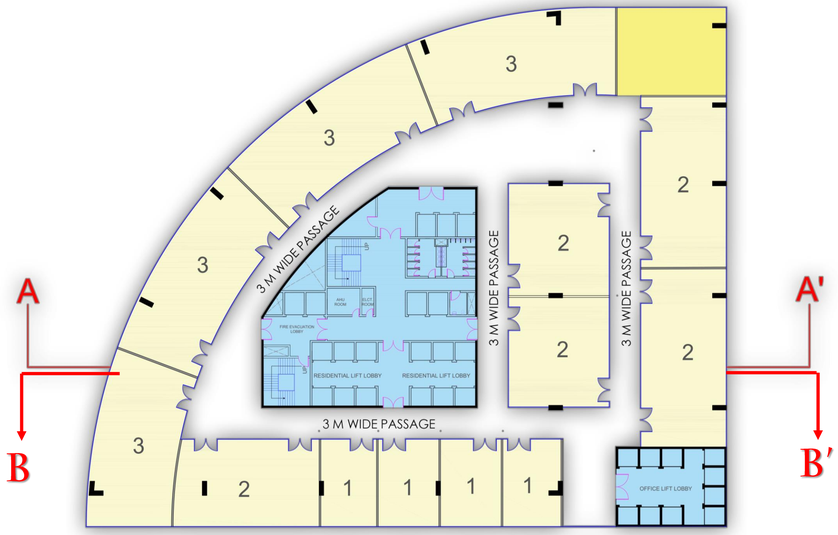
3RD FLOOR PLAN



4TH FLOOR PLAN

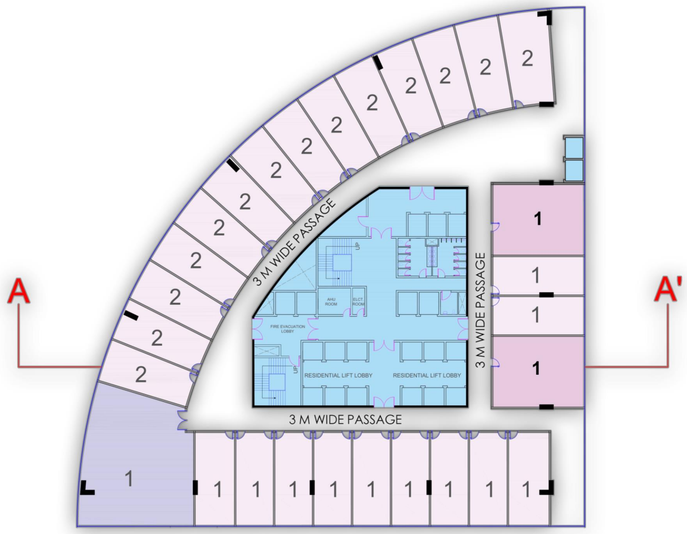
SCALE : 1:300

FLOOR PLANS



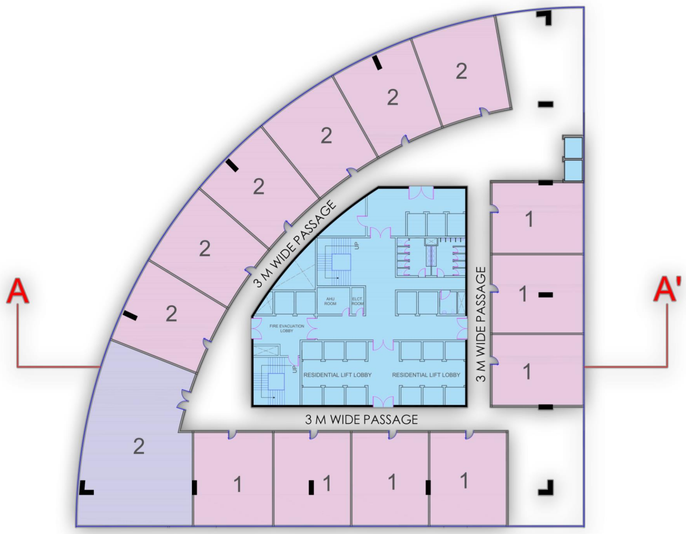
OFFICES TYPICAL FLOOR PLAN

5TH TO 16TH



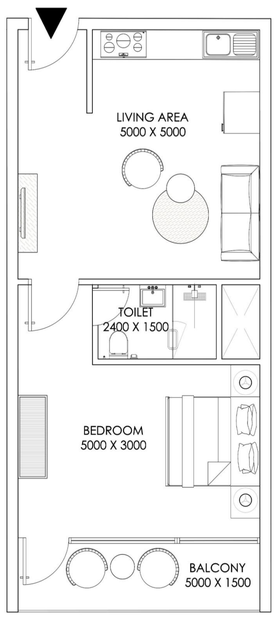
STUDIO APARTMENTS TYPICAL FLOOR PLAN

17TH TO 22TH



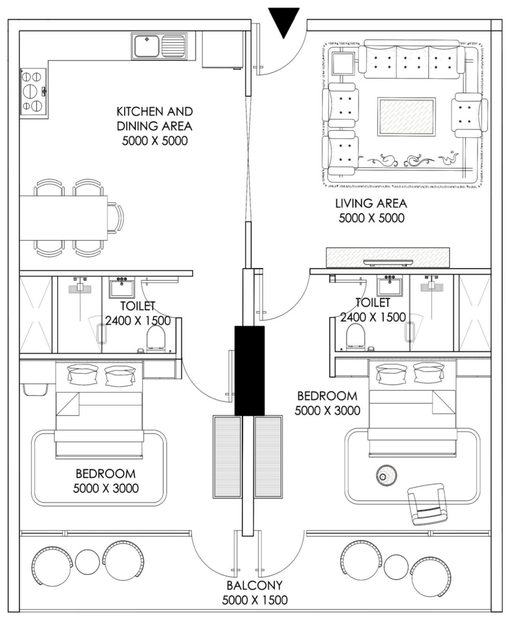
2 BHK APARTMENTS TYPICAL FLOOR PLAN

23TH TO 28TH

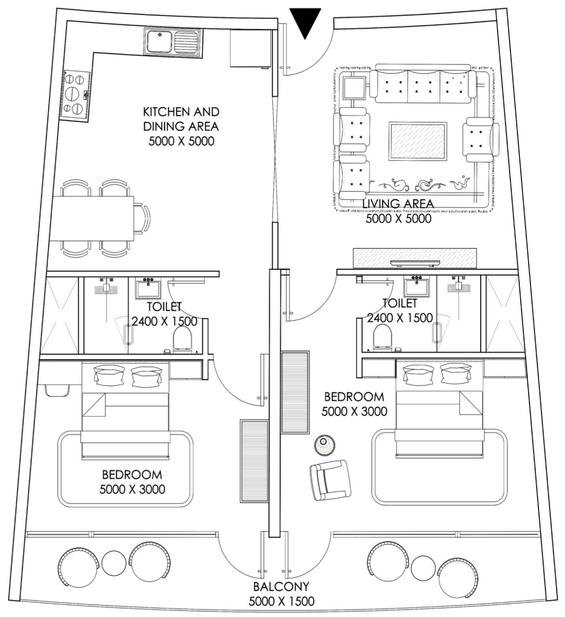


TYPE A

TYPE B



TYPE A



TYPE B

1. SMALL OFFICE - 100 SQM
2. MEDIUM OFFICE - 200 SQM
3. LARGE OFFICE - 300 SQM

CAFFETERIA - 100 SQM

STUDIO APARTMENTS

1. TYPE A - 60 SQM
2. TYPE B - 60 SQM

2 BHK APARTMENTS

1. TYPE A - 120 SQM
2. TYPE B - 120 SQM

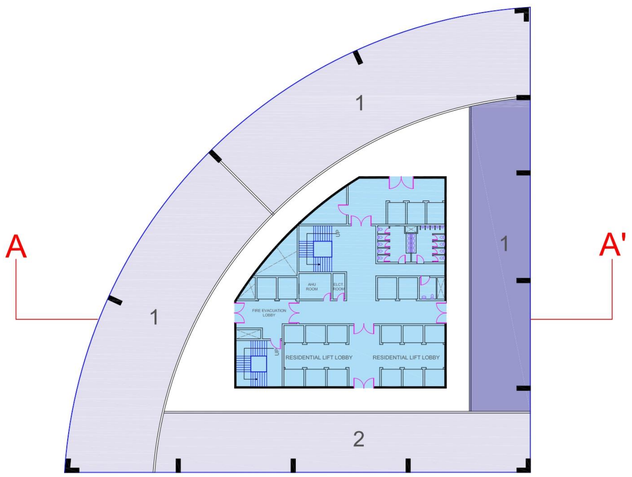
MULTIPURPOSE HALLS

1. 250 SQM
2. 300 SQM

SERVICE CORES

SCALE : 1:300

FLOOR PLANS



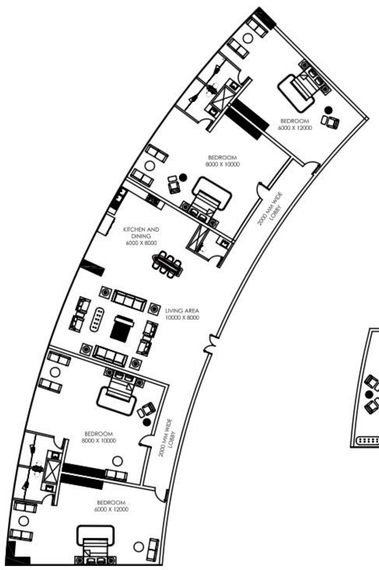
SKY VILLAS FLOOR PLAN

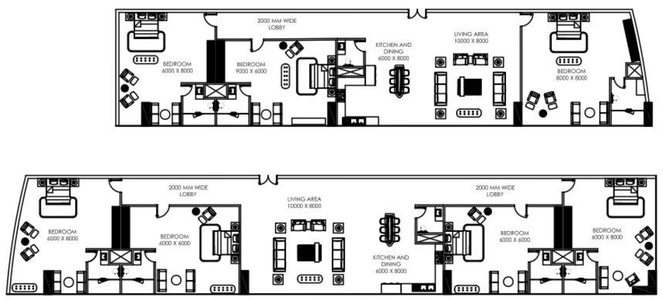
30TH TO 32TH

SKY VILLAS
436 SQ. M / 351 SQ. M

SKY VILLAS
351 SQ. M

SERVICE CORES

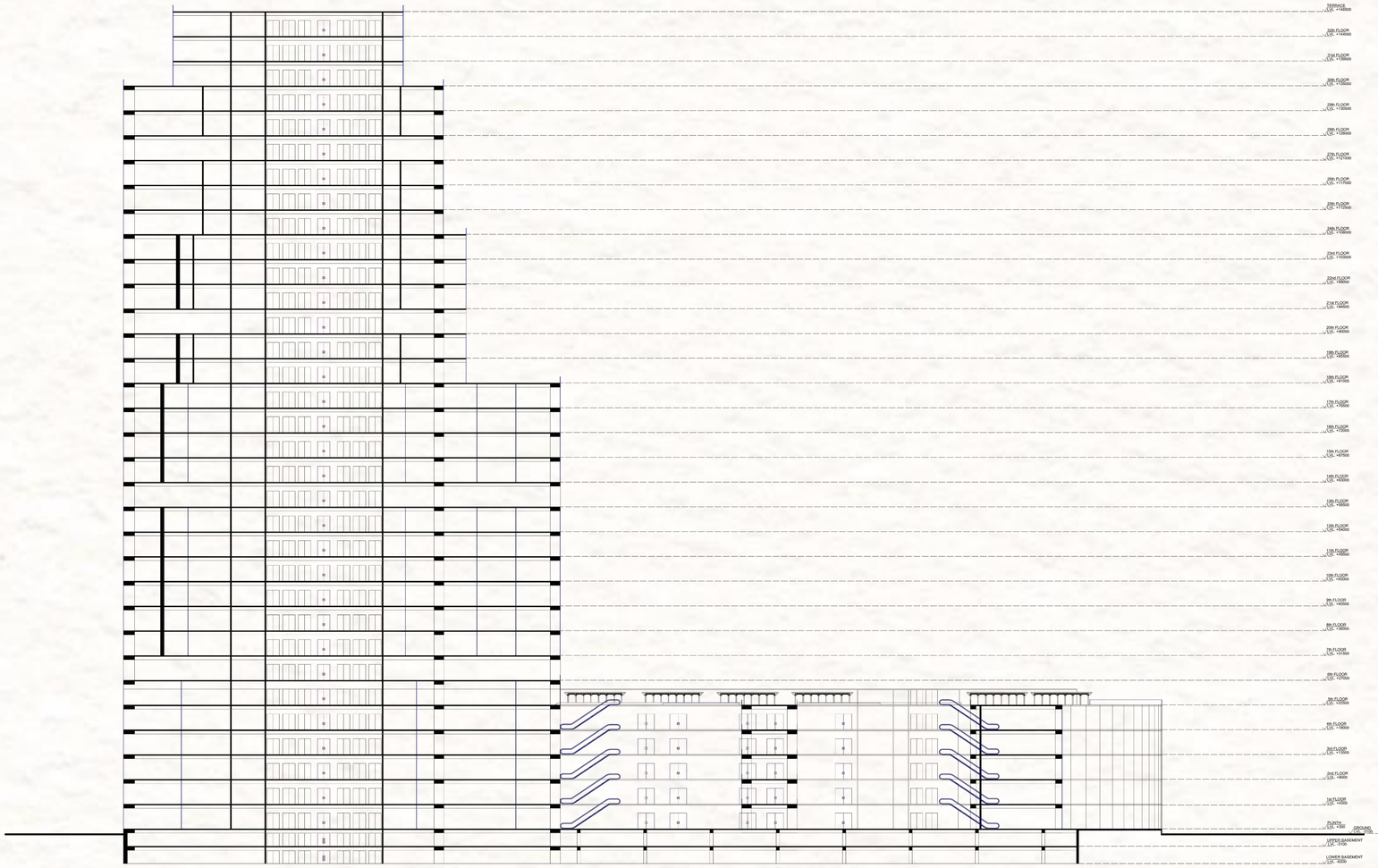




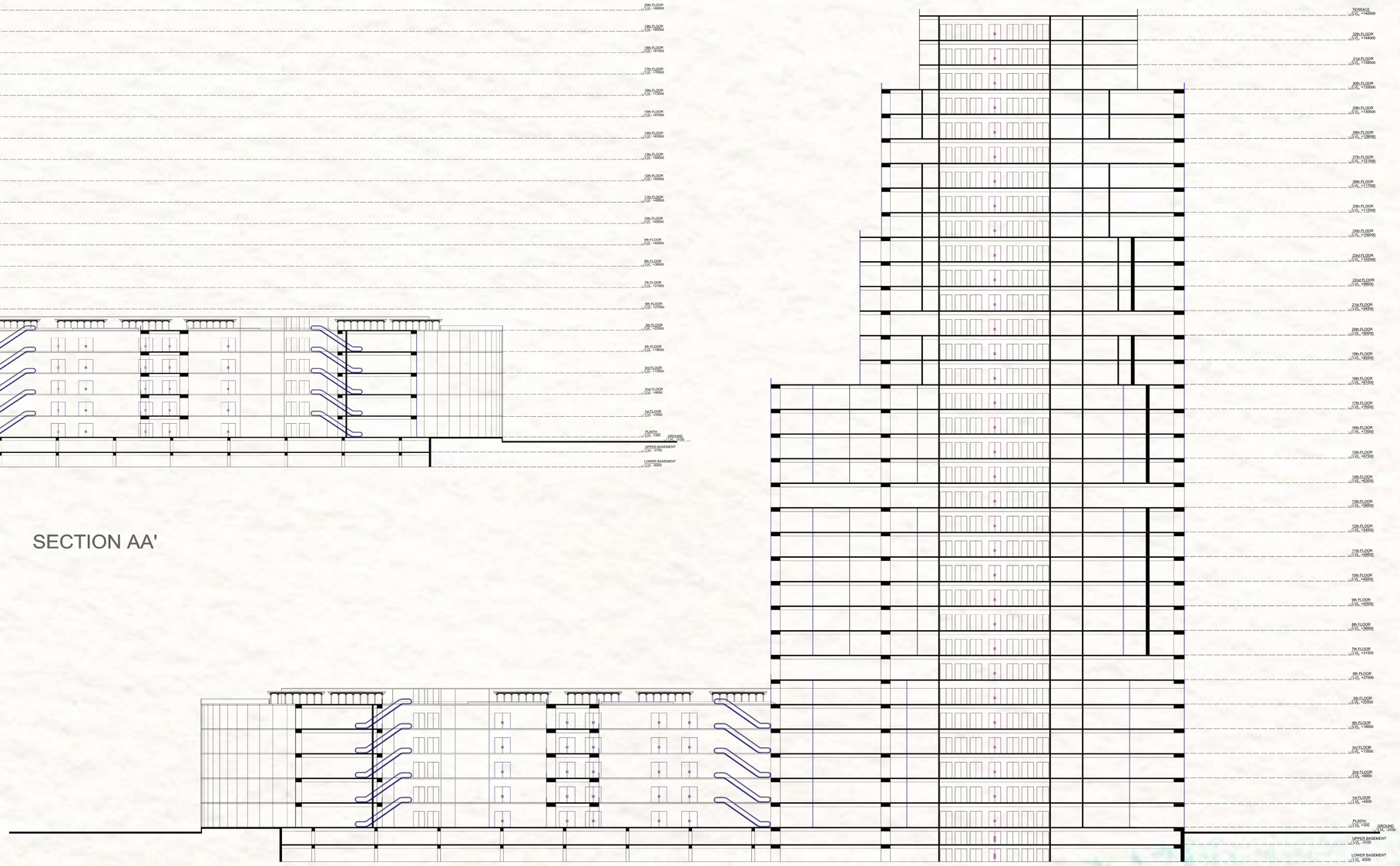
SCALE : 1:300

3D VIEW

SECTIONS



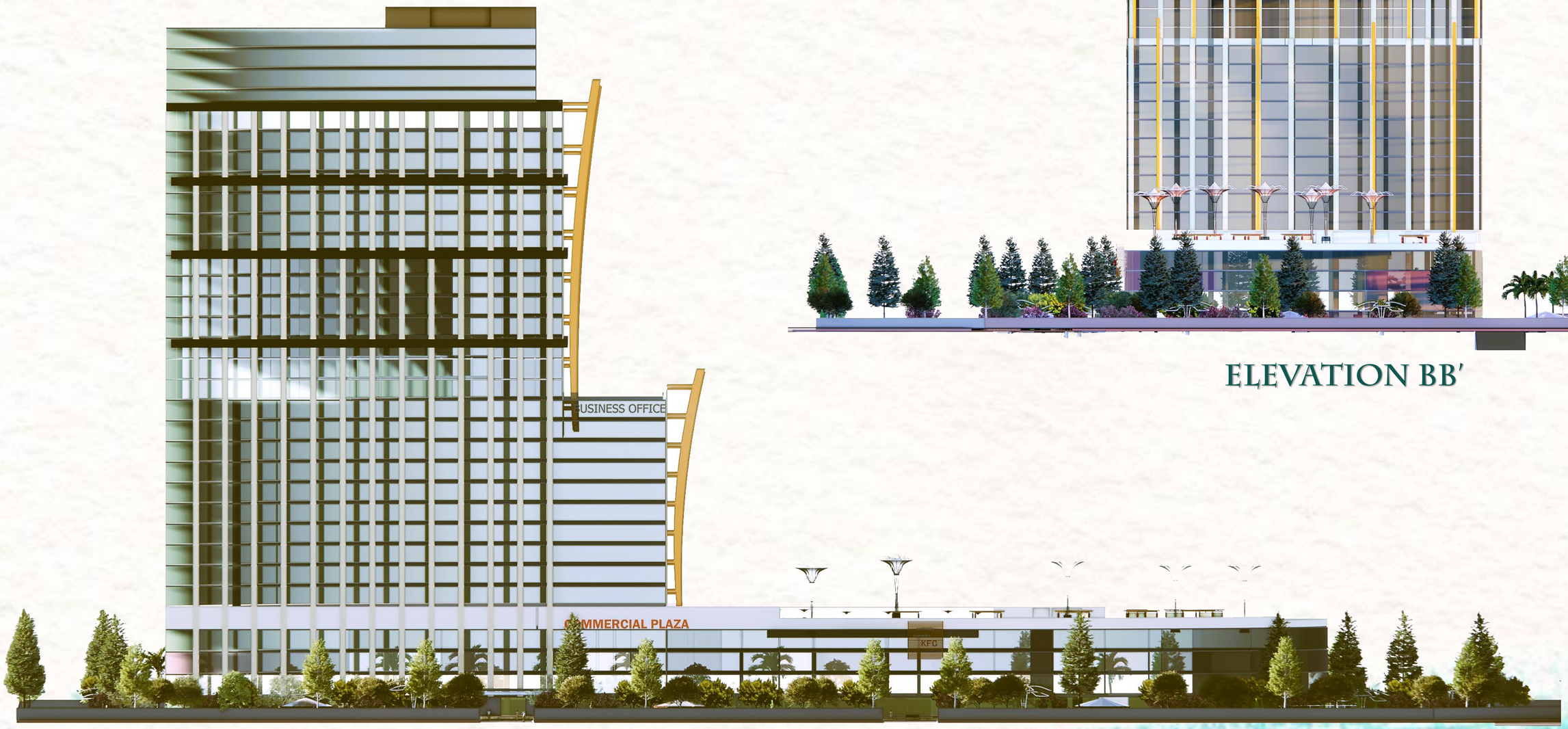
SECTION AA'



SECTION BB'

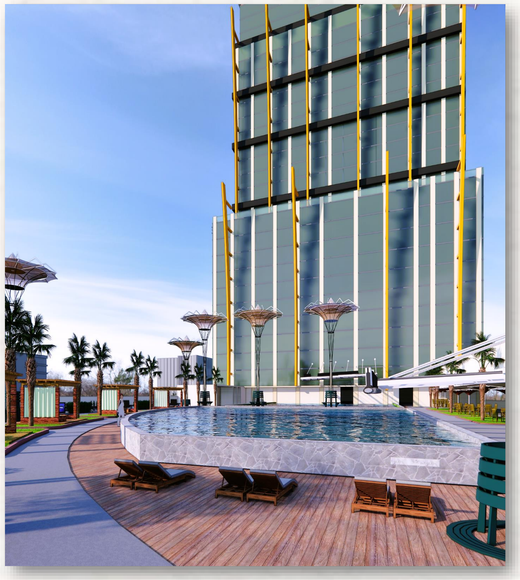
ELEVATIONS

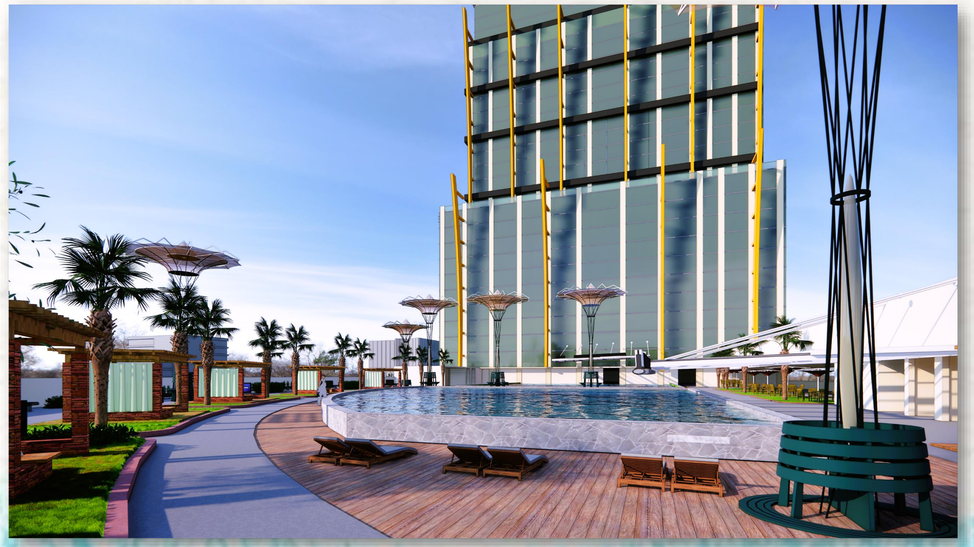
ELEVATION AA'



ELEVATION BB'

3D VIEWS





ELECTIVE -2

INTERIOR DESIGN OF SKY VILLAS

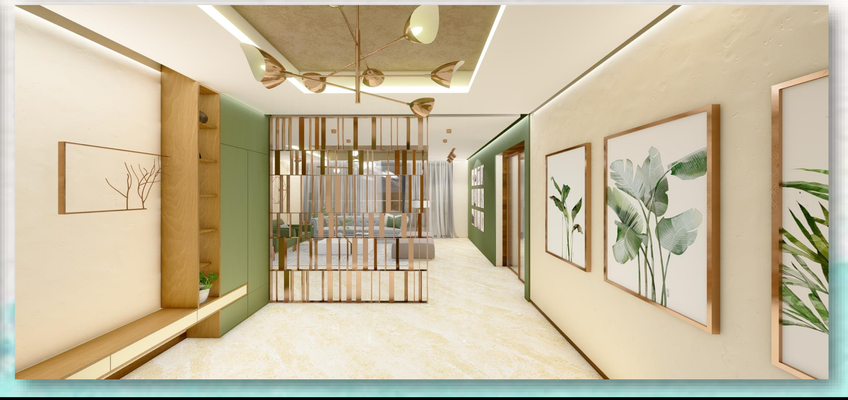










8M WIDE ROAD

SERVICE ENTRY

SUBSTATION AND TRANSFORMER

REMOTE MONITORING UNIT

9M WIDE ROAD

DN

UP

+51000 MM

+22500 MM

9M WIDE ROAD

+148500 MM

+105000 MM

9M WIDE ROAD

+135000 MM

+300 mm

TOT-LOT SAND PIT

TOT-LOT SAND PIT

±00

9M WIDE ROAD

±00

SURFACE PARKING

SURFACE PARKING

SURFACE PARKING

SECURITY CABIN

SECURITY CABIN

SECURITY CABIN

EXIT

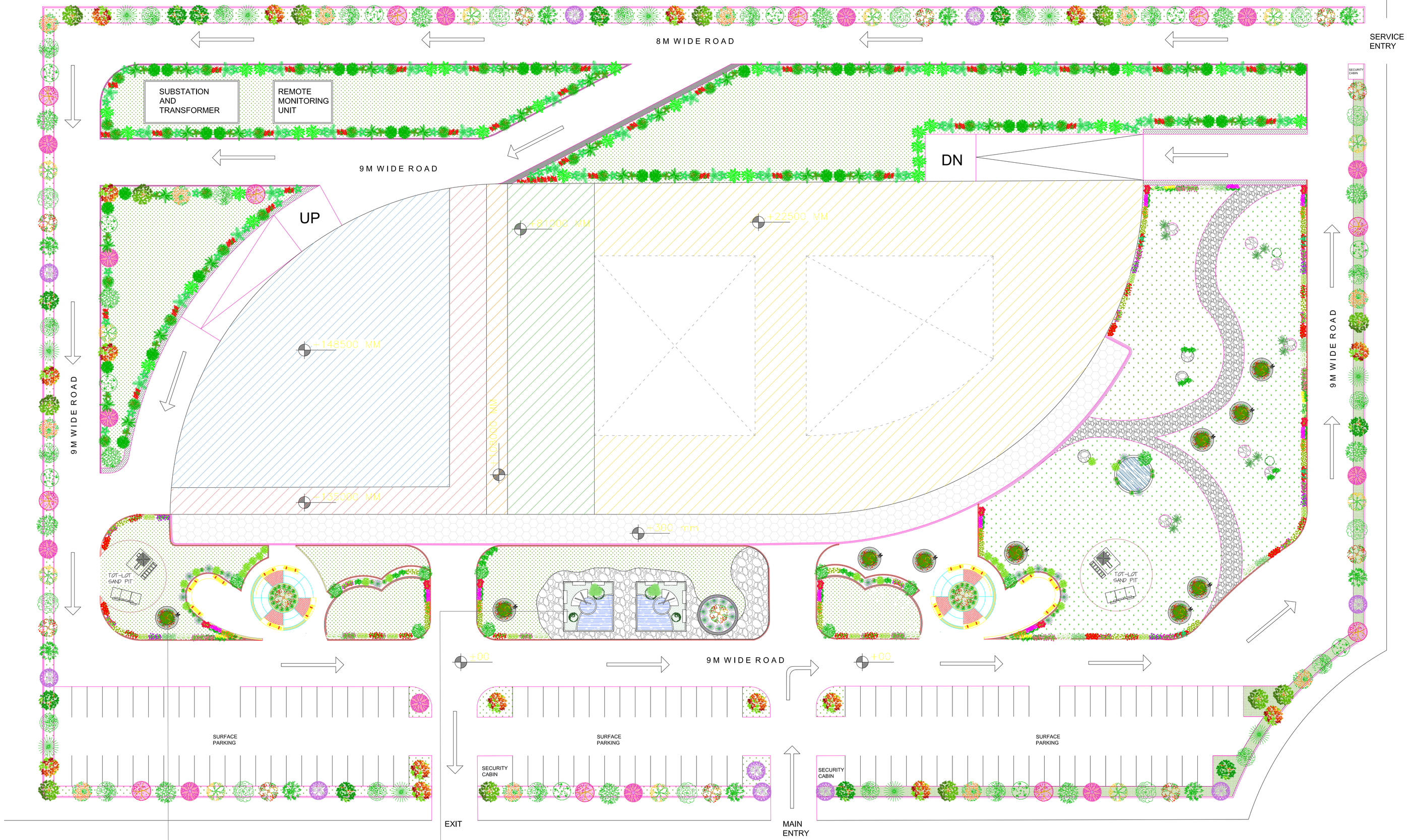
MAIN ENTRY

45 M WIDE ROAD

45 M WIDE ROAD

SCALE : 1:400

SUBJECT ARCHITECTURAL DESIGN	AR- 1001	SITE PLAN	NORTH
ASSIGNMENT MIX USE BUILDING, LUCKNOW		SUBMITTED BY: GAURANGI VARSHNEY	NOTE : ALL DIMENSIONS ARE IN MM
		ROLL NO. 1190101011 / YEAR 5th YEAR / SEMESTER 10th	GUIDE NAME AR. SANGEETA SHARMA / DATE
			THESIS COORDINATOR AR. MOHIT AGARWAL AR. SHAILESH YADAV / REMARK

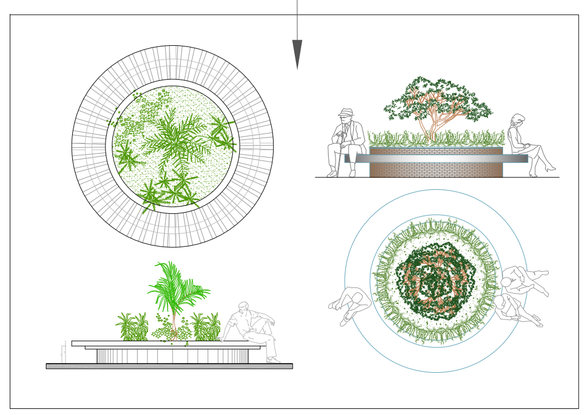


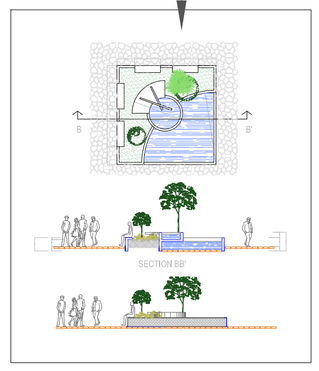
CENTER / CENTER 6 MT. DISTANCE

	ARJUN BINOMIAL NAME- TERMINALIA ARJUNA HEIGHT – 15–24 MT.
	PALASH BINOMIAL NAME- BUTEA MONOSPERMA HEIGHT – 10–15 MT.
	SITA ASHOK BINOMIAL NAME- SARACA ASOCA HEIGHT – 7– 10 MT.
	ASHOK PENDULA BINOMIAL NAME- MONOON LONGIFOLIUM HEIGHT – 15–20 MT.
	ALOSTONIA BINOMIAL NAME- ALSTONIA SCHOLARIS HEIGHT – 25-30 MT.
	KADAMBA BINOMIAL NAME- NEOLAMARCKIA CADAMBA HEIGHT – 35-45 MT.
	MAULSARI BINOMIAL NAME- MIMUSOPS ELENGI HEIGHT – 10–15 MT.
	NEEM BINOMIAL NAME AZADIRACHTA INDICA HEIGHT – 15–20 MT.
	PAKAR BINOMIAL NAME- FICUS VIRENS HEIGHT – 20–30 MT.
	TABOBUIA ROSEA BINOMIAL NAME- TABEBUIA ROSEA HEIGHT – 20–30 MT.
	FICUS BENJAMIN BINOMIAL NAME- FICUS BENJAMINA HEIGHT – 20–30 MT.
	PARIJAT BINOMIAL NAME- NYCTANTHES ARBOR-TRISTIS HEIGHT – 6– 10 MT.
	LAREGSTONIA BINOMIAL NAME- LAGERSTROEMIA SPECIOSA HEIGHT – 10– 15 MT.
	JACARANDA BINOMIAL NAME- JACARANDA MIMOSIFOLIA HEIGHT – 20–30 MT.
	AMALTAS BINOMIAL NAME- CASSIA FISTULA HEIGHT – 15–25 MT.
	GULMOHAR BINOMIAL NAME- DELONIX REGIA HEIGHT – 10–12 MT.

SHRUB & FLOWERS

	MUSSAENDA BINOMIAL NAME- MUSSAENDA ERYTHROPHYLLA CENTER / CENTER 4 MT. DISTANCE
	IXORA BINOMIAL NAME- IXORA CENTER / CENTER 4 MT. DISTANCE
	FURCRAEA BINOMIAL NAME- FURCRAEA CUBENSIS CENTER / CENTER 4 MT. DISTANCE
	DESI ROSE BINOMIAL NAME- ROSA MOSCHATA
	HYBRID TEA ROSE YELLOW BINOMIAL NAME- ROSA OREGOLD
	MINIATURE ROSE BINOMIAL NAME- ROSA CHINENSIS MINIMA
	RED ROSE BINOMIAL NAME- ROSA RUBIGINOSA
	PURPLE BOURBON ROSES BINOMIAL NAME- ROSA FLORIBUNDA 'PURPLE HEART'
	KASHMIRI ROSE PINK BINOMIAL NAME- PHYLLOSTACHYS AUREA
	POINSETTIA BINOMIAL NAME- EUPHORBIA PULCHERRIMA
	CHRYSANTHEMUM BINOMIAL NAME- CHRYSANTHEMUM INDICUM
	BELA BINOMIAL NAME- JASMINUM SAMBAC CENTER / CENTER 1 MT. DISTANCE
	CHAMPA BINOMIAL NAME- MAGNOLIA CHAMPACA CENTER / CENTER 2 MT. DISTANCE
	KAMINI BINOMIAL NAME- MURRAYA PANICULATA CENTER / CENTER 3 MT. DISTANCE
	RAAT KI RANI BINOMIAL NAME- CESTRUM NOCTURNUM CENTER / CENTER 3 MT. DISTANCE
	ALTERNANTHERA BINOMIAL NAME- ALTERNANTHERA SESSILIS
	GOLDEN DURANTA BINOMIAL NAME- DURANTA ERECTA
	WEDELIA BINOMIAL NAME- SPHAGNETICOLA TRILOBATA





CENTER TO CENTER 3 MT. DISTANCE

	JUNIPERUS BINOMIAL NAME - JUNIPERUS COMMUNIS
	ARAUCARIA BINOMIAL NAME - ARAUCARIA
	FOXTAIL PALM BINOMIAL NAME - WODYETIA BIFURCATA
	WASHINGTONIA PALM BINOMIAL NAME - WASHINGTONIA
	CYPRESS BINOMIAL NAME - CUPRESSUS
	CYCAS BINOMIAL NAME - CYCADALES
	FUCHSIA BINOMIAL NAME - FUCHSIA MAGELLANICA
	PHOENIX PALM BINOMIAL NAME - PHOENIX CANARIENSIS

MEDICINAL PLANTS

	SADABAHAR BINOMIAL NAME - CATHARANTHUS ROSEUS
	SUPARI BINOMIAL NAME - ARECA CATECHU CENTER / CENTER 5MT. DISTANCE
	BLACK PEPPER BINOMIAL NAME - PIPER NIGRUM CENTER / CENTER 3 MT. DISTANCE
	HALDI BINOMIAL NAME - CURCUMA LONGA CENTER / CENTER 3 MT. DISTANCE
	ALOE VERA BINOMIAL NAME - ALOE VERA

SCALE : 1:400

SUBJECT: ARCHITECTURAL DESIGN	AR- 11051 (2)	LANDSCAPING
ASSIGNMENT: MIX USE BUILDING, LUCKNOW		SUBMITTED BY: GAURANGI VARSHNEY
		ROLL NO.: 1190101011 / YEAR 5th YEAR / SEMESTER 10th

NORTH

NOTE : ALL DIMENSIONS ARE IN MM

GUIDE NAME AR. SANGEETA SHARMA	DATE
THESIS COORDINATOR AR. MOHIT AGARWAL AR. SHAILESH YADAV	REMARK